

City of Hattiesburg, MS

*200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401*



Meeting Agenda

Tuesday, May 2, 2017

10:00 AM

Council Chambers

City Council

I. Call to Order**II. Call to Prayer and Pledge of Allegiance****III. Agenda Order****IV. Approval of Minutes for the April 3, 4, 17, 18 and 27, 2017, City Council meetings.****V. PRESENTATION AGENDA****VI. POLICY AGENDA**

- VI.1. 2017-392** Adopt a Resolution setting Public Hearing before City Council on Monday June 5, 2017 to determine if certain properties are in such a state of uncleanliness so as to be a menace to the health and safety of the community and providing for notice to owners and authorize publication of the notice hearing.
1. Setting P.H. MEMO
 2. Setting P.H. RESO
- VI.2. 2017-390** Adopt a Resolution authorizing Disbursement No. 15 from the Project Fund Escrow Account in connection with a certain Equipment Lease/Purchase Agreement, dated as of February 4, 2016, by and between Banc of America Public Capital Corp. and the City of Hattiesburg.
1. Energy Performance Disbursement No. 15
- VI.3. 2017-398** Adopt a Resolution authorizing Requisition No. 68 from the Project Fund Construction Account in connection with a certain loan agreement dated December 19, 2013, by and between the Mississippi Development Bank and the City of Hattiesburg.
1. Resolution-Req 68
 2. Exhibit A

- VI.4. 2017-396** Authorize Mayor to execute, in quadruplicate, a sewer treatment agreement with Providence Homeowners Association, Inc.
1. Agreement
 2. Ordinance
 3. Point of Entry
 4. Legal Description & Plat
 5. Certification
 6. Capacity Analysis
 7. Public Service Commission Information
- VI.5. 2017-383** Authorize Mayor to execute contract between the City of Hattiesburg and Floore Industrial Contractors, Inc. in the amount of \$287,905.50 for the Gordon's Creek-Depot District Buschman Street to River Avenue Project. (Nunc Pro Tunc)
1. Contract
- VI.6. 2017-403** Authorize Mayor to execute Payment and Forbearance Agreement for City of Hattiesburg with Stion Corporation and Forrest County, MS, for payment of Stion's Fee-in-Lieu of Ad Valorem Taxation (FIL) obligations, with monthly payments of \$75,000 to begin May 10, 2017.
1. Stion Payment and Forbearance Agreement 5-2-17
- VI.7. 2017-395** Authorize Mayor to execute a service contract with Innovative Solutions, LLC for maintenance on medical equipment for the Hattiesburg Fire Department.
1. Cover Letter
 2. Contract-2017
- VI.8. 2017-404** Designate the Best of the Pine Belt awards gala Saturday, June 3, 2016, at the Saenger Theater as a City-approved event for the purposes described in Ordinance Number 3148.
1. E-mails, D. Gustafson, Best of Pinebelt 2017

- VI.9. 2017-388** Certify and Designate Breakthrough Community Services, Inc. as a Community Housing Development Organization and authorize the Mayor to execute..
1. Certificate of Designation of Breakthrough Community Services, Inc. as a Community Housing Development Organization
 2. CHDO Cetitfication and CHDO Capacity
- VI.10. 2017-384** Removed.
- VI.11. 2017-406** Authorize suspension of all City of Hattiesburg permitting fees for an additional 90 days for anyone affected by the 1/21/17 tornado.

VII. ROUTINE AGENDA

- VII.1. 2017-401** Acknowledge receipt of proposals received April 5, 2017, for RFP 4295 Disaster Recovery Consulting Services for the City of Hattiesburg; accept the proposal of Broaddus & Associates as the best proposal, per scoring of the City Council.
1. RFP - Disaster Recovery, 4-5-17
 2. RFP - Disaster Recovery, Addendum #1
 3. Addendum #2, RFP, Disaster Recovery Services
 4. Broaddus & Associates Proposal
 5. Adjusters International Proposal
 6. South MS Planning & Development Proposal
- VII.2. 2017-397** Acknowledge receipt of term bid opened on February 16, 2017 for Uniforms for the Hattiesburg Fire Department and accept the bid for Midsouth Solutions as lowest and best bid per recommendation in the attached memorandum.
1. Memo-FD Term Bids-Uniforms-Recommendations
 2. FD Term Bid #18 - Uniforms-Midsouth Solutions
 3. FD Term Bid #18 - Uniforms - Galls

- VII.3. 2017-382** Approve plans and specifications for the Highway 11 Medical Park Access Roadway Project (DIP-363); Authorize advertisements for bids for same.
1. Plans
 2. Specifications
 3. Bid Adv
- VII.4. 2017-391** Approve plans and specifications for the Comprehensive Water Improvements Phase V- Blackwell Boulevard, Commerce Drive, Lincoln Road, Oak Grove Road, Thornhill Drive, US Highway 49 & US Highway 98 project; Authorize advertisement for bids for same.
1. Plans
 2. Specifications
 3. Bid Adv
- VII.5. 2017-386** Approve the sale of Grave spaces, Per attached memo.
1. Memo 5-2-17
 2. Deeds 5-2-17
 3. Receipts 5-2-17
- VII.6. 2017-389** Approve and authorize issuance of a manual check for CDBG Program Claim per the attached memorandum.
1. Memorandum for CDBG Payment May 2, 2017
- VII.7. 2017-381** Approve and authorize issuance of manual check for HOME Program Claim per the attached memorandum. {Entitlement HOME}
1. Manual Check for Hollimon Construction - 106 Ruby Avenue
- VII.8. 2017-385** Approve claims docket for the period ending April 30, 2017.
1. Claims Docket-4-30-17



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-392

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Adopt a Resolution setting Public Hearing before C

Title: Adopt a Resolution setting Public Hearing before City Council on Monday June 5, 2017 to determine if certain properties are in such a state of uncleanliness so as to be a menace to the health and safety of the community and providing for notice to owners and authorize publication of the notice hearing.

Type: Action Item

Drafter: Akwete
Muhammad

In Control: City Council

Reference: Mark Jordan

Attachments: Setting P.H. MEMO, Setting P.H. RESO

File Created: 04/25/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File



Mayor

Johnny L. DuPree, Ph.D.

Council - Ward 1
Kim Bradley

Council - Ward 2
Deborah Denard Delgado

Council - Ward 3
Carter Carroll

Council - Ward 4
Mary Dryden

Council - Ward 5
Henry Naylor

MEMORANDUM

TO: Mayor and City Council

FROM: Mark Jordan, Code Enforcement Division Manager

DATE: May 2, 2017

RE: Setting of Public Hearing

I hereby request the setting of a Public Hearing at 4 p.m. on Monday, June 5th, 2017, to determine if the properties listed below constitute issues of safety and health according to the provisions of MS Code of 1972, Section 21-19-11.

<u>Address</u>	<u>PPIN #</u>	<u>Ward</u>	<u>Violations</u>
1. 603 Katie Ave.	18476	2	ES,VS,OGL,DS,T&L X's 3
2. 611 Katie Ave.	18470	2	ES,VS,OGL,PT
3. 612 Katie Ave.	24090	2	ES,VS,OGL
4. 809 Arnold St.	23821	2	DS,VS,T&L,DM
5. 816 Dabbs St.	23803	2	DS,VS,DM
6. 1001 Dabbs St.	13934	2	DS,VS,OGL,DM
7. 110 Harrell St.	13352	5	DS,VS,OGL,DM
8. 111 Harrell St.	21304	5	DS,VS,OGL,DM
9. 904 Tuscan Ave.	26860	2	DS,VS,DM
10. 508 Breland St.	23587	5	DS,VS,OGL
11. 116 Oak St.	20267	2	DS,T&L,VS,OGL,DM
12. 733 Longstreet Dr.	19951	2	T&L,OGL
13. 720 E. 7th St.	17482	2	DS,T&L,VS,OGL,DM
14. 1408 E. Laurel Ave.	18372	2	OGL
15. 1503 Gravel St.	15887	2	DS,VS,OGL,T&L,DM
16. 108 Golf Course Rd.	09562	1	ES X's 2,VS,OGL
17. 1236 Beverly Hills Rd.	08113	1	ES,VS,OGL

Trash & Litter=T&L
Vacant Structure=VS
Dangerous Structure=DS
Overgrown Lot=OGL
Open Storage=OS
Protective Treatment=PT
Unsafe Structure=US
Abandoned Vehicle=AV
Interior Structure=IS
Exterior Structure=ES
Hazardous Tree=HT
X's2=2 Structures
Demo=DM

Prepared by:
City of Hattiesburg
Code Enforcement
P.O. Box 1898
Hattiesburg, Mississippi 39403-1898

Return to:
City of Hattiesburg
City Clerk’s Office
P.O. Box 1898
Hattiesburg, Mississippi 39403-1898

RESOLUTION

WHEREAS, complaint has been made to the City of Hattiesburg, Mississippi, that the following properties to wit:

<u>Address</u>	<u>PPIN #</u>	<u>Ward</u>	<u>Violations</u>
1. 603 Katie Ave.	18476	2	ES,VS,OGL,DS,T&L X’s 3
2. 611 Katie Ave.	18470	2	ES,VS,OGL,PT
3. 612 Katie Ave.	24090	2	ES,VS,OGL
4. 809 Arnold St.	23821	2	DS,VS,T&L,DM
5. 816 Dabbs St.	23803	2	DS,VS,DM
6. 1001 Dabbs St.	13934	2	DS,VS,OGL,DM
7. 110 Harrell St.	13352	5	DS,VS,OGL,DM
8. 111 Harrell St.	21304	5	DS,VS,OGL,DM
9. 904 Tuscan Ave.	26860	2	DS,VS,DM
10. 508 Breland St.	23587	5	DS,VS,OGL
11. 116 Oak St.	20267	2	DS,T&L,VS,OGL,DM
12. 733 Longstreet Dr.	19951	2	T&L,OGL
13. 720 E. 7th St.	17482	2	DS,T&L,VS,OGL,DM
14. 1408 E. Laurel Ave.	18372	2	OGL
15. 1503 Gravel St.	15887	2	DS,VS,OGL,T&L,DM
16. 108 Golf Course Rd.	09562	1	ES X’s 2,VS,OGL
17. 1236 Beverly Hills Rd.	08113	1	ES,VS,OGL

are in such a state of uncleanliness so as to be a menace to the health and safety of the community; and

WHEREAS, it is in the public interest that the City Council, on its own motion, hold hearings as provided by Section 21-19-11 of the Mississippi Code of 1972, as annotated and amended, to determine whether or not the above properties are in such a state of uncleanliness so as to be a menace to the health and safety of the community.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Hattiesburg, Mississippi, that the owner of the above described properties be notified, as provided by law, of a hearing to be held by the City Council in the Council Meeting Room of City Hall in Hattiesburg, Mississippi, at 4:00 p.m. on Monday, June 5th, 2017, to determine whether or not the above-described properties are in such a state of uncleanness so as to be a menace to the health and safety of the community.

The above and foregoing Resolution, having been first reduced to writing, was introduced by Council member _____, seconded by Council member _____, and was adopted by the following vote, to-wit:

YEAS:

NAYS:

ABSENT:

The President thereby declared the motion carried and the resolution adopted the 2nd day of May, A.D., 2017.

(SEAL)

ATTEST:

ADOPTED:

CLERK OF COUNCIL

PRESIDENT

The above and foregoing Resolution having being submitted to and approved by the 2nd day of May, A.D., 2017.

ATTEST:

APPROVED:

CITY CLERK

MAYOR



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-390

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Energy Performance Disbursement No. 15

Title: Adopt a Resolution authorizing Disbursement No. 15 from the Project Fund Escrow Account in connection with a certain Equipment Lease/Purchase Agreement, dated as of February 4, 2016, by and between Banc of America Public Capital Corp. and the City of Hattiesburg.

Type: Resolution

Drafter: Marie Harris

In Control: City Council

Reference: Lamar Rutland

Attachments: Energy Performance Disbursement No. 15

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

The City Council of the City of Hattiesburg, Mississippi (the "City") acting for and on behalf of the City, took up for consideration the matter of requesting and authorizing Disbursement No. 15 of funds from the Escrow Account in connection with the Equipment Lease/Purchase Agreement between the City and Banc of America Public Capital Corp and an Escrow and Account Control Agreement between the City and Bank of America, N.A., as Escrow Agent, dated February 4, 2016. After discussion of the subject, Council Member _____ offered and moved for the adoption of the following resolution:

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HATTIESBURG, MISSISSIPPI (THE "CITY") AUTHORIZING DISBURSEMENT NO. 15 FROM THE ESCROW ACCOUNT IN CONNECTION WITH THAT EQUIPMENT LEASE/PURCHASE AGREEMENT DATED FEBRUARY 4, 2016, BY AND BETWEEN THE CITY AND BANC OF AMERICA PUBLIC CAPITAL CORP AND AN ESCROW AND ACCOUNT CONTROL AGREEMENT BETWEEN THE CITY AND BANK OF AMERICA, N.A., AS ESCROW AGENT, ALL IN CONNECTION WITH THAT CERTAIN PERFORMANCE CONTRACT UNDERTAKEN PURSUANT TO THE MISSISSIPPI DEVELOPMENT AUTHORITY CAPITAL LEASE PROGRAM TO FINANCE ENERGY EFFICIENCY AND CONVERSATION EQUIPMENT FOR CERTAIN FACILITIES LOCATED THROUGHOUT THE CITY, AND RELATED MATTERS.

Whereas, on February 4, 2016 the City entered into an Equipment Lease/Purchase Agreement between Banc of America Public Capital Corp and an Escrow Control Agreement between the Bank of America, National Association, as Escrow Agent, in an amount not to exceed \$7,528,000 (the "Lease") pursuant to the terms and conditions of that certain agreement, dated as February 4, 2016, by between Banc of America Public Capital Corp and Bank of America, National Association (the "Lease").

Whereas, the City Council of the City now finds it necessary to approve Disbursement No. 15 from the Escrow Account under the Lease in the total aggregate amount of \$ 56,699.00 for the purpose of paying vendors in connection with the lease as more particularly described in Exhibit A.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HATTIESBURG, MISSISSIPPI:

SECTION 1. The City Council of the City hereby authorizes and approves Disbursement No. 15 from the Escrow Account under the Lease in the total aggregate amount of **Fifty-Six Thousand Six Hundred Ninety-Nine and no/100 Dollars (\$ 56,699.00)** for the purpose of paying vendors in connection with the Lease as more particularly described in Exhibit A.

SECTION 2. The City Council hereby directs Bank of America, National Association, as the Escrow Agent, to disburse funds of Disbursement No. 15 in the total aggregate amount **Fifty-Six Thousand Six Hundred Ninety-Nine and no/100 Dollars (\$ 56,699.00)** as authorized herein, as more particularly described in Exhibit A.

SECTION 3. The Mayor and City Clerk are hereby authorized and directed for and on behalf of the City to take any and all action as may be required by the City to carry out and give effect to the aforesaid documents authorized pursuant to this Resolution and to execute all papers, documents, certificates and other instruments that may be required for the carrying out of the authority conferred by this Resolution in order to evidence the authority.

The above and foregoing Resolution, after having been first reduced to writing, was introduced by Council Member _____, seconded by Council Member _____, and was adopted by the following vote, to wit:

YEAS:

NAYS:

ABSENT:

The motion having received the affirmative vote of a majority of the Council members present, the President declared the motion carried and the resolution adopted, on this the 2nd day of May, 2017.

(SEAL)

ATTEST:

ADOPTED:

CLERK OF COUNCIL

PRESIDENT

The above and foregoing Resolution having been submitted to and approved by the Mayor, this the 2nd day of May, 2017.

ATTEST:

APPROVED:

CITY CLERK

MAYOR

EXHIBIT A

DISBURSEMENT OF ESCROW FUNDS REQUEST

APPLICATION AND CERTIFICATION FOR PAYMENT

AIA DOCUMENT G702

PAGE ONE OF 2 PAGES

TO OWNER: City of Hattiesburg
200 Forrest Street
Hattiesburg, MS 39401

PROJECT: City of Hattiesburg Energy Performance Contract
PROJECT MGR: Moore, Chip

Distribution to:

☒ OWNER
☐ ARCHITECT
☐ CONTRACTOR

APPLICATION NO: 15
PERIOD TO: 4/28/2017
PROJECT NO: SPYQ-0016

FROM CONTRACTOR:

JOHNSON CONTROLS, INC.
South Region PC Branch
3021 W. Bend Drive
Dallas, TX 75373

CONTRACT FOR: Energy Performance Upgrades

CONTRACT DATE: 28-Aug-15

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Document G703, is attached.

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

Johnson Controls, Inc.

By: *Donard Moore II*

Date: 4/24/2017

\$ 7,249,714
\$ 0
\$ 7,249,714
\$ 6,802,180

DATE (Column G on G703)

5. RETAINAGE:

a. % of Completed Work
(Column D + E on G703)
b. % of Stored Material
(Column F on G703)
Total Retainage (Lines 5a + 5b or
Total in Column I of G703)

\$ 0
\$ 0

\$ 0
\$ 6,802,180
\$ 6,745,481
\$ 56,699
\$ 0
\$ 447,534

CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 56,699

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

Owner:

By:

Date:

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

AIA DOCUMENT G702 APPLICATION AND CERTIFICATION FOR PAYMENT 1992 EDITION AIA® © 1992

THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVE. N.W., WASHINGTON, DC 20006-5282

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner		\$0	\$0
Total approved this Month		\$0	\$0
TOTALS		\$0	\$0
NET CHANGES by Change Order		\$0	\$0

CONTINUATION SHEET

AIA Document G703, APPLICATION AND CERTIFICATION FOR PAYMENT, containing

Contractor's signed certification is attached

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainerage for line items may apply.

AIA DOCUMENT G703

PROJECT NO. SPKQ-0016

APPLICATION NO.

PERIOD TO:

24-Apr-17

28-Apr-17

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		E THIS PERIOD	F MATERIALS PRESENTLY STORED (NOT IN D.O.R.E.)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	H % (G / C)	I BALANCE TO FINISH (C - G)	J RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)							
General Fund										
1	Lighting Upgrade	\$ 1,186,211	\$1,163,196		0	\$0	\$1,163,196	98%	\$23,015	\$0
2	Energy Management Control System	\$ 470,334	\$450,702		0	\$0	\$450,702	96%	\$19,632	\$0
3	Small Unitary Equipment Replacement	\$ 362,896	\$359,367		0	\$0	\$359,367	99%	\$3,529	\$0
4	City Hall HVAC Upgrade	\$ 593,004	\$531,868		40,000	\$0	\$571,868	96%	\$21,136	\$0
5	Jackie Doyle HVAC Upgrade	\$ 102,285	\$102,285		0	\$0	\$102,285	100%	\$0	\$0
6	Solar Photo-Voltaic System	\$ 33,901	\$33,901		0	\$0	\$33,901	100%	\$0	\$0
Enterprise Fund										
7	Lighting Upgrade	\$ 394,328	\$384,608		0	\$0	\$384,608	98%	\$9,720	\$0
8	Energy Management Control System	\$ 33,262	\$28,904		0	\$0	\$28,904	87%	\$4,358	\$0
9	Boiler Replacement	\$ 144,945	\$144,945		0	\$0	\$144,945	100%	\$0	\$0
10	Water Treatment Plant Control Upgrade	\$ 1,240,751	\$1,126,829		10,000	\$0	\$1,136,829	92%	\$103,922	\$0
11	Lift Station Control Upgrade	\$ 1,409,975	\$1,269,236		6,699	\$0	\$1,275,935	90%	\$134,040	\$0
12	Water Conservation Option	\$ 1,277,822	\$1,149,640		0	\$0	\$1,149,640	90%	\$128,182	\$0
GRAND TOTALS:		\$7,249,714	\$6,745,481		\$6,699	\$0	\$6,802,180	94%	\$447,534	\$0

Johnson Controls Energy Project Status

Bldg Name / Site	Completed	Ongoing	Have not started
Sanitation Office Facilities			
LED Lighting (53)			
Thermistals			
Public Works Facilities (5 Bldgs)			
LED Lighting (164)			
Thermistals			
Mass Transit Operations Building			
LED Lighting (65)			
Thermistals			
Maintenance Shop, Traffic Control			
LED Lighting (118)			
Thermistals			
L.T. Ben Mohr Recreation Center			
LED Lighting (122)			
Thermistals			
AC unit replacement (2x10 ton)			
W. U. Bill Stiller Community Center			
LED Lighting (69)			
Thermistals			
Kemper Park Facilities			
LED Lighting (59) • Tennis Courts			
Water Billing Office			
LED Lighting (65)			
Thermistals			
San Antonio Street Soccer Complex			
LED Lighting (10)			
Jaycee Park and Fields			
LED Lighting (42)			
Cameron Field with Buildings			
LED Lighting (20)			
Hattiesburg Employee Clinic			
LED Lighting (23)			
Thermistals			
City Engineering Office			
LED Lighting (92)			
Thermistals			
HVAC upgrade (3 ton to 8 ton)			
Solar panels			
Solar panels			
Car charging station			
Jackie Dote Sherill Community Center			
LED Lighting (24)			
Thermistals			
HVAC Upgrade (2x10 ton)			
Solar panels			
Weather stripping			
Ossola McCarthy Park Lighting / West Street Walking Trail			
LED Lighting (19)			
Walking Trail (37th St) Beverly Hills / Leisure Park			
LED Lighting (9)			
Percy Charles Bailey Fitness and Walking Trail Restrooms / East Side Park Facilities			
LED Lighting (24)			
Bobby Chain Air Port Facilities			
LED Lighting (133)			
Police/Fire Training Building			
LED Lighting (142)			
Thermistals			
Bldg Name / Site	Completed	Ongoing	Have not started
Fire Station #7			
LED Lighting (97)			
Thermistals			
Fire Station #8			
LED Lighting (86)			
Thermistals			
Culture Center (Historic Building)			
LED Lighting (135)			
Thermistals			
Hattiesburg Train Depot			
LED Lighting (130)			
Thermistals			
HVAC upgrade (2x15 ton, 1x7.5 ton, 1x00 ton)			
Weather stripping			
Tatum Park Complex			
LED Lighting (242) • Tennis Courts			
Thermistals			
Unella Street Gym			
LED Lighting (28)			
Thermistals			
AC unit replacement			
N.R. Burger Center			
Thermistals			
Timberlawn Complex			
LED Lighting (76) • Soccer & Continuous Garage			
LED Lighting (24) • Walk Park			
Thermistals			
Anna Drive Water Tank			
LED Lighting (1)			
Duncan Lake: RESTROOMS ONLY			
LED Lighting (4)			
Forrest General Water Tank and Booster Station			
LED Lighting (25)			
Thermistals			
LINCOLN RD EXTENSION / LINCOLN ROAD BOOSTER STATION			
LED Lighting (6)			
Lincoln Rd Tank			
LED Lighting (4)			
Lincoln Road Booster Station			
LED Lighting (34)			
North Lagoon Chlorine Bldg and Pump			
LED Lighting (4)			
RICHBURG ELEV. TANK, 40TH AVE			
LED Lighting (16)			
South Lagoon - Chlorine Bldg, East Laurel Lift Station, Sunkist Lin			
LED Lgning (6)			
US Hwy 88 Water Tank & Booster Station			
LED Lighting (4)			
USM Tank - Storage used by USM under tank, Chlorine Bldg			
LED Lighting (4)			
Veteran's Memorial Park Facilities			
LED Lighting (33)			
W. 4th St Water & Chlorine Bldg			
LED Lighting (9)			
Wesley Tank, Chlorine Bldg and Treatment Bldg			
LED Lighting (17)			
COH Parks and Rec Offices			
LED Lighting (72)			
Post Office Garage (Rout Gray)			
LED Lighting (8)			
REMOVED FROM SECTION - Ben Call			
LED Lighting (44)			

Bldg Name / Site	Completed	Ongoing	Have not started
Fire Station #3			
LED Lighting (46)			
Thermistals			
Peoples Park			
LED Lighting (24)			
Walking Trail (18th St)			
LED Lighting (19)			
Walking Trail (5th St)			
LED Lighting (26)			
C. E. Roy Community Center / 5th Street Ball Sanderford			
LED Lighting (184)			
Thermistals			
WALK PARK with VERNAN DAHMER			
LED Lighting (33) • Tennis Courts			
Civic Center - Parking Garage (Trustmark)			
LED Lighting (22)			
CIV Hall Building (Historic Building)			
LED Lighting (246)			
Thermistals			
HVAC upgrade			
Boiler Replacement			
Fluid Controls Replacement			
Solar Sheds			
Weather stripping			
Fire Station #1 (New Facility)			
LED Lighting (218)			
Thermistals			
Water Plant #1, 2 Bldgs & Pumps			
LED Lighting (172)			
Thermistals			
Water treatment plant controls upgrade			
Highland Cemetery			
LED Lighting (45)			
Thermistals			
AC unit replacement (2 x 5 ton)			
Fire Department Admin Bldg			
LED Lighting (45)			
Thermistals			
Water Plant #2 Admin Bldg			
LED Lighting (84)			
Thermistals			
Water Plant #2 Facilities, 4 Bldgs			
LED Lighting (272)			
Boiler Replacement			
Fire Station #2			
LED Lighting (22)			
Thermistals			
Fire Station #4			
LED Lgning (60)			
Thermistals			
Fire Station #5			
LED Lighting (23)			
Fire Station #6			
LED Lighting (63)			
Thermistals			
City of Hattiesburg Municipal Water System			
Leak Detection Sensors			

Bldg Name / Site	Completed	Ongoing	Have not started
Sanitation Office Facilities			
LED Lighting (53)			
Thermistals			
Public Works Facilities (5 Bldgs)			
LED Lighting (164)			
Thermistals			
Mass Transit Operations Building			
LED Lighting (65)			
Thermistals			
Maintenance Shop, Traffic Control			
LED Lighting (118)			
Thermistals			
L.T. Ben Mohr Recreation Center			
LED Lighting (122)			
Thermistals			
AC unit replacement (2x10 ton)			
W. U. Bill Stiller Community Center			
LED Lighting (69)			
Thermistals			
Kemper Park Facilities			
LED Lighting (59) • Tennis Courts			
Water Billing Office			
LED Lighting (65)			
Thermistals			
San Antonio Street Soccer Complex			
LED Lighting (10)			
Jaycee Park and Fields			
LED Lighting (42)			
Cameron Field with Buildings			
LED Lighting (20)			
Hattiesburg Employee Clinic			
LED Lighting (23)			
Thermistals			
City Engineering Office			
LED Lighting (92)			
Thermistals			
HVAC upgrade (3 ton to 8 ton)			
Solar panels			
Solar panels			
Car charging station			
Jackie Dote Sherill Community Center			
LED Lighting (24)			
Thermistals			
HVAC Upgrade (2x10 ton)			
Solar panels			
Weather stripping			
Ossola McCarthy Park Lighting / West Street Walking Trail			
LED Lighting (19)			
Walking Trail (37th St) Beverly Hills / Leisure Park			
LED Lighting (9)			
Percy Charles Bailey Fitness and Walking Trail Restrooms / East Side Park Facilities			
LED Lighting (24)			
Bobby Chain Air Port Facilities			
LED Lighting (133)			
Police/Fire Training Building			
LED Lighting (142)			
Thermistals			

SCHEDULE 1
to the Escrow and Account Control Agreement

FORM OF DISBURSEMENT REQUEST

Re: Equipment Lease/Purchase Agreement dated as of February 4, 2016 by and between Banc of America Public Capital Corp, as Lessor and City of Hattiesburg, Mississippi, as Lessee (the "Lease") (Capitalized terms not otherwise defined herein shall have the meanings assigned to them in the Lease.)

In accordance with the terms of the Escrow and Account Control Agreement, dated as of February 4, 2016 (the "Escrow Account and Account Control Agreement") by and among Banc of America Public Capital Corp ("Lessor"), City of Hattiesburg, Mississippi ("Lessee") and Bank of America, National Association, (the "Escrow Agent"), the undersigned hereby requests the Escrow Agent pay the following persons the following amounts from the Escrow Account created under the Escrow Account and Account Control Agreement for the following purposes:

Disbursement Amounts:

Payee's Name and Address (if disbursement via wire, must include wire transfer instructions)	Invoice Number	Dollar Amount	Purpose
Johnson Control, Inc. JPM Chase One Bank Plaza Chicago, IL 60 670 ABA# 071000013 Account # 5514347	Pay App 15	\$56,699.00	Energy Performance Upgrades

(i) (a) Each obligation specified in the table herein titled as "Disbursement Amounts" has been incurred by Lessee in the stated amount, (b) the same is a proper charge against the Escrow Account for costs relating to the Equipment identified in the Lease, and (c) has not been paid (or has been paid by Lessee and Lessee requests reimbursement thereof).

(ii) Each item of Equipment relating to an obligation specified in the table herein titled as "Disbursement Amounts" has been delivered, installed and accepted by Lessee. Attached hereto is the original invoice with respect to such obligation.

(iii) The undersigned, as Authorized Representative, has no notice of any vendor's, mechanic's or other liens or rights to liens, chattel mortgages, conditional sales contracts or security interest which should be satisfied or discharged before such payment is made.

(iv) This requisition contains no item representing payment on account, or any retained percentages which Lessee is, at the date hereof, entitled to retain (except to the extent such amounts represent a reimbursement to Lessee).

(v) The Equipment is insured in accordance with the Lease.

(vi) No Event of Default, and no event which with notice or lapse of time, or both, would become an Event of Default, under the Lease has occurred and is continuing at the date hereof.

(vii) The disbursement shall occur during the Acquisition Period.

(viii) The representations, warranties and covenants of Lessee set forth in the Lease are true and correct as of the date hereof.

(ix) No Material Adverse Change has occurred since the date of the execution and delivery of the Lease.

Dated: May 2, 2017

CITY OF HATTIESBURG, MISSISSIPPI

By: _____

Mayor Johnny L. DuFree

Disbursement of funds from the Escrow
Account in accordance with the foregoing
Disbursement Request hereby is authorized

BANC OF AMERICA PUBLIC CAPITAL CORP
as Lessor under the Lease

By: _____

Name:

Title:



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-398

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Project Resolution Requisition No. 68 - 2013 Bonds

Title: Adopt a Resolution authorizing Requisition No. 68 from the Project Fund Construction Account in connection with a certain loan agreement dated December 19, 2013, by and between the Mississippi Development Bank and the City of Hattiesburg.

Type: Resolution

Drafter: Marie Harris

In Control: City Council

Reference: Lamar Rutland

Attachments: Resolution-Req 68, Exhibit A

File Created: 04/25/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

The City Council of the City of Hattiesburg, Mississippi (the "City") acting for and on behalf of the City, took up for consideration the matter of requesting and authorizing Requisition No. 68 from the Project Fund Construction Account in connection with the loan agreement between the Mississippi Development Bank and the City dated December 19, 2013. After discussion of the subject, Council Member _____ offered and moved for the adoption of the following resolution:

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HATTIESBURG, MISSISSIPPI (THE "CITY") AUTHORIZING REQUISITION NO. 68 FROM THE PROJECT FUND CONSTRUCTION ACCOUNT IN CONNECTION WITH THAT CERTAIN LOAN AGREEMENT, DATED AS OF DECEMBER 19, 2013, BY AND BETWEEN THE MISSISSIPPI DEVELOPMENT BANK AND THE CITY.

Whereas, on December 19, 2013 the City entered into a loan with the Mississippi Development Bank in an amount not to exceed \$28,000,000 (the "Loan") pursuant to the terms and conditions of that certain loan agreement, dated as of December 19, 2013, by and between the Mississippi Development Bank and the City (the "Loan Agreement").

Whereas, the City Council of the City now finds it necessary to approve Requisition No. 68 from the Project Fund Construction Account under the Loan in the total aggregate amount of \$ 18,344.42 for the purpose of paying Water & Sewer Projects in connection with the loan as more particularly described in Exhibit A.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HATTIESBURG, MISSISSIPPI:

SECTION 1. The City Council of the City hereby authorizes and approves Requisition No. 68 from the Project Fund Construction Account under the Loan in the total aggregate amount of **Eighteen Thousand Three Hundred Forty-Four and 42/100 Dollars (18,344.42)** for the purpose of paying Water & Sewer Projects in connection with the loan as more particularly described in Exhibit A.

SECTION 2. The City Council hereby directs Hancock Bank, as Trustee to disburse funds of Requisition No. 68 in the total aggregate amount of **Eighteen Thousand Three Hundred Forty-Four and 42/100 Dollars (18,344.42)** as authorized herein, as more particularly described in Exhibit A.

SECTION 3. The Mayor and City Clerk are hereby authorized and directed for and on behalf of the City to take any and all action as may be required by the City to carry out and give effect to the aforesaid documents authorized pursuant to this Resolution and to execute all papers, documents, certificates and other instruments that may be required for the carrying out of the authority conferred by this Resolution in order to evidence the authority.

The above and foregoing Resolution, after having been first reduced to writing, was introduced by Council Member _____ seconded by Council Member _____, and was adopted by the following vote, to wit:

YEAS:

NAYS:

ABSENT:

The motion having received the affirmative vote of a majority of the Council members present, the President declared the motion carried and the resolution adopted, on this the **2nd** day of **May**, 2017.

(SEAL)

ATTEST:

ADOPTED:

CLERK OF COUNCIL

PRESIDENT

The above and foregoing Resolution having been submitted to and approved by the Mayor, this the **2nd** day of **May**, 2017.

ATTEST:

APPROVED:

CITY CLERK

MAYOR

EXHIBIT A

PROJECT FUND CONSTRUCTION ACCOUNT REQUISITION

PROJECT FUND CONSTRUCTION ACCOUNT REQUISITION

RE: \$28,000,000.00 Mississippi Development Bank Special Obligation Bonds, Series 2013 (Hattiesburg, Mississippi Combined Water and Sewer System Refunding and Construction Project) (the "Bonds") secured by \$28,000,000.00 Promissory Note (Hattiesburg, Mississippi Combined Water and Sewer System Refunding and Construction Project) (the "Note").

TO: Hancock Bank
The Quarter Specialty Center
1855 Lakeland Drive, Suite Q-230
Jackson, Mississippi 39216
ATTN: Trust and Financial Services Group

REQUISITION NO.: 68

DATE OF REQUISITION: 5/2/2017

Item #	Payee Name & Address	Budget Line Item	Payment Amount	Invoice #	Purpose of Payment
1	Southern Mississippi Planning & Development District 9229 Highway 49 Gulfport, MS 39503	105695.6015	\$ 18,344.42	10940	Water Well Ext on Old 98 & Runnels Period: October 01, 2014 to November 30, 2016 MB: 2015-113 SMPDD Project # 209

\$ 18,344.42



Southern Mississippi Planning & Development District

BUILDING A STRONGER MISSISSIPPI

9229 Highway 49
Gulfport, MS 39503
(228) 868-2311

INVOICE NO. 10940

DATE March 27, 2017

SMPDD PROJECT # 209

PERIOD OF PERFORMANCE 10/1/2014 - 11/30/2016

TO City of Hattiesburg, MS
200 Forrest Street
Hattiesburg, MS 39401

PROJECT: Water Line Extension for Industrial Park - EDA Project Administration	DUE DATE
	4/26/17

EMPLOYEE	DESCRIPTION	QUANTITY	UNIT PRICE	LINE TOTAL
	Economic Development Administration - SMPDD Administration			
	FY 15 @ 9/30/2015			\$2,779.36
	FY 16 @ 9/30/2016			\$13,862.19
	FY 17 @ 11/30/2016			\$1,702.87
SUBTOTAL				\$ 18,344.42
TOTAL				\$ 18,344.42

We appreciate the opportunity to provide our services.
THANK YOU FOR YOUR BUSINESS!

2015-113
105695.6015

Southern Mississippi Planning & Development District
Hattiesburg EDA Project
Fund #209

	FY15 @ 09/30/15	FY16 @ 09/30/16	FY17 @ 11/30/16	Project To Date
Salaries	\$ 1,673.71	\$ 8,283.27	\$ 1,017.56	\$ 10,974.54
Fringe Benefits	\$ 494.05	\$ 2,413.43	\$ 269.60	\$ 3,177.08
Mileage Reimbursement	\$ 80.50	\$ 305.80	\$ -	\$ 386.30
Postage and Box Rental	\$ -	\$ -	\$ 93.92	\$ 93.92
Office Supplies	\$ -	\$ 185.51	\$ -	\$ 185.51
Indirect Costs	\$ 531.10	\$ 2,674.18	\$ 321.79	\$ 3,527.07
Total Expenses:	\$ 2,779.36	\$ 13,862.19	\$ 1,702.87	\$ 18,344.42
Federal Funds:	\$ 1,389.68	\$ 6,931.10	\$ 851.43	\$ 9,172.21
Contractual Services:	\$ 1,389.68	\$ 6,931.09	\$ 851.44	\$ 9,172.21
Total Funds:	\$ 2,779.36	\$ 13,862.19	\$ 1,702.87	\$ 18,344.42

Revenue and Expenditure Report by Element

Southern Mississippi Planning and Development Dist

Run Date: 02/08/2017

Run Time: 3:42:14 pm

Page 1 of 1

Period 10/01/14 to 09/30/15

32090 Hattiesburg EDA

Project Period 10/01/2014 to 09/30/2015

Element Code & Description	Budget	Prior Year	Current	YTD	Proj Tot	Un/Ovr	% Bud
Revenues							
40000 Federal Funds	6,250.00	0.00	1,389.68	1,389.68	1,389.68	4,860.32	22.23%
40015 Local Funds - Contracted	6,250.00	0.00	1,389.68	1,389.68	1,389.68	4,860.32	22.23%
Revenues	12,500.00	0.00	2,779.36	2,779.36	2,779.36	9,720.64	22.23%
Balance:	12,500.00	0.00	2,779.36	2,779.36	2,779.36		
209000 Administrative							
Expenses							
50000 Salaries	7,838.00	0.00	965.79	1,673.71	1,673.71	6,164.29	21.35%
50500 Fringe Benefits	1,936.00	0.00	285.35	494.05	494.05	1,441.95	25.52%
51100 Mileage Reimbursement	233.00	0.00	80.50	80.50	80.50	152.50	34.55%
52100 Postage and Box Rental	25.00	0.00	0.00	0.00	0.00	25.00	0.00%
52225 Advertising, Printing, & R	25.00	0.00	0.00	0.00	0.00	25.00	0.00%
59700 Indirect Costs	2,443.00	0.00	306.53	531.10	531.10	1,911.90	21.74%
Expenses	12,500.00	0.00	1,638.17	2,779.36	2,779.36	9,720.64	22.23%
Balance:	-12,500.00	0.00	-1,638.17	-2,779.36	-2,779.36		
Project Revenues:	12,500.00	0.00	2,779.36	2,779.36	2,779.36	9,720.64	22.23%
Project Expense:	12,500.00	0.00	1,638.17	2,779.36	2,779.36	9,720.64	22.23%
Project Balance:	0.00	0.00	1,141.19	0.00	0.00		
Report Total:			1,141.19	0.00			

Revenue and Expenditure Report by Element

Southern Mississippi Planning and Development Dist

Run Date: 02/08/2017

Run Time: 3:45:37 pm

Page 1 of 1

Period 10/01/15 to 09/30/16

32090 Hattiesburg EDA

Project Period 10/01/2015 to 09/30/2016

Element Code & Description	Budget	Prior Year	Current	VTD	Proj Tot	Un/Ovr	% Bud
Revenues							
40000 Federal Funds	7,870.00	0.00	1,339.62	6,931.10	6,931.10	938.90	88.07%
40025 Contractual Services	7,870.00	0.00	1,339.61	6,931.09	6,931.09	938.91	88.07%
Revenues	15,740.00	0.00	2,679.23	13,862.19	13,862.19	1,877.81	88.07%
Balance:	15,740.00	0.00	2,679.23	13,862.19	13,862.19		
209000 Administrative							
Expenses							
50000 Salaries	8,847.00	0.00	577.94	8,283.27	8,283.27	563.73	93.63%
50500 Fringe Benefits	2,591.00	0.00	169.60	2,413.43	2,413.43	177.57	93.15%
51100 Mileage Reimbursement	800.00	0.00	232.20	305.80	305.80	494.20	38.23%
51150 Travel Expense - meals, a	200.00	0.00	0.00	0.00	0.00	200.00	0.00%
52100 Postage and Box Rental	200.00	0.00	0.00	185.51	185.51	14.49	92.76%
52425 Office Supplies	242.00	0.00	0.00	0.00	0.00	242.00	0.00%
59700 Indirect Costs	2,860.00	0.00	186.89	2,674.18	2,674.18	185.82	93.50%
Expenses	15,740.00	0.00	1,166.63	13,862.19	13,862.19	1,877.81	88.07%
Balance:	-15,740.00	0.00	-1,166.63	-13,862.19	-13,862.19		
Project Revenues:	15,740.00	0.00	2,679.23	13,862.19	13,862.19	1,877.81	88.07%
Project Expense:	15,740.00	0.00	1,166.63	13,862.19	13,862.19	1,877.81	88.07%
Project Balance:	0.00	0.00	1,512.60	0.00	0.00		
Report Total:			1,512.60	0.00			

Revenue and Expenditure Report by Element

Southern Mississippi Planning and Development Dist

Run Date: 02/08/2017

Run Time: 4:00:28 pm

Page 1 of 1

Period 10/01/16 to 11/30/16

32090 Hattiesburg EDA

Project Period 10/01/2015 to 09/30/2017

Element Code & Description	Budget	Prior Year	Current	YTD	Proj Tot	Un/Ovr	% Bud
Revenues							
40000 Federal Funds	4,179.22	0.00	0.00	0.00	0.00	4,179.22	0.00%
40025 Contractual Services	4,179.23	0.00	0.00	0.00	0.00	4,179.23	0.00%
Revenues	8,358.45	0.00	0.00	0.00	0.00	8,358.45	0.00%
Balance:	8,358.45	0.00	0.00	0.00	0.00		
209000 Administrative							
Expenses							
50000 Salaries	5,005.00	0.00	316.35	1,017.56	1,017.56	3,987.44	20.33%
50500 Fringe Benefits	1,452.00	0.00	78.42	269.60	269.60	1,182.40	18.57%
51100 Mileage Reimbursement	125.00	0.00	0.00	0.00	0.00	125.00	0.00%
52100 Postage and Box Rental	30.00	0.00	93.92	93.92	93.92	-63.92	313.07%
52425 Office Supplies	99.45	0.00	0.00	0.00	0.00	99.45	0.00%
59700 Indirect Costs	1,647.00	0.00	98.69	321.79	321.79	1,325.21	19.54%
Expenses	8,358.45	0.00	587.38	1,702.87	1,702.87	6,655.58	20.37%
Balance:	-8,358.45	0.00	-587.38	-1,702.87	-1,702.87		
Project Revenues:	8,358.45	0.00	0.00	0.00	0.00	8,358.45	0.00%
Project Expense:	8,358.45	0.00	587.38	1,702.87	1,702.87	6,655.58	20.37%
Project Balance:	0.00	0.00	-587.38	-1,702.87	-1,702.87		
Report Total:			-587.38	-1,702.87			



City of Hattiesburg
2013 Sewer & Water Bond
Summary of Payments
As of April 24, 2017

Project Name	Payments by Project This Requisition	Payments to Date from This Bond
1500 GPM Water Well @ Plant No 1		539,421.83
1500 GPM Wesley Well No. 2		240,436.93
18" Sewer Trunk Lines		1,462,533.86
Clear Sewer ROW & Easements		30,022.50
Comprehensive Sanitary Sewer Study Task 1		6,300.00
Construction of Drying Bed at North Lagoon		18,000.00
Hwy 98 Booster Station		43,522.75
Hwy 98 Elevated Water Tank		113,226.30
Hwy 98 Fire Lines		48,652.50
Inflow and Infiltration Study		4,096,939.46
James St Water Well # 3		629,887.99
No-Discharge Wastewater Treatment System		292,127.60
NS Task 10 South Lagoon Sampling		43,676.87
NS Task 7 Wastewater Treatment Phase A		3,272,829.24
NS Task 7 WWTP Phase B Final Design		2,767,719.81
NS Task 8 WWTP Access Road & Site Design2		265,151.26
NS Task 9 WWTP Land Application Mgt		268,646.38
Providence Sewer Repair		62,172.00
Sewer Improvements Ph I		123,469.75
Sewer Improvements Ph II		259,327.58
Sewer Improvements Ph III		504,373.26
Sewer Improvements Ph IV		2,690.00
Sewer Improvements Ph V		127,325.00
Sewer Improvements Ph VII		3,158,462.43
Sewer Rate Study 2016		68,403.60
Veteran's Blvd Water Connector		1,555,895.52
Water Improvements Ph I		115,051.65
Water Improvements Ph II		235,746.83
Water Improvements Ph III		1,847,388.60
Water Improvements Ph IV		132,482.50
Water Improvements Ph V		80,220.00
Water Line Old 98 & Runnels Rd	18,344.42	639,743.70
Water Rate Study 2016		75,160.40
Wesley Water Well # 2		46,827.50
WTP #2 Filter #6 Repairs		110,863.40
Grand Total	18,344.42	23,284,699.00

Hattiesburg, Mississippi does hereby certify to Hancock Bank, as trustee in respect to the referenced Bonds (the Trustee”):

- (1) The amounts herein requisitioned to be paid to the above-designated payees are for the items or services hereinabove described.
- (2) The items or services listed above for which payment is proposed to be made hereunder have not formed the basis for any payment heretofore made from the Project Fund Construction Account.
- (3) Each of the items was reasonable and necessary in connection with the “Construction Project” being financed pursuant to the Loan Agreement dated as of December 19, 2013 (the “Loan Agreement”).
- (4) The payment herein authorized and approved is a proper charge against the Project Fund Construction Account as provided for in Section 3 of the Loan Agreement.
- (5) The invoices or statements from the contractor, vendor or other payee or other document supporting the amounts requisitioned herein are on file with the City.

CITY OF HATTIESBURG, MISSISSIPPI

By: _____

Title: Mayor or City Clerk
(Authorized City Representative)



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-396

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Authorize Mayor to execute, in quadruplicate, a se

Title: Authorize Mayor to execute, in quadruplicate, a sewer treatment agreement with Providence Homeowners Association, Inc.

Type: Action Item

Drafter: Marie Harris

In Control: City Council

Reference: L amar Rutland

Attachments: Agreement, Ordinance, Point of Entry, Legal Description & Plat, Certification , Capacity Analysis, Public Service Commission Information

File
Created: 04/25/2017

Budget Information:

Expenditure
Type:

Purchasing Item:

Publication
Information:

History of Legislative File

AGREEMENT for SEWER TREATMENT

THIS AGREEMENT, entered into on the day and date hereinafter provided by and between the **CITY OF HATTIESBURG, MISSISSIPPI**, a municipal corporation hereinafter referred to as "Hattiesburg" or "the City," and **PROVIDENCE HOMEOWNERS ASSOCIATION, INC.**, hereinafter referred to as "Utility Company" for the purpose of setting forth the terms, conditions and covenants under and consistent with which Hattiesburg will receive Domestic Wastewater flow from Utility Company into Hattiesburg's wastewater collection system and treatment facility, and to provide for payment of Hattiesburg's conveyance and treatment charges.

ARTICLE I

Definitions

Section 1.01 DEFINITIONS OF TERMS. Terms and expressions used in this Agreement, including the preamble hereof, shall have the meaning set forth in this Article:

- (a) "*Calendar year*" means the twelve (12) month period beginning January 1 of each year.
- (b) "*Connection*" means one unit or one single occupied dwelling per building (e.g., duplex with two dwellings has two connections, and a building with ten individual units has ten connections).
- (c) "*Domestic wastewater*" means liquid and water-carried waste discharge from sanitary conveniences of dwellings, business buildings, institutions and the like, as distinct from wastes in industrial waste.
- (d) "*Exceedance*" means excess flow based on allowable capacity.
- (e) "*Hattiesburg*" means the City of Hattiesburg, Mississippi, a municipal corporation.
- (f) "*Industrial waste*" means the liquid and water born wastes from industrial processes as distinct from wastes in Domestic Wastewater.
- (g) "*Month*" means calendar month.

- (h) "*Operation and maintenance expense*" means the current expense paid or accrued in the operation, maintenance, and ordinary repair of the wastewater treatment facility and wastewater collection system of Hattiesburg (including, but not limited to the North and South lagoons) and shall include, without limitation on the generality of the foregoing, capital expenditures, indebtedness, insurance premiums and administrative expenses of Hattiesburg and such other reasonable and necessary current expenses relating to the wastewater treatment facility and wastewater collection system, as defined in paragraph B of Chapter 21, Section 30, of Hattiesburg's Code of Ordinances (Ordinance No. 3167, as adopted by the City Council on Sept. 14, 2015), a copy of which is attached hereto and made a part hereof, and as shall be in accordance with sound accounting practices.
- (i) "*Person*" means and includes the state of Mississippi, a public agency as defined herein, or any municipal entity, town, or political subdivision of any governmental agency of the State of Mississippi or the United States of America, or any individual, co-partnership, association, firm, trust, State, or any other entity whatsoever.
- (j) "*Point of entry*" means the point at which wastewater enters Hattiesburg's wastewater collection system.
- (k) "*Wastewater*" means Domestic Wastewater.
- (l) "*Wastewater collection system*" means the array of wastewater pipes, manholes, and pump stations which function to transport wastewater from service sources to a wastewater treatment facility.
- (m) "*Wastewater treatment facility*" means the facility of Hattiesburg for treatment and disposal of wastewater, situated in Forrest County, Mississippi, as such facility now exists and as it may be hereinafter improved, enlarged, and/or expanded by Hattiesburg.

ARTICLE II

Scope of the Agreement

Section 2.01. RESPONSIBILITIES OF THE PARTIES.

- 1) Hattiesburg agrees to accept and treat all volumes of wastewater delivered by and from the Utility Company.

- 2) Upon final completion of the construction of any needed improvements, Utility Company would own, operate, and maintain that portion of the System which lies upstream of the point of wastewater entry to the Municipality.
- 3) Upon final completion of the construction of any needed improvements, Hattiesburg would own, operate, and maintain that portion of the sewer system at the point of wastewater entry to the Municipality and the downstream lines connecting thereto, not including the metering station, which will be owned, operated, and maintained by Utility Company, as provided in Section 3.05, below.

Section 2.02. EXISTING FACILITIES. Utility Company will provide to the City the total number of existing individual connections which are connected to Utility Company's system and facilities as of the date this Agreement is entered into and executed by the Parties to this Agreement – City and Utility Company. The system inspection required under section 2.03 is to be performed at the time of the execution and signing of this Agreement if possible, but not in any case more than six (6) months thereafter. The Utility Company's total number of existing connections shall be provided to the City in the form of a written report signed by a licensed, professional engineer. It is agreed by the parties that the existing facilities have sufficient capacity for the proper transport and treatment of the proposed wastewater to be received by Hattiesburg. If, however, a transmission line, an interceptor, or other directly affected facilities of Hattiesburg should become inadequate, in the opinion of the City Engineer of Hattiesburg, to properly transport or treat the flow of wastewater from the Utility Company, then upon fifteen (15) days' written notification from the Hattiesburg, Utility Company shall refrain from further increasing the flow of wastewater into Hattiesburg's system and, if necessary, shall take reasonable and appropriate steps to reduce such flow to a level deemed appropriate by the City Engineer of Hattiesburg. Hattiesburg will then promptly proceed to repair, replace, or enlarge its facilities such that Utility Company may, upon completion of the repairs, resume full and unrestricted flow to Hattiesburg. Failure of Utility Company to respond to such notice within fifteen (15) days shall be grounds for immediate suspension of service by Hattiesburg until it responds to the notice.

Section 2.03. SYSTEM INSPECTION. An initial system inspection – including a determination of the total number of Utility Company's connections – is required to be performed at the time of the execution and signing of this Agreement if possible, but not in any case more than six (6) months thereafter. The Utility Company's total number of existing connections will be in writing and signed by a professional engineer. Thereafter, Utility Company will perform an inspection of its existing system and facilities every five (5) years, unless requested more frequently by the City, and report to Hattiesburg in writing the number of its total connections. This report shall be approved and signed by a licensed, professional engineer.

Section 2.04. REPAIR OR REPLACEMENT OF FACILITIES. If a transmission line, an interceptor, or other facility transporting the wastewater flow from Utility Company, in the opinion of the Hattiesburg City Engineer, required repair or replacement, Utility Company will participate in the cost of such improvement by paying a proportionate share to construct such improvements. Upon proper and timely notice, Utility Company will pay to Hattiesburg a sum of money equal to the product of the cost of the improvement times the percentage of flow contributed to the improved segment or facility by Utility Company during the preceding fiscal year. Utility Company's cost share previously described will be due within thirty (30) days of the award of the construction contract for such improvements. Utility Company shall participate in, and concur with, the design and construction practices of the changes or improvements to the facilities that require cost participation by Utility Company.

Section 2.05. CAPACITY ANALYSIS. The City will establish the capacity of the collection system downstream of Utility Company and communicate the capacity in writing to Utility Company which is hereby incorporated into this contract as if fully set forth, herein. The City has the discretion to bill the expense of such capacity studies directly to Utility Company. The Utility Company shall operate and maintain the sewer collection system of the Utility Company such that Infiltration and Inflow are minimized. The Utility Company agrees to diligently pursue reductions in Inflow and Infiltration within the wastewater collection and transmission system operated and maintained by the Utility Company, as well as any parties contributing waste water to the Utility Company's system. The Utility Company will comply with all sanitary sewer overflow rules set forth by the MDEQ, the EPA, and any other governmental body having legal authority to set standards sewer collection and transmission systems of similar size and character

Section 2.06. EXCEEDANCE OF CAPACITY. In the event Utility Company is in exceedance of capacity, Hattiesburg will issue a notice of violation for any and all violations of capacity, and the City may within its discretion terminate this Agreement for noncompliance and material breach under Article VII and/or require the Utility Company to provide a proposed, corrective action plan to be approved by Hattiesburg which will include an infiltration and inflow study (NASCO standards) and a detailed plan of corrective action the Utility Company will take, including the manner of corrective action, the deadline by which the corrective action will be completed, and the cost of the corrective action.

ARTICLE III

Discharge of Wastewater, Title, and Metering

Section 3.01. DISCHARGE. Utility Company shall have permission to discharge Domestic Wastewater into Hattiesburg's wastewater collection system from Utility Company's certificated sewer service area, as described by legal description and aerial plot in attached exhibit(s). The number of service connections shall be limited to the proposed number of lots and/or units indicated in the attached exhibit.

Section 3.02. POINT OF ENTRY. Utility Company shall discharge its Domestic Wastewater through a municipally maintained point or points of entry designated by Hattiesburg. Hattiesburg hereby designates the following as the Point of Entry, to which Utility Company agrees:

SEE ATTACHMENT

Section 3.03. CONVEYANCE TO POINT OF ENTRY. It shall be the sole responsibility of Utility Company, including any liability incurred in connection therewith, to convey such wastewater to the Point of Entry, as specifically defined and agreed to in Section 2.02, through Utility Company's disposal system to Hattiesburg's wastewater collection system. Utility Company shall have sole construction and maintenance responsibility for the sewer pipe and facilities running and existing between Utility Company's certificated sewer service area, as defined in attached exhibit(s), and the Point of Entry, as specifically defined and agreed to in Section 2.02. Hattiesburg reserves the right to inspect Utility Company's disposal system for irregularities that could result in inadmissible discharges into Hattiesburg's system including inflow/infiltration, grease, and industrial waste. Hattiesburg shall have no maintenance responsibilities for Utility Company's sewer pipe and facilities. Hattiesburg shall be responsible for maintenance only at the Point of Entry, as defined in Section 2.02.

Section 3.04. TITLE TO WASTEWATER AND RESPONSIBILITY THEREFORE. Title to wastewater discharged hereunder shall remain in Utility Company until Point of Entry and, upon passing through Point of Entry, title thereto and all effluent therefrom shall pass to Hattiesburg. Utility Company agrees to save and hold harmless the City of Hattiesburg from all claims, demands, and causes of action which may be asserted by any person on account of the reception, transportation, delivery, and disposal of Domestic Wastewater while title thereto remains in or passes to Utility Company. Provided, however, that any administrative, non-routine, emergency, or other specific charge or assessment against Hattiesburg resulting from the operation of Utility Company's disposal system shall be deemed an expense of and charged to Utility Company regardless of whether title to the Domestic Wastewater giving rise to any such charge against Hattiesburg has vested in Hattiesburg; such charge shall be payable by Utility Company upon presentation of adequate cost and responsibility. Utility Company shall be advised of and have the right to contest any charge or assessment made by any charging agency. Nothing herein is intended or should be construed to indemnify or hold harmless either party for such party's own

negligence. This covenant is not made for the benefit of any third party. Hattiesburg takes responsibility as between the parties hereto for the proper reception and ultimate treatment and disposal of such wastewater received by it at Point of Entry; provided, however, that the wastewater meets applicable Federal and State standards and restrictions.

The parties understand and agree that the sewer pipe and facilities running and existing between Utility Company's certificated sewer service area, as defined in attached exhibit(s), and the Point of Entry, as defined in Section 2.02, is the exclusive property of Utility Company and neither Hattiesburg nor any third party shall have any right whatsoever to connect or tie into such pipe or facilities, nor any duty to maintain such pipe or facilities.

Section 3.05. METERING. At Point of Entry into Hattiesburg's wastewater collection system, the necessary equipment and device of standard type for measuring properly all of Utility Company's Domestic Wastewater shall be installed, operated and maintained by Utility Company. Such meter shall be an automatic meter reading (AMR) meter specified by the City to be compatible with the City's automated system and shall be the property of Utility Company. Hattiesburg and Utility Company shall have access to such metering equipment at all reasonable times for inspection and examination. Meters shall be calibrated annually at the end of the calendar year with certified calibration report submitted to the City for verification. If for any reason a meter is out of service or out for repair, or if, upon any test, accuracy of any meter is found to be inaccurate by ten percent (10%) or more, plus or minus, of the flow, registration thereof shall be corrected for a period of time extending back to the time when such inaccuracy began, if such a time is ascertainable, and if such a time is not ascertainable, then for a period extending back one-half (1/2) of the time elapsed since the date of the last calibration, but in no event further back than a period of six (6) months. The out of service or malfunctioning meter shall be repaired by the Utility Company within four weeks of detection of malfunction.

Section 4.06. UNIT OF MEASUREMENT. The unit of measurement for wastewater delivery hereunder shall be one thousand (1,000) gallons, U.S. Standard Liquid Measure.

ARTICLE IV

Comprehensive Sewer Use Provisions

Section 4.01. ADMISSIBLE DISCHARGES. Utility Company agrees that wastewater discharge from its system into Hattiesburg's wastewater collection system shall be of such quality that:

- (a) Effluent thereof shall not be in violation of and shall fully comply with Chapter 21, Section 24, of Hattiesburg's Code of Ordinances (Ordinance No. 3167, as adopted by the City Council on Sept. 14, 2015), a copy of which is attached hereto and made a part hereof; and
- (b) Effluent thereof meets the then current standards of the State Department of Environmental Quality and the United States Environmental Protection Agency and any other governmental body having a legal authority to set standards for such effluent, including those within any Order, Judgment, or Decree of any United States District Court or Mississippi Commission on Environmental Quality; and
- (c) Hattiesburg's wastewater treatment facility or wastewater collection system lines are not damaged to the extent to cause unnecessary repairs or replacement or increased operation and maintenance expenses.
- (d) Stormwater inflow or infiltration in any appreciable amount is not introduced into the effluent stream.

Section 4.02. COMPREHENSIVE SEWER USE PROVISIONS. Utility Company shall adopt, maintain and impose upon its users such rules and regulations as are necessary to ensure compliance with Section 3.01 to the same extent as would be imposed by Chapter 21 of Hattiesburg's Code of Ordinances (Ordinance No. 3167, as adopted by the City Council on Sept. 14, 2015), a copy of which is attached hereto and made a part hereof, if such a user were located within the jurisdiction of Hattiesburg.

Section 4.03. INDUSTRIAL WASTE. Utility Company shall not allow the discharge of any industrial waste into its sewer system without written consent of Hattiesburg. Before any such consent may be given, the industry shall file with Hattiesburg a statement showing the average analysis of the industrial waste it wishes to discharge. No consent for the discharge of industrial waste will be given by Hattiesburg if such waste does not pass through an inspection manhole located so as to be accessible at all times to inspectors of Hattiesburg and Utility Company. Utility Company shall ensure that its collection system is protected from illicit third party discharging, including industrial or septic tank discharges. If inspection indicates that damage may be resulting from the discharge, Utility Company shall be responsible to Hattiesburg for any such damages, payable immediately upon determination of the amount involved by the parties.

Section 4.04. TESTING. Utility Company shall allow Hattiesburg access to its system at any accessible point for purposes of taking samples of Utility Company's wastewater for analysis to ensure compliance with ARTICLE III of this agreement. The results of such analysis will be made available to Utility Company at its request.

ARTICLE V

Payments, Structure Limitations, and Annual Adjustments

Section 5.01 INITIATION FEE. If Utility Company does not already have a physical connection established to transmit effluent into City's facilities, the Utility Company will pay to the City of Hattiesburg a sum of \$10,000.00 upon execution of this Agreement for establishing a new connection between the City and Utility Company.

Section 5.02 CONNECTION FEES. Utility Company shall pay to the City of Hattiesburg a connection fee in the amount of three hundred dollars (\$300.00) per new individual customer connection to Utility Company, and said fee will be paid before said connection is connected to Utility Company's sewer collection line. For the purposes of this Section, a "new" connection is a connection established after this Agreement is entered into and executed by the Parties – City and Utility Company – and not counting existing connections under Section 2.02 of this Agreement.

Section 5.03 RATE. Utility Company shall pay to Hattiesburg for conveyance and treatment of its wastewater a rate per thousand gallons equal to double the current sewer rate set by Ordinance of the Mayor and Council of the City of Hattiesburg for those rate-payers within the corporate limits of the City of Hattiesburg. Rates will be adjusted annually in accordance with any rate changes that the City of Hattiesburg may impose on its customer base.

Section 5.04 CASH DEPOSIT OR PAYMENT BONDS. It is hereby agreed that upon entry into and signature of this Agreement, Utility Company will either submit to Hattiesburg a cash deposit, or post a payment bond through an approved surety company, which shall at a minimum be an amount equal to one year's worth of estimated payments made to Hattiesburg by the Utility Company. The cash deposit or bond will be based on the average flow and at the rate as agreed to in this Agreement, unless the City provides notice in writing of another, specific deposit or bond amount. The purpose of such deposits or payment bonds is in the event of triggering Section 5.05, below. The Utility Company will continue to pay Hattiesburg for ongoing sewer treatment following ninety (90) days of Utility Company's failure to make payments and during the time in which Utility Company provides an alternative method of sewer treatment following disconnection from the City of Hattiesburg's treatment facilities, unless the City provides notice in writing of another, specific time period.

Section 5.05 LATE PAYMENTS. Utility Company agrees that the invoice is due to be paid in full, within seven (7) days of receipt. If full payment is not made within thirty (30) days,

Hattiesburg will provide Utility Company written notice providing Utility Company fifteen (15) days within which Utility Company may come into compliance, or that otherwise, Hattiesburg may choose to seek all legal remedies available under the law to recover the outstanding debt to the City. Failure to make payment beyond ninety (90) days will result in the City's exercise of discretion to pursue any and all legal remedies available under the law against the Utility Company, including calling the Payment Bond provided for in Section 5.04, above, and seeking judicial intervention to disconnect Utility Company from the City of Hattiesburg's treatment facilities, which may require Utility Company to construct its own treatment facilities within a reasonable time, during which time Utility Company will continue to pay the City of Hattiesburg for sewer treatment until disconnected, such payments to be made within seven (7) days of receipt of invoice. If continued payment is not made to Utility Company, Hattiesburg may either utilize the cash deposit or call the Payment Bond provided for in Section 5.04, above, for the purposes of satisfying the Utility Company's continuing payments for ongoing sewer treatment. It is hereby specifically agreed that such available legal remedies referenced herein may also in the discretion of the City of Hattiesburg include utilizing the cash deposit and/or calling the Utility Company's Payment Bond. Utility Company's failure to make a timely payment shall entitle the City, either by this Agreement or through judicial action, to require bond be increased to a sufficient amount to make estimated payments for the length of time needed or required for the Utility Company to provide an alternative method of sewer treatment and to be disconnected from the City of Hattiesburg's treatment facilities, unless the City provides notice in writing of another, specific time period. The City retains the option to terminate this Agreement for noncompliance and material breach under Article VII.

ARTICLE VI

Effective Date, Term of Agreement, and Miss. Public Service Commission Approval

Section 6.01. **EFFECTIVE DATE.** This agreement shall become effective as of the ____ day of _____, 2017, and as of that date this Agreement shall constitute the sole and only Agreement between Hattiesburg and Utility Company as to matters contained herein.

Section 6.02. **TERM OF AGREEMENT.** This Agreement shall be in force and effect from the ____ day of _____, 2017, and shall continue in effect from year to year unless either party hereto shall give not less than six (6) months' notice in writing to the other that this Agreement shall no longer be in force and effect; however, in no instance shall this Agreement terminate earlier than the end of any calendar year.

Section 6.03. CERTIFICATION. Utility Company will be certified with the State of Mississippi Public Service Commission (MPSC) as a sewer utility for PROVIDENCE HOMEOWNER'S ASSOCIATION, INC. Subdivision/Development in Forrest County (MPSC I.D. No. 04-UA-0195) Subject to the approval of the MPSC, Utility Company will further have the authority to effect the application and collection of rates and other charges for sewer service to its customers located within its certificated area, consistent with the MPSC's response to an Application to Approve this Agreement and Related Tariff to be filed with the MPSC after execution of this Agreement by both parties with proper authority. Utility Company will maintain its Certificate (attached as an exhibit hereto), Tariffs, and will continue to collect all approved customer service fees. All fees due to the City of Hattiesburg will be paid by Utility Company on a monthly basis. The fees due to the City of Hattiesburg will be based on the flow meter reading, as provided in Section 2.05 as stated above.

ARTICLE VII

Miscellaneous Provisions

Section 7.01. FORCE MAJEURE. In case by reason of "Force Majeure," either party hereto shall be rendered unable wholly or in part to carry out its obligations under this agreement, then if such party shall give notice and full particulars of such "Force Majeure" in writing to the other party within a reasonable time after occurrence of the event or cause relied on, the obligation of the party giving such notice, so far as it is affected by "Force Majeure," shall be suspended during the continuance of the inability then claimed, but for no longer period, and any such party shall endeavor to remove or overcome such inability with all reasonable dispatch.

Section 7.02. BREACH. This Agreement may be terminated by either party for a material breach of the Agreement by the other party. In the event of termination under this provision, the party terminating shall give written notice by mail to the other party and termination shall be effective on the date specified, but no earlier than ninety (90) days from the date such written notice is received by the other party. In the event this Agreement is breached because Utility Company is in exceedance of capacity, under Section 2.06 of this Agreement, Hattiesburg will issue a notice of violation for any and all violations of capacity, and the City may within its discretion terminate this Agreement for noncompliance and material breach under Article VII and/or require the Utility Company to provide a proposed, corrective action plan to be approved by Hattiesburg which will include an infiltration and inflow study (NASCO standards) and a detailed plan of corrective action the Utility Company will take, including the manner of corrective action, the deadline by which the corrective action will be completed, and the cost of the corrective action. In case of termination, all obligations that are still executory on

both sides are discharged as of the effective date of the termination. However, rights based on prior breach or prior performance, the indemnification provisions, and the records retention provisions shall survive.

Section 7.03. GOVERNING LAW AND VENUE. This Agreement shall be construed under and in accordance with the laws of the State of Mississippi, and venue for any action at law or in equity shall be a court of competent jurisdiction in Forest County or Lamar County, Mississippi.

Section 7.04. WAIVER. No waiver or failure to insist on performance of a term or condition of this agreement shall be construed as a waiver of the term or condition absent a writing clearly stating that the condition is being waived. A written waiver shall be applicable only for the period or time stated and shall not be construed as a waiver of indefinite duration.

Section 7.05. SEVERABILITY. If any provision of this Agreement is held to be invalid, unenforceable, or unlawful by a court or tribunal of competent jurisdiction, then said provision will not operate to invalidate any other, remaining portion of this Agreement, which shall continue in force and effect but for said provision and shall be construed accordingly.

Section 7.06. HEADINGS. The headings used in this Agreement have been included solely for ease of reference and shall not be considered in the interpretation or construction of this Agreement.

Section 7.07. AUTHORITY TO CONTRACT AND EXECUTE. Each individual executing and signing this Agreement warrants and represents that he/she has been authorized to execute the Agreement on behalf of the parties to this Agreement.

Section 7.08. AMENDMENTS AND MODIFICATION. This Agreement may not be modified or amended absent the execution of a written instrument, signed by duly authorized officials and/or representatives of Utility Company and the City Council of Hattiesburg. amendments and modification to the agreement shall be effective as of the date set forth in the amendment or modification and shall not be retroactive

Section 7.09. NOTICE. Notices required or provided pursuant to the provisions of this Agreement shall be in writing and served either by personal delivery, mail, or fax to the parties as follows:

For Hattiesburg: _____

For Utility Company: _____

Section 7.10. FURTHER ASSURANCES. The parties agree that each shall and will, upon reasonable request of the other, make, do, execute, or cause to be made, done, or executed, all such further and other lawful acts, deeds things, devices, and assurances whatsoever for the getter or more perfect and absolute performance of the terms and conditions of the Agreement for the treatment of Utility Company's wastewater.

WITNESS THE SIGNATURES of the parties on duplicate originals, on this the ____ day of _____, A.D. _____

ATTEST:

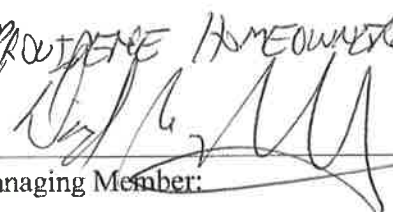
CITY OF HATTIESBURG, MISSISSIPPI

City Clerk

By: _____
MAYOR: Johnny L. DuPree

ATTEST:


Witness:


By: _____
Managing Member: *PROJENIE HOMEOWNERS ASSOC, INC.*

ATTACHMENTS:

- Aerial plot of certificated service area, including number of lots, units, or proposed flow
- Legal description of service area
- Order granting certificate of public convenience and necessity from Public Service Commission
- Ordinance No. 3167 – Chapter 21, Sections 1 through 49, of Hattiesburg's Code of Ordinances – as adopted by the City Council on Sept. 14, 2015

ORDINANCE NO. 3206
OF THE
CITY OF HATTIESBURG, MISSISSIPPI

AN ORDINANCE AMENDING CHAPTER 21-2(D) AND SECTION 21-31 OF
THE CODE OF ORDINANCES FOR THE CITY OF HATTIESBURG, BEING
ORDINANCE NUMBER 3167, AS AMENDED BY ORDINANCE NUMBER
3197, SO AS TO ESTABLISH RATES AND CHARGES FOR SANITARY
SEWER SERVICE

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF
HATTIESBURG, MISSISSIPPI:

SECTION 1. That Section 21-2 (D) and Section 21-31 of the Code of
Ordinances for the City of Hattiesburg, Mississippi, being Ordinance Number 3167 adopted
September 14, 2015, as amended by Ordinance Number 3197 adopted April 28, 2016, be and the
same is hereby amended to read as follows, to-wit:

"Section 21-2 (D):

D. Monthly rate for service.

The following schedule of rates is hereby ascertained, found and declared to
be reasonable and the same are established as the rates to be charged for sanitary
sewer service per month:

1. Effective September 1, 2016, all residential water users including motels,
apartments and house trailers, shall be charged for sanitary sewer service at a monthly
rate of one hundred percent (100%) of their monthly water charge, with the minimum
sanitary sewer charge to be sixteen dollars and no cents (\$16.00) per month.

Effective September 1, 2017, all residential water users including motels,
apartments and house trailers, shall be charged for sanitary sewer service at a monthly
rate of one hundred percent (100%) of their monthly water charge, with the minimum
sanitary sewer charge to be sixteen dollars and eighty cents (\$16.80) per month.

Effective September 1, 2018, all residential water users including motels,
apartments and house trailers, shall be charged for sanitary sewer service at a monthly
rate of one hundred percent (100%) of their monthly water charge, with the minimum
sanitary sewer charge to be seventeen dollars and sixty-four cents (\$17.64) per month.

Effective September 1, 2019, all residential water users including motels,
apartment and house trailers, shall be charged for sanitary sewer service at a monthly rate
of one hundred percent (100%) of their monthly water charge, with the minimum sanitary
sewer charge to be eighteen dollars and fifty-two cents (\$18.52) per month.

2. Effective September 1, 2016, all nonresidential water users including
motels, apartments and house trailers, shall be charged for sanitary sewer service at a monthly
rate of one hundred percent (100%) of their monthly water charge, with the minimum sanitary
sewer charge to be sixteen dollars and no cents (\$16.00) per month.

Effective September 1, 2017, all nonresidential water users including motels,
apartments and house trailers, shall be charged for sanitary sewer service at a monthly rate of one
hundred percent (100%) of their monthly water charge, with the minimum sanitary sewer charge
to be sixteen dollars and eighty cents (\$16.80) per month.

Effective September 1, 2018, all nonresidential water users including motels, apartments and house trailers, shall be charged for sanitary sewer service at a monthly rate of one hundred percent (100%) of their monthly water charge, with the minimum sanitary sewer charge to be seventeen dollars and sixty-four cents (\$17.64) per month.

Effective September 1, 2019, all nonresidential water users including motels, apartments and house trailers, shall be charged for sanitary sewer service at a monthly rate of one hundred percent (100%) of their monthly water charge, with the minimum sanitary sewer charge to be eighteen dollars and fifty-two cents (\$18.52) per month.

Section 21-31:

The following sewer rate schedule shall apply to each user of the sewage system. Effective September 1, 2016, this schedule includes the user charge as established herein and the charge for debt service and recovery of other costs, each based on volume of flow.

<u>Debt Service</u>	<u>Total O & M</u>	<u>Total</u>
Initial Increment \$1.69/1000 gal	\$3.13/1000 gal	\$4.82/1000 gal
Second Increment \$1.40/1000 gal	\$2.60/1000 gal	\$4.00/1000 gal

Note: Contractual sewer revenues (not based directly upon water volume) are attributed to debt service and O&M at 35% and 65%, respectively, based upon actual revenues collected.

Effective September 1, 2017, this schedule includes the user charge as established herein and the charge for debt service and recovery of other costs, each based on volume of flow.

<u>Debt Service</u>	<u>Total O & M</u>	<u>Total</u>
Initial Increment \$1.77/1000 gal	\$3.29/1000 gal	\$5.06/1000 gal
Second Increment \$1.47/1000 gal	\$2.73/1000 gal	\$4.20/1000 gal

Note: Contractual sewer revenues (not based directly upon water volume) are attributed to debt service and O&M at 35% and 65%, respectively, based upon actual revenues collected.

Effective September 1, 2018, this schedule includes the user charge as established herein and the charge for debt service and recovery of other costs, each based on volume of flow.

<u>Debt Service</u>	<u>Total O & M</u>	<u>Total</u>
Initial Increment \$1.86/1000 gal	\$3.45/1000 gal	\$5.31/1000 gal
Second Increment \$1.54/1000 gal	\$2.87/1000 gal	\$4.41/1000 gal

Note: Contractual sewer revenues (not based directly upon water volume) are attributed to debt service and O&M at 35% and 65%, respectively, based upon actual revenues collected.

Effective September 1, 2019, this schedule includes the user charge as established herein and the charge for debt service and recovery of other costs, each based on volume of flow.

<u>Debt Service</u>	<u>Total O & M</u>	<u>Total</u>
Initial Increment \$1.95/1000 gal	\$3.63/1000 gal	\$5.58/1000 gal
Second Increment \$1.62/1000 gal	\$3.01/1000 gal	\$4.63/1000 gal

Note: Contractual sewer revenues (not based directly upon water volume) are attributed to debt service and O&M at 35% and 65%, respectively, based upon actual revenues collected.

SECTION 2. That except as hereby expressly changed and amended, Ordinance Number 3167 adopted September 14, 2015, as amended by Ordinance Number 3197 adopted April 28, 2016, shall be and does remain in full force and effect as adopted.

SECTION 3. This Ordinance shall take effect and be in force immediately, from and after September 6, 2016, to allow citizens to benefit from the adjusted rate as quickly as possible.

The foregoing Ordinance having been reduced to writing, the same was introduced by Council member Delgado, seconded by Council member Naylor and was adopted by the following vote, to-wit:

YEAS:

Bradley
Delgado
Carroll
Dryden
Naylor

NAYS:

None

The President thereby declared the motion carried and the Ordinance adopted, this the 6th day of September, A.D., 2016.

(SEAL)

ATTEST:


CLERK OF COUNCIL

ADOPTED:

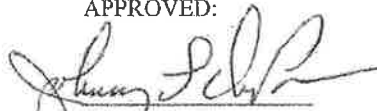

PRESIDENT

The above and foregoing Ordinance, having been submitted to and approved by the Mayor, this the 6th day of September, A.D., 2016.

ATTEST:


CITY CLERK

APPROVED:


MAYOR

Terrell Grindle

From: Carl Nicholson
Sent: Thursday, April 20, 2017 2:28 PM
To: Terrell Grindle; Jeffrey Nicholson
Subject: FW: Effective date?

Please copy and get to me

From: Rutland, Lamar [mailto:lrutland@hattiesburgms.com]
Sent: Thursday, April 20, 2017 2:14 PM
To: Carl Nicholson <carl@nconsultgrp.com>
Cc: John Scanlon <jscanlon@pdm.d.biz> (jscanlon@pdm.d.biz) <jscanlon@pdm.d.biz>
Subject: RE: Effective date?

Effective date should be when council approves the agreement on the agenda. We will write it in once approved.

Lamar Rutland, P.E.
City of Hattiesburg
Director of Engineering
PH (601) 545-4540

From: Carl Nicholson [mailto:carl@nconsultgrp.com]
Sent: Thursday, April 20, 2017 10:25 AM
To: Rutland, Lamar
Subject: RE: Effective date?

Did we get an effective date?

From: Rutland, Lamar [mailto:lrutland@hattiesburgms.com]
Sent: Monday, April 17, 2017 3:50 PM
To: Carl Nicholson <carl@nconsultgrp.com>
Cc: David Burckel <dmburckel@gmail.com>
Subject: RE: Effective date?

Carl see attached. This is actually ordinance 3206 which updated Ord. 3167. I had to do some digging on the point of entry and I have attached a copy of page 3 of the old agreement which states the point of entry is the gravity line on Bonhomie rd. Which is MH E105. Which also means they have a lot of force main that they are required to maintain.

Lamar Rutland, P.E.
City of Hattiesburg
Director of Engineering
PH (601) 545-4540

From: Carl Nicholson [mailto:carl@nconsultgrp.com]
Sent: Monday, April 17, 2017 3:31 PM
To: Rutland, Lamar
Cc: David Burckel
Subject: RE: Effective date?

Do you have ordinance number 3167 that is mentioned in the agreement to be attached? Also, do you have the point of entry description?

From: Rutland, Lamar [<mailto:lrutland@hattiesburgms.com>]
Sent: Monday, April 17, 2017 2:47 PM
To: Carl Nicholson <carl@nconsultgrp.com>
Cc: John Scanlon <jscanlon@pdmd.biz> (jscanlon@pdmd.biz) <jscanlon@pdmd.biz>
Subject: RE: Effective date?

Let me talk with our attorney

Lamar Rutland, P.E.
City of Hattiesburg
Director of Engineering
PH (601) 545-4540

From: Carl Nicholson [<mailto:carl@nconsultgrp.com>]
Sent: Monday, April 17, 2017 2:05 PM
To: Rutland, Lamar
Subject: Effective date?

5/1/17 or 6/1/17

Carl Nicholson
Senior Partner
Nicholson Consulting Group, LLC
P.O. Box 15607
Hattiesburg, MS 39404
100 Dudley W. Conner Street
Hattiesburg, MS 39401
O: 601-475-1490
C: 601-520-0202
carl@nconsultgrp.com



herein, or any municipal entity, town or political subdivision of governmental agency of the State of Mississippi or the United States of America, or any individual, co-partnership, association, firm, trust, State or any other entity whatsoever.

- (h) *"point of entry"* means the point at which wastewater enters Hattiesburg's wastewater treatment facility.
- (i) *"Wastewater"* means domestic wastewater and industrial waste, together with such infiltration that may be present.
- (j) *"Wastewater Treatment Facility"* means the facility of Hattiesburg for treatment and disposal of wastewater, situated in Forrest County, Mississippi, as such facility now exists and as it may be hereinafter improved and /or expanded by Hattiesburg and commonly referred to as the "South Lagoon".

ARTICLE II

Discharge of Wastewater, Title, and Metering

Section 2.01 DISCHARGE. PROVIDENCE shall have the right to discharge wastewater into HATTIESBURG'S wastewater treatment facility.

Section 2.02 POINT OF ENTRY. PROVIDENCE shall discharge its wastewater through point or points of entry designated by HATTIESBURG or such at such additional points of entry as may be mutually agreed to by HATTIESBURG and PROVIDENCE.

Section 2.03 CONVEYANCE TO POINT OF ENTRY. It shall be the sole responsibility of PROVIDENCE, including and liability incurred in connection therewith, to convey such wastewater to the point of entry through PROVIDENCE'S disposal system to HATTIESBURG'S wastewater collection system, said point of entry specifically to be HATTIESBURG'S existing gravity collector line crossing under Bonhomie Road.

Section 2.04 TITLE TO WASTEWATER AND RESPONSIBILITY THEREFORE. Title to wastewater discharged hereunder shall remain in PROVIDENCE to point of entry, and upon passing through point of entry, title thereto and all effluent therefrom shall pass to HATTIESBURG. As between the parties, each party hereto agrees to save and hold the other party harmless from all claims, demands, and causes of action which may be asserted by any person on account of the reception, transportation, delivery, and disposal while title remains in such party. Provided, however, that any charge against HATTIESBURG resulting from the operation of PROVIDENCE'S disposal system shall be deemed an expense of and charged to PROVIDENCE, regardless of whether title to the wastewater giving rise to any such charge

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EXHIBIT A
Legal Description of Providence Subdivision

COMMENCE AT A 1/2" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI FOR THE POINT OF BEGINNING. FROM THE POINT OF BEGINNING RUN S01°08'21"E FOR 1930.42 FEET TO A 1/2" REBAR; THENCE RUN WEST FOR 2677.46 FEET TO A 1/2" REBAR; THENCE RUN N00°50'24"W FOR 590.58 FEET TO A 1/2" REBAR; THENCE RUN S89°57'14"W FOR 1335.84 FEET TO A 3" IRON PIPE; THENCE RUN N89°40'39"W FOR 1336.21 FEET TO A 1/2" REBAR; THENCE RUN N00°38'37"W FOR 1326.02 FEET TO A 1 1/2" IRON PIPE; THENCE RUN N89°55'24"E FOR 5334.67 FEET BACK TO THE POINT OF BEGINNING. SAID PARCEL OF LAND IS PART OF THE NW 1/4 OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

LESS AND EXCEPT:

A STRIP OF LAND 50 FEET WIDE LYING RIGHT (EAST) OF THE CENTERLINE OF THE PROPOSED STATE AID PROJECT NO. SAP-18(50) LOCATED IN THE NW 1/4 OF THE NW 1/4, SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT A FENCE AT STATION 60+45 BEING USED AS THE SOUTH LINE OF THE SAID NW 1/4 OF THE NW 1/4; THENCE RUN N00°11'32"E FOR 251.0 FEET TO STATION 62+96;

ALSO: A STRIP OF LAND 100 FEET WIDE LYING RIGHT (EAST) OF CENTERLINE BEGINNING AT THE CENTERLINE STATION 62+96;

THENCE RUN N00°11'32"E FOR 50 FEET TO STATION 63+96;

ALSO: A STRIP OF LAND WHICH VARIES IN WIDTH FROM 100 FEET RIGHT (EAST) OF SAID CENTERLINE BEGINNING AT CENTERLINE AT STATION 63+46 TO 50 FEET RIGHT (EAST) OF THE CENTERLINE AT STATION 64+50;

ALSO: A STRIP OF LAND 50 FEET WIDE LYING RIGHT (EAST) OF CENTERLINE BEGINNING AT CENTERLINE STATION 64+50;

THENCE RUN N00°11'32"E FOR 918.0 FEET TO A FENCE AT STATION 73+68 BEING USED AS THE NORTH LINE OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

THE HEREIN DESCRIBED PARCEL CONTAINS 1.64 ACRES LESS AND EXCEPT 0.61 ACRES BEING UTILIZED AND MAINTAINED AS A COUNTY ROAD.

EXHIBIT B
Description of Common Areas

RIDING TRAIL

20' WIDE RIDING AREA ALONG NORTH, EAST, AND SOUTH BOUNDARIES

DESCRIPTION:

A PART OF THE NORTH ½ OF SECTION 4, TOWNSHIP 3 NORTH,

RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A ½" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, SAID POINT ALSO BEING THE POINT OF BEGINNING;
- 2) THENCE RUN SOUTH ONE (01) DEGREE, EIGHT (08) MINUTES, TWENTY-ONE (21) SECONDS EAST ALONG THE EAST BOUNDARY OF SECTION 4 FOR 1,930.42 FEET TO A ½" REBAR;
- 3) THENCE RUN WEST FOR 2,677.46 FEET TO A ½" REBAR;
- 4) THENCE RUN NORTH ZERO (00) DEGREES, FIFTY (50) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 590.58 FEET TO A ½" REBAR;
- 5) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-SEVEN (57) MINUTES, FOURTEEN (14) SECONDS WEST FOR 1,335.84 FEET TO A 3" IRON PIPE;
- 6) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 1,170.89 FEET;
- 7) THENCE RUN NORTH SIX (06) DEGREES, THIRTY (30) MINUTES, TWENTY (20) SECONDS EAST FOR 20.12 FEET;
- 8) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS EAST FOR 1,168.66 FEET;
- 9) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY SEVEN (57) MINUTES, FOURTEEN (14) SECONDS EAST FOR 1,313.41 FEET;
- 10) THENCE RUN NORTH FORTY-ONE (41) DEGREES, FORTY-ONE (41) MINUTES, ZERO (00) SECONDS EAST FOR 25.28 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY BOUNDARY OF THE PROPOSED DOVER TRACE ROADWAY, SAID POINT BEING ON THE ARC OF A CURVE HAVING A RADIUS OF 430.00 FEET AND BEING CONCAVED SOUTHWESTERLY;
- 11) THENCE RUN SOUTHEASTERLY AND ALONG THE ARC OF SAID CURVE FOR 60.05 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH FORTY-EIGHT (48) DEGREES, NINETEEN (19) MINUTES, ZERO (00) SECONDS EAST FOR 60.00 FEET;
- 12) THENCE RUN SOUTH FORTY-ONE (41) DEGREES, FORTY-ONE (41) MINUTES, ZERO (00) SECONDS WEST FOR 28.45 FEET;
- 13) THENCE RUN SOUTH ZERO (00) DEGREES, FIFTY (50) MINUTES, TWENTY-FOUR (24) SECONDS EAST FOR 548.29 FEET;
- 14) THENCE RUN EAST FOR 2,637.35 FEET;
- 15) THENCE RUN NORTH ONE (01) DEGREE, EIGHT (08) MINUTES, TWENTY-ONE (21) SECONDS WEST FOR 1,890.39 FEET;
- 16) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 5,042.65 FEET;
- 17) THENCE RUN NORTH ZERO (00) DEGREES, SIX (06) MINUTES, TEN (10) SECONDS WEST FOR 20.00 FEET TO THE NORTH BOUNDARY OF SECTION 4;

- 18) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST AND ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,062.30 FEET BACK TO THE POINT OF BEGINNING;
- 19) SAID PARCEL OF LAND IS PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 5.86 ACRES.

SOUTH GREENSPACE

SOUTH GREENSPACE AREA AT ENTRANCE TO PROVIDENCE SUBDIVISION

DESCRIPTION:

A PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH,

RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A ½" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,274.72 FEET TO THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;
- 2) THENCE RUN SOUTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS WEST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 486.63 FEET TO A POINT OF INTERSECTION WITH THE SOUTH RIGHT-OF-WAY BOUNDARY OF THE PROPOSED DOVER TRACE ROADWAY, SAID POINT BEING THE POINT OF BEGINNING;
- 3) THENCE RUN EASTERLY AND ALONG SAID RIGHT-OF-WAY BEING ALONG THE ARC OF A CURVE FOR 198.54 FEET, SAID CURVE HAVING A RADIUS OF 554.50 FEET AND BEING CONCAVED SOUTHERLY AND BEING SUBTENDED BY A CHORD BEARING NORTH EIGHTY-EIGHT (88) DEGREES, THIRTY-ONE (31) MINUTES, THREE (03) SECONDS EAST FOR 197.48 FEET;
- 4) THENCE RUN SOUTH ELEVEN (11) DEGREES, FIFTY-TWO (52) MINUTES, FIFTY-SIX (56) SECONDS WEST FOR 222.77 FEET;
- 5) THENCE RUN SOUTH ONE (01) DEGREES, FIFTY-SEVEN (57) MINUTES, FIFTEEN (15) SECONDS EAST FOR 275.26 FEET;
- 6) THENCE RUN SOUTH SIX (06) DEGREES, THIRTY (30) MINUTES, TWENTY (20) SECONDS WEST FOR 354.62 FEET;
- 7) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 124.59 FEET TO THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;
- THENCE RUN NORTH ZERO (00) DEGREES, THIRTY-FOUR (34) MINUTES, THREE (03) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 248.32 FEET;
- 8) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FORTY-SIX (46) MINUTES, SIXTEEN (16) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 49.60 FEET;
- 9) THENCE RUN NORTH ZERO (00) DEGREES, SIX (06) MINUTES, FORTY-FOUR (44) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 53.91 FEET;
- 10) THENCE RUN NORTH TWENTY-SIX (26) DEGREES, ZERO (00) MINUTES, FIFTY-ONE (51) SECONDS WEST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 111.21 FEET;
- 11) THENCE RUN NORTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 437.65 FEET BACK TO THE POINT OF BEGINNING;
- 12) SAID PARCEL OF LAND IS PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 2.86 ACRES.

NORTH GREENSPACE

NORTH GREENSPACE AREA AT ENTRANCE TO PROVIDENCE SUBDIVISION

DESCRIPTION:

A PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH,
RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A ½" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,062.30 FEET TO THE POINT OF BEGINNING;
- 2) THENCE RUN SOUTH ZERO (00) DEGREES, SIX (06) MINUTES, TEN (10) SECONDS EAST FOR 371.45 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY BOUNDARY OF THE PROPOSED DOVER TRACE ROADWAY, SAID POINT BEING ON THE ARC OF A CURVE HAVING A RADIUS OF 596.39 FEET AND BEING CONCAVED NORTHERLY;
- 3) THENCE RUN WESTERLY AND ALONG THE ARC OF SAID CURVE AND RIGHT-OF-WAY FOR 54.92 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH EIGHTY-THREE (83) DEGREES, ZERO (00) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 54.90 FEET TO A POINT OF REVERSE CURVATURE WITH A CURVE HAVING A RADIUS OF 445.50 FEET AND BEING CONCAVED SOUTHERLY;
- 4) THENCE RUN WESTERLY AND ALONG THE ARC OF SAID CURVE AND RIGHT-OF-WAY FOR 159.85 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH EIGHTY-NINE (89) DEGREES, TWENTY (20) MINUTES, FIFTY-THREE (53) SECONDS WEST FOR 158.99 FEET TO A POINT ON THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;
- 5) THENCE RUN NORTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 376.03 FEET TO A POINT ON THE NORTH BOUNDARY OF SECTION 4;
- 6) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST AND ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 212.42 FEET BACK TO THE POINT OF BEGINNING;
- 7) SAID PARCEL OF LAND IS PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 1.86 ACRES.

PASTURE AND EQUESTRIAN CENTER

EQUESTRIAN CENTER SITE & PASTURE AREA AT PROVIDENCE SUBDIVISION

DESCRIPTION:

A PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH,
RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A 1/2" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 1,595.42 FEET;
- 2) THENCE RUN SOUTH FOR 20.00 FEET TO THE POINT OF BEGINNING;
- 3) THENCE RUN SOUTH NINETEEN (19) DEGREES, ONE (01) MINUTE, FIFTY-FOUR (54) SECONDS EAST FOR 565.50 FEET;
- 4) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-THREE (53) MINUTES, THIRTY-SIX (36) SECONDS EAST FOR 296.97 FEET TO A POINT ON THE ARC OF A CUL-DE-SAC HAVING A RADIUS OF 50.00 FEET AND BEING CONCAVED SOUTHWESTERLY;

- 5) THENCE RUN SOUTHEASTERLY ALONG THE ARC OF SAID CUL-DE-SAC FOR 88.43 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH FIFTY (50) DEGREES, THIRTY-THREE (33) MINUTES, FORTY (40) SECONDS EAST FOR 77.35 FEET;
- 6) THENCE RUN SOUTH ELEVEN (11) DEGREES, THIRTEEN (13) MINUTES, FORTY-FOUR (44) SECONDS EAST FOR 170.39 FEET;
- 7) THENCE RUN SOUTH SEVENTY-SIX (76) DEGREES, FORTY-SIX (46) MINUTES, ELEVEN (11) SECONDS EAST FOR 248.47 FEET;
- 8) THENCE RUN NORTH SIXTY-FOUR (64) DEGREES, NINE (09) MINUTES, TEN (10) SECONDS EAST FOR 222.90 FEET TO A POINT ON THE ARC OF A CURVE HAVING A RADIUS OF 470.00 FEET AND BEING CONCAVED EASTERLY;
- 9) THENCE RUN SOUTHERLY ALONG THE ARC OF SAID CURVE FOR 556.28 FEET, SAID CURVE BEING SUBTENDED BY A CHORD BEARING SOUTH TEN (10) DEGREES, FOUR (04) MINUTES, FIFTY-FOUR (54) SECONDS WEST FOR 524.37 FEET;
- 10) THENCE RUN NORTH FORTY-SIX (46) DEGREES, THIRTY (30) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 559.64 FEET;
- 11) THENCE RUN SOUTH EIGHTY-SEVEN (87) DEGREES, THIRTY-TWO (32) MINUTES, NINE (09) SECONDS WEST FOR 763.39 FEET;
- 12) THENCE RUN SOUTH NINETEEN (19) DEGREES, FORTY (40) MINUTES, ZERO (00) SECONDS EAST FOR 359.77 FEET TO A POINT ON A CURVE HAVING A RADIUS OF 1,030.00 FEET AND BEING CONCAVED NORTHERLY;
- 13) THENCE RUN WESTERLY ALONG THE ARC OF SAID CURVE FOR 483.93 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH SEVENTY-EIGHT (78) DEGREES, SEVEN (07) MINUTES, SIX (06) SECONDS WEST FOR 479.50 FEET TO A POINT OF REVERSE CURVATURE WITH A CURVE HAVING A RADIUS OF 370.00 FEET AND BEING CONCAVED SOUTHERLY;
- 14) THENCE RUN NORTHWESTERLY ALONG THE ARC OF SAID CURVE FOR 578.07 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH SEVENTY (70) DEGREES, THIRTY-FIVE (35) MINUTES, ZERO (00) SECONDS WEST FOR 521.05 FEET TO A POINT OF COMPOUND CURVATURE WITH A CURVE HAVING A RADIUS OF 270.00 FEET AND BEING CONCAVED WESTERLY;
- 15) THENCE RUN NORTHERLY ALONG THE ARC OF SAID CURVE FOR 199.34 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH FOUR (04) DEGREES, FORTY (40) MINUTES, THIRTY (30) SECONDS WEST FOR 194.84 FEET TO A POINT OF REVERSE CURVATURE WITH A CURVE HAVING A RADIUS OF 420.08 FEET AND BEING CONCAVED EASTERLY;
- 16) THENCE RUN NORTHERLY ALONG THE ARC OF SAID CURVE FOR 163.29 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH FIVE (05) DEGREES, TWENTY (20) MINUTES, TWENTY-ONE (21) SECONDS EAST FOR 162.26 FEET TO A POINT OF TANGENCY;
- 17) THENCE RUN NORTH FIVE (05) DEGREES, FORTY-SEVEN (47) MINUTES, FORTY-SEVEN (47) SECONDS WEST FOR 72.52 FEET TO A POINT OF CURVATURE WITH A CURVE HAVING A RADIUS OF 440.00 FEET AND BEING CONCAVED NORTHEASTERLY;
- 18) THENCE RUN NORTHWESTERLY ALONG THE ARC OF SAID CURVE FOR 272.54 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH TWENTY-THREE (23) DEGREES, THIRTY-TWO (32) MINUTES, TWENTY-EIGHT (28) SECONDS WEST FOR 268.20 FEET;
- 19) THENCE RUN NORTH FORTY-EIGHT (48) DEGREES, FORTY-TWO (42) MINUTES, FIFTY-ONE (51) SECONDS EAST FOR 270.86 FEET;
- 20) THENCE RUN NORTH ZERO (00) DEGREES, FOUR (04) MINUTES, THIRTY-SIX (36) SECONDS WEST FOR 285.46 FEET;
- 21) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST FOR 995.35 FEET BACK TO THE POINT OF BEGINNING;
- 22) SAID PARCEL OF LAND IS PART OF THE NORTH 1/2 OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 38.51 ACRES.

INDEXING INSTRUCTIONS TO CHANCERY CLERK:

Part of the N 1/2 of Section 4, Township 3 North, Range 13 West, Forrest County, Mississippi.

EXHIBIT A
Legal Description of Providence Subdivision

COMMENCE AT A ½" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI FOR THE POINT OF BEGINNING. FROM THE POINT OF BEGINNING RUN S01°08'21"E FOR 1930.42 FEET TO A ½" REBAR; THENCE RUN WEST FOR 2677.46 FEET TO A ½" REBAR; THENCE RUN N00°50'24"W FOR 590.58 FEET TO A ½" REBAR; THENCE RUN S89°57'14"W FOR 1335.84 FEET TO A 3" IRON PIPE; THENCE RUN N89°40'39"W FOR 1336.21 FEET TO A ½" REBAR; THENCE RUN N00°38'37"W FOR 1326.02 FEET TO A 1½" IRON PIPE; THENCE RUN N89°55'24"E FOR 5334.67 FEET BACK TO THE POINT OF BEGINNING. SAID PARCEL OF LAND IS PART OF THE NW¼ OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

LESS AND EXCEPT:

A STRIP OF LAND 50 FEET WIDE LYING RIGHT (EAST) OF THE CENTERLINE OF THE PROPOSED STATE AID PROJECT NO. SAP-18(50) LOCATED IN THE NW ¼ OF THE NW ¼, SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT A FENCE AT STATION 60+45 BEING USED AS THE SOUTH LINE OF THE SAID NW ¼ OF THE NW ¼; THENCE RUN N00°11'32"E FOR 251.0 FEET TO STATION 62+96;

ALSO: A STRIP OF LAND 100 FEET WIDE LYING RIGHT (EAST) OF CENTERLINE BEGINNING AT THE CENTERLINE STATION 62+96;

THENCE RUN N00°11'32"E FOR 50 FEET TO STATION 63+96;

ALSO: A STRIP OF LAND WHICH VARIES IN WIDTH FROM 100 FEET RIGHT (EAST) OF SAID CENTERLINE BEGINNING AT CENTERLINE AT STATION 63+46 TO 50 FEET RIGHT (EAST) OF THE CENTERLINE AT STATION 64+50;

ALSO: A STRIP OF LAND 50 FEET WIDE LYING RIGHT (EAST) OF CENTERLINE BEGINNING AT CENTERLINE STATION 64+50;

THENCE RUN N00°11'32"E FOR 918.0 FEET TO A FENCE AT STATION 73+68 BEING USED AS THE NORTH LINE OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

THE HEREIN DESCRIBED PARCEL CONTAINS 1.64 ACRES LESS AND EXCEPT 0.61 ACRES BEING UTILIZED AND MAINTAINED AS A COUNTY ROAD.

EXHIBIT B
Description of Common Areas

RIDING TRAIL

20' WIDE RIDING AREA ALONG NORTH, EAST, AND SOUTH BOUNDARIES

DESCRIPTION:

A PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH,

RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A ½" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, SAID POINT ALSO BEING THE POINT OF BEGINNING;
- 2) THENCE RUN SOUTH ONE (01) DEGREE, EIGHT (08) MINUTES, TWENTY-ONE (21) SECONDS EAST ALONG THE EAST BOUNDARY OF SECTION 4 FOR 1,930.42 FEET TO A ½" REBAR;
- 3) THENCE RUN WEST FOR 2,677.46 FEET TO A ½" REBAR;
- 4) THENCE RUN NORTH ZERO (00) DEGREES, FIFTY (50) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 590.58 FEET TO A ½" REBAR;
- 5) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-SEVEN (57) MINUTES, FOURTEEN (14) SECONDS WEST FOR 1,335.84 FEET TO A 3" IRON PIPE;
- 6) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 1,170.89 FEET;
- 7) THENCE RUN NORTH SIX (06) DEGREES, THIRTY (30) MINUTES, TWENTY (20) SECONDS EAST FOR 20.12 FEET;
- 8) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS EAST FOR 1,168.66 FEET;
- 9) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY SEVEN (57) MINUTES, FOURTEEN (14) SECONDS EAST FOR 1,313.41 FEET;
- 10) THENCE RUN NORTH FORTY-ONE (41) DEGREES, FORTY-ONE (41) MINUTES, ZERO (00) SECONDS EAST FOR 25.28 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY BOUNDARY OF THE PROPOSED DOVER TRACE ROADWAY, SAID POINT BEING ON THE ARC OF A CURVE HAVING A RADIUS OF 430.00 FEET AND BEING CONCAVED SOUTHWESTERLY;
- 11) THENCE RUN SOUTHEASTERLY AND ALONG THE ARC OF SAID CURVE FOR 60.05 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH FORTY-EIGHT (48) DEGREES, NINETEEN (19) MINUTES, ZERO (00) SECONDS EAST FOR 60.00 FEET;
- 12) THENCE RUN SOUTH FORTY-ONE (41) DEGREES, FORTY-ONE (41) MINUTES, ZERO (00) SECONDS WEST FOR 28.45 FEET;
- 13) THENCE RUN SOUTH ZERO (00) DEGREES, FIFTY (50) MINUTES, TWENTY-FOUR (24) SECONDS EAST FOR 548.29 FEET;
- 14) THENCE RUN EAST FOR 2,637.35 FEET;
- 15) THENCE RUN NORTH ONE (01) DEGREE, EIGHT (08) MINUTES, TWENTY-ONE (21) SECONDS WEST FOR 1,890.39 FEET;
- 16) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 5,042.65 FEET;
- 17) THENCE RUN NORTH ZERO (00) DEGREES, SIX (06) MINUTES, TEN (10) SECONDS WEST FOR 20.00 FEET TO THE NORTH BOUNDARY OF SECTION 4;

- 18) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST AND ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,062.30 FEET BACK TO THE POINT OF BEGINNING;
- 19) SAID PARCEL OF LAND IS PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 5.86 ACRES.

SOUTH GREENSPACE

SOUTH GREENSPACE AREA AT ENTRANCE TO PROVIDENCE SUBDIVISION

DESCRIPTION:

A PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH,
RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A ½" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,274.72 FEET TO THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;
- 2) THENCE RUN SOUTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS WEST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 486.63 FEET TO A POINT OF INTERSECTION WITH THE SOUTH RIGHT-OF-WAY BOUNDARY OF THE PROPOSED DOVER TRACE ROADWAY, SAID POINT BEING THE POINT OF BEGINNING;
- 3) THENCE RUN EASTERLY AND ALONG SAID RIGHT-OF-WAY BEING ALONG THE ARC OF A CURVE FOR 198.54 FEET, SAID CURVE HAVING A RADIUS OF 554.50 FEET AND BEING CONCAVED SOUTHERLY AND BEING SUBTENDED BY A CHORD BEARING NORTH EIGHTY-EIGHT (88) DEGREES, THIRTY-ONE (31) MINUTES, THREE (03) SECONDS EAST FOR 197.48 FEET;
- 4) THENCE RUN SOUTH ELEVEN (11) DEGREES, FIFTY-TWO (52) MINUTES, FIFTY-SIX (56) SECONDS WEST FOR 222.77 FEET;
- 5) THENCE RUN SOUTH ONE (01) DEGREES, FIFTY-SEVEN (57) MINUTES, FIFTEEN (15) SECONDS EAST FOR 275.26 FEET;
- 6) THENCE RUN SOUTH SIX (06) DEGREES, THIRTY (30) MINUTES, TWENTY (20) SECONDS WEST FOR 354.62 FEET;
- 7) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 124.59 FEET TO THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;

THENCE RUN NORTH ZERO (00) DEGREES, THIRTY-FOUR (34) MINUTES, THREE (03) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 248.32 FEET;
- 8) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FORTY-SIX (46) MINUTES, SIXTEEN (16) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 49.60 FEET;
- 9) THENCE RUN NORTH ZERO (00) DEGREES, SIX (06) MINUTES, FORTY-FOUR (44) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 53.91 FEET;
- 10) THENCE RUN NORTH TWENTY-SIX (26) DEGREES, ZERO (00) MINUTES, FIFTY-ONE (51) SECONDS WEST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 111.21 FEET;
- 11) THENCE RUN NORTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 437.65 FEET BACK TO THE POINT OF BEGINNING;
- 12) SAID PARCEL OF LAND IS PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 2.86 ACRES.

NORTH GREENSPACE

NORTH GREENSPACE AREA AT ENTRANCE TO PROVIDENCE SUBDIVISION

DESCRIPTION:

A PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH,

RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A ½" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,062.30 FEET TO THE POINT OF BEGINNING;
- 2) THENCE RUN SOUTH ZERO (00) DEGREES, SIX (06) MINUTES, TEN (10) SECONDS EAST FOR 371.45 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY BOUNDARY OF THE PROPOSED DOVER TRACE ROADWAY, SAID POINT BEING ON THE ARC OF A CURVE HAVING A RADIUS OF 596.39 FEET AND BEING CONCAVED NORTHERLY;
- 3) THENCE RUN WESTERLY AND ALONG THE ARC OF SAID CURVE AND RIGHT-OF-WAY FOR 54.92 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH EIGHTY-THREE (83) DEGREES, ZERO (00) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 54.90 FEET TO A POINT OF REVERSE CURVATURE WITH A CURVE HAVING A RADIUS OF 445.50 FEET AND BEING CONCAVED SOUTHERLY;
- 4) THENCE RUN WESTERLY AND ALONG THE ARC OF SAID CURVE AND RIGHT-OF-WAY FOR 159.85 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH EIGHTY-NINE (89) DEGREES, TWENTY (20) MINUTES, FIFTY-THREE (53) SECONDS WEST FOR 158.99 FEET TO A POINT ON THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;
- 5) THENCE RUN NORTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 376.03 FEET TO A POINT ON THE NORTH BOUNDARY OF SECTION 4;
- 6) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST AND ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 212.42 FEET BACK TO THE POINT OF BEGINNING;
- 7) SAID PARCEL OF LAND IS PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 1.86 ACRES.

PASTURE AND EQUESTRIAN CENTER

EQUESTRIAN CENTER SITE & PASTURE AREA AT PROVIDENCE SUBDIVISION

DESCRIPTION:

A PART OF THE NORTH ¼ OF SECTION 4, TOWNSHIP 3 NORTH,

RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

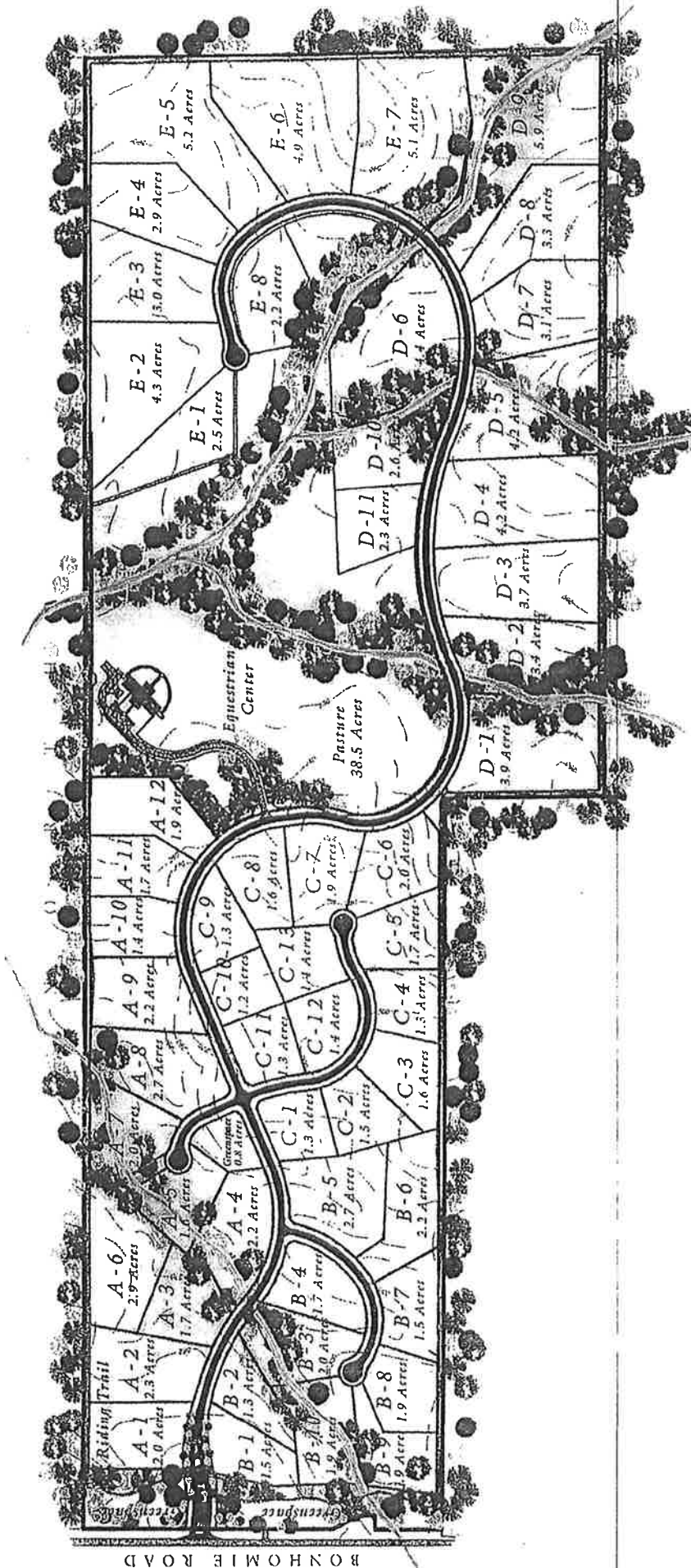
MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A 1/2" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 1,595.42 FEET;
- 2) THENCE RUN SOUTH FOR 20.00 FEET TO THE POINT OF BEGINNING;
- 3) THENCE RUN SOUTH NINETEEN (19) DEGREES, ONE (01) MINUTE, FIFTY-FOUR (54) SECONDS EAST FOR 565.50 FEET;
- 4) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-THREE (53) MINUTES, THIRTY-SIX (36) SECONDS EAST FOR 296.97 FEET TO A POINT ON THE ARC OF A CUL-DE-SAC HAVING A RADIUS OF 50.00 FEET AND BEING CONCAVED SOUTHWESTERLY;

Part of the N 1/4 of Section 4, Township 3 North, Range 13 West, Forrest County, Mississippi.

INDEXING INSTRUCTIONS TO CHANCERY CLERK:

- 5) THENCE RUN SOUTHEASTERLY ALONG THE ARC OF SAID CUL-DE-SAC FOR 88.43 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH FIFTY (50) DEGREES, THIRTY-THREE (33) MINUTES, FORTY (40) SECONDS EAST FOR 77.35 FEET;
- 6) THENCE RUN SOUTH ELEVEN (11) DEGREES, THIRTEEN (13) MINUTES, FORTY-FOUR (44) SECONDS EAST FOR 170.39 FEET;
- 7) THENCE RUN SOUTH SEVENTY-SIX (76) DEGREES, FORTY-SIX (46) MINUTES, ELEVEN (11) SECONDS EAST FOR 248.47 FEET;
- 8) THENCE RUN NORTH SIXTY-FOUR (64) DEGREES, NINE (09) MINUTES, TEN (10) SECONDS EAST FOR 222.50 FEET TO A POINT ON THE ARC OF A CURVE HAVING A RADIUS OF 470.00 FEET AND BEING CONVEX EASTERLY;
- 9) THENCE RUN SOUTHERLY ALONG THE ARC OF SAID CURVE FOR 556.28 FEET, SAID CURVE BEING SUBTENDED BY A CHORD BEARING SOUTH TEN (10) DEGREES, FOUR (04) MINUTES, FIFTY-FOUR (54) SECONDS WEST FOR 524.37 FEET;
- 10) THENCE RUN NORTH FORTY-SIX (46) DEGREES, THIRTY (30) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 559.64 FEET;
- 11) THENCE RUN SOUTH EIGHTY-SEVEN (87) DEGREES, THIRTY-TWO (32) MINUTES, NINE (09) SECONDS WEST FOR 763.39 FEET;
- 12) THENCE RUN SOUTH NINETEEN (19) DEGREES, FORTY (40) MINUTES, ZERO (00) SECONDS EAST FOR 359.77 FEET TO A POINT ON A CURVE HAVING A RADIUS OF 1,030.00 FEET AND BEING CONVEX NORTHERLY;
- 13) THENCE RUN WESTERLY ALONG THE ARC OF SAID CURVE FOR 483.93 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING SOUTH SEVENTY-EIGHT (78) DEGREES, SEVEN (07) MINUTES, SIX (06) SECONDS WEST FOR 479.50 FEET TO A POINT OF REVERSE CURVATURE WITH A CURVE HAVING A RADIUS OF 370.00 FEET AND BEING CONVEX SOUTHERLY;
- 14) THENCE RUN NORTHWESTERLY ALONG THE ARC OF SAID CURVE FOR 578.07 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH SEVENTY (70) DEGREES, THIRTY-FIVE (35) MINUTES, ZERO (00) SECONDS WEST FOR 521.05 FEET TO A POINT OF COMPOUND CURVATURE WITH A CURVE HAVING A RADIUS OF 270.00 FEET AND BEING CONVEX WESTERLY;
- 15) THENCE RUN NORTHERLY ALONG THE ARC OF SAID CURVE FOR 199.34 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH FOUR (04) DEGREES, FORTY (40) MINUTES, THIRTY (30) SECONDS WEST FOR 194.84 FEET TO A POINT OF REVERSE CURVATURE WITH A CURVE HAVING A RADIUS OF 420.08 FEET AND BEING CONVEX EASTERLY;
- 16) THENCE RUN NORTHERLY ALONG THE ARC OF SAID CURVE FOR 163.29 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH FIVE (05) DEGREES, TWENTY (20) MINUTES, TWENTY-ONE (21) SECONDS EAST FOR 162.26 FEET TO A POINT OF TANGENCY;
- 17) THENCE RUN NORTH FIVE (05) DEGREES, FORTY-SEVEN (47) MINUTES, FORTY-SEVEN (47) SECONDS WEST FOR 72.52 FEET TO A POINT OF CURVATURE WITH A CURVE HAVING A RADIUS OF 440.00 FEET AND BEING CONVEX NORTHEASTERLY;
- 18) THENCE RUN NORTHWESTERLY ALONG THE ARC OF SAID CURVE FOR 272.54 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING NORTH TWENTY-THREE (23) DEGREES, THIRTY-TWO (32) MINUTES, TWENTY-EIGHT (28) SECONDS WEST FOR 268.20 FEET;
- 19) THENCE RUN NORTH FORTY-EIGHT (48) DEGREES, FORTY-TWO (42) MINUTES, FIFTY-ONE (51) SECONDS EAST FOR 270.86 FEET;
- 20) THENCE RUN NORTH ZERO (00) DEGREES, FOUR (04) MINUTES, THIRTY-SIX (36) SECONDS WEST FOR 285.46 FEET;
- 21) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST FOR 995.35 FEET BACK TO THE POINT OF BEGINNING;
- 22) SAID PARCEL OF LAND IS PART OF THE NORTH 1/2 OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 38.51 ACRES.



BONHOMIE ROAD



Engineering Progress

November 14, 2016

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403

Attn: Lamar Rutland, P.E.

Re: Providence Subdivision Sewer
City of Hattiesburg

Dear Lamar:

This is to certify we have performed an inspection of the above referenced sewer system on November 11, 2016. We have determined there are sixteen (16) residential connections.

Enclosed please find a copy of the subdivision plat. The sewer franchise area for the utility is the external boundary of the subdivision.

We trust you will find this acceptable but should you have any questions or comments please feel free to call or write.

Sincerely,

A handwritten signature in black ink, appearing to read 'John T. Weeks', is written over the word 'Sincerely,'.

John T. Weeks, P.E.
Vice President

cc: David Burckell

Enclosures



Engineering Progress

April 12, 2017

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403

Attn: Lamar Rutland, P.E.

Re: Providence
Sanitary Sewer

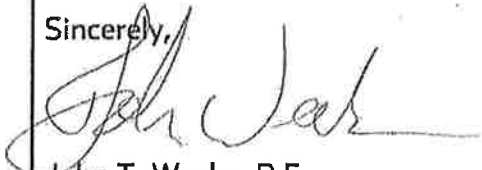
Dear Lamar:

We have reviewed the existing sewer connection of Providence Subdivision located off Bonhomie Road. As currently platted, Providence Subdivision offers fifty-four (54) residential lots. Assuming full build out of the subdivision, 2.35 persons per household, and 120 gallons per day per capita; the anticipated daily flow is roughly 15,300 gallons per day.

The current connection point is a force main tied into manhole E-105. The nature of the connection limits the peak flow from the development to roughly 80 gallons per minute.

Should you have any questions or comments, please do not hesitate to call.

Sincerely,

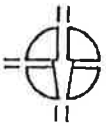


John T. Weeks, P.E.
Project Engineer

/aa

Enclosure

301 Second Ave. | Hattiesburg, MS 39401 | (p) 601.544.1821 | (f) 601.544.0501 | sd-w.com



TIMOTHY R. BURGE

CONSULTING ENGINEERS - LAND SURVEYORS

PROFESSIONAL ASSOCIATES, INC.

802 WEST PINE STREET, SUITE 200, HATTIESBURG, MISSISSIPPI 39401

601-544-0078 (FAX) 601-544-0071

March 10, 2004

PROJID: 0052

Mr. Gary Huff, Executive Director
Mississippi Public Utilities Staff
550 High Street
1700 Walter Sillers Building
Jackson, MS 39215-1174

FILED

MAR 18 2004

**MISS. PUBLIC SERVICE
COMMISSION**

**RE: Providence Subdivision Sewer Utility
Forrest County, Mississippi
Providence Land Company, LLC, Owner/Developer**

Dear Mr. Huff:

04-UA-0195

I am submitting, herewith, a petition for certificate of public convenience and necessity for operation of a sanitary sewer system for the above referenced. Exhibits have been compiled in accordance with commission guidelines. After your review please advise of any further documentation required.

The system has been constructed and is in operation at this time, with two customers connected. As explained in the petition and exhibits, the system discharges to the City of Hattiesburg.

Please call me at 601-544-0078 for any questions or additional requirements.

Sincerely,

TIMOTHY R. BURGE, P.A., INC.
CONSULTING ENGINEERS/SURVEYORS

Timothy R. Burge, P.E., L.S.
President

Handwritten:
Burr
Teleph. #
606-7951
(601)

SWRFRANCHISE/0062-PTTN-LTR.WPD

FILED

MAR 18 2004

**MISS. PUBLIC SERVICE
COMMISSION**

BEFORE THE PUBLIC SERVICE COMMISSION
OF
THE STATE OF MISSISSIPPI

PROVIDENCE LAND COMPANY, LLC

'04 -UA- 0195

IN RE: APPLICATION OF PROVIDENCE
LAND COMPANY, LLC FOR A
CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY
AUTHORIZING IT TO OPERATE
AND MAINTAIN SEWER SERVICE
IN A SPECIFIED AREA IN
FORREST COUNTY, MISSISSIPPI

PETITION

COMES NOW Petitioner, Providence Land Company, LLC, a Mississippi Limited Liability Corporation, with its address being 3688 Veterans Memorial Drive, Suite 210, Hattiesburg, Mississippi, 39401, and petitions this Commission for a Certificate of Public Convenience and Necessity to operate as a public utility rendering sewer service to the public pursuant to the provisions of Chapter 372, Laws of 1956, Regular Session of the Mississippi Legislature, usually called the Public Utilities Act of 1956, as amended, for provision of sewer service to or for the public for compensation, and respectfully shows unto the Commission the following facts, to-wit:

I.

The Petitioner is seeking a certificate of Public Convenience and Necessity authorizing the rendition of sewer service in Forrest County, Mississippi. The mailing address of the Petitioner is 3688 Veterans Memorial Drive, Suite 210, Hattiesburg, Mississippi, 39401.

II.

The area in which the Petitioner intends to offer service as a sewer collection and treatment system is shown outlined on a standard State Highway Department Map (Scale ½ inch - one (1) mile) of Forrest County which is attached hereto as Exhibit "A".

III.

A plat and metes and bounds description of Petitioner's proposed service area for which a Certificate of Public Convenience and Necessity is sought is attached hereto as Exhibits "B1" & "B2".

IV.

Approval by the Mississippi State Department of Environmental Quality of the plans and specifications for the construction of the sewer system for Providence Subdivision is attached hereto as Exhibit "C."

V.

A general description of the new facilities is attached as Exhibit "D".

VI.

The estimated cost of construction of the facilities is \$149,855.10, see Exhibit "E" attached. The number of prospective customers is 54.

VII.

A set or copy of the construction specifications as prepared by the engineer who planned and designed the system is included herewith and marked as Exhibit "F".

VIII.

A set or copy of the construction plans as determined and prepared by the engineer who planned and designed the system is included herewith and marked as Exhibit "G".

IX.

There is included herewith a map or plat showing the proposed service area of Petitioner to a larger scale as Exhibit "H," so as to more clearly portray the full extent and true geographic conditions of the area.

X.

Interested persons as defined in Rule 2 (I) and Rule 2 (K) of the Commission Rules of Practice and Procedure who would receive notice of this application are included herewith and identified in Exhibit "I".

XI.

Providence Land Company, LLC is the owner of all land in the proposed certificated area.

Petitioner would show that the public convenience and necessity requires the issuance of a Certificate by this Honorable Commission for the purposes stated hereinbefore.

WHEREFORE, PREMISES CONSIDERED, Petitioner prays that this Honorable Commission set this matter for a hearing at the earliest possible date; that process be issued as required by this Commission, giving reasonable notice of the hearing to all interested persons, as in its judgement may be necessary, stating that a hearing will be held and setting forth the purposes thereof.

Petitioner further prays that upon such hearing this Honorable Commission will grant a Certificate of Public Convenience and Necessity to Petitioner, Providence Land Company, LLC, permitting the Petitioner to operate in an area as indicated on the attached Exhibits in Forrest County, Mississippi, rendering sewer service to the public pursuant to the provisions of said Public Utilities Act of 1956, as amended, whereby Petitioner will be allowed to provide sewer service to and for the public for compensation as fully described and applied for in this Petition.

XII.

The pre-filed testimony of Timothy R. Burge, Consulting Engineer of Record for Providence Land Company, LLC, is enclosed as Exhibit "J."

XIII.

A copy of the current balance sheet and income statement of Providence Land Company, LLC is included as Exhibit "K."

Respectfully Submitted,

BY:



DAVID BURCKEL, MANAGING PARTNER
PROVIDENCE LAND COMPANY, LLC

STATE OF MISSISSIPPI

COUNTY OF FORREST

THIS DAY PERSONALLY APPEARED BEFORE ME, the undersigned authority in and for the said county and state, on this the 5th day of March, 2004, within my jurisdiction, the within named David Burckel, who acknowledged that he executed the above and foregoing instrument.



NOTARY PUBLIC

My Commission Expires:

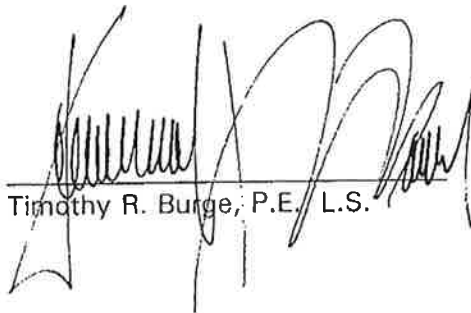
6/24/07

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 24, 2007
BONDED THRU STEGALL NOTARY SERVICE

CERTIFICATE OF SERVICE

I, TIMOTHY R. BURGE, engineer of record for Providence Land Company, LLC, Petitioner, do hereby certify that I have this day mailed, postage prepaid, fifteen (15) copies of the above and foregoing Petition to the office of the Director, Public Utilities Staff, Mississippi Public Service Commission, 17th Floor, Walter Sillers Building, Jackson, Mississippi.

This the 10th day of March, 2004.



Timothy R. Burge, P.E. L.S.

D
E
S
C
R

PLAT OF BOUNDARY SURVEY FOR PROPOSED:
PROVIDENCE SUBDIVISION

A PART OF THE NORTH HALF OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST,
FORREST COUNTY, MISSISSIPPI

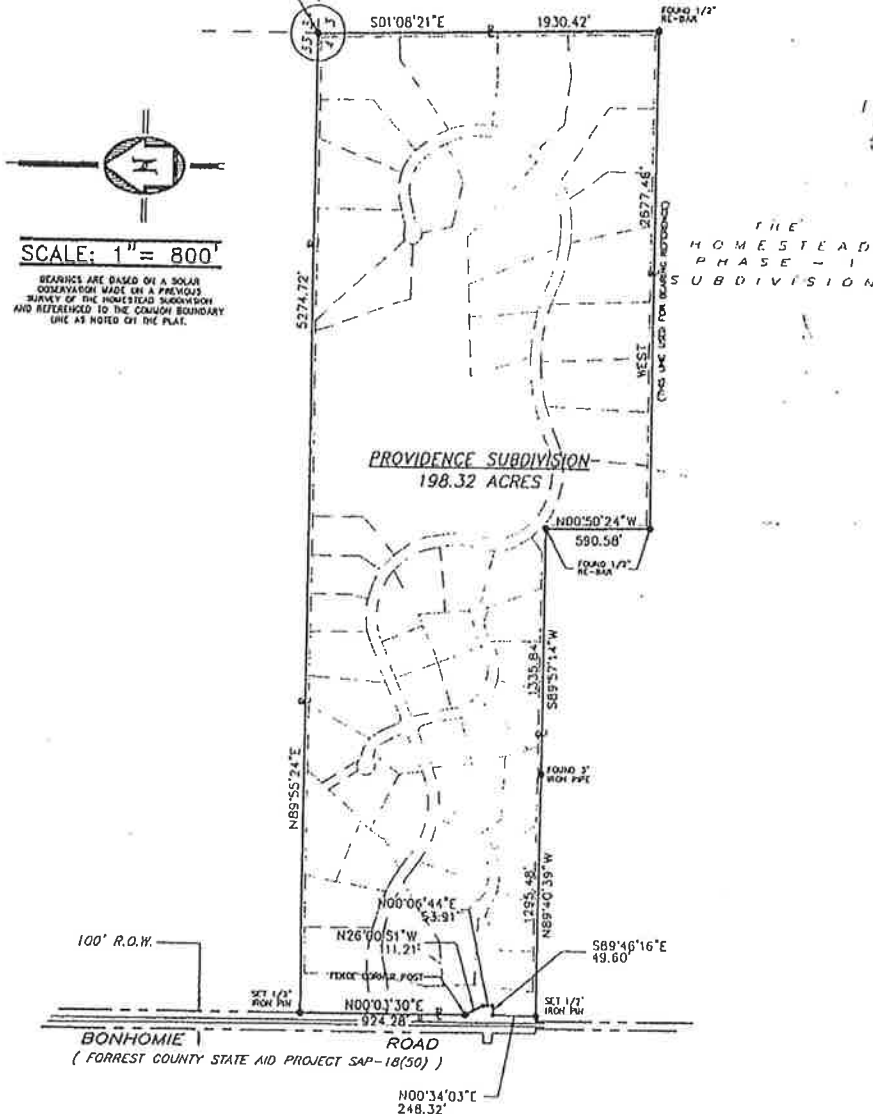
EXHIBIT-B1

IN RE: APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A CERTIFICATE OF
PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING IT TO OPERATE AND
MAINTAIN SEWER SERVICE IN A SPECIFIED AREA IN FORREST COUNTY,
MISSISSIPPI

COMMENCE & BEGIN AT A
1/2" IRON PIPE FOUND AT
THE NORTHEAST CORNER OF
SECTION 3, T-3-N, R-13-W,
FORREST COUNTY, MISSISSIPPI

SCALE: 1" = 800'

BEARINGS ARE BASED ON A SOLAR
CORRECTION MADE IN A PREVIOUS
SURVEY OF THE HOMESTEAD SUBDIVISION
AND REFERENCED TO THE COMMON BOUNDARY
LINE AS NOTED ON THE PLAT.



TIMOTHY R. BURGE, P.A.

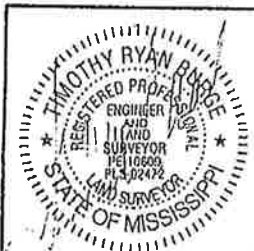
CONSULTING ENGINEERS /// SURVEYORS

802 W. PINE STREET, HATTIESBURG, MISSISSIPPI 39401 601-544-0078

C
L
I
E
N
T

PROVIDENCE LAND CO., LLC

104 GREENWOOD PLACE
HATTIESBURG, MISSISSIPPI



CERTIFICATE OF SURVEY

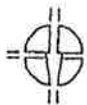
I, TIMOTHY R. BURGE, MISSISSIPPI
REGISTERED LAND SURVEYOR NO. LS-02472,
CERTIFY THAT I AM RESPONSIBLE FOR THE
FIELD SURVEY OF THE PROPERTY PLATTED
HEREON AND THAT THIS PLAT IS A TRUE AND
CORRECT RECORD OF SAID SURVEY TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

SOURCES OF INFORMATION

BOOK 848, PAGE 450
FORREST COUNTY SAP-18(50) PROJECT PLANS

CREW
- EP
- CB
- JB
-

SURVEY CLASS: C
PROJECT NO: 01-52/PLC
DRAWN BY: IJB
CHECKED BY: TRB
DATE: JULY 20, 2001
FILE NAME: 0152SPLT.DWG
DRAWING NO: 0052.L3519

EXHIBIT B-2

IN RE: APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING IT TO OPERATE AND MAINTAIN SEWER SERVICE IN A SPECIFIED AREA IN FORREST COUNTY, MISSISSIPPI

LEGAL DESCRIPTION

PROJID: 0052/PLC CLIENT: PROVIDENCE LAND COMPANY

DATE: JULY 31, 2001 DRAWING FILE/NO: 0052SPLT.DWG/ 0052.13519

REMARKS: 198.32 ACRE TRACT FOR PROVIDENCE SUBDIVISION

DESCRIPTION: A PART OF THE NORTH 1/2 OF SECTION 4, TOWNSHIP 3 NORTH,
RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A 1/2" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, SAID POINT ALSO BEING THE POINT OF BEGINNING;
- 2) THENCE RUN SOUTH ONE (01) DEGREE, EIGHT (08) MINUTES, TWENTY-ONE (21) SECONDS EAST ALONG THE EAST BOUNDARY OF SECTION 4 FOR 1,930.42 FEET TO A 1/2" REBAR;
- 3) THENCE RUN WEST FOR 2,677.46 FEET TO A 1/2" REBAR;
- 4) THENCE RUN NORTH ZERO (00) DEGREES, FIFTY (50) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 590.58 FEET TO A 1/2" REBAR;
- 5) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-SEVEN (57) MINUTES, FOURTEEN (14) SECONDS WEST FOR 1,335.84 FEET TO A 3" IRON PIPE;
- 6) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 1,295.48 FEET TO A 1/2" IRON PIN SET ON THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;
- 7) THENCE RUN NORTH ZERO (00) DEGREES, THIRTY-FOUR (34) MINUTES, THREE (03) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 248.32 FEET TO A 4" SQUARE CONCRETE MONUMENT;
- 8) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FORTY-SIX (46) MINUTES, SIXTEEN (16) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 49.60 FEET TO A 4" SQUARE CONCRETE MONUMENT;
- 9) THENCE RUN NORTH ZERO (00) DEGREES, SIX (06) MINUTES, FORTY-FOUR (44) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 53.91 FEET TO A 4" SQUARE CONCRETE MONUMENT;

PROJID: 0052/PLC

PAGE 1 OF 2

0052B(UNDARY_EXH01STMTNT_LGL.wpd

- 10) THENCE RUN NORTH TWENTY-SIX (26) DEGREES, ZERO (00) MINUTES, FIFTY-ONE (51) SECONDS WEST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 111.21 FEET TO A FENCE CORNER POST;
- 11) THENCE RUN NORTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 924.28 FEET TO A 1/2" IRON PIN SET ON THE NORTH BOUNDARY LINE OF SECTION 4;
- 12) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST AND ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,274.72 FEET BACK TO THE POINT OF BEGINNING;
- 13) SAID PARCEL OF LAND IS PART OF THE NORTH 1/2 OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 198.32 ACRES.



EXHIBIT D

IN RE: APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING IT TO OPERATE AND MAINTAIN SEWER SERVICE IN A SPECIFIED AREA IN FORREST COUNTY, MISSISSIPPI

DESCRIPTION OF PROVIDENCE SEWER UTILITY FACILITIES

Providence Subdivision consists of a 198 acre master plan for 54 lots with public rights-of-way, greenspaces, and equestrian facilities. Currently, all lots are developed along with all associated roadways, water/ sewer/ electric/ gas/ telephone/ tv cable utilities. Three of the lots have homes as active sewer customers, and two more lots have homes under constructed. Houses are typically 3500 square feet in size and larger. Domestic sewer is collected within the subdivision and pumped to the city of Hattiesburg collection system.

The sewer utilities consist of a series of PVC low pressure collection mains within the subdivision, and pre-installed service taps for each lot. Each residence is responsible for installation of a grinder pump and service line to the service tap at the main. The low pressure collection mains within the subdivision discharge to a pump station located at the frontage of the property at Bonhomie Road. The sewage is pumped to a city of Hattiesburg receiving manhole via a PVC force main coursing north along Bonhomie Road.

Providence Land Company, LLC, currently holds an active sewer treatment agreement with the City of Hattiesburg, for treatment of received sewer only.

Ownership, operation, and maintenance of the collection system remains with Providence Land Company, LLC. Providence is charged bulk rate fees for treatment volume based on metered flows at the pump station. All capital costs have been paid by the owner/developer, and will not be recovered through the monthly service rates, to be petitioned for hereafter.

EXHIBIT - E

IN RE: APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY AUTHORIZING IT TO OPERATE AND MAINTAIN SEWER SERVICE IN A SPECIFIED AREA
IN FORREST COUNTY, MISSISSIPPI

RECAPITULATION OF COSTS FOR
SEWER SYSTEM CONSTRUCTION:

PROVIDENCE SUBDIVISION
FORREST COUNTY, MISSISSIPPI

PROJID: 0052/PLC

MARCH, 2002

PAY ITEM	DESCRIPTION	UNIT	QUANTITIES	UNIT PRICE	EXTENSION
SUBDIVISION LOW PRESSURE SEWER COLLECTION SYSTEM:					
SS-1	4" SDR-26 (CL. 160) PVC PRESSURE MAIN	L.F.	1,960.00	4.34	8,506.40
SS-2	3" SDR-26 (CL. 160) PVC PRESSURE MAIN	L.F.	6,020.00	4.29	25,825.80
SS-3	2" SDR-26 (CL. 160) PVC PRESSURE MAIN	L.F.	1,460.00	3.68	5,372.80
SS-4	2" SCH 40 PVC SERVICE LINE	L.F.	600.00	3.02	1,812.00
SS-5	1-1/2" SCH 40 PVC SERVICE LINE	L.F.	1,020.00	3.08	3,141.60
SS-6	4" x 3" D.I.M.J. TEE	EA.	1.00	176.00	176.00
SS-7	4" x 2" D.I.M.J. TEE	EA.	1.00	165.00	165.00
SS-8	3" x 2" D.I.M.J. TEE	EA.	4.00	162.80	651.20
SS-9	2" D.I.M.J. TEE	EA.	2.00	154.00	308.00
SS-10	4" D.I.M.J. CROSS	EA.	1.00	269.50	269.50
SS-11	4" x 3" D.I.M.J. REDUCER	EA.	2.00	143.00	286.00
SS-12	4" x 2" D.I.M.J. REDUCER	EA.	1.00	143.00	143.00
SS-13	3" x 2" D.I.M.J. REDUCER	EA.	1.00	143.00	143.00
SS-14	4" x 45 DEGREE D.I.M.J. BEND	EA.	2.00	176.00	352.00
SS-15	3" x 45 DEGREE D.I.M.J. BEND	EA.	2.00	170.50	341.00
SS-16	2" x 45 DEGREE D.I.M.J. BEND	EA.	2.00	159.50	319.00
SS-17	4" D.I.M.J. GATE VALVE	EA.	4.00	426.80	1,707.20

SS-18	3" D.I.M.J. GATE VALVE	EA.	5.00	404.80	2,024.00
SS-19	2" D.I.M.J. GATE VALVE	EA.	2.00	316.80	633.60
SS-20	36" BURY D.I.M.J. VALVE BOX (SEWER LID)	EA.	11.00	35.20	387.20
SS-21	18" DIA. PRE-CAST CONC. VALVE BOX PADS	EA.	11.00	30.80	338.80
SS-22	4" x 2" SCH. 40 PVC TEE (SW)	EA.	5.00	49.50	247.50
SS-23	3" x 2" SCH. 40 PVC TEE (SW)	EA.	28.00	47.30	1,324.40
SS-24	2" SCH 40 PVC TEE (SW)	EA.	13.00	44.00	572.00
SS-25	2" x 1-1/2" SCH 40 PVC BUSHING (SW)	EA.	46.00	19.80	910.80
SS-26	1-1/2" SCH. 40 PVC 90 DEGREE BEND (SW)	EA.	14.00	16.50	231.00
SS-27	1-1/2" SCH 40 PVC CAP (SW)	EA.	47.00	7.70	361.90
SS-28	1-1/2" PVC BALL VALVE	EA.	46.00	24.20	1,113.20
SS-29	6" PLASTIC VALVE BOX W/SEWER COVER (18" BURIAL)	EA.	46.00	24.20	1,113.20
SS-30	AIR RELIEF VALVE ASSEMBLY	EA.	2.00	350.00	700.00
SS-31	2" FLUSH TYPE TERMINAL BLOW-OFF HYDRANT (36" BURY) (EQ. TO KUPFERLE #78)	EA.	6.00	977.90	5,867.40
SS-32	4" SCH 40 PVC CASING	L.F.	300.00	9.51	2,853.00
SS-33	6" SCH 40 PVC CASING	L.F.	200.00	10.06	2,012.00
SS-34	12 GA. INSULATED COPPER TRACE WIRE	L.F.	11,100.00	.17	1,887.00
SS-35	DUPLEX PUMPING STATION	L.S.	1.00	24530.0	24,530.00
SUB-TOTAL SUBDIVISION LOW PRESSURE SEWER SYSTEM:					\$96,626.50
NORTH BONHOMIE ROAD SEWER FORCE MAIN:					
SS-1	6" SDR-26 (CL.160) PVC PRESSURE MAIN	L.F.	7,170.00	5.48	39,291.60
SS-2	10" STEEL CASING FOR CREEK CROSSINGS	L.F.	160.00	26.40	4,224.00
SS-3	6" D.I.M.J. GATE VALVE	EA.	3.00	449.90	1,349.70
SS-4	6" D.I. M.J. 90-BEND	EA.	3.00	176.00	528.00
SS-5	6" D.I. M.J. 45-BEND	EA.	9.00	170.50	1,534.50

SS-6	6" x 4" D.I.M.J. REDUCER	EA.	1.00	159.50	159.50
SS-7	36" BURY D.I.M.J. VALVE BOX (SEWER LID)	EA.	3.00	35.20	105.60
SS-8	18" DIA. PRE-CAST CONC. VALVE BOX PAD	EA.	3.00	30.80	92.40
SS-9	2" FLUSH TYPE BLOW-OFF HYDRANT ASSEMBLY (36" BURY) (EQ. TO KUPFERLE #78)	EA.	2.00	977.90	1,955.80
SS-10	AIR RELIEF VALVE ASSEMBLY	EA.	2.00	400.00	800.00
SS-11	#12 INSULATED COPPER TRACE WIRE	L.F.	7,200.00	.17	1,224.00
SS-12	4" METER & BOX (SEWER)	EA.	1.00	1963.50	1,963.50
SUB-TOTAL NORTH BONHOMIE SEWER FORCE MAIN:					\$53,228.60

TOTAL PROJECT COST

\$ 149,855.10

Prepared By: ,

Timothy R. Burge, P.A., INC
Consulting Engineers and Land Surveyors

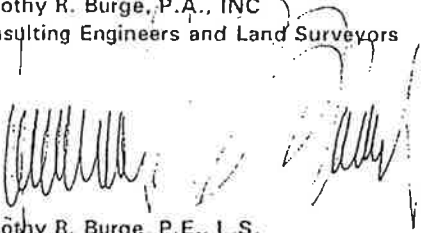

Timothy R. Burge, P.E., L.S.
President

EXHIBIT I

IN RE: APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY AUTHORIZING IT TO OPERATE AND MAINTAIN SEWER
SERVICE IN A SPECIFIED AREA IN FORREST COUNTY, MISSISSIPPI

INTERESTED PARTIES

Interested parties as defined by Rule 9B (1) of The Mississippi Public Service
Commission Public Utilities Rules of Practice and Procedure are:

- 1) City of Hattiesburg
Public Works Department
P.O. Box 1898
Hattiesburg, MS 39403
Bennie Sellers, P.E., Director
601-545-4540
- 2) Homestead Sewer, LLC
17 Brighton Court
Hattiesburg, MS 39401
David W. Bomboy, M.D., Owner
601-544-5797

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSISSIPPI

DOCKET NO. 04-UA-0195

EXHIBIT J

IN RE: APPLICATION OF PROVIDENCE
LAND COMPANY, LLC, FOR A
CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY
AUTHORIZING IT TO OPERATE
AND MAINTAIN A SEWER
SYSTEM IN A SPECIFIED AREA IN
FORREST COUNTY, MISSISSIPPI

PRE-FILED TESTIMONY OF TIMOTHY R. BURGE,
CONSULTING ENGINEER FOR PROVIDENCE LAND COMPANY, LLC

Q. What is your name and address?

A. My name is Timothy Burge and my mailing address is 802 West Pine Street,
Hattiesburg, Mississippi 39401.

Q. What is your position with Providence Land Company, LLC?

A. I currently serve as a consulting engineer for Providence Land Company, LLC
and engineer of record for Providence Subdivision.

Q. Please briefly describe your educational background and business
experience?

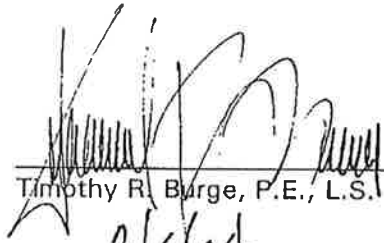
A. I am a graduate of Mississippi State University with a Bachelor of Science
degree in Civil Engineering and have been president of a consulting
engineering practice since 1990.

Q. Have you appeared before this commission?

A. Yes

- Q. Please state generally the purpose of your testimony today.
- A. To testify that Providence Land Company, LLC has demonstrated the ability to construct, operate, and otherwise provide full and adequate sewer service to the Providence Subdivision.
- Q. Are you familiar with the Application of Providence Land Company, LLC for approval of sewer service of the areas described in certificates of public convenience and necessity to operate a sewer system in specified areas in Forrest County, Mississippi?
- A. Yes.
- Q. Do you have reason to believe that a public need exists for the certified area sought by the above Application?
- A. Yes. The service area is outside the municipal limits of the City of Hattiesburg, and though agreeing to receive sewage for treatment, the City could not provide collection, maintenance, nor operating services.
- Q. Is Providence Land Company, LLC ready, willing and able to serve current and prospective customers in the area in which it seeks to acquire in this proceeding?
- A. Yes.
- Q. Has Providence Land Company, LLC obtained the required approvals from Health and Pollution Control Authorities in the State of Mississippi?
- A. Yes.
- Q. What type of investment will be required of Providence Land Company, LLC to pay for any proposed improvements?
- A. A total investment of approximately \$149,855.10 was required for

construction and development of the sewer system. The system is complete and fully operating. Funding for the sewer system development was obtained as part of a Project Development loan from local banking institutions. The debt is being serviced through lot sales.



Timothy R. Burge, P.E., L.S.
3/5/04

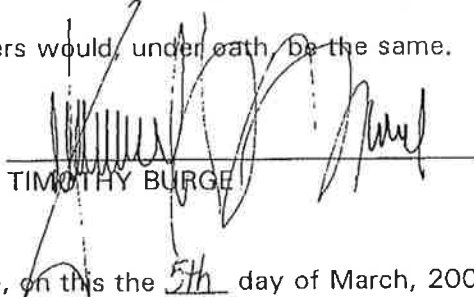
Date

AFFIDAVIT VERIFYING AND ADOPTING TESTIMONY

STATE OF MISSISSIPPI

COUNTY OF LAMAR

Timothy Burge, being first duly sworn, states that he is the Timothy Burge, identified in the foregoing testimony, that he caused to be prepared such testimony, that the answers appearing therein are true to the best of his knowledge and belief, and that if asked the questions appearing therein, his answers would, under oath, be the same.


TIMOTHY BURGE

SWORN TO AND SUBSCRIBED before me, on this the 5th day of March, 2004.


Notary Public

My Commission Expires:

6/24/07

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 24, 2007
BONDED THRU STEGALL NOTARY SERVICE

PROVIDENCE LAND COMPANY, LLC
STATEMENT OF ASSETS, LIABILITIES, AND MEMBERS'
EQUITY - CASH BASIS
DECEMBER 31, 2003

ASSETS		
CURRENT ASSETS		
Cash	\$	10,346.99
A/R - Johnson		389,647.24
Services Recv - Nicholson		27,462.50
Total Current Assets		427,456.73
FIXED ASSETS		
Land		1,964,136.96
Total Fixed Assets		1,964,136.96
		1,964,136.96
TOTAL ASSETS		\$ 2,391,593.69

EXHIBIT "K"

IN RE: APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A CERTIFICATE
 OF PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING IT TO OPERATE
 AND MAINTAIN SEWER SERVICE IN A SPECIFIED AREA IN FORREST
 COUNTY, MISSISSIPPI

See Accountants' Compilation Report

PROVIDENCE LAND COMPANY, LLC
STATEMENT OF ASSETS, LIABILITIES, AND MEMBERS'
EQUITY - CASH BASIS
DECEMBER 31, 2003

LIABILITIES

LIABILITIES

N/P - Bancorp South	\$ 1,599,528.52	
Total Liabilities		\$ 1,599,528.52

MEMBERS' EQUITY

Capital - Lougardner	34,674.67	
Capital - Melancon	142,490.94	
Capital - Burckel	647,899.25	
Capital - Johnson	62,361.91	
Capital - Nicholson	34,674.68	
Net Income (Loss)	<u>(32,999.70)</u>	
Total Members' Equity		<u>889,101.75</u>

TOTAL LIABILITIES AND EQUITY	<u><u>\$ 2,488,630.27</u></u>
------------------------------	-------------------------------

See Accountants' Compilation Report

PROVIDENCE LAND COMPANY, LLC
STATEMENT OF REVENUE AND EXPENSES - CASH BASIS
FOR THE TWELVE MONTHS
ENDED DECEMBER 31, 2003

	12 Months Ended December 31, 2003
REVENUE	
Sales	<u>781,800.00</u>
Total Revenue	<u>781,800.00</u>
EXPENSES	
Cost of Sales - Land	672,339.85
Bank Charges	5,567.48
Property Tax	141.68
Professional Fees	8,839.75
Advertising	480.00
Interest Expense	103,473.46
Insurance	1,826.00
Utilities	11.70
Maintenance	1,123.96
Dues	<u>20,995.82</u>
Total Expenses	<u>814,799.70</u>
NET INCOME	<u>\$ (32,999.70)</u>

See Accountants' Compilation Report

**MISSISSIPPI
PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI**

March 23, 2004

2004-UA-195

PROVIDENCE LAND COMPANY, LLC
SC020211200

IN RE:
APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
AUTHORIZING IT TO OPERATE AND MAINTAIN SEWER
SERVICE IN A SPECIFIED AREA IN FORREST COUNTY,
MISSISSIPPI.

NOTICE

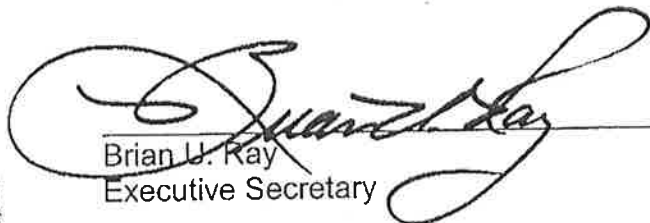
Notice is hereby given that on the 18th day of March, 2004, Providence Land Company, LLC filed with the Mississippi Public Service Commission the above referenced matter.

Any person desiring to participate in or receive further notice of these proceedings is required under Rule 6J of the Commission's Public Utility Rules of Practice and Procedure to file a written petition to intervene on or before twenty (20) days from the date of this notice.

This cause is returnable to the next regular meeting of the Commission to be held at 10:00 A.M., Tuesday, April 6, 2004, at the Mississippi Public Service Commission, 1st Floor, Woolfolk State Office Building, Jackson, Mississippi. This cause may be heard on said return date, if a hearing is necessary, or be subject to being set for disposition on a hearing date not less than twenty (20) days from the date of publication of this Notice. If protest, answer or other appropriated pleading is on file in response to this matter, the Commission will consider same on said hearing date.

WITNESS MY HAND AND THE OFFICIAL SEAL of the Mississippi Public Service Commission, on this, the 23rd day of March, 2004.




Brian J. Ray
Executive Secretary

Mississippi Public Service Commission

BO ROBINSON, CHAIRMAN
HAMILTON—THIRD DISTRICT

NIELSEN COCHRAN, VICE-CHAIRMAN
JACKSON—FIRST DISTRICT

MICHAEL CALLAHAN, COMMISSIONER
HATTIESBURG—SECOND DISTRICT



BRIAN U. RAY
EXECUTIVE SECRETARY
(601)981-5400

WILLIE E. MAY, COLONEL
OFFICE OF MOTOR CARRIERS

OSCAR L. MORGAN, MAJOR
OFFICE OF MOTOR CARRIERS

DAVID L. CAMPBELL, ATTORNEY
COMMISSION STAFF

March 23, 2004

Hattiesburg American
Legal Ad Department
P. O. Box 1111
Hattiesburg, MS 39401

RE: 2004-UA-195 - PROVIDENCE LAND COMPANY, LLC

Gentlemen:

Enclosed herewith is a Notice in the above named cause. It is requested that this Notice be published as soon as possible.

It is further requested that the Mississippi Public Service Commission be furnished Proof of Publication and that all charges associated with this service be billed to the following:

David Burckel Mngr.
3688 Veterans Memorial Dr.
Suite 210
Hattiesburg, MS 39401
Telephone: (601) 606-7951

Sincerely,

A handwritten signature in cursive script, reading "Brian U. Ray".

Brian U. Ray
Executive Secretary

Mississippi Public Service Commission

BO ROBINSON, CHAIRMAN
HAMILTON—THIRD DISTRICT

NIELSEN COCHRAN, VICE-CHAIRMAN
JACKSON—FIRST DISTRICT

MICHAEL CALLAHAN, COMMISSIONER
HATTIESBURG—SECOND DISTRICT



BRIAN U. RAY
EXECUTIVE SECRETARY
(601)961-5400

WILLIE E. MAY, COLONEL
OFFICE OF MOTOR CARRIERS

OSCAR L. MORGAN, MAJOR
OFFICE OF MOTOR CARRIERS

DAVID L. CAMPBELL, ATTORNEY
COMMISSION STAFF

March 23, 2004

The Clarion Ledger
Legal Ad Department
P. O. Box 40
Jackson, MS 39205

RE: 2004-UA-195 - PROVIDENCE LAND COMPANY, LLC

Gentlemen:

Enclosed herewith is a Notice in the above named cause. It is requested that this Notice be published as soon as possible.

It is further requested that the Mississippi Public Service Commission be furnished Proof of Publication and that all charges associated with this service be billed to the following:

David Burckel Mngr.
3688 Veterans Memorial Dr.
Suite 210
Hattiesburg, MS 39401
Telephone: (601) 606-7951

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian U. Ray".

Brian U. Ray
Executive Secretary

Homestead Sewer, LLC
David W. Bomboy, M.D., Owner
17 Brighton Court
Hattiesburg, MS 39401

2004-UA-195

Providence Land Company, LLC
3688 Veterans Memorial Drive
Suite 210
Hattiesburg, MS 39402

2004-UA-195

David Burckel Mngr.
3688 Veterans Memorial Dr.
Suite 210
Hattiesburg, MS 39401

2004-UA-195

City of Hattiesburg
Public Works Dept.
P. O. Box 1898
Hattiesburg, MS 39403

2004-UA-195

Proof of Publication

FILED

The State of Mississippi

APR - 2 2004

577901

Forrest County

MISS. PUBLIC SERVICE
COMMISSION

PASTE PROOF HERE

PERSONALLY appeared before me, the undersigned
notary public in and for Forrest County, Mississippi,

Alex Walley

an authorized clerk of the HATTIESBURG AMERICAN,
a daily newspaper published in the City of Hattiesburg,
Forrest County, Mississippi who, being duly sworn,
states that the notice, a true copy of which is hereto
attached, appeared in the issues of said newspaper as
follows:

Dates of Publication:

Lines: 64
Words: 271
Issues: 1
Total: \$35.52

Monday, March 29, 2004

MISSISSIPPI PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI

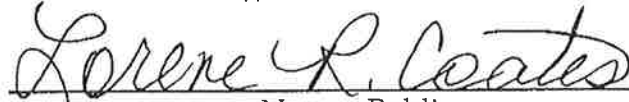
2004-UA-196
PROVIDENCE LAND COMPANY, LLC
SC020211200
IN RE:
APPLICATION OF PROVIDENCE LAND COMPANY, LLC
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND
NECESSITY AUTHORIZING IT TO OPERATE AND MAIN-
TAIN SEWER SERVICE IN A SPECIFIED AREA IN FOR-
REST COUNTY, MISSISSIPPI.

NOTICE
Notice is hereby given that on the 18th day of March, 2004,
Providence Land Company, LLC filed with the Mississippi
Public Service Commission the above referenced matter.
Any person desiring to participate in or receive further
notice of these proceedings is required under Rule 6J of the
Commission's Public Utility Rules of Practice and Procedure
to file a written petition to Intervene on or before twenty (20)
day from the date of this notice.
This cause is returnable to the next regular meeting of the
Commission to be held at 10:00 A.M., Tuesday, April 6,
2004, at the Mississippi Public Service Commission, 1st
Floor, Woolfolk State Office Building, Jackson, Mississippi.
This cause may be heard on said return date, if a hearing is
necessary, or be subject to being set for disposition on a
hearing date, if a hearing is necessary, or be subject to
being set for disposition on a hearing date not less than
twenty (20) days from the date of publication of this Notice.
If protest, answer or other appropriated pleading is on file in
response to this matter, the Commission will consider same
on said hearing date.
WITNESS MY HAND AND THE OFFICIAL SEAL of the
Mississippi Public Service Commission, on this, the 23rd
day of March, 2004.
(SEAL)
/s/ Brian U. Ray
Brian U. Ray
Executive Secretary
Publish Date: March 29, 2004.

Signed



Authorized Clerk
of the Hattiesburg



Notary Public

SWORN to and subscribed before me on



(Date)

My Commission Expires: May 24, 2006.

Bonded thru Heiden, Brooks & Garland, Inc.

(SEAL)

FILED

APR - 8 2004

AFFIDAVIT OF PUBLICATION**MISS. PUBLIC SERVICE
COMMISSION**

I, Linda Smith, of The Hattiesburg American, do hereby certify that from my own knowledge and a check of the files of this newspaper that the attached advertisement was published in The Hattiesburg American on

MISSISSIPPI PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI
2004-1A-195
PROVIDENCE LAND COMPANY, LLC
SC020211200
IN RE:
APPLICATION OF PROVIDENCE LAND COMPANY, LLC
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND
NECESSITY AUTHORIZING IT TO OPERATE AND MAIN-
TAIN SEWER SERVICE IN A SPECIFIED AREA IN FOR-
EST COUNTY, MISSISSIPPI.
NOTICE
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Providence Land Company, LLC filed with the Mississippi
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twenty (20) days from the date of publication of this Notice.
If protest, answer or other appropriate pleading is on file with
response to this matter, the Commission will consider same
on said hearing date.
WITNESS MY HAND AND THE OFFICIAL SEAL of the
Mississippi Public Service Commission, on this, the 23rd
day of March, 2004.
(SEAL)
/s/ Brian U. Ray
Brian U. Ray
Executive Secretary
Publish Date: March 28, 2004.

Linda Smith
Name/

Legal Clerk
Title

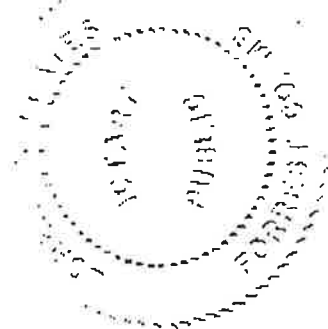
*Published
3/29/04*

Subscribed and sworn to before me:
This 8th day of April, 2004.

Lorene R. Coates
Notary Public

My Commission Expires:

Notary Public State of Mississippi At Large
My Commission Expires: May 24, 2006
Bonded Thru Helden, Brooks & Garland, Inc.



FILED

PROOF OF PUBLICATION
THE STATE OF MISSISSIPPI
HINDS COUNTY

APR 13 2004

**MISS. PUBLIC SERVICE
COMMISSION**

PASTE PROOF HERE

MISSISSIPPI
PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI
March 23, 2004

2004-UA-195

PROVIDENCE LAND COMPANY, LLC
SC030211200

RE:
APPLICATION OF PROVIDENCE LAND COMPANY,
LLC FOR A CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY AUTHORIZING IT TO OPERATE
AND MAINTAIN SEWER SERVICE IN A SPECIFIED
AREA IN FORREST COUNTY, MISSISSIPPI.

NOTICE

Notice is hereby given that on the 18th day of March 2004,
Providence Land Company, LLC filed with the Mississippi
Public Service Commission the above referenced matter.

Any person desiring to participate in or receive further notice
of these proceedings is required under Rule 6J of the
Commission's Public Utility Rules of Practice and Procedure
to file a written petition to intervene on or before twenty (20)
days from the date of this notice.

This cause is returnable to the next regular meeting of the
Commission to be held at 10:00 A.M., Tuesday, April 6, 2004,
at the Mississippi Public Service Commission, 1st Floor,
Woolfolk State Office Building, Jackson, Mississippi. This
cause may be heard on said return date, if a hearing is
necessary, or be subject to being set for disposition on a
hearing date not less than twenty (20) days from the date of
publication of this Notice. If protest, answer or other
appropriated pleading is on file in response to this matter, the
Commission will consider same on said hearing date.

WITNESS MY HAND AND THE OFFICIAL SEAL of the
Mississippi Public Service Commission, on this, the 23rd day
of March 2004.

/s/ Brian U. Ray
Brian U. Ray
Executive Secretary

(SEAL)
April 1, 2004

PERSONALLY appeared before me, the
undersigned notary public in and for Hinds
County, Mississippi,

Amy Ham

an authorized clerk of THE CLARION-
LEDGER, a daily newspaper as defined and
prescribed in Sections 13-3-31 and 13-3-32,
of the Mississippi Code of 1972, as
amended, who, being duly sworn, states that
the notice, a true copy of which is hereto
attached, appeared in the issues of said
newspaper as follows:

April 1, 2004

Lines/words: 2 col x 51/276

Published 1 Time

Total: \$46.12

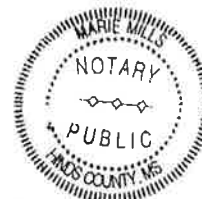
Signed Amy Ham
Authorized Clerk of The Clarion-Ledger

SWORN to and subscribed before me the 12th
day of April, 2004.

Marie Mills
Notary Public

Notary Public State of Mississippi At Large.
My Commission Expires: Nov. 8, 2004
Bonded thru Notary Public Underwriters

(SEAL)



MY COMMISSION EXPIRES
November 8, 2004

[Handwritten signatures and scribbles]

**BEFORE THE PUBLIC SERVICE COMMISSION
OF
THE STATE OF MISSISSIPPI**

2004-UA-195

PROVIDENCE LAND COMPANY, LLC	IN RE: PETITION OF PROVIDENCE LAND COMPANY, LLC FOR AN INITIAL CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING IT TO CONSTRUCT, OPERATE AND MAINTAIN A SEWER SYSTEM IN A SPECIFIED AREA OF FORREST COUNTY, MISSISSIPPI
-------------------------------------	---

**ORDER GRANTING INITIAL CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY**

There came on this day before the Commission a Petition pursuant to Section 77-3-1, et seq., of the Mississippi Code of 1972, as amended, filed by Providence Land Company, LLC, seeking an initial Certificate of Public Convenience and Necessity to construct, operate and maintain a sewer system in a specified area in Forrest County, Mississippi, as specifically described in the legal description marked as "EXHIBIT A".

The Commission, being fully apprised in the premises and having considered the documents and record before it, and upon recommendation of the Public Utilities Staff, finds as follows:

- (1) Providence Land Company, LLC, is a Mississippi Corporation organized and existing under the laws of the State of Mississippi, and is a public utility pursuant to Section 77-3-1, et seq., of the Mississippi Code of 1972, as amended, and the Public Service Commission has full jurisdiction of the applicant and the subject matter.

- (2) The Petition, as filed, contains all jurisdictional requirements of the applicable law and it would be in the public interest to grant the Petition of said Providence Land Company, LLC, so as to authorize and permit it to construct, operate and maintain a sewer system to serve the hereinafter described area.
- (3) The public convenience and necessity justifies and requires the grant of this Certificate of Public Convenience and Necessity.
- (4) The described area in "EXHIBIT A" is not within the boundaries of any incorporated municipality.
- (5) The Petitioner, Providence Land Company, LLC, is ready, willing and able to construct, operate and maintain a sewer system so as to render sewer service to the public for compensation in the area proposed to be served.
- (6) Prior to the rendition of sewer service to the public, Providence Land Company, LLC, shall file with this Commission a Petition requesting authorized rates and charges for the area described herein.

IT IS, THEREFORE, ORDERED that:

- (1) The Petition of Providence Land Company, LLC, is hereby granted and approved so as to authorize and permit it to construct, operate and maintain a sewer system in the area hereinafter described.
- (2) The public convenience and necessity requires the grant of this certificate.
- (3) Providence Land Company, LLC, a Mississippi Corporation, is hereby granted a Certificate of Public Convenience and Necessity pursuant to Section 77-3-1, et seq., of the Mississippi Code of 1972, as amended, to construct, operate and

maintain a sewer system so as to furnish sewer service to the public for compensation in a specified area in Forrest County, Mississippi, the description of which is attached hereto and incorporated herein by reference as "EXHIBIT A".

- (4) IT IS FURTHER ORDERED that Providence Land Company, LLC, will serve, without exception, all persons requesting service in the hereinafter described area.
- (5) Construction on the proposed sewer system shall be commenced within six (6) months from the effective date of this order or this Certificate may be cancelled.
- (6) The grant of this certificate is conditional upon Providence Land Company, LLC, filing for approval of the lawful rates and charges that it may collect from its ratepayers prior to actually rendering service to them. Failure to comply with this condition may result in the cancellation of this Certificate.
- (7) Nothing in this order shall affect the right of any other utility to continue rendering service to any customer that it was legally serving upon the effective date of this order.

This order shall be in full force and effect from and after the date of issuance.

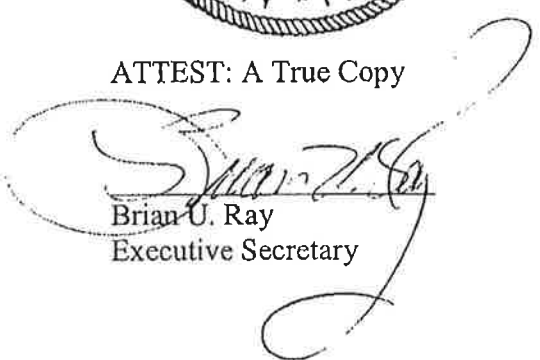
Chairman Bo Robinson, Vice-Chairman Nielsen Cochran, and Commissioner

Michael Callahan voted Aye.

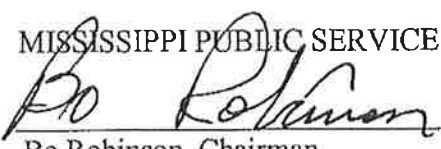
ORDERED by the Commission on this the 8th day of June, 2004.

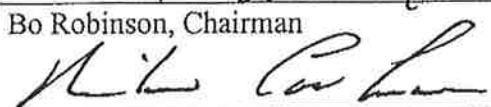


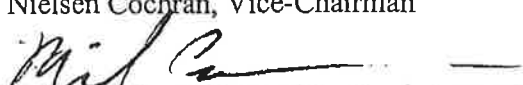
ATTEST: A True Copy

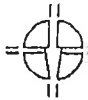

Brian U. Ray
Executive Secretary

MISSISSIPPI PUBLIC SERVICE COMMISSION


Bo Robinson, Chairman


Nielsen Cochran, Vice-Chairman


Michael Callahan, Commissioner



TIMOTHY R. BURGE

CONSULTING ENGINEERS - LAND SURVEYORS

PROFESSIONAL ASSOCIATES, INC.

802 WEST PINE STREET, SUITE 200, HATTIESBURG, MISSISSIPPI 39401

601-544-0078 (FAX) 601-544-0071

EXHIBIT B-2

IN RE: APPLICATION OF PROVIDENCE LAND COMPANY, LLC FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING IT TO OPERATE AND MAINTAIN SEWER SERVICE IN A SPECIFIED AREA IN FORREST COUNTY, MISSISSIPPI

LEGAL DESCRIPTION

PROJID: 0052/PLC CLIENT: PROVIDENCE LAND COMPANY

DATE: JULY 31, 2001 DRAWING FILE/NO: 0052SPLT.DWG/ 0052.L3519

REMARKS: 198.32 ACRE TRACT FOR PROVIDENCE SUBDIVISION

DESCRIPTION: A PART OF THE NORTH 1/2 OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI.

MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- 1) COMMENCE AT A 1/2" IRON PIPE AT THE NORTHEAST CORNER OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, SAID POINT ALSO BEING THE POINT OF BEGINNING;
- 2) THENCE RUN SOUTH ONE (01) DEGREE, EIGHT (08) MINUTES, TWENTY-ONE (21) SECONDS EAST ALONG THE EAST BOUNDARY OF SECTION 4 FOR 1,930.42 FEET TO A 1/2" REBAR;
- 3) THENCE RUN WEST FOR 2,677.46 FEET TO A 1/2" REBAR;
- 4) THENCE RUN NORTH ZERO (00) DEGREES, FIFTY (50) MINUTES, TWENTY-FOUR (24) SECONDS WEST FOR 590.58 FEET TO A 1/2" REBAR;
- 5) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FIFTY-SEVEN (57) MINUTES, FOURTEEN (14) SECONDS WEST FOR 1,335.84 FEET TO A 3" IRON PIPE;
- 6) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FORTY (40) MINUTES, THIRTY-NINE (39) SECONDS WEST FOR 1,295.48 FEET TO A 1/2" IRON PIN SET ON THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD;
- 7) THENCE RUN NORTH ZERO (00) DEGREES, THIRTY-FOUR (34) MINUTES, THREE (03) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 248.32 FEET TO A 4" SQUARE CONCRETE MONUMENT;
- 8) THENCE RUN SOUTH EIGHTY-NINE (89) DEGREES, FORTY-SIX (46) MINUTES, SIXTEEN (16) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 49.60 FEET TO A 4" SQUARE CONCRETE MONUMENT;
- 9) THENCE RUN NORTH ZERO (00) DEGREES, SIX (06) MINUTES, FORTY-FOUR (44) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 53.91 FEET TO A 4" SQUARE CONCRETE MONUMENT;

PROJID: 0052/PLC

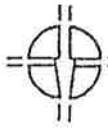
PAGE 1 OF 2

0052BOUNDARY_EXHIBITSTMTMNT_LGL.v010



- 10) THENCE RUN NORTH TWENTY-SIX (26) DEGREES, ZERO (00) MINUTES, FIFTY-ONE (51) SECONDS WEST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 111.21 FEET TO A FENCE CORNER POST;
- 11) THENCE RUN NORTH ZERO (00) DEGREES, THREE (03) MINUTES, THIRTY (30) SECONDS EAST AND ALONG THE EAST RIGHT-OF-WAY BOUNDARY OF BONHOMIE ROAD FOR 924.28 FEET TO A 1/2" IRON PIN SET ON THE NORTH BOUNDARY LINE OF SECTION 4;
- 12) THENCE RUN NORTH EIGHTY-NINE (89) DEGREES, FIFTY-FIVE (55) MINUTES, TWENTY-FOUR (24) SECONDS EAST AND ALONG THE NORTH BOUNDARY OF SECTION 4 FOR 5,274.72 FEET BACK TO THE POINT OF BEGINNING;
- 13) SAID PARCEL OF LAND IS PART OF THE NORTH 1/2 OF SECTION 4, TOWNSHIP 3 NORTH, RANGE 13 WEST, FORREST COUNTY, MISSISSIPPI, AND CONTAINS 198.32 ACRES.





TIMOTHY R. BURGE

CONSULTING ENGINEERS - LAND SURVEYORS

PROFESSIONAL ASSOCIATES, INC.

802 WEST PINE STREET, SUITE 200, HATTIESBURG, MISSISSIPPI 39401

601-544-0078

(FAX) 601-544-0071

August 13, 2004

PROJID: 0052/PLCLLC

FILED

AUG 16 2004

**MISS. PUBLIC SERVICE
COMMISSION**

'04-UN-0539

Mr. Gary Huff, Executive Director
Mississippi Public Utilities Staff
1700 Walter Sillers Building
Post Office Box 1174
Jackson, Mississippi 39215-1174

RE: Providence Sewer (2004-UA-195)
Forrest County, Mississippi
David Burckel, Managing Partner

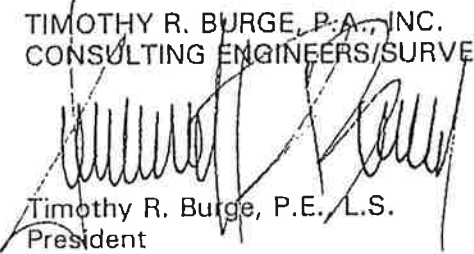
Dear Mr. Huff:

I am submitting, herewith, the original and 14 copies of a petition for intent to establish rates for the above referenced. After your review please advise of any further documentation required.

Please call me at 601-544-0078 for any questions or additional requirements.

Sincerely,

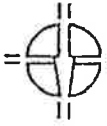
TIMOTHY R. BURGE, P.A., INC.
CONSULTING ENGINEERS/SURVEYORS


Timothy R. Burge, P.E., L.S.
President

Enclosures

cc: David Burckel

0052072704.DOC



TIMOTHY R. BURGE

CONSULTING ENGINEERS - LAND SURVEYORS

PROFESSIONAL ASSOCIATES, INC.

802 WEST PINE STREET, SUITE 200, HATTIESBURG, MISSISSIPPI 39401 601-544-0078 (FAX) 601-544-0071

August 13, 2004

PROJID: 0052/PLCLLC

Mr. Gary Huff, Executive Director
Mississippi Public Utilities Staff
1700 Walter Sillers Building
Post Office Box 1174
Jackson, Mississippi 39215-1174

RE: Providence Sewer (2004-UA-195)
Forrest County, Mississippi
David Burckel, Managing Partner

FILED

AUG 16 2004

MISS. PUBLIC SERVICE
COMMISSION

'04 -UN- 0539

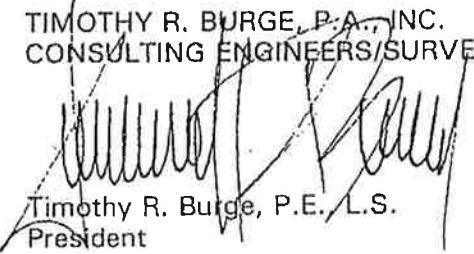
Dear Mr. Huff:

I am submitting, herewith, the original and 14 copies of a petition for intent to establish rates for the above referenced. After your review please advise of any further documentation required.

Please call me at 601-544-0078 for any questions or additional requirements.

Sincerely,

TIMOTHY R. BURGE, P.A., INC.
CONSULTING ENGINEERS/SURVEYORS


Timothy R. Burge, P.E., L.S.
President

Enclosures

cc: David Burckel

0052072704.DOC

FILED

AUG 16 2004

MISS. PUBLIC SERVICE
COMMISSION

BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

PROVIDENCE LAND COMPANY, LLC
FORREST COUNTY, MS

IN NOTICE OF PROVIDENCE LAND
RE: COMPANY, LLC, OF ITS INTENT
TO ESTABLISH RATES FOR ITS
SEWER SERVICE IN ITS
CERTIFICATED AREA IN
FORREST COUNTY, MISSISSIPPI

'04 -UN- 053 9

DOCKET NO. 2004-UA-195

RULE 9 DESIGNATION PETITIONER DESIGNATES THIS FILING AS A
STANDARD FILING UNDER PARAGRAPH 5 OF COMMISSION RULE 9A.

PROPOSED EFFECTIVE DATE THIRTY DAYS FROM DATE OF FILING

TEST YEAR: NOT APPLICABLE

NOTICE OF INTENT TO ESTABLISH RATES

Comes now, PROVIDENCE LAND COMPANY, LLC, by and through its Owner,
hereinafter referred to as Petitioner, and pursuant to Section 77-3-37 of the Mississippi Code of 1972,
gives notice of its intent to set rates and tariffs for the rendition of sewer service to its customers and
would show as follows, to-wit:

I.

Petitioner is a public utility as defined in Section 77-3-3(d) of the Mississippi Code of 1972, as
amended, and is engaged in the business of providing sewer service to and for the public for

compensation in Forrest County, Mississippi, having its principal place of business at 3688 Veteran's Memorial Drive, Suite 210, Hattiesburg, MS 39401. Petitioner's mailing address is 3688 Veteran's Memorial Drive, Suite 210, Hattiesburg, MS 39401. Petitioner's telephone number is 601-554-7449.

II.

Petitioner is the holder of a Certificate of Public Convenience and Necessity 2004-UA-195 authorizing its operations in a specified area of Forrest County, Mississippi, and is prepared to render service in accordance with service rules and regulations and in accordance with a schedule of rates and charges, both of which shall be a part of the tariff for which it seeks approval through an order of this Commission.

III.

Petitioner proposes to implement initial rates, effective thirty (30) days from the date of filing of this Notice, for services rendered on and after such date.

IV.

Petitioner would show that it has carefully reviewed its operating methods and has taken all feasible steps to establish normal monthly overhead and operating costs and believes that it will operate and maintain its system in an economical manner. Petitioner would show that the proposed rates and tariffs noticed herein are required and necessary in order to meet customer requirements and to provide an adequate return to the Petitioner.

V.

Petitioner proposes herewith a tabulation of rates applying to its certificated area in Forrest County, Mississippi, and respectfully requests that the proposed initial rates be received and approved in accordance with all applicable provisions of law and all Commission regulations. Subject to the final

adjudication of these proceedings, Petitioner will furnish and file appropriate tariffs that will be available to its customers and the commission.

VI.

In support of this notice, petitioner files herewith the following data and documentation in accordance with the requirements of Commission Rule 9A:

<u>Exhibit #</u>	<u>Description</u>
1.	Direct testimony of: a. David Burckel, Managing Partner b. Timothy R. Burge, P.E., Engineer of Record for the Petitioner (601-544-0078)
2.	Sample Tariffs
3.	Pro Forma Operating Statement
4.	Statement showing number of current customers and anticipated customers.
5.	Description of Utility's property filed in Docket No. 2004-UA-195, and original cost.
6.	Charter of Providence
7.	Notice to Customers, if applicable, and Certificate of Service verifying date that Notice was sent to customers.
8.	Names and addresses of all interested persons as defined by the Commissions Rules and a Certificate of Service.

As to exhibits normally required of a petitioner, a deviation of the requirements for provision is sought for the following:

1. Operating statement of revenues and expenses for twelve months.
2. Balance Sheet for previous years.
3. A statement showing the utility's rate base.

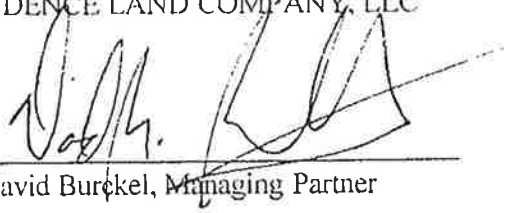
4. A statement showing the utility's calculation of return on rate base for the pro forma year.
5. Federal and State Income Tax returns.
6. Number and amount of bonds authorized and amount issued.
7. Rate and amount of dividends paid during the five previous years, and
8. An analysis of surplus.

This deviation is requested due to the nature of the Petition being one of a start-up utility.

WHEREFORE, Petitioner asks that this, its Notice, be received and filed and that proposed initial rates set forth herein be recognized as the authorized rates to be charged for sewer service on and after thirty (30) days from the date of filing of this Notice.

Respectfully submitted this the 30 day of August, 2004.

PROVIDENCE LAND COMPANY, LLC

BY: 

David Burckel, Managing Partner

STATE OF MISSISSIPPI

COUNTY OF Forrest

Personally appeared before me, the undersigned authority, David Burckel, who, after first being duly sworn, deposes and says that he has filed the above and foregoing for and on behalf of Providence Land Company, LLC, that he is fully authorized to do so, and that the statements contained in the notice filing and exhibits thereto are true and correct to the best of his knowledge, information and belief.


David Burckel, Managing Partner

Sworn to before me on this the 3rd day of August, 2004.


Notary Public

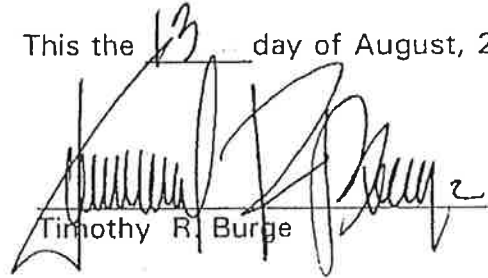
My Commission Expires:

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES MAY 16, 2006
BONDED THRU STEGALL NOTARY SERVICE

CERTIFICATE OF SERVICE

I, Timothy R. Burge, P.E., on behalf of Providence Land Company, LLC, do hereby certify that I have on this date, delivered by First Class US Mail, postage prepaid, the Original and 14 copies of the above and foregoing Notice of Intent to Establish Rates of Providence Land Company, LLC, to the office of The Executive Secretary of the Mississippi Public Service Commission, Jackson, Mississippi.

This the 13 day of August, 2004.


Timothy R. Burge

STATE OF MISSISSIPPI

COUNTY OF FORREST

SWORN TO AND SUBSCRIBED BEFORE ME on this the 13th day of August, 2004.


Notary Public

My Commission Expires:

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 24, 2007
BONDED THRU STEGALL NOTARY SERVICE

TARIFF

OF

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Serving Agency)

SCHEDULE OF RATES,
TERMS AND CONDITIONS

FOR

SEWER SERVICE

(Electric, Gas, Telephone, Water, Sewer Services)

APPLYING TO

PROVIDENCE SUBDIVISION

(Area to which Rates, Rules and Regulations, & Extension Policy Apply)

CERTIFICATED AREA IN FORREST COUNTY, MS

NO MODIFICATION OF THESE SCHEDULES SHALL BE
MADE EXCEPT FOR THE PURPOSE OF CANCELLING OR
SUPERSEDING PREVIOUSLY ISSUED SCHEDULES

ISSUED BY DAVID BURCKEL MANAGING PARTNER

(Name)

(Title)

ADDRESS 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401

(Street or Box Number)

(City)

(State)

STATE OF MISSISSIPPI

PUBLIC SERVICE COMMISSION

Sheet 402

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to which Rates, Rules, and Regulations, & Extension Policy Apply)

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION
INDEX TO TARIFF

DATE ISSUED

SHEET 1 of 1 SHEETS

TYPE UTILITY SERVICE

CLASS OF SERVICE

SCHEDULE SECTION NUMBER

SEWER

RESIDENTIAL

R-1

FINAL
CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401
(Name) (Title) (Address)

DATE EFFECTIVE DATE APPROVED AUTHORITY ORDER NO.

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Rate Area to Which Schedule is Applicable)

TYPE UTILITY SERVICE SEWER

(Electric, Gas, Telephone, Water, Sewer)

CLASS OF SERVICE RESIDENTIAL

(Residential, Commercial, Industrial, Rural)

MISSISSIPPI

PUBLIC SERVICE COMMISSION

P. S. C. SCHEDULE NUMBER R-1

ORIGINAL

REVISED NO. _____ DATE ISSUED _____

SUPERCEDES

SCHEDULE NO. _____ DATE ISSUED _____

SCHEDULE CONSISTS OF 1 SHEETS

(This space for statement of availability, character of service, rate, minimum charge, terms of payment, special conditions, and minimum contract period pertinent to the application of this particular rate schedule.)

AVAILABILITY

Sanitary Sewer service is available under this Rate Schedule to all Residential customers within the Certificated area of the Company, subject to the Service Rules and Regulations and the Service Extension Policy.

NET MONTHLY RATES \$ 38.00 per month

PAYMENT

The above rate is the net rate. All bills are due on or before the 5th calendar day of the month. After the due date, a late fee in the amount stated will be due in addition to the regular monthly fee.

SINGLE POINT OF SERVICE

The above rate is based upon the supply of service to the customer's premises through a single delivery point. Separate supply of service for sanitary sewage for the same customer will be separately billed.

LATE FEE \$ 5.00

This fee is due and payable after the 5th day of the month on all accounts.

RETURNED CHECK FEE \$ 20.00

This fee is for the bank returning a customers check for nonpayment.

NEW ACCOUNT FEE \$ 25.00

This fee is for adding a new customer to an existing location. All payments will apply first to the New Account, then to the monthly fee.

FINAL

CONTINUED ON SHEET _____

ISSUED BY DAVID BURCKEL, MANAGING PARTNER, 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401

(Name)

(Title)

(Address)

DATE EFFECTIVE _____ DATE APPROVED _____ AUTHORITY ORDER NO. _____

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to Which Rules and Regulations Are Applicable)

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION
SERVICE RULES AND REGULATION

APPLYING TO SEWER SERVICE

SHEET 1 OF 1 SHEETS

CASH DEPOSIT

No Sewer Service Cash Deposit will be required from the customer.

CONNECTION FEE

A connection fee of \$300.00 will be required.

DISCONNECT/RECONNECT FEE

This fee will apply on delinquent accounts. Accounts are considered delinquent after the account balance due has gone unpaid for 45 days or more. A disconnect fee of \$300 will be assessed for cost incurred in disconnection the service. Also, a reconnection fee of \$300 will be assessed to restore service after disconnection. If the customer pays at the time disconnection begins, a \$5 fee will be collected, along with all past due amounts.

SEPARATE CUSTOMERS

Each home shall be served by a separate sewer service line extended from the service tap at the street right-of-way. Joint use of service lines will not be permitted without the written permission of the Company, in advance.

CUSTOMERS RESPONSIBILITY

The customer shall be responsible for the purchase, installation, and operation of the grinder pump, controls, and incidentals as is specified in the applicable provisions of the "Covenants and Restrictions for the Providence Subdivision." The Company has provided the connection tap and service valve at the front property line of each lot. The customer shall extend the service pipe from the pump unit to the Company's service tap.

The maintenance and repair of the pump unit and service pipe is the responsibility of the customer and its owner, and repairs thereto shall be done by the owner's agent, or in emergency situations, by the Company, if the owner fails to respond in a timely manner so as to prevent the development of a health hazard. The customer grants the right of an ingress and egress along the service pipe and to the pump unit for such emergency repairs. The utility shall render a bill for such service at prevailing local rates, based upon labor and materials and payment shall be made by the customer within thirty (30) days.

It is the responsibility of the customer to take every precaution to insure against the disruption of sewer service being furnished. Particular care must be taken to safeguard the service pipe from fracture or other physical damage so as to prevent the entrance of foreign matter or materials into the sewer system. The introduction of waste water from roofs, gutters, or paved areas is especially prohibited. Industrial waste will not be accepted. Any changes in the condition of the residential waste being discharged into the wastewater collection system will void the service agreement and no discharge will be permitted until a new agreement is issued following procedures outlined in this paragraph. The Company may charge a reasonable fee to cover the cost of engineering and laboratory fees for verification of the type of waste.

Prompt notice of any difficulty experienced in the utilization of sewer service is imperative in order that prompt attention may be given so as to alleviate conditions detrimental to health and sanitary conditions.

FINAL
CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER, 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401

(Name)

(Title)

(Address)

DATE EFFECTIVE

DATE APPROVED

AUTHORITY ORDER NO.

DIRECT TESTIMONY OF DAVID BURCKEL

Q. Please state your name and address:

A. David Burckel
3688 Veterans Memorial Drive, Suite 210
Hattiesburg, MS 39401

Q. What position do you hold with Providence Land Company, LLC?

A. I am the Managing Partner of the company.

Q. What is the purpose of your testimony?

A. I am requesting approval of initial rates for sewer customers being served by Providence Land Company, LLC, serving a subdivision known as Providence Subdivision, in Forrest County, Mississippi.

Q. Would you please describe the sewer system, as Certified by the Commission?

A. The sewer system known as Providence Land Company, LLC consists of a low pressure main collection system that discharges into a pump station within the subdivision, and then discharges into the City of Hattiesburg collection system. The system consists of individual pump basins and grinder pressure pumps at each residence. The collection mains are routed along the road rights-of-way. The approximate cost of the system is \$150,000, and all cost have been paid. None of the cost will be collected through rates to the customers. The system has a design capacity of 54 homes. Currently there are 3 homes being served and 3 more will be added within the next year.

Q. As customers continue to grow, how will this affect the operating cost of the system?

A. As customers are added, additional flow will discharge to the pump station, increasing electrical loads and routine maintenance. Although the customers are responsible for their service lines from the system main to the home, as additional

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION

SERVICE EXTENSION POLICY

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to Which Extension Policy is Applicable)

SHEET 1 OF 1 SHEETS

APPLICATION OF POLICY

The Service Extension Policy of the Company shall apply in those instances where the service in question is not readily available from a point on the existing system without a system extension and/or where the capacities are beyond the ability of the system to supply at the point where the service is requested.

APPLICATION FOR SERVICE

In such instances the prospective customer shall make a written application for service in which he shall state the type of service desired, and clearly define the point at which service is desired. A feasibility study fee may be charged the applicant at the option of the Company.

ESTIMATE OF COST AND AVAILABILITY OF SERVICE

The Company will estimate the cost of providing the service requested at the point requested, which will include road repair work, grading, insurance, bonds, materials, labor and equipment cost in order to determine the terms under which such service may be extended. The customer must furnish all right-of-way.

CONTRIBUTION-IN-AID OF CONSTRUCTION

The customer will execute a Sewer Extension Contract with the Company which will provide that the customer will pay all of the cost of extending the mains, increasing the treatment capacity, and providing the service requested. The customer will deposit with the Company the estimated basic cost, unless the Company agrees in writing, that the customer may perform the work under the supervision and inspection of the Engineer of the Company. Upon completion of construction, the actual cost of the extension shall be determined, and the deposit adjusted. If the actual cost is less than the deposit, the Company will refund the difference to the Customer. If the actual cost is more than the deposit, the customer will pay the difference to the Company. Cost of extending the mains will include all cost of service to each lot. Upon acceptance of the construction by the Company, the sewer system so installed shall become the property of the Company, and the Company will thereafter maintain all sewers in public right-of-way and within the recorded easements. The Company will not maintain sewer service lines on private property.

FINAL
CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER, 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS
(Name) (Title) (Address) 39401

DATE EFFECTIVE _____ DATE APPROVED _____ AUTHORITY ORDER NO. _____

customers are connected, it is expected that routine maintenance to the system and pump station, along with service assistance request from builders and homeowners, will increase proportionally.

Q. Will you employ your own operator of the system and your own maintenance personnel?

A. I currently employ Catt Construction, a licensed utility contractor, to perform physical maintenance and repairs to the system on an "as needed" or "on call" basis. Mr. Tim Burge, P.E., engineer of record, is also called on an "as needed" basis for consultation regarding operating, maintenance, and service issues.

Q. Do you have any other statements at this time?

A. Yes. I have retained Tim Burge, P.E., of Hattiesburg, MS, engineer of record for the system, to prepare and present the accounting requirements and assist me in preparing this Notice Filing. Since I am responsible for the filing, I will request all comments and questions be addressed to me, and a copy provided to Tim Burge at 802 West Pine Street, Hattiesburg, MS 39401.

Q. Does this conclude your testimony?

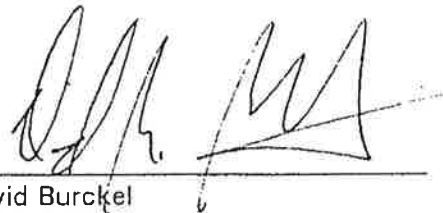
A. Yes.

VERIFICATION

STATE OF MISSISSIPPI

COUNTY OF FORREST

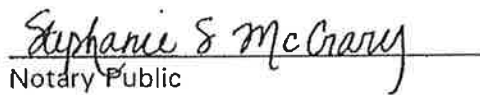
PERSONALLY appeared before me, the undersigned authority, in and for the county and state aforesaid, the within named David Burckel, Managing Partner of Providence Land Company, LLC, who being first duly sworn to oath that the matters, facts, things, and figures set forth in and stated in the above foregoing Testimony are true and correct as therein stated.



David Burckel

SWORN TO AND SUBSCRIBED BEFORE ME on this the 3rd Day of

August, 2004.


Notary Public

My Commission expires:
MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES MAY 16, 2006
~~BONDED THRU STEGALL NOTARY SERVICE~~

DIRECT TESTIMONY OF TIMOTHY R. BURGE, P.E., L.S.

Q. Please state your name and address:

A. Timothy R. Burge
802 West Pine Street
Hattiesburg, MS 39401

Q. What is your educational and professional background?

A. I have a B.S. degree in Civil Engineering from Mississippi State University. I have been practicing consulting engineering since 1985 in the residential, commercial, industrial, and municipal sectors. I have designed numerous water/sewer systems for various size developments in those sectors, and have assisted with many of the owner/developer clients with their development/construction, permitting with various jurisdictional agencies, and representation before the Commission on franchise issues.

Q. What is the purpose of your testimony?

A. I have been retained by Providence Land Company, LLC, Owner of the Providence Subdivision, to prepare and present all required accounting necessary to establish initial rates for sewer service(s).

Q. Have you prepared a pro forma Income Statement and if so, how did you arrive at the resulting rates?

A. Mr. Burckel and I discussed the development, the sewer system, and the operations of the system, as well as future expectations of the subdivision. Among the expenses to be estimated were Office Expense, Electrical Expense, Management Expense, Repair/Maintenance Expense, and treatment charges by the City of Hattiesburg. Other expenses such as Insurance, will exist regardless of the number of customers. Other expenses could arise which we do not have an exact amount for, such as damages from storms, resulting in the loss of electrical motors, the change in electrical rates, inadvertent damages to mains by other utility activities, increase in treatment charges by the City of Hattiesburg.

EXHIBIT 1(b) (cont.)

Q. Do you believe the rates to be reasonable and affordable?

A. Yes. Due to the nature of the subdivision, the rates are not excessive, since most houses in the development will be approximately 3,500 square feet and larger with cost in excess of \$500,000. Daily discharges are expected to be above average due to the larger size of the homes. Although some houses are currently occupied, the costs of serving these customers are being absorbed by the developer. The expenses associated with serving the customers are causing a financial impact on the developer at the present time, and rate relief is needed. As more customers are added, some cost could increase, causing more financial burdens to the developer.

Q. Would you explain the Pro Forma Income Statement?

A. Yes. Currently there are three customers being served by the sewer system. Mr. Burckel expects to add three new customers within the next twelve months, bringing the pro forma number of customers to six (6). At a rate of \$38 per month per customer, the anticipated annual revenue will be \$2,736.00. Since not all customers will be added to the system at the same time, the actual annual revenue for the first year may be considerably less. The **Electric Expense** for the discharge pump station is expected to average about \$95 per month. As the number of customers increase, additional pump run time will be required increasing the usage and the monthly bill. The **Clerical Expense** is based on Minimum Wages plus overhead for estimated time required for invoicing, notices, service requests, and incidental record keeping. The **Office Expense**, phone and postage, is also an estimated minimal amount.

The **Management Fee** of \$1.50 per customer per month is the amount Providence Land Company, LLC will receive for the risk of ownership and responsibility of the system.

The **City of Hattiesburg Treatment Charge** is based on the agreement with the City for receiving and treating sewer at the base rate of \$2.15 per 1000 gallons. This rate is subject to increase each time the City imposes an increase on its other municipal customers.

Repairs and Maintenance Expense is currently being absorbed by the developer. Most repairs to the system have been due to non-system faults, such as other utilities cutting across the mains, and customers requesting service tap relocates. Routine maintenance to date has primarily been checking main valves, and assisting builders with service connections. The estimated amount in the income statement is based on expenses to date and increases anticipated for the next year.

Rate Case Expense of \$3,000, is amortized over three years, as has been approved by the Commission in previous cases.

The results of the Pro Forma Income Statement is a loss of over \$5000 per year. If the expenses did not increase, at least twenty-five (25) customers will have to be added just to break-even on expenses.

EXHIBIT 1(b) (cont.)

Q. Do you have any other comments at this time?

A. The Providence Subdivision was developed to attract the upper income homeowner, and as such is well covenanted, has all underground utilities, is geographically convenient, and otherwise provides a highly desirable and comfortable community environment. Although it is outside the confines of any municipal jurisdiction, services of all utilities meet or exceed those provided within a municipality, including sanitary sewer. Homeowners benefit from the absence of high building permit fees, sewer/water tap fees, and property tax rates currently experienced by homeowners within the nearest municipality, Hattiesburg. The Providence Sewer is a well designed, constructed, and operated system that provides a needed service very reliably. It is my opinion that the monthly rate is very reasonable, considering all aspects, and see no reason the homeowners should not expect to pay for this service, like other necessary utilities.

Q. Does this conclude your testimony?

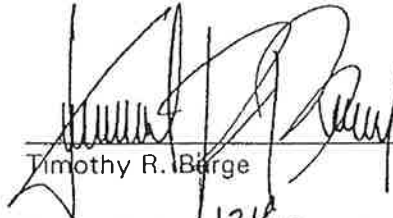
A. Yes, it does.

VERIFICATION

STATE OF MISSISSIPPI

COUNTY OF FORREST

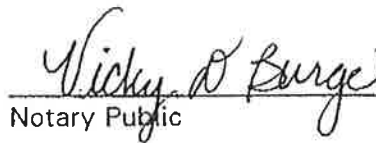
PERSONALLY appeared before me, the undersigned authority, in and for the county and state aforesaid, the within named Timothy R. Burge, Engineer for Providence Land Company, LLC, who being first duly sworn to oath that the matters, facts, things, and figures set forth in and stated in the above foregoing Testimony are true and correct as therein stated.



Timothy R. Burge

SWORN TO AND SUBSCRIBED BEFORE ME on this the 13th Day of

August, 2004.



Notary Public

My Commission expires:

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 24, 2007
BONDED THRU STEGALL NOTARY SERVICE

EXHIBIT 3

PROVIDENCE LAND COMPANY, LLC

PRO FORMA INCOME STATEMENT
FOR THE YEAR ENDING 12/31/04

(BASED ON THE SERVICE OF 6 CUSTOMERS FOR THE FIRST 12 MONTHS)

REVENUE:

Monthly Fee (\$38.00 x 6 x 12 mos.) \$ 2,736.00

EXPENSES:

Electric (\$95.00 x 12 mos.)	1,140.00
Clerical (\$ 7.00 x 1.0 hr. x 52 wks)	364.00
Office Expense	
Phone (\$20.00 x 12 mos.)	240.00
Postage	35.00
Management Fee (\$1.50 x 6 x 12 mos.)	108.00
Repairs, Maintenance, Consulting	2,500.00
Rate Case Expense (\$3,000/3 yrs.)	1,000.00
City of Hattiesburg Treatment Charge	
(\$2.15/1000 Gal x 6 homes	
x 400 GPD x 365 days/Yr)	1,883.00

Total Expenses \$ 8,556.00

NET INCOME (LOSS) (\$ 5,820.00)

EXHIBIT 4

NUMBER OF CUSTOMERS TO BE SERVED

Providence Land Company, LLC currently serves 3 customers, and is expected to add 3 more over the next 6 months for a total of 6 by the year end of 2004. The ultimate capacity of the system is 54 homes. The subdivision has experienced lot sales of approximately 40%, but it is expected that it will take several more years for actual construction development of homes.

FILED

APR - 8 2004

AFFIDAVIT OF PUBLICATION**MISS. PUBLIC SERVICE
COMMISSION**

Linda Smith, of *The Hattiesburg American*, do hereby certify that from my own knowledge and a check of the files of this newspaper that the attached advertisement was published in *The Hattiesburg American* on

MISSISSIPPI PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI
2004-LA-195
PROVIDENCE LAND COMPANY, LLC
SC020211200
IN RE:
APPLICATION OF PROVIDENCE LAND COMPANY, LLC
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND
NECESSITY AUTHORIZING IT TO OPERATE AND MAIN-
TAIN SEWER SERVICE IN A SPECIFIED AREA IN FOR-
EST COUNTY, MISSISSIPPI.
NOTICE
Notice is hereby given that on the 18th day of March, 2004,
Providence Land Company, LLC filed with the Mississippi
Public Service Commission the above referenced matter.
Any person desiring to participate in or receive further
notice of these proceedings is required under Rule 6J of the
Commission's Public Utility Rules of Practice and Procedure
to file a written petition to intervene on or before twenty (20)
days from the date of this notice.
This cause is returnable to the next regular meeting of the
Commission to be held at 10:00 A.M., Tuesday, April 6,
2004, at the Mississippi Public Service Commission, 1st
Floor, Woolfolk State Office Building, Jackson, Mississippi.
This cause may be heard on said return date, if a hearing is
necessary, or be subject to being set for disposition on a
future date, if a hearing is necessary; or be subject to
being set for disposition on a hearing date not less than
twenty (20) days from the date of publication of this Notice.
If protest, answer or other appropriate pleading is on file in
response to this matter, the Commission will consider same
on said hearing date.
WITNESS MY HAND AND THE OFFICIAL SEAL of the
Mississippi Public Service Commission, on this, the 23rd
day of March, 2004.
(SEAL)
/s/ Brian U. Ray
Brian U. Ray
Executive Secretary
Publish Date: March 23, 2004.

Linda Smith
Name/

Legal Clerk
Title

*Published
3/29/04*

Subscribed and sworn to before me:

This 8th day of April, 2004.

Lorene R. Coates
Notary Public

My Commission Expires:

Notary Public State of Mississippi At Large
My Commission Expires: May 24, 2006
Bonded Thru Heiden, Brooks & Garland, Inc.

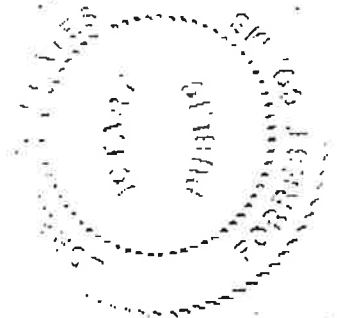


EXHIBIT 5

DESCRIPTION OF THE UTILITY PROPERTY

Providence Subdivision consists of a 198 acre master plan for 54 lots with public rights-of-way, greenspaces, and equestrian facilities. Currently, all lots are developed along with all associated roadways, water/ sewer/ electric/ gas/ telephone/ tv cable utilities. Three of the lots have homes as active sewer customers, and two more lots have homes under constructed. Houses are typically 3500 square feet in size and larger. Domestic sewer is collected within the subdivision and pumped to the city of Hattiesburg collection system.

The sewer utilities consist of a series of PVC low pressure collection mains within the subdivision, and pre-installed service taps for each lot. Each residence is responsible for installation of a grinder pump and service line to the service tap at the main. The low pressure collection mains within the subdivision discharge to a pump station located at the frontage of the property at Bonhomie Road. The sewage is pumped to a city of Hattiesburg receiving manhole via a PVC force main coursing north along Bonhomie Road.

Providence Land Company, LLC, currently holds an active sewer treatment agreement with the City of Hattiesburg, for treatment of received sewer only. Ownership, operation, and maintenance of the collection system remains with Providence Land Company, LLC. Providence is charged bulk rate fees for treatment

volume based on metered flows at the pump station. All capital costs have been paid by the owner/developer, and will not be recovered through the monthly service rates, to be petitioned for hereafter.

EXHIBIT 7

TO ALL CUSTOMERS OF PROVIDENCE LAND COMPANY, LLC, SEWER SYSTEM

According to Rule 9B of The Mississippi Public Service Commission Rules of Practice and Procedure, notice is hereby served that Providence Land Company, LLC has filed with The Mississippi Public Service Commission, Jackson, Mississippi, a Notice of Intent to establish rates for sewer service at Providence Subdivision, Forrest County, Mississippi.

Upon approval by the Commission, the rates and charges listed below will go into effect the first day of the month following the issuance of the order.

Connection Fee	\$300.00
Monthly Rate	\$ 38.00
Late Fee, if paid after the 5 TH day of the month	5.00
Returned Check Fee	20.00
New Account Fee	25.00
Disconnect/reconnect Fee for nonpayment after 45 days	600.00

David Burckel, Managing Partner
Providence Land Company, LLC

CERTIFICATE OF SERVICE

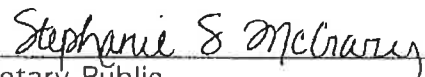
I, David Burckel, Managing Partner of Providence Land Company, LLC, do hereby certify that I have delivered, on the 3rd day of August, 2004, by First Class US Mail, postage prepaid, the above mentioned Notice of Intent to Establish Rates of Providence Land Company, LLC, to all current customers of the utility.

STATE OF MISSISSIPPI

COUNTY OF FORREST


David Burckel

SWORN TO AND SUBSCRIBED BEFORE ME on this the 3rd day of August, 2004.


Notary Public

My Commission Expires:

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES MAY 16, 2006
BONDED THRU STEGALL NOTARY SERVICE

EXHIBIT 8

INTERESTED PARTIES

Interested parties as defined by Rule 9B (1) of the Mississippi Public Service

Commission Public Utilities Rules of Practice and Procedure are:

- 1) City of Hattiesburg
Public Works Department
P.O. Box 1898
Hattiesburg, MS 39403
Bennie Sellers, P.E., Director
601-545-4540
- 2) Homestead Sewer, LLC
17 Brighton Court
Hattiesburg, MS 39401
David W. Bomboy, M.D., Owner
601-544-5797

BEFORE THE PUBLIC SERVICE COMMISSION
OF
THE STATE OF MISSISSIPPI

PROVIDENCE LAND COMPANY, LLC

DOCKET NO. 04-UN-0539

IN RE: NOTICE OF PROVIDENCE LAND COMPANY, LLC, OF ITS INTENT TO
ESTABLISH RATES FOR ITS SEWER SERVICE IN ITS CERTIFICATED AREA
IN FORREST COUNTY, MISSISSIPPI

SUSPENSION ORDER

At a special meeting held in its offices in Jackson, Mississippi, on this the 13th of September, 2004 there came on for consideration by the Mississippi Public Service Commission (Commission), the above mentioned Notice of Intent filing.

The Commission has determined that it should enter into an investigation concerning the above-referenced Notice and that this filing be suspended pending said investigation.

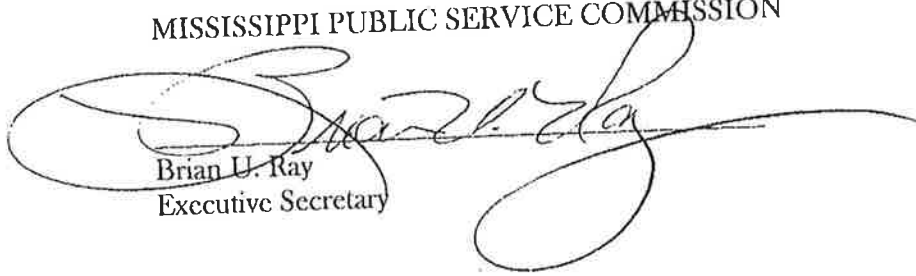
Accordingly, it is ordered that the Notice of Intent filed by Providence Land Company, LLC is hereby suspended for a period not to exceed one hundred twenty (120) days from and after the date of filing.

THE COMMISSION REQUESTS that a full investigation of the lawfulness of the Notice of Intent be made by the Public Utilities Staff.

IT IS FURTHER ORDERED, that this Order shall be effective upon issuance.

SO ORDERED on this the 13th day of September, 2004.

MISSISSIPPI PUBLIC SERVICE COMMISSION


Brian U. Ray
Executive Secretary



MISSISSIPPI
PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI

September 13, 2004

2004-UN-539

PROVIDENCE LAND COMPANY, LLC
SC020211200

IN RE:
NOTICE OF PROVIDENCE LAND COMPANY, LLC OF ITS
INTENT TO ESTABLISH RATES FOR ITS SEWER SERVICE IN
ITS CERTIFICATED AREA IN FORREST COUNTY, MISSISSIPPI.

NOTICE

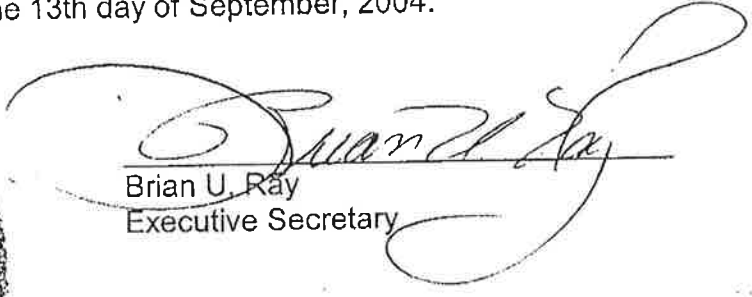
Notice is hereby given that on the 16th day of August, 2004, Providence Land Company, LLC filed with the Mississippi Public Service Commission the above referenced matter.

Any person desiring to participate in or receive further notice of these proceedings is required under Rule 6J of the Commission's Public Utility Rules of Practice and Procedure to file a written petition to intervene on or before twenty (20) days from the date of this notice.

This cause is returnable to the next regular meeting of the Commission to be held at 10:00 A.M., Tuesday, October 5, 2004, at the Mississippi Public Service Commission, 1st Floor, Woolfolk State Office Building, Jackson, Mississippi. This cause may be heard on said return date, if a hearing is necessary, or be subject to being set for disposition on a hearing date not less than twenty (20) days from the date of publication of this Notice. If protest, answer or other appropriate pleading is on file in response to this matter, the Commission will consider same on said hearing date.

WITNESS MY HAND AND THE OFFICIAL SEAL of the Mississippi Public Service Commission, on this, the 13th day of September, 2004.




Brian U. Ray
Executive Secretary

Mississippi Public Service Commission

BO ROBINSON, CHAIRMAN
HAMILTON-THIRD DISTRICT

NIELSEN COCHRAN, VICE-CHAIRMAN
JACKSON—FIRST DISTRICT

MICHAEL CALLAHAN, COMMISSIONER
HATTIESBURG—SECOND DISTRICT



BRIAN U. RAY
EXECUTIVE SECRETARY
(601)961-5400

DAVID L. CAMPBELL
SENIOR ATTORNEY

ALLISON P. FRY
ATTORNEY, COMMISSION STAFF

September 13, 2004

The Clarion Ledger
Legal Ad Department
P. O. Box 40
Jackson, MS 39205-

RE: 2004-UN-539 - PROVIDENCE LAND COMPANY, LLC

Gentlemen:

Enclosed herewith is a Notice in the above named cause. It is requested that this Notice be published as soon as possible.

It is further requested that the Mississippi Public Service Commission be furnished Proof of Publication and that all charges associated with this service be billed to the following:

David Burckel, Mngr.
3688 Veterans Memorial Dr.
Suite 210
Hattiesburg, MS 39401-
Telephone: (601) 606-7951

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian U. Ray", is written over a circular embossed seal.

Brian U. Ray
Executive Secretary

Mississippi Public Service Commission

BO ROBINSON, CHAIRMAN
HAMILTON-THIRD DISTRICT

NIELSEN COCHRAN, VICE-CHAIRMAN
JACKSON—FIRST DISTRICT

MICHAEL CALLAHAN, COMMISSIONER
HATTIESBURG—SECOND DISTRICT



BRIAN U. RAY
EXECUTIVE SECRETARY
(601) 961-5400

DAVID L. CAMPBELL
SENIOR ATTORNEY

ALLISON P. FRY
ATTORNEY, COMMISSION STAFF

September 13, 2004

Hattiesburg American
Legal Ad Department
P. O. Box 1111
Hattiesburg, MS 39401-

RE: 2004-UN-539 - PROVIDENCE LAND COMPANY, LLC

Gentlemen:

Enclosed herewith is a Notice in the above named cause. It is requested that this Notice be published as soon as possible.

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David Burckel, Mngr.
3688 Veterans Memorial Dr.
Suite 210
Hattiesburg, MS 39401-
Telephone: (601) 606-7951

Sincerely,

A handwritten signature in dark ink, appearing to read "Brian U. Ray", is written over a circular stamp. The stamp contains the text "Brian U. Ray" and "Executive Secretary".

Brian U. Ray
Executive Secretary

Proof of Publication

FILED

The State of Mississippi

SEP 24 2004

Forrest County

MISS. PUBLIC SERVICE
COMMISSION

765726
PASTE PROOF HERE

PERSONALLY appeared before me, the undersigned
notary public in and for Forrest County, Mississippi,

Alex Walley

an authorized clerk of the HATTIESBURG AMERICAN,
a daily newspaper published in the City of Hattiesburg,
Forrest County, Mississippi who, being duly sworn,
states that the notice, a true copy of which is hereto
attached, appeared in the issues of said newspaper as
follows:

Dates of Publication:

Wednesday, September 22, 2004

Lines: 80
Words: 254
Issues: 1
Total: \$36.48

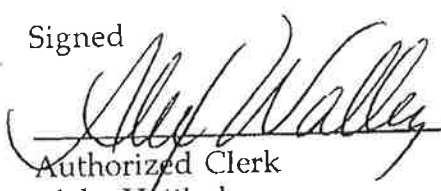
MISSISSIPPI
PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI
September 13, 2004

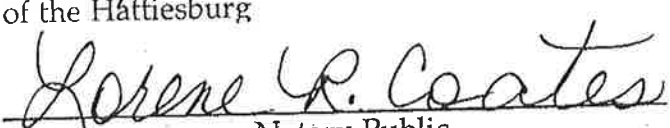
2004-UN-539
PROVIDENCE LAND COMPANY, LLC
SC020211200
IN RE:
NOTICE OF PROVIDENCE LAND COMPANY, LLC OF ITS
INTENT TO ESTABLISH RATES FOR ITS SEWER
SERVICE IN ITS CERTIFICATED AREA IN FORREST
COUNTY, MISSISSIPPI.

NOTICE

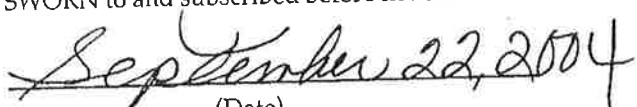
Notice is hereby given that on the 18th day of August, 2004,
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Public Service Commission the above referenced matter.
Any person desiring to participate in or resolve further
notice of these proceedings is required under Rule 6J of the
Commission's Public Utility Rules of Practice and Procedure
to file a written petition to intervene on or before twenty (20)
days from the date of this notice.
This cause is returnable to the next regular meeting of the
Commission to be held at 10:00 A.M., Tuesday, October 5,
2004, at the Mississippi Public Service Commission, 1st
Floor, Woodfolk State Office Building, Jackson, Mississippi.
This cause may be heard on said return date, if a hearing is
necessary, or be subject to being set for disposition on a
hearing date not less than twenty (20) days from the date of
publication of this Notice. If protest, answer or other
appropriate pleading is on file in response to this matter, the
Commission will consider the same on said hearing date.
WITNESS MY HAND AND THE OFFICIAL SEAL of the
Mississippi Public Service Commission, on this, the 13th
day of September, 2004.
/s/ Brian U. Ray
Brian U. Ray
Executive Secretary
(SEAL)
Publish Date: September 22, 2004.

Signed


Authorized Clerk
of the Hattiesburg


Notary Public

SWORN to and subscribed before me on


(Date)

My Commission Expires: May 24, 2006.
Bonded thru Heiden, Brooks & Garland, Inc.

(SEAL)

Proof of Publication
The State of Mississippi
Hinds County

FILED

SEP 24 2004

MISS. PUBLIC SERVICE
COMMISSION

PASTE PROOF HERE

PERSONALLY appeared before me, the undersigned
notary public in and for Hinds County, Mississippi,

Shirley Mize

an authorized clerk of THE CLARION-LEDGER, a
daily newspaper as defined and prescribed in
Sections 13-3-31 and 13-3-32, of the Mississippi
Code of 1972, as amended, who, being duly sworn,
states that the notice, a true copy of which is hereto
attached, appeared in the issues of said newspaper
as follows:

Dates of Publication:

Monday, September 20, 2004

Lines: 82
Words: 270
Issues: 1
Total: \$45.40

MISSISSIPPI
PUBLIC SERVICE COMMISSION
JACKSON, MISSISSIPPI
September 13, 2004
2004-UN-539
PROVIDENCE LAND COMPANY, LLC
SC020211200
IN RE:
NOTICE OF PROVIDENCE LAND COMPANY, LLC OF
ITS INTENT TO ESTABLISH RATES FOR ITS SEWER
SERVICE IN ITS CERTIFICATED AREA IN FORREST
COUNTY, MISSISSIPPI.
NOTICE
NOTICE is hereby given that on the 16th day of August,
2004, Providence Land Company, LLC filed with the Missis-
sippi Public Service Commission the above referenced
matter.
Any person desiring to participate in or receive further notice
of these proceedings is required under Rule 6J of the Com-
mission's Public Utility Rules of Practice and Procedure to file
a written petition to Intervene on or before twenty (20) days
from the date of this Notice.
This cause is returnable to the next regular meeting of the
Commission to be held at 10:00 A.M., Tuesday, October 5,
2004, in the Mississippi Public Service Commission Hearing
Room, 1st Floor, Woolfolk State Office Building, Jackson,
Mississippi. This cause may be heard on said return date, if a
hearing is necessary, or be subject to being set for disposal
on a hearing date not less than twenty (20) days from the
date of publication of this Notice. If protest, answer or other
appropriate pleading is on file in response to this matter, the
Commission will consider same on said hearing date.
WITNESS MY HAND AND THE OFFICIAL SEAL of the Mis-
sissippi Public Service Commission, on this the 13th day of
September 2004.
/s/ Brian U. Ray
BRIAN U. RAY
Executive Secretary
(SEAL)
September 20, 2004

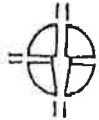
Signed,

Authorized Clerk
of The Clarion-Ledger

Notary Public

SWORN to and subscribed before me on 9/20/2004
Notary Public State of Mississippi At Large.
My Commission Expires September 8, 2004
Bonded thru Notary Public Underwriters



**TIMOTHY R. BURGE****CONSULTING ENGINEERS - LAND SURVEYORS**

PROFESSIONAL ASSOCIATES, INC.

802 WEST PINE STREET, SUITE 200, HATTIESBURG, MISSISSIPPI 39401

601-544-0078 (FAX) 601-544-0071

October 14, 2004

PROJID: 0052/PLCLLC

Ron Brewer
1700 Walter Sillers Building
Post Office Box 1174
Jackson, Mississippi 39215-1174

FILED**OCT 15 2004**

RE: Providence Land Company, LLC
Docket No. 04-UN-0539

MISS. PUBLIC SERVICE
COMMISSION

Dear Mr. Brewer:

I am submitting, herewith, four (4) copies each of the responses to the Second Set of Data Requests from the Public Utilities Staff regarding the above referenced docket. The responses consist of:

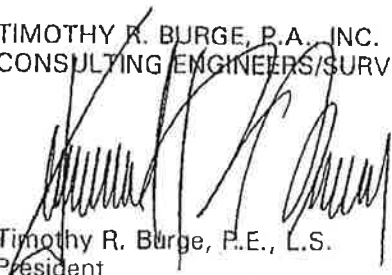
- 1) Amended Tariff Rate Sch. 403
- 2) Amended Tariff Rate Sch. 405

*Revised Tariff
Pages*

Please call me at 601-544-0078 for any questions or additional requirements.

Sincerely,

TIMOTHY R. BURGE, P.A., INC.
CONSULTING ENGINEERS/SURVEYORS


Timothy R. Burge, P.E., L.S.
President

Enclosures

cc: David Burckel

0052101404.DOC

Sheet 403

PROVIDENCE LAND COMPANY, LLC (Name of Utility Organization or Other Service Agency)		MISSISSIPPI PUBLIC SERVICE COMMISSION P. S. C. SCHEDULE NUMBER <u>R-1</u>	
CERTIFICATED AREA IN FORREST COUNTY, MS (Rate Area to Which Schedule is Applicable)		ORIGINAL REVISED NO. _____ DATE ISSUED _____	SUPERCEDES SCHEDULE NO. _____ DATE ISSUED _____ SCHEDULE CONSISTS OF <u>1</u> SHEETS
TYPE UTILITY SERVICE SEWER (Electric, Gas, Telephone, Water, Sewer)			
CLASS OF SERVICE RESIDENTIAL (Residential, Commercial, Industrial, Rural)			
(This space for statement of availability, character of service, rate, minimum charge, terms of payment, special conditions, and minimum contract period pertinent to the application of this particular rate schedule.)			
AVAILABILITY AND MINIMUM MONTHLY RATE Sanitary Sewer service is available under this Rate Schedule to all Residential customers within the Certificated area of the Company, subject to the Service Rules and Regulations and the Service Extension Policy. MINIMUM BASE MONTHLY RATE _____ \$ 15.00 per month			
MONTHLY USAGE SURCHARGE This fee will be reimbursement for costs charged to the Company by the City of Hattiesburg for treating the sewer discharge. This fee will be in addition to the base rate. Each month, Providence Land Company, LLC will divide the total billed amount from the City of Hattiesburg for the treatment of sewerage by the total number of current customers to determine the monthly surcharge. The monthly surcharge is expected to vary dependent upon seasonal usage. The current rate charged by the City of Hattiesburg is \$2.15 per 1000 gallons. Example: 72,000 gal. x \$2.15 / 6 customer = \$25.80 monthly treatment surcharge			
PAYMENT The above rates are the net rates. Bills will be mailed such that receipt by the customer will occur on or before the 5 th of the month. All bills are due on or before the 20 th calendar day of the month. After the due date, a late fee in the amount stated will be due in addition to the regular monthly fee.			
SINGLE POINT OF SERVICE The above rate is based upon the supply of service to the customer's premises through a single delivery point. Separate supply of service for sanitary sewage for the same customer will be separately billed.			
LATE FEE _____ \$ 5.00 This fee is due and payable after the 20 th day of the month on all accounts.			
RETURNED CHECK FEE _____ \$ 20.00 This fee is for the bank returning a customer's check for nonpayment.			
NEW ACCOUNT FEE _____ \$ 25.00 This fee is for adding a new customer to an existing location. All payments will apply first to the New Account, then to the monthly fee.			
FINAL CONTINUED ON SHEET _____			
ISSUED BY <u>DAVID BURCKEL, MANAGING PARTNER, 3688 MEMORIAL DRIVE, STE 210, HATTIESBURG, MS</u> (Name) (Title) (Address)			
39401			
DATE EFFECTIVE _____		DATE APPROVED _____ AUTHORITY ORDER NO. _____	

Sheet 405

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to Which Rules and Regulations Are Applicable)

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION
SERVICE RULES AND REGULATION

APPLYING TO SEWER SERVICE

SHEET 1 OF 1 SHEETS

CASH DEPOSIT

No Sewer Service Cash Deposit will be required from the customer.

CONNECTION FEE

A connection fee of \$300.00 will be required.

DISCONNECT/RECONNECT FEE

This fee will apply on delinquent accounts. Accounts are considered delinquent after the account balance due has gone unpaid for 45 days or more. A disconnect fee of \$25 will be assessed for cost incurred in disconnection of the service. Also, a reconnect fee of \$25 will be assessed to restore service after disconnection. If the customer pays at the time disconnection begins, a \$5 fee will be collected, along with all past due amounts.

SEPARATE CUSTOMERS

Each home shall be served by a separate sewer service line extended from the service tap at the street right-of-way. Joint use of service lines will not be permitted without the written permission of the Company, in advance.

CUSTOMERS RESPONSIBILITY

The customer shall be responsible for the purchase, installation, and operation of the grinder pump, controls, and incidentals as is specified in the applicable provisions of the "Covenants and Restrictions for the Providence Subdivision." The Company has provided the connection tap and service valve at the front property line of each lot. The customer shall extend the service pipe from the pump unit to the Company's service tap.

The maintenance and repair of the pump unit and service pipe is the responsibility of the customer and its owner, and repairs thereto shall be done by the owner's agent, or in emergency situations, by the Company, if the owner fails to respond in a timely manner so as to prevent the development of a health hazard. The customer grants the right of an ingress and egress along the service pipe and to the pump unit for such emergency repairs. The utility shall render a bill for such service at prevailing local rates, based upon labor and materials and payment shall be made by the customer within thirty (30) days.

It is the responsibility of the customer to take every precaution to insure against the disruption of sewer service being furnished. Particular care must be taken to safeguard the service pipe from fracture or other physical damage so as to prevent the entrance of foreign matter or materials into the sewer system. The introduction of waste water from roofs, gutters, or paved areas is especially prohibited. Industrial waste will not be accepted. Any changes in the condition of the residential waste being discharged into the wastewater collection system will void the service agreement and no discharge will be permitted until a new agreement is issued following procedures outlined in this paragraph. The Company may charge a reasonable fee to cover the cost of engineering and laboratory fees for verification of the type of waste.

Prompt notice of any difficulty experienced in the utilization of sewer service is imperative in order that prompt attention may be given so as to alleviate conditions detrimental to health and sanitary conditions.

FINAL
CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER, 3688 VETERANS MEMORIAL DRIVE, STE 210, HATTIESBURG,
(Name) (Title) (Address) MS, 39401

DATE EFFECTIVE DATE APPROVED AUTHORITY ORDER NO.

BEFORE THE PUBLIC SERVICE COMMISSION
OF
THE STATE OF MISSISSIPPI

PROVIDENCE LAND COMPANY, LLC

DOCKET NO. 04-UN-539

IN RE: NOTICE OF INTENT TO ESTABLISH RATES FOR IT'S SEWER SERVICE IN ITS CERTIFICATED AREA IN FORREST COUNTY, MISSISSIPPI.

ORDER APPROVING REVISED FILING

THIS DAY, there came on for consideration by the Mississippi Public Service Commission (Commission), the Revised Filing by Providence Land Company, LLC ("Providence") to establish rates and other charges for the rendition of sewer service in its certificated area in Forrest County, Mississippi.

After reviewing the entire record, and upon recommendation of the Public Utilities Staff, the Commission finds that the revised filing of Providence is approved.

The Wastewater Treatment Agreement between the City of Hattiesburg and Providence is hereby approved. Providence shall file for approval with this Commission of any increase in the base rate of \$2.15 per thousand gallons, and/or any change in the Wastewater Treatment Agreement which may be requested by the City of Hattiesburg at some future date. The Commission finds that the monthly surcharge related to the rate charged by the City of Hattiesburg shall appear on the bills of Providence as a separate line item and shall be designated as "Treatment Charge Assessed by the City of Hattiesburg."

The Revised Tariff submitted by Providence, which is attached as Exhibit "A" hereto, is approved and reflects the schedule of rates and other charges for the rendition of sewer service to its customers located in its certificated area in Forrest County, Mississippi.

IT IS THEREFORE ORDERED, that the Revised filing of Providence is approved, along with the attached tariff.

IT IS FURTHER ORDERED, that Providence shall designate on its monthly bills the treatment charge to be assessed by the City of Hattiesburg, as provided herein. Providence shall file for approval of any increase and/or change in the Wastewater Treatment Agreement.

IT IS FURTHER ORDERED, that this Order shall be effective upon issuance and the approved rates shall apply to the next billing cycle of Providence after the date of this Order.

Chairman Bo Robinson voted Aye, Vice-Chairman Nielsen Cochran voted Aye, Commissioner Michael Callahan voted Aye.

SO ORDERED on this the 4th day of November, 2004.



Brian G. Ray
Executive Secretary

MISSISSIPPI PUBLIC SERVICE COMMISSION

Bo Robinson
Bo Robinson, Chairman

Nielsen Cochran
Nielsen Cochran, Vice Chairman

Michael Callahan
Michael Callahan, Commissioner

BEFORE THE PUBLIC SERVICE COMMISSION
OF
THE STATE OF MISSISSIPPI

PROVIDENCE LAND COMPANY, LLC

DOCKET NO. 04-JN-539

IN RE: NOTICE OF INTENT TO ESTABLISH RATES FOR ITS SEWER SERVICE IN ITS CERTIFICATED AREA IN FORREST COUNTY, MISSISSIPPI.

ORDER APPROVING REVISED FILING

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Chairman Bo Robinson voted Aye, Vice-Chairman Nielsen Cochran voted Aye, Commissioner Michael Callahan voted Aye.

SO ORDERED on this the 4th day of November, 2004.



Brian B. Ray
Executive Secretary

MISSISSIPPI PUBLIC SERVICE COMMISSION

Bo Robinson
Bo Robinson, Chairman

Nielsen Cochran
Nielsen Cochran, Vice Chairman

Michael Callahan
Michael Callahan, Commissioner

TARIFF

OF

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Serving Agency)

SCHEDULE OF RATES,
TERMS AND CONDITIONS

FOR

SEWER SERVICE

(Electric, Gas, Telephone, Water, Sewer Service)

APPLYING TO

PROVIDENCE SUBDIVISION

(Area to which Rates, Rules and Regulations, & Extension Policy Apply)

CERTIFICATED AREA IN FORREST COUNTY, MS

NO MODIFICATION OF THESE SCHEDULES SHALL BE
MADE EXCEPT FOR THE PURPOSE OF CANCELLING OR
SUPERSEDING PREVIOUSLY ISSUED SCHEDULES

ISSUED BY DAVID BURCKEL MANAGING PARTNER

(Name)

(Title)

ADDRESS 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401

(Street or Box Number)

(City)

(State)

STATE OF MISSISSIPPI

PUBLIC SERVICE COMMISSION

EXHIBIT

tabbies

"A"

Sheet 492

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to which Rates, Rules, and Regulations, & Extension Policy Apply)

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION
INDEX TO TARIFF

DATE ISSUED

SHEET 1 of 1 SHEETS

TYPE UTILITY SERVICE

CLASS OF SERVICE

SCHEDULE/SECTION NUMBER

SEWER

RESIDENTIAL

R-1

FINAL
CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401

(Name)

(Title)

(Address)

DATE EFFECTIVE

DATE APPROVED

AUTHORITY ORDER NO.

Sheet 403

PROVIDENCE LAND COMPANY, LLC (Name of Utility Organization or Other Service Agency)		MISSISSIPPI PUBLIC SERVICE COMMISSION P. S. C. SCHEDULE NUMBER <u>R-1</u>	
CERTIFICATED AREA IN FORREST COUNTY, MS (Rate Area to Which Schedule Is Applicable)		ORIGINAL REVISED NO. _____ DATE ISSUED _____	SUPERCEDES SCHEDULE NO. _____ DATE ISSUED _____ SCHEDULE CONSISTS OF <u>1</u> SHEETS
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CLASS OF SERVICE RESIDENTIAL (Residential, Commercial, Industrial, Rural)			

(This space for statement of availability, character of service, rate, minimum charge, terms of payment, special conditions, and minimum contract period pertinent to the application of this particular rate schedule.)

AVAILABILITY AND MINIMUM MONTHLY RATE
 Sanitary Sewer service is available under this Rate Schedule to all Residential customers within the Certificated area of the Company, subject to the Service Rules and Regulations and the Service Extension Policy.

MINIMUM BASE MONTHLY RATE \$ 15.00 per month

MONTHLY USAGE SURCHARGE
 This fee will be reimbursement for costs charged to the Company by the City of Hattiesburg for treating the sewer discharge. This fee will be in addition to the base rate. Each month, Providence Land Company, LLC will divide the total billed amount from the City of Hattiesburg for the treatment of sewerage by the total number of current customers to determine the monthly surcharge. The monthly surcharge is expected to vary dependent upon seasonal usage.

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Example: 72,000 gal. x \$2.15 / 6 customer = \$25.80 monthly treatment surcharge

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 The above rates are the net rates. Bills will be mailed such that receipt by the customer will occur on or before the 5th of the month. All bills are due on or before the 20th calendar day of the month. After the due date, a late fee in the amount stated will be due in addition to the regular monthly fee.

SINGLE POINT OF SERVICE
 The above rate is based upon the supply of service to the customer's premises through a single delivery point. Separate supply of service for sanitary sewerage for the same customer will be separately billed.

LATE FEE \$ 5.00
 This fee is due and payable after the 20th day of the month on all accounts.

RETURNED CHECK FEE \$ 20.00
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NEW ACCOUNT FEE \$ 25.00
 This fee is for adding a new customer to an existing location. All payments will apply first to the New Account, then to the monthly fee.

FINAL
CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER, 3688 MEMORIAL DRIVE, STE 210, HATTIESBURG, MS
 (Name) (Title) (Address)

DATE EFFECTIVE _____ DATE APPROVED _____ AUTHORITY ORDER NO. 39401

Sheet 405

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to Which Rules and Regulations Are Applicable)

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION
SERVICE RULES AND REGULATION

APPLYING TO SEWER SERVICE

SHEET 1 OF 1 SHEETS

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No Sewer Service Cash Deposit will be required from the customer.

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CUSTOMERS RESPONSIBILITY

The customer shall be responsible for the purchase, installation, and operation of the grinder pump, controls, and incidentals as is specified in the applicable provisions of the "Covenants and Restrictions for the Providence Subdivision." The Company has provided the connection tap and service valve at the front property line of each lot. The customer shall extend the service pipe from the pump unit to the Company's service tap.

The maintenance and repair of the pump unit and service pipe is the responsibility of the customer and its owner, and repairs thereto shall be done by the owner's agent, or in emergency situations, by the Company, if the owner fails to respond in a timely manner so as to prevent the development of a health hazard. The customer grants the right of an ingress and egress along the service pipe and to the pump unit for such emergency repairs. The utility shall render a bill for such service at prevailing local rates, based upon labor and materials and payment shall be made by the customer within thirty (30) days.

It is the responsibility of the customer to take every precaution to insure against the disruption of sewer service being furnished. Particular care must be taken to safeguard the service pipe from fracture or other physical damage so as to prevent the entrance of foreign matter or materials into the sewer system. The introduction of waste water from roofs, gutters, or paved areas is especially prohibited. Industrial waste will not be accepted. Any changes in the condition of the residential waste being discharged into the wastewater collection system will void the service agreement and no discharge will be permitted until a new agreement is issued following procedures outlined in this paragraph. The Company may charge a reasonable fee to cover the cost of engineering and laboratory fees for verification of the type of waste.

Prompt notice of any difficulty experienced in the utilization of sewer service is imperative in order that prompt attention may be given so as to alleviate conditions detrimental to health and sanitary conditions.

FINAL
CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER, 3688 VETERANS MEMORIAL DRIVE, STE 210, HATTIESBURG, MS, 39401

(Name)

(Title)

(Address)

DATE EFFECTIVE

DATE APPROVED

AUTHORITY ORDER NO.

MS, 39401

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to Which Extension Policy is Applicable)

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION

SERVICE EXTENSION POLICY

SHEET 1 OF 1 SHEETSAPPLICATION OF POLICY

The Service Extension Policy of the Company shall apply in those instances where the service in question is not readily available from a point on the existing system without a system extension and/or where the capacities are beyond the ability of the system to supply at the point where the service is requested.

APPLICATION FOR SERVICE

In such instances the prospective customer shall make a written application for service in which he shall state the type of service desired, and clearly define the point at which service is desired. A feasibility study fee may be charged the applicant at the option of the Company.

ESTIMATE OF COST AND AVAILABILITY OF SERVICE

The Company will estimate the cost of providing the service requested at the point requested, which will include road repair work, grading, insurance, bonds, materials, labor and equipment cost in order to determine the terms under which such service may be extended. The customer must furnish all right-of-way.

CONTRIBUTION-IN-AID OF CONSTRUCTION

The customer will execute a Sewer Extension Contract with the Company which will provide that the customer will pay all of the cost of extending the mains, increasing the treatment capacity, and providing the service requested. The customer will deposit with the Company the estimated basic cost, unless the Company agrees in writing, that the customer may perform the work under the supervision and inspection of the Engineer of the Company. Upon completion of construction, the actual cost of the extension shall be determined, and the deposit adjusted. If the actual cost is less than the deposit, the Company will refund the difference to the Customer. If the actual cost is more than the deposit, the customer will pay the difference to the Company. Cost of extending the mains will include all cost of service to each lot. Upon acceptance of the construction by the Company, the sewer system so installed shall become the property of the Company, and the Company will thereafter maintain all sewers in public right-of-way and within the recorded easements. The Company will not maintain sewer service lines on private property.

FINAL
CONTINUED ON SHEET _____

ISSUED BY DAVID BURCKEL, MANAGING PARTNER, 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS

 (Name) (Title) (Address) 39401

DATE EFFECTIVE _____ DATE APPROVED _____ AUTHORITY ORDER NO. _____

Posted 12-09-04

PUBLIC UTILITIES STAFF

BOB L. MARSH
DEPUTY ADMINISTRATOR

MICHAEL MCCOOL, DIRECTOR
WATER & SEWER DIVISION

CHRISTOPHER GARBACZ, DIRECTOR
ECONOMICS & PLANNING DIVISION



ROBERT G. WAITES
EXECUTIVE DIRECTOR

GEORGE M. FLEMING
GENERAL COUNSEL

VIRDEN C. JONES, DIRECTOR
ELEC., GAS, & COMMUNICATIONS DIVISION

RANDY TEW, DIRECTOR
COMMUNICATIONS SECTION

December 9, 2004

FILE COPY

Mr. Timothy R. Burge
802 West Pine Street, Suite 200
Hattiesburg, MS 39401

RE: Providence Land Company, LLC
Identification No.: SC-020-2112-00

Dear Mr. Burge:

Please find enclosed your approved tariff pages for 04-UN-539 - (Notice of Intent to Establish Rates for its Sewer Service in its Certificated Area in Forrest County, Mississippi). The effective date will be November 4, 2004.

If you have any questions or need further assistance, please call me at (601)961-5472.

Sincerely,

(Mrs.) Mary Nelle Napp
Rate & Tariff Specialist

Enclosures

cc: Mr. David Burckel
Providence Land Company, LLC
3688 Veterans Memorial Drive, Suite 210
Hattiesburg, MS 39401

TARIFF

OF

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Serving Agency)

SCHEDULE OF RATES,
TERMS AND CONDITIONS

FOR

SEWER SERVICE

(Electric, Gas, Telephone, Water, Sewer Service)

APPLYING TO

PROVIDENCE SUBDIVISION

(Area to which Rates, Rules and Regulations, & Extension Policy Apply)

CERTIFICATED AREA IN FORREST COUNTY, MS

NO MODIFICATION OF THESE SCHEDULES SHALL BE
MADE EXCEPT FOR THE PURPOSE OF CANCELLING OR
SUPERSEDING PREVIOUSLY ISSUED SCHEDULES

ISSUED BY DAVID BURCKEL MANAGING PARTNER

(Name)

(Title)

ADDRESS 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401

(Street or Box Number)

(City)

(State)

STATE OF MISSISSIPPI

PUBLIC SERVICE COMMISSION

FILED 04-UN-0539

APPROVED

AUG 16 2004

MISS. PUBLIC SERVICE
COMMISSION
PUBLIC UTILITIES STAFF

EXHIBIT

"A"

NOV - 4 2004

MISS. PUBLIC SERVICE
COMMISSION
PUBLIC UTILITIES STAFF

Form 402

PROVIDENCE LAND COMPANY, LLC

(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS

(Area to which Rates, Rules, and Regulations, & Extension Policy Apply)

STATE OF MISSISSIPPI
PUBLIC SERVICE COMMISSION
INDEX TO TARIFF

DATE ISSUED

SHEET 1 of 1 SHEETS

TYPE UTILITY SERVICE

CLASS OF SERVICE

SCHEDULE SECTION NUMBER

SEWER

RESIDENTIAL

R-1

FINAL

CONTINUED ON SHEET

ISSUED BY DAVID BURCKEL, MANAGING PARTNER 3688 VETERANS MEMORIAL DRIVE, SUITE 210, HATTIESBURG, MS 39401

(Name)

(Title)

(Address)

DATE EFFECTIVE

DATE APPROVED

AUTHORITY ORDER NO.

FILED

04-UN-0539

APPROVED

AUG 16 2004

MISS. PUBLIC SERVICE
COMMISSION

PUBLIC UTILITIES STAFF

NOV - 4 2004

MISS. PUBLIC SERVICE
COMMISSION
HATTIESBURG, MS

Oct 14 04 06:24p

Timothy R. Burge, P.A.

(601) 544-0071

p.3

Sheets 40)

PROVIDENCE LAND COMPANY, LLC
(Name of Utility Organization or Other Service Agency)

CERTIFICATED AREA IN FORREST COUNTY, MS
(Rate Area to Which Schedule is Applicable)

TYPE UTILITY SERVICE SEWER
(Electric, Gas, Telephone, Water, Sewer)

CLASS OF SERVICE RESIDENTIAL
(Residential, Commercial, Industrial, Rural)

MISSISSIPPI
PUBLIC SERVICE COMMISSION
P. S. C. SCHEDULE NUMBER **R-1**

ORIGINAL
REVISED NO _____ DATE ISSUED _____

SUPERCEDES
SCHEDULE NO. _____ DATE ISSUED _____

SCHEDULE CONSISTS OF **1** SHEETS

(This space for statement of availability, character of service, rate, minimum charge, terms of payment, special conditions, and minimum contract period pertinent to the application of this particular rate schedule.)

AVAILABILITY AND MINIMUM MONTHLY RATE

Sanitary Sewer service is available under this Rate Schedule to all Residential customers within the Certificated area of the Company, subject to the Service Rules and Regulations and the Service Extension Policy.

MINIMUM BASE MONTHLY RATE

MONTHLY USAGE SURCHARGE
This fee will be reimbursement for costs charged to the Company by the City of Hattiesburg for treating the sewer discharge. This fee will be in addition to the base rate. Each month, Providence Land Company, LLC will divide the total billed amount from the City of Hattiesburg for the treatment of sewerage by the total number of current customers to determine the monthly surcharge. The monthly surcharge is expected to vary dependent upon seasonal usage.

The current rate charged by the City of Hattiesburg is \$2.15 per 1000 gallons.

Example: 72,000 gal. x \$2.15 / 6 customer = \$25.80 monthly treatment surcharge

PAYMENT

The above rates are the net rates. Bills will be mailed such that receipt by the customer will occur on or before the 5th of the month. All bills are due on or before the 20th calendar day of the month. After the due date, a late fee in the amount stated will be due in addition to the regular monthly fee.

SINGLE POINT OF SERVICE

The above rate is based upon the supply of service to the customer's premises through a single delivery point. Separate supply of service for sanitary sewage for the same customer will be separately billed.

LATE FEE

This fee is due and payable after the 20th day of the month on all accounts. \$ 5.00

RETURNED CHECK FEE

This fee is for the bank returning a customers check for nonpayment. \$ 20.00

NEW ACCOUNT FEE

This fee is for adding a new customer to an existing location. All payments will apply first to the New Account. \$ 25.00

FINAL

CONTINUED ON SHEET

ISSUED BY **DAVID BURCKEL, MANAGING PARTNER, 3688 MEMORIAL DRIVE, STE 210, HATTIESBURG, MS**
(Name) (Title) (Address)

39401

AUTHORITY ORDER NO.

APPROVED

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MISS. PUBLIC SERVICE COMMISSION

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HATTIESBURG, MISSISSIPPI

MISS. PUBLIC SERVICE
COMMISSION

04-UA-0195

project of

PROVIDENCE LAND COMPANY, LLC

Hattiesburg, Mississippi

TECHNICAL SPECIFICATIONS

SANITARY SEWER SYSTEM AND
WATER DISTRIBUTION
SYSTEM

PROJID: 0052/PLC

MARCH 18, 2002

Prepared By:

TIMOTHY R. BURGE, P.A., INC.
Consulting Engineers / Land Surveyors / Site Planners
802 West Pine Street
Hattiesburg, Mississippi 39401
(601) 544-0078

2/23/2002

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SECTION 02317

TRENCHING FOR SITE UTILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Excavation, backfilling and compaction for the installation of general utility construction.

1.02 MEASUREMENT AND PAYMENT

- A. See Section 01270 - Unit Prices, for general requirements applicable to unit prices for earthwork.

- B. Structural Granular Fill:

- 1 Measurement Method: By the cubic yard in place and approved.
- 2 Includes: Supplying fill, stockpiling, placing where required, and compacting.

- C. Coarse and Fine Aggregates (Select Bedding)

- 1 Measurement Method: By the cubic yard in place and approved
- 2 Includes: Supplying fill, stockpiling, placing where required, and compacting

1.03 REFERENCES

- A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in) Drop, American Association of State Highway and Transportation Officials; 1997
- B. ASTM D 698 - Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 1991 (Reapproved 1998).
- C. ASTM D 1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 1990 (Reapproved 1996).
- D. ASTM D 1557 - Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 1991 (Reapproved 1998).
- E. ASTM D 2922 - Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth); 1996.
- F. ASTM D 3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 1996.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.

- B Samples: 10 lb sample of each type of fill submit in air-tight containers to testing laboratory.
- C Materials Sources: Submit name of imported materials source.
- D Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used
- E Compaction Density Test Reports

1.05 PROJECT CONDITIONS

- A. Provide sufficient quantities of fill to meet project schedule and requirements. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where designated.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.
- C. Verify that survey bench marks and intended elevations for the Work are as indicated.
- D. Protect existing vegetation designated to remain.
- E. Protect bench marks, survey control points and existing structures from excavating equipment and vehicular traffic.

PART 2 PRODUCTS

2.01 FILL MATERIALS

- A. General Fill - Fill Type In-situ soil: Subsoil excavated on-site
 - 1. Approved by the ENGINEER.
 - 2. Free of organic material.
 - 3. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
- B. Structural Granular Fill - Fill Type Class 9 Group B. Conforming to State of Mississippi Highway Department standard 703.07
 - 1. Granular materials shall be composed of a natural or manufactured mixture of soil binder and sand; soil binder, sand and gravel, stone, slag; or combinations thereof. The mixture shall have satisfactory cementing qualities and shall be homogeneous in character and reasonably free of clay balls, vegetable matter, or other deleterious substances that can not be classed as servicable.
 - 2. Gradation shall meet the applicable requirements.
 - a. 3 inch (75 mm) sieve: 100 percent passing.

- b No. 10 sieve: 100%
- c No. 40 sieve: 20-100%
- d No. 60 sieve 15-85%
- e No. 200 sieve: 6-40%

3 Material passing the No. 40 Sieve shall meet the following properties:

- a LL Max. = 25
- b PI Min. = NA
- c PI Max. = 8

C Coarse Aggregate - Required for Size No. 67 conforming to State of [Mississippi] Highway Department standard 703.03.

1 General

- a Coarse aggregate shall consist of gravel or crushed limestone unless otherwise designated or permitted on the plans or in special provisions.
- b The gravel or crushed limestone shall be hard, durable particles that are thoroughly clean, free from adherent coatings or injurious character, and are reasonably free of soft or disintegrated pieces, frozen lumps, vegetable, or other deleterious matter. Coarse aggregate from more than one source shall not be used alternately, or mixed, without the written approval of the ENGINEER.

2 Gradation shall meet the applicable requirements.

- a 1 inch Square Sieve - 100%
- b 3/4 inch Square Sieve - 80-100%
- c 1/2 inch Square Sieve - NA
- d 3/8 inch Square Sieve - 20-55%
- e No. 4 Square Sieve - 0-10%
- f No. 8 Square Sieve - 0-5%

D Fine Aggregate - Filter Material Type "C", conforming to State of [Mississippi] Highway Department standard 704.04

- 1 Type C filter material shall consist of sand, stone, and/or slag screenings composed of hard, durable particles reasonably free of injurious amounts of soft or flaky particles, dust, lumps, organic, or other deleterious substances.
- 2 The gradation of the material shall be as follows:

- a 1/2 inch Sieve Size - 100% Passing
- b No. 4 Sieve Size - 80-100% Passing
- c No. 16 Sieve Size - 37-80% Passing
- d No. 50 Sieve Size - 5-30% Passing
- e No. 100 Sieve Size - 0-10% Passing

E. Topsoil: Topsoil excavated on-site.

- 1 Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
- 2 Acidity range (pH) of 5.5 to 7.5.
- 3 Containing a minimum of 4 percent and a maximum of 25 percent inorganic matter.

2.02 SOURCE QUALITY CONTROL

- A. See Section 01400 - Quality Requirements for general requirements for testing and analysis of soil material.
- B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.01 EXAMINATION

- A Identify required lines, levels, contours, and datum locations.
- B Locate, identify, and protect utilities that remain and protect from damage.

3.02 TRENCHING

- A Excavation operations shall be so conducted as to minimize the loosening of materials outside the required slopes or below the indicated grade. No payment will be made for the removal, disposal or replacement of material determined to be loosened or undercut throughout carelessness or negligence on the part of the CONTRACTOR.
- B Notify ENGINEER of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C Trench widths of excavations shallower than 4 feet (1.2 meters) shall not exceed the pipe diameter by more than two feet.
- D Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- E Cut trenches wide enough to allow inspection of installed utilities.

- F. Depth of trench shall allow for a minimum of thirty (30) inches of cover from the top of the pipe to finished grade
- G. The excavation and subsequent basement soil formation shall be completed as soon as practicable in order to obtain maximum consolidation prior to final shaping of the subgrade and subsequent construction of the pavement structure. When directed by the ENGINEER, other unsatisfactory foundation material beneath or immediately adjacent to the muck shall be removed.
- H. Remove large stones and other hard matter which could damage piping or impede consistent backfilling or compaction.
- I. All material encountered in excavation within the limits of work which is unsuitable for use in the work shall be removed and disposed of as specified in the contract or as directed by the ENGINEER. Unsuitable material shall be understood to be any material which, at the proper moisture content, cannot be processed to the required density and stability.
- J. Unless otherwise specified, the CONTRACTOR shall provide at his own expense the location for the disposal of unsuitable materials and excess excavation and shall furnish the ENGINEER with two signed copies of the release from the owner of the disposal location.

3.03 PREPARATION FOR UTILITY PLACEMENT

- A. Level the bottom of the trench to provide a uniform bedding for the pipe. Excavate underneath joints so they do not act as support for the pipe
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation

3.04 BACKFILLING

- A. Backfill to contours and elevations indicated using specified materials.
 - 1. Backfill to 12 inches with structural granular fill, as specified, over the top of pipe. Fill remainder of trench with general fill, unless otherwise directed by the ENGINEER.
- B. Employ a placement method that does not disturb or damage other work.
- C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Correct areas that are over-excavated.
 - 1. Other areas: Use Fill Type as specified or directed by the ENGINEER, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
- F. Compaction Density Unless Otherwise Specified or Indicated:
 - 1. At roadway crossings and under structures: 98 percent of maximum dry density.

- 2 At other locations compact by mechanical means as directed by the ENGINEER.

G Reshape and re-compact fills subjected to vehicular traffic.

3.05 BEDDING AND FILL AT SPECIFIC LOCATIONS

A Use general fill unless otherwise specified or indicated.

B Utility Piping:

- 1 Bedding: Use Fill Type Coarse Aggregate
- 2 12" cover over pipe: Use Structural Granular Fill. Place and compact materials in equal continuous layers not exceeding 6 inches (150 mm) compacted depth. Compact as specified.
- 3 Fill up to subgrade elevation with General Fill: Place and compact materials in equal continuous layers not exceeding 8 inches (200 mm) compacted depth. Compact as specified.
- 4 Fill up to subgrade elevation.

3.06 TOLERANCES

A Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.07 FIELD QUALITY CONTROL

- A See Section 01400 - Quality Requirements for general requirements for field inspection and testing.
- B Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D2922, or ASTM D3017.
- C Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor"), ASTM D 1557 ("modified Proctor"), or AASHTO T 180.
- D If tests indicate work does not meet specified requirements, remove work, replace and retest.
- E Frequency of Tests. 300 LF trench.

3.08 CLEAN-UP

- A Leave unused materials in a neat, compact stockpile
- B Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water
- C Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

SECTION 02510

WATER DISTRIBUTION

PART 1 GENERAL

1.01 SCOPE

- A. Contractor is responsible for providing all materials, equipment, labor, etc. required to complete installation of the underground water distribution system specified herein and shown or scheduled on the plans, ready for operation, including all appurtenant structures and connections to all new and existing service lines and to the existing water supply.
- B. Contractor shall be responsible for obtaining all information, permits, meters, deposits, etc. required for connection to Public Utility Systems

1.02 RELATED SECTIONS

- A. Section 02317 - Trenching for Site Utilities: Excavating, bedding, and backfilling.
- B. Section 03300 - Cast-in-Place Concrete: Concrete for thrust restraints.

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM) Publications:
 - 1. C 94 - Ready-Mixed Concrete
 - 2. C 150 - Portland Cement
 - 3. D 1785 - Poly Vinyl Chloride (PVC) Plastic Pipe, Schedule 40, 80, and 120
 - 4. D 2241 - Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR) (ANSI/ASTM D2241)
 - 5. D 2466 - Poly Vinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 40 (ANSI/ASTM D2466)
 - 6. D 3139 - Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals (ANSI/ASTM D3139)
 - 7. F 477 - Elastomeric Seals (Gaskets) For Joining Plastic Pipe (ANSI/ASTM F477)
- B. American Water Works Association (AWWA) Publications:
 - 1. C110 - Gray-Iron and Ductile-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids (ANSI A 21.10)
 - 2. C500 - Gate Valves, 3 in. through 48 in. NPS, for Water and Sewage Systems (ANSI/AWWA C500)
 - 3. C508 - Swing-Check Valves for Waterworks Service, 2 in. through 24 in. NPS (ANSI/AWWA C508)
 - 4. C601 - Disinfecting Water Mains (ANSI/AWWA C601)

5. C606 - Grooved and Shouldered Type joint
 6. C800 - Threads for Underground Service Line Fittings
 7. C902 - Polybutylene Tubing for Services Lines
- C. ASTM D 1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120: 1999.
- D. ASTM D 2241 - Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series): 1999a.
- E. ASTM D 2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40: 1999.
- F. ASTM D 3139 - Standard Specification for Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals: 1998.
- G. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service: American Water Works Association: 1994, with addendum C509a-95 (ANSI/AWWA C509/C509a).
- H. UL 246 - Hydrants for Fire-Protection Service: Underwriters Laboratories Inc.: 1993.

1.04 SUBMITTALS

- A. See Section 01055 - Project Requirements for submittal procedures.
- B. Notice one week in advance in writing indicating the date pressure and leakage tests are to take place and when the piping is to be disinfected.
- C. Manufacturers certificates of compliance or conformance which certify each pipe and pipe joint products to be used meets the specifications.
- D. Manufacturers literature describing and illustrating all pipe, fittings, valves, boxes, corporation stops, and other items required by these specifications.

1.05 QUALITY ASSURANCE

- A. Product Criteria
1. When two or more units of the same type or class of materials or equipment are required, these units shall be products of one manufacturer.
 2. A nameplate bearing the manufacturer's name or identifiable trademark shall be securely affixed in a conspicuous place on equipment or name or trademark shall be cast integrally with equipment or stamped or otherwise permanently marked on each item of equipment.
- B. Comply with all regulations of the public utility authorities have jurisdiction in all cases where waterlines are connected to public utility services.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Proper implements, tools, and facilities shall be provided and used for the safe and convenient performance of the work. All pipe, fittings, valves and other appurtenances shall be lowered carefully into the trench by means of a derrick, ropes, or other suitable tools or equipment, in such a manner as to prevent damage to water-main materials and protective coating and linings. Under no circumstances shall water-main materials be dropped or dumped into the trench. The trench shall be dewatered prior to installation of the pipe. Do not store any materials directly on the ground.
- B. All pipe fittings, valves, and other appurtenances shall be examined carefully for damage and other defects immediately before installation. Defective materials shall be marked and held for inspection by the ENGINEER, who may prescribe corrective repairs or reject the materials.
- C. All lumps, blisters, and excess coating shall be removed from the socket and plain ends of each pipe, and the outside of the plain end and the inside of the bell shall be wiped clean and dry and be free from dirt, sand, grit, or any foreign material before this pipe is installed.
- D. Foreign material shall be prevented from entering the pipe while it is being placed in the trench. During laying operations, no debris, tools, clothing, or other materials shall be placed in the pipe.
- E. As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade. The pipe shall be secured in place with approved backfill material.
- F. At time when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug or other means approved by the ENGINEER. When practical, the plug shall remain in place until the trench is pumped completely dry. Care must be taken to prevent pipe flotation should the trench fill with water.
- G. Rubber gaskets that are not to be installed immediately shall be stored in a cool, dark place.
- H. No other pipe or material of any kind shall be placed inside a pipe or fitting after the coating has been applied.

PART 2 PRODUCTS

2.01 POLYVINYL CHLORIDE (PVC) PIPING, APPURTENANCES AND ASSOCIATED FITTINGS

- A. Pipe shall bear the National Sanitation Foundation seal for potable water and meet the requirements of ASTM D2241 Standard Specification for PVC pipe and shall be gasket bell end; Pressure Class 200 (DR-21), as indicated. Pipe compound shall conform to ASTM D1784 Standard Specification for Rigid Poly (Vinyl Chloride) Compounds and Chlorinated Poly (Vinyl Chloride) Compounds for Cell Classification 12454-B. Fittings shall be mechanical joint, ductile-iron conforming to AWWA C110, and shall have cement-mortar lining conforming to AWWA C104/A21.4, standard thickness. Fittings shall have a rated water working pressure of 250 PSI.
- B. Joints for pipe shall be push-on joints as specified in ASTM D 3139. Joints ~~between~~ pipe and metal fittings, valves, and other accessories shall be compression-type joints/~~mechanical-joints~~ as respectively specified in ASTM D 3139 and AWWA C111/A21.11. Each joint connection shall be provided with an elastomeric gasket suitable for the bell or coupling with which it is to be used. Gaskets for push-on joints and compression-type joints/~~mechanical-joints~~ for joint connections between pipe and metal fittings, valves, and other accessories shall be as specified in AWWA C111/A21.11 respectively for push-on joints and mechanical-joints. Mechanically coupled joints using a sleeve-type mechanical coupling may be used as an optional jointing methods in lieu of push-on joints on plain-end PVC plastic pipe, subject to the limitations

specified for mechanically coupled joints using a sleeve-type mechanical coupling and to the use of internal stiffeners as specified for compression-type joints in ASTM D 3139.

- C. Sleeve-type mechanical coupling shall be designed to couple plain-end piping by compression of a ring gasket at each end of the adjoining pipe sections. The coupling shall consist of one middle ring flared or beveled at each end to provide a gasket seal; two follower rings; two resilient tapered rubber gaskets; and bolts and nuts to draw the follower rings toward each other to compress the gaskets. The middle ring and the follower rings shall be true circular sections free from irregularities, flat spots, and surface defects; the design shall be such as to provide for confinement and compression of the gaskets. The middle ring shall be of cast iron and the follower rings shall be of malleable iron. Cast iron shall conform to ASTM A 48 and shall be not less than Class 25. Malleable iron shall conform to ASTM A 47. Gaskets shall be designed for long life and resistance to set after installation and shall meet the applicable requirements specified for gaskets for mechanical joints in AWWA C111/A21.11. Bolts shall be track-head type; bolts and nuts shall be either of the following: bolts conforming to the tensile requirements of ASTM A 307, Grade A, with nuts conforming to the tensile requirements of ASTM A 563, Grade A; or round-head square-neck type bolts conforming to ANSI B 18.5 with hex nuts conforming to ANSI B18.2.2. Bolts shall be 5/8 inch in diameter; minimum number of bolts for each coupling shall be as follows (pipe size, number of bolts): 3-inch, 3; 4-inch, 4; 6-inch, 5; 8-inch, 6. Bolt holes in follower rings shall be of a shape to hold fast the necks of the bolts used. Mechanically coupled joints using a sleeve-type mechanical coupling shall not be used as an optional method of jointing except where pipeline is adequately anchored to resist tension pull across the joint.
- D. Rubber gaskets for push-on joints shall meet requirements of ASTM F 477. Lubricants shall be suitable for lubricating joint components in potable water systems. They shall be non-toxic and shall not support the growth of bacteria and shall not contribute taste or odor to water systems flushed in accordance with AWWA Standard D601.
- E. Gate valves shall be manufactured in accordance with AWWA C500 and shall have a rated water working pressure of 200 PSI. Gate valves shall be iron body, bronze mounted, double disc, parallel seat, non-rising stem type. Each valve shall have "O" ring type stem seal, standard 2" AWWA square operating nut, and shall be opened by COUNTER-CLOCKWISE stem rotation. Valves shall connect directly with PVC Pipe using elastomeric gaskets. Valve weight shall not be carried by PVC pipe. Weight shall be supported by concrete cradle or concrete block with anchors.
- F. Chlorinating materials for disinfection shall be either liquid chlorine conforming to AWWA Specification B301 or calcium or sodium hypochlorite conforming to AWWA Specification B300.
- G. Valve boxes shall be standard cast iron two-piece 5-1/4" inside diameter screw adjustable type, each consisting of a cover marked WATER, an upper telescoping section, and a lower section. Where necessary to provide extra depth, provide cast

2.02 WATER SERVICE LINE APPURTENANCES

- A. Corporation stops shall be ground key type, shall be made of bronze conforming to ASTM B 61 or ASTM B 62; and shall be suitable for the working pressure of the system. Ends shall be suitable for solder-joint, flanged lead joint, or flared tube compression type joint. Threaded ends for inlet and outlet of corporation stops shall conform to AWWA C800; coupling nut for connection to flared copper tubing shall conform to ANSI B16.26.
- B. Service line pipe shall be Polyethylene Tubing conforming to ANSI/AWWA C901; working pressure rating shall be 160 P.S.I.
- C. Curb or service stops shall be ground key, round way, inverted key type; stops shall be made of

bronze conforming to ASTM B 61 or ASTM B 63 and shall be suitable for the working pressure of the system. Ends shall be appropriate for connection to the service piping. Arrow shall be cast in body of the curb or service stop indicating direction of flow.

- D Each curb or service stop shall be provided with an adjustable cast-iron curb box of a size suitable for the stop on which it is to be used. The head shall be round and the lid shall have the work "WATER" cast on it. Each box shall be given a heavy coat of bituminous paint.

2.03 VALVES

- A Valves: Manufacturer's name and pressure rating marked on valve body.
- B Gate Valves Up To 3 Inches:
 - 1 Brass or Bronze body, non-rising stem, inside screw, single wedge or disc, compression ends, with control rod, post indicator, valve key, and extension box.
- C Gate Valves 3 Inches and Over:
 - 1 AWWA C509, iron body, bronze trim, non-rising stem with square nut, single wedge, resilient seat, flanged ends, control rod, post indicator, valve key, and extension box.

2.04 HYDRANTS

- A Product: American Darling (Cat. No. A-24015) Minimum 5 1/4" Seating Valve.
- B Hose and Streamer Connection: Match sizes with utility company, two hose nozzles, one pumper nozzle.
- C Finish: Primer and two coats of enamel in color required by utility company.

2.05 BEDDING AND COVER MATERIALS

- A Bedding: As specified in Section 02317
- B Cover: As specified in Section 02317

2.06 ACCESSORIES

- A Concrete for Thrust Restraints: Concrete type specified in Section 03200.
- B Backflow Preventer: CLA-VAL Model D4 or approved Equal.

PART 3 EXECUTION

3.01 TRENCHING

- A See Section 02317 for additional requirements
- B Hand trim excavation for accurate placement of pipe to elevations indicated.
- C Form and place concrete for pipe thrust restraints at each change of pipe direction. Place concrete to permit full access to pipe and pipe accessories. Provide 2 sq ft thrust restraint bearing on subsoil.

- D. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.02 PIPING LOCATIONS

- A. Water lines shall not be laid in the same trench with other utilities.
- B. Water pipe shall not be laid closer than 10 feet horizontally and 18" vertically from a sewer pipe except where the two lines cross.
- C. Where the sewer line and water line must cross, the water pipes shall cross over the sewer line and for a distance of at least 10 feet each side of the crossing, the sewer line shall be fully encased in concrete 4 inches thick or shall be made of ductile iron pipe with no joint located within 3 feet horizontally of the crossing.
- D. Pipe passing through walls or valve pits and structures shall be ductile iron and shall be provided with iron wall sleeves. Annular space between walls and sleeves shall be filled with rich cement mortar. Annular space between pipe and sleeves shall be filled with mastic.
- E. Where connections are made between new work and existing mains, the connections shall be made by using special fittings to suit the actual conditions. Connections to be made under pressure or in the de-watered condition shall be installed as approved by the ENGINEER and according to the recommendations of the manufacturer of pipe being tapped.

3.03 PIPE LAYING AND JOINTING

- A. Pipe, fittings, valves, and accessories will be carefully inspected by the ENGINEER before and after installation and those found defective will be rejected. Remove fins and burrs from pipe and fittings. Before placing in position, clean pipe, fittings, valves and accessories and maintain in a clean condition. Provide proper facilities for lowering sections of pipe into trenches. Do not under any circumstances drop or dump pipe, fittings, valves, or any other water line material into trenches. Do not under any circumstances drop or dump pipe, fittings, valves, or any other water line material into trenches. Cut pipe accurately to measurements established at the site and work into place without springing or forcing. Replace by one of the proper dimensions any pipes or fitting that does not allow sufficient space for proper installation of jointing material. Blocking or wedging between bells and spigots will not be permitted. Lay bell-and-spigot pipe with the bell end pointing in the direction of laying. Grade the pipeline in straight lines, taking care to avoid the formation of any dips or low points. Support pipe at its proper elevation and grade, taking care to secure firm and uniform support. Wood support blocking will not be permitted. Lay pipe so that the full length of each section of pipe and each fitting will rest solidly on the pipe bedding; excavate recesses to accommodate bells, joints, and couplings. Provide anchors and supports where necessary for fastening work into place. Make proper provision for expansion and contraction of pipelines. Keep trenches free of water until joints have been properly made. At the end of each day's work, close open ends of pipe temporarily with wood blocks or bulkheads. Do not lay pipe when conditions of trench or weather are unsuitable.

3.04 INSTALLATION - VALVES AND HYDRANTS

- A. Gate valves shall be installed where shown or specified and provided with a valve box.
- B. Set valves on solid bearing.
- C. Center and plumb valve box over valve. Set box cover flush with finished grade.
- D. Earth fill shall be carefully tamped around each valve box to a distance of 4 feet on all sides of the box, or to the undisturbed trench face if less than 4 feet.

- E Set hydrants plumb; locate pumper nozzle perpendicular to and facing roadway.
- F Set hydrants to grade, with nozzles at least 20 inches above ground.
- G Locate control valve 4 inches away from hydrant
- H Provide a drainage pit 36 inches square by 24 inches deep filled with 2 inches washed gravel. Encase elbow of hydrant in gravel to 6 inches above drain opening. Do not connect drain opening to sewer.
- I Paint hydrants in accordance with the local municipality or as directed by the Engineer.

3.05 ANCHORAGE

- A Provide thrust blocks for plugs, caps, tees, and bends deflecting 22-1/2 degrees or more, either vertically or horizontally, on water line 6 inches in diameter or larger.
 - 1 Concrete shall be used to form the thrust block and shall meet Class 3000 PSI concrete as specified in Section 03300.
 - 2 Blocking shall be placed between solid ground and the fitting to be anchored. Unless otherwise indicated or directed the base and thrust bearing sides of thrust blocks shall be poured directly against undisturbed earth. The sides of thrust blocks not subject to thrust may be poured against forms.
 - 3 Blocking shall be placed so that the fitting joints will be accessible for repair.
 - 4 Steel rods and clamps shall be protected by galvanizing or by coating with bituminous paint

3.06 TESTING

- A After backfilling, subject all pipework to pressure and leakage tests. Piping may be tested in sections between valves as the work progresses. Admit water slowly into the section to be tested, and expel all air through openings at all high points in the piping, as required. After all air has been expelled apply a hydrostatic pressure of 150 to 200 psi, as specified by the ENGINEER, measured at the lowest point in the piping section involved. Maintain the test pressure at least two hours, during which time the leakage shall not exceed that permitted by AWWA Specification C600 for ductile iron and UNI B-3 for PVC. Repair all apparent leaks. If the measured leakage exceeds the maximum specified allowable leakage, locate and repair the leaks, and repeat the tests on sections of pipe involved until all tests have been approved. Furnish approved testing equipment, consisting of a suitable pump to apply and maintain test pressure, accurate pressure gauges, suitable equipment to measure volume of water pumped, and other necessary equipment, and conduct all tests in the ENGINEER'S presence, as approved. Determine leakage by measuring the volume of water pumped to maintain the required test pressure for the duration of the leakage test. Obtain a copy of AWWA Specification C600, and keep it on the job in good condition for the CONTRACTOR'S and ENGINEER'S use in computing the permissible leakage in each section to be tested.

3.07 FINAL CLEAN-UP

- A Clean up the distribution system as the work progresses. Negligence in proper cleaning up which causes undue inconvenience to the public or private citizens, or presents an unsightly or dangerous condition, or causes embarrassment to civic officials will be sufficient reason for rejection of construction estimates until the unsatisfactory conditions have been remedied.

- B. After all work is complete, make a final clean up of all areas where work has been done, and leave them in broom clean condition

3.08 FINAL VALVE AND DISTRIBUTION SYSTEM CHECK

- A. After completion of all water line work and before the work will be accepted, make a final check of each valve and hydrant installed in this project, and of each existing valve that has been operated in connection with the work under this project.
- B. Make this final check in the ENGINEER's presence, and demonstrate that each valve is in fully open position and is operating properly
- C. In the presence of the OWNER'S, ENGINEER and CONTRACTOR'S representative conduct a final "walk over" inspection of all work installed under this contract to insure that all requirements of these specifications have been fulfilled. Application for final payment will not be processed until this inspection has been accomplished and all deficiencies have been corrected.

END OF SECTION

SECTION 02515

DISINFECTION OF WATER DISTRIBUTION SYSTEM

STERILIZATION

- 1.01 Before acceptance of potable water operation, each unit of completed water distribution line and water service line shall be disinfected meeting AWWA C601. After pressure tests have been made, the unit to be disinfected shall be thoroughly flushed with water until all entrained dirt and mud have been removed before introducing the chlorinating material.
- 1.02 The chlorinating material shall be either liquid chlorine, calcium hypochlorite, or sodium hypochlorite, as specified in this section and the chlorinating material shall provide a dosage of not less than 50 parts per million and shall be introduced into the water lines in an approved manner.
- 1.03 The treated water shall be retained in the pipe long enough to destroy all non-spore-forming bacteria. Except where a shorter period is approved, the retention time shall be at least 24 hours and shall produce not less than 10 ppm of chlorine throughout the line at the end of the retention period.
- 1.04 Valves on the lines being disinfected shall be opened and closed several times during the contact period, and then the line shall be flushed with clean water until the residual chlorine is reduced to less than 1.0 ppm.
- 1.05 After completion of the construction and disinfection of water distribution mains, the Contractor shall arrange for at least one sample to be collected by the county sanitarian, consulting engineer or waterworks superintendent from every dead-end line and every major looped line for bacteriological examination. Water being collected for testing shall not have a chlorine residual higher than is normally maintained in other parts of the distribution system. No chlorine shall be present which is a result of line disinfection. Less than one coliform bacteria per 100 ml and no confluent growth indication shall constitute a satisfactory sample when analyzed by the Mississippi Department of Public Health Laboratory or a laboratory certified by the Mississippi State Department of Health. Tests must indicate the absence of pollution for at least two (2) full days.
- 1.06 Water for testing, sterilizing, and flushing will be furnished by the OWNER for testing water facilities, without cost to the CONTRACTOR, but the CONTRACTOR shall furnish all piping and equipment to convey the water to the new pipe lines.
- 1.07 Corporation stops shall match those of the customer service connections; provide these as required for testing and sterilizing, and after that use, leave them in place with their outlets plugged. Customer service corporation stops may also be used for testing and sterilizing.

END OF SECTION

SECTION 02536

LOW PRESSURE SANITARY SEWER

General: This specification covers the requirements for the sanitary sewer collection system, to include piping, manholes, and incidentals

MATERIAL

- 2.01 Pressure pipe shall conform to ASTM D2241 Standard Specification for PVC pipe and shall be gasket bell end; Pressure Class 160 (DR 26). Pipe compound shall conform to ASTM D1784 Standard Specification for Rigid Poly (Vinyl Chloride). Compounds and Chlorinated Poly (Vinyl Chloride) Compounds for Cell Classification 12454-B. Fittings shall be mechanical joint, ductile-iron conforming to AWWA C110, and shall have cement-mortar lining conforming to AWWA C:04/A214, standard thickness. Fittings shall have a rated water working pressure of 250 PSI.
- 2.02 Rubber gaskets for push-on joints shall meet requirements of ASTM F477. Lubricants shall be suitable for lubricating joint components in potable water systems. They shall be non-toxic and shall not support the growth of bacteria and shall not contribute taste or odor to water systems flushed in accordance with AWWA Standard D601.
- 2.03 Gravity sewer pipe and fittings for main and service lines shall conform to ASTM D 3034 (SDR 35). Pipe shall be made of PVC plastic having a cell classification as defined in ASTM D 1784 of 12364-B. The pipe shall be made and joined with an integral bell, bell-and-spigot rubber gasketed joint. Each integral bell joint shall consist of a formed bell complete with a single rubber gasket. Gaskets shall conform to ASTM F 477 and shall meet ASTM D 3212 "Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seal."
- 2.04 Gate valves shall be manufactured in accordance with AWWA C500 and shall have a rated water working pressure of 200 PSI. Gate valves shall be iron body, bronze mounted, double disc, parallel seat, non-rising stem type. Each valve shall have "O" ring type stem seal, standard 2" AWWA square operating nut, and shall be opened by COUNTER-CLOCKWISE stem rotation. Valves shall connect directly with PVC Pipe using elastomeric gaskets. Valve weight shall not be carried by PVC pipe. Weight shall be supported by concrete cradle or concrete block with anchors.
- 2.05 Valve boxes shall be standard cast iron two-piece 5-1/4" inside shaft diameter screw adjustable type, each consisting of a cover marked, SEWER, an upper telescoping section, and a lower section. Where necessary to provide extra depth, provide cast iron extension pieces as required.
- 2.06 Blow-off hydrants shall be non-freezing, self draining type with an overall length of 24 inches. Set underground in a plastic meter box, these hydrants will be furnished with a 2" FIP inlet, a non-turning operating rod, and shall open to the left. All of the working parts shall be of bronze to bronze design, and be serviceable from above grade with no digging. The outlet shall also be bronze and be 2-1/2" NST. Hydrants shall be lockable to prevent unauthorized use as manufactured by Kupferle Foundry Co., St. Louis, MO., or approved equal.
- 2.07 Air release valves shall be APCO Model No. 400 with a 3 inch inlet, 1/2 inch outlet, and operating pressure range of 0-150 psi. Backflushing attachments are to be furnished. Manufactured by APCO Valve & Primer Corp., Schaumburg, Illinois.

- 2.08 Precast concrete manholes shall meet the requirements of ASTM C-478 and ASTM C-990. Manholes shall be bituminous coated on the inside. Cast-iron manhole ring and cover shall be equal to Dews Foundry #DF-22(7) with "SEWER" stamp. Cement grouted inverts shall be constructed to the shape shown on the plan details.

GENERAL REQUIREMENTS:

- 3.01 Sizes: Nominal pipe sizes of 4" - 8" shall be furnished.
- 3.02 Pressure Classes: Pressure classes of 160 psi shall be furnished.
- 3.03 Lengths: Pipe shall be furnished in Standard 13' & 20' laying lengths.
- 3.04 Packaging: Pipe shall be furnished in factory packaged units (fast paks) for economical handling.
- 3.05 Repair Couplings: PVC repair couplings shall be available which will slide completely over the pipe end.

DETAIL REQUIREMENTS:

- 4.01 Factory Pipe Testing: Each length of PVC pipe shall pass a hydrostatic integrity test at the factory at 4 times the pressure class of the coupling for 5 seconds.
- 4.02 Factory Joint Testing
- A Separate couplings shall pass a hydrostatic integrity test at the factory at 4 times the pressure class of the coupling for five seconds.
 - B Integral bell joints shall be tested as part of the pipe hydrostatic test.
- 4.03 Quality Control Testing: Pipe and couplings shall not fail when subjected to the following tests which are outlined in AWWA Schedule 40: sustained pressure, burst pressure, flattening and extrusion quality.

INSTALLATION:

- 5.01 Trench: Trench width at top of pipe shall not exceed the pipe diameter by more than two feet. Depth of trench shall allow for a minimum of 30 inches of cover from top of pipe to finished grade. Level the bottom of the trench to provide a uniform bedding for the pipe. Excavate underneath the joints so they do not act as support for the pipes. Gravity pipe shall be laid to the gradients as shown on the plans. Invert elevations shall be within 0.10 feet of that called for by the plans.
- 5.02 Embedment: Lay in selected excavated backfill in increments not greater than 6" and carefully tamped into place. Do this until the tamped backfill reaches the springline of the pipe.
- 5.03 Backfill: Backfill to 12 inches over top of pipe with select excavated material, taking care to keep stones larger than 6 inches away from the pipe itself. For pressure mains, install a No. 12 insulated solid copper wire for locating detection (loop wire up into valve boxes for connection to location equipment). Fill remainder of trench with excavated material.

- 5.04 Horizontal Separation - Sewers shall be laid at least ten (10) feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a ten foot separation, the appropriate reviewing agency may allow deviation on a case-by-case basis, if supported by data from the design engineer. Such deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so the bottom of the water main is at least 18 inches (46 cm) above the top of the sewer.
- 5.05 Crossings - Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches (46 cm) between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.

SYSTEM TESTING

- 6.01 Combined Pressure and Leakage Test For Pressure Mains. A combined pressure and leakage test is recommended. The test pressure shall be double the operating pressure gradient at the lowest elevation of the system of the class designation of the pipe plus 50 psi, whichever is the lesser. The duration of the test shall be twelve hours, unless otherwise specified. Each section of the pipeline shall be slowly filled with water and all air expelled by means of taps at high points. The leakage shall not exceed that shown in the following table:

TEST PRESSURE AT LOWEST POINT IN LINE - P.S.I.

NOMINAL PIPE	50	100	150	200	250
ALLOWABLE LEAKAGE FOR 1000 FT. OR 50 JOINTS, GALLON/HR					
2"	.09	.14	.15	.18	.22
4"	.19	.27	.33	.38	.43
6"	.29	.41	.50	.57	.64
8"	.38	.54	.66	.76	.85
10"	.48	.68	.83	.96	1.07
12"	.57	.81	.99	1.15	1.28

SECTION 11452

RESIDENTIAL GRINDER PUMPS

GENERAL

- 1.01 GENERAL DESCRIPTION: The equipment supplier shall furnish complete Grinder Pump Station(s), each consisting of grinder pump(s) and all necessary appurtenances to form a complete package system. The pump(s) shall be a submersible centrifugal type grinder unit. For ease of serviceability, all residential pump motor/grinder units shall be of like type and horsepower already installed throughout the system. Pump(s) shall be manufactured in the United States. The pump manufacturer must have a minimum of twenty years experience in the manufacturing of grinder pump(s).
- 1.02 OPERATING CONDITIONS: The pumps shall be capable of delivering flow rates necessary to facilitate acceptable performance on the system design in the drawings. Grinder pumps must be capable of handling materials commonly found in sanitary sewage collection systems, such as plastics, rags, grit, wood, etc. Pumps must be able to provide 25 GPM at 80 feet TDH and 10 GPM at 96 TDH. Minimum head at shut-off shall be 100 feet.
- 1.03 WARRANTY: The equipment manufacturer shall warrant all of the grinder pump station equipment including pump, controls, valves, piping, wetwell, etc., to be free from defects for a period of three (3) years commencing from date of start-up of each individual grinder pump station. The defective pumps shall be pulled by the Owner's personnel and returned to the manufacturer's authorized center for repair or replacement. Freight charges to and from the manufacturer's service center and charges for the pump repair shall be paid for the pump manufacturer. The Owner reserves the right to remove and replace all other faulty pump station components. After removal, defective components shall be returned to the manufacturer's authorized service center for repair or replacement.
- 1.04 Pumps and components repaired or replaced during the warranty period shall be warranted for the balance of the three year warranty period or for one year, whichever is greater.
- 1.05 BID PACKAGE: All bids submitted must include full submittal packages. All performance curves, warranty information, basin package specifications and control panel data must be included.

PRODUCT

2.01 SUBMERSIBLE CENTRIFUGAL GRINDER PUMP

- A. PUMP: Pump shall be centrifugal type Myers WG20 or equal with an integrally built in grinder unit and submersible type motor. Pump(s) shall be manufactured in the United States. The volute, seal plates and motor housing shall be constructed of high tensile strength ductile iron Class 30 ASTM A48-76. All iron castings shall be pre-treated with phosphate and chromic rinse and to be painted before machining and all machined surfaces exposed to the sewage water to be re-painted. All fasteners to be 302 stainless steel. Discharge connections shall be a standard 1 1/2 inch NPT in the vertical position. The pump impeller shall be of recessed type to provide an open unobstructed passage through the volute for ground solids. Impeller shall be of 85-5-5-5 bronze and shall be threaded onto stainless steel shaft. Pump motor shall be of the submersible type rated 2 horsepower at 3450 RPM. Motor shall be for single phase 230 volts. Single phase motors shall be of capacitor start, capacitor run, NEMA L type.
- B. Motor stator windings shall be of the open type with NEMA class B insulation for operating in

clean high dielectric oil that lubricates bearings and seals and transfer heat from the windings to the outer motor shell. Stator shall be heat shrunk into the housing for proper alignment and superior heat transfer. Bolted in stators which may not be properly aligned and have inferior heat transfer capabilities shall not be considered equal. Air filled motors not having the superior heat transfer capabilities of oil filled motors shall not be considered equal. Motors shall have three (3) bearings. Upper and lower ball bearings shall support the motor rotor. Upper ball bearing shall handle all radial shock loading due to the grinding action. Ball bearings shall be designed for a minimum L10 life of 50,000 hours. A heat sensing thermostat shall be imbedded in the top of the windings and be connected in series with the motor starter coil located in the control panel. In the event that winding temperatures exceed 200 degrees F for any reason, the thermostat shall open, shutting down the pump. The thermostat shall reset automatically when temperatures return to a safe operating level. The common motor, pump, and grinder shaft shall be 416 stainless steel. Pump impeller shall thread onto shaft, locked in place by a lock screw and washer arrangement.

- C. MECHANICAL SEAL: Motor shall be protected by two (2) mechanical shaft seals mounted in tandem with an oil filled chamber between the seals for lubricating the seal faces and providing a buffer zone to protect the motor in the event of an outer seal leakage. Seal faces shall be carbon and ceramic lapped to a tolerance of one lightband. All metal parts and springs for the seals shall be 18-8 stainless steel. A double electrode is to be mounted in the lower end of the seal chamber to detect any water leakage in to the chamber. Electrode is to be connected to a red signal light in the control panel. This indicator shall not cause the motor to stop, but merely indicates leakage so that the pump lower seal can be serviced before the motor is damages.
- D. GRINDER: Pump grinder assembly shall consist of a single rotating grinder impeller and a single stationary-shedding ring mounted directly below the pump volute inlet. Grinder impeller shall thread onto the shaft, and locked in place with a locking screw and washer. Shedding ring shall be held in place by a steel-retaining clamp. Both shredding ring and grinder shall be removable without dismantling pump. No adjustment of the grinder assembly shall be necessary for proper grinder operation. Multiple grinder assemblies requiring initial or periodic axial adjustment shall not be considered equal. Grinder impeller and shredding ring shall be made of 440 degrees C stainless steel hardened to 58-60 Rockwell.
- E. CABLE ENTRY SYSTEM: The cable entry system will consist of three (3) separate seals. A rubber grommel that seals both outer cable jackets shall be clamped onto the cords by an end holding cap. An O-Ring shall seal the end holding cap to the bottom half of the cord cap. Both cables shall have individual conductors stripped and potted into the motor end cap with an epoxy potting compound. Potting compound shall prevent wicking the water into the motor in the event that the outer cable jacket is damaged. Cords shall be able to withstand a pull of 300 pounds without loosening or losing seal integrity.
- F. POWER AND CONTROL CORDS: Motor power cord shall be SOW/SOWA type four conductor with a length of 20 feet. Motor control cords to be 18/5 SOW/SOWA five conductor. Each cable shall be provided with a green ground wire to be in accordance with local and national electric codes.
- G. BASIN ASSEMBLY: The tank shall be fiberglass reinforced polyester resin with a 3" ballast support flange with a molded one-piece, solid fiberglass or plastic cover. Standard tank shall be 24" X 60" deep. The basin shall be furnished with one flexible inlet flange (shipped loose to facilitate field location) to accept a 4.50" OD DWV pipe. Basin wall must withstand the pressure exerted by saturated soil loading at maximum bury depth. Saturated soil weight is assumed to be 120 lb./cubic foot. The basin wall and bottom will withstand 150% the anticipated maximum pressure exerted on the basin. The station shall have all necessary penetrations factory sealed, with the exception of the 4" influent line. The installed tank shall be completely watertight to exclude groundwater infiltration.

- H PIPING: Discharge piping shall be constructed of Schedule 80 PVC pipe and fittings. The discharge piping shall include a PVC quick disconnect, check valves, and PVC bulkhead fitting. The bulkhead penetration shall be factory installed and warranted by the manufacturer to be watertight. Piping module must be constructed as shown in drawing.
- I CONTROLS: Electrical controls shall be contained in a common enclosure furnished with each grinder pump station. Control panel shall include circuit breaker, motor contractor, motor overload relay, control and alarm fuses, H-O-A switch, alarm light, terminal strip, ground lug, motor start and run capacitors and any other components necessary for operation of the grinder pump station. Also included and contained within the enclosure shall be a 2-pole, 230 volt, 20 Amp disconnect which will be connected to the pump circuit. All components shall be U.L. listed and NEMA rated. All aspects of the control panel and wiring shall be in conformance with the National Electrical Code (N.E.C.), latest revision.
- J The control enclosure shall be NEMA 4X of suitable size to house all components. Enclosures shall be of molded fiber reinforced polyester. All conduits shall enter the enclosure through the bottom.
- K Level control shall be provided by sealed mercury float switches suitably supported in the sump. Floats shall be solid polyurethane or polypropylene. Three (3) floats shall be provided for pump start, pump stop, and alarm levels. Float cables shall be 20 ft. long. Floats shall be U.L. listed. Control voltage shall be 120 VAC.

END OF SECTION

SECTION 11453

DUPLEX SEWER PUMPING STATION

PART 1 GENERAL

- 1.01 GENERAL - Furnish and install a complete non-clog sewage pumping system consisting of : 2 Myers 4V15M6-21 submersible non-clog sewage pumps and SRA-400VR lift-out rail systems, valves, controls, access cover(s) and all other appurtenances to make a complete system.
- 1.02 COMPONENTS - Each lift-out rail system shall consist of: a ductile iron discharge base, cast iron pump attaching and sealing plate, stainless steel pump guide plate, and cast iron elbow. All exposed nuts, bolts, and fasteners shall be of 300 series stainless steel
- 1.03 ELBOW - Discharge elbow shall be 4" x 4". Elbow shall bolt onto base and have standard 125 lb. flanges.
- 1.04 SEALING - A sealing plate shall be attached to the pump. A simple downward sliding motion of the pump and guide plate on the guide rails shall cause the unit to be automatically connected and sealed to the base. The mating faces of the sealing plate and base shall be machined to provide a metal-to-metal, leak-proof seal at all operating pressures.
- 1.05 GUIDE RAILS - Two rail pipes shall be used to guide the pump from the surface to the discharge base connection. The guide rails shall be 1-1/2" schedule 40 Stainless Steel pipe. The weight of the pump shall bear solely on the discharge base and not on the guide rails. Rail systems which require the pump to be supported by legs which might interfere with the flow of solids into the pump suction will not be considered equal. The guide rail shall be firmly attached to the access hatch frame. Systems deeper than 21 feet shall use an intermediate guide for each 21 feet of wetwell depth.
- 1.06 LIFTING CHAIN - An adequate length of Stainless Steel lifting chain shall be supplied for removing the pump. The chain shall be of sufficient length and shall include an adequate number of lifting rings for easy removal

PART 2 PRODUCTS

- 2.01 NON-CLOG PUMPS - Pumps shall be equal to F.E. Myers model 4V15M6-21 submersible non-clog wastewater pumps, or approved equal, selected in accordance with the following design criteria: Number of Pumps: 2, Primary Design Flow: 80.00 GPM, Minimum Sphere Size: 3 Inches, Efficiency: 37.33, Motor Horsepower: 1.5 HP, Motor Speed: 1150 RPM, Electrical: 1Ph 230 Volts, Cable Length: 25 Feet
- A. PUMPS - Pumps shall not overload the published performance curve. The pumps shall be tested for insulation integrity, power and control cable integrity, and hydraulic performance prior to shipment. Performance tests shall be in accordance with Hydraulics Institute Standards
- B. PUMPING ASSEMBLY - Impeller shall be ductile iron and of the two-vane non-clog enclosed type. Vane inlet tips shall be carefully rounded to prevent stringy material from catching in vanes. Pump-out vanes shall be used in front and back chamber and impeller shall be dynamically balanced after trimming to performance curve as stated in Section A. The pump shall include a high tensile strength iron centerline discharge volute with bronze impeller wear ring installed and locked in place by stainless steel set screws. The impeller shall be fastened to a heavy duty 416 stainless steel common pump/motor drive shaft via a locking screw and washer arrangement. Volute discharge shall be 4" standard with bolt holes straddling center

line.

- C. MECHANICAL SEALS - Motor shall be protected by two (2) mechanical seals mounted in tandem with a seal chamber between the seals. Seal faces shall be carbon and ceramic and lapped to a flatness of one light band. An electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control panel. This signal shall not stop motor but act as a warning only, indicating service is required.
- D. MOTOR - Single phase motors shall be of the capacitor start, capacitor run type for high starting torques. Stator winding to be of open type with insulation good for 180 degree C. maximum temperature. Winding housing to be filled with a clean high dielectric oil that lubricates bearings and seals and transfers heat from winding and rotor to outer shell. Motors shall have two heavy-duty ball bearings to support pump shaft and take radial and thrust loads. Ball bearings shall be designed for 50,000 hours B-10 life. Stator shall be heat shrunk into a high tensile strength iron housing. On single phase motors a heat sensor thermostat shall be attached to the windings to stop the motor if the temperature of the winding is more than 220 degrees F. This overload will automatically reset when the motor cools to safe operating temperature. On three phase motors two heat sensors shall be imbedded in the windings to perform this function.
- E. PUMP AND MOTOR CASTINGS - All castings shall be of high tensile strength iron. Castings shall be treated with phosphate and chromate rinse and to be painted before machining and all machined surfaces exposed to sewage water to be re-painted.
- F. POWER CABLES/CABLE ENTRY - Power cables shall be double sealed. The power and control conductor shall be single strand sealed with epoxy potting compound and then clamped in place with rubber seal bushing to seal outer jacket against leakage and to provide for strain pull. Cords shall withstand a pull of 300 pounds to meet UL requirements. Insulation of power and control cords shall be of type SOW/SOWA. Both power and control cords shall have a green carrier ground conductor that attaches to motor frame.
- G. LIFT-OUT RAIL ASSEMBLY - Each pump shall have a F.E. Myers model SRA-400VR-lift-out rail assembly. Each rail assembly shall include a base and elbow, mounting plate and guide plate. Guide rails are to be 1-1/2" pipe. Mounting plate and guide plate shall lift out with the pumps so that any maintenance or repair can be done outside the lift station. A lifting chain shall be attached to the pump. A clevis is provided to attach the chain to the eyebolt of the pump. Discharge piping from the rail assembly shall be 4" standard flanged. Rail systems requiring pipe increasers to attach larger discharge pipe which might interfere with pump installation and removal will not be considered equal. A simple downward sliding motion of the pump and guide plate on the guide rails shall cause the unit to be automatically connected and sealed to the base. The mating faces of the sealing plate and base shall be machined to provide a metal-to-metal, leak proof seal at all operating pressures. The weight of the pump shall bear solely on the discharge base and not on the guide rails. Rail systems that require the pump to be supported by legs that might interfere with the flow of solids into the pump suction will not be considered equal. The guide rail shall be firmly attached to the access hatch frame. Systems deeper than 21 feet shall use an intermediate guide for each 21 feet of wet well depth.

2.02 SINGLE-PHASE (1 PH) DUPLEX CONTROL PANEL

- A. A NEMA 4X fiberglass control panel shall be furnished with each pumping unit to be installed, as shown on the plans.
- B. The control panel enclosure shall be molded of glass reinforced polyester resins which are chemically resistant to corrosive atmospheres. The resin system shall be pigmented to impart a gray color to the enclosure and be resistant to ultraviolet light.

- C. The resin system also shall include a flame retardant to obtain a flammability rating which meets U.L. 94V-O. Heat distortion temperature shall be 350 degree Fahrenheit.
- D. The enclosure shall be of one piece, weatherproof construction with smooth, rounded corners and shall be constructed to have a smooth exterior and interior. The enclosure shall be fitted with a closed cell neoprene gasketed cover. The enclosure shall be provided with back panel mounting provisions.
- E. The cover shall be hinged with a heavy duty corrosion resistant stainless steel piano hinge. The cover shall be lockable by means of two (2) high quality combination stainless steel latches and padlock hasps.
- F. The enclosure shall be provided with external mounting feet on the top and bottom of the enclosure. These mounting feet shall be of fiberglass and molded as an integral part of the enclosure.
- G. The enclosure shall have a separate deadfront inner door. The inner door shall be a minimum of .080" aluminum and shall be hinged. All lights, switches, and overload resets shall be mounted through the inner door. Circuit breakers shall also be mounted through the inner door.
- H. The back panel shall be a minimum of .080" aluminum and held in place by four (4) #10 screws, which will mate to four (4) threaded standoffs which are molded into the enclosure.
- I. The panel shall include pump circuit breakers, control circuit breaker (breakers rated at 10,000 A.I.C.), alarm circuit fuse, control circuit fuse, I.E.C. rated motor starters with 1-pole ambient compensated bimetal overload relays, pump hand-off-auto switches (momentary in the hand position), alarm test switch, pump run lights, seal leak lights, start and run capacitors, start relays, alternator relay (solid state), elapsed time meters, terminal blocks, two (2) ground lugs, and all necessary wiring and brackets.
- J. The control panel shall be fitted with a red lexan (polycarbonate) alarm light. The light shall be approximately 3" high by 3-1/2" diameter. The globe shall be mounted on top of the enclosure with a neoprene gasket. The lens cannot be removed from the exterior of the enclosure. The lens may be removed by entering the interior of the enclosure and removing four (4) #8 screws. The bulb shall be 40 watt minimum high intensity-medium base type. The bulb shall be easily replaced by removing a thumb screw from the support bracket on the interior of the panel.
- K. The alarm shall have a bright glow and flash during high water conditions. The alarm light will go out when the water level drops.
- L. All internal wiring shall be neat and color coded. Each wire shall be a different color or stripe (except for ground), and all incoming wires shall terminate into a box clamp type terminal block. All wires shall be 14GA. type TEW rated for 105 degree celsius (except panels for WG30 and WG30H pumps where pump circuit wiring shall be 10GA., and panels for WG50 and WG50H pumps where pump circuit wiring shall be 8GA.)
- M. A schematic diagram (showing wire color) shall be permanently fastened to the inside of the enclosure. An Installation and Service Manual shall also be included with each control panel.
- N. The control panel shall be U.L. listed as an assembly.

END OF SECTION



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-383

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Authorize Mayor to execute contract between the Ci

Title: Authorize Mayor to execute contract between the City of Hattiesburg and Floore Industrial Contractors, Inc. in the amount of \$287,905.50 for the Gordon's Creek-Depot District Buschman Street to River Avenue Project. (Nunc Pro Tunc)

Type: Action Item

Drafter: Marie Harris

In Control: City Council

Reference: Lamar Rutland

Attachments: Contract

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

***CONTRACT DOCUMENTS AND TECHNICAL
SPECIFICATIONS
FOR
GORDON'S CREEK-DEPOT DISTRICT
BUSCHMAN STREET TO
RIVER AVENUE***

***FOR THE
CITY OF HATTIESBURG
HATTIESBURG, MISSISSIPPI
FORREST COUNTY***



DECEMBER 2016

PREPARED BY



NEEL-SCHAFFER
Solutions you can build upon

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ADVERTISEMENT FOR BIDS

**GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE**

CITY OF HATTIESBURG, MISSISSIPPI

Sealed bids will be received by the City of Hattiesburg, at the City Clerk's office, Mississippi, hereafter referred to as Owner, located at 200 Forrest Street, Hattiesburg, Mississippi, 39401, until 10:00 A.M., Local Time, Thursday, **February 2, 2017** for supplying all labor, equipment, and materials (as specified) necessary for the construction of the above referenced project. Work consists of constructing a multi-use path along Gordon's Creek from Buschman Street to River Avenue.

The above general outline of features of the work does not in any way limit the responsibility of the Contractor to perform all work and furnish all labor, equipment and materials required by the specifications and the drawings referred to therein.

Bidder must be qualified under Mississippi Law and show current Certificate of Responsibility issued by the Mississippi State Board of Public Contractors establishing his classification as to the value and type of construction on which he is authorized to bid.

Each Bidder shall write his Certificate of Responsibility Number on the outside of the sealed envelope containing his proposal.

Proposals shall be submitted in duplicate, sealed and deposited with the Owner prior to the hour and date hereinbefore designated. No bidder may withdraw his bid within 90 days after the actual date of the opening thereof.

Each Bidder must submit with his proposal a separate attachment stating his qualifications to perform the work. The Statement of Qualifications shall list past projects of similar size and nature, a list of references with name and telephone number, a list of key personnel who will perform the work, and other information supporting the bidder's qualifications.

Awarding public contracts to non-resident Bidders will be on the same basis as the non-resident bidder's state awards contracts to Mississippi Contractors bidding under similar circumstances. In order to ensure that Mississippi's so-called Golden Rule is followed state law requires a non-resident bidder is to attach to his bid a copy of his resident state's current laws pertaining to such state's treatment of non-resident contractors.

Each Bidder must deposit with his proposal, a Bid Bond or Certified Check in an amount equal to five percent of his bid, payable to the Owner, as bid security. Bidders shall also submit a current financial statement, if requested, by the Owner. The successful bidder will be required to furnish a Payment Bond and Performance Bond each in the amount of 100 percent of the contract amount.

Bid documents are being made available via paper copy. Plan holders are required to log-in or register for an account at www.neel-schafferplans.com to view and order Bid Documents. All plan holders are required to have a valid email address for registration. Bid documents are non-refundable and must be purchased through the website. Questions regarding website registration and online orders please contact

Plan House Printing at (601) 336-6378.

"Mississippi Standard Specifications for Road and Bridge Construction, 2004 Edition" as referred to herein, may be purchased from the Mississippi Department of Transportation.

The Owner hereby notifies all Bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged and women's business enterprises will be afforded the full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

The Engineer is Neel-Schaffer, Inc., 704 Hardy Street, Hattiesburg, Mississippi 39401; Phone No. (601) 545-1565, Fax No. (601)-545-2267. Geoffrey P. Crosby, P.E. – Senior Project Manager.

The Owner reserves the right to reject any and all bids and to waive any informalities or irregularities therein.

BY: _____

City Clerk
City of Hattiesburg, Mississippi

DATES OF PUBLICATION:

Hattiesburg American

January 1, 2017

January 8, 2017

Clarion Ledger

January 1, 2017

January 8, 2017

INSTRUCTIONS TO BIDDERS

GORDON'S CREEK – DEPOT DISTRICT BUSCHMAN STREET TO RIVER AVENUE CITY OF HATTIESBURG, MISSISSIPPI

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1. COORDINATION OF SPECIFICATIONS

Work under this Contract shall be performed in accordance with the Contract Documents, which includes General Conditions, Supplementary Conditions and Technical Specifications contained therein. Division 200 through 800 of the *Mississippi Standard Specifications for Road and Bridge Construction*, 2004 Edition (can be downloaded at www.gomdot.com) is made a part hereof as if it were attached hereto, except where superseded by special provisions contained herein.

2. DATE AND PLACE OF OPENING OF PROPOSALS

The date, time, and place for opening Proposals will be as set out in the published "Advertisement for Bids."

The Owner reserves the right to postpone the date for presentation and opening of Proposals and will give notice of any such postponement to each known prospective Bidder.

3. FORM FOR PROPOSALS

Proposals must be submitted in duplicate on the forms furnished by the Owner and the envelope containing the Proposals must be sealed and addressed to:

City Clerk
City of Hattiesburg
200 Forrest Street
Hattiesburg, Mississippi 39401

The outside of the envelope containing the Proposal shall bear the inscription:

**SEALED BID FOR: GORDON'S CREEK-DEPOT DISTRICT-BUSCHMAN STREET TO
RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI**

BY _____

Certificate of Responsibility No. _____

State License No. _____

The duplicate Proposals shall be in the form of one original Proposal, marked "ORIGINAL" and one photocopy (Xerox or similarly reproduced copy) marked "PHOTOCOPY" of the original Proposal.

If Proposals are forwarded by the U.S. Postal Service, delivery shall be by Registered or Certified Mail.

4. PREQUALIFICATION

All Bidders must be in good standing with the Owner. Bidders who are not in good standing with the Owner will not be considered for award of the contract. Good standing includes, among other things: (a) whether Bidder has failed to successfully complete the work or punchlist items under another Owner contract; (b) whether Bidder is currently, or has been in the past five years, involved in litigation with the Owner regarding work under another Owner contract, either as a general contractor or subcontractor; (c) whether Bidder has been or is currently in default under another Owner contract the past five years. with the Owner; or (d) whether Bidder has failed to fulfill provisions of another Owner contract within

5. CERTIFICATE OF RESPONSIBILITY

Prior to filing Bids on Owner projects (in excess of \$50,000), the prospective Bidder must obtain a Certificate of Responsibility from the Mississippi State Board of Public Contractors, establishing his classification as to the value and the type of construction on which he is authorized to bid. Application must be submitted to the Board at least 30 days prior to a regular Board meeting scheduled every Quarter on the first Tuesday of January, April, July and October.

6. ANNUAL LICENSE TO BID (Not Used)

7. CHARGES FOR PROPOSALS, PLANS AND SPECIFICATIONS

Prospective Bidders may obtain Proposal forms including one copy of Contract Documents upon payment of the amount of money stipulated in the "Advertisement for Bids."

No refunds will be made for return of Plans or Specifications.

In the event all Bids are rejected and the Project is re-advertised, the original Bidders shall **NOT** be entitled to free Bidders Proposal forms for the subsequent letting.

8. OMISSIONS AND DISCREPANCIES

Should a Bidder find discrepancies, errors or omissions in the Drawings or Specifications, or should he be in doubt as to the correctness of the Plan details, dimensions and layout, he should immediately notify the Engineer in order to permit checking and any necessary revisions or modifications.

9. ADDENDA

Prior to the date set for opening of Bids, the right is reserved, in the interests of the Owner, as it may require, to revise or amend the Contract Documents. Such revisions, if any, will be announced by an Addendum or Addenda, and copies of such Addenda will be furnished to all prospective Bidders who have purchased Plans and Specifications for acknowledgment by return fax. If the revisions and Addenda are of a nature which require material changes in quantities or prices Bid, or both, the date set for opening Bids may be postponed to enable Bidders to revise their Bids. In such case, the Addendum or Addenda will include an announcement of the new date for opening Bids.

10. INTERPRETATIONS

No oral interpretation made to any Bidder as to the meaning of the Contract Documents shall be

considered an effective modification of any of the provisions of the Contract Documents. In order to ensure appropriate and concise responses, and avoid any misinterpretations, no verbal questions will be received. Written requests for interpretation of the Plans and Specifications shall be submitted to the Engineer at least 10 days prior to opening of Proposals so that a formal decision can be given in writing to all known prospective Bidders in the form of an Addendum. The Contract Document contains the provisions required for the construction of the Project. Information obtained from an officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the Contract.

11. BID SECURITY

All Bids shall be accompanied by a Bid Security in the form of a Certified Check upon a national or state bank or a Bid Bond made by a bonding company registered in the State of Mississippi, drawn and made payable to the Owner in an amount equal to five percent of the Bid. The Certified Check or Bid Bond must be enclosed in the same envelope with the Bid. Except as noted below, the Bid Security of all known unsuccessful Bidders will be returned promptly after a Notice of Award has been sent to the successful Bidder or in the event that all Bids are rejected.

The Bid Security of the next two lowest qualified Bidders will be retained until the Contract has been executed with the lowest qualified Bidder. The Bid Security of the successful Bidder will be returned when satisfactory Performance and Payment Bonds have been furnished and approved and the Contract executed.

12. GENERAL INFORMATION

Bidders shall inform themselves and comply with all pertinent Owner regulations and ordinances, State and Federal laws, licenses and tax liabilities which may in any manner affect their Bids and the prosecution of the work. The successful bidder will be responsible for obtaining all building, plumbing, and electrical permits required by the local city government. Special attention is directed to the rules and regulations published by the Mississippi State Tax Commission outlining certain taxes imposed on Contractors by the state of Mississippi.

13. REJECTION OF PROPOSAL

Proposals may be rejected in the case of any omission, alterations of forms, additions or conditions not called for, unauthorized alternate Bids, incomplete Bids, erasures or irregularities of any kind. Bids received conditioning their consideration or rejection upon Bids for the other work submitted by the same Bidder may be classed as irregular, unless the Contract Documents specifically invite or permit conditional or combination Bids. Bids in which the prices obviously are unbalanced may be rejected.

14. CONDITIONS OF WORK

Each Bidder must inform himself fully of the conditions relating to the construction of the Project and the employment of labor thereon. Failure to do so will not relieve a successful Bidder of his obligation to furnish all materials and labor necessary to carry out the provisions of his Contract. Insofar as possible, the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

15. SECURITY FOR FAITHFUL PERFORMANCE

Simultaneously with his delivery of the Executed Contract, the Contractor shall furnish a Performance Bond and a Payment Bond each in the sum of 100% of the Contract amount as security for faithful performance of his Contract and for the payment of all persons performing labor on the Project under his Contract and furnishing materials in connection with his Contract, as specified in the Contract Documents. The surety of such Bonds shall be issued by a duly authorized surety company listed on the Treasury Department's most current list Circular 570 (as amended) and satisfactory to the Owner.

Attorneys in fact who sign Bid Bonds or Payment Bonds and Performance Bonds must file with each bond a certified and effective dated copy of their Power of Attorney. Failure of the successful Bidder to execute the Contract and to supply the required bonds within 10 calendar days from the date that the Notice of Award is delivered, or within such extended period as the Owner may grant based upon reasons determined sufficient by the Owner, shall constitute a default, and the Owner, at his discretion, may either award the Contract to the next lowest qualified Bidder or readvertise for Bids, and may charge against the Bidder the difference between the amount for which a Contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the Bid Bond. If a more favorable bid is received by readvertising, the defaulting Bidder shall have no claim against the Owner for a refund. The Contractor's bond will not be released until all provisions of the Contract have been fulfilled.

16. INSURANCE

The Contractor will be required to carry the types and amounts of insurance named in the Contract Documents for the full life of the Contract.

17. SUBCONTRACTORS

Bidders are specifically advised that any person, firm or other party to whom it is proposed to award a Subcontract must be acceptable to the Owner. Nothing contained in the Contract Documents shall create any contractual relation between subcontractor and the Owner.

18. METHOD OF AWARD – LOWEST RESPONSIVE BIDDER

The Owner will award the Contract to the lowest and best Bid unless all Bids are rejected. The award will be based on the evaluation of the low bid for the total base bid or the total alternate bid as decided upon by the Owner.

The responsiveness of the low Bidder shall be determined by (1) the completeness and regularity of the Bidders Proposal; (2) the Bidders Proposal being without exclusions or special conditions; (3) the Bid Form having no alternative Bids for any item unless requested in the Technical Specifications; and (4) such other factors as may be considered under State law, Federal law or regulation.

The evaluation of the low bidder will be based on whether the Bidder (1) maintains a permanent place of business; (2) has adequate plant equipment to do the work properly and within the time limit that is established; (3) has adequate financial status to meet his obligations contingent to the work; (4) has adequate manpower and present workload is such that he can perform according to a reasonable schedule; and (5) such other factors as may be considered under State law, Federal law or regulation.

19. OBLIGATION OF BIDDER

At the time of the opening of Bids, each Bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Plans and Contract Documents (including all Addenda).

The failure or omission of any Bidder to examine any form, instrument or document shall in no way relieve any Bidder from any obligation in respect to his Bid. Submission of Bid shall be accepted as prima facie evidence that Bidder has inspected the site and is familiar with the Plans and Contract Documents.

20. SUBSURFACE DATA

Not Used.

21. EXECUTION OF CONTRACT

If the successful Bidder is a corporation, the officer who signs the Contract shall furnish copies of the resolution of the Directors of the corporation authorizing him to sign the contract. Such resolution should bear the seal of the corporation.

Subject to the applicable provisions of law, the Contract shall be in full force and effect only from and after the date when a fully executed and approved counterpart thereof has been rendered or delivered, or both, to the Contractor or his duly authorized agent or representative. Deposit of said counterpart in the United States mail in an envelope or wrapper properly addressed shall constitute compliance with these provisions by the Owner.

22. INTERCHANGEABLE TERMS

The terms "Bid" and "Proposal" wherever they are used in the Contract Documents are interchangeable and have the same meaning. The terms "Contract" and "Agreement", are interchangeable and have the same meaning. The terms "Contract Drawings" and "Plans", are interchangeable and have the same meaning.

23. QUALIFICATIONS OF BIDDER, OWNER'S RIGHTS

The Owner may make such investigation as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by or investigation of such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.

24. MATERIALS AND EQUIPMENT

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a manufacturer, fabricator, supplier, or distributor, the naming of the item in this manner is intended to establish the type, function and quality required. Materials or equipment of other manufacturers, fabricators, suppliers, or distributors may be accepted by the Engineer if sufficient information is submitted by the Contractor to allow the Engineer to determine that the material or equipment proposed is equivalent to that named in the Contract Documents. Bidders are referred to Section 6.3 of the General Conditions regarding procedures for approval of substitute materials and

equipment.

25. NON-RESIDENT BIDDERS

Awarding public contracts to non-resident Bidders will be on the same basis as the non-resident Bidder's state awards contractors to Mississippi Contractors bidding under similar circumstances. In order to ensure that Mississippi's so called "Golden Rule" is followed, state law requires a non-resident Bidder to attach to his bid a copy of his resident state's current laws pertaining to such state's treatment of non-resident contractors.

26. DESIGNATING OWNER AND ENGINEER

Any reference in the Contract Documents to the State of Mississippi, Mississippi Department of Transportation, Mississippi Transportation Commission, or any official thereof shall be interpreted to mean the City of Hattiesburg, Mississippi, the "Owner".

Any reference in the Standard Specifications to the Project Engineer, District Engineer, Office Engineer, or Engineer shall be interpreted to mean the Engineer for the City of Hattiesburg, Mississippi, Neel-Schaffer, Inc.

27. MATERIALS TESTING

The Contractor shall be responsible for all testing of materials associated with the project. Materials shall be tested in accordance to the requirements and frequencies outlined in the *Mississippi Standard Specifications for Road and Bridge Construction* (2004 Edition), and shall be considered an absorbed item.

28. CONTRACT TIME

The Contractor shall commence the work required by the Contract Documents within 10 calendar days after the date of the Notice to Proceed and will retain substantial completion within 75 consecutive calendar days of the Notice to Proceed date and Final Completion of the project within 150 consecutive calendar days of the Notice to Proceed date unless the period for completion is extended otherwise by the Contract Documents.

Substantial completion shall include completion of all work except for final installation of the new light fixtures and poles.

BIDDER'S PROPOSAL

**GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI**

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**GORDON'S CREEK - DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI**

Final: September, 2016

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to signed by their proper officers, the day and year first set forth above.

Floore Industrial Contractors, Inc.

Contractor

SEAL

X By: Bruce Howell

Merchants Bonding Company (Mutual)

Surety

SEAL

By: Angie M. Strickland
Angie M. Strickland, Attorney in Fact

00300-11

MERCHANTS
BONDING COMPANY™
POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Angie M Strickland; John A Chalk Jr; William L Painter

their true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver on behalf of the Companies, as Surety, bonds, undertakings and other written obligations in the nature thereof, subject to the limitation that any such instrument shall not exceed the amount of:

TEN MILLION (\$10,000,000.00) DOLLARS

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 24, 2011.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 4th day of February, 2016.



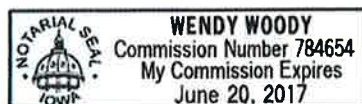
MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.

By *Larry Taylor*

President

STATE OF IOWA
COUNTY OF Dallas ss.

On this 4th day of February, 2016, before me appeared Larry Taylor, to me personally known, who being by me sworn did say that he is President of the MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



(Expiration of notary's commission
does not invalidate this instrument)

Wendy Woody
Notary Public, Polk County, Iowa

I, William Warner, Jr., Secretary of the MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 2nd day of February, 2017.



William Warner Jr.
Secretary

BIDDER'S PROPOSAL

**GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI**

DATE: Feb 1, 2017
PROPOSAL OF Floore Industrial Contractors, Inc.
(Name of Bidder)
4401-4 Wilson Springs rd. Moss Point Ms
(Address of Bidder) 39562

for construction of the Gordon's Creek – Depot District – Buschman Street to River Avenue Project.

The documents on which this Proposal is based include the Instructions to Bidders, Bid Forms, General Conditions, Supplementary Conditions, Supplemental General Conditions, Technical Specifications, Contract Drawings, and all supplements, amendments and addenda for this Project and are made a part hereof by reference.

**TO: CITY OF HATTIESBURG
200 FORREST STREET
HATTIESBURG, MISSISSIPPI 39401**

Gentlemen:

The following Proposal is submitted on behalf of the undersigned Bidder(s) and no others. Evidence of my (our) authority to submit the Proposal is hereby furnished. The Proposal is submitted without collusion on the part of any person, firm or corporation.

I (We), the undersigned Bidder(s), certify that I (we) have carefully examined the Instructions to Bidders, Bid Forms, General Conditions, Supplemental Conditions, Technical Specifications, Contract Drawings and any and all Addenda thereof.

I (We) further certify that I, (we) have visited and carefully examined the site of the proposed Work and have inspected the location and condition of all public utilities and existing structures or other facilities on the site or adjacent thereto which may be affected by the proposed construction and fully understand all conditions relative to construction difficulties, hazards, labor, transportation and all other factors affecting the prosecution of the work covered by this Proposal.

I (We) understand that the quantities mentioned below are approximate only and are subject to either increase or decrease, and hereby propose to perform any increased or decreased quantities of work at the unit prices bid. No increase in quantities of work shall be performed until a written change order is duly executed in advance and approved in the public minutes of the Owner.

00300-2

In accordance with the requirements of the Instructions to Bidders, Bid Forms, Federal Supplement to Bidder's Proposal, Technical Specifications, General Conditions, Supplementary Conditions, Contract Drawings, and any Addenda, I (we) propose to furnish all necessary materials, equipment, labor, tools and other means of construction and will do all Work called for by the Contract Documents within the specified Contract Time. The following is my (our) itemized proposal for the project:

Prices Bid and Approximate Quantities - Base Bid

Pay Item	Description	Qty	Unit	Unit Price	Price Extension
201-B	CLEARING AND GRUBBING	1	LS	XXXX	4000.00
202-A	REMOVAL OF OBSTRUCTIONS	1	LS	XXXX	6000.00
202-B	REMOVAL OF TREES, UNDER 10"	10	EACH	300.00	3000.00
202-B	REMOVAL OF TREES, 10"-20"	4	EACH	500.00	2000.00
202-B	REMOVAL OF CONCRETE PAVEMENT, ALL DEPTHS	14	SY	38.00	532.00
202-B	REMOVE AND RESET RIPRAP	110	SY	15.00	1650.00
203-I	SITE GRADING	240	SY	20.00	4800.00
203-A	UNCLASSIFIED EXCAVATION, FM, AH	50	CY	11.00	550.00
203-EX	BORROW EXCAVATION, FM, CLASS B9, AH	80	CY	16.00	1280.00
203-EX	BORROW EXCAVATION, FM, CLASS B7-6, AH	120	CY	18.00	2160.00
203-G	EXCESS EXCAVATION, FM, AH	250	CY	14.00	3500.00
211-B	TOPSOIL FOR SLOPE TREATMENT, CONTRACTOR FURNISHED	70	CY	28.00	1960.00
211-D	TOPSOIL FOR PLANT PITS, CONTRACTOR FURNISHED	2	CY	28.00	56.00
907-216-B	SOLID SODDING, CENTIPEDE	600	SY	5.00	3000.00
219-A	WATERING	155	KGAL	\$20	\$3,100
220-A	INSECT PEST CONTROL	1	ACRE	500.00	500.00
907-230-B	TREE PLANTING, LITTLE GEM MAGNOLIA	8	EACH	400.00	3200.00
907-230-B	TREE PLANTING, WINGED ELM	4	EACH	800.00	3200.00
232-A	FERTILIZER FOR WOODY PLANT MATERIAL, TABLET, 21 GRAM	36	EACH	40.00	1440.00
233-A	TREE BARK MULCH, TYPE III	2	CY	80.00	160.00
233-A	TREE BARK MULCH, TYPE V	3	CY	90.00	270.00
907-282-M	SLOW RELEASE IRRIGATION BAG	12	EACH	100.00	1200.00
234-A	TEMPORARY SILT FENCE	680	LF	5.00	3400.00
907-237-A	WATTLES	100	LF	8.00	800.00
907-246-A	SANDBAGS	100	LF	20.00	2000.00
907-258-PP	HANDRAIL, PER PLANS	130	LF	20.00	2600.00

00300-4

608-A	CONCRETE SIDEWALK, WITHOUT REINFORCEMENT, 5" THICKNESS	478	SY	52.00	24,856.00
618-A	MAINTENANCE OF TRAFFIC	1	LS	XXXX	15,000.00
618-B	ADDITIONAL CONSTRUCTION SIGNS	1	SF	\$10	\$10
620-A	MOBILIZATION	1	LS	XXXX	20,000.00
699-A	ROADWAY CONSTRUCTION STAKES	1	LS	XXXX	40,000.00
815-B	GROUTED RIPRAP, SIZE 100	290	SY	40.00	11,600.00
815-E	GEOTEXTILE UNDER GROUTED RIPRAP, TYPE V, NON-WOVEN	350	SY	4.00	1,400.00
907-258-PP	PEDESTRIAN BOARDWALK, PER PLANS	500	SF	62.00	31,000.00
682-A	UNDERGROUND BRANCH CIRCUIT, AWG 10, 3 CONDUCTORS	365	LF	8.50	3,102.50
682-A	UNDERGROUND BRANCH CIRCUIT, AWG 6, 3 CONDUCTORS	220	LF	10.50	2,310.00
682-C	STRUCTURE MOUNTED BRANCH CIRCUIT, AWG 10, 3 CONDUCTORS	140	LF	20.00	2,800.00
682-D	STRUCTURE MOUNTED PULLBOX	2	EACH	315.00	630.00
682-F	SECONDARY POWER CONTROLLER	1	EACH	11,100.00	11,100.00
907-683-PP001	LIGHTING ASSEMBLY, LOW MAST, TYPE 15-0-1-95LED	9	EACH	5,400.00	48,600.00
907-683-PP002	LIGHTING ASSEMBLY, HANDRAIL, TYPE HR	4	EACH	475.00	1,900.00
684-A	POLE FOUNDATIONS, 24" DIAMETER	9	CY	1350.00	12,150.00
TOTAL BASE BID \$					246,816.50

00300-5

Prices Bld and Approximate Quantities – Additive Alternate No. 1						
Pay Item	Description	Qty	Unit	Unit Price	Price Extension	
203-EX	BORROW EXCAVATION, FM, CLASS B9, AH	50	CY	16.00	800.00	
203-G	EXCESS EXCAVATION, FM, AH	100	CY	14.00	1400.00	
211-B	TOPSOIL FOR SLOPE TREATMENT, CONTRACTOR FURNISHED	30	CY	28.00	840.00	
907-216-B	SOLID SODDING, CENTIPEDE	300	SY	5.00	1500.00	
608-A	CONCRETE SIDEWALK, WITHOUT REINFORCEMENT, 5" THICKNESS	267	SY	52.00	13884.00	
682-A	UNDERGROUND BRANCH CIRCUIT, AWG 10, 3 CONDUCTORS	230	LF	10.50	2415.00	
907-683-PP001	LIGHTING ASSEMBLY, LOW MAST, TYPE 15-0-1-95LED	3	EA	5400.00	16200.00	
684-A	POLE FOUNDATIONS, 24" DIAMETER	3	CY	1350.00	4050.00	
TOTAL ADDITIVE ALTERNATE NO. 1 \$				41,089.00		

THE BIDDER'S TOTAL ABOVE IS HIS TOTAL BID BASED ON HIS UNIT PRICES AND LUMP SUM PRICES AND THE ESTIMATED QUANTITIES. THIS FIGURE IS FOR INFORMATION ONLY AT THE TIME OF OPENING BIDS. THE OWNER WILL MAKE THE BID TABULATION FROM THE UNIT PRICES AND LUMP SUM PRICES BID. IF THERE IS AN ERROR IN THE TOTAL BY THE BIDDER, IT SHALL BE CHANGED AS ONLY THE UNIT PRICES AND LUMP SUM PRICES SHALL GOVERN.

NOTE: FAILURE OF BIDDER TO INCLUDE PRICES FOR THE ALTERNATE BID ITEMS MAY RENDER HIS PROPOSAL NON-RESPONSIVE.

NOTE: Bids shall include sales tax and all other applicable taxes and fees.

00300-6

Neel-Schaffer, Inc.
South Mississippi

Final: September, 2016
S:\PROJECTS\8000\865667 - Hburg Gen Consulting\8667 01\Task #25 - Cordons Creek\Specifications\Front End\Bid\prop.doc

I (We) further propose to execute the Contract Agreement as bound herein within ten working days after receipt of Contract Forms from the Owner and to complete the work within the contract time. I (We) agree to pay as liquidated damages the actual costs, expenses and other losses reasonably incurred by Owner for each consecutive calendar day beyond the specified Contract Time.

I (We) also propose to execute a Performance Bond and a Payment Bond, as shown in the Specifications, each in an amount of not less than one hundred percent (100%) of the total of my (our) Bid. These Bonds shall not only serve to guarantee the completion of the Work on my (our) part, but also to guarantee the excellence of both workmanship and materials until the Work is finally accepted.

I (We) enclose a Bid Bond or Certified Check for 5 percent of _____
_____, DOLLARS (\$ _____)
(Base Bid Amount)

and hereby agree that in case of my (our) failure to execute the Contract and furnish the Bonds within ten calendar days after delivery of the Notice of Award, the amount of this check (Bid Bond) will be forfeited to the Owner as liquidated damages arising out of my (our) failure to execute the Contract as proposed.

It is understood that in case I (we) am (are) not awarded the Work, the Certified Check or Bid Bond submitted as Bid security will be returned as stipulated in the Contract Documents.

Bidder acknowledges receipt of the following Addenda:

No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____
No. _____	Dated _____	No. _____	Dated _____

Respectfully Submitted,

Floore Industrial Contractors, Inc.

Contractor(s)

By: _____

Title

Bruce Howell Sec/Treasurer

4401-4 Wilson Springs rd.
Mass Point, Ms. 39562
Address

00300-7

BIDDER'S CORPORATE DECLARATION

(TO BE FILLED IN IF BIDDER IS A CORPORATION)

Date: Feb. 1, 20 17

Our corporation is chartered under the Laws of the state of Mississippi and the names, titles and business addresses of the executives are as follows:

Prentiss Floore
President

Bruce Howell
Secretary

Bruce Howell
Treasurer

DECLARATION OF PARTNERSHIP

(To be filled in if a Bidder is a Partnership)

Our Partnership is composed of the following individuals:

Address

Address

00300-8

NON-COLLUSION AFFIDAVIT

GORDON'S CREEK - DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI

(THIS AFFIDAVIT MUST BE EXECUTED FOR THE BID TO BE CONSIDERED)

STATE OF Mississippi)
COUNTY OF Jackson) ss.
Bruce Howell being first duly sworn,
(Person)
deposes and says that he is Secretary / Treasurer

(Sole owner, a partner, president, secretary, etc.)
of Floore Industrial Contractors the party making the foregoing Proposal or Bid;
(Name of Firm)

that such Bid is genuine and not collusive; that said Bidder is not financially interested in, or otherwise affiliated in a business way with any other bidder on the same contract; that said Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to put in a sham bid, or that such other person shall refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against the Owner or any person or persons interested in the proposed contract; and that all statements contained in said Proposal or Bid are true; and further, that such Bidder has not, directly or indirectly submitted his Bid, or the contents thereof, or divulged information or data relative thereto to any association or to any member or agent thereof.

Bruce Howell
Affiant

Sworn to and subscribed before me this 1 day of February, 20 17



(SEAL)

Angela Hunt
Notary Public in and for
Jackson County,

My Commission Expires
1-25, 20 20

00300-9

PROPOSED SUBCONTRACTORS

**GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI**

The names and addresses of all persons and parties who will be utilized for subcontract Work in the foregoing Bidder's Proposal are listed below. (The Contractor must list all Subcontractors to be utilized on the Work. Failure to list Subcontractors may cause the Bidder's Proposal to be rejected by the Owner as non-responsive.) If the Bidder does not propose Subcontractors, so state.

NAME

ADDRESS

Traffic Control Products

PO Box 820 Bladen MS

Chain electric

1308 West Pinesford Hattiesburg MS

00300-12

CONTRACT FORMS

**GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI**

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March 22, 2017
N-S Project No. 2-8667-016-06

Attention: Bruce Howell
Floore Industrial Contractors, Inc.
4401-4 Wilson Springs Road
Moss Point, MS 39562

REFERENCE: GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI

NOTICE OF AWARD

Dear Mr. Howell:

The city of Hattiesburg has considered the Proposal submitted by you for the above referenced Work in response to its Advertisement for Bids and Instructions to Bidders.

You are hereby notified that your Proposal has been accepted in the amount of **\$287,905.50** **(Base Bid and Add Alternate No. 1).**

You are required by the Instruction to Bidders to execute the Contract and furnish to the city of Hattiesburg the required Contractor's Performance Bond, Payment Bond and certificates of insurance within 10 calendar days from the date of delivery of this Notice to you. We have enclosed five (5) copies of the necessary contract forms and bond forms. Please return all five (5) originals of these documents to the offices of Neel-Schaffer, Inc., Post Office Box 1487 (704 Hardy Street, 39401), Hattiesburg, MS 39403-1487.

If you fail to execute said Contract and to furnish said Bonds within 10 days from the date of delivery of this Notice, the Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your proposal as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by Law.

You are required by the General Conditions and Supplementary Conditions to submit to Neel-Schaffer, Inc. an estimated progress schedule, a preliminary schedule of Shop Drawing submissions and a preliminary schedule of values of the Work within 10 days after the effective date of this contract, all in accordance with Article 2.5 of the General Conditions.

You are required to return an acknowledged copy of this Notice of Award directly to the city of Hattiesburg, Attention: Lamar Rutland, P.E., and to Neel-Schaffer, Inc.

Sincerely,

NEEL-SCHAFER, INC.



Geoffrey Crosby, P.E.
Senior Project Manager

c: Lamar Rutland, P.E.
City of Hattiesburg
200 Forrest Street
Hattiesburg, MS 39401

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby acknowledged by Bruce Howell

this the 3rd day of April, 2017.

By Bruce Howell

Title Sec/Treasurer

Jan 10/11



Mayor

Johnny L. DuPree, Ph.D.

Council - Ward 1
Kim Bradley

Council - Ward 2
Deborah Denard Delgado

Council - Ward 3
Carter Carroll

Council - Ward 4
Mary Dryden

Council - Ward 5
Henry Naylor

April 5, 2017

Attention: Bruce Howell
Floore Industrial Contractors, Inc.
4401-4 Wilson Springs Road
Moss Point, MS 39562

REFERENCE: GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI

NOTICE TO PROCEED

Dear Mr. Howell:

You are hereby notified to commence Work in accordance with the Contract dated April 4th, 2017, on or before **April 24, 2017**. You are to achieve substantial completion for items of work identified in the Contract within 75 consecutive calendar days from the effective date of this Notice to Proceed. The date of Substantial Completion is therefore **July 7, 2017**. You are to achieve Final Completion within 150 consecutive calendar days from the effective date of this Notice to Proceed. The date of Final Completion is therefore **September 20, 2017**. Liquidated damages in the amount of \$250 per calendar day for each day the Work has not achieved Final Completion after September 20, 2017 will be imposed unless the contract time is otherwise adjusted for due cause by change orders to the Contract. Liquidated Damages, as defined herein, will be assessed unless the Contract Time is otherwise adjusted for due cause by change order to the Contract.

The engineering firm of Neel-Schaffer, Inc. will act as the Engineer on behalf of the city of Hattiesburg for the work to be performed under the contract. Geoffrey Crosby, P.E., of Neel-Schaffer, Inc. will be the designated representative of the Engineer.

Please return a copy of this NOTICE TO PROCEED and ACCEPTANCE OF NOTICE to the undersigned and to Neel-Schaffer, Inc., indicating your receipt of this document in the space provided below.

Sincerely,

City of Hattiesburg

Lamar Rutland, P.E.
Engineering Director

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED

is hereby acknowledged by F.I.C.

this, the 16th day

of April, 2017.

By Bruce Howell

Title Secretary

CONTRACT

**GORDON'S CREEK – DEPOT DISTRICT
BUSCHMAN STREET TO RIVER AVENUE
CITY OF HATTIESBURG, MISSISSIPPI**

This Contract, made this the 4 day of April, 2017, by and between the City of Hattiesburg, Mississippi, a municipal corporation, hereinafter called "Owner" and ~~Floore Industrial Contractors~~ Moog Point, Inc. doing business as a corporation located in Moog Point, MS hereinafter called the "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. THE CONTRACTOR will commence and complete the "Gordon's Creek – Depot District – Buschman Street to River Avenue" project in strict accordance with the Contract Documents and the Contract Drawings.
2. The Contractor will commence the work required by the CONTRACT DOCUMENTS within 10 calendar days after the date of the NOTICE TO PROCEED and will attain Final Completion within the contract time stipulated in the Advertisement for Bids unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS. The Contractor agrees to pay, as liquidated damages, the actual damages, costs, losses and expenses reasonably incurred by Owner for each consecutive calendar day that he shall be in default in attaining Final Completion within the time stipulated as provided herein.
3. The term "CONTRACT DOCUMENTS" means and includes Advertisement for Bids, Instructions to Bidders, Bidder's Proposal, Bid Bond, Contract, Payment Bond, Performance Bond, General Conditions, Supplementary Conditions, Technical Specifications, Contract Drawings, Notice of Award, Notice to Proceed, Addenda (if any), and all subsequent Change Orders, Supplemental Agreements and/or other modifications as if formally recopied in this Contract.
4. The Contractor agrees to furnish all materials in place and to faithfully complete all of said work contemplated by this Contract in good and workmanlike manner, strictly in accordance with said Contract Documents, Contract Drawings and other requirements of the Owner, and to the complete satisfaction of the Owner or his authorized representatives, and in accordance with the Laws of the state of Mississippi and the Ordinances of the Owner, for which the Owner hereby agrees to pay and the Contractor agrees to accept a sum of money in current funds equal to the contract amount of two hundred eighty-seven thousand, nine hundred five dollars and 50/100 (\$ 287,905.50) plus the amount of any supplemental agreements and force accounts for extra work authorized and duly set forth in a written change order approved and executed by the Owner and set forth in the public minutes of the Owner and in full compensation for furnishing all materials, the doing of all work contemplated under the Contract, as well as all loss or damage, if any, arising out of the nature of the work, or the action of the weather, and any and all other unforeseen obstructions or difficulties that may be encountered in the prosecution of the same, the Contractor assuming all risks of every kind and description in the performance of this

Contract.

5. The Contractor shall protect, indemnify and save harmless the Owner from and against any and all damage, loss, claims, judgments or expenses, including but not limited to reasonable attorney's fees, which the Owner may suffer or be subjected to by the performance of the work, including but without limitation injury to or death of any person whomever and destruction or damage to any property whatsoever.
6. Attached hereto and made a part of this Contract is a Performance Bond, executed by a Surety Company doing business in the state of Mississippi, in the sum of two hundred eighty-seven thousand, nine hundred five dollars and 50/100 (\$ 287,905.50).
7. Attached hereto and made a part of this Contract is a Payment Bond, executed by a Surety Company doing business in the state of Mississippi, in the sum of two hundred eighty-seven thousand, nine hundred five dollars and 50/100 (\$ 287,905.50).
8. The Contractor agrees to allow the Owner, or any of their duly authorized representatives, access to any books, documents, papers and records of the Contractor which are directly pertinent to the project which is the subject of this Contract, for the purpose of making audits, examinations, excerpts and transcriptions, and Contractor agrees to insert an identical clause in any and all subcontracts.
9. The Owner will pay to the Contractor in the manner and at such times and amounts as set forth in the Contract Documents.
10. This Contract shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
11. If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner his obligations under this Contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, the Owner shall thereupon have the right to terminate this Contract by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least five days before the effective date of such termination. Notwithstanding the above, the Contractor shall not be relieved of liability to the Owner for damages sustained by the Owner by virtue of any breach of the Contract by the Contractor and the Owner may withhold any payments to the Contractor until such time as the exact amount of damages due the Owner from the Contractor is determined.

IN WITNESS THEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Contract in 5 counterparts, each of which shall be deemed an original on the date first above written. (number)

OWNER

BY 
ATTEST 

(Seal)

CONTRACTOR

BY 
ATTEST 

(Seal)

00500-4

PARTNERSHIP CERTIFICATE

State of MS

County of JACKSON Ss.

On this 3rd day of April, 2017, before me personally appeared _____, known to me and known by me to be the person who executed the above instrument, who being by me first duly sworn, did depose and say that he is a general partner in the firm of _____; that said firm consists of himself and _____; and that he executed the foregoing instrument on behalf of said firm for the uses and purposes stated herein.

Notary Public in the

County of _____

State of _____

Notary Seal

My Commission Expires:

CORPORATE CERTIFICATE

I, Bruce Howell certify that I am the Secretary of the Corporation named as Contractor in the foregoing Contract; that PG Floore, who signed said Contract on behalf of the Contractor was then President of said Corporation; that said Contract was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

Bruce Howell
Secretary

Corporate Seal

GENERAL INSTRUCTIONS FOR BONDS

1. The surety on each Bond must be a responsible surety company, which is qualified to do business in Mississippi and satisfactory to the Owner.
2. The name, including full Christian name and residence of each individual party to the Bond shall be inserted in the body thereof, and each such party shall sign the Bond with his usual signature on the line opposite the seal and if signed in Maine, Massachusetts or New Hampshire an adhesive seal shall be affixed opposite the signature. The bond must be either signed or countersigned by a Mississippi Resident Agent of the Surety Company.
3. If the principals are partners, their individual names will appear in the body of the Bond with the recital that they are partners composing a firm, naming it; and all the members of the firm shall execute the Bond as individuals.
4. The signature of a witness shall appear in the appropriate place, attesting to the signature of each individual party to the Bond.
5. If the principal or surety is a corporation, the name of the State in which incorporated shall be inserted in the appropriate place in the body of the Bond, and said instrument shall be executed and attested under the corporate seal as indicated in the form. If the corporation has no corporate seal the fact shall be stated, in which case, a scroll or adhesive seal shall appear following the corporate name.
6. The official character and authority of the person or persons executing the Bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary, according to the form attached hereto. In lieu of such certificate there may be attached to the Bond copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.
7. The date of this Bond must not be prior to the date of the Contract in connection with which it is given.
8. Surety Companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

Floore Industrial Contractors, Inc.

(Name of Contractor)

4401-4 Wilson Springs Road, Moss Point, MS 39562

(Address of Contractor)

a Corporation hereinafter called Principal, and
(Corporation, Partnership, or Individual)

Merchants Bonding Company (Mutual)

(Name of Surety)

P.O. Box 14498, Des Moines, IA 50306

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

City of Hattiesburg

(Name of Owner)

P.O. Box 1898, Hattiesburg, MS 39403-1898

(Address of Owner)

hereinafter called OWNER, in the penal sum of two hundred eighty-seven thousand, nine hundred five dollars and 50/100 Dollars,\$(287,905.50) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated 4 day of April 20 17, a copy of which is hereto attached and made a part hereof for the construction of:Gordon's Creek – Depot District – Buschman Street to River Avenue

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

NOW, THEREFORE, if the Principal shall promptly make payment of all taxes, licenses, assignments, contributions, damages, penalties, and interest thereon, when and as the same may lawfully be due the state of Mississippi, or any county, municipality, board, department, commission, or political subdivision thereof, by reason of and directly connected with the performance of said Contract or any part thereof as provided by Sections 27-65-1, 27-65-21, 27-67-301 and 31-5-3, supra, or any other applicable statute or other authority, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change,

00500-7

extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this statement is executed in 5 counterparts, each one of which shall be deemed an original, this the 4 day of April, 20 17.

ATTEST:

Bruce Howell
(Principal) Secretary
(Seal)

Floore Industrial Contractors, Inc.

By Principal

4401-4 Wilson Springs Road

(Address)

Moss Point, MS 39562

[Signature]

Witness us to Principal

4401-4 Wilson Springs Road

(Address)

Moss Point, MS 39562

Merchants Bonding Company (Mutual)

Surety

ATTEST:

Susan Robertson
Witness us to Surety Susan Robertson
1817 Crane Ridge Dr., Ste 300
(Address)
Jackson, MS 39216

By Angie M. Strickland
Angie M. Strickland, Attorney-in-fact
1817 Crane Ridge Dr., Ste 300
(Address)
Jackson, MS 39216

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

00500-8

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS THAT

Floore Industrial Contractors, Inc.

(Name of Contractor)

4401-4 Wilson Springs Road, Moss Point, MS 39562

(Address of Contractor)

a Corporation, hereinafter called Principal,

(Corporation, Partnership, or Individual)

and Merchants Bonding Company (Mutual)

(Name of Surety)

P.O. Box 14498, Des Moines, IA 50306

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

City of Hattiesburg

(Name of Owner)

P.O. Box 1898, Hattiesburg, MS 39403-1898

(Address of Owner)

hereinafter called OWNER, in the penal sum of two hundred eighty-seven thousand, nine hundred five dollars and 50/100 Dollars, \$(287,905.50) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the 4 day of April 20 17, a copy of which is hereto attached and made a part hereof for the construction of:

Gordon's Creek – Depot District – Buschman Street to River Avenue

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

00500-9

IN WITNESS WHEREOF, this statement is executed in 5 counterparts, each one of which shall be deemed an original, this the 4 day of April, 20 17.

ATTEST:

Bruce Howell
(Principal) Secretary
(Seal)

Floore Industrial Contractors, Inc.

By Principal

4401-4 Wilson Springs Road

(Address)

Moss Point, MS 39562

[Signature]
Witness as to Principal

4401-4 Wilson Springs Road

(Address)

Moss Point, MS 39562

Merchants Bonding Company (Mutual)

Surety

By Angie M. Strickland

Angie M. Strickland, Attorney-in-fact

1817 Crane Ridge Dr., Ste 300

(Address)

Jackson, MS 39216

ATTEST:

Susan Robertson
Witness as to Surety Susan Robertson
1817 Crane Ridge Dr., Ste 300
(Address)
Jackson, MS 39216

NOTE:

Date of BOND must not be prior to date of Contract.

If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT:

Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

00500-10

MERCHANTS
BONDING COMPANY™
POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Angie M Strickland; John A Chalk Jr; William L Painter

their true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver on behalf of the Companies, as Surety, bonds, undertakings and other written obligations in the nature thereof, subject to the limitation that any such instrument shall not exceed the amount of:

TEN MILLION (\$10,000,000.00) DOLLARS

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 24, 2011.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 4th day of February, 2016

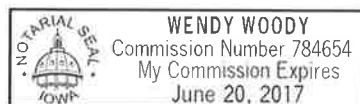


MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.

By *Larry Taylor*
President

STATE OF IOWA
COUNTY OF Dallas ss.

On this 4th day of February, 2016, before me appeared Larry Taylor, to me personally known, who being by me sworn did say that he is President of the MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



Wendy Woody
Notary Public, Polk County, Iowa

(Expiration of notary's commission
does not invalidate this instrument)

I, William Warner, Jr., Secretary of the MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this _____ day of _____,



William Warner Jr.
Secretary



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/24/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Jackson-Alliant Insurance Services, Inc. 1817 Crane Ridge Drive Suite 300 Jackson MS 39216	CONTACT NAME: Jamie White PHONE (A/C, No, Ext): 601-709-4613 E-MAIL ADDRESS: jwhite@alliant.com FAX (A/C, No): 601-709-4615																					
INSURED Floore Industrial Contractors, Inc. 4401-4 Wilson Springs Road Moss Point MS 39562	<table border="1"><thead><tr><th colspan="2">INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr></thead><tbody><tr><td>INSURER A:</td><td>Ohio Casualty Insurance Company</td><td>24074</td></tr><tr><td>INSURER B:</td><td>AGCS Marine Insurance Company</td><td>22837</td></tr><tr><td>INSURER C:</td><td>Liberty Insurance Corporation</td><td>42404</td></tr><tr><td>INSURER D:</td><td>LM Insurance Corporation</td><td>33600</td></tr><tr><td>INSURER E:</td><td></td><td></td></tr><tr><td>INSURER F:</td><td></td><td></td></tr></tbody></table>	INSURER(S) AFFORDING COVERAGE		NAIC #	INSURER A:	Ohio Casualty Insurance Company	24074	INSURER B:	AGCS Marine Insurance Company	22837	INSURER C:	Liberty Insurance Corporation	42404	INSURER D:	LM Insurance Corporation	33600	INSURER E:			INSURER F:		
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INSURER F:																						

COVERAGES

CERTIFICATE NUMBER: 453007744

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
C	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☐ LOC OTHER:	Y	Y	TB7-Z91-451956-026	5/28/2016	5/28/2017	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$300,000 MED EXP (Any one person) \$5,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
D	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☒ HIRED AUTOS ☒ NON-OWNED AUTOS	Y	Y	AS5-Z91-451956-036	5/28/2016	5/28/2017	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	☒ UMBRELLA LIAB ☒ EXCESS LIAB ☐ DED ☐ RETENTION \$	Y	Y	ECO(17)56202675	5/28/2016	5/28/2017	EACH OCCURRENCE \$10,000,000 AGGREGATE \$10,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	WC7-Z91-451956-016	5/28/2016	5/28/2017	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
B	Contractors Equipment			SML93050325	5/28/2016	5/28/2017	Owned Equipment \$995,000 Leased/Rented \$450,000 Ded 2,500

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project: Gordon's Creek - Depot District, Buschman Street to River Avenue, City of Hattiesburg, Mississippi; City of Hattiesburg and Neel-Schaffer, Inc. are included as additional insureds on all policies except the worker's compensation policy if required by written contract and are provided a waiver of subrogation on all policies if required by written contract.

CERTIFICATE HOLDER**CANCELLATION**

City of Hattiesburg
200 Forrest Street
Hattiesburg MS 39401

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

CONTRACT CHANGE ORDER

OWNER: _____ PROJECT NAME: _____

CONTRACTOR: _____

DATE: _____

CHANGE ORDER NUMBER: _____ CONTRACT NUMBER: _____

REASON FOR CHANGE: _____

YOU ARE HEREBY REQUESTED TO COMPLY WITH THE FOLLOWING CHANGES FROM THE CONTRACT PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS: (USE ADDITIONAL SHEETS IF REQUIRED)

ITEM NO.	DESCRIPTION OF CHANGE(S) (QUANTITIES, ETC.)	QTY	UNIT COST	TOTAL CONTRACT
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00

00500-15

TOTAL CONTRACT CHANGE	\$
	TOTAL CONTRACT
ORIGINAL CONTRACT AMOUNT:	\$
CURRENT CONTRACT AMOUNT:	\$
THIS CONTRACT CHANGE	
REVISED CONTRACT AMOUNT:	\$
CURRENT CONTRACT COMPLETION DATE:	
TIME EXTENSION REQUIRED BY CHANGE:	
REVISED CONTRACT COMPLETION DATE:	
THIS DOCUMENT SHALL BE AN AMENDMENT TO THE CONTRACT AND ALL PROVISIONS OF THE CONTRACT WILL APPLY. RECOMMENDED BY: _____ ENGINEER NEEL-SCHAFER, INC. DATE ACCEPTED BY: _____ CONTRACTOR DATE	

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

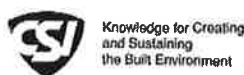
AMERICAN COUNCIL OF ENGINEERING COMPANIES

AMERICAN SOCIETY OF CIVIL ENGINEERS

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The Associated General Contractors of America



Construction Specifications Institute

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National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314

American Council of Engineering Companies
1015 15th Street, N.W., Washington, DC 20005

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain

administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times

but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. Intent of Certain Terms or Adjectives

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. Day

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents, or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. Furnish, Install, Perform, Provide

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement

or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 Preconstruction Conference

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 Initial Acceptance of Schedules

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or

responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work

(unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's

sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and
2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
- b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

- a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
- b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will

promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to

entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified

in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection

from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any

deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract

Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or

received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. **Adjustments** in Contract Times may only be made by a **Change Order**.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract

Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual

or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer,, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Draw-

ings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals , any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents

with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or

disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or

arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal

shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and

properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep

Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show

partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall

promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and

Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have

resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. Contractor's Fee: When all the Work is performed on the basis of cost-plus, Contractor's fee shall

be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an

allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

- a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

- b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

- c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted

by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to

be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications .

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress

payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent

inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial

Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals

that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

- a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;
- b. consent of the surety, if any, to final payment;
- c. a list of all Claims against Owner that Contractor believes are unsettled; and
- d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations

under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance

with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be

governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS

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SUPPLEMENTARY CONDITIONS

1. Definitions

- A. The definition of "Technical Specifications" shall be the same as the definition for Specifications stated in Paragraph 1.01 under item number 43 of the General Conditions.
- B. Delete Paragraph 1.01.A.12 of the General Conditions in its' entirety.
- C. In Paragraph 1.01A.52 delete the following words, "or responding to differing or unseen subsurface or physical conditions under which the work is to be performed or to emergencies."

2. Commencement of Contract Time: Notice to Proceed

The commencement of Contract Time, as stated in Item 2.03 of the General Conditions is changed to read The Contract Time will commence to run within the sixtieth day after the Effective Date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed; but in no event shall the Contract Time commence to run later than the sixtieth day after the Effective Date of the Agreement.

Notice to Proceed may be given at any time within sixty days after the Effective Date of the Agreement. Refer to Item 21 of the Instructions to Bidders regarding execution of the Contract.

3. Before Starting Construction

In addition to the requirements of Paragraph 2.05 of the General Conditions, "**CONTRACTOR** shall deliver to the **OWNER**, with his signed Contract, all bonds and insurance which he is required to purchase and maintain in accordance with Article 5 of the General Conditions. A copy shall also be submitted to the **ENGINEER**. The **OWNER** shall deliver to the **CONTRACTOR** a copy of all policies of insurance which the **OWNER** is required to purchase and maintain in accordance with Article 5 of the General Conditions."

4. Preconstruction Conference

The time period for holding the preconstruction conference as stated in Paragraph 2.06 of the General Conditions shall be within 30 days after the Effective date of the Agreement, but before the **CONTRACTOR** starts the Work at the site.

5. Subsurface and Physical Conditions

Paragraphs 4.02 and 4.03 shall be deleted in its' entirety and replaced with the following:

DIFFERING SITE CONDITIONS PROVISION:

Execution of this Contract (Agreement) by the Contractor is a representation that the Contractor has visited the site, that general and local conditions are suitable for the work to be performed and that the Contractor accepts all conditions at the Project site. The Contractor assumes all risks with respect to the requirements of the Contract Documents, including without limitation the characteristics (natural and manmade) of the site, site accessibility, labor rates and availability, weather conditions, and any other matter that could affect the performance and cost of the work.

6. Insurance Requirements

- A. Paragraphs 5.05 and 5.06 shall be deleted in their entirety.
- B. Paragraphs 5.07.B, 5.07.B.1 and 5.07.B.2 shall be deleted in their entirety.
- C. In addition to the requirements of Article 5 of the General Conditions, insurance coverage specified herein constitutes the minimum requirements and said requirements shall in no way lessen or limit the liability of the **CONTRACTOR** under the terms of the Contract. The **CONTRACTOR** shall procure and maintain at his own expense any additional kinds and amounts of insurance that, in his own judgment, may be necessary for his proper protection in the prosecution of the Work.
 - 1. The **CONTRACTOR** shall carry insurance as prescribed herein and all policies shall be with companies satisfactory to the **OWNER**. If a part of this Contract is sublet, the **CONTRACTOR** shall require each Subcontractor to carry insurance of the same kinds and in like amounts as carried by the **CONTRACTOR**, including all additional insureds and waivers of subrogation.
 - 2. Certificates of insurance shall state that 30 days written notice will be given to the **OWNER** before the policy is canceled or changed. No **CONTRACTOR** or Subcontractor will be allowed to start any construction work on this Contract until certificates of all insurance required herein and all coverage requirements specified in contract documents are filed with and approved by the **OWNER**. The certificates shall show the type, amount, class of operations covered, effective dates and the dates of expiration of policies.
 - 3. The **CONTRACTOR** shall secure and maintain in effect for the period of the **CONTRACT** and pay all premiums for the following kinds and amounts of insurance:
 - a. Worker's Compensation and Employer's Liability Insurance: This insurance shall protect the **CONTRACTOR** against all claims under applicable State Worker's Compensation Laws. The **CONTRACTOR** shall also be protected and shall cause each Subcontractor to be protected against claims for injury, disease, or death of employees, which for any reason, may not fall within the provisions of a Worker's Compensation Law. The liability limits shall not be less than the required statutory limits for Worker's Compensation and Employer's Liability limits in the amount of ONE MILLION DOLLARS (\$1,000,000.00). **CONTRACTOR** and subcontractors shall supply **OWNER** endorsements from their carriers evidencing waiver of subrogation in favor of the **OWNER**.

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- b. **CONTRACTOR'S** and Subcontractor's Comprehensive General Liability Insurance, including bodily injury, property damage, contractual and other standard coverage contained in Comprehensive General Liability Insurance, in an amount of not less than ONE MILLION DOLLARS (\$1,000,000) per occurrence and aggregate. **OWNER** shall be provided an endorsement naming the **OWNER** as an insured from the insurer for the work contracted. The Comprehensive General Liability policies carried by both the **CONTRACTOR** and the Subcontractors shall contain an endorsement to include the coverage of the following hazards:
- i. Explosion, collapse, and underground property damage to include any damage or destruction of property below the surface of the ground, such as wires, conduits, pipes, mains, sewers, etc., caused by the **CONTRACTOR'S** operations.
 - ii. The collapse of and structural injury to any building, structure or property on or adjacent to the **OWNER'S** premises or right-of-way caused by the **CONTRACTOR'S** operations in the removal of other buildings, structures, or supports, or by excavation below the surface of the ground.
 - iii. Contractual Liability Coverage for the Hold Harmless segments of the Contract Documents.
- c. **CONTRACTOR'S** Contingent or Protective Liability and Property Damage: In case part of this Contract is sublet, the **CONTRACTOR** shall secure contingent or protective liability and property damage insurance to protect the **CONTRACTOR** from any and all claims arising from the operation of Subcontractors in the execution of Work included in the Contract. In no case shall the amount of such protection be less than the limits of \$500,000/\$1,000,000 for Public Liability Insurance and \$500,000/\$1,000,000 for Property Damage Insurance. The coverage in each case shall be acceptable to the **OWNER**.
- d. Auto Liability: The **CONTRACTOR** shall maintain Auto Liability Insurance in the amount of not less than ONE MILLION DOLLARS (\$1,000,000) Combined Single Limit to protect him from any and all claims arising from the use of the following:
- i. **CONTRACTOR'S** own automobiles and trucks.
 - ii. Hired and non-owned automobiles and trucks.
 - iii. Automobiles and trucks owned by Subcontractors.
- The aforementioned is to cover use of automobiles and trucks on and off the site of the Project. The **OWNER** shall be provided an endorsement from the insurer naming the **OWNER** as an insured for the work contracted.
- e. **OWNER'S** Protective Liability Policy: The **CONTRACTOR** shall maintain **OWNER'S** Protective Liability Insurance with the **OWNER** as the named insured, and the **ENGINEER**, and their servants, agents and employees as additional insureds, in an amount not less than ONE MILLION DOLLARS (\$1,000,000).
- f. Umbrella Liability: The **CONTRACTOR** shall provide **OWNER** a certificate of insurance evidencing Umbrella Liability Insurance in the amount of not less than FIVE MILLION DOLLARS (\$5,000,000).

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- g. Builder's Risk and Boiler and Machinery Insurance: The **CONTRACTOR** shall purchase and maintain Builder's Risk and Boiler and Machinery Insurance in the amount of the total value of the materials necessary for the project. A certificate evidencing such coverage shall be on file with the **OWNER**.
 - h. Property Insurance: No property insurance is required for this project.

7. Contractor's Responsibilities

Delete Paragraph 6.02.B in its entirety.

8. Record Documents

In addition to the requirements of Paragraph 6.12 of the General Conditions, **CONTRACTOR** shall provide accurate 'mark-ups' acceptable to the **ENGINEER** on or before the date of Substantial Completion of the Project for use by the **ENGINEER** in the preparation of 'record' drawings. Final payment will not be made to the **CONTRACTOR** prior to the **ENGINEER** receiving these mark-ups from the **CONTRACTOR**.

9. Limitations on ENGINEER'S Responsibilities

In addition to the requirements of Paragraph 9.09.B, when it comes to his attention, the **ENGINEER** will immediately notify the **OWNER** in the event that the **CONTRACTOR** is not complying with the Contract Documents or is conducting the Work in such a manner that could be considered grounds for termination of the Contract. The **CONTRACTOR** shall retain responsibility for performing all Work in compliance with the Contract Documents.

The following language shall be added to Paragraph 9.09.B:

"Consistent with the express provisions of this Section 00700, Article 6.13, Article 6.17.D.2, Article 9.02.B, Article 9.09, this Article 9.09.B, and Article 14.02.B.4.b, any reference to "safety" elsewhere in this contract, including but not limited to those found in Section 00700, Articles 4.02.B.1, 4.04.A.2.d, 4.04.B.1, 4.06.B.1, 6.02.B, 6.14, 6.15, 6.16, 6.17.C.1.c, and 13.02.A, does not impose upon the Engineer any duty, obligation or other contractual undertaking to administer the "safety" aspects of Contractor's performance, or any other matter relating to the Contractor's means, methods, techniques, sequences or procedures. Contractor's contractual safety obligations and means and methods during construction are the sole responsibility of the Contractor and are not being administered, overseen or reviewed in any way by the Engineer in performing its contractual obligations"

10. Change of the Contract Time

In addition to the requirements of Paragraph 12.03 of the General Conditions, rainstorms which are encountered in the project area on a regular and seasonal basis do not constitute an abnormal weather condition.

11. Payments to **CONTRACTOR**

Paragraph 14.02, Application for Payments, is deleted in its' entirety and the following substituted therefore:

- A. Monthly Estimates and Partial Payments: The **CONTRACTOR'S** partial payment period shall end on the last day of each month. The **CONTRACTOR** shall submit acceptable Application for Payment to the **ENGINEER** by the date indicated on the payment schedule as supplied to **CONTRACTOR** by **ENGINEER** provided that the amount due on completed work is at least \$500.00. The partial payment request shall be filled out and signed by the **CONTRACTOR** covering the work completed as of the date of the request and accompanied by such supporting documentation as is required by the Contract Documents and also as the **ENGINEER** may reasonably require. At the discretion of the **OWNER**, the **ENGINEER** may be authorized to include in any monthly estimate advances covering approximately 95 percent of the value of unused materials delivered and stored on the site of the work. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site, the Application for Payment shall also be accompanied by such data, satisfactory to **OWNER**, as will establish **OWNER'S** title to the material and equipment and protect **OWNER'S** title to the material and equipment and protect **OWNER'S** interest therein, including applicable insurance. Each subsequent Application for Payment shall include an affidavit of **CONTRACTOR** stating that all previous progress payments received on account of the Work have been applied to discharge in full all of **CONTRACTOR'S** obligations reflected in prior Applications for Payment.
- B. After each monthly estimate has been approved, the **OWNER** shall pay to the **CONTRACTOR** 95 percent of the amount of said estimate. From the total value of each estimate there will be deducted an amount equivalent to 5 percent of the whole as a retainage to be held by the **OWNER**. The monthly estimates will be approximate only and subject to correction in any subsequent estimate rendered following discovery of the error. At the discretion of the **OWNER**, the **ENGINEER** may be authorized to include any monthly advances covering approximately 95 percent of the value of unused materials delivered and stored on the site of the work.
- C. Subsequent to discovery of any defective or questionable work, an amount equal to the estimated value of such work will be deducted from the next current estimate. The sum will not be included in a subsequent estimate until the defects have been remedied to the **ENGINEER'S** satisfaction.
- D. The **OWNER** reserves the right to withhold payment of any monthly estimate that becomes due if, in the opinion of the **OWNER'S** Attorney, such action is warranted because of any breach of the Contract Provisions or malfeasance on the part of the **CONTRACTOR** or because the progress or the quality of the work is unsatisfactory and does not comply with the Plans and Specifications.

Paragraph 14.02.C of the General Conditions is modified to read "60 days after presentation of the Application for Payment to **OWNER** with **ENGINEER'S** recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by **OWNER** to **CONTRACTOR**."

Paragraph 14.07.C of the General Conditions is modified to read, "If the Application and accompanying documentation are appropriate as to form and substance, **OWNER** shall, within 60 days after receipt thereof, pay **CONTRACTOR** the amount recommended by **ENGINEER**."

Delete Paragraph 14.09.A.2 in its entirety.

12. List of Contract Drawings: Not Used.

13. Liquidated and Special Damages

The **CONTRACTOR** will be subject to liquidated damages and actual damages in the amount of the actual costs incurred by the Owner after the time stipulated for Substantial Completion of the work. The **CONTRACTOR** will be subject to liquidated damages in the amount of \$250 for each consecutive calendar day after the time stipulated for Final Completion of the work. The actual costs include, but are not limited to construction related costs resulting from the Contractor's failure to complete the work on schedule.

The liquidated damages provided for herein were not calculated in contemplation or anticipation that the **CONTRACTOR** would default or otherwise abandon the project. In the event the **CONTRACTOR** does default or otherwise abandon the project, the **OWNER** reserves the right to collect from the **CONTRACTOR** or its surety, in addition to the liquidated damages, the actual damages including, but not limited to, additional engineering costs, incurred by the **OWNER** as a result of the default or abandonment.

14. Suspension of Work and Termination

In Paragraph 15.04.A delete the following words: "or Engineer fails to act on any Application for Payment within thirty days, after it is submitted" and add the words "if the". In Paragraph 15.04.B delete the following words: "if Engineer has failed to act on an Application for Payment within thirty days after it is submitted" and add the words "if the".

**** END OF SECTION ****

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 Location of Work

All of the work of this Contract is located in public right-of-way or on easements and property owned or obtained by the Owner.

1.02 Work to be Done

- A. The CONTRACTOR shall furnish all labor, materials, equipment, tools, services and incidentals to complete all work required by these Specifications and as shown on the Drawings.
- B. The CONTRACTOR shall perform the work complete, in place, and ready for continuous service, and shall include repairs, testing, permits, cleanup, replacements and restoration required as a result of damages caused during this construction.
- C. All materials, equipment, skills, tools and labor which are reasonably and properly inferable and necessary for the proper completion of the work in a substantial manner and in compliance with the requirements stated or implied by these Specifications or Drawings shall be furnished and installed by the CONTRACTOR without additional compensation, whether specifically indicated in the Contract Documents or not.
- D. The CONTRACTOR shall comply with all county, state, federal, and other codes which are applicable to the proposed construction work.

1.03 General Description of Work to be Performed

- A. The Work included in the Contract shall be as described in the Contract Documents.
- B. All work shall be done as described in the Specifications and as shown on the Drawings, complete, tested and ready for operation.

1.04 Work Sequence

- A. All work to be done under the Contract shall be done with minimum inconvenience to the OWNER. The CONTRACTOR shall coordinate his work with private property owners such that existing drainage, water service, sewer service and garbage pickup and other public services are maintained at all times.
- B. Construct Work in stages to accommodate the OWNER'S use of the premises during the construction period; coordinate the construction schedule and operations with the ENGINEER.
- C. Construct the Work in stages to provide for public convenience. Do not close off public

access until completion of one stage of construction will provide alternative usage.

1.05 Construction Areas

- A. CONTRACTOR shall limit his use of the construction areas for Work and for storage, to allow for:
 - 1. Work by other contractors.
 - 2. OWNER use.
 - 3. Public use.
- B. Coordinate use of work site under direction of ENGINEER.
- C. Assume full responsibility for the protection, security and safekeeping of products under this Contract stored on the site.
- D. Move any stored products, under CONTRACTOR'S control which interfere with operations of the OWNER or other contractors.
- E. Obtain and pay for the use of additional storage or work areas needed for operations.

1.06 Owner Occupancy

- A. OWNER will have full access to and use of all existing sewer facilities during the entire period of construction for the conduct of his normal operations. Cooperate with ENGINEER in all construction operations to minimize conflict and to facilitate OWNER usage.
- B. CONTRACTOR shall at all times conduct his operations as to insure the least inconvenience to the general public.

1.07 Partial Owner Occupancy

The CONTRACTOR shall schedule his operations for completion of portions of the Work, as designated, for the OWNER'S occupancy prior to Substantial Completion of the entire Work.

1.08 Plans and Specifications

- A. Specifications: The Technical Specifications consist of three parts: General, Products, and Execution. The General section contains general requirements which govern the work. The Products and Execution sections modify and supplement these by detailed requirements of the work and shall always govern whenever there appears to be a conflict.
- B. Intent:
 - 1. All work called for in the Specifications applicable to the Contract but not shown on the Plans in their present form or vice versa shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications but involved in carrying out their intent or in the complete and proper execution of the work is required and shall be performed by the CONTRACTOR as though it were specifically delineated or described at the CONTRACTOR'S expense.
 - 2. The apparent silence of the Specifications as to any detail, or the apparent omission

from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specifications shall be made upon that basis.

- C. Conflict between Drawings and Specifications. Where an obvious conflict exists between the Plans and Specifications, the ENGINEER shall decide which governs and the CONTRACTOR shall comply with the decision. Such decision shall not be grounds for additional payment to the CONTRACTOR, i.e., the CONTRACTOR shall include the price of the most expensive alternative in his bid.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 Description

- A. CONTRACTOR shall furnish all labor, materials, tools, equipment, appurtenances and all services necessary to perform all Work required, at the lump sum or unit prices for the items listed in the Prices Bid Table located in the Bid Proposal.
- B. The pay items listed in the Bid Proposal constitute all of the pay items for the completion of the Contract. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, CONTRACTOR'S or ENGINEER'S field offices, layout surveys, job signs, sanitary requirements, testing, safety devices, approval and record drawings, water supplies, power, removal of waste, watchmen, bonds, insurance, and all other requirements of the Contract Documents. Compensation for all such services, things and materials shall be included in the prices stipulated for the lump sum and unit pay items listed herein.

1.02 Engineer's Estimate of Quantities

The ENGINEER's estimated quantities for unit bid prices, as listed in the Bid Form, are approximate only and are included solely for the purpose of comparison of Bids. The OWNER does not expressly or by implication agree that the nature of the materials encountered below the surface of the ground or the actual quantities of material encountered or required will correspond therewith and reserves the right to increase or decrease any quantity or to eliminate any quantity as OWNER may deem necessary.

1.03 Related Provisions Specified Elsewhere

- A. Payments to CONTRACTOR: Refer to General Conditions and Supplemental Conditions.
- B. Changes in Contract Price: General Conditions and Contract Forms.
- C. Schedule of Values: Section 01026.

1.04 Measurement of Quantities

- A. The measurement and determination of quantities for each pay item will be made in general as prescribed hereinafter and specifically as set out under Method of Measurement and Basis of Payment for each respective pay item section. Actual authorized quantities of work, complete and accepted under the contract, will be measured by the Engineer according to United States standard measures, and in accordance with well recognized engineering practices.
- B. A station when used as a definition or term of measurement will be 100 linear feet.

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- C. Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of nine square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered by the Engineer.
 - D. Where the area unit for measurement and payment is specified for erosion control items, the measurements will be taken on the slope of the ground to compute the actual surface area for payment.
 - E. Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
 - F. All items which are measured by the linear foot, such as pipe culverts, guardrail, underdrains, etc., will be measured as specified under the Method of Measurement for the item unless otherwise shown on the plans.
 - G. No payment will be made for unauthorized excavation. Excavation or embankment performed beyond the required neat lines or slope stakes will not be measured for payment unless within tolerances specified or otherwise provided.
 - H. In computing volumes of excavation and embankment, the average end area method will be used, unless otherwise specified.
 - I. When size number is used in the measurement of wire, it will mean the size number specified in AASHTO Designation: M 32.
 - J. The term ton will mean the short ton consisting of 2000 pounds avoirdupois. All materials which are specified for measurement by the ton shall be weighed by competent personnel on approved scales set at locations approved by the Engineer or in the case of prepackaged materials, the manufacturer's bag weight may be used. If material is shipped by rail, the car weight may be accepted provided it is the actual weight of material and not minimum car weight used for assessing freight tariff. However, car weights will not be acceptable for material to be used in mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such time as the Engineer directs, and each truck shall bear a plainly legible identification mark.
 - K. When a complete structure or structural unit, in effect "lump sum" work, is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.
 - L. Volumes of materials computed in cubic yards by the average end area method are designated as "Final Measure" (FM), or "Final Measure - Embankment" (FME). Volumes of materials designated for measurement loose in the vehicle are designated as "Loose Vehicle Measure" (LVM).

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- M. Volumetric measurement of excavation, embankment, granular materials or similar materials in cubic yards will be made by the methods designated on the plans or in the proposal. For justifiable reasons, such as impracticability of measurement of volumes (usually small) by the designated method, the Engineer may order measurement by another method as follows:
1. Volumes designated for payment by FM may be measured LVM and converted to contract measurement by multiplying the loose measure by 80 percent.
 2. Volumes designated for payment by LVM may be measured in its original position by the average end area method and multiply the FM measure by 125 percent.
 3. Volumes designated for payment by FME may be measured in its original position by the average end area method and multiply the FM measure by 90 percent.
 4. Small volumes of surplus, excess excavation or other small volumes of excavation which are impractical to measure by the average end area method but are designated to be measured by FME may be measured LVM and multiply the loose measure by 72 percent.

When the Engineer orders the use of a conversion factor for converting a unit of measure, the ordered method of measurement shall be deemed acceptable to all parties and shall be final.

- N. When requested by the Contractor and with written approval of the Engineer, material specified to be measured by the cubic yard or ton may be converted to the other measure as appropriate. Factors for this conversion will be determined by the Engineer and agreed to by the Contractor before such method of measurement is used.
- O. All materials measured by the cubic yard LVM shall be hauled in approved vehicles and verified at the point of delivery. Vehicles may be of any size or type acceptable to the Engineer provided the body is of such shape that the capacity may be readily and accurately determined to the whole cubic yard. Unless all vehicles on the work are of uniform capacity, each vehicle must be plainly labeled to indicate its measured capacity. All vehicles shall be legibly numbered for identification.
- P. The vehicles shall be loaded to ensure a water level load when they arrive at the point of delivery. Loads hauled in unapproved vehicles and loads of a quantity less than the measured quantity for the hauling vehicle, will be subject to rejection.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01026

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 Requirements Included

The Schedule of Values is an itemized list that establishes the value or cost of each part of the work as defined in Section 01025, Part 1.04. All other work shall be paid according to the Prices Bid Table. It shall be used as the basis for preparing progress payments and may be used as a basis for negotiations concerning additional work or credits which may arise during the construction. Quantities and unit prices may be included in the schedule when approved by or required by the ENGINEER.

1.02 Preparation

- A. Schedule shall show breakdown of labor, materials equipment and other costs used in preparation of the Bid.
- B. Costs shall be in sufficient detail to indicate separate amounts for each Section of the Specifications.
- C. CONTRACTOR may include items for bond, insurance, temporary facilities and job mobilization within the mobilization bid item.
- D. Schedule of Values shall be prepared on 8-1/2 inch by 11 inch white paper.
- E. Use Table of Contents of the Specifications as basis for Schedule format and identify each item with number and title in the Table of Contents. List sub-items of major products or systems as appropriate or when requested by ENGINEER.
- F. When requested by ENGINEER, support values with data that will substantiate their correctness.
- G. The sum of the individual values shown on the Schedule of Values must equal the total Contract Price.
- H. The manner in which overhead and profit are shown shall be supported by the ENGINEER.
- I. Schedule shall show the purchase and delivery costs for materials and equipment that the CONTRACTOR anticipates he shall request payment for prior to their installation.

1.03 Submittal

Submit two copies of Schedule to ENGINEER for approval at least 20 days prior to submitting first application for a progress payment. After review by ENGINEER, revise and resubmit Schedule as required until it is approved.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01027

APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.01 Requirements Included

Submit Applications for Payment to the ENGINEER in accordance with the General Conditions and in the form required by the OWNER.

1.02 Format and Data Required

- A. Submit applications typed with itemized Schedule of Values data typed on 8-1/2 inch x 11 inch white continuation sheets.
- B. Provide detailed substantiating data on additional sheets, including paid invoices where applicable.

1.03 Preparation of Application for Progress Payments

- A. Application Form:
 - 1. Fill in required information, including that for Change Orders executed prior to date of submittal of application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of the CONTRACTOR.
- B. Continuation Sheets:
 - 1. Fill in total list of all scheduled component items of work, with item number and scheduled dollar value for each item.
 - 2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored. Round off values to the nearest dollar or as specified for Schedule of Values.
 - 3. List each Change Order executed prior to date of submission by Change Order Number and description.
 - 4. To receive payment for materials stored on site, submit copies of the original paid invoices with the application for payment.

1.04 Substantiating Data for Progress Payments

- A. Provide substantiating data containing suitable information for review of costs requested with the applications for progress reports identifying:
 - 1. The payment item to which the substantiating data applies.
 - 2. Application number and date.
 - 3. Detailed list of enclosures.
 - 4. For stored materials:
 - a. Item number and identification as shown on application.

-
- b. Description of specific material and invoice of delivered material.
 - c. Consolidated inventory of stored materials showing:
 - (1) Materials received.
 - (2) Materials used.
 - d. Additional stored materials may not be claimed upon reaching 75% completion of the total project.
 - e. Stored Materials shall be inventoried jointly prior to each pay request.
- B. Submit one copy of data for each copy of application for payment.
- C. The CONTRACTOR is to maintain an updated set of record drawings in accordance with Section 01720. As a prerequisite for monthly progress payments, the CONTRACTOR is to exhibit the updated record drawings for review by the OWNER and the ENGINEER.
- D. Construction photographs as required by Section 01380 will be submitted with each progress payment and shall be considered a part of that payment request.
- E. Updated construction schedule showing work completed and work projected by month to the completion of the project.

1.05 Preparation of Application for Final Payment

- A. Fill in application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting.

1.06 Submittal Procedure

- A. Submit applications for payment to the ENGINEER at the times stipulated in the General Conditions.
- B. Initially a pencil draft application shall be informally submitted to the ENGINEER who shall review the draft with the CONTRACTOR and make adjustments as appropriate. The CONTRACTOR shall then prepare a formal typed application using the informally approved amounts and submit three (3) complete sets to the ENGINEER.
- C. When the ENGINEER finds the application properly completed and correct, as informally approved, he will transmit it to the OWNER for payment with a copy to the CONTRACTOR.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01030

SPECIAL PROJECT PROCEDURES

PART 1 GENERAL

1.01 WORKMANSHIP, MATERIAL AND EQUIPMENT

- A. When a particular product is specified or called for, it is intended and shall be understood that the Contractor include those products in his bid. Should the Contractor desire to substitute products which he purports to be equal to those specified, the Contractor shall furnish information as described in Section 00700, General Conditions. The alternative products(s) submitted by the Contractor shall meet the requirements of the specifications and shall, in all respects, be equal to the products specified by name herein.
- B. All apparatus, mechanism, equipment, machinery, and manufactured articles for incorporation into the Work shall be new and unused and the standard products of recognized reputable manufacturers.

1.02 PROVISIONS FOR CONTROL OF EROSION AND POLLUTANTS

Sufficient precautions shall be taken during construction to minimize the runoff of polluting substances such as silt, clay, fuels, oils, bitumens, calcium chloride, or other materials harmful to humans, fish, or other life, into the ground and surface waters of the state. Contractor will give all notices and comply with all laws, notices, ordinances, rules and regulations applicable to the work, without exception.

1.03 ON-SITE STORAGE

The Contractor's attention is invited to special storage requirements and possible charges for noncompliance of on-site storage requirements for materials and equipment as specified in Section 01600.

1.04 INCLEMENT WEATHER

- A. In the event of inclement weather, or whenever Engineer shall direct, Contractor and Subcontractors will protect carefully the work and materials against damage or injury from the weathers, including sudden rises in flows due to storms outside the immediate construction zone. Damaged Work and materials shall be removed and replaced. If, in the opinion of Engineer, any portion of Work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or Subcontractors to so protect the Work, no additional time for removal and replacement will be given by the Owner.

1.05 WARRANTIES

- A. All work supplied under the Contract shall be warranted for a period of one (1) year or such longer period of time as may be prescribed by any special guarantee required by Change Orders or issued by Subcontractor, suppliers, or manufacturers, from the date of acceptance for operations (beneficial use) by the Owner as specified in Section 01740, Warranties and Bonds.
- B. The work shall be warranted to be free from defects in workmanship, design and materials. If any part of the work should fail during warranty period, it shall be replaced or restored to service at no expense to the Owner.

1.06 CONSTRUCTION CONDITIONS

The Contractor shall strictly adhere to the specific requirements of the governmental units(s) or agency(ices) having jurisdiction over the work. Wherever there is a difference in the requirements of a jurisdictional body and these Specifications, the more stringent shall apply.

1.07 PUBLIC NUISANCE

The Contractor shall not create a public nuisance, including, but not limited to, encroachment on adjacent lands, flooding of adjacent lands, or excessive noise.

1.08 SUSPENSION OF WORK DUE TO WEATHER

During inclement weather, all work which might be damaged or rendered inferior by such weather conditions shall be suspended. The orders and decisions of the Engineer as to suspensions shall be final and binding. The authority of the Engineer to issue such an order shall not be interpreted as a requirement to do so. During suspension of the work from any cause, the work shall be suitably covered and protected so as to preserve it from injury by the weather. Notwithstanding this provision, it is understood and agreed that the General Conditions shall control.

1.09 RELOCATIONS

The Contractor shall be responsible for the relocation of structures, including, but not limited to, light poles, signs, sign poles, fences, mailboxes, piping, conduits and drains that interfere with the positioning of the work as set out on the Drawings. The cost of all such relocations shall be included in the bid.

1.10 SALVAGE

Any existing equipment or materials, including, but not limited to, valves, pipes, fittings, couplings, etc., which are removed or replaced as a result of construction under this project may be designated as salvage by the Engineer and, if so, shall be removed and delivered to the Owner at a location directed by the Engineer.

1.11 PERMITS

Upon notice of award, the Contractor shall immediately apply for all applicable permits not previously obtained by the Owner to do the work from the appropriate governmental agency or agencies. No work shall commence until all applicable permits have been obtained and copies delivered to the Engineer. The costs for obtaining all permits shall be borne by the Contractor.

1.12 HAZARDOUS LOCATION

- A. The existing wet wells, manholes, sewers, force mains, pipes, and other related areas are hazardous locations in that explosive concentrations of sewage gas may be present. The Contractor is cautioned that the above areas, especially the wet well, may be deficient in oxygen. Checks shall be made by the Contractor whenever personnel are working in these areas to insure that adequate ventilation has been provided.
- B. In his operations in hazardous locations, the Contractor shall use spark-proof tools and explosion-proof temporary lighting and shall not use electric power tools, open flame devices, electric welding or any device or methods which might conceivably cause ignition or explosion.
- C. If a working is atmosphere is unsafe, the Contractor shall furnish, install, operate, and later remove such temporary auxiliary ventilating facilities as are necessary to provide a safe atmosphere.
- D. The Contractor shall also instruct and caution his employees and the employees of his subcontractors to avoid smoking while in the hazardous areas. Suitable prominent "No Smoking" signs shall be placed at locations where sewage gas could be present.

1.13 NOTIFICATION OF WORK ON EXISTING FACILITIES

Before commencing work on any of the existing structures or equipment, the Contractor shall notify the Engineer, in writing, at least ten (10) calendar days in advance of the date he proposes to commence such work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01041

PROJECT COORDINATION

PART 1 GENERAL

1.01 Work Progress

The CONTRACTOR shall furnish personnel and equipment which will be efficient, appropriate, and large enough to secure a satisfactory quality of work and a rate of progress which will insure the completion of the work within the time stipulated in the contract. If at any time such personnel appear to the ENGINEER to be inefficient, inappropriate, or insufficient for performing the quality of work required or for producing the rate of progress aforesaid, he may order the CONTRACTOR to increase the efficiency, change the character or increase the personnel and equipment, and the CONTRACTOR shall conform to such order at his own expense. Failure of the ENGINEER to give such order shall in no way relieve the CONTRACTOR of his obligations to perform the work at the specified quality and rate of progress.

1.02 Private Land

The CONTRACTOR shall not enter or occupy private land outside of the OWNER'S land, right-of-ways, or servitudes except by written permission of both the OWNER and the Owner of the private land. Such permission shall be obtained by and at the expense of the CONTRACTOR and at no additional cost to the OWNER.

1.03 Work Locations

Work shall be located substantially as indicated on the Drawings, but the Engineer reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons.

1.04 Open Excavations

All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons and damage to property. The CONTRACTOR shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by the public, OWNER'S and ENGINEER'S personnel, and workmen.

1.05 Test Pits

Test pits for the purpose of locating underground utilities or structures which may interfere with installation of the Work shall be excavated in advance of the Work and backfilled by the CONTRACTOR. Test pits shall be backfilled immediately after their purpose has been satisfied and maintained in a manner satisfactory to the ENGINEER. The costs for such test pits shall be included in the cost of the work for which the test pits benefit.

1.06 Water for Construction Purposes

- A. In locations where public water supply is available, the CONTRACTOR shall purchase water for all construction purposes.
- B. The CONTRACTOR shall make his own arrangements and pay all costs for connections to public water systems and for water used. Existing OWNER supplies or connections shall not be used without prior approval by OWNER.

1.07 Maintenance of Flow

The CONTRACTOR shall maintain the flow of sewers, drains, and water courses interrupted during the progress of the Work, including complete pumped bypass systems where necessary. The CONTRACTOR shall immediately remove all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the ENGINEER well in advance of the interruption of any flow. All temporary works installed for flow maintenance shall be removed when the permanent work is finished and the areas cleaned and restored to good condition.

1.08 Protection of Construction and Equipment

- A. All newly constructed work shall be carefully protected from injury in any way. No wheeling or walking or placing of heavy loads on it shall be allowed. All portions of the work injured shall be reconstructed by the CONTRACTOR at his own expense.
- B. All structures shall be protected in a suitable manner. Should any parts of the structures become heaved, cracked or otherwise damaged, all such damaged portions of the work shall be completely repaired and made good by the CONTRACTOR at his own expense and to the satisfaction of the ENGINEER. If, in the final inspection of the work, any defects, faults or omissions are found, the CONTRACTOR shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required. Further, the CONTRACTOR shall be fully responsible for the satisfactory maintenance and repair of the construction and other work undertaken herein for at least the guarantee period described in the contract.
- C. The CONTRACTOR shall take all necessary precautions to prevent damage to any structure due to water pressure (groundwater or surface water) during and after construction and until such structure is accepted and taken over by the OWNER.
- D. The CONTRACTOR is responsible for security of the site. Security of all equipment, material, tools, machinery, supplies, structures, buildings, vehicles and offices is the responsibility of the CONTRACTOR. Measures to affect job site security and limit unauthorized access, including temporary fencing, security guards, and other measures are the responsibility of the CONTRACTOR at his expense.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01041.1

UTILITIES COORDINATION

PART 1 GENERAL

1.01 UTILITIES

Utilities for the purpose of these specifications shall be considered as including, but not limited to: pipelines, conduits, cables, transmission lines and appurtenances of Public Utilities and those of Special Utility Districts, Cities or Towns, businesses or individuals solely for their own use or for use of their tenants; and storm drains, sanitary sewers, street lighting, traffic signal and fire alarm systems.

1.02 UNDERGROUND INSTALLATIONS

Existing underground pipelines and utilities are indicated on the Drawings only to the extent such information was made available to or discovered by Engineer in preparing drawings. There is no guarantee as to the accuracy or completeness of such information, and all responsibility for the accuracy and completeness thereof is expressly disclaimed by the Owner and the Engineer.

1.03 UTILITIES LOCATED IN CITY RIGHT-OF-WAY

Unless otherwise provided or excepted herein, the removal, adjusting, relocation, or replacement of utility structures or facilities within City right-of-way which may be necessary for construction of the work in accordance with these Contract Documents, shall be at the expense of the Contractor.

It shall be the Contractor's responsibility to protect and maintain those utilities which, in the opinion of the Engineer, do not need to be disturbed in order to accomplish the work required by the contract.

1.04 RELOCATIONS OF EXISTING GAS LINES, TELEPHONE LINES, ELECTRIC LINES, CABLE TV LINES AND WATER LINES

The Contractor shall notify the proper authority of the utility involved when relocation of these lines is required. The Contractor shall coordinate all work by the utility so that the progress of construction will not be hampered.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

The Contractor, when the Notice to Proceed is received, shall notify the owners of utilities affected by the work, the approximate date upon which he will begin work, and shall submit a progress schedule of the proposed work. This shall be deemed sufficient notice if the project progresses

according to the progress schedule submitted with the notification. If changes in the schedule of the work occur, the Contractor shall appraise both the owner of the utility affected and the Engineer so that adjustments in the work schedule of utility can be made. The Contractor shall be responsible for damages to the utility facility and construction delays resulting from failure to notify the utility and the Engineer of changes in procedure or location.

3.02 PROTECTION OF EXISTING UTILITIES

A. The attention of the Contractor is drawn to the fact that during excavation, the possibility exists of the Contractor encountering various water, gas, telephone, electrical, or other utility lines not shown on the Drawings. The Contractor shall exercise extreme care before and during excavation to locate and flag these lines so as to avoid damage to the existing lines. Should damage occur to an existing line, the Contractor shall repair the line at no cost to the Owner.

B. The Contractor shall assume full responsibility for the protection of all utilities, public and private, including poles, services to buildings, gas pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such utilities from injury of any kind. Any damage resulting from the Contractor's operation shall be repaired by him at his expense.

The protection and preservation of utility facilities which are located within the right-of-way, but outside the normal limits of construction, as determined by the Engineer, shall be the responsibility of the Contractor. The Contractor shall be responsible for all damage to utilities which are due to his negligence.

C. The Contractor shall bear full responsibility for obtaining locations of all underground structures and utilities (including existing water services, drain lines, and sewer). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor.

D. If, in the opinion of the Engineer, permanent relocation of a utility owned by the City is required, he may direct the Contractor, in writing, to perform the work. Work so ordered will be paid for at the Contract unit prices, if applicable, or as extra work under Article 10 of the General Conditions. If relocation of a privately owned utility is required, the Contractor will notify the Utility to perform the work as expeditiously as possible. The Contractor shall fully cooperate with the County and Utility and shall have no claim for delay due to such relocation.

E. The Contractor shall notify public and private utility companies in writing at least two, but not more than five full days (excluding Saturdays, Sundays, and legal holidays) before excavating near their utilities.

3.03 UTILITIES TO BE ADJUSTED

The owners of utility facilities which require relocation, removal, adjustment or replacement shall, if possible and feasible, perform this work prior to the commencement of the Contractor's work. Where utility work must be done in conjunction with the Contractor's work on the project or in conjunction

with the work of other utilities, arrangements for when, how and where the operation is to proceed shall be worked out among the parties concerned. If disputes arise, the Engineer shall decide the course of action to be taken.

3.04 UTILITIES CONFLICTING WITH OPERATIONS

Those utility facilities which do not conflict with the improvement, but which are obstructions to the operations required for installation or which are obstructions to the operations required for installation of which present unusual difficulty due to their close proximity to the area of the operations, shall be located with certainty by the owners of the utility prior to the arrival of the Contractor's operation which would be hindered by the utility facility. The Contractor is required to preserve the utility facility in place without damage and shall be responsible for damages sustained, if the utility owner has located the facility by exposing it to the view of the Contractor or has otherwise made the Contractor aware, with certainty, of the location of the facility. Any other arrangements that the Contractor may make with a utility owner as a substitute for the requirements of this Section shall require the approval of the Engineer, in writing.

3.05 MISLOCATED UTILITIES

The owner of a utility shall be wholly responsible for the proper location of his facilities which are affected by construction work performed according to these specifications. Improperly located or mislocated facilities which are damaged during construction shall be the responsibility of the utility, providing proper notification has been given.

END OF SECTION

SECTION 01045

CUTTING AND PATCHING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Contractor shall be responsible for all cutting, fitting and patching, including attendant excavation and backfill, required to complete the Work to include:

- A. Make its several parts fit together properly.
- B. Uncover portions of the Work to provide for installation of ill-timed work.
- C. Remove and replace defective work.
- D. Remove and replace work not conforming to requirements of the Contract Documents
- E. Remove samples of installed work as specified for testing.

1.02 SUBMITTALS

- A. Submit a written request to the Engineer well in advance of executing any cutting or alteration which affects:
 - 1. Work of the Owner or any separate contractor.
 - 2. Structural value or integrity of any element of the Project or work.
 - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance or safety of operational elements.
 - 5. Visual qualities of sight-exposed elements.
- B. Request shall include:
 - 1. Identification of the work.
 - 2. Description of affected work.
 - 3. The necessity for cutting, alteration or excavation.
 - 4. Effect on work of Owner or any separate Contractor, or on structural or weatherproof integrity of work.

-
5. Description of proposed work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
 6. Alternatives to cutting and patching.
 7. Cost proposal, when applicable.
- C. Submit written notice to the Engineer designating the date and the time the work will be uncovered.

PART 2 PRODUCTS

2.01 MATERIALS

Comply with specifications and standards for each specific product involved.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of Project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, inspect conditions affecting installation of products or performance or work.
- C. Report unsatisfactory or questionable conditions to the Engineer in writing; do not proceed with work until the Engineer has provided further instructions.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.
- B. Provide devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for the portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

3.03 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other work and will provide proper surfaces to receive installation of repairs.
- B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
- C. Employ original installer or fabricator to perform cutting and patching for:
 - 1. Weather-exposed or moisture-resistant elements.
 - 2. Sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- E. Restore work which has been cut or removed; install new products to provide completed work in accord with requirements of Contract Documents.
- F. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall provide and pay for field engineering services for:
 - 1. Survey work required in execution of work.
 - 2. Civil, structural, or other professional engineering services specified or required to execute the Contractor's construction method.
- B. The method of field staking for the construction of the work shall be at the option of the Contractor. The Owner shall provide the engineering surveys to establish reference points which in his judgment are necessary to enable the Contractor to proceed with his work.
- C. The accuracy of any method of staking shall be responsibility of the Contractor. All engineering for vertical and horizontal control shall be the responsibility of the Contractor.
- D. The Contractor shall be held responsible for the preservation of all stakes and marks. If any stakes or marks are carelessly or willfully disturbed by the Contractor, the Contractor shall not proceed with any work until he has reestablished such points, marks, lines and elevations as may be necessary for the prosecution of the work.
- E. The Contractor shall retain the services of a competent surveyor, registered in the State of Mississippi, to layout the work and maintain a survey during construction. The Contractor shall be solely responsible for proper location of the work.

1.02 SURVEY REFERENCE POINTS

Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.

- 1. Make no changes or relocations without prior written notice to the Engineer.
- 2. Report to the Engineer when any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.

1.03 PROJECT SURVEY REQUIREMENTS

- A. Establish temporary bench marks as needed, referenced to data established by survey control points. Record locations, with horizontal and vertical data, on Record Drawings.
- B. Establish lines and levels, and locate and lay out, by instrumentation and similar appropriate

means:

1. Site improvements, including utility slopes and invert elevations.
 2. Batter boards for structures.
- C. From time to time, verify layouts by same methods.
- D. Establish all lines and grades prior to construction of site improvements.

1.04 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses.
- B. At Contract closeout, submit a survey of installation of water mains, fire hydrants, and valves at the same scale as the Engineer's drawings indicating elevations and channel stationing at 100 foot increments.

1.05 SUBMITTALS

- A. On request of the Engineer, submit documentation to verify accuracy of field engineering work.
- B. Submit Drawings showing locations of all pipes and structures constructed. This Drawing shall be included with the Record Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01060

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Abbreviations and acronyms used in Contract Documents to identify reference standards are as indicated herein.

1.02 QUALITY ASSURANCE

- A. Applications: When a standard is specified by references, comply with requirements and recommendations stated in the standard, except when requirements are modified by the Contract Documents, or applicable codes establish stricter standards.
- B. Publications Date: The publication in effect on the date of issue of Contract Documents, except when a specific publication date is specified.

1.03 ABBREVIATIONS, NAMES, AND ADDRESSES OF ORGANIZATIONS

The following standards may be referenced in the Contract Documents. The contractor shall obtain copies of reference standards directly from the publication source when needed for proper performance of Work or when required for submittal by Contract Documents.

AAN	American Association of Nurserymen 1250 I Street N.W., Suite 500 Washington, DC 20005 (202) 789-2900
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, N.W., Suite 225 Washington, DC 20001 (202) 624-5800
ACI	American Concrete Institute Post Office Box 19150 22400 W. Steven Mile Road Detroit, MI 48219 (313) 532-2600
ACPA	American Concrete Pipe Association 8320 Old Courthouse Road, Suite 201 Vienna, VA 22180 (703) 821-1990
AI	Asphalt Institute

	Asphalt Institute Building College Park, MD 20740-1802
AISC	American Institute of Steel Construction 400 North Michigan Avenue Chicago, IL 60611 (312) 670-2400
AISI	American Iron and Steel Institute 1133 15th Street N.W., Suite 300 Washington, DC 20005 (202) 452-7100
ANSI	American National Standard Institute 1430 Broadway New York, NY 10018 (212) 354-3300
ASCE	American Society of Civil Engineers 345 East 47th Street New York, NY 10017 1-800-548-ASCE 345 East 47th Street New York, NY 10017 (212) 705-7722
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103 (215) 299-5400
AWPA	American Wood Preserver's Association Post Office Box 849 Stevensville, MD 21666 (301) 643-4163
AWS	American Welding Society Post Office Box 351040 550 LeJeune Road, N.W. Miami, FL 33126 1-800-443-9353
AWWA	American Water Works Association 6666 W. Quincy Avenue Denver, CO 80235 (303) 794-7711
CLFMI	Chain Link Fence Manufacturers Institute

	1776 Mass Avenue N.W., Suite 500 Washington, DC 20036 (202) 659-3537
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Road Schaumburg, IL 60173 (312) 517-1200
DIPRA Ductile Iron Pipe Research Association	245 Rivercase Parkway E., Suite 100 Birmingham, AL 35244 (205) 988-9870
FS	Federal Specification General Services Administration Specifications and Consumer Information & Distribution Section (WFSIS) 7 and D Street S.W., Room 654 Washington, DC 20407 (202) 472-2140
IEEE	Institute of Electrical and Electronic Engineers Service Center 345 E. 47th Street New York, NY 10017 (212) 705-7900
MDOT	Mississippi Department of Transportation P. O. Box 1850 Jackson, Ms 39215-1850 (601) 359-1213
MIL	Department of the Navy Navel Publications and Forms Center 5801 Torbor Avenue Philadelphia, PA 19120-5099 (215) 697-2667
NEC	National Electric Code National Fire Protection Association Batterymarch Park Quincy, MA 02269 (617) 770-3000
NEMA	National Electrical Manufacturer's Association 2101 L Street, NW, Suite 300 Washington, DC 20037 (202) 457-8400
NSPE	National Society of Professional Engineers

	1420 King Street Alexandria, VA 22314 (703) 684-2835
OSCI	Office of Standards Code and Information National Bureau of Standards Gaithersburg, MD 20899 (301) 975-4029
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 (312) 966-6200
PCI	Prestressed Concrete Institute 175 W. Jackson Blvd., Suite 1859 Chicago, IL 60604 (312) 786-0300
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association Post Office Box 70 Merrifield, VA 22116 (703) 790-9890
SSPC	Steel Structures Painting Council 4400 5th Avenue Pittsburgh, PA 15213 (412) 268-3327
UL	Underwriter's Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062 (312) 272-8800

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

*** * END OF SECTION * ***

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.01 Requirements Included

- A. The ENGINEER shall schedule and administer a preconstruction meeting, construction progress meetings, and specially called meetings throughout the progress of the work. The ENGINEER will:
 - 1. Prepare agenda for meetings.
 - 2. Make physical arrangements for meetings.
 - 3. Preside at meetings.
 - 4. Record the minutes; include significant proceedings and decisions.
 - 5. Reproduce and distribute copies of minutes.
- B. The CONTRACTOR and representatives of, where appropriate, subcontractors and suppliers shall attend meetings. The representative shall be qualified and authorized to act on behalf of the entity each represents.
- C. The CONTRACTOR shall attend and identify at the meetings the actual status of the Contract Work and, when the Work is not being performed consistently with the Contract Documents and construction schedules, shall identify at the meetings the steps he is taking to resolve the inconsistency.

1.02 Pre-construction Meeting

- A. The CONTRACTOR shall participate in a preconstruction meeting to be held after the effective date of the Agreement and prior to the date of Notice to Proceed.
- B. The following are expected to be in attendance:
 - 1. OWNER'S Representative and other staff as appropriate.
 - 2. ENGINEER and his professional consultants as appropriate.
 - 3. ENGINEER's Resident Project Representative.
 - 4. CONTRACTOR's Representative and Construction Superintendent.
 - 5. Subcontractors as appropriate.
 - 6. Utility representatives as appropriate.
 - 7. Others as appropriate.
- C. The following matters are expected to be addressed:
 - 1. Distribution and discussion of:
 - a. List of major subcontractors.
 - b. Project construction schedules.
 - 2. Critical work sequencing.
 - 3. Project Coordination.
 - 4. Designation of responsible personnel.

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5. Procedures and processing of:
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals.
 - d. Change Orders.
 - e. Applications for Payment.
 6. Distribution of Contract Documents.
 7. Procedures for maintaining Record Documents.
 8. Use of premises:
 - a. Office, work and storage areas.
 - b. OWNER'S requirements.
 9. Construction facilities, controls and construction aids.
 10. Temporary utilities.
 11. Housekeeping procedures.
 12. Insurance certifications.
 13. Liquidated damages for delay.
 14. Weekly job meetings.
 15. Laboratory testing of material requirements.

1.03 Construction Progress Meetings

- A. Construction progress meetings will be held monthly with the first meeting 30 days or less after the date of Notice to Proceed.
- B. Special construction progress meetings will be held as required by progress of the Work.
- C. The following are expected to be in attendance:
 1. OWNER Representative and other staff as appropriate.
 2. The ENGINEER and his professional consultants as appropriate.
 3. CONTRACTOR's Representative and/or construction Superintendent.
 4. Subcontractors as appropriate.
 5. Suppliers as appropriate.
 6. Others as appropriate.
- D. The following matters are expected to be addressed:
 1. Review and approve minutes of previous meeting.
 2. Review of work progress.
 3. Field observations, problems, conflicts.
 4. Problems which impede Construction Schedule.
 5. Review of off-site fabrication, delivery schedules.
 6. Corrective measures and procedures to regain Construction Schedule.
 7. Revisions to Construction Schedule.
 8. Progress and schedule during succeeding work period.
 9. Payment applications and processing.
 10. Submittals.
 11. Maintenance of quality standards.
 12. Changes, substitutions, and Change Orders.

-
- 13. Review proposed changes for:
 - a. Effect on Construction Schedule and completion date.
 - b. Effect on other contracts of the Project.
 - 14. Other matters as appropriate.
 - 15. Record drawings.
- E. The CONTRACTOR shall be prepared to discuss the above topics and to make commitments for resolving deficiencies.
- F. The CONTRACTOR shall provide a current submittal log at each progress meeting in accordance with Section 01340.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Contractor shall comply with the General Conditions.
- B. Submit revised progress schedules periodically.

1.02 FORM OF SCHEDULES

- A. Prepare schedules in the form of a horizontal bar chart.
 - 1. Provide separate horizontal bar for each trade or operation.
 - 2. Horizontal time scale; identify the first work day of each week.
 - 3. Scale and spacing: To allow for notations and future revisions.
 - 4. Minimum sheet size: 8-1/2 inches by 11 inches.
- B. Format of listings: The table of contents of the Contract Documents.
- C. Identification of listings: Items of work.

1.03 CONTENT OF SCHEDULE:

- A. Construction Progress Schedule:
 - 1. Show the complete sequence of construction by activity.
 - 2. Show the dates for the beginning, and completion of each major element of construction.
 - 3. Show projected percentage of completion for each item, as of the first day of each month.
 - 4. Show an anticipated monthly payment schedule.
- B. Submittal Schedule for Shop Drawings, Product Data and Samples. Show:
 - 1. The dates for Contractor's submittal.
 - 2. The dates approved submittal will be required from the Engineer.

1.04 PROGRESS REVISIONS

- A. Indicate progress of each activity to date of submission.
- B. Show changes occurring since previous submission of schedule:
 - 1. Major changes in scope.
 - 2. Activities modified since previous submission.
 - 3. Revised projections of progress and completion.
 - 4. Other identifiable changes.
- C. Provide a narrative report as needed to define:
 - 1. Problem areas, anticipated delays, and the impact on the schedule.
 - 2. Corrective action recommended, and its effect.

1.05 SUBMISSIONS

- A. Submit initial schedules in accordance with the General Conditions.
 - 1. Engineer will review schedules and return review copy within ten (10) days after receipt.
 - 2. If required, Contractor shall resubmit within seven (7) days after return of review copy.
- B. Submit revised progress schedules with each Application for Payment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01340

SHOP DRAWINGS, PROJECT DATA, AND SAMPLES

PART 1 GENERAL

1.01 Requirements Included:

- A. The Contractor shall submit to the Engineer for review and exception, if any, such working drawings, shop drawings, test reports and data on materials and equipment (hereinafter in this article called data), and material samples (hereinafter in this article called samples) as are required for the proper control of work, including but not limited to those working drawings, shop drawings, data and samples for materials and equipment specified elsewhere in the Specifications and in the Contract Drawings.
- B. Within fifteen (15) calendar days after the Effective Date of the Agreement, the Contractor shall submit to the Engineer a complete list of preliminary data on items for which Shop Drawings are to be submitted. Included in this list shall be the names of all proposed manufacturers furnishing specified items. Review of this list by the Engineer shall in no way relieve the Contractor from submitting complete shop drawings, data, and samples in accordance with the Specifications. This procedure is required in order to expedite final review of Shop Drawings.
- C. The Contractor is to maintain an accurate updated submittal log and will bring this log to each scheduled progress meeting. This log should include the following items:
 - 1. Submittal Description and Number assigned.
 - 2. Date to Engineer.
 - 3. Date returned to Contractor (from Engineer).
 - 4. Status of Submittal (No exceptions taken, returned for confirmation or resubmittal, rejected).
 - 5. Date of Resubmittal and Return (as applicable).
 - 6. Date material released (for fabrication).
 - 7. Projected date of fabrication.
 - 8. Projected date of delivery to site.
 - 9. Status of O&M manuals submittal.

1.02 Contractor's Responsibility

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- A. It is the duty of the Contractor to check all drawings, data and samples prepared by or for him before submitting them to the Engineer for review. Each and every copy of the Drawings and data shall bear Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Engineer without the Contractor's stamp or evidence that the Contractor has not performed the required review will be returned to the Contractor for conformance with this requirement. Shop drawings shall indicate any deviations in the submittal from requirements of the Contract Documents.
- B. Determine and verify:
1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
 4. Conformance with Specifications and indicate all variances from the Specifications.
- C. The Contractor shall furnish the Engineer a schedule of Shop Drawing submittals fixing the respective dates for the submission of shop and working drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment. This schedule shall indicate those that are critical to the progress schedule.
- D. The Contractor shall not begin any of the work covered by a drawing, data, or a sample returned for correction until a revision or correction thereof has been reviewed and returned to him by the Engineer with no exceptions taken.
- E. The Contractor shall submit to the Engineer all drawings and schedules sufficiently in advance of construction requirements to provide no less than twenty-one (21) calendar days for checking and appropriate action from the time the Engineer receives them.
- F. The Contractor shall submit five (5) copies of shop drawings and descriptive or product data submittal to complement shop drawings to the Engineer which will be retained for his use.
- G. The Contractor shall be responsible for and bear all cost of damages which may result from the ordering of any material or from proceeding with any part of work prior to the completion of the review by Engineer of the necessary shop drawings.
- H. The Contractor shall utilize a Sequential Numbering System for submittals (1-999). Resubmittals or confirming material shall be assigned a letter next to the submittal number, i.e. A= second submittal, B= third submittal, etc.
- I. Submittals shall include a certified statement of compliance to the requirements detailed in the specifications in addition to other submittal requirements. This certification shall be prepared by the manufacturer and not the local supplier. Validity of the authority and position of the person signing the certification shall be verified by a Notary Public. The statement of compliance shall address each point of conformance contained in the governing specifications with definite comments of either compliance or non-compliance. Statements of non-compliance with points of conformance shall be accompanied by a statement of

justification as to the reason for non-conformance and why the non-complying feature is considered to be either equal to or better than the specified feature. The Engineer will use the certified statement of compliance in his evaluation of the submittal rendering a judgment as to equality to the specified product and issuing a statement as to whether the product is acceptable for or rejected from incorporation into the work.

- J. When a manufacturer named in the controlling specification is chosen to supply a product and the details of manufacture, size, and installation are shown on this standard catalog cut sheets, the manufacturer may submit the certified statement of compliance as detailed above along with installation details specific to the work such as laying schedules, etc. as required, deleting the standardized catalog data.

1.03 Engineer's Review of Shop Drawings

- A. The Engineer's review of drawings, data and samples submitted by the Contractor will cover only general conformity to the Specifications, external connections, and dimensions which affect the installation.
- B. The review of drawings and schedules will be general, and shall not be construed:
1. as permitting any departure from the Contract requirements;
 2. as relieving the Contractor of responsibility for any errors, including details, dimensions, omissions and materials;
- C. If the drawings or schedules as submitted describe variations per subparagraph (1.04.D), and show a departure from the Contract requirements which Engineer finds to be in the best interest of the Owner and to be so minor as not to involve a change in Contract Price or Time, The Engineer may return the reviewed Drawings without noting any exception.
- D. After the ENGINEER completes his review, the Shop Drawings will be marked with one of the following notations:
1. No Exceptions Taken.
 2. Make Corrections Noted.
 3. Revise and Resubmit.
 4. Rejected.
 5. Submit Specified Item.
- E. If a submittal is acceptable, it will be marked "No Exception Taken" or "Make Corrections Noted". Three copies of the submittal will be returned to the CONTRACTOR.
- F. Upon return of a submittal marked "No Exception Taken" or "Make Corrections Noted", the CONTRACTOR may order, ship or fabricate the materials included on the submittal, provided it is in accordance with the corrections indicated.
- G. If a Shop Drawing action is "Make Corrections Noted" but has extensive corrections or corrections affecting other drawings or Work, the ENGINEER may require that the CONTRACTOR make the corrections indicated thereon and resubmit the Shop Drawings for

record purposes. In this case, the submittal will be marked "Make Corrections Noted-Resubmit".

- H. If a submittal is unacceptable, two copies will be returned to the CONTRACTOR with one of the following notations:
 - 1. "Revise and Resubmit"
 - 2. "Rejected"
- I. Upon return of a submittal marked "Revise and Resubmit", the CONTRACTOR shall make the corrections indicated and repeat the initial approval procedure. The "Rejected" notation is used to indicate material or equipment that is not acceptable. Upon return of a submittal so marked, the CONTRACTOR shall repeat the initial approval procedure utilizing acceptable material or equipment.
- J. Submittals lacking adequate details or information to allow the ENGINEER to determine whether or not the submittal meets the intent of the Contract specifications shall be marked "Submit Specified Item" and returned without further comment.
- K. Shop Drawings or other submittals not bearing the ENGINEER'S "No Exception Taken" or "Make Corrections Noted" notations shall not be issued to Subcontractors nor utilized for construction purposes. No Work shall be performed or equipment installed without a drawing or submittal bearing one of these notations.
- L. In the event the CONTRACTOR obtains the ENGINEER'S approval for the use of equipment other than that which is shown or specified, the CONTRACTOR shall, at his own expense and using methods approved by the ENGINEER, make all changes to the Work, including structures, piping, electrical, equipment and controls, that may be necessary to accommodate this equipment.
- M. Resubmittals will be handled in the same manner as first submittals. The Contractor shall direct specific attention to revisions other than the corrections requested by the Engineer on previous submissions by written details or markings on the resubmitted Shop Drawings. The Contractor shall make any corrections required by the Engineer.
- N. If the Contractor considers any correction indicated on the Drawings to constitute a change to the Contract Drawings or Specifications, the Contractor shall give written notice thereof to the Engineer.
- O. The Engineer will review a submittal/resubmittal a maximum of three times after which cost of review will be borne by the Contractor. The cost of engineering shall be equal to the Engineer's charges to the Owner under the terms of the Engineer's agreement with the Owner.
- P. When the Shop Drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions or approval from the Engineer.

Q. No partial submittals will be reviewed. Submittals not complete will be returned to the Contractor, and will be considered "NOT APPROVED" until resubmitted.

1.13 SHOP DRAWINGS

- A. Shop drawings shall be complete and detailed.
- B. Drawings and schedules shall be checked and coordinated with the work of all trades involved, before they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission.
- C. Each shop drawing shall have a blank area 3-1/2 inches by 3-1/2 inches, located adjacent to the title block. The title block shall display the following:
 - 1. Number and title of the drawing.
 - 2. Date of drawing or revision.
 - 3. Name of project building or facility.
 - 4. Name of contractor and subcontractor submitting drawing.
 - 5. Clear identification of contents and location of the work.
 - 6. Specification number and title.
- D. If Drawings show variations from Contract requirements because of standard Shop practice or other reasons, the Contractor shall describe such variations in his letter of transmittal. If acceptable, proper adjustment in the Contract shall be implemented where appropriate. If the Contractor fails to describe such variations, he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such Drawings have been reviewed.
- E. Data on materials and equipment include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material as required. Materials and equipment lists shall give for each item thereon the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish, and all other pertinent data.
- F. The Contractor shall provide a list including the equipment name, address, and telephone number of the manufacturer's representative and service company so that service and/or spare parts can be readily obtained for all mechanical and electrical equipment furnished.
- G. All manufacturers or equipment suppliers who proposed to furnish equipment or products shall submit an installation list to the Engineer along with the required Shop Drawings. The

installation list shall include at least five installations where identical equipment has been installed and has been in operation for a period of at least one (1) year.

- H. Only the Engineer will utilize the color red in marking Shop Drawing submittals.
- I. Before final payment is made, the Contractor shall furnish to Engineer five (5) sets of record shop drawings all clearly revised, complete and up to date showing the permanent construction as actually made for all reinforcing and structural steel, miscellaneous metals, process and mechanical equipment, yard piping, electrical system and instrumentation system.

1.13 Working Drawings

- A. Working drawings shall be considered to mean the Contractor's plans for temporary structures.
- B. Copies of working drawings as noted in subparagraph 1.02, shall be submitted to the Engineer where required by the Contract Documents or requested by the Engineer, and shall be submitted at least thirty (30) calendar days (unless otherwise specified by the Engineer) in advance of their being required for work.
- C. The Engineer will not review working drawings but shall use them as information to monitor the work performed by the Contractor.

1.14 Samples

- A. The Contractor shall furnish for the review of the Engineer samples required by the Contract Documents or requested by the Engineer. Samples shall be delivered to the Engineer as specified or directed and the Contractor shall prepay all shipping charges. Materials or equipment for which samples are required shall not be used in work until reviewed by the Engineer.
- B. Samples shall be of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of the product, with integrally related parts and attachment devices.
 - 2. Name of Contractor and Subcontractor
 - 3. Material or Equipment represented
 - 4. Place of Origin
 - 5. Name of Producer and Brand (if any).
 - 6. Location in Project

(Samples of finished materials shall have additional marking that will identify them under the finished schedules.)

- C. The Contractor shall prepare a transmittal letter in triplicate for each shipment of samples containing the information required in subparagraph 1.06B above. He shall enclose a copy of this letter with the shipment and send a copy of this letter to the Engineer under separate cover and the remaining copy shall be for the Contractor's records. Review of a sample shall be only for the characteristics or use named and shall not be construed to change or modify any Contract requirements.
- D. Reviewed samples not destroyed in testing shall be sent to the Engineer or stored at the site of the work. Reviewed samples of the hardware in good condition will be marked for identification and may be used in the work. Materials and equipment incorporated in work shall match the reviewed samples. Samples which failed testing or were rejected will be returned to the Contractor at his expense, if so requested at time of submission.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01410

TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Contractor will employ and pay for the services of an Independent Testing Laboratory to perform testing specifically indicated on the Contract Documents or specified in the Specifications and may at any other time elect to have materials and equipment tested for conformity with the Contract Documents.

- A. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.

1.02 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

Laboratory is not authorized to:

- A. Release, revoke, alter or enlarge on requirements of Contract Documents.
- B. Approve or accept any portion of the Work.
- C. Perform any duties of the Contractor.

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with laboratory personnel; provide access to Work, to Manufacturer's operations.
- B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.
- D. Materials and equipment used in the performance of work under this Contract are subject to inspection and testing at the point of manufacture or fabrication. Standard specifications for quality and workmanship are indicated in the Contract Documents. The Owner may require the Contractor to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the Contract Documents. All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the Owner shall be allowed on account of such testing and certification.
- E. Furnish incidental labor and facilities:
 - 1. To provide access to Work to be tested.

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2. To obtain and handle samples at the Project site or at the source of the product to be tested.
 3. To facilitate inspections and tests.
 4. For storage and curing of test samples.
- F. Notify laboratory at least 24 hours in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
- G. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required for the Contractor's convenience and as approved by the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

*** * END OF SECTION * ***

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Material and equipment incorporated into the Work shall:

- A. Conform to applicable specifications and standards.
- B. Comply with size, make, type, and quality specified to the greatest extent possible, detailing all aspects and providing explicit reasons for parameters not in compliance and specifically approved in writing by the Engineer.
- C. Manufactured and Fabricated Products:
 - 1. Design, fabricate, and assemble in accord with the best engineering and standard shop practices.
 - 2. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - 3. Two or more items of the same kind shall be produced, by the same manufacturer.
 - 4. Products shall be suitable for service conditions.
 - 5. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
- D. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.02 APPROVAL OF MATERIALS

- A. Only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Engineer. No material shall be delivered to the Work without prior approval of the Engineer.
- B. The Contractor shall submit to the Engineer, data relating to materials and equipment he proposes to furnish for the work. Such data shall be in sufficient detail to enable the Engineer to identify the particular product along with references to the applicable section(s) of the specifications to form an opinion as to its conformity to the specifications. The data shall comply with Paragraph 1.06 of this Section.
- C. Facilities and labor for handling and inspection of all materials and equipment shall be furnished by the Contractor. If the Engineer requires, the Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the

specifications. Such samples shall be furnished, stored, packed, and shipped as directed at the Contractor's expense. Except as otherwise noted, the Contractor will make arrangements for and pay for the tests. Where such tests confirm compliance with the specifications, the Owner will reimburse the actual charges of the testing firm paid by the Contractor.

- D. Contractor shall submit data and samples sufficiently early to permit consideration, approval, manufacture, and delivery of materials before they are necessary for incorporation in the work. Any delay of approval resulting from the Contractor's failure to submit samples or data promptly shall not be used as a basis of claim against the Owner or the Engineer.
- E. The materials and equipment used in the Work shall correspond to the approved samples or other data.

1.03 MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION

- A. When Contract Documents require that installation of the Work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including five copies to the Engineer. One complete set of the installation instructions shall be available for use on the job site during and through completion of the Work.
- B. Handle, install, connect, clean, condition and adjust products as required by the manufacturer's instructions and in conformity with specified requirements.
 - 1. Should the specified requirements conflict with the manufacturer's instructions, the manufacturer's instructions shall have priority unless changes are authorized in writing by the manufacturer.
 - 2. Should job conditions conflict with the manufacturer's instructions, consult with the manufacturer for clarification.
 - 3. Clarifications of installation instructions shall be issued only by the manufacturer, shall be in writing, and shall be distributed to all parties involved in the installation as stated above and prior to alteration of the installation procedures.
 - 4. Do not proceed with the Work without clear instructions concerning the specific installation procedures.
- C. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by the manufacturer.

1.04 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of Products as required by the currently approved construction schedule coordinating each delivery to avoid conflict with other work and conditions at the site.
 - 1. Deliver Products in a undamaged condition, in the manufacturer's original containers or packaging and with identifying labels intact and legible.
 - 2. Prior to accepting delivery, inspect shipments to assure compliance with approved submittal, and that the Products have been properly protected and are undamaged.
- B. Provide equipment and personnel to handle Products preventing soiling or damage to the Products or their protective packaging.

1.05 STORAGE AND PROTECTION

- A. Store Products in accord with manufacturer's instruction, with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weathertight enclosures.
 - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
 - 3. Store fabricated products above the ground, on blocking or skids, prevent spoiling, staining or corrosion. Cover products which are subject to deterioration with impervious sheet coverings and provide adequate ventilation to avoid condensation.
 - 4. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- B. All materials and equipment to be incorporated in the Work shall be handled and stored in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and other injury, theft or damage.
- C. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All miscellaneous steel, structural steel and reinforcing steel shall be stored off the ground, kept free of accumulations of dirt and grease, and in areas free of standing water to minimize rusting. Precast concrete sections shall be handled and stored in a manner to prevent staining, chipping or cracking. Brick, block and similar masonry products shall be handled and stored in a manner to reduce staining, breaking, chipping, cracking, and spalling.
- D. All materials which, in the opinion of the Engineer, have become so damaged as to be unfit for the use intended, including aesthetics, shall be promptly removed from the site of the work.
- E. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections and exercise or rotate moving parts of stored products as required by the

manufacturer to assure that products are maintained under specified conditions and free from damage or deterioration.

- F. Provide substantial coverings as necessary to protect installed products from damage caused by traffic and subsequent construction operations. Remove the protective covering when no longer needed.
- G. The Contractor shall be responsible for all material, equipment, and supplies sold and delivered to the Owner under this Contract until final inspection of the Work and acceptance thereof by the Owner. In the event any such material, equipment, and supplies are lost, stolen, damaged, or destroyed prior to final inspection and acceptance they shall be replaced by the Contractor.
- H. Should the Contractor fail to take proper action to properly store and handle equipment supplied under this Contract, the Owner retains the right to notify the Contractor in writing of the deficiencies, to correct all deficiencies and deduct the cost associated with these corrections from the contractor's Contract. These costs may be comprised of expenditures for labor, equipment usage, administration, clerical, engineering and any other costs associated with making the necessary corrections.

1.06 SUBSTITUTIONS AND PRODUCT OPTIONS

A. Products List:

Within fifteen (15) days after the Notice to Proceed, submit to the Engineer complete list of major products proposed to be used, with the name of the manufacturer and the installing subcontractor.

B. Contractor's Options:

- 1. For Products specified only by reference standard, select any product meeting that standard.
- 2. For Products specified by naming one or more Products or manufacturers and "or equal", Contractor must submit a request as for substitutions for any Product or manufacturer not specifically named.

C. Substitutions:

- 1. For a period of thirty (30) days after the Effective Date of the Agreement, the Engineer will consider written requests from Contractor for substitution of Products.

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2. Submit a separate request for each Product, supported with complete data, with drawings and samples as appropriate, including:
 - a. Comparison of the qualities of the proposed substitution with that specified.
 - b. Changes required in other elements of the work because of the substitution.
 - c. Effect on the construction schedule.
 - d. Cost data comparing the proposed substitution with the Product specified.
 - e. Any required license fees or royalties.
 - f. Availability of maintenance service, and source of replacement materials.
 3. The Engineer shall be the judge of the acceptability of the proposed substitution.
- D. Contractor's Representation:
- A request for a substitution constitutes a representation that Contractor:
1. Has investigated the proposed Product and determined that it is equal to or superior in all respects to that specified.
 2. Will provide the same warranties or bonds for the substitution as for the Product specified.
 3. Will coordinate the installation of an accepted substitution into the Work, and make such other changes as may be required to make the Work complete in all respects.
 4. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.

1.07 SPECIAL TOOLS

Manufacturers of equipment and machinery shall furnish any special tools required for normal adjustment, operations and maintenance, together with instructions for their use. The Contractor shall preserve and deliver to the Owner these tools and instructions in good order no later than upon completion of the Contract.

1.08 WARRANTY

For all major pieces of equipment, submit a warranty from the equipment manufacturer. The manufacturer's warranty period shall be concurrent with the Contractor's as stipulated in the specifications for each piece of equipment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

*** * END OF SECTION * ***

SECTION 01630

SUBSTITUTIONS

PART 1 GENERAL

1.01 General

Requests for review of a substitution shall conform to the requirements of Article 6.05 of the General Conditions and shall contain complete data substantiating compliance of proposed substitution with Contract Documents.

1.02 Substitutions

- A. During a period of 60 days after execution of Contract, ENGINEER will consider written requests from CONTRACTOR for substitution of products or construction methods (if specified).
 - 1. After end of specified period, requests will be considered only in case of unavailability of products or other conditions beyond control of CONTRACTOR.
 - 2. If the CONTRACTOR proposes to use products other than named manufacturers in the technical Specification, the ENGINEER reserves the right to require the CONTRACTOR to submit information within the first 30 days after the NOTICE TO PROCEED verifying that the proposed equipment will comply with the Specifications.
- B. Requests for review of a substitution shall conform to the requirements of Article 6.05 of the General Conditions, and shall contain complete data substantiating compliance of proposed substitution with the Contract Documents.
- C. In making request for substitution, CONTRACTOR represents:
 - 1. CONTRACTOR has investigated proposed product or method, and determined that it is equal or superior in all respects to that specified.
 - 2. CONTRACTOR will provide the same or better warranties or bonds for proposed substitution as for product or method specified.
 - 3. CONTRACTOR waives all claims for additional costs or extension of time related to proposed substitution that subsequently may become apparent.
- D. Proposed substitutions will not be accepted if:
 - 1. They are only shown or implied on the Shop Drawings.
 - 2. Acceptance will require substantial revision of Contract Documents.
 - 3. They will change design concepts or Specifications.
 - 4. They will delay completion of the Work, or the work of other contractors.
- E. The ENGINEER will determine whether substitute brands or products are equal to those specified in the Contract Documents. No substitute will be ordered or installed without the ENGINEER'S prior written acceptance.
- F. The OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a

special performance guarantee or other surety with respect to any substitute.

- G. If the ENGINEER determines that a proposed substitute is not equal to that specified or described in the Drawings or Specifications, CONTRACTOR shall furnish one of the brands or products specified or described, at no additional cost to the OWNER.
- H. Engineering Costs:
1. The ENGINEER will record all time required in evaluating substitutions proposed by CONTRACTOR and in making any change in the Drawings or Specifications occasioned thereby. Whether or not the ENGINEER accepts a proposed substitute CONTRACTOR will reimburse the OWNER for the actual cost of the ENGINEER for evaluating any proposed substitute which either does not meet the requirements of the Drawings and Specifications, or the acceptance of which would require changes to other portions of the Work.
 2. CONTRACTOR shall reimburse OWNER for all associated engineering costs, including redesign, additional shop drawing reviews, investigations, consultant fees and revision of the Contract Documents required because of the substitution.
- I. The time required by the ENGINEER to evaluate and either accept or reject proposed substitutes is included in the Contract Time and no extension of the Contract Time shall be allowed therefore.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

*** * END OF SECTION * ***

SECTION 01710

CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Cleaning shall include daily "policing" of the work and surrounding areas to clear general debris waste paper, wood scraps, broken concrete, loose riprap, and other objectionable material along with the final cleanup of site(s) required for project acceptance. **DAILY CLEANUP IS REQUIRED.**

1.02 DISPOSAL REQUIREMENTS

Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute daily cleaning to keep the Work, the site and adjacent properties, free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
- B. Provide onsite containers for the collection of waste materials, debris and rubbish. All waste materials including containers, food debris and other miscellaneous materials must be disposed of daily in onsite containers.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

3.02 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- D. Prior to final completion or Owner occupancy, Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces and all work areas to verify that the entire Work is clean.

*** * END OF SECTION * ***

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Maintain at the site for the Owner one record copy of:

- A. Conformed Drawings.
- B. Conformed Specifications.
- C. Change Orders and other Modifications to the Contract.
- D. Engineer's Field Orders or written instructions.
- E. Approved Shop Drawings, Working Drawings and Samples.
- F. Field Test records.
- G. Construction photographs.
- H. Latest, Approved Progress Schedule.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in a manner and location to prevent damage.
 - 1. Provide files and racks for storage of documents.
 - 2. Provide secure storage space for storage of samples.
- B. File documents and samples in accordance with CSI section numbers.
- C. Maintain documents in a clean, dry, legible, condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by the Owner.
- E. As a prerequisite for monthly progress payments, the Contractor is to exhibit the currently updated "record documents" for review by the Owner.

1.03 MARKING DEVICES

Provide felt tip marking pens for recording information in the color code designated by the Owner.

1.04 RECORDING

- A. Label each document "PROJECT RECORD" with rubber stamp.
- B. Record information concurrently with construction progress and do not conceal any work until required information is recorded.
- C. Legibly mark drawings to record actual construction:
 - 1. The Contractor shall use the following color code in marking Contract Drawings:
 - a. Yellow for no change.
 - b. Red to indicate additions, deletions and changes.
 - 2. Elevations of various structure elements in relation to elevation datum.
 - a. Elevations referenced to control points established by the Owner's agent.
 - b. Specifically, elevations of drainage culvert inverts, ditch grades, top of roadway and driveway curbs, bridges, etc.
 - 3. Location of internal utilities and appurtenances concealed in the construction by referencing to visible and accessible features of the structure.
 - 4. Field changes of dimension and detail.
 - 5. Changes made by Field Order or by Change Order.
 - 6. Details not on original contract drawings.
- D. Specifications and Addenda; Legibly mark each Section to record:
 - 1. Manufacturer, trade name, catalog number, and Supplier of each Product and item of equipment actually installed.
 - 2. Changes made by Field Order or by Change Order.
- E. Shop Drawings (after final review):

-
- F. Certified site survey and line elevations and stationing at 100 foot increments and all points of change of direction of channel improvements (Section 01050) by a registered land surveyor.

1.05 SUBMITTAL

- A. At Contract close-out, deliver Record Documents to the Owner.
- B. Accompany submittal with transmittal letter in duplicate, containing:
1. Date.
 2. Project title and number.
 3. Contractor's name and address.
 4. Title and number of each Record Document.
 5. Signature of Contractor or his authorized representative.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

*** * END OF SECTION * ***

SECTION 01740

WARRANTIES AND BONDS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile specified warranties and bonds, as in Articles 5 and 13 of the General Conditions.
- B. Co-execute submittals when so specified.
- C. Review submittals to verify compliance with Contract Documents.
- D. Submit to the Owner for review.

1.02 SUBMITTAL REQUIREMENTS

- A. Assemble and include warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, couplers, and subcontractors including effective dates.
- B. Number of original signed copies required. Two (2) each.
- C. Table of Contents. Neatly typed in orderly sequence. Provide complete information for each item.
 - 1. Product or work item.
 - 2. Firm, with name of principal, address and telephone number.
 - 3. Scope.
 - 4. Date of beginning warranty, and bond.
 - 5. Duration of warranty.
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty or bond.
 - 7. Contractor, name of responsible principal, address and telephone number.

1.04 FORM OF SUBMITTALS

- A. Prepare in duplicate packets.
- B. Format:
 - 1. Size 8-1/2-inches x 11-inches, punch sheets for standard 3-post binder.
 - 2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS." List:
 - a. Title of Project.
 - b. Name of Contractor.
- C. Binders: Commercial quality, three-post binder, with durable and cleanable plastic covers and maximum post width of 2-inches, "D" ring.

1.05 WARRANTY SUBMITTAL REQUIREMENTS

- A. For all components of the work, unless stated otherwise in the specifications for each individual item of equipment, submit a written warranty from the manufacturer to replace promptly any component thereof which, in the sole opinion of the Engineer, has defects in design, workmanship, materials, or performance within a one (1) year period following the date of acceptance for operation (Substantial Completion) by the Owner. The manufacturer's warranty period shall be concurrent with the Contractor's for one (1) year, unless otherwise specified, commencing at the time of acceptance for operation (beneficial use) by the Owner and shall be read in conjunction with the Contractor's warranty which shall operate together to provide for replacement of defective components and restoration of proper operation. The Contractor shall be solely responsible for both warranties.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

*** * END OF SECTION * ***

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-216-1

CODE: (IS)

DATE: 05/22/2013

SUBJECT: Solid Sodding

Section 216, Solid Sodding, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-216.04--Method of Measurement. Delete the third and fourth paragraphs of Subsection 216.04 on page 144.

907-216.05--Basis of Payment. Delete the first paragraph of Subsection 216.05 on pages 144 and 145, and substitute the following.

Solid sodding will be paid for at the contract unit price per square yard, which price shall be full compensation for all labor, equipment, materials, tools, ground preparation, fertilization, and all incidentals necessary to complete the work.

Add the "907" prefix to the pay items listed on page 145.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-230-11

CODE: (SP)

| DATE: 11/24/2014

SUBJECT: Tree and Shrub Planting

Section 230, Tree and Shrub Planting, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-230.2--Materials. Delete Subsection 230.02.14 on page 165 and substitute the following:

907-230.02.14--Mulch. Tree Bark Mulch shall meet the requirements of Subsection 907-233.02.

907-230.02.15--Bed Edging. Bed edging shall be steel edging, 3/16-inch by 4-inch in size, green in color with steel stakes, manufactured by Ryerson, an Inland Steel Company, St. Louis, Mo., or an approved equal.

907-230.03--Construction Requirements.

907-230.03.7--Planting, Backfilling, and Watering. After the first paragraph of Subsection 230.03.7 on page 166, add the following:

Plant pits are plant bed areas which are bound all around by bed edging and/or paving, or as noted on the drawings. Bed preparation shall be required within plant pits, which shall consist of stripping the proposed bed area of existing grass or plant material, unless designated to remain; removal and disposal of existing soil in order that finished grade of bed, not including surface mulch, is no higher than surrounding grades/pavement edges unless noted otherwise on the drawings; spreading a 4-inch layer of Tree Bark Mulch, Type III throughout the area, and tilling in the Tree Bark Mulch, Type III to a depth of six inches uniformly throughout the area; and excavating plant holes in accordance with this special provision. The entire bed area shall receive Tree Bark Mulch, Type V as a surface mulch.

Within plant pits, additional Tree Bark Mulch, Type III for each tree, shrub and groundcover plant hole is not necessary beyond the uniform layer of application tilled into the soil as noted on the vegetation schedule. Within each tree and shrub plant hole within a plant pit, backfill with a 50/50 mix of existing soil amended with Type III mulch and topsoil. Groundcover plant holes do not require any other backfill material other than the amended existing soil with Type III mulch incorporated.

Backfill for tree and shrub plant holes outside of plant pits shall be a 50/50 mix of existing soil and topsoil, after applying the 4-inch layer of Tree Bark Mulch, Type III.

907-230.04--Method of Measurement. After the sixth paragraph of Subsection 230.04 on page 169, add the following:

Bed edging, complete in place and accepted, will be measured per linear foot. Excavation, backfilling, and miscellaneous fittings will not be measured for separate payment.

Bed preparation within plant pits, complete in place and accepted, will be measured per square foot. Stripping of existing vegetation, excavation of existing soil, and weeding will not be measured for separate payment.

Tree Bark Mulch will be measured for payment in accordance with Subsection 233.04.

Delete the last five paragraphs of Subsection 230.04 on pages 169 & 170 regarding the sequence for measurement of payment and substitute the following:

Measurement for payment will be made in the following sequence:

When plants have been planted and are in a healthy condition in accordance with the contract, seventy-five percent (75%) of the bid price for that species of plant material meeting the requirements of the contract will be allowed.

When the inspection of plants at the end of the growing season has been conducted and the replacement of any dead or unsatisfactory plant material has been made, ninety percent (90%) of the bid price for that species of plant material meeting the requirements of the contract will be allowed.

When the final inspection of the project has been conducted and the replacement of any dead or unsatisfactory plant material has been made, and upon final release of maintenance, one-hundred percent (100%) of the bid price will be allowed for plant material meeting the requirements of the contract.

The Plant Establishment Period shall begin upon the date that the Engineer determines plant material installation has been acceptably completed, including staking/guying and mulching, and continues through the dates noted below:

PLANT ESTABLISHMENT PERIOD

Date of Installation Completion, From and Including	Establishment Period Beyond Installation Completion, (Growing Season) To and Including
August 2 nd - November 1 st	240 calendar days
November 2 nd - January 1 st	180 calendar days
January 2 nd - May 1 st	120 calendar days
May 2 nd - August 1 st	90 calendar days

Where feasible in the opinion of the Engineer, the Contractor may install plant material well in advance of project completion, in order that the Plant Establishment Period may run concurrent

with the Contract Time. However, no matter what date the Plant Establishment Period concluded, the Contractor will be required to maintain healthy plants until final inspection of the entire project.

No contract time or liquidated damages will be charged during the plant establishment period if, and only if, all items of work on the project have been completed.

907-230.05--Basis of Payment. After the first paragraph of Subsection 230.05 on page 170, add the following:

Accepted quantities for bed edging and bed preparation will be paid for at the contract unit price per linear foot and square foot, respectively. Prices paid shall be full compensation for completing the work.

Delete the pay items list at the end of Subsection 230.05 on page 170, and substitute the following.

- | | |
|---|-------------------|
| 907-230-A: Shrub Planting, <u>Description</u> | - per each |
| 907-230-B: Tree Planting, <u>Description</u> | - per each |
| 907-230-C: Bed Edging | - per linear foot |
| 907-230-D: Bed Preparation | - per square foot |

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-233-1

CODE: (SP)

DATE: 02/01/2005

SUBJECT: Tree Bark Mulch

Section 233, Mulch for Woody Plant Material, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-233.02--Materials. After the first paragraph of Subsection 233.02 on page 176, add the following:

Tree Bark Mulch, Type III used for plant pits (multiple plants in one bed area) and plant holes outside of plant pit areas shall meet the requirements of Subsection 715.07. Tree Bark Mulch, Type V used for the surface mulching plant holes and plant pits shall be shredded cedar, cypress, pine, or hardwood bark strip (pole peelings), commercial type, with no pieces larger than 1½ inches across the surface. Once or twice hammered material is not acceptable for Tree Bark Mulch, Type V. The Contractor shall submit samples of all mulches to the Engineer and receive approval prior to delivery to site.

907-233.04--Method of Measurement. After the first paragraph of Subsection 233.04 on page 176, add the following:

Tree Bark Mulch, Type III, complete in place and accepted, will be measured per cubic yard for tree plant holes and for shrub plant holes outside of plant pit areas.

Tree Bark Mulch, Type V, complete in place and accepted, will be measured per cubic yard for tree and shrub plant holes outside of plant pit areas requiring bed preparation; and in unplanted areas where the mulch is utilized as a surface treatment. Tree Bark Mulch, Type V within plant pit areas will not be measured for payment.

907-233.05--Basis of Payment. After the first paragraph of Subsection 233.04 on page 176, add the following:

Accepted quantities for Tree Bark Mulch, Type V used as a surface mulch for tree and shrub plant holes not within plant pit areas, and in unplanted areas as a surface treatment will be paid for at the contract unit price per cubic yard. Prices paid shall be full compensation for completing the work.

Delete the first pay item listed on page 176, and substitute the following:

907-233-A: Tree Bark Mulch, Type

- per cubic yard

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-237-4

CODE: (SP)

| DATE: 03/13/2012

SUBJECT: Wattles

Section 907-237, Wattles, is hereby added to and made a part of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-237 - WATTLES

907-237.01--Description. This work consists of furnishing, constructing and maintaining wattles for the retention of soil around inlets, swale areas, small ditches, sediment basins and other areas as necessary. Also, the work includes removing and disposing of the wattles and silt accumulations.

Measurement and payment for wattles will be made only when a pay item is included in the bid schedule of the proposal. The quantity is estimated for bidding purposes only and will be dependent upon actual conditions which occur during construction of the project.

| **907-237.02--Materials.** Wattles used around inlets shall have a diameter of twelve inches (12") and a length adequate to meet field conditions. Wattles used at other locations shall have a diameter of twenty inches (20") and a length adequate to meet field conditions. The minimum diameter for the above wattle sizes shall be one inch (1") less than the specified diameter.

The stakes used in securing the wattles in place shall be placed approximately three feet (3') apart throughout the length of the wattle. Stakes shall be wooden and of adequate size to stabilize the wattles to the satisfaction of the Engineer.

In addition to the requirements of this specifications, wattles shall be listed on the Department's "Approved Sources of Materials".

907-237.03--Construction Requirements.

907-237.03.1--General. The wattles shall be constructed at the locations and according to the requirements shown on the erosion control plan.

907-237.03.2--Maintenance and Removal. The Contractor shall maintain the wattles and remove and dispose of silt accumulations.

When the wattles are no longer needed, they shall be removed and the Contractor shall dispose of silt accumulations and treat the disturbed areas in accordance with the contract requirements.

907-237.04--Method of Measurement. Wattles of the size specified will be measured per linear foot.

907-237.05--Basis of Payment. Wattles, measured as prescribed above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for installation, maintaining and removal of the wattles, the removal and disposal of silt accumulations and any required restoration of the disturbed areas.

Payment will be made under:

907-237-A: Wattles, Size

- per linear foot

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-246-3

CODE: (SP)

DATE: 11/08/2010

SUBJECT: Sandbags and Rockbags

Section 907-246, Sandbags and Rockbags, is hereby added to and made a part of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-246 -- SANDBAGS AND ROCKBAGS

907-246.01--Description. This item of work shall consist of the furnishing, installing, and maintaining sandbags and rockbags for the purpose of temporary erosion control by intercepting and slowing the flow of sediment-laden runoff water, or for use as a temporary dam.

907-246.02--Materials. The filler material for sandbags shall consist of a fine aggregate meeting the requirements of Subsection 703.02. The filler material for rockbags shall consist of a size 57 aggregate meeting the requirements of Subsection 703.03.

The bag material shall be woven polypropylene, polyethylene or polyamide fabric with a minimum unit weight of four (4) ounces per square yard. The bags shall be a minimum of 21 inches in length, 12 inches in width, and four (4) in thickness when filled.

907-246.03--Construction Requirements. Sandbags and rockbags shall be used to construct a berm/dam which will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Sand or rock shall be placed in the bag so that at least the top six (6) inches of the bag is unfilled to allow for proper tying of the open end. Any subsequent rows of bags shall be offset one-half the length of the preceding row to provide a layered brick-type arrangement.

The sandbag and rockbag berm/dam installation shall be maintained in good condition by the Contractor. All necessary work and materials to maintain the integrity of the installation shall be provided until earthwork construction is complete and permanent erosion-control features are in place. The maintenance of the bags will not be paid for separately and will be included in the cost for sandbags or rockbags.

907-246.04--Method of Measurement. Sandbags and rockbags will be measured per linear foot or each.

Sandbags and rockbags measured by the linear foot shall be in accordance with the details in the erosion control drawing. The length of the sandbag or rockbag berm/dam will be measured end-to-end along the cross-section of the ditch in accordance with the erosion control drawing.

907-246.05--Basic of Payment. Sandbags and rockbags, measured as prescribed above, will be

paid for per linear foot or each, which prices shall be full compensation for furnishing bags, fine aggregate, size 57 aggregate, placement of bags, maintenance of the installation, removal and disposal of the sediment deposits and removal after construction has been completed, and for all labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

907-246-A: Sandbags - per linear foot or each

907-246-B: Rockbags - per linear foot or each

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-601-1

CODE: (IS)

DATE: 08/29/2007

SUBJECT: Structural Concrete

Division 600, Incidental Construction, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

After the heading **DIVISION 600 - INCIDENTAL CONSTRUCTION**, add the following:

Unless otherwise specified, all testing of Portland cement concrete in Division 600 shall be in accordance with the requirements of Subsection 907-601.02.1.

907-601.02--Materials.

907-601.02.1--General. Delete the second and third sentence of the first paragraph of Subsection 601.02.1 on page 348, and substitute the following:

Sampling and testing will be in accordance with TMD-20-04-00-000 or TMD-20-05-00-000, as applicable.

907-601.03.6.3--Removal of Falsework, Forms, and Housing. Delete the first paragraph, the table and second paragraph of Subsection 601.03.6.3 on pages 349 and 350, and substitute the following:

The removal of falsework, forms, and the discontinuance of heating, shall be in accordance with the provisions and requirements of Subsection 907-804.03.15, except that the concrete shall conform to the following compressive strength requirements:

Wingwall and Wall Forms not Under Stress	1000 psi
Wall Forms under Stress	2200 psi
Backfill and Cover clear	2400 psi

In lieu of using concrete strength cylinders to determine when falsework, forms, and housings can be removed, an approved maturity meter may be used to determine concrete strengths by inserting probes into concrete placed in a structure. The minimum number of maturity meter probes required for each structural component shall be in accordance with Subsection 907-804.03.15. Procedures for using the maturity meter and developing the strength/maturity relationship shall follow the requirements of Subsection 907-804.03.15. Technicians using the maturity meter or calculating strength/maturity graphs shall meet the requirements of Subsection 907-804.03.15.

907-601.05--Basis of Payment. Add the "907" prefix to the pay items listed on page 352.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-701-5

CODE: (SP)

| DATE: 08/20/2014

SUBJECT: Hydraulic Cement

Section 701, Hydraulic Cement, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

Delete Subsection 701.01 on pages 595 & 596, and substitute the following:

907-701.01--General. The following requirements shall be applicable to hydraulic cement:

Only hydraulic cements conforming to Section 701 shall be used. Hydraulic cements shall not be listed or designated as meeting more than one AASHTO or Department type.

Different brands of hydraulic cement, or the same brand of hydraulic cement from different mills, shall not be mixed or used alternately in any one class of construction or structure, without written permission from the Engineer; except that this requirement will not be applicable to hydraulic cement treatment of design soils, or bases.

The Contractor shall provide suitable means for storing and protecting the hydraulic cement against dampness. Hydraulic cement, which for any reason, has become partially set or which contains lumps of caked hydraulic cement will be rejected. Hydraulic cement salvaged from discarded or used bags shall not be used.

The temperature of bulk hydraulic cement shall not be greater than 165°F at the time of incorporation in the mix.

Acceptance of hydraulic cement will be based on the certification program as described in the Department's Materials Division Inspection, Testing, and Certification Manual and job control sampling and testing as established by Department SOP.

Retests of hydraulic cement may be made for soundness and expansion within 28 days of test failure and, if the hydraulic cement passes, it may be accepted. Hydraulic cement shall not be rejected due to failure to meet the fineness requirements if upon retests after drying at 212°F for one hour, it meets such requirements.

Delete Subsection 701.02 on page 596, and substitute the following:

907-701.02--Portland Cement.

907-701.02.1--General.

907-701.02.1.1--Types of Portland Cement. Portland cement (cement) shall be either Type I or Type II conforming to AASHTO Designation: M85. Type III cement conforming to AASHTO Designation: M85 or Type III (MS), as defined by the description below Table 1, may be used for the production of precast or precast-prestressed concrete members.

907-701.02.1.2--Alkali Content. All cement types in this Subsection shall meet the Equivalent alkali content requirement for low-alkali cements listed in AASHTO Designation: M85, Table 2.

907-701.02.2--Replacement by Other Cementitious Materials. The maximum replacement of cement by weight is 25% for fly ash or 50% for ground granulated blast furnace slag (GGBFS). The minimum tolerance for replacement shall be 5% below the maximum replacement content. Replacement contents below this minimum tolerance by fly ash or GGBFS may be used, but shall not be given any special considerations, like the maximum acceptance temperature for portland cement concrete containing pozzolans. Special considerations shall only apply for replacement of cement by fly ash or GGBFS.

907-701.02.2.1--Portland Cement Concrete Exposed to Soluble Sulfate Conditions or Seawater. When portland cement concrete is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash, GGBFS, or silica fume shall be as follows in Table 1.

Table 1- Cementitious Materials for Soluble Sulfate Conditions

Sulfate Exposure	Water-soluble sulfate (SO ₄) in soil, % by mass	Sulfate (SO ₄) in water, ppm	Cementitious material required*
Moderate and Seawater	0.10 - 0.20	150 - 1,500	Type II **, ***, **** cement, or Type I cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, or 8% silica fume
Severe	0.20 - 2.00	1,500 - 10,000	Type I cement with a replacement by weight of 50% GGBFS, or Type II cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, or 8% silica fume

* The values listed in this table for replacement of portland cement by the cementitious materials listed are maximums and shall not be exceeded. The

minimum tolerance for replacement shall be 0.5% below the maximum replacement content. Replacement contents below this minimum tolerance by the cementitious materials listed in this table do not meet the requirements for the exposure conditions listed and shall not be allowed.

- ** Type III cement conforming to AASHTO Designation: M85 with a maximum 8% tricalcium aluminate (C_3A) may be used in lieu of Type II cement as allowed in Subsection 907-701.02.1; this cement is given the designation "Type III(MS)".
- *** Blended cement meeting the sulfate resistance requirements of Subsection 907-701.04 may be used in lieu of Type II as allowed in Subsection 907-701.04.
- **** Class F fly ash or GGBFS may be added as a replacement for cement as allowed in Subsection 907-701.02.2.

Class C fly ash shall not be used as a replacement for cement in any of the sulfate exposure conditions listed above.

907-701.02.2.2--Cement for Soil Stabilization Exposed to Soluble Sulfate Conditions or Seawater. When portland cement for use in soil stabilization is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash or GGBFS shall meet the requirements of Subsection 907-701.02.2.1. Silica fume shall be used to bring the cementitious materials into compliance with the requirements of Table 1.

Delete Subsection 701.03 on page 596, and substitute the following:

907-701.03--Masonry Cement. Masonry cement shall conform to ASTM Designation: C 91 and shall only be used in masonry applications.

Delete Subsection 701.04 on page 596, and substitute the following:

907-701.04--Blended Hydraulic Cement.

907-701.04.1--General.

907-701.04.1.1--Types of Blended Cement. Blended hydraulic cements (blended cements) shall be of the following types and conform to AASHTO Designation: M 240:

- Type IS – Portland blast-furnace slag cement
- Type IP – Portland-pozzolan cement
- Type IL – Portland-limestone cement

Blended cement Types IS and IP for use in portland cement concrete or soil stabilization exposed to the moderate soluble sulfate condition or exposure to seawater as defined in Table 1 shall meet the Sulfate resistance requirement listed in AASHTO Designation: M 240, Table 3 and the "(MS)" suffix shall be added to the type designation.

907-701.04.1.2--Alkali Content. All blended cement shall be made with clinker that would result in cement meeting the requirements of Subsection 907-701.02.1.2 when used in the production of AASHTO Designation: M 85, Type I or Type II cement.

907-701.04.2--Replacement by Other Cementitious Materials. The maximum replacement of blended cement Type IL by weight is 35% for fly ash or 50% for GGBFS. Replacement contents below 20% fly ash or 45% GGBFS may be used, but shall not be given any special considerations, like the maximum acceptance temperature for portland cement concrete containing pozzolans. Special considerations shall only apply for replacement of blended cement by fly ash or GGBFS. No additional cementitious materials, such as Portland cement, performance hydraulic cement, fly ash, GGBFS, metakaolin, or others, shall be added to or as a replacement for blended cement Types IS and IP.

907-701.04.3--Exposure to Soluble Sulfate Conditions or Seawater. When portland cement concrete or blended cement for soil stabilization is exposed to moderate soluble sulfate conditions or to seawater, where the moderate soluble sulfate condition is defined in Table 1, the blended cement shall meet the sulfate resistance requirement listed in AASHTO Designation: M 240, Table 3.

When portland cement concrete or blended cement for soil stabilization is exposed to severe soluble sulfate conditions, where the severe soluble sulfate condition is defined in Table 1, blended cements shall not be used.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-711-4

CODE: (IS)

DATE: 06/26/2009

SUBJECT: Synthetic Structural Fiber Reinforcement

Section 711, Reinforcement and Wire Rope, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

After Subsection 711.03.4.3 on page 665, add the following:

907-711.04--Synthetic Structural Fiber. The synthetic structural fibers shall be approved for listing in the Department's "Approved Sources of Materials" prior to use. The synthetic structural fibers shall be added to the concrete and mixed in accordance with the manufacturer's recommended methods.

907-711.04.1--Material Properties. The fibers shall meet the requirements of ASTM Designation: C 1116, Section 4.1.3. The fibers shall be made of polypropylene, polypropylene/polyethylene blend, nylon, or polyvinyl alcohol (PVA).

907-711.04.2--Minimum Dosage Rate. The dosage rate shall be such that the average residual strength ratio ($R_{150,3.0}$) of fiber reinforced concrete beams is a minimum of 20.0 percent when the beams are tested in accordance with ASTM Designation: C 1609. The dosage rate for fibers shall be determined by the following.

The fiber manufacturer shall have the fibers tested by an acceptable, independent laboratory acceptable to the Department and regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology and approved to perform ASTM Designations: C 39, C 78, and C192.

The laboratory shall test the fibers following the requirements of ASTM Designation: C 1609 in a minimum of three (3) test specimens cast from the same batch of concrete, molded in 6 x 6 x 20-inch standard beam molds meeting the requirements of ASTM Designation: C 31. The beams shall be tested on an 18-inch span. The tests for $R_{150,3.0}$ shall be performed when the average compressive strength of concrete used to cast the beams is between 3500 and 4500 psi. The tests for compressive strength shall follow the requirements of ASTM Designation: C 39. The average compressive strength shall be determined from a minimum of two (2) compressive strength cylinders.

The value for $R_{150,3}$ shall be determined using the following equation:

$$R_{150,3.0} = \frac{f_{150,3.0}}{f_1} \times 100$$

The residual flexural strength ($f_{150,3,0}$) shall be determined using the following equation:

$$f_{150,3,0} = \frac{P_{150,3,0} \times L}{b \times d^2}$$

where:

$f_{150,3,0}$ is the residual flexural strength at the midspan deflection of $L/150$, (psi),

$P_{150,3,0}$ is the residual load capacity at the midspan deflection of $L/150$, (lbf),

L is the span, (in),

b is the width of the specimen at the fracture, (in), and

d is the depth of the specimen at the fracture, (in).

For a 6 x 6 x 20-inch beam, the $P_{150,3,0}$ shall be measured at a midspan deflection of 0.12 inch.

Additionally, $R_{150,3,0}$, $f_{150,3,0}$, and $P_{150,3,0}$ may also be referred to as R_{150}^{150} , f_{150}^{150} , and P_{150}^{150} respectively.

At the dosage rate required to achieve the minimum $R_{150,3}$, the mixture shall both be workable and the fibers shall not form clumps.

The manufacturer shall submit to the State Materials Engineer certified test reports from the independent laboratory showing the test results of each test specimen.

907-711.04.3--Job Control Requirements. The synthetic structural fibers shall be one from the Department's "Approved Sources of Materials."

At the required dosage rate, the mixture shall both be workable and the fibers shall not form clumps to the satisfaction of the Engineer. If the mixture is determined by the Engineer to not be workable or have clumps of fibers, the mixture may be rejected.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-713-6

CODE: (SP)

DATE: 03/17/2016

SUBJECT: Admixtures for Concrete

Section 713, Concrete Curing Materials and Admixtures, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

After the second paragraph of Subsection 713.01.2 on page 676, add the following.

Type 1-D compound may be used on bridge rails, median barriers, and other structures requiring a spray finish. When Type 1-D compound is used, it will be the responsibility of the Contractor to assure that the compound has dissipated from the structure prior to applying the spray finish and that the spray finish adheres soundly to the structure.

Delete Subsection 713.02 on pages 676 & 677, and substitute the following.

907-713.02--Admixtures for Concrete. Air-entraining admixtures used in Portland cement concrete shall comply with AASHTO Designation: M 154. Set-retarding, accelerating, and/or water-reducing admixtures shall comply with AASHTO Designation: M 194. Water-reducing admixture shall meet the minimum requirements for Type A. Set-retarding admixtures shall meet the minimum requirements for Type D. Admixtures providing a specific performance characteristic(s) other than those of water reduction or set retardation shall meet the minimum requirements for Type S. For admixtures meeting the requirements for Type S, the manufacturer shall provide data to substantiate the specific performance characteristic(s) to the satisfaction of the State Materials Engineer.

In order to obtain approval of an admixture, the State Materials Engineer shall have been furnished certified test reports, made by an acceptable independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology, which show that the admixture meets all the requirements of the applicable AASHTO Standard Specification.

The Department reserves the right to sample, for check tests, any shipment or lot of admixture delivered to a project.

The Department reserves the right to require tests of the material to be furnished, using the specific cement and aggregates proposed for use on the project, as suggested in AASHTO Designation: M 154 and outlined in AASHTO Designation: M 194.

After an admixture has been approved, the Contractor shall submit to the State Materials Engineer, with each new lot of material shipped, a certification from the manufacturer in accordance with the requirements of Subsection 700.05.1 and stating the material is of the same composition as

originally approved and has not been changed or altered in any way. The requirement in Subsection 700.05.1(b) is not required on the certification from the manufacturer.

Admixtures containing chlorides will not be permitted.

Failure to maintain compliance with any requirement of these specifications shall be cause for rejection of any previously approved source or brand of admixture.

Admixtures shall only be used in accordance with the manufacturer's recommended dosage range as set forth in the manufacturer's approval request correspondence. When an admixture is used in Portland cement concrete, it shall be the responsibility of the Contractor to produce satisfactory results.

907-713.02.1--Source Approval. In order to obtain approval of an admixture, the Producer/Suppliers shall submit to the State Materials Engineer the following for review: certified test reports, made by an acceptable independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology, which show that the admixture meets all the requirements of the applicable AASHTO or Department Specification for the specific type and the dosage range for the specific type of admixture.

907-713.02.2--Specific Requirements. Admixtures containing chlorides will not be permitted.

907-713.02.3--Acceptance. The Department reserves the right to sample, for check tests, any shipment or lot of admixture delivered to a project.

The Department reserves the right to require tests of the material to be furnished, using the specific cement and aggregates proposed for use on the project, as suggested in AASHTO Designation: M 154 and outlined in AASHTO Designation: M 194.

Failure to maintain compliance with any requirement of these specifications shall be cause for rejection of any previously approved source or brand of admixture.

With each new lot of material shipped the Contractor shall submit to the State Materials Engineer, a notarized certification from the manufacturer showing that the material complies with the requirements of the applicable AASHTO or Department Specification.

When an admixture is used, it shall be the responsibility of the Contractor to produce satisfactory results.

907-713.02.4--Waterproofing Admixture. This product is used as a waterproofing admixture for cast in place concrete bridge decks and bridge deck topping.

The Contractor shall submit manufacturer's product data and installation methods for each type of the products required to demonstrate the product complies with specifications.

The materials shall be installed in accordance with manufacturer's instructions.

The waterproofing admixture shall be one of the following, or an approved equal.

- Xypex Admix
- Everdure Caltite
- Hycrete W1000

The dosage rate for the above admixtures shall be as follows:

- Xypex Admix shall be 15 pounds per cubic yard.
- Everdure Caltite shall be a minimum of 1.5% by weight of cement.
- Hycrete W1000 shall be a minimum one (1) gallon per cubic yard.

Any retardation of set that occurs will depend upon the concrete mix design and the dosage rate of the admixture.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-714-8

CODE: (IS)

| DATE: 05/01/2013

SUBJECT: Miscellaneous Materials

Section 714, Miscellaneous Materials, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-714.05--Fly Ash. Delete Subsections 714.05.1 & 714.05.2 on pages 680 & 681, and substitute the following.

907-714.05.1--General. The fly ash source must be approved for listing in the Department's "Approved Sources of Materials" prior to use. The acceptance of fly ash shall be based on certified test reports, certification of shipment from the supplier, and tests performed on samples obtained after delivery in accordance with the Department's Materials Division Inspection, Testing, and Certification Manual and Department SOP.

Different classes of fly ash or different sources of the same class shall not be mixed or used in the construction of a structure or unit of a structure without written permission from the Engineer.

The Contractor shall provide suitable means for storing and protecting the fly ash from dampness. Separate storage silos, bins, or containers shall be provided for fly ash. Fly ash which has become partially set or contains lumps of caked fly ash shall not be used.

The temperature of the bulk fly ash shall not be greater than 165°F at the time of incorporation into the work.

All classes of fly ash shall meet the supplementary option chemical requirement for available alkalis listed in AASHTO Designation: M 295, Table 2. Class F fly ash shall have a calcium oxide (CaO) content of less than 6.0%. Class C fly ash shall have a CaO content of greater than or equal to 8.0%.

The replacement of Portland cement with fly ash shall be in accordance with the applicable replacement content specified in Subsection 907-701.02.2.

In addition to these requirements, fly ash shall meet the following specific requirements for the intended use.

907-714.05.2--Fly Ash for Use in Concrete. When used with Portland cement in the production of concrete or grout, the fly ash shall meet the requirements of AASHTO Designation: M 295, Class C or F, with the following exception:

The loss on ignition shall not exceed 6.0 percent.

No additional cementitious materials, such as blended hydraulic cement, GGBFS, metakaolin, or others, shall be added to or as a replacement for Portland cement when used with fly ash.

907-714.06--Ground Granulated Blast Furnace Slag (GGBFS). Delete Subsection 714.06.1 on page 681, and substitute the following.

907-714.06.1--General. The GGBFS source must be approved for listing in the Department's "Approved Sources of Materials" prior to use. The acceptance of GGBFS shall be based on certified test reports, certification of shipment from the supplier, and tests performed on samples obtained after delivery in accordance with the Department's Materials Division Inspection, Testing, and Certification Manual and Department SOP.

The Contractor shall provide suitable means for storing and protecting the GGBFS against dampness and contamination. Separate storage silos, bins, or containers shall be provided for GGBFS. GGBFS which has become partially set, caked or contains lumps shall not be used.

The State Materials Engineer shall be notified in writing of the nature, amount and identity of any processing or other additions made to the GGBFS during production.

GGBFS from different mills shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer; except that this requirement will not be applicable to cement treatment of design soils or bases.

No additional cementitious materials, such as blended hydraulic cement, fly ash, metakaolin, or others, shall be added to or as a replacement for Portland cement when used with GGBFS in the production of concrete. The replacement of Portland cement with GGBFS shall be in accordance with the applicable replacement content specified in Subsection 907-701.02.2.

Delete Subsection 714.07 on page 682, and substitute the following.

907-714.07--Additional Cementitious Materials.

907-714.07.1--Metakaolin.

907-714.07.1.1--General. Metakaolin shall only be used as a supplementary cementitious material in Portland cement concrete for compliance with the requirements for cementitious materials exposed to soluble sulfate conditions. Metakaolin from different sources shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer. No additional cementitious materials, such as blended hydraulic cement, fly ash, GGBFS, or others, shall be added to or as a replacement for Portland cement when used with metakaolin in the production of concrete.

The State Materials Engineer shall be notified in writing of the nature, amount and identity of any processing, or other additions made to the metakaolin during production.

907-714.07.1.2--Source Approval. The approval of each metakaolin source shall be on a case

by case basis as determined by the State Materials Engineer. In order to obtain approval of a metakaolin source, the Producer/Suppliers shall submit to the State Materials Engineer the following for review: certified test reports, made by an acceptable, independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology, which show that the metakaolin meets all the requirements of AASHTO Designation: M295, including the Effectiveness in contributing to sulfate resistance, Procedure A, listed in AASHTO Designation: M295, Table 4 for Supplementary Optional Physical Requirements, and other requirements listed herein.

In order to demonstrate effectiveness in contributing to sulfate resistance, included in this test data shall be results of metakaolin from the proposed source tested in accordance with ASTM Designation: C 1012. There shall be two sets of test specimens per the following:

- a. One set of test specimens shall be prepared using a Type I Portland cement meeting the requirements of AASHTO Designation: M85 and having a tricalcium aluminate (C_3A) content of more than 8.0%,
- b. One set of test specimens shall be prepared using a Type II Portland cement meeting the requirements of AASHTO Designation: M85.
- c. The proposed metakaolin shall be incorporated at the rate of 10% cement replacement in each set of test specimens and shall meet both of the acceptance criteria listed below for source approval.

The requirement for acceptance of the test sample using Type I Portland cement is an expansion of 0.10% or less at the end of six months. The requirement for acceptance of the test sample using Type II Portland cement is an expansion of 0.05% or less at the end of six months.

907-714.07.1.3--Storage. The Contractor shall provide suitable means for storing and protecting the metakaolin against dampness and contamination. Metakaolin which has become partially set, caked, or contains lumps shall not be used.

907-714.07.1.4--Specific Requirements. Metakaolin shall meet the requirements of AASHTO Designation: M 295, Class N with the following modifications:

1. The sum of $SiO_2 + Al_2O_3 + Fe_2O_3$ shall be at least 85%. The Material Safety Data Sheet shall indicate that the amount of crystalline silica, as measured by National Institute of Occupation Safety and Health (NIOSH) 7500 method, after removal of the mica interference, is less than 1.0%.
2. The loss on ignition shall be less than 3.0%.
3. The available alkalies, as equivalent Na_2O , shall not exceed 1.0%.
4. The amount of material retained on a No. 325 mesh sieve shall not exceed 1.0%.
5. The strength activity index at seven (7) days shall be at least 85%.

907-714.07.1.5--Acceptance. With each new lot of material shipped the Contractor shall submit to the State Materials Engineer a certified test report from the manufacturer showing that the material meets the requirements AASHTO Designation: M295, Class N and the requirements of this Subsection.

The Department reserves the right to sample, for check tests, any shipment or lot of metakaolin delivered to a project.

907-714.07.2--Silica Fume.

907-714.07.2.1--General. Silica fume shall only be used as a supplementary cementitious material in Portland cement concrete for compliance with the requirements for cementitious materials exposed to soluble sulfate conditions. Silica fume from different sources shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer. No additional cementitious materials, such as blended hydraulic cement, performance hydraulic cement, fly ash, GGBFS, or others, shall be added to or as a replacement for Portland cement when used with silica fume in the production of concrete.

The State Materials Engineer shall be notified in writing of the nature, amount and identity of any processing, or other additions made to the silica fume during production.

907-714.07.2.2--Source Approval. The approval of each silica fume source shall be on a case by case basis as determined by the State Materials Engineer. In order to obtain approval of a silica fume source, the Producer/Suppliers shall submit to the State Materials Engineer the following for review: certified test reports, made by an acceptable, independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology, which show that the silica fume meets all the requirements of AASHTO Designation: M307, Table 3, including the Sulfate resistance expansion, listed in the table for Optional Physical Requirements, and other requirements listed herein.

In order to demonstrate effectiveness in contributing to sulfate resistance, included in this test data shall be results of silica fume from the proposed source tested in accordance with ASTM Designation: C 1012. There shall be two sets of test specimens per the following:

- a. One set of test specimens shall be prepared using a Type I Portland cement meeting the requirements of AASHTO Designation: M85 and having a tricalcium aluminate (C_3A) content of more than 8.0%,
- b. One set of test specimens shall be prepared using a Type II Portland cement meeting the requirements of AASHTO Designation: M85.
- c. The proposed silica fume shall be incorporated at the rate of 8% cement replacement in each set of test specimens and shall meet both of the acceptance criteria listed below for source approval.

The requirement for acceptance of the test sample using Type I Portland cement is an expansion of 0.10% or less at the end of six months. The requirement for acceptance of the test sample using Type II Portland cement is an expansion of 0.05% or less at the end of six months.

907-714.07.2.3--Storage. The Contractor shall provide suitable means for storing and protecting the silica fume against dampness and contamination. Silica fume which has become partially set, caked, or contains lumps shall not be used.

907-714.07.2.4--Acceptance. With each new lot of material shipped, the Contractor shall submit to the State Materials Engineer a certified test report from the manufacturer showing that the material meets the Chemical and Physical Requirements of AASHTO Designation: M307.

The Department reserves the right to sample, for check tests, any shipment or lot of silica fume delivered to a project.

Delete Subsection 714.11.6 on pages 690 and 691, and substitute the following.

907-714.11.6--Rapid Setting Cementitious Patching Compounds for Concrete Repair. Rapid setting concrete patching compounds must be approved for listing in the Department's "Approved Sources of Materials" prior to use. Upon approval, a product must be recertified every four (4) years to remain on the "Approved Sources of Materials" list. Each product shall be pre-measured and packaged dry by the manufacturer. All liquid solutions included by the manufacturer as components of the packaged material shall be packaged in a watertight container. The manufacturer may include aggregates in the packaged material or recommend the addition of Contractor furnished aggregates.

The type, size and quantity of aggregates, if any, to be added at the job site shall be in accordance with the manufacturer's recommendations and shall meet the requirements of Subsection 703.02 for fine aggregate and Subsection 703.03 for coarse aggregate. Required mixing water to be added at the job site shall meet the requirements of Subsection 714.01.2.

Only those bonding agents, if any, recommended by the manufacturer of the grout or patching compounds may be used for increasing the bond to old concrete or mortar surfaces.

Patching compounds containing soluble chlorides will not be permitted when in contact with steel.

Site preparation, proportioning of materials, mixing, placing and curing shall be performed in accordance with the manufacturer's recommendation for the specific type of application, and the Contractor shall furnish a copy of these recommendations to the Engineer.

Rapid setting cementitious concrete patching compounds, including components to be added at the job site, shall conform to the following physical requirements:

Non-shrink cementitious grouts shall not be permitted for use.

Compressive strength shall equal or exceed 3000 psi in 24 hours in accordance with ASTM C 928 for Type R2 concrete or mortar.

Bond strength shall equal or exceed 1000 psi in 24 hours in accordance with ASTM C 928 for Type R2 concrete or mortar.

The material shall have a maximum length change of $\pm 0.15\%$ in accordance with ASTM C 928 for Type R2 concrete or mortar.

The Contractor shall furnish to the Engineer three copies of the manufacturer's certified test report(s) showing results of all required tests and certification that the material meets the specifications when mixed and placed in accordance with the manufacturer's instructions. When the mixture is to be placed in contact with steel, the certification shall further state that the packaged material contains no chlorides. Certified test report(s) and certification shall be furnished for each lot in a shipment.

The proportioning of materials must be approved by the State Materials Engineer and any subsequent change in proportioning must also be approved. A sample of each component shall be submitted to the Engineer along with the quantity or percentage of each to be blended. At least 45 days must be allowed for initial approval.

The proportioning of materials for subsequent lots may be approved by the State Materials Engineer upon receipt of certification from the manufacturer that the new lot of material is the same composition as that originally approved by the Department and that the material has not been changed or altered in any way.

907-714.11.7--Commercial Grout for Anchoring Doweled Tie Bars in Concrete. Before Subsection 714.11.7.1 on page 691, add the following.

Approved Non-"Fast Set" Epoxy anchor systems as specified below may be used for the repair of concrete pavements that do not involve permanent sustained tension applications or overhead applications.

"Fast Set Epoxy" may not be used for any Adhesive Anchor Applications. Adhesive Anchor Systems (Fast Set epoxy or otherwise) shall not be used for permanent sustained tension applications or overhead applications. "Fast Set Epoxy" refers to an epoxy produced by the Sika Corporation called Sikadur AnchorFix-3 and repackaged for sale under a variety of names/companies listed at the Federal Highway Administration web site at the following link:

<http://www.fhwa.dot.gov/Bridge/adhesives.cfm>

907-714.11.7.4--Acceptance Procedure. After the last sentence of the first paragraph of Subsection 714.11.4 on page 691, add the following.

Upon approval, a product must be recertified every four (4) years to remain on the "Approved Sources of Materials" list.

907-714.11.8--Epoxy Joint Repair System.

907-714.11.8.1--General. After the last sentence of the first paragraph of Subsection 714.11.8.1 on page 692, add the following.

Upon approval, a product must be recertified every four (4) years to remain on the "Approved Sources of Materials" list.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-804-19

CODE: (SP)

DATE: 11/10/2015

SUBJECT: Concrete Bridges and Structures

Section 804, Concrete Bridges and Structures, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby deleted and replaced as follows.

SECTION 907-804--CONCRETE BRIDGES AND STRUCTURES

907-804.01--Description. This work consists of constructing concrete bridges and structures in accordance with these specifications and in reasonably close conformity with the dimensions, designs, lines, and grades indicated on the plans or established.

Construction of box bridges shall be in accordance with Sections 601 and 602.

907-804.02--Materials.

907-804.02.1--General. Concrete produced and controlled from this specification shall be accepted upon proper certification of concrete production through an approved quality control program and verification by job site acceptance criteria. The Contractor shall develop and implement a quality control program which shall be used to maintain the required properties of concrete. For projects with 1000 cubic yards and more, quality control and acceptance shall be achieved through statistical evaluation of test results. For projects of more than 200 but less than 1000 cubic yards, quality control and acceptance shall be achieved by individual test results. For projects less than or equal to 200 cubic yards, refer to the requirements of TMD-20-05-00-000 "Sampling and Testing of Small Quantities of Miscellaneous Materials" for mixture design and testing requirements.

The materials for concrete bridges and structures, when sampled and tested in accordance with Subsection 700.03, shall meet the requirements of the following Subsections:

Portland Cement	701.01 and 701.02
Blended Cement	907-701.01 and 907-701.04
Admixtures	713.02
Fly Ash	714.05
Ground Granulated Blast Furnace Slag (GGBFS)	907-714.06
Silica Fume	907-714.07.2
Water	714.01.1 and 714.01.2
Fine Aggregate	703.02
Coarse Aggregate	703.03
Lightweight Aggregate	907-703.19
Curing Materials	713.01

Joint Materials	707.01, 707.02, and 707.07
Structural Steel Joints and Bearing Devices	717.01
Bearing Pads	714.10
Wire Rope or Wire Cable for Prestressed Concrete	700.01 and 711.03
Sprayed Finish for Concrete Surface	714.12
Reinforcing Steel	711.02

907-804.02.2--Use, Care, and Handling. The use, care, and handling of materials shall conform to the applicable requirements of Subsection 501.03.10 and the specific requirements of Subsections 907-804.02.4 and 907-804.02.5. Unless otherwise authorized, only fine aggregate or coarse aggregate of one type and from the same source shall be used in the construction of any one unit of a structure. Should the Contractor, with written permission of the Engineer, elect to substitute high early strength cement for cement of the type specified, the Contractor will not receive additional compensation for the substitution.

907-804.02.3--Blank.

907-804.02.4--Care and Storage of Concrete Aggregates. The handling and storage of aggregates shall be such as to prevent segregation or contamination with foreign materials. The Engineer may require that aggregates be stored on separate platforms at satisfactory locations.

When specified, coarse aggregates shall be separated into two or more sizes in order to secure greater uniformity of the concrete mixture. Different sizes of aggregate shall be stored in separate stock piles sufficiently removed from each other to prevent the material at the edges of the piles from becoming intermixed.

907-804.02.5--Storage of Cementitious Materials. All cementitious materials shall be stored in suitable weather-proof buildings or bins. These buildings or bins shall be placed in locations approved by the Engineer. Provision for storage shall be ample, and the shipments of cementitious materials as received shall be stored separately or other provisions made to the satisfaction of the Engineer for easy access for the identification, inspection, and sampling of each shipment as deemed desirable. Stored cementitious materials shall meet the test requirements at any time after storage when a retest is ordered by the Engineer.

On small jobs, open storage consisting of a raised platform and ample waterproof covering may be permitted by written authorization from the Engineer.

When specified, the Contractor shall keep accurate records of deliveries of cementitious materials and of their use in the work. Copies of these records shall be supplied in the form required by the Engineer.

907-804.02.6--Classification and Uses of Concrete. When a specific class of concrete is not specified on the plans or in the contract documents, the structure or parts thereof shall be constructed with the class of concrete as directed by the Engineer.

The classes and their uses are as follows:

- (1) Class AA - Concrete for bridge construction and concrete exposed to seawater.
- (2) Class A - Concrete shown as Class A shall herein be classified as and required to meet the performance criteria of Class AA.
- (3) Class B - General use, heavily reinforced sections, cast-in-place concrete piles, and conventional concrete piles.
- (4) Class C - Massive sections or lightly reinforced sections.
- (5) Class D - Massive unreinforced sections and riprap.
- (6) Class F - Concrete for prestressed members.
- (7) Class FX - Extra strength concrete for prestressed members, as shown on plans.
- (8) Class S - For all seal concrete deposited under water.
- (9) Class DS - Drilled Shaft

907-804.02.7--Blank.

907-804.02.8--Laboratory Accreditation. The Contractor shall be responsible for furnishing the laboratory used to perform concrete quality control tests. The laboratory may be the Contractor's facility, the concrete producer's facility, or a certified independent testing laboratory.

Only laboratories certified by the Mississippi Department of Transportation are qualified to perform material testing. Certification by AASHTO Accreditation Program (AAP) will be acceptable if the laboratory is listed in the latest AAP publication and maintains accreditation to completion of concrete work.

The Contractor's laboratory designated for quality control testing shall have equipment necessary to test aggregates and concrete for the test methods listed in Table 1.

Table 1

AASHTO: R 39	Making and Curing Concrete Test Specimens in the Laboratory
AASHTO: R 60	Sampling Freshly Mixed Concrete
AASHTO: T 2	Sampling Aggregates
AASHTO: T 19	Bulk Density ("Unit Weight") and Voids in Aggregates
AASHTO: T 22	Compressive Strength of Cylindrical Concrete Specimens
AASHTO: T 23	Making and Curing Concrete Test Specimens in the Field
AASHTO: T 27	Sieve Analysis of Fine and Coarse Aggregates
AASHTO: T 84	Specific Gravity and Absorption of Fine Aggregate
AASHTO: T 85	Specific Gravity and Absorption of Coarse Aggregate
AASHTO: T 119	Slump of Hydraulic Cement Concrete
AASHTO: T 121	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
AASHTO: T 152	Air Content of Freshly Mixed Concrete by Pressure Method *
AASHTO: T 196	Air Content of Freshly Mixed Concrete by the Volumetric Method *
AASHTO: T 231	Capping Cylindrical Concrete Specimens
AASHTO: T 248	Reducing Field Samples of Aggregate to Testing Size
AASHTO: T 255	Total Evaporable Moisture Content of Aggregate by Drying

AASHTO: T 325	Standard Method of Test for Estimating the Strength of Concrete in Transportation Construction by Maturity Tests **
ASTM: C 1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic Cement Concrete
ASTM: C 1074	Standard Practice for Estimating Concrete Strength by the Maturity Method **

* Equipment necessary for either pressure or volumetric air content.

** Equipment necessary for estimating concrete strength following the maturity method.

Testing equipment shall have been inspected by the Department or through the AASHTO Accreditation Program. Testing equipment calibration files shall be made available upon request by the Department.

907-804.02.9--Testing Personnel. Technicians testing portland cement concrete, for either acceptance or production control purposes, shall be certified by an accepted certification program. Recertification is required for each Class after five years. Certification requirements are listed in Table 2.

Table 2

Concrete Technician's Tasks	Test Method Required	Certification Required**
Sampling or Testing of Plastic Concrete	AASHTO Designation: R 60, T 23, T 119, T 121, T 152, T 196, and ASTM Designation: C 1064	MDOT Class I certification
Compressive Strength Testing of Concrete Cylinders	AASHTO Designation: T 22 and T 231	MDOT Concrete Strength Testing Technician certification
Sampling of Aggregates	AASHTO Designation: T 2	Work under the supervision of a MDOT Class II certified technician
Testing of Aggregates	AASHTO Designation: T 19, T 27, T 84, T 85, T 248, and T 255	MDOT Class II certification
Proportioning of Concrete Mixtures*	AASHTO Designation: M 157 and R 39	MDOT Class III certification
Interpretation and Application of Maturity Meter Readings	AASHTO Designation: T 325 and ASTM Designation: C 1074	MDOT Class III certification or Two hours maturity method training

* Technicians making concrete test specimens for meeting the requirements of Subsection 907-804.02.10.1.2 shall be MDOT Class I certified and under the direct supervision of an MDOT Class III certified technician.

** MDOT Class I certification encompasses the same test procedures and specifications as ACI Concrete Field Testing Technician-Grade I. MDOT Class II certification encompasses the same test procedures and specifications as ACI Aggregate Testing Technician-Level 1. MDOT Concrete Strength Testing Technician encompasses the same test procedures and specifications as ACI Concrete Strength Testing certification.

Specific requirements for each level of certification are in the latest edition of the Department's *Concrete Field Manual*. Current MDOT Class I, MDOT Class II, and/or MDOT Class III certifications shall be acceptable until those certifications expire. Upon expiration of a current certification, recertification with the certifications listed in Table 2 shall be required. Technicians performing either specific gravity testing of aggregates or compressive strength tests shall be required to either:

- have the required MDOT certification listed in Table 2, or
- have a current MDOT Class III certification or work under the direct supervision of current MDOT Class III technician, and have demonstrated the specific gravity and/or compressive strength test during the inspection of laboratory equipment by the Materials Division, Concrete Section.

907-804.02.10--Portland Cement Concrete Mixture Design. At least 10 days prior to production of concrete, the Contractor shall submit to the Engineer proposed concrete mixture designs complying with the Department's *Concrete Field Manual*. Materials shall be from approved sources meeting the requirements of the Standard Specifications. Proportions for the mixture designs shall be for the class concrete required by the contract plans and shall meet the requirements of the "Master Proportion Table for Structural Concrete Design" listed in Table 3. The concrete producer shall assign a permanent unique mixture number to each mixture design. Each mixture design shall be field verified as required in Subsection 907-804.02.10.3. Acceptable field verification data shall be required for final approval of a mixture design.

All concrete mixture designs will be reviewed by the Materials Division prior to use. Concrete mixture designs disapproved will be returned to the Contractor with a statement explaining the disapproval.

If the Contractor chooses to cure the concrete in accordance with the requirements listed under **Length of Time Defined by Development of Compressive Strength** in Subsection 907-804.03.17, the compressive strength/maturity relationship shall be developed for the mixture design for a minimum of 28 days following the requirements of Subsection 907-804.03.15. The compressive strength/maturity relationship information shall be submitted with the mixture design information.

Table 3
MASTER PROPORTION TABLE FOR STRUCTURAL CONCRETE DESIGN

Class	Coarse Aggregate Size No.*	Maximum Water/Cementitious** Ratio	Specified Compressive Strength (f'_c) psi	Maximum Permitted Slump*** inches	Nominal Total Air Content**** %
AA*****	57 or 67	0.45**	4000	3***	4.5*****
B	57 or 67	0.50	3500	4	4.5
C	57 or 67	0.55	3000	4	4.5
D	57 or 67	0.70	2000	4	4.5
F	67	0.40	5000	3	*****
FX	67	(As per mixture design)	(As shown on plans)	3	*****
S	57 or 67	0.45	3000	8	4.5
DS	67	0.45	4000	***	*****

* Maximum size aggregate shall conform to the concrete mixture design for the specified aggregate. Other smaller coarse aggregate sizes meeting the requirements of Subsection 907-703.03.2.4 may also be used in conjunction with the coarse aggregate sizes listed. Lightweight aggregate (LWA) meeting the requirements of Subsection 907-703.19.2 may also be used as a partial replacement for fine aggregate.

** The replacement limits of portland cement by weight by other cementitious materials (such as fly ash, GGBFS, silica fume, or others) shall be in accordance with the values in Subsection 907-701.02. Other hydraulic cements may be used in accordance with the specifications listed in Section 701.

For Class AA concrete for concrete bridge decks, the water / cementitious ratio range shall be 0.43 – 0.45 and the maximum cementitious material content shall be 550 pounds per cubic yard. The “maximum cementitious material content” refers to the total weight of Portland cement, blended hydraulic cement, GGBFS, silica fume, and fly ash.

*** Unless otherwise specified, minus slump requirements shall meet those set forth in Table 3 of AASHTO Designation: M157.

For Class AA concrete for concrete bridge decks the maximum permitted slump may be increased to five (5) inches. Also, for each additional pound of fibers per cubic yard added in excess of the requirement in Note ***** , an additional inch of slump will be allowed up to a maximum permitted slump of eight (8) inches.

For Class AA not used in bridge decks and all other Classes of concrete, the maximum permitted slump may be increased to eight (8) inches.

For Class DS concrete for drilled shafts the slump range shall be 8 inches $\pm$ 1 inch.

**** The tolerance on total air content shall be $\pm$ 1.5%. For Class AA concrete for concrete bridge decks, the nominal total air content may be increased to 6.5%.

***** For Class AA concrete for concrete bridge decks, an approved synthetic structural fiber meeting the requirements of Special Provision 907-711, Synthetic Structural Fiber Reinforcement, shall be incorporated into the mixture at 1.25 times the approved dosage rate.

***** Entrained air is not required except for concrete exposed to seawater. For concrete not exposed to seawater, the total air content shall not exceed 6.0%. For concrete exposed to seawater, the nominal total air content shall be 4.5%.

At least one water-reducing admixture or water-reducing/set-retarding admixture shall be used in all classes of concrete in accordance with the manufacturer's recommended dosage range. Admixtures providing a specific performance characteristic other than those of water reduction or set retardation may be used in accordance with the manufacturer's recommended dosage range. Mixture designs containing accelerating admixtures will not be approved. Any combinations of admixtures shall be approved by the Engineer before their use.

907-804.02.10.1--Proportioning of Portland Cement Concrete Mixture Design. Proportioning of portland cement concrete shall be based on an existing mixture of which the producer has field experience and documentation or based on a recently batched laboratory mixture tested according to the required specifications.

907-804.02.10.1.1--Proportioning on the Basis of Previous Field Experience of Trial Mixtures. Where a concrete production facility has a record, based on at least 10 consecutive strength tests from at least 10 different batches within the past 12 months from a mixture not previously used on Department projects, the standard deviation shall be calculated. The record of tests from which the standard deviation is calculated shall:

- a) Represent similar materials and conditions to those expected. Changes in materials and proportions within the test record shall not have been more closely restricted than those for the proposed work.
- b) Represent concrete produced to meet a specified strength.
- c) Consist of 10 consecutive tests, average of two cylinders per test, tested at 28 days.

The standard deviation, s , shall be calculated as:

$$s = \left[\sum (X_i - \bar{X})^2 \div (N - 1) \right]^{1/2}$$

where:

X_i = the strength result of an individual test
 $\bar{X}$ = the average of individual tests in the series
 N = number of tests in the series

When the concrete production facility does not have a record of tests for calculation of standard deviation, as required in the above formula, the requirements of Subsection 907-804.02.10.1.2 shall govern.

The required average compressive strength (f'_{cr}) used as the basis for selection of concrete proportions shall conform to the inequality listed below, while using a standard deviation, s , calculated as shown above.

$$\bar{X} \geq f'_{cr}$$

where:

$$f'_{cr} = f'_c + 1.43s$$

where:

f'_c = specified compressive strength of concrete, psi

f'_{cr} = required average compressive strength of concrete, psi

s = standard deviation, psi

1.43 represents the Lower Quality Index necessary to assure that 93% of compressive strength tests are above f'_c .

907-804.02.10.1.2--Proportioning on the Basis of Laboratory Trial Mixtures. When an acceptable record of field test results is not available, concrete proportions shall be established based on laboratory trial mixtures meeting the following restrictions:

- a) The combination of materials shall be those intended for use in the proposed work.
- b) Trial mixtures having proportions and consistencies suitable for the proposed work shall be made using the ACI 211.1 as a guide to proportion the mixture design.
- c) Trial mixtures shall be designed to produce a slump within $\pm 3/4$ inch of the maximum permitted, and for air-entrained concrete, ± 0.5 percent of the maximum total air content. The temperature of freshly mixed concrete in trial mixtures shall be reported.
- d) For each proposed mixture, at least three compressive test cylinders shall be made and cured in accordance with AASHTO Designation: R 39. Each change of water-cement ratio shall be considered a new mixture. The cylinders shall be tested for strength in accordance with AASHTO Designation: T 22 and shall be tested at 28 days.
- e) The required average strength of laboratory trial mixes shall exceed f'_c by 1200 psi for concrete mixture designs less than 5000 psi and by 1400 psi for concrete mixture designs of 5000 psi or more.

- f) The laboratory trial batch mixtures shall have been made within the previous 12 months before being submitted for approval and shall not have been previously used on Department projects.

907-804.02.10.2--Documentation of Average Strength. Documentation that the proposed concrete proportions will produce an average strength equal to or greater than the required average shall consist of the strength test records from field tests or results from laboratory trial mixtures.

907-804.02.10.3--Field Verification of Concrete Mixture Design. Concrete mixture designs will only be tentatively approved pending field verification. The requirements for yield, slump, or total air content shall be successfully met within the first three (3) production days. Mixture designs may be transferred to other projects without additional field verification testing, once the mixture design has passed the field verification process.

The Contractor's Certified Quality Control Technicians shall test each concrete mixture design upon the first placement of the mix. Aggregates and concrete tests during the first placement shall be as follows.

<u>Aggregates</u>	<u>Concrete</u>
Bulk Specific Gravity	Water Content
Moisture	Slump
Gradation	Air Content
	Unit Weight
	Yield

For all Classes of concrete, the mixture shall be verified to yield within 2.0% of the correct volume when all the mix water is added to the batch.

For all Classes of concrete other than DS, F, and FX, the mixture shall produce a slump within a minus 1½-inch tolerance of the maximum permitted for mixtures with a maximum permitted slump of three inches (3") or less or within a minus 2½-inch tolerance of the maximum permitted for mixtures with a maximum permitted slump of greater than three inches (3"), and producing a total air content within a minus 1½ percent tolerance of the maximum allowable air content in Table 3.

For Class DS, the slump shall be within the requirements in Note *** below Table 3. For Class DS exposed to seawater, the total air content shall be within a minus 1½ percent tolerance of the maximum allowable air content in Note ***** below Table 3. For Class DS not exposed to seawater the total air content shall be within the requirements in Note ***** below Table 3.

For Classes F and FX, the slump shall be within a minus 1½-inch tolerance of the maximum permitted for mixtures with a maximum permitted slump of three inches (3") or less or within a minus 2½-inch tolerance of the maximum permitted for mixtures with a maximum permitted slump of greater than three inches (3"). For Classes F and FX exposed to seawater, the total air content shall be within a minus 1½ percent tolerance of the maximum allowable air content in

Note ***** below Table 3. For Classes F and FX not exposed to seawater the total air content shall be within the requirements in Note ***** below Table 3.

The mixture shall be adjusted and retested, if necessary, on subsequent placements until the above mentioned properties are met.

If the requirements for yield, slump, or total air content are not met within the first three (3) production days, subsequent field verification testing shall not be permitted on Department projects, and the mixture design shall not be used until the requirements listed above are met. Any mixture design adjustments, changes in the mixture proportions, are to be made by a Class III Certified Technician representing the Contractor. After the mixture design has been verified and adjustments made, verification test results will be reviewed by the Engineer.

907-804.02.10.3.1--Slump Retention of Class DS Concrete Mixture Designs. Prior to concrete placement, the Contractor shall provide test results of a slump loss test using approved methods to demonstrate that the mixture meets the four hour requirement in Subsection 907-803.02.7.1. These tests shall be conducted successfully by an approved testing laboratory within 30 days prior to installation of the trial shaft, with personnel from the Materials Division present. The slump loss test shall be conducted at temperatures and conditions similar to those expected at the job site at the time of the installation of the trial shaft. The sample for the slump loss test shall be from a minimum batch size of four (4) cubic yards of concrete. If the time between the previous successful slump loss test and the installation of the trial shaft exceeds 30 days, another successful slump loss test shall be performed on the first truckload of concrete as part of the installation of the trial shaft. This requirement limiting the time between the previous slump loss test and an installation of the trial shaft also applies to Class DS concrete mixture designs being transferred from another project. During any shaft installation a slump loss test shall be conducted by the Contractor at the direction of the Engineer from the concrete at the site for verification of slump loss requirements using a sample from a minimum batch size of four cubic yards of concrete.

907-804.02.10.4--Adjustments of Mixtures. The mixture design may be adjusted by the Class III Certified Technician representing the Contractor in accordance with the allowable revisions listed in the Department's *Concrete Field Manual*, paragraph 5.7. Written notification shall be submitted to the Engineer a minimum of seven (7) days prior to any source or brand of material change, aggregate size change, allowable material type change, or decrease in any cementitious material content. Any adjustments of the concrete mixture design shall necessitate repeat of field verification procedure as described in Subsection 907-804.02.10.3 and approval by the Engineer.

907-804.02.11--Concrete Batch Plants. The concrete batch plant shall meet the requirements of the National Ready Mixed Concrete Association *Quality Control Manual, Section 3, Plant Certification Checklist* as outlined in the latest edition of the Department's *Concrete Field Manual*. The Contractor shall submit a copy of the approved checklist along with proof of calibration of batching equipment, i.e., scales, water meter, and admixture dispenser, to the Engineer 30 days prior to the production of concrete.

For projects with 1000 cubic yards and more, the concrete batch plant shall meet the requirements for an automatic system capable of recording batch weights. It shall also have automatic moisture

compensation for the fine aggregate. For projects of more than 200 but less than 1000 cubic yards the plant can be equipped for manual batching with a fine aggregate moisture meter visible to the plant operator.

The concrete batch plant shall have available adequate facilities to cool concrete during hot weather.

Mixer trucks to be used on the project are to be listed in the checklist and shall meet the requirements of the checklist.

907-804.02.12--Contractor's Quality Control. The Contractor shall provide and maintain a quality control program that will provide reasonable assurance that all materials and products submitted to the Department for acceptance will conform to the contract requirements, whether manufactured or processed by the Contractor or procured from suppliers, subcontractors, or vendors.

The Contractor's Quality Control program shall implement the minimum quality control requirements shown in Table 4, "CONTRACTOR'S MINIMUM REQUIREMENTS FOR QUALITY CONTROL". The quality control activities shown in the table are considered to be normal activities necessary to control the production and placing of a given product or material at an acceptable quality level. To facilitate the Department's activities, all completed gradation samples shall be retained for a maximum of sixty (60) days by the Contractor until further disposition is designated by the Department.

The Contractor shall perform, or have performed, the tests required to substantiate product conformance to contract document requirements and shall also perform, or have performed, all tests otherwise required.

The Contractor's Quality Control program shall encompass the requirements of AASHTO Designation: M 157 into concrete production and control, equipment requirements, testing, and batch ticket information. The requirement of AASHTO Designation: M 157, Section 11.7 shall be followed except, on arrival to the job site, a maximum of 1½ gallons per cubic yard shall be allowed to be added. Water shall not be added at a later time. Job site adjustment of a batch using chemical admixtures or the mechanical adjustment of a batch may be performed by the Contractor if the requirements of Subsection 907-804.02.12.1.1 have been satisfactorily addressed in the Quality Control Plan. If either the maximum permitted slump is exceeded or the total air content is not within the required range after all adjustments are made at the job site, the concrete shall be rejected.

The Contractor's quality control tests shall be documented and shall be available for review by the Engineer throughout the life of the contract.

As set out in these specifications, quality control sampling and testing performed by the Contractor will be used by the Department for determination of acceptability of the concrete.

The Contractor shall maintain standard equipment and qualified personnel as required to assure conformance to contract requirements.

907-804.02.12.1--Quality Control Plan. The Contractor shall prepare a Quality Control Plan which shall identify the personnel responsible for the Contractor's quality control including the company official who will act as liaison with Department personnel. The Quality Control Plan shall be submitted in writing to the Engineer for approval 30 days prior to the production of concrete.

The class(es) of concrete involved will be listed separately. If an existing mixture design(s) is to be used, the mixture design number(s) as previously approved shall be listed.

It is intended that sampling and testing be in accordance with standard methods and procedures, and that measuring and testing equipment be standard and properly calibrated. If alternative sampling methods and procedures, and inspection equipment are to be used, they shall be detailed in the Quality Control Plan.

907-804.02.12.1.1--Elements of Plan. The Plan shall address all elements that affect the quality of the structural concrete including, but not limited to, the following items:

- 1) Stockpile Management
- 2) Procedures for Corrective Actions for Non Compliance of Specifications
- 3) Procedure for Controlling Concrete Temperatures
- 4) Job Site Batch Adjustments by Addition of Chemical Admixtures:

The Plan shall address if the Contractor intends to adjust either the slump and/or total air content of a batch on the job site by adding chemical admixture(s) to a batch. The Contractor shall include the names of the personnel designated to perform this batch adjustment, the equipment used to add the chemical admixture(s), and the procedure by which the batch adjustment will be accomplished. Only the Contractor's designated personnel shall adjust a batch. Only calibrated dispensing equipment shall be used to add chemical admixture(s) to a batch. Only the procedure described in this section of the Plan shall be utilized.

If either the maximum permitted slump is exceeded or the total air content is not within the required range after all adjustments are made at the job site, the concrete shall be rejected.

If the Contractor elects to utilize Job Site Batch Adjustments by Addition of Chemical Admixture within Item 2, Procedures for Corrective Actions for Non Compliance of Specifications, to adjust batches which do not meet the minimum specification requirements for slump and/or total air content, no more than three batches on any one project shall be allowed to be adjusted regardless of the number of mixtures associated with the project.

- 5) Construction of Concrete Bridge Decks, including the following:

- the description of the equipment used for placing concrete on the bridge deck in accordance with Subsection 907-804.03.6 and, as applicable, Subsections 907-804.03.7 and 907-804.03.8 including any accessories added to the pump to ensure the entrained air in the concrete mixture remains entrained during pumping and depositing of the concrete mixture,
- the description of and the number of pieces of equipment used to consolidate the concrete in accordance with Subsection 907-804.03.6.2,
- the description of the equipment used to finish the bridge deck in accordance with Subsection 907-804.03.19.7,
- the plan for ensuring a continuous rate of finishing the bridge deck without delaying the application of curing materials within the time specified in Subsection 907-804.03.17, including ensuring a continuous supply of concrete throughout the placement with an adequate quantity of concrete to complete the deck and filling diaphragms and end walls in advance of deck placement,
- the plan for applying the curing materials within the time specified in Subsection 907-804.03.17,
- the description of the powered fogging equipment in accordance with Subsection 907-804.03.17,
- a sample of the documentation used as the daily inspection report for ensuring maintenance of the continuous wet curing in accordance with Subsection 907-804.03.17, as required,
- the description of the equipment used to apply the liquid membrane, including but not limited to, the nozzles, pumping/pressurization equipment, and liquid membrane tanks, in accordance with Subsection 907-804.03.17,
- the method for determining the rate of applied liquid membrane meets the application rate requirements in accordance with Subsection 907-804.03.17,
- a sample of the documentation used for the application rate verification of the liquid membrane in accordance with Subsection 907-804.03.17.

6) Mechanical Adjustment of Trucks

907-804.02.12.2--Personnel Requirements. The Contractor's Designated Certified Technician shall perform and use quality control tests and other quality control practices to assure that delivered materials and proportioning meet the requirements of the mixture design including temperature, slump, air content, and strength and shall periodically inspect all equipment used in transporting, proportioning, and mixing.

The Contractor's Designated Technician shall periodically inspect all equipment used placing, consolidating, finishing, and curing to assure it is operating properly and that placement, consolidation, finishing, and curing conform to the mixture design and other contract requirements.

907-804.02.12.3--Documentation. The Contractor shall maintain adequate records of all inspections and tests. The records shall indicate the nature and number of observations made, the number and type of deficiencies found, date and time of samples taken, the quantities approved and rejected, and the nature of corrective action taken as appropriate. The Contractor's

documentation procedures will be subject to approval of the Department prior to the start of the work and to compliance checks during the progress of the work.

All conforming and non-conforming results shall be kept complete and shall be available at all times to the Department during the performance of the work. Forms shall be on a computer-acceptable medium. Batch tickets and gradation data shall be documented in accordance with Department requirements.

Batch tickets shall contain all the information in AASHTO Designation: M157, Section 16 including the additional information in Subsection 16.2 with the following exception: the information listed in paragraphs 16.2.7 and 16.2.8 is not required. All material added to a batch by both the batch plant or added manually shall be documented on the ticket. Batch tickets shall also contain the concrete producer's permanent unique mixture number assigned to the concrete mixture design. Copies shall be submitted to the Department as the work progresses.

Test data for portland cement concrete, including gradation, shall be charted in accordance with the applicable requirements.

The Contractor may use additional control charts as deemed appropriate. It is normally expected that testing and charting will be completed within 24 hours after sampling.

All records documenting the Contractor's quality control tests shall become the property of the Department upon completion of the work.

907-804.02.12.4--Corrective Action. The Contractor shall take prompt action to correct conditions that have resulted, or could result, in the submission to the Department of materials and products that do not conform to the requirements of the contract documents. All corrective actions shall be documented.

907-804.02.12.5--Non-Conforming Materials. The Contractor shall establish and maintain an effective and positive system for controlling non-conforming material, including procedures for its identification, isolation and disposition. Reclaiming or reworking of non-conforming materials shall be in accordance with procedures acceptable to the Department.

All non-conforming materials and products shall be positively identified to prevent use, shipment, and intermingling with conforming materials and products. Holding areas, mutually agreeable to the Department and the Contractor, shall be provided by the Contractor.

TABLE 4
CONTRACTOR'S MINIMUM REQUIREMENTS FOR QUALITY CONTROL

Portland Cement Concrete		
Control Requirement	Frequency	AASHTO/ASTM Designation
A. PLANT AND TRUCKS 1. Mixer Blades 2. Scales a. Tared b. Calibrate c. Check Calibration 3. Gauges & Meters - Plant & Truck a. Calibrate b. Check Calibration 4. Admixture Dispenser a. Calibrate b. Check Operation & Calibration	Monthly Daily Every 6 months Weekly Every 6 months Weekly Every 6 months Daily	
B. AGGREGATES 1. Sampling 2. Fine Aggregate a. Gradation / FM b. Moisture c. Specific Gravity / Absorption 3. Coarse Aggregates a. Gradation b. Moisture c. Specific Gravity / Absorption	250 yd ³ concrete Check meter against test results weekly 2500 yd ³ concrete 250 yd ³ concrete Minimum of once daily or more as needed to control production. Check meter against test results weekly. 2500 yd ³ Concrete	T 2 T 27 T 255 T 84 T 27 T 255 T 85
C. PLASTIC CONCRETE 1. Sampling 2. Air Content 3. Slump 4. Compressive Strength 5. Yield 6. Temperature	First load then one per 50 yd ³ First load then one per 50 yd ³ A minimum of one set (three cylinders) for each 100 yd ³ inclusive and one set for each additional 100 yd ³ or fraction thereof for each class concrete delivered and placed on a calendar day from a single supplier. A test shall be the average of three cylinders. Each 400 yd ³ With each sample	T 141 T 152 or T 196 T 119 T 22, T 23, T 231 T 121 C 1064

907-804.02.13--Quality Assurance Sampling and Testing. Quality Assurance (QA) inspection and testing will be provided by the Department to assure that the Contractor's Quality Control (QC) testing meets the requirements of these specifications.

Acceptance of the material is based on the inspection of the construction, monitoring of the Contractor's QC program, QC and QA test results per Subsection 907-804.02.13.1, and the comparison of the QA test results with the QC test results. The Department may use the results of the Contractor's QC tests as a part of the acceptance procedures instead of the results of QA tests, provided:

- a) The Department's inspection and monitoring activities indicate that the Contractor is following the approved QC program and, respectively,
- b) For aggregates, the results from the Contractor's QC and the Department's QA testing of aggregate gradations compare by both meeting the aggregate type's gradation requirements;
- c) For concrete, the Contractor's QC and Department's QA testing of concrete compressive strengths compare when using the data comparison computer program with an alpha value of 0.01 for projects with 1000 cubic yards and more; or, strength comparisons are within 990 psi for projects of more than 200 but less than 1000 cubic yards.

The minimum frequency for QA testing of aggregate and plastic concrete by the Department will follow the frequencies listed in Table 5, "DEPARTMENT'S MINIMUM REQUIREMENTS FOR QUALITY ASSURANCE".

TABLE 5
DEPARTMENT'S MINIMUM REQUIREMENTS FOR QUALITY ASSURANCE

Quality Assurance Tests	Frequency	AASHTO/ASTM Designation
A. AGGREGATES		
1. Sampling		T 2
2. Fine Aggregate Gradation and FM	250 yd ³ concrete	T 27
3. Coarse Aggregates Gradation	250 yd ³ concrete	T 27
B. PLASTIC CONCRETE		
1. Sampling		T 141
2. Air Content	Every 100 yd ³	T 152 or T 196
3. Slump	Every 100 yd ³	T 119
4. Compressive Strength	One set (three cylinders) for every 100 yd ³ inclusive. A test shall be the average of three cylinders.	T 22, T 23, T 231
5. Temperature	With each sample	C 1064

Periodic inspection by the Department of the Contractor's QC testing and production will continue through the duration of the project. Weekly reviews will be made of the Contractor's QC records and charts.

For aggregates, comparison of data of the Contractor's QC aggregate gradation test results to those of the Department's QA aggregate gradation test results will be made monthly during concrete

production periods according to Department Standard Operating Procedures. When it is determined that the Contractor's QC test results of aggregate gradations are comparative to that of the Department's QA test results, then the Department will use the Contractor's QC results as a basis for acceptance of the aggregates and the Department's QA testing frequency of aggregates may be reduced to a frequency of no less than three QA tests to every 10 QC tests. If the Contractor's QC aggregate gradation test results fail to compare to those of the Department's QA aggregate gradation test results, Department testing for aggregate gradations will revert to the frequency shown in Table 5 for aggregates until the Contractor's and Department's aggregate gradation test data compare.

For concrete compressive strength, comparison of data of the Contractor's QC compressive strength test results to those of the Department's QA compressive strength test results will be made monthly during concrete production periods according to Department's *Concrete Field Manual*. When it is determined that the Contractor's QC test results of concrete compressive strengths are comparative to that of the Department's QA test results, then the Department will use the Contractor's QC results as a basis for acceptance of the concrete and the Department's QA testing frequency of concrete compressive strengths may be reduced to a frequency of no less than three QA tests to every 10 QC tests. If the Contractor's QC compressive strength test results fail to compare to those of the Department's QA compressive strength test results, Department testing will revert to the frequency shown in Table 5 for plastic concrete until the Contractor's and Department's compressive strength test data compare.

907-804.02.13.1--Job Control Testing.

907-804.02.13.1.1--Sampling. Sampling of concrete mixture shall be performed in accordance with the latest edition of the Department's *Concrete Field Manual*.

907-804.02.13.1.2--Slump. Slump of plastic concrete shall meet the requirements of Table 3: MASTER PROPORTION TABLE FOR STRUCTURAL CONCRETE DESIGN. A check test shall be made on another portion of the sample before rejection of any load.

907-804.02.13.1.3--Air. Total air content of concrete shall be within the specified range for the class of concrete listed in Table 3: MASTER PROPORTION TABLE FOR STRUCTURAL CONCRETE DESIGN. A check test shall be made on another portion of the sample before rejection of any load.

907-804.02.13.1.4--Yield. If the yield of the concrete mix design is more than plus or minus three percent ($\pm 3\%$) of the designed volume, the mix shall be adjusted by a Class III Certified Technician representing the Contractor to yield the correct volume plus or minus three percent ($\pm 3\%$). If batching of the proportions of the mixture design varies outside the batching tolerance range of the originally approved proportions by more than the tolerances allowed in Subsection 907-804.02.12, the new proportions shall be field verified per Subsection 907-804.02.10.3.

907-804.02.13.1.5--Temperature. Cold weather concreting shall follow the requirements of Subsection 907-804.03.16.1. Hot weather concreting shall follow the requirements of Subsection

907-804.03.16.2. Concrete with a temperature more than the maximum allowable temperature shall be rejected and not used in Department work.

The maximum acceptance temperature for Class DS concrete mixtures is 95°F.

The maximum acceptance temperature of Class C concrete mixtures is 100°F for mixtures meeting the cement replacement requirements of Subsection 907-701.02.2. For Class C concrete mixtures that do not meet the cement replacement requirements of Subsection 907-701.02.2, the maximum acceptance temperature is 95°F.

The maximum acceptance temperature for all other concrete mixtures meeting the cement replacement requirements of Subsection 907-701.02.2 is 95°F. The maximum acceptance temperature for all other concrete mixtures which do not meet the cement replacement requirements of Subsection 907-701.02.2 is 90°F.

907-804.02.13.1.6--Compressive Strength. Standard cured concrete compressive strength tests shall conform to the specified strength (f'_c) listed in the specifications. Concrete represented by compressive strength test below the specified strength (f'_c) may be removed and replaced by the Contractor. If the Contractor elects not to remove the material, it will be evaluated by the Department as to the adequacy for the use intended. All concrete evaluated as unsatisfactory for the intended use shall be removed and replaced by the Contractor at no additional cost to the Department. For concrete allowed to remain in place, reduction in payment will be as follows:

Projects with 1000 Cubic Yards and More. When the evaluation indicates that the work may remain in place, a statistical analysis will be made of the QC and QA concrete test results. If this statistical analysis indicates at least 93% of the material would be expected to have a compressive strength equal to or greater than the specified strength (f'_c) and 99.87% of the material would be expected to have a compressive strength at least one standard deviation above the allowable design stress (f_c), the work will be accepted. If the statistical analysis indicates that either of the two criteria are not met, the Engineer will provide for an adjustment in pay as follows for the material represented by the test result.

Total Pay on Material in Question = Unit Price - (Unit Price x % Reduction)

$$\% \text{ Reduction} = \frac{(f'_c - X)}{f'_c - (f_c + s)} \times 100 \times M$$

where:

f'_c = Specified 28-day compressive strength, psi

X = Individual compressive strength below f'_c , psi

s = standard deviation, psi*

f_c = allowable design stress, psi

M = pay reduction multiplier, per the *Concrete Field Manual*, paragraph 7.3

- * Standard deviation used in the above reduction of pay formula shall be calculated from the applicable preceding compressive strengths test results plus the individual compressive strength below f'_c . If below f'_c strengths occur during the project's first ten compressive strength tests, the standard deviation shall be calculated from the first ten compressive strength tests results.

Projects of More Than 200 but Less Than 1000 Cubic Yards. When the evaluation indicates that the work may remain in place, a percent reduction in pay will be assessed based on a comparison of the deficient 28-day test result to the specified strength. The Engineer will provide for an adjustment in pay as follows for the material represented by the test result.

Total Pay on Material in Question = Unit Price - (Unit Price x % Reduction)

$$\% \text{ Reduction} = \frac{(f'_c - X)}{f'_c} \times 100 \times M$$

where:

f'_c = Specified 28-day compressive strength, psi

X = Individual compressive strength below f'_c , psi

M = pay reduction multiplier, per the *Concrete Field Manual*, paragraph 7.3

907-804.02.14--Dispute Resolution. Disputes over variations between Contractor's QC test results and the Department's QA test results shall be resolved at the lowest possible level using the latest edition of the Department's *Concrete Field Manual*. When there are significant discrepancies between the QC test results and the QA test results, the Contractor's QC Manager, the Project Engineer, and/or the District Materials Engineer shall look for differences in the procedures, and correct the inappropriate procedure before requesting a third party resolution.

If the dispute cannot be resolved at the project or District level, the Department's Materials Division will serve as a third party to resolve the dispute. The Materials Division's decision shall be binding.

The Contractor shall be responsible for the cost associated with the third party resolution if the final decision is such that the Department's QA test results were correct. Likewise, the Department will be responsible for the cost when the final decision is such that the Contractor's QC test results were correct.

907-804.03--Construction Requirements.

907-804.03.1--Measurement of Materials.

907-804.03.1.1--General. The accuracy for measuring materials shall be in accordance with AASHTO Designation: M 157.

907-804.03.1.2--Measurement by Weighing. Except when otherwise specified or authorized, the materials shall be measured by weighing. The apparatus provided for weighing materials shall be

suitably designed and constructed for this purpose. Cementitious materials and aggregates shall be weighed separately. Cement in standard bags need not be weighed, but bulk cement and other cementitious materials shall be weighed. The mixing water shall be measured by volume or by weight. All measuring devices shall be subject to approval.

907-804.03.2--Blank.

907-804.03.3--Blank.

907-804.03.4--Hand Mixing. Hand mixing of concrete will not be allowed.

907-804.03.5--Delivery. The plant supplying concrete shall have sufficient capacity and transporting apparatus to ensure continuous delivery at the rate required. The rate of delivery shall be such as to provide for the proper continuity in handling, placing, and furnishing of the concrete. The rate shall be such that the interval between batches shall not exceed 20 minutes. The methods of delivering and handling the concrete shall be that which will facilitate placing with minimum re-handling and without damage to the structure or the concrete.

907-804.03.6--Handling and Placing Concrete.

907-804.03.6.1--General. Prior to placing concrete, all reinforcement shall have been accurately placed in the position shown on the plans and fastened as set out in Section 805. All sawdust, chips, and other construction debris and extraneous matter shall have been removed from the interior of the forms. Temporary struts, braces, and stays holding the forms in correct shape and alignment shall be removed when the concrete placing has reached an elevation rendering their service unnecessary. These temporary members shall be entirely removed from the forms and shall not be buried in the concrete.

No concrete shall be placed until the forms and reinforcement have been inspected.

Except as provided for truck mixers and truck agitators, concrete shall be placed in the forms within 30 minutes after the time that the cement is first added to the mixture.

Concrete shall be placed so as to avoid segregation of materials and displacement of reinforcement. The use of troughs, chutes, and pipes over 25 feet in length for gravity conveyance of concrete to the forms, will not be permitted except when authorized by the Engineer and subject to the production of quality concrete.

Only approved mechanical conveyors will be permitted.

Open troughs and chutes shall be metal or metal lined. The use of aluminum pipes, chutes, or other devices made of aluminum that come into direct contact with the concrete shall not be used. Where steep slopes are required, the chutes shall be equipped with baffles or be in short sections that change the direction of movement.

All chutes, troughs, and pipes shall be kept clean and free from coatings of hardened concrete by thoroughly flushing with water after each run. Water used for flushing shall be discharged clear of the structure.

When placing operations involve dropping the concrete more than five feet, it shall be deposited through sheet metal or other approved pipes to prevent segregation and unnecessary splashing. The pipes shall be made in sections to permit discharging and raising as the placement progresses. A non-jointed pipe may be used if sufficient openings of the proper size are provided to allow for the flow of the concrete into the shaft. As far as practicable, the pipes shall be kept full of concrete during placing, and their ends shall be kept buried in the newly placed concrete.

Except as herein provided, concrete shall be placed in horizontal layers not more than 12 inches thick. When, with the Engineer's approval, less than the complete length of a layer is placed in one operation, it shall be terminated in a vertical bulkhead. Each layer shall be placed and compacted before the preceding layer has taken its initial set and shall be compacted so as to avoid the formation of a construction joint with the preceding layer.

If the Department determines that there is an excessive number of projections, swells, ridges, depressions, waves, voids, holes, honeycombs, or other defects in the completed structure, removal of the entire structure may be required as set out in Subsection 105.12.

907-804.03.6.2--Consolidation. Immediately after depositing the concrete mixture, the concrete mixture shall be thoroughly consolidated by the use of approved mechanical vibrators and suitable spading tools. Only concrete mixture which has not achieved initial set shall be consolidated. Hand spading alone will be permitted on small structural members such as railing, small culvert headwalls, and as necessary to ensure smooth surfaces and dense concrete along form surfaces, in corners, and in locations impossible to reach with vibrators. When hand spading is used for consolidation, a sufficient number of workmen with spading tools shall be provided. For hand spading, flush a thin layer of mortar to all the surfaces and thoroughly and satisfactorily consolidate the concrete.

The Contractor shall conduct operations of depositing and consolidating the concrete mixture such that the operation produces concrete which is uniformly smooth and dense, having no honeycombing or pockets of segregated aggregate.

Movement of personnel through the consolidated concrete shall not be permitted. If it is determined it is necessary to step into previously consolidated concrete, the concrete in the stepped into area shall be consolidated again.

907-804.03.6.2.1--Requirements for Vibrators. Mechanical vibrators shall be subject to the following:

1. To verify compliance with these requirements, the Contractor shall provide the Engineer with a copy of the manufacturer's specifications for each type and brand of vibrator used on the project.

2. The Contractor shall provide a sufficient number of personnel with vibrators to properly consolidate each batch immediately after the concrete is placed in the forms. The Contractor shall provide at least one stand-by vibrator and required power source.
3. Concrete having been consolidated shall not be walked in or through. If it is determined it is necessary to step into previously consolidated concrete, the concrete in the stepped into area shall be consolidated again.
4. Internal vibrators shall be of the spud or tube type, meeting the following characteristics and performance:
 - a. The diameter of the head of the vibrator shall be 1¼ to 2½ inches.
 - b. The frequency of vibration shall be 8000 to 12000 vibrations per minute (Hz) while operating in the concrete.
 - c. The average amplitude shall be 0.025 to 0.05 inch while operating in air.
 - d. The minimum radius of influence shall be seven (7) inches.
 - e. The length of the vibrator head shall be nearly equal to the depth of the layer of concrete placed.
5. When the reinforcing steel is coated with epoxy, internal vibrators with heads of rubber or other resilient material shall be used. Rubber covers securely fastened over steel heads shall be acceptable.
6. For consolidation of concrete used in concrete bridge decks, the following additional requirements shall apply:
 - a. Only internal vibration shall be used.
 - b. Internal vibrators shall all be of the same type and size.
 - c. The configuration of the internal vibrators shall meet the requirements of Subsection 907-804.03.6.2.3.

907-804.03.6.2.2--Operation of Internal Vibration. Mechanical vibrators used for internal vibration shall be operated as follows:

1. Vibrators shall not be dragged or moved laterally through the concrete to transport concrete. Vibrators shall not be used in such a manner that the concrete segregates or forms pockets of grout. Vibrators shall not be applied directly or through the reinforcement to sections or layers of concrete which have taken initial set.
2. Vibrators shall only be inserted into the concrete while operating and at the point of placement to consolidate the concrete for such a length of time that there is a general cessation in the escape of large entrapped air bubbles at the surface.
3. Vibrators shall be inserted slowly into the concrete and allowed to penetrate into the concrete under their own weight.
4. Vibrators shall be inserted into the concrete while they are in a vertical position with enough flexibility to work themselves around the reinforcing steel.
5. The head of the vibrator shall be completely submerged in the concrete for a time of consolidation between 3 and 15 seconds prior to removal, unless otherwise defined by the Engineer.
6. For consolidation of two or more layers of concrete, the vibrator shall be inserted into the bottom most layer at least six (6) inches. The vibrator shall be manipulated in a series of up-and-down motions to knit the layers together.

7. Vibrators shall be removed slowly from the concrete after the consolidation has been accomplished. However, once the head of the vibrator has become only partially immersed in the concrete, vibrators shall be removed rapidly.
8. The insertions of the vibrators shall be systematically spaced such that the entire surface of the concrete comes under the influence of the vibrator during consolidation. This includes areas around the reinforcing steel, imbedded fixtures, the corners and angles of forms, and any irregular areas. The distance between insertions shall not exceed 1.5 times the radius of influence such that the area visibly affected by the vibrator overlaps the adjacent, just-vibrated area.
9. For additional information, refer to ACI 309-07, Chapter 7, Sections 7.1 through 7.3

907-804.03.6.2.3--Method of Consolidation. It is anticipated the Contractor will accomplish consolidation by internal vibration using one of the following two methods: vibrators mounted on a mechanical device or an orchestrated effort utilizing personnel. Regardless of the chosen method, the method shall be included in the QCP in accordance with Subsection 907-804.02.12.1.1.5 and shall only receive tentative approval until the method is demonstrated as effectively meeting the requirements of Subsection 907-804.03.6.2.

907-804.03.6.3--Discontinuance of Placing. When placing is temporarily discontinued, the concrete, after becoming firm enough to retain its form, shall be cleaned of laitance and other objectionable material to a sufficient depth to expose sound concrete. To avoid visible joints insofar as possible upon exposed faces, the top surface of the concrete adjacent to the forms shall be smoothed with a trowel. Where a "feather edge" might be produced at a construction joint, such as in the sloped top surface of a wing wall, an inset form work shall be used in the preceding layer to produce a blocked out portion that will provide an edge thickness of at least six inches (6") in the succeeding layer. Work shall not be discontinued within 18 inches of the top of any face unless provision has been made for a coping less than 18 inches thick. In this case and if permitted by the Engineer, the construction joint may be made at the underside of the coping.

Immediately following the discontinuance of placing concrete, all accumulations of mortar splashed on the reinforcement and the surface of forms shall be removed. Dried mortar chips and dust shall not be puddled into the unset concrete. If the accumulations are not removed prior to the concrete becoming set, care shall be exercised not to break or injure the concrete-steel bond at and near the surface of the concrete while cleaning the reinforcement. After initial set the forms shall not be jarred, and no strain shall be placed on the ends of projecting reinforcement until the concrete has sufficiently set to ensure against any damage by such jarring or strain.

907-804.03.6.4--Placing Bridge Concrete. The method and sequence of placing concrete shall conform to the provisions and requirements set forth for the particular type of construction.

907-804.03.6.4.1--Foundations and Substructures. Concrete seals shall be placed in accordance with Subsection 907-804.03.9. All other concrete for foundations shall be poured in the dry unless otherwise stipulated or authorization is given in writing by the Engineer to do otherwise. Concrete shall not be placed in foundations until the foundation area has been inspected and approved.

Unless otherwise specified, the placement of concrete in the substructure shall be in accordance with the general requirements of Subsection 907-804.03.6.

Unless otherwise directed, concrete in columns shall be placed in one continuous operation, and shall be allowed to set at least 12 hours before the caps are placed.

907-804.03.6.4.2--Superstructure. For simple spans, concrete shall preferably be deposited by beginning at the center of the span and working toward the ends. For continuous spans, concrete shall be deposited as shown on the plans. Concrete in girders shall be uniformly deposited for the full length of the girder and brought up evenly in horizontal layers. Concrete in areas below the bridge deck but being deposited at the same time as concrete for the bridge deck, like a diaphragm, shall be placed and consolidated sufficiently ahead of placing the concrete for the bridge deck such that the placing, consolidating, finishing, and curing of concrete for the bridge deck shall not be impeded or slowed.

Unless otherwise permitted by the Engineer, concrete shall not be placed in the superstructure until the column forms have been stripped sufficiently to determine the character of the concrete in the columns. Unless otherwise permitted by the Engineer, the load of the superstructure shall not be placed on pile bents until the caps have been in place at least seven (7) days and shall not be placed on other types of bents until the bents have been in place at least 14 days.

In placing concrete around steel shapes, it shall be placed on one side of the shape until it flushes up over the bottom flange of the shape on the opposite side, after which it shall be placed on both sides to completion.

Concrete in girder haunches less than three feet (3') in height shall be placed at the same time as that in the girder stem. Whenever a haunch or fillet has a height of three feet (3') or more at the abutment or columns, the haunch and the girder shall be poured in three successive stages: first, up to the lower side of the haunch; second, to the lower side of the girder; and third, to completion.

Except when intermediate construction joints are specified, concrete in slab, T-beam, or deck-girder spans shall be placed in one continuous operation for each span.

The floors and girders of through-girder superstructures shall be placed in one continuous operation unless otherwise specified, in which case special shear anchorage shall be provided to ensure monolithic action between girder and floor.

Concrete in box girders shall be placed as shown on the plans.

Concrete shall not be chuted directly into the forms of the span and shall be placed continuously with sufficient speed to be monolithic and to allow for finishing before initial set.

907-804.03.6.4.3--Bridge Deck. When using the Transverse Method in accordance with Subsection 907-804.03.19.7.3, the period of time between concrete placement and completion of the final curing shall be kept to a minimum, as directed by the Engineer.

907-804.03.7--Pneumatic Placing. Pneumatic placing of concrete will be permitted only if specified in the contract or if authorized by the Engineer. The equipment shall be so arranged that no vibrations result which might damage freshly placed concrete.

Where concrete is conveyed and placed by pneumatic means the equipment shall be suitable in kind and adequate in capacity for the work. The machine shall be located as close as practicable to the place of deposit. The position of the discharge end of the line shall not be more than 10 feet from the point of deposit. The discharge lines shall be horizontal or inclined upwards from the machine. At the conclusion of placement the entire equipment shall be thoroughly cleaned.

907-804.03.8--Pumping Concrete. Placement of concrete by pumping will be permitted only if specified in the contract or if authorized in writing by the Engineer. If used, the equipment shall be arranged so that no vibrations result which might damage freshly placed concrete.

Where concrete mixture is conveyed and placed by mechanically applied pressure (pumping), the equipment shall be suitable in kind and adequate in capacity for the work. The Contractor shall select concrete mixture proportions such that the concrete mixture is pumpable and placeable with the selected equipment.

The pumping equipment shall be thoroughly cleaned prior to concrete placement. Excess form release agent shall be removed from the concrete pump hopper. The Contractor shall prime the pump at no additional cost to the Department by pumping and discarding enough concrete mixture to produce a uniform mixture exiting the pump. At least 0.25 cubic yard of concrete mixture shall be pumped and discarded to prime the pump. Only concrete mixture shall be added directly into the concrete pump hopper after placement has commenced. If anything other than concrete mixture is added to the concrete pump hopper, all concrete mixture in the concrete pump hopper and pump line shall be discarded and the pump re-primed at no additional cost to the Department.

The discharge end of the pump shall be of such a configuration that the concrete does not move in the pump line under its own weight. The intent of this requirement is to ensure that entrained air in the concrete mixture remains entrained during pumping and depositing the concrete mixture. This shall be accomplished with one or both of the following:

- a minimum 10-foot flexible hose attached to the discharge end of a steel reducer having a minimum length of three (3) feet and a minimum reduction in area of 20% which is attached to the discharge end of the pump line, or
- a flexible reducing hose to the discharge end of the pumpline with a minimum reduction in area of 20% over a minimum 10-foot hose length.

Regardless of the configuration chosen, the Contractor shall ensure that the concrete is pumped and does not free-fall more than five (5) feet within the entire length of pump line and after discharge from the end of pump line.

The Contractor shall not have any type of metal elbow, metal pipe, or other metal fitting within five (5) feet of any person during discharge of concrete mixture.

Boom pumps shall have a current Concrete Pump Manufacturers Association's ASME/ANSI B30.27 certification. Equipment added to the boom and pump line shall meet the pump manufacturer's specifications and shall not exceed the manufacturer's maximum recommended weight limit for equipment added to the boom and pump line.

The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced. When pumping is completed, the concrete remaining in the pipe line, if it is to be used, shall be ejected in such a manner that there will be no contamination of the concrete or separation of the ingredients. After this operation, the entire equipment shall be thoroughly cleaned.

The use of aluminum pipe as a conveyance for the concrete will not be permitted.

907-804.03.9--Depositing Concrete Under Water. Concrete shall not be deposited in water except with the approval of the Engineer.

Concrete deposited under water shall be Class S.

Concrete deposited under water shall be carefully placed in a compact mass in its final position by means of a tremie, a bottom dump bucket, or other approved method and shall not be disturbed after being deposited. Special care shall be exercised to maintain still water at the point of deposit. No concrete shall be placed in running water and all form work designed to retain concrete under water shall be water-tight. The consistency of the concrete shall be carefully regulated, and special care shall be exercised to prevent segregation of materials.

Concrete seals shall be placed continuously from start to finish, and the surface of the concrete shall be kept as nearly horizontal as practicable at all times. To ensure thorough bonding, each succeeding layer of a seal shall be placed before the preceding layer has taken initial set.

When a tremie is used, it shall consist of a tube having a diameter of at least 10 inches and constructed in sections having flanged couplings fitted with gaskets. The means of supporting the tremie shall be such as to permit the free movement of the discharge over the entire top surface of the work and to permit it to be lowered rapidly when necessary to choke off or retard the flow of concrete. The discharge end shall be closed at the start of the work so as to prevent water entering the tube and shall be entirely sealed. The tremie tube shall be kept full to the bottom of the hopper. When a batch is dumped into the hopper, the flow of concrete shall be induced by slightly raising the discharge end, always keeping it in the deposited concrete. The flow is then stopped by lowering the tremie. The flow shall be continuous until the work is completed.

Depositing of concrete by the drop bottom bucket method shall conform to the following: The top of the bucket shall be open. The bottom doors shall open freely downward and outward when tripped. The bucket shall be completely filled and slowly lowered to avoid backwash. It shall not be dumped until it rests on the surface upon which the concrete is to be deposited and when discharged shall be withdrawn slowly until well above the concrete.

Dewatering may proceed when the concrete seal is sufficiently hard and strong. As a general rule, this time will be 48 hours for concrete made with high-early-strength cement and three days for concrete made with other types of cement. All laitance and other unsatisfactory material shall be removed from the exposed surface by scraping, chipping, or other means which will not injure the surface of the concrete.

907-804.03.10--Construction Joints.

907-804.03.10.1--General. Unless otherwise approved by the Engineer, construction joints shall be made only where located on the plans or shown in the pouring schedule. If not detailed on the plans, or in the case of emergency, construction joints shall be placed as directed by the Engineer. Shear keys or inclined reinforcement shall be used where necessary to transmit shear or to bond the two sections together.

For continuous spans, bridge deck concrete shall be deposited as shown on the plans. Deviation from the pouring schedule shown in the plans is not permitted.

907-804.03.10.2--Bonding. Before depositing new concrete on or against concrete which has hardened, the forms shall be retightened. The surface of the hardened concrete shall be roughened as required by the Engineer and in a manner that will not leave loosened particles of aggregate or damaged concrete at the surface. It shall be thoroughly cleaned of foreign matter and laitance and saturated with water. When directed by the Engineer, the cleaned and saturated surfaces, including vertical and inclined surfaces, shall first be thoroughly covered with a coating of mortar or neat cement grout against which the new concrete shall be placed before the grout has attained its initial set.

The placing of concrete shall be carried continuously from joint to joint. The face edges of all joints which are exposed to view shall be carefully finished, true to line and elevation.

In order to bond successive courses suitable depressed or raised keys of the designated size shall be constructed. Raised keys shall be monolithic with the concrete of the lower course.

907-804.03.11--Concrete Exposed to Seawater. Unless otherwise specifically provided, concrete for structures exposed to seawater shall be Class AA concrete as referenced in Subsection 907-804.02.10. The clear distance from the face of the concrete to the nearest face of reinforcing steel shall be at least four inches. The mixing time and the water content shall be carefully controlled and regulated so as to produce concrete of maximum impermeability. The concrete shall be thoroughly compacted, and stone pockets shall be avoided. No construction joints shall be formed between the levels of extreme low water and extreme high water as determined by the Engineer. Between these levels, seawater shall not come in direct contact with the new concrete until at least 30 days have elapsed. The surface concrete as left by the forms shall be left undisturbed.

907-804.03.12--Blank.

907-804.03.13--Falsework. The Contractor shall submit to the Engineer four copies of structural design analysis and detail drawings, which show the method of falsework or centering. These designs and detail plans shall be prepared and bear the seal of a Registered Professional Engineer with experience in falsework design.

Falsework plans shall include falsework elevations together with all other dimensions and details which is considered necessary for the construction. Other pertinent data needed is size and spacing of all falsework members and minimum bearing requirements for false piles.

Upon completion of falsework erection, the Registered Professional Engineer shall certify that the erected falsework is capable of supporting the load for construction.

Falsework piling shall be spaced and driven so that the bearing value of each pile is sufficient to support the load that will be imposed upon it. The bearing value of the piles should be calculated according to the appropriate formula given in Section 803.

For designing falsework and centering, a weight of 150 pounds per cubic foot shall be assumed for green concrete. All falsework shall be designed and constructed to provide the necessary rigidity and to support the loads without appreciable settlement or deformation. The Contractor may be required to employ screw jacks or hardwood wedges to take up slight settlement in the falsework either before or during the placing of concrete. An allowance shall be made for anticipated compressibility of falsework and for the placement of shims, wedges, or jacks to produce the permanent structural camber shown on the plans. If during construction, any weakness develops and the falsework shows any undue settlement or distortion, the work shall be stopped, the part of the structure affected removed, and the falsework strengthened before work is resumed. Falsework which cannot be founded on a satisfactory footing shall be supported on piling, which shall be spaced, driven, and removed, as referenced in Subsection 907-804.03.15, in a manner approved by the Engineer.

All structures built across a public street or highway on which maintenance of traffic is required, shall have falsework so arranged that a vertical clearance of at least 12' 6" is provided. Unless otherwise specified, a horizontal clearance of at least the width of the traveled way shall be provided at all times. If the vertical clearance is less than 13' 6" or the horizontal clearance is less than the full crown width of the roadway, the Contractor shall install and maintain appropriate safety devices, clearance signs and warning lights, and shall notify the Engineer sufficiently in advance of restricting the clearance for the Engineer to advise both the Traffic Engineering and the Maintenance Divisions. All traffic control and safety devices shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

907-804.03.14--Forms.

907-804.03.14.1--General. Forms shall be wood, metal, or other material approved by the Engineer. All forms shall be built mortar-tight and sufficiently rigid to prevent distortion due to pressure of the concrete and other loads incident to the construction operations. Forms shall be constructed and maintained so as to prevent warping and the opening of joints due to shrinkage. The forms shall be substantial and unyielding and shall be so designed that the finished concrete

will conform to the proper dimensions and contours. The design of the forms shall take into account the effect of vibration of concrete as it is placed.

Minimum requirements for slab overhang forms shall be 3/4-inch plywood supported on 2-inch x 6-inch S4S wood timbers placed flatwise on 16-inch centers.

Adjustable brackets for support of slab overhang forms shall be spaced at a maximum distance of 3' 0" center to center unless specifically approved otherwise. Grade points for forms shall coincide with the location of the adjustable form brackets.

Forms for surfaces exposed to view shall be of uniform thickness with a smooth inside surface of an approved type. Joints in forms for exposed surfaces shall be closely fitted to eliminate fins, stone pockets, or other variations in the surface of the concrete which would mar a smooth and uniform texture.

Forms shall be filleted at all sharp corners and shall be given a bevel or draft in the case of all projections, such as girders and copings, to ensure easy removal.

Metal ties or anchorages within the forms shall be so constructed as to permit their removal, without injury to the concrete, to a depth of at least the reinforcing steel clearance shown on the plans. In case ordinary wire ties are permitted, all wires, upon removal of the forms, shall be cut back at least 1/4 inch from the face of the concrete with chisels or nippers. Nippers shall be used for green concrete. All fittings for metal ties shall be designed so that upon their removal the cavities which are left will be the smallest practicable size. The cavities shall be filled with cement mortar and the surface left sound, smooth, even, and uniform in color.

Forms shall be set and maintained to the lines designated until the concrete is sufficiently cured for form removal. Forms shall remain in place for periods which shall be determined as hereinafter specified. If forms are deemed to be unsatisfactory in any way, either before or during the placing of concrete, the Engineer will order the work stopped until the defects have been corrected.

The shape, strength, rigidity, water-tightness, and surface smoothness of reused forms shall be maintained at all times. Warped or bulged lumber shall be resized before being reused. Forms which are unsatisfactory in any respect shall not be reused.

Access to the lower portions of forms for narrow walls and columns shall be provided for cleaning out extraneous material immediately before placing the concrete.

All forms shall be treated with an approved oil or saturated with water immediately before placing the concrete. For rail members or other members with exposed faces, the forms shall be treated only with an approved oil to prevent the adherence of concrete. Any material which will adhere to or discolor the concrete shall not be used.

When metal forms are used they shall be kept free from rust, grease, or other foreign matter which will discolor the concrete. They shall be of sufficient thickness and so connected that they will remain true to shape and line, and shall conform in all respects as herein prescribed for mortar

tightness, filleted corners, beveled projections, etc. They shall be constructed so as to ensure easy removal without injury to concrete. All inside bolt and rivet heads shall be countersunk.

All chamfer strips shall be dressed, straight, and of uniform width and shall be maintained as such at all times.

907-804.03.14.2--Stay-In-Place Metal Forms. Stay-in-place (SIP) metal forms are corrugated metal sheets permanently installed between the supporting superstructure members. After the concrete has cured, these forms shall remain in place as permanent, non-structural members of the bridge.

Pay quantities for deck concrete will be computed from the dimensions shown in the Contract Plans with no allowance for changes in deflection and /or changes in dimensions necessary to accommodate the SIP metal forms.

There will be no direct payment for the cost of the forms and form supports, or any material, tools, equipment, or labor incidental thereto, but the cost shall be considered absorbed in the contract unit price for concrete.

Before fabricating any material, three (3) complete sets of SIP metal form shop drawings and design calculations, bearing the Design Engineer's Seal, shall be submitted to the Director of Structures, State Bridge Engineer, through the Engineer, for review. The Contractor's SIP metal form Design Engineer shall be a MS Registered Professional Engineer who is knowledgeable in the field of structural design.

In no case shall additional dead load produced by the use of SIP metal forms overstress any bridge component. Design calculations shall indicate any additional dead load from SIP metal form self-weight, form support hangers, concrete in flutes, concrete due to form deflection, etc. not included in the Contract Plans. The additional dead loads shall be clearly labeled and tabulated on the shop drawings. Bridge Division will evaluate the additional load for overstress of the bridge components. In the event that the additional dead load produces an overstress in any bridge component, Bridge Division will reject the Contractor's design. Deflection and loads produced by deflection of the SIP metal forms shall be considered and indicated in the design calculations.

The cambers and deflections provided in the Contract Plans do not consider the effects of SIP metal forms. The Contractor's Engineer shall take into account the weight of the forms and any additional dead load when developing the "Bridge Superstructure Construction Plan".

For the purpose of reducing any additional dead load produced by the SIP metal forms, the flutes of SIP metal forms may be filled with polystyrene foam. When polystyrene foam is used to fill the forms, the form flutes shall be filled completely; no portion of the polystyrene foam shall extend beyond the limits of the flutes. The Contractor shall ensure that the polystyrene foam remains in its required position within flutes during the entire concrete placement process. The Contractor shall not use reinforcing steel supports or other accessories in such a manner as to cause damage to the polystyrene foam. All damaged polystyrene foam shall be replaced to the

satisfaction of the Engineer. All welding of formwork shall be completed prior to placement of polystyrene foam.

For bridges not located in horizontal curves, the Contractor may reduce the additional dead load by matching the flute spacing with the transverse steel spacing of the bottom layer. The bottom longitudinal layer of steel shall have one (1) inch of minimum concrete cover measured from the bottom of the reinforcing to the top of the flute. The Contractor will not be allowed to vary the reinforcing steel spacing or size from the Contract Plans for the purpose of matching flute spacing.

907-804.03.14.2.1--Materials. SIP metal forms and supports shall meet the requirements of ASTM Designation: A653 having a coating designation G165. Form materials that are less than 0.03-inch uncoated thickness shall not be allowed.

907-804.03.14.2.2--Certification. The Contractor shall provide written certification from the manufacturer stating the product meets the requirements of this specification to the Engineer along with the delivery of the coated forms to the job site.

907-804.03.14.2.3--Polystyrene Foam. The polystyrene foam shall be comprised of expanded polystyrene manufactured from virgin resin of sufficient density to support the weight of concrete without deformation. The polystyrene foam shall be extruded to match the geometry of the flutes and provide a snug fit. The polystyrene foam shall have a density of not less than 0.8 pounds per cubic foot. The polystyrene foam shall have water absorption of less than 2.6% when tested according to ASTM Designation: C272. The Contractor shall provide written certification from the manufacturer stating the polystyrene foam product meets the requirements of this specification to the Engineer along with the delivery of the coated forms to the job site.

907-804.03.14.2.4--Design. The design of the SIP metal forms shall meet the following criteria.

1. The maximum self-weight of the stay in place metal forms, plus the weight of the concrete or expanded polystyrene required to fill the form flutes (where used), shall not exceed 20 psf.
2. The forms shall be designed on the basis of dead load of form, reinforcement, and plastic concrete plus 50 pounds per square foot for construction loads. The design shall use a unit working stress in the steel sheet of not more than 0.725 of the specified minimum yield strength of the material furnished, but not to exceed 36,000 psi.
3. Deflection under the weight of the forms, reinforcement, and plastic concrete shall not exceed 1/180 of the form span or 1/2 inch, whichever is less, for form spans of 10 feet or less, or 1/240 of the form span or 3/4 inch, whichever is less, for form spans greater than 10 feet.
4. The design span of the form shall equal the clear span of the form plus two (2) inches. The span shall be measure parallel to the form flutes.

5. Physical design properties shall be computed in accordance with requirements of the AISI Specifications for the Design of Cold Formed Steel Structural Members, latest published edition.
6. The design concrete cover required by the plans shall be maintained for all reinforcement.
7. The plan dimensions of both layers of primary deck reinforcement from the top surface of the concrete deck shall be maintained.
8. The SIP metal form shall not be considered as lateral bracing for compression flanges of supporting structural members.
9. SIP metal forms shall not be used under closure pours or in bays where longitudinal slab construction joints are located. SIP metal forms shall not be used under cantilevered slabs such as the overhang outside of fascia members.
10. Forms shall be secured to the supporting members by means other than welding directly to the member. Welding to the top flanges of steel stringers and/or girders shall not be allowed. Alternate installation procedures shall be submitted addressing this condition.

907-804.03.14.2.5--Construction. SIP metal form sheets shall not rest directly on the top of the stringer or floor beam flanges. Sheets shall be fastened securely to form supports, and maintain a minimum bearing length of one (1) inch at each end for metal forms. Form supports shall be placed in direct contact with the flange of the stringer or floor beam. All attachments for coated metal forms shall be made by bolts, clips, screws, or other approved means.

907-804.03.14.2.6--Form Galvanizing Repairs. Where forms or their installation are unsatisfactory in the opinion of the Engineer, either before or during placement of the concrete, the Contractor shall correct the defects before proceeding with the construction work. The cost of such corrective work shall be at the sole expense of the Contractor. Minor heat discoloration in areas of welds shall not be touched up.

907-804.03.14.2.7--Concrete. The Contractor shall ensure concrete placement does not damage the SIP metal forms. Approved pouring sequences shall be used. The completed SIP metal form system shall be sufficiently tight to prevent leakage of mortar or concrete. The concrete shall be consolidated to avoid honeycomb and voids, especially at construction joints, expansion joints, valleys, and ends of form sheets. Calcium chloride or any other admixture containing chloride salts shall not be used in the concrete.

907-804.03.14.2.8--Inspection. The Engineer will observe the Contractor's method of construction during all phases of the construction of the bridge deck slab, including the installation of the SIP metal form system; location and fastening of the reinforcement; composition of concrete items; mixing procedures, concrete placement, and vibration; and finishing of the bridge deck. Should the Engineer determine that the procedures used during the placement of the concrete warrant inspection of the underside of the deck, at least one section of the metal forms shall be removed in each span for this purpose. This shall be done as soon after placing the concrete as

practical in order to provide visual evidence that the concrete mix and the procedures are obtaining the desired results. An additional section shall be removed in any span if the Engineer determines that there has been any change in the concrete mix or in the procedures warranting additional inspection.

If, in the Engineer's judgment, inspection is needed to check for defects in the bottom of the deck or to verify soundness, the SIP metal forms shall be sounded with a hammer after the deck concrete has been in place a minimum of two days. If sounding discloses areas of doubtful soundness to the Engineer, the SIP metal forms shall be removed from such areas for visual inspection after the concrete has attained adequate strength. The SIP metal bridge deck forms shall be removed at no expense to the State.

At locations where sections of the metal forms have been removed, the Engineer will not require the Contractor to replace the metal forms. The adjacent metal forms and supports shall be repaired to present a neat appearance and to ensure their satisfactory retention. As soon as the form is removed, the Engineer will examine the concrete surfaces for cavities, honeycombing, and other defects. If irregularities are found and the Engineer determines that these irregularities do not justify rejection of the work, the concrete shall be repaired as directed by the Engineer. If the Engineer determines that the concrete where the form is removed is unsatisfactory, additional metal forms as necessary shall be removed to inspect and repair the slab, and the Contractor's method of construction shall be modified as required to obtain satisfactory concrete in the slab. All unsatisfactory concrete shall be removed and replaced as directed at no expense to the State.

If the method of construction and the results of the inspections as outlined above indicate that sound concrete has been obtained throughout the slabs, the amount of sounding and form removal may be reduced when approved by the Engineer.

The Contractor shall provide a safe and convenient means of conducting of the inspection.

907-804.03.15--Removal of Falsework, Forms, and Housing. In the determination of the time for the removal of falsework, forms, and housing and the discontinuance of heating, consideration shall be given to the location and character of the structure, the weather and other conditions influencing the setting of the concrete, and the materials used in the mix. No forms or supports shall be removed prior to approval by the Engineer. During cold weather, removal of housing and the discontinuance of heating shall be in accordance with Subsection 907-804.03.16.1.

Concrete in the last pour of a continuous superstructure shall have attained a compressive strength of 2,400 psi, as determined by cylinder tests or maturity meter probe, prior to striking any falsework. It is important that falsework be removed as evenly as possible to prevent excessive deflection stresses in the spans.

At the Contractor's option and with the approval of the Engineer, the time for removal of forms may be determined by cylinder tests, in accordance with the requirements listed in Table 6, in which case the Contractor shall furnish facilities for testing the cylinders. The facilities shall include an approved concrete testing machine of sufficient capacity and calibrated by an acceptable commercial laboratory. Tests shall be conducted in the presence of a Department representative

to witness and record strengths obtained on each break or performed by a Department certified technician in an approved testing laboratory.

[a1]The cylinders shall be cured under conditions which are not more favorable than those existing for the portions of the structure which they represent.

Table 6
Minimum Compressive Strength Requirements for Form Removal

Forms:

Columns	1000 psi
Side of Beams	1000 psi
Walls not under pressure	1000 psi
Floor Slabs, overhead	2000 psi
Floor Slabs, between beams	2000 psi
Slab Spans	2400 psi
Other Parts	1000 psi

Centering:

Under Beams	2400 psi
Under Bent Caps	2000 psi

Limitation for Placing Beams on:

Pile Bents, pile under beam	2000 psi
Frame Bents, two or more columns	2200 psi
Frame Bents, single column	2400 psi

For bridges, non-SIP metal forms for bridge deck slabs overhead and bridge deck slabs between beams shall be removed with the approval of the Engineer, between two weeks and four weeks after the removal of the wet burlap applied in accordance with Subsection 907-804.03.17.1, or application of liquid membrane applied in accordance with Subsection 907-804.03.17.2.

In lieu of using concrete strength cylinders to determine when falsework, forms, and housings can be removed, an approved maturity meter may be used to determine concrete strengths by inserting probes into concrete placed in a structure. The minimum number of maturity meter probes required for each structural component shall be in accordance with Table 7. Falsework, forms, and housings may be removed when maturity meter readings indicate that the required concrete strength is achieved. Procedures for using the maturity meter and developing the strength/maturity relationship shall follow the requirements of AASHTO Designation: T 325 and ASTM Designation: C 1074 specifications. Technicians using the maturity meter or calculating strength/maturity graphs shall be required to have at least two hours of training prior to using the maturity equipment.

Table 7
Requirements for use of Maturity Meter Probes

Structure Component	Quantity of Concrete	No. of Probes
Slabs, beams, walls, & miscellaneous items	0 - 30 yd ³	2
	> 30 to 60 yd ³	3
	> 60 to 90 yd ³	4
	> 90 yd ³	5
Footings, Columns & Caps	0 - 13 yd ³	2
	> 13 yd ³	3
Pavement, Pavement Overlays	1200 yd ²	2
Pavement Repairs	Per repair or 900 yd ²	2
	Whichever is smaller	

Methods of form removal likely to cause overstressing of the concrete shall not be used. Forms and supports shall be removed in a manner that will permit the concrete to uniformly and gradually take the stresses due to its own weight. Centers shall be gradually and uniformly lowered in a manner that will avoid injurious stresses in any part of the structure.

As soon as concrete for railings, ornamental work, parapets and vertical faces which require a rubbed finish has attained a safe strength, the forms shall be carefully removed without marring the surfaces and corners, the required finishing performed, and the required curing continued.

Prior to final inspection of the work, the Contractor shall remove all falsework, forms, excavated material or other material placed in the stream channel during construction. Falsework piles may be cut or broken off at least one foot below the mudline or ground line unless the plans specifically indicate that they are to be pulled and completely removed from the channel.

907-804.03.16--Cold or Hot Weather Concreting.

907-804.03.16.1--Cold Weather Concreting. In cold weather, the temperature of the concrete when delivered to the job site shall conform to the temperature limitations of "Temperature Limitations on Concrete when Delivered to Job Site" listed in Table 8 below. Cold weather is defined as three consecutive days when there is a probability that the daily average of the highest and lowest ambient temperatures is expected to be less than 40°F. This three-day forecast shall be based on the latest information available from the National Weather Service.

When the Contractor proposes to place concrete during seasons when there is a probability of ambient temperatures lower than 40°F, the Contractor shall have available on the project the approved facilities necessary to enclose uncured concrete and to keep the temperature of the air inside the enclosure within the ranges and for the minimum periods specified herein.

When there are indications of temperatures of less than 40°F during the first four days after placement of the concrete, the concrete shall be protected from cold temperatures by maintaining a temperature between 50°F and 100°F for at least four days after placement and between 40°F and 100°F for at least three additional days. The Contractor shall use such heating equipment such as stoves, salamanders, or steam equipment as deemed necessary to protect the concrete. When dry heat is used, means of maintaining atmospheric moisture shall be provided.

At the option of the Contractor with the approval of the Engineer, when concrete is placed during cold weather and there is a probability of ambient temperatures lower than 40°F, an approved maturity meter may be used to determine concrete strengths by inserting probes into concrete placed in a structure. The minimum number of maturity meter probes required for each structural component shall be in accordance with Table 7. An approved insulating blanketing material shall be used to protect the work when ambient temperatures are less than 40°F and shall remain in place until the required concrete strength in Table 6 is achieved. Procedures for using the maturity meter and developing the strength/maturity relationship shall follow the requirements of AASHTO Designation: T 325 and ASTM Designation: C 1074 specifications. Technicians using the maturity meter or calculating strength/maturity graphs shall be required to have at least two hours of training prior to using the maturity equipment.

One or more of the aggregates and/or mixing water may be heated. The aggregates may be heated by steam, dry heat, or by placing in the mixing water which has been heated. Frozen aggregates shall not be used. When either aggregates or water are heated above 100°F, the aggregates and water shall be combined first in the mixer before the cement is added to avoid flash set. Cement shall not be mixed with water or with a mixture of water and aggregate having a temperature greater than 100°F.

The use of salt or other chemical admixtures in lieu of heating will not be permitted.

Before placing concrete, all ice or frost shall be removed from the forms and reinforcement.

In the case of concrete placed directly on or in the ground, such as for footings or bottom slabs, protection and curing during cold weather may be provided as set for concrete pavement under Subsection 501.03.20.3.

The Contractor shall assume all risk and added cost connected with the placing and protecting of concrete during cold weather. Permission given by the Engineer to place concrete during such time will in no way relieve the Contractor of responsibility for satisfactory results. Should it be determined at any time that the concrete placed under such conditions is unsatisfactory, it shall be removed and replaced with satisfactory concrete by the Contractor without extra compensation.

TABLE 8
COLD WEATHER TEMPERATURE LIMITATIONS ON CONCRETE WHEN
DELIVERED TO JOB SITE

Section thickness in the least dimension inches	Jobsite Acceptance Temperature Range °F
Less than 12	55 to 75
12 to 36	50 to 70
36 to 72	45 to 65
Greater than 72	40 to 60

907-804.03.16.2--Hot Weather Concreting. The manufacture, placement, and protection of concrete during hot weather requires special attention to ensure that uniform slump ranges and satisfactory placement qualities are maintained, that surface cracking is held to a minimum, and that design strengths are produced.

When the ambient temperature is above 90°F, the forms, reinforcing steel, steel beam flanges, and other surfaces which will come in contact with the concrete shall be cooled to below 90°F by means of a water spray or other approved methods.

When the atmospheric temperature is predicted to be 90°F or above based on the latest information available from the National Weather Service any time during the day of placement or day after placement, the time of placement shall not begin until 5:00 p.m. on the day of placement and shall be completed by 6:00 a.m. the following day.

907-804.03.17--Curing Concrete. Curing is defined as all actions taken to ensure the moisture and temperature conditions of freshly placed concrete exist so the concrete may develop its potential properties. Curing shall take place from the time of placement until its potential properties have developed. The Contractor shall use the guidance in ACI 308R-01 to:

- a) cure the concrete in such a manner as to prevent premature moisture loss from the concrete,
- b) supply additional moisture to the concrete as required in order to ensure sufficient moisture within the concrete, and
- c) maintain a concrete temperature beneficial to the concrete.

Curing in accordance with the requirements in either Subsection 907-804.03.17.1 or Subsection 907-804.03.17.2 shall be completely established within 20 minutes after finishing, except as noted for bridge decks. Finishing is complete when the pan drag, burlap drag, or other finishing method is complete.

When stay-in-place (SIP) metal forms are used in accordance with Subsection 907-804.03.14.2 in conjunction with the Transverse Method in accordance with Subsection 804.03.19.7.3, if the concrete mixture contains lightweight aggregate (LWA) meeting the requirements of Subsection 907-703.19.2 and an internal curing water content of 8.0 pounds or greater per 100 pounds of total cementitious materials, curing shall be accomplished in accordance with either Subsection 907-804.03.17.1 or Subsection 907-804.03.17.2. The minimum amount of LWA shall be established following the information in the Department's *Concrete Field Manual*, Paragraph 5.5.5. If the concrete mixture does not meet or exceed this internal curing water content, curing shall be accomplished in accordance with Subsection 907-804.03.17.1.

When SIP metal forms are not used or used in conjunction with the Longitudinal Method in accordance with Subsection 804.03.19.7.2, curing shall be accomplished in accordance with either Subsection 907-804.03.17.1 or Subsection 907-804.03.17.2.

The length of time for curing shall be maintained in accordance with either of the following:

1. Prescribed Length of Time:

- a) Curing following the requirements of Subsection 907-804.03.17.1 shall continue uninterrupted for at least 14 days.
- b) Curing following the requirements of Subsection 907-804.03.17.2 shall continue uninterrupted for at least 10 days.

OR

2. Length of Time Defined by Development of Compressive Strength:

Curing following the application requirements of Subsection 907-804.03.17.1 or Subsection 907-804.03.17.2 shall continue uninterrupted for each day's production until the compressive strength of the concrete exceeds 75% of the 28-day compressive strength submitted as the Basis of Proportioning per Subsection 907-804.02.10.1. Therefore, if an area is being cured in accordance with Subsection 907-804.03.17.1, the curing by wet burlap shall continue until the concrete in that area has attained a minimum of 75% of the 28-day compressive strength submitted as the Basis of Proportioning per Subsection 907-804.02.10.1. Likewise, if an area is being cured in accordance with Subsection 907-804.03.17.2, the curing by liquid membrane shall continue until the concrete in that area has attained a minimum of 75% of the 28-day compressive strength submitted as the Basis of Proportioning per Subsection 907-804.02.10.1.

The compressive strength of the concrete may be determined by the use of maturity meter in accordance with Subsection 907-804.03.15.

907-804.03.17.1--Water With Waterproof Cover. All burlap shall be completely saturated and wet prior to placing it on the concrete. The burlap shall have been fully soaked in water for a minimum of 12 hours prior to placement on the concrete.

For bridge decks, the Contractor shall apply one (1) layer of saturated burlap within 20 minutes of the initial strike-off for bridges without a skew and 25 minutes of the initial strike-off for bridges with a skew. For all other concrete, the Contractor shall apply one (1) layer of saturated burlap within 20 minutes of completing finishing.

For bridge decks, following the first layer of burlap, the Contractor shall apply a second layer of saturated burlap within five (5) minutes of applying the first layer.

The applied burlap shall completely cover all exposed concrete surfaces. In areas where the burlap may not be directly applied due to the concrete surface, for example, in areas where reinforcing steel protrudes thru the concrete surface, like in the areas of a bridge deck where the bridge railing will be constructed at a later time, the saturated burlap shall be draped over the steel. The concrete surface shall not be allowed to dry after strike-off or at any time during the curing period.

The Contractor shall maintain the burlap in a fully wet condition using powered fogging equipment capable of producing a fog spray of atomized droplets of water until the concrete has gained sufficient strength to allow foot traffic without the foot traffic marring the surface of the concrete. Burlap shall not be maintained in the fully wet condition using equipment which does not produce a fog spray of atomized droplets of water or by use of manually pressurized sprayers.

For bridge decks, once the concrete has gained sufficient strength to allow foot traffic which does not mar the surface of the concrete, soaker hoses shall be placed on the burlap. The soaker hoses shall then be supplied with running water continuously to maintain continuous saturation of all burlap and the entire concrete surface.

If there is a delay in the placement of the first layer of saturated burlap outside the time limit, the struck-off and finished concrete shall be kept wet by use of the powered fogging equipment used to keep the burlap wet.

White polyethylene sheets shall be placed on top of the wet burlap and, as applicable, soaker hoses, covering the entire concrete surface as soon as practical and not more than 12 hours after the placement of the concrete. White polyethylene sheets of the widest practical width shall be used, overlapping adjacent sheets a minimum of six inches (6") and tightly sealed with an adhesive like pressure sensitive tape, mastic, glue, or other approved methods to form a complete waterproof cover of the entire concrete surface. White polyethylene sheets which overlap a minimum of two feet (2') may be held in place using means other than an adhesive. The white polyethylene sheets shall be secured so that wind will not displace them. The Contractor shall immediately repair the broken or damaged portions or replace sections that have lost their waterproof qualities.

If burlap and/or white polyethylene sheets are temporarily removed for any reason during the curing period, the Contractor shall keep the entire exposed area continuously wet. The saturated burlap and white polyethylene sheets shall be replaced, resuming the specified curing conditions, as soon as possible.

The Contractor shall inspect the bridge deck surface once every eight (8) hours for the entirety of the curing period, so that all areas remain wet for the entire curing period and all curing requirements are satisfied and document the inspection in accordance with Subsection 907-804.03.17.1.1.

At the end of the curing period, one coating of liquid membrane shall be applied following the requirements of Subsection 907-804.03.17.1.2. The purpose of the coating of liquid membrane is to allow for slow drying of the concrete. The application of liquid membrane to any area shall be complete within 30 minutes of the beginning of removal of the white polyethylene sheets, soaker hoses, and burlap from this area.

907-804.03.17.1.1--Documentation for Bridge Decks. The Contractor shall provide the Engineer with a daily inspection report that includes:

- documentation that identifies any deficiencies found (including location of deficiency);
- documentation of corrective measures taken;
- a statement of certification that all areas are wet and all curing material is in place on the entire bridge deck;
- documentation showing the time and date of all inspections and the inspector's signature;
- documentation of any temporary removal of curing materials including location, date and time, length of time curing was removed, and means taken to ensure exposed area was kept continuously wet.

907-804.03.17.1.2--Liquid Membrane. At the end of the 14-day wet curing period the wet burlap and polyethylene sheets shall be removed and within 30 minutes, the Contractor shall apply white liquid membrane to the deck. The liquid membrane shall be thoroughly mixed within the time recommended by the liquid membrane producer but no more than an hour before use. If the use of liquid membrane results in a streaked or blotched appearance, the method shall be stopped and water curing applied until the cause of defective appearance is corrected.

The liquid membrane shall be applied when no free water remains on the surface but while the surface is still wet. The liquid membrane shall be applied according to the manufacturer's instructions with a minimum spreading rate per coat of one (1) gallon per 200 square feet of concrete surface. If the concrete is dry or becomes dry, the Contractor shall thoroughly wet it with water applied as a fog spray by means of approved equipment.

The application of liquid membrane shall be accomplished by the use of power applied spray equipment using nozzles and other equipment recommended by the liquid membrane producer. Manually pressurized or manual pump-up type sprayers shall not be used to apply the first application of liquid membrane.

As a visual guide, the color of concrete covered with the required amount of liquid membrane should be indistinguishable from a sheet of commercially available standard "letter" size white copier paper placed on top of it when viewed from a distance of about five feet (5') away horizontally if standing on the same grade as the concrete. The appearance of the concrete does not supersede applying the minimum spreading rate.

The coating shall be protected against marring for at least seven (7) days after the application of the curing compound. The coating on bridge decks shall receive extra attention and may require additional protection as required by the Engineer. All membrane marred or otherwise disturbed shall be given an additional coating. Manually pressurized or manual pump-up type sprayers may be used for giving marred areas the required additional application of liquid membrane. Should the surface coating be subjected repeatedly to injury, the Engineer may require that the water curing method be applied at once.

The 7-day period during which the liquid membrane is applied and protected shall not be reduced even if the period of wet curing is extended past the required 14 days.

907-804.03.17.1.2.1--Liquid Membrane Documentation. The Contractor shall make available to the Engineer an application rate verification method and any information necessary during application of the liquid membrane to verify that the rate of application meets the prescribed rate for the various surfaces of the concrete, including, but not limited to, the top surface of the bridge deck and exposed sides of the bridge deck after any forms are removed. The Contractor shall submit this application verification method to the Engineer in accordance with Subsection 907-804.02.12.1.1.

One method of verifying the rate of application is as follows:

1. Determine the volume of liquid membrane in the container. For a container with a uniform cross-sectional area, for example a 55-gallon drum, determine the area of the cross-section. Determine the height of the surface of the liquid membrane from the bottom of the container. This may be accomplished by inserting a sufficiently long, clean dip-stick parallel with the axis of the container into the liquid membrane until the inserted end of the dip-stick contacts the bottom of the container. On removing the dip-stick, measure the length from the end which was inserted to the point on the dip-stick where the liquid membrane ceases to coat the dip-stick. Multiply the area of the cross-section by the height of the level of liquid membrane, maintaining consistent units, to determine the volume.
2. Perform step 1 prior to beginning applying the liquid membrane to establish the initial volume.
3. During the period of application, perform step 1 each 100 square feet of bridge deck.
4. In order to meet the required application rate of one (1) gallon per 200 square feet, the amount in the container shall be at least 0.5 gallon less than the previous volume in the previous 100 square feet. Other changes in volume may apply depending on the manufacturer's recommended application rate.
5. Additional applications to an area shall be applied until the required rate is satisfied. Areas which are not visually satisfactory to the Engineer shall have additional liquid membrane applied as directed by the Engineer.

The amount of liquid membrane applied shall be determined each day using the application verification method. This information shall be submitted to the Engineer within 24 hours of applying the liquid membrane.

907-804.03.17.2--Liquid Membrane Method. All surfaces on which curing is to be by liquid membrane shall be given the required surface finish prior to the application of liquid membrane. Concrete surfaces cured by liquid membrane shall receive two applications of white liquid membrane. Neither application shall be made from a position supported by or in contact with the freshly placed concrete. Both applications shall be applied perpendicularly to the surface of the concrete.

When using liquid membrane, the liquid membrane shall be thoroughly mixed within the time recommended by the liquid membrane producer but no more than an hour before use. If the use of liquid membrane results in a streaked or blotched appearance, the method shall be stopped and water curing applied until the cause of defective appearance is corrected.

The application of liquid membrane shall be accomplished by the use of power applied spray equipment using nozzles and other equipment recommended by the liquid membrane producer. Manually pressurized or manual pump-up type sprayers shall not be used to apply the first two applications of liquid membrane.

The liquid membrane shall be applied when no free water remains on the surface but while the surface is still wet. The liquid membrane shall be applied according to the manufacturer's instructions with a minimum spreading rate per coat of one (1) gallon per 200 square feet of concrete surface. If the concrete is dry or becomes dry, the Contractor shall thoroughly wet it with water applied as a fog spray by means of approved equipment.

The first application of the liquid membrane shall be made as the work progresses. For bridge decks, the first application shall be completed in each area of the deck, including the area in which the bridge railing will be later constructed, within 20 minutes of initial strike-off for bridges with no skew and within 25 minutes of initial strike-off for bridges with skew. For all other concrete, the first application of the liquid membrane shall be completed within 20 minutes of finishing.

The second application shall be applied within 30 minutes after the first application. The liquid membrane shall be uniformly applied to all exposed concrete surfaces.

As a visual guide, the color of concrete covered with the required amount of liquid membrane should be indistinguishable from a sheet of commercially available standard "letter" size white copier paper placed on top of it when viewed from a distance of about five feet (5') away horizontally if standing on the same grade as the concrete. The appearance of the concrete does not supersede applying the minimum spreading rate.

The Contractor shall make available to the Engineer an application rate verification in accordance with Subsection 907-804.03.17.1.2.1.

The coating shall be protected against marring for at least 10 days after the application of the curing compound. The coating on bridge decks shall receive extra attention and may require additional protection as required by the Engineer. All membrane marred or otherwise disturbed shall be given an additional coating. Manually pressurized or manual pump-up type sprayers may be used for giving marred areas the required additional application of liquid membrane. Should the surface coating be subjected repeatedly to injury, the Engineer may require that the water curing method be applied at once.

After the specified time for curing, but prior to constructing the bridge railing, all liquid membrane shall be removed from both the exposed surfaces of the reinforcing steel and the concrete surfaces on which bridge rail will be constructed. This removal of liquid membrane may be accomplished by high pressure washing or other methods approved by the Engineer.

907-804.03.18--Expansion and Fixed Joints, Bearings, Anchor Bolts, Plates, Castings, Pipes, Drains, Conduits, Etc. All joints shall be constructed according to details shown on the plans. The edges of the concrete at open or filled joints shall be chamfered or edged as indicated on the plans.

907-804.03.18.1--Open Joints. Open joints shall be placed in the locations shown on the plans and shall be constructed by the insertion and subsequent removal of a wood strip, metal plate, or other approved material. The insertion and removal of the template shall be accomplished without chipping or breaking the corners of the concrete. Reinforcement shall not extend across an open joint unless so specified on the plans.

907-804.03.18.2--Filled Joints. Poured expansion joints and joints to be sealed with premolded materials shall be constructed similar to open joints. When premolded types are specified, the filler shall be placed in correct position as the concrete on one side of the joint is placed. When

the form is removed, the concrete on the other side shall be placed. Adequate water stops of metal, rubber, or plastic shall be carefully placed as shown on the plans.

907-804.03.18.3--Premolded and Preformed Joint Seals. When preformed elastomeric compressive joint seals are specified, the previously formed and cured open joint shall be thoroughly cleaned of all foreign matter, the required adhesive uniformly applied, and the seal installed in accordance with the recommendations of the manufacturer of the seal.

When premolded filler is used for the joints in the roadway slab, the tops shall be adequately sealed with poured joint filler in accordance with details on the plans. Premolded filler shall be permanently fastened to an adjacent concrete surface by appropriate use of copper wire, copper nails, or galvanized nails.

907-804.03.18.4--Steel Joints. The plates, angles, or other structural shapes shall be accurately shaped at the shop to conform to the section of the concrete floor. Fabrication and painting shall conform to the specifications covering those items. When called for on the plans or in the special provisions, the material shall be galvanized in lieu of painting. Care shall be taken to ensure that the surface in the finished plane is true and free of warping. Positive methods shall be employed in placing the joints to keep them in correct position during the placing of the concrete. The opening at expansion joints shall be that designated on the plans at normal temperature, and care shall be taken to avoid impairment of the clearance in any manner.

907-804.03.18.5--Water Stops. Adequate water stops of metal, rubber, or plastic shall be placed as shown on the plans. Where movement at the joint is provided for, the water stops shall be of a type permitting movement without injury. They shall be spliced, welded, or soldered to form continuous watertight joints.

907-804.03.18.6--Bearing Devices. Bearing plates, rockers, and other bearing devices shall be constructed according to details shown on the plans. Unless otherwise specified or set in plastic concrete, they shall be set in grout to insure uniform bearing. Structural steel and painting shall conform to the requirements of Sections 810 and 814. When specified, the material shall be galvanized in lieu of painting. The rockers or other expansion bearing devices shall be set, considering the temperature at the time of erection, so that the required position of the device is provided.

At all points of bearing contact, concrete members shall be separated from underlying members by dimensioned bearing pads or by methods and/or materials specified on the plans.

When not otherwise specifically provided, contact areas between concrete super-structures and substructures shall be separated by three layers of No. 15, Type I, roofing felt.

907-804.03.18.7--Friction Joints. Metal friction joints shall consist of plates as indicated on the plans and shall be securely anchored in correct position. All sliding surfaces shall be thoroughly coated with an approved graphite grease. Movement shall not be impeded by the concrete in which the plates are embedded.

907-804.03.18.8--Placing Anchor Bolts, Plates, Castings, Grillage, Conduits, Etc. All anchor bolts, plates, castings, grillage, conduits, etc. indicated on the plans to be placed in or on the concrete shall be placed, set, or embedded as indicated or as directed. These items of the construction shall be set in portland cement mortar as referenced in Subsection 714.11.5, except that anchor bolts may, as permitted by the Engineer, be built into the masonry, set in drilled holes, or placed as the concrete is being constructed by inserting encasing pipe or oiled wooden forms of sufficient size to allow for adjustment of the bolts. After removal of the pipe or forms, the space around the bolts shall be filled with portland cement mortar completely filling the holes. The bolt shall be set accurately and perpendicular to the plane of the seat.

Anchor bolts which are to be set in the masonry prior to the erection of the superstructure shall be carefully set to proper location and elevation with a template or by other suitable means.

When bed plates are set in mortar, no superstructure or other load shall be placed thereon until this mortar has been allowed to set for a period of at least 96 hours, subject to the restrictions for cold weather concreting in Subsection 907-804.03.16.1. The mortar shall be kept well moistened during this period.

Weep hole drains shall be installed in abutments and retaining walls, and roadway drains or scuppers shall be installed in the roadway slabs in accordance with the details shown on the plans.

Where backfill is to be made at weep holes or openings in the structure, sand or stone chimneys or French drains shall be constructed as specified and shall extend through the portion of the backfill to be drained. Except as otherwise provided, the sand, stone, or slag used in this construction shall meet the requirements of Subsection 704.04.

907-804.03.19--Finishing Concrete Surfaces.

804.03.19.1--Classes of Finishes. Surface finishes of exposed concrete surfaces shall be classified as follows:

- Class 1 - Ordinary Surface Finish
- Class 2 - Rubbed or spray Finish
- Class 3 - Tooled Finish
- Class 4 - Sand-Blast Finish
- Class 5 - Wirebrush or Scrubbed Finish
- Class 6 - Floated Surface Finish

907-804.03.19.2--Class 1, Ordinary Surface Finish. Immediately following the removal of forms, all fins and irregular projections shall be removed from all surfaces except from those which are not to be exposed or not to be waterproofed. On all surfaces, the cavities produced by form ties and all other holes, honeycomb spots, broken corners or edges, and other defects shall be thoroughly cleaned, and after having been kept saturated with water for at least three hours shall be carefully pointed and trued with a mortar of cement and fine aggregate mixed in the proportions used in the class of the concrete being finished. Mortar used in pointing shall be not more than one hour old. The mortar patches shall be cured as specified under Subsection 907-804.03.17. All

construction and expansion joints shall be left carefully tooled and free of mortar and concrete. The joint filler shall be left exposed for its full length with clean and true edges.

The resulting surfaces shall be true and uniform. All surfaces which cannot be repaired to the satisfaction of the Engineer shall be given a Class 2 rubbed finish.

907-804.03.19.3--Class 2, Rubbed or Spray Finish.

907-804.03.19.3.1--Rubbed Finish. After removal of forms, the Class 1 finish shall be completed and the rubbing of concrete shall be started as soon as its condition will permit. Immediately before starting this work, the concrete shall be kept thoroughly saturated with water for at least three hours. Surfaces shall be rubbed with a medium course Carborundum stone using a small amount of mortar on its face. The mortar shall be composed of cement and sand mixed in the proportions used in the concrete being finished. Rubbing shall be continued until all form marks, projections, and irregularities have been removed, all voids are filled, and a uniform surface has been obtained. The paste produced by this rubbing shall be left in place at this time.

After all concrete above the surface being treated has been cast, the final finish shall be obtained by rubbing with a fine Carborundum stone and water. This rubbing shall continue until the entire surface is of a smooth texture and uniform color.

After the final rubbing is completed and the surface has dried, it shall be rubbed with burlap to remove loose powder and objectionable marks.

907-804.03.19.3.2--Spray Finish. Prior to the spray finish, the concrete shall be given a Class 1 finish in accordance with Subsection 907-804.03.19.2, supplemented if necessary with a grout meeting the requirements of Subsection 714.11 with fine aggregate modified to require 100 percent passing the No. 16 Sieve.

Grout shall be applied with burlap pads or float sponges, and as soon as the grout has dried the surface shall be brushed to remove all loose grout and the surface left smooth and free of air holes. Surfaces to be sprayed shall be free of efflorescence, flaking coatings, dirt, oil, and other foreign substances. Prior to application of the spray finish, the surfaces shall be free of moisture, as determined by sight and touch, and in a condition consistent with the manufacturer's published recommendations.

The spray finish material shall meet the requirements of Subsection 714.12 and shall be listed on of Approved Sources of Materials. The spray finish shall be applied with heavy duty spray equipment capable of maintaining a constant pressure as necessary for proper application. The material shall be applied as recommended by the manufacturer except the rate of application shall not be less than one gallon per 50 square feet of surface area without prior written approval of the Engineer.

The completed finish shall be tightly bonded to the structure and present a uniform appearance and texture equal to or better than a rubbed finish. If necessary, additional coats shall be sprayed to produce the desired surface texture and uniformity. Upon failure to adhere positively to the

structure without chipping or cracking or to attain the desired surface appearance, the coatings shall be completely removed and the surface given a rubbed finish in accordance with 907-804.03.19.3.1, or other approved methods shall be used to obtain the desired surface finish to the satisfaction of the Engineer without additional cost to the State.

907-804.03.19.4--Classes 3, 4, and 5 Finishes. If required, specifications for these finishes will be contained in the special provisions.

907-804.03.19.5--Class 6, Floated Surface Finish. After the concrete has been deposited in place, it shall be consolidated and the surface shall be struck off by means of a strike board and floated with a wooden or cork float. An edging tool shall be used on edges and expansion joints. The surface shall not vary more than 1/8 inch under a 10-foot straightedge. The surface shall have a granular or matte texture which will not be slick when wet.

907-804.03.19.6--Required Finishes for Various Surfaces.

907-804.03.19.6.1--General. Unless otherwise specified, the top surface of sidewalks, the top horizontal surfaces of footings, and top slabs of box bridges, box culverts, or other structures shall be given a Class 6 finish. All formed concrete surfaces shall be given a Class 1 finish, except on surfaces which are completely enclosed, such as the inside surfaces of cells of box girders, the removal of fins and form marks and the rubbing of mortared surfaces to a uniform color will not be required.

In reference to finishing, exposed surfaces are surfaces or faces which may be seen after all backfill has been placed. Exposed surfaces requiring a Class 2 finish shall be finished at least one foot below the ground line or the low water elevation, whichever is higher.

The Class 2 finish shall be made upon a Class 1 finish. After the removal of forms the Class 1 finish shall be completed and the rubbing of concrete shall be started as soon as the condition of the concrete will permit.

Bridge floors shall be finished in accordance with Subsection 907-804.03.19.7.

907-804.03.19.6.2--Finishing Formed Concrete Surfaces of Box Bridges, Box Culverts, Pipe Headwalls, and Minor Structures. The exposed surfaces of wing walls and parapets of box bridges and box culverts to be used as vehicular or pedestrian underpasses shall be given a Class 2 finish. Exposed surfaces of other box culverts or box bridges, pipe culvert headwalls, and other minor structures shall be given a Class 1 finish unless otherwise indicated on the plans.

The exposed surfaces of retaining walls including copings and parapets shall receive a Class 2 finish.

907-804.03.19.6.3--Finishing Formed Concrete Surface of Bridges. All formed concrete bridge surfaces which are exposed shall have a Class 1 or 2 finish as set forth herein unless designated otherwise on the plans.

Bridges with designated surfaces for Class 2 finish are classified as follows:

- Group A - Bridges over highways, roads and streets.
- Group B - Bridges over waterways and railroads.
- Group BB - Twin or adjacent bridges of Group B category.

When a Group B or BB bridge also spans a highway, road or street, exposed concrete surfaces shall be finished in accordance with Group A requirements.

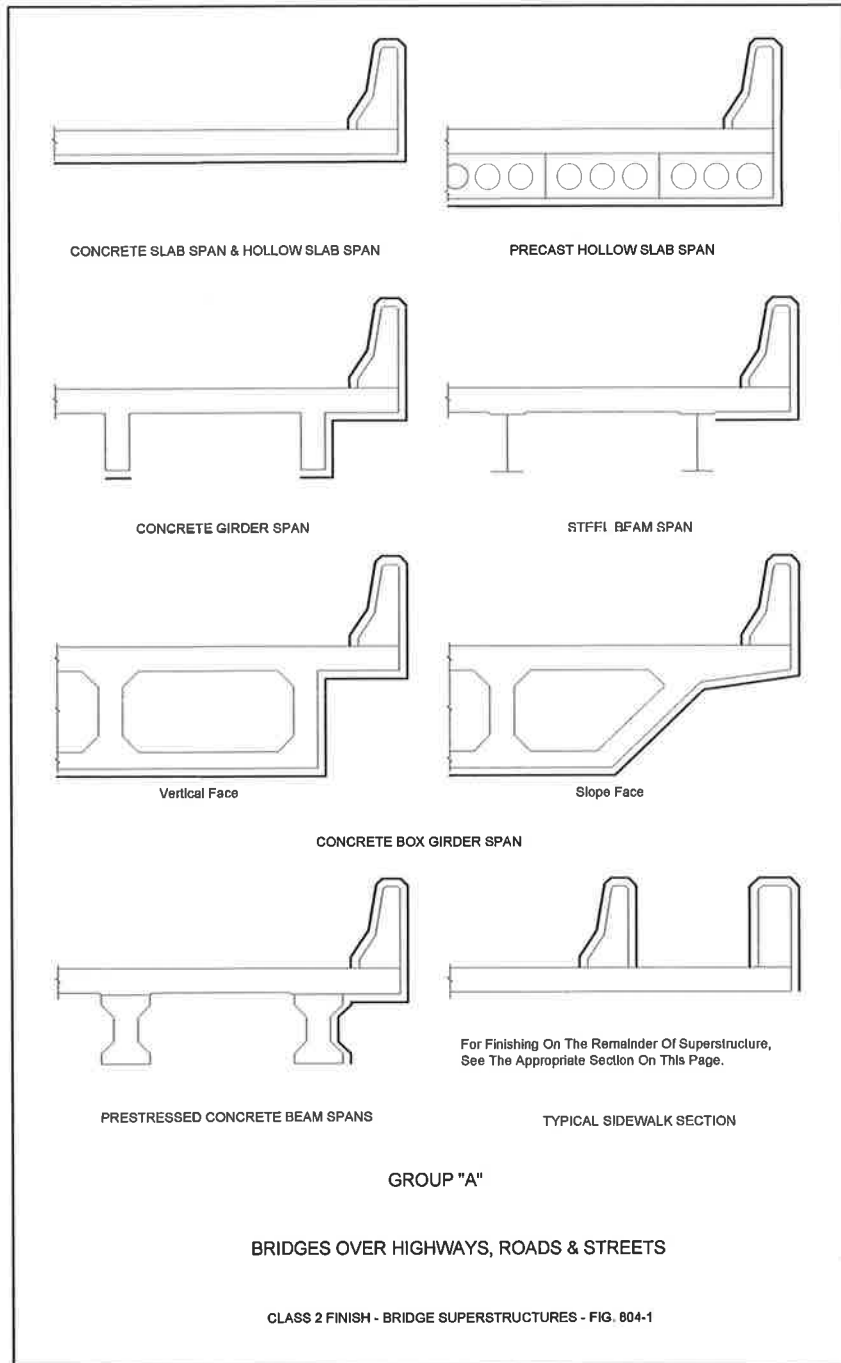
(A) Superstructures. Concrete surfaces to be given a Class 2 finish shall be the exposed surfaces of wings and rails and other exposed surfaces indicated by a double line in Figures 804-1, 804-2, and 804-3.

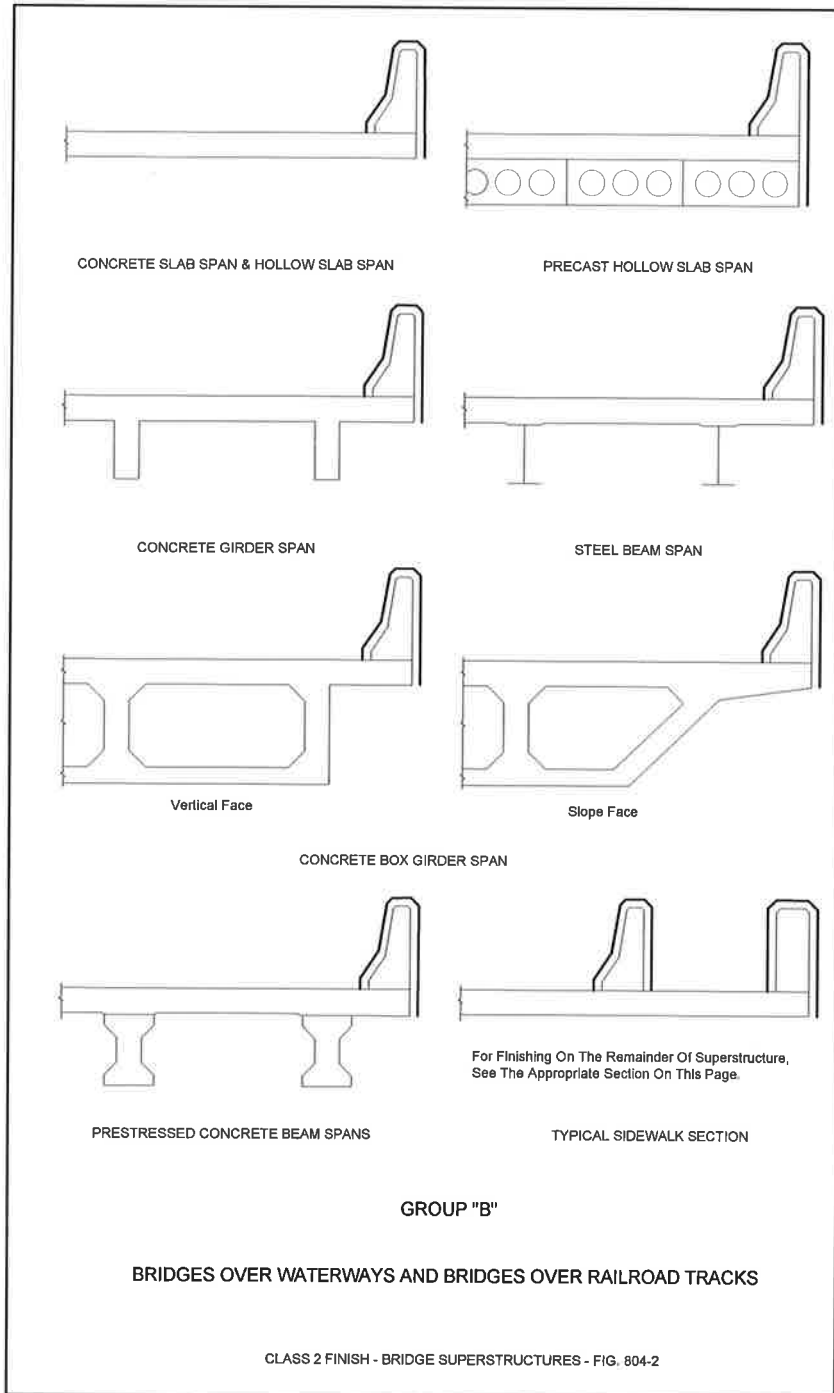
When a Group B or BB also spans a highway, road or street, the superstructure of spans over and extending one span in each direction beyond the lower level highway, road or street shall be given a Class 2 finish as shown for Group A.

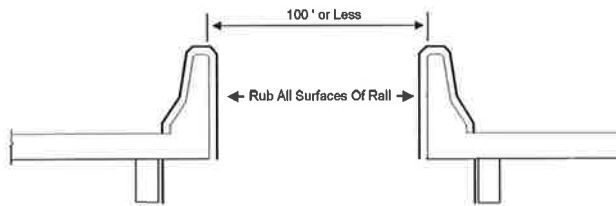
(B) Substructures. Concrete surfaces to be given a Class 2 finish are as follows:

Group A. Exposed surfaces of abutments, end bents, end bent posts, wing walls, railing, retaining walls, parapets, copings, piers, columns, piles, caps, struts or walls between columns or piles, encasement of steel piles, arch rings and spandrel walls.

Group B and BB. Exposed surfaces of abutments, wing walls, end bent posts, railing, retaining walls, parapets and copings.







GROUP "B B" - ADJACENT BRIDGES

GROUP "B B"

TWIN or DUAL BRIDGES

CLASS 2 FINISH - BRIDGE SUPERSTRUCTURES - FIG. 804-3

907-804.03.19.7--Finishing Bridge Decks.

907-804.03.19.7.1--General. Concrete bridge decks shall be struck off and finished by the method(s) designated on the plans.

In the event a method is not designated, the Contractor may use either the longitudinal or transverse method subject to the requirements contained in these specifications.

Except when indicated otherwise on the plans, the finish of the bridge deck shall be either a belt finish, a broom finish, or one of the following drag methods: pan, double pan, burlap, or pan and burlap. Manual finishing of the bridge deck shall be performed only in areas inaccessible by the finishing equipment mounted to the strike-off screed, but shall not hinder the requirements for curing in accordance with Subsection 907-804.03.17.1. The surface texture specified and surface requirements shall be in accordance with the applicable requirements of Subsections 501.03.17 and 501.03.18 modified only as the Engineer deems necessary for bridge deck construction operations.

At no time shall water on the surface of the concrete from bleeding, fogging, curing, or other sources be worked into the concrete or used as an aid for finishing.

Regardless of the method of finishing selected, requirements for curing per Subsection 907-804.03.17 shall be completed within the specified time limits. If the requirements in Subsection 907-804.03.17 are not completed within the specific time limits, the Contractor shall cease operations, revise his operations up to and including acquiring new or additional equipment or additional personnel in order to satisfy the requirements in Subsection 907-804.03.17, and, on approval from the Engineer, resume operations

907-804.03.19.7.2--Longitudinal Method. The longitudinal method may be used for repairs to bridge decks or bridge widening projects. For bridge widening projects, curing in accordance with Subsections 907-804.03.17 shall be completed within 30 minutes of initial strike-off for bridges without skew and within 35 minutes of initial strike-off for bridges with skew.

The longitudinal method requires that the strike-off screed be supported on accurately graded and supported bulkheads or templates placed across the full width at the end(s) of the pour. Before the concrete is placed, approved fixed templates or wooden bulkheads of not less than 1¼-inch lumber shall be placed perpendicular to the centerline of the roadway, or in the case of skew bridges at the angle of skew. At least one dry run shall be made the length of each pour with a "tell-tale" device attached to the screed to assure the specified clearance to the reinforcing steel. The upper surface of the template or bulkheads shall be accurately set to conform to the required grade and crown.

Special attention shall be given to the gutter lines where the strike-off screed cannot reach. The gutters shall be finished by hand and tested with the straight edge. Floor drains shall be set lower than the finished gutter line and finished over. After initial set, the concrete shall be dished out and finished around the drains to form an outlet.

After the concrete has been deposited and rough graded, it shall be struck off by means of a strike-off screed resting on the bulkheads or fixed templates. The strike-off screed shall be of a type satisfactory to the Engineer and shall have sufficient strength to retain its shape under all working conditions. The final surface shall comply with the applicable requirements of Subsections 501.03.17.6 and 501.03.18, and unless otherwise specified in the contract, the final finish under this method shall be the belt finish.

In general, the overall strike-off screed should be trussed, with bracing heavy enough to support the weight of a man without deflecting, and should be adjustable for camber and correction of sag.

The strike-off screed will ride on the bulkheads or fixed templates at the ends of the section being finished. Care shall be taken to see that the bulkhead or fixed template elevations are accurately set since the entire span surface will be controlled by them. The manipulation of the screed shall be such that neither end is raised from the bulkheads or templates during the process.

The concrete shall be struck off by beginning at one curb and proceeding entirely across the span. A slight excess of concrete shall be kept in front of the cutting edge at all times. This operation shall be repeated at least three times. In each case, the strike-off screed shall be picked up and carried back to the point of beginning. No backward strokes will be allowed. The strike-off screed shall be moved along the bulkheads or fixed templates with a combined longitudinal and transverse motion. This operation may be manual or mechanical. Standing or walking in the fresh concrete ahead of the strike-off screed will not be permitted.

907-804.03.19.7.3--Transverse Method. The transverse method requires that the screeding equipment be supported on accurately graded and supported rails placed beyond the gutter lines and parallel with the centerline of the bridge.

The machine shall be so constructed and operated as to produce a bridge deck of uniform density with minimum manipulation of the fresh concrete and achieved in the shortest possible time. Manual transverse methods of screeding will not be permitted.

The finishing machine shall be supported on vertically adjustable rails set a sufficient distance from the gutter line to allow free movement of the screed from gutter line to gutter line. Satisfactory means of load distribution with minimum rail deflection shall be provided. The screed rails for a deck pour shall be completely in place for the full length of the pour and shall be firmly secured prior to placing concrete. The screed rails shall be adjusted as necessary to compensate for settlement and deflection occurring during the screeding operations. Supports for the screed rail shall be located directly over slab overhang support brackets as referenced in Subsection 907-804.03.14.1.

At least one dry run shall be made the length of each pour with a "tell-tale" device attached to the screed carriage to assure the specified clearance to the reinforcing steel.

The screed shall be equipped with a metal cutting edge or other approved mechanical means for accurately fine grading the plastic concrete to the required grade and surface smoothness and shall be supported by a bridging structure sufficiently rigid and heavy to perform operations

satisfactorily on concrete of minimum slump without vibration, distortion, and wrecking of forms. The screed shall be mechanically actuated to deliver the screeding action and for travel in a longitudinal direction at a uniform rate along the bridge deck.

The screed shall complete sufficient passes to strike off all of the excess concrete with ample mortar along the entire leading edge to assure filling of low spots. Care shall be taken to remove all objectionable material from the gutters where final hand finishing will be required.

The selection of the transverse method may require the Contractor to furnish bridge deck concrete which contains an approved water-reducing set-retarding admixture in the quantities approved by the Engineer at no additional cost to the State. See Subsection 713.02 for more information.

Other finishing requirements shall be in accordance with the general requirements in Subsection 907-804.03.19.7.1 and as specified on the plans.

907-804.03.19.7.4--Acceptance Procedure for Bridge Deck Smoothness. After the bridge decks and bridge end slabs are completed and preferably before the construction of the bridge railing, they shall be tested for ride quality using a Contractor furnished profilograph. Profile Index Values shall be determined in accordance with Department SOPs and these specifications. The profilograph shall meet the requirements of Subsection 907-804.03.19.7.5. Profiles will be obtained in the wheel paths of the main thru lanes and, where conditions allow, in the wheel paths of any auxiliary lanes or tapers. Profile Index Values for bridge decks and bridge end slabs shall be obtained for all state roads with four lanes or more, on state roads three lanes or less where the current traffic count is 2000 ADT or higher, or as designated on the plans. Ride quality tests will begin at a point where the rearmost wheel of the profilograph is as close to the beginning of the bridge end slab as possible and shall proceed forward across the remainder of the bridge end slab, across the bridge deck and continue across the next bridge end slab to a point where the front-most wheel of the profilograph reaches the far-most edge of the bridge end slab. Bridges and bridge end slabs not requiring a ride quality test must meet a 1/8 inch in 10-foot straightedge requirement in longitudinal and transverse directions. Bridges in horizontal curves having a radius of less than 1000 feet at the centerline and bridges within the superelevation transition of such curves are excluded from a test with the profilograph.

The Profile Index Value for bridge decks including the bridge end slabs shall be averaged for the left and right wheel path for each lane and where applicable, each auxiliary lane and taper, and shall not exceed 65 inches per mile for each lane. Auxiliary lanes, tapers, shoulders and other areas that are not checked with the profilograph, shall meet a 1/8 inch in 10-foot straightedge check made transversely and longitudinally across the deck or slab. In addition, individual bumps or depressions exceeding 0.3 of an inch, when measured from a chord length of 25 feet, shall be corrected and the surface shall meet a 1/8 inch in 10-foot straightedge check made transversely across the deck or slab.

Bridge decks and bridge end slabs not meeting the preceding requirements shall be corrected. Corrective work shall be done at no additional cost to the Department. Corrective work shall consist of grinding the bridge deck in accordance with this specification. All corrective work shall precede final surface texturing. After completion of final surface texturing, all surface areas

corrected by grinding shall be sealed with a nonstaining 40% minimum alkylalkoxysilane penetrating sealant applied per the manufacturer's directions.

In case the bridge end slabs are to be constructed on a future project, the bridge deck(s) alone shall be tested for ride quality using the acceptance procedure outlined above, except that the ride quality test will begin at a point where the rearmost wheel of the profilograph is as close to the beginning of the bridge as possible and shall proceed forward across the bridge deck to a point where the front-most wheel of the profilograph reaches the far-most edge of the bridge.

Expansion joint installation shall be delayed and the joint temporarily bridged to facilitate operation of the profilograph and grinding equipment across the joint wherever feasible.

It shall be the Contractor's responsibility to schedule profilograph testing. The Contractor shall notify the Department at least five (5) days in advance of profilograph testing. The Contractor shall ensure that the area to be tested has been cleaned and cleared of all obstructions. Profilograph testing of bridge decks and bridge end slabs shall be performed by the Contractor under supervision of the Engineer. All profilograph testing shall be performed at no additional cost to the Department. The Contractor will be responsible for traffic control associated with this testing operation.

907-804.03.19.7.4.1--Grinding Bridge Decks.

907-804.03.19.7.4.1.1--Equipment. The grinding equipment shall be a power driven, self-propelled machine that is specifically designed to smooth and texture portland cement concrete pavement with diamond blades. The effective wheel base of the machine shall not be less than 12.0 feet. It shall have a set of pivoting tandem bogey wheels at the front of the machine and the rear wheels shall be arranged to travel in the track of the fresh cut pavement. The center of the grinding head shall be no further than 3.0 feet forward from the center of the back wheels.

The equipment shall be of a size that will cut or plane at least 3.0 feet wide. It shall also be of a shape and dimension that does not encroach on traffic movement outside of the work area. The equipment shall be capable of grinding the surface without causing spalls at cracks, joints, or other locations.

907-804.03.19.7.4.1.2--Grinding. The grinding areas will be determined by the Contractor and approved by the Engineer. The Contractor shall develop and submit to the Engineer for approval a Grinding Plan. The Contractor shall allow up to 45 days for the Department to review the Plan prior to starting any grinding operations. This plan shall include as a minimum:

- 1) Name of the project superintendent in responsible charge of the grinding operation.
- 2) List and description of all equipment to be used.
- 3) Maximum depth of each pass allowed by the grinding equipment.
- 4) Maximum width of each pass allowed by the grinding equipment.
- 5) Details of a sequence of the grinding operation.
- 6) Complete data from Profilograph runs, based on a 0.3 inch bump height, for each wheel path over the entire bridge including bridge end slabs, which shall include profile index,

bump locations (in stations), bump heights and proposed final cross-slopes. When a computerized profilograph is used, a complete printout of the profile including the header information for each wheel path will be required.

- 7) Data showing reinforcing steel clearance in all areas to be ground.
- 8) A detailed drawing of the deck showing areas to be ground with station numbers and grinding depths clearly indicated.
- 9) A description of grinding in areas where drains are in conflict with grind areas.
- 10) Details of any changes in deck drainage, anticipated ponding, etc.

The Engineer will evaluate the grinding plan for conformance with the plans and specifications, after which the Engineer will notify the Contractor of any additional information required and/or changes that may be needed. Any part of the plan that is unacceptable will be rejected and the Contractor shall submit changes for reevaluation. All approvals given by the Engineer shall be subject to trial and satisfactory performance in the field, and shall not relieve the Contractor of the responsibility to satisfactorily complete the work.

The construction operation shall be scheduled and proceed in a manner that produces a uniform finished surface. Grinding will be accomplished in a manner that eliminates joint or crack faults while providing positive lateral drainage by maintaining a constant cross-slope between grinding extremities in each lane. Auxiliary or ramp lane grinding shall transition as required from the mainline edge to provide positive drainage and acceptable riding surface.

The operation shall result in a finished surface that conforms as close as possible to the typical cross-section and the requirements specified in Subsection 907-804.03.19.7.4.1.3.

The Contractor shall establish positive means for removal of grinding residue. Residue shall not be permitted to flow across lanes used by public traffic or into gutters or drainage facilities.

907-804.03.19.7.4.1.3--Final Surface Texture. The grinding process shall produce a finish surface that is as close as possible to grade and uniform in appearance with a longitudinal line type texture. The line type texture shall contain parallel longitudinal corrugations that present a narrow ridge corduroy type appearance. The peaks of the ridges shall be approximately 1/16 inch higher than the bottoms of the grooves with approximately 53 to 57 evenly spaced grooves per foot. Grinding chip thickness shall be a minimum of 0.080 inches thick.

The finished bridge decks and bridge end slabs shall be retested for riding quality using a Contractor furnished profilograph meeting the requirements of Subsection 907-804.03.19.7.5. The finished results shall meet the following conditions:

- (a) Individual bumps or depressions shall not exceed 0.3 inches when measured from a chord length of 25 feet.
- (b) The final index value for the bridge deck and bridge end slabs shall be an average of both the right and left wheel paths of each lane and shall not exceed 65 inches per mile.

The final profilogram will be furnished to the Engineer for informational purposes.

907-804.03.19.7.5--Profilograph Requirements. The smoothness of the bridge deck will be determined by using a California Profilograph to produce a profilogram (profile trace) at each designated location. The surface shall be tested and corrected to a smoothness index as described herein with the exception of those locations or specific projects that are excluded from a smoothness test with the profilograph.

The profilograph, furnished and operated by the Contractor under supervision of the Engineer, shall consist of a frame at least 25 feet in length supported upon multiple wheels having no common axle. The wheels shall be arranged in a staggered pattern so that no two wheels will simultaneously cross the same bump. A profile is to be recorded from the vertical movement of a sensing mechanism. This profile is in reference to the mean elevation of the contact points established by the support wheels. The sensing mechanism, located at the mid-frame, may consist of a single bicycle-type wheel or a dual-wheel assembly consisting of either a bicycle-type (pneumatic tire) or solid rubber tire vertical sensing wheel and a separate bicycle-type (pneumatic tire) longitudinal sensing wheel. The wheel(s) shall be of such circumference(s) to produce a profilogram recorded on a scale of one (1) inch equal to 25 feet longitudinally and one (1) inch equal to one (1) inch (full scale) vertically. Motive power may be provided manually or by the use of a propulsion unit attached to the center assembly. In operation, the profilograph shall be moved longitudinally along the pavement at a speed no greater than 3 MPH so as to reduce bounce as much as possible. The testing equipment and procedure shall comply with the requirements of Department SOP.

The Contractor may elect to use a computerized version of the profilograph in lieu of the standard profilograph. If the computerized version of the profilograph is used, it shall meet the requirements of Subsection 907-804.03.19.7.5.1.

907-804.03.19.7.5.1--Computerized Profilograph.

907-804.03.19.7.5.1.1--General The computerized profilograph, furnished and operated by the Contractor under the supervision of the Engineer, shall be equipped with an on-board computer capable of meeting the following conditions.

Vertical displacement shall be sampled every three (3) inches or less along the bridge deck. The profile data shall be bandpass filtered in the computer to remove all spatial wavelengths shorter than two (2) feet. This shall be accomplished by a third order, low pass Butterworth filter. The resulting band limited profile will then be computer analyzed according to the California Profilograph reduction process to produce the required inches per mile index. This shall be accomplished by fitting a linear regression line to the length of bridge. This corresponds to the perfect placement of the blanking band bar by a human trace reducer. Scallop above and below the blanking band are then detected and totaled according to the California protocol. Bump/Dip analysis shall take place according to the California Profilograph reduction process.

The computerized profilograph shall be capable of producing a plot of the profile and a printout which will give the following data: Stations every twenty five (25) feet, bump/dip height and bump/dip length of specification (3/10 of an inch and 25 feet respectively), the blanking band width, date of measurement, total profile index in inches per mile for the measurement, total length

of the measurement, and the raw inches for each segment.

907-804.03.19.7.5.1.2--Mechanical Requirements. The profilograph shall consist of a frame twenty five (25) feet long supported at each end by multiple wheels. The frame shall be constructed to be easily dismantled for transporting. The profilograph shall be constructed from aluminum, stainless steel and chromed parts. The end support wheels shall be arranged in a staggered pattern such that no two wheels cross a transverse joint at the same time. The relative smoothness shall be measured by the vertical movement of an eight (8) inch or larger diameter sensing wheel at the midpoint of the 25-foot frame. The horizontal distance shall be measured by a twenty (20) inch or larger diameter pneumatic wheel. This profile shall be the mean elevation referenced to the twelve points of contact with the pavement established by the support wheels. Recorded graphical trace of the profile shall be on a scale of one inch equals one inch (full scale) vertical motion of the sensing wheel and one inch equals 25 feet horizontal motion of the profilograph.

907-804.03.19.7.5.1.3--Computer Requirements. The computer shall have the ability to produce output on sight for verification. The computerized output shall indicate the profile index for each specified section of bridge deck. Variable low and high pass third-order Butterworth filtering options shall be available. The printout shall be capable of showing station marks automatically on the output. Blanking band positioning for each specified section of the bridge deck shall be placed according to the least squares fit line of the collected data. Variable bump and dip tests shall be available to show "must correct" locations on the printout. The computer must have the ability to display on screen "must correct" conditions and alert the user with an audible warning when a "must correct" location has been located. The computer must have the ability to store profile data for later reanalysis. The measurement program must be menu driven and PC compatible. User selected options, identification, calibration factors, and time and date stamps shall be printed at the top of each printed report for verification. The control software must be upgradeable. A power source shall be included for each profilograph and be capable of supplying all power needs for a full days testing.

907-804.03.19.8--Finishing Horizontal Surfaces of Footings or Top Slabs of Box Bridges, Culverts, or Other Structures. The finishing of horizontal surfaces of footing or top slabs of box bridges, culverts, or other structures shall be achieved by placing an excess of material in the form and removing or striking off the excess with a template, forcing the coarse aggregate below the mortar surface. After the concrete has been struck off the surface shall be given a Class 6 finish.

907-804.03.19.9--Finishing Exposed Surfaces of Sidewalks. After the concrete has been deposited in place it shall be consolidated and the exposed surface shall be given a Class 6 finish. An edging tool of the required radius shall be used on all edges and at all expansion joints. The surface shall have a granular texture which will not be slick when wet.

Sidewalk surfaces shall be laid out in blocks with an approved grooving tool as shown on the plans or as directed.

907-804.03.20--Opening Bridges.

907-804.03.20.1--Public Traffic. Unless otherwise specified, concrete bridge decks shall be closed to public highway traffic for a period of at least 21 days after placing concrete.

907-804.03.20.2--Construction Traffic. Unless otherwise specified, concrete bridge decks shall be closed to construction traffic for the time required for curing in Subsection 907-804.03.17 and the minimum required compressive strength for the concrete placed is obtained.

907-804.03.21--Final Cleanup. Upon completion of the work all equipment, surplus materials, forms, and waste material shall be removed, the bridge cleaned, and the site of the work given a final cleanup.

907-804.03.22--Precast-Prestressed Concrete Bridge Members.

907-804.03.22.1--General. All installations and plants for the manufacture of precast-prestressed bridge members shall be PCI (Precast / Prestressed Concrete Institute) Certified. Bridge members manufactured in plants or installations not so approved will not be accepted for use in the work. The Contractor or other manufacturer shall employ a technician skilled in the adopted system of prestressing to supervise the manufacturing operations. This technician shall be certified according to the guidelines of this specification. The Contractor shall develop and implement a Quality Control Program as per Division I of PCI Quality Control Manual, 4th Edition. The Quality Control Program shall be submitted to the District Materials Engineer for approval.

907-804.03.22.2--Stressing Requirements. The jacks for stressing shall be equipped with accurate calibrated gauges for registering the jacking pressure. Means shall be provided for measuring elongation of strands to at least the nearest 1/16 inch.

Prior to beginning work, the Contractor or manufacturer shall have all jacks to be used, together with their gauges, calibrated by an approved laboratory. All jacks and gauges shall have an accuracy of reading within two percent. The testing agency shall furnish the Engineer a statement certifying that the jacks and gauges meet this requirement. During the progress of the work, if a gauge appears to be giving erratic results or if the gauge pressure and elongations indicate materially differing stresses, recalibration will be required.

Calibration of jacks and gauges shall be repeated at intervals deemed necessary by the Engineer. These intervals for calibration shall not exceed one year.

Shop drawings of prestressed beams, including an erection plan, shall be submitted in duplicate to the Bridge Engineer for approval prior to manufacture of members.

907-804.03.22.2.1--Methods. Plans for the particular bridge members will show prestressing by one of the following methods:

(A) Pretensioning. The prestressing strands are stressed initially. After the concrete is placed, cured, and has attained the compressive strength shown on the plans, the stress is transferred to the member. The method used for pretensions shall be in accordance to Division V of PCI Quality Control Manual, 4th Edition.

(B) Posttensioning. The posttensioning tendons are installed in voids or ducts and are stressed and anchored after development of the compressive strength specified on the plans. The voids or ducts are then pressure grouted.

(C) Combined Method. Part of the reinforcing is pretensioned and part posttensioned. Under this method all applicable requirements for the two methods specified shall apply to the respective stressing elements being used.

907-804.03.22.2.2--Alternate Details for Prestressed Members. In the event that the Contractor / Manufacturer desires to use materials or methods that differ in any respect from those shown on the plans or described in these specifications, the Contractor shall submit for approval full plan details on acceptable tracings suitable for reproduction and specifications which shall become the property of the Department. In order for alternate materials and/or methods to be considered, they will be required to comply fully with the following:

- A. Provisions equal to those stipulated in these specifications.
- B. Current AASHTO Specifications.
- C. Recommendations of materials manufacturer.
- D. Camber tolerance of beams and spans shown on plans.

Note: Alternate materials and methods will not be authorized on Federal-Aid Projects.

The Engineer shall be the sole judge as to the adequacy and propriety of any variation of materials or methods.

907-804.03.22.2.3--Stressing Procedure.

(A) General. Stressing shall be performed by suitable jacks working against unyielding anchorages and capable of maintaining the required stress for an indefinite period without movement or yielding. Strands may be stressed singularly or in a group.

The tension to be applied to each strand shall be as shown on the plans. The tension shall be measured by both jacking gauges and elongations in the strands and the result shall check within close limits.

It is anticipated that there will possibly be a difference in indicated tension between jack pressure and elongation of about five (5) percent. In this event, the discrepancy shall be placed on the side of slight overstress rather than understress.

In the event of an apparent discrepancy between gauge pressure and elongation of as much as five (5) percent, the entire operation shall be carefully checked, and the source of error determined before proceeding further.

Elongation is to be measured after the strands have been suitably anchored, and all possible slippage at the anchorages has been eliminated.

In all stressing operations, the stressing force shall be kept as nearly symmetrical about the vertical axis of the member as practicable.

(B) Pretensioning. All strands to be prestressed shall be brought to a uniform initial tension prior to being given their full pretensioning. This uniform initial tension of approximately 1000 to 2000 pounds shall be measured by suitable means such as a dynamometer so that its value can be used as a check against elongation computed and measured.

After the initial tensioning, the strand or group shall be stressed until the required elongation and jacking pressure is within the limits specified.

When the strands are stressed in accordance with the plan requirements and these specifications and all other reinforcing is in place, the concrete shall be placed in the prepared forms.

Strand stress shall be maintained until the concrete between anchorages has attained the required compressive strength as determined by cylinder tests, after which the strands shall be cut off flush with the ends of column members, and cut as shown on the plans for beams, girders, etc. Strands shall be cut or released in such a manner that eccentricity of prestress will be kept to a minimum and no damage to the member will result. The strand cutting pattern shall be as shown on the plans or as approved by the Bridge Engineer.

(C) Posttensioning. For all posttensioning tendons/bars the anchor plates shall set exactly normal in all directions to the axis of the tendon/bar. Parallel wire anchorage cones shall be recessed within the beams. Tensioning shall not take place until the concrete has reached the compressive strength shown on the plans.

Elongation and jacking pressures shall make appropriate allowance for all possible slippage or relaxation of the anchorage. Posttensioning tendons/bars shall be stressed in the order and manner shown on the plans.

The units shall be tensioned until the required elongations and jacking pressures are attained and reconciled within the limits specified in Subsection 907-804.03.22.2.3(A) with such overstresses as approved by the Engineer for anchorage relaxation.

Independent references shall be established adjacent to each anchorage to indicate any yielding or slippage that may occur between the time of initial stressing and final release of the strands.

Straight tendons/bars may be tensioned from one end. Unless otherwise specified, curved tendons shall be stressed by jacking from both ends of the tendons.

(D) Combined Method. In the event that girders are manufactured with part of the reinforcement pretensioned and part posttensioned, the applicable portions of the requirements listed herein shall apply to each type.

907-804.03.22.3--Manufacture.

907-804.03.22.3.1--Forms. The forms used for precast-prestressed bridge members shall meet the requirements of Division II of the PCI Quality Control Manual, 4th Edition.

907-804.03.22.3.2--Placing and Fastening Steel. Placing and fastening of all steel used for precast-prestressed bridge members shall meet the requirements of Division V of the PCI Quality Control Manual, 4th Edition.

907-804.03.22.3.3--Holes for Prestressing Tendons/Bars. Holes provided in girders for prestressing tendons/bars shall be formed by means of inflatable rubber tubing, flexible metal conduit, metal tubing, or other approved means.

907-804.03.22.4--Placing and Curing Concrete.

907-804.03.22.4.1--Placing. The placing of concrete shall meet the applicable requirements of Division III of PCI Quality Control Manual, 4th Edition.

907-804.03.22.4.2--Curing. Initial and accelerated curing of all members shall meet the applicable requirements of Division IV of PCI Quality Control Manual, 4th Edition except for the following listed requirements.

The source of heat for accelerated cure shall be steam. Calibrated thermocouples shall be implanted into the concrete members to monitor areas expected to have maximum and minimum heat. Curing methods and procedures listed in the prestress producer's PCI Quality System Manual shall be approved by the Department before their implementation.

907-804.03.22.4.3--Removal of Side Forms. Side forms may be removed after the concrete has attained sufficient strength to maintain a true section. In order to obtain "sufficient strength", it may be necessary to cure members for 12 hours or more as prescribed in Subsection 907-804.03.22.4.2, or to attain a minimum compressive strength of 1000 psi.

If high-early-strength concrete is obtained by use of low slump (0 to 1.5-inch) concrete, vacuum process, or other approved methods, side forms may be removed earlier; however, approval of the methods and revision from normal schedules will be made only after inspections by the District Materials Engineer and Materials Division have determined that satisfactory results will be attained by the methods and schedules proposed.

907-804.03.22.4.4--Grouting. The holes through posttensioned members in which the tendons are installed shall be equipped with approved grouting vents. All prestressing tendons to be bonded shall be free of dirt, loose rust, grease, or other deleterious substances. Before grouting, the ducts shall be free of water, dirt, and other foreign substances. The ducts shall be blown out with compressed air until no water comes through the ducts. For long members with draped tendons an open tap at low points may be necessary. After completion of stressing, the annular space between sides of tendon and sides of hole shall be grouted as set in the following paragraphs.

With the grouting vent open at one end of the core hole, grout shall be applied continuously under moderate pressure at the other end until all entrapped air is forced out through the open grout vent, as evidenced by a steady stream of grout at the vent. Whereupon, the open vent shall be closed under pressure. The grouting pressure shall be gradually increased to a refusal of at least 75 psi and held at this pressure for approximately 10 seconds, and the vent shall then be closed under this pressure.

Portland cement grout shall consist of a mixture of:

- 1 part Type 1 portland cement
- 1/4 part fly ash
- 3/4 part washed sand *
- 4 to 6 gallons of water per bag of cement.

* all passing No. 16 sieve and not more than 5% retained on No. 30

Water-reducing admixtures, subject to approval by the Engineer, shall be used in accordance with the manufacturer's recommendations.

The grout shall be mixed in a mechanical mixer, shall have the consistency of heavy paint, and shall be kept agitated until placed.

Members shall not be moved before the grout has set, ordinarily at least 24 hours at 80°F or higher.

907-804.03.22.5--Finishing and Marking. Units shall be given a Class 1 finish at the plant and shall be given a Class 2 finish after erection when required.

Recesses in girders at end of diaphragm bars, holes left by form ties, and other surface irregularities shall be carefully cleaned and patched with an approved non-shrink commercial grout or a non-shrinkage mortar of the following composition:

- 1 part Type 1 portland cement
- 1 1/2 to 2 parts fine sand
- 1/2 to 3/4 ounces aluminum powder per bag of cement
- Approved admixture per Subsection 713.02.
- Sufficient water to produce a workable but rather stiff mix.

The units shall be clearly marked in accordance with Department's *Materials Division Inspection, Certification and Testing Manual*.

907-804.03.22.6--Handling, Storage, and Installation. Posttensioned members may be handled immediately after completion of stressing and grout has set. Pretensioned members may be handled immediately after release of tensioning. In either case, the members shall have developed a minimum compressive strength of 4000 psi prior to handling. In the event stressing is not done in a continuous operation, members shall not be handled before they are sufficiently stressed, as determined by the Engineer, to sustain all forces and bending moments due to handling. In the

handling, storage, and transporting of beams or girders, they shall be maintained in an upright position (position as cast) at all times and shall be picked up from points within distance from beam ends equal to beam depth or at pick-up points designated on the plans. Disregard of this requirement and dropping of units may be cause for rejection, whether or not injury to the unit is apparent. Piles shall be picked up and loaded for shipment at points shown by the suspension diagram on the plans. Extreme care shall be used in handling and storing piles to prevent damage. The dropping of a pile may be cause for rejection of same, whether or not there is apparent injury to the member.

Care shall be exercised during the storage, hoisting, and handling of precast units to prevent damage. Damaged units shall be replaced by the Contractor at no additional costs to the State.

When members are stacked for storage, each layer shall be supported at or near the pick-up points. Supports shall be carefully placed in a vertical line in order that the weight of any member will not stress an underlying member. To prevent damage in moving members it is suggested that rigid supports be covered with a cushion of wood or other resilient material.

Members shall not be transported until at least one day after the concrete has reached a compressive strength of 5000 psi or greater strength when shown on the plans.

Piles used in salt water shall not be driven until concrete is seven days old, and air-entrained concrete shall be used in such piles.

After prestressed concrete voided slab units are set, doweled and bolted in their final position the keyways and dowel holes shall be filled with an approved non-shrink grout. Traffic shall not be permitted on the spans for 24 hours after grouting, and heavy construction equipment exceeding 15 tons will not be permitted on the spans for a period of 72 hours after grouting.

Adjacent slab units that mismatch more than one-fourth inch shall be adjusted prior to grouting of the shear keys. The maximum deviation from cross-section and grade (exclusive of camber) at any point shall not exceed one-fourth inch; and when the surface is checked with a ten-foot straightedge applied both parallel and perpendicular to the centerline, the variance shall not exceed one-fourth inch.

In addition to the requirements set out in this section, the applicable requirements of Section 803 shall apply.

907-804.03.22.7--Tolerances for Accepting Precast Prestressed Concrete. Member shall meet the dimension tolerances set by Division VII of PCI Quality Control Manual, 4th Edition.

907-804.03.22.8--Testing of Materials. Concrete and aggregate testing shall meet the requirements of Division VI of PCI Quality Control Manual, 4th Edition, except that the concrete mixture design shall meet the requirements of Subsection 907-804.02.10. Also, in addition to concrete compressive tests samples made for detensioning and 28-day strength, test samples shall be made and tested in order to prove compliance to the requirements of Subsection 907-804.03.22.6 for handling and shipping prestressed members. Compressive strength test cylinders

for detensioning, handling and shipping shall receive the same type curing as the prestressed members for which they represent. Compressive strength samples shall be made each day for each prestress casting bed.

907-804.03.22.9--Testing Personnel. Technicians testing portland cement concrete used in the production of precast-prestressed members shall be PCI Quality Control Technician/Inspector Certified. Each producer of precast-prestressed members shall have at least one PCI Level II certified technician on site during production for Department projects.

907-804.03.22.10--Documentation. The Precast-Prestressed Producer for each precast-prestressed concrete bridge member shall maintain documentation as set forth in the Department's *Materials Division Inspection, Certification and Testing Manual*. Testing and inspection record forms shall be approved by the Central Laboratory and as a minimum contain information listed in Division VI of PCI Quality Control Manual, 4th Edition.

907-804.03.22.11--Use in the Work. Before any precast-prestressed member is incorporated into the work, documentation as described in Subsection 907-804.03.22.10 is required along with visual inspection of the member at the bridge construction site. Project Office personnel as per the Department's *Materials Division Inspection, Certification and Testing Manual* will make visual inspection of the precast-prestressed member at the bridge construction site.

907-804.04--Method of Measurement. Concrete, complete and accepted, will be measured in cubic yards. The concrete volume will be computed from the neat dimensions shown on the plans, except for such variations as may be ordered in writing by the Engineer. The quantity of concrete involved in fillets, scorings, and chamfers one square inch or less in cross-sectional area will be neglected. Deductions shall be made for the following:

- (1) The volume of structural steel, including steel piling encased in concrete.
- (2) The volume of timber piles encased in concrete, assuming the volume to be 0.80 cubic foot per linear foot of pile.
- (3) The volume of concrete piles encased in concrete.

No deduction will be made for the volume of concrete displaced by steel reinforcement, floor drains, or expansion joint material that is one inch or less in width normal to the centerline of the joint. Where railing is bid as a separate item, that portion of the railing above the top of the curb, above the surface of the sidewalk, or above the bridge roadway, as the case may be, will not be included in the measurement of concrete, but will be measured as railing. Massive pylons or posts which are to be excepted from payment for railing and are intended to be measured for as concrete will be so noted on the plans.

When shown on the plans or directed by the Engineer, concrete placed as a seal for cofferdams will be measured by the cubic yard actually in place, except that no measurement will be made of seal concrete placed outside of an area bounded by vertical planes 18 inches outside the neat lines of the footing as shown on the plans or as directed and parallel thereto.

Reinforcing steel will be measured and paid for in pounds as set out in Section 805.

Unless otherwise specified, structural steel will be measured and paid for as set out in Section 810.

Excavation for bridges will be measured and paid for as in Section 801.

Piling will be measured and paid for as set out in Sections 802 and 803.

Railing will be measured and paid for as set out in Section 813.

Prestressed concrete beams and plank will be measured by the linear foot.

Prestressed concrete voided slab units, interior and exterior with railing, and precast concrete caps, intermediate and end cap with winged abutment wall, of the size and type specified will be measured by the unit complete in place and accepted. Railing, winged abutment walls, grout, tie rods, nuts, washers, bearing pads and other appurtenances will not be measured for separate payment.

907-804.05--Basis of Payment. Concrete will be paid for at the contract unit price per cubic yard for the class or classes specified, complete in place. Prestressed concrete beams and plank will be paid for at the contract unit per linear foot of specified size and type.

Prestressed concrete voided slab units and precast caps will be paid for at the contract unit price per each for the specified types and sizes, complete in place and accepted; which price shall be full compensation for furnishing, hauling and erecting the members; including all prestressing reinforcement and other reinforcement in the members. Payment at the contract unit prices bid shall be full compensation for furnishing all materials, equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

907-804-A: Bridge Concrete, Class ____	- per cubic yard
907-804-B: Box Bridge Concrete, Class ____	- per cubic yard
907-804-C: <u>Length</u> Prestressed Concrete Beam, Type ____	- per linear foot
907-804-D: <u>Length</u> Prestressed Concrete Plank	- per linear foot
907-804-E: <u>Length</u> Prestressed Concrete Voided Slab, <u>Size</u> Interior	- per each
907-804-F: <u>Length</u> Prestressed Concrete Voided Slab, <u>Size</u> Exterior	- per each
907-804-G: <u>Length</u> Precast Concrete Caps, End Unit with Wall	- per each
907-804-H: <u>Length</u> Precast Concrete Caps, Intermediate Unit	- per each



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-403

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Authorize Mayor to execute Payment and Forbearance Agreement for City of Hattiesburg with Stion Corporation and Forrest County, MS

Title: Authorize Mayor to execute Payment and Forbearance Agreement for City of Hattiesburg with Stion Corporation and Forrest County, MS, for payment of Stion's Fee-in-Lieu of Ad Valorem Taxation (FIL) obligations, with monthly payments of \$75,000 to begin May 10, 2017.

Type: Action Item

Drafter: Debbie Bernardo

In Control: City Council

Reference:

Attachments: Stion Payment and Forbearance Agreement 5-2-17

File Created: 04/28/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

PAYMENT AND FORBEARANCE AGREEMENT

THIS PAYMENT AND FOREBEARANCE AGREEMENT (this "Agreement"), is effective as of _____, 2017, by and among STION CORPORATION, a Delaware corporation with its principal place of business at 95 W.L. Runnels Industrial Drive, Hattiesburg, Mississippi 39401 ("Stion"), the CITY OF HATTIESBURG, MISSISSIPPI, a political subdivision of the State of Mississippi acting by and through its Mayor and City Council, (the "City"), and FORREST COUNTY, MISSISSIPPI, a political subdivision of the State of Mississippi acting by and through its Board of Supervisors, with reference to the following facts, which facts are acknowledged by the parties hereto to be accurate and complete in all material terms and respects and which are a substantive part of this Agreement:

RECITALS:

- A. Stion, the City and the County are parties to that certain Fee-in-Lieu of Ad Valorem Taxation Agreement dated as of May 23, 2013, (the "FILA").
- B. The FILA provides, as allowed under Section 27-31-104 of the Mississippi Code, that in lieu of ad valorem taxes, Stion would pay, on or before February 1 of each year during the term of the FILA, a fee computed in accordance with the FILA (the "FIL").
- C. The first FIL amount was due on February 1, 2014 in the amount of \$778,165.10; the FIL amount due in 2015 totaled \$654,646.45; the FIL amount due in 2016 totaled \$545,368.76; and the FIL amount due in 2017 totaled \$355,174.05.
- D. Despite steady sales, economic difficulties have prevented Stion from having cash flow sufficient to pay these amounts, and Stion acknowledges that it is \$2,333,354.36 in arrears on FIL amounts owed.
- E. Stion believes it can make payments from its cash flow to eliminate the arrearage and bring its obligations current under the FILA, and Stion proposes to pay monthly sums of \$75,000 to the City and the County for this purpose (the "Payments") in exchange for an agreement from the City and the County to forbear from taking legal action to collect the past due FIL payments.
- F. The City and the County have found, adjudged and determined that it is in their best interest to accept the Payments and to enter into the forbearance agreement contained in this Agreement.

NOW THEREFORE, in consideration of the premises and of the promises and the mutual covenants herein contained and intending to be legally bound, Stion, the City and the County, being all of the necessary parties hereto (the "Parties"), hereby agree as follows:

1. MONTHLY PAYMENTS. Beginning on May 10, 2017, and on or before the tenth day of each subsequent calendar month until termination of this Agreement as provided herein, Stion shall pay to the Forrest County Tax Collector for the benefit of the City and the County the sum of Seventy-Five Thousand Dollars (\$75,000.00) (the "Monthly Payment"), which amount will be credited against the outstanding FIL payments owed to the City and the County by Stion. Each payment shall be credited against the oldest outstanding FIL amount owed.

2. FORBEARANCE. So long as no Event of Default (as hereinafter defined) shall have occurred, the City and the County will not take any action, including any legal action, against Stion to collect amounts owed by Stion under the FILA or to enforce the payment provisions of the FILA.

3. TERMINATION. This Agreement shall automatically terminate without further act or instrument upon the earlier to occur of (a) payment in full by Stion of all past due FIL payments or, (b) the occurrence of an Event of Default hereunder.

4. EVENT OF DEFAULT. The failure by Stion to make any Monthly Payment by the due date thereof and to cure such delinquency by the seventh business day after such due date shall constitute an Event of Default under this Agreement.

5. FINANCIAL STATEMENTS. During the term of this Agreement, Stion will make its financial statements available for inspection by the City and County at Stion's offices in Hattiesburg, Mississippi, upon reasonable advance request. The City and County agree that such financial statements are confidential business records of Stion and to use their best efforts to maintain the confidentiality of such records.

6. NO FURTHER FORBEARANCE IMPLIED. Nothing herein shall constitute or be deemed to constitute an obligation or agreement on the part of the City or the County, express or implied, to further forbear the exercise of any rights and remedies they may have beyond the termination of this Agreement.

7. REMEDIES. Upon termination of this Agreement, the City and the County shall have the right to exercise any and all rights and remedies available to them under the FILA or under applicable law as though this Agreement had not been executed.

8. FILA STILL IN FORCE. Notwithstanding anything to the contrary in this Agreement, the FILA remains in full force and effect in accordance with its terms and conditions, as valid and binding obligations of the Parties, except as modified herein, and are otherwise hereby reaffirmed and ratified by the Parties.

9. AMENDMENT. Neither this Agreement nor any of the provisions hereof can be changed, waived, discharged or terminated, except by an instrument in writing signed by the party against whom enforcement of the change, waiver, discharge or termination is sought.

10. SEVERABILITY. If any clause or provision of this Agreement is determined to

be illegal, invalid or unenforceable under any present or future law, the remainder of this Agreement will not be affected thereby. It is the intention of the Parties that if any such provision is held to be illegal, invalid or unenforceable, there will be added in lieu thereof a provision as similar in terms to such provision as is possible for the added provision to be legal, valid and enforceable.

11. **SUCCESSORS AND ASSIGNS.** This Agreement shall be binding on and inure to the benefit of the Parties and their respective successors and assigns.

IN WITNESS WHEREOF, the Parties have caused this document to be executed by their duly authorized officers as of the date first above written.

STION CORPORATION

By: _____
Chester Farris, President

FORREST COUNTY, MISSISSIPPI

By: _____
David Hogan, President, Board of Supervisors

CITY OF HATTIESBURG, MISSISSIPPI

By: _____
Johnny L. DuPree, Ph.D., Mayor



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-395

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Authorize Mayor to execute a service contract wi

Title: Authorize Mayor to execute a service contract with Innovative Solutions, LLC for maintenance on medical equipment for the Hattiesburg Fire Department.

Type: Action Item

Drafter: Linda
Montgomery

In Control: City Council

Reference: Paul Presley

Attachments: Cover Letter, Contract-2017

File Created: 04/25/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

**Innovative Service Solutions, LLC
21 Elms Court
Hattiesburg, MS 39402
(601) 261-0627 (Office), (601) 264-7679 (Fax)**

April 27, 2017

Lieutenant Robert Daniels
Hattiesburg Fire and Rescue Department
Post Office Box 1898
Hattiesburg, MS 39402-1898

Re: Contract # 2007-5/520-523 / AED Service Contract Addendum

Dear Lieutenant Daniels:

Enclosed find a current and updated Schedule "A" and Schedule "B", part of the Agreement by and between Innovative Service Solutions, LLC (ISS) and Hattiesburg Fire Department for medical equipment maintenance services to be performed by ISS on behalf of Hattiesburg Fire Department.

Please replace the existing Schedule "A" with this updated Schedule "A".

Because of the additional medical equipment, please note an annual contract price increase on Schedule "B". As you are aware, we last made an adjustment to the annual contract in April 2014. With that said, ISS continues to do our utmost to provide quality service while controlling and minimizing cost.

If you are in agreement, please sign Schedule "B" and return a copy to this office for our records.

Once again we thank you for giving us the opportunity to earn your business and should further discussion be needed, please contact me at your convenience.

Sincerely,

Robert H. Ward, Jr.
Owner

rlw/RHW

"A Frontline Biomedical Company"

SCHEDULE 'A'
EQUIPMENT INVENTORY

Innovative Service Solutions, LLC, referred to in this Agreement as ISS, agrees to render service to:

HATTIESBURG FIRE DEPARTMENT
53 Academy Drive
Hattiesburg, MS 39401
Office (601) 545-4650
Fax (601) 545-4652

referred to in this Agreement as Customer.

COVERED EQUIPMENT

ID#	Manufacturer	Model	Description	Inspections
0001	Zoll	AED Plus	AED	Semi-Annual
0002	Zoll	AED Plus	AED	Semi-Annual
0003	Zoll	AED Plus	AED	Semi-Annual
0004	Zoll	AED Plus	AED	Semi-Annual
0005	Zoll	AED Plus	AED	Semi-Annual
0006	Zoll	AED Plus	AED	Semi-Annual
0007	Zoll	AED Plus	AED	Semi-Annual
0008	Zoll	AED Plus	AED	Semi-Annual
0009	Zoll	AED Plus	AED	Semi-Annual
0010	Zoll	AED Plus	AED	Semi-Annual
0011	Zoll	AED Plus	AED	Semi-Annual
0012	Zoll	AED Plus	AED	Semi-Annual

THANK YOU FOR YOUR BUSINESS!

INNOVATIVE SERVICE SOLUTIONS, LLC, Hattiesburg, MS 39402
(601) 261-0627 (Office) (601) 264-7679 (Fax)

A "FRONTLINE" BIOMEDICAL COMPANY

SCHEDULE 'B'

AGREEMENT TERM AND PAYMENT

Innovative Service Solutions, LLC, referred to in this Agreement as ISS, agrees to render service to:

HATTIESBURG FIRE DEPARTMENT
53 Academy Drive
Hattiesburg, MS 39401
Office (601) 545-4650
Fax (601) 545-4652

referred to in this Agreement as Customer.

CONTRACT TERM

1 Year (\$2,280.00 / Annual)

PAYMENT INTERVAL

Billed Semi Annually (\$1,140.00)

HATTIESBURG FIRE DEPARTMENT

By:_____

(Print):_____

Title:_____

Date:_____

THANK YOU FOR YOUR BUSINESS!

INNOVATIVE SERVICE SOLUTIONS, LLC, Hattiesburg, MS 39402
(601) 261-0627 (Office) (601) 264-7679 (Fax)

A "FRONTLINE" BIOMEDICAL COMPANY



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-404

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Designate the Best of the Pine Belt awards gala Sa

Title: Designate the Best of the Pine Belt awards gala Saturday, June 3, 2016, at the Saenger Theater as a City-approved event for the purposes described in Ordinance Number 3148.

Type: Action Item

Drafter: Debbie Bernardo

In Control: City Council

Reference:

Attachments: E-mails, D. Gustafson, Best of Pinebelt 2017

File Created: 04/28/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

Bernardo, Debbie

From: David Gustafson <david@hubcityspokes.com>
Sent: Tuesday, April 25, 2017 5:32 PM
To: Bernardo, Debbie
Subject: Re: Best of the Pine Belt Award Show

Hi Debbie,

It's that time of the year again. Could you please put this request on the council agenda for the first meeting in May?

I'm emailing today to formally request the city council authorize our Festival South kickoff event – the "Best of the Pine Belt" awards gala on Saturday, June 3 at the Saenger Theater as an **official city-sanctioned event**. It's going to be a fun evening as we spotlight some of Hattiesburg's best and brightest as an official kickoff to our two-week FestivalSouth event.

As part of our event, we would like to request closure of Forrest Street between W. Front St. and W. Pine St. from the hours of 4 p.m. to 9 p.m. with the understanding that we would keep the southbound lane of traffic open until 5 p.m. to accommodate travel/parking for City Hall.

We've been working with the folks at the Saenger to coordinate the event, which will include them setting up a bar outside in the street to service patrons during our pre-event street party that begins at 6 p.m. Once the inside event begins at 7:30 p.m., the bar will be shut down and the street cleared for thru traffic. We expect it be a very calm event without much alcohol consumption.

If possible, I'd also like to again seek permission for our DJ to set up on the steps of City Hall with his speakers pointing towards the street and the Saenger. We'd also like to request permission for him to have access to a single electrical outlet at City Hall to power his gear. Last year, we utilized power from one of the light poles out front.

Please let me know what else I might need to do to make this request on behalf of Festival South and the Hattiesburg Concert Association.

Thanks much...

David Gustafson, Editor/Publisher
Lamar Times • Hattiesburg Post • Petal News
Signature Magazine • Southern Magazine
HubCitySPOKES.com • PineBeltSPORTS.com

103 N. 40th Ave. • Hattiesburg, MS 39401
(601) 268-2331 tel • (601) 268-2965 fax

Bernardo, Debbie

From: David Gustafson <david@hubcityspokes.com>
Sent: Wednesday, April 26, 2017 4:04 PM
To: Bernardo, Debbie
Subject: Re: Best of the Pine Belt Award Show

Debbie,

I inadvertently sent the wrong times to request the street closure on Saturday, June 3 for the Best of the Pine Belt award show.

As part of our event, we would like to request closure of Forrest Street between W. Front St. and W. Pine St. from the hours of 1 p.m. to 9 p.m.

Thanks again.

David R. Gustafson, Editor/Publisher
HubCitySPOKES: A Publishing Company
(601) 268-2331 office (601) 268-2965 fax

From: David Gustafson <david@HubCitySPOKES.com>
Date: Tuesday, April 25, 2017 at 5:32 PM
To: "Bernardo, Debbie" <dbernardo@hattiesburgms.com>
Subject: Re: Best of the Pine Belt Award Show

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(601) 268-2331 tel • (601) 268-2965 fax



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-388

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Certify and Designate Breakthrough Community Servi

<u>Title:</u> Certify and Designate Breakthrough Community Services, Inc. as a Community Housing Development Organization and authorize the Mayor to execute..
--

Type: Action Item

Drafter: Clarence Williams

In Control: City Council

Reference:

Attachments: Certificate of Designation of Breakthrough Community Services, Inc. as a Community Housing Development Organization, CHDO Cetitfication and CHDO Capacity

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

CERTIFICATE OF DESIGNATION

CITY OF HATTIESBURG

COMMUNITY HOUSING DEVELOPMENT ORGANIZATION

This is to certify that Breakthrough Community Services, a 501 C (3) organization, has by submission of the required and necessary documentation to the Hattiesburg City Council on May 2, 2017, met the requirements to receive designation as a certified City of Hattiesburg Community Housing Development Organization.

The designation will expire May 2, 2018.

Johnny L. DuPree, Mayor

Kermas Eaton, City Clerk

State of Mississippi County of Forrest
Subscribed and sworn to before me on
The ____ day of _____, 2017.

Notary Public

Commission Expiration Date



Breakthrough Community Services, Inc.
1313 Country Club Road
Hattiesburg, MS 39401
Telephone: (601) 582-3475

CHDO Applicant's Certification

CHDO APPLICANT'S CERTIFICATION

The Undersigned hereby acknowledges and certifies to the City of Hattiesburg Department of Federal and State Programs (the "City"), individually and on behalf of the CHDO (the "Applicant") as part of this application for HOME CHDO set-aside funds in the amount of **\$58,000** for the development of 1 housing unit(s).

The CHDO certifies the following:

1. The information contained in the Application, including all statements and certifications attached hereto, is true and correct and has been prepared with due diligence. The Applicant has an affirmative duty to notify the City about any changes to the information contained in the Application or to the CHDO organization. The Applicant knows of no facts or circumstances that would threaten or adversely affect the Development and cause the information in the Application to be incorrect or misleading. The City or its agents may make verification of information contained in the Application at any time.
2. The Applicant agrees to indemnify and hold harmless the City, its members, officers, employees and agents, from and against, any and all claims, suits, damages, costs and expenses arising out of the City's review of and decisions with regard to the Application. City analysis and review of the Application and related documentation is for its own purposes. A commitment does not exist until the City has approved project-specific agreement and the Applicant has accepted such agreement.
3. Misleading information or misrepresentation contained in the Application may result in the termination of the underwriting/approval process, a revocation of approval and/or prohibition from participation in City programs.
4. The Contract Documents when entered into by the City and the Applicant shall supersede all discussions, negotiations and agreements about the Application.
5. The execution and delivery of the Application and this document is duly authorized and binding on the Applicant.

Date: January 23, 2017

Breakthrough Community Services, Inc.

Name of CHDO Organization

Arthur L. Sigler

Signature of Executive Director

Gene P. Nee

Signature of Chairman



Breakthrough Community Services, Inc.
1313 Country Club Road
Hattiesburg, MS 39401
Telephone: (601) 582-3475

CHDO Capacity Assessment

CHDO Capacity Assessment

Organization: Breakthrough Community Services, Inc.	
Address: 1313 Country Club Road Hattiesburg, MS 39401	Funding year: 2017
Contact Person: Dequandra Johnson	Title: Housing Counselor
Phone: (601) 582-3475	Email address: dequandramobc@aol.com

Please answer the following questions to the best of your ability. Do not leave any question blank. If not applicable or information not available, please state so in the applicable section. The information provided in this document will be used to determine if your organization has the capacity to develop the proposed project. Your organization is required to attach all documents requested as exhibits, if applicable.

1. Staff classification and documentation - To be counted as staff, the person must be employed by the CHDO, and documentation is needed.
 - a. Provide a list of all full time or part time employees. Exhibit 1-Attach resumes in addition to a payroll report or a W-4 or a W-2.

Dequandra Johnson, full time employee *W-2 attached

- b. Provide a list of contracted staff. Exhibit 2-Provide a copy of the contract for employment and a W-9 and 1099 issued at end of year for contracted staff.

N/A

2. Relevant development experience – Document the basis for answers to the applicable project type.

- a. Homeownership development

Describe how staff persons have been involved in the acquisition, rehabilitation/construction and sale of homebuyer housing. Previous experience purely in counseling, marketing, or financing activities is not sufficient to be considered development experience. Exhibit 3-List properties developed by address, date project completed, total development cost, date sold to a buyer, and sales price.

As a CHDO, Breakthrough Community Services has participated in the development of five (5) homes and completed substantial rehabilitation and emergency repairs of over twenty-nine (29) homes. Our staff has been involved in every step of this process; from property/land acquisition, construction overseeing, case management, and rental and sales of homes. Our agency also offers financial literacy and homebuyer education courses for individuals who are interested in homeownership and have attended one of our workshops we were able to prepare individuals for homeownership opportunities. In addition, in the past participants of these workshops, applied for new construction homes that Breakthrough had developed and were able to provide homeownership opportunities to four (4) families.

- b. Rental development

Describe how staff persons have been involved in the acquisition, rehabilitation/construction and/or ownership/operation of rental housing? Exhibit 4-List projects by location, number of units, total project cost, date of project completion.

As a non-profit and community organization, Breakthrough Community Services receives numerous inquiries from people within the local community and surrounding cities and often other states for assistance.

Developer Capacity & Fiscal Soundness

3. Past and current performance

- a. Has the CHDO performed adequately in the past in HOME, CHDO, and/or other real estate development activities? Exhibit 6-Provide monitoring letters for past projects.

Yes, Breakthrough Community Services was designated as a CHDO we have partnered with the City of Hattiesburg for numerous projects, including projects that were not CHDO related such as the Interim Assistance Grant to provide Utility Assistance to eligible limited applicants.

- b. Is the CHDO currently in good standing on all its development and administrative activities? Does it show the capacity to take on this additional activity and continue to manage everything that it has ongoing? Exhibit 7-Attach letters from funders that the organization is on good standing.

Yes, currently our organization has partnered with the City of Hattiesburg to provide emergency repairs to over ten (10) homes.

4. Capacity – CHDO Organization

- a. Organizational structure – Can the current corporation structure support housing development activities, or is there a need for a subsidiary or other organizational structure for future development? Are there operations or activities that need to be organizationally separate from housing development activities and portfolios? Exhibit 8-Attach an organizational chart.

Yes, see attached organizational chart

- b. Management structure/practices – Does the current management have the ability to manage additional development activities? Are the corporate lines of authority for development activities clear? Are policies & procedures in place governing development activities? Exhibit 9- Attach policies and procedures governing the program.

Yes, see attached policy and procedures for Breakthrough Community Services, Inc.

- c. Pipeline/portfolio – What does the CHDO have as its current project pipeline and program responsibilities? How will it handle the additional project proposed? If the organization pursues housing development, what other activities are likely to suffer or not be able to be pursued due to the effort required for development activities? Does the portfolio of projects/properties evidence competent management and oversight? Do the properties have adequate funding?

Exhibit 10-Provide a list of projects in the pipeline, funding sources, total development cost, units proposed, type of units and estimated completion date.

Breakthrough has entered into an agreement with the City of Hattiesburg to provide emergency repairs to five (5) homes. Emergency repair projects will be managed during the time of the proposed project for acquisition rehabilitation during this timeline.

- d. Staff capacity – Does the identified staff have the time to direct toward management of the proposed project? How strong is staff in the following areas: Legal/financial aspects of housing development? Management of real estate development? Oversight of design & construction management? Marketing & intake? Property management (if applicable)? Is staff encouraged to obtain training and develop new skills? What is their potential for learning skills that they currently do not have? Describe what training and technical assistance opportunities have been provided to staff.

Breakthrough has received technical development assistance from Training and Development Associates in the areas pertaining to project management, construction management, marketing and CHDO development. Staff members and volunteers are encouraged and required to attend training on a yearly basis. Staff members attend training throughout the year for training on Community Development as well as in office cross training to ensure that every staff person is well versed in additional areas that may be outside of their job scope and duties.

- e. Board expertise/skills – Do board members have professional skills directly relevant to housing development (e.g., real estate, legal, architecture, finance, management)? Has the board demonstrated the ability to make timely decisions? Is there a good relationship between board and staff? Does the board have a committee structure or other means of overseeing planning and development? Has there been stability/continuity of board members over the last several years? Exhibit 11-Provide a list of board members, their resumes, and their tenures.

Please refer to attached Board of Directors status and skills

- f. Does the organization have project specific capacity for marketing & sale of homebuyer units or operation of rental units – If a homebuyer project, does the CHDO have experience and capacity to market the units and counsel and qualify homebuyers? If a rental project, does the CHDO have experience and capacity to oversee the marketing, management and ownership of the project? Exhibit 12-Provide a marketing plan for the project.

See attached Marketing Plan

5. Development Team Capacity

- a. Development team roles – Describe how all of the key development team roles are filled with qualified individuals or firms? Exhibit 13-Attach a resume for development team members showing their qualifications.

See attached resumes

- b. Partner/consultant – Does the CHDO have a partner or a consultant to supplement its skills and help it to ensure success, while still maintaining development control? Exhibit 14-Attach a resume for each partner, consultant.

N/A

- c. Prior experience – Do team members have prior experience directly relevant to the proposed project? Provide a narrative describing the experience of team members.

Project members of the development team have experience working with CBDG & HOME programs. CFO Richard Barnett, Project Manager Warren Carter, and Housing Counselor Dequandra Johnson have experience to manage proposed project related to rental assistance and rental rehab. Each person has previously worked on recent projects.

- d. Experience working together – Describe how team members have worked together before or demonstrated the ability to work effectively as a team?

Team members have the necessary skills and share the overall goal of the organization. Everyone works together to ensure that our agency following program policies and procedures to address the need of individuals within the community. Our team members have a respect and understanding of the work that Breakthrough engages in and are all passionate about the social and economic disadvantages affecting the community and clients in which we serve.

6. Fiscal Soundness

- a. Financial management – Provide evidence that the CHDO meets the 84.21 standards. Does the CHDO do annual budgeting of its operations and all activities or programs? Does the CHDO track and report budget v. actual income and expenses? Does the CHDO have adequate internal controls to ensure separation of duties and safeguarding of corporate assets? Is there sufficient oversight of all financial activities? Is financial reporting regular, current, and sufficient for the board to forecast and monitor the financial status of the corporation? Exhibit 15-Provide a board resolution that the organization meets the financial standards of 24 CFR 84.21.

See attached Financial Standard Statement

- b. Financial stability – To what extent does the organization have a diversified and stable funding base for operations? How regularly does it experience cash flow problems?

Breakthrough receives in-kind donations from Mt. Olive Baptist Church. See the attached Breakthrough Community Services budget analysis.

- c. Liquidity – Does CHDO management know its current cash position and maintain controls over expenditures? Does the current balance sheet and budget indicate sufficient funds to supports essential operations? Does it have funds available for pre-development expenses and capital advances required for development?

Yes, please see attached

- d. Audit – Provide a copy of CHDO's annual audit and letters/statements regarding audit resolutions. Exhibit-16. Is the most recent audit current? Were there management or compliance findings in the last two years? Are findings resolved?

Breakthrough Community Services, Inc. has not had an audit in over five (years). Under federal and state law requirements, Breakthrough does not meet the threshold that requires an audit.

- e. Portfolio & corporate liabilities – If the CHDO has a portfolio of properties are they in stable physical and financial condition or are they a drain on corporate resources? Are there assets at risk of default? Does the CHDO collect adequate revenues and management fees from the properties? Does the CHDO maintain adequate insurance – liability, fidelity bond, workers comp, property hazard, & project? Exhibit 17-Provide a list of portfolio properties and proof of insurance or insurability.

See attached portfolio of projects and properties completed

7. Other Factors

- a. Community relations – How strong are the current reputation of the corporation and the relationship with the community? To what extent does NIMBY opposition exist to low income housing in the service area? To what extent do channels exist for the CHDO to negotiate with the community and potential opponents? Exhibit 18-Provide letters of support from local organizations.

NIMBY does not affect the service area of the proposed project site.

- b. Local government relations – How strong is the CHDO's relationship with the local government? How strongly does local government support its housing activities?

Breakthrough has worked with the local government on numerous projects related to emergency repairs, substantial rehab and homeownership.

- c. Lender relations – Does the CHDO have good working relationships with lenders, especially those who might participate in the proposed project. Exhibit 19-Provide letters of support for the project lenders.

Breakthrough has developed and maintained relationships with local lenders in our area. We work in partnership with various lenders, such as Bancorp South and Trustmark National Bank. Our agency also works with additional lenders in regards to homeownership opportunities and education.

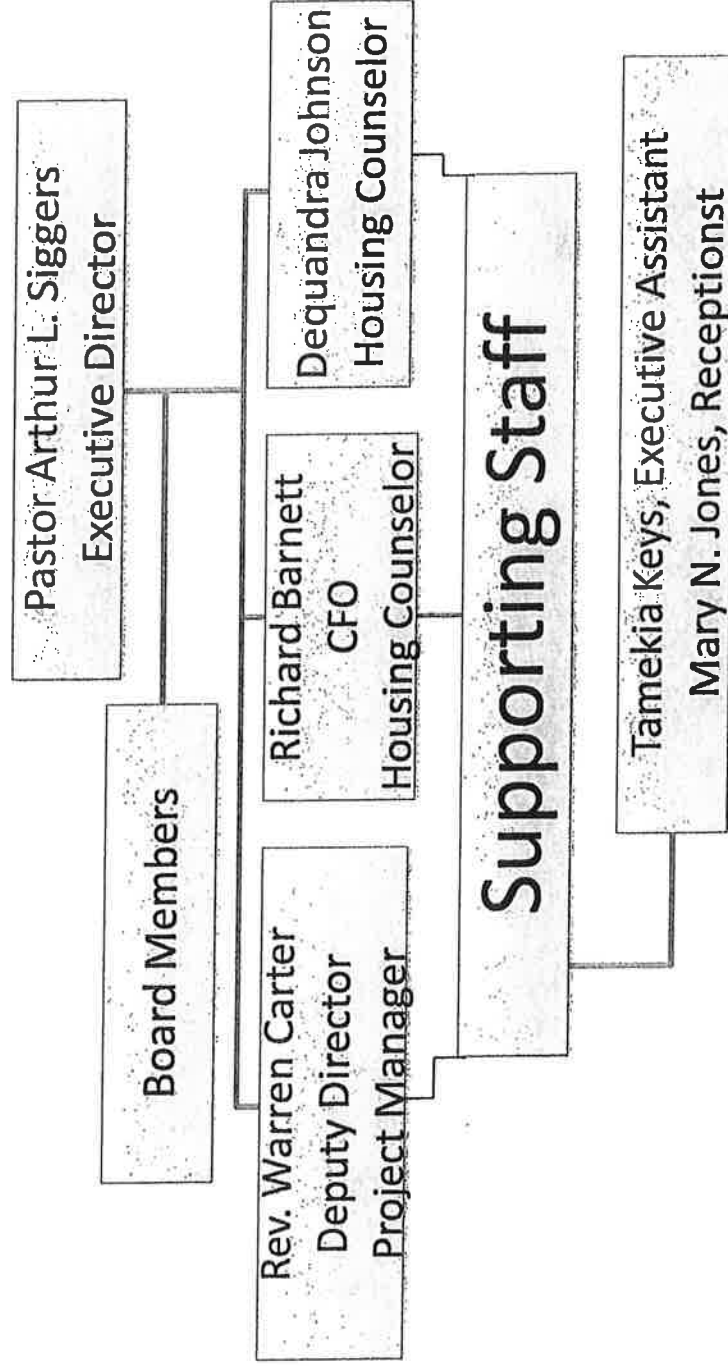
- d. Provide any other information that would be helpful in determining the capacity of the organization.

Breakthrough has the experience and capability to develop new construction properties, engage in substantial rehabilitation as well as minor repairs and case management within the community. As a CHDO, our agency has partnered with the City of Hattiesburg and other CHDO's, non-profits, local state government and housing agencies to provide housing assistance and education.

Breakthrough Community Services, Inc.



Organizational Chart



Breakthrough Community Services, Inc.

"Breaking the Shackles of Poverty through Services"

Staff Directory & Roles

Executive Director

Arthur L. Siggers

The Executive Director (ED) is responsible for the overall management and operation of Breakthrough Community Services, Inc. while ensuring compliance with grantors, federal and state requirements. The Ed builds partnerships in new markets and establishes relationships with funders. As the ED, duties involving all aspects of public relations and some aspects of human resources for employees; including hiring and termination. Additionally, he serves as Instructor and overseer of various Financial Literacy Workshops; such as Financial Fitness, Financial Fast, and Financial Coaching.

Chief Financial Officer

Richard Barnett

The Chief Financial Officer (CFO) provides both operation and programmatic support to the organization. The CFO reports directly to the Executive Director and assists on all matters that relate to budget management, cost analysis, and forecasting needs, securing of new funding, and grants funding compliance. The CFO also oversees all purchasing, operating budget, and payroll and personnel activities for staff. In addition he serves as a Workshop Facilitator for monthly Homebuyer Education and Financial Literacy classes.

Project Manager

Warren Carter

As the Project Manager, duties involve inspecting and reviewing projects to monitor compliance with building and safety codes and other regulations. The Project Manager is responsible for obtaining all permits and licenses, scheduling projects and budget time required to deadlines, supervising workers, and revisions, changes, and additions to contractual agreements with subcontractors and suppliers. It is the responsibility of the Project Manager to plan, organize, and direct activities with the construction and maintenance of structures, facilities and systems. He also confers with personnel, owners, and contractors to discuss and resolve matters such as work procedures, complaints, and construction problems.

Housing Counselor(s)

Dequandra Johnson

The Housing Counselor assists consumers on seeking, financing, maintaining, renting, or owning a home. Duties also include addressing homelessness via counseling, foreclosure prevention, and credit & budget counseling. Additional duties consist of completion of reports, affordable housing project monitoring, establish positive relationships with other housing and community service throughout the community, maintain client files and database, participate in planning and implementation process for grant applications, participate in meetings, workshops etc to promote housing programs to residents, and review credit reports and make appropriate recommendations for program eligibility and financial remediation. The Housing Counselor serves as an advocate to educate and guide clients by offering quality and objective information to families and communities we serve to help reach their financial goals and stabilize households under crisis.

Financial Literacy Counselors

Pamela Gavin, Penny English, Karen Thornton, and Maurice Thornton

There are four (4) additional Financial Literacy Counselors who serve as Educators and Instructors for the Financial Fit and Financial Fast Workshops.

CHDO Staff Experience & Organizational Capacity Checklist

Check if Adequate Capacity	CHDO Staff & Experience	See Notes	Documentation (Identify)	Comments
☒	CHDO has paid staff to manage development project	1		
	● Paid full-time staff	1a	(payroll, w-2, w-4)	
	○ Paid part-time staff	1a	(payroll, w-2, w-4)	
	○ Contracted staff	1b	(contract, w-9, 1099)	
☒	<u>Dequandra Johnson, Housing Counselor</u>	2		
	☐ Homeownership development	2a	(resume, other)	
	☒ Rental development	2b		
	☐ Other real estate development and management			
	☒ Rehabilitation & other housing program administration			
	☒ Other relevant experience _____			
☐	N/A	2		
	☐ Homeownership development	2a		
	☐ Rental development	2b		
	☐ Other real estate development and management			
	☐ Rehabilitation & other housing program administration			
	☐ Other relevant experience _____			
CHDO Developer Capacity & Fiscal Soundness				
☒	Past and Current Performance	3		
	☒ HOME / CHDO project performance	3a		
	☒ Past development performance	3a		
	☒ Housing program & Federal grant management performance	3b		
☒	Developer Capacity - CHDO	4		
	☒ Organizational structure to support development	4a		
	☒ Management structure to support development	4b		
	☒ Current pipeline / backlog	4c		
	☒ Staff capacity (or consultant contract/plan to train)	4d		
	☒ Board expertise / oversight	4e		
	☒ Skills/capacity to market (for-sale) or manage (rental) units	4f		
☒	Developer Capacity - Development Team	5		
	☒ All development team roles filled with qualified firms/persons	5a		
	☒ Partners/consultants enhance CHDO capacity (if needed)	5b		
	☒ Prior experience - Team successfully developed similar projects	5c		
	☒ Team has demonstrated capacity to work together	5d		
☒	Fiscal Soundness	6		
	☒ Financial management	6a		
	☒ Financial stability	6b		
	☒ Liquidity	6c		
	☒ Audit and reporting	6d		
	☒ Portfolio & corporate liabilities	6e		
☒	Other Factors	7		
	☒ Community relations	7a		
	☒ PJ relations	7b		
	☒ Lender relations	7d		
	☒ Project-specific			
☐	Certification			Signature & Date
The community housing development organization has documented that it has staff with development experience and it has the organizational capacity and the development team to implement the proposed CHDO project.				

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	☐ Homeownership development	2a	(resume, other)	
	☒ Rental development	2b		
	☐ Other real estate development and management			
	☒ Rehabilitation & other housing program administration			
	☐ Other relevant experience _____			
☒	Warren Carter, Project Manager	2		
	☐ Homeownership development	2a		
	☒ Rental development	2b		
	☒ Other real estate development and management			
	☐ Rehabilitation & other housing program administration			
	☐ Other relevant experience _____			
CHDO Developer Capacity & Fiscal Soundness				
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	☒ HOME / CHDO project performance	3a		
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	☒ Financial management	6a		
	☒ Financial stability	6b		
	☒ Liquidity	6c		
	☒ Audit and reporting	6d		
	☒ Portfolio & corporate liabilities	6e		
☒	Other Factors	7		
	☒ Community relations	7a		
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	☐ Lender relations	7d		
	☒ Project-specific			
☐	Certification			Signature & Date
The community housing development organization has documented that it has staff with development experience and it has the organizational capacity and the development team to implement the proposed CHDO project.				



Breakthrough Community Services, Inc.
1313 Country Club Road
Hattiesburg, MS 39401
Telephone: (601) 582-3475

Full-time employee: Dequandra Johnson
Attached W-2

Dequandra Johnson is the only staff working primarily for Breakthrough Community Services. Additional staff with Breakthrough Community Services are no contractual and not paid by Breakthrough Community Services.

Void ☐		a Employee's social security number		Copy D—For Employer OMB No. 1545-0008			
b Employer identification number (EIN) 64-0812429				1 Wages, tips, other compensation 30000.00		2 Federal income tax withheld 3698.64	
c Employer's name, address, and ZIP code MOUNT OLIVE BAPTIST CHURCH 1313 Country Club Road Hattiesburg, MS 39401				3 Social security wages 30000.00		4 Social security tax withheld 1860.00	
				5 Medicare wages and tips 30000.00		6 Medicare tax withheld 435.12	
				7 Social security tips		8 Allocated tips	
d Control number 1000046				9		10 Dependent care benefits	
e Employee's name, address, and ZIP code Dequandra Johnson 123 Melwood Drive Hattiesburg, MS 39401				11 Nonqualified plans		12a See instructions for box 12	
				13 Statutory employee Retirement plan Third-party sick pay		12b	
				14 Other		12c	
						12d	
15 State Employer's state ID number MS 64-0812429		16 State wages, tips, etc. 30000.00		17 State income tax 936.00		18 Local wages, tips, etc.	
						19 Local income tax	
						20 Locality name	

Form **W-2** Wage and Tax Statement

2016

38-2099803 Department of the Treasury—Internal Revenue Service

For Privacy Act and Paperwork Reduction Act Notice, see separate instructions.

217 Currie Road
Ellisville, MS 39437
(601) 477-3036

Arthur L. Siggers

Objective

Winning lost souls to Christ through service to mankind

Experience

1983–Present Mt. Olive Baptist Church Hattiesburg, MS

Pastor

- Built new educational wing and Fellowship Hall
- Developed and oversee numerous ministries
- Planted first church in 1996
- Average over 100 new members a year
- Established Church Day Care Center and Christian School
- Established Group Home for Boys
- Established Mt. Olive Families Resource Center

1980-1983 New Hope Baptist Church Ellisville, MS

Pastor

- Built new church
- Increased membership from 12 to 60

1971-1986 Hercules, Inc. Hattiesburg, MS

Insulator, Concrete Finisher, Sheet Metal Worker

- Insulated hot and cold vessels
- Poured and finished concrete

Education

1996-2000 Carey College Hattiesburg, MS

- Bachelor of General Studies Degree – May 19, 1999
- Master of Science Degree – August 5, 2000

Interests

Helping to revitalize neighborhoods by building new homes and buying old dilapidated homes and re-furbishing them. The homes are then sold to eligible citizens who desire to become homeowners.

Goals

To build affordable housing for low to moderate-income eligible households.

WARREN T. CARTER
733 Grace Ave.
Hattiesburg, MS 39401
(601) 582-3441
wcarter@themtolivechurch.org

EDUCATION: JACKSON STATE UNIVERSITY, Jackson, MS

Degree: Incomplete

Area: Biology (1971-1972)

RICHTON HIGH SCHOOL, Richton, MS

Degree: High School Diploma – 1971

SPECIAL TRAINING: Hercules Inc., Hattiesburg, MS: Adult CPR and Standard First Aid
(April 1993)

Louisiana State University, Baton Rouge, LA: Industrial Fire School
(January 1988)

Hercules Inc., Hattiesburg, MS: Basic Laboratory Mathematics Course
(July 1985)

University of Southern Mississippi, Hattiesburg, MS: Advanced Analytical
Course (July 1985)

WORK EXPERIENCE: Mt. Olive Baptist Church, Hattiesburg, MS: Administrative Pastor: Assist
in overseeing all staff workers, staff meetings, purchasing, secure quotes
and bids, process checks, work with deacons, officers, and committees
on performing assignments; assist with in-service trainings, assist heads
of departments in carrying out duties, keep current on safety and disaster
issues. (June 1, 1995 – To Present)

Hercules Inc., Hattiesburg, MS: Laboratory Technician I: Inventory
chemicals and supplies; train analyst; perform analytical work including
calibration of equipment; assist in developing new analytical procedures
(May 1992)

Hercules Inc., Hattiesburg, MS: Laboratory Analyst I, II, and III; analyzed
essential materials and control samples; processed, control and finished
maintained control charts; Quality Improvement Team participant GC-
DCP Team (March 1979-May 1992)

Hercules Inc., Hattiesburg, MS: Gatehouse Guard, secured switchboard
after hours; weighed trucks in and out (March 1979-September 1978)

PERSONAL

Birth date – July 19, 1953; Status – Married; Health - Good

RICHARD L.BARNETT

**125 Pine Drive
Hattiesburg MS 39401
(601)544-0058**

EDUCATION:

University of Southern Mississippi, Hattiesburg MS
Degree: Bachelor of Arts
Area: Psychology & Sociology
Year: 1973-1975

Jones County Junior College
Degree: Basic Core
Year: 1971-1972

Rowan High School
Degree: High School Diploma
Year: 1966

WORK EXPERIENCE:

United State Postal Service, Seminary MS
Position: Postmaster
December 1984-Present

Mason Chamberlain Inc., Picayune MS
Position: Chemical Plant Operator
1981-1984

Chevron off Shore, Morgan City LA
Position: Operator
1981

Amerada Hess Refinery Corporation, Purvis MS
Position: Refinery Operator
1970-1981

United State Air Force
Position: Airman
1966-1970

PART TIME WORK EXPERIENCE: Hattiesburg Public Schools, Hattiesburg MS
Position: Substitute Teacher
1975-1980

Mount Olive Baptist Church, Hattiesburg MS
Position: Chief Financial Officer
1990-Present

Breakthrough Community Services, INC
Hattiesburg MS 39401
Position: Chief Financial Officer
2003-Present

United States Air Force Reserve
Equal Opportunity Technician
1981-2003-Retired Master Sergeant 2003

Training and Certifications:

Equal Opportunity Management Institute
Equal Opportunity Management
Certification 1982

PERSONAL:

Birthday: February 24, 1948
Marital Status: Married
Health: Good

Dequandra L. Johnson

123 Melwood Drive ♦ Hattiesburg, MS 39401 ♦ (601) 325-8476 ♦ leniesejo@yahoo.com

Objective

Obtain a position as a team player in a people-oriented organization where I can maximize my administrative and customer service skills.

Profile

Diligent, detail-orientated professional knowledgeable of all office function with proven interpersonal, communication and multi-tasking skills. Adaptable team player recognized for willingness to learn and teach newly acquired skills.

Skills Summary

- | | | |
|-------------------------|---------------------------|---------------------------|
| ♦ Office Administration | ♦ Computer Savvy | ♦ Written Correspondence |
| ♦ Multi-Tasking | ♦ File Management | ♦ Accounting/Bookkeeping |
| ♦ Customer Service | ♦ Scheduling/Coordination | ♦ Front-Office Operations |
| ♦ General Office Skills | ♦ Data Entry | ♦ Special Projects |

Professional Experience

MT. OLIVE BAPTIST CHURCH

2009 – PRESENT

Housing Counselor/ Administrative Assistant

- ♦ Meet individually with homebuyers to provide education, guidance, and referrals.
- ♦ Provide individualized credit counseling services.
- ♦ Comply with all requirements of contracts and agreements.
- ♦ Assist with planning and coordination for conferences and events as well as prepare media kits for marketing.
- ♦ Other duties as assigned

CITY OF HATTIESBURG – FEDERAL GRANT PROGRAMS

2006 – 2009

Administrative Assistant

- ♦ Provide executive-level administrative support to the Director of Urban Development and division manager for Entitlements Division/Federal Grant Programs.
- ♦ Coordinate and maintain directors' schedules and make travel arrangements
- ♦ Prepare Council Agendas and invoices, reports, memos, letters and other documents.
- ♦ General office duties such as ordering supplies, maintaining record management systems, greeting visitors and performing extensive accounting.

PINE BELT MENTAL HEALTHCARE

2004 – 2006

Clinical Secretary/ Medical Records

- ♦ Data entry and admission and discharge paperwork.
- ♦ Create and maintain medical records.
- ♦ Provide secretarial support to staff and clients in an efficient, courteous and confidential manner.
- ♦ Finances: account payable/receivable, invoicing, and insurance billing and verification.
- ♦ Compliance with all healthcare facility, HIPPA, and JCAHO requirements.

REGIONS BANK

1998 – 2004

Loan Clerk III

- ♦ Open, sort, and distribute incoming mail and faxes and order flood certifications
- ♦ Data entry and maintained file management
- ♦ Logged in loan files and assigned to appropriate processor

Karen A. Thornton

108 Brentwood Place

Hattiesburg, Ms. 39402

601-579-6881 (Home) 601-466-0403 (cell)

Career Objective:

I want to continue to utilize my extensive background and knowledge in management/supervisory and customer service skills.

Work History:

Present - June 2016 Homebuyer Education Counselor
Mount Olive Baptist Church Breakthrough Community Service
Hattiesburg, Mississippi 39401
Phone Number: 601-582-3475

Present - June 2008 Financial Fit Counselor
Mount Olive Baptist Church
Hattiesburg, Mississippi 39401
Phone Number: 601-582-3475

Present - September 2013 Warehouse Manager, I
Mississippi State Department of Health/Jones Co. WIC Food Center
1222 Hillcrest Drive Laurel, MS. 39440
Phone Number: 601-428-4178

September 2013 - August 2003 Warehouse Clerk III
Mississippi State Department of Health/Forrest Co. WIC Food Center
1515 Florida Avenue Hattiesburg, Ms 39401
Phone Number: 601-582-2081

April 2003 - November 1993 Front End Manager/ Office Manager
Marvin's Incorporated
6888 Hwy 49 North Hattiesburg Ms. 39401
Phone Number: 601-264-4404

Education:

08/1992 - 05/1993	Jones Co. Jr. College	Computer Operations
08/1986 - 12/1988	William Carey College	Sociology

Business or Personal References Available Upon Request

Maurice Guy Thornton

108 Brentwood Place, Hattiesburg, Ms. 39402 * 601-408-7060*mothornton@live.com

WORK EXPERIENCE: Retired Fire Fighter & Military Sergeant

- **Mt. Olive Baptist Church Breakthrough Community Services
& Mt. Olive Baptist Church Financial Fit
Hattiesburg, MS**
- **John C. Stennis NASA Space Center
Picayune, Ms. 39466**
- **Lamar County Fire Department
Purvis, Ms. 39475**
- **Biloxi Fire Department
Biloxi, Ms. 39503**
- **Hattiesburg Fire Department
Hattiesburg, Ms. 39401**

EDUCATION:

- **William Carey College
Hattiesburg, MS**
- **Liberty University
Lynchburg, VA**
- **Columbia Southern University
Orange Beach, AL**
- **Mississippi Gulf Coast Community College
Perkinson, Ms**
- **Pearl River Community College
Hattiesburg, Ms**

Pennie English

Objective To work in an environment that will challenge me further while allowing me to contribute to the continued growth & success of the organization.

Experience 11/1990 – Present **Ellisville State School** Ellisville, MS

Health Program Specialist Sr.

- Providing life management with intellectual disabilities.

07/2000 – Present **Clearview Recovery Center** Moselle, MS

Clinical Assistant

- Admissions
- Client Supervision

Education 1983-1986 University of Southern Mississippi Hattiesburg, MS

B.S. Psychology & Education

- Professional consultant in Quality of Life (QOL) – William Carey University
- A & D Counseling
- Certified Tax Preparer

Experience ▪ Junior Financial Coach & Financial Fit Instructor

References References are available on request.

CHDO CHECKLIST

Applicant Agency: Breakthrough Community Services, Inc. Certification: n/a
Address: 1313 Country Club Road Re-Certification: X
Hattiesburg, MS 39401 Date: January 23, 2017
Phone Number: (601) 582-3475 E-mail: dequandramobc@aol.com

The information contained in this check list refers to the definition of Community Housing Development Organization (CHDO) in the HOME Rule, Subpart A, §92.2. This checklist is a tool utilized by the City of Hattiesburg to track the required certification documentation that must be submitted for CHDO certification. The completed check list and the required documents, become a part of the CHDO application packet which is maintained on file to confirm compliance with HUD regulations.

I. LEGAL STATUS

- A. The nonprofit organization is organized and remains in good standing with state and local laws, as evidenced by:

X Certificate of good standing from the Secretary of State (*updated copy for re-certifications*).

- B. No part of the organizations net earnings shall inure to the benefit of member, founder, contributor or individual, as evidenced by:

X Articles of Incorporation (*Re-certifications: provide letter certifying that Articles of Incorporation have not been amended*).

X By Laws (*Same as above. If by-laws have been amended, include adopted amendments since the previous certification*).

- C. A tax exemption ruling from the Internal Revenue Service (IRS) under section 501(c)(3) or 501(c)(4) of the Internal Revenue Service Code of 1986, as evidenced by either having ***a conditional or final 502(c) designation*** as evidenced by:

X Copy of IRS Letter (*Re-certification applicants must provide updated letter certifying good standing status*).

N/A Copy of Mississippi Department of Revenue Letter (*Re-certification applicants must provide updated letter*).

X Self-certifying letter of good standing (*for re-certification*).

OR

If classified as a subordinate of a central organization non-profit under Section 905 of the Internal Revenue Service Code, as evidenced by:

 A group exemption letter from the IRS that includes the CHDO.

D. Has among its purposes, the provision of decent housing that is affordable to low and moderate income people, as evidenced by a statement in the organization's:

 Charter,
 Articles of Incorporation,
 X by Laws, OR
 Resolution.

E. Has a clearly defined geographic service area:

 X Written description,
 X Map.

II. CAPACITY

A. Conforms to the financial accountability standards of Federal Regulations (CFR 24) 84.21, "Standards for Financial Management Systems", as evidenced by:

 X The last two year's Financial Statements prepared in accordance with standard requirements and procedures.

N/A Copy of a Single Audit Report and Management Letters.

B. Has a demonstrated capacity for carrying out activities assisted with HOME funds as evidenced by:

X Resumes of experienced Key Staff who have completed projects similar to those projected by the CHDO.

X Has key staff with limited or no experienced (attach resumes), and will use experienced consultants for planning and development activities and will have a plan in place for the consultant to train key staff, and

C. Has a history of serving the community in the construction of low income housing funded with HOME funds, as evidenced by:

X A self-certifying statement that documents ***at least one-year of experience*** in serving the community in either housing, social services or economic development. Please attach substantiating documentation that will confirm involvement in local activities (*such as copies of minutes of local meetings, announcements of activities, flyers, brochures, newspaper articles, recognition letters, awards, etc.*).

N/A For newly created or organizations formed or sponsored by a non-profit such as a local church, service or community organization, ***they must provide a statement that documents that its parent organization has had at least one-year of experience in serving the community they plan to serve.***

RE-CERTIFICATION APPLICANTS

X A self-certifying statement that documents the history of serving the community since the last CHDO certification. (*Describe housing activities provided by the organization, such as the development of new housing, rehabilitation and/or management of housing stock and photos if possible*).

X Provide copies of flyers, brochures, meeting minutes, etc., documenting events carried out by the Agency during the previous two year period.

III. ORGANIZATIONAL STRUCTURE

A. BOARD REPRESENTATION

The CHDO must maintain **at least one-third (1/3) of its governing board's membership for residents of low income neighborhoods**, other low income community residents, or elected representatives of low income neighborhoods organizations, as evidenced by the organization's:

☒ By Laws,

☐ Charter, or

☐ Articles of Incorporation, AND

☒ Provide list of governing board members, 1) their representative make-up, and 2) *the entity or person making appointment or the appointing agency and 3) their of office and expiration date.*

- B. Provides a formal process for low-income program beneficiaries to advise the organization of all its decision making. The process must allow constituents to advise the organization regarding design, location, development and management of affordable housing projects as evidenced by:

☒ By Laws

☐ Charter,

☐ Articles of Incorporation.

IV. RELATIONSHIP WITH FOR PROFIT ENTITIES

- A. If the CHDO is sponsored or created by a for-profit entity, *the for-profit entity may not appoint more than one-third of the membership of the CHDO's governing board.* The board members appointed by the for-profit entity *may not*, in turn, appoint the remaining two-thirds of the board members, as evidenced by the CHDO's: N/A

☐ By Laws

☐ Charter, OR

☐ Articles of Incorporation.

- B. The CHDO is not controlled, nor receives direction from individuals, or entities seeking profit from the organization, as evidenced by:

☐ A self-certifying statement.

☒ By Laws

C. A community Housing Development Organization (CHDO) may be sponsored or created by a for-profit, however: N/A

1. The for-profit entity's primary purpose does not include the development or management of housing, as evidenced by: N/A

 The for-profit organization's by laws and;

2. The CHDO is free to contract for goods and services from vendor(s) of its own choosing, as evidenced by the CHDO's:

X By Laws
 Charter, OR
 Articles of Incorporation.



Breakthrough Community Services, Inc.

"Breaking the Shackles of Poverty through Services"

VISION STATEMENT

Breakthrough Community Services, Inc. works in partnership with the community to enhance the quality of life and empowering the community through the rendering of social and rehabilitative services.

- Enhance quality of life
- Promote economic prosperity
- Create healthy and safe communities
- Develop affordable housing

MISSION STATEMENT

We are dedicated to improving the quality of life for persons with low-to-moderate incomes, by "Breaking the Shackles of Poverty" through Service." We believe that through education and empowerment, individuals are able to make informed decisions to enhance their quality of life.

VALUES

- Integrity
- Leadership
- Quality of Service
- Partnership
- Honesty
- Respect and Fairness
- Communication
- Accountability

SERVICES

- Providing information and referrals
- Operate as a liaison between local, state, and federal programs
- Provide counseling – individual and group
- Provide monetary assistance to meet emergency situations
- Providing opportunities for low-income citizens to obtain adequate and affordable housing.
- Providing community services that aid in family preservation through
- Providing educational and recreational services to children

Arthur d. Siggers
SIGNATURE OF Board Chairman

1/23/2017
DATE



Breakthrough Community Services, Inc.

Agency History:

Breakthrough Community Services, Inc. is a separate 501(c) (3) non-profit organization of Mt. Olive Baptist Church. Breakthrough is certified as a HUD approved housing counseling agency through agency intermediary Mississippi Housing Initiative of Jackson, MS. Breakthrough was certified as a Community Housing Development Organization (CHDO) as defined under Section 92.2 of the Home Investment Partnership Act of Title II of the Cranston-Gonzalez Affordable Housing Act, as amended, 42 U.S.C. 12701 et. Seq. The purpose for which the organization was established is to empower the community through rendering of social and rehabilitation services. It has partnered support networks for its clients so that they may achieve residential stability and have the opportunity of becoming self-sufficient.

Mission Statement:

Breakthrough Community Services, Inc. is dedicated to improving the quality of life for persons with low-to-moderate incomes, by "Breaking the Shackles of Poverty through Service." We believe that through education and empowerment, individuals are able to make informed decisions to enhance their quality of life.

Our services include, but are not limited to the following:

- Providing information and referrals
- Education / Housing Counseling
 - Financial Literacy
 - Homebuyer Education
 - Financial Management/Budgeting
 - Mortgage Delinquency & Foreclosure Prevention
 - Fair Housing Education
 - Post Purchase Counseling
- Home Rehabilitation & Repair
 - Provide intakes for repair services
 - Provide opportunities for low to moderate income individuals to obtain adequate and affordable housing
- Providing monetary assistance to meet emergency situations
 - Services for elderly and disabled citizens for utility assistance
- Providing community services that aid in family preservation through:
 - Sponsoring senior citizen activities
 - Teaching parenting classes
 - Coordinating HIV-AIDS prevention activities
 - Teen pregnancy prevention activities etc.

Breakthrough's prevention and education programs have offerings that continually promote awareness to low-to-moderate income individuals and/or families regarding homeownership, advocating for public services to less fortunate, financial stability, and area resources.

Governing:

The governing body of Breakthrough is the Board of Directors. The board serves as the high-level decision making body for the organization. They resolve matters of fiscal, capital investment, administrative or personal time. Breakthrough Community Services board consist of a mixture of low income representation, public sector representatives, and low-income community representatives. **See attached*

Target Area(s):

Breakthrough provides counseling and education services, free of charge, statewide throughout Mississippi. However, housing rehabilitation, preservation and development is limited to the city Hattiesburg, MS. The area and population served consists of individuals residing within the City limits of Hattiesburg, MS; Forrest County. There is an estimated total population of over 75,000 people residing in Forrest County, according to U.S. Census Bureau's data for 2010 estimates. Of this total 54.8% are homeowners. Within the city limits, this number is even lower, with only 37.6% homeownership. In the target areas served, the per capita income is \$18,619 and 37.8% account for persons living below the poverty level.

Experience:

Since its incorporation, Breakthrough has partnered with The City of Hattiesburg; Federal and State programs in the development and preservation of nearly thirty (30) homes, for low and moderate income residents. We have also assisted in providing benevolent assistance to those in need of food, shelter, education, utilities, and other resources. We serve families, seniors, and people with special needs with a full spectrum of services ranging from homebuyer education, financial literacy, mortgage delinquency, and additional resources to help with crisis one may face. Additional services include affordable housing opportunities, emergency repair and rehabilitation, and rental housing. Breakthrough provides professional and confidential counseling and education directly to clients; helping participants improve their credit, improve their housing situation, and handle the responsibilities of homeownership.

As a CHDO, Breakthrough has developed five (5) single family homes, completed substantial full rehabs on fifteen (15) properties, addressed over eleven (11) emergency repairs; all for very low to low-moderate income families and individuals who reside within the City of Hattiesburg.

Capacity:

Breakthrough employs a dedicated workforce consisting of seven (7) experienced, qualified, and mission oriented individuals. This includes the Chairman, Project/Construction Manager, Chief Financial Officer, and four (4) Housing Counselors.

Within the last two years, our agency has continued our goal for community revitalization by providing remodeling and emergency repairs within the City of Hattiesburg to those within vulnerable households, by completing an additional six (6) emergency repairs. With funding from the City of Hattiesburg's Interim Assistance program, we were able to assist 134 households under our Utility Assistance Program. In addition to these projects, our organization acquired and preserved an affordable rental home for low-income families. Through counseling and education efforts, Breakthrough provided homebuyer education, credit and mortgage delinquency counseling and served over one hundred individuals through our workshop. We provided additional assistance through referrals and partnerships to 432 individuals in need.

Our agency a We have the capacity and experience and success in constructing, rehab or repairing, affordable houses on time and within budget. Our hope is to revitalize the community and stimulate economic growth development within economically challenged neighborhoods. We know first-hand the services we provide impact potential homebuyers, homeowners, stabilize and improve lower income neighborhoods, and promote education. Our services are critical for those who are at a socioeconomic disadvantage.

It is our belief that education, empowerment, and supportive programs improve the economic status of our residents and transform neighborhoods and aid to stabilize lives. We aim to alleviate communities where there is poverty and help residents to develop their full potential. Our services are not just limited to developing affordable housing but also helping individuals and families learn skills and gain perspective that makes dreams of stability and hope a reality.



Breakthrough Community Services, Inc.

"Breaking the Shackles of Poverty through Services"

FY 2016-17 Community Development Housing Organization (CHDO) Housing Stabilization Plan

Breakthrough Community Services, Inc. (BCS) has a commitment to bettering the communities of Forrest, Lamar and Perry County. These areas are adversely impacted by the decline of decent, safe, affordable housing and the hurricanes since 2005. BCS will continue to provide professional and confidential counseling and education directly to clients via pre-purchase education, pre-purchase counseling, fair housing counseling, credit counseling, predatory lending counseling, foreclosure prevention counseling and delinquency counseling to homeowners and renters. In addition, as we seek to revitalize and stabilize our community, BCS goal is continue to stabilize and sustain neighborhoods and communities by engaging in home rehabilitation, repair and development of affordable and energy efficient housing. It is our goal to make homes safer and accessible for low-income, elderly, disabled, and other disadvantage households.

Breakthrough Community Services serves the following postal codes: Mississippi, 39401, 39402, 39455, 39465, and 39475.





City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-384

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Removed.

<u>Title:</u> Removed.

Type: Action Item

Drafter: Lisa Luu

In Control: City Council

Reference: La'Keylah White

Attachments:

File Created: 05/01/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-406

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Suspension of COH Permitting Fees for 90 days

Title: Authorize suspension of all City of Hattiesburg permitting fees for an additional 90 days for anyone affected by the 1/21/17 tornado.

Type: Action Item

Drafter: Lisa Luu

In Control: City Council

Reference:

Attachments:

File Created: 05/01/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-401

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Acknowledge receipt of proposals received April 5,

Title: Acknowledge receipt of proposals received April 5, 2017, for RFP 4295 Disaster Recovery Consulting Services for the City of Hattiesburg; accept the proposal of Broaddus & Associates as the best proposal, per scoring of the City Council.

Type: Action Item

Drafter: Janet Beech

In Control: City Council

Reference:

Attachments: RFP - Disaster Recovery, 4-5-17, RFP - Disaster Recovery, Addendum #1, Addendum #2, RFP, Disaster Recovery Services, Broaddus & Associates Proposal, Adjusters International Proposal, South MS Planning & Development Proposal

File Created: 04/28/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

ADVERTISEMENT

CITY OF HATTIESBURG RFP NUMBER 4295 DISASTER RECOVERY CONSULTING SERVICES

Notice is hereby given that the City of Hattiesburg, MS is soliciting responses for **RFP NUMBER 4295. DISASTER RECOVERY CONSULTING SERVICES.** Interested and qualified respondents may submit RFP Packages, according to the requirements described herein, to the City of Hattiesburg City Council, 200 Forrest Street, Hattiesburg, MS 39401. All RFP Packages are due by or before **10 a.m. (CST) on April 5, 2017**. Any packages delivered to or received after the 10 a.m. deadline will not be considered and shall be returned unopened to the addressee.

In accordance with the January 2017 Presidential declaration of a State of Mississippi major disaster and associated Public Assistance declarations for the City of Hattiesburg (Categories A-G), the City of Hattiesburg seeks professional service assistance to support the City's disaster recovery, to expedite financial recovery and mitigation through the Federal Management Agency's (FEMA) Public Assistance (PA) Program and other federal and state programs, to ensure full compliance with all Federal, State, and Local laws in order to limit any subsequent audits and reviews, and to minimize impacts from future disasters. The ideal candidate shall possess demonstrated experience in disaster recovery programs and must have extensive knowledge and expertise in the operations of FEMA PA and Hazard Mitigation Programs.

RFP Packages are available for downloading from _____ or by calling the Hattiesburg City Council Office, 601-545-4551 and requesting Document **No. 4295**. When making a request, please provide the full company name, full company address, company phone number, primary contact and email address.

Any and all questions or requests for information relating to this Request for Proposal shall be **submitted in writing** by or before 10 a.m. **Friday, March 31, 2017**.

Contact Information: Debbie Bernardo, Clerk of Council
City Council
200 Forrest Street
Hattiesburg, MS 39401
Email: dbernardo@hattiesburgms.com
Fax: (601) 584-4892

Interested firms may not contact any staff member of the City of Hattiesburg, except the above referenced individual with regard to this RFP. All inquiries will be routed to the appropriate staff member for response.

RFP Packages **MUST** be submitted in a **SEALED** envelope/container and clearly marked on the exterior of the package: **RFP 4295- DISASTER RECOVERY CONSULTING SERVICES**. Each package submitted must have the respondent's name and mailing address marked plainly on the outside of the envelope/container. Each package shall consist of one (1) original paper submittal and seven copies, and one (1) USB flash drive containing one (1) Color PDF of the original documents of the RFP Package which shall include all required documents and any supplemental information.

Deliver or Ship RFP Packages to: City of Hattiesburg City Council
200 Forrest Street
Hattiesburg, MS 39401

REQUEST FOR PROPOSALS

CITY OF HATTIESBURG

RFP NUMBER 4295

DISASTER RECOVERY CONSULTING SERVICES

I. INTRODUCTION

A. Purpose:

The City of Hattiesburg City Council is accepting sealed Request for Proposal packages. The purpose of this Request for Proposals is to solicit responses from qualified firms to provide professional service assistance to support the City's disaster recovery, to expedite financial recovery and mitigation through the Federal Management Agency's (FEMA) Public Assistance (PA) Program and other federal and state programs, to ensure full compliance with all federal, state, and local laws in order to limit any subsequent audits and reviews, and to minimize impacts from future disasters.

B. RFP Contact Information for Questions:

Any and all questions or requests for information relating to this Request for Proposal shall be submitted in writing by or before 10 a.m. **Friday, March 31, 2017**.

Contact Information: Debbie Bernardo, Clerk of Council
City Council
200 Forrest Street
Hattiesburg, MS 39401
Email: dbernardo@hattiesburgms.com
Fax: (601) 584-4892

Interested firms may not contact any staff member of the City of Hattiesburg, except the above referenced individual, with regard to this RFP. All inquiries will be routed to the appropriate staff member for response.

C. Addenda:

Any and all clarifications, answers to questions, or changes to this RFP shall be provided through a City-issued Addendum, which shall be distributed to vendors by fax and posted at . Any clarifications, answers, or changes provided in any manner other than a formally issued addendum, are to be considered "unofficial" and shall not bind the City to any requirements, terms or conditions not stated herein.

The City shall make every possible, good faith effort to issue any and all addenda no later than seven (3) days prior to the due date for proposals. Any addenda issued after this date, shall be for material, necessary clarifications to the Request for Proposal.

D. Due Date & Location:

Packages submitted in response to this Request for Proposal must be delivered to, and received by the City of Hattiesburg City Council by or before 10 a.m. on Wednesday, April 5, **2017**. Any packages received after this deadline will be deemed unresponsive, and shall be returned to the addressee unopened.

RFP Packages shall be delivered to: City of Hattiesburg City Council
200 Forrest Street
Hattiesburg, MS 39401

E. RFP Response Packaging Instructions:

To be considered, submit one (1) original paper submittal, seven copies, and one (1) USB flash drive containing one (1) Color PDF of the original documents of the RFP Package which shall include all required documents and any supplemental information. RFP Packages must be in a **SEALED** envelope/container and clearly marked on the exterior of the package: “**RFP No: 4295 - DISASTER RECOVERY CONSULTING SERVICES**”.

1. Each package submitted must also have the respondent’s company name and mailing address marked plainly on the exterior of the envelope/container.
2. Affix label, found at the end of this RFP document, to sealed envelope/container.

F. Evaluation of Responses:

All properly submitted RFP Packages shall be evaluated by an Evaluation Committee. Each Evaluation Committee Team Member will receive a set of all of the RFP packages submitted, a copy of the RFP document with all issued Addenda, and an Evaluator’s Score Sheet. The Team shall then evaluate each RFP Package according to the criteria described herein. Each Evaluation Team Member shall evaluate the RFP Packages individually, with no communication, coordination, or influence from any other Evaluation Team Member, or any other individual. Scores for each respondent shall be recorded on the Evaluator’s Score Sheet. The moderator will tally score sheets and verify results, presenting them from highest to lowest.

The City desires to avoid the expense to all parties of unnecessary presentations; however, the City may elect to conduct oral interviews or presentations from one or more of the respondents in order to make a final determination of the top rankings. If the City elects to conduct oral interviews or presentations, selected firms will be notified. All such presentations or interviews shall be open to the public.

City Staff may consider any evidence available regarding financial, technical, other qualifications and abilities of a respondent, including past performance (experience) with the City prior to recommending approval of award.

The City of Hattiesburg reserves the right to reject any or all proposals, waive minor formalities or award to/negotiate with the firm whose proposal best serves the interest of the City.

G. Evaluation Criteria:

It is the intention of the City of Hattiesburg City Council to evaluate and rank the respondents that submit RFP Packages from highest to lowest utilizing the evaluation criteria listed below.

Evaluation of the responses to this RFP will comply with the specific criteria as follows:

<u>Evaluation Criteria:</u>	<u>Maximum Points Per Evaluator:</u>
A. Qualifications and Experience	55
B. Proposed Strategy & Technical Approach	25
C. Auditing History	30
D. Socioeconomic Contractors	5
E. Proposed Pricing	5

Total Maximum Points Possible: 120

H. Contract Award:

A decision shall be made to enter into negotiations with the selected firm with the intention of coming to agreement over terms, conditions, and pricing in order to award a contract for the services described herein.

I. Contract Performance:

At any point in time during the term of the Contract with the awarded Consultant, City Staff may review records of performance to ensure that the Consultant is continuing to provide sufficient financial support, equipment and organization as prescribed herein. The City may place said contract on probationary status and implement termination procedures if the City determines that the Consultant no longer possesses the financial support, equipment and organization which would have been necessary during the RFP evaluation period in order to comply with this demonstration of competency section.

II. GENERAL REQUIREMENTS

A. Background:

With the January 2017 Presidential declaration of a State of Mississippi major disaster and associated Public Assistance declarations for the City of Hattiesburg [Categories A – G], the City of Hattiesburg seeks professional service assistance to support the City's disaster recovery, to expedite financial recovery and mitigation through the Federal Management Agency's (FEMA) Public Assistance (PA) Program and other federal and state programs, to ensure full compliance with all federal, state, and local laws in order to limit any subsequent audits and reviews, and to minimize impacts from future disasters. The ideal candidate shall possess demonstrated experience in disaster recovery programs and must have extensive knowledge and expertise in the operations of FEMA PA and Hazard Mitigation Programs.

B. Scope of Work:

Specific tasks include the following:

FEMA Public Assistance Advisory Services

Possess extensive knowledge related to the Stafford Disaster Relief and Emergency Assistance Act provisions and regulations (44CFR and 2 CFR 200), and Sandy Recovery Improvements Act (SRIA) of 2013 including alternative procedures for public assistance and debris removal.

Develop a process/system for the City, from inception through the project closeout, to prepare and submit its PA program; this is to include documentation, procurement and contract, payroll, and grant submission support.

Develop processes for obtaining, analyzing and gathering field documentation including, but not limited to, records related to procured goods and services, timekeeping, and force account labor and equipment; this should include processes for disaster debris monitoring services.

Attend all meetings with FEMA, state and insurance representatives, as well as participate regularly with the City's designated FEMA workgroup.

Identify and communicate risks within the City's operation that could preclude its ability to optimize reimbursement.

Possess the expertise to assist in the preparation of accurate PA emergency and permanent work project estimates including but not limited to recognized cost estimating, developing detailed damage descriptions and dimensions, scope of work, and proper identification of force account labor and equipment.

Financial, Payroll, and Grant Management

Ensure City disaster recovery and restoration processes comply with laws, regulations and guidelines to maximize reimbursement for eligible disaster expenditures and to minimize timing for reimbursement.

Possess the expertise to assist in all disaster-recovery financial reimbursement and reporting processes from FEMA, State or other agency. Ensure there are no duplications of submission if varying agencies are involved.

Possess the expertise to assist the City through FEMA, State (or other agency) guidelines to capture force account labor eligible expenses accurately for timesheets and project cost accounting. Assist in the review of City personnel policies to ensure compliance for eligible cost reimbursement.

Possess the expertise to assist the City through FEMA, State (or other agency) guidelines to ensure the capture of relevant data related to procured goods and services. Provide oversight of contractor's billing to ensure all costs eligible for disaster grant funding are documented and claimed.

Perform intervallic review and reconciliation of actual project spending to ensure project costs are accurately captured.

Ensure City documentation is sufficient to respond to Office of Inspector General (OIG) audits and reviews.

Procurement and Contract Management/Monitoring Support

Ensure City disaster recovery and restoration procurement processes comply with laws, regulations and guidelines as required by FEMA, State or other agencies.

Possess the expertise to assist in the review of City Purchasing policies to ensure compliance for eligible cost reimbursement.

Develop processes for ensuring compliance related to contract monitoring and contract close-out as required by FEMA, State, or other agencies.

Ensure City documentation is sufficient to respond to Office of Inspector General (OIG) audits and reviews.

Information Technology & Data Management

Possess the expertise to assist City staff in the development of IT solutions that support the management and implementation of disaster recovery programs.

Develop processes for the City to properly collect data and document information as necessary to optimize compliance with FEMA, state, or other agencies.

Ensure City documentation is sufficient to respond to Office of Inspector General (OIG) audits and reviews.

Insurance and Other Funding Support

Review and understand the City's insurance coverage in order to ensure the City's disaster recovery and restoration processes comply with laws, regulations and guidelines as required by FEMA, state, or other agencies.

Develop process to assist the City in routing eligible expenses correctly, including insurance coverage guidelines.

Possess the expertise to assist the City with identifying other disaster recovery funding opportunities, including Community Development Block Grant Disaster Recovery programs.

Ensure there are no duplications of funding or submissions if varying agencies are involved.

Hazard Mitigation Support

Provide expertise in identifying, developing and evaluating opportunities for the development of hazard mitigation programs to reduce or eliminate risk from future events.

Possess the expertise to assist the City is preparing relevant documentation and analysis related to hazard mitigation grant programs.

Ensure City hazard mitigation programs comply with laws, regulations and guidelines as required by FEMA, state or other agencies.

Emergency Management Support Services

Provide expertise related to post-disaster recovery continuity of operations, training, development of teams, monitoring, review and test of plans related to future events.

CFR 200 Compliance Language Procurements

While assisting the City with project procurements or in the event the vendor must procure additional resources post-contract award, the awarded Proposer will strictly adhere to 2 CFR 200 procurement rules. This includes adhering to the strictest provisions of Federal, State, and Local procurement Rules, Regulations and/or Ordinances, etc.

Vendor Billing

The winning vendor will be engaged in direct project work; therefore, indirect billing is not anticipated and must be pre-approved by the City. All direct project costs will be concisely billed to specific project codes established by the City. Vendor invoices will be categorized by: project code and must include:

- a. Name
- b. Position
- c. Billing Rate
- d. Total Hours
- e. Costs

Byrd Anti-Lobbying Amendment

Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] - Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

Suspension and Debarment

Suspension and Debarment

(1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such the contractor is required to verify that the contractor and none of its principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) This certification is a material representation of fact relied upon by (insert name of sub grantee). If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to (name of state agency serving as grantee and name of sub grantee), the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

C. Sub-Contractors:

If the Consultant elects to sub-contract with any firm, for any portion of the work, the Consultant shall be responsible for all work performed by any sub-contract and the Consultant shall not be relieved of any obligations under this Contract.

Each Respondent shall submit a list of proposed sub-contractors to be used if awarded the contract. Each Respondent must provide a list of Sub-Contractors, under Section 3: Qualifications and Experience, and attach a copy of any and all licenses and certificates for each sub-contractor listed and submit with each copy of the RFP Package. If subcontractors are to be included in the proposal, all terms and conditions must be disclosed including method and reason for selection, subcontractor compensation, and subcontractor billing rate. At the City's request, provide all internal sub-contractor documentation for federal reimbursement review.

If no sub-contractors are proposed, so state there on.

At any time, the City may, at its discretion, require any Respondent to submit all relevant data required to establish to the

satisfaction of the City, the reliability and responsibility of the proposed sub-contractors to furnish and perform the work proposed.

Prior to the award of the Contract, the City will notify the Respondent in writing if the City, after due investigation, has reasonable and substantial objection to any person or organization proposed as a sub-contract. The Respondent then may, at his option, withdraw his RFP Package, or submit an acceptable substitute at no increase in price. If the Respondent fails to submit an acceptable substitute within seven (7) days of the original notification, the City then may disqualify the Respondent, at no cost to the City.

The City reserves the right to disqualify any Consultant, Contractor, Sub-Contractor, Vendor, or material supplier due to previously documented project problems, either with performance or quality.

Sub-contractors and other persons and organizations proposed by the Respondent and accepted by the City, must be used on the work for which they were proposed and accepted and shall not be changed except with the written approval of the City.

III: CONTRACT REQUIREMENTS

A. Insurance Requirements:

The Consultant shall not commence work under this Contract until he/she has obtained all insurance required under this section and such insurance has been approved by the City of Hattiesburg. All insurance policies shall be issued by companies authorized to do business under the laws of the State of Mississippi. The Consultant shall furnish proof of Insurance to the City of Hattiesburg prior to the commencement of operations. The Certificate(s) shall clearly indicate the Consultant has obtained insurance of the type, amount, and classification as required by contract and that no material change or cancellation of the insurance shall be effective without thirty (30) days prior written notice to the City. Certificates shall specifically include the City of Hattiesburg as Additional Insured for all lines of coverage except Workers' Compensation and Professional Liability. A copy of the endorsement must accompany the certificate. Compliance with the foregoing requirements shall not relieve the Consultant of its liability and obligations under this Contract.

Certificate Holder Address: City of Hattiesburg
200 Forrest Street
Hattiesburg, MS 39401

The Consultant shall maintain during the life of this Contract, Comprehensive General Liability Insurance with minimum limits of \$1,000,000 per occurrence, \$2,000,000 aggregate to protect the Consultant from claims for damages for bodily injury, including wrongful death, as well as from claims of property damages which may arise from any operations under this Contract, whether such operations be by the Consultant or by anyone directly employed by or contracting with the Consultant.

The Consultant shall maintain during the life of the contract, Professional Liability or Errors and Omissions Insurance with minimum limits of \$1,000,000, if applicable.

The Consultant shall maintain during the life of this Contract, Comprehensive Automobile Liability Insurance with minimum limits of \$2,000,000 combined single limit for bodily injury and property damage liability to protect the Consultant from claims for damages for bodily injury, including the ownership, use, or maintenance of owned and non-owned automobiles, including rented/hired automobiles whether such operations be by the Consultant or by anyone directly or indirectly employed by a Consultant.

The Consultant shall maintain Umbrella or Excess Liability Insurance covering workers compensation, commercial general liability and business auto liability with minimum limits of liability of \$1,000,000.

The Consultant shall maintain during the life of this Contract, adequate Workers' Compensation Insurance in at least such amounts as are required by the law for the State of Mississippi.

In the event of unusual circumstances, the City Council may adjust these insurance requirements.

B. Licenses, Permits & Fees:

The Consultant shall be responsible for obtaining and holding any and all necessary licenses, permits, certifications required to perform the work described herein throughout the duration of the contract. Payment of any fees or fines resulting in the lack of permits, licenses or certifications shall be the sole responsibility of the Consultant.

C. Contract Agreement & Term:

The intent of the City of Hattiesburg is to select the number one ranked firm through the evaluation process and to award a contract upon successful negotiations to that firm. It is anticipated that the City will issue a professional services contract for the duration of the project. The initial contract term shall be through June 30, 2017, and will automatically renew for a period of four (4) years, providing satisfactory performance has been maintained by the Consultant, funds are available and the new Council does not exercise its option to void. Thereafter the contract may be renewed in one-(1) year increments, for a period of two (2) one-year renewals. The City reserves the right to renew the contract beyond the two (2) one-year renewals if it serves the best interest of the City.

It is expressly understood that the City's selection of any proposal does not constitute an award of a contract agreement with the City. Once the City has selected a proposal, contract negotiations will follow between the City and the selected respondent; it is further expressly understood that no contractual relationship exists with the City until a contract has been executed by both the City and the selected respondent. The City reserves the right to delete, add to, or modify one or more components of the selected Respondent's proposal in order to accommodate changed or evolving circumstances that the City may have encountered since the issuance of the RFP.

D. Governing Laws & Regulations:

It shall be the responsibility of the Consultant to be familiar and comply with any and all federal, state, and local laws, ordinances, rules and regulations relevant to the services to be performed under this contract. The contract agreement shall be governed by the laws of the State of Mississippi and the City, both as to interpretation and performance.

E. Termination:

Failure on the part of the Consultant to comply with any portion of the duties and obligations under the contract agreement shall be cause for termination. If the Consultant fails to perform any aspect of the responsibilities described herein, the City shall provide written notification stating any and all items of non-compliance. The Consultant shall then have seven (7) consecutive calendar days to correct any and all items of non-compliance. If the items of non-compliance are not corrected, or if acceptable corrective action as approved by the City, has not been taken within the seven (7) consecutive calendar days, the Contract Agreement may be terminated by the City for cause, upon giving seven (7) consecutive calendar days written notice to the Consultant.

In addition to the above, the City may terminate the contract agreement at any time, without cause, upon thirty (30) days written notice to the Consultant.

F. Indemnification:

To the fullest extent permitted by law, the Consultant shall indemnify and hold harmless the City of Hattiesburg, Mississippi, and employees from and against liability, claims, damages, losses and expenses, including attorneys' fees, arising out of or resulting from performance of the work, provided that such liability, claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or injury to or destruction to tangible property (other than the work itself) including loss of use resulting there from, but only to the extent caused in whole or in part by negligent acts or omissions of the Consultant, a Subconsultant, or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such liability, claim, damage, loss or expense is caused in part by a party indemnified hereunder.

In claims against any person or entity indemnified under this Paragraph by an employee of the Consultant, a Subconsultant, any one directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Consultant or a Sub-Contractor under workers' compensation acts, disability benefits acts or other employee benefit acts.

G. Trade Secrets:

To invoke the provision of the State of Mississippi, Trade Secrets, or other applicable law, the requesting firm must mark each page of such document or specific portion of a document claimed to be a trade secret must be clearly marked as “trade secret.” All material marked as a trade secret must be separated from all non-trade secret material, such as being submitted in a separate envelope clearly marked as “trade secret.” If the office or department receives a public records request for a document or information that is marked and certified as a trade secret, the office or department shall promptly notify the person that certified the document as a trade secret.

To invoke the provisions of the State of Mississippi, Trade Secrets, or other applicable law, the requesting firm must complete an Affidavit for Trade Secret Confidentiality, signed by an officer of the company, and submit the affidavit with the information classified as “Trade Secret” with other proposal documents. The affidavit must reference the applicable law or laws under which trade secret status is to be granted.

H. Public Records:

In accordance with the State of Mississippi (Public Records Law) and the Freedom of Information Act, and except as may be provided by other applicable State and Federal Law, all proposers should be aware that Request for Proposals and the responses thereto are public record. Also, please be aware that the Hattiesburg City Council publishes bid proposals on its agenda for public review. Proposers should identify specifically any information contained in their proposals which they consider confidential and/or proprietary and which they believe to be exempt from disclosure, citing specifically the applicable exempting law. Failure to identify confidential and/or proprietary information prior to submission of the proposal may result in such information being subject to release if requested in a public records request.

IV: REQUEST FOR PROPOSALS SUBMITTAL REQUIREMENTS

A. Respondent Responsibilities:

Respondents are responsible for any and all costs associated with developing and submitting an RFP Package in response to this Request for Proposals. Respondents are also solely responsible for any and all costs associated with interviews and/or presentations requested by the City. It is expressly understood, no Respondent may seek or claim any award and/or reimbursement from the City for any expenses, costs, and/or fees (including attorneys’ fees) borne by any Respondent, during the entire RFP process. Such expenses, costs, and/or fees (including attorneys’ fees) are the sole responsibility of the Respondent.

All RFP Packages received in response to this Request for Proposals shall become the property of the City of Hattiesburg and will not be returned. In the event of contract award, all documentation produced as part of the contract will become the exclusive property of the City.

By submitting an RFP Package, each Respondent certifies that the proposer has fully read and understands any and all instructions in the Request for Proposals, and has full knowledge of the scope, nature, and quality of work to be performed. All RFP Packages submitted shall be binding for one hundred twenty (120) consecutive calendar days following the submittal due date.

B. RFP Package Submittal Format:

The RFP Package format must sufficiently address and demonstrate all required components, and follow the order of sections described below. The aim of the required format is to simplify the preparation and evaluation of the RFP Packages.

All RFP Packages must include the following components:

<u>Section</u>	<u>Topic</u>
1	RFP Cover Page
2	Cover Letter
3	Qualifications and Experience
4	Proposed Strategy and Technical Approach
5	Auditing History
6	Proposed Pricing
7	Socioeconomic Contractors
8	Administrative Information

C. RFP Package Components:

All of the components outlined below must be included with each copy of the RFP Package and submitted as follows: one (1) original and one (1) electronic disc OR one (1) USB flash drive containing one (1) Color PDF of the original documents on 8 1/2" X 11" pages, numbered, 1 inch margins, typewritten with Times New Roman style and 12 size font. Additionally, all headings, sections and sub-sections shall be identified appropriately. All documentation shall be **exact order and format as shown below**. No exceptions to this format will be accepted.

In order to insure a uniform review process and to obtain the maximum degree of comparability, it is required that proposals be organized in the manner specified as follows:

Section 1: RFP Cover Page (Complete and Submit)

Section 2: Cover Letter

Provide a cover letter, **not exceeding two pages**, which is signed by an officer of the firm who is responsible for committing the firm's resources.

The cover letter should provide the following:

- Respondent's name, primary contact name, business address, phone number, fax number and e-mail address;
- Name and title of the individual with responsibility for the response and who will receive correspondence regarding this RFP;
- A brief statement of the respondent's understanding of the services required and qualifications to provide disaster recovery consulting services;
- A brief company background statement to include, but not limited to, years in business, corporate structure, professional affiliations, and capability of meeting deadlines;
- Such other information as the respondent deems appropriate.

Section 3: Qualifications and Experience

In this section, respondent shall provide firm and staff qualifications and demonstrate the firm's prior experience in providing disaster recovery consulting services in accordance with FEMA and other federal programs. Respondent shall clearly demonstrate an understanding of the scope of work and other technical or legal issues related to the project. Provide history of any litigation within the past five (5) years arising out of the firm's performance as it relates to the scope of services being solicited.

Provide copies of the following, if applicable:

- Proper and valid licensing to conduct business in the State of Mississippi
- Current Applicable Department of Professional Regulation License(s)
- Current Applicable Certification(s)
- A list of Sub-Contractors with credentials and related experience

Section 4: Proposed Strategy and Technical Approach

In this section, respondent shall provide the firm's proposed strategy in representing the City in responding to the FEMA Major Disaster DR-4295 event. The respondent shall also provide the firm's technical approach to perform the scope of services requested to include procedures, methodologies, resources, systems, etc.

Section 5: Auditing History

In this section, respondent shall demonstrate the firm's prior experience in defending and maintaining FEMA and other federal program reimbursements.

Section 6: Proposed Pricing

In this section, respondent shall fill out and submit the proposed rates on the rate sheet provided herein. Any and all positions that may perform any work required under the scope of services should be included in this rate sheet. Proposed base rates, fringe & overhead, profit, and proposed billing rates shall be provided by each respondent. Please provide the name and specific office location for the staff member holding each position. For evaluation purposes, the City will calculate an average base rate for each respondent, using all of the proposed base rates submitted on the rate sheet. Respondents shall be scored based on a pro-rata distribution of points according to the average base rate for each Respondent. The Respondent with the lowest average proposed base rate shall receive the maximum points possible, and all other Respondents shall receive a score based on the formula provided herein (see p. 15).

Section 7: Socioeconomic Contractors

Provide current copy of certificate of MBE/WBE/DBE.

Section 8: Administrative Information

Please include the following:

- Proof of Liability Insurance and its limits
- Drug Free Work Place Form (Complete and Submit)
- RFP Affidavit (Complete and submit)
- RFP Affidavit of Solvency (Complete and Submit)
- Conflict of Interest Disclosure Form
- Acknowledged Addenda

V: EVALUATION CRITERIA AND SCORE SHEET EXAMPLE

City of Hattiesburg City Council Definitions of Evaluation Criteria

A. Qualifications and Experience

The respondent provides firm and staff qualifications and demonstrates the firm's prior experience in providing consulting services and its familiarity with FEMA and other federal programs. Respondent clearly demonstrates an understanding of the scope of work and other technical or legal issues related to the project, and provides a history of any litigation within the past five (5) years arising out of the firm's performance as it relates to the scope of services being solicited.

This will be graded on a 0 – 55 scale.

B. Proposed Strategy & Technical Approach

The respondent provides the firm's proposed strategy in representing the City in responding to the FEMA Major Disaster DR-4295 event. The respondent provides the firm's technical approach to perform the scope of services requested including procedures, methodologies, resources, systems, etc. ***This will be graded on a 0 – 25 scale.***

C. Auditing History

Respondent demonstrates the firm's prior experience in defending and maintaining FEMA and other federal program reimbursements. ***This will be graded on a 0 – 30 scale.***

D. Socioeconomic Contractor

The respondent provides a current copy of certificate of MBE/WBE/DBE. (Points will be awarded only if the current certificate is provided.) ***This will be graded on a 0 – 05 scale.***

E. Proposed Pricing:

The respondent shall submit an Hourly Rate Form consisting of billable hourly labor rates for each person assigned to the Project and shall include all costs, work, insurance, fringes, supervision, engineering, and overhead and profit. A form for hourly rates is included in this RFP. ***This will be graded on a 0 – 5 scale.***

DATE:

PROJECT:

CRITERIA RANKING:

[illegible]

SIGNATURE OF RATER:_____

PRINT NAME: _____

DATE: _____

VI: ATTACHMENTS/FORMS

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

COVER PAGE

**SUBMIT ONE (1) ORIGINAL AND ONE (1) ELECTRONIC DISC OR ONE (1) USB FLASH DRIVE
CONTAINING ONE (1) COLOR PDF OF THE ORIGINAL DOCUMENTS:**

**City Council
CITY OF HATTIESBURG
200 FORREST STREET
HATTIESBURG, MS 39401**

ATTN: Debbie Bernardo, Clerk of Council

COMPANY NAME: _____

DATE: _____

ATTACHMENT A
HOURLY RATE FORM

Key Program Management Personnel: The Proposer shall identify Key Program Management Personnel for the Project. Provide detailed resumes (limited to two pages) of Key Program Management showing related experience.

PROGRAM MANAGEMENT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Program Manager	_____	_____	_____
Deputy Program Manager	_____	_____	_____
Program Administrator	_____	_____	_____
Project Coordinator	_____	_____	_____

Other Program Staff: The Proposer shall identify Other Program Staff's hourly rate. The Proposer may add additional lines if necessary.

CONSTRUCTION & OPERATIONS

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Cost Estimating			
On Site Inspector	_____	_____	_____
Construction Manager			
Resident Engineer	_____	_____	_____

PROGRAM & ADMINISTRATIVE SUPPORT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Financial Lead			
Project Manager	_____	_____	_____
FEMA Coordination			
Subject Matter Expert Funding			
Assistance Database Manager	_____	_____	_____
Procurement and Contracting			
Scheduling Administrative			
Assistance Senior Adviser	_____	_____	_____

All hourly rates provided shall be inclusive of all expenses incurred. Submitted by:

Authorized Signature, Title

Date

Consultant Firm Business

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

Company Name: _____

City of Hattiesburg Drug-Free Workplace Form

The undersigned firm hereby certifies that

_____ does:
Name of Firm

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the danger of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the contractual services that are described in the City's request for proposals to provide bond underwriter services a copy of the statement specified in paragraph 1.
4. In the statement specified in paragraph 1, notify the employees that, as a condition of working on the contractual services described in paragraph 3, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of the State of Mississippi, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction or plea.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.
6. Consistent with applicable provisions with State or Federal law, rule, or regulation, make a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1 through 5.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

Signature

Date

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

AFFIDAVIT

TO: CITY OF HATTIESBURG
HATTIESBURG, MISSISSIPPI

At the time the proposal is submitted, the Respondent shall attach to his proposal a sworn statement.

The sworn statement shall be an affidavit in the following form, executed by an officer of the firm, association or corporation submitting the proposal and shall be sworn to before a person who is authorized by law to administer oaths.

STATE OF _____ CITY OF _____. Before me, the undersigned authority, personally appeared _____ who, being duly sworn, deposes and says he is _____ (Title) of _____ (Firm) the respondent submitting the attached proposal for the services covered by the RFP documents for RFP No: 4295 DISASTER RECOVERY CONSULTING SERVICES.

The affiant further states that no more than one proposal for the above referenced project will be submitted from the individual, his firm or corporation under the same or different name and that such respondent has no financial interest in the firm of another respondent for the same work, that neither he, his firm, association nor corporation has either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this firm's proposal on the above described project. Furthermore, neither the firm nor any of its officers are debarred from participating in public contract lettings in any other state.

(Proposer)

By _____

(Title)

STATE OF _____)

COUNTY OF _____)

Subscribed and sworn to before me this _____ day of _____, 20____, by _____ who personally appeared before me at the time of notarization, and who is personally known to me or who has produced _____ as identification.

Notary Public

My commission expires:

VENDOR ON ALL CITY PROJECTS MUST EXECUTE AND ATTACH THIS AFFIDAVIT TO EACH PROPOSAL.

**REQUEST FOR PROPOSALS (RFP) NO: 4295 DISASTER
RECOVERY CONSULTING SERVICES**

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF {insert entity name}, being of lawful age and being duly sworn I, {insert affiant name}, as {insert position or title} (ex.CEO, officer, president, duly authorized representative, etc.) hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this ____ day of _____, 20__.

Signature of Affiant

STATE OF _____)

COUNTY OF _____)

Subscribed and sworn to before me this ____ day of _____, 20__, by _____
who personally appeared before me at the time of notarization, and who is personally known to me or who has produced
_____ as identification.

Notary Public

My commission expires:

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

City of Hattiesburg Conflict of Interest Disclosure Form

Project (RFQ, RFP, BID) Number/Description: _____

The term “conflict of interest” refers to situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting a consultant’s/contractor’s professional judgment in completing work for the benefit of the City of Hattiesburg (“City”). The bias such conflicts could conceivably impart may inappropriately affect the goals, processes, methods of analysis or outcomes desired by the City.

Consultants/Contractors are expected to safeguard their ability to make objective, fair, and impartial decisions when performing work for the benefit of the City. Consultants/Contractors, therefore must there avoid situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting the consultant’s/contractor’s professional judgement when completing work for the benefit of the City.

The mere appearance of a conflict may be as serious and potentially damaging as an actual distortion of goals, processes, methods of analysis or outcomes. Reports of conflicts based upon appearances can undermine public trust in ways that may not be adequately restored even when the mitigating facts of a situation are brought to light. Apparent conflicts, therefore, should be disclosed and evaluated with the same vigor as actual conflicts.

It is expressly understood that failure to disclose conflicts of interest as described herein may result in immediate disqualification from evaluation or immediate termination from work for the City.

Please check the appropriate statement:

☐ I hereby attest that the undersigned Respondent has no actual or potential conflict of interest due to any other clients, contracts, or property interests for completing work on the above referenced project.

☐ The undersigned Respondent, by attachment to this form, submits information which may be a potential conflict of interest due to other clients, contracts or property interests for completing work on the above referenced project.

Legal Name of Respondent: _____

Authorized Representative(s) : _____
Signature Print Name/Title

Signature Print Name/Title

VII: OPTIONAL CHECKLIST

REQUEST FOR PROPOSALS (RFP) NO: 4295 DISASTER RECOVERY CONSULTING SERVICES

SECTION	ATTACHMENT NAME	CHECK BOX	CITY USE
Section 1	RFP Cover Page		
Section 2	Cover Letter		
Section 3	Qualifications and Experience		
	Proper and Valid Licensing for conducting business in State of MS		
	Current Applicable Department of Regulation License(s)		
	Current Applicable Certification(s)		
	List of Sub-Contractors with credentials & related experience		
Section 4	Proposed Strategy & Technical Approach		
Section 5	Auditing History		
Section 6	Proposed Pricing / Rate Sheet Attachment "A"		
Section 7	Socioeconomic Contractors		
Section 8	Administrative Information (include the following):		
	Proof of Liability Insurance and Limits		
	Drug Free Work Place Form		
	RFP Affidavit		
	RFP Affidavit of Solvency		
	Conflict of Interest Disclosure Form		
	Acknowledged Addenda		

VIII: SEALED RFP MAILING LABEL

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

**Cut along the outer border and affix this
label to your sealed bid envelope to
identify it as a "Sealed RFP"**

SEALED RFP • DO NOT OPEN	
SEALED RFP NO.:	RFP 4295
RFP TITLE:	DISASTER RECOVERY CONSULTING SERVICES
DUE DATE/TIME:	By 10 AM MARCH 29, 2017
SUBMITTED BY:	
	Company Name
	Company Address
	Company Address
DELIVER TO:	City of Hattiesburg City Council ATTN: Debbie Bernardo 200 Forrest Street Hattiesburg, MS 39401



END OF DOCUMENT

March 21, 2017

ADDENDUM #1

**CITY OF HATTIESBURG
RFP NUMBER 4295
DISASTER RECOVERY CONSULTING SERVICES**

I: INTRODUCTION

Section A. Addenda, reads:

The City shall make every possible, good faith effort to issue any and all addenda no later than seven (3) days prior to the due date for proposals. Any addenda issued after this date, shall be for material, necessary clarifications to the Request for Proposal.

The aforementioned specifications are hereby amended to read as follows:

The City shall make every possible, good faith effort to issue any and all addenda no later than seven (7) days prior to the due date for proposals. Any addenda issued after this date, shall be for material, necessary clarifications to the Request for Proposal.

IV: REQUEST FOR PROPOSALS SUBMITTAL REQUIREMENTS

Section C. RFP Package Components, reads:

All of the components outlined below must be included with each copy of the RFP Package and submitted as follows: one (1) original and one (1) electronic disc OR one (1) USB flash drive containing one (1) Color PDF of the original documents on 8 1/2" X 11" pages, numbered, 1 inch margins, typewritten with Times New Roman style and 12 size font.

The aforementioned specifications are hereby amended to read as follows:

All of the components outlined below must be included with each copy of the RFP Package and submitted as follows: one (1) original **and seven (7) copies** plus one (1) electronic disc OR one (1) USB flash drive containing one (1) Color PDF of the original documents on 8 1/2" X 11" pages, numbered, 1 inch margins, typewritten with Times New Roman style and 12 size font.

VI: ATTACHMENTS/FORMS reads:

SUBMIT ONE (1) ORIGINAL AND ONE (1) ELECTRONIC DISC OR ONE (1) USB FLASH DRIVE CONTAINING ONE (1) COLOR PDF OF THE ORIGINAL DOCUMENTS:

The aforementioned specifications are hereby amended to read as follows:

SUBMIT ONE (1) ORIGINAL, **SEVEN (7) COPIES PLUS** ONE (1) ELECTRONIC DISC OR ONE (1) USB FLASH DRIVE CONTAINING ONE (1) COLOR PDF OF THE ORIGINAL DOCUMENTS:

VIII: SEALED RFP MAILING LABEL includes a due date/time of 10 a.m. March 29, 2017.

The aforementioned specifications are hereby amended to read as follows:

Please use this mailing label with the due date/time of 10 a.m. April 5, 2017:

SEALED RFP • DO NOT OPEN	
SEALED RFP NO.:	RFP 4295
RFP TITLE:	DISASTER RECOVERY CONSULTING SERVICES
DUE DATE/TIME:	By 10 AM APRIL 5, 2017
SUBMITTED BY:	_____ Company Name
	_____ Company Address
	_____ Company Address
DELIVER TO:	City of Hattiesburg City Council ATTN: Debbie Bernardo 200 Forrest Street Hattiesburg, MS 39401

ADDENDUM #2
RESPONSES TO QUESTIONS

RFP #4295

CITY OF HATTIESBURG

1. Has the FEMA Kick Off Meeting occurred (meeting with the FEMA Public Assistance Coordinator (PAC))?

Response: Yes. The FEMA Kick-Off Meeting occurred 2-22-17.

2. What are the Preliminary Damage Assessments (PDAs) totals per Category of work to date?

Response: Any numbers provided are indeed preliminary and cannot be guaranteed as accurate, as the City is in the process of collecting this information and expects it to change. The figures below are all ballpark estimates.

CAT A (Debris Removal): \$3 million

CAT C (Signs and Fences): \$200,000

CAT E (Buildings and Facilities): \$750,000

CAT G (Parks): \$750,000

3. Does the City of Hattiesburg have an Approved Debris Management Plan?

Response: Yes. The city's plan was approved by MEMA and FEMA prior to the tornado of January 21, 2017.

4. Have any Special Considerations/issues been identified such as Historical, Environmental, Insurance...

Response: It is too early in the process to provide a complete answer. The City is working with insurance, but has not reached agreement upon a final settlement. With regard to historical and environmental issues, the city plans to follow all federal regulations associated with grants, but no final determination has been made.

5. Under II, General Requirements, B Scope of Work
“Develop a process/system for the City, from inception through the project closeout, to prepare and submit its PA program; this is to include documentation, procurement and contract, Payroll, and grant submission support.” Could you please clarify what is meant by “to prepare and submit its PA Program;” ? Are you referring to submitting Project Worksheets?

Response: The city issued this request for proposals with the expectation that all firms responding to it would have the necessary experience and qualifications to assist the city with complete compliance, as stated in Section II A.

6. Is there a company currently performing the work? If so, who is the company?

A local company, Broaddus Associates, was hired after the emergency and is currently performing the work on a temporary basis.

7. What is the value of the grant portfolio?

Please refer to the preliminary damage assessments.

Please note that the question period has ended. The submission date of 10 a.m. April 5, 2017, will remain the same; there will be no extensions. Thank you.



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Section 1
Cover Page



**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

COVER PAGE

**SUBMIT ONE (1) ORIGINAL AND ONE (1) ELECTRONIC DISC OR ONE (1) USB FLASH DRIVE
CONTAINING ONE (1) COLOR PDF OF THE ORIGINAL DOCUMENTS:**

**City Council
CITY OF HATTIESBURG
200 FORREST STREET
HATTIESBURG, MS 39401**

ATTN: Debbie Bernardo, Clerk of Council

COMPANY NAME: Broaddus & Associates

DATE: April 5, 2017

Section 2
Cover Letter





April 5, 2017

Mayor Johnny L. Dupree, Ph.D.

The City of Hattiesburg, Mississippi
200 Forrest Street
Hattiesburg, MS 39401

RE: Disaster Recovery Consulting Services

Dear Scoring Committee:

On January 21st 2017, a tornado struck Hattiesburg devastating the community and severely damaging or destroying many facilities in the community. Several of the professionals in our firm recall their own trials with Hurricanes Ike and Katrina in addition to the series of tornadoes that struck across northern Mississippi and Alabama in April 2011. We understand what it takes to get the cities impacted by these tragedies back on their feet and operational again. Broaddus & Associates has been honored to serve Hattiesburg in this role in an emergency capacity. We appreciate the opportunity to continue this service to the community through a Long-Term Disaster Recovery Services contract. Our firm has provided project management and coordinated funding sources for over \$700 million worth of insurance, FEMA, and other federally funded projects in Mississippi, Texas and Florida.

While the documents that accompany this letter address general information relating to resources, experience and qualifications, we also want to emphasize the aspects of our firm that differentiate us:

- **Specific Experience with Disaster Recovery.** Our team including the Ardurra Group, understands the unique nature of these services and the level of urgency they require. Broaddus and Ardurra have worked on disaster projects nationwide, and bring a wealth of knowledge on managing federally funded disaster recovery projects. Our experience managing the recovery of natural disasters is a testament to our ability to meet the needs of your community. We have enclosed information on some recovery projects we have recently worked on.
- **Experience with Federal and State Funding Sources.** Municipalities recovering from a natural disaster need more than assistance with construction and renovation. Our firm has significant experience in dealing with the complex coordination required with procuring and administering emergency funds from FEMA, HMGP, CDBG, CIAP, BIG and other federal resources. We will maximize every dollar available to your community and handle the myriad of administrative responsibilities associated with this funding.

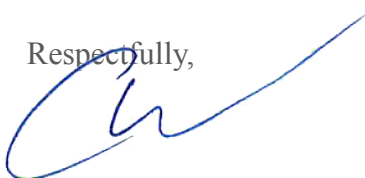
207 E. Front Street Suite 104 ♦ Hattiesburg, Mississippi 39401 ♦ (228) 238-1541 ♦ Fax (662) 640-4860

- **Dedicated Local Resources.** Broaddus & Associates came to Mississippi over ten years ago, and has expanded over the years by providing services where they were needed most. In some cases, natural disasters led to permanent offices staffed by local professionals. We are not “out of town” consultants making big promises who cannot be found when needed. We become a part of every community where we work; as examples of this, we have enclosed letters of reference from municipalities we have worked with that have faced similar challenges.
- **Unmatched Experience from Exceptional Professionals.** Our team’s experienced employees include architects, engineers, and construction professionals who have been on the owner’s side and have assisted with disaster recovery efforts. We provide a dedicated team of project managers with an average of 25 years’ experience per professional. We have enclosed resumes of a select few of our over 80 staffed professionals.
- **Nationally Recognized.** Since our founding in 2000, we’ve grown from a ‘startup’ to being ranked in the top 50 project management firms in the country according the *Engineering News Record*, and 3rd among those who list project management as their core business. There is no learning curve for our team on your projects.

Our firm will provide the experience and dedication needed to foster the Project Management, Grant Administration and Pre-and Post-Disaster recovery process needed. Lastly, I commit that if you should decide to engage us, I will ensure the full capability of our firm will be focused on assisting your community. We appreciate the opportunity to continue working with the great City of Hattiesburg.

Thank you for your consideration.

Respectfully,



Colton Wood
 Director of Operations
 207 E. Front Street, Suite #104
 Hattiesburg, MS 39401
 C (228) 238-1541 Cell
 F (662) 640-4860 Fax
 cwood@broaddusassociates.com

Section 3
Qualifications and
Experience



FIRM OVERVIEW

COMPANY OVERVIEW

Serving the owner during all phases of planning, design, and construction for a single project or program of multiple projects, the Broaddus Companies provide proactive leadership to ensure effective project delivery on behalf of our clients. Offering a diverse set of services from 10 regional offices, our team has grown by providing experienced professionals and creative solutions on a variety of programs. The goal of our services is simple, but effective: serve the program owner by providing unmatched experience and unwavering Best Practices. These two offerings are the cornerstone of our companies, and have delivered consistent value to our owner-clients.

HISTORY

Our firm was established in 2000, by its founder, President and CEO Dr. James A. Broaddus, P.E. Following a 20-year career as a U.S. Navy Civil Engineer Corps Officer and Seabee constructing facilities at locations around the world, Dr. Broaddus served as Associate Director of the Construction Industry Institute (CII), a national research center dedicated to improving quality and cost-effectiveness on construction projects.

During his subsequent tenure as CEO of Design-Build Institute of America, Dr. Broaddus recognized the need to assist owners in the management of complex, major capital construction programs regardless of delivery method. Broaddus & Associates was established to focus on serving these owners. Best Practice programs such as constructability, pre-project planning, and partnering have been used in addition to alternative project delivery systems to effectively control budgets, compress schedules, and create satisfied clients.

Operating from offices across Mississippi and Texas, our firm is currently managing, or assisting owners in managing projects totaling over \$2 billion in total cost. These projects, combined with approximately \$9 billion in completed projects, show exponential growth over the last 15 years. We employ more than 80 professionals providing project management and planning services on projects nationwide. Our team includes architects, engineers, and construction professionals who have been on the owner's side, with an average of 25 years of experience per professional.

LOCAL PRESENCE

Since 2006, our firm has managed over \$600 million in projects in Mississippi, including K-12 schools, hospitals, first responder facilities, manufacturing plants, municipal infrastructure and higher education campuses. Starting with offices along the Gulf Coast that assisted with the recovery from Hurricane Katrina, the company has opened offices across Mississippi that provide

a diverse array of facility solutions to public and private sector clients.

A listing of Mississippi clients for whom we have provided planning, project management, and FEMA consulting services are as follows:

- City of Gulfport
- City of Long Beach
- City of Louisville
- City of Moss Point
- City of Ocean Springs
- City of Pass Christian
- Coahoma Community College
- Forrest County
- Itawamba Community College
- Jackson County Board of Supervisors
- Harrison County Utility Authority
- Hinds Community College
- Monroe County School District
- Louisville Municipal School District
- Oktibbeha County
- Pearl Public School District
- Rankin County School District
- Senatobia School District
- Town of Smithville
- Tupelo Public School District
- Water Valley School District
- Winston County Medical Center

Our local team is staffed with qualified native Mississippians who take pride in improving the communities where we work and live. We understand that quick deployment of qualified resources is vital to getting a project off to a good start. Too many projects are needlessly delayed when a firm is unable to provide the proper staffing, thus creating initial delays that are difficult to overcome. Broaddus & Associates is prepared to immediately provide services associated with this proposal and our submitted team members are well acquainted with the area.

FEMA 361 EXPERIENCE

The FEMA Hazard Mitigation Grant Program provides funding to state and local governments for long-term hazard mitigation activities designed to reduce the loss of life and property due to natural disasters. Data shows that investments in hazard

mitigation before a disaster to prevent damage and save lives create a net savings of taxpayer dollars during post-disaster response and recovery periods. A significant portion of this program is HMGP funding for facilities that meet P-361 standards, which provides guidance on Best Practices related to the design, construction, and operation of safe rooms. It provides the design criteria for any safe room, public or private, to be capable of providing maximum protection for its occupants during tornadoes and hurricanes. While principally funded by government grants to construct shelters, these facilities can also serve as school gymnasiums, cafeterias, or libraries for everyday functionality.

Broaddus & Associates has helped local governments, school districts, public colleges, and nonprofits navigate the complex funding programs that can fund a significant portion of the construction costs for 361 shelters. Our services have helped these owners employ grant funding to cover a significant portion of the following project costs of FEMA 361 shelter facilities:

- Planning, engineering, and design
- Grant application services
- Permitting, environmental, utilities
- Basic dome structure and exterior
- Handicapped parking, sidewalks, curbing and railing
- Finished carpentry
- HVAC
- Plumbing
- Electrical
- Restrooms
- Emergency generator
- Fire suppression
- Signage

In addition to HMGP FEMA 361 emergency shelter funding, Broaddus & Associates is working, or has worked, with the following programs on various local projects:

- Coastal Impact Assistance Program
- Tidelands Funding
- Community Development Block Grant Funding
- FEMA Public Assistance Program
- FEMA Hazard Mitigation Grant Program
- Social Services Block Grant Funding
- Coastal Impact Assistance Program
- Various State Funding Resources



LITIGATION

No litigation or claims filed against our company will have any effect on our company's performance for the City. We can disclose detail on any legal matter in our firms history upon request.

SUBCONTRACTORS

Ardurra Group LLC is a professional services firm providing multi discipline engineering, architecture, project and program management, and disaster management services to public agencies and private sector clients. Founded in 1976, Ardurra has helped manage recovery efforts for 23 federally declared disasters in twelve states. **Ardurra has NO litigation in the past five years arising out of the firm's performance.**

Services include:

- ▶ *Project Management, Program Management, Construction Management, Grant Application Development (HUD CDBG, CDBG-DR, HOME, ESG, FHWA, FTA, FEMA IA, PA, 404 & 406, EDA, Wildlife & Fisheries, USDA & EPA programs)*
- ▶ *Disaster Management – planning, mitigation, recovery, close out*
- ▶ *Coastal Engineering - marsh restoration and creation*
- ▶ *Wastewater - treatment plants, sanitary sewer lift stations, pump stations, conveyance systems*
- ▶ *Water - transmission, distribution, treatment, purification, booster stations, high service pump stations, reuse projects*
- ▶ *Flood Control - bulkheads, floodwalls, floodgates, levees, channels, bank stabilization*
- ▶ *Drainage - collection, conveyance, master planning, pump stations*
- ▶ *Navigation - locks, dams, dredging*
- ▶ *Hydraulic & Hydrologic Engineering - river & watershed studies, water & wastewater hydraulic modeling*
- ▶ *Architecture*

Ardurra Group | Disaster Management & Leveraging Multiple Funding Mechanisms

For 15 years Ardurra has been furnishing post disaster debris management, facility assessment, design, construction and federal funds management services to repair and harden housing, infrastructure and critical facilities. We have worked on 23 federally declared disasters in twelve states — Hurricanes Katrina, Rita, Ike, Gustav, Irene, Superstorm Sandy, SC Floods 2015, LA Floods 2016 — to name a few. We understand the specific issues

involved in assessments, emergency repairs, design, construction services and overall grant funds management as they relate to federal agencies and local authorities. We know how to navigate the system and we know when and where to tap into funding sources. We understand the rules to ensure funding sources are maximized and not jeopardized.

Recovery experience in the last five years alone....

- ▶ *St Bernard Parish LA Katrina/Rita Recovery & Closeout \$1.5B FEMA, CDBG-DR*

- ▶ *Nassau County NY Superstorm Sandy Recovery \$1.6B FEMA, CDBG-DR, FHWA, USDA, NY EFC, EFC-SMLP*

- ▶ *Nassau County NY Bay Park Sewage Treatment Plant \$830M FEMA, CDBG-DR*

- ▶ *East Baton Rouge Parish LA Sheriff's Office Recovery \$13M FEMA, CDBG-DR*

- ▶ *Livingston Parish LA Sheriff's Office Recovery \$12M FEMA, CDBG-DR*

- ▶ *City of Longmont CO Needs Assessment & Advisory Services \$70M CDBG-DR*

- ▶ *State of CO HUD Technical & Recovery Assistance \$320M USDA, CDBG, CDBG-DR*

- ▶ *State of SC 2015 Flood Recovery Action Plan Development & Implementation \$90M CDBG, CDBG-DR*

- ▶ *City of Sumter SC FEMA Flood Recovery \$6M FEMA*

- ▶ *East Richland County SC Flood Recovery \$8.3M FEMA, CDBG-DR*

- ▶ *Cleveland County OK HUD Advisory and Recovery Services \$2M CDBG, CDBG-DR*

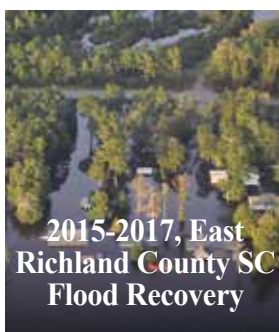
- ▶ *State of NJ Initial HUD Action Plan Development \$1.8B DCBG, CDBG-DR*

- ▶ *New York Rising Housing Program \$3M*

- ▶ *New York City Build It Back Housing Program \$4.5M*

- ▶ *State of LA HMGP Home Elevation Program \$750M*

- ▶ *Cameron Parish LA Hazard Mitigation Advisory \$35M FEMA, CDBG-DR*



VALID
LICENSING



DELBERT HOSEMANN
Secretary of State

Name History

Name	Name Type
Broaddus & Associates, Inc.	Legal

Business Information

Business Type:	Profit Corporation
Business ID:	911080
Status:	Good Standing
Effective Date:	04/23/2007
State of Incorporation:	TX
Principal Office Address:	

Registered Agent

Name
Colton Wood
207 E. Front Street, Suite 104
Hattiesburg, MS 39401

Officers & Directors

Name	Title
James A Broaddus 1301 S Capital Of Texas Hwy Ste A302 Austin, TX 78746	Director, President
Gilbert Gallegas 1100 E Jasmine Ave Suite 102 McAllen, TX 78501	Vice President
Scott Broaddus 1301 S Capital Of Texas Hwy Ste A302 Austin, TX 78746	Chief Financial Officer

Name History

Name	Name Type
Ardurra Group, LLC	Legal

Business Information

Business Type:	Limited Liability Company
Business ID:	1095031
Status:	Good Standing
Effective Date:	06/14/2016
State of Incorporation:	LA
Principal Office Address:	3012 26TH STREET METAIRIE, LA 70002

Registered Agent

Name
NATIONAL CORPORATE RESEARCH, LTD
248 E CAPITOL STREET, SUITE 840
JACKSON, MS 39201

Officers & Directors

Name	Title
Ann Springston Shires 3012 26th Street METAIRIE, LA 70002	Secretary

REGULATION LICENSES

Broaddus & Associates and Ardurra Group are both licensed to conduct business in the State of Mississippi and both in good standing with the Mississippi Secretary of State. Ardurra Group is a registered Mississippi Engineering Firm. Although this engagement does not include Professional Engineering Services, our teams engineering expertise will be an additional value to the City when overseeing the Design Team(s), Drawing Reviews, and Value Engineering as needed.

MISSISSIPPI
Board of Licensure for Professional Engineers and Surveyors

Find Licensee
Contact Us

Firm Details

Firm Name: Ardurra Group, LLC Address: 3012 26th Street Metairie LA 70002 County: Out Of State Phone: 504-454-3866
License Type: Certificate of Authority (Engineering) License Number: 27472 Expires on: 12/31/2017 Designated Licensee: Mr. Richard Alan Cloutier (PE-10345)

MISSISSIPPI.gov

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Many documents provided within this website are in Adobe Acrobat PDF format.
<http://www.adobe.com/products/acrobat/needed.html>

Get Adobe Reader

CERTIFICATIONS

Broaddus & Associates is certified as a Service Disabled Veteran Owned Business (SDVOB) by the U.S. Department of Veterans Affairs to provide services under a variety of NAICS codes primarily related to construction and professional services.

Broaddus & Associates, Inc.

Business Information

Doing Business As:
DUNS: 011260200
Workflow Status:
Registration Status: Verified
Last Verified: 8/10/2015
Expiration Date: 8/10/2018
Year Established: 2000
Business Street Address 1: 1301 S. Capital of TX Hwy Site A302
Business Street Address 2:
City: Austin
State/Territory: Texas
County: Travis
Zip: 78746 - 6581
Phone: (512) 329-8822
Fax: (512) 329-8242
Company Email: jeff@broaddus.com
Web Address: <http://www.broaddusassociates.com>



Business Type

Business Type: Sub Chapter S Corporation (Inc. or Ltd.)
Cage Code: 3FYX1
NAICS: 236115, 236116, 236117, 236118, 236210, 236220, 237110, 237310, 237990, 541330
FSC:
B540, C111, C112, C113, C114, C119, C121, C122, C123, C124, C129, C130, C215, D314, R408, R413, R415, R499, Y111, Y112, Y119, Y121, Y122, Y123, Y124, Y125, Y126, Y127, Y129, Y131, Y139, Y141, Y142, Y149, Y151, Y152, Y153, Y154, Y155, Y159, Y161, Y162, Y163, Y164, Y165, Y166, Y169, Y171, Y172, Y173, Y174, Y179, Y181, Y182, Y183, Y184, Y191, Y192, Y199, Y211, Y212, Y213, Y214, Y215, Y216, Y219, Y221, Y222, Y223, Y224, Y231, Y232, Y233, Y234, Y235, Y236, Y237, Y239, Y241, Y242, Y243, Y244, Y245, Y249, Y291, Y292, Y293, Y294, Y299, Y300
Certifications: Service-Disabled Veteran Owned Small Business
Woman Owned Small Business: No
Minority Owned Small Business: No
HUBZone: No
8(a): No
Purchase Card: No

Capabilities

Number of Employees: 120
Number of Veteran Employees:
Number of Operating Locations: 9
Geographical Service Area(s): All
Capabilities Narrative: Broaddus & Associates is a building design and construction project management and planning firm that is ranked among the US top 40 program managers by Engineering-News Record. The company has the planning and project management capabilities that result in high-quality projects delivered on-time and within budget. Our project management approach combines research proven best practices with exceptionally experienced staff to produce consistently superior results. Representing Owners during the planning, design and construction of facilities is our primary business.
Capabilities Keywords: Master Planning, Facilities Planning and Programming, Construction Management of Facilities, Owner Representation during Planning, Design and Construction of Facilities, Construction of Facilities, New Single-Family Housing Construction (except Operative Builders), New Multifamily Housing Construction (except Operative Builders), New Housing Operative Builders, Residential Remodelers, Industrial Building Construction, Commercial and Institutional Building Construction, Water and Sewer Line and Related Structures Construction, Highway, Street, and Bridge Construction, Other Heavy and Civil Engineering Construction, Engineering Services, New Single-Family Housing Construction (except For-Sale Builders), New Multifamily Housing Construction (except For-Sale Builders), New Housing For-Sale Builders

Business Relationships

Joint Venture: No

Mentor Protégé: No



PROJECT COST

\$ 3,929,000

SERVICES PROVIDED

Grant Management, Project
Management

DATES

Start: 08/2009

Finish: 10/2011

Broaddus & Associates was hired by the City of Long Beach as its project manager to handle all FEMA public assistance projects. The project required coordination among the city, architect, and mitigation firm handling the FEMA 404 HMGP scope and process. Fire Station #2's initial programming was for a 11,500 SF, two-story, 2 engine bay facility (with 2,700 SF of the 11,500 SF rated to FEMA 361 design standards for use as a first responders shelter).

Broaddus & Associates became involved after the design had been in process for eight months, and ineffective management of FEMA 404 Hazard Mitigation jeopardized design completion. The FEMA 404 process was challenging to the architecture firm since it had not participated in a 361 shelter HMGP project in the past, and the mitigation firm was not properly managing the project. The FEMA 404 HMGP scope was not properly estimated, and the scope of the shelter did not fulfill the long-term needs of the city. For example, if only 2,700 SF was hardened to FEMA 361 specifications, then the remaining portion of the building would be in danger of collapse and the facility would be useless after a disaster.

After identifying the issues and gaining acceptance from the mayor, fire chief and FEMA, Broaddus & Associates directed the architect in development of a new funding and cost analysis, in addition to appealing to FEMA for the additional scope and funding. With FEMA 404 approval, the project received \$1.4 million in additional funding for the shelter portion of the building. As a key public building in Long Beach, it is a functional and attractive first responders' shelter capable of withstanding 200+ MPH wind loads.



PROJECT COST
\$2,302,400

SERVICES PROVIDED
*Planning, Project
Management, Grant
Management*

DATES
*Start: 04/2010
Finish: 04/2011*

Beginning in July of 2007, Broaddus & Associates was retained as the City of Gulfport's project manager for all Hurricane Katrina recovery projects. One of the multiple projects included in the City of Gulfport Disaster Recovery Contract was Fire Station #7, which was completely destroyed during the storm.

The station was hit by a storm surge and wind that knocked down three of four sides of the building. All electrical, mechanical, and plumbing was destroyed or damaged, in addition to substantial site damage. After Katrina, the city utilized a manufactured home on the site.

Broaddus & Associates provided the following services for the Fire Station #7 project as the client's representative: oversight of design, plan review, oversight of construction, FEMA grant management, procurement consultation, budgeting, forecasting, project closeout, inspections, and weekly client updates.

The new building is 8,881 SF and includes larger engine bays for newer, larger ladder trucks to service local high-rise buildings, a state-of-the-art engine bay ventilation system, reinforced core-filled CMU exterior walls to protect the building and equipment from future hurricanes, additional engine truck access from the rear of the building, a floor plan accommodating female firefighters stationed at #7, and a backup generator.

In addition, the new fire station blends with surrounding neighborhoods and avoids the stereotypical appearance of most fire stations.

Town of Smithville

Municipal Facilities

THE BROADDUS COMPANIES • SMITHVILLE, MISSISSIPPI



PROJECT COST

\$6,550,000

SERVICES PROVIDED

Planning, Program Management,
Project Management, Grant
Management

DATES

Start: 4/2011
Finish: 04/2013

On April 27, 2011, a catastrophic EF5-level tornado decimated Smithville, Mississippi. Nearly every building was destroyed or heavily damaged in the small town of 900 residents. Winds of up to 200 miles per hour destroyed the town's infrastructure, and 16 people lost their lives. The half mile- wide tornado was the worst twister to hit Mississippi since 1966. Upon being selected as the town of Smithville's program manager, Broaddus & Associates assisted with the tornado recovery program.

Smithville had a comprehensive long-term recovery planning process to coordinate federal, state, and local recovery resources. Broaddus & Associates coordinated funding and approval processes from sources such as Federal Emergency Management Agency (FEMA), Mississippi Emergency Management Agency (MEMA), grants, and insurance. The program manager managed design and construction of new facilities and repair of old ones. This involved architect, engineer, and contractor selection and managing each project for overall quality, timeliness, and cost-effectiveness.

The projects included:

- New town hall
- New police department
- Water department building repair
- Fire department building repair
- Water meter and sewer service replacement
- Water treatment plant repairs
- Well building repairs
- Water storage tank repairs
- Wastewater treatment plant repairs

Harrison County Utility Authority

Public Infrastructure

THE BROADDUS COMPANIES • HARRISON COUNTY, MISSISSIPPI



PROJECT COST

\$243 million

SERVICES PROVIDED

Project Management, Grant
Management

DATES

Start: 04/2009

Finish: 04/2010

The Mississippi Gulf Region Water and Wastewater Plan represented a collaborative effort between Mississippi's public and private sectors to respond in an extraordinary way to the devastation of Hurricane Katrina. Mississippi's leaders worked with the State's congressional delegation to obtain over \$5 billion in long-term recovery assistance, through the U.S. Department of Housing and Urban Development.

Broaddus & Associates was selected by the Harrison County Utility Authority (HCUA) to provide project management services, acting as owner's representative, to manage approximately 28 CDBG water and sewer infrastructure projects through final design and construction. These projects included management of 12 engineering and testing firms and 15 general contractors. The firm's experience and expertise in coordinating CDBG projects and project teams was necessary to manage projects through completion and closure and coordinate with and assist the grant administrator. The project manager maintained and regularly updated the project schedule approved by Mississippi Department of Environmental Quality (MDEQ), which included financials, design activities, bidding/negotiation, construction, all project phasing, occupancy, and closeout.

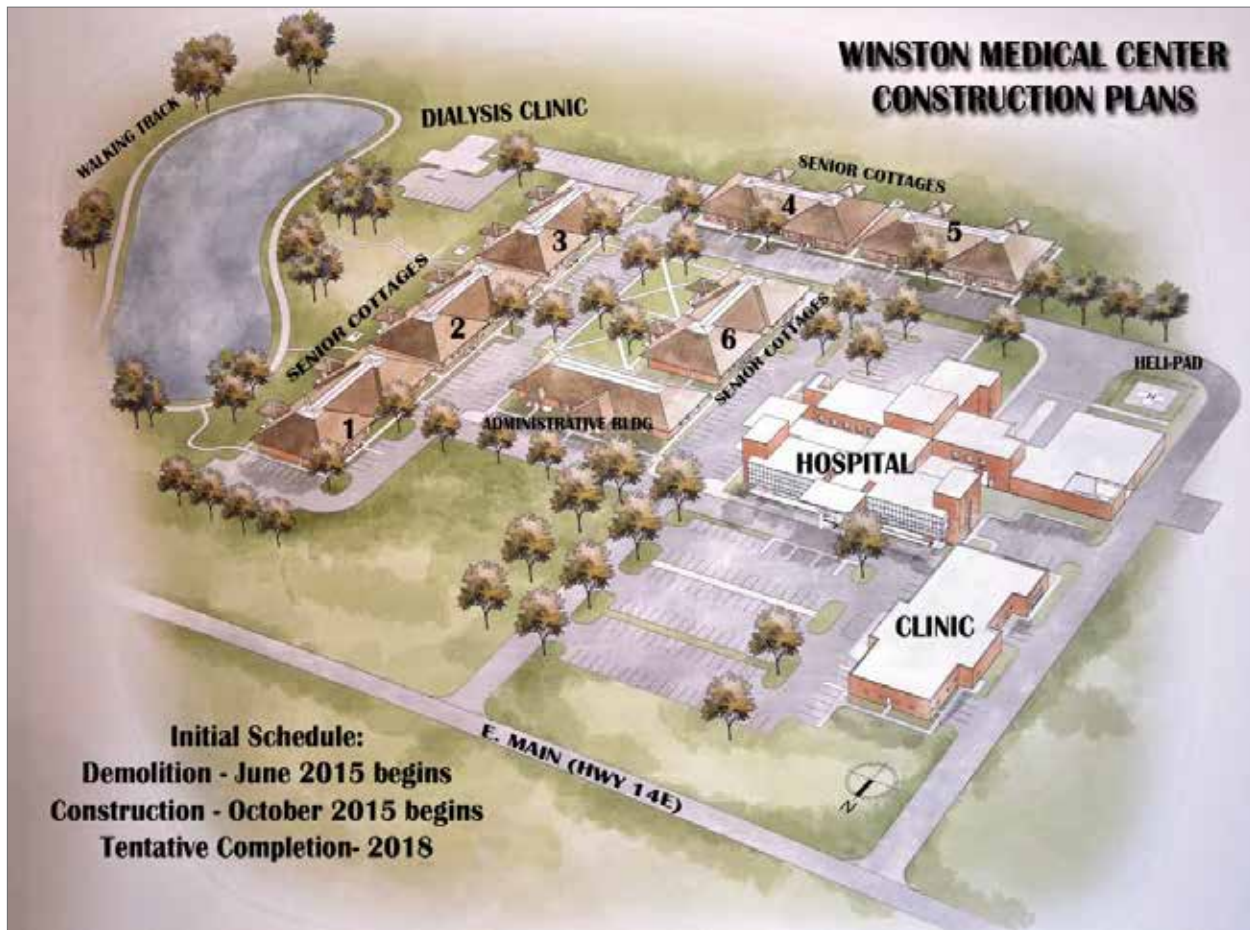
They also maintained the project budget, negotiated resolutions of any issues, maintained full and detailed project records, and exercised such controls as necessary for proper financial management. Further, Broaddus & Associates led efforts to ensure budget and scheduled goals were met for activities such as detailed construction schedules, cost estimates at conclusion of each phase, constructability reviews, site planning and logistics, subcontractor prequalification and solicitation, resolution of rezoning and permitting issues, and ongoing management of contractor's efforts to ensure timely completion and closeout of the projects.

Broaddus & Associates helped reinstitute the Technical Advisory Committee for HCUA. The purpose of this committee was to review submittals and communicate their findings to the Board of Directors. As a result, members of the board made educated decisions, the number of change orders were significantly reduced, and a significant amount of federal/CDBG dollars were saved.

Winston Medical Foundation

Winston Medical Center

THE BROADDUS COMPANIES • WINSTON COUNTY, MISSISSIPPI



PROJECT COST

\$40,000,000

SERVICES PROVIDED

Project/Program Management, Grant

Consulting

DATES

Start: 08/2014

Finish: Est. 2018

After a EF-4 tornado struck Louisville, Mississippi on April 28th, 2014, Winston Medical Center's (WMC) facilities were damaged to the point they could not serve area residents. To evaluate and determine the best way to provide these needed services in the shortest amount of time, WMC worked with Broaddus & Associates, representatives from Mississippi Governor Phil Bryant's office, the Mississippi Emergency Management Agency, Winston County, the City of Louisville, the Federal Emergency Management Agency and the U.S. Department of Health and Human Services to create both short and long term recovery solutions.

In the days following the storm, Broaddus & Associates assisted in the site management to set up a fully functioning hospital, which marked the first time FEMA deployed a mobile hospital complex. The project management team worked 24/7 to mobilize and prepare the site pad, utilities, and necessary infrastructure to get the mobile hospital ready as quick as possible to aid the ailing community.

Broaddus & Associates then served as project manager through the process of managing the complex funding mechanisms needed for the facilities, including insurance, New Market Tax Credits, FEMA, MEMA and other resources. Our project management team was deployed on the project site in Louisville for the duration of the engagement.



PROJECT COST

\$48,000,000

SERVICES PROVIDED

Project/Program
Management,
Grant Management
Consulting

DATES

Start: 08/2014
Finish: 09/2016

Broaddus & Associates served on the project management team for the construction of Winston Plywood and Veneer's new manufacturing plant in Louisville, Mississippi. In April of 2014, the company's facilities were destroyed by a tornado that caused massive local damage and claimed 10 lives. After the storm, Winston Plywood and Veneer remained committed to rebuilding its operations in Louisville, and was honored with a 2016 "Corporate Investment and Community Impact Award" by Trade and Industry Development magazine. In addition to the investment made by the company, disaster recovery funds from the Federal Emergency Management Agency (FEMA) were used to build the new facility.

Broaddus & Associates represented the City of Louisville by coordinating fund management of the project. Given its ownership of the 25-acre site, the City was responsible for a significant portion of the repairs to the facility and relied on available federal and state disaster recovery funds to assist with this effort. Our firm facilitated the complex management of the application for these funds to ensure the City was fully compensated for this work. In addition, a forensic study led by our firm determined that a substantial amount of equipment could be salvaged, which resulted in the recovery and repair of \$90 million in operating assets from the debris. After the complete equipment and debris removal, our firm also managed the testing and evaluation of the remaining concrete foundation to determine if it was suitable for repair and repurposing for new construction.

Monroe County School District K-12 Smithville Attendance Center - FEMA 361 Shelter/Dome Gym

THE BROADDUS COMPANIES • SMITHVILLE, MISSISSIPPI



PROJECT COST

\$2,500,000

SERVICES PROVIDED

Planning, Program
Management, Project
Management, Grant
Management

DATES

Start: 07/2011

Finish: 07/2013

Broaddus & Associates was selected to provide Program Management Services to rebuild all of the Smithville K-12 School facilities for the Monroe County School District.

In 2011, a category EF5 tornado caused severe damage to a number of Smithville's buildings and structures. Reportedly the most powerful tornado to hit the state of Mississippi since 1966, the storm was reported to have had wind speeds up to 205 miles per hour.

Smithville's K-12 School was substantially devastated by the damage caused by the tornado, and most of their municipal facilities were completely leveled, damaged beyond repair or required significant repairs to restore them back to their pre-disaster condition and use.

Broaddus & Associates guided Monroe County School District through the Hazard Mitigation Grant Program (HMGP) application in order to build a structure that would serve as a shelter to protect the student body and faculty members of the Smithville K-12 School. The application resulted in the approval of \$2.5 million, which was used to construct a multi-purpose facility that serves as the school gymnasium and a shelter. The 15,000 SF Monolithic Dome was constructed to exceed all FEMA 361 Standards.



PROJECT COST

\$28,770,000

SERVICES PROVIDED

Planning, Programming, Project
Management, Grant Management

DATES

Start: 10/2010

Finish: 02/2011

The City of Gulfport was heavily damaged during Hurricane Katrina and selected Broaddus & Associates as their Program Manager to assist in managing their multi-funded hurricane recovery program. One of the most significant projects was the ground-up rebuilding of its combined police headquarters and municipal courts building. The 78,960 square foot, three-story Robert J. Curry Public Safety Center covers an entire city block and is home to the Police Community Services, Municipal Courts and Police Administration. The building houses up to 150 police officers and administrative staff. The Police Department also includes temporary holding cell facilities, a processing center and two state-of-the-art courtrooms.

The complex is built to FEMA 361 design and construction guidance for community shelters and features a structural steel frame with architectural pre-cast exterior walls and a large missile impact window system. It can be used as a first responder shelter to house more than 275 personnel for pre and post-disaster functions, and is self-supporting in the event of power failure.

Broaddus & Associates led the value engineering effort that saved the City of Gulfport over \$500,000. The savings were placed into the furniture, fixtures, and equipment budget, enabling the City to have a project finished with updated equipment. Our firm also facilitated the complex application process for multiple funding sources, including FEMA, MEMA, grants and insurance proceeds. Our advocacy on Gulfport's behalf maximized the available recovery funds for this project to reduce the burden on local taxpayers.

Nassau County Superstorm Sandy Recovery

ARDURRA GROUP • NASSAU COUNTY, NY



This program started with 65 Project Worksheets (PW). Ardurra's staff assisted the County to develop 50 additional PW totaling \$777M.

Ardurra is also administering \$853M in PW that are in the FEMA Public Assistance Alternative Procedures (PAAP) that allow for extended coverage in Mitigation as well as Alternate Project scopes

PROJECT COST

\$1.6 billion

SERVICES PROVIDED

Program management,
Grant application
and Management,
Professional Engineering
Support, IT and
Data Management,
Procurement and
Contract Support, Debris
Removal Oversight

DATES

Start: 2013

Finish: 2017 (ongoing)

Ardurra is serving as program manager providing recovery assistance and expert advisory services for this \$1.6B recovery program. Responsibilities include developing implementing systems and processes for financial tracking, application tracking, data management and reporting; expert advisory services related to FEMA, HUD CDBG-DR and multiple funding mechanisms; grant management and administration; engineering support; debris management and oversight; disaster recovery procurement of professional services and contractors; and development of contracts that are compliant with federal funds guidelines.

NC Police Dept Fourth & Eighth Precinct & Marine Bureau. Ardurra assisted the County to identify funding sources and justify the need to replace two NCPD precinct buildings - Fourth (\$13M) and Eighth (\$15M) and increase resiliency by enhancing emergency response and decreasing recovery time. New station houses are designed to withstand storm conditions and remain operational despite high winds and heavy snow loading. In addition, the marine bureau's fueling station and the admin building will be storm-hardened which will permit more efficient operations during storm events.

Bulkhead. Ardurra successfully wrote the FEMA PW to secure funds for a timber bulkhead surrounding a boat launch and 1,500 feet of rip-rap embankment at Inwood Park that suffered damages from hurricane forced wave action and surge. Ardurra is responsible for procurement support, design and construction oversight and compliance.

Shoreline Restoration. Many miles of beach and coastline were significantly damaged including dunes, fill, fencing, access points and boardwalks. Work included damage assessments, development of project scopes, support with schedules and permitting, coordinating funding sources, and support during design, bidding and construction. Ardurra served as the County's representative in all dealings and meetings with USACE. Program includes 35,000 LF of beach fill, ~ 5,000 LF berm; beach re-nourishment / fill replacement; planting dune grass; rehabilitation and new construction of groins; six new pedestrian and vehicle access points.

Bay Park Sewage Treatment Plant (STP). Ardurra was instrumental in securing funds for the **largest single project ever funded by FEMA – the \$810M Bay Park STP**. Ardurra key staff worked closely and tirelessly with the County, Senator Chuck Schumer, Governor Andrew Cuomo, and Director of FEMA Craig Fugate both in the State of New York and through visits to Washington DC. Ardurra is currently working with FEMA, Nassau County, NYDHSES and the Governor’s Office of Storm Recovery to implement the FEMA and HUD funds. Ardurra was responsible for procurement support, engineering support and compliance.

Six Funding Sources. Ardurra’s initial role in was short term FEMA emergency repair and PW development. Ardurra’s knowledgeable and committed team earned the County’s trust and continued to manage the long term recovery program. Ardurra identified five additional funding sources for a variety of projects and is currently managing projects using 6 different funding sources.

Federal Emergency Management Agency (FEMA). Ardurra is providing relevant documents to support FEMA Public Assistance, 404 and 406 Hazard Mitigation and close-outs of Hurricane Irene and Superstorm Sandy. Ardurra is providing responses for FEMA reimbursements, conducting initial Project Worksheet (PW) development for all Categories (A thru G), and managing projects for ongoing compliance. To date, Ardurra has overseen the development of over 75 PWs, 10 FEMA HMGP 404 grant applications, 16 DDIRs with FHA and other disaster grants. This program started with 65 PW - Ardurra’s staff assisted the County to develop **50 additional PW totaling \$777M**.

Ardurra is also administering \$853M in PW that are in the FEMA Public Assistance Alternative Procedures (PAAP) that allow for extended coverage in Mitigation as well as Alternate Project scopes.

HUD CDBG-DR Program. Ardurra is managing the County’s CDBG programs – anticipated to receive **\$1B in CDBG-DR funds**. Ardurra is responsible for ensuring that all the programs are implemented in compliance with HUD regulation; is assisting with preparation of all applications; is furnishing procurement support; and is currently researching additional funding opportunities.

Federal Highway Administration (FHWA). Ardurra identified FHWA funds available for transportation infrastructure projects. Ardurra assisted Nassau County to secure \$55M in FHWA grant funds for highway, road and bridge infrastructure mitigation and repair.

United States Department of Agriculture (USDA). Ardurra identified an opportunity to provide economic development dollars to rural and agricultural areas within Nassau County. Ardurra assisted the County to secure \$8M in USDA grant funds for rural area development.

Ardurra identified the County’s Bay Park Sewage Treatment Plant (STP) as an eligible project under this program and assisted the County to secure \$28M for the Bay Park STP force main and pump stations, and \$75M for the Bay Park STP ocean outfall facility.

EFC Storm Mitigation Loan Program (SMLP). To assist New York communities rebuild smarter and stronger following Sandy, the Governor marshaled the resources of state and federal governments to improve the resiliency of water and wastewater treatment facilities - \$340M was provided the State through the Storm Mitigation Loan Program. EFC’s SMLP provides cost sharing and low interest loans to eligible projects. Ardurra identified the County’s Bay Park STP ocean outfall as eligible, and assisted the County to secure \$75M via a 75%/25% cost share agreement with EFC. Nassau County received a 1% interest loan for 25% of the \$75M.

St. Bernard Parish Louisiana Hurricane Katrina Emergency & Long Term Recovery

ARDURRA GROUP • ST. AUGUSTINE, FL



Ardurra staff completed 100% rebuild of a community including its infrastructure (sewer, water, drainage), roads, parks, emergency facilities, all government buildings and community leisure/tourism facilities. They increased FEMA obligated funding by 500% and had no negative findings/de-obligations during that period of time.

PROJECT COST

\$1.5 billion

SERVICES PROVIDED

Program management,
Grant application
and Management,
Professional Engineering
Support, IT and
Data Management,
Procurement and
Contract Support, Debris
Removal Oversight

DATES

Start: 2005

Finish: 2017 (ongoing)

In the aftermath of Hurricane Katrina in 2005, St. Bernard Parish started a recovery department to deal with the recovery. Ardurra selected to manage \$1.5B in FEMA funds including engineering assessments, acting as FEMA liaison, financial management, program compliance and closeout. This staff (including Michael Dorris, Dan Gerrity & Adam Faschan) directed 30 different skilled positions to manage 100+ infrastructure projects ranging from \$1,000 to \$100M. Projects included all sewer, water and drainage infrastructure, roadways, public safety facilities, government buildings, parks and recreation facilities.

Ardurra's proposed staff worked hand in hand with local government to assist in rebuilding a substantial portion of the parish's infrastructure. Originally FEMA had obligated \$300M to rebuild and replace the damaged infrastructure. This team successfully raised that obligation to \$1.5B. Management from the Governor's Office of Homeland Security and Emergency Preparedness recognized Ardurra key personnel as being the most successful team in rebuilding post Katrina.

Sewer System Rehabilitation. Suffering severe impacts from complete submergence during Katrina, the sewer collection system required comprehensive investigation and repair (an area covering 378 square miles). FEMA funding provided for a wide variety of repairs to the system, dependent on the ability to establish defects as 'storm related'. After these repairs, the Parish still had extensive rehabilitation needs, particularly to its older concrete gravity mains. Activities included LDEQ SRF Loan Assistance; permitting and compliance assistance; standard specification development; scoping and conceptual design assistance; design of a pilot rehabilitation project; and design, bidding, and construction oversight of design consultants. The project entailed extensive traffic control plans, methodical planning for road closures and continuous communication with the public.

Sheriff's Office. The team was responsible for design review, compliance, procurement support and construction oversight for the Sheriff Department's repair projects. Repair and replacement items included contents and equipment PWs; reconciliation of scope, cost, and reimbursements of 52 Project Worksheets (48 large & 4 small projects) valued at \$66.2M.

Wastewater Treatment Plant Consolidation. After thorough analysis of the Parish's wastewater system, the team assisted the Parish to develop and implement a \$63M wastewater consolidation effort funded substantially through FEMA, instead of repairing and hardening existing facilities. The consolidation would reduce the Parish's long-term operational costs by \$500,000 annually, lessen staff requirements, and minimize the need to finance the required improvements through Parish funds.

In addition to the consolidation, the team worked with FEMA to secure \$7M in hazard mitigation funding. These funds were used to construct elevated electrical buildings to house electrical gear, elevated platforms for generators and transformers, and to install submersible and dry-pit pumps.

Hospital. The Chalmette Medical Center & Hospital (a private entity) was the Parish's only hospital and was destroyed by Katrina. In addition, the adjacent New Orleans East hospital was also destroyed. Both entities decided NOT to return and rebuild. Ardurra staff worked effortlessly alongside local, state and federal government to source funds for a new \$69M, 110,000 SF, 40-bed, three story hospital. Funds were a combination of FEMA, CDBG and State — \$41 of the \$69M was CDBG funds.





PROJECT COST

\$300,000,000

SERVICES PROVIDED

Program management, Grant
application and Management,
Professional Engineering
Support, IT and Data
Management, Procurement
and Contract Support, Debris
Removal Oversight

DATES

Start: 2016

Finish: 2017 (ongoing)

On Oct 7, 2016, Hurricane Matthew, a Category 3 hurricane with sustained wind speeds estimated at 120 mph was moving slowly along the Florida coast. The passage of this storm caused reported surge heights of more than seven feet in several coastal areas of St. Johns County. Major impacts to the County included storm damage to roads, bridges, drainage infrastructure, fire stations and other permanent infrastructure. Impacts to existing beaches and associated debris generation were a substantial portion of the impacts to the County.

Ardurra was selected to serve as program manager for FEMA Public Assistance Advisory Services as well as debris removal oversight. Ardurra's responsibilities include review and management of all eligible Cat A and B activities and all needed permanent repairs for Cat C through G. As it relates to debris, Ardurra is responsible for oversight to ensure eligibility, assist with PW preparation and reimbursement and in general provide QA/QC of the activities performed.

To date, Ardurra has recommended the following:

- Updating the Debris Management Plan to reduce the County's match for debris removal by 2%
- Recycling sand collected as debris to obtain additional financial credit
- Obtaining approval to collect contiguous debris on private property (Debris that extends from public property onto private property can be approved for collection by FEMA) benefiting local residents
- Obtaining Right of Entries to address debris on private property, once again benefiting local residents.

Section 4
Proposed Strategy &
Technical Approach



The cornerstone of the success of our company has been to tailor our services to the needs of our clients. While we know that the consistent application of proven project practices by experienced professionals is vital, we apply this principle with the understanding that no two projects are exactly alike. That is why our firm offers those services that generate the greatest impact on our clients' projects we are trusted with.

To serve the City of Hattiesburg, our firm's scope of services will include both Project Administration and Project Management. Our methodology and approach for these are summarized below and respectively outlined on the following pages.

PROJECT ADMINISTRATION

Many of the projects we manage rely upon available federal and state funding sources, which requires a detailed management of the application process. As a prime example, FEMA facilitates the HMGP program to help communities implement hazard mitigation following a major disaster. State and local governments use the program to identify risks and vulnerabilities associated with natural disasters, and develop long-term strategies for protecting people and property from future hazard events. FEMA requires local entities to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for safe rooms.

As the project manager, Broaddus & Associates assists with the procurement of a qualified design team to deliver the project within the schedule required by the grant program. During the design phase, our team ensure projects meet any applicable FEMA 361 safety standards, while accounting for each client's vision for the functionality of the facilities. Broaddus & Associates also assists with generating estimates, site selection, and scheduling. Once funding is secured in the grant, Broaddus & Associates helps facilitate with the design team to choose the most efficient design in order to minimize construction, maintenance, and energy costs. Broaddus & Associates has completed or is managing multiple projects with strict schedules, funding, and/or special FEMA 361 specifications required by grant programs.

When construction starts, Broaddus & Associates manages each project to get a high quality, useful, and efficient resource that will provide a vital resource for local communities for years to come. We perform a thorough quality control review and analysis on every project. This process provides the Project

Manager the resources to effectively evaluate progress and more effectively evaluate payment applications from the design and construction team members. In addition, the quality control review and analysis process provides effective justification and documentation available to the Owner, serving as an effective fiduciary of both the client's budget and State and Federal funding. Our management is essential to receiving the correct reimbursement for our client's federally funded projects.

PROJECT MANAGEMENT

Our firm assists owners with managing capital improvement projects by providing experienced professionals, proven procedures and creative solutions. Project and program management services are sometimes given different names, but at Broaddus & Associates it always means providing the leadership and services necessary to accomplish the owner's goals.

Our project management approach combines proven Best Practices project procedures with an exceptionally experienced staff. Our project professionals have an average of 25 years of experience serving as planners, project managers, estimators, schedulers, architects, engineers or contractors. This is augmented by a dedication to embracing those advances in our industry that can provide additional value to our clients, such as Building Information Modeling or sustainability initiatives. This combination of standard practices, new technology and unparalleled expertise enables us to customize our services to each project and produce superior results.

In our management of a project, we understand the importance of consistent communication with stakeholders, adherence to schedules and budgets, the ability to identify value on a project, and how the project fits into the overall mission of the owner. Broaddus & Associates consistently applies a 14-step owner-oriented project management process, which helps our clients define needs, set realistic budgets and schedules, establish design criteria, procure designers and contractors, and ultimately execute the plan. This process also utilizes our research-proven Best Practices. These techniques, which include constructability reviews, Project Definition Rating Index reviews, schedule optimization and change management, all combine to offer measurable value to owner's projects.

The ultimate goal is delivering a project within budget, on schedule and with a level of quality that exceeds customer expectations. Please see our scope for each service on the following pages.

Project Administration – Scope of Services

Broaddus & Associates acts as the Project Administrator of the program with duties including the management and maintenance of all documents required by the Department of Housing and Urban Development (HUD), Mississippi Development Authority (MDA), and the Department of Labor (DOL).

Required document maintenance includes the tracking of all noted documents referenced for required project audit(s) by MDA:

Original Application and award of grant to municipality by MDA including:

- Environmental Review & Clearance Record
- Public Notice of Application
- Section 3
- City Resolutions
- Anti-displacement
- 504 Plan
- Bonding of all Alderman and Mayor
- Needs Assessment
- Fair Housing
- Slum & Blight
- Municipality Personnel Policy

Procurement:

- Proofs of Publications for Professional Services
- Proofs of Publications for Construction Services
- Proofs of certified mail notifications of advertisement to minority, woman and small owned businesses
- Proofs of notifications of advertisements to the Mississippi Technical Procurement Agency
- Evaluations of Proposal/Bids for Professional and Construction Services
- Executed Contracts for Professional and Construction Services
- Certified Notification Letters to the Winning and Losing bidders
- Copies of all bonding and insurance for Construction Services

Financial Monitoring including:

- General Ledger
- Invoices, Pay Applications
- Copies of payments
- Designation of Depository

Labor Standards Compliance:

- DOL Wage Rate Requests and Decisions
- Contractor/Subcontractor Eligibility
- Pre-Bid Conference
- Bid Opening Conference
- Pre-Construction Conference
- Notice To Proceed

MANAGEMENT APPROACH

PHASE I

I. Program Process Development

- II. Facility Programming
- III. Total Project Budgeting and Conceptual Cost Estimating
- IV. Master Program Schedule
- V. Facilities Standards and Design Guidelines
- VI. Project Delivery Methods Selection
- VII. Document Preparation for Selection and Contracting

PHASE II

- VIII. Designer/Construction Selection, Negotiation, and Contract Award
- IX. Schematic Design and Design Development Phases
- X. Detailed Design/ Construction Working Drawings and Specs
- XI. Construction Phase Management
- XII. Commissioning, Facility Furnishing, Turnover, and Initial Operations
- XIII. Warranty Period/ Operation and Maintenance
- XIV. Evaluating Project Performance and Lessons Learned

Project Management - Scope of Services

Our team has a unique understanding of the knowledge and experience required to accomplish the scope of services described for full-service project management. We would like to take this opportunity to outline our entire project management approach, including the proactive use of Best Practices. Our philosophy, methodology, and process for integrating institutional standards into design are integral parts of the 14 project management steps we use in managing our projects.

The 14 steps outlined below represent the owner-oriented project management approach that our team regularly applies. It is important to note that the first seven steps are crucial planning steps that should be addressed before a design firm is engaged. These Pre-Project Planning steps focus on defining the need, setting realistic budgets and schedules, establishing design criteria, and planning and preparing for procurement of designers and contractors.

The seven steps that follow in the Project Implementation Phase execute the plan developed in the first phase. At the end of this section is the unique set of Best Practices that set Broaddus & Associates apart from other program management firms.

Project Execution Plan

A project execution plan is developed for a set of related projects that outlines how the overall program and each project will be defined. It also provides a road map for the planning, design, construction, and commissioning of each project. This plan and its impact are best illustrated by following a typical project through its phases as illustrated to the left.

PHASE 1: PRE-PROJECT PLANNING PHASE

The first seven steps (I-VII) constitute the Pre-Project Planning phase, and are accomplished according to a Pre-Project Plan (PPP). The PPP is appropriate when planning is under way to fund or finance a major capital program or project and is complementary to the master planning process.

I. Program Process Development

A project's progress is affected by how it is administered, decisions are made, approvals are granted, and funds are made available. When an owner has a number of projects to be executed as an overall program, the process can become unwieldy,

inadvertently delaying many projects. We work with the owner to map management and approval processes and reduce overall project time. This is a part of our Best Practice called Schedule Optimization, which improves schedule and prevents redesign, while maintaining effective control and preventing premature commitment of funds. Process Mapping is a collaborative effort with key participants from the owner, which results in a well-defined process with significant checkpoints and milestones, allowing effective executive control of projects.

As the project parameters are being defined, a clear and concise structure must be clearly articulated. Team communication is important to the project, and if effective can prevent schedule slippage and budget busts. The project manager leads the team by recognizing skills that each member possesses and organizing them to solve problems, not assess blame. A highly effective team is one that communicates well and fully understands common project goals.

II. Facility Programming

Our team strongly believes in the development of a comprehensive facility program before commencing design. We will address issues very early in the process because this allows more proactive options for the owner, rather than addressing these issues midway through design or construction. Complete programming goes beyond developing the amount of space required by each function, and includes adjacencies, circulation, site conditions, and utility requirements, as well as performance and prescriptive specifications.

After the program has been defined and in subsequent phases, Broaddus & Associates uses a focused, systematic approach to addressing an extensive list of issues early in the planning and design process. At this point, the use of a Best Practice referred to as the Project Definition Rating Index (PDRI), which measures quality of Pre-Project Planning and project scope definition, is initiated. The PDRI serves as a quantitative measure of how successfully program requirements are being integrated into facility design. It is used by all the participants in the Pre-Project Planning and implementation phases, where it serves not only as a quantitative predictor of project outcome, but also as a valuable communications tool for the project team. The PDRI is organized as a weighted checklist in a score sheet format. The PDRI has been used by our team to produce very complete planning and design documents, improve communications, and give the team an understanding of key risks and how to mitigate them.

III. Total Project Budgeting and Conceptual Cost Estimating

From the very beginning of the overall program, the budget must have a sound basis, and the estimated costs must be accurate.

Project Budgeting - We use a technique called Total Project Budgeting to identify all costs, not just design and construction costs. Establishment of a total project budget is a document that needs to be in place from the earliest programming phase to the project's final closeout. While many project managers focus on the hard costs of construction and design fees, there are scores of additional costs that make up a total project budget. The identification of all those costs, which include special consulting fees, furnishings and equipment, materials testing, project management, and commissioning costs, to name a few, prevents budget overruns and can even provide the opportunity to solve cost overages in a single area. The total project budget is constantly adjusted, monitored, and forecasted throughout the entire project life. This is particularly critical when performing mini-renovation projects within a larger capital construction program.

Estimating - Early and accurate cost estimating is often overlooked in the excitement of developing

master plans and concept designs. However, the owner will likely be disappointed without a strong emphasis on conceptual cost estimating. Broaddus & Associates uses construction-savvy, in-house construction cost estimators who know how to estimate from conceptual project plans. There is an art to conceptual estimating not possessed by most estimators who need detailed drawings and specifications to prepare an estimate. These conceptual estimates involve collaboration with owners, architects, and engineers to be as accurate as possible. The estimate breakdown becomes the foundation for the project's cost control system.

Through every step, we skillfully estimate with the available information to provide accurate cost information, so that owners can rely on it throughout the project. We will constantly monitor and review the design development for construction documents and analyze that work in light of the defined budget, balance of life-cycle costing issues, availability of materials as it has impact on schedule and cost, Constructability of system or design, and availability of craftsmen to install a component of work.

This analysis is continuous and timely, and as a result, designs that are incorporated into construction will be tested for their appropriateness and value as these factors relate to design and the client's cost objectives. Our project director will work directly with the architect, consultants, and estimators in development of the budget, schedule, and quality. It is through the architectural coordination meetings, shop drawing meetings, contractor pre-installation meetings, and other similar sessions that these issues are addressed and resolved.

Constructability – Throughout the project, Broaddus & Associates utilizes a Best Practice referred to as Constructability, the integration of construction knowledge and expertise into all project phases to improve cost-effectiveness. Research has shown that utilization of Constructability in a formal program saves projects an average of 5% in total construction costs.

Cost Control/Change Management - Once the total program scope is defined, controlling cost and schedule growth through design and construction can be managed through a system that accommodates beneficial change and discourages detrimental change. This Change Management Process, a Best Practice, helps keep the lid on non-essential changes by managing change throughout all project phases.

Change Management System Elements

IV. Master Program Schedule

An essential element of the Pre-Project Plan is the Master Program Schedule (MPS). The MPS is key to making major program and project decisions, as well as being able to deliver on commitments made. The MPS, like the conceptual cost estimate, is prepared by construction experts experienced in types of projects proposed and the local area's construction market. Broaddus & Associates brings scheduling expertise in this early Pre-Program Planning phase to define realistic schedules and allow the owner every opportunity to optimize completion of critical projects. Understanding schedule details and proactively accelerating the schedule during the early stages can make significant reductions in time, without increasing project costs. The MPS is used by Broaddus & Associates as an interactive “what-if” planning tool that allows owners to look at various scheduling options to meet their goals and objectives. MPS development will be critical for the project, as at any given time, multiple phases of work may be in progress.

Monthly Project Reports - In addition to budget and schedule reports, we prepare a monthly update

of all projects, listing all open issues and an action plan to resolve them. These monthly updates provide the customer an overview of project status, as well as early warning on any problems requiring resolution. During construction, we maintain tracking systems for RFIs and change orders. Similar to task tracking, the Broaddus & Associates team members have utilized a variety of project reporting methodologies. Past reporting submittals have required a combination of tracking tools compiled into a hardcopy report that could be posted on the Web or client server.

The key to successful reporting is communicating critical information in a timely manner. We tailor the reporting to the owner and owner's key decision-makers.

Process Mapping/Cycle Time Reduction/Schedule Optimization - Process Mapping and Cycle-Time Reduction, a Best Practice, are used to understand the owner's management and approval system, and streamline it to take advantage of fast-track project delivery techniques. Schedule Optimization, a Best Practice, is a process usually conducted in a teamwork session that considers an extensive menu of time-saving techniques applied to a specific project. When identified early in the project, these techniques save significant time and prevent late completion.

V. Facilities Standards and Design Guidelines

Completed projects of high quality that meet the owner's expectations begin with defined facility standards and established design guidelines. These standards and guidelines become a key part of instructions to designers, regardless of project delivery method. They can also heavily influence initial capital construction cost, as well as life-cycle operation and maintenance cost. Broaddus & Associates has experience in establishing standards for a wide variety of owners. Skillful selection of standards appropriate for the institution is very important. Buildings often cost far more in the lifetime of operation and maintenance than they do in initial construction. Standardizing equipment and systems increases the efficiency and productivity of operations and maintenance staff.

Design guidelines range from aesthetic to functional, from the architectural exterior to the mechanical room. Guidelines give architects and engineers focus from the start, so that they can design right the first time, and assure owner satisfaction upon project completion.

VI. Project Delivery Methods Selection

A key task for each project is selection of a delivery method that is best suited for the customers needs. While competitive bidding is the "default" option for most owners, it is important to select a delivery option based on complete information about every delivery method. Broaddus & Associates has used all forms of alternative project delivery extensively, and knows the conditions under which each is most suitable. We understand that Hidalgo County plans to utilize the Construction Manager-at-Risk delivery method on this project.

Broaddus & Associates has provided consulting services to clients to assist them in selection of appropriate delivery method, management of procurement and contracting process utilized for each method, negotiation of contracts terms and Guaranteed Maximum Price (GMP), and post-project analysis of alternative project delivery programs.

VII. Document Preparation for Selection and Contracting with Designers and Constructors

Our team is knowledgeable in a variety of procurement strategies for major project work, issuing Requests for Qualifications (RFQs) and Requests for Proposals (RFPs), and guiding committees through fair, objective, and equitable selections that are appropriately documented. We recognize the value of local designers and contractors, and work to be inclusive, yet understanding when out-of-area expertise is needed. Additionally, our team has access to all forms of owner-oriented design, and construction contracts that should be drafted and published in each project RFQ/RFP.

PHASE 2: PROJECT IMPLEMENTATION PLAN PHASE

Project implementation focuses on individual projects, providing a road map for design, construction, and commissioning of each project. As previously described, the first seven steps constitute Pre-Project Planning. The remaining seven steps comprise the project implementation plan phase, or actual implementation of plan prepared in the first phase. Cost and schedule control systems continue to track project budgets and schedules. Broaddus & Associates continues to use Best Practices to enhance individual project performance.

VIII. Designer/Constructor Selection, Negotiation, and Contract Award

As project managers, we will select designers for direct contracting with the owner. While Broaddus & Associates has managed the full range of architects and engineers, including those with national and international reputations, they recognize the value and commitment of local and Historically Underutilized Businesses (HUB) for major project work. The owner's project management approach differs depending on the delivery system, selection process, and contract type.

IX. Schematic Design and Design Development Phases

Schematic and Design Development Phases are extremely important in the project process. The ability to influence project outcome is greatest during these phases. Therefore, it is crucial to collaborate with the users, while maintaining cost and schedule control. Our team knows how to work closely with the designers to ensure program objectives are accomplished, and will provide continuing design estimates as it develops. Broaddus & Associates continues implementation of a formal Constructability program throughout the design process and will continue to use the PDRI. Broaddus & Associates also has the skills to conduct detailed design reviews during this stage. Our team knows how to work with the construction manager to determine subcontract packaging decisions for the construction phase. A critical step at the end of design development is establishment of a GMP by the construction manager, and approval of design and price by the County Commissioners. Our team possesses the negotiating skills and experience to successfully lead the project through this phase.

Specific activities during this phase include:

Schematic Design

- Conduct Partnering and kickoff meetings with owner and all new participants (designer, construction manager – a Best Practice)
- Communicate all Pre-Project Planning information to designer
- Conduct weekly or biweekly design meetings between owner and designer
- Resolve issues and problems as they arise
- Start formal Constructability program with a kickoff meeting and a review at each design meeting (a Best Practice)
- Prepare and/or conduct reviews of cost estimate for schematic phase; take actions to keep under control

- Conduct review of schedule (Level 2) for schematic phase
- Conduct Schedule Optimization session(s) (a Best Practice)
- Conduct four PDRI sessions (a Best Practice)
- Present Schematic Design, schedule, and cost estimate to executive or board level for preview, comment, and/or revision
- Conduct review of Schematic Design, which includes all disciplines
- Establish a Change Management System for all phases from this point on (a Best Practice)
- Ensure that master plan design elements are adhered to
- Evaluate and approve all payments to architect/engineer

Design Development

- Oversee preparation of DD documents addressing architectural, structural, mechanical & electrical systems, materials, and other appropriate elements
- Continue weekly or biweekly design meetings between owner and designer
- Use checklists and guidelines to ensure designer firm is achieving required level of detail, especially in electrical and mechanical engineering areas
- Continue Constructability sessions (a Best Practice)
- Develop a Level 3 schedule for the DD stage
- Conduct another Schedule Optimization session (a Best Practice)
- Conduct more detailed cost estimates, including an independent estimate at end of DD
- Conduct two PDRI sessions (a Best Practice)
- Conduct detailed review of design at this stage, with careful attention to all disciplines
- Prepare presentation material for board approval (i.e. renderings, project summaries, costs, schedule, and total budget)
- Work with construction manager to develop packages for subcontracts in order for designer to plan for construction document phase
- Negotiate a GMP with construction manager for the total project
- Finalize contract with construction manager to complete project
- Evaluate and approve all payments to architect/engineer

X. Detailed Design/Construction Working Drawings and Specifications

During this phase, our team will review the detailed design for the subcontract packages to be issued for bids or proposals prior to the construction manager's solicitation subcontract bids. For selected specialty contractors, our team will look for opportunities to involve them early in the design process. This is especially important for technically complex systems, electromechanical, and plumbing systems.

These specific activities are included during this phase:

- Oversee preparation of construction documents addressing all project elements
- Continue biweekly design meetings
- Coordinate with governmental entities for any building/statutory reviews and other approvals
- Participate in drawing reviews for completeness, Constructability, and cost savings
- Coordinate, review, and evaluate all construction documents submitted by designers and subconsultants for compliance with owner's design guidelines, detailed program needs, and performance specifications before procurement of subcontractors
- Prepare construction documents' cost estimates, conduct reviews of designers' and/or

- construction manager's cost estimates, reconcile, and take action to keep cost under control
- Review construction document packages for completeness prior to bidding out by construction manager
- Updated and detailed schedule, including major construction elements, and conduct Schedule Optimization sessions (a Best Practice)
- Conduct weekly project management meetings with construction manager or design-builder to update on progress, financial status, and resolve issues
- Monitor use of project contingencies
- Receive GMP proposal, evaluate, negotiate, and recommend acceptance
- Begin planning for Commissioning and Startup (a Best Practice)
- Continue to receive Constructability input (a Best Practice)
- Implement a Change Management System to control scope creep, as necessary (a Best Practice)
- Concur in award of subcontracts by construction manager
- Award contracts for quality assurance to materials-testing firms

XI. Construction Phase Management

Our team will bring hands-on constructor expertise to the oversight of construction contractors. We will ensure the best subcontractors and tradesmen are working on this project, while fully utilizing the local market. On-site safety for construction personnel is paramount, and is especially important for the facility's daily users and visitors. Quality control programs will be implemented, providing for inspection and testing services, mock-ups for major finishes and important systems, and pre-installation inspections to minimize rework.

These specific activities are included during this phase:

- Serve as owner's point-of-contact during construction
- Conduct construction update meetings at construction sites on a weekly and as-needed basis
- Administer construction contract, general conditions, and serve as owner's representative
- Review compliance with all plans, specifications, and required terms and conditions and report status to owner
- Continue biweekly project manager update meetings
- Conduct partnering update sessions as major subcontractors come on-board
- Review major plans from construction manager – QC plan, safety plan, environmental compliance plan, minority contracting plan, etc.
- Review and participate in construction manager's buyout of subcontract packages
- Ensure scope analysis is complete and track budget/contingency adjustments
- Track GMP savings balance and plan for its use or recapture
- Update commissioning and startup plan
- Serve as spokesman for owner when job-site problems arise
- Review cost control plan and monitor use of contingency
- Review schedule attainment and take corrective action
- Plan for furnishing procurement and occupancy
- Conduct site visits and inspections to review work in place and provide standard format report to owner with reference to facilities standards/specifications, schedules, and budgets
- Provide field and Quality Assurance oversight
- Provide on-site construction inspection and owner representation services
- Monitor construction progress and advise owner of any observations of non-conforming scope or quality workmanship

- Coordinate shutdowns, disruptions, and issues with occupants and public
- Coordinate independent testing firms and review testing program results (tests typically include geotechnical, concrete, welding, compaction, etc.)
- Managing overall information flow during construction including submittals, RFIs, daily reports, photos, and meeting minutes through the Owner InSite® Web-based project management system
- Review approved submittals and obtain owner approvals needed
- Monitor RFIs and designer responsiveness
- Evaluate and make recommendation on change order requests
- Continue Change Management System into construction phase (a Best Practice)
- Analyze each potential change, estimate cost and schedule, assess its impact, and negotiate change amount; execute necessary contract modification documents
- Evaluate and approve progress payments requests
- Coordinate vendors such as security, data, telecom, move management, etc., under separate contract to owner
- Coordinate owner-furnished/contractor installed and owner-furnished/owner-installed equipment
- Perform final inspections and monitor punch-list work

XII. Commissioning, Facility Furnishing, Turnover, and Initial Operations

Often forgotten in the project process is furnishing and equipment, training physical plant staff, and initial operation of the new facility. Our team has experience in furnishing procurement and training programs that ensure the facility maintenance and operations personnel are familiarized with new building systems.

Specific activities during this phase include:

- Coordinate HVAC test and balance contracts
- Coordinate all certification inspections
- Conduct meetings on commissioning and startup of facility
- Review detailed schedule for this phase
- Monitor budget for this phase
- Ensure training of facility maintenance staff
- Oversee furnishing of facility
- Oversee move into new facility
- Oversee turnover of key documents – as-built drawings, manuals, etc.

Our team is highly familiar with implementing formal commissioning programs using a third-party commissioning agent. We believe that this approach provides a comprehensive framework for the commissioning process, and will ensure successful integration and document the testing of all major building systems.

Project closeout is the sequence of activities required to complete all remaining project financial matters, satisfy all outstanding contractual requirements, and document project history.

XIII. Warranty Period/Operation and Maintenance

While most firms are off the job by this phase, Broaddus & Associates remains proactive in ensuring warranty obligations are met and professional interpretations are rendered as to responsibility for adjustment and repairs. Our team does not just accept a standard one-year warranty for everything, but looks for opportunities to cost-effectively use extended warranties for critical and complex systems.

Specific activities during this phase include:

- Develop and implement a plan for warranty work during first year and beyond
- Resolve warranty responsibility determinations
- Conduct post-occupancy evaluation of facility six months after move-in

XIV. Evaluating Project Performance and Lessons Learned

The ultimate goal is delivering a project within budget, on-time, and with a level of quality that meets or exceeds customer expectations. We measure and evaluate our facilities throughout the process and in a post-occupancy mode, so that we can continuously improve projects in process, as well as apply lessons learned to future projects.

Section 5
Auditing History



Our greatest strengths is our ability to develop accurate and defensible funding and reimbursement systems. Our team has managed and provided oversight for billions of Federal dollars. We have had direct oversight of FEMA, HUD, USACE, FHWA and other Federal Programs. We are proud to say that we have never had a deobligated cost. We have created several arguments to the Office of Inspector General (OIG) for FEMA and HUD to discuss why costs were reasonable and necessary. We have been successful on every contested cost that we have taken to the OIG on behalf of our clients. While there have been efforts by the OIG to request funds back from our clients, our team has been able to justify why those costs were appropriate and, in some cases, even receive additional funds for our clients.

Our approach is built upon the development of a centralized financial system that facilitates the **timely capture of appropriate eligible cost information**. This facilitates a more coordinated effort of overall cost management to ensure that there is one location that is aware of all expenditures and reimbursements. Additionally, we propose that the City of Hattiesburg establish a unique identifier to capture and record costs. In our previous development of municipal financial controls this has allowed for easier distribution, tracking, and recovery of grant dollars.

This process does require a greater up-front effort to develop a system that incorporates the necessary information for each department, as well as **aligns with the required reimbursement eligibility data**. However, our experts have successfully developed customized systems that incorporate reporting structures to follow contract amendments, change orders, federal advances and reimbursements, as well as invoices and payments. Regardless of our clients' type and age of software and platforms, our team has been able to successfully use our database to produce ad-hoc and recurring reports and pass audits including the Schedule of Expenditures of Federal Awards (SEFA). The up-front effort has been recognized in reduced man hours due to efficient financial management that keeps audit findings to a minimum and cuts duplication of work.

Our team will work hand-in-hand with the City of Hattiesburg, bringing our lessons learned, to establish a system that will allow you to easily recall required information for your own records, the funding agency's documentation and auditors.

Ardurra's Proactive Auditing checklist and proven documentation procedures protect against common OIG audit findings:

- ✓ **Incorrect Procurement Practices**
- ✓ **Duplication of Benefits**
- ✓ **Unsupported Costs**
- ✓ **Repairs Unrelated to Matthew**

When an audit is performed, this centralized financial structure ensures that your records are housed in an organized and logical fashion which will streamline the process for you and the auditor. Our successful auditing history is best exemplified in the results of our previous audits. As shown below this approach has led to our successful reimbursement capture rate of more than \$2B. Following the table, we have included some more detailed descriptions of select projects to further demonstrate our auditing successes.

Program & Size/Amount of Federal Funds	Facility/ Project Types	Initial # of Projects or PWs	Initial Amount of FEMA Funds	Final # of Projects or PWs	Final Amount of FEMA Funds	Funds De-Obligated
Nassau County LTR, 102 FEMA PW/Versions \$952M	Force Account Labor, Parks, Sewer Treatment Plants, Debris Removal, Emerg Protective Measures etc.	45	\$136,254,554	102	\$1,552,223,937	\$0
East Baton Rouge Sheriff's Office \$263M	Cat B - Emergency Labor & Materials Cat E - Police (Sheriffs) Vehicles & Equipment	0	\$0	5	\$2,631,620	\$0
Livingston Parish Sheriff's Office \$665K	Force Account Labor, Temp Housing Units, Bldgs, Vehicles, Contents, Donated Resources Etc.	0	\$0	9	\$6,650,000	\$0
East Richland County Public Service District - Columbia, South Carolina \$12.75M	Debris, Emerg Repairs, Bldgs, Equipm't WW Facilities (Pump Stations, Collection System, Treatm't Plant)	0	\$0	13	\$12,755,000	\$0
St. Bernard Recovery Program Management \$1.5B	Catagories A-G	N/A	N/A	668	~\$1.5B	\$0

Section 6
Proposed Pricing



ATTACHMENT A
HOURLY RATE FORM

Key Program Management Personnel: The Proposer shall identify Key Program Management Personnel for the Project. Provide detailed resumes (limited to two pages) of Key Program Management showing related experience.

PROGRAM MANAGEMENT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Program Manager	Colton Wood	Hattiesburg, MS	\$185
Deputy Program Manager	Leo Wood	Hattiesburg, MS	\$165
Program Administrator	Joanna Ragas	New Orleans, LA	\$65
Project Coordinator	Brenda Jarrett	Tupelo, MS	\$70

Other Program Staff: The Proposer shall identify Other Program Staff's hourly rate. The Proposer may add additional lines if necessary.

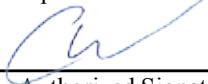
CONSTRUCTION & OPERATIONS

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Cost Estimating On Site Inspector	Jacque Judy	Austin, TX	\$125
Construction Manager Resident Engineer	Gregg Kennedy	Tupelo, MS	\$125

PROGRAM & ADMINISTRATIVE SUPPORT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Financial Lead Project Manager	Ben Meyers	Hattiesburg, MS	\$145
FEMA Coordination Subject Matter Expert Funding Assistance Database Manager	Michael Dorris	Metairie, LA	\$185
Procurement and Contracting Scheduling Administrative Assistance Senior Adviser	Anthony Popolizio	Austin, TX	\$125

All hourly rates provided shall be inclusive of all expenses incurred. Submitted by:

	4/3/2017
_____ Authorized Signature, Title	_____ Date
_____ Broadus & Associates	
_____ Consultant Firm Business	

**EDUCATION**

*Bachelor of Science and Business
Administration, University of Southern
Mississippi*

Mr. Colton Wood serves as Project Manager with Broaddus & Associates. Mr. Wood has experience in all aspects of operations, management and budgeting. He is proficient in delivering attention to detail that impacts the progress of the project. His management includes preparing scheduling, budgeting, and total project control. He has experience in financial planning, strategic planning and organizational administration, and has demonstrated performance in both business development and construction management.

While at Broaddus & Associates, he serves as Director of Operations in the Southeastern US Region. Currently under his charge is the City of Hattiesburg's emergency disaster recovery efforts from an EF3 tornado that struck the City on January 21, 2017; Oktibbeha, Forrest and Coahoma Counties Board of Supervisors' HMGP Saferoom Programs; Tupelo Public School District and Louisville Municipal School Districts' HMGP Saferoom Programs; and Rankin County and Pearl Public School Districts' Bond Programs.

Previously, Mr. Wood worked as Project Manager of the recovery and redevelopment for the City of Louisville and Winston County, MS that was caused by an EF4 Tornado in 2014. Further, he assisted in the recovery and redevelopment for Monroe County School District, MS, the Town of Smithville, MS and Access Family Health Services that was caused by an EF5 Tornado in 2011.

REPRESENTATIVE PROJECT EXPERIENCE

- Access Family Health Systems, Construction Value \$3 million, Smithville, Mississippi
- Hazard Mitigation Grant Saferoom Program, Statewide, \$37.8 million, Mississippi
- Monroe County School District, Construction Value \$12-15 million, Mississippi
- Pearl Public School District, Bond Program Value \$22 million, Mississippi
- Rankin County School District, Pre-Bond Program Value \$185 million, Mississippi
- Tornado Debris Management, City of Louisville, \$3.2 million, Mississippi
- Tornado Debris Management, Winston County, \$4 million, Mississippi
- Tornado Emergency Protective Measures, City of Louisville, \$200k, Mississippi
- Tornado Emergency Protective Measures, Winston County, \$1 million, Mississippi
- Town of Smithville, Tornado Recovery Value \$5-7 million, Mississippi
- Translation Research Center, \$43 million, University of Mississippi Medical Center
- University of Texas Medical Branch, Pre-Position Disaster Recovery Consulting
- Winston Medical Center, Tornado Recovery, \$40 million, Louisville, Mississippi
- Winston Plywood and Veneer Plant, City of Louisville, 360,000 SF, \$45 million, Mississippi



Michael has successfully led all facets of FEMA and HUD CDBG funded programs from start up to close-out. For ten years he has been implementing disaster recovery programs up to \$2B in the states of LA, MS, TX, NY, ND and SC. He is an expert in assisting local governments to maximize recovery dollars, provide timely reimbursements, ensure all activities are in federal compliance, and coordinate close-out activities that meet federal guidelines. Michael maintains excellent relationships with FEMA, HUD, CDBG, USDA and USACE personnel and has in depth working knowledge of agency processes and regulation.

EDUCATION

*Bachelor of Science in Health,
University of Southern Mississippi*

REPRESENTATIVE PROJECT EXPERIENCE

Nassau County NY Superstorm Sandy FEMA & CDBG-DR Recovery, Nassau County, NY. \$1.6B | 2013-2017. Program manager for recovery assistance and grant management & admin for multiple funding sources including FEMA, CDBG-DR. Responsible for implementing systems and processes for financial tracking, application tracking, data management and reporting; expert advisory services related to FEMA, HUD CDBG-DR; engineering & procurement support; and dvpm of contracts. Program started with 65 PWs - Michael's team assisted to develop 50 additional PW totaling \$777M.

East Richland County Public Service District FEMA Flood Recovery Program, East Richland County, SC. \$5.3M | 2015-2017. Program manager and FEMA subject matter expert for preliminary damage assessments, emergency repairs, PW dvpm for FEMA Cat A, D & F; procurement support (RFP & RFQ development) for roadways, dams, water and wastewater facilities; as well as long term recovery efforts.

Livingston Parish Sheriff's Office FEMA Flood Recovery DR-4277, Livingston, LA. Program manager for emergency recovery efforts; emergency repair of roadway, water, sewer and electrical site improvements to install temporary housing for up to 50 staff and their families; and FEMA PW development.

St Bernard Parish Hurricane Katrina FEMA Program Management & Closeout, St Bernard Parish, LA. \$1.5B | 2005-2011. Program manager for management and admin of FEMA grant to include all emergency repairs. Work included 100+ infrastructure projects ranging from \$1,000 to \$100M including roadways, drainage systems, libraries, fire stations, parks, civic centers, water treatment & distribution systems, wastewater collection & treatment systems.

City of Sumter FEMA 4241 Recovery, Sumter, SC. FEMA subject matter expert for preliminary damage assessments, assisting with expedited PW funding including scope and cost estimates for FEMA Cat B-G, emergency repairs, procurement support. Work included roadways, dams, water, wastewater and public safety/fire facilities.

State of Louisiana Katrina Hazard Mitigation Grant Program, LA. \$750M | 2013-2015. Program manager for grant mgmt, construction mgmt and procurement support for home elevations up to 18 feet. Performed 20,000 observations, monitored 50 contractors and 20 engineering firms, and served 7,000 homeowners throughout 15 Parishes with varying codes and ordinances.



EDUCATION

Associate in Aviation Business
Management, Community College of the
Air Force, Keesler AFB

Mr. Leo Wood serves as a Senior Project Manager for Broaddus & Associates and is responsible for the project's budget, schedule, and quality. He interfaces with client user groups, client planning and facilities staff, designers, contractors, and code officials to ensure the project budget, schedule, and quality goals are all achieved. Currently Mr. Wood is managing post tornado disaster recovery in the clean-up effort for the City of Hattiesburg and also the Forrest County Board of Supervisors' HMGP Saferoom Program for the construction of FEMA 361 Saferoom shelters throughout the county at 12 of the County's school campuses.

While at Broaddus & Associates, Mr. Wood has facilitated and managed over \$200 million in disaster recovery through FEMA/ MEMA, insurance and grants such as the Hazard Mitigation Grant Program (HMGP), Community Development Block Grant (CDBG) and Mississippi Department of Archives and History (MDAH).

Mr. Wood previously managed the disaster recovery projects for the City of Louisville, Winston Medical Foundation in Winston County, MS and Winston County, MS in excess of \$100 million. Prior to that, he was engaged in the EF5 recovery and rebuilding efforts of the Town of Smithville, Monroe County School District, Access Family Health Services and the Katrina recovery and rebuilding efforts for the City of Moss Point and the Jackson County Board of Supervisors. Preceding that, Mr. Wood served as the public assistance branch director in Jackson County for the Mississippi Emergency Management Agency (MEMA). Mr. Wood performed grant management/facilitation for MEMA with the recovery efforts exceeding \$1 billion.

REPRESENTATIVE PROJECT EXPERIENCE

- Town Hall & Police Dept Complex with a FEMA 361 Safe Room, Town of Smithville, \$658,000, Smithville, Mississippi
- Tornado Debris Management, City of Louisville, \$3.2 million, Louisville, Mississippi
- Tornado Debris Management, Winston County, \$4 million, Louisville, Mississippi
- Tornado Emergency Protective Measures, City of Louisville, \$200k, Louisville, Mississippi
- Tornado Emergency Protective Measures, Winston County, \$1 million, Louisville, Mississippi
- Monolithic Dome FEMA 361 Shelter, Oktibbeha County Board of Supervisors, 31,400 SF, \$5.4 million, Starkville, Mississippi
- Monolithic Dome PE Gymnasium/FEMA 361 Shelter, Monroe County School District, 7,000 SF, \$1 million, Hamilton, Mississippi
- Monolithic Dome PE Gymnasium/FEMA 361 Shelter, Monroe County School District, 7,000 SF, \$1 million, Hatley, Mississippi
- Monolithic Dome PE Gymnasium/FEMA 361 Shelter, Senatobia School District, 11,800 SF, \$2.2 million, Senatobia, Mississippi
- Monolithic Dome Competition Gymnasium/FEMA 361 Shelter, Monroe County School District, 18,000 SF, \$3 million, Smithville, Mississippi
- Monolithic Dome/FEMA 361 Shelter, City of Louisville, 12,823 SF, \$3 million, Louisville, Mississippi



Mr. Gregg Kennedy serves as a Project Manager for Broaddus & Associates and is currently engaged with the Tupelo Public School District and the City of Louisville, Mississippi FEMA 361 Safe Shelter Programs. Previously he served as Construction Manager and was responsible for the reimbursement process in managing the post tornado recovery projects in the rebuilding effort for the City of Louisville and Winston Medical Foundation in Winston County, MS in excess of \$100 million. At Broaddus & Associates, Mr. Kennedy facilitates and manages funding sources through FEMA/MEMA, insurance and grants such as the Hazard Mitigation Grant Program (HMGP), Community Development Block Grant (CDBG) and Mississippi Department of Archives and History (MDAH).

Mr. Kennedy is also currently serving as an elected official in the capacity of Mayor for the Town of Smithville, Mississippi. Prior to joining the team of Broaddus & Associates he tirelessly worked alongside Broaddus, as Mayor of Smithville, during the recovery from the EF5 tornado that nearly wiped out the entire town. Also, following the destruction of his town, he staged the emergency recovery services. The recovery and reconstruction that followed had a direct impact on Mr. Kennedy so much so, that he took a six month leave of absence from his full-time job to direct all energies and efforts to t Smithville's rebirth.

REPRESENTATIVE PROJECT EXPERIENCE

- Infrastructure, Town of Smithville, \$8.1 million, Smithville, Mississippi
- Town Hall & Police Dept Complex with a FEMA 361 Safe Room, Town of Smithville, \$658,000, Smithville, Mississippi
- Tornado Debris Management, Winston County, \$4 million, Louisville, Mississippi
- Tornado Emergency Protective Measures, Town of Smithville, \$1 million, Smithville, Mississippi
- Monolithic Dome FEMA 361 Shelter, Oktibbeha County Board of Supervisors, 31,400 SF, \$5.4 million, Starkville, Mississippi
- Monolithic Dome PE Gymnasium/FEMA 361 Shelter, Monroe County School District, 7,000 SF, \$1 million, Hamilton, Mississippi and Hatley, Mississippi
- Monolithic Dome PE Gymnasium/FEMA 361 Shelter, Senatobia School District, 11,800 SF, \$1.3 million, Senatobia, Mississippi
- Sewer Lagoon, Town of Smithville, \$357k, Smithville, Mississippi
- Elevated Water Tanks Repairs, Town of Smithville, \$77,000, Smithville, Mississippi
- Lift Station Repairs, Town of Smithville, \$35k, Smithville, Mississippi
- Water and Sewer, Town of Smithville, \$200k, Smithville, Mississippi

**EDUCATION**

*Associates of Arts, Mississippi Gulf Coast
Community College*

Ms. Brenda Jarrett is a project coordinator with Broaddus & Associates with 21 years of professional experience highly concentrated on administrative excellence. Ms. Jarrett is proficient in delivering attention to detail that impacts the progress of the project. She possesses stellar interpersonal skills while interacting with colleagues, vendors, and customers/clients of all demographics and professional levels.

While at Broaddus & Associates, Ms. Jarrett serves as project controls coordinator, grant administrator and office manager for our Mississippi offices and also as an administrator of our proprietary Web-based project management software, Owner InSite (OIS). As project controls coordinator, she is responsible for directing, organizing and controlling project activities, under the direction of the Project Managers (PM). She tracks the progress of the work being done and monitors the budgets and expenditures. Ms. Jarrett also keeps the PMs and others informed about project status and issues that may impact client relations. As grant administrator, Ms. Jarrett oversees the financial and record-keeping of the overall project budget. She works closely with the program staff and senior leaders to ensure accurate financial reporting and procedural compliance. Ms. Jarrett also assists the Program Manager in the drafting and issuance of project proposals, RFP's, and the company budget.

REPRESENTATIVE PROJECT EXPERIENCE

- Town Hall & Police Dept Complex with a FEMA 361 Safe Room, Town of Smithville, \$658,000, Smithville, Mississippi
- Tornado Debris Management, City of Louisville, \$3.2 million, Louisville, Mississippi
- Tornado Debris Management, Winston County, \$4 million, Louisville, Mississippi
- Monolithic Dome FEMA 361 Shelter, Oktibbeha County Board of Supervisors, 31,400 SF, \$5.4 million, Starkville, Mississippi
- Monolithic Dome PE Gymnasium/FEMA 361 Shelter, Senatobia School District, 11,800 SF, \$2.2 million, Senatobia, Mississippi
- Monolithic Dome Competition Gymnasium/FEMA 361 Shelter, Monroe County School District, 18,000 SF, \$3 million, Smithville, Mississippi
- Monolithic Dome/FEMA 361 Shelter, City of Louisville, 12,823 SF, \$3 million, Louisville, Mississippi
- Jackson County Health Department, Jackson County Board of Supervisors, 21,500 SF, \$4.87 million, Pascagoula, Mississippi
- Fountainebleau Community Center/Shelter, Jackson County Board of Supervisors, 5,400 SF, \$1.35 million, Ocean Springs, Mississippi
- FEMA 361 Shelter/Cafeteria/Safe Room, Louisville Municipal School District, 8,493SF, \$2.5 M, Louisville, Mississippi
- FEMA 361 Shelter/Safe Room, Water Valley School District, 5000SF, \$885k, Water Valley, Mississippi
- FEMA 361 Stand Alone Safe Rooms at 3 Schools, Tupelo Public School District, 9171SF, \$2.5M, Tupelo, Mississippi

**EDUCATION**

*Bachelor of Science in Construction
Engineering, Arizona State University*

Mr. Jacque Judy serves as Cost Estimator for Broaddus & Associates. He provides estimates for projects in a variety of stages, establishes budgets with owners/clients, develops project scopes, and coordinates design team efforts with owner/client guidelines. He has the unique ability to provide conceptual estimates during planning and early design with great accuracy and reliability.

He leads our approach to the technical services process to accurately establish and maintain project budgets, develops project design within budget restraints, and supervises the timely completion of all pre-construction activities. During final bid preparation, he works closely with the project team to maximize participation by local, qualified trade contractors and facilitates an orderly transfer to field operations. He will continue to stay involved with the project as necessary throughout the course of construction.

REPRESENTATIVE PROJECT EXPERIENCE

- Emergency Services District No. 2 Fire Station No. 4, Bastrop County, 16,000 SF, \$4.2 million, Bastrop, Texas
- Robert J. Curry Public Safety Center, City of Gulfport, 78,690 SF, \$28.7 million, Gulfport, Mississippi
- Post-Katrina VA Building Assessment, City of Gulfport, Gulfport Mississippi
- Downtown Façade Program, City of Gulfport – Main Street Association, \$4.4M, Gulfport, Mississippi
- Jones Hardy Building Repairs, City of Gulfport, 15,332 SF, \$1.3M, Gulfport Mississippi
- Robert J. Curry Public Safety Center, City of Gulfport, 76,000 SF, \$28M, Gulfport, Mississippi
- Vandergriff Civil Courts Building, Tarrant County, 232,000 SF, \$74 million, Fort Worth, Texas
- Lon Evans Correction Center, Tarrant County Commissioners' Court, 183,052 SF, \$83 million, Fort Worth, Texas
- Grand Prairie Sub-Courthouse, Dallas County, 32,000 SF, \$6.5 million, Grand Prairie, Texas
- University Boulevard Library, The University of Texas at Brownsville/Texas Southmost College, 45,379 SF, \$14.3 million, Brownsville, Texas
- University Hospital at the Medical Center Expansion, University Health System, 1.1 million SF, \$778 million, San Antonio, Texas
- Hays County Government Complex, Hays County Government, 232,000 SF, \$62.8 million, San Marcos, Texas
- RPTP Road and Bridge Expansion, Hays County, San Marcos, Texas
- Law Enforcement Center/Jail Expansion, Hays County, Facilities Assessment, San Marcos, Texas



Joanna's career has focused on local and state government disaster recovery and mitigations. Having written 70+ Hazard Mitigation Grant Program applications, she holds extensive experience in HMGP and benefit cost analysis. Following Hurricane Katrina, she was responsible for ensuring that the implementation of over 500 FEMA funded recovery projects was in accordance with rules and regulation. She was responsible for the coordination of all recovery project progress and meetings with FEMA and the State.

REPRESENTATIVE PROJECT EXPERIENCE

- **Nassau County NY Superstorm Sandy FEMA & CDBG-DR Recovery, Nassau County, NY. \$1.6B | 2013-2017.** Document control specialist for multiple programs to include FEMA, CDBG-DR. Maintained all records, financial data, contract data, and ensured documentation and project data was current and input into data tracking system correctly.
- **East Richland County Public Service District FEMA Flood Recovery Program, East Richland County, SC. \$5.3M | 2015-2017.** Administrative support and document control for preliminary damage assessments, emergency repairs, PW development for FEMA Cat A, D & F; procurement support (RFP & RFQ development) for roadways, dams, water and wastewater facilities.
- **State of Louisiana Office of Community Development Disaster Recovery Unit HMGP, New Orleans, LA.** She assisted with management and implementation of 11,000 FEMA funded mitigation projects. She was responsible for financial documentation, payroll, timesheets and schedules for 45 employees. She ensured operations were in compliance with all applicable laws, rules and policies to promote transparency to the citizens of Louisiana. She worked with applicants, contractors, other agencies—FEMA, State, Attorney General, OIG, Local Jurisdictions, etc. and ensured new policies and procedures were adhered to.
- **State of Louisiana Katrina Hazard Mitigation Grant Program, LA.** Document control specialist for grant management, construction management and procurement support for the home elevations up to 18 feet. Managed documentation and database to support 20,000 observations, monitoring of 50 contractors and 20 engineering firms, and assisting 7,000 homeowners throughout 15 Parishes with varying codes and ordinances.
- **St. Bernard Parish Government, Chalmette, LA.** Executive assistant responsible for ensuring that the implementation of over 500 FEMA funded recovery projects was in accordance with rules and regulation. Attended progress meetings with contractor, architects and engineers, and daily meetings with Parish President to report on recover projects progress. Responsible for the coordination of all recovery project progress meetings and meetings with FEMA/State.



Ben's career has focused on disaster mitigation and recovery throughout LA, NY and now SC. Ben recently assisted East Richland County SC to assess and repair damaged infrastructure from 2015 floods. As project manager for Nassau County NY Sandy Recovery, Ben wrote multiple FEMA Cat B & E PW's including projects with emergency protective measures and buildings and equipment. He developed projects, expedited reimbursements, advised on FEMA policy, performed QAQC, compliance and PW closeout, and ensured files were complete for audit. Ben was integral to selecting the 12 sites in the County's FEMA 428 PA Alternative Procedures Pilot Program (\$12.3M).

EDUCATION

*Bachelor of Science in Disaster Science
& Management, Louisiana State University*

REPRESENTATIVE PROJECT EXPERIENCE

- **East Richland County Public Service District FEMA Flood Recovery Program, East Richland County, SC. \$5.3M | 2015-2016.** Project manager for preliminary damage assessments, emergency repairs, PW development for FEMA Cat A, D & F; procurement support (RFP & RFQ development) for roadways, dams, water and wastewater facilities.
- **Nassau County NY Superstorm Sandy FEMA & CDBG-DR Recovery, Nassau County, NY. \$1.2B | 2013-2016.** Project manager for recovery assistance and grant management & admin for multiple funding sources including FEMA, CDBG-DR. Provided support with implementing systems and processes for financial tracking, application tracking, data management and reporting; expert advisory services related to FEMA, HUD CDBG-DR; engineering & procurement support; and development of contracts. Program started with 65 PWs and team assisted the County to develop 50 additional PW totaling \$777M.
- **New York Rising Social Services Block Grant Program, New York, NY. \$2M | 2015-2016.** Project manager for architecture, engineering, field investigation and permitting services to homeowners classified as vulnerable populations – such as very low income, elderly, disabled and limited English proficiency. Work is a combination of home elevation and reconstruction.
- **FEMA Section 428 Public Assistance Alternative Procedures Pilot Program (FEMA 428 PAAP), Nassau County, NY. \$12.3M | 2015.** Project engineer for assisting the county select 12 sites that are included in their 428 program PW, which amounts to \$12.3 million. Helped develop SOW for each site, worked closely with the NYS CEF team to develop the CEF for each site, and provided FEMA with all FEMA 428 required documentation for each site. Once the PWs were approved by FEMA and sent back to the Applicant, the team reviewed the PWs and made any necessary changes. Tracked the permanent repairs to each site.



EDUCATION

*Bachelor of Arts, Management & Society,
The University of North Carolina at
Chapel Hill*

Mr. Anthony Popolizio has hands-on project management and construction-related experience, which has enabled him to serve as our Scheduling Resource Manager, while also serving as the Project Manager for multiple projects. He interfaces with client user groups, client planning and facilities staff, designers, contractors, and code officials to ensure that the project schedule is achieved.

Mr. Popolizio is currently serving the U.S. Department of Veterans Affairs' Office of Construction & Facilities Management (CFM) in developing and implementing an Integrated Master Schedules (IMS) on the VA's facilities nationwide. The IMS provides flexible prototypes for scheduling of projects from inception to operational occupancy. The IMS will provide all stakeholders (including project managers and VA leadership) consistent and accurate information to improve project decision assessment. Prior to our engagement, schedules utilized by the VA varied in level of detail and complexity. Challenges existed, since not all schedules were utilized to assess the overall project timeline, thus curtailing the VA's ability to assess impacts of schedule variance on the comprehensive project delivery timeline.

REPRESENTATIVE PROJECT EXPERIENCE

- Hays County New Government Center, Hays County, 232,000 SF, \$63.8 million, San Marcos, Texas
- DPS Fire Training Facility Upgrades, DFW International Airport Board, 12,500 SF, \$15.6 million, DFW International Airport, Texas
- Downs-Jones Library and Communications Room Upgrades, Huston-Tillotson University, \$2.5 million, Austin, Texas
- Development Services & Tax Assessor Building, Bastrop County, 14,000 SF, \$4 million, Bastrop, Texas
- RPTP Road and Bridge Expansion, Hays County, San Marcos, Texas
- Department of Veterans Affairs Office of Construction & Facilities Management, Integrated Master Schedule Development and Implementation
- Student Union Building, University of North Texas, 203,000 SF, \$128 million, Denton, Texas
- TDECU Football Stadium, University of Houston, 521,900 SF, \$120 million, Houston, Texas
- 2013 Bond Construction Program, South Texas College, 537,988 SF, \$159 million, McAllen, Texas
- Student Residence Hall, Sam Houston State University, Huntsville, Texas
- Zapata Higher Education Center, Zapata County, 15,000 SF, \$2.1 million, Zapata, Texas
- Joan and Andy Horner Music Hall, Dallas Baptist University, 11,800 SF, \$4.5 million, Dallas, Texas
- Williamsburg Village Townhomes Phase III, Dallas Baptist University, 11,300 SF, \$1.5 million, Dallas, Texas
- Spence Residence Hall Retrofit, Dallas Baptist University, 130,000 SF, \$632,187, Dallas, Texas
- Jennie Sealy Hospital, The University of Texas Medical Branch, 750,000 SF, \$500 million, Galveston, Texas

Section 7
Socioeconomic
Contractors

Broaddus & Associates is certified as a Service Disabled Veteran Owned Business (SDVOB) by the U.S. Department of Veterans Affairs to provide services under a variety of NAICS codes primarily related to construction and professional services. As an SDVOB, Broaddus & Associates is wholly committed to developing, establishing, maintaining, and enhancing comprehensive involvement in the total contracting process. It is the policy of Broaddus & Associates to involve qualified minority/women-owned businesses to the greatest extent feasible in the contracting of services. Our firm, suppliers, subcontractors, and vendors do not discriminate on the basis of race, color, religion, national origin, handicap, or sex in the award and/or performance of contracts. All vendors, suppliers, professionals, and contractors doing business or anticipating doing business with Broaddus & Associates shall support, encourage, and implement affirmative steps toward our common goal of establishing equal opportunity for all citizens.

Broaddus & Associates, Inc.

Business Information

Doing Business As:
DUNS: 011260200
Workflow Status:
Registration Status: Verified
Last Verified: 8/10/2015
Expiration Date: 8/10/2018
Year Established: 2000
Business Street Address 1: 1301 S. Capital of TX Hwy Ste A302
Business Street Address 2:
City: Austin
State/Territory: Texas
County: Travis
Zip: 78746 - 6581
Phone: (512) 329-8822
Fax: (512) 329-8242
Company Email: jeffbroaddus@broaddusassociates.com
Web Address: <http://www.broaddusassociates.com>



Business Type

Business Type: Sub Chapter S Corporation (Inc. or Ltd.)
Cage Code: 3FYX1
NAICS: 236115, 236116, 236117, 236118, 236210, 236220, 237110, 237310, 237990, 541330
FSC:
B540, C111, C112, C113, C114, C119, C121, C122, C123, C124, C129, C130, C215, D314, R408, R413, R415, R499, Y111, Y112, Y119, Y121, Y122, Y123, Y124, Y125, Y126, Y127, Y129, Y131, Y139, Y141, Y142, Y149, Y151, Y152, Y153, Y154, PSC: Y155, Y159, Y161, Y162, Y163, Y164, Y165, Y166, Y169, Y171, Y172, Y173, Y174, Y179, Y181, Y182, Y183, Y184, Y191, Y192, Y199, Y211, Y212, Y213, Y214, Y215, Y216, Y219, Y221, Y222, Y223, Y224, Y231, Y232, Y233, Y234, Y235, Y236, Y237, Y239, Y241, Y242, Y243, Y244, Y245, Y249, Y291, Y292, Y293, Y294, Y299, Y300
Certifications: Service-Disabled Veteran Owned Small Business
Woman Owned Small Business: No
Minority Owned Small Business: No
HUBZone: No
8(a): No
Purchase Card: No

Capabilities

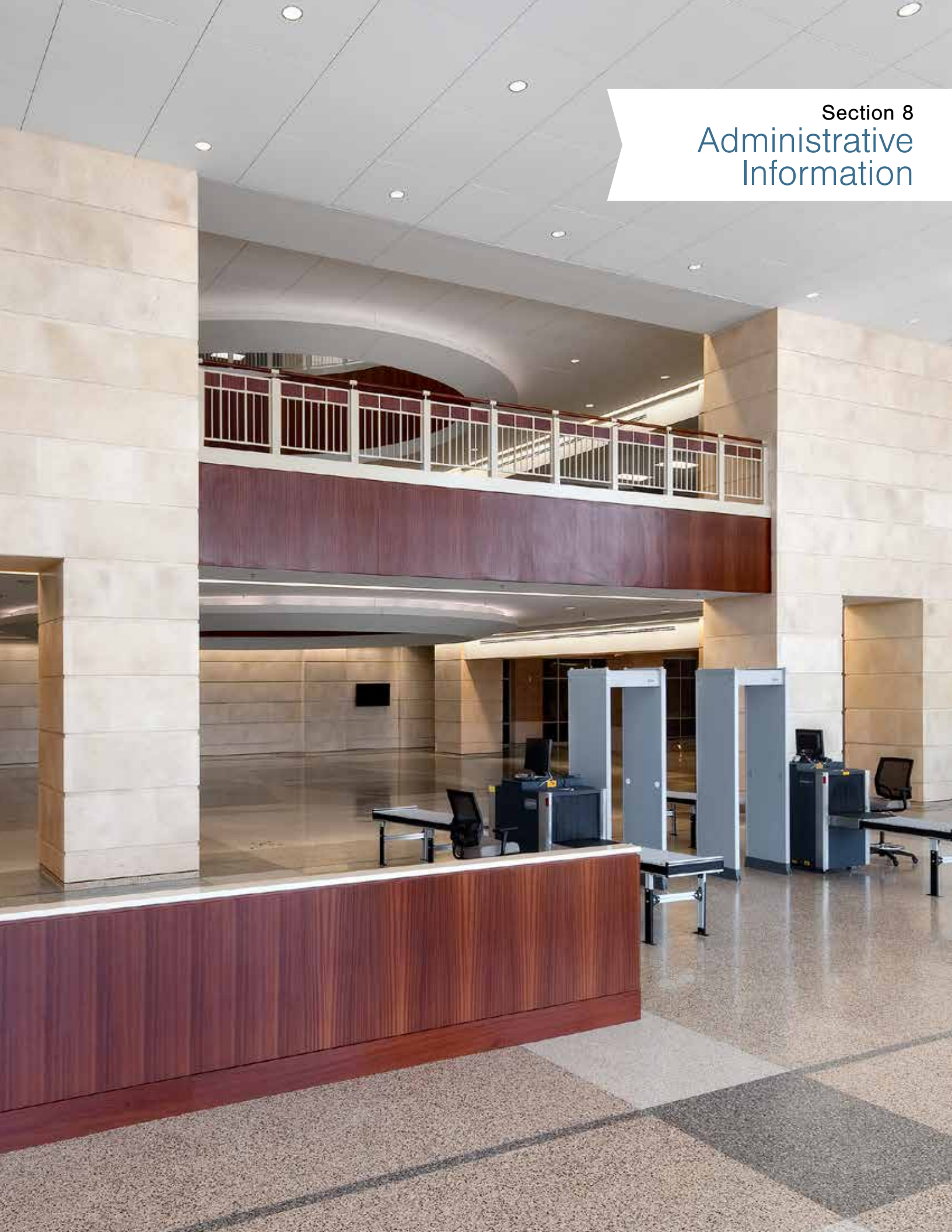
Number of Employees: 120
Number of Veteran Employees:
Number of Operating Locations: 9
Geographical Service Area(s): All
Capabilities Narrative: Broaddus & Associates is a building design and construction project management and planning firm that is ranked among the US top 40 program managers by Engineering-News Record. The company has the planning and project management capabilities that result in high-quality projects delivered on-time and within budget. Our project management approach combines research proven best practices with exceptionally experienced staff to produce consistently superior results. Representing Owners during the planning, design and construction of facilities is our primary business.
Capabilities Keywords: Master Planning, Facilities Planning and Programming, Construction Management of Facilities, Owner Representation during Planning, Design and Construction of Facilities, Construction of Facilities; New Single-Family Housing Construction (except Operative Builders); New Multifamily Housing Construction (except Operative Builders); New Housing Operative Builders; Residential Remodelers; Industrial Building Construction; Commercial and Institutional Building Construction; Water and Sewer Line and Related Structures Construction; Highway, Street, and Bridge Construction; Other Heavy and Civil Engineering Construction; Engineering Services; New Single-Family Housing Construction (except For-Sale Builders); New Multifamily Housing Construction (except For-Sale Builders); New Housing For-Sale Builders

Business Relationships

Joint Venture: No

Mentor Protégé: No

Section 8
Administrative
Information



Client#: 75546

14BROADAS1

ACORD™

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/13/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Wortham Insurance & Risk Management 221 West 6th Street, Suite 1400 Austin, TX 78701 512 453-0031		CONTACT NAME: Shirley Garza PHONE (A/C, No, Ext): 512 453-0031 FAX (A/C, No): 512 453-0041 E-MAIL ADDRESS: shirley.garza@worthaminsurance.com															
INSURED Broaddus & Associates, Inc. 1301 S. Capital of Texas Hwy. Suite A-302 Austin, TX 78746		<table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A : Hartford Lloyds Insurance Compa</td> <td>38253</td> </tr> <tr> <td>INSURER B : Hartford Casualty Insurance Co.</td> <td>29424</td> </tr> <tr> <td>INSURER C : Texas Mutual Insurance Company</td> <td>22945</td> </tr> <tr> <td>INSURER D : Beazley Insurance Company, Inc.</td> <td>37540</td> </tr> <tr> <td>INSURER E : Hartford Underwriters Insurance</td> <td>30104</td> </tr> <tr> <td>INSURER F : Argonaut Insurance Company</td> <td>19801</td> </tr> </tbody> </table>		INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : Hartford Lloyds Insurance Compa	38253	INSURER B : Hartford Casualty Insurance Co.	29424	INSURER C : Texas Mutual Insurance Company	22945	INSURER D : Beazley Insurance Company, Inc.	37540	INSURER E : Hartford Underwriters Insurance	30104	INSURER F : Argonaut Insurance Company	19801
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COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY		65SBAIL9143	03/14/2017	03/14/2018	EACH OCCURRENCE \$1,000,000
B	☐ CLAIMS-MADE ☒ OCCUR		65SBAZS6260	03/14/2017	03/14/2018	DAMAGE TO RENTED PREMISES (Ea occurrence) \$300,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 OTHER: \$
E	AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ ALL OWNED AUTOS ☒ HIRED AUTOS ☐ SCHEDULED AUTOS ☒ NON-OWNED AUTOS		65UECND0059	03/14/2017	03/14/2018	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ OTHER: \$
A	☐ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE		65SBAIL9143	03/14/2017	03/14/2018	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 DED: ☒ RETENTION \$10,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ Y/N ☒ N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	TSF0001235140(TX) WC928128346594(MS)	03/14/2017	03/14/2018	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
D	Professional Liability Coverage		V1535E160301 Retro Date: Full Prior Acts	03/14/2017	03/14/2018	\$1,000,000 Each Claim \$1,000,000 Aggregate \$75,000 Deductible

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

NAMED INSURED IS COMPLETED TO READ: Broaddus & Associates, Inc.; Broaddus Planning, LLC

*****Evidence of Insurance Coverage Only*****

Schedule of Forms and Endorsements:

Commercial General Liability SS 00 08 04 05

*Notice of Cancellation to Certificate Holder(s) SS 12 24 06 11

(See Attached Descriptions)

CERTIFICATE HOLDER

CANCELLATION

Information Only	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>John L. Wortham + Son L.P.</i>

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ACORD 25 (2014/01) 1 of 2 The ACORD name and logo are registered marks of ACORD
 #S756722/M756461

14SDG

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

Company Name: Broaddus & Associates

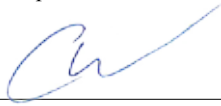
City of Hattiesburg Drug-Free Workplace Form

The undersigned firm hereby certifies that

Broaddus & Associates does:
Name of Firm

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the danger of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the contractual services that are described in the City's request for proposals to provide bond underwriter services a copy of the statement specified in paragraph 1.
4. In the statement specified in paragraph 1, notify the employees that, as a condition of working on the contractual services described in paragraph 3, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of the State of Mississippi, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction or plea.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.
6. Consistent with applicable provisions with State or Federal law, rule, or regulation, make a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1 through 5.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.



Signature
April 5, 2017

Date

REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES

AFFIDAVIT

TO: CITY OF HATTIESBURG
HATTIESBURG, MISSISSIPPI

At the time the proposal is submitted, the Respondent shall attach to his proposal a sworn statement.

The sworn statement shall be an affidavit in the following form, executed by an officer of the firm, association or corporation submitting the proposal and shall be sworn to before a person who is authorized by law to administer oaths.

STATE OF Mississippi CITY OF Hattiesburg. Before me, the undersigned authority, personally appeared Colton Wood who, being duly sworn, deposes and says he is Director of Operations (Title) of Broadus & Associates (Firm) the respondent submitting the attached proposal for the services covered by the RFP documents for RFP No: 4295 DISASTER RECOVERY CONSULTING SERVICES.

The affiant further states that no more than one proposal for the above referenced project will be submitted from the individual, his firm or corporation under the same or different name and that such respondent has no financial interest in the firm of another respondent for the same work, that neither he, his firm, association nor corporation has either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this firm's proposal on the above described project. Furthermore, neither the firm nor any of its officers are debarred from participating in public contract lettings in any other state.

Broadus & Associates

(Proposer)

By [Signature]

Director of operations
(Title)

STATE OF Mississippi

COUNTY OF Fulton

Subscribed and sworn to before me this 3rd day of April, 20 17, by Colton Wood who personally appeared before me at the time of notarization, and who is personally known to me or who has produced Drivers License as identification.

[Signature]
Notary Public

My commission expires: 02/08/2019

VENDOR ON ALL CITY PROJECTS MUST EXECUTE AND ATTACH THIS AFFIDAVIT TO EACH PROPOSAL.



REQUEST FOR PROPOSALS (RFP) NO: 4295 DISASTER
RECOVERY CONSULTING SERVICES

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF insert entity name, being of lawful age and being duly sworn I, insert affiant name, as insert position or title (ex. CEO, officer, president, duly authorized representative, etc.) hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this 3 day of April, 2017.



Signature of Affiant

STATE OF Mississippi
COUNTY OF Forrest

Subscribed and sworn to before me this 3rd day of April, 2017, by Cotton Wood
who personally appeared before me at the time of notarization, and who is personally known to me or who has produced Driver License as identification.



Notary Public

My commission expires:
02/08/2019



**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

City of Hattiesburg Conflict of Interest Disclosure Form

Project (RFQ, RFP, BID) Number/Description: RFP # 4295, Disaster Recovery Consulting Services

The term "conflict of interest" refers to situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting a consultant's/contractor's professional judgment in completing work for the benefit of the City of Hattiesburg ("City"). The bias such conflicts could conceivably impart may inappropriately affect the goals, processes, methods of analysis or outcomes desired by the City.

Consultants/Contractors are expected to safeguard their ability to make objective, fair, and impartial decisions when performing work for the benefit of the City. Consultants/Contractors, therefore must there avoid situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting the consultant's/contractor's professional judgment when completing work for the benefit of the City.

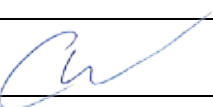
The mere appearance of a conflict may be as serious and potentially damaging as an actual distortion of goals, processes, methods of analysis or outcomes. Reports of conflicts based upon appearances can undermine public trust in ways that may not be adequately restored even when the mitigating facts of a situation are brought to light. Apparent conflicts, therefore, should be disclosed and evaluated with the same vigor as actual conflicts.

It is expressly understood that failure to disclose conflicts of interest as described herein may result in immediate disqualification from evaluation or immediate termination from work for the City.

Please check the appropriate statement:

- ☒ I hereby attest that the undersigned Respondent has no actual or potential conflict of interest due to any other clients, contracts, or property interests for completing work on the above referenced project.
- ☒ The undersigned Respondent, by attachment to this form, submits information which may be a potential conflict of interest due to other clients, contracts or property interests for completing work on the above referenced project.

Legal Name of Respondent: Broaddus & Associates

Authorized Representative(s) :  Colton Wood/ Director of Operations
Signature Print Name/Title

Signature Print Name/Title

Brenda Jarrett

From: Brenda Jarrett
Sent: Thursday, March 23, 2017 1:54 PM
To: 'Luu, Lisa'
Cc: Bernardo, Debbie
Subject: RE: Confirmation Regarding the Addendum to the RFP

Confirmed.
Thank you ma'am.

Brenda Jarrett
Project Administrator
Broaddus & Associates
Office: 662-640-4860
Cell: 662-322-8316
BroaddusUSA.com

THE BROADDUS COMPANIES

We exist to advocate for owners and dramatically improve the building process.

From: Luu, Lisa [mailto:lluu@hattiesburgms.com]
Sent: Thursday, March 23, 2017 1:55 PM
To: Brenda Jarrett <bjarrett@broaddusassociates.com>
Cc: Bernardo, Debbie <dbernardo@hattiesburgms.com>
Subject: Confirmation Regarding the Addendum to the RFP

Hi,

Could you please confirm that you have received the addendum to the RFP I have sent yesterday?

Thank you very much,



Lisa Luu | Deputy Clerk of Council
Office : (601) 545-4553 | Fax: (601) 545-4957
Email: lluu@hattiesburgms.com

Brenda Jarrett

From: Brenda Jarrett
Sent: Friday, March 31, 2017 2:31 PM
To: 'Bernardo, Debbie'
Subject: RE: Addendum #2, RFP #4295

Confirmation of receipt of Addendum #2 regarding RFP #4295.

Thank you ma'am,

Brenda Jarrett
Project Administrator
Broaddus & Associates
Office: 662-640-4860
Cell: 662-322-8316
BroaddusUSA.com

THE BROADDUS COMPANIES

We exist to advocate for owners and dramatically improve the building process.

From: Bernardo, Debbie [mailto:dbernardo@hattiesburgms.com]
Sent: Friday, March 31, 2017 2:30 PM
To: Brenda Jarrett <bjarrett@broaddusassociates.com>
Subject: Addendum #2, RFP #4295

This addendum covers all questions submitted regarding RFP # 4295.



Section 1: Cover Page

VI: ATTACHMENTS/FORMS

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

COVER PAGE

**SUBMIT ONE (1) ORIGINAL AND ONE (1) ELECTRONIC DISC OR ONE (1) USB FLASH DRIVE
CONTAINING ONE (1) COLOR PDF OF THE ORIGINAL DOCUMENTS:**

**City Council
CITY OF HATTIESBURG
200 FORREST STREET
HATTIESBURG, MS 39401**

ATTN: Debbie Bernardo, Clerk of Council

COMPANY NAME: Adjusters International, Inc.

DATE: 4/4/2017



Section 2: Cover Letter

April 5th, 2017

To: City Council, City of Hattiesburg
ATTN: Debbie Bernardo, Clerk of Council
200 Forrest Street
Hattiesburg, MS 39401

From: Adjusters International, Inc.
126 Business Park Drive
Utica, NY 13502
Phone: 800-382-2468 or 315-797-3035
Fax: 315-797-1090

Dear Ms. Bernardo,

Adjusters International, Inc., structured as a corporation and established in 1985, appreciates the opportunity to present our proposal in response to the **City of Hattiesburg, MS Disaster Recovery Consulting Services**. We will provide the City with professional services to manage and maximize financial relief to the City through its insurance carrier, the Federal Emergency Management Agency (FEMA), the Mississippi Emergency Management Agency, and the Emergency Management District, an independent office of the County and City of Hattiesburg government, reporting to the Emergency Management Council through the Emergency Management Director. As detailed in the following proposal, our team has demonstrated experience in programmatic disaster recovery at the national, state and local levels, and particular experience and expertise in dealing with the FEMA Public Assistance and other funding programs, including proven expertise with FEMA/State hazard mitigation programs and insurance recoveries.

As a result of numerous natural and man-made disasters throughout the United States, our current knowledge of and hands-on experience with clients' recoveries provides us with insight and immediate understanding of the issues at hand. This means there is no learning curve in hiring Adjusters International to guide the City through the preparedness and recovery phases.

The AI Team has provided insurance adjusting and FEMA consulting (our Total Solution®) together for more than 20 years. The significance of our understanding of each area of expertise – insurance and the FEMA Public Assistance program and how each work together and complement each other – is a major difference between AI and all other competitors.

We feel strongly that our team is uniquely suited to assist the City with this scope of work:

- **Local Knowledge with Expert Staff:** Our staff has a strong understanding of the area while also being experts in the FEMA Public Assistance (PA) Program. Our local knowledge will ensure that time is not wasted educating out of state contractors on local issues. We have provided consulting and management services for multiple streams of post-disaster funding and insurance issues in the State, ensuring compliance with all programs. Our team has been actively engaged in the largest recovery operations in the



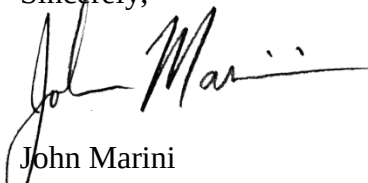
country, including Hurricanes Katrina and Sandy, as well as Hurricanes Ike and Rita in Texas. AI is therefore up-to-date on the latest FEMA guidelines and policies. Our extensive experience and expertise in the execution of contract work of similar or greater size or scope lends confidence to the City that we can consistently meet tight deadlines, manage priorities, and maximize compensation for every eligible instance of loss.

- **Relationships at State and Federal Level:** Our 30+ years in business makes AI a formidable prospect for partnership as we leverage existing relationships in FEMA Region IV and FEMA Headquarters to expedite reimbursements as well as resolve issues associated with disputed and de-obligated costs.
- **Total Financial Recovery Solution:** The significance of our understanding of the total financial recovery process and multiple funding sources is a major difference between our team and all other competitors. We understand the issues and requirements inherent to coordinating public/private funding sources and their complex interactions. Due to this, we will be able to guide the City around the pitfalls often associated with the disaster recovery process.

Our core strengths—our hands-on expertise with federal funding programs and insurance, history of client advocacy, and dedication to enabling a full and efficient financial recovery—make us an essential component of the City’s emergency management team. The AI Team stands ready to assist the City with fiscal management, recovery, and preparedness consulting services to support the review and development of plans and organization, management, and administration of post-disaster grant funding. We are certain that the unique combination of our national expertise and resources will prove to be the best value for the City. AI recently acquired Tidal Basin Government Consulting, a recovery and emergency management firm we have partnered with regularly. Tidal Basin is a wholly owned subsidiary of AI, and this acquisition will allow us to expand our practice and give us access to a broad spectrum of experienced individuals.

Should additional correspondence be required regarding this response, please do not hesitate to contact me directly. I can be reached via email at jmarini@adjustersinternational.com or on my cell phone at 315-415-2963. My mailing address at AI’s corporate headquarters is 126 Business Park Drive, Utica, New York 13502. Our primary office number is 315-797-3035 and my direct fax line is 315-272-2192. Our RFP package shall be binding for one hundred twenty (120) consecutive calendar days following the submittal due date.

Sincerely,


John Marini
President and CEO

Why AI is the Premiere Choice for the City of Hattiesburg

- *Our team has responded to every major disaster and catastrophic event in the U.S. for the past 20 years*
- *We offer the Total Solution® - a major difference between our team and all other competitors.*
- *Unsurpassed insurance expertise – key to recovery and closeout*
- *Current hands-on knowledge of FEMA policy changes since Hurricane Sandy*
- *Prestigious Professional Affiliations & Certifications from EM Agencies*



Section 3: Qualifications and Experience

ADJUSTERS INTERNATIONAL

AI's Corporate Qualifications

Founded in 1985, Adjusters International (AI) has been a leading provider of disaster recovery services for 30+ years. We have specialized in FEMA PA program management since 1996 (**21 years**) and have been providing technical staffing and program management services specifically to states since 2004 (**13 years**).

AI's reputation for strategic thinking and effective management of the total financial recovery process has gained us experience on some of the most challenging and high-profile losses of the past quarter century. We have assisted with recoveries that required extreme flexibility, technical expertise, and the ability to mobilize quickly. We responded to 18 disasters in 11 years for the State of New York and are under contract to provide dedicated PA support staff to the states of **Alaska, Hawaii, Montana, North Carolina, Rhode Island, and South Carolina**.

AI is up to date and familiar with compliance reviews FEMA is required to undertake regarding the Endangered Species Act, Coastal Barrier Resources Act, and National Historic Preservation Act. Our consultants are abreast to recent legislative and programmatic changes within FEMA, including policy changes that resulted from the **Sandy Recovery**

Improvement Act of 2013 (SRIA), such as the **Alternative Procedures Pilot Programs, Permanent Work, and Dispute Resolution**; FEMA Disaster Assistance Policy (DAP) 9525.9 Section 324 Management Costs and Direct Administrative Costs and PA Program and Policy

Guide FP 104-009-2/ January 2016 Guide. Furthermore, we have many years of managing multiple funding sources, which was the genesis of the Federal Super Circular.



AI's publication, *Disaster Recovery Today*, is distributed to 50,000+ industry professionals nationwide.

Our team is known for its dedication to client success and for building strong and positive long-term relationships. Clients such as the Port Authority of New York & New Jersey have relied on us to assist them through complex disasters since 1993. Lee County and Monroe County, Florida, and the Houston Independent School District in Texas have kept us on contract for 10 or more years. We have had a relationship with New York State since 2004. Clients such as Jefferson Parish in Louisiana and the Cedar Rapids Community School District in Iowa have chosen to keep AI's staff as part of their long-term recovery teams since 2005 and 2008 respectively to ensure a complete



recovery from beginning to end. Additionally, the Baylor College of Medicine and the University of Texas System in Texas as well as Audubon Nature Institute in Louisiana regularly tap into AI's expertise to resolve issues as they arise during closeout and audit. We are there for our clients at every stage of recovery, in whatever form they require.

We credit these enduring relationships to our dedication to unwavering professionalism; unsurpassed knowledge of policy, systems and agencies; and a focus on tailoring our work product, communication and reporting structures to fit your organizational needs. Everything from our personalized approach to service and dedicated leadership team to our customized project management system and daily and weekly reports are designed to provide the State with the insights, intelligence and guidance necessary to make well-informed leadership decisions before, during and after a disaster event.

As a recognized leader in the insurance and emergency management fields, AI produces publications *Disaster Recovery Today* and *Adjusting Today*, respectively.



In 2016, AI acquired Tidal Basin Government Consulting, LLC (Tidal Basin), an emergency management and disaster recovery consulting firm based in Alexandria, VA. Tidal Basin possesses nationwide outreach capabilities, and their personnel have unique knowledge of and hands-on experience with emergency and disaster preparedness, planning, response, recovery and mitigation management and funding programs. Tidal Basin provides expert consulting services to assist federal, state, local, and private sector clients in identifying and achieving their emergency management and disaster recovery goals. This acquisition gives AI a much deeper collection of talent and resources to use in Mississippi for the execution of this contract.

Given our many years of experience in our growing and emerging field, we fully understand the City's scope of work for this effort. Our Project Managers and PA Specialists will document potential and realized mitigation opportunities for each risk and project for the City's use in plan maintenance and to strengthen the City against potential damage in a future event (resilience). In the next section, we describe and demonstrate our prior experience providing disaster recovery consulting services for a myriad of clients. We leave no doubt that we are well-qualified and best suited to fulfill the obligations of the scope of work for this contract.

AI's Prior Experience Providing Disaster Recovery Consulting Services



AI Corporate Headquarters in Utica, NY

Adjusters International (AI) has extensive experience assisting clients to prepare for, respond to, and recover from catastrophic disaster events such as floods, snow disasters, hurricanes, severe storms, winter storms, earthquakes, and other natural and man-made events. As part of our portfolio of services, our team offers clients full-service emergency management consulting, including (but not limited to) public assistance (PA), hazard mitigation, and individual assistance (IA) programmatic support; damage assessment; estimating services; and hazard mitigation planning and project management. We work with both state and local governmental agencies to ensure they are aware of all possible disaster hazards and have the proper resources and protocols in place to minimize



potential risks, mitigate potential losses, respond to disaster events, and efficiently navigate the recovery process.

AI Wins

The City of Hattiesburg (the City) can have the highest level of confidence in selecting AI as the premiere contractor of choice to accomplish its disaster recovery efforts. We are a **winning** firm; but not just because of the **number** of state, local, and federal contracts we have won, but because of **the broad areas of expertise** we hold, the **types and magnitude of the work** we perform, and our **outstanding performance rating reviews** from our current and previous clients. We fully intend to bring this same standard of excellence in service to the City. Due to our rich heritage of disaster recovery, emergency response and management, and direct FEMA Public Assistance experience, we are uniquely positioned to administer projects of varying magnitudes, across a myriad of locations. We are adept in utilizing local resources and leveraging existing infrastructures and protocols in the administration of our consulting services. This not only saves our clients time and builds efficiency into their processes, but it further demonstrates our fiscal responsibility and sensitivity to our clients' budgetary constraints. Local participation will be encouraged and utilized, whenever possible, as we provide our services to the City.

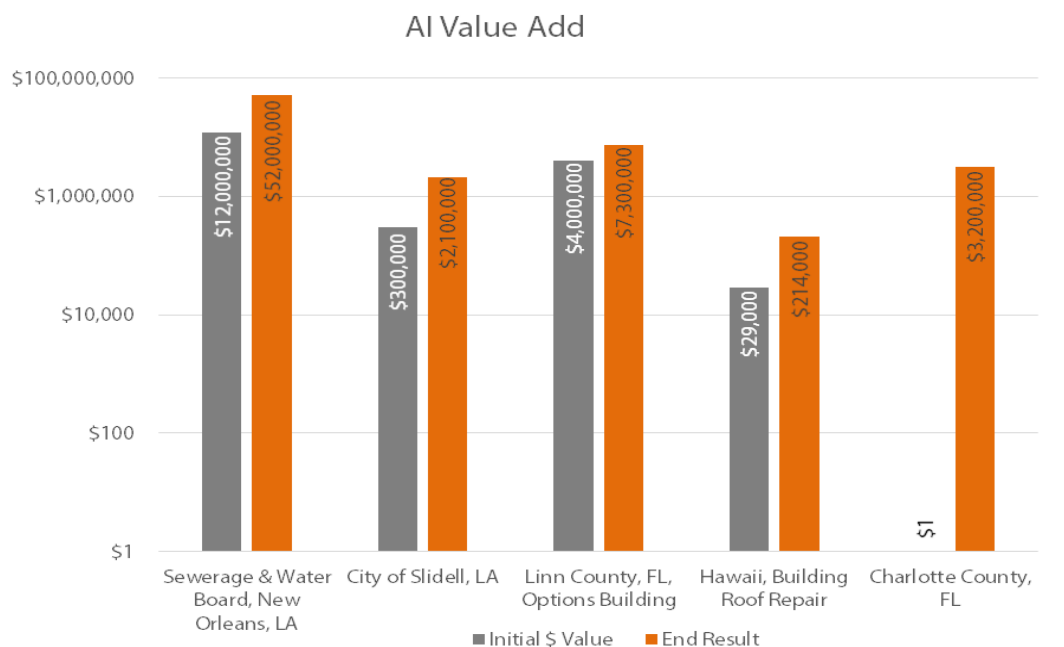
AI's qualifications, professional training, and experience are highlighted below in this sample listing of our prior experience in providing disaster recovery consulting services:

- **Guided more than 40 local public** agencies throughout the Gulf Coast to successful recoveries following the 2004, 2005 and 2008 hurricane seasons, including Monroe County, Lee County, the City of Fort Myers, City of Sanibel, and Islamorada in Florida; the City of New Orleans, Port of New Orleans, New Orleans Sewerage & Water Board, City of Slidell, and Jefferson Parish in Louisiana; and Jefferson County, Port Arthur Independent School District, the Port of Houston and the Houston Independent School District in Texas. We have also provided consulting services to Charlotte County, Pinellas County, and the City of Gulf Breeze in Florida.
- Coordinated the recovery from FEMA of approximately **\$100 million** in disaster-related damage for the Mississippi State Port Authority, including compiling more than 60 PWs – approximately 28 for alternate and improved projects -- and **more than doubling the amount of the Port's insurance claim from the initial insurance company offer** to final settlement.
- Guiding clients such as the **City of Cedar Rapids, Linn County and Cedar Rapids Community School District** in Iowa through their recovery from more than **\$1 billion** in damages following the 2008 floods.
- Came to the assistance of the **City of New Orleans** nearly a year after Hurricane Katrina to help the City identify and correct issues with their FEMA and insurance claims. This process required the review and tracking of **more than 950 PWs representing more than one-half billion dollars** in grant funding, managing FEMA-State communications and correspondence for the City's Capital Projects Administration, addressing numerous environmental and historical concerns related to projects, and undertaking appeals and/or dispute resolution regarding contentious issues facing the City.
- Providing emergency support staff to the **State of New York** since 2004, including in 2006 programmatic support for five simultaneous flooding disasters requiring at its peak more than



160 trained personnel, and in 2013 programmatic support for the State's Hurricane Sandy recovery and several other high-priority projects requiring more than 400 trained and specialized FEMA PA and HMGP personnel. **Including Hurricane Sandy, we will have handled over \$10 billion in eligible damages and processed thousands of project worksheets.**

- Provided **HMGP, IA, and CDBG**-related support to the **State of New York** for various federal and state recovery programs in 2013, as well as a successful expedited update of the State Hazard Mitigation Plan.
- Providing PA, hazard mitigation, FTA and insurance recovery support to the **Port Authority of New York & New Jersey** in managing their estimated loss of more than **\$2 billion** following Hurricane Sandy. Previous work for the Port includes handling their FEMA PA and hazard mitigation recoveries following the 9-11 Terrorist Attacks and their insurance claim following the 1993 World Trade Center bombing.
- Providing support to the **Commonwealth of Massachusetts** in its PDA efforts for DR-1614-MA and DR-1944-MA, in both of which our expertise successfully overcame initial denials of eligibility by FEMA, ultimately resulting in nearly **\$30 million** in funding the State might not otherwise have received.
- Providing expert claims preparation guidance and disaster recovery-related process expertise to the **State of Louisiana** and local government claimants following the BP Oil Spill in 2010, including providing technical assistance to case management teams. **Worked at the federal, state and local levels to guide grantees and applicants through complex and unprecedented recoveries from major disaster events** such as the 9-11 terrorist attacks, 1993 World Trade Center Bombing, Oklahoma City Bombing, and Deepwater Horizon BP Oil Spill. For the 9-11 terrorist attacks, various members of our team in their roles at the time represented the Port Authority, State, and FEMA, working cooperatively and creatively to fit the parameters of the public assistance program to a unique and unprecedented major disastrous event.





- Providing support to Monroe County, FL to help Islamorada measure their building, business, private property, and loss of income/extra expense damages and to negotiate for recovery on their flood & wind **claims with the insurance carriers** in response to Hurricane Wilma.

Direct Previous Experience with FEMA PA Projects

We are physically located at our headquarters in Utica, NY; however, our reach is nationwide through our network of deployable personnel strategically located at various locations around the country. The following is a sampling of clients that our public adjusters have helped. Our client references are available and eager to provide letters of recommendation at your request.

Client #1	Orange County, New York	
Reference Point of Contact	Walter C. Koury Commissioner Emergency Services Center 22 Wells Farm Road Goshen, NY 10924 845-615-0565 wkoury@co.orange.ny.us	Mike Morris Risk Manager 18 Seward Avenue Middletown, NY 10940 845-234-3206 mmorris@co.orange.ny.us
Date	December 2011–Present	Value \$ 921,659
Project No.	Hurricane Irene, Tropical Storm Lee, and Hurricane Sandy, DR-1899 Severe Storms and Flooding	
Service(s)	FEMA Public Assistance Consulting & Insurance Adjusting	
Project Description	Adjusters International was engaged by Orange County to provide insurance adjusting services for damages to facilities from Hurricane Irene which occurred in August 2011, followed by Tropical Storm Lee in September 2011. AI was also engaged to perform FEMA grant management services for the same two disasters to oversee the County's Public Assistance (PA) process for five buildings that incurred damages because of the storms. One Orange County building alone suffered damages estimated at over \$7 million. AI's role is to maximize both the County's insurance settlement within the contractual obligations of the insurance policy and their FEMA Public Assistance reimbursements through a coordinated effort. AI's FEMA grant management role also included involvement in the County's PA process for all stages of recovery, including review of eligibility issues, developing justifications, assisting in damage inspections and damage estimates for presentation to FEMA and New York State. The preliminary estimate for damages incurred within Orange County was more than \$60 million from Hurricane Irene and Tropical Storm Lee, of which \$14 million was accounted for on more than 100 County A-G PWs. Many of the damaged areas contain complex reconstruction and engineering issues, which have led the County to engage architectural & engineering firms to	



Client #1	Orange County, New York
	assist in those evaluations. Impacts to facilities include extensive building structural damage, dam repairs and large embankment erosions. With two disasters occurring consecutively and being simultaneously active, one of the major hurdles is the organization of County financial documentation for PW formulation to ensure strict compliance with FEMA standards and procedures. An organized approach from the beginning will assist the County throughout the process, both by reducing the need for work to be resubmitted, as well as by allowing the County to efficiently fulfill closeout requests and requirements. AI has also been actively guiding the County in pursuing other sources of funding, specifically from the 404 Hazard Mitigation Grant Program. AI also transitioned in October 2012 to incorporate Hurricane Sandy damages into the grant management process, necessitating accurate recordkeeping for multiple overlapping disasters. To keep in compliance with FEMA's recently implemented PA Pocket Guide for project formulation, the County's \$1.4 million in damages was consolidated into eight PWs. This strategy allowed the County to utilize FEMA's Debris Removal Alternative Procedures Pilot Program and maximize reimbursement for their extensive debris handling and removal process.

Client #2	Jefferson Parish, Louisiana	
Reference Point of Contact	Anthony L. Francis, Jr. Director, Jefferson Parish Department of General Services 200 Derbigny Street, Suite 3300 Gretna, LA 70053 504-364-2675 afrancis@jeffparish.net	Timothy Palmatier Finance Director JP Government Building, 4 th Floor, Suite 4200 Gretna, LA 70053 504-364-2767 tpalmatier@jeffparish.net
Date	April 2007–Present	Value \$ 4,474,529.70
Service(s)	FEMA Public Assistance and Hazard Mitigation Consulting Services	
Project Description	Adjusters International has been engaged in providing Jefferson Parish with FEMA Public Assistance grant management services since April 2007. We have supported the Parish through its grant process for recoveries from hurricanes Katrina, Gustav and Ike, providing strategic advice to maximize the Parish's federal reimbursement. Our expertise has assisted the Parish in navigating the funding eligibility and documentation complexities that are raised by multiple repeat disasters, particularly regarding properly allocating damages and expenses. We were retained by the Parish well into their initial Katrina recovery. Our programmatic knowledge allowed AI to bring the Parish nearly \$44 million in additional funding and corrections through new PWs, contested PWs, versioned	



Client #2 Jefferson Parish, Louisiana

PWs and insurance corrections. This valued added for the Parish's Hurricane Katrina recovery resulted not only from our detailed knowledge of FEMA procedures and requirements, but also from our examination of and familiarity with the Parish's projects, which allowed us to identify and claim for the Parish the fullest available reimbursement from FEMA.

To date there have been 388 project worksheets written resulting in approximately \$189 million in obligated FEMA funds for Hurricane Katrina, 119 project worksheets written resulting in approximately \$20 million in obligated funds for Hurricane Gustav, and 19 project worksheets written resulting in approximately \$5.5 million in obligated funds for Hurricane Ike.

AI is the prime subcontractor to Sigma Consulting on this project and has worked with national, state and local partners.

Client #3 Port of New Orleans, Louisiana – Hurricanes Katrina & Gustav

Reference Point of Contact	Gerald Brien Gussoni Director of Legal Services P.O. Box 60046 New Orleans, LA 70160 504-528-3447 gussonib@portno.com	Christopher Richard Executive Assistant for Special Projects P.O. Box 60046 New Orleans, LA 70160 504-528-3403 richardc@portno.com
Date	December 2005–May 2013	Value \$ 2,671,628
Service(s)	Public Assistance Consulting	
Project Description	The Port of New Orleans covers over 20 miles of the Mississippi river and associated waterways and is one of the world's busiest ports. In 2005, it was devastated by Hurricane Katrina, whose winds battered port buildings and whose surge inundated miles of Port property. AI was hired to provide both public adjusting and FEMA services, and these teams worked together to manage the complex recovery operations at the Port of New Orleans for the Port's \$190 million damage recovery following Hurricane Katrina. The recovery effort incorporated a number of funding sources, including two layers of private insurance, FEMA, and the resources of the Louisiana State Recovery Authority. The sheer size and scope of this claim made it unique, as the Port owned buildings, wharves and infrastructure over such a large area. Because of this, Adjusters International's team drew on all of its knowledge in assisting the client, and then went beyond our typical building experts and engaged the services of wharf and infrastructure engineers, roofing specialists, and forensic accountants, to put together the claim. We worked closely with Port personnel and engineers to ensure that we fully understood the damage and effectively built a claim that eventually yielded a nine-figure settlement.	



AI was hired to provide insurance adjusting and FEMA services for Hurricane Katrina, later expanded to include Hurricanes Gustav and Ike. Stated losses for Katrina exceeding \$240 million and were documented within over 300 FEMA project worksheets. Grant development required the coordination of repetitive events, multiple layers of insurance and numerous State and Federal funding programs. AI developed and managed an insurance netting, apportionment and allocation plan which resulted in expanded FEMA PA funding. AI documented and received reimbursement for claims management and administrative expenses in advance of the current FEMA Direct Administrative Policy. Interim (2012) OIG audit findings reported financial, regulatory and programmatic compliance. Ongoing close-out activities are being performed entirely by PONO staff using developed procedures.

Past Performance on Public Contracts

Since starting our FEMA consulting division in 1996, AI has provided support to **over 100 FEMA PA Administration Projects**, namely the following entities.

Sub Recipients:

- | | |
|---|---|
| 1. Aldine Independent School District, Texas | PA |
| 2. Associated Hospital Services, Louisiana | 21. City of Detroit, Michigan |
| 3. Audubon Nature Institute, Louisiana | 22. Detroit Public Schools, Michigan |
| 4. City of Batesville, Arkansas | 23. City of Duluth, Minnesota |
| 5. Baylor College of Medicine, Texas | 24. City of Fort Collins, Colorado |
| 6. City of Boulder, Colorado | 25. City of Fort Myers, Florida |
| 7. City of Burlington, Iowa | 26. City of Fort Walton Beach, Florida |
| 8. Butte County, California | 27. Government of the U.S.V.I. |
| 9. Caruthersville School District No 18, Missouri | 28. Greenville Utility Commission, North Carolina |
| 10. City of Cedar Rapids, Iowa | 29. City of Groves, Texas |
| 11. Cedar Rapids Community School District, Iowa | 30. Hancock County, Mississippi |
| 12. Charlotte County, Florida | 31. Harbor Branch Oceanographic Institution, FL |
| 13. Chatham County, Georgia | 32. City of Harrisburg, Pennsylvania |
| 14. City Park of New Orleans, Louisiana | 33. Holy Cross Hospital, Florida |
| 15. City of Copperas Cove, Texas | 34. Houston Independent School District, Texas |
| 16. Coryell County, Texas | 35. Village of Islamorada, Florida |
| 17. City of Council Bluffs, Iowa | 36. Jackson County, Mississippi |
| 18. County Risk Sharing Authority, Ohio | 37. Jackson County Port Authority, Mississippi |
| 19. City of DeBary, Florida | 38. Jackson Energy Authority, Tennessee |
| 20. Derry Township Municipal Authority, | |



39. Jefferson County, Texas
40. Jefferson Parish, Louisiana
41. Jersey City Municipal Authorities, New Jersey
42. Knapp Medical Center, Texas
43. City of Lake Oswego, Oregon
44. Larimer County, Colorado
45. City of Las Vegas, Nevada
46. Lee County, Florida
47. Linn County, Iowa
48. City of Little Rock, Arkansas
49. Town of Maine, New York
50. City of Marble Falls, Texas
51. Maui County, Hawaii
52. Metro Transit Authority of Harris County, Texas
53. Minot Park District, North Dakota
54. Monroe County, Florida
55. Monroe County School District, Florida
56. Monroe County Sheriff, Florida
57. Memorial Hermann Hospital System, Texas
58. Mississippi State Port Authority, Mississippi
59. City of Nashville, Tennessee
60. City of New Orleans, Louisiana
61. Town of New Windsor, New York
62. North Hudson Sewerage Authority, New Jersey
63. Onondaga County, New York
64. Orange County, New York
65. Owatonna Public Utilities, Minnesota
66. City of Pascagoula, Mississippi
67. Philadelphia Public Schools, Pennsylvania
68. Pitt County, North Carolina
69. City of Pittsburgh, Pennsylvania
70. Port Arthur Independent School District, Texas
71. Port Arthur International Public Port, Texas
72. Port Authority of New Orleans, Louisiana
73. Port Authority of New York & New Jersey
74. City of Port Freeport, Texas
75. Port of Houston Authority, Texas
76. City of Port Isabel, Texas
77. Port of Portland, Oregon
78. Redland Christian Migrant Association, Florida
79. City of Reno, Nevada
80. Reno-Tahoe International Airport, Nevada
81. Rocky Mount Charter School, North Carolina
82. City of Sanibel, Florida
83. Sabine-Neches Navigation District, Texas
84. Seminole Tribe of Florida
85. Shinnecock Tribal Nation
86. City of Slidell, Louisiana
87. City of Sparks, Nevada
88. City of Syracuse, New York
89. St. Luke's Episcopal Hospital, Texas
90. Sewerage & Water Board of New Orleans, LA
91. Steele County, Minnesota
92. Thermal Energy Corporation (TECO), Texas
93. Town of Union, New York
94. Union-Endicott Central School District, New York
95. University of Texas System, Texas
96. University of Virgin Islands, U.S.V.I
97. Unkechaug Tribal Nation
98. Washoe County, Nevada
99. City of Waterbury Fire Department, Connecticut
100. Wadena County, Minnesota



101. Ward County, North Dakota
102. Waveland-Bay St. Louis School District, MS
103. Wells Nursing Home, New York
104. City of Weslaco, Texas
105. City of Weslaco Independent School

- District, TX
106. West Jefferson Medical Center, Louisiana
107. Wildlife Conservation Society, New York

Grantees

Alaska

- 4094-DR-AK Severe Storm, Straight-line Winds, Flooding, and Landslides
- 4050-DR-AK Severe Storms & Flooding
- 4054-DR-AK Severe Storm
- 4122-DR-AK Flooding
- AK-236, AK-237, AK-238, AK-240, AK-243, & AK-244

Hawaii

- 4194-DR-HI Tropical Storm Iselle
- 4201-DR-HI Pu'u 'Ō'ō Volcanic Eruption and Lava Flow

Louisiana

- Deepwater Horizon Claims Management Consulting

Massachusetts

- 1614-DR-MA Severe Storms & Flooding
- 1994-DR-MA Severe Storms/Tornadoes

Montana

- FEMA/Risk Management Consulting

New York State

- 4085-DR-NY Hurricane Sandy
- 4031-DR-NY Tropical Storm Lee
- 4064-DR-NY Hurricane Irene
- 1534-DR-NY Severe Storms &

- Flooding
- 1564-DR-NY Severe Storms & Flooding
- 1565-DR-NY Tropical Depression Ivan
- 1589-DR-NY Severe Storms & Flooding
- 1650-DR-NY Severe Storms & Flooding
- 3268-EM-NY Snowstorm
- 1665-DR-NY Snow Emergency
- 1670-DR-NY Severe Storms & Flooding
- 3273-EM-NY Snow
- 1692-DR-NY Severe Storms & Flooding
- 1710-DR-NY Severe Storms & Flooding
- 3299-EM-NY Severe Winter Storm
- 1827-DR-NY Severe Winter Storm
- 1857-DR-NY Severe Storms & Flooding
- 1899-DR-NY Severe Storms & Flooding
- 3195-EM-NY Snow Emergency
- 1391-DR 9-11-01 September 11, 2001
- South Carolina
- 4166-DR-SC Severe Winter Storm



AI's Staff Qualifications

AI's consulting team includes 250+ licensed **engineers, planners, emergency managers, project managers, insurance professionals, instructors, and specialists in specific disaster-related disciplines such as debris management, utilities, emergency protective measures, building and contents valuation, environmental issues, historic preservation considerations, estimating, and hazard mitigation.** AI employs some of the most widely respected professionals in the industry, offering unparalleled, hands-on experience in the fields of emergency management, public safety, contingency development, disaster operations, all-hazard training, continuity of operations, and loss mitigation. Our leadership team includes seasoned senior staff and policy/program subject matter experts who have successfully negotiated **every major disaster event in the last 20 years.** Our staff consists of **our own employees**, not independent contractors or multiple sub-contractors. We are responsible for the actions of our employees, their training and their well-being. This practice allows us to ensure quality of service and maintain consistent product delivery. It also allows us to realistically predict, accurately communicate, and closely control the number and skill mix of available staff for any given assignment.

AI understands the critical importance of staffing well-qualified, exceptional professionals to accomplish the tasks outlined in the scope of work and any subsequent, additional deliverables under this contract vehicle. We are prepared to provide some of the industry's top experts to support the City's disaster recovery, mitigation, and reimbursement needs. Below, we have given a brief summary of the qualifications of our proposed Key Program Management Personnel, followed by their two-page resumes.

Key Program Management Personnel

Position	Name	Exceptional Staff Qualifications
*Program Manager	Cesare "Skip" Cerminaro	Strong business management background and 15+ years of experience in the engineering field. Worked for the New York State Department of Transportation and the U.S. Department of Civil Defense. Consulted on projects ranging from large-scale State operations to complex applicant recoveries.
*Deputy Program Manager	Tim Donnelly	25+ years of experience in management, construction, finance and insurance. Expertly skilled in cost estimating, project management and environmental issues.
Program Administrator	Linda Maiellano	15+ years of business management experience. Provided public assistance to Local and State municipalities recovering from natural disasters. Coordinates funding from various disaster relief programs including the FEMA public assistance program. Stellar marketing, project estimating, and planning skills



Project Coordinator	Steve Clark	Nearly a decade of experience with FEMA projects. Expertise in disaster recovery operations. Recent titles include Project Specialist, Public Assistance Coordinator, and Community Relations Specialist.
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Key Program Management Personnel Resumes

*Resumes for proposed personnel begin on the following page.



CESARE CERMINARO PROPOSED PROGRAM MANAGER

AREAS OF EXPERTISE

404 HMGP

406 Hazard
Mitigation

Appeals

Closeout

Cost Estimating
Format

Debris Management

Disaster Planning

FEMA Public
Assistance

PE

Preliminary Damage
Assessment

Project Management

PW Formulation

Roads/Bridges

Sewerage and Water

Xactimate

Business Interruption

CERTIFICATIONS + LICENSURE

N-137 NEMIS Data
Tech

N-139 NEMIS Project
Officer

2.4 IACET CEU –
Debris Operations

Cesare “Skip” Cerminaro has a strong business management background and years of experience in the engineering field. He has worked for the New York State Department of Transportation and the U.S. Department of Civil Defense as an Engineering Technician. Since joining Adjusters International in 2006, Cerminaro has consulted on projects ranging from large-scale State operations to complex applicant recoveries.

PROJECT EXPERIENCE

[New York State: Disaster Closeout Team, September 2013 – Present](#)

Project Manager overseeing New York State Office of Emergency Management’s large project cost reconciliation. Cerminaro and his staff are instrumental in reconciling the department’s expedited and incomplete large Project Worksheets with the goal of recovering the maximum funding for these projects. Cerminaro is also instrumental in assisting the closeout team with bringing complex open projects to closure.

[City of Boulder, Colorado: 4145-DR-CO, Flooding, September - November 2013](#)

Senior Consultant/Project Manager working with the City familiarizing them with the Public Assistance process through the initial stages of their recovery. The damages included their complex waterway conveyance systems, buildings, roads and bridges and extensive debris removal operations. Cerminaro completed initial informational meetings with all major City departments. The City utilized contract procurement extensively for their recovery efforts. Cerminaro was instrumental in guiding the City through their procurement process in order to achieve compliance to federal Public Assistance requirements. Cerminaro and his staff provided guidance through the complex and rigid debris removal requirements involving environmental and permitting that must be followed in order to retain funding. They also developed a Benefit Cost Analysis pertaining to the Public Assistance Alternative Procedures Pilot Program for debris removal that resulted from the Sandy Recovery Improvement Act signed into law January 29, 2013

[Callayomi County Water District \(CCWD\), California: 4240-DR-CA, Fires, December 2014 - Present](#)

Senior Consultant/Project Manager working with the CCWD familiarizing them with the Public Assistance process. The damages included their complex water filtration/distribution systems, buildings and emergency protective measures. Cerminaro was successful in identifying unaccounted for damages and disaster related expenses that were eventually included in Project Worksheets.

[New York State: 4020, 4031, 4085-DR-NY, Orange County Flooding, August 2011](#)

Senior Consultant/Project Manager working with the County to manage their Public Assistance process for three concurrently running disasters. The damages



include highly complex projects that require architectural & engineering involvement for buildings, dams and infrastructure. Cerminaro worked with various County departments to organize their documentation in preparation for Project Worksheet development, formulation and review. In addition, he also developed a strategy for the County to adopt that allows them to expedite the Public Assistance processes for future declared disasters.

[State of Louisiana: BP Oil Spill, January 2010 - July 2011](#)

Cerminaro served as part of an elite, dedicated team providing financial support to assist the State of Louisiana to determine the overall financial impact to the state resulting from the BP Oil Spill. He was hand-picked due to his financial expertise and his extensive knowledge of working with applicants following a federally declared disaster. Cerminaro performed outreach activities aimed at helping individual businesses who were considering or had already submitted claims for recovery of lost income.

[City of Minot, North Dakota: 1981-DR-ND, Severe Flooding, July 2011 - August 2011](#)

Completed Phase I work for FEMA Grant Management Services in response to anticipated \$50 million in damages following flooding of the Souris River. Cerminaro developed strategies for the County to consider in regards to prominent issues concerning their Public Assistance (PA) process. He also developed a Next Steps agenda to move forward with their PA process, and guidance for project formulation, proposed filing system and Direct Administrative Costs clarification.

[Steele County, Minnesota: 1941-DR-MN, Severe Storms and Flooding, October 2010](#)

Project Specialist/Consultant working with Steele County, guiding them through their Public Assistance process including 35 PWs for one of the most devastating floods to date. Presently overseeing the complexities of possible replacement and relocation of the County's Highway Operations Complex made up of five heavily-damaged buildings in a floodplain at an estimated cost of over \$2 million. Cerminaro has also successfully won numerous first appeals reversing original FEMA ineligibility determinations.

[New York State: 1899-DR-NY, Severe Storms and Flooding, May - August 2010](#)

Project Specialist assigned to 10 applicants totaling more than 60 PWs. Declared April 16, 2010 after severe storms caused devastating flooding and wind damage during the period of March 3, 2010 to March 15, 2010. Total damages including emergency work was over \$85.5 million.

[New York State: 1857-DR-NY, Severe Storms and Flooding, September 2009 - February 2010](#)

Project Specialist assigned to 9 applicants totaling more than 80 PWs. Declared September 1, 2009 after severe storms caused devastating flooding, tornados and high wind damages during the period of July 25, 2009 to August 16, 2009. Preliminary Damage Assessments were estimated for \$60 million.

[City of Cedar Rapids, Iowa: 1763-DR-IA, Severe Storms, Tornadoes, and Flooding, June 2008 - June 2009](#)

Member of specialized consulting team that worked with the City of Cedar Rapids, guiding them through an estimated \$1 billion recovery that is complicated by historical concerns and hazardous materials issues following wide-scale flood damage to a variety of city departments. Duties included performing QA/QC for Project Worksheets and consultation for the formulation of some of the more complicated PWs. Along with the Project Manager met for weekly progress reviews with the city, FEMA and IA state representatives. In addition to these duties, was the lead consultant guiding the city through the buyout and eventual demolishing of a proposed 1200 plus damaged residences.

[City of Batesville, Arkansas: 1751-DR-AR, Severe Storms and Flooding, 2008](#)

Member of consulting team guiding the City of Batesville through its financial recovery following severe storms in early 2008.



TIMOTHY DONNELLY

PROPOSED DEPUTY PROGRAM MANAGER

AREAS OF EXPERTISE

Cost Estimating
Format (CEF)
Closeout
Construction
Management
Debris Management
Finance
Project Management
Public Assistance
PW Formulation,
Writing & Version
Roads / Bridges
Sewerage & Water
Xactimate

PROFESSIONAL AFFILIATIONS

Board Member New
York Manufactured
Housing Association
FAA Licensed and
instrument rated pilot
with over 2000 logged
hours

EDUCATION

A.A.S., Marketing
Management, Broome
Community College,
1971

Tim Donnelly joined the AI team with more than 25 years of experience in management, construction, finance and insurance. Donnelly founded and ran a land and municipal construction company, as well as a separate company dedicated to helping small municipalities with new waterline projects. His company also subcontracted extensively with the Army Corps of Engineers (USACE). Donnelly's expertise covers a broad range that includes heavy highway construction, including roads and bridges; municipal housing construction; municipal water and sewage projects, several construction projects with the USACE. This experience, along with his skills related to cost estimating, project management and environmental issues, has been applied time and again to his work with applicants on behalf of Adjusters International.

PROJECT EXPERIENCE

[State of South Carolina: 4166-DR-SC, Severe Ice Storm, March 2014 – November 2014](#)

Donnelly is currently assigned to the South Carolina Department of Transportation tasked with the removal of large quantities of vegetative debris.

[New York State: Disaster Closeout Team, December 2013 – January 2014](#)

At the request of the State, an AI closeout team is currently assisting with Hurricane Sandy, Hurricane Irene, and Tropical Storm Lee closeouts, as well as back-log of other PA projects. As part of this team, Donnelly is actively reaching out to applicants and working with them to gather the required details and documentation so that funds can be correctly allocated, PWs reconciled, monies properly reimbursed, and projects closed out. Donnelly's duties included working on NYS Closeouts which included writing and reviewing projects that were from several NYS Disasters through the last ten years. He had the pleasure of going into the field and working with applicants who needed assistance with closeout issues and problems. Reviewing projects within the office was also assigned to Donnelly to help with QA / QC work training new Project Specialists.

[State of New York: 4085-DR-NY, Hurricane Sandy, November 2012 – November 2013](#)

Donnelly is serving as a member of the Adjusters International team deployed to the Hudson River Valley working as a Disaster Recovery Specialist managing and training new Project Specialists on Category A & B (Emergency Response and Debris) project worksheets. He is also assisting Orange and Putnam Counties to accurately document damages, identify eligible work projects in accordance with FEMA policy, and assist applicants with developing their scopes of work while coordinating with departments to formulate the PWs.

[City of Cedar Rapids, Iowa, June 2008 Floods, 2008 – 2009](#)



As a member of the specialized consulting team working with the City of Cedar Rapids, Donnelly helps guide them through an estimated \$1 billion recovery that was complicated by historical concerns and hazardous materials issues. Donnelly worked assisting the City of Cedar Rapids on projects for their water and waste water plants.

New York State: 1692-DR-NY, Severe Storms and Inland and Coastal Flooding, 2007

Donnelly served as a Public Assistance Liaison / Project Officer in Columbia and Greene Counties. He worked closely with sub-grantees in these counties assisting them with PW preparation and identifying mitigation opportunities.

New York State: 1670-DR-NY, Severe Storms and Flooding, December 2006 – April 2007

Donnelly served as a Public Assistance Liaison / Project Officer in Otsego County following federal declaration DR-1670-NY. The majority of Donnelly's work involved projects related to road damages and debris throughout the county.

New York State: 1665-DR-NY, Severe Storms and Flooding, 2006

A rare Fall storm blanketed the Buffalo area on October 13, 2006, and brought with it two feet of heavy wet snow. Federal disaster declaration 1665, with damages in categories A - G and affecting four counties, was declared on October 24, 2006. Donnelly was deployed to Erie County serving as a Public Assistance Liaison / Project Officer and a member of a team of 28 consultants. He worked with the Niagara Frontier Transportation Authority, and 16 volunteer fire departments, guiding them through the Public Assistance Process.

PROFESSIONAL QUALIFICATIONS

Emergency Management Institute Coursework:

IS-00016	A Supervisor's Guide to Equal Opportunity Employment
IS-00100	Introduction to Incident Command System
IS-00139	Exercise Design
IS-00200	Basic Incident Command System
IS-00242	Effective Communication
IS-00244	Developing and Managing Volunteers
IS-00253	Coordinating Environmental & Historic Preservation Compliance
IS-00393	Introduction to Hazard Mitigation
IS-00547	Introduction to Continuity of Operations (COOP)
IS-00631	Public Assistance Operations I
IS-00632	Introduction to Debris Operations
IS-00801	Emergency Support Function (ESF) #1 Transportation
IS-00803	Emergency Support Function (ESF) #3 Public Works and Engineering

Adjusters International In-House Training:

AI-0001	AI Introductory PA Course
AI-0002	AI Advanced PA Course
AI-0003	AI Close-Out Administration
AI-0004	AI Preliminary Damage Assessments
AI-0005	AI CEF Introductory

US Army Corp of Engineers Training



LINDA MAIELLANO
PROPOSED PROGRAM ADMINISTRATOR

AREAS OF
EXPERTISE

Closeout
FEMA Public
Assistance
Improved Projects
PW Formulation
PW Writing

For the past three years, Linda Maiellano has been providing public assistance to Local and State municipalities recovering from natural disasters. Most recently, Maiellano has been working with various towns in New York State to coordinate funding from various disaster relief programs including the FEMA public assistance program. She also assisted in the State of New York's closeout for Hurricane Irene and Tropical Storm Lee. Her marketing, project estimating, and planning skills were honed by over fifteen years of retail marketing and business management experience.

PROJECT EXPERIENCE

[New York State: 4085-DR-NY, Hurricane Sandy Long Term Recovery Operations, January 2014 - Present](#)

As a project specialist assigned to the long-term recovery team, Maiellano worked with Nassau and Suffolk Counties for applicants including the Towns of Southold and Patchogue, and the villages of Mastic Beach, Bellport, Dering Harbor and Quogue, as well as Montauk Public School District to coordinate their funding from various disaster relief programs including the FEMA public assistance program. In this role, she worked with applicants to properly identify and articulate damages, formulate and track projects, and meet program documentation requirements. Beginning in June 2013, Maiellano became the liaison for Nassau County and has acted as their facilitator for applicant questions and concerns regarding 404 mitigation and alternative funding with FEMA and New York State.

[New York State: Disaster Closeout Team, October 2013 - January 2014](#)

Maiellano served as part of the team assisting the State of New York with closeouts for Hurricane Irene and Tropical Storm Lee. In this role, she reviewed project worksheets (PWs) and related documentation for accuracy, reconciled the PW costs and scopes of work with actual project costs and work performed, and worked with applicants to address any issues that required attention to help ensure they were properly reimbursed.

[New York State: 4085-DR-NY, Hurricane Sandy, November 2012 - Present](#)

As a member of the Adjusters International team deployed in the greater New York City area, Maiellano served as a technical assistance consultant. She assisted the Towns of Southold and Patchogue, and the villages of Mastic Beach, Bellport, Dering Harbor and Quogue as well as Montauk Public School District, in their recovery from Hurricane Sandy, the second costliest hurricane in United States history. Working with applicants, Maiellano reviewed damages, identified eligible projects and coordinated with departments to formulate PWs for grant funding.

[State of Alaska: Severe Storm, September - October 2012](#)



Maiellano served as part of the AI team deployed by the State of Alaska to proactively support applicants applying for the state's individual assistance program following a severe flooding and wind event. Maiellano assisted individuals and families impacted by the disaster, processing applications at disaster recovery centers and providing support over the state hotline related to individual assistance and temporary housing.

PROFESSIONAL QUALIFICATIONS

Emergency Management Institute Coursework:

- IS-00100b Intro to Incident Command System
- IS-00120a An Introduction to Exercises
- IS-00200b ICS for Single Resources and Initial Action Incident (ICS-200)
- IS-00208a State Disaster Management
- IS-000212 Intro to Unified Hazard Mitigation Assistance
- IS-00230a Fundamentals of Emergency Management
- IS-00235b Emergency Planning
- IS-00240a Leadership and Influence
- IS-00241a Decision Making and Problem Solving
- IS-00242a Effective Communication
- IS-00244a Developing and Managing Volunteers
- IS-00253a Overview of FEMA Environmental & Historic Preservation Review Responsibilities
- IS-000318 Mitigation Planning for Local and Tribal Communities
- IS-00393a Introduction to Hazard Mitigation
- IS-000403 Introduction to Individual Assistance (IA) (DF-10)
- IS-000559 Local Damage Assessment
- IS-00632a Introduction to Debris Operations
- IS-000634 Intro to FEMA's Public Assistance Program
- IS-000660 Introduction to Public-Private Partnerships
- IS-00700a National Incident Management System (NIMS) An Introduction
- IS-00800b National Response Framework, An Introduction

Adjusters International In-House Training:

- AI-0001 AI Introductory PA Course
 - AI-0002 AI Advanced PA Course
 - AI-0003 AI Close-Out Administration
 - AI-0004 AI Preliminary Damage Assessments
 - AI-0005 AI CEF Introductory
- Xactimate Estimating Software

In addition, Maiellano has taken 78 other FEMA courses and has been OSHA certified.



STEVEN M. CLARK
PROPOSED PROJECT COORDINATOR

AREAS OF
EXPERTISE

Closeout
Cost Estimating
Format
Debris Management
Environmental
Finance
Grants Management
Hazard Mitigation
Information
Technology
Project Management
Public Relations
PW Formulation,
Writing & Versions
Training

CERTIFICATIONS +
LICENSURE

OSHA 40 Hour CRF
1910.120 & FS
1926.24 Hazardous
Waste Operations &
Emergency Response
(HAZWOPER)
Safe Gulf-Safe Land

EDUCATION

B.S., Florida A & M
University,
Tallahassee, Florida

Clark began his emergency management career in 2008 as a Public Assistance Liaison (PAL) following several years in the banking and mortgage industries where he gained exceptional training in management and operations. His disaster roles have included numerous engagements as a Project Manager, Closeout Team Lead, Project Specialist, and Safety Observer providing him with comprehensive knowledge of emergency management and recovery. His engagement experience includes work following Hurricanes Sandy, Katrina and Irene and Tropical Storm Lee and other non-weather related disasters including the Louisiana BP Oil Spill.

PROJECT EXPERIENCE

[State of New York:4085-DR-NY, Hurricane Sandy Long Term Recovery Operations, January 2014 - Present](#)

As the Project Manager/Liaison for the Town of Oyster Bay in Long Island, Clark works with the sub-grantee and Nassau County FEMA/State Public Assistance Coordinators. Clark is currently writing PWs estimated at \$22 million dollars for the applicant's Category A debris removal work. He is also working with the sub-grantee on all \$36 million of claims still outstanding under disaster 4085. He provides direction and oversight for project completion to ensure the scope of work in the project grant was fulfilled in the construction phase. He completed BCA to ensure that the 406 mitigation program was applied to the project worksheet.

[State of New York: Disaster Closeout Team, October 2013 - January 2014](#)

As the team lead for this engagement, Clark managed 4 closeout specialists and served as a liaison between the NY State / DHSES DAOs and the DARs. He advised management and staff on matters concerning grants and information needed by the DAOs to complete closeout of the grant and also provided technical assistance for the closeout activities. Additionally he maintained disaster financial status, quarterly and state reports and reconciled and balanced funds, responded to discrepancies, and reviewed expenditures and obligation reports for sub-grantees.

[State New York State: 4085-DR-NY, Hurricane Sandy, November 2012 – October 2013](#)

Deployed as a Public Assistance Specialist for the Town of Oyster Bay, Clark wrote project worksheets which included scopes of work and cost estimates. He worked with both the FEMA and State Public Assistance Coordinators (PAC) on eligible funding to ensure the maximum reimbursement, wrote grant applications (PWs), attended site visits to inspect and evaluate substantial damages with FEMA and the applicant and provided direction and oversight for project completion, to ensure the scope of work in project grant was carried out in the construction activity.

Clark managed 6 project specialists and served as the liaison between the applicant, and Nassau County FEMA / State Public Assistance Coordinators. He



wrote PWs which included scopes and estimates of \$16 million for this applicant. He also reviewed and consulted with the applicant on all \$56 million of their claims made under the 4085, Hurricane Sandy disaster. Clark worked with FEMA and the State to ensure appropriate personnel were assigned to assist in project development and include eligible funding to ensure maximum reimbursement. In addition he conducted document review, wrote grant applications, made site visits to substantiate damages, provided oversight for project completion and ensured that each grant's scope of work was carried out in the construction phase.

[State of Pennsylvania: Hurricane Irene and Tropical Storm Lee, March 2012 - November 2012](#)

Clark was deployed in north west Pennsylvania to provide technical assistance for the Central Bradford Progress Authority. He worked with the Authority, and FEMA and State officials, to provide documentation review, PW writing and inspection and evaluation of damages. He provided oversight for project completion to verify that the scope of work in the PW was carried out during construction. Additionally he completed BCA to ensure that 406 Hazard Mitigation was integrated into the recovery to prevent possible future damage.

PROFESSIONAL HISTORY

[Level 1 Debris Management Consultant \(City of Pensacola — Pensacola, Florida — July 2010 - August 2010](#)

Maintained daily JSA, and daily safety logs. Conducted safety meetings and oversaw work site/staging areas for safety compliance. Worked to maintain safety for 50-65 employees working 12 hour shifts/7days a week. Assisted with safety procedures for heavy equipment operations. Worked with OSHA and Coast Guard safety advisors.

[Public Assistance Coordinator \(South Florida Division of Emergency Management — FL — June 2008 – July 2010](#)

Worked following Hurricanes Katrina, Wilma and Rita reviewing grant applications for feasibility. Developed cost allocation tables for project funding in declared counties. Provided all closeout documentation to the State of Florida and the FEMA joint closeout team for final review. Assisted in writing FEMA closeout FRR for Palm Beach and Broward Counties.

PROFESSIONAL QUALIFICATIONS

Emergency Management Institute Coursework:

- IS-0030a Mitigation Grants for the Subgrant Applicant
- IS-00100 Introduction to Incident Management System
- IS-00200 Basic Incident Command System
- IS-00212 Introduction to Unified Hazard Mitigation Assistance
- IS-00230 Principles of Emergency Management
- IS-00235 Emergency Planning
- IS-00253 Coordinating Environmental & Historic Preservation Compliance
- IS-00321 Hurricane Mitigation Basics for Mitigation Staff
- IS-00322 Flood Mitigation Basics for Mitigation Staff
- IS-00328 Plan Review for Local Mitigation Plans
- IS-0393a Introduction to Hazard Mitigation
- IS-00547 Introduction to Continuity of Operations
- IS-00631 Public Assistance Operations I



AI's History of Litigation

Not Applicable: Adjusters International has no history of any litigation within the past five (5) years arising out of our performance as it relates to the scope of services being solicited herein.

AI's Licensing to Conduct Business in the State of Mississippi

Business Identification Number: 878120

AI's Current Applicable Department of Professional Regulation Licensure

*****Not Applicable*****

AI's Current Applicable Certifications

*****Not Applicable*****

AI's Sub-Contractors with Credentials and Related Experience

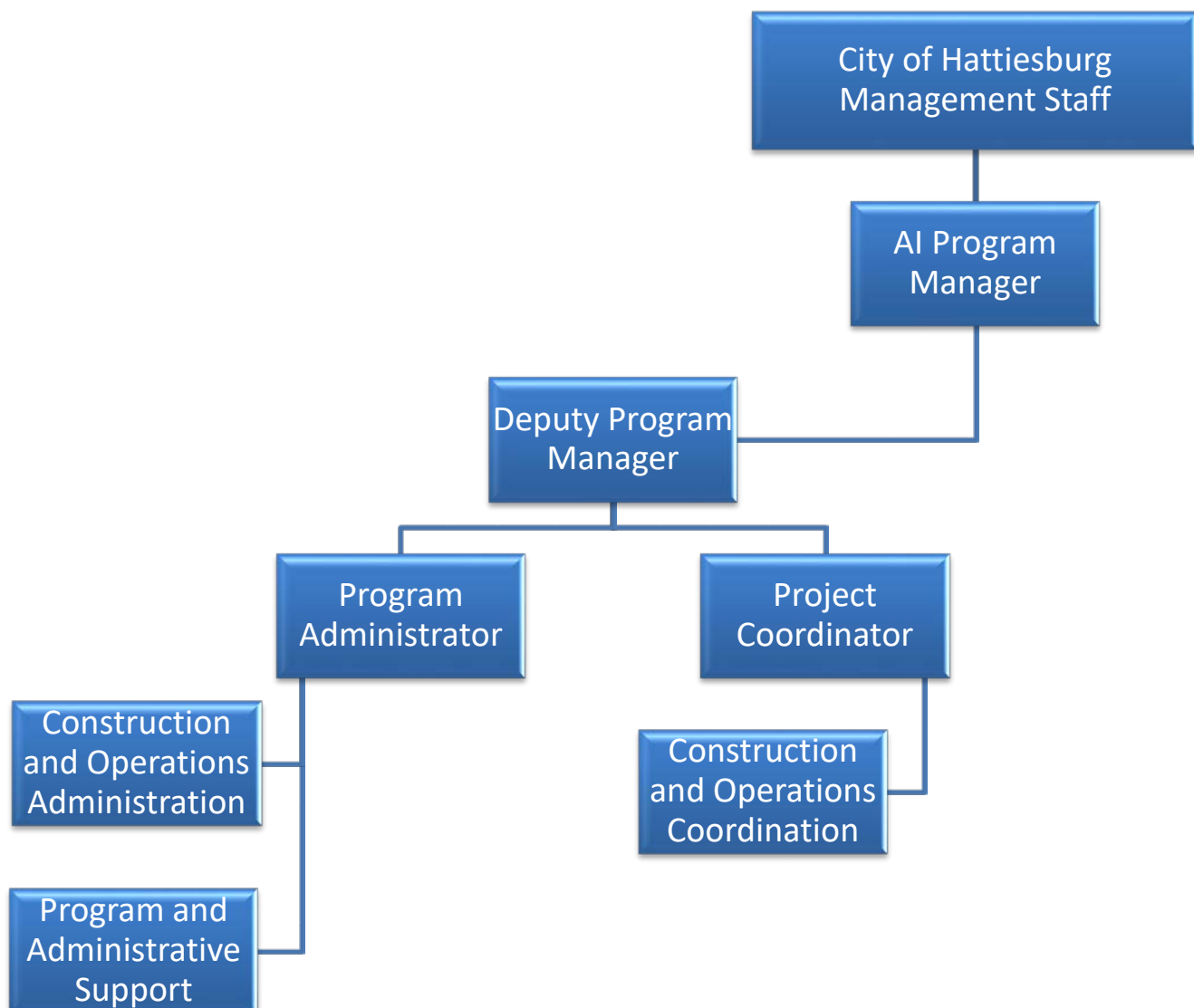
Due to our robust capabilities, extensive experience, and historically significant consulting roles in the areas of disaster recovery, financial recovery, and hazard mitigation through the FEMA PA (and other federal and state programs), we will not utilize sub-contractors or teaming partners for this contract effort. We have mobilized every available resource to ensure full compliance with all federal, state, and local laws in order to limit any subsequent audits and reviews, and to minimize impacts from future disasters as we execute the disaster recovery consulting services requested by the City. We fully understand the importance, and the often necessity of some firms to partner with other firms to fill gaps, augment capabilities, and bolster their competitive bid; however, we stand confident in our firm's independence in the areas of financial stability, technical proficiency, and management capabilities. As one corporation, we can meet and exceed all contract requirements for the City's disaster recovery needs.



Section 4: Proposed Strategy and Technical Approach

In this section, we propose our time-tested and approved strategies for representing the City in response to FEMA-eligible Major Disaster DR-4295 category events. Our technical approach details, with specific examples, our methodologies, procedures, IT and web-based systems, and resources that we have made available to meet the City's expectations for stellar contract performance, based upon the scope of services. Further, we will explain how we will manage the time, people, and resources necessary to satisfy the scope of work defined in the RFP. Namely, we discuss how we will organize our staff, manage tasks, and administer the public assistance required under this contract. Our proven systems work- time and time again- because experience has been our teacher. We are excited to bring our expertise to the City of Hattiesburg community. We will make a difference.

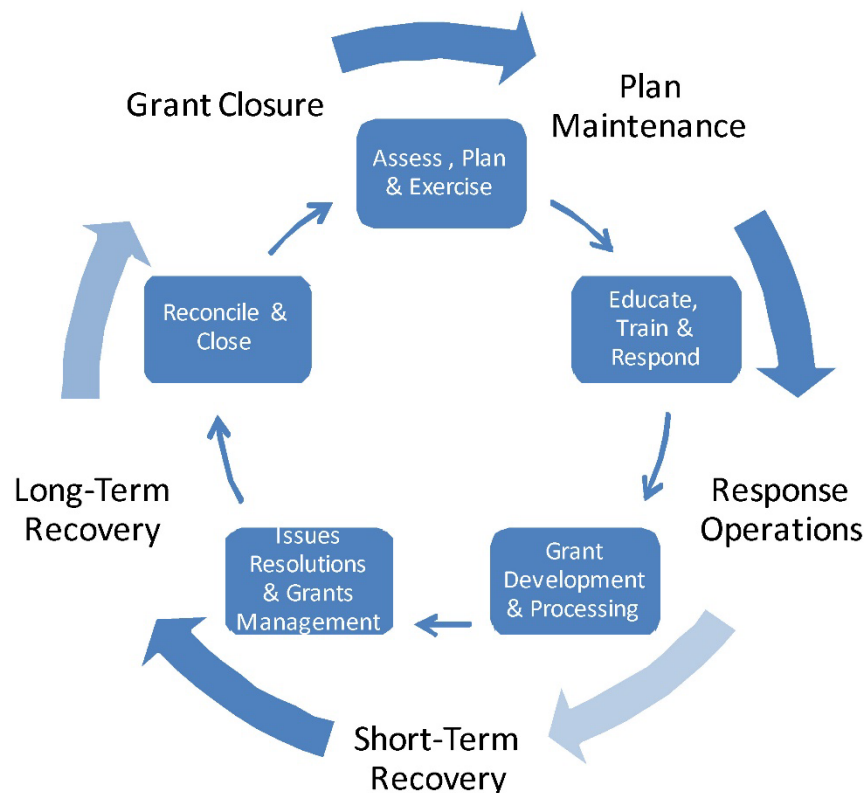
Organizational Chart.





1) Management Plan Development.

Upon notice to proceed, AI will immediately mobilize the Program Manager and necessary technical and operations staff familiar with all facets of emergency planning, response, recovery and hazard mitigation. Our staff will be familiar with the City's standards of protocol and the implementation of disaster funding programs in Mississippi including FEMA, FHWA, and NRCS. The AI team will conduct initial assessments of the City's current EM program structure and capacities in support of the development of a contract management plan (Project Work Plan). We will support AI staff activities by convening an executive advisory group from our national team of experts who will interact via peer reviews and staff consultations in support of work plan and management strategy development. AI staff have extensive knowledge of and experience with all recent disaster recovery policy and procedures, including the Sandy Recovery Improvement act (SRIA) and 44 CFR 2-200).



Program Management Cycle

Using seasoned recovery specialists our initial activities will focus on the documentation of the data assembly, tracking and reporting capabilities of the City's current program. Daily interactions the City staff and consultants will provide in-depth insight into process status while allowing the assignment/reassignment of available staff and resources in support of the City's defined priorities. During this period, our Program Manager will work with the City staff to



document the status of open disaster claims and work flow processes to enable management operations, define immediate and long-term tasks and establish reporting requirements. The project work plan will list the various tasks associated with local emergency program management and maintenance operations, including a typical response to, and recovery from, a local emergency event. Initial assessment conclusions will be reported in support of ongoing plan maintenance and anticipated task assignments during subsequent efforts. At all times, AI will remain prepared to provide all necessary and requested resources in response to the City's needs and the demands of State and Federal recovery funding programs. At the completion of this phase, a draft work plan including strategic advice relating to the City's recovery capabilities and use of available resources will be presented for consideration. The Project Work Plan will address (at a minimum) the following topics and tasks:

- Overall program management of disaster assistance processes relating to all planning, response, recovery and mitigation activities (i.e. Private Insurance, State & Federal Disaster Assistance Programs)
- Providing expert advice to the City management on all aspects of the local mitigation strategy including flood mitigation and the management of the disaster recovery process
- Conducting research and providing briefings on the extent and limitations of State and Federal disaster recovery/relief programs
- Provide staff and training relating to all aspects of emergency management operations as requested and required by the various disaster management and recovery programs (IA, PA, HMP, NFIP, FHWA, USACE, HUD, NRCS, USDA, DOI etc.)
- Strategic planning for maximizing reimbursements through preparedness and training activities
- Review of Standard Operating Procedure (SOPs) including training documentation which will be finalized while individual process flows are optimized and memorialized, once initiated at the discretion of the City
- Assistance with ensuring that the City is compliant with all Federal and State regulations, rules, and policies related to disaster response, recovery, and program administration efforts especially as it relates to applicable financial regulations (i.e. 2 CFR § 200, 44 CFR § 206, etc.)
- Assistance with data management activities to provide efficient recall and review during the project (claims) development, validation, management, and closeout/audit phases of the disaster recovery process
- Cost tracking capabilities to facilitate the isolation, support and reimbursement of management and administrative costs in compliance with FEMA policy and procedure
- Providing recommendations and troubleshooting on funding source issues and policy interpretation
- Assistance with preplanning and preparedness activities, damage assessments, cost estimating, processing of project applications, and project eligibility identification
- Support of insurance management issues such as reviewing insurance policies, creating short/long term recommendations regarding future handling of the insurance recovery process, meeting with insurance company representatives (as needed), and the negotiation of resolutions under the City's oversight and direction
- Pre-and-post disaster financial documentation including cash flow management and cost-benefit analysis



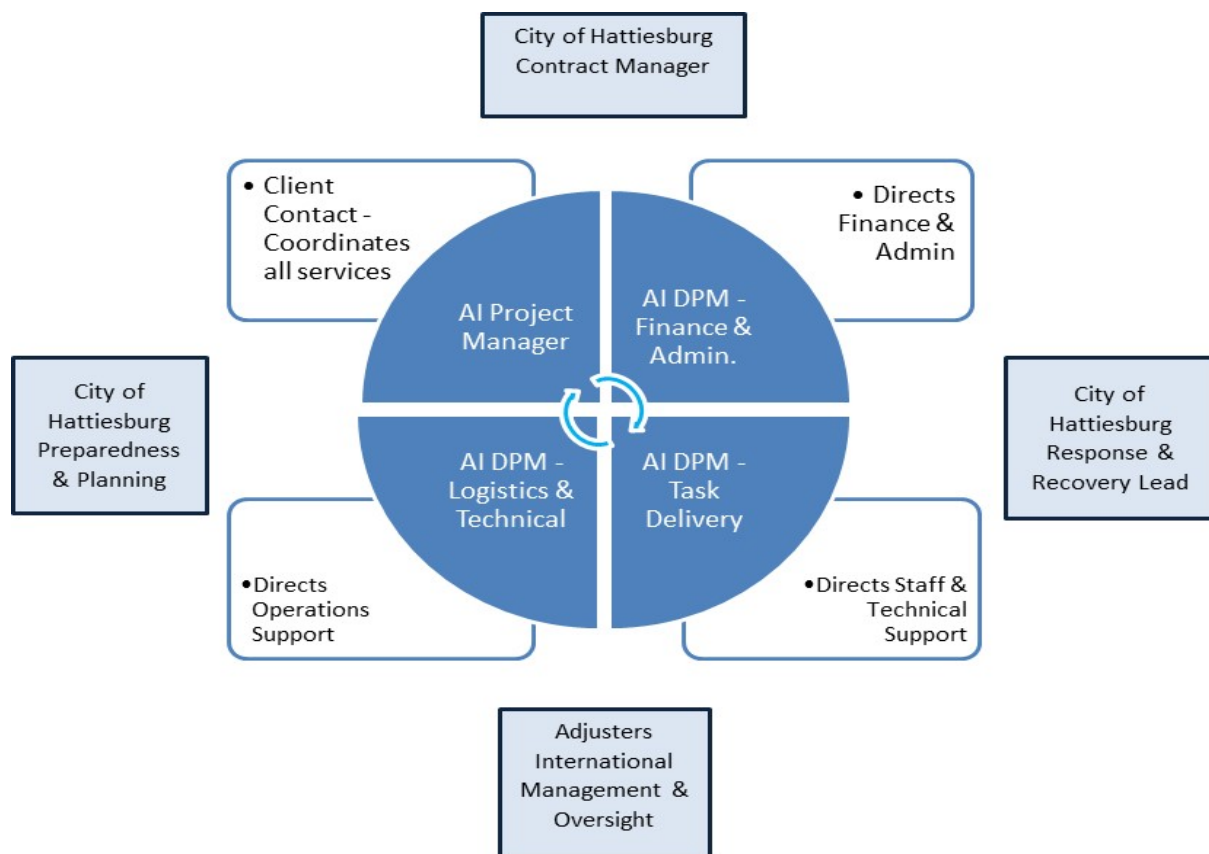
- Identification and coordination of alternative sources of recovery funding (HMGP, CDBG, EGA, FMAG, FHWA, CDL, NRCS, FTA, HMA, & FTA).

We anticipate one to two personnel on-site for one week to initiate work plan development and task definition activities. Plan refinements will be completed and general program management and expert advice efforts will be provided in response to the specific requests from the City.

2) Activation, Consultation, Grant Application, and Project Management.

AI will remain available 24 hrs. per day 7 days per week to respond to the City's requests for assistance. At all times, AI staff will seek to minimize financial impacts by providing services through the least costly and acceptable means available. Services will be managed via our corporate headquarters and delivered using staff from any or all of our regional offices.

Reliability of service will be the direct, day-to-day responsibility of the assigned Program Manager, whose roles include contract management, and conducting necessary City staff interactions, and serving as a liaison with AI's executive management team. AI will mobilize (activate) required staff and resources within 24 hours of receipt of the City's approval of each task order and authorization to proceed.



Staff type and quantity will be determined at the time of request using a task order development process detailing requested resources. Our experienced consultants maintain the level of program knowledge required to provide quality assurance oversight of task implementation and the interpersonal skills to effectively manage technical support teams. We will provide experienced



staff that will recognize detailed issues from a global perspective while conducting required activities such as reviews and interactions with external staff. Our internal quality standards define specific requirements for staff using a quality management system documented within a series of manuals, policies and procedures that ensure standards are met. We maintain a database of guidance and best practices available to staff via our online Operational Resource Center (ORC), and at a minimum, we conduct weekly conference calls for all project staff to help inform and update our team as programmatic changes occur and to facilitate constant peer interaction. Each member of our team has the responsibility of entering detailed time and task entries as well as current project status notes into AI's ORC database daily. This allows complete Direct Administrative Costs (DAC) compliance and the ability to track tasks from initial authorization to EMMIE project entry and official Federal identification assignment.

Our Program Manager (PM), assisted by the Deputy Program Manager (DPM), will review daily staff entries regularly to allow issues to be flagged for immediate action and to provide real time progress reporting within relatively short intervals. AI will integrate non-AI staff and outside contractors as needed into the ORC to facilitate the City's management and reporting requirements. Through this process, we have repeatedly demonstrated our emergency program management capabilities and received maximum reimbursement for our efforts through insurance and disaster funding programs. We will make available at a minimum the following program management and administrative services:

- Provide consultants, experts and specialists that will assist the City with all recovery and management tasks
- Conducting site visits to accurately assess, describe and quantify eligible damages when needed
- Development and preparation of ad-hoc analysis reports as requested by the City management.
- Information, data tracking and recovery processes development, refinement and execution
- Project worksheet development and compliance reviews, ensuring documentation and procedure are compliant with closeout requirements
- Preparation and submission of Mitigation Grant applications to granting agencies and assistance with the management of acquisition projects
- Draft internal and external correspondence in response to information requests and replies, audit results and appeals and arbitration efforts
- Development, preparation, and filing of various financial and other invoicing (Annual, Monthly) reports that are required by the various agencies for which the City has applied to for disaster recovery funding
- Grant programmatic and administrative compliance tracking capabilities including interactions with various funding and management agencies to assure compliance
- Development of Monthly Financial Operating Reports (revenue, expense) on all aspects of the disaster recovery process
- Prepare and process reports as required for specific funding programs



- Assistance during the interim audit processes
- Appeal development and processing support
- Project Management and administrative support during the grant closeout process
- Daily/Weekly/Monthly reconciliation of grant funds to ensure that funds are appropriately tracked and accounted
- Long-term project and grant management

3) Recovery and Grant Closeout.

At the completion of claim (grant) development activities, we will perform project and grant management functions, as needed. Tasks will include:

- Expedited assessment of the funded projects and assembly of all associated and necessary documentation for each project (audit files),
- Identify projects for processing and assignment to our PA Specialists
- Assist with the development and review of recovery project development (engineering plans) and monitor construction projects through completion.
- Develop tailored procedures and checklists for our PA Specialists to follow. These checklists serve as a reference and quality assurance tool to ensure that no potential benefit/reimbursement is overlooked, undocumented, or neglected.

The Project Administrator/PA Specialist will provide a detailed report and summary of each project reviewed. This summary will include a description of the type of documentation reviewed, final eligible project costs, final non-eligible project costs, third-party refunds and/or reimbursements and final insurance contributions. The project summary will be documented on a detailed spreadsheet that will be provided to the City. The DPM and Project Administrators/PA Specialists will document potential and realized mitigation opportunities for each risk and project for the City's use in plan maintenance and to strengthen the City against potential damage in the future.

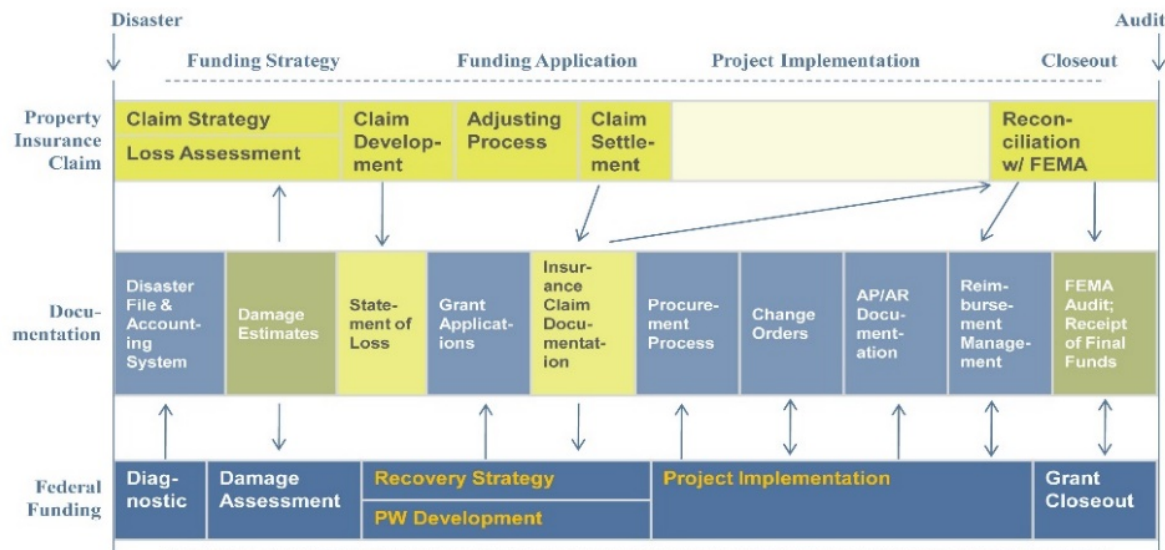
As necessary throughout the engagement, our Project Administrator/PA Specialists will consult our corporate experts to identify nuanced opportunities, seek clarifications, and ensure that all potential opportunities for maximizing reimbursement are identified. This may include, but is not limited to, addressing documentation gaps that impede full reimbursement potential, coordination between Federal disaster aid programs; and coordinating national policy implementation.

We will conclude activations by compiling and submitting a final (after-action) report addressing each aspect of the recovery process. The report will document the final total of eligible and non-eligible costs and provide an explanation of each while summarizing areas where performance may be improved. Additionally, we will provide comment on the status of insurance commitments imposed through the participation in the various State and Federal funding programs. We will submit a draft report within two weeks of completion of the final PW and demobilization. A final report will be delivered following input and comments provided by the City.



Disaster Recovery Process

Total Solution®



AI's Total Solution® offers insurance adjusting and FEMA consulting together to maximize your financial recovery.

The AI team's broad-based support services are designed to help maximize federal funding, expedite the process, and retain funds during the closeout audit. Our team has dealt with coastal and river flooding during our extensive engagements with Katrina and Sandy. ***We will work to advise the City, and help develop a priority-based plan that maximizes funding from all sources such as PA, NFIP, and CDBG.***

The AI team is unique in that we deliver a total financial recovery solution that includes FEMA Public Assistance, HMGP, insurance consulting, HUD CDBG, and other disaster relief funding integration as what we call the **Total Solution®**. We have also offered insurance adjusting and FEMA consulting together since 1996. The significance of our understanding of each area of expertise – insurance and the FEMA Public Assistance program and how each work together and complement each other – is a major difference between our team and all other competitors. We will help the City to develop and maintain a grant management and recovery strategy that includes hazard mitigation; formulate PWsE that are fully coordinated with the insurance claim settlement process; accurately track projects; and provide expert program guidance with respect to eligibility and options. Because we understand the issues and requirements inherent to coordinating public/private funding sources and their complex interactions, we can guide the City around the pitfalls often associated with the disaster recovery process. Our team will assist in coordinating efforts with all surge-capacity add-ons - architects, engineers, contractors, etc. to make sure we meet State/FEMA requirements in a timely, but accurate fashion. Our team will also develop priority and plan-based project formulation to keep funds flowing while logically



formulating longer-term projects e.g. Section 428, Alternate, Improved, etc. We have experience with CDBG funding and experience in combining programs to minimize local match, specifically under 404 and will ensure that all legal responsibility and OFA issues are handled appropriately.

Due specifically to our involvement with Hurricane Sandy in New York and New Jersey and Alaska's and Hawaii's recent disasters, we are current on the various nuances and policy changes associated with the PA program, including the implications of the Sandy Recovery Improvement Act 2013 (SRIA); Alternative Procedures Pilot Programs for Debris Removal, Permanent Work, Post-Katrina Emergency Management Reform Act of 2006, and Dispute Resolution; and FEMA Disaster Assistance Policy (DAP) 9525.9 Section 324 Management Costs and Direct Administrative Costs.

FEMA Public Assistance Advisory Services

The AI team will work together to develop a grant management strategy that will maximize qualified FEMA reimbursements. Our team provides general grant management services throughout all phases of the recovery process. Our team will work closely with the City to determine damages and review these for eligibility, actively flagging any questionable items to help ensure that the City receives the full amount it is entitled to under appropriate recovery programs. In addition, we will assist the City to implement an effective project formulation strategy and to track the development of project worksheets and any related change orders, paying close attention to the accurate and complete quantification of damages.



We work in close coordination with all relevant stakeholders to ensure that state and federal regulations are being followed, and that policy requirements are met related to versioning PWs. As projects are versioned, we will work with the City to collect the necessary documentation to support proper reconciliation of work completed, as well as work yet to be completed. We are accustomed to performing intervallic reviews and reconciliations of actual (vs. estimated) project spending. This is another step in our proven process that ensures project costs are accurately captured and that any audits are passed seamlessly due to our outstanding record-keeping and accountability. **We work closely with all relevant departments throughout the process, providing training and guidance to help the City prepare for closeout and audit from the outset of your recovery.** Our consultants also serve as a centralized program management resource to facilitate the coordination and communication for the City, guiding key staff through the preparation of a program management plan, and providing decision makers with the information they need to drive the recovery from beginning to end – all with an eye to FEMA eligibility and compliance. For example, for the Port of New Orleans, Louisiana – Hurricanes Katrina & Gustav, we created and ensured documentation was compliant and sufficient to answer the scrutiny of the Office of Inspector General's (OIG's) audits, reviews, and questions regarding documentation.

Our closed-loop management process provides both oversight and control over both technical and management aspects of the program. Our Program Management approach includes regular internal and external meetings/reviews, to assess overall progress, identify and manage risks,



ensure close coordination, and foster effective internal and external team communications. We measure and control all critical aspects of the program's progress to monitor trends and react in a timely manner. Our plan is designed to provide continuous management and improve customer visibility into program technical, cost, schedule, and risk performance.

Our consultants will assist the City to:

- Develop a Management Approach (Project Plan):
 - Support After Action Reports and incorporate best practices and lessons learned into plans, policies, and procedures
 - Assist in the development of the City's Disaster-Recovery Team
 - Determine roles and responsibilities:
 - Emergency planning
 - Disaster recovery
 - Mitigation planning
 - Facilitate communications and coordination
- Determine losses:
 - Clean-up and emergency response
 - Evaluate construction contracts, construction cost estimates, and codes and standards Buildings/Equipment/Supplies
 - Road/Utilities/Recreation
 - Immediate needs funding
 - Temporary relocation costs
- Categorize losses and prioritize funding source potential:
 - Insurance Extra Expense and Property
 - FEMA categories A-G
 - Responsibility of other Federal Agencies
 - Special Considerations (Historical, Environmental, Floodplain, etc.)
- Determine project eligibility and cost allow ability determinations:
 - Fully describe and document loss elements
 - Provide verification and reporting,
- Research and maintain appropriate documentation of activities
- Develop and maintain a comprehensive recovery strategy:
 - Assist with design and scope development
 - Discuss mitigation options and help formulate approach
 - Section 406 Hazard mitigation funds
 - Prepare project worksheets and damage inspection reports
 - Documentation preparation and review
 - HMGP applications
 - LMS strategy
 - Emergency Management Plan
- Develop a funding approach:
 - Identify and document any changes
 - Document unaccounted-for damages, change orders, or other issues, which require versioning of the PW
- Implementation Plan:
 - Development of applicable project worksheets and proposals
 - Completion of approved projects

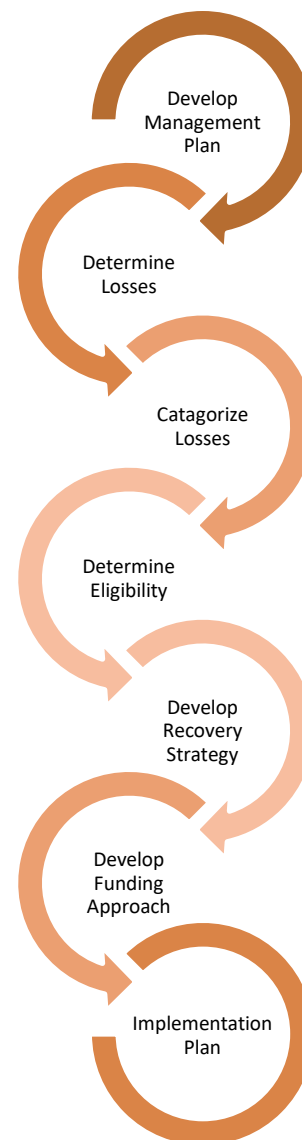


- Make routine site visits to evaluate progress, performance and compliance
 - Provide verification and reporting, and appropriate documentation of activities
 - Attend progress meetings
 - Prepare and maintain detailed project files, reviewing all addenda for eligibility and compliance
- Final inspection and closeout:
 - Assist the City with change order processing and review
 - Manage/oversee any required owner-furnished testing and inspection services
 - Maintain schedules of documentation deadlines and construction milestones
 - Provide ongoing monitoring and status reporting to the City

With our extensive involvement in New York and New Jersey following Hurricane Sandy, as well in Alaska and Hawaii, we are one of the only respondents with strong, hands-on knowledge of and experience in assisting with the filing of grant applications for funding under the FEMA Pilot Program, including but not limited to Section 428 of the Stafford Act. We have this experience at both the applicant and the state levels, giving us unique insight into the issues and considerations involved.

Our consultants put their unparalleled technical expertise to work on behalf of the City, analyzing insurance-related issues as they relate to specific projects – not just applying a one-size-fits-all approach to insurance considerations. We then break these down into understandable components and key decision points, always taking the approach of educating and mentoring our federal, state and local counterparts in the intricacies and specific applications of insurance considerations.

Appeals are an important part of the PA program. According to a December 2009 OIG report, the average processing time for first appeals is seven months, with second appeals extending the timeline an average of 10 additional months; resulting in an appeal process that in some cases can span several years. Because the appeal process can add months, and even years, to the timeline of a project, the AI team makes every effort to ensure clear and ongoing communication, and to proactively identify contentious issues. We work toward swift resolution of these issues and to clear up any misunderstandings in the field, before they enter the time-consuming appeals process.





When appeals do become necessary, however, our team has unsurpassed expertise to assist the City in articulating its position. ***We have drafted for numerous sub-recipients successful first and/or second appeals.***

Our team is fully qualified to apply its combined insurance and FEMA PA experience to untangling and resolving insurance-related closeout issues. In fact, we have assisted numerous applicants to appeal incorrect de-obligation determinations by FEMA that were based on misunderstandings regarding insurance claim settlements and their impact on FEMA funding. For example, this specialized knowledge has resulted in more than \$53 million in insurance-related de-obligation reversals for New York State sub-recipients following Hurricane Sandy.

FEMA 404 and 406 Hazard Mitigation Expertise



Hazard mitigation funding is one of the most often overlooked and underutilized aspects of the PA program. The AI team focuses on actively identifying and educating clients regarding hazard mitigation opportunities and ranking exiting long-term capital plan priority projects. We will work with the City to take advantage of this additional funding to strengthen and improve infrastructure, taking every opportunity to protect against future damage. This includes **actively**

seeking out opportunities to build Section 406 hazard mitigation projects into PWs, as well as documenting opportunities for 404 Hazard Mitigation Grant Program funding. We deliver this via a coordinated approach to mitigation that takes full advantage of disaster relief (406) and hazard mitigation assistance (HMA) program funding. If CDBG-DR funds become available, the AI team can help integrate those funds in to help cover required FEMA match expenses to reduce out-of-pocket expenses to the City.

Our **experienced team** is trained to recognize and suggest hazard mitigation opportunities for any incident type and at all stages of the project. For 406 hazard mitigation projects that exceed 15% of the cost of total eligible repair work and are not already on the pre-approved list (Disaster Assistance Policy 9526.1 Appendix A), we then work with the departments involved to develop a benefit-cost analysis and the necessary documentation to justify the project's long-term value.

Whether for 406 funding or Hazard Mitigation Assistance (HMA) programs, our team of planners, hazard mitigation specialists, and program managers will work with the City to achieve funding needed to implement priority projects to reduce or eliminate future threats to the community.

We will also work with the City to develop a comprehensive approach to hazard mitigation, identifying and acting upon opportunities to strengthen local infrastructure through other HMA programs, which include the **404 Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), and Flood Mitigation Assistance (FMA) programs.**

Financial and Grant Management Support

One of our core competencies is successfully guiding clients through the ins and outs of developing an appropriate grant management strategy, including determinations of how to organize projects and which to select for improved or alternate project status. What is best for the City's recovery and rebuilding is not always as straightforward as replacing damaged facilities



exactly as they were prior to the storm. While the PA program was designed to accommodate this reality, the guidelines and parameters are open to interpretation and contingent upon specific circumstances. We have proven experience when it comes to assisting clients with decisions on whether to repair or replace, how to fund required code upgrades, and how to strategize and present hazard mitigation opportunities. We are also familiar with FEMA's application of its new PA Pocket Guide, which provides guidance to FEMA field staff regarding the formulation of projects and allows for your logical groupings of projects to maximize funding and minimize administrative burdens.

In every instance, our goal is to provide guidance that allows maximum recovery under the FEMA Public Assistance (PA) Grant Program, coordinating this with anticipated and actual insurance contributions (if any) and then documenting insurance purchase requirements. We also work with the City to document the project in such a way that they meet FEMA's standards during program design, data collection, data and project metric reporting, audits, final inspection and closeout.

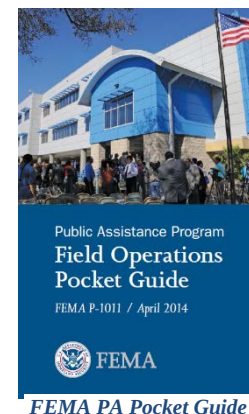
We will provide broad-based support services designed to help maximize all federal and state funding sources available to the City, provide advice on federal funds matching to maximize reimbursement of expenditures made by the City, expedite the reporting process and funding recovery, and work to assure that funding reimbursement claims are maintained in proper form for the closeout audit. It is our experience that to fully recover what is due under the Stafford Act and from other federal and state funding sources; there are multiple steps, processes and compliance issues to be addressed before completing any project worksheets (PW) and in building and maintaining all records in audit ready form.

Information Technology, Data Management, and Reporting Support

All payments that relate to a project must be tracked to the individual PW. Our team will work with the City to develop a workable approach to filing and tracking costs, considering the resources and capabilities of the City, as well as the requirements imposed by FEMA.

As part of our standard practice, the AI team sets up both hard copy and electronic filing systems to maintain project documentation. We organize the hard copy filing system to facilitate ease of tracking. A sortable Excel spreadsheet is also maintained to facilitate ease of locating specific PWs within the selected filing system.

Our team includes experienced **information technology and data management** personnel dedicated to tracking and reporting the data essential to a smooth recovery operation. We will work closely with the City staff and exercise expertise in developing IT solutions that support the management and implementation of disaster recovery programs. For tracking, managing and reporting our activities on behalf of the City, the AI team utilizes a Web-based database we call the Operations Resource Center (ORC), which tracks the progress of program delivery during each phase of recovery. Our streamlined processes properly collect data and document information as necessary to optimize compliance with FEMA, state, or other agencies. All milestones of the process are recorded, providing the City with an independent and verifiable source of measurement and reducing the reliance on FEMA reports. Automated reporting identifies trends that enable managers to understand the





dynamics of the ongoing process. This software streamlines quality assurance, while highlighting issues of special concern so they can be addressed before they become problems. The ORC database can be customized to meet the needs of the City and is designed to complement other tracking and reporting systems.

Our Web-based time-and-expense reporting system eases documentation of our billing and expedites reimbursement from FEMA. This includes the ability to track staff time and activities to specific PWs by applicant, as required for reimbursement of direct grant management costs under DAP 9525.9. This level of detail and accounting allows the City to have these costs directly reimbursed through their related PW's. Our staff track and enter their time into our online system daily. This is regularly reviewed by QA/QC personnel to help ensure accurate and smooth invoicing and documentation. Our system is also able to track the time spent on eligible activities related to other funding sources separately from FEMA-PA related work. We will provide expert consulting in the areas of procurement of goods, services, and equipment, detailing all data related to such procurements. We have 20+ years of experience providing oversight and responsibility for capturing, recording, verifying, claiming, and processing all eligible costs for disaster grant funding. We bring this same experience to the City for its disaster recovery needs.

Our team has extensive experience in meeting contract, safety, security, and privacy requirements by implementing a set of directives and proven processes and procedures. The AI team flows down all appropriate contract clauses to ensure that subcontractors (when present on the contract) comply with all applicable prime contract, safety, security, and privacy requirements. The guiding documents that drive our policy are corporate policies.

Our team will work with the City to **review contracts and purchasing documentation**, as well as any documentation prepared to date at the time of our activation, to ensure that they fit within the eligibility guidelines of the FEMA Public Assistance program (44 CFR 13.36 & 2 CFR 200) and to alert the City of any documentation or procedures that may jeopardize funding.

We are experienced with the process of working with the City departments and staff to collect data and to write and disseminate documentation of the City's costs and activities related to each project, including force account labor, equipment, and materials, as well as any contracted costs that may have been incurred. Our consultants are skilled at coordinating with the internal departments and external vendors involved in carrying out recovery activities and fully understand FEMA's documentation requirements and programmatic parameters. For the City, we will review and comply with all guidelines to capture force account labor eligible expenses. IN this way, we will accurately account for the data in timesheets and substantiate timely and truthful project cost accounting. Our team will assist the City in capturing and summarizing eligible costs for selected departments. Our approach is to work together with the City assisting you through the process of formulating projects, developing accurate and trackable scopes of work, determining associated costs, and providing proper documentation to support your project worksheet submissions to FEMA. Our consultants will guide the City through this process and provide work aids such as a detailed PW checklist tool that





outlines all the details that should be covered during PW development. This checklist includes a section specifically related to supporting documentation as applicable to the project, with a thorough list of possible documentation components to help ensure complete, accurate and robust documentation.

Reconciling costs for work completed and work to be completed is a vital component of project tracking and, ultimately, project closeout and audit. As projects are versioned and/or drawdowns are requested from the State, we will work with key stakeholders to collect the necessary documentation to support proper reconciliation. This includes work completed vs. work to be completed as projects progress, and actual costs incurred vs. estimated costs outlined in the project worksheet. This process is facilitated by the team thorough approach to project worksheet development and tracking, which is to prepare for closeout and audit from the outset of a project.

Our consultants provide constant communications, including regular reports and status meetings, and full information regarding progress and projects. Our invoices and supporting documentation are prepared with the needs of applicants in mind, and we work closely with a City's Finance Department to ensure that they have the supporting documentation they need when they need it.

Because the Public Assistance grant application process can involve an extended timeline, our experts remain available for phone consultations and in-person meetings upon request even after the need for a steady on-site presence has ended. We are available to assist through any part of the process, from beginning to end.

HUD Community Development Block Group Disaster Recovery (CDBG-DR) Support

As requested in the scope of work/services, the AI team will provide CDBG consulting and support services. We offer the best value solution by leveraging the lessons learned and best practices developed from our CDBG-DR Infrastructure programs in Louisiana and New York. The extensive knowledge of our team and our existing tools provide a best value solution through the following:

- A proven and easily adaptable Web-based program/project management system – to provide a common operating picture and accountability
- Intimate CDBG-DR knowledge to provide guidance and direction in the development of projects that meet programmatic requirements
- Knowledge and Understanding of HUD Disaster Recovery Grant Reporting (DRGR) data management System
- Existing support documentation that can easily be customized for the City to ensure audit compliance such as:
 - A proven large-scale CDBG-DR Infrastructure Implementation Plan;
 - Contract and Project Templates
 - Policy and Training Manuals
- Robust project tools to monitor progress and alleviate road blocks and
- Large team of experienced personnel to provide **immediate** execution capability

The AI team has been selected to provide this same support on behalf of the State of New York. We have the capability to develop the necessary manuals, plans, policies, and processes, including a Program Management Plan to guide the start-up activities and ongoing program



management. We have existing templates and collected success stories to pull from to quickly establish program manuals, plans, policies, and processes.

At the onset of the Katrina/Rita Recovery Program, our team was contracted to prepare the Disaster Recovery Program Implementation Plan. This plan is currently being used by the OCD-DRU and Grant Managers working on the Hurricane Katrina/Rita Recovery Program. The Implementation Plan provides detailed forms, templates, instructions, and general guidance in the implementation of disaster recovery projects and functions to ensure full compliance with all CDBG rules and regulations.

The AI team will establish and maintain sufficient electronic records and hard files for each CDBG-assisted activity. In preparation for HUD and City project monitoring, the AI team will ensure all records will comply with HUD's CDBG-DR administrative requirements.

Our experience administering and managing approximately \$1.4 billion in CDBG-DR projects in parishes affected by Hurricanes Katrina and Rita includes 350 projects related to Infrastructure, Planning, Economic Development and Housing. We are also managing 73 projects for eight parishes affected by Hurricanes Gustav and Ike totaling approximately \$123 million in CDBG-DR infrastructure projects.

This experience provides the AI team with a thorough understanding of the **CDBG Program and regulatory requirements**. The CDBG program, authorized by Title I of the Housing and Community Development Act of 1974, is guided by 24 CFR 570 including Subpart C, which describes eligible activities and criteria for selecting a national objective; Subpart J which narrates responsibilities for grant administration, program income, record keeping and reporting and grant closeout procedures; and Subpart K, which addresses other program requirements such as labor and environmental standards, employment and contracting opportunities, conflict of interest, uniform administrative requirements and approved cost principles. Our team has the essential knowledge necessary to successfully coordinate South Carolina's CDBG-DR efforts with other disaster recovery operations such as PA and HMGP.

Pre-Disaster Cost Recovery Plan Development

To facilitate an efficient and effective recovery utilizing FEMA funding, our Team will develop an Administrative Recovery Plan. We will pair our knowledge of FEMA requirements and federal requirements outlined in the Super Circular with the policies and processes utilized by the City to outline a workable plan. The plan will be broken into two sections:

Pre-Event Preparation

Our team will outline what the City would need to have in place prior to an event to comply with FEMA and other federal guidelines. These guidelines include properly procuring contractors and consultants for emergency services, developing codes and accurately tracking event-related time and expenses. Additionally, the City is responsible for accounting for each project, establishing project balances, receipts, and expenditures to prove no duplication of benefits or other violations. Preparation efforts will allow the City to more quickly obtain future funds and decreases the chances of fund reduction.



Post-Event Processes

We will develop out a Plan to account for costs on a project-by project basis instead of commingling disaster-related receipt and expenditure transactions with non-disaster transactions. These written policies and procedures will describe how separate project accounting should be set up and document how PW accounts should be set up on a project basis.

The Plan will also describe how to track the following:

- Force account labor (FAC) overtime costs under emergency work (PA PW Categories A and B)
- All FAC labor costs for permanent work (Categories C-G)
- Full or part-time extra hire (to perform duties of employees who are now performing disaster work due to the event) regular salary and overtime, this may include employees from another department
- Costs of contractors hired to accomplish emergency work
- Direct additional expenses for emergency work
- Force Account Equipment (FAE) owned by the City at the time of the event
- Donated Resources, including materials, equipment, and labor
- Costs incurred under a written/formal mutual aid or other agreement

Best practices indicate the following information should be documented, and all information should be consolidated at least once a week and compared to payroll information:

- Labor:
 - Name and title
 - Dates worked
 - Hours per day
 - Rate of pay (regular and/or overtime)
 - Applicant fringe benefits rate, based on the total payroll
 - Overtime pay (if pre-existing)
- Equipment
 - Description
 - Operator's name
 - Dates and hours used
 - Cost per hour
 - If rented, date and amount paid, check, invoice
 - Total cost for each item
 - Total cost of all equipment

Total equipment hours should be compared to appropriate personnel hours to ensure both are accurate. If a piece of equipment is used by being attached to another piece of equipment (for example, trailer hitched to a truck), this should be noted.

Long-Term Disaster Recovery and Redevelopment Planning

An efficient and successful recovery starts well before a disaster event takes place. The key components to coping with a disaster and recovering from its effects long-term are an effective



preparedness plan; early and timely warnings and advice; a sound response plan; and a well-coordinated, progressive recovery and redevelopment plan to maintain continuity of operations. To help the City accomplish this, our team will provide experienced, all-hazards planners to support the evaluation, creation and/or revision of all planning documents in support of the City's disaster response and recovery operations and to ensure compliance with applicable regulations and requirements. Post-disaster recovery continuity of operations, training, development of teams, monitoring, review and test of plans are routine and customary activities that we incorporate into our overall offering to the City. These critical components of long-term recovery will be effortlessly executed in concert with all provisions of Federal, State, and Local procurement rules, regulations, etc.

CFR 200 Compliance Language Certification

AI understands and will comply with the City's request to, while assisting the City with project procurements or in the event procure additional resources must be procured, post contract award, we will strictly adhere to 2 CFR 200 procurement rules; including adherence to the strictest provisions of Federal, State, and Local procurement rules, regulations, etc.



Section 5: Auditing History

In this section, we will describe, explain, and demonstrate our previous experience in defending and maintaining FEMA and other federal program reimbursements.

Adjusters International has helped numerous clients through their final inspection and closeout following a declared disaster. When the City has completed all projects, and drawn down reimbursement for all eligible costs, our consultants will work with the City staff to finalize preparations for State/FEMA final inspections and audits. Under the Public Assistance Program, project completion typically involves two separate processes: final inspection and final audit. Final inspection involves the reconciliation of the actual scope of work and costs incurred with the scope of work and costs approved by the PW. All large-project PWs are subject to a final inspection. In addition, a selection of small PWs will be inspected. Adjusters International will bring its extensive expertise in this area to bear on behalf of the City, working collaboratively with City staff to ensure that the final inspection and audit requirements are anticipated from the beginning of the grant management process. This positioning will be facilitated by AI's proactive approach to working with the City staff to maximize reimbursements.

Successfully managing and preparing for audits by FEMA or other funding sources requires a thorough understanding of the eligibility parameters, documentation requirements, and programmatic expectations involved. It also requires a comprehensive view of the City's existing disaster relief funding picture so that duplication of benefits – or even the appearance of duplication – can be avoided, and the steps taken to ensure this can be clearly articulated across funding programs.

As mentioned previously, reconciling costs for work completed and work to be completed is a vital component of project tracking and, ultimately, project closeout and audit. As projects are versioned and/or drawdowns are requested from the State, AI will work with key stakeholders to collect the necessary documentation to support proper reconciliation. This includes work completed vs. work to be completed as projects progress, and actual costs incurred vs. estimated costs outlined in the PW. This process is facilitated by AI's thorough approach to PW development and tracking, which is to prepare for closeout and audit from the outset of a project. We also stay on top of any issues that may impact funding and work to reconcile these as they arise.

AI team members have successfully completed PW closeouts and audits at the state level and have participated in numerous reviews, closeouts, and audits for applicants. For example, AI is provided a closeout team to assist the State of New York to review and close out 20 open disasters, including Hurricane Irene and Tropical Storm Lee – the largest disasters to have hit New York State other than Hurricane Sandy. Our direct experience with the process means that we not only understand the requirements in theory, but in practice. We have proven ourselves to follow the requirements of the Stafford Act, OMB circulars, and related regulations and policies (e.g., the 9500 Series), and to anticipate the needs of all key stakeholders, providing exceptional client service throughout the process.

Additional services that dovetail with the FEMA public assistance process are also offered to ensure that the City will get the greatest reimbursement possible. This includes **Insurance adjusting/consultation**. For example, an earthquake is an insured peril and usually comes with a high deductible. If the City has insurance, it is the primary post-disaster funding source and



FEMA funding is secondary with additional benefits. It is critically important to make sure the insurance claim and the FEMA claim are undertaken in concert. Otherwise, holes and potential reimbursements will have a shortfall. AI is the only firm that has these two financial services in-house under one company and has had experience meshing the two for 19 years. We have licensed public insurance adjusters on staff whose focus is to maximize insurance proceeds in an expedited manner. If the City is not insured, you will be responsible for obtaining and maintaining insurance up to the dollar amount provided by FEMA for the life of those assets. This can be a very expensive proposition, and our expertise and knowledge can help the City work through the process to ultimately obtain a waiver

Additionally, a major misunderstanding from FEMA's perspective is the apportionment of insurance proceeds when extra expense and loss of income coverage is included in a blanket policy. The AI team is vastly experienced in insurance-related issues such as this, which can drastically impact FEMA funding, and we have a successful track record of turning these issues around and preventing unwarranted de-obligations that often occur from a lack of insurance understanding.

.



Section 6: Proposed Pricing

ATTACHMENT A
HOURLY RATE FORM

Key Program Management Personnel: The Proposer shall identify Key Program Management Personnel for the Project. Provide detailed resumes (limited to two pages) of Key Program Management showing related experience.

PROGRAM MANAGEMENT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Program Manager	CESARE "SKIP" CERMINARO	UTICA, NY	195
Deputy Program Manager	TIM DONNELLY	CHARLOTTE, NC	160
Program Administrator	LINDA MAIELLANO	PAVILLION, NY	160
Project Coordinator	STEVE CLARK	CHARLOTTE, NC	160

Other Program Staff: The Proposer shall identify Other Program Staff's hourly rate. The Proposer may add additional lines if necessary.

CONSTRUCTION & OPERATIONS

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Cost Estimating On Site Inspector	ROBERT KOCH	CLEVELAND, OH	190
Construction Manager Resident Engineer	MARTY HAHN	AUBURN, NY	190

PROGRAM & ADMINISTRATIVE SUPPORT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Financial Lead Project Manager	ROBERT WRIGHT	NEW BERN, NC	190
FEMA Coordination Subject Matter Expert Funding Assistance Database Manager	JIM MADDALONI	SYRACUSE, NY	160
Procurement and Contracting Scheduling Administrative Assistance Senior Adviser	LINDA "GAYLE" JENNERS	DELRAY BEACH, FL	160

All hourly rates provided shall be inclusive of all expenses incurred. Submitted by:

 VICE PRESIDENT
Authorized Signature, Title

4/4/17
Date

Adjusters International, Inc.
Consultant Firm Business



Section 7: Socioeconomic Contractors

*****Not Applicable*****



Section 8: Administrative Information

Proof of Liability Insurance and its Limits



ADJUS-1

OP ID: LB

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

10/13/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Gilroy, Kernan & Gilroy, Inc. 210 Clinton Road P.O. Box 542 New Hartford, NY 13413-0542 Robert Broccoli	CONTACT NAME: Robert Broccoli	
	PHONE (A/C, No, Ext): 315-768-8888	FAX (A/C, No): 315-768-8600
INSURED Adjusters International, Inc. Ronald Cuccaro 126 Business Park Drive Utica, NY 13502	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A: Hartford Fire Insurance Co	NAIC # 19682
	INSURER B: Travelers Casualty Insurance	19046
	INSURER C: Travelers Indemnity Company	25658
	INSURER D:	
INSURER E:		
INSURER F:		

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	GENERAL LIABILITY	X		680-918M779-15-42	12/09/2015	12/09/2016	EACH OCCURRENCE \$ 1,000,000
	☐ COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000
	☐ CLAIMS-MADE ☒ OCCUR						MED EXP (Any one person) \$ 5,000
	☒ Business Owners						PERSONAL & ADV INJURY \$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE \$ 2,000,000
	☒ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG \$ 2,000,000
B	AUTOMOBILE LIABILITY			680-918M779-15-42	12/09/2015	12/09/2016	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	☐ ANY AUTO						BODILY INJURY (Per person) \$
	☐ ALL OWNED AUTOS						BODILY INJURY (Per accident) \$
	☒ HIRED AUTOS						PROPERTY DAMAGE (PER ACCIDENT) \$
	☒ SCHEDULED AUTOS						
C	☒ UMBRELLA LIAB	☒ OCCUR		CUP-1931T597-15-42	12/09/2015	12/09/2016	EACH OCCURRENCE \$ 10,000,000
	☐ EXCESS LIAB						AGGREGATE \$ 10,000,000
	☐ CLAIMS-MADE						
	DED ☒ RETENTION \$ 10,000						
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	☐ Y / ☒ N	N / A	01WECLM7787	12/27/2015	12/27/2016	☒ WC STATUTORY LIMITS ☐ OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT \$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
							E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured. Professional / Cyber Liability: policy # G27459298 003, effective 6/1/16 to 6/1/17. Westchester Fire Ins Co. Professional Liability limit \$5,000,000; \$25,000 ded. See next page for Cyber

CERTIFICATE HOLDER**BOUL-01**

Boulder County
Attn: Purchasing
2025 14th Street
Boulder, CO 80302

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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NOTEPAD:

HOLDER CODE **BOUL-01**
INSURED'S NAME **Adjusters International, Inc.**

ADJUS-1
OP ID: LB

PAGE **2**
Date **10/13/2016**

Cyber Liability:
Privacy Liability \$1,000,000 limit
Identity Theft Response Fund \$1,000,000 limit
Network Security Liability \$1,000,000 limit
\$25,000 retention
Sublimits:
Regulatory Proceeding Claims Expenses \$1,000,000



Drug Free Work Place Form

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

Company Name: Adjusters Internatioanl, Inc.

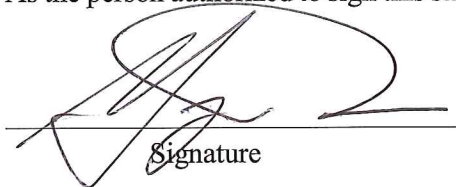
City of Hattiesburg Drug-Free Workplace Form

The undersigned firm hereby certifies that

Adjusters International, Inc. does:
Name of Firm

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the danger of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the contractual services that are described in the City's request for proposals to provide bond underwriter services a copy of the statement specified in paragraph 1.
4. In the statement specified in paragraph 1, notify the employees that, as a condition of working on the contractual services described in paragraph 3, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of the State of Mississippi, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction or plea.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.
6. Consistent with applicable provisions with State or Federal law, rule, or regulation, make a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1 through 5.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.


Signature

4/4/2017
Date



RFP Affidavit

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

AFFIDAVIT

TO: CITY OF HATTIESBURG
HATTIESBURG, MISSISSIPPI

At the time the proposal is submitted, the Respondent shall attach to his proposal a sworn statement.

The sworn statement shall be an affidavit in the following form, executed by an officer of the firm, association or corporation submitting the proposal and shall be sworn to before a person who is authorized by law to administer oaths.

STATE OF _____ CITY OF _____. Before me, the undersigned authority, personally appeared _____ who, being duly sworn, deposes and says he is _____ (Title) of _____ (Firm) the respondent submitting the attached proposal for the services covered by the RFP documents for RFP No: 4295 DISASTER RECOVERY CONSULTING SERVICES.

The affiant further states that no more than one proposal for the above referenced project will be submitted from the individual, his firm or corporation under the same or different name and that such respondent has no financial interest in the firm of another respondent for the same work, that neither he, his firm, association nor corporation has either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this firm's proposal on the above described project. Furthermore, neither the firm nor any of its officers are debarred from participating in public contract lettings in any other state.

ADJUSTERS INTERNATIONAL INC.

(Proposer)

By _____

VICE PRESIDENT

(Title)

STATE OF NY)
COUNTY OF Oneida)

Subscribed and sworn to before me this 4th day of April, 2017, by Greg Raab who personally appeared before me at the time of notarization, and who is personally known to me or who has produced personally known as identification.

[Signature]
Notary Public

Stephen T. Surace
Notary Public, State of New York
No. 01SU6269861
Qualified in Oneida County
Commission Expires 10/09/2020

My commission expires:

10/9/2020

VENDOR ON ALL CITY PROJECTS MUST EXECUTE AND ATTACH THIS AFFIDAVIT TO EACH PROPOSAL.



RFP Affidavit of Solvency

**REQUEST FOR PROPOSALS (RFP) NO: 4295 DISASTER
RECOVERY CONSULTING SERVICES**

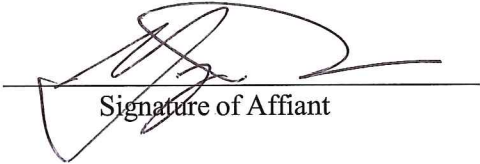
AFFIDAVIT OF SOLVENCY

Adjusters
International,
PERTAINING TO THE SOLVENCY OF { Inc. }, being of lawful age and being duly sworn I, Corle Rams,
as VICE PRESIDENT (ex.CEO, officer, president, duly authorized representative, etc.) hereby certify under
penalty of perjury that:

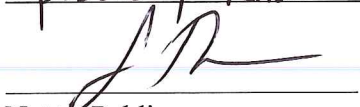
1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this 4 day of APRIL, 2017.

STATE OF NY
COUNTY OF Oneida


Signature of Affiant

Subscribed and sworn to before me this 4th day of April, 2017, by Greg Raab
who personally appeared before me at the time of notarization, and who is personally known to me or who has produced
personally known as identification.


Notary Public

My commission expires:

10/9/2020

Stephen T. Surace
Notary Public, State of New York
No. 01SU6269861
Qualified in Oneida County
Commission Expires 10/09/2020



Conflict of Interest Disclosure Form

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

City of Hattiesburg Conflict of Interest Disclosure Form

Project (RFQ, RFP, BID) Number/Description: RFP NO: 4295 Disaster Recovery Consulting Services

The term "conflict of interest" refers to situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting a consultant's/contractor's professional judgment in completing work for the benefit of the City of Hattiesburg ("City"). The bias such conflicts could conceivably impart may inappropriately affect the goals, processes, methods of analysis or outcomes desired by the City.

Consultants/Contractors are expected to safeguard their ability to make objective, fair, and impartial decisions when performing work for the benefit of the City. Consultants/Contractors, therefore must there avoid situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting the consultant's/contractor's professional judgement when completing work for the benefit of the City.

The mere appearance of a conflict may be as serious and potentially damaging as an actual distortion of goals, processes, methods of analysis or outcomes. Reports of conflicts based upon appearances can undermine public trust in ways that may not be adequately restored even when the mitigating facts of a situation are brought to light. Apparent conflicts, therefore, should be disclosed and evaluated with the same vigor as actual conflicts.

It is expressly understood that failure to disclose conflicts of interest as described herein may result in immediate disqualification from evaluation or immediate termination from work for the City.

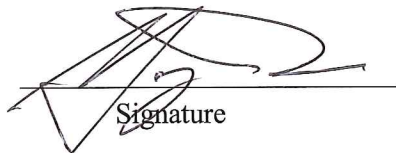
Please check the appropriate statement:

- ☒ I hereby attest that the undersigned Respondent has no actual or potential conflict of interest due to any other clients, contracts, or property interests for completing work on the above referenced project.
- ☐ The undersigned Respondent, by attachment to this form, submits information which may be a potential conflict of interest due to other clients, contracts or property interests for completing work on the above referenced project.

Legal Name of Respondent:

Adjusters International, Inc.

Authorized Representative(s) :


Signature

Greg Raab
VICE PRESIDENT
Print Name/Title

Signature

Print Name/Title

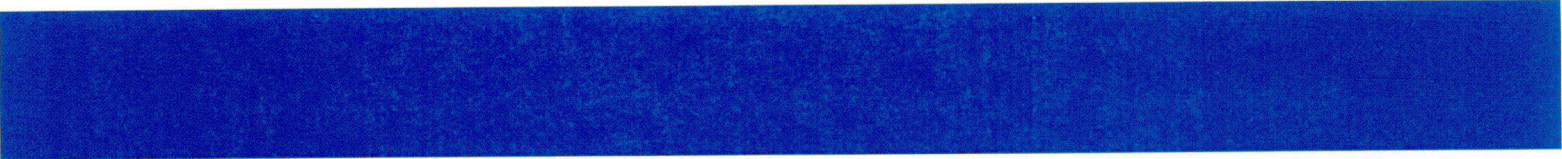
**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

**City Council
CITY OF HATTIESBURG
200 FORREST STREET
HATTIESBURG, MS 39401**

ATTN: Debbie Bernardo, Clerk of Council

COMPANY NAME: Southern Mississippi Planning and Development District

DATE: April 5, 2017



City of Hattiesburg, Mississippi

RFP# 4295 – PROPOSAL DISASTER RECOVERY CONSULTING SERVICES

Submitted to:

City of Hattiesburg City Council
April 5, 2017

Submitted by:

Southern Mississippi Planning and Development District
Leonard Bentz, Executive Director
9229 Highway 49, Gulfport, MS 39503
(228) 868-2311
www.smpdd.com



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RFP Affidavit

RFP Affidavit of Solvency

Conflict of Interest Disclosure Form

Acknowledged Addenda

Certificate of Registration

System of Award Management Registration

2016 SMPDD Financial Statement

Southern Mississippi Planning and
Development District

Leonard Bentz, Executive Director

9229 Highway 49
Gulfport, MS 39503
(228) 868-2311



Southern Mississippi Planning & Development District

BUILDING A STRONGER MISSISSIPPI

April 5, 2017

Mr. Carter Carroll, President
City of Hattiesburg City Council
200 Front Street
Hattiesburg, MS 39401

RE: RFP 4295 Disaster Recovery Consulting Services

Dear Mr. Carroll,

Southern Mississippi Planning and Development District (SMPDD) is pleased to submit a response to the RFP #4295 Disaster Recovery Consulting Services. We have the experience and qualifications to support the City's disaster recovery, expedite financial recovery, and mitigate through Federal Emergency Management Agency's (FEMA) Public Assistance Program.

SMPDD was established in 1967 as a private, non-profit corporation to serve as a liaison between local, state, and federal entities to develop and implement grant programs and federally assisted projects. We have decades of experience in writing grants and coordinating projects for local government. SMPDD will ensure the City of Hattiesburg is in full compliance with all federal, state, and local laws. SMPDD's ultimate goal is to provide the City with a seamless process during the disaster recovery period.

SMPDD has partnered with Covington Civil and Environmental, LLC in responding to this RFP. Covington is owned and operated out of Gulfport, MS and has over 24 years of serving clients with honesty, integrity, and professionalism in South Mississippi and beyond. The Covington team has worked directly with FEMA as well as represented city and county entities on FEMA-funded projects.

We believe that our SMPDD/Covington team is well suited to serve the City of Hattiesburg as proposed. Emlyn Jackson will serve as SMPDD's point of contact for the RFP. Her office is located at 700 Hardy Street, Hattiesburg. She can be reached at 601.545.2169 or 318.317.9988. Her email address is ejackson@smpdd.com. We appreciate the opportunity to submit a proposal and hope to hear from you soon.

Sincerely,

Leonard Bentz, II
Executive Director

QUALIFICATIONS AND EXPERIENCES

About Southern Mississippi Planning and Development District



The Southern Mississippi Planning and Development District (SMPDD) was established as a private, non-profit corporation to serve as a liaison between local government and the various state, regional and federal agencies involved in economic, community and human development. Established in 1967, SMPDD has extensive expertise in a wide range of regional planning issues, including the preparation of federal grant applications and project administration throughout the fifteen counties and thirty-eight municipality area of South Mississippi. For nearly fifty years, SMPDD has maintained a broad network of relationships at the local, regional, state and federal levels.

SMPDD has extensive experience working with local, state, and federal entities to develop and implement grant programs and federally assisted projects. SMPDD has significant experience with grant applications and managing grant-funded projects involving regulations that are often beyond the staff and resource capacity of local government. SMPDD has decades of experience in writing grants for local government and in administering and complying with regulations throughout the life of a grant.

SMPDD serves as the official liaison of the U.S. Department of Commerce's Economic Development Administration (EDA) and the Delta Regional Authority. While not limited to the following, SMPDD staff has been successful in identifying, obtaining and administering grants from the following: Mississippi Development Authority - CDBG Grants, DIP Grants, Rural Impact Grants, Small Municipalities and Limited Government Grants; USDA, Rural Development Grants – RBEG, RBOG; MEMA/FEMA Grants – disaster and hazard mitigation funding opportunities; EDA – construction/infrastructure grants and planning grants; DRA – construction/infrastructure grants. A copy of SMPDD's signed Certificate of Registration as a charitable organization from the Secretary of State can be found attached to this statement of qualifications. Also attached as an organizing document for this response is an image of SMPDD's System for Award Management Dashboard, which is a requirement to receive grant funds from the federal government. Both of the attached organizing documents prove that SMPDD is qualified to conduct business with federal, state, and county government.

SMPDD is fortunate to have a long-standing history of partnership with the City of Hattiesburg. Recently, SMPDD applied for an Economic Development Administration grant which the City was awarded the funds to upgrade infrastructure needed in the Forrest County Industrial Park for a tissue paper manufacturer to operate. SMPDD was instrumental in securing funds for the future Hattiesburg Public Safety Complex, a project that is being funded by South Mississippi

Investment Corporation. SMPDD continues to work regularly with the City on project development and has been involved in past infrastructure projects to support economic development through-out the City. SMPDD has participated in strategic planning sessions with the Area Development Partnership and with other various regional efforts in which the City is a stakeholder or partner.

SMPDD staff is responsible for the oversight and management of approximately \$21M annually in federal grant programs including local government assistance grants and services, planning projects, services to the elderly as the Area Agency on Aging, and the development of a sustainable and qualified workforce through the Workforce Innovation and Opportunity Act.

With its experience in grant research, writing and administration, SMPDD has perfected its approach to project management. SMPDD's past experience will give the city of Hattiesburg the confidence that all programmatic and fiscal responsibilities associated with projects, programs, and grants administered through this proposal will be performed satisfactorily, in a timely manner, with minimal oversight from the City, and at the lowest reasonable overall cost. SMPDD has experience working with numerous federal agencies and have had no performance issues with our grant application preparation or administration.

Summary of Qualifications

Southern Mississippi Planning and Development District

- Nearly 50 years' experience in preparation of federal grant applications and program management
- Program and Policy Management
- Significant experience with compliance with regulations and laws
- Extensive experience serving as liaison between local government, state and federal agencies

SMPDD has vast knowledge in the development, management and close-out of a multitude of federal and state grant programs. A brief summary of federally assisted projects and programs is provided below for current and past projects implemented by SMPDD. The projects listed in this section are examples of programs SMPDD has administered from project inception and development to close-out.

Federal Grant Programs Administered by SMPDD

Agency	Grant Program
US Department of Interior US Fish & Wildlife Service	Coastal Impact Assistance Program
US Department of Labor US Department of Agriculture	Rural Development Grants Rural Business Enterprise Grant Rural Business Opportunity Grant
US Department of Commerce Economic Development Administration	Planning Public Works Construction/Infrastructure
US Department of Homeland Security FEMA	Hazard Mitigation Grants
US Department of Housing and Urban Development	

State/Regional Grant Programs Administered by SMPDD

Agency	Grant Program
MS Development Authority	Development Infrastructure Grant Program Community Development Block Grant Small Municipalities and Limited Population Counties Grant Program Rural impact Grants
MEMA	Hazard Mitigation Grants
MS Department of Marine Resources Delta Regional Authority	Construction/Infrastructure

Ohr-O'Keefe Museum of Art, Center for Ceramics

CDBG (Katrina), Construction Cost - \$6.3M

Larry Clark, Past President and Trustee Emeritus, Ohr-O'keefe Museum of Art

*386 Beach Boulevard, Biloxi, MS 39530
(228) 374-5547*

SMPDD applied to the Mississippi Development Authority for funding through the Katrina Supplemental Community Development Block Grant and administered this construction project in Biloxi. The project reconstructed the Museum's Center for Ceramics, which was heavily damaged in Hurricane Katrina. The Center for Ceramics houses administrative and programmatic activities, a pottery studio, educational and classroom space, and community meeting space. Construction was initiated in February 2011; the project was completed in 2013.

Hazard Mitigations Plans and Updates FEMA and MEMA

Covington, George, Greene, Jefferson Davis, Marion, Perry, Wayne, and the Cities of Lucedale and D'Iberville

SMPDD has written Hazard Mitigation Plans and Plan Updates for county and city governments for many years. SMPDD staff has vast experience working with FEMA and MEMA in times of disaster and in preparation for such events by ensuring their local plans and updates help prevent future loss of life and damage to property.

**City of Hattiesburg-Sofidel, America
U.S. Department of Commerce, Economic Development Administration
Water and Sewer Line Construction Cost-
Johnny Dupree, Mayor for the City of Hattiesburg
200 Forrest Street
601.545.4551**

SMPDD applied to the Economic Development Administration for funding to construct a water and sewer line related to infrastructure in the Forrest County Industrial Park to accommodate the needs of Sofidel, America, a tissue paper manufacturer. The infrastructure improvements assisted in Sofidel, America locating in the city of Hattiesburg, creating 230 new jobs with an investment of \$120,000,000.

SMPDD has partnered with Covington Civil and Environmental in submitting this proposal. Covington Civil & Environmental (Covington) is owned and operated out of Gulfport, MS and has more than 24 years of serving clients with honesty, integrity, and professionalism in South Mississippi and beyond. Together the team has supported over 35 disaster response and/or debris monitoring and management projects within the past 12 years.

The Covington team has both worked directly for FEMA as well as represented city and county entities in dealing with FEMA. In addition to FEMA funds, the team has also worked with other funding sources such as Hazard Mitigation Grant Funds. This experience will be useful throughout all phases of the City's disaster recovery period. The team has worked multiple disasters that affected the State of Mississippi such as the Yazoo City/Holmes County tornado event, Hurricane Katrina, Hurricane Gustav, and Hurricane Isaac; all of which were federally declared events in the State of Mississippi.

A team roster and their responsibilities for the proposal are provided in the table below. The resumes for all team members who will be available to provide support to City of Hattiesburg Disaster Recovery Consulting Services are presented in the following pages.

TEAM MEMBER	RESPONSIBILITIES
Patricia Morrison	Serve as the primary point-of-contact for SMPDD with the City of Hattiesburg. Patricia will be responsible for the day-to-day oversight and administration of the programs working with the City's FEMA workgroup or other main contact assigned by the City.
Mary LaRosa	Provide budget, accounting and compliance review.
Allison Beasley	Provide general program oversight consultation.
Emlyn Jackson	Provide general project coordination and program support.
Shane Monroe	Will serve as the primary point of contact for the Covington team. Shane will provide FEMA Public Assistance and Stafford Act compliance support and oversight. Will work with the City to help resolve any eligibility questions that arise and assist in compiling audit and reimbursement request files as needed.
Jack Norris	Will serve as a liaison between the City and both the State and FEMA. Jack will work to resolve any high level eligibility issues that might arise over the course of the recovery process.
Ben Benvenuti, PE	Will provide engineering technical support as needed throughout the recovery process. Ben will also assist in any construction related PWs in an oversight role.
Felicity Edwards	Will provide FEMA Public Assistance and Stafford Act compliance support and oversight. Felicity will also serve as support for Hazard Mitigation and CDBG if needed during the recovery process.
Bob Gist	Will provide support for any construction related PWs. Will provide technical support with regards to construction contractors for the City as needed.



CAREER HIGHLIGHTS:

Over 15 years' experience in regulatory compliance and contract management for multiple funding sources including Department of Homeland Security and Department of Labor.

Closed out over \$125 million in FEMA Public Assistance funding

EDUCATION:

Associates of Arts, Business Administration, Mississippi Gulf Coast Community College, 1988

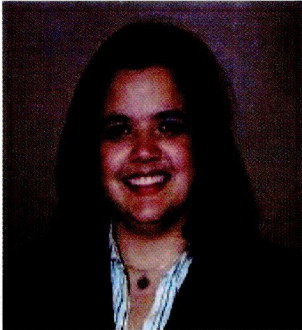
Bachelor of Arts, Political Science, University of Mississippi, 1990

Patricia Morrison

Economic Workforce Development Manager

Patricia is an Economic Workforce Development Manager for SMPDD. Before joining the SMPDD Team, Patricia held multiple positions with the Department of Homeland Security, Federal Emergency Management Agency (FEMA). For over 15 years, Patricia gained experience with regulatory compliance and contract management for multiple funding sources including the Department of Homeland Security and Department of Labor (DOL). Her time with FEMA has allowed Patricia to gain significant understanding of quality assurance, control, and closeout. Previous to her time with FEMA, she worked for the North Central Texas Council of Governments in Workforce Development monitoring for DOL.

In her current role with SMPDD, Patricia works with local and state workforce agencies to ensure the workforce needs of our twenty-four-county workforce area are being provided. Her primary focus is implementation of federal mandated policy through the execution of the Workforce Innovation and Opportunity Act.



Mary LaRosa, CPA, CIA
Chief Finance Officer

Mary is the Chief Financial Officer (CFO) at SMPDD. Prior to joining SMPDD, Mary worked with Horne, LLP as the Compliance Supervisor for the Mississippi Development Authority's CDBG Small Rental Assistance Program, awarding and monitoring \$230 million in grants to eligible applicants affected by Hurricane Katrina. Mary also spent six years in the public accounting sector providing consulting services in tax and external audits to clients such as: local county/city governments, school districts, and other public entities. Mary earned a B.S. in Accounting from the University of Southern Mississippi, and maintains professional affiliations with: American Institute of Certified Public Accountants, Mississippi Society of Certified Public Accountants, the Institute of Internal Auditors, and the Mississippi Gulf Coast Chapter of the Institute of Internal Auditors.

CAREER HIGHLIGHTS:

Responsible for the oversight and accurate reporting of SMPDD's \$21.7M annual budget

Compliance Supervisor for \$230M in CDBG Small Rental Assistance Program funds

CERTIFICATIONS:

Licensed Certified Public Accountant, State of Mississippi No. 5566

Licensed Certified Internal Auditor, No. 125013

EDUCATION:

Bachelor of Science, Accounting, University of Southern Mississippi, 1993



CAREER HIGHLIGHTS:

Over 20 years' experience in economic and community development

Oversees and coordinates all activities for the Economic Workforce Development Division

Oversees SMPDD's \$5.2M Revolving Loan Fund Program and \$8.4M Workforce Development Program

FEMA/MEMA

Compose Hazard Mitigation Plans and Updates for local governments

CERTIFICATIONS:

International Economic Development Council, Certified Economic Developer, 2004

EDUCATION:

Bachelor of Science, Political Science, University of Southern Mississippi, 1992

Master of Science, Economic Development, University of Southern Mississippi, 1996

Allison Beasley, CECd, IOM

Director, Economic Workforce Development Division

Allison is the Economic Workforce Development Division Director for SMPDD, leading the department since 2001. With over 20 years of work experience in economic and community development, Allison also has a M.S. in Economic Development and has earned the designation of Certified Economic Developer (CECd). Allison oversees and coordinates all activities of the department for the fifteen-county planning district and twenty-four-county workforce district, including project administration; directing the activities of department personnel; preparing the department's work plan and budget; and acting as liaison between the agency and various federal, state, regional and local economic development allies. She has directed the administration and completion of a variety of complex, federally-funded projects during her tenure with SMPDD. Funding agencies have included U.S. Department of Housing and Urban Development, U.S. Department of Commerce, Economic Development Administration, U.S. Department of Agriculture, Delta Regional Authority and the Federal Emergency Management Agency. Allison also oversees SMPDD's Revolving Loan Fund Program (federally and state funded), which has a portfolio of \$5.2 million.



Emlyn Jackson

Economic Workforce Development Manager

Emlyn Jackson is an Economic Workforce Development Manager. Before joining SMPDD, Emlyn was a project manager in the Global Business Division with Mississippi Development Authority (MDA) for over 11 years. She also worked as a project manager for the Area Development Partnership, a regional economic development organization serving Perry, Forrest, and Lamar Counties. In her role at MDA, Emlyn put together very competitive incentive packages that attracted global businesses to Mississippi.

CAREER HIGHLIGHTS:

Over 22 years' experience in economic and community development.

Experience in applying for state and federal funding sources.

In her current role at SMPDD, she writes grants and works with local businesses and economic developers to ensure economic and workforce development needs are addressed to support the retention of existing business and recruitment of new business to SMPDD's twenty-four-county workforce area. Emlyn holds a Bachelor of Science in Business Administration with emphasis in Marketing Management.

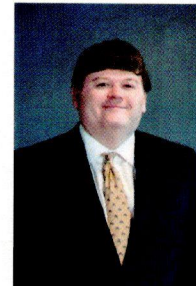
EDUCATION:

Bachelor of Science, Business Administration, (Marketing Management Emphasis)
University of Southern Mississippi

SHANE MONROE, CFE

EDUCATION

Bachelor of Business Administration (Emphasis: Finance), 2003; Delta State University, Cleveland, Mississippi



PROFESSIONAL EXPERIENCE

Mr. Monroe is a project manager with over 9 years of governmental financial monitoring and compliance experience in both the states of Mississippi and Texas. He has previously worked with both state and local governments to identify and resolve issues associated with governmental grant compliance specifically as it relates to the Stafford Act. He has experience in performing compliance reviews and audits related to all categories of FEMA Public Assistance project worksheets. Shane led a team of roughly 40 closeout specialists which worked to administer and monitor over 3,000 FEMA funded project worksheets (both large and small projects) in order to move those projects into closeout. He also worked closely with high risk applicants in order to assist them in compiling the necessary documentation to support costs related to their FEMA claims, as well as identify any potential eligible costs that were not previously captured on a project worksheet. Shane is experienced at setting up testing procedures in order to validate applicant costs for all FEMA cost types in order to mitigate risks for de-obligation. He also helped to design and implement a document management system which saved and organized documentation in a usable format, tracked the status of applicants and projects, and processed audit files for project worksheets. Shane and his teams worked to meet monthly production goals in order to closeout entire disasters for the state of Texas.

Compliance Review, Harris County, Texas (Hurricane Ike): Mr. Monroe led a team of 5 closeout specialists responsible for performing closeout reviews on behalf of the Texas Division of Emergency Management (TDEM) for Harris County, which is the largest county in state of Texas. During this time, his team focused on the closeout of Category A projects. The closeout process included the review of policies and procedures of the County, the County's supporting documentation related to those projects, and the review of the overall monitoring process utilized by the County's debris monitor contractor. Following the closeout of the project worksheets, Mr. Monroe provided consulting services on an as needed basis for Harris County. Those services included providing input related to the County's procedures for document management practices, as well as providing input into the County's overall debris management procedures.

Compliance Review, Friendswood (City of), Texas (Hurricane Ike) Mr. Monroe led a team of 4 closeout specialists responsible for performing closeout reviews on behalf of the Texas Division of Emergency Management (TDEM) for the City of Friendswood, which is located just outside of Houston, Texas. The closeout reviews focused solely on Category A and B projects for Friendswood. Following the closeout of the projects, Mr. Monroe participated in multiple follow up meetings with the City to discuss and review overall disaster recovery procedures; with a focus on the City's debris removal management plan and processes.

Compliance Review/Compliance Monitor, Galveston County, Texas (Hurricane Ike) Mr. Monroe served as the project manager for a team of 5 closeout specialists performing financial monitoring on behalf of the Texas Division of Emergency Management for Galveston County. Mr. Monroe oversaw all aspects of monitoring all of Galveston County's Hurricane Ike project worksheets. Shane assisted in writing project worksheets under the guidance of the 2013 Sandy Recovery Improvement Act Permanent Work Alternate Procedures. The primary goal of the work associated with Galveston County was to ensure that all work on the remaining project worksheets were in compliance with federal and state regulations, while ensuring those projects; moved toward FEMA closeout within the time frames set forth by FEMA.

Financial Monitor, Hancock County Board of Supervisors, Mississippi (Hurricane Katrina) Mr. Monroe served as a compliance specialist for the Hancock County BOS. During this time he compiled and reviewed the necessary documentation needed to seek reimbursement for dollars expended related to the recovery related to Hurricane Katrina. He worked on projects ranging from Category A through Category G. He provided financial monitoring on all projects written for the applicant. In addition to overseeing interim funding throughout the life of each project, Shane also assisted in moving projects into FEMA closeout. This included compiling all documentation needed to support the applicant's costs, assembling the documentation in a usable format, attending FEMA closeout meetings, and addressing any questions that arose during the closeout process.

Financial Monitor, Holmes County, Mississippi (2010 Tornado Event): Mr. Monroe served as the lead consultant for Holmes County during the tornado event of 2010 that heavily affected the Yazoo County and Holmes County areas. Shane's role included documenting all costs the County incurred as a result of the tornado. This included documenting the amount of debris present, documenting all time and costs incurred by County employees as a result of the storm, and helping to set up a system immediately following the storm to assist the County in tracking these costs. Mr. Monroe served as the liaison on behalf of Holmes County with regards to FEMA Public Assistance related items.



JACK NORRIS

EDUCATION

B.A. 1999; University of Mississippi, Oxford, Mississippi

PROFESSIONAL EXPERIENCE

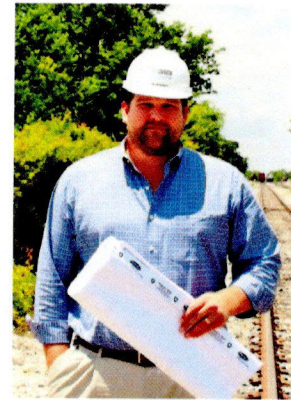
Norris is a Senior Program Manager with Covington Civil and Environmental, LLC and serves as the team lead for the firms RESTORE Act project management activities. Jack has more than 15 years of experience in managing federal and state public policy and funding initiatives. Previously, Jack served in the office of Governor Haley Barbour as Executive Director of the Governor's Office of Recovery and Renewal, coordinating Hurricane Katrina recovery efforts for the Governor's Office. His work for the Governor included resolving FEMA reimbursement disputes and high level eligibility determinations. Prior to joining the Governor's Office, Jack served on the staff of former Senator Trent Lott in Washington DC for eight years as Projects Director and Policy Advisor. In those positions, Jack worked with both state and federal agencies to resolve multi-faceted issues associated with funding and legislation associated with FEMA's Public Assistance program. Jack serves on the Mississippi State Port Authority Board of Commissioners and the Southern Rail Commission.

Office of Governor Haley Barbour, Jackson, Mississippi (Hurricane Katrina): Mr. Norris served as Director of Katrina Recovery in Governor Barbour's Office. Responsibilities included serving as the primary advisor to the Governor on implementation of recovery programs and projects. He served as the primary liaison to multiple state and federal agencies and the Congressional delegation to ensure coordination and efficient execution of projects across federally funded programs as well as resolving FEMA reimbursement disputes between local applicants such as Harrison County and FEMA. Projects were implemented at all three MS Coast Counties.

Office of Senator Trent Lott, Washington D.C.: Prior to joining the Governor's Office, Jack served on the staff of former Senator Trent Lott in Washington DC for eight years as Projects Director and Policy Advisor. In those positions, Jack worked with both state and federal agencies to resolve multi-faceted issues associated with federal funding and related legislative actions; including FEMA and other disaster recovery programs. In the aftermath of Hurricane Katrina, he served as the primary contact in Senator Lott's office for state and local entities on federal recovery programs and projects.

Ben Benvenuti, PE

Mr. Benvenuti is a professional engineer and project manager with over 9 years' experience planning, permitting, designing and managing projects along the Gulf Coast. As a project manager and professional engineer at Covington, Mr. Benvenuti provides technical guidance on the execution of complex projects. Mr. Benvenuti has direct FEMA debris monitoring and FHWA-ER experience related to Hurricane Cindy, Hurricane Katrina and Hurricane Gustav.



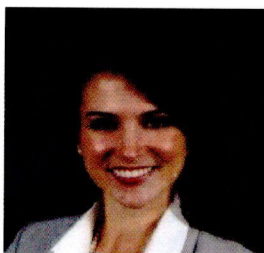
Mr. Benvenuti's Direct Experience Includes:

Ascension Parish, Louisiana (Hurricane Gustav): Following the aftermath of Hurricane Gustav in 2008, Ascension Parish received approximately \$12 million in federal aid to support their disaster debris clean-up efforts. Mr. Benvenuti served as deputy project manager and assisted in developing and creating the debris monitoring program for Ascension Parish. Responsibilities included the training of field staff positions; directing and managing sub consultants' responsibilities; truck certifications; coordinating weekly progress meetings with the client, FEMA officials and State debris officials; managing sub consultant invoices; managing the reconciliation of contractor invoices subject to client approval; and overall coordination duties. Ascension Parish was awarded 100 percent of all federal and state disaster debris funding available to them.

St. Tammany Parish, Louisiana (Hurricane Katrina): Mr. Benvenuti served as a project coordinator and roving inspector for the disaster clean-up efforts in St. Tammany Parish. Responsibilities included the training of field staff positions; directing and managing sub consultants' responsibilities; truck certifications and validate hazardous trees, including hangers, leaners and stumps.

City of Bay St. Louis, Mississippi (Hurricane Katrina): Mr. Benvenuti served as a project coordinator for the disaster clean-up efforts specific to removing debris and restoring positive drainage to the City's stormwater system. Responsibilities included the training of field staff positions; directing and managing sub consultants' responsibilities; truck certifications; coordinating weekly progress meetings with the client, FEMA officials and State debris officials; managing sub consultant invoices; managing the reconciliation of contractor invoices subject to client approval; and overall coordination duties.

Jefferson Parish, Louisiana (Hurricane Cindy): Mr. Benvenuti served as a project coordinator, loading site, disposal site and roving inspector for the disaster clean-up efforts in Jefferson Parish. Responsibilities included the training of field staff positions; directing and managing sub consultants' responsibilities; truck certifications, debris inspections and validate hazardous trees, including hangers, leaners and stumps.



FELICITY EDWARDS, CPA

EDUCATION

Graduate Certificate in Economic Development, 2015; University of Southern Mississippi, Hattiesburg, Mississippi

B.S.B.A (Financial Information Systems), 2007; University of Southern Mississippi, Hattiesburg, Mississippi

CERTIFICATIONS

Certified Public Accountant – Mississippi

FEMA Emergency Management Institute - Unified Hazard Mitigation Assistance (HMA) Project Implementation and Programmatic Closeout

U. S. Department of Housing & Urban Development Environmental Training

PROFESSIONAL EXPERIENCE

Mrs. Edwards is a certified public accountant with over 9 years of experience serving in the public and private arena. Prior to joining Covington, Mrs. Edwards most recently served as the County Administrator for Hancock County, MS where she managed the day-to-day operations of the County. In this role she managed all aspects of County government and governance for the Board of Supervisors, coordinated all meetings, workshops and action of the Board of Supervisors and supervised 12 County departments with approximately 400 employees. Prior to being named County Administrator, Mrs. Edwards served as the Chief Administrative Officer for the Hancock County Port and Harbor Commission which is the economic development organization responsible for development in Hancock County. In this role she oversaw all procurement activities and its operational units in accordance with State, Federal and Commission procurement policies. In addition to her public service, Mrs. Edwards has extensive experience managing federal grant programs such as FEMA Public Assistance, Hazard Mitigation Grant Programs and Community Development Block Grants. She spent over 6 years in the private sector managing these programs for communities in South Mississippi.

Grant Administrator - Hancock County, Mississippi (Hurricane Katrina, Isaac & Gustav):

Mrs. Edward's coordinated complete financial management of FEMA Public Assistance (PA) and Hazard Mitigation Grant Program (HMGP) funds for Hurricanes Katrina, Isaac, and Gustav. She acted as liaison between State and Federal funding agencies and County Administrator and County Elected Officials. She managed programmatic closeout for all projects with disaster

related funding sources and worked closely with Department of Homeland Security Office of Inspector General (OIG) audit team to address questions and concerns related to Hurricane Katrina projects. She effectively acted on instruction from various sources, including elected/appointed State and local officials, Federal funding agencies, and others involved in project oversight, to meet intended program goals and objectives. She demonstrated the ability to multi-task in a fast-paced and quickly evolving environment. Communicated regularly with architects, engineers, elected/appointed local officials, and State/Federal program managers to maintain an understanding of each project's status. Consolidated input from various sources to prepare reports for State and local officials, including financial reports, project status reports, and Federal/State compliance reports. She advised the County finance department on proper accounting for Federal funds and demonstrated functional knowledge of County's Accounting System (Delta Systems AS400).

CDBG Program Coordinator – Hancock County, Mississippi (Hurricane Katrina): Mrs. Edwards coordinated complete financial management of CDBG funds from the application phase to project closeout for projects located in Hancock County, MS. She developed and implemented filing protocol to maintain statutory/regulatory compliance and compliance with State and local program implementation guidance. She communicated regularly with architects, engineers, elected/appointed local officials, and State program managers to maintain an understanding of each project's status. She consolidated input from various sources to prepare reports for State and local officials, including financial reports, project status reports, and Federal/State compliance reports. Worked efficiently with outside auditors to ensure all projects meet program objectives and performed internal monitoring to verify ongoing compliance with State/Federal implementation guidance.

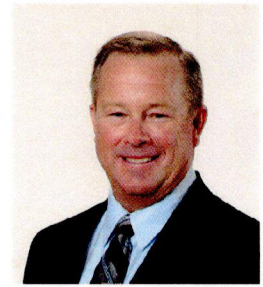
BOB GIST

EDUCATION

Bachelor of Science, Building Construction 1980, Clemson University;
Clemson, South Carolina

PROFESSIONAL EXPERIENCE

Bob Gist currently serves as a Senior Project Manager for Covington Civil & Environmental (CCE) and has more than 35 years' experience in the commercial construction industry. Prior to joining CCE, Mr. Gist spent 9 years as the Executive Vice President & Chief Operating Officer for a highly successful Gulf Coast general contractor that managed revenues totaling \$300-\$500 million dollars annually. His responsibilities included business development, construction logistics, team development, and safety compliance.



Debris Removal, Hurricane Katrina: Mr. Gist lead recovery efforts related to debris removal associated with Hurricane Katrina. He oversaw multiple debris removal crews to ensure an effective and efficient recovery process. He personally directed Hurricane Katrina restoration efforts satisfying all procurement and cost accounting requirements of the Federal Emergency Management Agency (FEMA), the Mississippi Emergency Management Agency (MEMA), Community Block Development Grant Program (CDBG), and the Mississippi Development Authority (MDA).

Sr. Project Manager, NFWF/RESTORE/NRDA Restoration: Mr. Gist works with both ownership and downstream managers to develop and define strategic visions for CCE and its continuing restoration efforts on the Mississippi Gulf Coast. In addition to his corporate leadership and technical experience in leading these strategic planning and development activities, Mr. Gist is also responsible for the development and oversight of initial budgeting, schedules, bid packages, procurement, constructability issues, safety concerns and quality control measures as they relate to all construction activities - from start-up through close-out and commissioning. Mr. Gist has a wealth of knowledge at the local, state and federal contracting levels, their construction requirements and differing delivery methods. He has been a member of the Covington restoration team since its inception and has played a major role in the development of NRDA Early Restoration projects (both restoration and recreational use loss), NFWF initiatives (from per-proposal through construction) and served on the RESTORE Council working group to develop the Bucket 1 Multi Year Implementation (MIP) requirements, Bucket 2 Funded Priorities List and the Bucket 3 formula along with its associated State Expenditure Plan (SEP) requirements. This holistic view across all funding sources allows Mr. Gist to better

coordinate leverage among the programs and provide the most comprehensive and economical restoration solution possible.

Construction Management: In his thirty plus years in the construction industry, Bob has worked at all levels from Field Engineer to Chief Operating Officer. He's overseen a wide variety of projects ranging from government funded projects to privately funded ventures. Mr. Gist has a wealth of knowledge at the local, state and federal contracting levels, their construction requirements, and was involved in the award, staffing and overall Construction Management of the Mississippi State Port project located in Gulfport, Mississippi. He is experienced in the development and implementation of processes and procedures such as corporate safety planning, monthly reporting, operational strategies/logistics, and adaptive management to name a few.

PROPOSED STRATEGY & TECHNICAL APPROACH

SMPDD will ensure FEMA Public Assistance processes are followed systematically, by coordinating a workflow. The City's policies and procedures related to emergency management

and disaster recovery assistance will be evaluated against the criteria and processes described in the FEMA Public Assistance Program and Policy Guide dated January 2016. Below is SMPDD's proposed strategy and technical approach to perform the scope of services requested to include procedures, methodologies, resources and systems.

FEMA PUBLIC ASSISTANCE ADVISORY SERVICES

SPECIFIC	PROCESS	RESPONSIBLE INDIVIDUAL(S)
Process extensive knowledge related to the Stafford Disaster Relief and Emergency Assistance Act provisions and regulations (44CFR and 2 CFR 200), Sandy Recovery Improvements Act (SRIA) of 2013 including alternative procedures for public assistance and debris removal.	SMPDD staff members possess the expertise to perform extensive reviews of FEMA Public Assistance grants, contracts, invoices, procurement, purchase orders, and proof of payment documentation for eligibility determinations and programmatic compliance. Additionally, SMPDD will provide technical assistance to City personnel on programmatic and policy issues including Hazard Mitigation Plans and the Public Assistance Alternative Procedures (PAAP) for Debris Removal and Permanent Work. SMPDD will also work closely with the DHS/FEMA Office of Inspector General proactively in order to implement OIG -15-100-D Audit Tips for Managing Disaster-Related Project Costs to comply with 2 CFR 200 and 44 CFR.	Patricia Morrison SMPDD Shane Monroe Covington Civil Environmental, LLC
Develop a process/system for the city from inception through the project closeout, to prepare and submit its PA program; this is to include documentation, procurement and contract, payroll, and grant submission support.	SMPDD will work with the City to determine the amount of work that has been performed to date, both from a recovery standpoint, as well as from a FEMA standpoint. Once we determine the status of the level of work started or completed to date, we will identify where the City stands in regard to the overall FEMA process. We will also develop an overall project timeline related to this disaster recovery utilizing written checklists.	Patricia Morrison SMPDD Shane Monroe Covington Civil Environmental, LLC
Develop processes for obtaining, analyzing and gathering field documentation including, but not limited to, records related to procured goods	As project worksheets (PWs) are written in both paper and electronic format, the SMPDD team will review the PW and determine the applicable cost types included in the project. If a PW is for work that has already been performed, the	Patricia Morrison SMPDD Shane Monroe Covington Civil Environmental,

and services, timekeeping, and force account labor and equipment; this should include processes for disaster debris monitoring services.	SMPDD team will meet with the appropriate staff from the City in order to request and gather all supporting documentation needed to support the costs incurred by the City. SMPDD will then submit the forms to FEMA via the State for approval and obligation. For projects still in progress, SMPDD will work with the City throughout the life of the project to ensure that all work performed is within the scope of the PW. Supporting documentation for project files will include but are not limited to procurement supporting documentation, proof of payment, time sheets, applicable applicant policies (personnel and procurement), invoices, applicable FEMA forms, and all other applicable documentation. A review process with checklists will be created in order to ensure that all FEMA forms are completed correctly, that all appropriate documents are signed by the appropriate people, and that all costs are supported with source documentation.	LLC
Attend all meetings with FEMA, state, and insurance representatives, as well as participate regularly with the City's designated FEMA workgroup.	The SMPDD team will identify the appropriate points of contact for all entities involved including but not limited to both MEMA and FEMA personnel in order to establish an efficient communication plan going forward for this disaster recovery effort. In addition to identifying these individuals, SMPDD will also provide contact information for all appropriate team members to the appropriate City, MEMA, and FEMA officials.	Patricia Morrison SMPDD Shane Monroe Covington Civil Environmental, LLC Emlyn Jackson SMPDD
Identify and communicate risks within the City's operation that could preclude its ability to optimize reimbursement.	In order to promote efficiency and effective communication, the SMPDD team will propose daily meetings between the appropriate SMPDD and City staff to discuss any project and program related items that need to be addressed, including any special considerations identified. As the overall recovery process matures, the daily meetings can be moved to a weekly or as needed basis.	Shane Monroe Covington Civil Environmental, LLC

Possess the expertise to assist in the preparation of accurate PA emergency and permanent work project estimates including but not limited to recognized cost estimating, developing detailed damaged descriptions, and dimensions, scope of work, and proper identification of force account labor and equipment.	The SMPDD team has written project worksheets, performed closeout reviews on project worksheets, and performed financial monitoring oversight on all categories of project worksheets. The team also has relevant experience in both Hazard Mitigation and Community Development Block Grant programs. The team also has multiple contacts not only within MEMA, but within FEMA as well. We can utilize those contacts to address any unforeseen items that might arise during the recovery process.	Shane Monroe Covington Civil Environmental, LLC Ben Benvenuti, PE Covington Civil Environmental, LLC Bob Gist Covington Civil Environmental, LLC
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FINANCIAL, PAYROLL AND GRANT MANAGEMENT

SPECIFIC TASKS	PROCESS	RESPONSIBLE INDIVIDUAL(S)
Ensure City disaster recovery and restoration processes comply with laws, regulations and guidelines to maximize reimbursement for eligible disaster expenditures and to minimize timing for reimbursement.	The SMPDD team will draw from many years of disaster recovery experience to mitigate the risk of project de-obligations. In addition to drawing from previous experience, SMPDD will refer to all applicable FEMA Public Assistance guidance to ensure compliance throughout the life of the recovery process.	Shane Monroe Covington Civil Environmental, LLC Felicity Edwards Covington Civil Environmental, LLC
Possess the expertise to assist in all disaster-recovery financial reimbursement and reporting processes from FEMA, State or other agency. Ensure there are no duplications of submission if varying agencies are involved.	The SMPDD team has written project worksheets, performed closeout reviews on project worksheets, and performed financial monitoring oversight on all categories of project worksheets. The team also has relevant experience in both Hazard Mitigation and Community Development Block Grant programs. The team also has multiple contacts not only within MEMA, but within FEMA as well. We can utilize those contacts to address any unforeseen items that might arise during the recovery process.	Shane Monroe Covington Civil Environmental, LLC Felicity Edwards Covington Civil Environmental, LLC Patricia Morrison SMPDD
Perform intervallic review and reconciliation of actual project spending to ensure project costs are accurately captured.	SMPDD will draw from its ample experience in order to perform interim financial monitoring. We will work with the State and any applicable contractors to provide any and all documentation in order to make sure the City receives all eligible reimbursement in a timely manner. We are sensitive to potential cash flow issues and we understand the importance of not only providing interim funding, but doing so while remaining in compliance with all FEMA regulations in order to mitigate the risk of cost de-obligations. The SMPDD team has ample experience working with MEMA and has an integral understanding of MEMA's process for reimbursing applicants in earlier disasters such as Hurricane Katrina.	Shane Monroe Covington Civil Environmental, LLC Felicity Edwards Covington Civil Environmental, LLC Patricia Morrison SMPDD

PROCUREMENT AND CONTRACT MANAGEMENT/MONITORING SUPPORT

SPECIFIC TASKS	PROCESS	RESPONSIBLE INDIVIDUAL(S)
Develop processes for ensuring compliance related to contract monitoring and contract close-out as required by FEMA, State, or other agencies.	The SMPDD team will draw from its multiple levels of experience to work through the close-out process for each large PW. We not only have former FEMA experience on our team, but we also have team members who have performed close-out reviews for multiple disasters. We will work to close-out the disaster event in a timely manner as that is important to the overall recovery process. We will be involved throughout the life of a PW and provide interim monitoring in order to assist in making the close-out process move quickly and to reduce the potential for de-obligations.	Patricia Morrison SMPDD Shane Monroe Covington Civil Environmental, LLC

INFORMATION TECHNOLOGY & DATA MANAGEMENT

SPECIFIC TASKS	PROCESS	RESPONSIBLE INDIVIDUAL(S)
Possess the expertise to assist City staff in the development of IT solutions that support the management and implementation of disaster recovery programs.	An Access Database can be used to track Hattiesburg PA Projects individually as required and maintain current project status updates from project formulation through the closeout process.	Patricia Morrison SMPDD Mary LaRosa SMPDD
Develop processes for the City to properly collect data and document information as necessary to optimize compliance with FEMA, state, or other agencies.	Checklists will be used to track and collect acceptable documentation for both Completed Work and Work-to-be-Completed	Patricia Morrison SMPDD Mary LaRosa SMPDD
Ensure City documentation is sufficient to respond to Office Inspector General (OIG) audits and reviews).	The team's experience includes conducting forensic accounting/analysis in preparation for OIG audits, arbitration cases, and the appeal process.	Patricia Morrison SMPDD Mary LaRosa SMPDD

INSURANCE AND OTHER FUNDING SUPPORT

SPECIFIC TASKS	PROCESS	RESPONSIBLE INDIVIDUAL(S)
Review and understand the City's insurance coverage in order to ensure the City's disaster recovery and restoration processes comply with laws, regulations and guidelines as required by FEMA, state, or other agencies.	SMPDD will review the City's insurance coverage and claims for any potential duplication of benefits contained in PWs and make the necessary reductions to ensure it complies with the City and laws, regulations and guidelines required by FEMA, state, or other state agencies. SMPDD will also review for setting mandatory wind/flood insurance requirements.	Shane Monroe Covington Civil Environmental, LLC Patricia Morrison SMPDD Mary LaRosa SMPDD
Develop process to assist the City in routing eligible expenses correctly, including insurance coverage guidelines.	After verifying that the City meets FEMA laws, guidelines, and regulations, SMPDD will route eligible projects by utilizing a spreadsheet to capture all insurance proceeds received for storm damages and allocate the reductions to each PW.	Shane Monroe Covington Civil Environmental, LLC Patricia Morrison SMPDD Jack Norris Covington Civil Environmental, LLC
Possess the expertise to assist the City with identifying other disaster recovery funding opportunities, including Community Development Block Grant Disaster Recovery programs.	SMPDD has expertise in identifying state and federal disaster recovery funding. SMPDD will identify and assist the City in applying for any additional disaster recovery funding. For example, SMPDD assisted in the application of Katrina CDBG finds for the Ohr-O'Keefe Museum of Art in Biloxi.	Allison Beasley SMPDD Felicity Edwards Covington Civil Environmental, LLC Emlyn Jackson SMPDD
Ensure there are no duplications of funding or submissions if varying agencies are involved.	SMPDD will monitor and work with the City's disaster recovery workgroup to ensure there is no duplication of funding, using a spreadsheet and/or database to track information.	Shane Monroe Covington Civil Environmental, LLC Patricia Morrison SMPDD

HAZARD MITIGATION SUPPORT

SPECIFIC TASKS	PROCESS	RESPONSIBLE INDIVIDUAL(S)
Provide expertise in identifying developing and evaluating opportunities for the development of hazard mitigation programs to reduce or eliminate risk from future events.	SMPDD will conduct a review of the full damage assessment in comparison to the current hazard mitigation plans that exist for the City. This will likely include a review of both the Forrest County Plan and the Lamar County Plan. Having written many plans over the years, SMPDD can offer any suggestions or revisions that may be necessary to update the plans. While plans should be updated every five years, it is a good practice to evaluate them after a disaster. It may be determined that new programs need to be included that can help reduce or eliminate risk from future events.	Allison Beasley SMPDD Felicity Edwards Covington Civil Environmental, LLC
Possess the expertise to assist the City is preparing relevant documentation and analysis related to hazard mitigation grant programs.	In addition to having authored hazard mitigation plans, SMPDD has also helped to secure funding under the Hazard Mitigation Grant Program for specific projects. SMPDD will review the damage assessment for Disaster #4295 and work with City officials to determine the needs. SMPDD will then refer to the existing hazard mitigation plans to see if the projects/activities needed are listed in the plan. SMPDD will prepare all documentation in qualifying any projects/activities for funding including grant applications and other related documents.	Allison Beasley SMPDD Felicity Edwards Covington Civil Environmental, LLC
Ensure City hazard mitigation programs comply with laws, regulations and guidelines as required by FEMA, state or other agencies.	While not a FEMA requirement, SMPDD is a proponent of integrating hazard mitigation plans with jurisdictional comprehensive plans. As part of the hazard mitigation support function, SMPDD can review both documents for the City to highlight connections as well as identify any gaps or inconsistencies in the two plan types. SMPDD has conducted and published such research for the six coastal Mississippi counties and 15 municipalities in July 2013. SMPDD will ensure that the City complies	Allison Beasley SMPDD Felicity Edwards Covington Civil Environmental, LLC

	with the laws, regulations and guidelines as required by FEMA, MEMA or other agencies.	
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EMERGENCY MANAGEMENT SUPPORT SERVICES

SPECIFIC TASKS	PROCESS	RESPONSIBLE INDIVIDUAL(S)
Provide expertise related to post-disaster recovery continuity of operation, training, development of teams, monitoring, review and test of plans related to future events.	SMPDD will review and evaluate existing post disaster recovery plan continuity of operation and determine if additional training and monitoring of the plan is needed and access if the plans are satisfactory future events.	Emlyn Jackson SMPDD Shane Monroe Covington Civil Environmental Staff

2 CFR 200 COMPLIANCE LANGUAGE PROCRUEMENTS

SMPDD will strictly adhere to the “2 CFR 200” procurement rule. This includes following the strictest provisions of Federal, State, and Local procurement rules, regulations and/or ordinances, etc.

VENDOR BILLING

SMPDD does not anticipate indirect vendor billing. If indirect billing is necessary, the vendor will be pre-approved by the City. All invoices will be categorized by project code and include name, position, billing rate, total hours and costs.

BYRD ANTI-LOBBYING AMENDMENT

SMDPP will abide by the Byrd Anti-Lobbying Amendment by the Lobbying Disclosure Act of 1995, which prohibits the use of appropriated funds by recipients of a Federal contract for purposes of influencing or attempting to influence federal officials in connection with a “federal action”, such as the rewarding of a “Federal Contract”.

SUSPENSION AND DEBARMENT

SMPDD verifies that all members on the disaster recovery consulting team are in good standing and have not been suspended or disbarred from doing business with federal and state programs.

SUB-CONTRACTORS

Covington Civil Environmental (Covington) will assist SMPDD with the disaster recovery consulting services. Covington will provide expertise with FEMA rules and regulations and engineering support. SMPDD has provided the credentials for Covington Civil Engineers in the Qualifications and Experience section of this proposal.

AUDITING HISTORY

During the period of the consulting services, SMPDD will represent the City and serve as the liaison between federal, state, and local governments. SMPDD will attend and facilitate meetings as necessary for the City's designated FEMA workgroup to educate them on the programs and discuss policy recommendations. SMPDD staff will ensure the City of Hattiesburg is in compliance with all laws, statutes, regulations, and rules pertaining to FEMA policies and guidelines. SMPDD will also assist in identifying and communicating risks within the City's operation that could prohibit its ability to optimize reimbursement.

SMPDD will utilize the experience of its staff to review and evaluate the performance of grant related projects and programs.

Fiscal management of FEMA funds executed by SMPDD and on behalf of the City will have oversight and review of the SMPDD Chief Finance Officer and staff. SMPDD will monitor and maintain accurate accounting of FEMA funds and report the funding status to the City on a recurring basis decided upon by the City. SMPDD will work with the City's private auditors in their compilation efforts and will provide all necessary information for the preparation of the City audits.

SMPDD will complete the closeout process on behalf of the City. SMPDD will utilize its staff for the completion of all necessary closeout paperwork to ensure FEMA funds have been closed out in accordance with the program requirements. SMPDD will then send a closeout confirmation to the City point-of-contact once all of the closeout requirements have been met.

SMPDD experience and staff capacity is sufficient to meet the needs of the City of Hattiesburg for the disaster recovery consulting services described in the Qualifications and Experience section of the proposal. SMPDD has a multitude of in-house capabilities, built from years of experience in the management and oversight of local, state and federally funded programs.

Staffing levels at SMPDD are sufficient to manage current projects and to introduce new programs, allowing SMPDD to administer grants in a timely and efficient manner on behalf of the City. The key personnel that will supply the necessary services to the City can be found in the Qualifications and Experience section of the proposal.

Included in the proposal is a copy of SMPDD's Audited Financial Statements and Supplementary Information dated September 2016.

PROPOSED PRICING

An Hourly Rate Sheet is attached consisting of billable hourly rates for each person assigned to the Project. The rate includes all costs, work, insurance, fringes supervision, engineering and overhead and profit.

SOCIOECONOMIC CONTRACTORS

As a non-profit agency, SMPDD has not sought MBE/WBE/DBE certification. However, we fully support the certification and have for many years facilitated a minority loan program. It should also be noted that in the event vendors must be procured under this contract, SMPDD will make an effort to seek MBE/WBE/DBE certified companies.

ADMINISTRATIVE INFORMATION

Proof of Liability Insurance and its Limits

Drug Free Work Place Form

RFP Affidavit

RFP Affidavit of Solvency

Conflict of Interest Disclosure Form

Acknowledged Addenda

Certificate of Registration

System of Award Management Dashboard

Hourly Rate Form

2016 SMPDD Financial Audit

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Acknowledged Addenda

Certificate of Registration
System of Award Management Dashboard
2016 SMPDD Financial Audit

EXHIBIT A

ATTACHMENT A
HOURLY RATE FORM

Key Program Management Personnel: The Proposer shall identify Key Program Management Personnel for the Project. Provide detailed resumes (limited to two pages) of Key Program Management showing related experience.

PROGRAM MANAGEMENT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Program Manager	Patricia Morrison	Gulfport, MS	\$75.00
Deputy Program Manager	Shane Monroe	Gulfport, MS	\$145.00
Program Administrator	Felicity Edwards	Gulfport, MS	\$135.00
Project Coordinator	Emlyn Jackson	Hattiesburg, MS	\$75.00

Other Program Staff: The Proposer shall identify Other Program Staff's hourly rate. The Proposer may add additional lines if necessary.

CONSTRUCTION & OPERATIONS

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Cost Estimating On Site Inspector	Bob Benvenuti	Gulfport, MS	\$165.00
Construction Manager Resident Engineer	Bob Gist	Gulfport, MS	\$165.00

PROGRAM & ADMINISTRATIVE SUPPORT

<u>Position</u>	<u>Name</u>	<u>City/State</u>	<u>Hourly Rate</u>
Financial Lead Project Manager	Mary LaRosa	Gulfport, MS	\$75.00
FEMA Coordination Subject Matter Expert Funding Assistance Database Manager	Patricia Morrison	Gulfport	\$75.00
Procurement and Contracting Scheduling Administrative Assistance Senior Adviser	Jack Norris	Gulfport, MS	\$135.00

All hourly rates provided shall be inclusive of all expenses incurred. Submitted by:



 Authorized Signature, Title

Executive Director

April 5, 2017

Date

Southern Mississippi Planning and Development District

 Consultant Firm Business



PO Box 59689 Birmingham, AL 35259-9689 Phone: (800) 824-1709 Fax: (205) 879-3739

QUOTATION CONFIRMATION

Apr 04, 2017

ATTN: Lisa Joiner
EMAIL: lisa.joiner@bxsi.com
AGENCY: Stewart Sneed Hewes - Gulfport

SUBMISSION #:6065638

QUOTATION EXP DATE: 5/4/17

Dear Lisa,

We are pleased to confirm the following quotation that has been received from the carrier shown below. Please note that this quotation is based on the coverage, terms and conditions listed below, which may be different from those requested in your original submission. As you are the representative of the Insured, it is incumbent upon you to review the terms of this quotation carefully with your Insured, and reconcile any differences from the terms requested in the original submission. CRC Insurance Services, Inc. disclaims any responsibility for your failure to reconcile with the Insured any differences between the terms quoted below and those terms originally requested. THIS COVERAGE MAY NOT BE BOUND WITHOUT A FULLY EXECUTED BROKERAGE AGREEMENT.

The terms of the quotation are as follows:

Insured Name: Southern Mississippi Planning & Development District, Inc.

Carrier: Landmark American Insurance Company NAIC: 33138

Coverage: E&O - Primary

Term: 4/4/2017 to 4/4/2018

Limit: \$1,000,000 Each Claim Limit
\$1,000,000 Aggregate Limit:

SIR: \$2,500 Per Claim: Applies to Indemnity and Expense

Terms & Conditions: The Insurance Carrier indicated in this quotation reserves the right, at its sole discretion, to amend or withdraw this quotation if it becomes aware of any new, corrected or updated information that is believed to be a material change and consequently would change the original underwriting decision.

****CRC TO FILE TAXES****

SUBJECT TO PRIOR TO BINDING:

1. Written request to bind.
2. Premium due upon receipt of invoice.
3. Copy of agent's MS surplus lines license.

Professional Services: PROJECT MANAGEMENT TO 3RD PARTIES

Form: RSG 51025 0215 Miscellaneous Professional Liability Coverage Form Claims Made and Reported Basis

Retroactive Date: INCEPTION

Claim Expenses are within the Limits of Liability

Extended Reporting Period Options: 12, 24, or 36 months for an additional premium not to

exceed 100%, 150%, or 175% of the annual / policy premium

25% MINIMUM EARNED PREMIUM UPON BINDING.

Based on the insured mailing address we have tentatively identified the Home State as MS. If there are no exposures in MS we will identify the state with the largest exposure as the Home State.

Please read all terms and conditions shown above carefully as they may not conform to specifications shown on your submission.

Endorsements: RSG 56015 1009 Construction and Project Management Additional Exclusions Endorsement
RSG 54025 0405 Minimum Retained Premium
RSG 99082 0106 Mississippi Surplus Lines Disclosure Notice
RSG 56058 0903 Nuclear Energy Liability Exclusion
RSG 94022 0407 Service Of Suit
RSG 56121 0216 Violation of Consumer Protection Laws Exclusion

NOTE: If insured is located outside your resident state, we must receive a copy of your non-resident license prior to binding.

If coverage is elected, please note:

This insurance policy is issued pursuant to Mississippi law covering surplus lines insurance. The company issuing the policy is not licensed by the State of Mississippi, but is authorized to do business in Mississippi as a nonadmitted company. The policy is not protected by the Mississippi Insurance Guaranty Association in the event of the insurer's insolvency.

Premium:	\$5,000.00
Policy Fee	\$500.00
Surplus Lines Tax	\$220.00
Stamping Office Fee:	\$13.75
MWUA Hurricane tax:	\$165.00
Total:	\$5,898.75

GRAND TOTAL: \$5,898.75

Commission: 10%

CRC is compensated in a variety of ways, including commissions and fees paid by insurance companies and fees paid by clients. Some insurance companies pay brokers supplemental commissions (sometimes referred to as "contingent commissions" or "incentive commissions"), which is compensation that is based on a broker's performance with that carrier. These supplemental commissions may be based on volume, profitability, retention, growth or other measures. Even if a contingent commission agreement exists with a carrier, we recognize that our responsibility is to promote the best interests of the policyholder in the selection of an insurance company. For more information on CRC's compensation, please contact your CRC broker.

Financing Insurance Premiums

Premium financing budgets insurance payments and improves liquidity for other business objectives: working capital, business growth, building expansion.

If your clients choose to pay their insurance in monthly installments, it's fast and easy with AFCO & Prime Rate Insurance Premium Finance Companies, which are affiliates of CRC. AFCO provides premium financing solutions for large and mid-size corporate accounts; Prime Rate offers solutions for smaller commercial and personal lines.

Find out how premium financing works and how it can expand your relationship with your clients by e-mailing premiumfinance@afco.com; or call toll- free [866-669-0937](tel:866-669-0937) and press 81. Additional information is available at www.afco.com and www.primeratepfc.com.

AGAIN, KEEP IN MIND THAT THE COVERAGES OFFERED IN THIS QUOTATION MAY DIFFER FROM THAT REQUESTED IN THE APPLICATION. FAILURE TO PROVIDE THE REQUESTED COVERAGE SHALL IMPOSE NO LIABILITY ON CRC INSURANCE SERVICES, INC. OR ITS COMPANIES.

Thank you for giving us the opportunity to work on your business.

Quotation confirmed by: *Truitt Taylor*
Apr 04, 2017

Email: *TrTaylor@crcins.com*

Submission #: 6065638 Southern Mississippi Planning & Development District, Inc.

Agency Response: ☐ Yes, please bind as per QUOTE, effective: _____
(complete and email back)

Signed by: _____ Date: _____

CONFIDENTIAL



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
4/4/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER BancorpSouth Insurance Services, Inc. Stewart Sneed Hewes - Gulfport 2909 13th Street, 4th Floor Gulfport MS 39501		CONTACT NAME: Ryan Bolton PHONE (A/C, No, Ext): 228-863-5362 E-MAIL: ryan.bolton@bxsi.com ADDRESS: ryan.bolton@bxsi.com		FAX (A/C, No): 228-863-1957
INSURED SOUTMIS-30 Southern Mississippi Planning and Development D 9229 Highway 49 Gulfport MS 39503		INSURER(S) AFFORDING COVERAGE		NAIC #
		INSURER A : Union Insurance Company		25844
		INSURER B : QBE Specialty Insurance Company		11515
		INSURER C : AmFed National Insurance Co.		11208
		INSURER D : RSUI Indemnity Company		22314
		INSURER E :		
		INSURER F :		

COVERAGES

CERTIFICATE NUMBER: 317407232

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☒ LOC OTHER:		CPA427742543	10/1/2016	10/1/2017	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$100,000 MED EXP (Any one person) \$5,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
A	AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY		CPA4277425	10/1/2016	10/1/2017	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE DED ☐ RETENTION \$		MQSX0000543100	10/1/2016	10/1/2017	EACH OCCURRENCE \$3,000,000 AGGREGATE \$3,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ Y ☒ N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	WC216-0019390	10/1/2016	10/1/2017	PER STATUTE ☐ OTH-ER ☐ E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
D	Directors and Officers Liability Employment Practices Liability		NHP669594	10/1/2016	10/1/2017	Each Claim 3,000,000 Each Claim 3,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

Southern Mississippi Planning & Development District
9229 Highway 49
Gulfport MS

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Mark Schaezel

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**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

Company Name: Southern Mississippi Planning and Development District

City of Hattiesburg Drug-Free Workplace Form

The undersigned firm hereby certifies that

Southern Mississippi Planning and Development District does:
Name of Firm

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the danger of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the contractual services that are described in the City's request for proposals to provide bond underwriter services a copy of the statement specified in paragraph 1.
4. In the statement specified in paragraph 1, notify the employees that, as a condition of working on the contractual services described in paragraph 3, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of the State of Mississippi, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction or plea.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.
6. Consistent with applicable provisions with State or Federal law, rule, or regulation, make a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1 through 5.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.



Signature

4-4-17

Date

**REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES**

AFFIDAVIT

TO: CITY OF HATTIESBURG
HATTIESBURG, MISSISSIPPI

At the time the proposal is submitted, the Respondent shall attach to his proposal a sworn statement.

The sworn statement shall be an affidavit in the following form, executed by an officer of the firm, association or corporation submitting the proposal and shall be sworn to before a person who is authorized by law to administer oaths.

STATE OF Mississippi CITY OF Gulfport. Before me, the undersigned authority, personally appeared Leonard Bentz who, being duly sworn, deposes and says he is Executive Director of Southern Mississippi Planning and Development District the respondent submitting the attached proposal for the services covered by the RFP documents for RFP No: 4295 DISASTER RECOVERY CONSULTING SERVICES.

The affiant further states that no more than one proposal for the above referenced project will be submitted from the individual, his firm or corporation under the same or different name and that such respondent has no financial interest in the firm of another respondent for the same work, that neither he, his firm, association nor corporation has either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this firm's proposal on the above described project. Furthermore, neither the firm nor any of its officers are debarred from participating in public contract lettings in any other state.

Southern Mississippi Planning and Development District
(Proposer)

By 

Executive Director
(Title)

STATE OF MS

COUNTY OF Harrison

Subscribed and sworn to before me this 4th day of April, 2017, by Leonard Bentz who personally appeared before me at the time of notarization, and who is personally known to me or who has produced _____ as identification.


Notary Public

My commission expires July 13, 2017

VENDOR ON ALL CITY PROJECTS MUST EXECUTE AND ATTACH THIS AFFIDAVIT TO EACH PROPOSAL.

**REQUEST FOR PROPOSALS (RFP) NO: 4295 DISASTER
RECOVERY CONSULTING SERVICES**

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF Southern Mississippi Planning and Development District, being of lawful age and being duly sworn I, Leonard Bentz, as Executive Director hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this 4th day of April, 2017.

STATE OF MS
COUNTY OF Harrison

Signature of Affiant

Subscribed and sworn to before me this 4 day of April, 2017, by Leonard Bentz
who personally appeared before me at the time of notarization, and who is personally known to me or who has produced
_____ as identification.

Notary Public ID # 93595

My commission expires: July 2017

REQUEST FOR PROPOSALS (RFP) NO: 4295
DISASTER RECOVERY CONSULTING SERVICES

City of Hattiesburg Conflict of Interest Disclosure Form

Project (RFQ, RFP, BID) Number/Description: #4295 Disaster Recovery Consulting Services

The term "conflict of interest" refers to situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting a consultant's/contractor's professional judgment in completing work for the benefit of the City of Hattiesburg ("City"). The bias such conflicts could conceivably impart may inappropriately affect the goals, processes, methods of analysis or outcomes desired by the City.

Consultants/Contractors are expected to safeguard their ability to make objective, fair, and impartial decisions when performing work for the benefit of the City. Consultants/Contractors, therefore must there avoid situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting the consultant's/contractor's professional judgement when completing work for the benefit of the City.

The mere appearance of a conflict may be as serious and potentially damaging as an actual distortion of goals, processes, methods of analysis or outcomes. Reports of conflicts based upon appearances can undermine public trust in ways that may not be adequately restored even when the mitigating facts of a situation are brought to light. Apparent conflicts, therefore, should be disclosed and evaluated with the same vigor as actual conflicts.

It is expressly understood that failure to disclose conflicts of interest as described herein may result in immediate disqualification from evaluation or immediate termination from work for the City.

Please check the appropriate statement:

☒ I hereby attest that the undersigned Respondent has no actual or potential conflict of interest due to any other clients, contracts, or property interests for completing work on the above referenced project.

☐ The undersigned Respondent, by attachment to this form, submits information which may be a potential conflict of interest due to other clients, contracts or property interests for completing work on the above referenced project.

Legal Name of Respondent: Southern Mississippi Planning and Development District

Authorized Representative(s) :  Leonard Bentz, Executive Director
Signature Print Name/Title

Signature Print Name/Title



DELBERT HOSEMAN
Secretary of State

This is not an official certificate of good standing.

Name History

Name	Name Type
SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.	Legal

Business Information

Business Type:	Non Profit Corporation
Business ID:	402246
Status:	Good Standing
Effective Date:	11/10/1966
State of Incorporation:	Mississippi
Principal Office Address:	710 N MAIN ST HATTIESBURG, MS 39401-3430

Registered Agent

Name
Bentz, Leonard , II 9229 U.s. Highway 49 Gulfport, MS 39503

Officers & Directors

Name	Title
DILLARD MCMULLAN 407 BROADWAY DRIVE HATTIESBURG, MS	Incorporator
MARTIN STEGENGA 316 NORTH 38TH AVENUE HATTIESBURG, MS	Incorporator
TRAVIS D PITTMAN 801 SOUTH 17TH AVENUE	Incorporator



Entity Overview Details

DUNS: 069386001
CAGE: 591J3
Status: Active

9229 HWY 49
GULFPORT, MS, 39503 - 4317
UNITED STATES

D&B Legal Business Name: SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.
Doing Business as: (none)

Core Data

Business Information:

Business start date: 04/01/1967
Fiscal year end close date: 09/30
Company Division Name:
Company Division Number:
Corporate URL:
Congressional District: MS 04
Registration Date: 11/17/2008
Activation Date: 07/18/2016
Expiration Date: 07/18/2017
Renewal Date: 07/18/2016
MPIN: smpddgpt9

Physical Address:

Address line 1: 9229 HWY 49
City: GULFPORT
State: MS
ZIP/ Postal Code: 39503 - 4317
Country: UNITED STATES

Mailing Address:

Address line 1: 9229 HIGHWAY 49
City: GULFPORT
State: MS
ZIP/ Postal Code: 39503 - 4317
Country: UNITED STATES

Sensitive Information:

EIN: 640441554

IRS Consent:

Tax payer name: SOUTHERN MS PLANNING AND DEVELOPMENT
Address Line 1: 9229 HIGHWAY 49
Address Line 2:
City: GULFPORT
State: MS
Country: UNITED STATES
Zip/Postal Code: 39503 -
Type of Tax: Applicable Federal Tax
Tax Year (Most Recent Tax Year): 2007
Name of individual executing consent: BETSY HOLMES
Title of the individual executing consent: DEPUTY DIRECTOR
Signature: BETSY HOLMES
Tin consent date: 08/18/2015

CAGE/NCAGE Code:

CAGE : 591J3

General Information

Country of Incorporation: UNITED STATES
State of Incorporation: MS
Company Security Level:
Highest Employee Security Level:

Business Types:

For more information on an entity's socio-economic status please see SBA's Dynamic Small Business Search.

Entity Structure
Corporate Entity (Tax Exempt)
Entity Type
Business or Organization
Profit Structure
Non-Profit Organization
Purpose of Registration
Federal Assistance Awards

**SOUTHERN MISSISSIPPI PLANNING
AND DEVELOPMENT DISTRICT, INC.**

**AUDITED FINANCIAL STATEMENTS
AND SUPPLEMENTARY INFORMATION**

Year Ended September 30, 2016

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

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HATTIESBURG
2 SOUTHERN POINTE PARKWAY
SUITE 100
HATTIESBURG, MS 39401
P. O. DRAWER 15099
HATTIESBURG, MS 39404-5099
T 601.264.3519
F 601.264.3642
TOLL-FREE 877.842.7137

MEMBERS
AMERICAN INSTITUTE OF CERTIFIED
PUBLIC ACCOUNTANTS
MISSISSIPPI SOCIETY OF CERTIFIED
PUBLIC ACCOUNTANTS



TOPP McWHORTER HARVEY PLLC
CERTIFIED PUBLIC ACCOUNTANTS
www.tmhcpas.com

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P. O. BOX 609
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T 601.736.3449
F 601.736.0501

GULFPORT
2019 23RD AVENUE
GULFPORT, MS 39501
P. O. BOX 1842
GULFPORT, MS 39502
T 228.864.1779
F 228.864.3850

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.
Gulfport, Mississippi

Report on the Financial Statements

We have audited the accompanying financial statements of Southern Mississippi Planning and Development District, Inc. (a nonprofit organization), which comprise the statement of financial position as of September 30, 2016, and the related statements of activities, functional expenses, and cash flows for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Southern Mississippi Planning and Development District, Inc. as of September 30, 2016, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The accompanying schedule of expenditures of federal awards, as required by Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance), is presented for purposes of additional analysis and is not a required part of the financial statements.

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.

Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated, in all material respects, in relation to the financial statements as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated January 20, 2017, on our consideration of Southern Mississippi Planning and Development District, Inc.'s internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Southern Mississippi Planning and Development District, Inc.'s internal control over financial reporting and compliance.

Hattiesburg, Mississippi
January 20, 2017

Topp McWhorter Harvey, PLLC

EXHIBIT A

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

**STATEMENT OF FINANCIAL POSITION
SEPTEMBER 30, 2016**

ASSETS

Cash and cash equivalents:	
Unrestricted	\$ 7,638,297
Temporarily restricted	2,113,369
Receivables:	
Reimbursable costs	2,596,424
Interest, unrestricted	1,195
Interest, temporarily restricted	54,212
Employee	1,455
Other	139,667
Notes receivable, unrestricted	559,307
Notes receivable, temporarily restricted, less allowance of \$320,009	7,301,427
Prepaid expenses	56,936
Property and equipment, net of accumulated depreciation of \$995,440	2,880,977
Equipment acquired using federal, state, and restricted local funds	515,767
Other assets	42,932
Cash held in escrow, temporarily restricted	451,835
Total assets	\$ 24,353,800

LIABILITIES AND NET ASSETS

Accounts payable	\$ 478,004
Deferred revenue	50,100
Compensation and related withholdings	825,315
Accrued expenses	133,211
Notes payable to bank	144,279
Total liabilities	<u>1,630,909</u>
Net assets:	
Unrestricted	12,473,770
Temporarily restricted	10,249,121
Total net assets	<u>22,722,891</u>
Total liabilities and net assets	\$ 24,353,800

See accompanying notes to financial statements.

EXHIBIT B

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.
STATEMENT OF ACTIVITIES
YEAR ENDED SEPTEMBER 30, 2016

<i>Unrestricted support and revenue:</i>	
Contracts and grants	\$ 21,420,205
Support by local governments and subcontractors, including per capita assessments	1,328,303
Service fees	145,798
Interest income	47,164
Other	364,111
Total unrestricted support and revenue	<u>23,305,581</u>
<i>Net assets released from restriction</i>	<u>366,205</u>
<i>Expenses (unrestricted activity):</i>	
Economic development	201,220
Workforce development	8,411,418
Geographic information systems	49,805
Revolving loan program	366,205
Area agency on aging	5,190,556
Medicaid waiver	7,960,234
Business outreach	509,486
Management and general	241,723
Total expenses	<u>22,930,647</u>
<i>Increase in unrestricted net assets</i>	<u>741,139</u>
<i>Temporarily restricted net assets:</i>	
Interest	338,596
Loan fees	34,087
Net assets released from restriction	(366,205)
Net increase in equipment purchased with federal and state funds	2,720
	<u>9,198</u>
<i>Increase in temporarily restricted net assets</i>	<u>9,198</u>
<i>Increase in net assets</i>	750,337
<i>Net assets at beginning of year</i>	<u>21,972,554</u>
<i>Net assets at end of year</i>	<u><u>\$ 22,722,891</u></u>

See accompanying notes to financial statements.

EXHIBIT C

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

**STATEMENT OF CASH FLOWS
YEAR ENDED SEPTEMBER 30, 2016**

Cash flows from operating activities:

Increase in net assets	\$ 750,337
Adjustments to reconcile increase in net assets to net cash provided by operating activities:	
Depreciation	87,718
Provision for loan losses	180,759
Cost of federal asset dispositions	1,909
(Increase) decrease in:	
Receivables	1,041,476
Prepaid expenses	304,796
Deposits	(37,442)
Held in escrow	(451,835)
Increase (decrease) in:	
Accounts payable	(28,811)
Deferred revenue	17,677
Accrued expenses	37,266
Compensation and related withholdings	62,885
Net cash provided by operating activities	<u>1,966,735</u>

Cash flows from investing activities:

Disbursement of notes receivable, temporarily restricted	(2,897,283)
Repayments of notes receivable, temporarily restricted	522,868
Repayments of notes receivable, unrestricted	18,309
Purchase and construction of fixed assets	(2,347,114)
Purchase of temporarily restricted equipment	(4,629)
Net cash (used) by investing activities	<u>(4,707,849)</u>

Cash flows from financing activities:

Payments on notes payable to bank	(13,118)
Net cash (used) by investing activities	<u>(13,118)</u>

See accompanying notes to financial statements.

EXHIBIT C
PAGE TWO

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

**STATEMENT OF CASH FLOWS
YEAR ENDED SEPTEMBER 30, 2016**

<i>Net decrease in cash and cash equivalents</i>	\$ (2,754,232)
<i>Cash and cash equivalents - beginning of year</i>	<u>12,505,898</u>
<i>Cash and cash equivalents - end of year</i>	<u><u>\$ 9,751,666</u></u>
<i>Reconciliation of cash and cash equivalents</i>	
Unrestricted cash and cash equivalents	\$ 7,638,297
Temporarily restricted cash and cash equivalents	<u>2,113,369</u>
<i>Total cash and cash equivalents at year end</i>	<u><u>\$ 9,751,666</u></u>
<i>Supplemental information:</i>	
<i>Non-cash transactions</i>	
Acquisition of vehicles through direct financing	<u><u>\$ 157,397</u></u>

See accompanying notes to financial statements.

EXHIBIT D

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

STATEMENT OF FUNCTIONAL EXPENSES
YEAR ENDED SEPTEMBER 30, 2016

	ECONOMIC WORKFORCE DEVELOPMENT DIVISION				SENIOR SERVICES DIVISION				Business Outreach Division	Total Program	Management & General	Indirect	Total Support	Total	
	Economic Development	Workforce Development	Geographic Information Systems	Revolving Loan Program	Area Agency on Aging	Medicaid Waiver									
Client meals	\$ -	\$ -	\$ -	\$ -	\$ 1,174,642	\$ 1,270,737	\$ -	\$ -	\$ 53,212	\$ 2,445,379	\$ 5,578	\$ 118,147	\$ -	\$ -	\$ 2,445,379
Contractual services	3,072	11,390	-	330	-	-	-	-	-	68,004	5,578	118,147	-	123,725	191,729
Depreciation	-	-	-	-	-	18,785	-	-	-	18,785	42,845	26,288	-	68,933	87,718
Equipment purchase	36,297	187,721	7,124	33,278	34,010	1,120,148	1,220	79,805	1,220	4,630	-	-	-	4,630	-
Indirect	-	14,928	-	-	232,975	42,996	-	-	-	1,697,348	-	(1,697,348)	-	(1,697,348)	-
Insurance and taxes	-	7,600	-	-	465	58,389	-	-	-	58,389	14,127	89,786	-	103,913	162,302
Occupancy	-	81,165	-	-	1,650	65,450	-	-	-	74,700	-	-	-	-	74,700
Other	994	6,255,347	10,700	184,609	114,748	81,529	-	1,526	-	475,271	39,913	99,814	-	139,727	614,998
Payments to subcontractors	145,190	1,712,043	28,496	133,112	2,541,580	539,144	-	42,215	-	9,379,286	-	1,091,464	-	1,091,464	9,379,286
Personnel	867	4,052	55	560	931,901	4,480,594	-	319,221	-	7,750,557	203	5,389	-	5,592	8,842,021
Postage	-	840	-	2,782	9,092	4,556	-	1,205	-	20,387	-	122,576	-	122,576	25,979
Professional and consulting	-	840	-	2,782	5,231	5,231	-	1,272	-	10,125	-	23,308	-	23,308	132,701
Supplies	890	16,036	2,078	472	27,470	57,616	-	1,441	-	106,003	2,490	25,113	-	25,113	131,801
Telephone	744	2,552	-	600	540	43,011	-	600	-	48,047	-	25,113	-	25,113	73,160
Training and conferences	1,998	40,060	475	2,617	23,884	6,525	-	1,421	-	80,000	91,375	27,701	-	119,076	199,076
Travel	11,168	73,758	877	7,845	126,600	187,135	-	6,348	-	413,731	45,392	45,243	-	90,635	504,366
Utilities	-	2,906	-	-	1,599	33,777	-	-	-	38,262	-	22,519	-	22,519	60,801
	\$ 201,220	\$ 8,411,418	\$ 49,805	\$ 366,205	\$ 5,190,556	\$ 7,960,234		\$ 509,486		\$ 22,688,924	\$ 241,723	\$ -	\$ 241,723	\$ 22,930,647	

See accompanying notes to financial statements.

NOTES TO FINANCIAL STATEMENTS

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

NOTES TO FINANCIAL STATEMENTS YEAR ENDED SEPTEMBER 30, 2016

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Southern Mississippi Planning and Development District, Inc. (SMPDD) is a nonprofit organization formed for the purpose of civic improvement and economic development of 15 counties in the State of Mississippi. SMPDD is funded by federal and state contracts and grants and support of local governments.

Basis of Accounting - The financial statements of SMPDD have been prepared using the accrual basis of accounting and accordingly reflect all significant receivables, payables, and other liabilities.

The accounts of SMPDD are maintained in accordance with the principles of fund accounting. Under fund accounting, resources for various purposes are classified for accounting and reporting purposes into funds established according to their nature and purpose. Separate accounts are maintained for each fund; however, in the accompanying financial statements, funds have been combined and presented for the SMPDD as a whole as defined by the Financial Accounting Standards Board's (FASB) ASC 958-205.

Use of Estimates - The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of support and revenue and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents - For purposes of the Statement of Cash Flows, cash and cash equivalents are considered to be all unrestricted highly liquid investments with maturities of three months or less at the time of the acquisition.

Support and Revenue - Contracts and grants - This support and revenue, principally reciprocal transactions under both cost-reimbursement and unit-of-service arrangements, are recorded when an expense is incurred for the contract or grant supported project or program in the manner specified by the contract or grant or when a unit-of-service is delivered. Any excess of funds received is accounted for as deferred revenue until requirements for support and revenue recognition are met or is accounted for as funds to be returned.

Support by Local Governments and Subcontractors - This support, which includes per capita assessments, is recorded when due.

Service Fees - These fees include planning and data processing services, and revenue is recorded when the services are performed.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

NOTES TO FINANCIAL STATEMENTS

PAGE TWO

YEAR ENDED SEPTEMBER 30, 2016

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Cont.)

Provision for Loan Losses - The provision takes into consideration management's estimate of the allowance that is required to absorb losses on existing loans that may become uncollectible based on evaluation of the collectability of the notes, including specific impaired notes, repayment history, and economic conditions. Because of uncertainties associated with the collectability of the notes, it is reasonably possible that the allowance estimate may change materially in future periods.

Property and Equipment - SMPDD's property and equipment consist of two buildings, computer equipment, office furniture and vehicles. All assets are valued at cost and depreciated using the straight-line method over the estimated useful lives of the respective assets.

Maintenance and repairs are expensed as incurred. Replacements and betterments are capitalized. The costs and related accumulated depreciation of assets sold or retired are removed from the accounts and any resulting gain or loss is reflected in the accompanying statements of operations.

Donations of property are recorded as contributions at their estimated fair values at the date of donation. Such donations are recorded as unrestricted support unless the donor has restricted the donated assets to a specific purpose.

Equipment Acquired With Restricted Funds - The funds used to purchase these assets were subject to grant or other contract restrictions. Title on these assets may revert to the awarding agency if certain grant or contract restrictions are not met.

Functional Allocation of Expenses - The costs of providing the various programs and other activities has been summarized on a functional basis in the statement of functional expenses. Accordingly, certain costs have been allocated among the programs and activities benefited.

Income Taxes - SMPDD is a not-for-profit organization that is exempt from income taxes under Section 501(c)(3) of the Internal Revenue Code and is classified as "other than a private foundation".

Southern Mississippi Economic Development Company, Inc. (described in Note 10) is not exempt. No income taxes were incurred or accrued for Southern Mississippi Economic Development Company, Inc.

FASB ASC 740 clarifies the accounting for uncertainty in tax positions and the recognition of such income tax positions taken or expected to be taken in SMPDD's income tax returns. SMPDD's income tax returns are subject to examination by the IRS, generally for three years after they were filed. SMPDD's open tax periods are 2013 2015. In evaluating SMPDD's tax positions, SMPDD believes their estimates are appropriate based on current facts and circumstances and that no uncertain positions were taken.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

NOTES TO FINANCIAL STATEMENTS
PAGE THREE
YEAR ENDED SEPTEMBER 30, 2016

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Cont.)

Contributed Facilities - In 2000, SMPDD entered into an agreement to occupy an office building that is jointly owned with Harrison County. SMPDD occupies this building for a nominal charge (\$100) and pays for utilities and repairs as well as property, liability and contents insurance.

Net Assets - Net assets of SMPDD consist of the following:

Unrestricted - These net assets are available for general obligations and activities of SMPDD.

Temporarily restricted - These net assets are restricted by grantors for specific purposes.

Subsequent Events - Management has evaluated subsequent events through January 24, 2017, which is the date the financial statements were available to be issued.

NOTE 2 - CONCENTRATION OF CREDIT RISK

At September 30, 2016, the carrying amount of SMPDD's deposits was \$9,751,666 and the bank balance was \$10,255,630. The bank balance is categorized as follows:

Amount collateralized with securities held on behalf of SMPDD	\$ 496,160
Amounts held at various financial institutions covered under Federal Depository Insurance	1,000,000
Uncollateralized	<u>8,759,470</u>
	<u>\$ 10,255,630</u>

Concentrations of credit risk with respect to note receivable balances are limited due to the notes being collateralized. These notes are funded through Federal and State programs, and management believes SMPDD's risk of exposure relating to notes receivable is limited and would not adversely affect SMPDD's ability to operate as a whole.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

**NOTES TO FINANCIAL STATEMENTS
PAGE FOUR
YEAR ENDED SEPTEMBER 30, 2016**

NOTE 3 - NOTES RECEIVABLE

Notes receivable are stated at the principal amount outstanding, reduced by an allowance for estimated losses. Interest is computed using the amortization basis of the original principal amount.

Generally, these notes are collateralized by real estate, equipment, insurance, inventory, and personal guarantees. The notes bear interest at rates ranging from 0.00% to 9.25% and have repayment periods ranging from 1.5 to 30 years.

As of September 30, 2016, there were 79 temporarily restricted notes with outstanding principal balances totaling \$7,621,436. Of the 79 notes outstanding, 12 notes totaling an investment of \$743,353 were past due 90 days or more, with an average investment balance of \$61,961. Of the 12 loans in default, 8 are currently making payments. The interest income recognized on these loans totals to \$8,975 for the year ended September 30, 2016. SMPDD continues to accrue interest on past due loans until the loan is deemed uncollectable. The allowance for temporarily restricted notes receivable was \$320,009 at September 30, 2016.

NOTE 4 - PROPERTY AND EQUIPMENT

Property and equipment are stated at cost, less allowance for depreciation, and consist of the following:

Land	\$ 656,633
Buildings	2,706,964
Computer, vehicle, and office equipment	<u>512,820</u>
	3,876,417
Accumulated depreciation	<u>(995,440)</u>
Total property and equipment	<u>\$ 2,880,977</u>

Total depreciation expense for the period ended September 30, 2016, was \$87,718.

NOTE 5 - CASH HELD IN ESCROW

SMPDD transfers funds to the closing attorney as part of the Revolving Loan Program disbursement process. The Law Firm holds funds in escrow until the loan is closed and funds are disbursed to the loan recipient. At September 30, 2016, the cash held in escrow balance was \$451,835.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

NOTES TO FINANCIAL STATEMENTS

PAGE FIVE

YEAR ENDED SEPTEMBER 30, 2016

NOTE 6 - NOTES PAYABLE

Notes payable debt consists of the following as of September 30, 2016:

Note payable to an equipment financing company, payable in monthly installments of \$2,623, interest free, secured by equipment, matures April 2021.

\$	144,279
	<u>144,279</u>
	<u>(31,480)</u>

Less current portion

Long-term portion

\$	<u>112,799</u>
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Future maturities of notes payable are as follows:

September 30, 2017	\$	31,480
September 30, 2018		31,480
September 30, 2019		31,480
September 30, 2020		31,480
September 30, 2021		<u>18,359</u>
	\$	<u>144,279</u>

NOTE 7 - RETIREMENT PLAN

Employees participate in a defined contribution pension plan covering all employees except work training employees. SMPDD contributes 10% of employee compensation. Plan costs for the year ended September 30, 2016, totaled \$606,988. SMPDD's policy is to allocate these costs to program and project activities funded by federal and state awards.

NOTE 8 - LEASES

Certain facilities and equipment are leased under operating leases which are generally renewed annually, subject to available program funding. Rent expense for those operating leases for the year ended September 30, 2016, amounted to \$74,782.

During the year ended September 30, 2015, SMPDD entered into multiple operating leases for vehicles. The leases have terms which range from 48 to 60 months and include monthly payments ranging from \$275 to \$322 for each vehicle. Lease expense for vehicles for the year was \$119,106.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

**NOTES TO FINANCIAL STATEMENTS
PAGE SIX
YEAR ENDED SEPTEMBER 30, 2016**

NOTE 8 - LEASES (Cont.)

Future minimum lease payments are as follows:

<u>Year ending September 30,</u>	<u>Amount</u>
2017	\$ 115,145
2018	115,145
2019	95,785
2020	2,662
<i>Total</i>	<u><u>\$ 328,737</u></u>

NOTE 9 - RISKS AND UNCERTAINTIES

SMPDD's operations are dependent on governmental funding of projects. Significant changes in the level of governmental funding of these projects could have a favorable or unfavorable impact on SMPDD's activities.

As reported in the Schedule of Expenditures of Federal Awards, substantial funding for SMPDD's ongoing programs is provided by the United States Department of Labor and the United States Department of Health and Human Services. For fiscal year 2016, a combined 79% of the district's federally funded expenditures was attributable to the two agencies.

NOTE 10 - COMMITMENTS

As of September 30, 2016, SMPDD had committed \$1,652,700 to new RLF loans which had not yet been disbursed.

At September 30, 2016, the following funds were available for SMPDD under the remaining terms of its federal grant programs:

Workforce Development	\$ 9,488,368
Area Agency on Aging	2,620,155
Business Outreach Division	<u>546,035</u>
Total available funds	<u><u>\$ 12,654,558</u></u>

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

NOTES TO FINANCIAL STATEMENTS

PAGE SEVEN

YEAR ENDED SEPTEMBER 30, 2016

NOTE 10 - COMMITMENTS (Cont.)

The remaining term varies with each individual grant, ranging from nine months remaining to one year and nine months. Much of this grant money will be passed through to sub-grantees.

NOTE 11 - SOUTHERN MISSISSIPPI ECONOMIC DEVELOPMENT COMPANY, INC.

Southern Mississippi Economic Development Company, Inc. (SMEDC) is a separate corporation which was formed by SMPDD to handle SBA 504 loans. SMEDC operates, in effect, as a department of SMPDD, and, accordingly, its activities are included in these financial statements. SMEDC had assets of \$12,735 at September 30, 2016.

SMEDC lost its funding status in fiscal year 1997 and will not service or receive payments from any of the loans previously administered.

NOTE 12 - RELATED PARTY TRANSACTIONS

A current employee is related to the current executive director and was employed by Southern Mississippi Planning and Development District, Inc. prior to the current executive director's hire. SMPDD may also pay the expenses for spouses to travel with members of the Board of Directors. However, the board member is required to reimburse SMPDD for the expenses incurred.

NOTE 13 - NET ASSETS

Temporarily restricted net assets consist of the following at September 30, 2016:

Revolving Loan Fund Program	\$ 9,733,354
Federal property and equipment	<u>515,767</u>
	<u>\$ 10,249,121</u>

SUPPLEMENTARY INFORMATION

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 1

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures	Amounts Provided to Subrecipients
U.S. Department of Agriculture				
Pass-Through Programs From:				
Mississippi Department of Human Services				
Child and Adult Care Food Program	10.558	6005937	\$ 215	
Child and Adult Care Food Program	10.558	6008002	18,558	\$ 10,995
Total U.S. Department of Agriculture			<u>18,773</u>	
U.S. Department of Commerce				
Economic Development Cluster:				
Pass-Through Programs From:				
George County				
Investments for Public Works and Economic Development Facilities	11.300	04-01-06811	66	
Harrison County				
Investments for Public Works and Economic Development Facilities	11.300	04-01-07048	5,299	
Hattiesburg, Mississippi				
Investments for Public Works and Economic Development Facilities	11.300	04-01-07043	6,931	
			<u>12,296</u>	
Economic Development Administration				
Economic Adjustment Assistance	11.307	04-39-18021-89	4,359,808	
Economic Adjustment Assistance, Section 209	11.307	04-69-06981	14,186	
			<u>4,373,994</u>	
Subtotal Economic Development Cluster			<u>4,386,290</u>	

See accompanying notes to the Schedule of Expenditures of Federal Awards.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 1
PAGE TWO

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures	Amounts Provided to Subrecipients
U.S. Department of Commerce (Cont.)				
Economic Development Administration				
Economic Development - Support for Planning Organizations	11.302	ED16ATL3020015	\$ 70,869	
Total U.S. Department of Commerce			<u>4,457,159</u>	
U.S. Department of Labor				
Pass-Through Programs From:				
Mississippi Department of Employment Security				
Senior Community Service Employment Program	17.235	15-S90-09-6055-1	159,328	
Senior Community Service Employment Program	17.235	16-S90-09-6056-1	64,626	
Senior Service America, Inc.				
Senior Community Service Employment Program	17.235	AD-26910-15-55-A-24	598,744	
Senior Community Service Employment Program	17.235		206,318	
Subtotal Senior Community Service Employment Program			<u>1,029,016</u>	
Mississippi Department of Employment Security				
WIA Cluster:				
WIA Adult Program	17.258	500-14-06	518,953	
WIA Adult Program	17.258	500-15-06	2,310,950	
WIA Adult Program	17.258		20,135	
			<u>2,850,038</u>	\$ 2,594,345
WIA Youth Activities	17.259	500-14-06	546,907	
WIA Youth Activities	17.259	500-15-06	1,717,298	
			<u>2,264,205</u>	<u>1,972,917</u>

See accompanying notes to the Schedule of Expenditures of Federal Awards.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 1
PAGE THREE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures	Amounts Provided to Subrecipients
U.S. Department of Labor (Cont.)				
WIA Cluster (Cont.)				
Pass-Through Programs From:				
Mississippi Department of Employment Security				
WIA Dislocated Worker Formula Grants	17.278	500-13-05	\$ 75,000	
WIA Dislocated Worker Formula Grants	17.278	500-14-06	117,906	
WIA Dislocated Worker Formula Grants	17.278	500-15-06	1,666,025	
WIA Dislocated Worker Formula Grants	17.278		20,134	
			1,879,065	\$ 1,608,890
Subtotal WIA Cluster			6,993,308	
Total U.S. Department of Labor			8,022,324	
Delta Regional Authority				
Delta Local Development District Assistance	90.202	DRA080521	4,203	
U.S. Department of Health and Human Services				
Pass-Through Programs From:				
Mississippi Department of Human Services				
Special Programs for the Aging - Title VII, Chapter 3 Programs for Prevention of Elder Abuse, Neglect, and Exploitation	93.041	710RA41B/ 6003757	7,458	
Special Programs for the Aging - Title VII, Chapter 3 Programs for Prevention of Elder Abuse, Neglect, and Exploitation	93.041	6005620	3,721	
			11,179	
Special Programs for the Aging - Title VII, Chapter 2 Long Term Care Ombudsman Services for Older Individuals	93.042	6008011	21,466	

See accompanying notes to the Schedule of Expenditures of Federal Awards.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 1
PAGE FOUR

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures	Amounts Provided to Subrecipients
<i>U.S. Department of Health and Human Services (Cont.)</i>				
Pass-Through Programs From:				
Mississippi Department of Human Services				
Special Programs for the Aging - Title III, Part D, Disease Prevention and Health Promotion Services	93.043	710R541B/6003919	\$ 29,340	
Special Programs for the Aging - Title III, Part D, Disease Prevention and Health Promotion Services	93.043	6005624	2,668	
			<u>32,008</u>	
Mississippi Department of Human Services				
Aging Cluster:				
Special Programs for the Aging - Title III, Part A Grants for Supportive Services and Senior Centers	93.044	710R641B/6004007	146,172	
Special Programs for the Aging - Title III, Part A Grants for Supportive Services and Senior Centers	93.044	6005627	21,666	
Special Programs for the Aging - Title III, Part B Grants for Supportive Services and Senior Centers	93.044	710R141B / 6004156, 57, 58, 59, 6004210, 6004211, 6004217	64,429	
Special Programs for the Aging - Title III, Part B Grants for Supportive Services and Senior Centers	93.044	6005628, 29, 30, 31, 32, 33, 34, 6007514, 6007180	37,283	
Special Programs for the Aging - Title III, Part B Grants for Supportive Services and Senior Centers	93.044	6008005	572,867	
			<u>842,417</u>	\$ 351,938

See accompanying notes to the Schedule of Expenditures of Federal Awards.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 1
PAGE FIVE

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures	Amounts Provided to Subrecipients
<i>U.S. Department of Health and Human Services (Cont.)</i>				
Aging Cluster (Cont.)				
Pass-Through Programs From:				
Mississippi Department of Human Services				
Special Programs for the Aging - Title III, Part C Nutrition Services	93.045	710R241B / 6003987	\$ 180,072	
Special Programs for the Aging - Title III, Part C Nutrition Services	93.045	6005626	236,599	
Special Programs for the Aging - Title III, Part C Nutrition Services	93.045	6005625	213,548	
Special Programs for the Aging - Title III, Part C Nutrition Services	93.045	6008007	379,862	
			1,010,081	\$ 202,179
Nutrition Services Incentive Program	93.053	710U441B / 6007044	203,933	
Nutrition Services Incentive Program	93.053	6005867	30,815	
			234,748	9,298
Subtotal Aging Cluster			2,087,246	
Special Programs for the Aging - Title IV and Title II, Discretionary Projects	93.048	6008298	28,854	
National Family Caregiver Support, Title III, Part E	93.052	710RC41B / 6003952 & 6003954	9,296	
National Family Caregiver Support, Title III, Part E	93.052	6005621, 22.23, 6007321	90,964	
National Family Caregiver Support, Title III, Part E	93.052	6008009	158,487	
			258,747	197,803

See accompanying notes to the Schedule of Expenditures of Federal Awards.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 1
PAGE SIX

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures	Amounts Provided to Subrecipients
<i>U.S. Department of Health and Human Services (Cont.)</i>				
Pass-Through Programs From:				
Mississippi Department of Human Services	93.071	6009115	\$ 3,400	
Medicare Enrollment Assistance Program	93.071	6008675	27,456	
Medicare Enrollment Assistance Program			30,856	
Patient Protection and Affordable Care Act Section 10202 State Balancing Incentive Payments Program	93.543	6005116	434,097	\$ 42,216
Social Services Block Grant, Title XX	93.667	6007904	1,070,129	630,405
Mississippi Department of Health				
Empowering Older Adults and Adults with Disabilities through Chronic Disease Self-Management Education Programs	93.734	11000HPO	7,500	
Empowering Older Adults and Adults with Disabilities through Chronic Disease Self-Management Education Programs	93.734	13010101000000HP	1,840	
			9,340	
Mississippi Department of Human Services				
Medical Assistance Program	93.778	6006752	206,655	
Mississippi Division of Medicaid				
Medical Assistance Program	93.778		5,838,807	
Medical Assistance Program	93.778		65,298	
			5,904,105	

See accompanying notes to the Schedule of Expenditures of Federal Awards.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 1
PAGE SEVEN

SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016

Federal Grantor/Pass-Through Grantor/Program Title	Federal CFDA Number	Agency or Pass Through Number	Federal Expenditures	Amounts Provided to Subrecipients
<i>U.S. Department of Health and Human Services (Cont.)</i>				
Pass-Through Programs From:				
Mississippi Department of Human Services				
Centers for Medicare and Medicaid Services				
Demonstrations and Evaluations	93.779	6006127	\$ 86,474	
Demonstrations and Evaluations	93.779	6009104	44,155	
			130,629	
<i>Total U.S. Department of Health and Human Services</i>			10,225,311	
<i>Corporation for National and Community Service</i>				
Pass-Through Programs From:				
Mississippi Commission for Volunteer Services				
AmeriCorps Planning Grant	94.006	15AC167454	117,108	
Foster Grandparent Program	94.011	15GXSMS002	140,826	
Foster Grandparent Program	94.011	15GXSMS002	39,419	
Subtotal Direct Programs			180,245	
<i>Total Corporation for National and Community Service</i>			297,353	
<i>Total Expenditures of Federal Awards</i>			\$ 23,025,123	\$ 7,620,986

See accompanying notes to the Schedule of Expenditures of Federal Awards.

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

**NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED SEPTEMBER 30, 2016**

NOTE 1 - BASIS OF PRESENTATION

The accompanying schedule of expenditures of federal awards (the Schedule) includes the federal grant activity of Southern Mississippi Planning and Development District, Inc. (SMPDD) under programs of the federal government for the year ended September 30, 2016. The information in this Schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. Because the Schedule presents only a selected portion of the operations of SMPDD, it is not intended to and does not present the financial position, changes in net assets, or cash flows of SMPDD.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in Title 2 U.S. Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

Pass-through entity identifying numbers are presented where available.

NOTE 3 - INDIRECT COST RATE

SMPDD prepares an indirect cost rate proposal on an annual basis subject to approval by the United States Department of Commerce Economic Development Administration. For the year ended September 30, 2016, the approved indirect cost rate for federally funded programs was 25% based upon the most recent Certificate of Indirect Cost dated April 28, 2016.

NOTE 4 - EDA REVOLVING LOAN FUND

SMPDD had the following loan balances outstanding at September 30, 2016, which are attributable to federal funds. These loan balances outstanding are also included in the federal expenditures presented in the schedule.

<u>Program Title</u>	<u>CFDA#</u>	<u>Amount</u>
Economic Development Revolving Loan Program	11.307	\$ 5,154,759

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

PAGE TWO

YEAR ENDED SEPTEMBER 30, 2016

NOTE 4 - EDA REVOLVING LOAN FUND (Cont.)

The value of the Economic Development Administration Revolving Loan Fund (RLF) is determined by adding the principal loan balance at year end, the RLF cash on hand at year end, the RLF administrative expenses paid out of RLF income during the fiscal year, and the unpaid principal of all loans written off during the year. This amount is multiplied by the federal share of the RLF program to determine the federal value of the RLF program.

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**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL
REPORTING AND ON COMPLIANCE AND OTHER MATTERS
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED
IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.
Gulfport, Mississippi

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Southern Mississippi Planning and Development District, Inc. (a nonprofit organization) which comprise the statement of financial position as of September 30, 2016, and the related statements of activities, and cash flows for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated January 20, 2017.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered Southern Mississippi Planning and Development District, Inc.'s internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Southern Mississippi Planning and Development District, Inc.'s internal control. Accordingly, we do not express an opinion on the effectiveness of SMPDD's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether Southern Mississippi Planning and Development District, Inc.'s financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of SMPDD's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering SMPDD's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.


Hattiesburg, Mississippi
January 20, 2017

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**INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE FOR EACH
MAJOR PROGRAM AND ON INTERNAL CONTROL OVER
COMPLIANCE REQUIRED BY THE UNIFORM GUIDANCE**

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.
Gulfport, Mississippi

Report on Compliance for Each Major Federal Program

We have audited Southern Mississippi Planning and Development District, Inc.'s compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of Southern Mississippi Planning and Development District, Inc.'s major federal programs for the year ended September 30, 2016. Southern Mississippi Planning and Development District, Inc.'s major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

Management is responsible for compliance with the requirements of laws, regulations, contracts, and grants applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of Southern Mississippi Planning and Development District, Inc.'s major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.

referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about Southern Mississippi Planning and Development District, Inc.'s compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of Southern Mississippi Planning and Development District, Inc.'s compliance.

Opinion on Each Major Federal Program

In our opinion, Southern Mississippi Planning and Development District, Inc. complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended September 30, 2016.

Report on Internal Control Over Compliance

Management of Southern Mississippi Planning and Development District, Inc. is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered Southern Mississippi Planning and Development District, Inc.'s internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of Southern Mississippi Planning and Development District, Inc.'s internal control over compliance.

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant *deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

To the Board of Directors
Southern Mississippi Planning and Development District, Inc.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Topp McWhorter Harvey, PLLC
Hattiesburg, Mississippi
January 20, 2017

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 2

**SCHEDULE OF FINDINGS AND QUESTIONED COSTS
YEAR ENDED SEPTEMBER 30, 2016**

SECTION I: SUMMARY OF AUDITOR'S RESULTS

Financial Statements:

- | | | |
|----|--|---------------|
| 1. | Type of auditor's report issued: | Unmodified |
| 2. | Internal control over financial reporting: | |
| | A. Material weakness identified? | No |
| | B. Significant deficiency identified not considered to be a material weakness? | None reported |
| 3. | Noncompliance material to financial statements noted? | No |

Federal Awards:

- | | | |
|----|---|---------------|
| 4. | Internal control over major programs: | |
| | A. Material weakness identified? | No |
| | B. Significant deficiency identified not considered to be a material weakness? | None reported |
| 5. | Type of auditor's report issued on compliance for major programs: | |
| | Public Works and Development Cluster | Unmodified |
| | Senior Community Service Employment Program | Unmodified |
| | Workforce Investment Act Cluster | Unmodified |
| | Balancing Incentives Payment Program | Unmodified |
| | Social Services Block Grant | Unmodified |
| 6. | Any audit findings disclosed that are required to be reported in accordance with Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance)? | No |
| 7. | Identification of major programs: | |

CFDA Number

Name of Federal Program or Cluster

11.300

Public Works and Development Cluster:
Investments for Public Works and Economic
Development Facilities

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 2
PAGE TWO

SCHEDULE OF FINDINGS AND QUESTIONED COSTS
YEAR ENDED SEPTEMBER 30, 2016

SECTION I: SUMMARY OF AUDITOR'S RESULTS (Cont.)

Federal Awards (Cont.)

<u>CFDA Number</u>	<u>Name of Federal Program or Cluster</u>	
	<u>Public Works and Development Cluster (Cont.)</u>	
11.307	Economic Adjustment Assistance	
17.235	Senior Community Service Employment Program	
	<u>Workforce Investment Act Cluster:</u>	
17.258	Workforce Investment Act Adult Program	
17.259	Workforce Investment Act Youth Program	
17.278	Workforce Investment Act Dislocated Worker Formula Grants	
93.543	Patient Protection and Affordable Care Act Section 10202 State Balancing Incentive Payment Program	
93.667	Social Services Block Grant	
8.	Dollar threshold used to distinguish between type A and type B programs?	\$ 750,000
9.	Auditee qualified as low-risk auditee?	No
10.	Prior fiscal year audit finding and questioned cost relative to federal awards which would require the auditee to prepare a summary schedule or prior audit findings as discussed in Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance)?	Yes

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT, INC.

SCHEDULE 2
PAGE THREE

**SCHEDULE OF FINDINGS AND QUESTIONED COSTS
YEAR ENDED SEPTEMBER 30, 2016**

SECTION II: FINANCIAL STATEMENT FINDINGS

No matters were reported.

SECTION III: FEDERAL AWARDS FINDINGS AND QUESTIONED COSTS

No matters were reported.



AUDITEE'S SUMMARY SCHEDULE OF PRIOR AUDIT FINDINGS FOR THE YEAR ENDED SEPTEMBER 30, 2016

CDFA No.	1.259 Program: Workforce Investment Act Youth Activities
Finding	2015-001
Finding Status	SMPDD has implemented an additional review checklist to confirm subrecipient external audit reports include all required information. Ongoing training is provided to reviewers to ensure checklists are properly completed. Procedures from the Corrective Actions Plan have been adopted.
Auditor's Note	No similar findings were noted in the 2016 audit.



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-397

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Acknowledge receipt of term bid opened on February

Title: Acknowledge receipt of term bid opened on February 16, 2017 for Uniforms for the Hattiesburg Fire Department and accept the bid for Midsouth Solutions as lowest and best bid per recommendation in the attached memorandum.

Type: Action Item

Drafter: Darnelle
Larremore

In Control: City Council

Reference: Paul Presley

Attachments: Memo-FD Term Bids-Uniforms-Recommendations, FD Term Bid #18 - Uniforms-Midsouth Solutions, FD Term Bid #18 - Uniforms - Galls

File Created: 04/25/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File



Mayor
Johnny L DuPree, Ph.D.

Council – Ward 1
Kim Bradley

Council – Ward 2
Deborah Denard Delgado

Council – Ward 3
Carter Carroll

Council – Ward 4
Mary Dryden

Council – Ward 5
Henry Naylor

MEMORANDUM

TO: Mayor and Council
FROM: Paul Presley, Fire Chief
DATE: April 24, 2017
SUBJECT: Fire Department Uniform Term Bids

After review of the bids received from vendors on February 16, 2017 for purchase of uniform items required to equip the Fire Department, it is my recommendation that the following actions be taken to accept bids for the following item.

Item #18: Uniforms for the Fire Department of the City of Hattiesburg – Accept the bid of Midsouth Solutions as the lowest and best bid received.

**HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS
ITEM #18**

QUOTES WILL BE SUPPLIED BASED ON IN-HOUSE UNIFORM
ORDER FORMS FILLED OUT BY INDIVIDUAL FIRE PERSONNEL
AND SUBMITTED IN BULK.

T-SHIRTS WILL BE BOXED IN BULK BY SIZE.

SHOES AND BOOTS WILL BE BOXED IN BULK BY SHIFT AND
LABELED WITH THE PERSON NAME AND SHIFT

ALL OTHER ITEMS WILL BE INDIVIDUALLY BAGGED AND
LABELED WITH THE PERSON'S NAME AND SHIFT AND WILL BE
BOXED BY SHIFT

ALL BOXES WILL HAVE SHIFT NOTATED ON BOX

ALL ITEMS TO SHIP FOB

Midsouth Solutions
NAME OF COMPANY

2209 Whitten Rd. Memphis, TN. 38133
ADDRESS

901-373-8597
PHONE

901-328-1478
FAX

Brianne McMahon Operations Manager
COMPANY REPRESENTATIVE NAME & TITLE

Brianne McMahon 2/14/17
COMPANY REPRESENTATIVE SIGNATURE DATE

HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS ITEM #18	COST/EACH BY SIZE
BELT, DUTY MAN 1311 BLACK, VELCRO, ALL SIZES	\$19.50
BELT, DUTY MAN 1611 BLACK, BUCKLE, ALL SIZES	\$20.50
SOCKS WHITE OR BLACK, CREW TYPE, THORLO WGX SERIES	\$8.95
SOCKS WHITE OR BLACK, OVER THE CALF, THORLO TWD SERIES	\$8.95
SHOES, ROCKY 2034 ALL SIZES	\$60.00
SHOES, MAGNUM DUTY LITE GLOSS 5098, ALL SIZES	\$38.00
834-6520 WEINBRENNER THOTOGOOD ASR SLIP ON SHOE, BLACK	\$53.95
12032-511 TACTICAL BOOT COMPANY BOOT, BLACK	\$81.00
6300 ROCKY WELLINGTON BOOT, BLACK	\$86.00
ROCKY HIGH GLOSS OXFORD PQ00510- 8, P128785, BLACK	\$61.00

HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS ITEM #18	COST/EACH BY SIZE
DRESS SHIRT, SHORT SLEEVE FECHHEIMER VERTX 8100, ALL COLORS, DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$44.50 M \$44.50 L \$44.50 XL \$44.50 2XL \$44.50 3XL \$44.50
DRESS SHIRT, LONG SLEEVE FECHHEIMER VERTX 800, ALL COLORS, DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$48.50 M \$48.50 L \$48.50 XL \$48.50 2XL \$48.50 3XL \$48.50
SHIRTS, T-GILDAN 8000, ALL COLORS, WITH DEPARTMENT SCREEN PRINTING ON FRONT AND BACK, ALL SIZES	S \$5.50 M \$5.50 L \$5.50 XL \$5.50 2XL \$5.50 3XL \$5.50
FLEECE JACKETS DARK NAVY WITH DEPARTMENT EMBROIDERY, R HERO'S 505, ALL SIZES	S \$44.00 M \$44.00 L \$44.00 XL \$44.00 2XL \$44.00 3XL \$44.00
FLEECE, NAVY W/FIRE DEPARTMENT EMBROIDERY	S \$44.00 M \$44.00 L \$44.00 XL \$44.00 2XL \$44.00 3XL \$44.00
POLO SS, ALL COLORS 511 TACTICAL SERIES	S \$32.50 M \$32.50 L \$32.50 XL \$32.50 2XL \$32.50 3XL \$32.50
UNIFORM ACCESSORIES	

HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS ITEM #18	COST/EACH BY SIZE
FECHHEIMER 34800, DRESS COAT/DARK NAVY SILVER OR GOLD FD BUTTONS – ALL SIZES, & DEPARTMENT PATCH SEWN ON LEFT SLEEVE, MUST BE ABLE TO SEW MALTESE CROSSES AND 3/8" RANK PIPING ABOVE CUFFS AS NEEDED	S \$212.00 M \$213.00 L \$213.00 XL \$213.00 2XL \$213.00 3XL \$213.00
FECHHEIMER 59130WP DUTY JACKET, DARK NAVY WITH DEPARTMENT PATCH SEWN ON LEFT SLEEVE – ALL SIZES	S \$123.50 M \$123.50 L \$123.50 XL \$123.50 2XL \$123.50 3XL \$123.50
FECHHEIMER 3900, TROUSERS, DARK NAVY WITH 3/8" RED/GOLD FLUTED PIPING SEWN INTO THE WAISTBAND ALL SIZES	S \$45.00 M \$45.00 L \$45.00 XL \$45.00 2XL \$45.00 3XL \$45.00
FECHHEIMER VERTX 8001 TROUSERS, ALL COLORS, ALL SIZES	S \$42.50 M \$42.50 L \$42.50 XL \$42.50 2XL \$42.50 3XL \$42.50
DRESS SHIRT, SHORT SLEEVE SOUTHEASTERN 9203/L9203 WHITE DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$21.50 M \$21.50 L \$21.50 XL \$21.50 2XL \$21.50 3XL \$21.50
DRESS SHIRT, LONG SLEEVE SOUTHEASTERN 9103/L9103 WHITE DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$23.50 M \$23.50 L \$23.50 XL \$23.50 2XL \$23.50 3XL \$23.50

BID

UNIFORMS FOR THE HATTIESBURG FIRE DEPARTMENT, ITEM #18

SUBMITTED BY 10:00 A.M. FEBRUARY 16, 2017

The lowest and best bid received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated as Amended, and other applicable State law; but the Council reserves the right to reject any and all bids received and to waive informallties.

APPROVED on this, the 17th day of January A. D., 2017.

BY: _____

CITY CLERK

SPECIFICATIONS APPROVED BY:


HATTIESBURG FIRE DEPARTMENT

Name of Company Midsouth Solutions
Company Address 2809 Whitten Rd Memphis, TN 38133
Company Phone/Fax 901-373-8597 | 901-328-1478 (Fax)
Company Representative Briannon McManahan
(printed)
Company Representati Briannon McManahan
(signature)
Date 2/14/17

SPECIFICATIONS FOR ITEM #18: UNIFORMS FOR THE HATTIESBURG FIRE DEPARTMENT

Bidder shall bid on furnishing uniforms for the Hattiesburg Fire Department which meets or exceeds the following specifications to wit:

(SEE ATTACHED DETAILED SPECIFICATIONS)

IMPORTANT: The City of Hattiesburg will award the bid to the lowest and most responsive bidder. All bids shall be submitted utilizing the enclosed bid form furnished by the City of Hattiesburg. To ensure continuity of bids received, vendors shall bid only on specified item(s) in unit(s) of measure listed. Failure to comply will automatically disqualify bid from consideration by the City.

Bidders wishing to provide clothing other than brand names listed in the detailed specifications must submit samples of materials to be furnished to the Hattiesburg Fire Department and receive written approval of the fire Chief or his designee prior to submission of bids. The submission of equals which have not been approved will automatically disqualify the bid from consideration in the awarding of this contract.

PRICES shall be FIRM for a period beginning on April 1, 2017, and ending March 31, 2019, items to be purchased as required.

DELIVERY: F.O.B. 622 Corinne Street, Hattiesburg, Mississippi, within 60 days the date the order is received by the accepted bidder. Ship order in full, freight prepaid. No partial shipment accepted.

PAYMENT TERMS: Remittance within forty-five (45) days from satisfactory delivery of goods and/or receipt of invoice(s).

The City of Hattiesburg and/or the vendor has the option to terminate the contract after a period of one year.

SEALED bids will be received until 10:00 A.M., Thursday, February 16, 2017, in the City Clerk's Office in the City Hall, P.O. Box 1898, 200 Forrest Street, Hattiesburg, Mississippi, 39403-1898, (601) 545-4552, for furnishing the City's requirements of the above item. It shall be the responsibility of all bidders to have their bids delivered to the location listed in these specifications and/or Notice to Bidders on or before the date and time specified. The City of Hattiesburg shall not be responsible for any bid sent via U. S. Mail or any other mail courier service which is delivered or received after the date and time listed in said specifications and/or Notice to Bidders. State Law prohibits the consideration of bids received after the date and time advertised for receipt of Sealed bids.

Each BID must be received in a sealed envelope which is clearly marked in the lower left-hand corner EXACTLY as follows:

BID

UNIFORMS FOR THE HATTIESBURG FIRE DEPARTMENT, ITEM #18

SUBMITTED BY 10:00 A.M. FEBRUARY 9, 2017

The lowest and best bid received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated as Amended, and other applicable State law; but the Council reserves the right to reject any and all bids received and to waive informalities.

APPROVED on this, the 17th day of January A. D., 2017.

BY: _____

CITY CLERK

SPECIFICATIONS APPROVED BY:


HATTIESBURG FIRE DEPARTMENT

Name of Company GALLS, LLC

Company Address 1340 Russell Cave Rd. Lexington, Ky 40505

Company Phone/Fax 800-876-4242 800-914-2557

Company Representative (printed) R. Michael Andrews Jr. CFO

Company Representative (signature) 

Date 01/27/2017

HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS ITEM #18	COST/EACH BY SIZE
FECHHEIMER 34800, DRESS COAT/DARK NAVY SILVER OR GOLD FD BUTTONS – ALL SIZES, & DEPARTMENT PATCH SEWN ON LEFT SLEEVE, MEST BE ABLE TO SEW MALTESE CROSSES AND 3/8” RANK PIPING ABOVE CUFFS AS NEEDED	S \$245.00 M \$245.00 L \$245.00 XL \$245.00 2XL \$269.00 3XL \$269.00
FECHHEIMER 59130WP DUTY JACKET, DARK NAVY WITH DEPARTMENT PATCH SEWN ON LEFT SLEEVE – ALL SIZES	S \$118.00 M \$118.00 L \$118.00 XL \$118.00 2XL \$118.00 3XL \$118.00
FECHHEIMER 3900, TROUSERS, DARK NAVY WITH 3/8” RED/GOLD FLUTED PIPING SEWN INTO THE WAISTBAND ALL SIZES	S \$44.50 M \$44.50 L \$44.50 XL \$44.50 2XL \$45.00 3XL \$45.00
FECHHEIMER VERTX 8001 TROUSERS, ALL COLORS, ALL SIZES	S \$65.00 M \$65.00 L \$65.00 XL \$65.00 2XL \$71.20 3XL \$71.20
DRESS SHIRT, SHORT SLEEVE SOUTHEASTERN 9203/L9203 WHITE DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$36.50 M \$36.50 L \$36.50 XL \$36.50 2XL \$36.50 3XL \$36.50
DRESS SHIRT, LONG SLEEVE SOUTHEASTERN 9103/L9103 WHITE DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$39.50 M \$39.50 L \$39.50 XL \$39.50 2XL \$43.50 3XL \$43.50

HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS ITEM #18	COST/EACH BY SIZE
DRESS SHIRT, SHORT SLEEVE FECHHEIMER VERTX 8100, ALL COLORS, DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$44.50 M \$44.50 L \$44.50 XL \$44.50 2XL \$48.80 3XL \$48.80
DRESS SHIRT, LONG SLEEVE FECHHEIMER VERTX 800, ALL COLORS, DEPARTMENT PATCH SEWN ON LEFT SLEEVE, ALL SIZES	S \$45.00 M \$45.00 L \$45.00 XL \$45.00 2XL \$45.00 3XL \$45.00
SHIRTS, T-GILDAN 8000, ALL COLORS, WITH DEPARTMENT SCREEN PRINTING ON FRONT AND BACK, ALL SIZES	S \$7.20 M \$7.20 L \$7.20 XL \$7.20 2XL \$7.20 3XL \$7.20
FLEECE JACKETS DARK NAVY WITH DEPARTMENT EMBROIDERY, R HERO'S 505, ALL SIZES	S \$46.00 M \$46.00 L \$46.00 XL \$46.00 2XL \$46.00 3XL \$46.00
FLEECE, NAVY W/FIRE DEPARTMENT EMBROIDERY	S \$36.50 M \$36.50 L \$36.50 XL \$36.50 2XL \$36.50 3XL \$36.50
POLO SS, ALL COLORS 511 TACTICAL SERIES	S \$34.25 M \$34.25 L \$34.25 XL \$34.25 2XL \$39.25 3XL \$39.25
UNIFORM ACCESSORIES	

HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS ITEM #18	COST/EACH BY SIZE
BELT, DUTY MAN 1311 BLACK, VELCRO, ALL SIZES	\$19.00
BELT, DUTY MAN 1611 BLACK, BUCKLE, ALL SIZES	\$19.75
SOCKS WHITE OR BLACK, CREW TYPE, THORLO WGX SERIES	\$9.80
SOCKS WHITE OR BLACK, OVER THE CALF, THORLO TWD SERIES	\$11.30
SHOES, ROCKY 2034 ALL SIZES	\$73.00
SHOES, MAGNUM DUTY LITE GLOSS 5098, ALL SIZES	\$49.00
834-6520 WEINBRENNER THOTOGOOD ASR SLIP ON SHOE, BLACK	\$58.00
12032-511 TACTICAL BOOT COMPANY BOOT, BLACK	\$93.00
6300 ROCKY WELLINGTON BOOT, BLACK	\$103.00
ROCKY HIGH GLOSS OXFORD PQ00510- 8, P128785, BLACK	\$71.25

**HATTIESBURG FIRE DEPARTMENT UNIFORM SPECIFICATIONS
ITEM #18**

QUOTES WILL BE SUPPLIED BASED ON IN-HOUSE UNIFORM
ORDER FORMS FILLED OUT BY INDIVIDUAL FIRE PERSONNEL
AND SUBMITTED IN BULK.

T-SHIRTS WILL BE BOXED IN BULK BY SIZE.

SHOES AND BOOTS WILL BE BOXED IN BULK BY SHIFT AND
LABELED WITH THE PERSON NAME AND SHIFT

ALL OTHER ITEMS WILL BE INDIVIDUALLY BAGGED AND
LABELED WITH THE PERSON'S NAME AND SHIFT AND WILL BE
BOXED BY SHIFT

ALL BOXES WILL HAVE SHIFT NOTATED ON BOX

ALL ITEMS TO SHIP FOB

GALLS, LLC

NAME OF COMPANY

1340 Russell Cave Rd. Lexington, Ky 40505
ADDRESS

800-876-2557

PHONE

R. Michael Andrews Jr

800-914-4242

FAX

CFO

COMPANY REPRESENTATIVE NAME & TITLE



COMPANY REPRESENTATIVE SIGNATURE

01/27/2017

DATE

NOTICE TO BIDDERS

NOTICE is hereby given that the Mayor and Council of the City of Hattiesburg, Mississippi will receive sealed bids until 10:00 A.M., Thursday, February 9, 2017, in the City Clerk's Office in the City Hall of said City for furnishing the City's requirements of the following supplies, to-wit:

ITEM #18 UNIFORMS FOR THE HATTIESBURG FIRE DEPARTMENT

The above shall bid upon and delivered as per detailed specifications on file in the Office of the City Clerk, P. O. Box 1898, 200 Forrest Street, Hattiesburg, Mississippi, 39403-1898, (601) 545-4552, which may be obtained upon request.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner with the word "BID" and the NAME OF ITEM on which bid is being made and the DATE OF BID OPENING.

The lowest and best bid received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated as Amended, and other applicable State law; but the Council reserves the right to reject any or all bids received and to waive informalities.

PUBLISHED by Order of the Council on this, the 17th day of January, 2017.

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

(SEAL)

SPECIFICATIONS FOR ITEM #18: UNIFORMS FOR THE HATTIESBURG FIRE DEPARTMENT

Bidder shall bid on furnishing uniforms for the Hattiesburg Fire Department which meets or exceeds the following specifications to wit:

(SEE ATTACHED DETAILED SPECIFICATIONS)

IMPORTANT: The City of Hattiesburg will award the bid to the lowest and most responsive bidder. All bids shall be submitted utilizing the enclosed bid form furnished by the City of Hattiesburg. To ensure continuity of bids received, vendors shall bid only on specified item(s) in unit(s) of measure listed. Failure to comply will automatically disqualify bid from consideration by the City.

Bidders wishing to provide clothing other than brand names listed in the detailed specifications must submit samples of materials to be furnished to the Hattiesburg Fire Department and receive written approval of the fire Chief or his designee prior to submission of bids. The submission of equals which have not been approved will automatically disqualify the bid from consideration in the awarding of this contract.

PRICES shall be FIRM for a period beginning on April 1, 2017, and ending March 31, 2019, items to be purchased as required.

DELIVERY: F.O.B. 622 Corinne Street, Hattiesburg, Mississippi, within 60 days the date the order is received by the accepted bidder. Ship order in full, freight prepaid. No partial shipment accepted.

PAYMENT TERMS: Remittance within forty-five (45) days from satisfactory delivery of goods and/or receipt of invoice(s).

The City of Hattiesburg and/or the vendor has the option to terminate the contract after a period of one year.

SEALED bids will be received until 10:00 A.M., Thursday, February 9, 2017, in the City Clerk's Office in the City Hall, P.O. Box 1898, 200 Forrest Street, Hattiesburg, Mississippi, 39403-1898, (601) 545-4552, for furnishing the City's requirements of the above item. It shall be the responsibility of all bidders to have their bids delivered to the location listed in these specifications and/or Notice to Bidders on or before the date and time specified. The City of Hattiesburg shall not be responsible for any bid sent via U. S. Mail or any other mail courier service which is delivered or received after the date and time listed in said specifications and/or Notice to Bidders. State Law prohibits the consideration of bids received after the date and time advertised for receipt of Sealed bids.

Each BID must be received in a sealed envelope which is clearly marked in the lower left-hand corner EXACTLY as follows:



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-382

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Approve plans and specifications for the Highway 11 Medical Park Access Roadway Project.

Title: Approve plans and specifications for the Highway 11 Medical Park Access Roadway Project (DIP-363); Authorize advertisements for bids for same.

Type: Action Item

Drafter: Marie Harris

In Control: City Council

Reference: Lamar Rutland

Attachments: Plans,
Specifications, Bid Adv

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information: Hattiesburg American and Clarion
Ledger.
2 Consecutive Weeks.

History of Legislative File

HIGHWAY 11 MEDICAL PARK ACCESS ROADWAY

MISSISSIPPI DEVELOPMENT INFRASTRUCTURE GRANT (DIP-363)

CITY OF HATTIESBURG - HATTIESBURG CLINIC

HATTIESBURG, MISSISSIPPI

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CITY OF HATTIESBURG -

MAYOR:

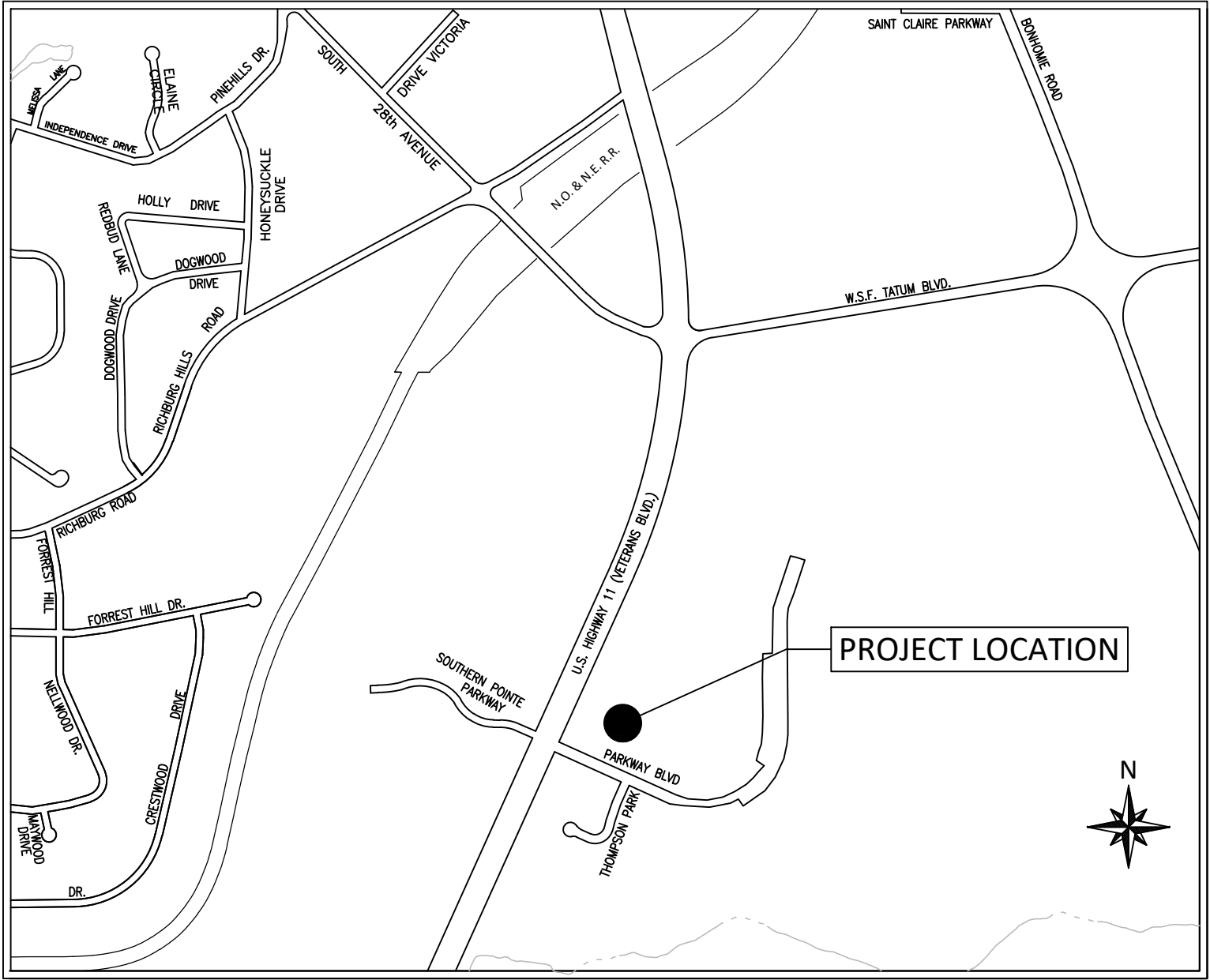
JOHNNY DUPREE, PH.D.

COUNCIL PERSONS:

KIM BRADLEY	WARD 1
DEBORAH D. DELGADO	WARD 2
CARTER CARROLL	WARD 3
MARY DRYDEN	WARD 4
HENRY E. NAYLOR	WARD 5

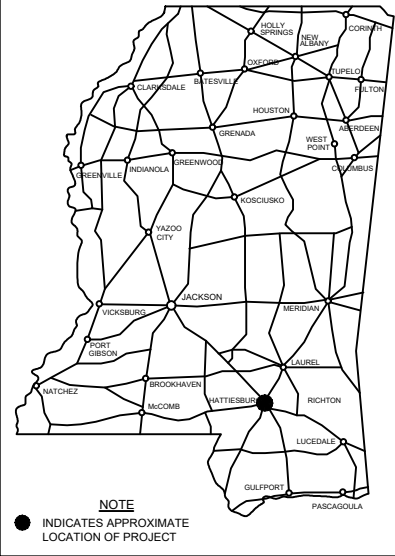
ENGINEERING DIRECTOR:

LAMAR RUTLAND, P.E.



VICINITY MAP

SCALE: NTS



CIVIL ENGINEER

THE WALKER ASSOCIATES
ENGINEERS-PLANNERS-DESIGNERS, PLLC
2203 HARDY STREET
HATTIESBURG, MS 39401
(601)-583-2127
www.thewalkerassociates.com

Project Engineer - Dustin Gatlin, P.E.

State of Mississippi #20503
dustin@thewalkerassociates.com

OTHER DISCIPLINES INCLUDED IN TWA SCOPE OF SERVICES:

Electrical Engineering - Larry Joe Daughtry, P.E.
State of Mississippi #6581



2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

SERIAL #: 104-16

N:\Civil 3D\104-16.dwg 104-16.dwg Apr 04, 2017 - 4:19pm Legend

NOTES & LEGEND

GENERAL NOTES:

- IT IS A SPECIFIC REQUIREMENT OF THIS PROJECT THAT THE PRIME CONTRACTOR'S JOB SUPERINTENDENT BE ON THE JOB AT ALL TIMES WORK IS BEING PERFORMED.
- CONTRACTOR SHALL RESTORE ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS DAMAGED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION AT NO COST TO THE OWNER. IN ADDITION, ALL AREAS SHALL BE MAINTAINED IN A NEAT AND ORDERLY FASHION DURING THE COURSE OF THE WORK.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. SHOULD ANY SPECIAL EQUIPMENT BE REQUIRED TO PERFORM WORK OVER AND AROUND UTILITIES, THE CONTRACTOR SHALL PROVIDE SUCH EQUIPMENT AT NO COST TO THE OWNER.
- WRITTEN DIMENSIONS AND ELEVATIONS SHALL GOVERN OVER SCALED DIMENSIONS AND ELEVATIONS.
- IF THE CONTRACTOR DURING THE COURSE OF THE WORK FINDS ANY DISCREPANCIES BETWEEN THE CONSTRUCTION PLANS AND THE ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO ANY ADDITIONAL WORK. THE ENGINEER WILL MAKE A RECOMMENDATION ON HOW TO PROCEED.
- THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES TO PREVENT EROSION EVEN IF NOT SHOWN ON EROSION CONTROL PLAN.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER AND ENGINEER RELATIVE TO PLACEMENT OF ALL ITEMS OF WORK PRIOR TO ANY WORK BEING PERFORMED.
- JOINT SEALANT SHALL BE DOW CORNING 890-SL SELF-LEVELING SILICONE OR APPROVED EQUAL.
- REINFORCING STEEL SHALL BE DEFORMED BARS GRADE 60. FIELD BENDING OF REINFORCING BARS IS PERMITTED.
- REINFORCING SHALL NOT EXTEND THROUGH ANY CONTROL, CONSTRUCTION, OR EXPANSION JOINTS.
- THE LOCATION AND SPACING OF SIGNS AS SHOWN ON THE STRIPING AND SIGNAGE LAYOUT, ARE APPROXIMATE AND MAY BE ADJUSTED AS NECESSARY TO FIT THE FIELD CONDITIONS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT EXISTING STRUCTURES SUCH AS PIPES, INLETS, APRONS, BOX CULVERT, ETC. FROM DAMAGE WHICH MIGHT OCCUR DURING CONSTRUCTION. EXTREME CARE SHOULD BE EXERCISED IN UNDERCUT AREAS AND THE UNDERCUT DEPTH MAY BE ADJUSTED AT CROSS DRAINS, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REPLACE OR REPAIR, AS DIRECTED BY THE ENGINEER, ANY STRUCTURES DAMAGED DURING THE LIFE OF THE CONTRACT. NO PAYMENT WILL BE MADE FOR REPLACEMENT OR REPAIR OF DAMAGED ITEMS.
- VOIDS CREATED BY THE REMOVAL OF POSTS; CONCRETE ANCHORS, FOOTINGS, ETC, SHALL BE BACKFILLED AND TAMPED IN ACCORDANCE WITH SECTION 203 OF THE PROJECT SPECIFICATIONS.
- ALL PLASTIC DRUMS SHALL HAVE A BALLASTING COLLAR MADE FROM RECYCLED TRUCK TIRES OR OTHER SUITABLE MATERIAL.
- ALL POST LENGTHS SHALL BE VERIFIED IN THE FIELD PRIOR TO FABRICATION.
- ALL PIPE JOINTS ARE TO BE WRAPPED IN TYPE V GEOTEXTILE FABRIC, 2 FEET IN WIDTH. ALL PICKUP HOLES ARE TO BE PLUGGED AND COVERED WITH TYPE V GEOTEXTILE FABRIC TO THE SATISFACTION OF THE ENGINEER (NOT A SEPARATE PAY ITEM).
- 35% SHRINKAGE FACTOR SHALL BE USED IN THE EARTHWORK CALCULATIONS.
- ALL TRAFFIC CONTROL DEVICES ON THIS PROJECT SHOULD COMPLY WITH PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.
- UTILITIES ON THE DRAWINGS ARE SHOWN IN THEIR ORIGINAL LOCATION BASED UPON THE ESTIMATED INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER CANNOT AND DOES NOT WARRANT THAT THIS INFORMATION IS COMPLETE OR ACCURATE. THE CONTRACTOR MUST COORDINATE DIRECTLY WITH THE INVOLVED UTILITY OWNERS TO HAVE UNDERGROUND UTILITY LINES FIELD LOCATED IN ADVANCE OF CONSTRUCTION.
- WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE WHAT BRACING, SHORING, OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES, INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY, SHALL BE INCLUDED IN THE CONTRACT ITEMS.
- FLUORESCENT ORANGE SHEETING SHALL BE USED ON ALL CONSTRUCTION AND TRAFFIC CONTROL SIGNS EXCEPT FOR THOSE DESIGNATED OTHERWISE.
- THE EROSION CONTROL DEVICES REFERENCED IN THESE PLANS ARE THE MINIMUM REQUIREMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SILT DOES NOT LEAVE THE RIGHT OF WAY OR CONTAMINATE WATERS OF THE U.S. DURING CONSTRUCTION.
- TOE WALLS REQUIRED ON ALL DOWNSTREAM FLARED END SECTIONS. TOE WALLS AT UPSTREAM FLARED END SECTIONS WILL BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL PERMITS (BUILDING, GRADING, CLEARING, ETC.) FROM ALL ENTITIES. ALL FEES REQUIRED FOR PERMITS SHALL BE PAID BY THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR ALL TESTING REQUIRED BY THE SPECIFICATIONS.** COST OF TESTING SHALL BE INCLUDED IN THE UNIT PRICES. ANY REFERENCES IN THE SPECIFICATIONS NOTING TESTING BY OWNER OR ENGINEER IS UNDERSTOOD TO BE BY CONTRACTOR FOR THIS PROJECT.
- ALL CONCRETE JUNCTION BOXES ARE TO BE TRAFFIC RATED PER MDOT STANDARD 304.
- TACK COAT SHALL BE ABSORBED IN HOT MIX ASPHALT PAY ITEMS. NO SEPARATE PAY ITEM WILL BE ESTABLISHED.

UTILITY OWNERS:

CABLE & FIBER OPTIC - COMCAST CABLE - 601-268-1188
GAS - WILMUT GAS COMPANY - 601-544-6001
POWER - MISSISSIPPI POWER - 601-545-4161
TELEPHONE - AT&T - 601-583-8779
WATER & SEWER - CITY OF HATTIESBURG PUBLIC SERVICES DEPARTMENT - 601-545-4540 (601-545-4545)

UTILITY NOTES:

- EXTREME CAUTION IS RECOMMENDED FOR LOCATION OF WATER, GAS, SEWER, AND FIBER OPTIC LINES DUE TO UNAVAILABILITY OF RECORDED LOCATIONS AND THE UNAVAILABILITY TO LOCATE ALL LINES. THE CONTRACTOR SHALL ENSURE ALL UTILITIES ARE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL EMPLOY ALL MEANS NECESSARY TO PROTECT EXISTING UTILITIES EVEN IF NOT INCLUDED IN THE PROJECT PLANS/SPECIFICATIONS.
- THE PROFESSIONAL ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES SHOWN.

HYDRAULIC DESIGN:

<25 ACRES - RATIONAL METHOD
>25 ACRES - "FLOOD CHARACTERISTICS OF MISSISSIPPI STREAMS" 1991

SHRINKAGE FACTORS:

GRANULAR MATERIAL (LVM) = 1.50
UNCLASSIFIED EXCAVATION = 1.35

SCOPE OF WORK THIS CONTRACT (MEDICAL PARK ACCESS ROADWAY)

THIS PROJECT INCLUDES ALL ITEMS NECESSARY FOR CLEARING AND GRUBBING OF THE SITE, INSTALLATION OF DRAINAGE PIPING AND STRUCTURES, CONSTRUCTION OF THE ASPHALT ROADWAY, AND TEMPORARY AND PERMANENT EROSION CONTROL. THESE ITEMS ARE FURTHER DEFINED BELOW.

CLEARING AND GRUBBING SHALL INCLUDE (BUT NOT BE LIMITED TO) THE FOLLOWING:

- REMOVAL OF ALL REMAINING VEGETATION.
- STRIPPING OF TOPSOIL AND STOCKPILING ON-SITE AT LOCATION APPROVED BY ENGINEER FOR REUSE.
- SEE SPECIFICATION SECTION "S-201 - CLEARING AND GRUBBING" FOR MORE DETAILS.

INSTALLATION OF DRAINAGE NETWORK SHALL INCLUDE (BUT NOT BE LIMITED TO) THE FOLLOWING:

- INSTALLATION OF ALL JUNCTION BOXES AND CURB INLETS AS SHOWN ON THESE PLANS.
- INSTALLATION OF ALL DRAINAGE PIPING AS SHOWN ON THESE PLANS.
- INSTALLATION OF A 48" RCP FLARED END SECTION WITH TOEWALL AT THE OUTFLOW OF THE DRAINAGE NETWORK (DETENTION POND).

CONSTRUCTION OF THE ROADWAY SHALL INCLUDE (BUT NOT BE LIMITED TO) THE FOLLOWING:

- UNCLASSIFIED EXCAVATION ALONG THE ALIGNMENT TO BRING THE SUBGRADE TO THE PROPER ELEVATION. ALL EXCAVATION WILL BE USED ON SITE.
- INSTALLATION OF COMBINATION CURB AND GUTTER (CURB FORMING MACHINE REQ'D) ALONG THE ROADWAY AT STATION RANGES SHOWN ON THESE PLANS.
- INSTALLATION OF CRUSHED STONE AND HOT MIX ASPHALT IN LIFTS AS DEFINED ON THESE PLANS.
- INSTALLATION OF CONCRETE SIDEWALKS ALONG THE ROADWAY AT STATION RANGES SHOWN ON THESE PLANS (ENGINEER WILL ESTABLISH SIDEWALK GRADES DURING CONSTRUCTION).

TEMPORARY AND PERMANENT EROSION CONTROL SHALL INCLUDE (BUT NOT BE LIMITED TO) THE FOLLOWING:

- MAINTENANCE OF EXISTING EROSION CONTROL MEASURES (SILT FENCE AND WATTLES) THAT WERE INSTALLED BY THE PRELIMINARY GRADING CONTRACTOR.
- INSTALLATION OF ANY OTHER REQUIRED CONTROLS TO MINIMIZE EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE.
- PERMANENT SEEDING (INCLUDING TOPSOIL) OF ALL DISTURBED AREAS PRIOR TO COMPLETION OF PROJECT.
- COMPLIANCE WITH ALL ASPECTS OF THE LARGE CONSTRUCTION GENERAL PERMIT INCLUDED IN THE SPECIFICATIONS.

ABBREVIATIONS (SOME MAY NOT APPLY THIS PROJECT):

AVENUE	AVE
ASPHALT	ASPH.
BACK OF CURB	B.O.C.
BUSINESS	BUS
CURB INLET	CI
CONCRETE	CONC.
CURB AND GUTTER	C&G
CORRUGATED POLY VINYL CHLORIDE	CPVC
EAST	E
EDGE OF PAVEMENT	EOP
ELEVATION	ELEV.
ESTIMATED	EST.
EXISTING	EX.
FOUND IRON PIN	F.I.P.
IN PLACE TO REMAIN	I.P.T.R.
INVERT	INV.
LINEAR FEET	L.F.
MINIMUM	MIN.
MISCELLANEOUS	MISC.
MODIFIED	MOD.
POUNDS PER SQUARE INCH	P.S.I.
POLY VINYL CHLORIDE	PVC
RADIUS (# INDICATES FEET)	R100.0'
REINFORCED CONCRETE PIPE	RCP
REQUIRED	REQ'D
RESIDENCE	RES
SHOULDER	SHDR.
SET IRON PIN	S.I.P.
SPECIAL DESIGN	SD
SQUARE YARDS	S.Y.
SQUARE FEET	S.F.
STATION	STA.
STREET	ST
TO BE REMOVED	T.B.R.
TO BE MODIFIED	T.B.M.
TO BE RELOCATED	T.B.R.L.
VARIABLE	VAR.
WEST	W
WITH	W/

LEGEND (SOME MAY NOT APPLY THIS PROJECT):

EXISTING CENTERLINE	---
EXISTING CURB & GUTTER	-----
EXISTING DRAINAGE PIPING	-----
EXISTING EDGE OF PAVEMENT	---
EXISTING FENCE	○-○-○
EXISTING GAS (SERVICE OR MAIN)	— GAS —
EXISTING OVERHEAD POWER	— OHP —
EXISTING SEWER SERVICE (GRAVITY)	— SS —
EXISTING WATER MAIN	— WAT —
EXISTING FIBER OPTIC	— FO —
EXISTING CONTOUR	— 100 —
PROPOSED CONTOUR	— 100 —
PROPOSED CURB & GUTTER	=====
PROPOSED DOMESTIC WATER MAIN	— 6DI —
PROPOSED FIRE WATER MAIN	— FIRE —
PROPOSED SANITARY SEWER SERVICE	— 6SS —
PROPOSED DRAINAGE PIPING	=====
PROPOSED SIDEWALK	
PROPOSED FRENCH DRAIN	— FD —
PROPOSED SILT FENCE	— SF —
PROPOSED IRRIGATION SLEEVES	— IRR —

SYMBOLS (SOME MAY NOT APPLY THIS PROJECT):

CENTERLINE	⊕
EXISTING GAS VALVE	⊗
EXISTING GAS METER	⊗
EXISTING SPOT ELEV.	+ 100.00
EXISTING GUY WIRE	⊙
EXISTING HYDRANT	⊙
EXISTING LIGHT POLE	⊙
EXISTING POWER POLE	⊙
EXISTING SEWER MANHOLE	⊙
EX. OR PROPOSED SIGN	⊙
EXISTING WATER METER	⊙
EXISTING WATER VALVE	⊙
PROPERTY CORNER	⊙
PROPOSED B.O.C. SPOT ELEV.	+100.00
PROPOSED PAVEMENT/SPOT ELEV.	+100.00
PROPOSED HYDRANT	⊙
PROPOSED POWER POLE	⊙
TRAFFIC FLOW DIRECTION/PAVEMENT MARKING	→

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CHECKED BY
Dustin Gatlin, P.E.

MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

SCALES:

12"x18"
N/A
24"x36"
N/A

THE WALKER ASSOCIATES
ENGINEERS ■ PLANNERS ■ DESIGNERS
2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

DATE:
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SERIAL NO.
104-16

SHEET NO.
2

N:\Civil 3D\104-16\dwg\104-16.dwg Quantity Apr 04, 2017 - 4:19pm

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES				
PAY ITEM NO.	PAY ITEM	PLAN	FINAL	UNIT
	ROADWAY ITEMS			
	S-200-A MOBILIZATION	L.S.		LUMP SUM
	S-201-A CLEARING AND GRUBBING	L.S.		LUMP SUM
①	S-202-A REMOVAL OF OBSTRUCTIONS (TIE-IN AT EXISTING ROADWAY)	L.S.		LUMP SUM
②	S-203-A UNCLASSIFIED EXCAVATION (FM)	900		CU. YD.
	S-203-E BORROW EXCAVATION (CONTRACTOR FURNISHED LVM, CLASS 9-8)	1,160		CU. YD.
③	S-240-A GEOGRID REINFORCEMENT	1,500		SQ. YD.
	S-304-D CRUSHED STONE	625		TON
	S-403-A HOT MIX ASPHALT, (ST)(9.5MM)	240		TON
	S-403-A HOT MIX ASPHALT, (ST)(12.5MM)	320		TON
	S-403-A HOT MIX ASPHALT, (ST)(19MM)	480		TON
Ⓝ	S-601-B CLASS "B" STRUCTURAL CONCRETE, MINOR STRUCTURES	43		CU. YD.
	S-602-A REINFORCING STEEL	5,365		LB.
④	S-603-C-A 24" REINFORCED CONCRETE PIPE, CLASS III	84		LIN. FT.
④	S-603-C-A 48" REINFORCED CONCRETE PIPE, CLASS III	200		LIN. FT.
④	S-603-C-B 48" REINFORCED CONCRETE PIPE, END SECTION	1		EACH
④	S-603-PE 24" CORRUGATED POLYETHYLENE PIPE	105		LIN. FT.
④	S-603-PE 36" CORRUGATED POLYETHYLENE PIPE	290		LIN. FT.
④	S-603-PE 48" CORRUGATED POLYETHYLENE PIPE	250		LIN. FT.
	S-608-A CONCRETE SIDEWALK	920		SQ. YD.
	S-609-D COMBINATION CONCRETE CURB AND GUTTER	1,720		LIN. FT.
⑤	S-613-A ADJUSTMENT OF CASTINGS, GRATINGS, AND UTILITY APPURTENANCES	L.S.		LUMP SUM
	S-617-A RIGHT-OF-WAY MARKERS (TYPE II)	14		EACH
	S-618-A MAINTENANCE OF TRAFFIC	L.S.		LUMP SUM
	S-621-C 4" WIDE THERMOPLASTIC EDGE STRIPE (CONTINUOUS WHITE)(60 MILS)	0.364		MILE
	S-621-E-1 4" WIDE THERMOPLASTIC TRAFFIC STRIPE (CONTINUOUS YELLOW)(90 MILS)	1,750		LIN. FT.
	S-621-G-1 THERMOPLASTIC DETAIL STRIPE (4" EQUIV. LENGTH)(WHITE)(90 MILS)	246		LIN. FT.
	S-627-D TWO-WAY YELLOW REFLECTIVE RAISED MARKERS	23		EACH
⑥	S-630-A REFLECTORIZED TRAFFIC WARNING SIGN(ENCAPSULATED LENS)	1		EACH
⑦	S-630-B REFLECTORIZED TRAFFIC REGULATORY SIGN (ENCAPSULATED LENS)	1		EACH
	ELECTRICAL ITEMS			
⑧	907-633-A ROADWAY LIGHTING SYSTEM	L.S.		LUMP SUM
	EROSION CONTROL ITEMS			
	901-S-212-A AGRICULTURAL LIMESTONE	1.0		TON
	S-212-B COMMERCIAL FERTILIZER (13-13-13)	0.5		TON
	S-212-F AMMONIUM NITRATE	0.1		TON
	S-214-A SEEDING	0.5		ACRE
	S-215-A VEGETATIVE MATERIALS FOR MULCH	1.0		TON
⑨	S-234-A TEMPORARY EROSION CONTROL MEASURES	L.S.		LUMP SUM

- ① PAY ITEM SHALL INCLUDE REMOVAL OF ANY ITEMS (CONCRETE CURB AND GUTTER, REMOVAL AND/OR COLD MILLING OF ASPHALT, ETC.) REQUIRED TO PROPERLY TRANSITION NEW PAVEMENT TO EDGE OF PARKWAY BOULEVARD.
- ② PRELIMINARY GRADING HAS BEEN PERFORMED BY OTHERS. CONTRACTOR WILL HAVE TO EXCAVATE SOME MATERIAL FOR PLACEMENT OF THE PAVEMENT STRUCTURE. ALL MATERIAL EXCAVATED WILL BE SPOILED ON-SITE.
- ③ PAY ITEM SHALL INCLUDE SCARIFYING AND DRYING OF EXISTING SUBGRADE AS REQ'D PRIOR TO INSTALLATION OF GEOGRID AND BORROW EXCAVATION.
- ④ ALL EXCAVATION NECESSARY FOR THE INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE FOR SAID ITEMS.
- ⑤ PAY ITEM SHALL INCLUDE ALL NECESSARY ADJUSTMENTS TO UTILITY APPURTENANCES (VALVE COVERS, SEWER MANHOLES, ETC.) IN ORDER TO MATCH THE FINISHED GRADE OF THIS PROJECT.
- ⑥ PAY ITEM SHALL INCLUDE "STOP" SIGN AND "ROAD NAME" SIGN ON ONE POST AS SHOWN ON SHEET ST1.0 OF THESE PLANS.
- ⑦ PAY ITEM SHALL INCLUDE "NO OUTLET" SIGN AND "SPEED LIMIT" SIGN ON ONE POST AS SHOWN ON SHEET ST1.0 OF THESE PLANS.
- ⑧ PAY ITEM SHALL INCLUDE ALL ITEMS NECESSARY FOR THE INSTALLATION OF THE ROADWAY LIGHTING SYSTEM AS SHOWN ON THESE PLANS INCLUDING BUT NOT LIMITED TO: METER INSTALLATION (INCLUDING ANY MPC FEES), ALL PANELS, ANY MOUNTING HARDWARE REQUIRED FOR METER AND PANELS, UNDERGROUND CONDUITS AND FITTINGS, PULLBOXES, WIRING, POLES, AND LIGHT ASSEMBLIES. SEE SECTION 16000 SPECIFICATIONS FOR DETAILS.
- ⑨ PAY ITEM SHALL INCLUDE MAINTENANCE OF EXISTING EROSION CONTROL MEASURES INSTALLED BY PRELIMINARY GRADING CONTRACTOR AND ANY OTHER CONTROLS THAT MAY BE REQUIRED THROUGHOUT THE PROJECT TO MINIMIZE EROSION AND ENSURE THAT SILT DOES NOT LEAVE THE SITE.
- Ⓝ CEMENTITIOUS MATERIAL EXPOSURE TO SULFATES IS NEGLIGIBLE.

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MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

SCALES:
12"x18"
N/A
24"x36"
N/A

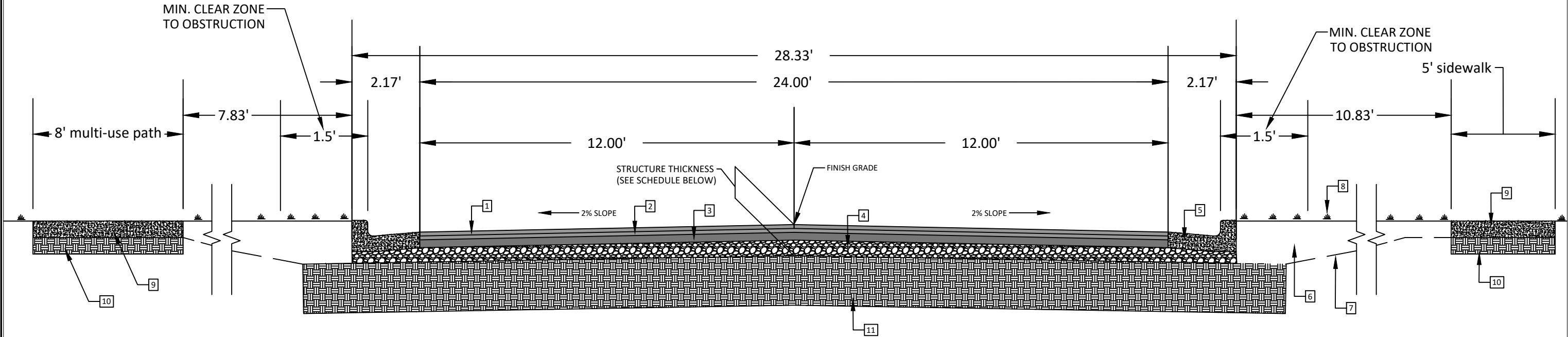
THE WALKER ASSOCIATES
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2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

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2-A

RATES OF APPLICATION FOR ESTIMATING QUANTITIES

ITEM	RATE
HOT MIX ASPHALT (HMA)	110 LBS. PER SQ. YD. /IN.
AGRICULTURAL LIMESTONE	2.0 TONS /ACRE
COMMERCIAL FERTILIZER (13-13-13)	1.0 TON /ACRE
AMMONIUM NITRATE	200 LBS/ACRE
VEGETATIVE MATERIALS FOR MULCH	2.0 TONS /ACRE

NOTE: THE AMMONIUM NITRATE IS TO BE APPLIED AFTER GRASS GROWTH IS ESTABLISHED.



TYPICAL GRADE, DRAIN, BASE & SURFACING SECTION

STA. 0+00.00 - STA. 7+00.00

N.T.S.

FLEXIBLE PAVEMENT DESIGN

DATA FOR PAVEMENT DETERMINATION	REQUIRED STRUCTURE NUMBER	
(2016) ADT = 1025 Current (2021) ADT = 1094 n Year (2036) ADT = 1332 Design DHV = 200 D = 50% of DHV T = 10% of DHV T(Total) = 10% of ADT 18K(Flex) = 675/1000 18K(Rigid) = 0/1000 CBR = 5	2036	2021
	ADL 40 CBR 5 SSV 3.72 PT 2.5 SN 3.27	ADL 36 CBR 5 SSV 3.72 PT 2.5 SN 2.55

GENERAL NOTES

EROSION CONTROL MEASURES TO BE APPLIED ON INDICATED AREA () AS PER SEASONAL LIMITATIONS.

ANY SOFT OR YIELDING LOCATIONS BENEATH THE ROADWAY SHALL BE UNDERCUT AND BACKFILLED WITH UNCLASSIFIED MATERIAL APPROVED BY THE ENGINEER. PAYMENT WILL BE MADE UNDER THE UNCLASSIFIED PAY ITEM.

- 1 1.5" HMA, ST, 9.5mm, SURFACE COURSE REQ'D.
- 2 2" HMA, ST, 12.5mm, BINDER COURSE REQ'D. (SINGLE LIFT ALLOWED)
- 3 3" HMA, ST, 19mm, BASE COURSE REQ'D. (SINGLE LIFT ALLOWED)
- 4 4" CRUSHED STONE (SIZE 610) SUBBASE
- 5 TYPE 1 COMBINATION CONCRETE CURB AND GUTTER (REFER TO MDOT ROADWAY DESIGN STANDARD DRAWINGS SHEET #287)
- 6 UNCLASSIFIED EXCAVATION
- 7 EXISTING GROUND
- 8 TOPSOIL & PERMANENT EROSION CONTROL PER SPECIFICATIONS
- 9 CONCRETE SIDEWALK (CLASS "B" CONCRETE)
- 10 4" (MIN.) BORROW EXCAVATION (CLASS 9-8) COMPACTED TO 98% S.P.D.
- 11 2'-3' SELECT FILL MATERIAL (CLASS 9-8) PLACED IN PREVIOUS CONTRACT

SCHEDULE OF STRUCTURE THICKNESS

STATION TO STATION	ESTIMATED SUBGRADE * CBR	SOIL SUPPORT VALUE	AVERAGE DAILY LANE LOADING	STRUCTURE NUMBER REQUIRED	CRUSHED STONE SUBBASE THICKNESS		19 mm BASE COURSE THICKNESS		12.5 mm BINDER COURSE THICKNESS		9.5 mm SURFACE COURSE THICKNESS		TOTAL PROVIDED	
					in	SN	in	SN	in	SN	in	SN	in	SN
0+00 TO 9+23 (INC. CUL-DE-SAC)	5	3.72	36	2.55	4	0.56	3	1.32	2	0.88	1.5	0.66	10.5	3.42

*Note: Subgrade CBR Is Estimated Only.

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MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

SCALES:

12"x18"
N/A
24"x36"
N/A

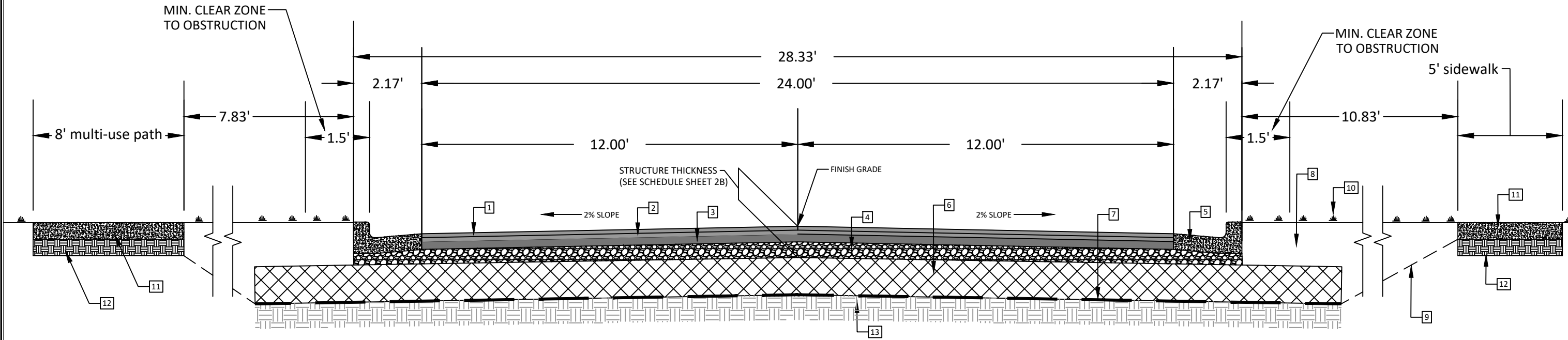
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APRIL 2017

SERIAL NO.
104-16

SHEET NO.

2-B



TYPICAL GRADE, DRAIN, BASE & SURFACING SECTION

STA. 7+00.00 - STA. 9+23.28
(INCLUDING CUL-DE-SAC)
N.T.S.

- 1 1.5" HMA, ST, 9.5mm, SURFACE COURSE REQ'D.
- 2 2" HMA, ST, 12.5mm, BINDER COURSE REQ'D. (SINGLE LIFT ALLOWED)
- 3 3" HMA, ST, 19mm, BASE COURSE REQ'D. (SINGLE LIFT ALLOWED)
- 4 4" CRUSHED STONE (SIZE 610) SUBBASE
- 5 TYPE 1 COMBINATION CONCRETE CURB AND GUTTER (REFER TO MDOT ROADWAY DESIGN STANDARD DRAWINGS SHEET #287)
- 6 2' (MIN.) BORROW MATERIAL (CLASS 9-8) COMPACTED TO 98% S.P.D. OVER GEOGRID
- 7 GEOGRID REINFORCEMENT (TENSAR TRIAX TX140) TO EXTEND 5' BEYOND BACK OF CURB
- 8 UNCLASSIFIED EXCAVATION
- 9 EXISTING GROUND
- 10 TOPSOIL & PERMANENT EROSION CONTROL PER SPECIFICATIONS
- 11 CONCRETE SIDEWALK (CLASS "B" CONCRETE)
- 12 4" (MIN.) BORROW EXCAVATION (CLASS 9-8) COMPACTED TO 98% S.P.D.
- 13 EXISTING SUBGRADE

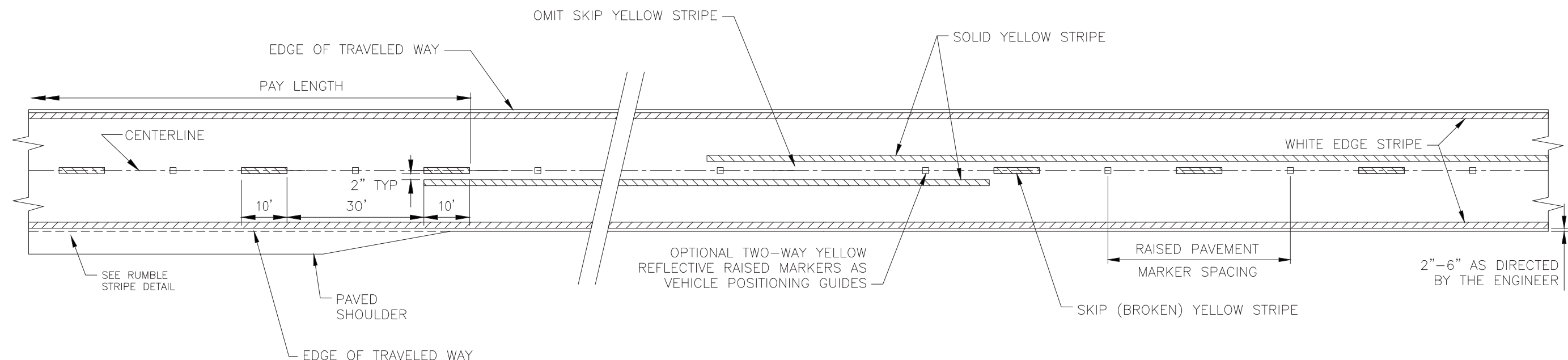
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MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
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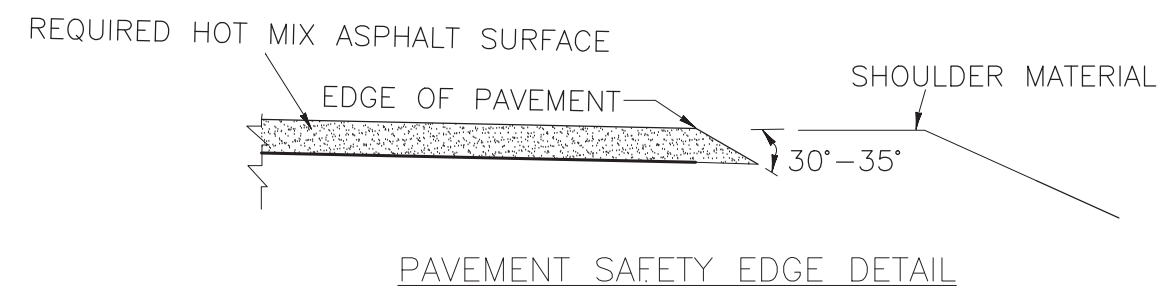
SCALES:
12"x18"
N/A
24"x36"
N/A

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STRIPING DETAIL (TWO-WAY TRAFFIC)
ASPHALT OR CONCRETE PAVEMENT
 (not to scale)



PASSING SIGHT DISTANCE SCHEDULE	
85TH-PERCENTILE OR POSTED OR STATUTORY SPEED LIMIT (MPH)	MINIMUM PASSING SIGHT DISTANCE (FEET)
25	450
30	500
35	550
40	600
45	700
50	800
55	900
60	1000

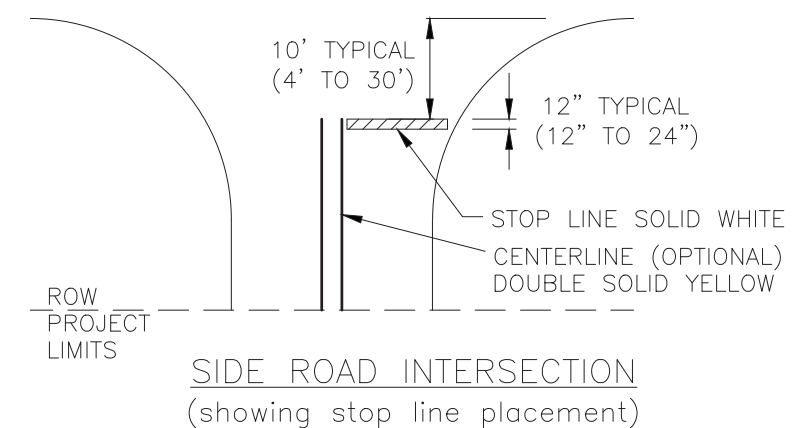
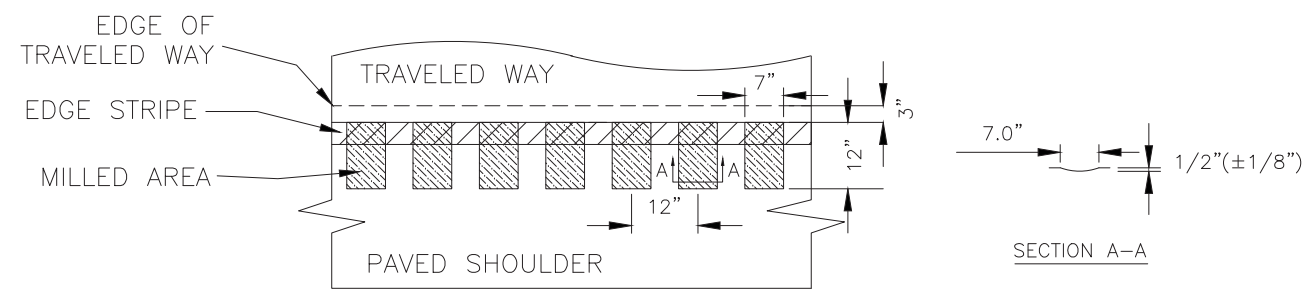
NOTES:

REFER TO STRIPING AND SIGNING SHEETS IN THE PLANS FOR STRIPE WIDTH AND REQUIRED STRIPING LOCATIONS IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

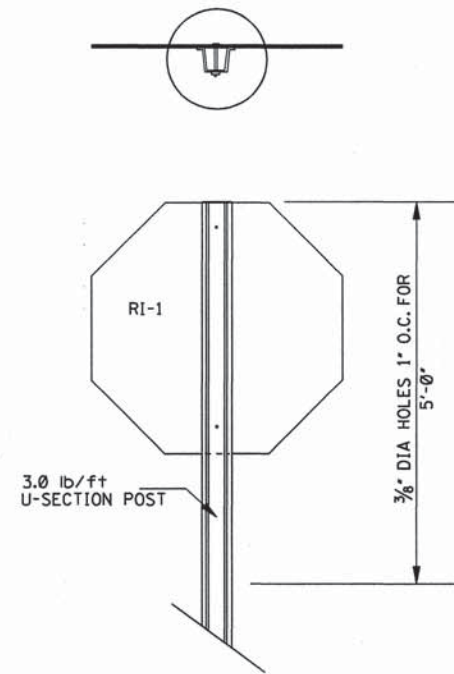
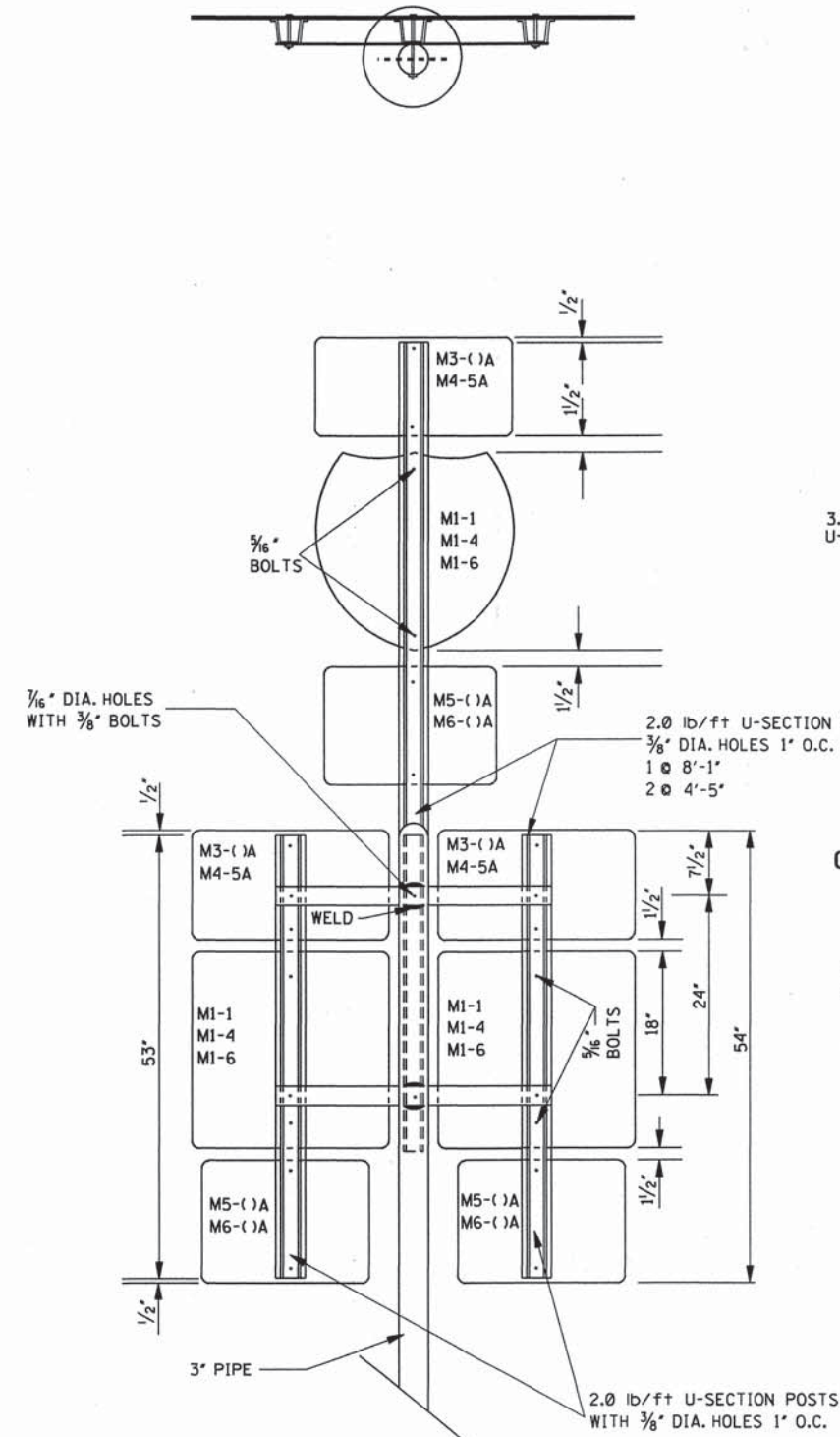
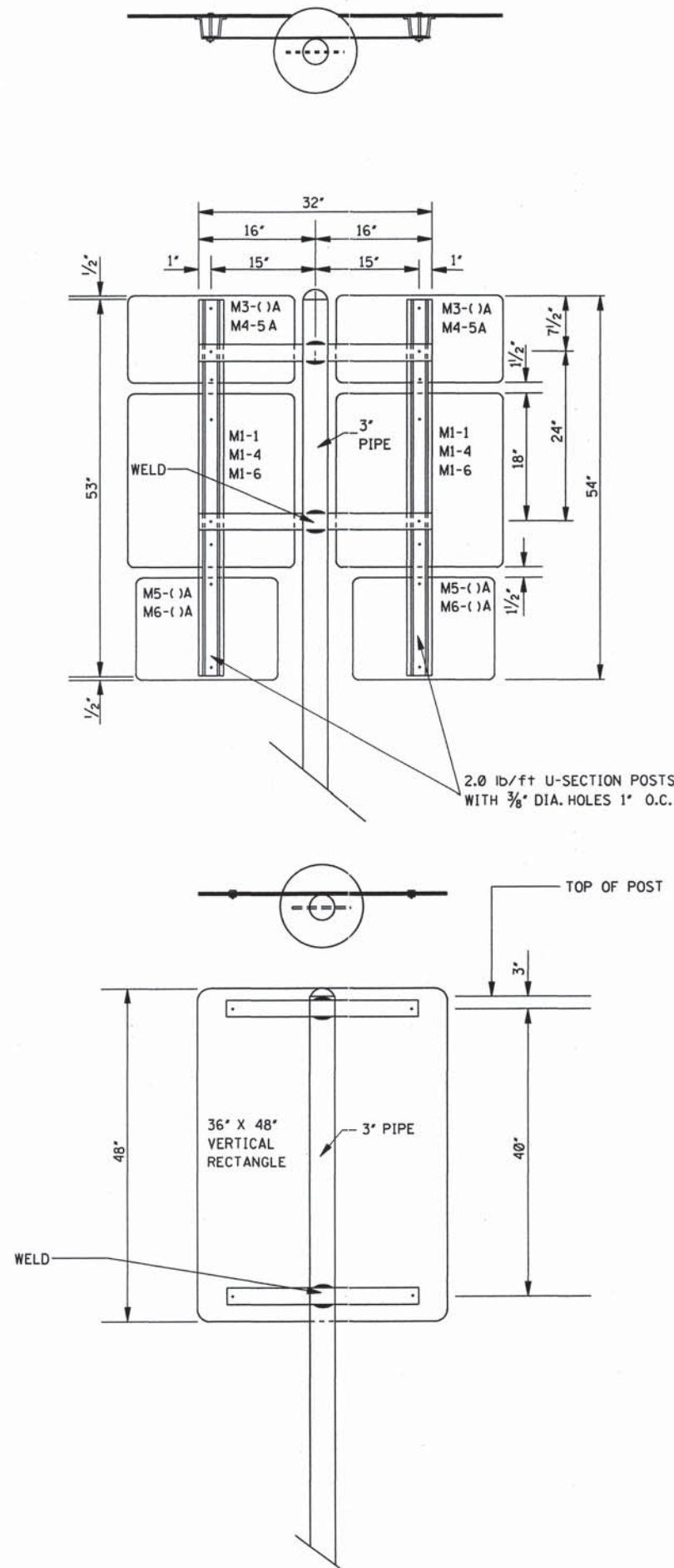
EDGE AND/OR RUMBLE STRIPE SHALL BE OMITTED AT ALL TURNOUTS AND INTERSECTIONS, AND CONTINUED THROUGH ALL RAMPS AND DRIVEWAYS UNLESS SHOWN OTHERWISE ON THE PLANS. EDGE STRIPE SHALL BE THE SAME MATERIAL AS CENTERLINE STRIPE. CENTERLINE STRIPE ON CONCRETE PAVEMENT SHALL BE OFFSET 1" FROM PAVEMENT JOINT.

TYPICAL SPACING OF RAISED PAVEMENT MARKERS IS:

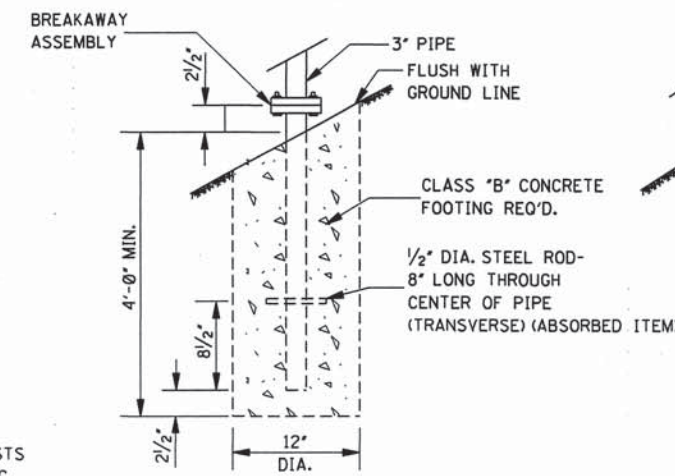
AREA	URBAN	RURAL
TANGENT SECTIONS	40'	80'
HORIZONTAL CURVES	40'	40'



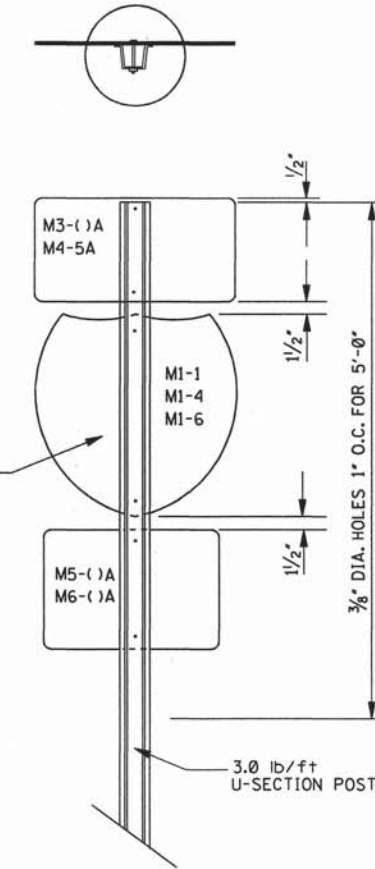
	HCW	HCW	BY	OFFICE OF STATE AID ROAD CONSTRUCTION MISSISSIPPI DEPARTMENT OF TRANSPORTATION		
	MODIFIED NOTES	ADD PAVEMENT SAFETY EDGE DETAIL	REVISION	PAVEMENT STRIPING AND MARKING		
1/9/2014	1/4/2013	DATE				
BY:	JBM	DATE:	MAY 20, 2005	DRAWING NUMBER:	SA-PSM-1	



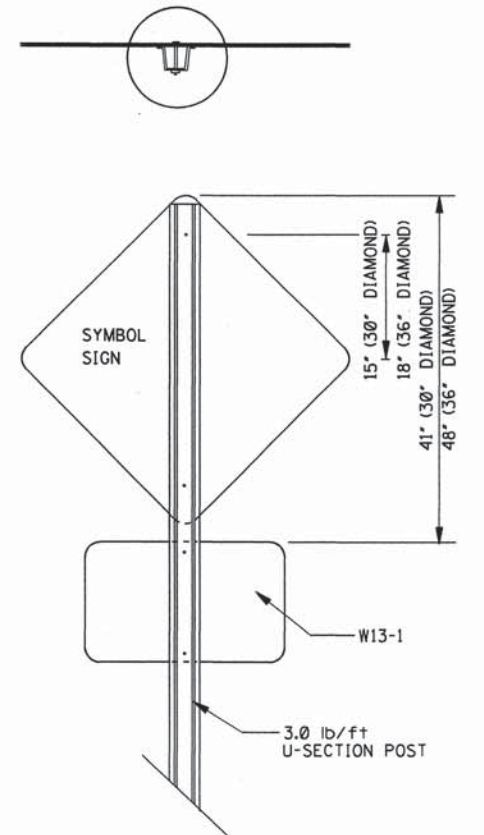
TYPICAL ASSEMBLY OF
"FLAT TOPPED" REGULATORY
OR WARNING SIGN MOUNTED ON
A SINGLE U-SECTION POST



FOOTING DETAIL FOR
3" PIPE



FOOTING DETAIL FOR
U-SECTION POSTS

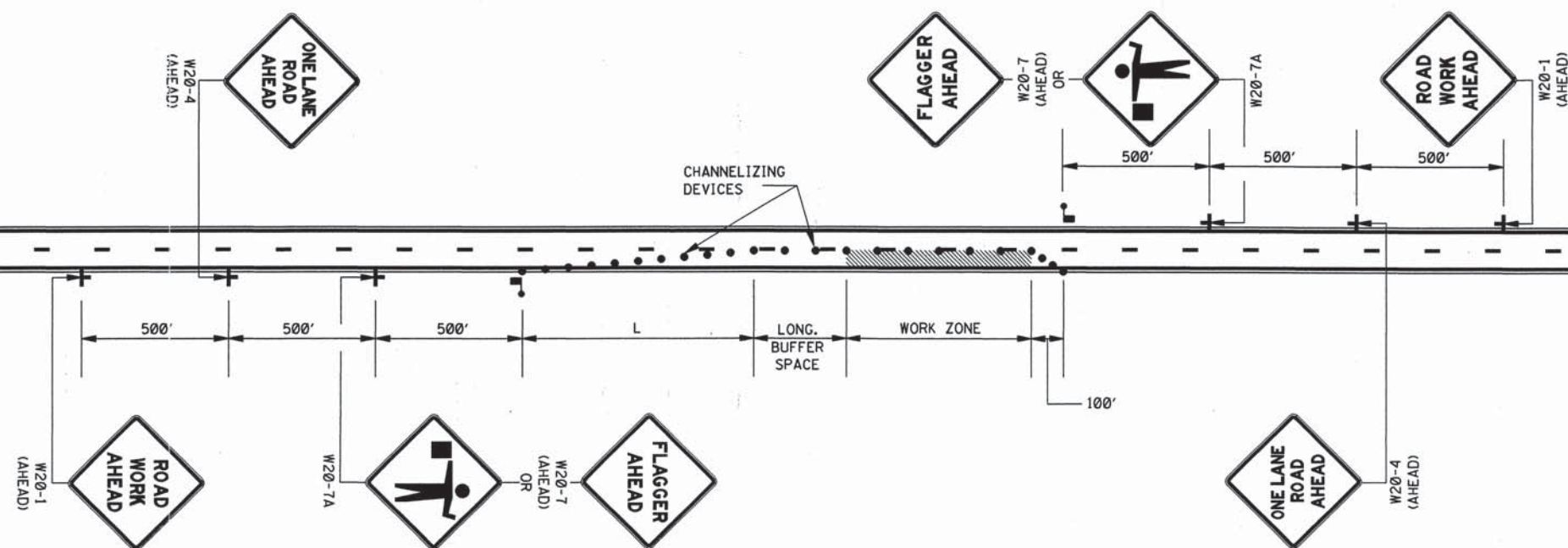


GENERAL NOTES:

1. UNLESS OTHERWISE SPECIFIED, HORIZONTAL BRACES ARE 3/16" X 2 1/2" X VARIABLE LENGTH FLAT STEEL BARS. BARS ARE WELDED TO PIPE AS SHOWN. WHEN FABRICATION IS COMPLETE, POST SHALL BE GALVANIZED AS PER SECTION 630 OF THE STANDARD SPECIFICATION.
2. HOLES IN FLAT BARS ARE 3/8" DIAMETER.
3. SIGNS ARE FASTENED TO FLAT BARS AND U-SECTION POST WITH 3/8" BOLTS, WITH FLAT WASHER AND LOCK-NUTS.
4. GROUND PLATE NOT REQUIRED ON U-SECTION POST.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
STANDARD ROADSIDE SIGN ASSEMBLY AND INSTALLATION			
BY	REVISION	DATE	ISSUE DATE: OCTOBER 1, 1998
			WORKING NUMBER SN-4A
			SHEET NUMBER 226





GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		MINIMUM LONGITUDINAL BUFFER SPACE (ft)	TAPER † RATES
	TAPER	ALONG LANE LINE & WORK ZONE		
mph				
≤40	40	80	170	27:1
45	45	90	220	45:1
50	50	100	280	50:1
55	55	110	335	55:1
60	60	120	415	60:1
65	65	130	485	65:1
70	70	140	575	70:1

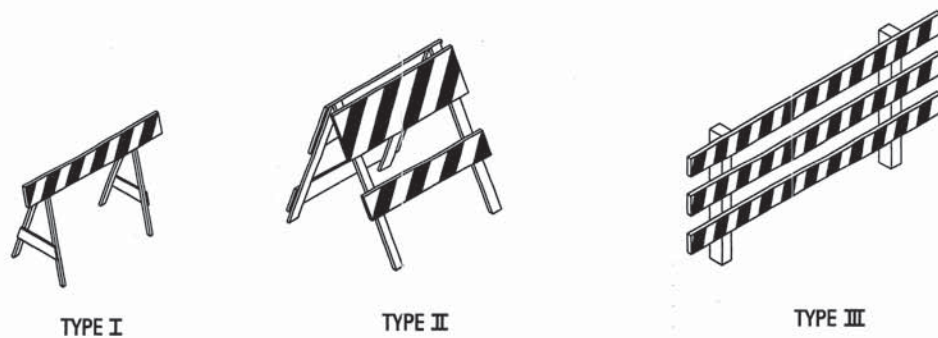
† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
 $L = WS$ FOR SPEEDS OF 45 mph OR GREATER
 $L = WS^2/60$ FOR SPEEDS OF 40 mph OR LESS
 WHERE: L = MINIMUM LENGTH OF TAPER IN FEET
 W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET
 S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR

- ALL CHANNELIZING DEVICES SHALL BE A MINIMUM OF 24" IN HEIGHT.
- ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.
- DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHALL BE A MINIMUM OF 48" x 48".
- WHEN THERE IS NO EXISTING HAZARD OR AT THE END OF THE WORK DAY, ALL SIGNS SHALL BE COVERED OR REMOVED AND ALL CHANNELIZING DEVICES SHALL BE MOVED TO THE SHOULDER EDGE.
- WHERE THE WORK ZONE IS STATIONARY, THE W20-7 (500 FT.) SIGN OR THE W20-7A SIGN TOGETHER WITH THE W20-7 (500 FT.) SUPPLEMENTAL PLATE SHOULD BE USED TO INDICATE THE DISTANCE TO THE FLAGGER.

LEGEND

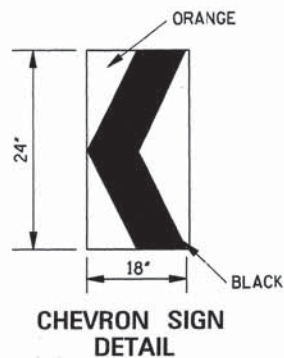
- FLAGGER
- CHANNELIZING DEVICES

		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
		TRAFFIC CONTROL PLAN WITH FLAGGER (ONE-LANE CLOSURE OF TWO-WAY TRAFFIC)	
			
		WORKING NUMBER TCP-1	
		SHEET NUMBER 250	
DATE	ISSUE DATE:	OCTOBER 1, 1998	

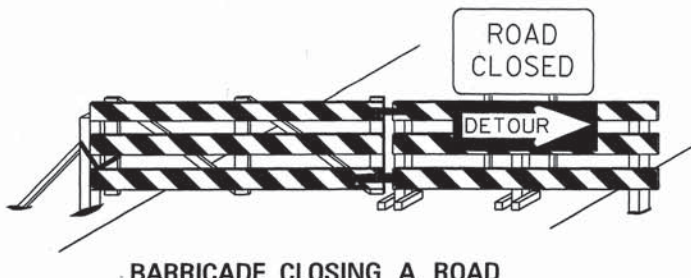
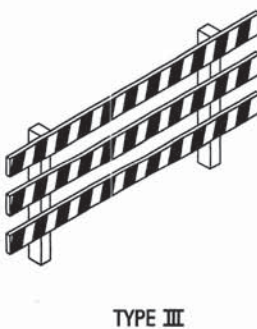


STANDARD BARRICADES

1. A TYPE I BARRICADE CONSISTS OF ONE (1) HORIZONTAL RAIL SUPPORTED BY A DEMOUNTABLE FRAME OR A LIGHT "A" FRAME. A TYPE I BARRICADE NORMALLY WOULD BE USED ON CONVENTIONAL ROADS OR URBAN STREETS AND ARTERIALS.
2. A TYPE II BARRICADE CONSISTS OF TWO (2) HORIZONTAL RAILS ON A LIGHT "A" FRAME. TYPE II BARRICADES ARE INTENDED FOR USE ON EXPRESSWAYS AND FREEWAYS AND OTHER HIGH-SPEED ROADWAYS.
3. TYPE I AND TYPE II BARRICADES ARE INTENDED FOR USE WHERE THE HAZARD IS RELATIVELY SMALL AS, FOR EXAMPLE, ON CITY STREETS, OR FOR THE MORE OR LESS CONTINUOUS DELIMITING OF A RESTRICTED ROADWAY, OR FOR TEMPORARY DAYTIME USE.
4. A TYPE III BARRICADE CONSISTS OF THREE (3) HORIZONTAL RAILS SUPPORTED BY FIXED POSTS, A RIGID SKID, A HEAVY DEMOUNTABLE FRAME OR A HEAVY, HINGED "A" FRAME.
5. TYPE III BARRICADES ARE INTENDED FOR USE ON CONSTRUCTION AND MAINTENANCE PROJECTS AS WING BARRICADES AND AT ROAD CLOSURES, WHERE THEY MUST REMAIN IN PLACE FOR EXTENDED PERIODS.
6. THE MARKING FOR BARRICADE RAILS SHALL BE ORANGE AND WHITE (SLOPING DOWNWARD AT AN ANGLE OF 45° IN THE DIRECTION TRAFFIC IS TO PASS).
7. DO NOT PLACE SANDBAGS OR OTHER DEVICES TO PROVIDE MASS ON THE BOTTOM RAIL THAT WILL BLOCK VIEW OR RAIL FACE.
8. FOR ADDITIONAL INFORMATION OR DETAILS, SEE MUTCD, LATEST EDITION.



1. A CHEVRON SIGN CONSISTS OF A BLACK CHEVRON TYPE MARKING ON AN ORANGE BACKGROUND AND SHALL POINT IN THE DIRECTION OF TRAFFIC FLOW.
2. THE CHEVRON SIGN SHALL BE MOUNTED ON FIXED POST OR RIGID SKID.
3. CHEVRON SIGNS MAY BE USED TO SUPPLEMENT OTHER STANDARD DEVICES WHERE ONE OR MORE LANES ARE CLOSED FOR CONSTRUCTION OR MAINTENANCE. THEY SHALL BE PLACED APPROXIMATELY 2'-0" BEHIND THE LANE TRANSITION STRIPE.



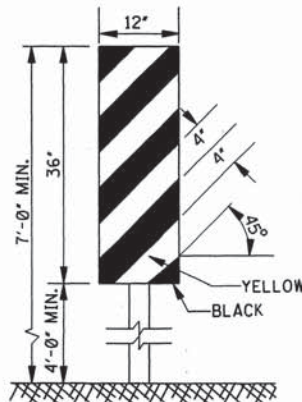
BARRICADE CLOSING A ROAD

BARRICADE CHARACTERISTICS

	I	II	III
WIDTH OF RAIL **	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.
LENGTH OF RAIL **	24" MIN.	24" MIN.	48" MIN.
WIDTH OF STRIPE *	6"	6"	6"
HEIGHT	36" MIN.	36" MIN.	60" MIN.
NUMBER OF REFLECTORIZED RAIL FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTIONS
TYPE OF FRAME	LIGHT	LIGHT "A" FRAME	POST OR SKID

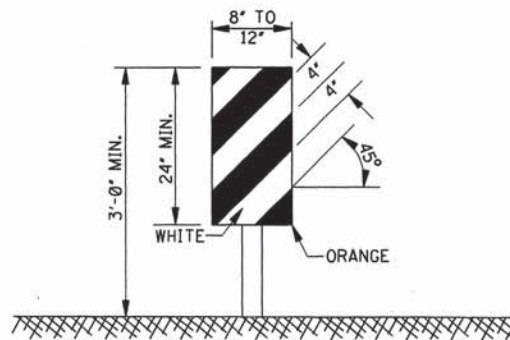
* 1. FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.

** 2. BARRICADES INTENDED FOR USE ON EXPRESSWAYS, FREEWAYS AND OTHER HIGH SPEED ROADWAYS, SHALL HAVE A MINIMUM OF 270 IN² OF REFLECTIVE AREA FACING TRAFFIC.



TYPE 3 OBJECT MARKER (OM-3R)

1. TYPE 3 OBJECT MARKERS SHALL BE USED AT ALL EXPOSED BRIDGE ABUTMENTS AND AT OTHER LOCATIONS AS DEEMED NECESSARY BY THE ENGINEER.
2. THE OM-3R IS SHOWN. THE OM-3L IS SIMILAR EXCEPT THE STRIPES SLOPE DOWNWARD FROM THE UPPER LEFT SIDE TO THE LOWER RIGHT SIDE AND SHALL BE PLACED ON THE LEFT SIDE OF THE OBJECT.
3. THE INSIDE EDGE OF THE MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION.

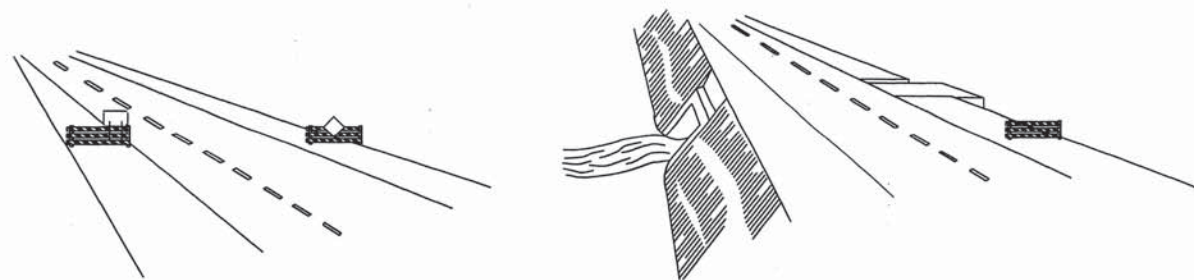


VERTICAL PANEL

1. VERTICAL PANELS CONSIST OF AT LEAST ONE PANEL 8" TO 12" IN WIDTH AND A MINIMUM OF 24" IN HEIGHT.
2. THE DIAGONAL STRIPES SHALL SLOPE DOWNWARD IN THE DIRECTION THAT TRAFFIC IS TO PASS THE PANEL. THE PANELS SHALL BE MOUNTED WITH THE TOP A MINIMUM OF 36" ABOVE THE ROADWAY ON A SINGLE LIGHTMASS POST.
3. VERTICAL PANELS USED ON EXPRESSWAYS, FREEWAYS AND OTHER HIGH-SPEED ROADWAYS SHALL HAVE A MINIMUM OF 270 IN² OF RETROREFLECTIVE AREA FACING TRAFFIC.
4. FOR TWO-WAY TRAFFIC OPERATIONS, BACK-TO-BACK PANELS SHALL BE USED.

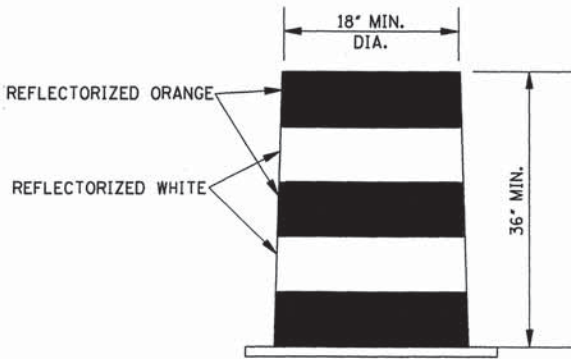
GENERAL NOTES:

1. MARKINGS ON ALL DEVICES SHOWN ON THIS SHEET SHALL BE HIGH INTENSITY REFLECTIVE SHEETING.
2. THE TRAFFIC CONTROL PLAN WILL LIST THE VARIOUS TRAFFIC CONTROL DEVICES REQUIRED FOR EACH PROJECT.



WING BARRICADES

1. WING BARRICADES ARE TYPE III BARRICADES ERECTED ON THE SHOULDER ON ONE OR BOTH SIDES OF THE PAVEMENT TO GIVE THE SENSATION OF A NARROWING OR RESTRICTED ROADWAY. WING BARRICADES MAY BE USED AS A MOUNTING FOR THE ADVANCE WARNING SIGNS OR FLASHERS.
2. WING BARRICADES SHOULD BE USED:
A. IN ADVANCE OF A CONSTRUCTION PROJECT EVEN WHEN NO PART OF THE ROADWAY IS ACTUALLY CLOSED.
B. IN ADVANCE OF ALL BRIDGE OR CULVERT WIDENING OPERATIONS.

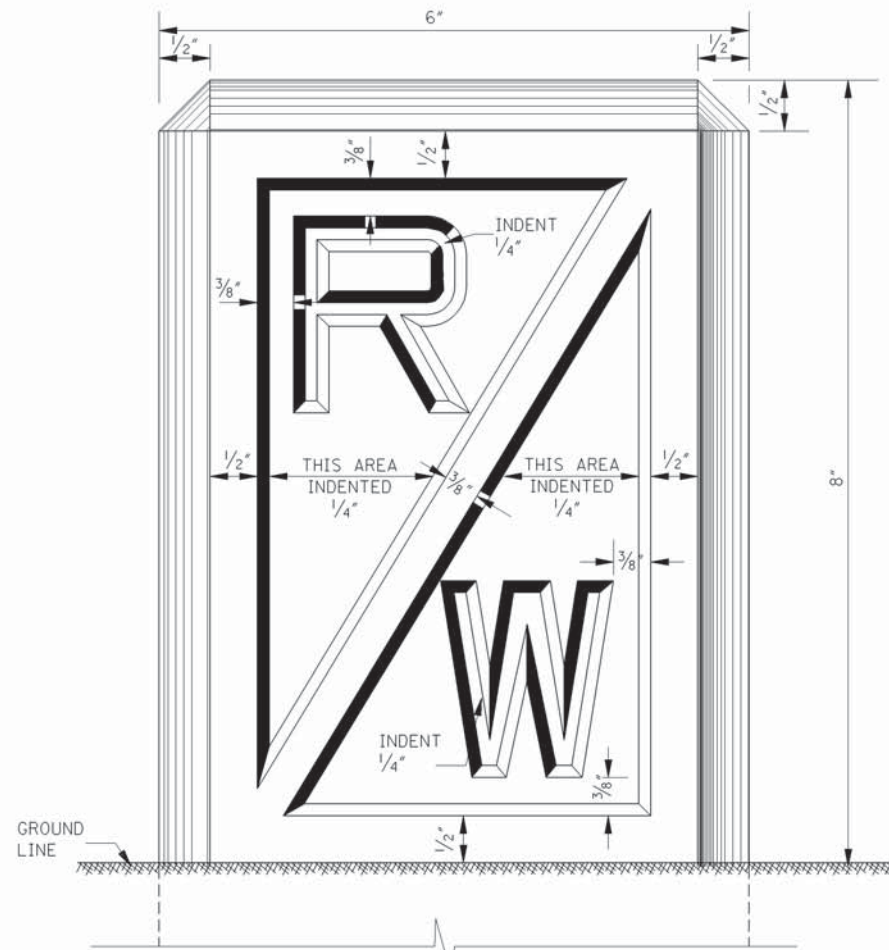


PLASTIC DRUM STRIPING DETAIL

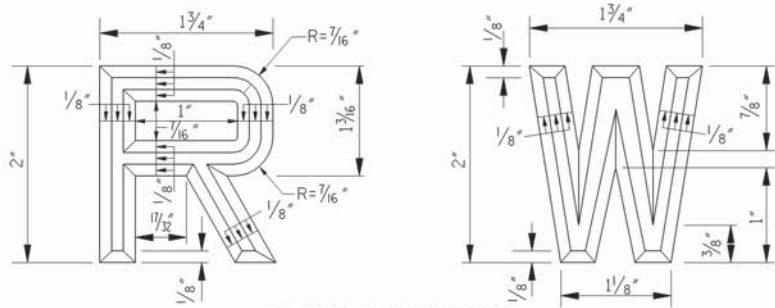
1. PLASTIC DRUMS SHALL BE ON END AND USED AS AN EXPEDIENT METHOD FOR TRAFFIC CHANNELIZATION. THE COLOR AND MARKING OF DRUMS SHALL BE CONSISTENT WITH MARKING STANDARDS FOR BARRICADE. THE PREDOMINANT COLOR ON DRUMS SHALL BE ORANGE WITH FOUR (4) REFLECTORIZED, HORIZONTAL, CIRCUMFERENTIAL STRIPES (2 ORANGE & 2 WHITE) 6" WIDE.
2. DRUMS SHOULD NEVER BE PLACED IN THE ROADWAY WITHOUT WARNING SIGNS.
3. WHERE PRACTICAL PLASTIC DRUMS SHALL BE PLACED NO CLOSER THAN 3'-0" FROM THE EDGE OF TRAVELED LANE.

BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
REVISION	ROADWAY DESIGN DIVISION
DATE	STANDARD PLAN
	HIGHWAY SIGN AND BARRICADE DETAILS FOR CONSTRUCTION PROJECTS
	WORKING NUMBER TCP-10
	SHEET NUMBER 259
	ISSUE DATE: OCTOBER 1, 1998

TYPE I MARKER
(ALTERNATE NO. 1)

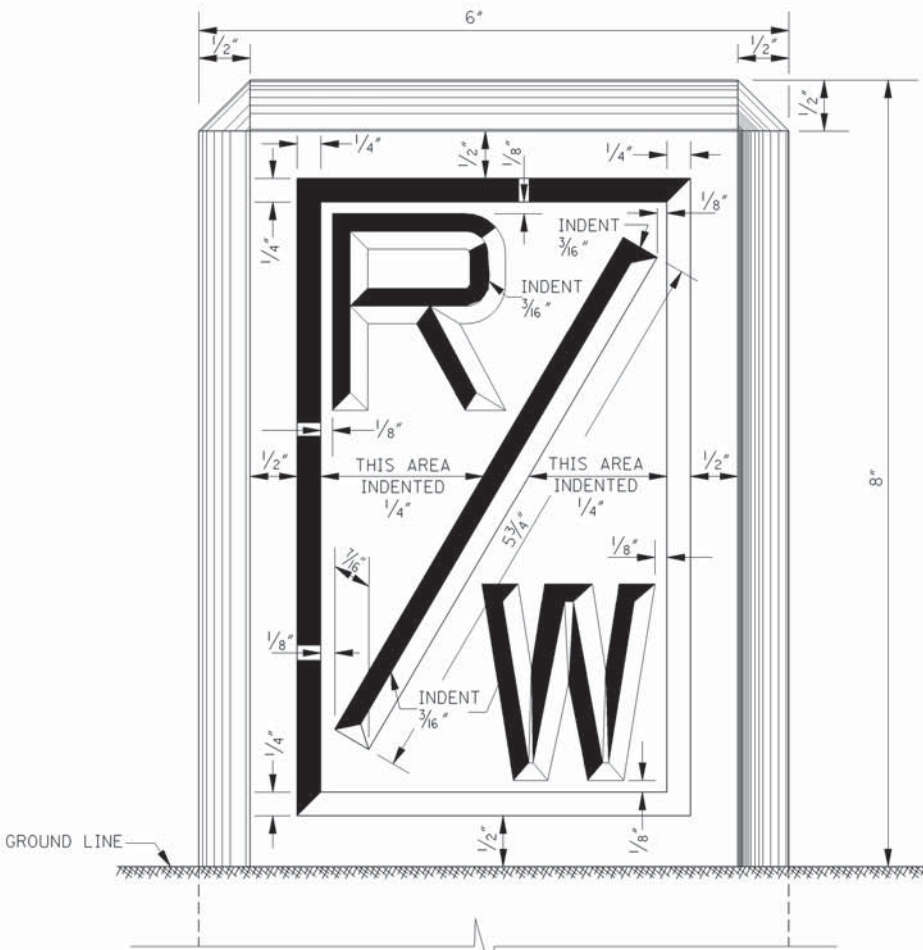


FACE OF MARKER

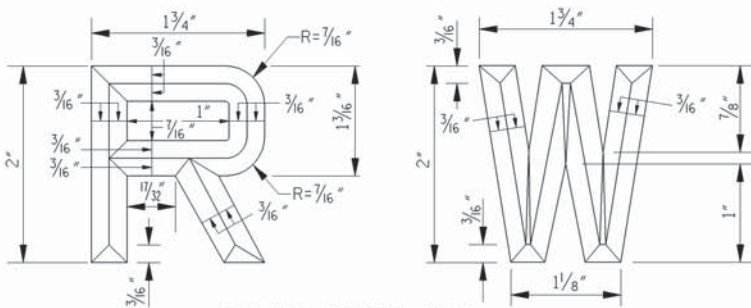


DETAIL OF LETTERS

TYPE I MARKER
(ALTERNATE NO. 2)

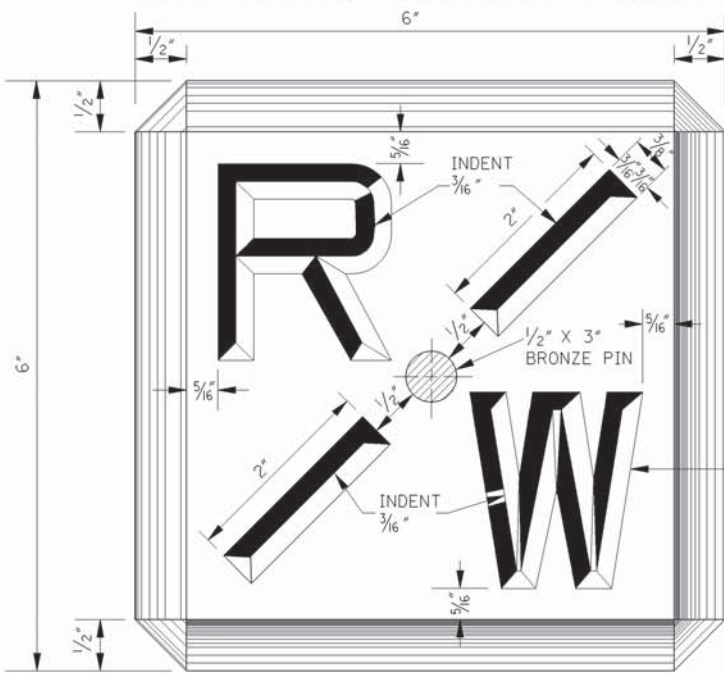


FACE OF MARKER

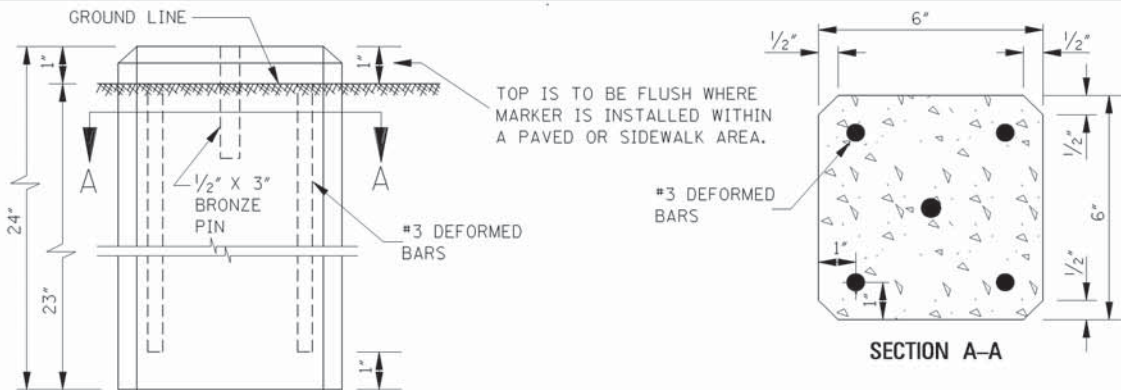


DETAIL OF LETTERS

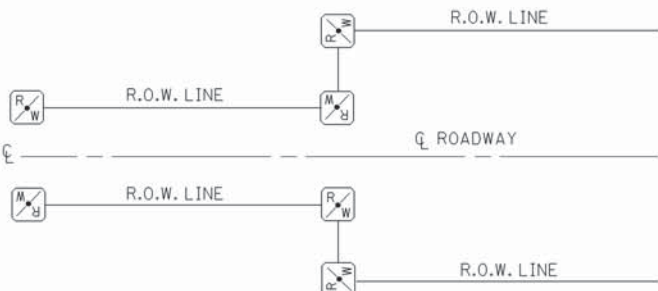
TYPE II MARKER
(FLUSH TYPE FOR USE IN BUILT-UP AREAS)



TOP OF MARKER



REINFORCING AND INSTALLATION DETAILS



MARKER ARRANGEMENT FOR ADDITIONAL RIGHT-OF-WAY

GENERAL NOTES:

1. THE CONCRETE SHALL HAVE A MINIMUM CEMENT CONTENT OF 470 LBS OF CEMENT PER CUBIC YARD OF CONCRETE.
2. THE MARKERS SHALL BE PLACED AS INDICATED ELSEWHERE ON PLANS.

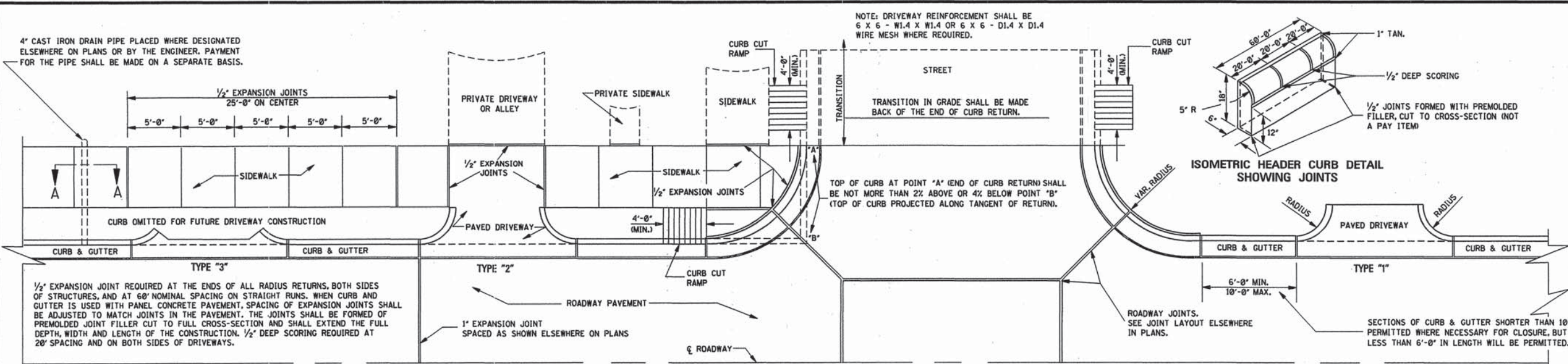
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION
STANDARD PLAN

RIGHT-OF-WAY MARKER

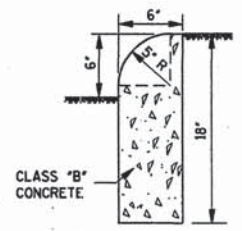
ISSUE DATE: OCTOBER 1, 1998



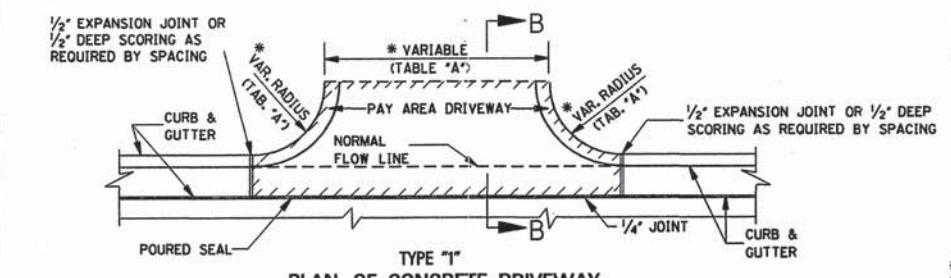
WORKING NUMBER
RW-1
SHEET NUMBER
270



PLAN SHOWING ARRANGEMENT OF CURB & GUTTER, DRIVEWAYS AND SIDEWALK



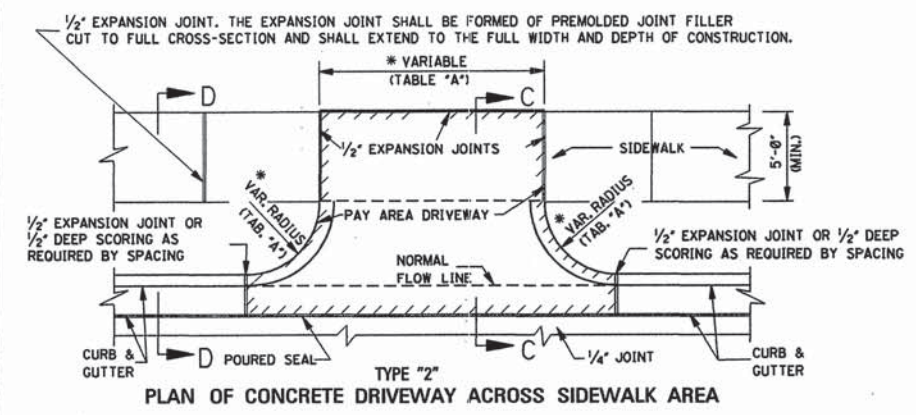
DETAIL OF HEADER CURB
CONTRACTION JOINTS REQUIRED AT 20' O.C.
EXPANSION JOINTS REQUIRED AT 60' O.C.
UNLESS OTHERWISE DIRECTED BY ENGINEER.



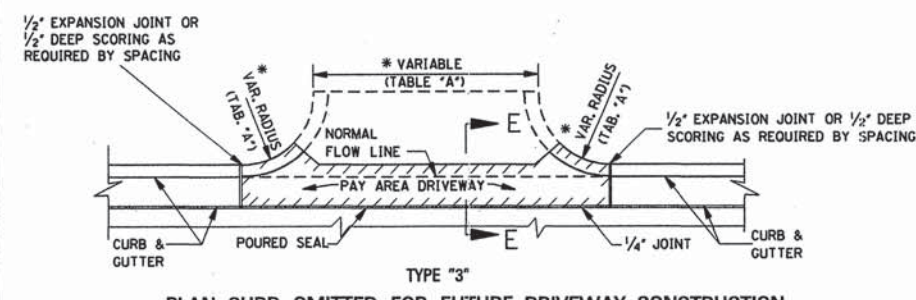
PLAN OF CONCRETE DRIVEWAY

11.058 yd² FOR DRIVEWAY 16'-0" IN WIDTH.
0.574 yd² FOR EACH ADDED OR SUBTRACTED
FOOT OF WIDTH.
NOTE: THIS DRIVEWAY AREA EXAMPLE IS
COMPUTED ON THE BASIS OF 3'-0" RADIUS.
PAYMENT FOR CURB RADIUS SHALL BE
INCLUDED IN COMPENSATION FOR DRIVEWAY.

*TABLE 'A'		
DRIVEWAY TYPE	DRIVEWAY WIDTH (ft)	CURB RETURN RADIUS (ft)
RESIDENTIAL	16'	3' - 10'
COMMERCIAL/ INDUSTRIAL	30' - 50'	5' - 30'

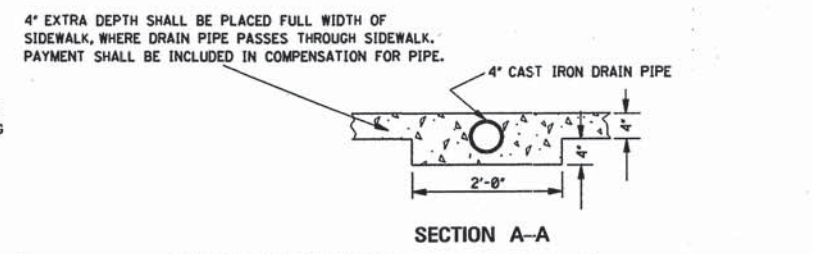


PLAN OF CONCRETE DRIVEWAY ACROSS SIDEWALK AREA

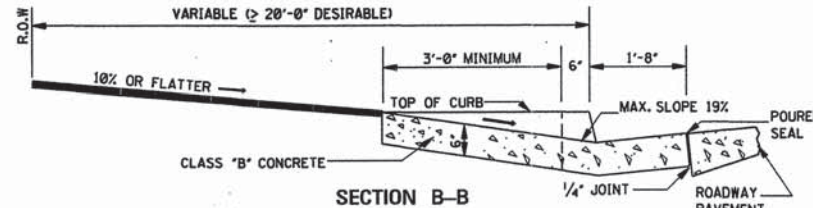


PLAN-CURB OMITTED FOR FUTURE DRIVEWAY CONSTRUCTION

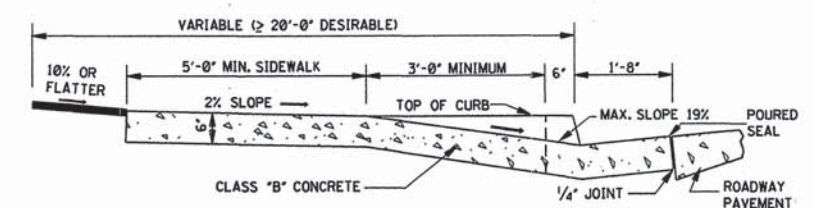
NOTE: THIS TYPE CONSTRUCTION SHALL BE USED WHERE DESIGNATED ELSEWHERE ON PLANS OR BY THE ENGINEER.



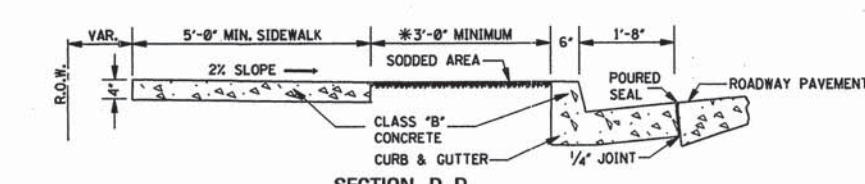
SECTION A-A



SECTION B-B

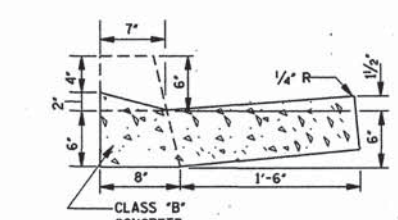


SECTION C-C

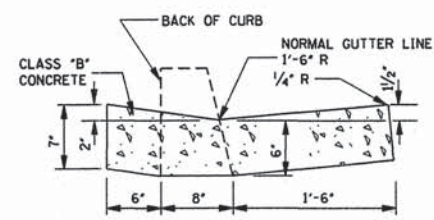


SECTION D-D

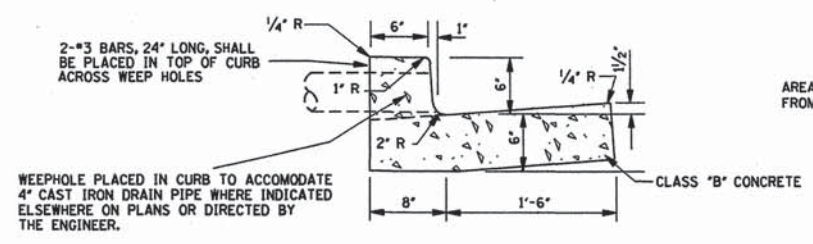
*NOTE: THE 3'-0" BUFFER SHOWN IS FOR A BUFFER ZONE. BUFFER ZONE IS NOT REQUIRED UNLESS INDICATED ELSEWHERE ON PLANS.



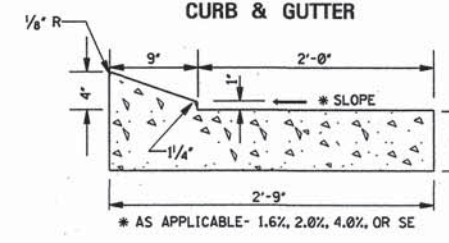
SECTION E-E



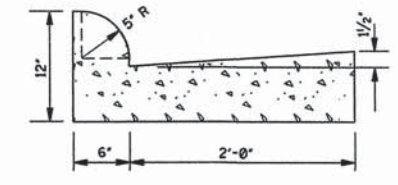
DETAIL OF VALLEY GUTTER



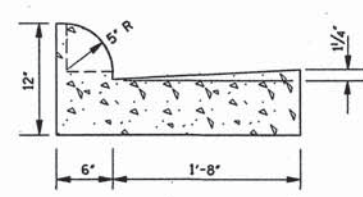
TYPE '1'
DETAIL OF COMBINATION
CURB & GUTTER



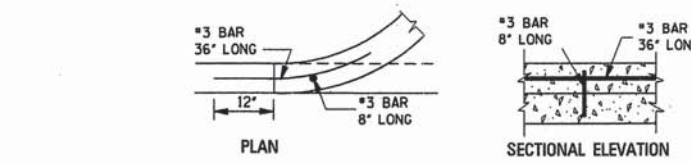
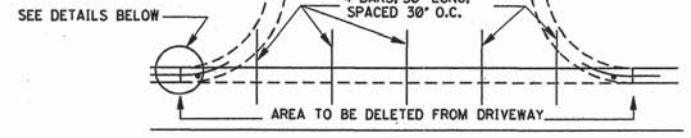
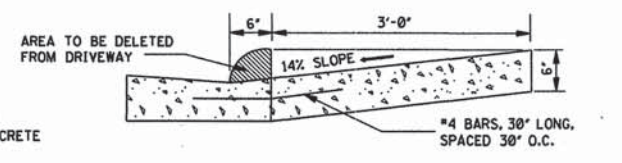
TYPE '2'
DETAIL OF COMBINATION
CURB & GUTTER



TYPE '3A'
DETAIL OF COMBINATION
CURB & GUTTER



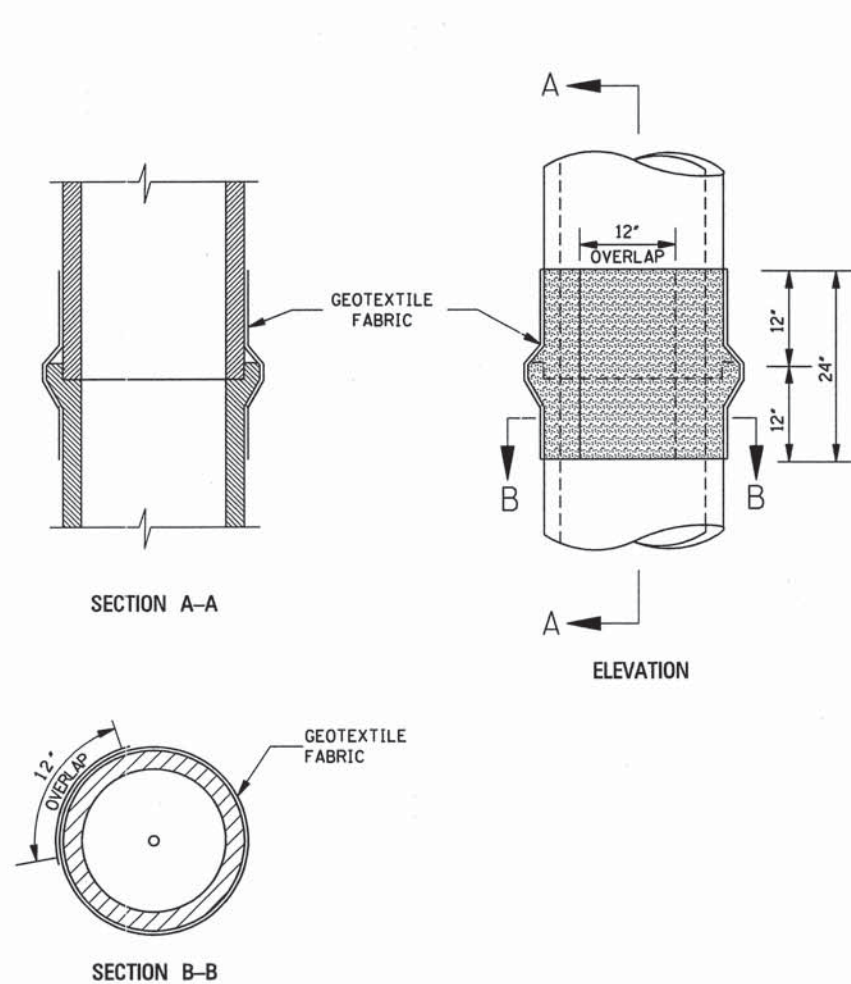
TYPE '3B'
DETAIL OF COMBINATION
CURB & GUTTER



PERMISSIBLE DRIVEWAY CONSTRUCTION METHOD
FOR SLIP-FORM PLACEMENT OF CURB & GUTTER

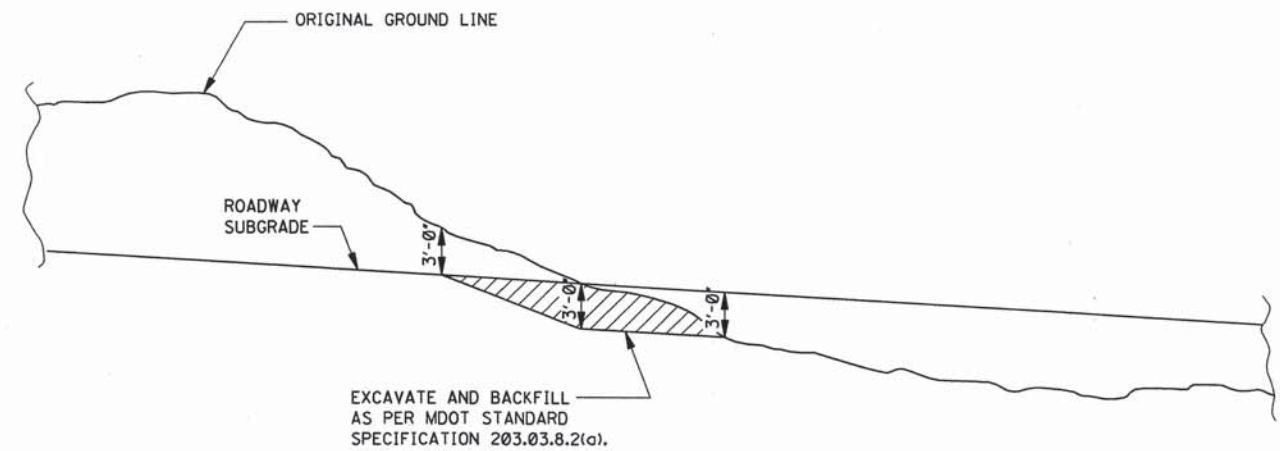
- GENERAL NOTES:
1. THE STANDARD SPECIFICATIONS ADOPTED BY THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION SHALL, UNLESS OTHERWISE SPECIFIED HEREIN, APPLY TO ALL ITEMS INCLUDED ON THIS DRAWING.
 2. TRAVERSE CONTRACTION JOINTS ARE REQUIRED AT 20' ON CENTER FOR ALL CONCRETE DRIVEWAYS THAT EXTEND PAST THE END OF THE CURB RETURN. A 1/2" WIDE EXPANSION JOINT IS REQUIRED AT THE END OF THE CURB RETURN AND AT 60' ON CENTER THROUGHOUT THE LENGTH OF THE DRIVEWAY. A LONGITUDINAL CONTRACTION JOINT IS REQUIRED FOR ALL DRIVEWAYS EXCEEDING 20' IN WIDTH.
 3. SEE SHEET CCR-1 FOR DETAILS OF CURB-CUT RAMPS.

BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
REVISION		DRIVEWAYS, CURB & GUTTER & SIDEWALK	
DATE		ISSUE DATE: OCTOBER 1, 1998	 WORKING NUMBER SD-1 SHEET NUMBER 287

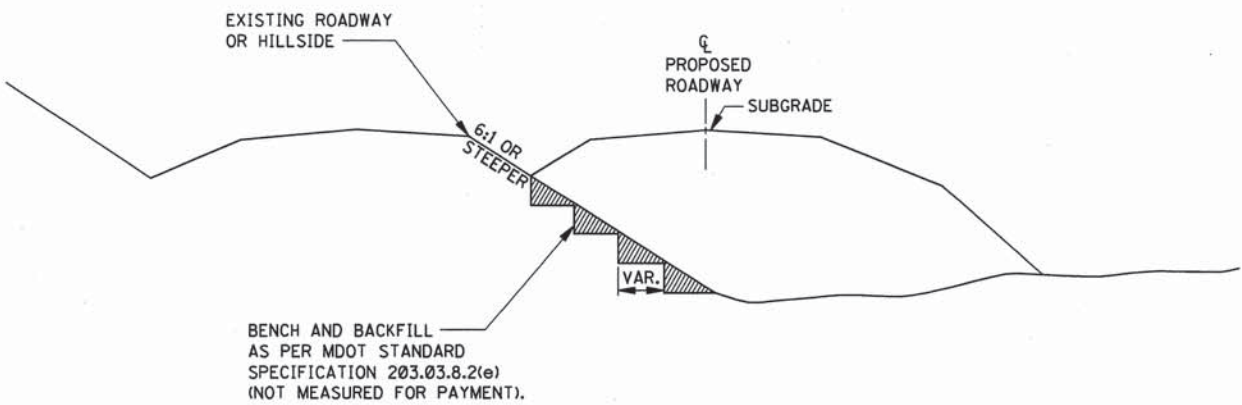


STACKED PIPE JOINTS

NOTE: EACH STACKED PIPE JOINT SHALL BE WRAPPED WITH 24" WIDE TYPE V GEOTEXTILE FABRIC (AASHTO M 288). THE FABRIC SHALL OVERLAP A MINIMUM OF 12" AT THE WRAP AND SHALL BE SECURED WITH STRING OR WIRE AS APPROVED BY THE ENGINEER PRIOR TO BACKFILLING. THE COST FOR THE MATERIALS AND LABOR SHALL BE ABSORBED.



PROFILE SHOWING REQUIRED EXCAVATION AT GRADE POINTS



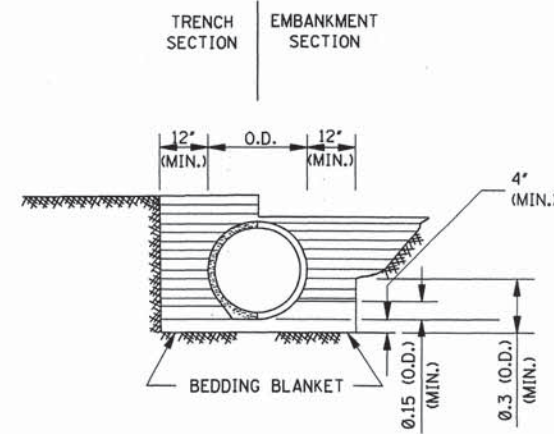
CROSS-SECTION SHOWING REQUIRED BENCHING UNDER EMBANKMENTS ON STEEP SLOPES

EXCAVATION AT GRADE POINTS

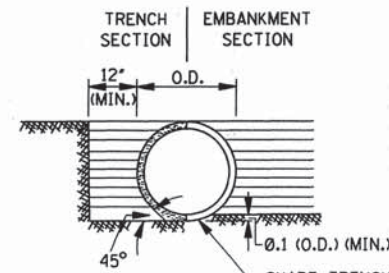
MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
MISCELLANEOUS DETAIL SHEET	
1. STACKED PIPE JOINTS 2. EXCAVATION AT GRADE POINTS	
WORKING NUMBER MDS-1	
SHEET NUMBER 290	
DATE	ISSUE DATE: OCTOBER 1, 1998

CORRUGATED STEEL AND ALUMINUM PIPE (ROUND) H-20 LOADING						
PIPE DIAMETER (in)	MINIMUM COVER FROM TOP OF PIPE TO TOP OF SUBGRADE (in)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft)				
		SHEET THICKNESS (in)				
		0.064 STEEL 0.060 ALUM. 16 GAGE	0.079 STEEL 0.075 ALUM. 14 GAGE	0.109 STEEL 0.105 ALUM. 12 GAGE	0.138 STEEL 0.135 ALUM. 10 GAGE	0.168 STEEL 0.164 ALUM. 8 GAGE
		2 3/8" X 1/2" CORRUGATED STEEL RIVETED, WELDED OR HELICAL	3" X 1" OR 5" X 1" CORRUGATED STEEL RIVETED, WELDED, HELICAL OR BOLTED	2 3/8" X 1/2" CORRUGATED ALUMINUM RIVETED OR HELICAL		
12"	12"	84' / - / 45'	91' / - / 45'	- / - / 78'	- / - / 81'	- / - / 84'
15"	12"	67' / - / -	73' / - / -	- / - / -	- / - / -	- / - / -
18"	12"	56' / - / 30'	61' / - / 30'	- / - / 52'	- / - / 54'	- / - / 56'
24"	12"	42' / - / 22'	46' / - / 22'	59' / - / 39'	- / - / 41'	- / - / 42'
30"	12"	34' / - / 18'	36' / - / 18'	47' / - / 31'	- / - / 32'	- / - / 34'
36"	12"	28' / 48' / 15'	30' / 60' / 15'	39' / 78' / 26'	41' / 89' / 27'	- / 101' / 28'
42"	12"	31' / 41' / -	43' / 51' / 26'	46' / 64' / 43'	48' / 71' / 43'	50' / 79' / 44'
48"	12"	27' / 36' / -	37' / 45' / -	45' / 57' / 40'	46' / 61' / 41'	47' / 66' / 43'
54"	12"	- / 32' / -	33' / 40' / -	43' / 52' / 35'	44' / 55' / 37'	45' / 59' / 38'
60"	12"	- / 29' / -	- / 36' / -	43' / 49' / -	43' / 51' / 33'	44' / 54' / 34'
66"	12"	- / 26' / -	- / 33' / -	42' / 47' / -	43' / 49' / 30'	43' / 51' / 31'
72"	12"	- / 24' / -	- / 30' / -	- / 44' / -	41' / 47' / -	43' / 49' / 29'
78"	12"	- / 22' / -	- / 28' / -	- / 41' / -	- / 46' / -	39' / 47' / -
84"	12"	- / 21' / -	- / 26' / -	- / 38' / -	- / 45' / -	35' / 46' / -
90"	12"	- / 19' / -	- / 24' / -	- / 35' / -	- / 43' / -	- / 45' / -
96"	12"	- / 18' / -	- / 22' / -	- / 33' / -	- / 40' / -	- / 44' / -
102"	24"	- / 17' / -	- / 21' / -	- / 31' / -	- / 38' / -	- / 42' / -
108"	24"	- / - / -	- / 20' / -	- / 30' / -	- / 35' / -	- / 39' / -
114"	24"	- / - / -	- / 19' / -	- / 28' / -	- / 34' / -	- / 37' / -
120"	24"	- / - / -	- / - / -	- / 27' / -	- / 32' / -	- / 35' / -

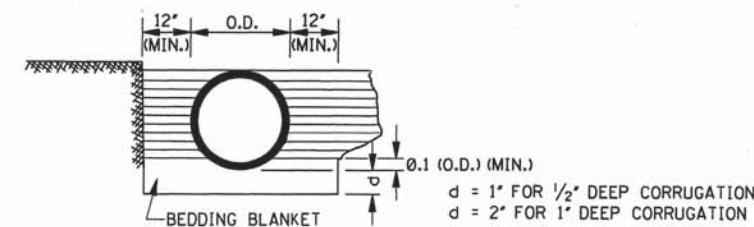
NOTE: THE AVERAGE INSIDE DIAMETER SHALL NOT VARY MORE THAN ONE (1) PERCENT OR 1/2", WHICHEVER IS GREATER, FROM THE NOMINAL DIAMETER WHEN MEASURED ON THE INSIDE CREST OF THE CORRUGATIONS (AASHTO M 36/M 36 & AASHTO M 196/M 196).



CLASS B



CLASS C



CLASS C MODIFIED

MAXIMUM HEIGHT OF FILL OVER REINFORCED CONCRETE PIPE			
CLASS OF PIPE	TYPE OF BACKFILL	MAXIMUM COVER (ft)	
		CLASS "C" BEDDING	CLASS "B" BEDDING
III	NORMAL	16'	-
IV	NORMAL	23'	28'
V	NORMAL	30'	36'
IV	IMPERFECT	-	90'
V	IMPERFECT	-	115'

NOTE: CLASS OF PIPE AND BEDDING TO BE CONSISTENT THROUGHOUT THE PIPE LENGTH.

MAXIMUM HEIGHT OF FILL OVER CLASS 2 NONREINFORCED CONCRETE PIPE, PERFORATED AND/OR PLAIN, FOR UNDERDRAINS				
PIPE SIZE (in)	MAXIMUM COVER (ft) BEDDING CLASS "C"/CLASS "B"			
	TRENCH			PROJECTING
	B _d (in)	SAND & GRAVEL	DAMP CLAY	POSITIVE p = 0.7; R _{sd} = 0.7
4"	2.00'	*	*	34'/42'
6"	2.00'	*	*	25'/30'
8"	2.25'	*	16' / *	19'/24'
10"	2.50'	*	12' / 20'	16'/19'
12"	2.75'	*	12' / 18'	14' / 17'

- NOTES:
- * 1. INDICATES NO LIMIT OF FILL HEIGHT (130 lbs./ft³).
 2. TRENCH WIDTH (B_d) NO GREATER THAN 16" PLUS O.D.
 3. FACTOR OF SAFETY IS 1.25 ON MINIMUM ULTIMATE STRENGTH.
 4. MINIMUM COVER FOR HIGHWAY LOADS IS 18".
 5. PERFORATED PIPE SHALL BE TYPE 1.

GENERAL NOTES:

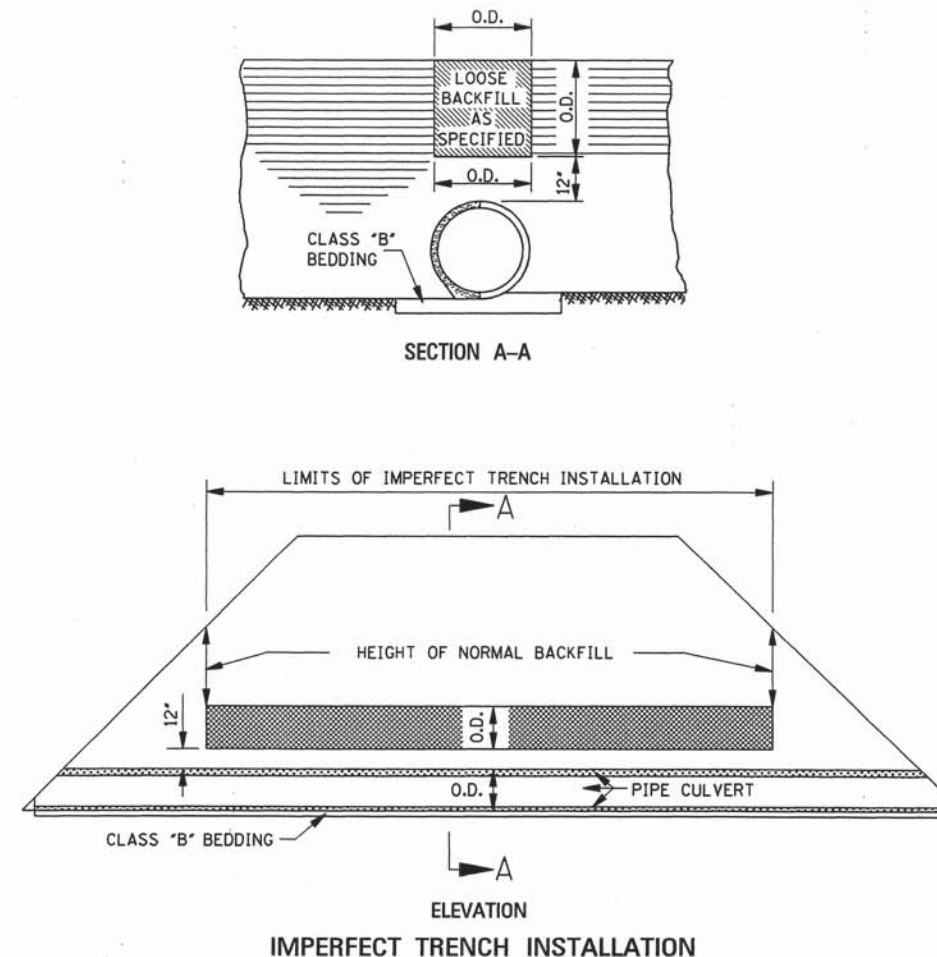
1. MINIMUM SPACING BETWEEN MULTIPLE LINES OF PARALLEL PIPE SHALL BE THE DISTANCE REQUIRED FOR INSTALLING THE ADJACENT FLARED END SECTIONS OR AS SHOWN ON THE HEADWALL DRAWINGS FOR CONDUITS REQUIRING HEADWALLS.
2. UNLESS OTHERWISE INDICATED, THE TOP OF THE PIPE SHALL BE BELOW THE TOP OF THE SUBGRADE, AND A MINIMUM OF 12" OF COVER OVER THE TOP OF THE PIPE SHALL BE MAINTAINED BETWEEN THE SHOULDER LINES.
3. WHERE PRE-BED PIPE IS INSTALLED, FLARED END SECTIONS FROM OTHER MANUFACTURERS MAY BE JOINED TO PRE-BED PIPE PROVIDED A CONCRETE COLLAR IS PLACED AT THE CONTRACTORS EXPENSE AND A DEFORMATION TO THE PIPE'S FLOWLINE IS NOT EVIDENT ON FINAL PLACEMENT.

CORRUGATED METAL PIPE ARCHES H-20 LOADING									
EQUIV. DIAMETER (in)	PIPE DIMENSION (SPAN X RISE) (in)	MINIMUM CORNER RADIUS (in)	MINIMUM COVER FROM TOP OF PIPE TO TOP OF SUBGRADE FOR 2 tons/ft ² (in)	STEEL			ALUMINUM		
				MINIMUM THICKNESS REQUIRED (in)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft) FOR THE FOLLOWING CORNER BEARING PRESSURE (tons/ft ²)		MINIMUM THICKNESS REQUIRED (in)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft) FOR THE FOLLOWING CORNER BEARING PRESSURE (tons/ft ²)	
					2 tons/ft ² † 3 tons/ft ²			2 tons/ft ² † 3 tons/ft ²	
					2 5/8" X 1/2" CORRUGATION RIVETED, WELDED OR HELICAL			2 5/8" X 1/2" CORRUGATION RIVETED OR HELICAL	
15"	17" X 13"	3"	18"	0.064"	13'	15'+	0.060"	15'	-
18"	21" X 15"	3"	18"	0.064"	12'	15'+	0.060"	14'	-
24"	28" X 20"	3"	18"	0.064"	10'	15'	0.060"	10'	15'+
30"	35" X 24"	3"	18"	0.079"	9'	14'	0.060"	9'	14'
36"	42" X 29"	3 1/2"	18"	0.079"	9'	13'	0.075"	9'	13'
42"	49" X 33"	4"	18"	0.079"	8'	12'	0.105"	8'	12'
48"	57" X 38"	5"	18"	0.109"	8'	12'	0.135"	8'	12'
54"	64" X 43"	6"	18"	0.109"	8'	12'	0.135"	8'	12'
60"	71" X 47"	7"	18"	0.138"	8'	12'	0.164"	8'	12'
66"	77" X 52"	8"	18"	0.168"	8'	12'			
72"	83" X 57"	9"	18"	0.168"	9'	13'			
			5" X 1" OR 3" X 1" CORRUGATION RIVETED, WELDED OR HELICAL						
36"	40" X 31"	5"	18"	0.079"	12'	15'+			
42"	46" X 36"	6"	18"	0.079"	12'	15'+			
48"	53" X 41"	7"	18"	0.079"	12'	15'+			
54"	60" X 46"	8"	18"	0.079"	12'	15'+			
60"	66" X 51"	9"	18"	0.079"	12'	15'+			
66"	73" X 55"	12"	18"	0.079"	15'+	-			
72"	81" X 59"	14"	18"	0.079"	15'	-			
78"	87" X 63"	14"	18"	0.079"	14'	15'+			
84"	95" X 67"	16"	18"	0.109"	13'	15'+			
90"	103" X 71"	16"	24"	0.109"	12'	15'+			
96"	112" X 75"	18"	24"	0.109"	11'	15'+			

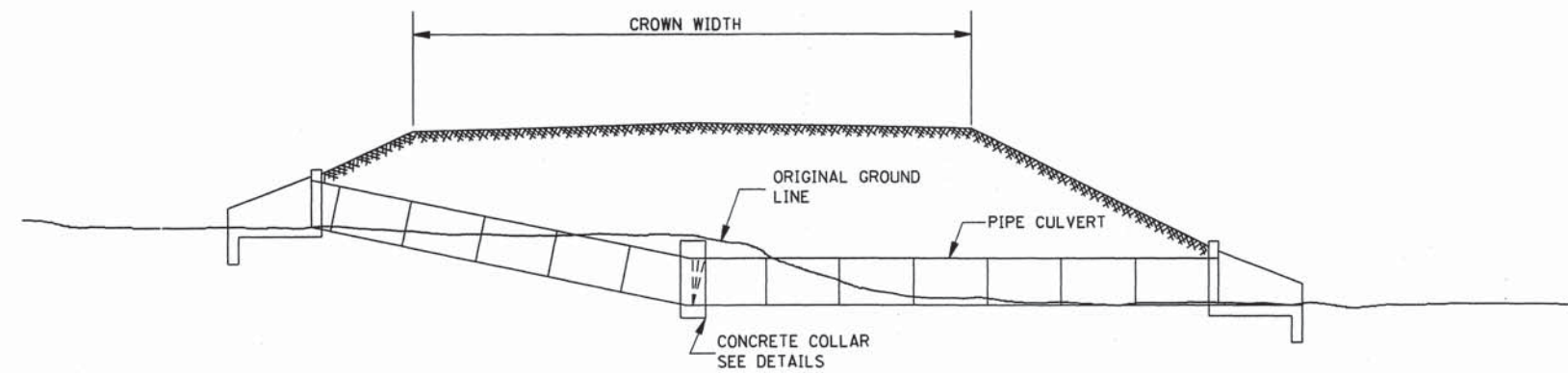
NOTES:

1. THE AVERAGE INSIDE DIAMETER SHALL NOT VARY MORE THAN ONE (1) PERCENT OR 1/2", WHICHEVER IS GREATER, FROM THE NOMINAL DIAMETER WHEN MEASURED ON THE INSIDE CREST OF THE CORRUGATIONS. (AASHTO M 36/M 36 & AASHTO M 196/M 196).

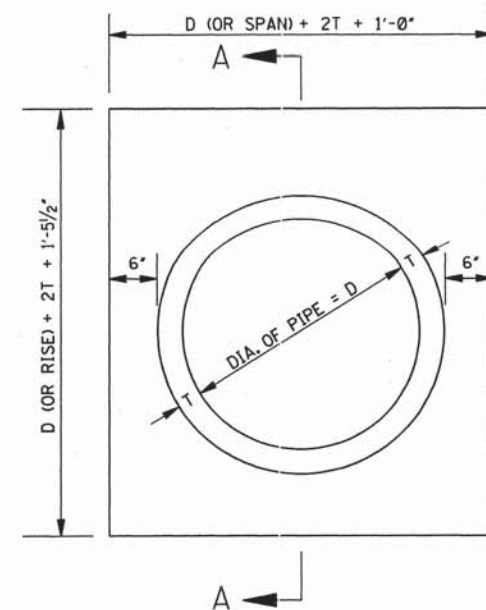
† 2. BEARING PRESSURES EXCEEDING 2 tons/ft² REQUIRED FOR GIVEN FILL HEIGHT SHALL HAVE FOUNDATION MATERIALS INVESTIGATED TO DETERMINE BEARING CAPACITY.



BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
REVISION	PIPE CULVERT INSTALLATION
DATE	ISSUE DATE: OCTOBER 1, 1998
	WORKING NUMBER PI-1
	SHEET NUMBER 300

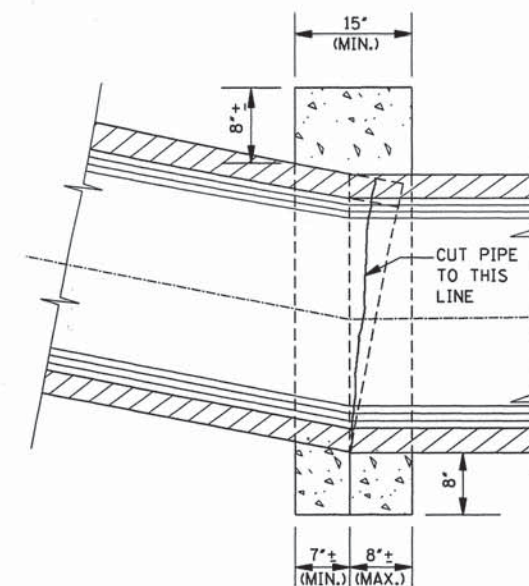


TYPICAL INSTALLATION FOR PIPE CULVERT WITH BROKEN FLOW LINE



ELEVATION OF CONCRETE COLLAR

NOTE: CIRCULAR PIPE IS SHOWN, ARCH PIPE IS SIMILAR.



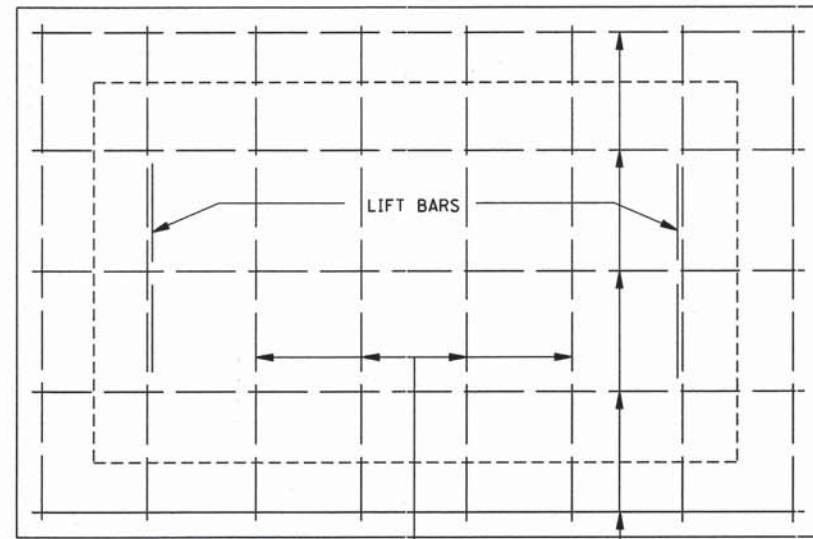
SECTION A-A

GENERAL NOTE:

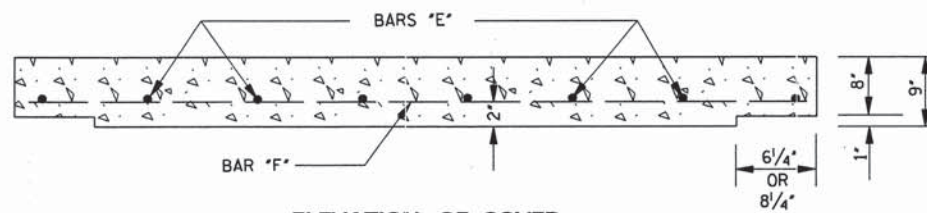
1. THE FOLLOWING QUANTITIES SHALL BE THE BASIS FOR PAYMENT
UNLESS AUTHORIZED MODIFICATIONS ARE MADE:

QUANTITIES FOR CONCRETE COLLAR FOR PIPE CULVERTS			
CIRCULAR PIPE		ARCH PIPE	
DIA. OF PIPE	CLASS "B" CONCRETE (yd ³)	SIZE OF PIPE	CLASS "B" CONCRETE (yd ³)
12"	0.240		
15"	0.260	18 x 11	0.280
18"	0.320	22 x 13	0.310
24"	0.410	29 x 18	0.410
30"	0.510	36 x 23	0.490
36"	0.620	44 x 27	0.600
42"	0.730	51 x 31	0.690
48"	0.850	58 x 36	0.820
54"	0.980	65 x 40	0.920
60"	1.110	73 x 45	1.070
66"	1.248	88 x 54	1.366
72"	1.393		

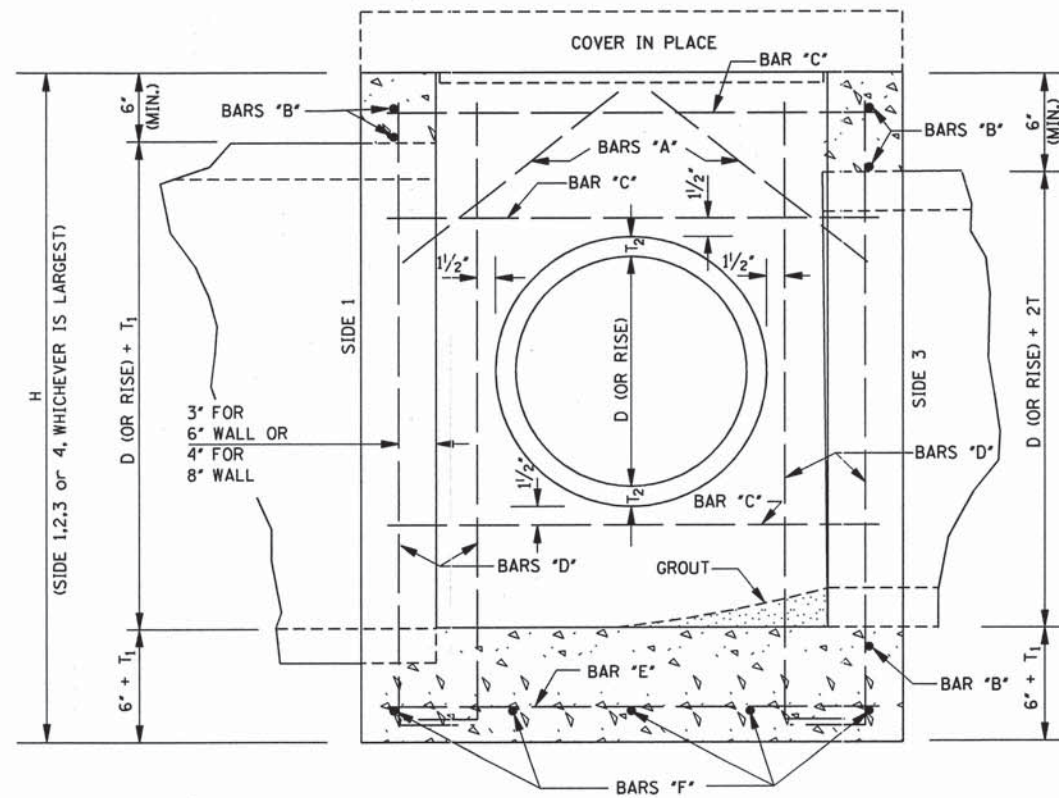
BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
REVISION	ROADWAY DESIGN DIVISION
DATE	STANDARD PLAN
	CONCRETE PIPE COLLAR
	WORKING NUMBER PC-1
	ISSUE DATE: OCTOBER 1, 1998
	SHEET NUMBER 301



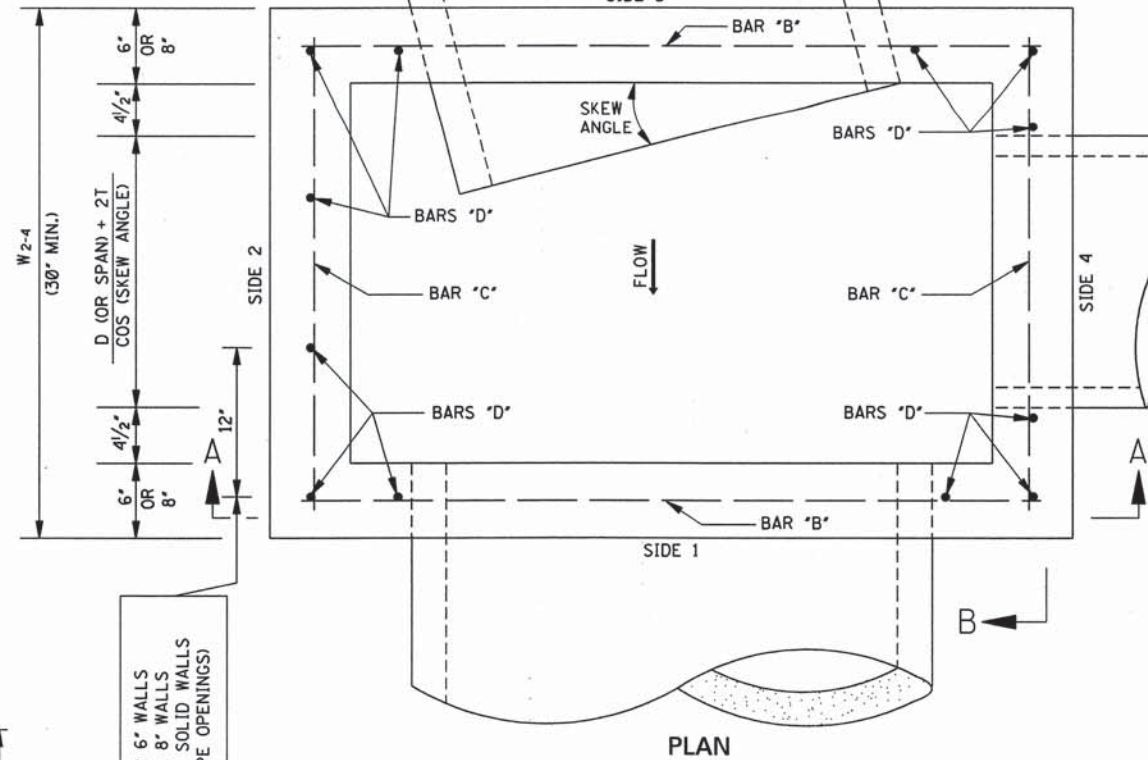
PLAN OF COVER



ELEVATION OF COVER

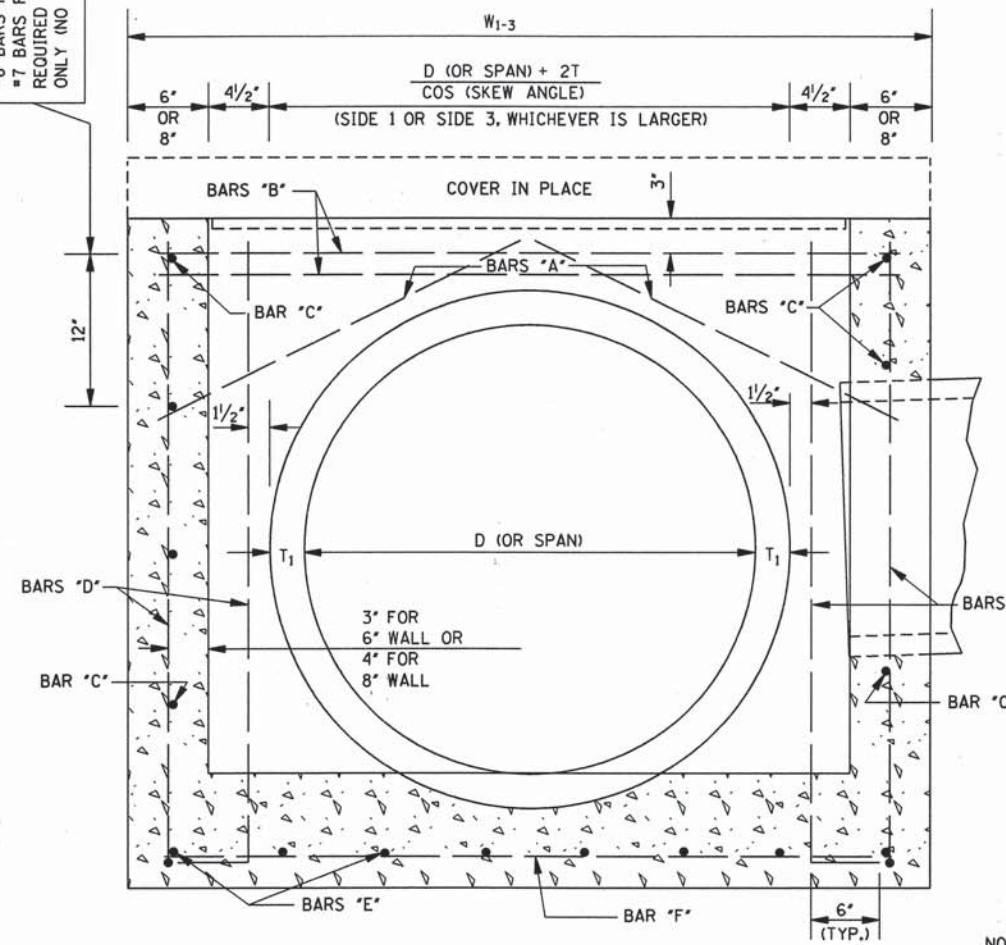


SECTION B-B



PLAN

#6 BARS FOR 6" WALLS
#7 BARS FOR 8" WALLS
REQUIRED ON SOLID WALLS
ONLY (NO PIPE OPENINGS)



SECTION A-A

REINFORCING BAR LIST

BAR	SIZE	NUMBER REQUIRED	LENGTH
A	#4	2 PER PIPE OPENING	$\sqrt{196 + \left(\frac{W}{2} + 2\right)^2}$
B	#6 FOR 6" WALL #7 FOR 8" WALL	2 + [2 PER OPENING SIDE 3] + [1 PER SIDE 1] + [12" O.C. FOR SOLID WALL]	$W_{1-3} - 4'$
C		2 + [2 PER OPENING] + [12" O.C. FOR SOLID WALL]	$W_{2-4} - 4'$
D		4 + [2 PER OPENING] + [12" O.C. FOR SOLID WALL]	H
E	#6	$2 \left[\left(\frac{W_{1-3}}{6} \right) + 1 \right]$	$W_{2-4} - 4'$
F	#6	$2 \left[\left(\frac{W_{2-4}}{6} \right) + 1 \right]$	$W_{1-3} - 4'$

NOTE: VARIABLES AND DESIGNATIONS ARE AS FOLLOWS:
D (OR SPAN) = PIPE DIAMETER (OR SPAN)
W1-3 = WIDTH OF SIDE 1 & SIDE 3
W2-4 = WIDTH OF SIDE 2 & SIDE 4
W* = W1-3 OR W2-4 (SIDE OF ENTERING PIPE)
** = ROUND TO NEAREST WHOLE NUMBER

CL. "B" CONC. (yd³) = [(O1 + O2) / 46,656] - Σ PIPE OPENING DEDUCTIONS
WHERE: 6" WALL
O1 = [8"W1-3W2-4] + [1"(W1-3 - 12.5')(W2-4 - 12.5')] + [(T1 + 6")W1-3W2-4]
O2 = 12"[H - (T1 + 6")][(W1-3 - 12') + W2-4]
OR: 8" WALL
O1 = [8"W1-3W2-4] + [1"(W1-3 - 16.5')(W2-4 - 16.5')] + [(T1 + 6")W1-3W2-4]
O2 = 16"[H - (T1 + 6")][(W1-3 - 16') + W2-4]

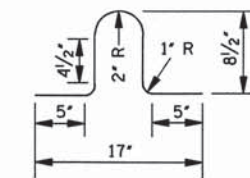
COMMON PIPE SIZE

CIRCULAR PIPE				ARCH PIPE			
PIPE SIZE	T	PIPE OPENING DEDUCTION (yd ³)		PIPE SIZE	T	PIPE OPENING DEDUCTION (yd ³)	
		6" WALL	8" WALL			6" WALL	8" WALL
18"	2 1/2"	0.053	0.071	22" X 13"	2 1/2"	0.053	0.071
24"	3"	0.091	0.121	29" X 18"	3"	0.087	0.116
30"	3 1/2"	0.138	0.184	36" X 23"	3 1/2"	0.129	0.172
36"	4"	0.196	0.261	44" X 27"	4"	0.185	0.247
42"	4 1/2"	0.263	0.350	51" X 31"	4 1/2"	-	0.327
48"	5"	-	0.453	58" X 36"	5"	-	0.424
54"	5 1/2"	-	0.569	65" X 40"	5 1/2"	-	0.525
60"	6"	-	0.699	73" X 45"	6"	-	0.652
66"	6 1/2"	-	0.840				
72"	7"	-	0.996				

† NOTE: IF ANY PIPE REQUIRING A 8" WALL IS USED, ALL WALLS SHALL BE 8" REGARDLESS OF PIPE SIZE.

GENERAL NOTES:

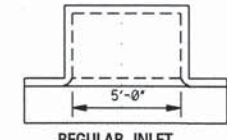
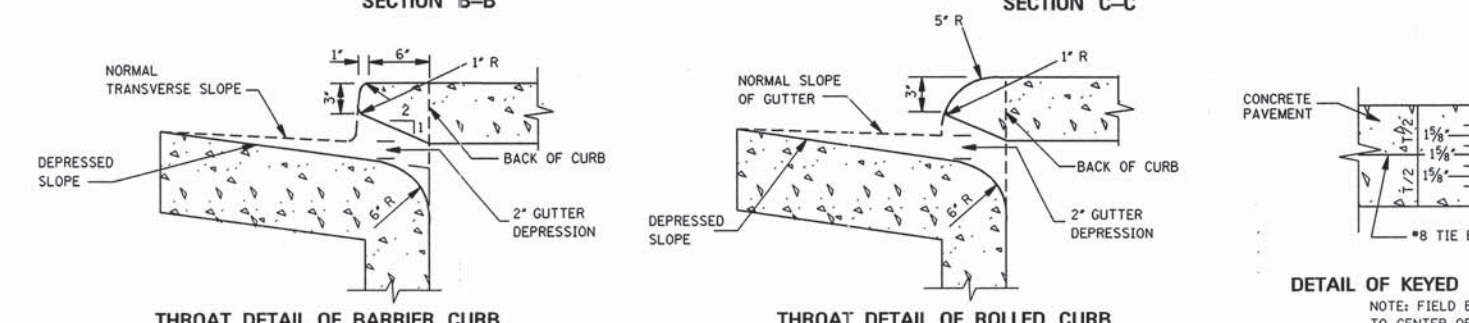
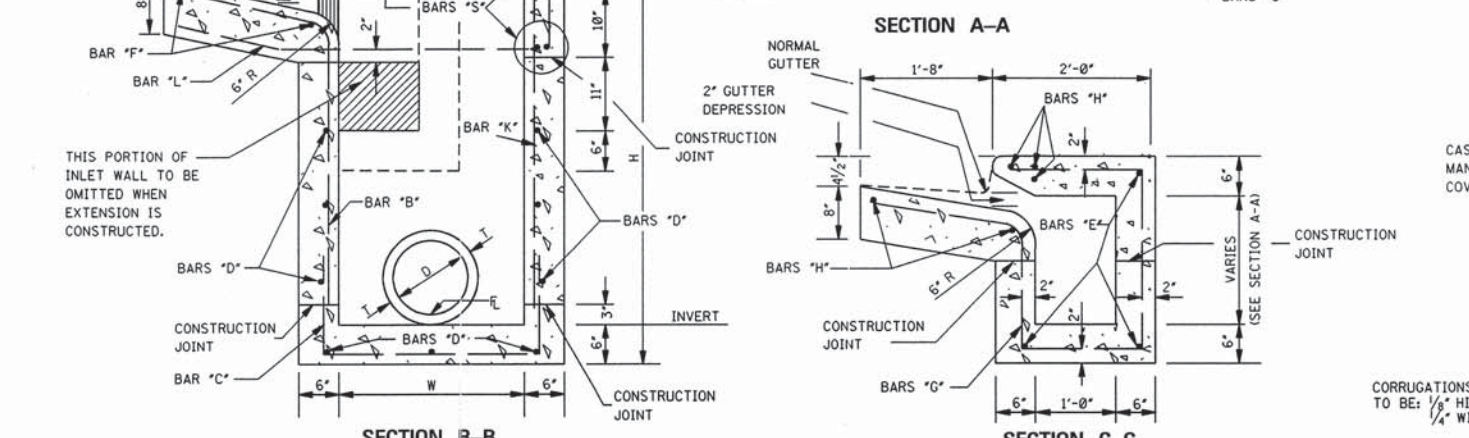
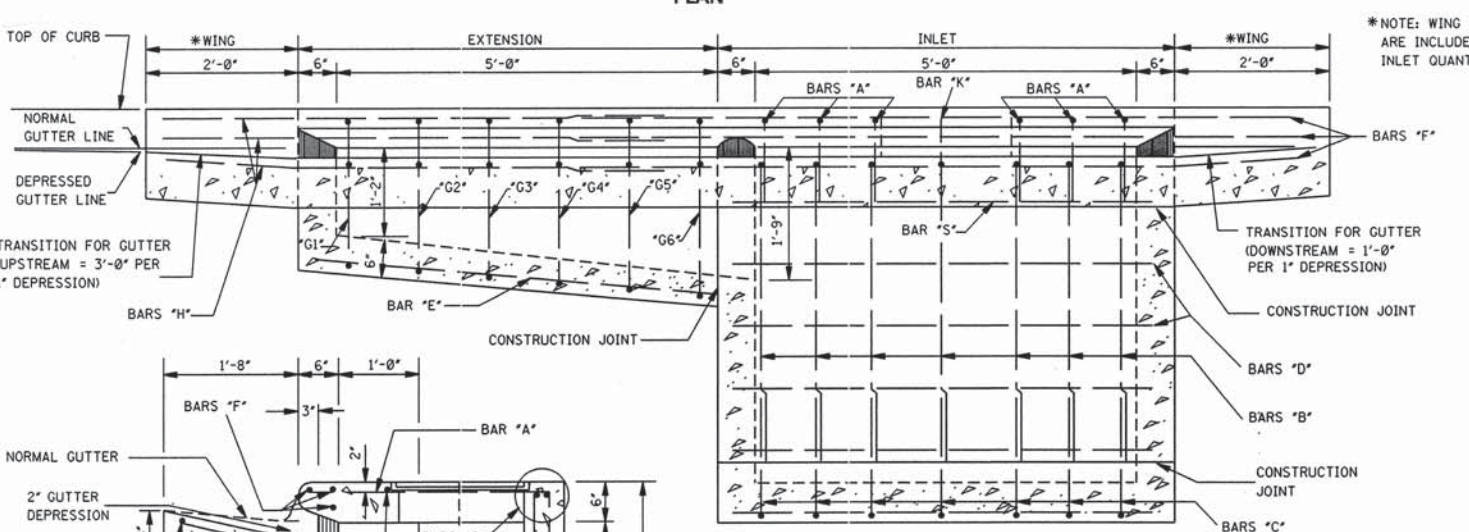
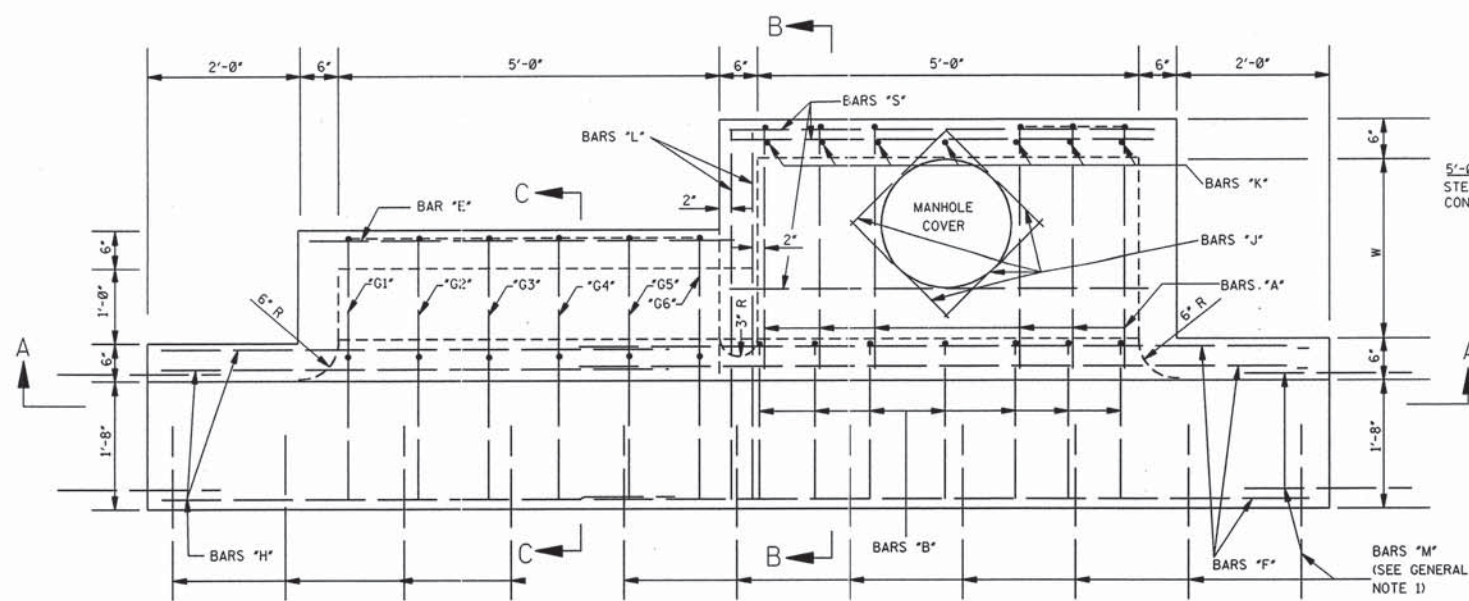
- REINFORCING STEEL QUANTITIES TO BE COMPUTED FROM BAR LIST AND SHOWN ELSEWHERE ON THE PLANS.
- QUANTITIES FOR JUNCTION BOXES SHOWN ON THE PLANS WILL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
- CONCRETE SHALL BE CLASS "B" AND REINFORCING STEEL SHALL BE DEFORMED BARS, ASTM A 615, GRADE 60 OR AASHTO M 31, GRADE 60.
- SIDE 1 OF THE JUNCTION BOX WILL ALWAYS BE THE OUTFLOW SIDE.
- IF PIPES ARE SKEWED MORE THAN 15° OR IF SKEWED PIPES PRODUCE CONFLICTS WITH ANOTHER OPENING, THE PIPE SHALL BE BROKEN BACK TO THE WALL OF THE JUNCTION BOX.



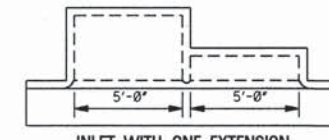
LIFT BAR

NOTE: LIFT BAR TO BE FABRICATED FROM A #4 BAR 30" LONG. TWO LIFT BARS ARE REQUIRED. REINFORCING STEEL FOR 2 LIFT BARS = 3.3 lbs.

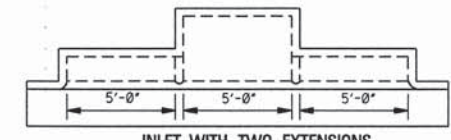
MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN		
JUNCTION BOX TYPE 2 FOR TRAFFIC LOAD (MAXIMUM "W" = 9'-3")		
WORKING NUMBER JB-2	SHEET NUMBER 304	
DATE	ISSUE DATE: OCTOBER 1, 1998	



5'-0" INLET
STEEL = 8.68W + 9.35Y + 3.79W' + 7.57H' + 121
CONC. = (WY + 5.5W + 6Y + 14.611)/27



10'-0" INLET
STEEL = 8.68W + 9.35Y + 3.79W' + 7.57H' + 231
CONC. = (WY + 5.5W + 6Y + 38.641)/27



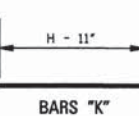
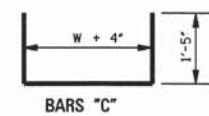
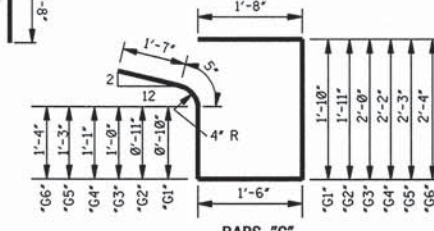
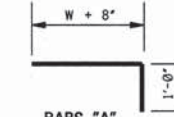
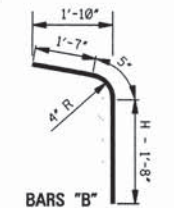
15'-0" INLET
STEEL = 8.68W + 9.35Y + 3.79W' + 7.57H' + 341
CONC. = (WY + 5.5W + 6Y + 62.671)/27

PLAN OF INLET AND EXTENSIONS

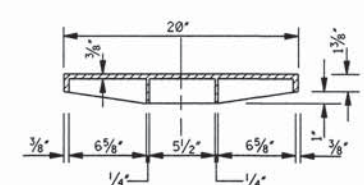
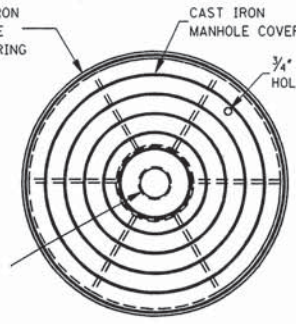
ADD. CONCRETE PER FOOT OF H		ADD. CONCRETE PER FOOT OF W	
W	yd ³ /ft	H	yd ³ /ft
2'-6"	0.315	3'-6"	0.315
3'-0"	0.333	4'-0"	0.333
3'-6"	0.352	4'-6"	0.352
4'-0"	0.371	5'-0"	0.370
4'-6"	0.389	5'-6"	0.389
5'-0"	0.408	6'-0"	0.408
5'-6"	0.426	6'-6"	0.426
6'-0"	0.445	7'-0"	0.445
6'-6"	0.463	7'-6"	0.463
7'-0"	0.481	8'-0"	0.482
		8'-6"	0.500

QUANTITIES FOR ONE EXTENSION					
BAR	SIZE	LENGTH	SPACING	NUMBER	WEIGHT
E	#4	5'-8"	AS SHOWN	3	11
G	#4	SEE SCHEDULE	0'-11"	6	34
H	#6	6'-9"	AS SHOWN	5	51
L	#6	4'-9"	AS SHOWN	2	14
TOTAL STEEL FOR ONE EXTENSION = 110 lbs					
TOTAL CONCRETE FOR ONE EXTENSION = 0.89 yd ³					
NOTE: WHERE EXTENSION IS USED WITH CONCRETE PAVEMENT, ADD 27 lbs OF STEEL FOR BARS *M*.					

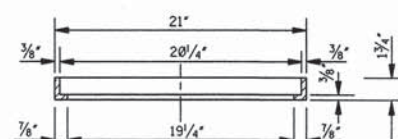
BAR "G" SCHEDULE	
BAR "G"	LENGTH
G1	7'-10"
G2	8'-0"
G3	8'-2"
G4	8'-5"
G5	8'-8"
G6	8'-10"



BAR DETAILS



SECTION THRU MANHOLE COVER



SECTION THRU MANHOLE COVER RING

DETAIL OF KEYED CONSTRUCTION JOINTS
NOTE: FIELD BEND BARS *L* TO CENTER OF GUTTER SECTION

NOTES:
1. W AND H ARE EXPRESSED IN DECIMAL FEET.
2. W' = W ROUNDED TO NEAREST WHOLE FOOT.
3. Y = (H-0.5).
4. H' = (H - 2.08) ROUNDED TO NEAREST WHOLE FOOT.
5. NO DEDUCTIONS ARE MADE FOR PIPE OPENINGS IN FORMULAS.

W=2'-6"		BILL OF REINFORCING STEEL FOR 1-5'-0" INLET																		
H	BAR "A" L = 4'-2" #4 @ 9"		BAR "C" L = 5'-8" #4 @ 9"		BAR "S" L = 5'-8" #4 @ 12"		BAR "D" L = 5'-8" #4 @ 12"		BAR "F" L=9'-8" #6		BAR "J" L=2'-3" #4		BAR "B" #4 @ 9"		BAR "K" #4 @ 9"		TOTAL		TOTAL CONC.	
	NO.	lbs	NO.	lbs	NO.	lbs	NO.	lbs	NO.	lbs	NO.	lbs	LGTH.	NO.	lbs	LGTH.	NO.	lbs		yd.
3'-6"	6	17	7	27	5	19	5	19	5	73	4	6	3'-10"	7	18	2'-7"	7	12	190	1.95
4'-0"	6	17	7	27	5	19	7	26	5	73	4	6	4'-4"	7	20	3'-1"	7	14	202	2.15
4'-6"	6	17	7	27	5	19	7	26	5	73	4	6	4'-10"	7	23	3'-7"	7	17	207	2.31
5'-0"	6	17	7	27	5	19	9	34	5	73	4	6	5'-4"	7	25	4'-1"	7	19	219	2.47
5'-6"	6	17	7	27	5	19	9	34	5	73	4	6	5'-10"	7	27	4'-7"	7	21	224	2.62
6'-0"	6	17	7	27	5	19	11	42	5	73	4	6	6'-4"	7	30	5'-1"	7	24	238	2.78
6'-6"	6	17	7	27	5	19	11	42	5	73	4	6	6'-10"	7	32	5'-7"	7	26	240	2.94
7'-0"	6	17	7	27	5	19	13	49	5	73	4	6	7'-4"	7	34	6'-1"	7	28	253	3.10
7'-6"	6	17	7	27	5	19	13	49	5	73	4	6	7'-10"	7	37	6'-7"	7	31	257	3.25

W=3'-0"		BILL OF REINFORCING STEEL FOR 1-5'-0" INLET														* TOTAL		TOTAL CONC.		
H	BAR "A" L = 4'-8" #4 @ 9"		BAR "C" L = 6'-2" #4 @ 9"		BAR "S" L = 5'-8" #4 @ 12"		BAR "D" L = 5'-8" #4 @ 12"		BAR "F" L=9'-8" #6		BAR "J" L=2'-3" #4		BAR "B" #4 @ 9"		BAR "K" #4 @ 9 1/2"		STEEL	TOTAL		
	NO.	lbs	NO.	lbs	NO.	lbs	NO.	lbs	NO.	lbs	NO.	lbs	LGTH.	NO.	lbs	LGTH.	NO.	lbs	lbs	yd
3'-6"	6	19	7	29	5	19	5	19	5	73	4	6	3'-10"	7	18	2'-7"	7	12	194	2.15
4'-0"	6	19	7	29	5	19	7	26	5	73	4	6	4'-4"	7	20	3'-1"	7	14	206	2.32
4'-6"	6	19	7	29	5	19	7	26	5	73	4	6	4'-10"	7	23	3'-7"	7	17	211	2.45
5'-0"	6	19	7	29	5	19	9	34	5	73	4	6	5'-4"	7	25	4'-1"	7	19	223	2.65
5'-6"	6	19	7	29	5	19	9	34	5	73	4	6	5'-10"	7	27	4'-7"	7	21	228	2.82
6'-0"	6	19	7	29	5	19	11	42	5	73	4	6	6'-4"	7	30	5'-1"	7	24	240	2.99
6'-6"	6	19	7	29	5	19	11	42	5	73	4	6	6'-10"	7	32	5'-7"	7	26	245	3.15
7'-0"	6	19	7	29	5	19	13	49	5	73	4	6	7'-4"	7	34	6'-1"	7	28	257	3.32
7'-6"	6	19	7	29	5	19	13	49	5	73	4	6	7'-10"	7	37	6'-7"	7	31	262	3.49

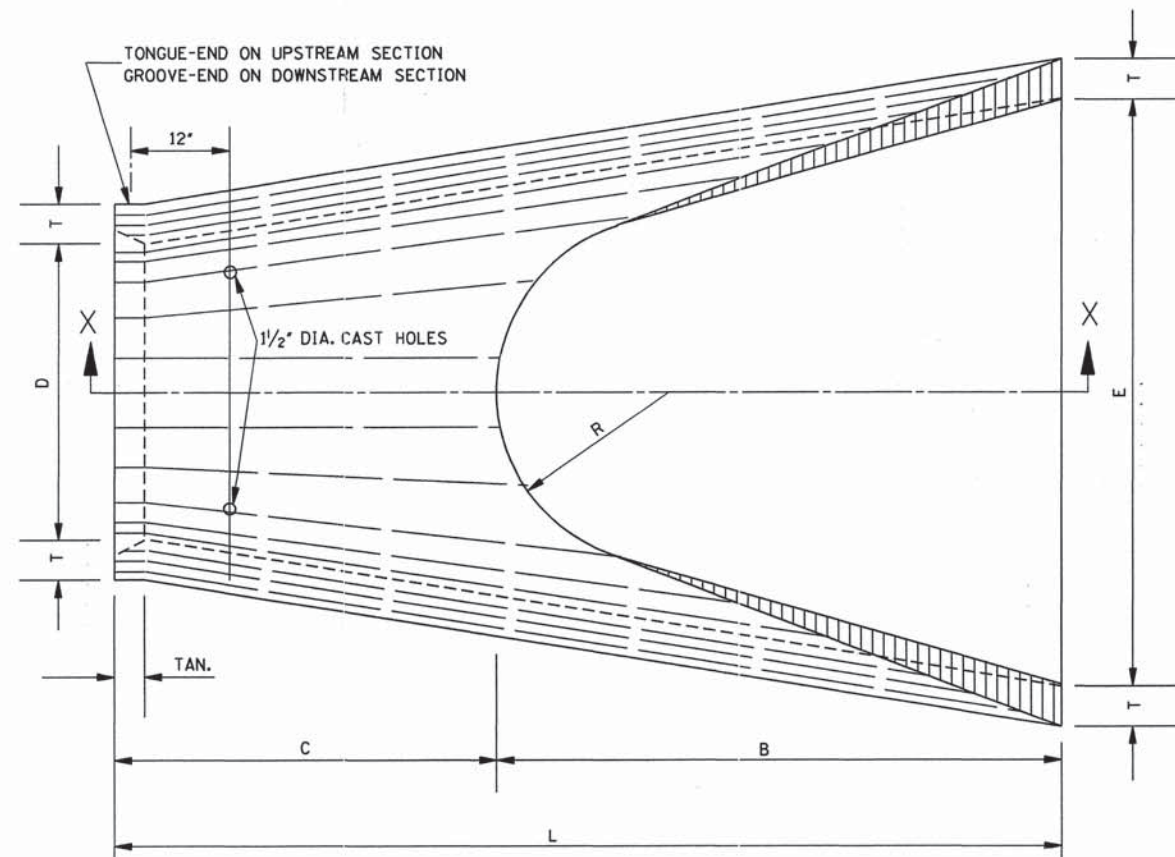
W=3'-6"			BILL OF REINFORCING STEEL FOR 1-5'-0" INLET												* TOTAL		TOTAL CONC.			
H	BAR "A" L = 5'-2" #4 @ 9"	BAR "C" L = 6'-8" #4 @ 9"	BAR "S" L = 5'-8" #4 @ 12"	BAR "D" L = 5'-8" #4 @ 12"	BAR "F" L=9'-8" #6	BAR "J" L=2'-3" #4	BAR "B" #4 @ 9"		BAR "K" #4 @ 9"		* TOTAL STEEL									
	NO.	lbs	NO.	lbs	NO.	lbs	NO.	lbs	LGTH.	NO.	lbs	LGTH.	NO.	lbs						
3'-6"	6	21	7	31	5	19	6	23	5	73	4	6	3'-10"	7	18	2'-7"	7	12	202	2.31
4'-0"	6	21	7	31	5	19	8	30	5	73	4	6	4'-4"	7	20	3'-1"	7	14	214	2.49
4'-6"	6	21	7	31	5	19	8	30	5	73	4	6	4'-10"	7	23	3'-7"	7	17	219	2.66
5'-0"	6	21	7	31	5	19	10	38	5	73	4	6	5'-4"	7	25	4'-1"	7	19	231	2.84
5'-6"	6	21	7	31	5	19	10	38	5	73	4	6	5'-10"	7	27	4'-7"	7	21	236	3.01
6'-0"	6	21	7	31	5	19	12	45	5	73	4	6	6'-4"	7	30	5'-1"	7	24	248	3.19
6'-6"	6	21	7	31	5	19	12	45	5	73	4	6	6'-10"	7	32	5'-7"	7	26	253	3.37
7'-0"	6	21	7	31	5	19	14	53	5	73	4	6	7'-4"	7	34	6'-1"	7	28	265	3.54
7'-6"	6	21	7	31	5	19	14	53	5	73	4	6	7'-10"	7	37	6'-7"	7	31	270	3.72

- GENERAL NOTES:
- WHERE INLET OR INLET WITH EXTENSIONS IS USED WITH CONCRETE PAVEMENT WITH INTEGRAL CURB, THE PAVEMENT IS TO BE BLOCKED OUT TO THE DIMENSIONS AS SHOWN FOR THE GUTTER PORTION OF THE INLET OR INLET WITH EXTENSIONS. THE PORTION BLOCKED OUT SHALL BE PLACED INTEGRAL WITH THE TOP OF THE INLET OR INLET WITH EXTENSIONS. #8 DEFORMED BARS 30" LONG SHALL BE PLACED ON 18" CENTERS AT THE CENTER OF THE PAVEMENT. THESE BARS SHALL EXTEND INTO THE GUTTER PORTION OF THE INLET OR INLET WITH EXTENSIONS 15". THE CONSTRUCTION JOINT BETWEEN THE CONCRETE PAVEMENT AND THE INLET OR INLET WITH EXTENSIONS SHALL BE A KEYED JOINT AS SHOWN. A SMOOTH CONSTRUCTION JOINT WILL NOT BE PERMITTED. QUANTITIES FOR BLOCKED OUT AREA OF PAVEMENT SHALL BE INCLUDED IN QUANTITIES FOR INLET OR INLET WITH EXTENSIONS.
 - THE STANDARD SPECIFICATIONS ADOPTED BY THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION SHALL APPLY TO ALL ITEMS ON THIS SHEET.
 - THE QUANTITIES SHOWN, MINUS VOLUMETRIC DISPLACEMENT OF CONCRETE BY PIPE CULVERTS THROUGH INLET WALLS, WILL BE USED AS THE BASIS OF FINAL PAYMENT UNLESS THIS PLAN IS MODIFIED.
 - FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLE ARE INCREMENTS OF 6". BUT ANY DEPTHS OTHER THAN THESE SHOWN MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS, FALLING WITHIN THE LIMITS OF THE TABLE, MAY BE FOUND BY INTERPOLATION.
 - FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM SEWER. NO DEDUCTIONS ARE TO BE MADE IN STEEL QUANTITIES.

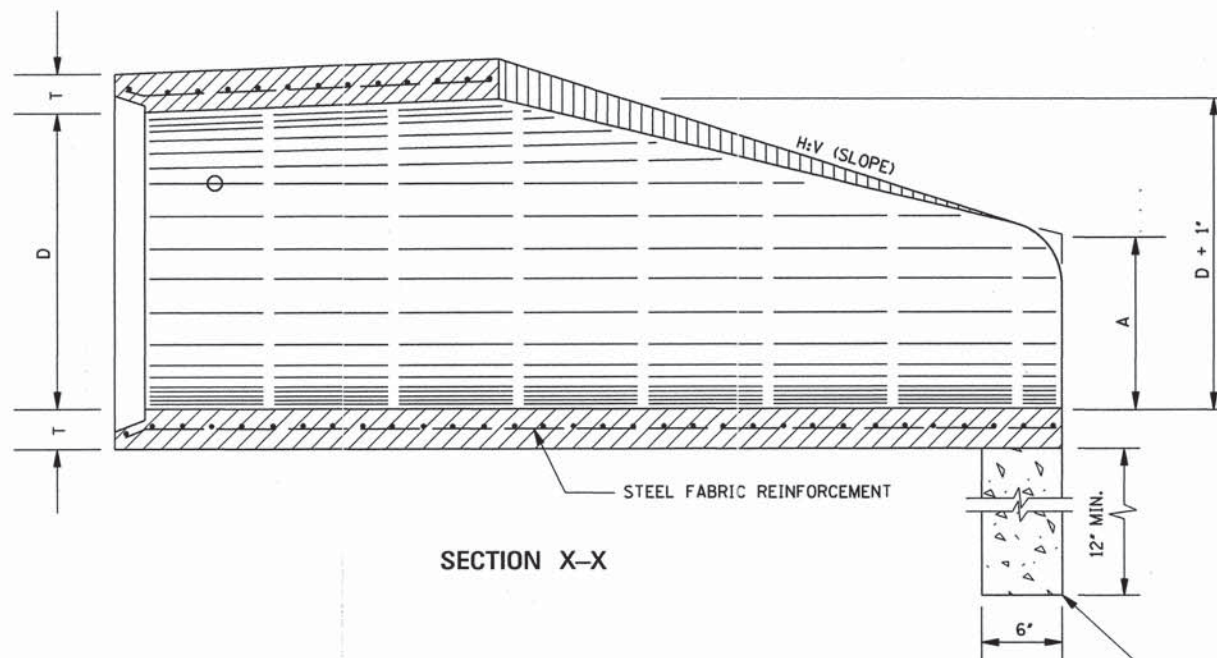
BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
REVISION		STORM SEWER STRUCTURE TYPE SS-2	
DATE		ISSUE DATE: OCTOBER 1, 1998	 WORKING NUMBER SS-2 SHEET NUMBER 322

BELL AND SPIGOT END OPTION

NOTE: BELL-END ON DOWNSTREAM SECTION
SPIGOT-END ON UPSTREAM SECTION.



PLAN OF DOWNSTREAM END



SECTION X-X

TOE WALL REQUIRED ON ALL DOWNSTREAM
FLARED END SECTIONS. TOE WALL AT UPSTREAM
END WILL BE CONSTRUCTED WHERE DIRECTED BY THE
ENGINEER. TO BE PAID FOR AS CLASS 'B' STRUCTURAL
CONCRETE - MINOR STRUCTURES.

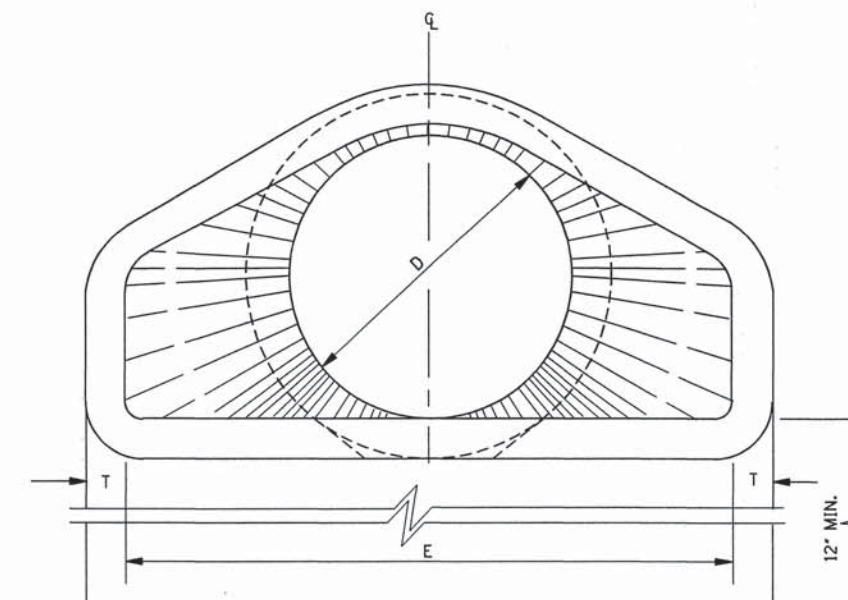
TABLE OF DIMENSIONS							
D	T	H:V	A	B	C	E	L
15"	2 1/4"	3:1	6"	2'-3"	4'-1"	2'-8"	6'-1"
18"	2 1/2"	3:1	9"	2'-3"	3'-10"	3'-0"	6'-1"
24"	3"	3:1	10"	3'-8"	2'-6"	4'-0"	6'-2"
30"	3 1/2"	3:1	1'-0"	4'-6"	1'-8"	5'-0"	6'-2"
36"	4"	3:1	1'-3"	5'-3"	2'-11"	6'-0"	8'-2"
42"	4 1/2"	3:1	1'-9"	5'-3"	2'-11"	6'-6"	8'-2"
48"	5"	3:1	2'-0"	6'-0"	2'-2"	7'-0"	8'-2"
54"	5 1/2"	3:1	2'-4"	6'-6"	1'-10"	7'-6"	8'-4"
* 60"	6"	3:1	2'-10"	6'-6"	1'-10"	8'-0"	8'-4"
* 66"	6 1/2"	3:1	3'-4"	6'-6"	1'-10"	8'-6"	8'-4"
* 72"	7"	3:1	3'-10"	6'-6"	1'-10"	9'-0"	8'-4"

* NOTE: SEE GENERAL NOTE 2.

TOE WALL CONC. QUANTITY (yd ³)
0.056
0.063
0.083
0.102
0.123
0.134
0.145
0.156
0.167
0.177
0.188

GENERAL NOTES:

- REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO M 170, TABLE 2, WALL B.
- 2 - 1/2" DIA. CAST HOLES REQUIRED AS SHOWN TO ACCOMMODATE 2 - 1" DIA. TIE BOLTS, USED IN TIEING SECTION TO PIPE CULVERT.
- LENGTH (L) OF A BELL-END OPTION MAY VARY BY A NOMINAL EXTENSION ON THE BELL END.
- FLARED END SECTIONS ARE NOT TO BE USED INSIDE THE CLEAR ZONE.
- ALL SIZES OF FLARED END SECTIONS FOR CIRCULAR CONCRETE PIPE MAY BE FURNISHED WITH EITHER BELL AND SPIGOT OR TONGUE AND GROOVE ENDS.

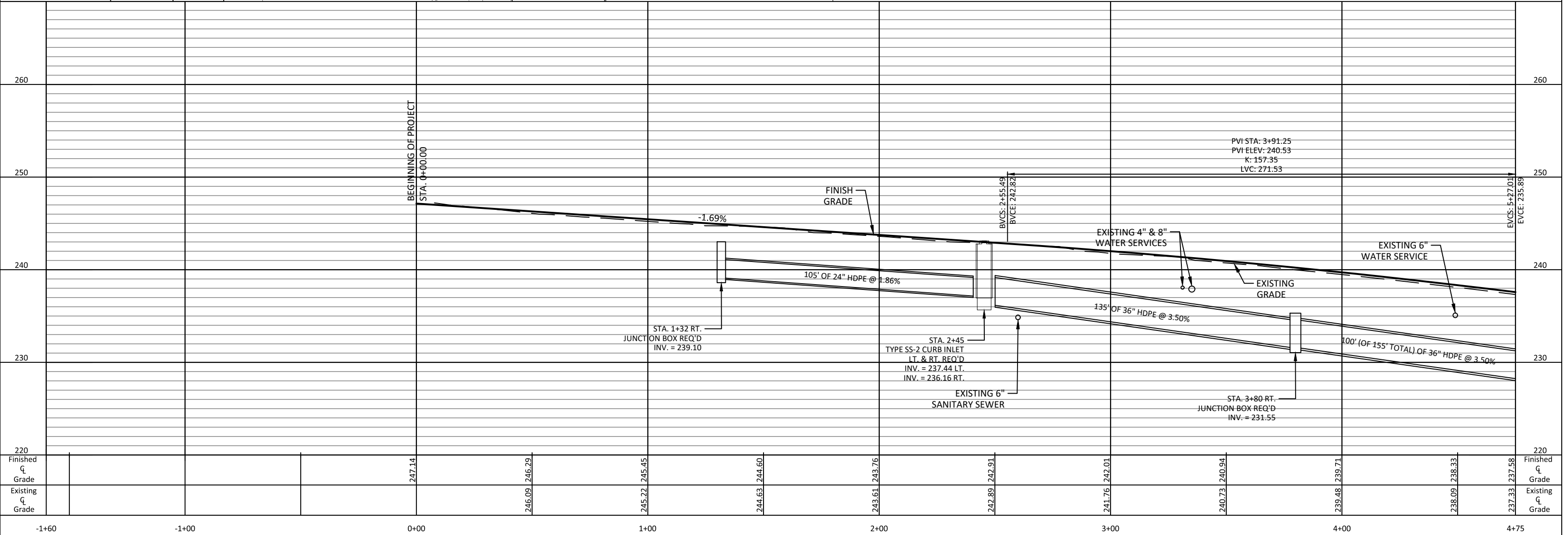
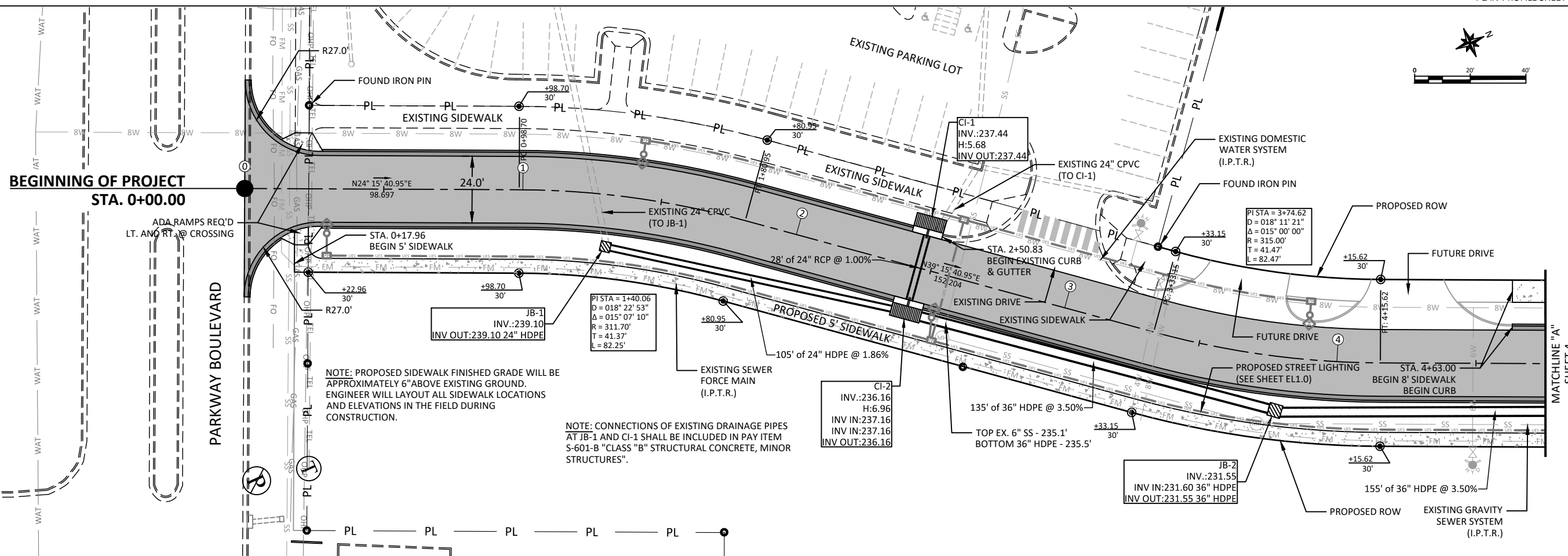


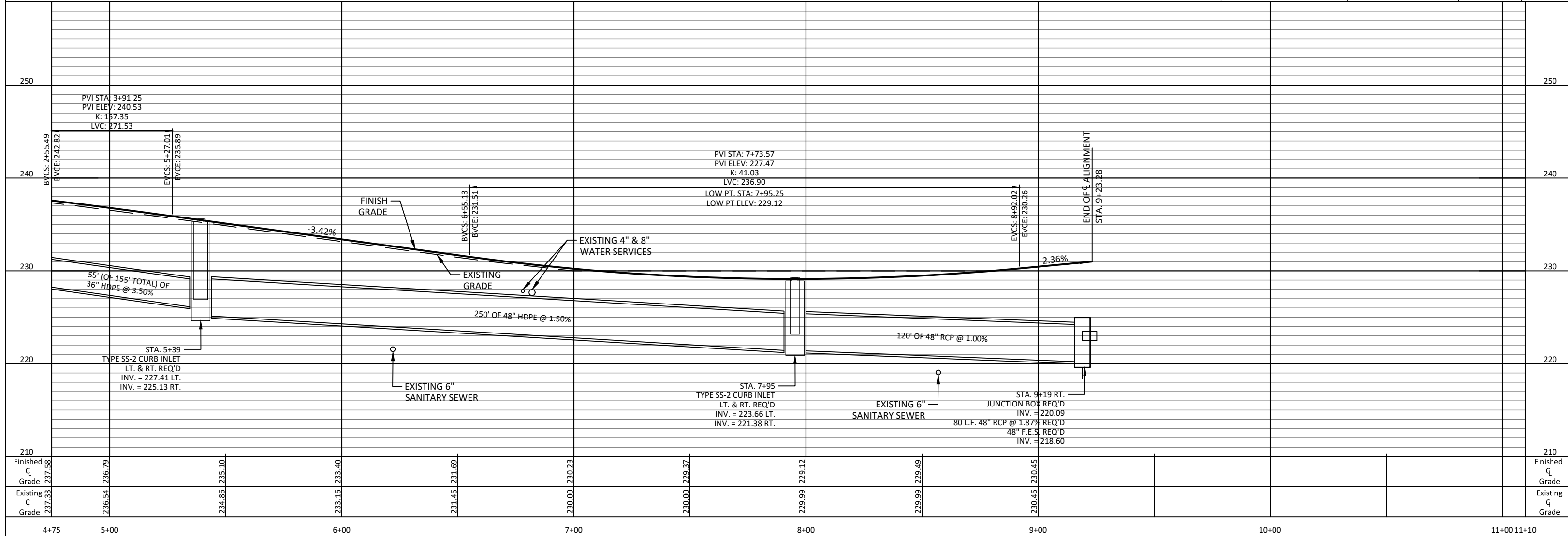
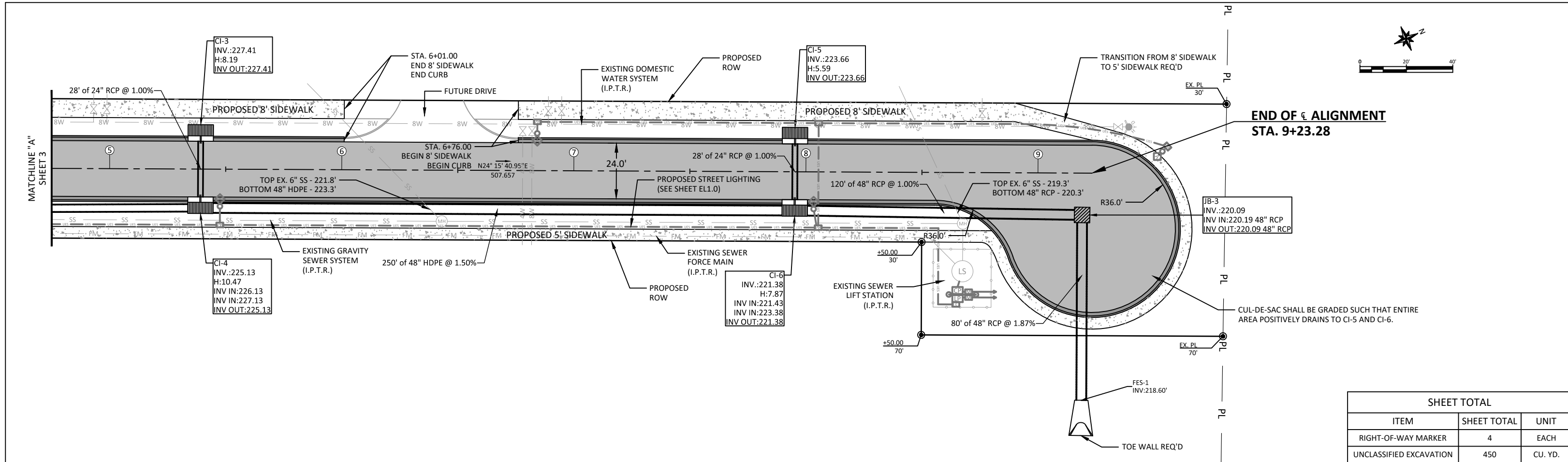
END ELEVATION

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN		 WORKING NUMBER FE-1 SHEET NUMBER 328
DATE	ISSUE DATE: OCTOBER 1, 1998	

DESIGN DATA
DESIGN SPEED 25 MPH
CURRENT A.D.T. (2016) = 1025

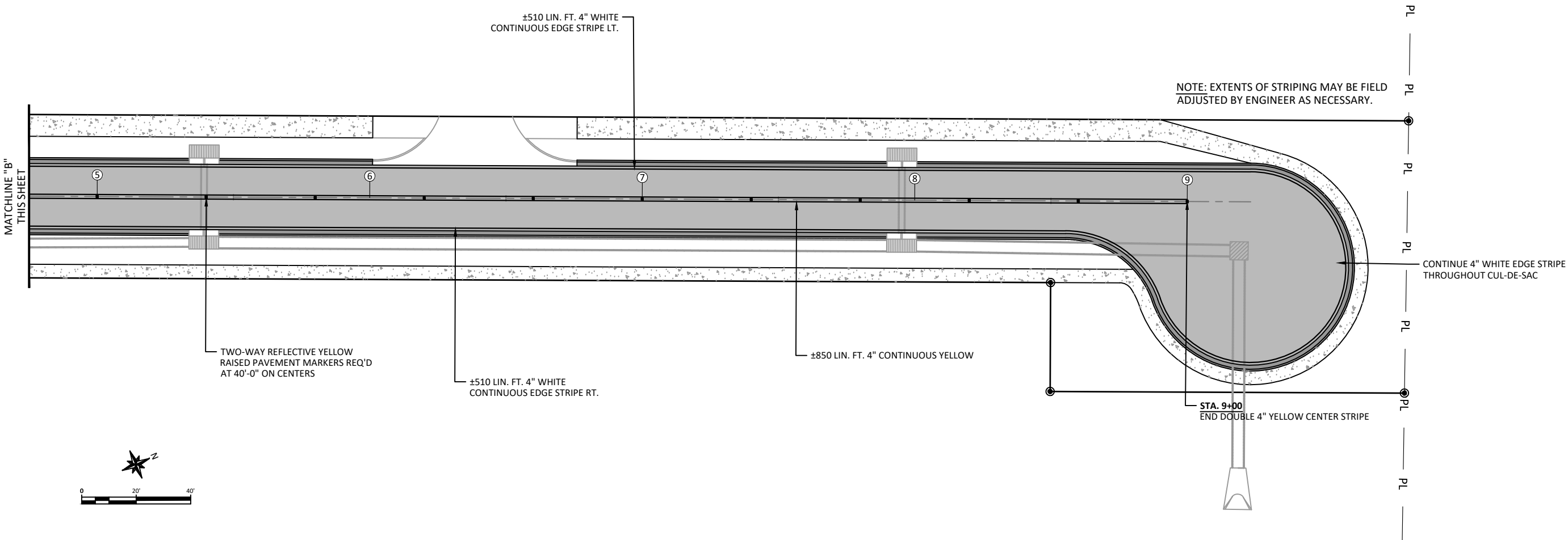
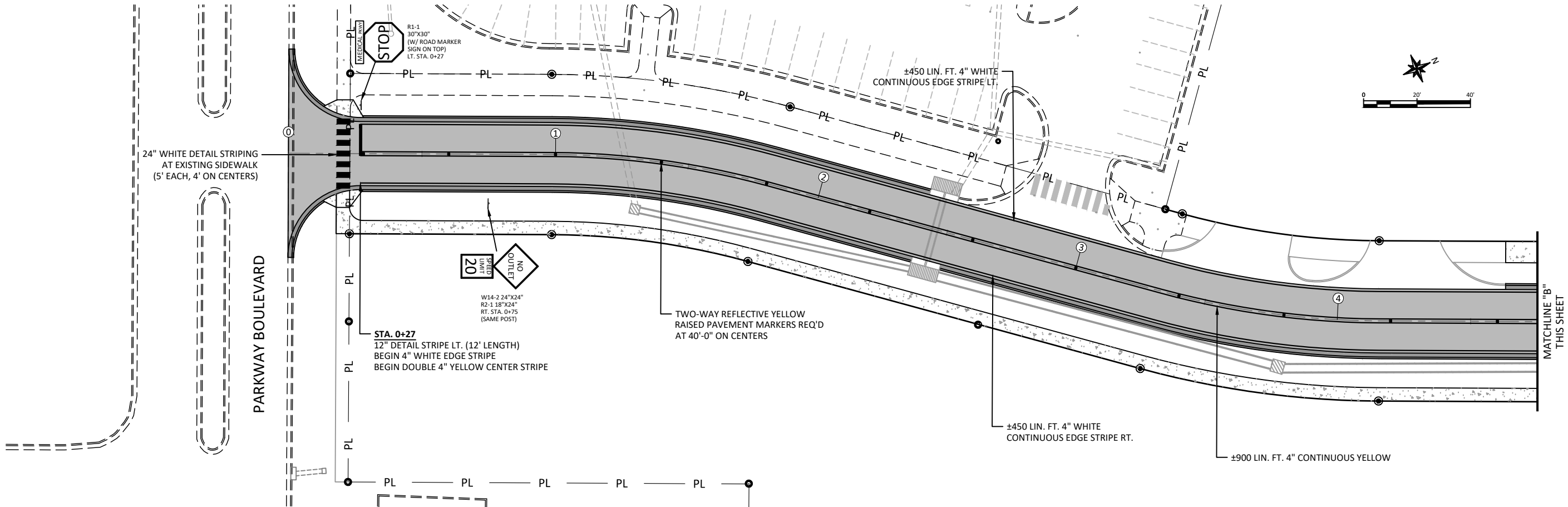
SHEET TOTAL		
ITEM	SHEET TOTAL	UNIT
RIGHT-OF-WAY MARKER	10	EACH
UNCLASSIFIED EXCAVATION	450	CU. YD.





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STRIPING AND SIGNAGE LAYOUT



SURVEYED BY
Southeast Surveying &
Mapping, LLC
DESIGNED BY
Matt Prine, P.E.
DRAWN BY
Matt Prine, P.E. & Jesse Walters
CHECKED BY
Dustin Gatlin, P.E.

MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

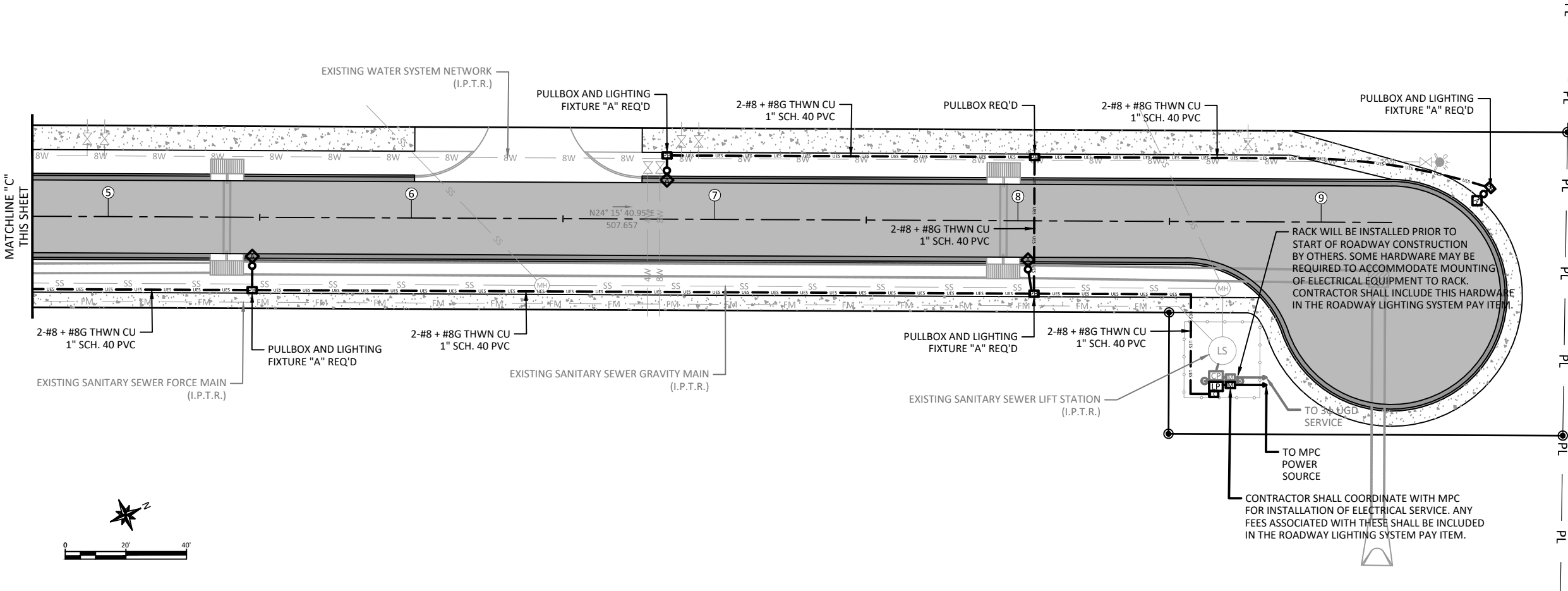
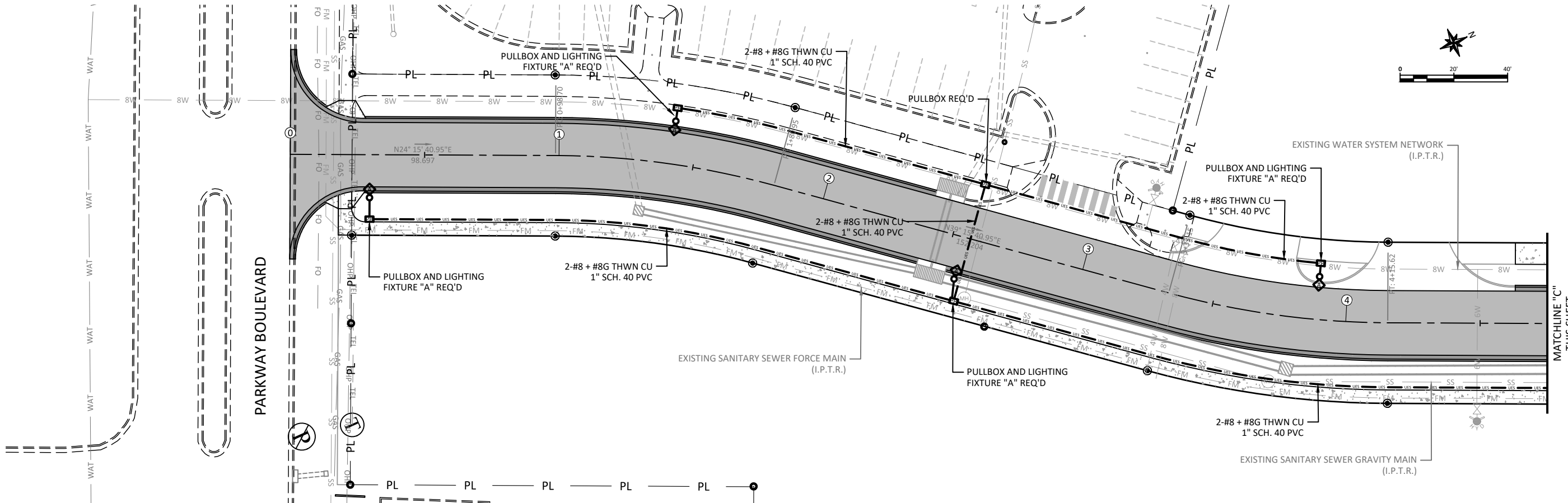
SCALES:
12"x18"
1" = 40'
24"x36"
1" = 20'

THE WALKER ASSOCIATES
ENGINEERS ■ PLANNERS ■ DESIGNERS
2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

DATE:
APRIL 2017
SERIAL NO.
104-16
SHEET NO.

ST1.0

ROADWAY LIGHTING/ELECTRICAL LAYOUT



SURVEYED BY
Southeast Surveying &
Mapping, LLC

DESIGNED BY
Matt Prine, P.E.

DRAWN BY
Matt Prine, P.E. & Jesse Walters

CHECKED BY
Dustin Gatlin, P.E.

**MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG**

SCALES:

12"x18"
1" = 40'

24"x36"
1" = 20'

THE
WALKER
ASSOCIATES
ENGINEERS ■ PLANNERS ■ DESIGNERS
60203 Hardy Street, Hattiesburg, MS 39401 601/583-2112

DATE:

APRIL 2011

SERIAL NO

104-16

EL1.0

ELECTRICAL SCHEDULES AND DETAILS

SURVEYED BY
Southeast Surveying &
Mapping, LLC

DESIGNED BY
Matt Prine, P.E.

DRAWN BY
Matt Prine, P.E. & Jesse Walters

CHECKED BY
Dustin Gatlin, P.E.

MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

SCALES:

12"x18"
N/A

24"x36"
N/A

THE
WALKER
ASSOCIATES
ENGINEERS ■ PLANNERS ■ DESIGNERS
2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

DATE:

PRIL 2017

SERIAL NO.

104-16

SHEET NO.

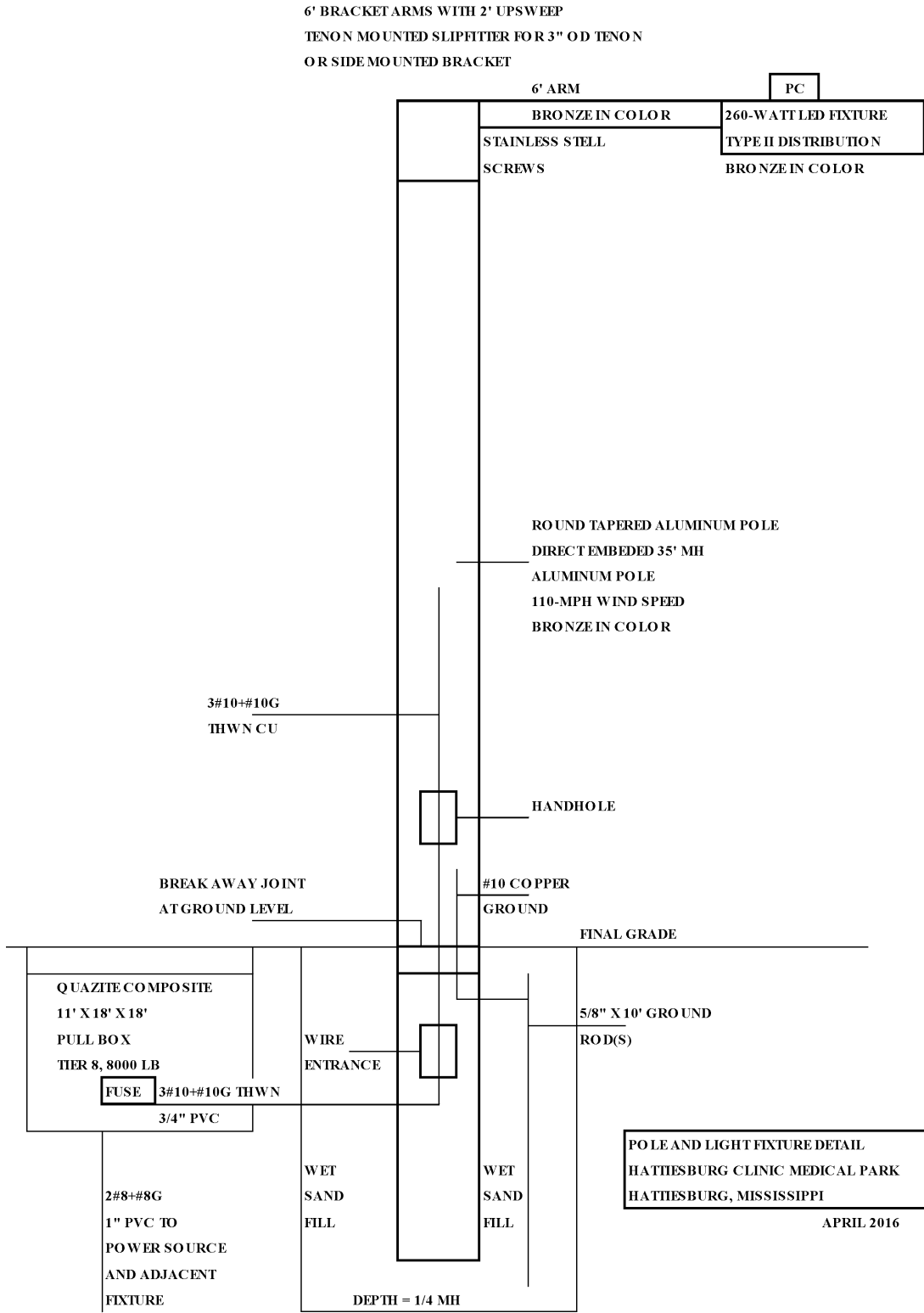
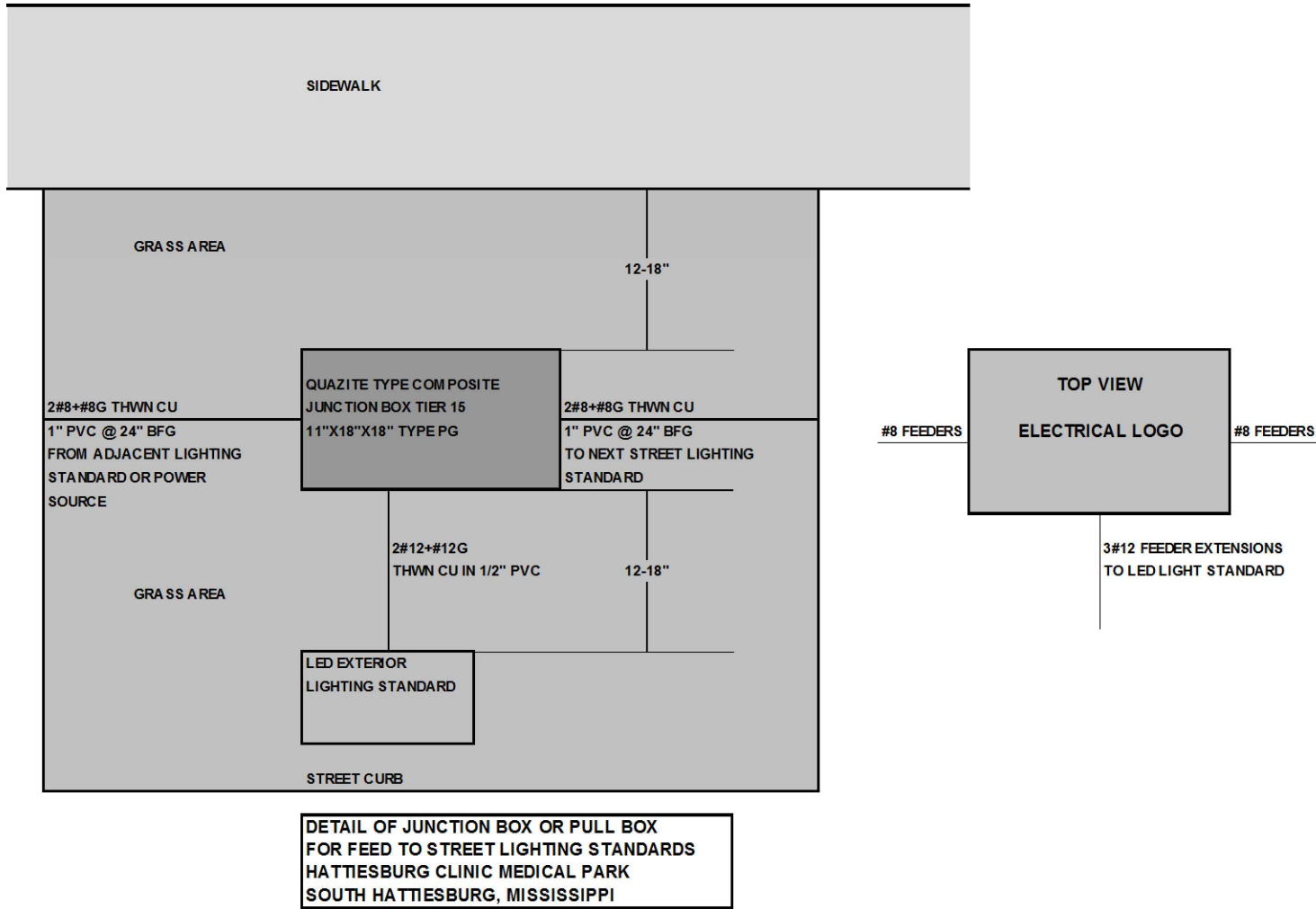
EL2.0

HATTIESBURG CLINIC MEDICAL PARK PARKWAY BLVD AT U.S. HWY 11 SOUTH HATTIESBURG, MISSISSIPPI EXTERIOR STREET LIGHTING FIXTURE AND POLE SCHEDULE						
MARK	LAMP	VOLTAGE	MOUNTING	FIXTURE INFORMATION	POLE OR ARM INFORMATION	REMARKS
A	260-W LED 4000 K CCT 27300 LUM	MULTI 120/277-V	SINGLE MOUNT ON 6'L BY 2' UPSWEEP ARMS SINGLE ARM	AMERICAN ELECTRIC LIGHTING AUTOBAUN ATB2-60BLEDE13-120-277V-R2-BZ	HAPCO ROUND TAPERED ALUMINUM RTA-35 POLE, 35' MH, DIRECT BURIAL COMPLETE WITH SINGLE 6' ARMS WITH 2' UPSWEEP (BRONZE)	1,2,3,5,6,7,8,9

REMARKS:

- EXTERIOR LIGHT FIXTURES COMPLETE WITH NIGHT SKY OPTICS FOR MAXIMUM DOWN LIGHTING ON ASPHALT STREET AND CONCRETE SURFACES
- EXTERIOR LIGHTING EQUIPPED WITH LED DRIVER FOR OPERATION AT 120-277-VOLTS (NOTE: CONTRACTOR TO VERIFY SERVICE VOLTAGE WITH MS POWER COMPANY)
- LED LIGHT FIXTURES "A" MOUNTED ON SINGLE 6' ARM WITH 2' UPSWEEP AND CONNECTED TO SLIPFITTER FOR 3" TENNON AND STAINLESS STEEL SET SCREWS TO THE ALUMINUM POLE OR TO PRE MOLDED SIDE OF POLE AS PER THE POLE MANUFACTURER'S STANDARDS
- NEW LIGHTING STANDARD POLES TO BE DIRECT EMBEDDED TYPE WITH 35' MOUNTING HEIGHT. POLE AND ARM PAINTED BRONZE IN COLOR.
- POLES AND FIXTURES DESIGNED TO FOR 110-MPH WIND PLUS 30% GUST FACTOR
- EXTERIOR LIGHTING POWER SOURCES TO INCLUDE METER SOCKET AND 100-AMP PANELBOARD AND LC-PC MOUNTED ON GALVANIZED STEEL RACK
- EXTERIOR LIGHTING FIXTURES MOUNTED TO DIRECT BURIAL TYPE POLE IN 18-24" DIAMETER X DEPTH HOLE BACKFILLED WITH WET SAND OR CRUSHED LIMESTONE ROCK
- UNDERGROUND #8 EXTERIOR LIGHTING CIRCUIT TO BE CONTROLLED WITH LIGHTING CONTACTOR AND PHOTO-CELL FOR AUTOMATIC DUSK TO DAWN OPERATION
- PHOTOMETRICS DESIGNED FOR A MINIMUM OF 2.00+ FC AVERAGE MAINTAINED LIGHTING LEVELS WITH AVG/MIN RATIO OF 4 OR LESS AT 140-150' MAX POLE SPACING
- MPC OR CITY OF HATTIESBURG MAY MAINTAIN ALL NEW STREET LIGHTING SYSTEM AFTER INSTALLATION. NOTE: NEW LIGHTING FIXTURES AND POLES AS SPECIFIED ARE APPROVED ON MPC MATERIALS STANDARDS. EQUAL FIXTURES AND POLES MUST CURRENTLY BE APPROVED ON THE MPC MATERIALS STANDARDS.
- APPROVED FIXTURES EQUALS BY H. E. WILLIAMS VA1, OR PHILIP GARDCO GULLWING GL18, OR CREE OSQ

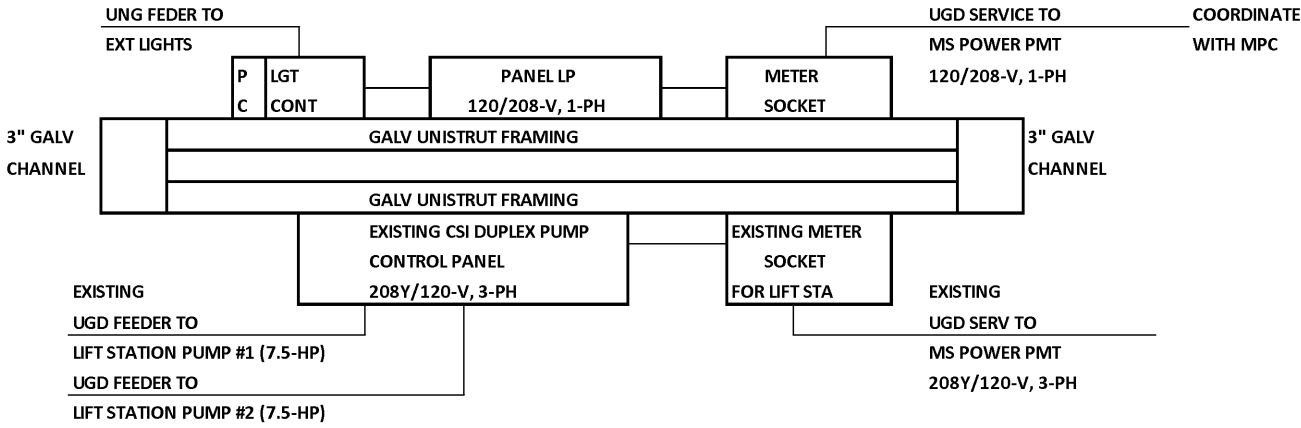
APRIL 2016



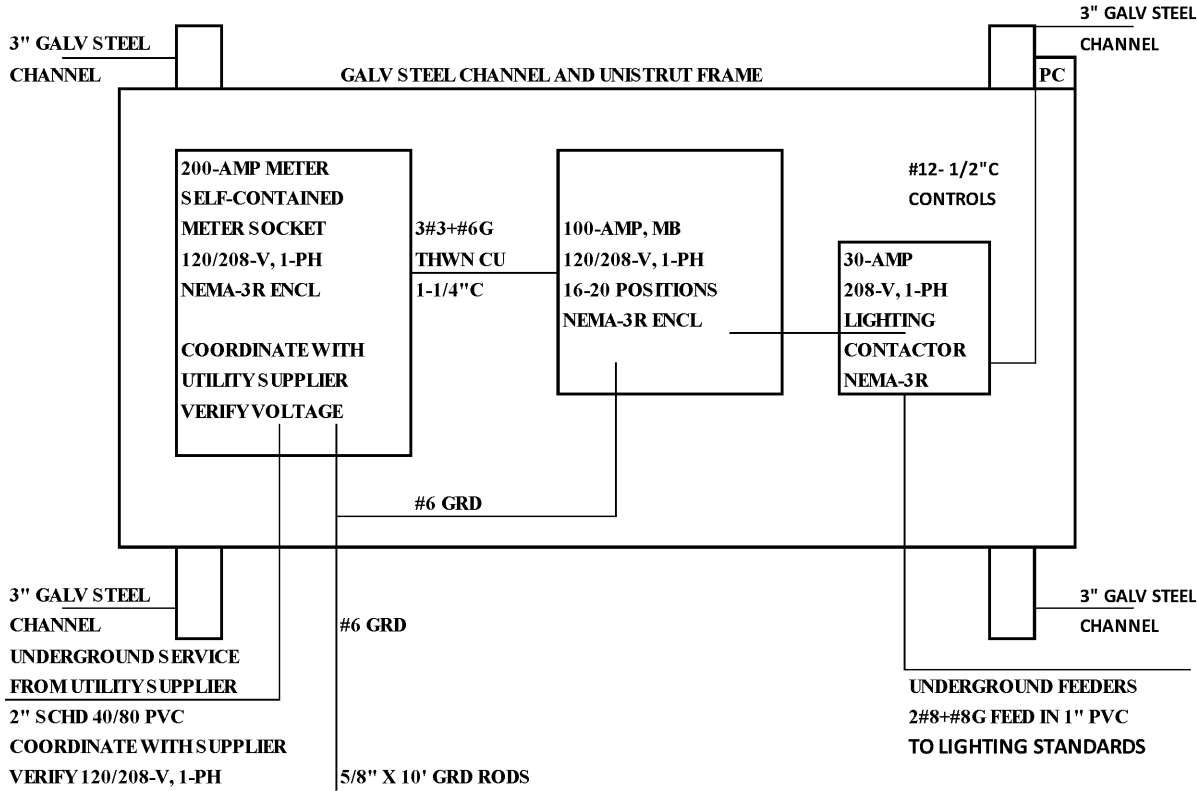
APRIL 2016

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ELECTRICAL DETAILS



HATTIESBURG CLINIC MEDICAL PARK
DETAIL OF GALV RACK COMPONENTS
FOR EXTERIOR LIGHTING POWER SOURCE
WITH BACK TO BACK POWER SOURCE
FOR EXISTING SEWER LIFT STATION



DETAIL OF LIGHTING STANDARDS POWER SOURCES
HATTIESBURG CLINIC MEDICAL PARK
OFF PARKWAY BLVD AND US HWY 11 SOUTH HATTIESBURG, MS
POWER SOURCE SOUTH IN MPC SERVICE AREA
COORDINATE EXACT LOCATIONS AND VOLTAGE WITH MPC

SURVEYED BY
Southeast Surveying &
Mapping, LLC
DESIGNED BY
Matt Prine, P.E.
DRAWN BY
Matt Prine, P.E. & Jesse Walters
CHECKED BY
Dustin Gallin, P.E.

MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

SCALES:
12"x18"
N/A
24"x36"
N/A

THE WALKER ASSOCIATES
ENGINEERS ■ PLANNERS ■ DESIGNERS
2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

DATE:
APRIL 2017
SERIAL NO.
104-16
SHEET NO.
EL2.1

ELECTRICAL NOTES

Hattiesburg Clinic Medical Park;
Parkway Blvd Off U. S. HWY 11; Hattiesburg Mississippi
Street and Exterior Lighting Improvements

Exterior Lighting General Electrical Requirements

- 1. Contractor shall call Mississippi 811 for locations of all existing underground utilities and coordinate locations of other utilities with City of Hattiesburg, Department of Public Works.
- 2. Contractor shall locate all existing Mississippi Power Company’s overhead and underground primary and secondary voltage power lines in the area and use caution when setting new lighting standards and installing new power sources.
- 3. Contractor will be held responsible for all repairs due to damages to any existing underground utilities.
- 4. MPC or the City of Hattiesburg may maintain the new street lighting system after installation and will include maintenance charges in the corresponding rate. NOTE: New lighting fixtures and poles have been specified in the Light Fixture-Pole Schedule and are approved on MPC Materials Standards or City of Hattiesburg preferred Standards. Only approved lighting standards equipment listed or approved on the MPC or City of Hattiesburg Materials Standards will be accepted.

New Hattiesburg Clinic Medical Park off Parkway Blvd and U.S. Hwy 11 in South Hattiesburg
New Exterior Lighting Construction Requirements

- 1. Contractor shall install New Lighting Standards Mark “A” in the grass area behind the street curb at staggered spacing as indicated on the drawings (pole spacing must not exceed 140’). New Lighting Standards Mark “A” shall consist of a direct burial (embedded) aluminum pole and single 210 to 230-260-Watt LED (depending upon manufacturer) type lighting fixture with type II IES distribution and mounted on 6’ bracket arms with 24” upsweep mounted for a 35+’ mounting height. Refer to Light Fixture Schedule and Pole and Lighting Standard “A” Details.
- 2. Direct burial holes for the recommended direct burial aluminum poles for Lighting Standards Mark “A” shall be 16-18” diameter and 96” depth to support the embedded pole shaft for 35+’ mounting height. After the poles have been set and plumb, the hole openings will be back filled with compacted wet sand or #610 limestone to ensure and maintain pole stability.
- 3. Contractor shall install new power source to be located at the end of the new street at approximate location indicated on the drawings. Power source will be served by Mississippi Power Company from a proposed underground primary distribution system and pad-mounted transformers. Contractor shall coordinate exact locations of the power source, exact voltage and underground power service with Mississippi Power Company POC is Mr. Butch Heath, Engineer Technician, at 601-545-4161. Contractor shall verify exact service voltage rating of the new service point with MPC’s and their future service voltage to area facilities (480Y/277-Volt or 208Y/120-Volt).
- 4. New power source is designed to include the following items:
 - 200-Amp, 277/480 or 120/208-Volt, 3-Wire, 1-Phase self-contained meter socket for MPC meter
 - A new service entrance of 3#3+#8G THWN Copper in 1-1/4” GRS conduit
 - A 100-Amp, 277/480 or 120/208-Volt, 3-Wire, 1-Phase Panelboard (Panel LP) equipped with main breaker and feeder breakers for the required street lighting circuits and including a NEMA-3R enclosure with locking front door for exterior applications.
 - A 30-Amp (for rated voltage) multi-pole lighting contactor and controlled with exterior rack mounted photocell
 - 2” Schedule 80/40 PVC conduit underground from new power source to MPC service point for new underground service to new service point.

- Each new power source shall be grounded with #6 copper ground wire and 5/8” X 10’ ground rod.
- 5. Power source equipment shall be mounted on an existing galvanized steel rack. Owner will apply for metered service for each power source with the respective utility supplier.
- 6. The lighting standards circuit shall be controlled with the lighting contactor and rack mounted photo-cell. Photo cell controls at power source shall be equal to Precision Locking-Type Photo controls Model P2275 for 120-Volt control or P68275 for 240-Volt control with FAIL-ON feature to allow contacts to default to normally closed position upon photo cell failure.
- 7. Contractor shall install a 2#8+#8G THWN Copper (600-Volt) underground feeder in 1” Schedule 40 PVC along the grass area between the street curb and proposed sidewalk from the new power source to a 11 x 18 x 18 composite pull-box at each lighting standard and as indicated on the drawings.
- 8. Schedule 80 PVC shall be used at all exposed locations while Schedule 40 PVC may be used for all underground services and feeders serving the new lighting system. Flexible HDE PVC may be used with directional boring. Large radius 90 and 45 degree elbows shall also be used for service and feeders.
- 9. Contractor shall install a pull-splice box flush in the grass medium near the edge of the concrete median and in front of each new lighting standard. Pull-splice boxes (PB) shall be 11”X18”X 18” and equal to Hubbell-Quazite Style PC Model # PC1118HG00 Gasketed and Heavy Duty and rated for 15,000 # load test and ANSI TIER 15. Logo of “Electrical” shall be labeled on the cover of each pull-box. (See Pull-Splice Box Detail)
- 10. Contractor may and perform trenching and backfilling or directional boring as required between the power source and pull-boxes and between lighting standard pull-boxes and any street crossing.
- 11. Contractor shall make all asphalt and concrete repairs in area where the pull box, trenching or boring is performed, and new lighting standards are installed.
- 12. Contractor shall install a 2#10+#10G THWN Copper in ¾” PVC extension from the pull-splice box underground to the base or conduit opening of the lighting standard and up the inside of the pole and connect to the back-to-back lighting fixtures (2 @ 260+-Watt LED).
- 13. All splices and taps made inside the pull-splice boxes to each lighting standard shall be sealed and water tight with wraparound GEL closure equal to Raychem GelCap (GelCap-SL-2/0-3 Hole, #14-2/0 AWG) splice covers, water resistant cover kit with 3-wire set-screw or lug connectors, heat shrink tubing, and rubber electrical tape.
- 14. Contractor shall install in line fuse holder inside the pole near the pull-box or at pole hand hole for fusing circuit extension to individual light fixtures. In line fuse holders shall be equal to Ferraz Shawmut FEX equipped with a 3-Amp fuses per energized conductor.

End of Electrical and Exterior Lighting Construction Notes

SURVEYED BY
Southeast Surveying &
Mapping, LLC
DESIGNED BY
Matt Prine, P.E.
DRAWN BY
Matt Prine, P.E. & Jesse Walters
CHECKED BY
Dustin Gattin, P.E.

MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

SCALES:
12”x18”
N/A
24”x36”
N/A

THE WALKER ASSOCIATES
ENGINEERS ■ PLANNERS ■ DESIGNERS
2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

DATE:
APRIL 2017
SERIAL NO.
104-16
SHEET NO.
EL2.2

STORM WATER POLLUTION PREVENTION PLAN

PROJECT: The Walker Associates, PLLC Project No. 104-16
Highway 11 Medical Park Access Roadway, City of Hattiesburg/Hattiesburg Clinic, P.A., Hattiesburg, MS

COUNTY: Forrest

SITE INFORMATION

The construction at this site will disturb **15.1** acres (including Pediatric Clinic Site). This site has a medium erosion hazard due to a silty clay (cl) soil type and slopes. It is in the Pascagoula Watershed Basin. The receiving stream, Burkett's Creek, from this site is not impaired.

SEDIMENT AND EROSION CONTROL REQUIREMENTS

VEGETATIVE CONTROLS: Permanent erosion controls (soil preparation, fertilizing, seeding, and mulching, sodding, and matting) will be placed as shown on the plans. Any disturbed areas laid-up for over 14 days will be seeded within 7 calendar days.

Buffer zones shall be maintained between land disturbing activities and perennial water bodies. Appropriate buffers will be maintained, as construction allows, and re-established when construction is complete near environmentally sensitive areas. Buffer zones are 5-feet from streams and 15-feet from the Right-of-Way. Topsoil should be stockpiled and used in areas that will be re-vegetated. When final grade is reached it should be distributed to a minimum of 2 inches on 3:1 slopes and 4 inches on flatter slopes.

Heavy equipment use in areas to be re-vegetated should be avoided. If compaction cannot be avoided, the top 4 inches of the soil bed should be tilled before re-vegetation. Any necessary fertilizer or other soil amendments should be added during the tilling process.

STRUCTURAL CONTROLS: Temporary silt fence, straw wattles, sandbags, paved ditches, and riprap will be placed as shown on the plans. No linear areas of ten (10) or more disturbed acres are involved in this project. Therefore, no sediment basins are required.

Construction entrances/exits shall be installed wherever traffic will be leaving a construction site and moving directly onto a paved public road.

Storm drain inlets-inlets that could receive storm water from construction activities shall be protected by surrounding or covering with a filter material until final stabilization has been achieved. Protect the inlet with silt fence, wattles, and/or sandbags to prevent sediment from entering before the curb and gutter is placed. Block and gravel curb inlet filter or sand bags may be necessary to prevent sediment from entering after the curb gutter is placed.

A concrete wash out area will be constructed in accordance to EPA Guidelines in areas approved the Engineer for concrete trucks to wash the mixer chutes and a memo will be sent to the concrete supplier to use a minimum amount of water. Drivers will be instructed to return any materials to the concrete batch plant and complete final washing procedures at that location.

HOUSEKEEPING PRACTICES: The contractor is reminded of his responsibilities which include equipment maintenance and repair, concrete chute wash-off, trash/debris, storage of chemicals and other toxic materials, and sanitary facilities. Storm water pollution prevention best management practice techniques are to be applied throughout the construction of this project the cost of which is to be included in regular bid items.

POST-CONSTRUCTION CONTROL MEASURES: Upon completion of construction, vegetative growth along the roadway foreslopes will provide a buffer zone for loose material originating from the roadway. Vegetative growth on the backslopes provides a buffer zone for loose material originating beyond the backslope. Flatter grades and ditch treatments minimize erosion. Paved ditches and flumes along with rock outlets are required.

IMPLEMENTATION SEQUENCE

1. Build construction entrance/exit.
1. Install silt fence, wattles, and other sedimentation controls as indicated on construction plans and standard detail sheets. along project construction limits, and along the creek.
2. Proceed with site work including demolition, grading, and other necessary site related work. Install silt fence around topsoil or excavation stockpiles. Install culverts/inlets with inlet/outlet protection (as indicated on plans) and rip rap.
3. Plant needed temporary vegetation on disturbed or problematic areas.
4. Plant and/or place permanent vegetation in all disturbed areas as soon as possible.
5. After site is stabilized (Engineer will determine if site is stabilized), remove all temporary measures, vegetating these areas.

MAINTENANCE PLAN

The contractor will inspect all disturbed areas, erosion and sediment controls after each significant rainfall but not less than once per week and record the results of this inspection on the "Monthly Inspection Report and Certification Form for Erosion and Sediment Controls" included with the permit. The monthly inspection reports and this SWPPP will be available for inspection during construction and submitted to MDEQ with the Notice of Termination as required. The contractor shall make needed repairs to installed erosion control items weekly and after each significant rainfall as necessary. This includes, but is not limited to, removing sediment, repairing, reinstalling, or replacing silt fence, straw wattles, or other temporary erosion control measures, repairing washes, ditches, or other permanent erosion control devices.

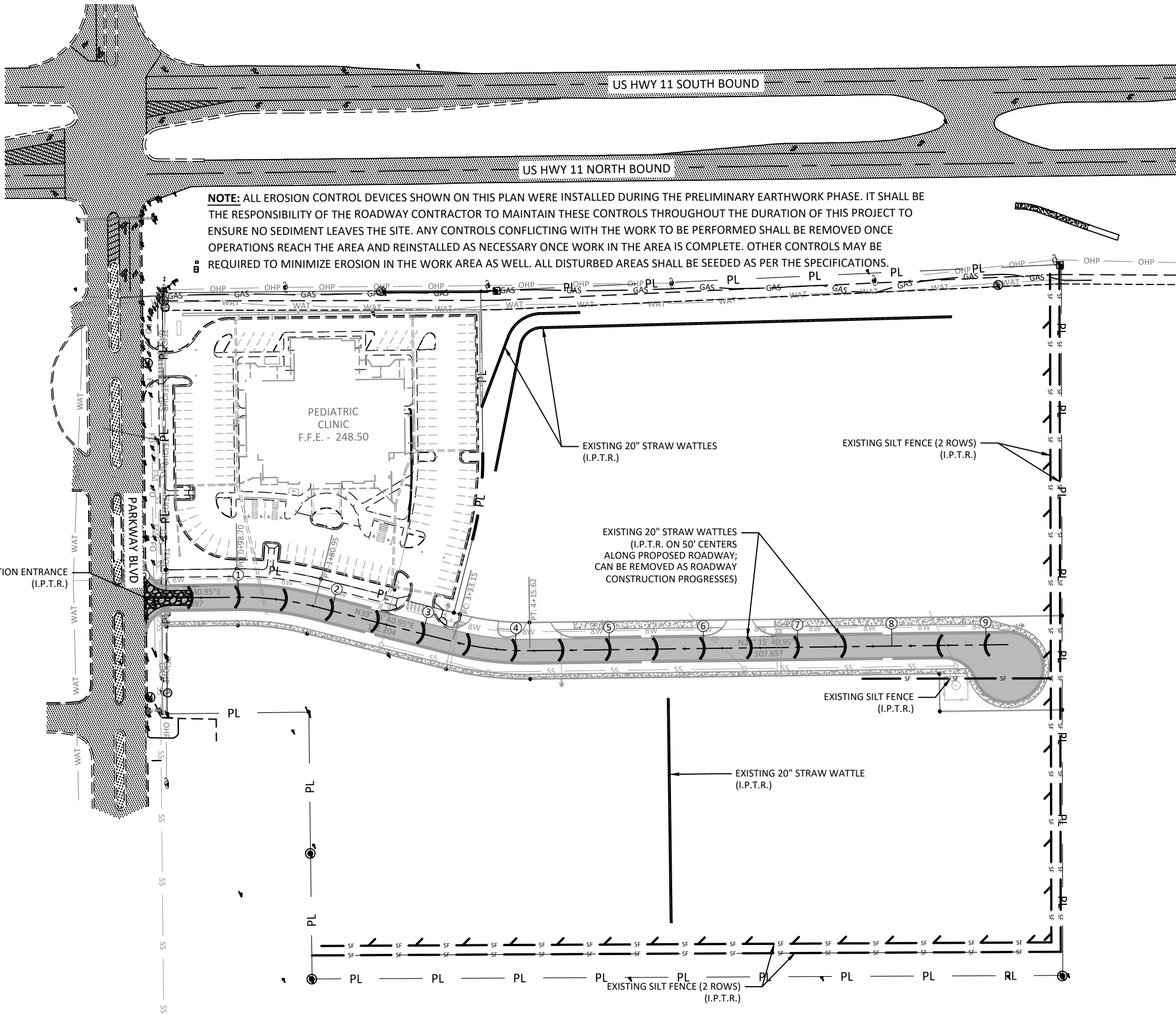
DOCUMENTATION AND COMPLIANCE

LARGE CONSTRUCTION GENERAL PERMIT (LCGP): Construction activities that disturb five acres or more require coverage under the Large CGP. The Contractor will have the responsibility for permit compliance in accordance with ACT 7 and ACT 9 for Large CGP. Additionally, the Contractor will conduct and maintain inspection records as required by permits.

GENERAL EROSION CONTROL NOTES:

1. EROSION/SEDIMENT CONTROLS SHALL BE PLACED AND MAINTAINED USING BEST MANAGEMENT PRACTICES (BMP'S) AS OUTLINED IN THE MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY'S "PLANNING AND DESIGN MANUAL FOR THE CONTROL OF EROSION, SEDIMENT, AND STORMWATER".
2. ALL EROSION CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS.
3. TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO THE START OF ANY WORK. IF REQUIRED TO REMOVE THE CONTROLS TEMPORARILY DUE TO CONSTRUCTION ACTIVITIES, THE TEMPORARY EROSION CONTROLS SHALL BE REINSTALLED IMMEDIATELY ONCE THOSE ACTIVITIES ARE COMPLETED OR AT THE END OF THE WORK DAY (WHICHEVER COMES FIRST).
4. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT. THE ENGINEER WILL HAVE THE AUTHORITY TO SUSPEND ALL WORK AND/OR WITHHOLD PAYMENTS FOR FAILURE OF THE CONTRACTOR TO MAINTAIN PROPER MAINTENANCE OF THE EROSION CONTROL BEST MANAGEMENT PRACTICES.
5. ALL EQUIPMENT REPAIR AND MAINTENANCE SHALL BE DONE OFFSITE.
6. RECEPTACLES SHALL BE PROVIDED TO PROPERLY DISPOSE OF ALL TRASH AND WASTE. ALL CONSTRUCTION DEBRIS SHALL BE PICKED UP AT THE END OF EACH DAY AND SHALL BE REMOVED COMPLETELY FROM THE SITE AT THE END OF THE PROJECT.
7. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM CONTROLS WHEN IT REACHES ½ THE HEIGHT OF THE CONTROL. THE SEDIMENT SHALL BE PROPERLY DISPOSED OF SO AS NOT TO CAUSE SEDIMENTATION IN ANOTHER LOCATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ANY SEDIMENT OR CONSTRUCTION DEBRIS THAT IS TRACKED ONTO ADJACENT PAVED AREAS, ADJACENT STREETS SHALL BE KEPT CLEAN THROUGHOUT CONSTRUCTION AND SHALL BE CLEANED WITH A STREET SWEEPER OR SIMILAR TECHNIQUE IMMEDIATELY UPON DISCOVERY OF SEDIMENT. WASHING THE STREET OR OTHER PAVED AREAS IS NOT AN ACCEPTABLE FORM OF CLEANING.
9. NATURAL VEGETATION SHALL BE MAINTAINED AND PROTECTED WHENEVER POSSIBLE.
10. TEMPORARY AND/OR PERMANENT VEGETATIVE PRACTICES MAY BE DEEMED NECESSARY IF THE CONTROLS FOUND IN THIS STORMWATER MANAGEMENT PLAN ARE FOUND TO BE INEFFECTIVE.
11. EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED WEEKLY AND FOLLOWING ANY RAIN EVENT. NONFUNCTIONING, INEFFECTIVE OR DAMAGED CONTROLS SHALL BE REPAIRED, REPLACED OR SUPPLEMENTED WITH FUNCTIONAL CONTROLS WITHIN 24 HOURS OF DISCOVERY.
12. ANY SEDIMENT THAT HAS MIGRATED OFFSITE WHETHER ONTO PUBLIC OR PRIVATE PROPERTY SHALL BE REMOVED IMMEDIATELY UPON DISCOVERY AT NO ADDITIONAL COST TO THE OWNER. THE DAMAGED PROPERTY SHALL BE RESTORED TO THE CONDITION PRIOR TO THE SEDIMENT MIGRATION. THE SOURCE OF THE BREACH SHALL BE IMMEDIATELY LOCATED AND CORRECTED.
13. PAYMENT FOR ALL EROSION CONTROL ITEMS INCLUDING TEMPORARY AND PERMANENT EROSION CONTROL SHALL BE INCLUDED IN THE BASE BID.
14. ALL DISTURBED AREAS SHALL BE **SEEDED** IN ACCORDANCE WITH THE S.W.P.P.P. AND THE CONTRACT SPECIFICATIONS.
15. CONTRACTOR SHALL MINIMIZE DAMAGE TO AREAS OUTSIDE OF THE PROPOSED CONSTRUCTION LIMITS. ANY DAMAGE TO ADJACENT PROPERTY INCLUDING ROADWAYS, UTILITIES, STRUCTURES, GREENSPACE, ETC. SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
16. REFER TO ECD SHEETS FOR EROSION CONTROL DETAILS.

EROSION CONTROL PLAN



EROSION CONTROL ITEMS	VEGETATION SCHEDULE				
	SEASONAL APPLICATIONS - DATES & RATES				
	SPRING & SUMMER		FALL & WINTER		REQUIREMENTS
ITEMS	RATES	DATES	RATES	DATES	
AGRICULTURAL LIMESTONE	1,000 LB / ACRE	MARCH 1 TO SEPTEMBER 1	*	*	SHALL BE SPREAD MECHANICALLY AND INCORPORATED INTO SOIL PRIOR TO PLANTING
13-13-13 COMMERCIAL FERTILIZER	250 LB / ACRE	MARCH 1 TO SEPTEMBER 1	*	*	
VEGETATIVE MATERIALS	2 TONS / ACRE	MARCH 1 TO SEPTEMBER 1	2 TONS / ACRE	SEPTEMBER 1 TO MARCH 1	REQUIRED ON ALL DISTURBED AREAS
BERMUDAGRASS	80 LB / ACRE	MARCH 1 TO SEPTEMBER 1	30 LB / ACRE	SEPTEMBER 1 TO MARCH 1	REQUIRED ON ALL DISTURBED AREAS
BAHIA GRASS	80 LB / ACRE	MARCH 1 TO SEPTEMBER 1	25 LB / ACRE	SEPTEMBER 1 TO MARCH 1	REQUIRED ON ALL DISTURBED AREAS
TALL FESCUE	25 LB / ACRE	MARCH 1 TO SEPTEMBER 1	100 LB / ACRE	OCTOBER 1 TO MARCH 1	REQUIRED ON ALL DISTURBED AREAS
SERICEA LESPEDEZA	25 LB / ACRE	MARCH 1 TO SEPTEMBER 1	25 LB / ACRE	SEPTEMBER 1 TO MARCH 1	REQUIRED ON ALL DISTURBED AREAS
CRIMSON CLOVER	*	*	20 LB / ACRE	AUGUST 1 TO APRIL 1	REQUIRED ON ALL DISTURBED AREAS

SURVEYED BY
Southeast Surveying &
Mapping, LLC
DESIGNED BY
Matt Prine, P.E.
DRAWN BY
Matt Prine, P.E. & Jesse Walters
CHECKED BY
Dustin Gatlin, P.E.

MEDICAL PARK ACCESS ROADWAY
HATTIESBURG CLINIC, P.A.
CITY OF HATTIESBURG

SCALES:

12"x18"
1" = 120'

24"x36"
1" = 60'

THE WALKER ASSOCIATES
ENGINEERS ■ PLANNERS ■ DESIGNERS
2203 Hardy Street, Hattiesburg, MS 39401 601/583-2127

DATE:

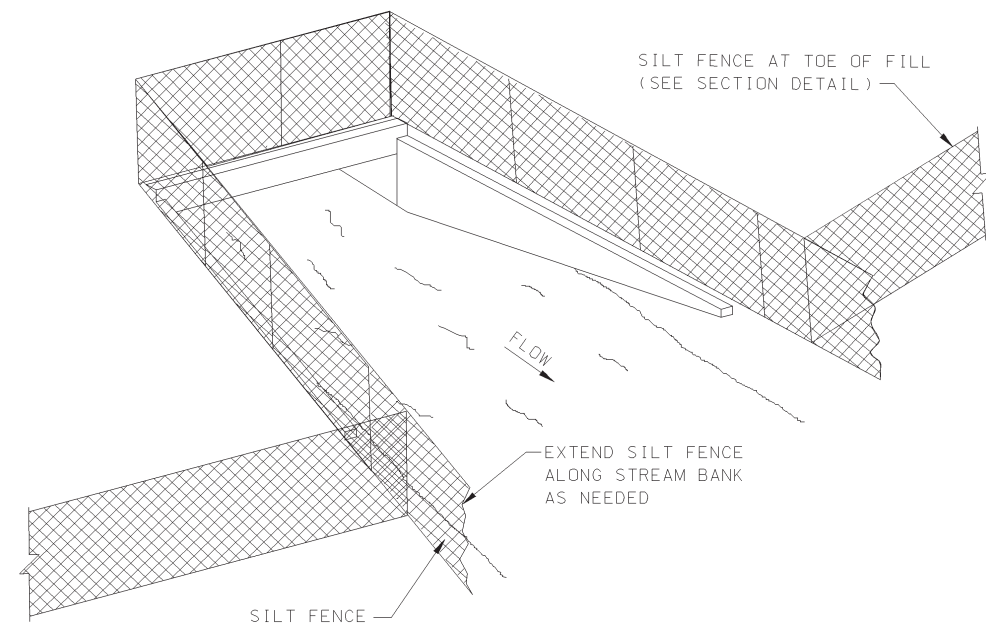
APRIL 2017

SERIAL NO.

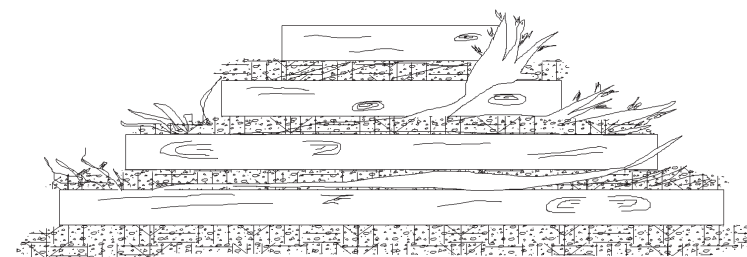
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SHEET NO.

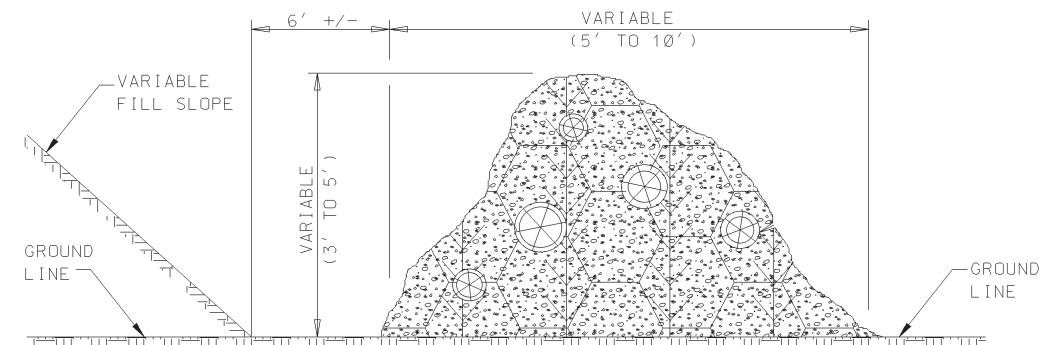
ECP1.0



SEDIMENT BARRIER AT CROSS DRAIN



FRONT ELEVATION



SIDE ELEVATION

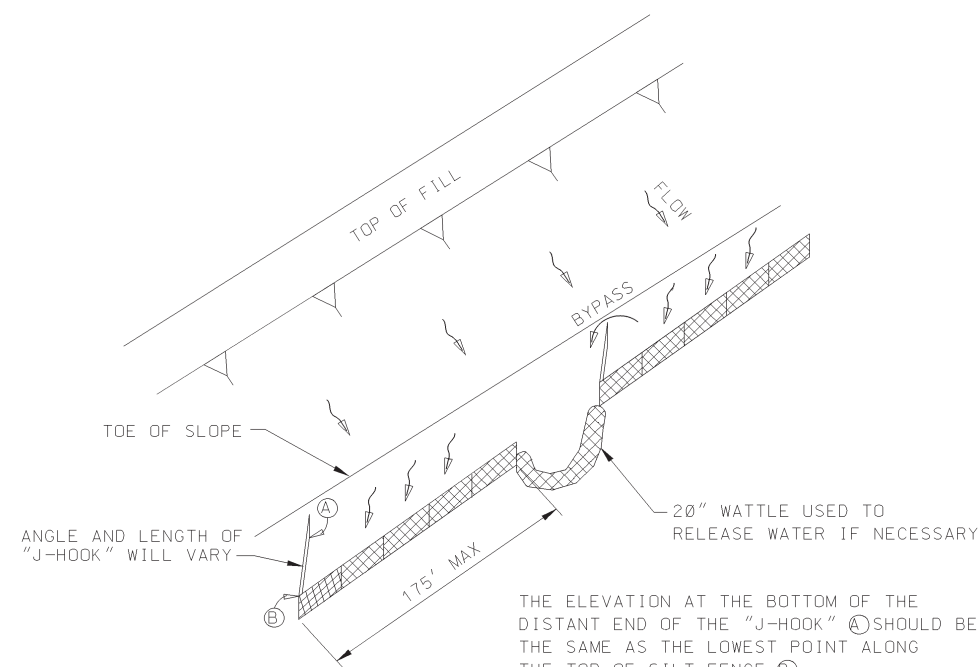
TEMPORARY BRUSH BARRIER

NOTES:

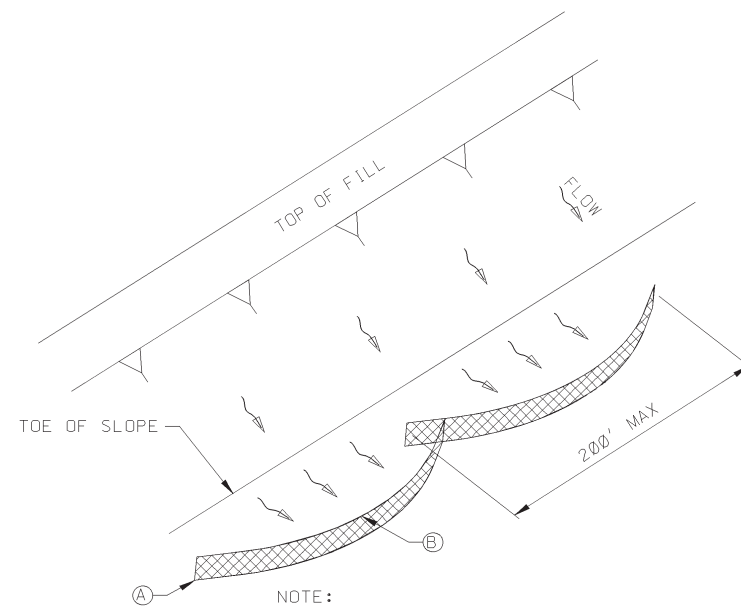
1. BRUSH BARRIER MAY BE USED WHERE NATURAL GROUND IS LEVEL OR SLOPING AWAY FROM PROJECT.
2. PLACE BRUSH, LOG AND TREE LAPS APPROXIMATELY PARALLEL TO TOE OF FILL SLOPE WITH SOME OF THE HEAVIER MATERIALS BEING PLACED ON TOP TO PROPERLY SECURE THE BARRIER AS DETAILED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED OR PERMITTED BY THE ENGINEER.
3. TO ALLOW WATER TO SEEP THROUGH BRUSH BARRIER, INTERMINGLE THE BRUSH, LOG AND TREE LAPS SO AS NOT TO FORM A SOLID DAM.
4. THE BRUSH BARRIER MAY BE CHOKED WITH FILTER FABRIC.
5. TEMPORARY BRUSH BARRIER WILL NOT BE MEASURED FOR SEPERATE PAYMENT

NOTE:

1. ANCHOR AND INSTALL SILT FENCE PER DETAILS SHOWN ON ECD-3



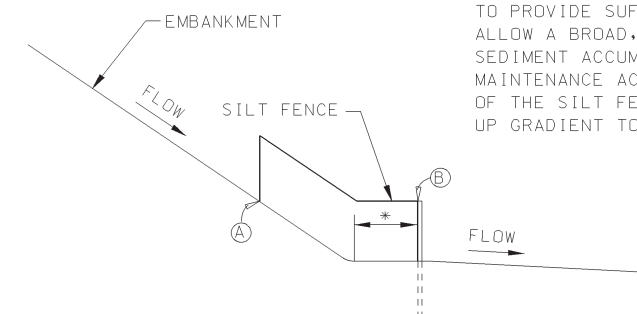
"J-HOOK" SILT FENCE APPLICATION



"SMILE-CONFIGURATION" SILT FENCE APPLICATION

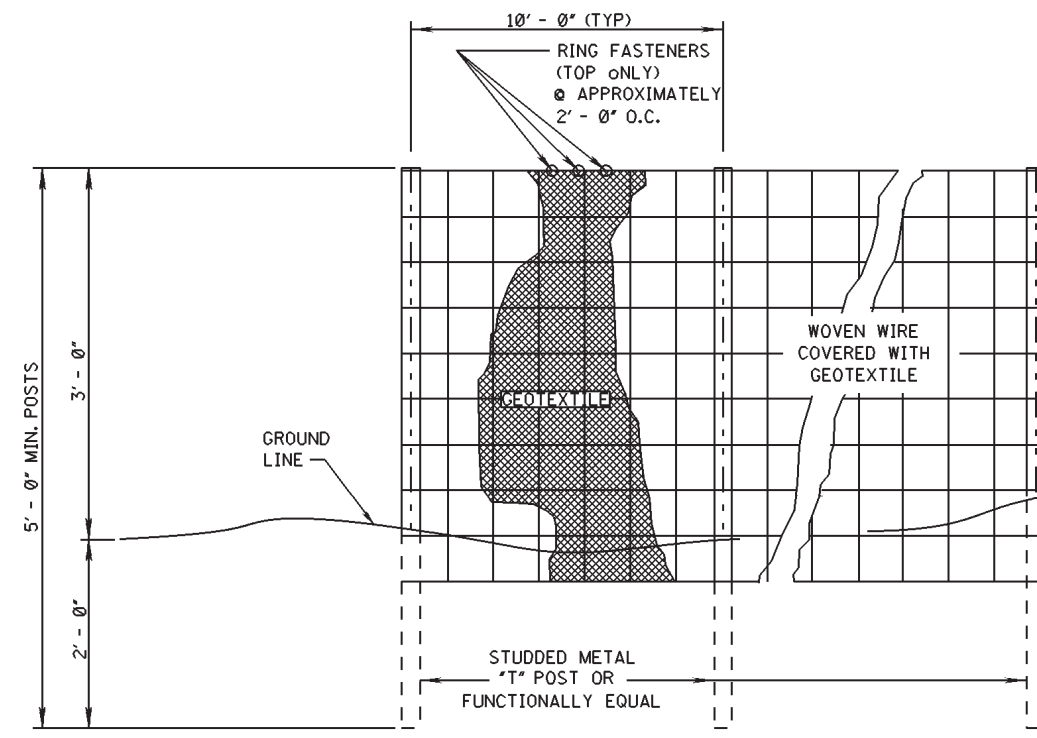
NOTE:

1. EL. (A) = EL. (B) TO MAXIMIZE STORAGE.

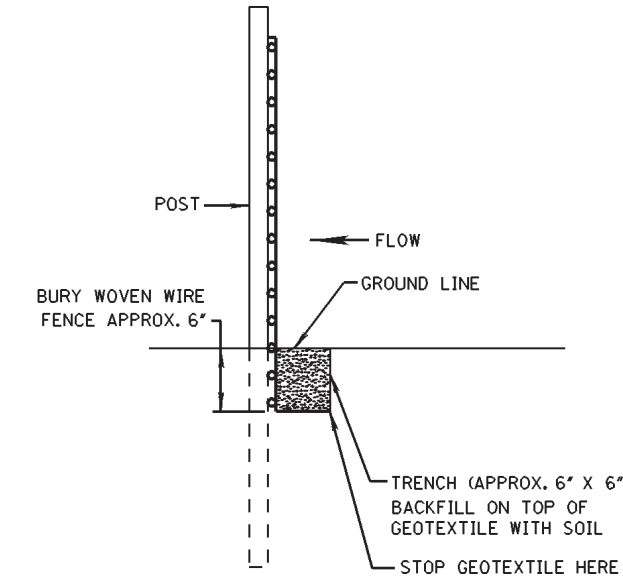


SILT FENCE SECTION AT TOE OF FILL

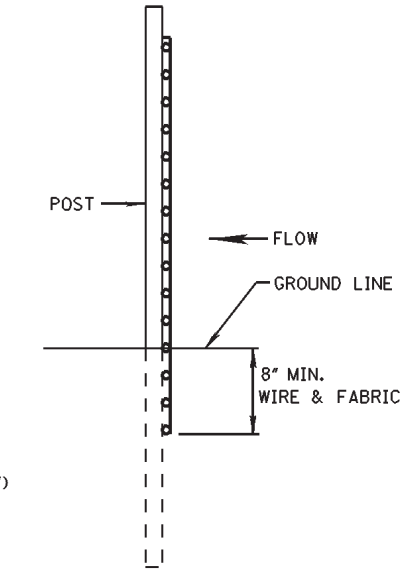
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
					DETAILS OF SEDIMENT BARRIER APPLICATIONS	
				REVISION		



ELEVATION VIEW



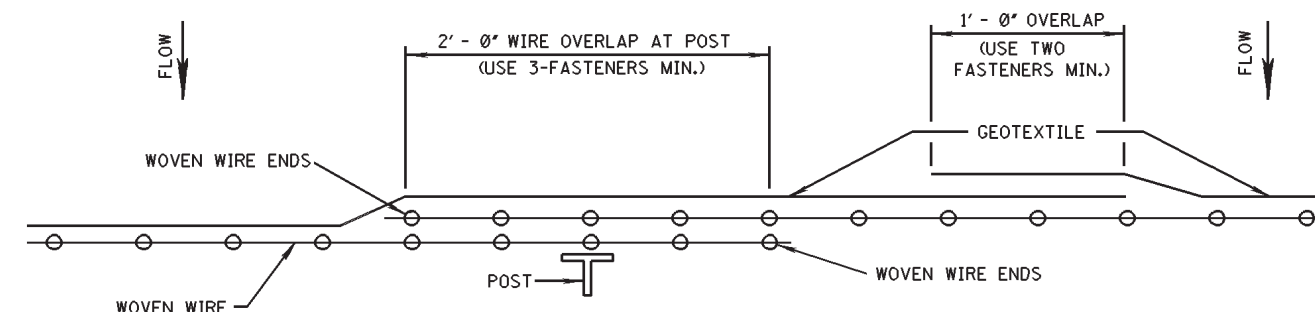
METHOD I



METHOD II
MECHANICAL INSTALLATION

SIDE VIEW

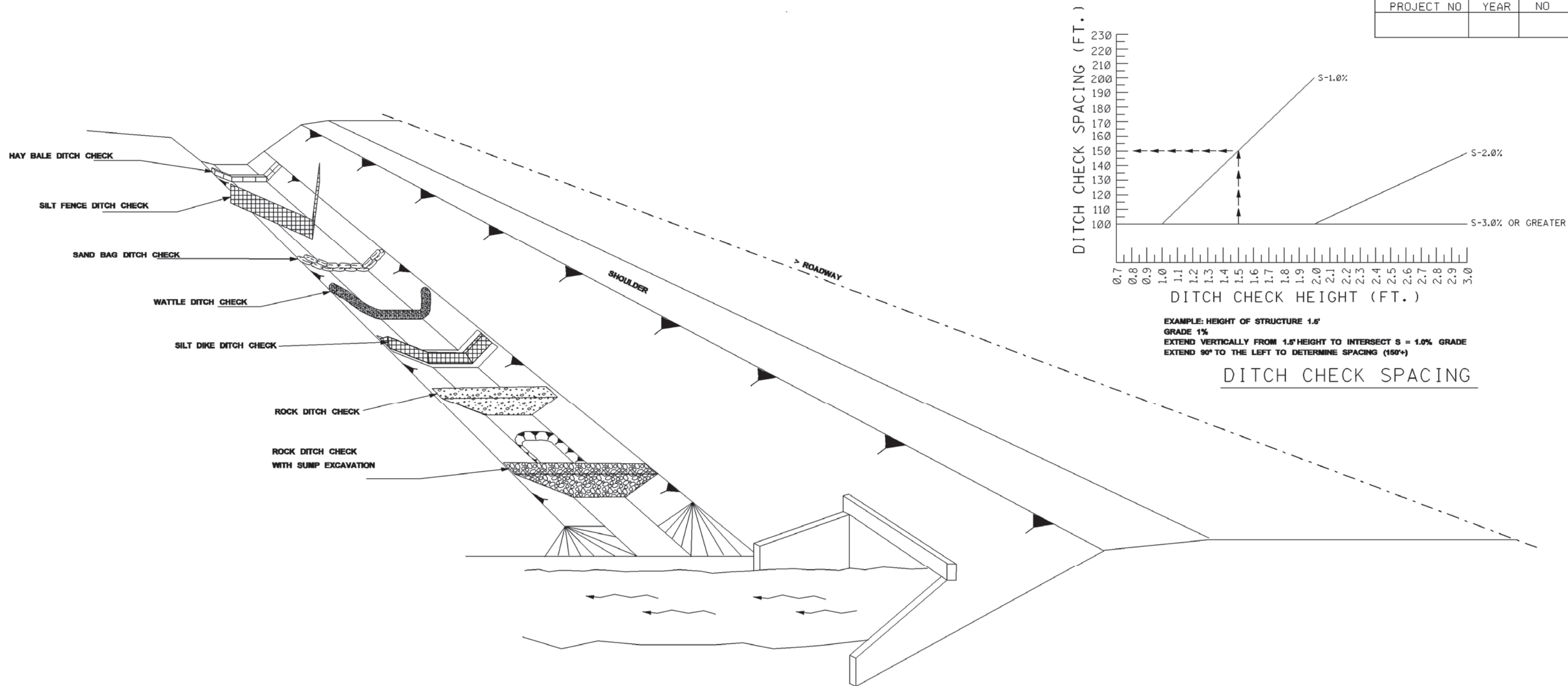
- NOTES:
1. SILT FENCES SHALL BE USED IN AREAS WHERE FLOW IS NOT SEVERE.
 2. SILT FENCES ARE TEMPORARY SEDIMENT CONTROL ITEMS THAT SHALL BE ERECTED OPPOSITE ERODIBLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO STREAMS AND CHANNELS.
 3. SILT FENCE SHOULD BE PLACED WELL INSIDE RIGHT-OF-WAY AND ALONG EDGE OF CLEARING LIMITS. THIS WILL ALLOW ROOM FOR A BACK-UP FENCE IF FIRST FENCE BECOMES FULL.
 4. WHEREVER POSSIBLE SILT FENCE SHALL BE CONSTRUCTED ACROSS A LEVEL AREA IN THE SHAPE OF A SMILE. THIS AIDS IN PONDING OF RUNOFF AND FACILITATES SEDIMENTATION.
 5. THE CONTRACTOR MAY ELECT TO USE EITHER METHOD I OR METHOD II. COST TO BE LINEAR FEET OF SILT FENCE.
 6. METHOD II INSTALLATION SHALL BE ACCOMPLISHED USING AN IMPLEMENT THAT IS MANUFACTURED FOR THE APPLICATION AND PROVIDES A CONFIGURATION MEETING THE REQUIREMENTS OF THE DETAIL.
 7. WIRE SHALL BE MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
 8. GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATION MAY BE USED WITHOUT WIRE FENCE,



PLAN VIEW
REQUIRED LAPPING

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
DETAILS OF SILT FENCE INSTALLATION	
WORKING NUMBER ECD-3	SHEET NUMBER
FILENAME: EROSION CONTROL\ECD-3.DGN	DATE
DESIGN TEAM	CHECKED DATE

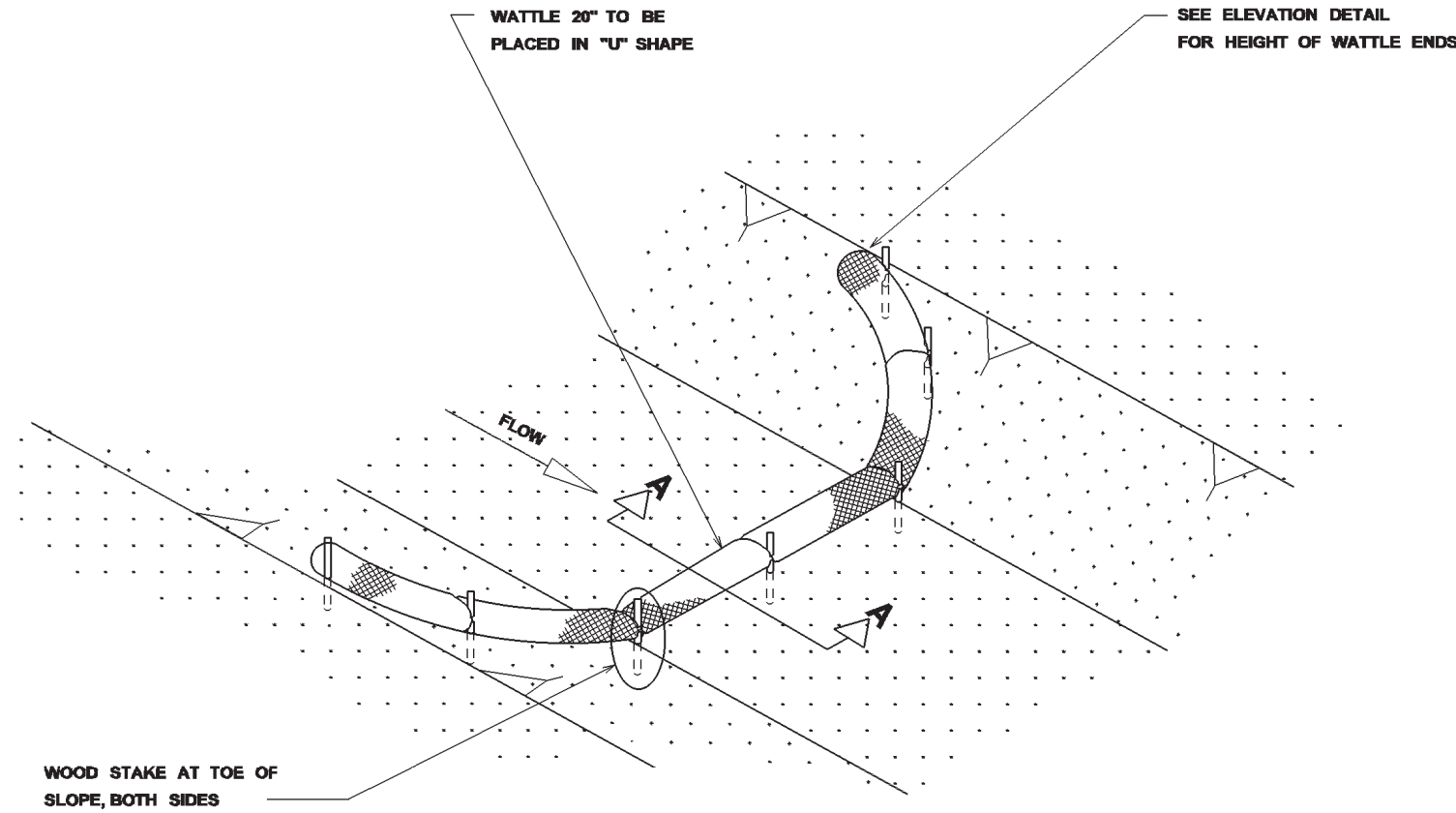
REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO



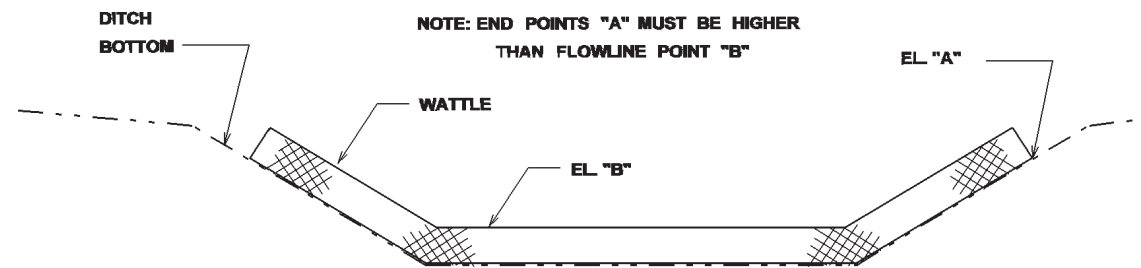
NOTES:

1. THE DITCH CHECK PERSPECTIVE ILLUSTRATES A TOOL BOX OF TEMPORARY PRACTICES THAT MAY BE USED. DITCH CHECKS ARE INSTALLED TO CONTROL RUNOFF VELOCITY AND THUS REDUCE EROSION AND PROVIDE FOR TRAPPING OF SEDIMENTS.
2. SELECTION OF THE APPROPRIATE DITCH CHECK SHOULD BE A FUNCTION OF CONSTRUCTION PHASE, DRAINAGE AREA, DITCH GRADIENT, SOIL TYPE ECONOMY AND SAFETY.
3. DITCH CHECKS CAN BE REMOVED FOR MAINTENANCE AND/OR REPLACEMENT BUT MUST REMAIN IN PLACE UNTIL UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED. MAINTENANCE INCLUDES REMOVAL OF SEDIMENT BEGINNING WHEN SEDIMENT ACCUMULATION REACHES 1/3 THE CAPACITY OR HEIGHT OF THE STRUCTURE AND NEVER ALLOWING FOR SEDIMENT TO ACCUMULATE MORE THAN 1/2 THE VOLUME OR HEIGHT OF THE DITCH CHECK STRUCTURE.
4. HAY BALES ARE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
5. SILT FENCE DITCH CHECKS ARE USED WHERE IT HAS BEEN DETERMINED THAT HAY BALE CHECKS ARE INADEQUATE. SILT FENCE DITCH CHECKS ARE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
6. SAND BAG DITCH CHECKS ARE USED FOR VELOCITY REDUCTION AND MINIMAL SEDIMENT TRAPPING IN CONCRETE PAVED DITCHES OR IN DITCHES THAT HAVE ROCKY BOTTOMS.
7. WATTLE DITCH CHECKS ARE APPROPRIATE FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.
8. SILT DIKES CAN BE USED IN DITCHES WITH CONCENTRATED FLOWS WITHIN THE CLEAR ZONE WHERE RIPRAP CAN NOT BE USED. AS CONSTRUCTION PROGRESSES.
9. ROCK DITCH CHECK WITH SUMP EXCAVATION CAN BE PLACED IN DITCHES TO ASSURE ON-SITE SEDIMENT TRAPPING REQUIREMENTS ARE MET. DITCH CHECK WITH SUMP EXCAVATION IS USED WHEN DITCHES RECEIVE DRAINAGE FROM CUT OR FILL SLOPES OR OTHER CRITICAL AREAS WHERE SOIL EROSION IS EXPECTED. DRAINAGE AREA FOR A TEMPORARY SEDIMENT TRAP SHALL NOT EXCEED 3 ACRES. THEY CAN BE USED IN SERIES TO INCREASE ON-SITE SEDIMENT TRAPPING EFFICIENCY.
10. IN GENERAL, DITCH CHECKS SHOULD NOT BE PLACED IN LIVE STREAMS.
11. CONFIGURATION AND SPACING MAY BE ADJUSTED IF APPROVED BY THE ENGINEER TO ACCOMMODATE TRAVELWAY SAFETY, WATER FLOW, OR SOIL AND INSTALLATION CHALLENGES.

BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
REVISION		DITCH CHECK STRUCTURES, TYPICAL APPLICATIONS AND DETAILS	
DATE	FILENAME: EROSION CONTROL/ECD-4.DGN	WORKING NUMBER ECD-4	
DESIGN TEAM	CHECKED	SHEET NUMBER	



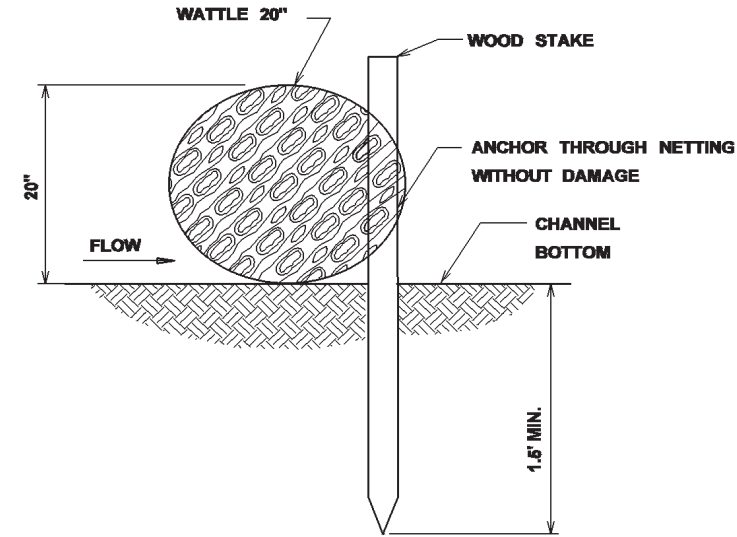
DETAIL (DITCH CHECK)



ELEVATION DETAIL

WATTLE DITCH CHECK SELECTION GUIDELINES

WATTLE DITCH CHECKS ARE APPROPRIATE FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.

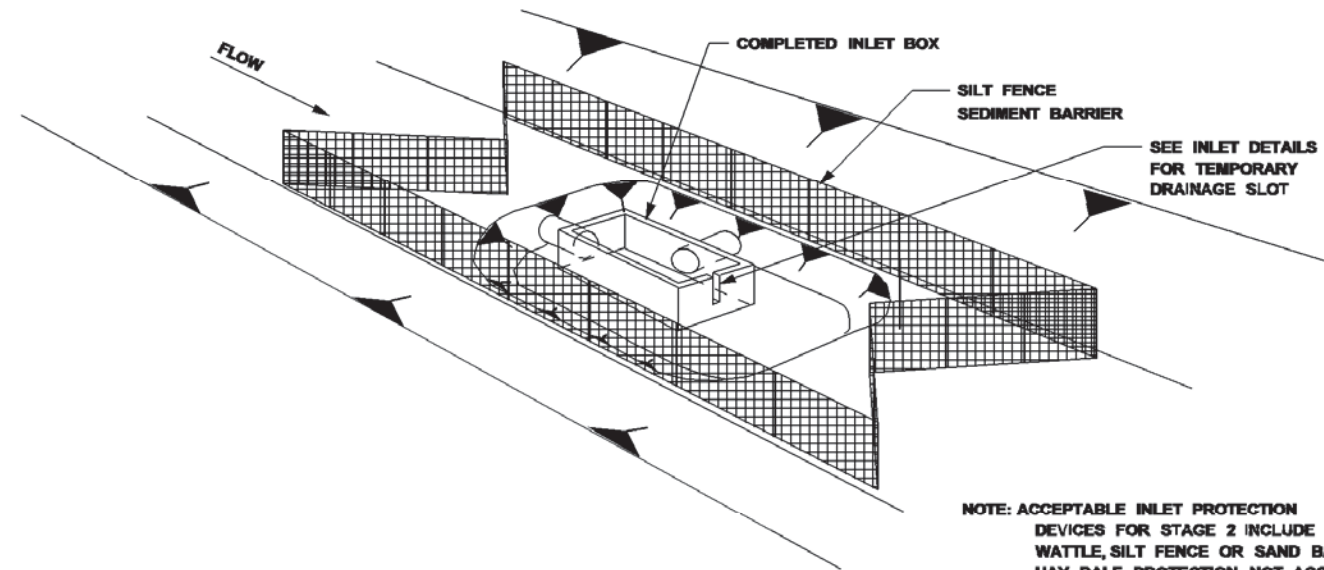


SECTION A-A

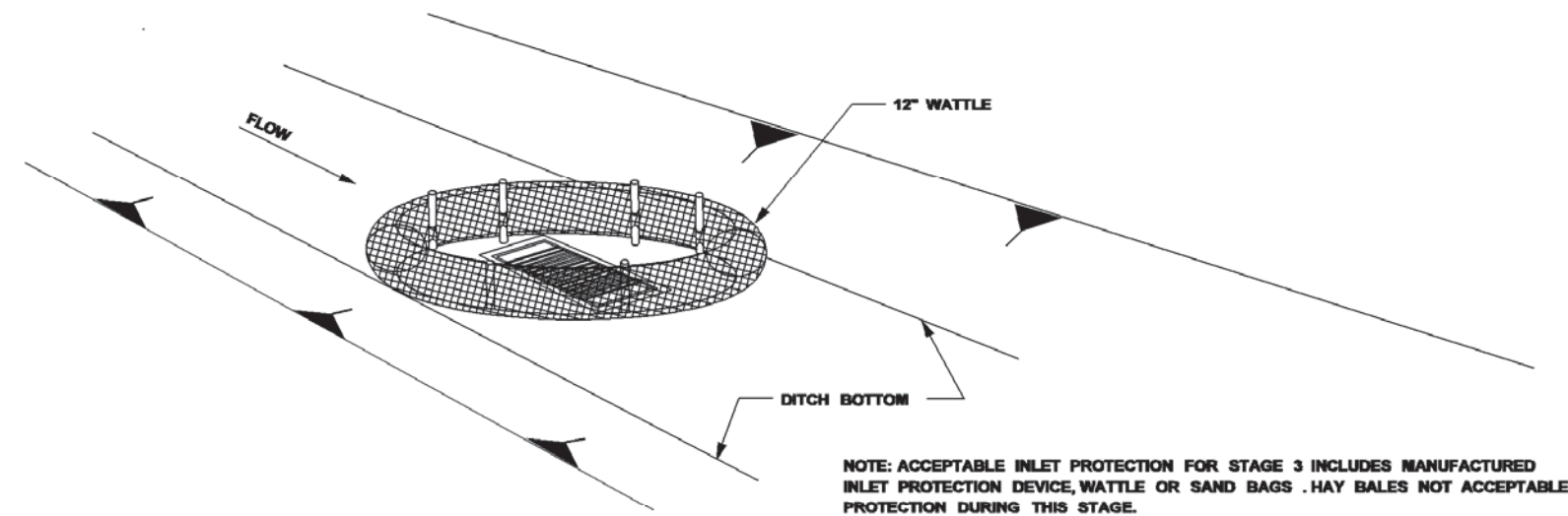
NOTES:

1. MINIMUM RECOMMENDED PLACEMENT INTERVAL BETWEEN WATTLE DITCH CHECK IS 100' UNLESS SHOWN OTHERWISE ON THE PLANS OR EROSION CONTROL PLAN APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON ECD-4
2. ANCHORING WOOD STAKES SHALL BE SIZED, SPACED, DRIVEN, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE CHECK. STAKE SPACING SHALL BE A MAXIMUM OF THREE FEET. ALL NON-DEGRADABLE MATERIALS SHALL BE REMOVED WHEN NO LONGER NEEDED.
3. TRENCHING OF WATTLES MAY BE NECESSARY IF PIPING BECOMES EVIDENT.
4. WATTLES SHOULD NOT BE USED IN HARD BOTTOM CHANNELS.

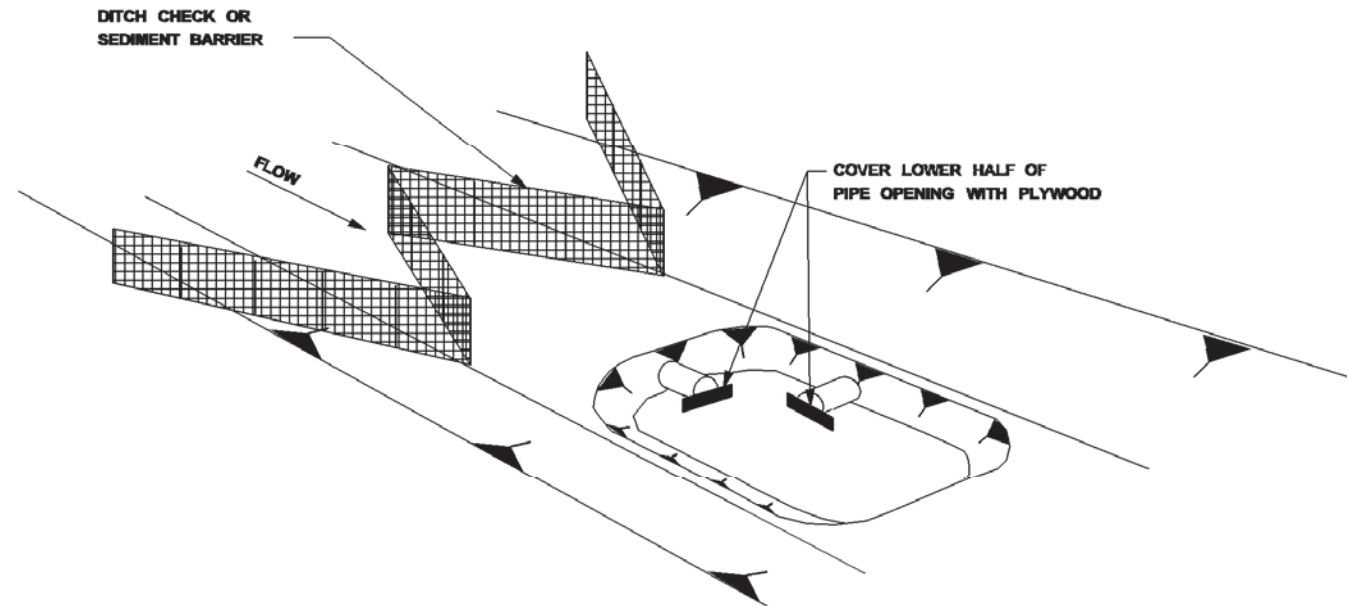
MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
DETAILS OF EROSION CONTROL	
WATTLE DITCH CHECK	
DATE	FILENAME: EROSION CONTROL/ECD-6.DGN
DESIGN TEAM	CHECKED
DATE	DATE
WORKING NUMBER	ECD-6
SHEET NUMBER	



STAGE 2
INLET/JUNCTION BOX
CONSTRUCTED BUT NOT BACKFILLED

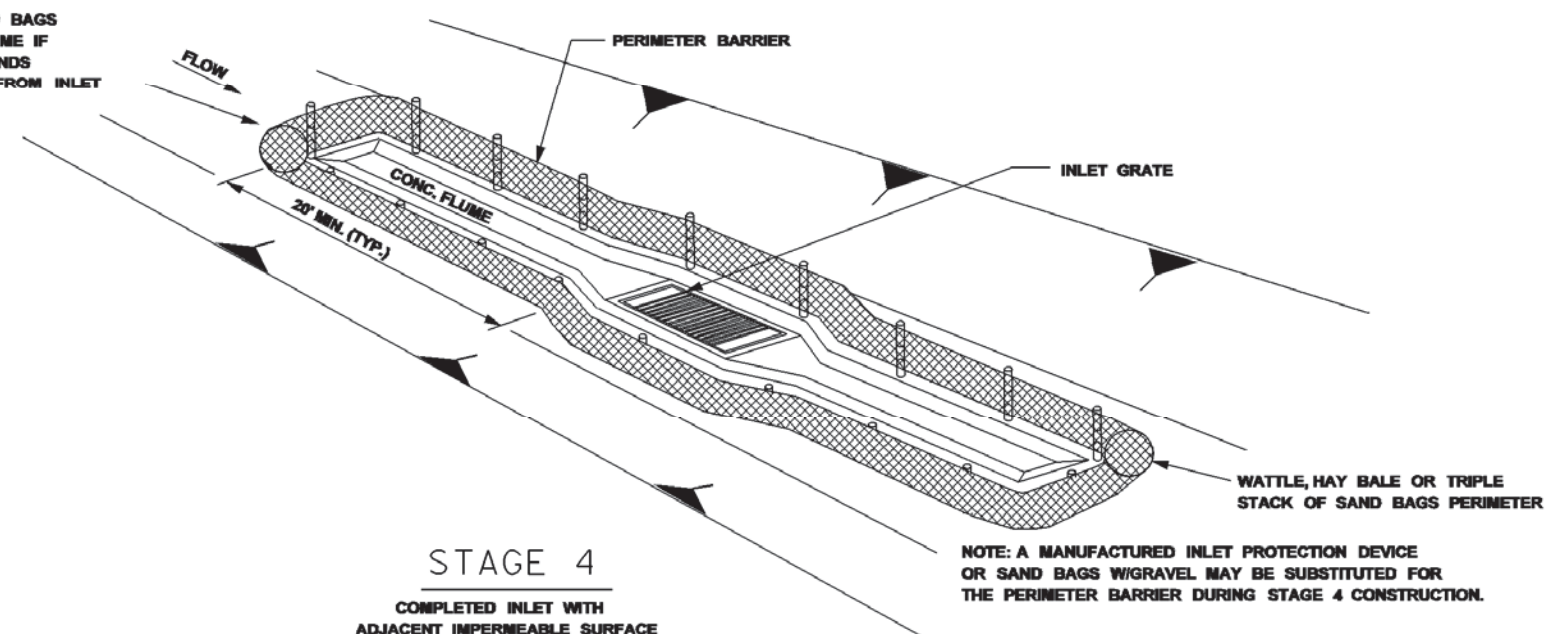


STAGE 3
INLET CONSTRUCTED AND BACKFILLED



STAGE 1
INLET/JUNCTION BOX LOCATION EXCAVATED

PLACE SAND BAGS
ACROSS FLUME IF
FLUME EXTENDS
BEYOND 20' FROM INLET



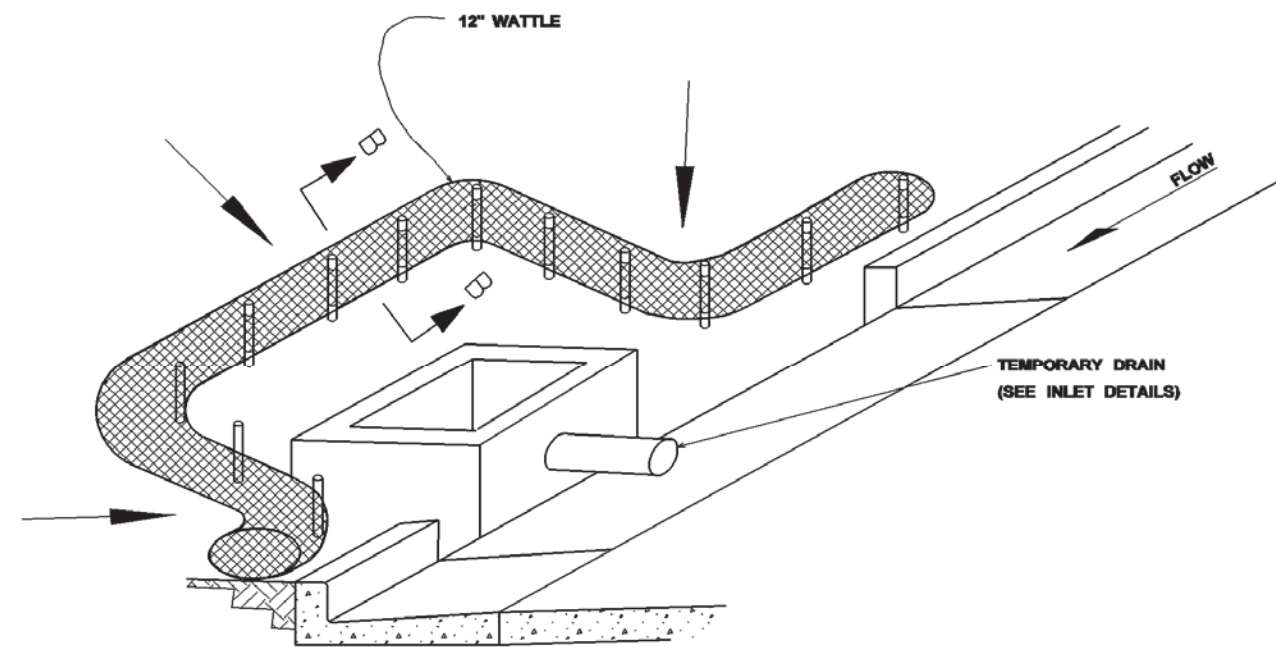
STAGE 4
COMPLETED INLET WITH
ADJACENT IMPERMEABLE SURFACE

DITCH INLET CONSTRUCTION STAGES

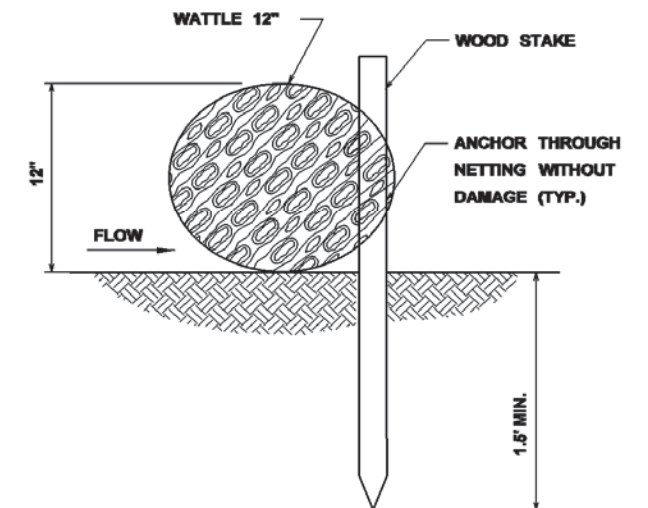
- NOTES:
1. FOUNDATION BACKFILL SHOULD BE PLACED IN STAGE 1 IMMEDIATELY AFTER PIPE INSTALLATION. INLET CONSTRUCTION SHOULD COMMENCE AS SOON AS POSSIBLE AND BE CONTINUOUS THROUGH COMPLETION.
 2. CONFIGURATIONS MAY BE ADJUSTED WITH APPROVAL OF THE ENGINEER FOR TRAVELWAY SAFETY, WATER FLOW, SOIL OR INSTALLATION CHALLENGES.
 3. DURING STAGE 1 AND STAGE 2, SILT FENCE MAY BE REQUIRED UPSLOPE OF THE INLET EXCAVATION AS DIRECTED BY THE ENGINEER.
 4. IF SILT FENCING IS INSTALLED AROUND THE INLET EXCAVATION IT SHOULD BE PLACED IN A CONFIGURATION THAT WILL ALLOW INLET CONSTRUCTION.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
INLET PROTECTION	
TYPICAL APPLICATIONS AND DETAILS	
WORKING NUMBER	ECD-10
FILENAME: EROSION CONTROL/ECD-10.DGN	SHEET NUMBER
DESIGN TEAM	CHECKED
DATE	DATE

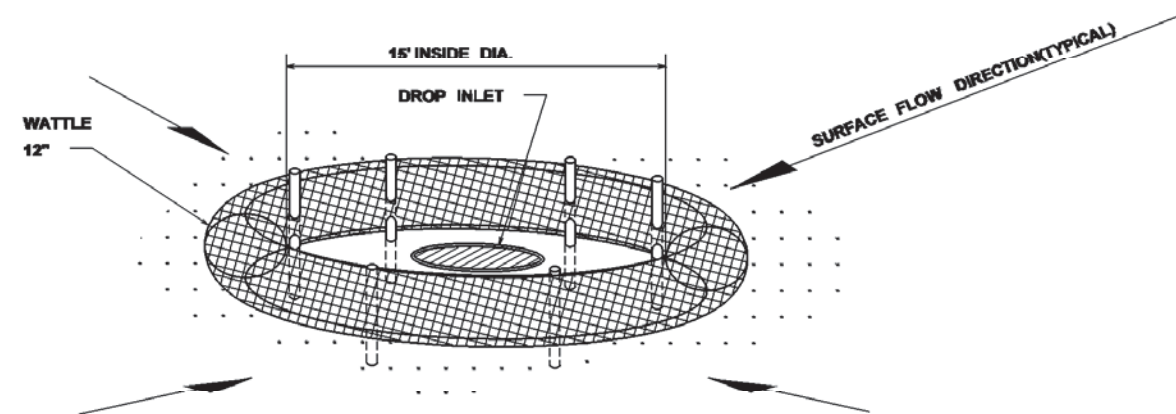
NOTE:
SILT FENCE OR SAND BAGS MAY ALSO BE USED FOR THIS APPLICATION.
HAY BALES NOT ACCEPTABLE DURING THIS STAGE.



CURB INLET PROTECTION (STAGE 2)
SINGLE OR DOUBLE WING INLET



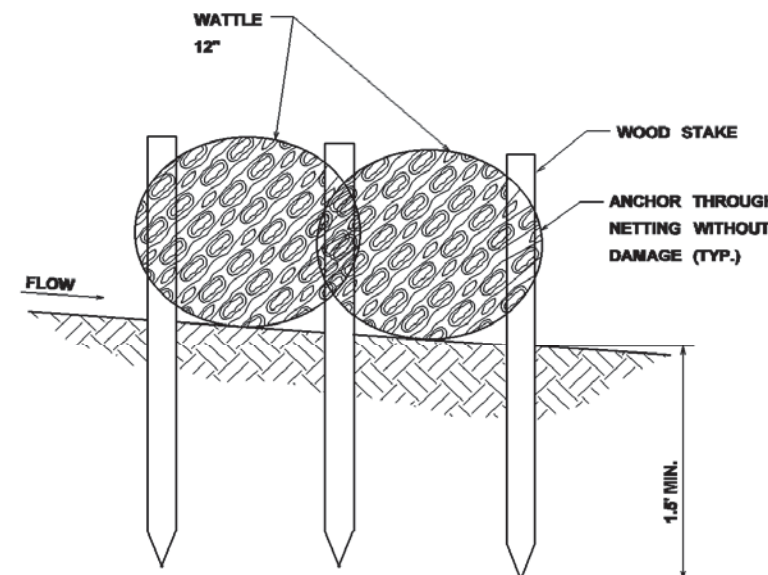
SECTION B-B



DROP INLET PROTECTION

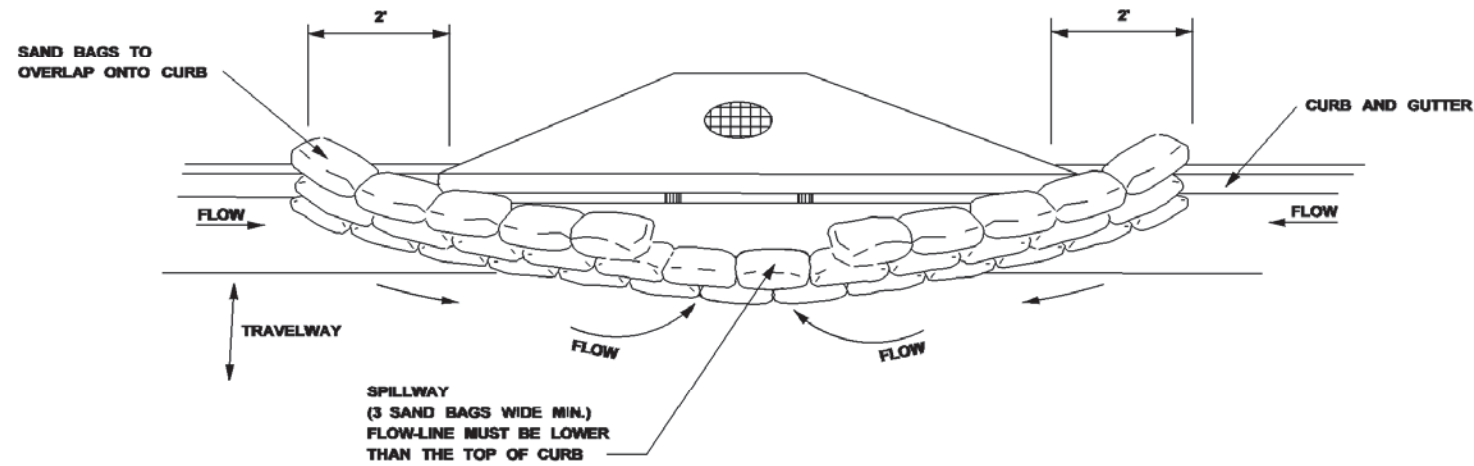
NOTES:

1. ANCHORING STAKES SHALL BE SIZED, SPACED, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE WATTLE. STAKE SPACING SHALL BE A MAXIMUM OF THREE FEET.
2. OVERLAP ENDS OF WATTLES PER MANUFACTURERS RECOMMENDATIONS (1' MIN., 3' MAX.).
3. TRENCHING OF WATTLES MAY BE NECESSARY IF PIPING BECOMES EVIDENT.

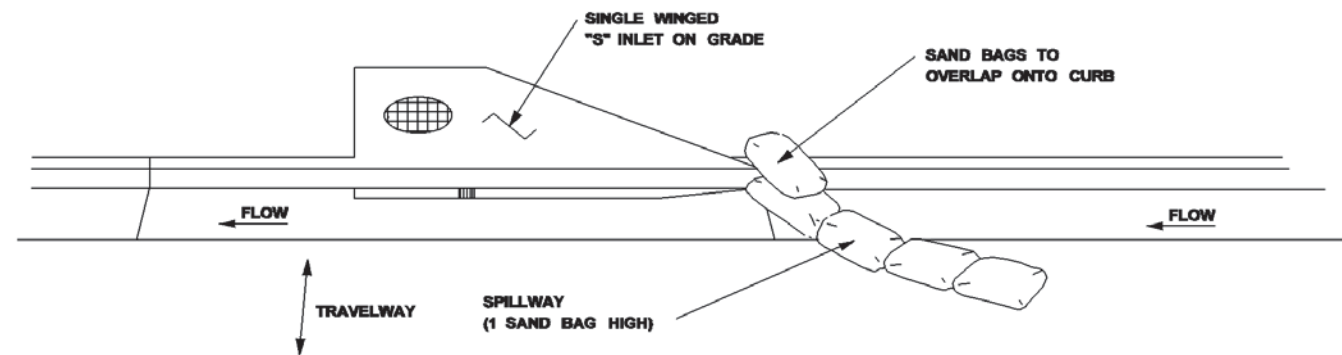


SECTION A-A

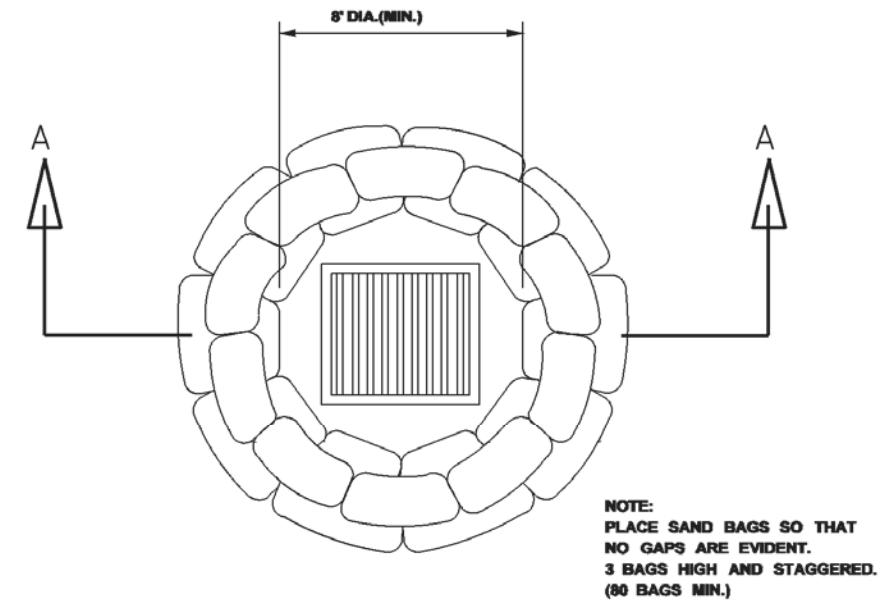
MISSISSIPPI DEPARTMENT OF TRANSPORTATION				WORKING NUMBER	
INLET PROTECTION DETAILS OF WATTLES				ECD-12	
FILENAME: EROSION CONTROL/ECD-12.DGN				SHEET NUMBER	
DATE	DESIGN TEAM	CHECKED	DATE		



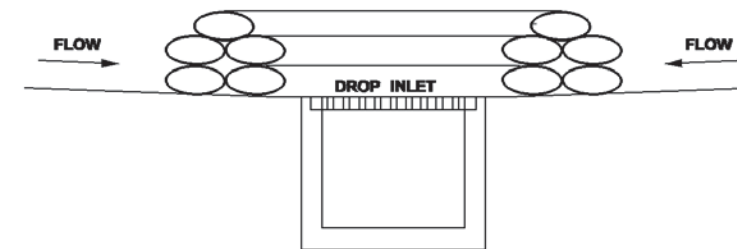
TYPICAL (SAND BAG) PROTECTION FOR INLET IN SAG



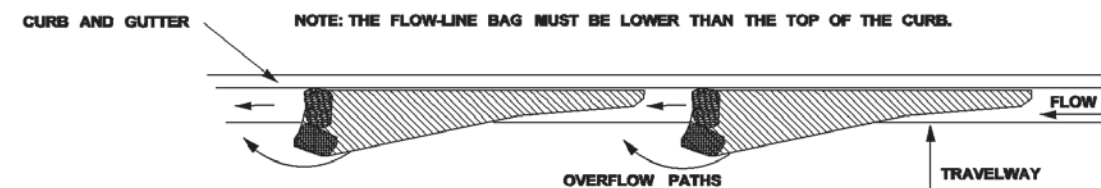
TYPICAL (SAND BAG) PROTECTION FOR INLET ON GRADE



DROP INLET
PLAN VIEW



SECTION A-A
SAND BAG BARRIER



CURB AND GUTTER SEDIMENT
CONTAINMENT SYSTEM

CURB INLET PROTECTION NOTES:

1. THIS CURB INLET PROTECTION METHOD CAN BE USED DURING ANY STAGE OF BASE AND PAVEMENT CONSTRUCTION.
2. BAG HEIGHT AND NUMBER OF BAGS SHOULD BE BASED ON CURB HEIGHT AND USE OF TRAVELWAY.
3. SEDIMENT SHOULD BE CONTROLLED PRIOR TO ENTERING GUTTER. GUTTER CHECKS AND INLET PROTECTION ARE FOR SECONDARY CONTROL.
4. REMOVE ACCUMULATED SEDIMENT AFTER EVERY RAINFALL SWEEP SEDIMENT FROM HARD SURFACES AND DISPOSE OF APPROPRIATELY AWAY FROM INLETS AND/OR WATER BODIES.
5. IF DENUDED AREAS EXIST BEHIND THE INLET, A SEDIMENT BARRIER SHOULD BE INSTALLED AROUND IT'S PERIMETER TO CONTROL SEDIMENT.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
INLET PROTECTION DETAILS OF SAND BAG	
WORKING NUMBER ECD-14	SHEET NUMBER
FILENAME: EROSION CONTROL/ECD-14.DGN	DATE
DESIGN TEAM	CHECKED
	DATE

CONTRACT DOCUMENTS AND SPECIFICATIONS
FOR
HIGHWAY 11 MEDICAL PARK ACCESS ROADWAY
MISSISSIPPI DEVELOPMENT INFRASTRUCTURE GRANT (DIP-363)
CITY OF HATTIESBURG, MISSISSIPPI
SN: 104-16

April 2017



By:



2203 Hardy Street
Hattiesburg, Mississippi 39401
601.583.2127

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PART 1

BIDDING REQUIREMENTS

ADVERTISEMENT FOR BIDS

The City of Hattiesburg will receive sealed proposals at the City Clerk's office, located at 200 Forrest Street, Hattiesburg, Mississippi 39401 until **10:00am, Thursday, June 8, 2017**, for furnishing all labor, materials and equipment in connection with the Highway 11 Medical Park Access Roadway, as described in and reflected by the plans and specifications prepared by The Walker Associates, Engineers-Planners-Designers, PLLC Hattiesburg, Mississippi, dated April, 2017, immediately after which time said sealed proposals shall be publicly opened and read.

A single contract shall be let for the complete project.

Detailed drawings and specifications are on file and may be examined at the office of the City Clerk located at 200 Forrest Street, Hattiesburg, Mississippi 39401; the office of The Walker Associates, Engineers-Planners-Designers, PLLC 2203 Hardy Street, Hattiesburg, Mississippi 39401, or viewed online at www.thewalkerassociates.com.

Bidders may obtain complete sets of drawings and specifications from The Walker Associates, Engineers-Planners-Designers, PLLC 2203 Hardy Street, Hattiesburg, Mississippi 39401 (Post Office Box 16496, Hattiesburg, MS 39404-6496), upon payment of \$75.00 per set, non-refundable. Only bidders who have received printed drawings and specifications from The Walker Associates, Engineers-Planners-Designers, PLLC will be considered bona fide bidders.

Proposals shall be submitted in duplicate only upon the blank bid forms provided with the drawings and general conditions and must be accompanied by bid security in the form of a certified check or acceptable bid bond in an amount equal to at least five percent (5%) of the base bid. Said security to be forfeited, as liquidated damages, not penalty, by a bidder who may be awarded the contract, but who fails to carry out the terms of the proposal, execute the contract and post the required performance and payment bonds in the form and amount, and within the time specified. The bid bond, or the certified check, if used in lieu thereof, shall be payable unconditionally to Forrest County General Hospital.

Bids on the project must be received on or before the time specified above, and no bid may be withdrawn after the scheduled closing time and date for the receipt of bids for a period of sixty (60) days. All bids submitted must comply with the requirements of Chapter 3, Title 31 (Sections 31-3-1, et. seq.) of the Mississippi Code of 1972, as amended, and the performance of any contract shall be bonded in accordance with Chapter 5, Title 31 of the Mississippi Code of 1972, as amended.

“Minority Business and Women's Business Utilization Requirements:

Positive efforts as required by the Community Development Block Grant (CDBG) Program and funding under the Development Infrastructure Program (DIP) shall be made by BIDDERS to utilize minority-owned and women-owned businesses as sources of construction, materials, supplies and services. Such efforts must allow these sources the maximum feasible opportunity to compete for sub-agreements and contracts. Documentation of efforts made to utilize minority and women-owned firms must be maintained by all BIDDERS.”

Bidders who are non-residents of the State of Mississippi must also comply with the provisions of Section 31-3-21(3) of the Mississippi Code of 1972, as amended.

The City of Hattiesburg reserves the right to reject any and all bids and to waive informalities.

DATED this, the 2nd day of May, 2017.

BY: /s/
City Clerk
Hattiesburg, Mississippi

Dates of Publication:
May 8, 2017
May 15, 2017

INSTRUCTIONS TO BIDDERS

1. GENERAL DESCRIPTION OF THE PROJECT

A general description of the work to be done is contained in the Invitation to Bid. The scope is indicated on the accompanying Drawings and specified in applicable parts of these Contract Documents.

2. QUALIFICATION OF CONTRACTORS

The prospective Bidders must meet the statutorily prescribed requirements of the Owner before award of Contract.

3. DOCUMENT INTERPRETATION

The Contract Documents governing the work proposed herein consist of the Bidding Requirements, Contract Forms, Conditions of the Contract, Specifications, and Drawings.

All parts of the Contract Documents are intended to be compatible and to provide all details reasonably required for the execution of the proposed work. Any person contemplating the submission of a Bid shall thoroughly examine all parts of these Contract Documents and, should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request an interpretation thereof from the Project Engineer at least 10 days prior to the bid opening. Any interpretation or change in said Contract shall be made only in the form of Addendum to the Contract Documents which will be furnished to all Planholders. The Owner will not be responsible for any other explanation or interpretations of said Contract Documents. Bidders shall submit with their Bids, or indicate in the space provided on the Bid Form, receipt of all Addenda. Failure to submit or acknowledge receipt of Addenda with the Bid may result in rejection of a Bid as non-responsive.

Pre-qualification of material and equipment and proposed substitutions will not be considered prior to Bid opening.

4. BIDDER'S UNDERSTANDING

Each bidder must inform himself of the conditions relating to the execution of the work, inspect the site, and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of his obligation to enter into a Contract and complete the contemplated work in strict accordance with the Contract Documents. It shall be the Bidder's obligation to verify for himself and to his complete satisfaction all information concerning site and subsurface conditions. The Owner will make available to prospective Bidders upon request and at the office of the Engineer, prior to bid opening, any information that he may have as to subsurface conditions and surface topography at the worksite.

Logs of test borings or topographic maps showing a record of the data obtained by the Engineer's investigations of surface and subsurface conditions have not been utilized in preparation of the Contract Documents. The Bidder may rely upon the accuracy of the technical data contained in such reports but not upon non-technical data interpretations, or opinions contained therein or for the completeness thereof for the purpose of bidding or construction.

Information derived from inspection of logs of test borings, or topographic maps, or from Drawings showing location of utilities and structures will not in any way relieve the Contractor from any risk, or from properly examining the site and making such additional investigations as he may elect, or from properly fulfilling all the terms of the Contract Documents.

Each Bidder shall inform himself of, and the Bidder awarded a Contract shall comply with, federal, state, and local laws, statutes, and ordinances relative to the execution of work.

5. TYPE OF BID

A. General

Types of bids for the work specified in these Contract Documents will be unit price, lump sum, or a combination of unit price and lump sum as set forth on the Bid Form.

B. Unit Price

When the Bid for the work is to be submitted on a unit price basis, unit prices shall be inserted in the appropriate places. The estimate of quantities of work to be done as tabulated on the Bid Form is approximate and is for the basis of calculation upon which the award of Contract may be made. Payment to the Contractor will be made on the measurement of the work actually performed by the Contractor. The Owner reserves the right to increase or diminish the amount of any class of work as may be deemed necessary.

C. Lump Sum

When the Bid for all or part of the work is to be submitted on a lump sum basis, a lump sum price shall be submitted in the appropriate place. The total amount to be paid the Contractor shall be the amount of the lump sum bid as adjusted for additions or deletions resulting from approved changes in the project.

D. Breakdown of Lump Sum Prices

Bidders shall provide a detailed breakdown of the lump sum prices if required in the Bid.

E. Special Bidding Requirements

Special bidding procedures or requirements, if applicable, are set forth in the Supplementary Conditions.

6. PREPARATION OF BIDS

All blank spaces in the Bid Form must be filled in, as required, preferably in BLACK ink. All price information will be shown in both words and figures where required. No changes will be made in the wording or numbers on the forms. Amounts stated in words shall govern in case of discrepancy between amounts stated in words and the amounts stated in figures.

Any Bid shall be deemed informal which contains material omissions, or irregularities, or which in any manner shall fail to conform to the conditions of the published Invitation to Bid.

Only one Bid from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the Owner that any Bidder is interested in more than one Bid for work contemplated, all Bids in which such Bidder is interested will be rejected.

The Bidder shall sign his Bid in the blank space provided. If Bidder is a corporation, the legal name of the corporation shall be set forth in the Bid, together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a partnership, the true name of the firm shall be set forth in the Bid, together with the signature of the partner or partners authorized to sign Contracts in behalf of the partnership. If the signature is by an agent, other than an officer of a corporation or a member of a partnership, a notarized power-of-attorney must be on file with the Owner prior to opening of Bids or submitted with the Bid.

7. CHANGES IN QUANTITIES

The Owner reserves the right to increase or decrease the amount of any class of unit price work that may be deemed necessary, except that such increases or decreases in amounts shall not be more than 15 percent of the quantities shown on the Drawings and Specifications without a negotiated Change Order.

8. STATE AND LOCAL SALES AND USE TAXES

Unless the Supplementary Conditions contains a statement that the Owner is exempt from state sales tax on materials incorporated into the work due to the qualification of the work under this Contract, all state and local sales and use taxes required by the laws and statutes of the state and its political subdivisions, shall be paid by the Contractor. Prices quoted in the Bid shall include all nonexempt sales and use taxes, unless provision is made in the Bid Form to separately itemize the tax.

9. SUBMISSION OF BIDS

All Bids must be submitted not later than the time prescribed, at the place, and in the manner set forth in the Invitation to Bid. Bids must be made on the Bid Forms provided herein. Each Bid must be submitted in a sealed envelope, so marked as to indicate its contents without being opened, and addressed in conformance with the instructions in the Invitation to Bid. Contractor's Certificate of Responsibility Number from the State Board of Public Contractors must be clearly printed on the outside of the Bid envelope. No Bid will be considered unless the current certificate number appears on the envelope.

10. TELEGRAPHIC OR WRITTEN MODIFICATION OF BID

Telegraphic or written modifications of a Bidder's Bid will not be accepted or considered.

11. WITHDRAWAL OF BID

Any Bid may be withdrawn prior to the scheduled time for the opening of Bids either by telegraphic or written request, or in person.

12. BID SECURITY

Bids must be accompanied by cash, a certified check, or cashier's check drawn on a bank in good standing, or a bid bond issued by a Surety authorized to issue such bonds in the state where the work is located, in the amount of 5 percent of the total amount of the Bid submitted. This bid security shall be given as a guarantee the Bidder will not withdraw his Bid for a period of 90 days after Bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish properly executed Performance and Payment Bonds, each in the full amount of the Contract price within the time specified.

The Attorney-in-Fact who executes this bond on behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.

If the Bidder elects to furnish a bid bond, he shall use the Bid Bond form bound herewith, or one conforming substantially thereto in form and content.

13. BIDDER QUALIFICATION

Before a Contract will be awarded for the work contemplated herein, the Owner will conduct such investigation as is necessary to determine the performance record and ability of the apparent low Bidder to perform the size and type of work specified under this Contract. Upon request, the Bidder shall submit such additional information not specifically requested herein, as deemed necessary by the Owner to evaluate the Bidder's qualifications.

14. RETURN OF BID SECURITY

Within 15 days after the award of the Contract, the Owner will return the bid securities to all Bidders whose Bids are not to be further considered in awarding the Contract. Retained bid securities will be held until the Contract has been executed, after which all bid securities, other than Bidders' bonds and any guarantees which have been forfeited, will be returned.

15. BASIS OF AWARD

Within 90 calendar days after the opening of Bids, unless otherwise stated in the Invitation to Bid or Supplementary Conditions of these Documents, award of the Contract will be made to the lowest responsible and responsive Bidder complying with the Invitation to Bid. A written Notice of Award will be mailed or delivered to the office designated in the Bid. In the event of failure of the lowest responsible and responsive qualified Bidder to sign and return the Contract with acceptable Performance and Payment Bonds, as prescribed herein, the Owner may award the Contract to the next lowest and best Bidder.

In order to be considered responsive with the Invitation to Bid, a Bid must:

- A. Be completed, signed, and notarized and be compliance in all respects to the conditions of the Invitation to Bid and Instructions to Bidders.
- B. Be made on the Bid Forms provided and submitted intact as part of the Contract Documents.
- C. Be accompanied by the required bid security.
- D. Contain no alterations to the terms or conditions of these Contract Documents except as specifically directed in these Contract Documents.

In order to be considered responsible, a Bidder must establish to the complete satisfaction of the Owner, as a minimum, that he has:

- A. A permanent place of business.
- B. Adequate financial resources to meet his Contract obligations and will maintain same for the Contract period.
- C. Adequate equipment to perform the work properly and within the time prescribed in the Contract.
- D. The necessary experience and technical qualifications in the type of work provided for in the Contract.

The Owner reserves the right to reject all Bids, or any Bid not in compliance with the

Contract Documents, and to waive any informalities or irregularities in Bids received.

16. EXECUTION OF CONTRACT

The successful Bidder shall, within 10 days, not including Sundays and legal holidays, after receiving Notice of Award, sign and deliver to the Owner the Contract hereto attached together with the Performance and Payment Bonds and the Certificate of Insurance. Within 5 days, not included Sundays and legal holidays, after receiving the properly signed Contract with acceptable bonds and Certificate of Insurance for this project, the Owner's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract. Within 30 days of execution, the Owner will issue the Notice to Proceed.

17. PLANS FOR CONSTRUCTION

The successful Bidder will be furnished two sets of full-size Documents without charge. Any additional copies required will be furnished to the Contractor at reproduction cost.

18. PERFORMANCE AND PAYMENT BOND

The successful Bidder shall file with the Owner a Performance Bond and Payment Bond on the form bound herewith in the full amount of the Contract price in accordance with the requirements of Mississippi Statutes Code Section 31-5-51, as applicable, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the construction of the work, and cover all guarantees against defective workmanship or materials, or both, for a period of one year after the date of final acceptance of the various work items completed during the construction program. The Contractor shall refer to the Technical Specifications for required warranty periods on specific equipment items. The Surety furnishing this bond shall have a sound financial standing and a record of service satisfactory to the Owner, and shall be authorized to do business in the State of Mississippi.

The Attorney-in-Fact (Resident Agent) who executes this Performance Bond and Payment Bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the Bond.

All Contracts, Performance and Payment Bonds, will have the same date.

19. FAILURE TO EXECUTE CONTRACT AND FURNISH BONDS AND CERTIFICATE OF INSURANCE

The Bidder who has a Contract awarded to him and who fails to sign the Contract and furnish the Performance Bond, Payment Bond, and Certificate of Insurance shall forfeit the bid security and it shall be retained as liquidated damages by the Owner. It is agreed that this said sum is a fair estimate of the amount of damages the Owner will sustain in case the Bidder fails to enter into a Contract and furnish the bond as hereinbefore provided. Bid security deposited in the form of cash, a certified check, or cashier's check shall be subject

to the same requirement as a bid bond.

20. TIME OF COMPLETION

The time of completion of the work to be performed under this Contract is the essence of the Contract. Delays and extensions of time may be allowed in accordance with the provisions stated in the General Conditions. The time allowed for the completion of the work is stated in the Bid.

SURETY

If the Bidder is awarded a Contract(s) based on this Bid, the Surety who provides the Performance Bond and Payment Bond will be _____
whose address is

_____ Street _____ City _____ State _____ Zip _____

Bidder

The name of the Bidder submitting this Bid is _____

Headquarters Address: _____

_____ Street
_____ City _____ State _____ Zip _____

Local Mailing Address _____
(If different than above): _____ Street

_____ City _____ State _____ Zip _____

Address to which all communications concerned with this Bid and with the resulting Contract shall be sent:

Name _____ Street or P.O. Box _____

City _____ State _____ Zip _____

Attention: _____
Name Title

The names of the Principal officers of the entity submitting this Bid, or of all persons interested in this Bid as Principals are:

_____ Name	_____ Company
---------------	------------------

_____ Name	_____ Company
---------------	------------------

_____ Name	_____ Company
---------------	------------------

_____ Name	_____ Company
---------------	------------------

If the Bidder is a joint venture or partnership the names and business addresses of the participants are:

Name

Address

Name

Address

Name

Address

BIDDER'S AFFIDAVIT AND SWORN STATEMENT

STATE OF _____

COUNTY OF _____

I hereby certify that I am submitting this Bid on behalf of

a (check one): ☐ Corporation ☐ Partnership
 ☐ Sole Proprietorship ☐ Joint Venture
 ☐ Other (Describe)

of the City of _____ State of _____

that I have examined and prepared the foregoing Bid(s) based on the information contained in the Contract Documents provided with the Bid; and I have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that these statements are true and correct.

Addenda

The Bidder hereby acknowledges that he has received Addenda No.(s) __, __, __, __, to these Contract Documents. (Bidder insert No. of each Addendum received.)

Signature _____

Title _____ (Corporate Seal)

Subscribed and sworn to before me this ____ day of _____, 20 _____

Notary Public - State of _____
(Notary Seal)

My commission expires: _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

_____ as Principal, and
_____ as Surety, are hereby held and firmly bound
unto _____ as OWNER in the penal sum of
_____ for the payment of which, well and truly to be made, we hereby jointly and
severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20 _____

The Condition of the above obligation is such that whereas the Principal has submitted to
_____ a certain BID, attached hereto and hereby made a part thereof to enter
into a contract in writing, for the _____

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attachment hereto (properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said contract, and for the payment of all persons performing labor and furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal L.S.

Surety

By:

NOTE TO BIDDERS: All blank spaces requiring input below must be filled in, preferably in BLACK INK. (All proposals are to be submitted in duplicate. No "stripped" bids will be accepted for the certified, original bid; however, the duplicate may contain only the front end documents.)

PROPOSAL

To: CITY OF HATTIESBURG

Address: P.O. Box 1898
Hattiesburg, Mississippi 39403

Project Title: HIGHWAY 11 MEDICAL PARK ACCESS ROADWAY
MISSISSIPPI DEVELOPMENT INFRASTRUCTURE GRANT (DIP-363)

Bidder: _____

Address: _____

Date: _____

Bidder's person to contact for additional information on this Bid:

Name: _____

Telephone: _____

BIDDERS' DECLARATION AND UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Bid are those named herein, that this Bid is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Bid is made without any connection or collusion with any person submitting another bid on this Contractor.

The Bidder further declares that he has carefully examined the Contract Documents for the project, that he has personally inspected the site, that he has satisfied himself as to the nature of the work involved, including equipment required, and conditions of work involved, and that this Bid is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Bid.

The Bidder further agrees that he has exercised his own judgment regarding the interpretation of the work and has utilized all data which he believes pertinent from the Engineer, Owner, and other sources in arriving at his conclusions.

CONTRACT EXECUTION AND BONDS

The Bidder agrees that if this Bid is accepted, he will, within 10 days, not including Sundays and legal holidays after Notice of Award, sign and deliver the Contract to the Owner together with the required Performance Bond, Payment Bond, and Certificate of Insurance, and will, to the extent of his Bid, furnish all machinery, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete the work as specified or indicated in the Contract Documents.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME

The Bidder further agrees to begin work within 10 calendar days after the date stated in the Notice to Proceed issued by the Owner to the Contractor and shall complete the construction of the project in all respects within 90 calendar days from the date the Owner issues the Notice to Proceed.

Submittals required under this Contract that would affect the start of actual construction can be submitted by the Contractor any time after the Owner issues the Notice of Award, notwithstanding the fact that the Contract has not been executed nor the Notice to Proceed issued. Notwithstanding the Contractor's right to make early submittals, no cause for a delay or time extension shall arise under the Contract unless the Engineer fails to respond to such submittals within 20 days after issuance of the Notice to Proceed and the delay impacts the Contract completion date. The time for completion of this Contract shall begin the day the Notice to Proceed is issued by the Owner.

DAMAGES FOR DELAY

In the event the Bidder is awarded the Contract and shall fail to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid to the Owner at the rate stated below per calendar day until the work shall have been satisfactorily completed as provided by the Contract Documents:

Contract Completion: \$225.00 per day

Liquidated damage shall be cumulative for work not completed on schedule.

SALES AND USE TAXES

The Bidder agrees that all federal, state, and local sales and use taxes are included in the stated bid prices for the work.

BIDDER BREAKDOWN OF TOTAL BID

Bidder(s) being considered for award may be required to provide further detailed breakdown of the work within 72 hours following receipt of the request from the Owner. The price breakdown shall be fairly apportioned to the items listed. If so requested, the Bidder shall substantiate any price or prices with additional detailed price breakdown.

LUMP SUM WORK

The following items are to be provided and/or completed, as herein specified and as shown on the Drawings, based upon the undersigned's own estimate of quantity and costs, for the lump sum amounts specified for each line item indicated. If requested by the Engineer, the Contractor shall substantiate any price or prices with additional detailed price breakdown.

UNIT PRICE WORK

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following unit price amounts. It being expressly understood that the unit prices are independent of the exact quantities involved. The Bidder agrees that the unit prices represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in these Contract Documents. The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

Respectfully submitted,

By: _____
Contractor

Title: _____

Address: _____

Date: _____, 20 ____

(To be filled in if a corporation)

Our Corporation is chartered under the Laws of the State of
and the names, titles and business addresses of the executives are as follows:

President _____ Address _____

Secretary _____ Address _____

Treasurer _____ Address _____

ADDENDUM

The Bidder acknowledges receipt of the following Addenda:

The undersigned Bidder further understands that the quantities of work shown herein are approximate only and are subject to increase or decrease, and offers to do the work whether the quantities are increased and decreased at the following unit prices:

UNIT PRICE SCHEDULE

PROJECT: Medical Park Access Roadway

City of Hattiesburg & Hattiesburg Clinic, P.A.

Hattiesburg, Mississippi

CONTRACT TIME: 90 DAYS

BID SCHEDULE					
ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
ROADWAY ITEMS					
S-200-A	MOBILIZATION	L.S.	LUMP SUM	\$	\$
S-201-A	CLEARING AND GRUBBING	L.S.	LUMP SUM	\$	\$
S-202-A	REMOVAL OF OBSTRUCTIONS (TIE-IN AT EXISTING ROADWAY)	L.S.	LUMP SUM	\$	\$
S-203-A	UNCLASSIFIED EXCAVATION (FM)	900.0	CU. YD.	\$	\$
S-203-E	BORROW EXCAVATION (CONTRACTOR FURNISHED LVM, CLASS 9-8)	1,160.0	CU. YD.	\$	\$
S-240-A	GEOGRID REINFORCEMENT	1,500.0	SQ. YD.	\$	\$
S-304-D	CRUSHED STONE	625.0	TON	\$	\$
S-403-A	HOT MIX ASPHALT, (ST)(9.5MM)	240.0	TON	\$	\$
S-403-A	HOT MIX ASPHALT, (ST)(12.5MM)	320.0	TON	\$	\$
S-403-A	HOT MIX ASPHALT, (ST)(19MM)	480.0	TON	\$	\$
S-601-B	CLASS "B" STRUCTURAL CONCRETE, MINOR STRUCTURES	43.0	CU. YD.	\$	\$
S-602-A	REINFORCING STEEL	5,365.0	LB.	\$	\$
S-603-C-A	24" REINFORCED CONCRETE PIPE, CLASS III	84.0	LIN. FT.	\$	\$
S-603-C-A	48" REINFORCED CONCRETE PIPE, CLASS III	200.0	LIN. FT.	\$	\$
S-603-C-B	48" REINFORCED CONCRETE PIPE, END SECTION	1.0	EACH	\$	\$
S-603-PE	24" CORRUGATED POLYETHYLENE PIPE	105.0	LIN. FT.	\$	\$
S-603-PE	36" CORRUGATED POLYETHYLENE PIPE	290.0	LIN. FT.	\$	\$
S-603-PE	48" CORRUGATED POLYETHYLENE PIPE	250.0	LIN. FT.	\$	\$
S-608-A	CONCRETE SIDEWALK	920.0	SQ. YD.	\$	\$
S-609-D	COMBINATION CONCRETE CURB AND GUTTER	1,720.0	LIN. FT.	\$	\$
S-613-A	ADJUSTMENT OF CASTINGS, GRATINGS, AND UTILITY APPURTENANCES	L.S.	LUMP SUM	\$	\$
S-617-A	RIGHT-OF-WAY MARKERS (TYPE II)	14.0	EACH	\$	\$
S-618-A	MAINTENANCE OF TRAFFIC	L.S.	LUMP SUM	\$	\$
S-621-C	4" WIDE THERMOPLASTIC EDGE STRIPE (CONTINUOUS WHITE)(60 MILS)	0.4	MILE	\$	\$
S-621-E-1	4" WIDE THERMOPLASTIC TRAFFIC STRIPE (CONTINUOUS YELLOW)(90 MILS)	1,750.0	LIN. FT.	\$	\$
S-621-G-1	THERMOPLASTIC DETAIL STRIPE (4" EQUIV. LENGTH)(WHITE)(90 MILS)	246.0	LIN. FT.	\$	\$
S-627-D	TWO-WAY YELLOW REFLECTIVE RAISED MARKERS	23.0	EACH	\$	\$
S-630-A	REFLECTORIZED TRAFFIC WARNING SIGN(ENCAPSULATED LENS)	1.0	EACH	\$	\$
S-630-B	REFLECTORIZED TRAFFIC REGULATORY SIGN (ENCAPSULATED LENS)	1.0	EACH	\$	\$

BID SCHEDULE					
ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
ELECTRICAL ITEMS					
907-633-A	ROADWAY LIGHTING SYSTEM	L.S.	LUMP SUM	\$	\$
EROSION CONTROL ITEMS					
901-S-212-A	AGRICULTURAL LIMESTONE	1.0	TON	\$	\$
S-212-B	COMMERCIAL FERTILIZER (13-13-13)	0.5	TON	\$	\$
S-212-F	AMMONIUM NITRATE	0.1	TON	\$	\$
S-214-A	SEEDING	0.5	ACRE	\$	\$
S-215-A	VEGETATIVE MATERIALS FOR MULCH	1.0	TON	\$	\$
S-234-A	TEMPORARY EROSION CONTROL MEASURES	L.S.	LUMP SUM	\$	\$
TOTAL BID AMOUNT:					

Bidder: _____

Company Name

Name

Title

Address: _____

NOTICE OF AWARD

TO:

Project Description: HIGHWAY 11 MEDICAL PARK ACCESS ROADWAY
MISSISSIPPI DEVELOPMENT INFRASTRUCTURE GRANT
(DIP-363), CITY OF HATTIESBURG, MISSISSIPPI

The Owner has considered the bid submitted by you for the above described Work in response to its Advertisement for Bids published _____ and Information for Bidders.

You are hereby notified that your Bid has been accepted for items identified as _____ in the amount of \$_____.

You are required under the terms of the Notice Inviting Bids and the Information for Bidders to execute the Agreement and furnish the required bonds and certificates of insurance within 10 calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said bonds and certificates of insurance within 10 days from the date of this notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your bid to be abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner.

Dated this _____ day of _____, 20_____.

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the foregoing Notice of Award is hereby acknowledged by _____ this
the _____ day of _____, 20_____.

By: _____

Title: _____

PART 2 CONTRACT FORMS

CONTRACT

THIS AGREEMENT made and entered into, this the _____ day of _____ in the year _____ by and between:

(Firm or Corporation, Name and Address)

duly authorized and qualified to do business in the State of Mississippi, hereinafter called the CONTRACTOR, and CITY OF HATTIESBURG, MISSISSIPPI, hereinafter called the OWNER.

WITNESSETH, that CONTRACTOR and the OWNER for considerations hereinafter named agree as follows:

SCOPE OF WORK

CONTRACTOR shall furnish all labor, materials, supervision, tools, equipment, supplies, and appurtenances, and perform all work on the Contract Drawings entitled HIGHWAY 11 MEDICAL PARK ACCESS ROADWAY MISSISSIPPI DEVELOPMENT INFRASTRUCTURE GRANT (DIP-363), as prepared by The Walker Associates, Engineers-Planners-Designers, and shall do everything required by this CONTRACT AGREEMENT and the Contract Documents, all to the satisfaction of the OWNER in accordance and compliance with the Contract Documents.

CONTRACT DOCUMENTS

It is understood and agreed that the Advertisement for Bids, Information for Bidders, Addenda, Bid, Bid Bond, Notice of Award, Contract, Contract Bond, Certificate of Owner's Attorney, Notice to Proceed, General Conditions, Special Conditions, Technical Specifications, Change Order, and Plans, said plans showing more particularly the details of the work to be done, shall be held to be and are hereby made a part of this contract by specific reference thereto and with like effect as if each and all of said instruments had been set out fully herein in words and figures.

TIME OF COMPLETION

The CONTRACTOR shall begin work within ten (10) days from the date of this Contract and shall complete all work within 90 calendar days after the date specified in the Notice to Proceed.

In case of failure on the part of the CONTRACTOR to complete the work within the calendar days specified, or any OWNER approved extensions, thereof, then the CONTRACTOR shall pay to the OWNER the sum of \$225.00 for each calendar day thereafter that the work remains incomplete. Such sums are agreed upon as the proper measures of liquidated damages that the OWNER will sustain by the failure of the CONTRACTOR to complete the work within the time(s) stipulated and those sums are not to be construed in any sense as penalties. The CONTRACTOR shall not be liable for the aforementioned damages or forfeiture of this CONTRACT by reason of delay due to acts of GOD or of the public enemy, acts or neglects of the OWNER, acts or neglects of any other contractor employed by the OWNER, or by changes ordered in the work, delay in procurement of material beyond the CONTRACTOR'S control, or any other causes beyond the CONTRACTOR'S control.

PROGRESS PAYMENTS

The OWNER shall make monthly progress payments to the CONTRACTOR on the basis of duly certified and approved estimated percentage of work completed by the Contractor (for each component of the Project) during the preceding calendar month, but the OWNER shall retain ten percent (10%) of the amount of each such estimate until final completion and acceptance of the work covered by this Contract.

ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice from the CONTRACTOR that the work is ready for final inspection and acceptance, the OWNER shall promptly make such inspection and when he finds the work acceptable under the Contract and the Contract fully performed, he shall promptly issue a final certificate over its authorized signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof, and the entire amount found to be due the CONTRACTOR shall be paid to the CONTRACTOR at the office of the OWNER within 30 days after the date of said final certificate.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the OWNER that all payrolls, bills and/or claims, and other indebtedness connected with the work have been paid so as to save the OWNER harmless from any damage that may arise from the prosecution of this Contract.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER against the CONTRACTOR, other than those arising from unsettled liens, from faulty or defective work appearing after final payment, or from failure to comply with the requirements of the Contract Documents, or the terms of any special guarantee specified herein, and a waiver of all claims by the CONTRACTOR against the OWNER other than those previously made in writing and still unsettled.

If, after the work has been substantially completed, the full completion is materially delayed through no fault of the CONTRACTOR, the OWNER shall, and without terminating the Contract, make payment for the balance due for that portion of the work fully complete, except that it shall not constitute a waiver of claims.

TERMINATION OF CONTRACT

If the CONTRACTOR should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse, or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen, equipment, or proper materials, or if he should fail to make prompt payment to subcontractor or for materials or labor, or persistently disregard laws, ordinances or the instruction of the OWNER or otherwise be guilty of a substantial violation of any provisions of the Contract, then the OWNER may without prejudice to any other right or remedy and after giving the CONTRACTOR written notice, terminate the employment of the CONTRACTOR and take possession of the premises and of all materials, tools, and appliances thereon and finish the work by whatever method the OWNER may deem expedient. In such case, the CONTRACTOR, shall not be entitled to receive any payment until the work is finished. If the amount owed to CONTRACTOR for work completed by him shall exceed the expense of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the CONTRACTOR. If such expense shall exceed the amount owed to the CONTRACTOR, the CONTRACTOR shall pay the difference to the OWNER as herein provided.

In the event of termination of Contract before completion of the work, due to abandonment of the Project or discontinuance thereof, the CONTRACTOR will be paid in proportion to the work completed and in progress.

LAWS, REGULATIONS, INSURANCE

The CONTRACTOR shall comply with the pertinent provisions of all local, state and federal laws, rules or regulations applicable to said work being performed, and shall carry all required Workmen's Compensation, casualty, or other liability insurance, and shall generally keep the OWNER indemnified against all fines, penalties, and losses incurred by reason of any breach of this stipulation.

INDEMNIFICATION

The CONTRACTOR shall be solely responsible for and shall protect and indemnify and save harmless the OWNER, OWNER'S employees, and ENGINEER from and against all damages, losses and all claims, demands, payments, suit actions, recoveries, and judgments of every nature and description brought or recovered against the OWNER, OWNER'S employees, and ENGINEER reason of any act or commission of the CONTRACTOR, his agents, employees, or sub-contractors in the execution of the work or in the guarding of it.

WORKMANSHIP

It is understood and agreed that all work shall be done in a thorough and workmanlike manner under the supervision and direction of the Engineer and to the satisfaction of the OWNER.

SUBLETTING

Neither party of this Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the CONTRACTOR assign any monies due or to become due to him hereunder without written consent of the OWNER.

EXTRA WORK

If it becomes necessary for the CONTRACTOR to do work not specifically called for by this Contract, the OWNER and CONTRACTOR shall come to an agreement as to the amount of additional work to be done, and as to the cost of the additional work before the work is initiated.

The CONTRACTOR agrees that he has read each and every clause of this Contract and fully understands the meaning of same and that he will comply with all the terms, covenants, and agreements therein set forth.

IN WITNESS WHEREOF the parties hereby have executed this CONTRACT on the day and year first above written:

ATTEST:

OWNER:

By: _____

ATTEST:

CONTRACTOR:

By: _____

Title: _____

CONTRACT BOND

CONTRACT BOND FOR HIGHWAY 11 MEDICAL PARK ACCESS ROADWAY
MISSISSIPPI DEVELOPMENT INFRASTRUCTURE GRANT (DIP-363)

LOCATED IN THE COUNTY OF FORREST
STATE OF MISSISSIPPI

Know all men by these presents: That we, _____, Principal, a _____
residing at _____ in the State of _____ and
_____ residing at _____.

to do business in the State of Mississippi, under the laws thereof, as surety, are held and firmly
bound unto CITY OF HATTIESBURG, MISSISSIPPI, herein referred to as OWNER, in the sum
of _____ Dollars, lawful money of the United States of America, to be
paid to it for which payment well and truly to be made, we bind ourselves, our heirs,
administrators, successors, or assigns jointly and severally by these presents.

Signed and sealed this the _____ day of _____, A.D., 20____.

The conditions of the bond are such, that whereas the said _____ principal,
has (have) entered into a contract with OWNER, of the State of Mississippi, bearing the date of
_____ day of _____, A.D., 20____ hereunto annexed, for the construction of a
certain project in the State of Mississippi as mentioned in said contract in accordance with the
plans, specifications and special provisions therefore, on file in the office of OWNER.

Now, therefore, if the above bounden _____ in
all things shall stand to and abide by and truly observe, do keep and perform all and singular the
terms, covenants, conditions, guarantees and agreements in said contract, contained on his (their)
part to be observed, done, kept and performed and each of them, at the time and in the manner
and form and furnish all of the material and equipment specified in said contract in strict
accordance with the term of said contract which said plans, specifications and special provisions
are included in and form a part of said contract and shall maintain the said work contemplated
until its final completion and acceptance as specified in the approved specifications, and save
harmless said OWNER and the Engineer from any loss or damage arising out of or occasioned by
the negligence, wrongful or criminal act, overcharge, fraud, or any other loss or damage
whatsoever, on the part of said principal(s), his (their) agents, servants, or employees in the
performance of said work or in any manner connected therewith, and shall be liable and
responsible in a civil action instituted by OWNER at the instance of OWNER, or any officer of
OWNER authorized in such cases, for double any amount in money or property, OWNER may
lose or be overcharged or otherwise defrauded of, by reason of any wrongful or criminal act, if
any, of the Contractor(s), his (their) agents or employees, and shall promptly pay the said agents,
servants and employees, and all persons furnishing labor, material, equipment or supplies

therefore, including premiums incurred, for Surety Bonds, Liability Insurance, and Workmen's Compensation Insurance; payment of all taxes, licenses, assessments, contributions, damages, penalties and interest thereon, when and as the same may be due this state, or any county, municipality, board, department, commission or political subdivision; in the course of the performance of said work and subject to the provisions of Title 31, Chapter 5, Section 31-5-1 et. seq. Mississippi Code of 1972, and other State statutes applicable thereto, and shall carry out to the letter and to the satisfaction of OWNER all, each and every one of the stipulations, obligations, conditions, covenants and agreements and terms of said contract in accordance with all terms thereof and all of the expense and cost and attorney's fees that may be incurred in the enforcement of the conditions and obligations of this bond, then this obligation shall be null and void, otherwise to be and remain in full force and virtue.

Witness our signatures this the _____ day of _____, A.D., 20____.

(CONTRACTOR) Principal

SURETY

BY: _____

BY: _____
(Signature) ATTORNEY-IN-FACT

TITLE _____
(Contractor's Seal)

Name and Address of Local
(Mississippi) Representative

(Surety Seal)

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, _____, the duly authorized and acting legal representative of

do hereby certify as of follows:

I have examined the attached contract(s) and Contract Bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon: and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof.

DATE:

NOTICE TO PROCEED

To:

Date:

Project: HIGHWAY 11 MEDICAL PARK
ACCESS ROADWAY MISSISSIPPI
DEVELOPMENT INFRASTRUCTURE
GRANT (DIP-363), CITY OF
HATTIESBURG, MISSISSIPPI

Your are hereby notified to commence WORK in accordance with the Agreement dated _____, 20_____, on or before _____, 20_____, and you are to complete the WORK within 90 consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 20_____.

Owner City of Hattiesburg, Mississippi

By _____

Title Mayor

ACCEPTANCE OF NOTICE

Receipt of above NOTICE TO PROCEED is hereby acknowledged by _____, this the _____ day of _____, 20____.

By _____

Title _____

PART 3 CONDITIONS OF CONTRACT

GENERAL CONDITIONS

ARTICLE 1 DEFINITION OF TERMS

Whenever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings indicated, and shall be applicable to both the singular and plural thereof:

ADDENDUM. Written or graphic instructions issued prior to the opening of Bids which clarify, correct or change the bidding documents or the Contract Documents.

AGREEMENT. The written agreement between the OWNER and the CONTRACTOR, covering the work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided herein.

APPLICATION FOR PAYMENT. The form accepted by the ENGINEER which is to be used by the CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

BID. The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the work to be performed.

BIDDER. Any person, firm or corporation submitting a Bid for the work.

BONDS. Bid, performance, and payment bonds and other instruments of security, furnished by the CONTRACTOR and his surety in accordance with the Contract Documents.

CHANGE ORDER. A document recommended by ENGINEER, which is signed by the CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued after the effective date of the Agreement.

CONTRACT DOCUMENTS. The Agreement, Specifications, Drawings, Addenda (whether or not issued prior to opening of bids or execution of the Agreement), Bonds, General Conditions, and Modifications.

CONTRACT PRICE. The total moneys payable by the OWNER to the CONTRACTOR under the Contract Documents as stated in the Agreement.

CONTRACT TIME. The number of calendar days stated in the Agreement for the completion of the Work.

CONTRACTOR. The person, firm or corporation with whom the OWNER has entered into the Agreement.

DRAWINGS. The drawings and plans which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

ENGINEER. The person, firm or corporation named as such in the Agreement.

FIELD ORDER. A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with Article 14.1 or orders minor changes in the Work in accordance with Article 20.2.

MODIFICATION. (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, (c) a written clarification or interpretation issued by ENGINEER in accordance with Article 14.1 or (d) a written order for a minor change or alteration in the work issued by the ENGINEER pursuant to Article 20.2. A modification may only be issued after execution of the Agreement.

NOTICE OF AWARD. The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

NOTICE TO PROCEED. A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.

OWNER. The public body or authority, corporation, association, partnership, or individual with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

PROJECT. The entire construction to be performed as provided in the Contract Documents.

RESIDENT PROJECT REPRESENTATIVE. The authorized representative of the ENGINEER who is assigned to the Project or any parts thereof.

SHOP DRAWINGS. All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.

SPECIFICATIONS. Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

SUBCONTRACTOR. An individual, firm or corporation having a direct contract with the CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION. The date as certified by the ENGINEER when the construction of the Project or a specified part thereof is sufficiently complete, in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purposes for which it was intended; or if there can be no such certification, the date when final payment is due.

SUPERINTENDENT. Contractor's representative.

WORK. Any and all obligations, duties, and responsibilities necessary to the successful completion of the Project assigned to or undertaken by the CONTRACTOR under the Contract Documents, usually including the furnishing of all labor, materials, equipment, and other incidentals.

ARTICLE 2 - AWARD, EXECUTION OF DOCUMENTS, DELIVERY OF BONDS

- 2.1 THE AWARD OF THE CONTRACT, if it is awarded, will be to the lowest responsible Bidder whose qualifications indicate that the award will be in the best interest of the OWNER and whose proposal complies with all the prescribed requirements. No award will be made until the OWNER has concluded such investigations as he deems necessary to establish the responsibility, qualifications and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not meet such qualifications to the OWNER'S satisfaction. In analyzing Bids, the OWNER may take into consideration alternatives and unit prices, if requested by the Bid forms. If the contract is awarded, the OWNER shall give the successful Bidder written notice of the award within thirty days after the opening of the Bids.
- 2.2 At least three counterparts, of the Agreement and of such other Contract Documents as practicable shall be signed by the OWNER and the CONTRACTOR. The OWNER shall identify those portions of the Contract Documents not to be signed and such identification shall be binding on both the Owner and the CONTRACTOR shall each receive an executed counterpart of the Contract Documents.
- 2.3 Simultaneously with the execution of the Agreement, the CONTRACTOR shall deliver to the OWNER the required Bonds.
- 2.4 Failure of the successful Bidder to execute the Agreement and deliver the required Bonds within ten days of the Notice of Award shall be just cause for the OWNER to annul the award and declare the Bid and any guarantee thereof forfeited.

**ARTICLE 3 - PROGRESS AND SUBMISSION SCHEDULES; PRECONSTRUCTION
CONFERENCE; TIME FOR STARTING THE WORK**

- 3.1 Within ten days after execution of the Agreement, the CONTRACTOR shall submit to the ENGINEER for approval, an estimated progress schedule indicating the starting and completion dates of the various stages of the Work, and a schedule of Shop Drawing submissions. At least ten days prior to submitting the first Application for Payment he shall also submit a schedule of values as required by Article 26.1.
- 3.2 Before starting the Work, a conference will be held to review the above plans and schedules, to establish procedures for handling Shop Drawings and other submissions; for processing Applications for Payment; and to establish a working understanding between parties as to the conduct of the Project. Present at the conference will be the OWNER, the ENGINEER, the resident PROJECT REPRESENTATIVE, the CONTRACTOR and the Superintendent.
- 3.3 Prior to starting the Work the Contractor shall furnish the OWNER and ENGINEER certificates of insurance as indicated in Article 32.
- 3.4 The CONTRACTOR shall start the Work within ten days of the date on which the Agreement is executed and delivered or on such other date, as may be specified in the Agreement. However, at the time of the execution and delivery of the Agreement the ENGINEER may give the CONTRACTOR a written notice to proceed, stating a different date on which it is expected that the CONTRACTOR will start Work, but such date shall not be more than thirty days after the date of execution and delivery of the Agreement.
- 3.5 The Contract Time shall commence on the date the work is to start as provided in Article 3.4 unless work begins at an earlier date.

**ARTICLE 4 - CORRELATION, INTERPRETATION AND INTENT OF CONTRACT
DOCUMENTS**

- 4.1 It is the intent of the Specifications and Drawings to describe the complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.
- 4.2 The Contract Documents are complementary: what is called for by one is as binding as if called for by all. If the CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the Owner's and Engineer's attention in writing before proceeding with the Work affected thereby. In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement, Specifications, Drawings. Within the Specifications the order of precedence shall be as follows: Special Conditions, Instructions to Bidders, General Conditions, Technical

Provisions. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings. Any work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which when so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards. The CONTRACTOR assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, Work, locality, and local conditions that may in any manner affect the Work to be done.

ARTICLE 5 - OWNERSHIP AND COPIES OF DOCUMENTS; RECORD DOCUMENTS

- 5.1 All specifications, Drawings and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and with the exception of those sets which have been furnished in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.
- 5.2 The ENGINEER shall furnish to the CONTRACTOR up to three copies of the Specifications and Drawings as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.
- 5.3 The CONTRACTOR shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the ENGINEER and shall be delivered to him for the OWNER upon completion of the Project.

ARTICLE 6 - WORK BY OTHERS

- 6.1 The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts thereof which shall contain General Conditions similar to these. The CONTRACTOR shall afford the other contractors who are parties to such direct contracts (or the owner, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and properly connect and coordinate his Work with theirs.
- 6.2 If any part of the CONTRACTOR'S Work depends for proper execution or results upon the work of any other contractor or the OWNER, the CONTRACTOR shall inspect and promptly report to the ENGINEER in writing any defects or deficiencies in such work that render it unsuitable for proper execution and results. His failure to so report shall constitute an acceptance of the work as fit and proper for the relationship of his Work except as to defects and deficiencies which may appear in the other work after the execution of his work.

- 6.3 The CONTRACTOR shall do all cutting, fitting and patching of his Work that may be required to make its several parts come together properly and fit to receive or be received by such other work. The CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER.
- 6.4 If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the award of the contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work by the OWNER. If the Contractor believes that the performance of such additional work by the Owner or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefor as provided in Article 21 and 23.

ARTICLE 7 - SUBCONTRACTS

- 7.1 Prior to the execution and delivery of the Agreement, the successful Bidder will submit to the OWNER or ENGINEER for acceptance a list of the names of Subcontractors and such other persons and organizations deemed appropriate by the Owner or Engineer. Prior to the execution and delivery of the Agreement, the OWNER or ENGINEER shall notify the successful bidder in writing in writing if the OWNER or ENGINEER, after due investigation, has reasonable objection to any Subcontractor person or organization on such list. The failure of the OWNER or ENGINEER to make objection to any Subcontractor, person or organization on the list prior to the execution and delivery of the Agreement shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or ENGINEER to reject defective Work, material or equipment not in conformance with the requirements of the Contract Documents.
- 7.2 The CONTRACTOR shall not employ any Subcontractor (whether initially or as a substitute) against whom the OWNER or ENGINEER may have reasonable objection, nor shall the CONTRACTOR be required to employ any Subcontractor against whom he has reasonable objection. The CONTRACTOR shall not make any substitution for any Subcontractor who has been accepted by the OWNER or ENGINEER unless the OWNER or ENGINEER determines that there is good cause for doing so.
- 7.3 The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractor and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between any Subcontractor and OWNER or any obligation on the part of the OWNER to pay or to see to the payment of any Moneys due any Subcontractor, except as may otherwise be required by law. The OWNER may furnish to any Subcontractor, to the extent practicable, evidence of amounts paid to the CONTRACTOR on accounts of specific work done in accordance with the schedule of values.

- 7.4 The divisions and sections of the Specifications and the identifications of any drawings shall not control the Contractor in dividing the Work among Subcontractors or delineating the Work to be performed by any trade.
- 7.5 The CONTRACTOR agrees to specifically bind every Subcontractor to all of the applicable terms and conditions of the Contract Documents. Every Subcontractor, by undertaking to perform any of the Work, shall thereby automatically be deemed bound by such terms and conditions.
- 7.6 All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

ARTICLE 8 - MATERIALS, EQUIPMENT AND LABOR: SUBSTITUTE MATERIAL AND EQUIPMENT

- 8.1 The CONTRACTOR shall provide and pay for materials, equipment, labor, transportation, construction equipment, and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.
- 8.2 All materials and equipment furnished under the contract shall be new. If required by the OWNER or ENGINEER, the CONTRACTOR will furnish satisfactory evidence as to the kind and quality of materials and equipment.
- 8.3 Except for items where no substitution is clearly specified, whenever any material, article, device, product fixture, form, type of construction, or process is indicated or specified by patent or proprietary name, by name of manufacturer, or by catalog number, such specifications shall be deemed to be used for the purpose of establishing a standard of quality and facilitating a description of the material or process desired. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design, and shall be deemed to be followed by the words "Or Equal". The Contractor may, in such cases, submit complete comparative data to the Engineer for consideration of another material, type, or process which shall be substantially equal in every respect to that so indicated or specified. Materials or equipment covered by this Article shall not be ordered, delivered to the site, or used in the work unless approved in writing. The Engineer will be the sole judge of the equivalency of proposed material or equipment.

Requests for review of equivalency will not be accepted from anyone except the Contractor. Whenever, it is indicated in the Drawings or Specifications that a substitute or "or equal" may be furnished or used by the Contractor, if acceptable to the Engineer. Application for such acceptance will not be considered by Engineer until after the effective date of the Agreement.

Responsibility for the adequacy and performance of an "Or Equal" substitution lies solely with the Contractor. All requests from the Contractor for consideration of an "Or Equal" substitution shall clearly state any deviation for the Contract and all guarantee details.

When an "Or Equal" substitution is accepted, and it is found that such substitution alters the design or space requirements indicated on the Drawings, the Contractor shall be responsible for the costs involved to revise the design and construction, including the costs associated with the work of other contractors due to such substitution.

ARTICLE 9 - PATENT FEES AND ROYALTIES

The CONTRACTOR shall pay all license fees and royalties and assume all costs incidental to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He shall indemnify and hold harmless the OWNER and ENGINEER and anyone directly or indirectly employed by them from and against all claims, damages, losses, and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

ARTICLE 10 - PERMITS, LAWS, TAXES AND REGULATIONS

- 10.1 The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, he shall give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances rules, and regulations, and without such notice to the ENGINEER, he shall bear all costs arising therefrom.
- 10.2 The CONTRACTOR shall pay all sales, consumer, use and other similar taxes required by the law of the place where the Work is to be performed.

ARTICLE 11 - AVAILABILITY OF LANDS; PHYSICAL AND SUBSURFACE CONDITIONS; REFERENCE POINTS

- 11.1 The OWNER shall provide, as indicated in the Contract Documents and not later than the date when needed by the CONTRACTOR, the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be secured and paid for by the OWNER, unless otherwise specified in the Contract Documents. If the CONTRACTOR believes that any delay in the OWNER'S furnishing these lands or providing such easements entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Article 23. The

CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

- 11.2 The OWNER shall furnish to the CONTRACTOR copies of all available boundary surveys and subsurface tests and other appropriate data that he may possess.
- 11.3 The CONTRACTOR shall promptly notify the OWNER or ENGINEER in writing of any subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents. The ENGINEER shall promptly investigate those conditions and advise the OWNER in writing if further surveys or subsurface tests are necessary. Promptly thereafter, the OWNER shall obtain the necessary additional surveys and test and furnish copies to the CONTRACTOR. If the OWNER finds that the results of such surveys or test indicate subsurface or latent physical conditions differing significantly from those indicated in the Contract Documents, a Change Order shall be issued incorporating the necessary revisions.
- 11.4 REFERENCE POINTS. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

ARTICLE 12 - USE OF PREMISES

- 12.1 The CONTRACTOR shall confine his equipment, storage of materials and equipment, and the operations of his employees to areas permitted by law, ordinances, permits or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with materials or equipment.
- 12.2 The CONTRACTOR shall not load or permit any part of the structure to be loaded with weights that will endanger the structure, nor shall he subject any part of the Work to stress or pressures that will endanger it.

- 12.3 The OWNER at any time may request the CONTRACTOR, in writing, to permit the OWNER to use any part of the work which the OWNER may require and which may be used without significant interference with construction of the other parts of the work. Within a reasonable time thereafter, the OWNER, the CONTRACTOR, and the ENGINEER shall make an inspection of that part of the work to determine its status of completion. If the ENGINEER does not consider that part of the work to be substantially complete, the ENGINEER will notify the OWNER and the CONTRACTOR in writing, giving his reasons therefor. If the ENGINEER considers that part of the work is substantially complete, the ENGINEER will execute and deliver to the OWNER and the CONTRACTOR a Certificate of Substantial Completion for that part of the work.

In lieu of the issuance of a Certificate of Substantial Completion, the OWNER may occupy and operate a facility constituting part of the work, whether or not it is substantially complete, if such facility is functionally and separately usable; provided that prior to any such takeover, the OWNER and the CONTRACTOR have agreed as to the division of responsibilities between the OWNER and the CONTRACTOR for security, operation, safety, maintenance, correction period, heat, utilities, and insurance with respect to such facility.

Such use shall not be considered as final acceptance of any portion of the work, nor shall such use be considered as cause for an extension of the Contract completion time, unless authorized by a Change Order issued by the OWNER.

ARTICLE 13 - OWNER'S STATUS DURING CONSTRUCTION

- 13.1 The OWNER and the CONTRACTOR are those persons or organizations identified as such in the Agreement and are referred to throughout the Contract Documents as if singular in number and masculine in gender.
- 13.2 The ENGINEER shall be the OWNER'S representative during the construction period. All instructions of the OWNER to the CONTRACTOR shall be issued through the ENGINEER. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER'S representative during construction are set forth in Articles 1 through 42 of these General Conditions and shall not be extended without written consent of the OWNER.
- 13.3 The ENGINEER or his representative shall make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work nor will he be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions incidental thereto. His efforts shall be directed toward providing assurance for the OWNER that the completed Project will conform to the requirements of the Contract Documents, but he shall not be responsible for the

CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents. On the basis of his on-site observations as an experienced and qualified professional, he shall keep the OWNER informed of the progress of the work and shall endeavor to guard the OWNER against defects and deficiencies in the Work of contractors.

- 13.4 The OWNER or ENGINEER shall have authority to disapprove of or reject Work which is defective; i.e., it is unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents or does not meet the requirements of any inspection, test or approval procedure referred to in Article 16.1. He shall also have authority to require special inspection or testing of the Work as provided in Article 19.3, whether or not the Work is fabricated, installed or completed.
- 13.5 If the OWNER and ENGINEER agree, ENGINEER shall provide Resident Project Representatives to assist the ENGINEER in observing the performance of the work. The duties, responsibilities and limitations of authority of any such Resident Project Representative shall be set forth in an exhibit to be incorporated in the Contract Documents. In the event that his duties and responsibilities are not set forth in the Contract Documents, they shall be as specified herein for the OWNER.
- 13.6 Neither the ENGINEER'S authority to act under this Article nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the OWNER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the work.

ARTICLE 14 - ENGINEER'S INTERPRETATIONS AND DECISIONS

- 14.1 The ENGINEER shall issue with reasonable promptness such written clarifications or interpretations (in the form of drawings or otherwise) as he may deem necessary for the proper execution of the Work, such clarifications and interpretations to be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the CONTRACTOR believes that a written clarification and interpretation entitles him to an increase in the Contract Price, he may make a claim therefor as provided in Article 21.
- 14.2 The ENGINEER shall be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance thereunder. In his capacity as interpreter and judge he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes, and other matters relating to the execution and progress of the work or the interpretation thereof or performance under the Contract Documents shall be referred initially to the OWNER for decision, which he shall render in writing within a reasonable time.

ARTICLE 15 - SHOP DRAWINGS AND SAMPLES

- 15.1 After checking and verifying all field measurements, the CONTRACTOR shall submit to the ENGINEER for approval, in accordance with the accepted schedule of Shop Drawings submissions, five copies of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR and identified as the ENGINEER may require. The data shown on the Shop Drawings shall be complete with respect to dimensions, design criteria, materials of construction, and the like to enable the ENGINEER to review the information as required.
- 15.2 The CONTRACTOR shall also submit to the ENGINEER for approval, with such promptness as to cause no delay in the Work, all samples required by the Contract Documents. All samples shall have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, pertinent catalog numbers, and the use for which intended.
- 15.3 At the time of each submission, the CONTRACTOR shall, in writing, call the ENGINEER'S attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.
- 15.4 The ENGINEER shall check and approve with reasonable promptness Shop Drawings and samples, but his checking and approval shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The approval of a separate item, as such, will not indicate approval of the assembly in which the item functions. The CONTRACTOR shall make any corrections required by the ENGINEER and shall return the required number of corrected copies of Shop Drawings and resubmit new samples until approved. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than those called for by the ENGINEER on previous submissions.
- 15.5 No work requiring a Shop Drawing or sample submission shall be commenced until the submission has been approved by the ENGINEER.
- 15.6 The ENGINEER'S approval of Shop Drawings or samples shall not relieve the CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER'S attention to such deviations at the time of submission and the ENGINEER has given written approval to the specific deviation, nor shall any approval by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omissions in the Shop Drawings.

ARTICLE 16 - TESTS AND INSPECTIONS

- 16.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR shall give the ENGINEER timely notice of readiness therefor. The CONTRACTOR shall furnish the ENGINEER the required certificates of inspection, testing or approval. All such tests, will be in accordance with the methods prescribed by the American Society for Testing and Materials or such other applicable organization as may be required by law or the Contract Documents. If any such Work required so to be inspected, tested or approved is covered up without written approval or consent of the ENGINEER, it must, if directed by the ENGINEER, be uncovered for observation at the CONTRACTOR'S expense. The cost of all such inspections, tests and approvals shall be borne by the CONTRACTOR unless otherwise provided.
- 16.2 Any Work which fails to meet the requirements of any such test, inspection or approval and any Work which meets the requirements of any such test or approval but does not meet the requirements of the Contract Documents shall be considered defective. Such defective Work may be rejected, corrected or accepted as provided in Article 25.
- 16.3 Neither observations by the ENGINEER, or inspections, tests or approvals by persons other than the CONTRACTOR shall relieve the CONTRACTOR from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

ARTICLE 17 - CONTRACTOR'S SUPERVISION AND SUPERINTENDENCE

- 17.1 The CONTRACTOR shall supervise and direct the Work efficiently and with his best skill and attention. He shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Before undertaking the Work he shall carefully study and compare the Contract Documents and check and verify all figures shown thereon and all field measurements. He shall at once report in writing to the ENGINEER any conflict, error or discrepancy which he may discover. The CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.
- 17.2 The CONTRACTOR shall keep on the Work at all times during its progress a resident superintendent satisfactory to the OWNER and ENGINEER. The superintendent will be the CONTRACTOR'S representative at the site and shall have the authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be as binding as if given to the CONTRACTOR.
- 17.3 The CONTRACTOR shall provide competent, suitable qualified personnel to survey and layout the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order among his employees at the site.

- 17.4 The OWNER and ENGINEER shall not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other persons performing any of the Work.

ARTICLE 18 - SAFETY AND PROTECTION; EMERGENCIES

- 18.1 The CONTRACTOR shall be responsible for initially, maintaining and supervising all safety precautions and programs in connection with the Work. He shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
- 18.1.1 All employees on the Work and other persons who may be affected thereby.
- 18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and,
- 18.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The CONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, including posting danger signs and other warnings against hazards and promulgating safety regulations. He shall notify owners of adjacent utilities when prosecution of the Work may affect them. When the use of explosives or other hazardous materials is necessary for the prosecution of the Work, the CONTRACTOR shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel. All damage, injury or loss to any property referred to in Article 18.1.2 or 18.1.3 caused, directly or indirectly, in whole or in part, by the CONTRACTOR, a Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the CONTRACTOR, except damage or loss attributable to the fault of drawings or specifications or to the acts or omissions of the OWNER or any one employed by either of them or for whose acts either of them may be liable, and not attributable to the fault or negligence of the CONTRACTOR.

- 18.2 The CONTRACTOR shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR'S superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER or ENGINEER.

- 18.3 In emergencies affecting the safety of persons or the Work on property at the site of adjacent thereto, the CONTRACTOR, without special instruction or authorization from the OWNER or ENGINEER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss.

ARTICLE 19 - ACCESS TO THE WORK; UNCOVERING FINISHED WORK

- 19.1 The OWNER and ENGINEER and their representatives shall at all times have access to the Work. The CONTRACTOR shall provide proper facilities for such access and observation of the Work and also for any inspection, or testing thereof by others.
- 19.2 If any Work is covered contrary to the request of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for his observation and replaced at the CONTRACTOR'S expense.
- 19.3 If any work has been covered which the ENGINEER has not specifically requested to observe prior to its being covered, or if the ENGINEER considers it necessary or advisable that covered Work be inspected or tested by others, the CONTRACTOR, at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such work is defective or does not meet requirements of the CONTRACT DOCUMENTS the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price.

ARTICLE 20 - CHANGES IN THE WORK

- 20.1 Without invalidating the Agreement, the Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order the CONTRACTOR will proceed with the Work involved. All such Work shall be executed under applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment shall be made as provided in Article 21 or Article 23.
- 20.2 The OWNER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor change or alteration authorized by the OWNER entitles him to an increase in the Contract Price, he may make a claim therefor as provided in Article 21.

- 20.3 Additional work performed by the CONTRACTOR without authorization of a Change Order shall not entitle him to an increase in the Contract Price or an extension of the Contract Time.
- 20.4 The OWNER shall execute any appropriate Change Order prepared by the ENGINEER covering changes in the Work to be performed as provided in Article 11.3 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.
- 20.5 It is the CONTRACTOR'S responsibility to notify his surety of any changes affecting the general scope of Work or change in the Contract Price and the amount of the applicable Bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such adjustment to the OWNER.

ARTICLE 21 - CHANGE OF CONTRACT PRICE

- 21.1 The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the Work. All duties, responsibilities, and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without change in the Contract Price.
- 21.2 The Contract Price may only be changed by a Change Order. If the CONTRACTOR is entitled by the Contract Documents to make a claim for an increase in the Contract Price, his claim shall be in writing and delivered to the OWNER within fifteen days of the occurrence of the event giving rise to the claim. All claims for adjustments in the Contract Price shall be determined by the ENGINEER if involved. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order.
- 21.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:
- 21.3.1 where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
- 21.3.2 by mutual acceptance of a lump sum.
- 21.3.3 by cost and a mutually acceptable fixed amount for overhead and profit.
- 21.3.4 if none of the above methods is agreed upon, the value shall be determined by the Owner on the basis of costs and a percentage for overhead and profit. Costs shall only include labor (payroll, payroll taxes, fringe benefits, workman's compensation, etc.), materials, equipment, and other incidentals directly related to the Work involved. The maximum percentage which shall be allowed for the CONTRACTOR'S combined overhead and profit, shall be as follows:

21.3.4.1 for all such Work done by his own organization, the CONTRACTOR may add up to twenty-five percent of his actual net increase in cost, and 21.3.4.2 for all such Work done by Subcontractors, each Subcontractor may add up to fifteen percent of his actual net increase in costs for combined overhead and profit and the CONTRACTOR may add up to ten percent of the Subcontractor's total for his combined overhead and profit; provided that no overhead or profit shall be allowed on costs incurred in connection with premiums for public liability insurance or other special insurance directly related to such work. In such case and also under Article 21.3.3. the CONTRACTOR shall submit in form prescribed by the OWNER an itemized cost breakdown together with supporting data.

ARTICLE 22 - CASH ALLOWANCES

The CONTRACTOR shall include in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such suppliers or Subcontractors and for such sums within the limit of the allowances that the OWNERS may approve. Upon final payment, the Contract Price shall be decreased as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

ARTICLE 23 - CHANGE OF CONTRACT TIME

- 23.1 The contract time may only be changed by a Change Order. If the CONTRACTOR is entitled by the Contract Documents to make a claim for an extension in the Contract Time, his claim shall be in writing delivered to the OWNER within ten days of the occurrence to the claims. All claims for adjustment in the Contract Time shall be determined by the ENGINEER if the OWNER and the CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.
- 23.2 The Contract Time shall be extended in an amount equal to time lost due to delays beyond the control of the CONTRACTOR if he makes a claim therefor as provided in Article 23.1. Such delays shall include, but not be restricted to, acts of neglect by any separate contractor employed by the OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or so called ACTS OF GOD.

ARTICLE 24 - NEGLECTED WORK

If the CONTRACTOR should neglect to prosecute the Work in accordance with the Contract Documents, including any requirements of the progress schedule, the OWNER, after ten day written notice to the CONTRACTOR may, without prejudice to any other other remedy he may have, make good such deficiencies and the cost thereof (including compensation for additional professional services) shall be charged against the CONTRACTOR if the OWNER approves such action. In this event a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract Price. If the payments then or thereafter due the CONTRACTOR are not sufficient to cover such amount, the CONTRACTOR will pay the difference to the OWNER.

ARTICLE 25 - WARRANTY AND GUARANTEE; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

- 25.1 The CONTRACTOR warrants and guarantees to the OWNER that all materials and equipment shall be new unless otherwise specified and that all Work shall be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents and of any inspections, tests, or approvals referred to in Article 16.2. All unsatisfactory work, all faulty or defective work and all work not conforming to the requirements of the Contract Documents or of such inspections, tests, or approvals shall be considered defective. Prompt notice of all defects shall be given to the CONTRACTOR. All defective work, whether or not in place, may be rejected.
- 25.2 If required by the OWNER prior to approval of final payment, the CONTRACTOR shall promptly, without cost to the OWNER either correct any defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by the OWNER, remove it from the site and replace it with non-defective work. If the CONTRACTOR does not correct such defective Work or remove and replace such rejected Work within a reasonable time, as required by written notice from the ENGINEER, the OWNER may have the deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement, including compensation for additional professional services shall be paid by the CONTRACTOR, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price. The CONTRACTOR shall also bear the expense of making good all work of others destroyed or damaged by the correction, removal or replacement of his defective Work.
- 25.3 If, after the approval of final payment and prior to the expiration of one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, the CONTRACTOR shall, promptly and without cost to the OWNER, and in accordance with the OWNER'S written instructions, either correct such defective Work, or if it has been rejected by the OWNER, remove it from site and replace it with non-defective Work. If the CONTRACTOR does not promptly comply with the

terms of such instructions, the Owner may have the defective work corrected or the rejected work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by the CONTRACTOR.

ARTICLE 26 - APPLICATION FOR PROGRESS PAYMENTS

- 26.1 At least ten days prior to submitting the first Application for a progress payment, the CONTRACTOR shall submit a schedule of values of the Work including quantities and unit prices aggregating the Contract Price. This schedule shall be satisfactory in form and substance to the ENGINEER and shall subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Upon approval of the schedule of values by the ENGINEER it shall be incorporated into the form of an Application for Payment approved by the ENGINEER.
- 26.2 At least ten days before each progress payment falls due (but not more often than once a month), the CONTRACTOR shall submit to the ENGINEER for review the Application for Payment filled out and signed by the CONTRACTOR covering the Work completed as of the date of the Application and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by such supporting data, satisfactory to the OWNER as will establish the OWNER'S title to the material and equipment and protect his interests therein, including applicable insurance.
- 26.3 The CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, shall have passed to the OWNER prior to the making of the Application for Payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in the General Conditions referred to as "Liens"); and that no Work, materials or equipment covered by an Application for Payment shall have been acquired by the CONTRACTOR or any other person performing the Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.
- 26.4 The ENGINEER shall, within ten days after receipt of each Application for Payment, either indicate in writing his approval of payment and present the Application to the OWNER, or return the Application to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the Application.

ARTICLE 27 - APPROVAL OF PAYMENTS

- 27.1 The ENGINEER'S approval of payment requested in application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional on his review of the Application for Payment and the supporting data, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, and to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval); and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site inspections to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction or that he has made an examination to ascertain how or for what purpose the CONTRACTOR has used the moneys paid to him on account of the Contract Price.
- 27.2 The ENGINEER'S approval of final payment shall constitute an additional representation by him to the OWNER that the conditions precedent to the CONTRACTOR'S being entitled to final payment have been fulfilled.
- 27.3 The ENGINEER'S may refuse to approve the whole or any part of the payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such payment, or because of subsequently discovered evidence or the results of subsequent inspection or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:
- 27.3.1 the Work is defective,
 - 27.3.2 claims have been filed or there is reasonable evidence indicating the probable filing thereof,
 - 27.3.3 the Contract Price has been reduced because of Modifications,
 - 27.3.4 the OWNER has been required to correct defective Work in accordance with Article 25, or 27.3.5 unsatisfactory prosecution of the Work, including failure to clean up as required by Article 33.

ARTICLE 28 - FINAL PAYMENT

- 28.1 Upon written notice from the CONTRACTOR that the Project is complete, the ENGINEER shall make a final inspection with the OWNER and CONTRACTOR, and will notify the CONTRACTOR in writing of any articles in which this inspection reveals that the Work is defective. The CONTRACTOR shall immediately make such corrections as are necessary to remedy such defects.
- 28.2 After the CONTRACTOR has completed any such corrections to the satisfaction of the OWNER and ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection and other documents--all as required by the Contract Documents, he may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by such supporting data as the ENGINEER may require, together with complete and legally effective releases or waivers (satisfactory to the OWNER) of all Liens arising out of the Contract Documents and the labor and services performed and the material and equipment furnished thereunder. In lieu thereof and as approved by the OWNER, the CONTRACTOR may furnish receipts or releases in full; an affidavit of the CONTRACTOR that the release and receipts include all labor, services, material and equipment for which a lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which the OWNER or his property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment.
- If any Subcontractor or supplier fails to furnish a release or receipt in full, the CONTRACTOR may furnish a bond satisfactory to the OWNER to indemnify him against any Lien.
- 28.3 On the basis of his observation and review of the Work during construction, his final inspection and his review of the final Application for Payment--all as required by the Contract Documents, the ENGINEER shall, within ten days after receipt of the final Application for payment, indicate in writing his approval of payment and present the Application to the OWNER for payment. Otherwise, he shall return the Application to the CONTRACTOR, indicating in writing his reasons for refusing to approve the final payment, in which case the CONTRACTOR shall make the necessary corrections and resubmit the Application.
- 28.4 If after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the CONTRACTOR, and the ENGINEER so confirms, the OWNER shall, upon certification by the ENGINEER, and without terminating the Agreement, make payment of the balance due for the portion of the Work fully completed and accepted. If the remaining balance for work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in Article 31, the written consent of the surety to the payment of the balance due for that portion of the work fully completed and accepted shall be submitted by the

CONTRACTOR to the ENGINEER prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 29 - WAIVERS OF CLAIMS AND CONTINUING OBLIGATIONS

- 29.1 The CONTRACTOR'S obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any progress or final payment by the ENGINEER, nor the issuance of certificate of Substantial Completion, nor any payment by the OWNER to the CONTRACTOR under the Contract Documents, nor any use or occupancy of the Project or any part thereof by the OWNER, nor any act of acceptance by the OWNER or any failure to do so, nor any correction of faulty or defective work by the OWNER shall constitute an acceptance of Work not in accordance with the Contract Documents.
- 29.2 The making and acceptance of final payment shall constitute:
- 29.3 a waiver of all claims by the OWNER against the CONTRACTOR other than those arising from unsettled Liens, from faulty or defective work appearing after final payment, or from failure to comply with the requirements of the Contract Documents, or the terms of any special guarantees specified therein, and
- 29.4 a waiver of all claims by the CONTRACTOR against the OWNER other than those previously made in writing and still unsettled.

ARTICLE 30 - INDEMNIFICATION

The CONTRACTOR shall indemnify and hold harmless the OWNER and ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

ARTICLE 31 - CONTRACT BONDS

The CONTRACTOR shall furnish performance and payment Bonds as security for the faithful performance and payment of all his obligations under the Contract Documents. These Bonds shall be in amounts at least equal to the Contract Price and in such form and with such sureties as are acceptable to the OWNER. Prior to execution of the Contract Documents the OWNER may require the CONTRACTOR to furnish such other Bonds, in such form and with such sureties as he may require. If such Bonds are required by written instructions given prior to opening of Bids, the premiums shall be paid by the CONTRACTOR; if subsequent thereto, they shall be paid by the OWNER.

ARTICLE 32 - CONTRACTOR'S LIABILITY INSURANCE

- 32.1 GENERAL. The Contractor shall provide, from insurance companies acceptable to the Owner, insurance to protect himself, his employees, his subcontractors, the public, and the interests of the Owner, Engineer, and their authorized agents against all hazards or risk of loss. The Contractor shall also include the Owner and Engineer as additional insureds in all his liability policies required by the Contract Documents with the exception of Worker's Compensation and Employer's Liability. At a minimum, the types and amount of such insurance shall be as set forth herein.

The Contractor shall deliver the Certificate of Insurance to the Owner at the same time he submits the signed Contract and Performance and Payment Bonds.

The Contractor shall require each subcontractor, prior to commencing work of any type, to provide and maintain adequate insurance.

It shall be the responsibility of the Contractor to maintain adequate insurance coverage. Failure of the Contractor to maintain adequate coverage shall not relieve him of any contractual responsibility or obligation.

- 32.2 WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY. The Contractor shall maintain during the life of the Contract the statutory Workmen's Compensation, in addition, Employer's Liability Insurance in an amount not less than \$100,000 for each occurrence, for all his employees to be engaged in work on the project under this Contract and, in case any such work is subcontracted, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation and Employer's Liability Insurance for all of the latter's employees to be engaged in such work. Where work under this Contract includes any water or navigational exposure, coverage shall be included to cover the Federal Longshoremen's and Harborworker's Act and the Federal Jones Act. When the work under this Contract includes any railroad hazards, coverage shall be included for the Federal Employee Liability Act. The Contractor shall also maintain insurance covering him against claims for injury, disease, or death of employees which, for a reason, may not fall within the provisions of a worker's compensation law. Policies hereunder shall include an "all states" endorsement.

32.3 MOTOR VEHICLE LIABILITY. The Contractor shall maintain during the life of the Contract, Motor Vehicle Liability insurance written in Business Auto Policy form to protect himself and his subcontractors performing work covered by this Contract against all claims for injuries, including accidental death to members of the public and damage to property of others arising from such use of motor vehicles, and shall cover the operation on or off site of all motor vehicles licensed for highway use whether they are owned, nonowned, or hired. The liability limit shall not be less than \$500,000 per occurrence.

32.4 COMPREHENSIVE GENERAL LIABILITY. The Contractor shall maintain during the life of the Contract, Comprehensive General Liability written in comprehensive form to protect himself and his subcontractors against all claims arising from injuries to members of the public or damage to property of others arising out of any act or omission of the Contractor or his agents, employees, or subcontractors. In addition, this policy shall specifically insure the contractual liability assumed by the Contractor under Article "INDEMNIFICATION".

The scope of this coverage shall also include the Personal Injury Hazards, including "a", "b", and "c". "a" includes false arrest, malicious prosecution, and unwillful detention or imprisonment. "b" includes libel, slander, and defamation of character. "c" includes wrongful eviction, invasion of privacy, and wrongful entry. Employee exclusion shall be removed.

Comprehensive General Liability coverage shall contain no exvlusions for explosion, collapse, or underground work (X, C, or U).

The liability limits shall be not less than:

- | | |
|-----------------------|--------------------------|
| 1. Personal Liability | \$500,000 per occurrence |
| 2. Bodily Injury | \$500,000 per occurrence |
| 3. Property Damage | \$500,000 per occurrence |

32.5 UMBRELLA EXCESS LIABILITY. The Contractor shall maintain during the life of this Contract, in addition to the individual limits set forth herein, Umbrella Excess Liability coverage in excess of all other required coverage in an amount not less than \$1,000,000 per occurrence.

32.6 ALL RISKS BUILDERS RISK INSURANCE. Unless otherwise modified in any Supplementary Conditions, the Contractor shall secure and maintain during the life of this Contract, Builders Risk All Risk Insurance coverage in an amount equal to the full replacement value of structures, equipment, electrical, and mechanical systems only. Such insurance shall not exclude coverage for earthquake, landslide, flood, collapse, or loss due to the results of faulty workmanship, and shall provide for losses to be paid to the Contractor and the Owner as their interests may appear.

32.7 INSURANCE COVERAGE FOR SPECIAL CONDITIONS. When the construction is to

be accomplished within a public or private right-of-way requiring special insurance coverage, the Contractor shall conform to the particular requirements and provide the required insurance. The Contractor shall include in his liability policy all endorsements that the said authority may require for the protection of the authority, its officers, agents, and employees. Insurance coverage for special conditions, when required, shall be provided as set forth in the Supplementary Conditions.

- 32.8 OTHER INSURANCE COVERAGE. Other insurance coverage, required for work on this Contract, shall be provided as set forth in any Supplementary Conditions.

ARTICLE 33 - CLEANING UP

The CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work, and at the completion of the Work, he shall remove all waste materials, rubbish and debris from and about the premises as well as tools, construction equipment and machinery, and surplus materials, and leave the site clean and ready for occupancy by the OWNER. The CONTRACTOR shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents.

ARTICLE 34 - OWNER'S RIGHT TO STOP OR SUSPEND WORK

- 34.1 If the Work is defective, or the CONTRACTOR fails to supply sufficient skilled workmen or suitable materials or equipment, or if the CONTRACTOR fails to make prompt payments to subcontractors or for labor, materials or equipment, the OWNER may order the CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated.
- 34.2 The OWNER, may, at any time and without cause suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which work shall be resumed. The CONTRACTOR shall resume the Work on the date so fixed. The CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time directly attributable to any suspension if he makes a claim therefor as provided in Articles 21 and 22.

ARTICLE 35 - OWNER'S RIGHT TO TERMINATE

- 35.1 If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors without the approval of the OWNER, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtors' act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the Contract Documents, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety ten days from the receipt of the written notice, terminate the services of the CONTRACTOR and take possession of the Project and all materials to be incorporated therein, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR shall pay the difference to the OWNER. Such costs incurred by the OWNER shall be determined by the ENGINEER and incorporated in a Change Order.
- 35.2 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any rights to the OWNER against the CONTRACTOR nor any rights of the CONTRACTOR against the OWNER, then existing or which may thereafter accrue.
- 35.3 Upon seven days written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed any expense sustained plus a reasonable profit.

ARTICLE 36 - FAILURE TO COMPLETE THE WORK ON TIME

If any work shall remain uncompleted after elapse of the time specified in the proposal and contract as adjusted by the Engineer for the completion of the work provided for in the contract, there shall be deducted from the monies due the Contractor, not as a penalty, but as liquidated damages, as follows:

ORIGINAL CONTRACT AMOUNT

<u>From more than</u>	<u>To and including</u>	<u>Daily charge per calendar day</u>
0	25,000	\$100
25,000	100,000	\$150
100,000	1,000,000	\$225
1,000,000	or more	\$300

ARTICLE 37 - DISPUTES AND REMEDIES

- 37.1 All claims by the Contractor arising from interpretation of or performance under the Contract Documents shall be submitted to the Engineer, who shall issue his determination. If the Contractor considers that a determination made by the Engineer is not in accord with the meaning and intent of the Contract, the Contractor may, within 15 days from the receipt of the Engineer's determination, file with the Engineer a written request for reconsideration. The Engineer shall reconsider this initial determination and render a final determination on the issue. Within 15 days of the determination by the Engineer on the reconsideration, the Contractor may appeal the decision to the Owner. The Owner shall render a decision which shall be final and conclusive under this Contract. Failure to file either request for reconsideration or for appeal within the required 15 days shall render the determination issued final.

The Contractor shall carry on the work and maintain his progress schedule during all disputes or disagreements with the Owner. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as the Contractor and the Owner may otherwise agree in writing.

- 37.2 Arbitration shall not be used to settle disputes between the Contractor and the Owner and Engineer.

Unless otherwise provided in this Contract, all claims, counterclaims, disputes, and other matters in question between the Owner and the Contractor arising out of or relating to this

Contract or the breach of it will be decided in a court of competent jurisdiction within the State of Mississippi.

ARTICLE 38 - MISCELLANEOUS

- 38.1 Whenever any provisions of the Contract documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to member of the firm or to an officer of the corporation for whom it is intended, or is sent by registered or certified mail, postage prepaid, to the business address used in the advertisement for bids or in the contract documents.
- 38.2 All monies not paid when due hereunder shall bear interest at the legal rate in force at the place of the Project.
- 38.3 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder, and, in particular but without limitation, the guarantee and obligations imposed upon the CONTRACTOR by Articles 25 and 32 and the rights and remedies available to the OWNER thereunder, shall be in addition to and not a limitation of any otherwise imposed or available by law, by special guarantee of other provisions of the Contract Documents.
- 38.4 Should the OWNER or the CONTRACTOR suffer injury or damage to his person or property because of an error, omission or act of the other or of any of his employees or agents or others for whose acts he is legally liable, claims shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.
- 38.5 The Contract Documents shall be governed by the law of the place of the Project.
- 38.6 The full responsibility for design shall be born by this OWNER unless specific design responsibilities are given to the CONTRACTOR elsewhere in the Contract Documents.

SUPPLEMENTARY CONDITIONS

REVISIONS AND ADDITIONS TO THE GENERAL CONDITIONS

The General Conditions are hereby revised as follows:

After the definition for "ENGINEER", add the following:

Wherever in these Documents the word "Engineer" appears, it shall be understood to mean the Design Engineer, The Walker Associates, Engineers-Planners- Designers, and their authorized representatives, acting either directly or indirectly as authorized agents of the Owner.

After the definition for "SPECIFICATIONS", add the following:

FEDERAL, STATE, COUNTY, AND LOCAL STANDARD SPECIFICATIONS

Where portions of the work traverse or cross federal, state, county, or local highways, roads, streets, or private railroads, and the agency in control of such property has established standard specifications governing items of work that differ from these Specifications, the most stringent requirements shall apply.

ARTICLE 10 - "PERMITS, LAWS, TAXES, AND REGULATIONS"

Add the following:

10.3 The building permits, if required, for the permanent structures shall be obtained by the Contractor.

PERMIT FOR WORK WITHIN THE FEDERAL, COUNTY, STATE, AND/OR PRIVATE RIGHTS-OF-WAY

The Contractor will obtain any necessary permits for work within the rights-of-way. The Contractor shall abide by all regulations and conditions stipulated in the permits, and such conditions and requirements are hereby made a part of these Supplementary Conditions, as fully and completely as though the same were fully set forth herein. The Contractor shall examine and abide by the permits granted. Failure to do so will not relieve the Contractor from compliance with the requirements stated herein.

The Contractor shall, if required by the county or state, provide a bond in the amount and form designated before commencing work.

ARTICLE 32 "CONTRACTOR'S LIABILITY INSURANCE"

The Contractor shall also indemnify and show as an additional insured The Walker Associates, its agents and employees, and the City of Hattiesburg, Mississippi.

SPECIAL CONDITIONS

TEMPORARY UTILITIES:

- A. The CONTRACTOR shall make all arrangements for and furnish at his own expense, all water, electricity (lighting and power), and other utilities necessary for his construction purposes.
- B. Any electric services, both lighting and power required by the Contractor or his respective Subcontractor, shall be obtained through mutual agreement between all parties, saving the Owner harmless of any cost or responsibility.
- C. Same arrangements shall be maintained for water and other utilities.
- D. Contractor shall provide at own cost or make satisfactory arrangements for extensions of utility services to all points required.
- E. Contractors installing temporary water piping or hose for their own use shall be wholly responsible for its maintenance and protection from damage and freezing and also for the cost of damage to construction materials or equipment due to breaks or leaks in his lines.

TEMPORARY TOILETS

- A. The Contractor shall provide and maintain sanitary temporary toilets located where directed by the Engineer and subject to any and all Sanitary Codes having general jurisdiction thereon.
- B. The temporary toilets shall be enclosed, weatherproofed, and kept in a sanitary condition at all times.
- C. These toilets shall be equipped with temporary waterclosets and connections to sewer water supply where available.

CONTRACTOR'S TITLE TO MATERIALS

No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies for which he accepts partial payment.

INTERPRETATION OF CONTRACT DOCUMENTS:

- A. If any person contemplating submitting a bid for the proposed contract is in doubt as to the meaning of any part of the plans, specifications or other documents, he may submit to the Project Engineer a written request for interpretation thereof.
- B. Any interpretation of the proposed documents will be made only by addenda duly issued and a copy of such addenda will be mailed or delivered to each person who has received a set of such documents.
- C. The Contractor shall be responsible for discrepancies in plans or specifications which are not called to the attention of the Project Engineer prior to receipt of bids.

RESPONSIBILITY REGARDING EXISTING UTILITIES AND STRUCTURES:

The existence and location of underground utilities indicated on the plans are not guaranteed and shall be investigated and verified in the field by the Contractor before starting work.

RIGHT OF ACCESS

Representatives of the Owner and the Engineer shall have access to the project records at all times.

GUARANTEE OF WORK

- A. Except as otherwise specified, all work shall be guaranteed by the Contractor against defects resulting from the use of materials, equipment or workmanship which may prove to be inferior, for one year from date of final completion and acceptance of the contract.
- B. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the Project Engineer, is rendered necessary as the result of the use of the material, equipment or workmanship which are inferior, defective or not in accordance with the terms of the contract, the Contractor shall promptly upon receipt of notice from the Project Engineer and without expense to the Owner: (1) place in satisfactory condition in every particular all of such guaranteed work, correct all defects therein, and (2) make good all damage to the building or site or equipment or contents thereof, which, in the opinion of the Project Engineer, is the result of the use of material, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the contract, and make good any work or materials or equipment and contents of said building or site disturbed in fulfilling any such guarantee.

- C. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Owner may have the defects corrected and the Contractor and his sureties shall be liable for all expenses incurred.
- D. All special guarantees applicable to definite parts of the work that may be stipulated in the specifications or other papers forming a part of the contract shall be subject to the terms of this paragraph, during the first year of the life of such special guarantee.

SPECIAL PROVISIONS AND REGULATIONS

For the purpose of clarification, the Contracted Party shall refer to the Contractor providing services to the Owner as specified in the contract to which this document is attached.

The Contracted Party shall comply with the most current revision of the Federal Contract Labor Standards as published by US Army Corps of Engineers, Vicksburg District; including, but not limited to, the following:

1. Termination of Contract For Cause

If, through any cause, the Contracted Party shall fail to fulfill in a timely and proper manner, his obligations, or stipulations of this Contract, the Owner shall thereupon have the right to terminate this Contract by giving written notice to the Contracted Party of such termination and specifying the effective date of such termination. In such event, all finished or unfinished documents, data, studies and reports prepared by the Contracted Party shall entitle the Contracted Party's receipt of just and equitable compensation for any satisfactory work completed on such documents.

Notwithstanding the above, the contracted Party shall not be relieved of liability to the Owner for damages sustained or the Owner by virtue of any breach of the Contract by the Contracted Party. The Owner may withhold any payments to the Contracted Party for the purpose of set off until such time as the exact amount of damages due the Owner from the Contracted Party is determined.

2. Termination for Convenience of the Owner

The Owner may terminate this contract any time by a notice in writing from the Owner to the Contracted party. If the Contract is terminated by the Owner as provided herein, the Contracted Party will be paid an amount which bears the same ratio to the total compensation as the services actually performed bear to the total services of the Contracted Party covered by this Contract, less payments of compensation previously made provided that if less than sixty percent of the services covered by this Contract have been performed upon the effective date of such termination, the Contracted Party shall be reimbursed (in addition to the above payment) for that portion of actual out-of-pocket expenses (not otherwise reimbursed under this Contract) incurred by the Contracted Party during the contract period which are directly attributable to the incomplete portion of the services covered by this Contract.

3. Records

All records required to be kept on the project shall be maintained for at least three years after final payments and until all other pending matters under the project are closed.

4. Health and Safety Standards

All parties participating in this project agree to comply with Section 107 of the Contract Work Hours and Safety Standards Act. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to this health and safety as determined under construction, safety, and health standards promulgated by the Secretary of Labor. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or contracts for transportation.

5. Environmental Compliance

Contracts, subcontracts, and sub grants of amounts in excess of \$100,000 shall comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1957 (h)), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency (EPA) regulations (40 CFR, 15), which prohibit the use under nonexempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. The provisions shall require reporting of violations to the grantor agency and the U.S. EPA Assistant Administrator for Enforcement (EN-329).

6. Energy Efficiency

All participants in the projects shall recognize mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (PL-94-163).

7. Changes

The Owner may, from time to time, request changes in the scope of the services of the Contracted Party to be performed hereunder. Such changes, including any increase or decrease in the amount of the Contracted Party compensation which are mutually agreed upon by and between the Owner and the Contracted Party, shall be incorporated in written amendments to this Contract.

8. Personnel

The Contracted Party represents that it has, or will secure at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the Owner. All the services required hereunder will be performed by the Contracted Party or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services. No person who is serving sentence in a penal or correctional institution shall be employed on work under this Contract.

9. Anti-Kickback Rules

Contracts, subcontracts, and subgrants shall comply with all applicable requirements of the Anti-Kickback Act@ of June 13, 1934 (48 Stat. 948; 62 Stat. 740; 63 Stat. 108; Title 18 U.S.C. 874; and Title 40 U.S.C. 276c).

Salaries of personnel performing work under this Contract shall be paid unconditionally and not less than once a month without payroll deduction or rebate on any account except only such payroll deductions as are mandatory by law or permitted by the applicable Anti-Kickback regulations issued by the Secretary of Labor.

10. Withholding of Salaries

If in the performance of this Contract, there is any underpayment of salaries by the Contracted Party or by any subcontracted thereunder, the Owner shall withhold from the Contracted Party out of payment due to him an amount sufficient to pay to employees underpaid the difference between the salaries required thereby to be paid and the salaries actually paid such employees for the total number of hours worked. The amounts withheld shall be disbursed by the Owner for and on account of the contracted party or subcontractor to the respective employees to whom they are due.

11. Claims and Disputes Pertaining to Salary Rates

Claims and disputes pertaining to salary rates or to classifications of professional staff or technicians performing work under this Contract shall be promptly reported in writing by the Contracted Party to the Owner for the latter decision which shall be final with respect thereto.

12. Equal Employment Opportunity

During the performance of this Contract, the Contracted Party agrees to comply with FAR 22.8, and the regulations issued pursuant thereto. These requirements include:

1. A prohibition on segregated facilities on the basis of race, color, religion, sex, or national origin with the exception of rest rooms and sleeping areas;
2. Affirmative action requirements specifying recruitment, training, employment and record-keeping methods and goals for minorities and women covered in construction trades;
3. Equal training and work hours for all employees on the contract regardless of race, sex, color, or national origin;
4. A prohibition on discrimination against any employee on the basis of race, color, religion, sex or national origin; and
5. A prohibition on harassment, intimidation and coercion at all sites and facilities where contract employees work with specific attention to minority and female workers.

13. Anti-Discrimination Clauses

In the exercise of their respective rights and obligations under this Agreement, the contractor shall comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701 -3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c)).

Contractors and subcontractors must comply with FAR 22.9, which states they may not discriminate against any employee on the basis of their age.

14. Federal Labor Standards Provisions

The Contractor will comply with all provisions established by the Fair Labor Standards Act of 1938 (29 U.S.C. § 201) which establishes minimum wage, overtime pay, recordkeeping, and child labor standards affecting full-time and part-time workers.

15. Discrimination Because of Certain Labor Matters

No person employed on the work covered by this Contract shall be discharged or in any way discriminated against because he has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable hereunder to his employer.

16. Compliance with Local Laws

The Contracted Party shall comply with all applicable laws, ordinances, and codes of the state and local governments, and shall commit no trespass on any public or private property in performing any of the work embraced by this Contract.

17. Subcontracting

The Contracted Party shall be as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by him. The Contracted Party shall insert in each subcontract appropriate provisions requiring compliance with the labor standards provisions of this Contract.

18. Assignability

The Contracted Party shall not assign any interest in this Contract, and shall not transfer any interest in the same (whether by assignment or novation) without prior written approval of the Owner provided that claims for money due or to become due the Contracted Party from the

Owner under this Contract may be assigned to a bank, trust company, or other financial institution, or to a Trustee in Bankruptcy, without such approval. Notice of any such assignment or transfer shall be furnished promptly to the Owner.

19. Interest of Members of Local Public Agency and Others

The Contracted Party agrees to establish safeguards to prohibit employees from using positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have a family, business, or other tie.

The Contracted Party will comply with Section 21-39-1, Mississippi Code Annotated (1972), which prohibits municipal officers and employees from having or owning any interest or share, individually or as agent or employee of any person or corporation, either directly or indirectly, in any contract made or let by the governing authorities of such municipality for the construction or doing of any public work, or for the sale or purchase of any materials, supplies or property of any description, or for any other purpose whatsoever, or in any subcontract arising therefrom or connected therewith, or to receive, either directly or indirectly, any portion of share of any money or other thing paid for the construction or doing of any public work, or for the sale or purchase of any property, or upon any other contract made by the governing authorities of the municipality, or subcontract arising therefore or connected therewith.

The Contracted Party will also be aware of and avoid any violation of Section 97-11-19, Mississippi Code Annotated (Supp. 1982), which prescribes a criminal penalty for any public officer who has an interest in any contract passed by the board of which he is a member during the term he was a member and for one year thereafter.

20. Interest of Certain Federal Officers

No member of or delegate to the Congress of the United States and no Resident Commissioner, shall be admitted any share of part of this Contract or to any benefit to arise therefrom.

21. Interest of Contractor

The Contracted Party stipulates that they presently have no interest and shall not acquire any interest direct or indirect in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of their services hereunder. The Contracted Party further agrees that in the performance of this Contract no person having any such interest shall be employed.

22. Political Activity

The Contracted Party will comply with the provisions of the Hatch Act (5 U.S.C. 1501 et seq.), which limits the political activity of employees.

23. Lead-Based Paint Requirements

The Contracted Party will comply with Title IV of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4831) which prohibits the use of lead-based paint.

24. Program Monitoring

The Contracted Party agrees to assist and cooperate with the grantor or their duly designated representatives in the monitoring of the project or projects to which this project relates, and to provide in form and manner approved by the grantor agency such monitoring reports, progress reports, and the like as may be required and to provide such reports at the times specified.

25. Procurement

The contractor must comply with all State laws dealing with the purchasing and acquisition for goods, services and other allowable cost as specified in the application.

26. Discrimination Due to Beliefs

No person with responsibilities in operation of the project to which this grant relates will discriminate with respect to any program participant or any applicant for participation in such program because of political affiliation or beliefs.

27. Confidential Findings

All of the reports, information data, etc., prepared or assembled by the Contracted Party under this Contract are confidential, and the Contracted Party agrees that they shall not be made available to any individual or organization without prior written approval of the Owner.

28. Third-Party Contracts

Contracts, Subcontracts, and Subgrants of amounts in excess of \$2,000 shall include the following provisions.

Each Participating Party shall keep and maintain books, records, and other documents relating directly to the receipt and disbursement of such grant funds.

Any duly authorized representative of the Owner, Engineer, and/or Mississippi Development Authority shall, at all reasonable times, have access to and the right to inspect, copy, audit, and examine all such books, records, and other documents of such Participating Party until the completion of all close-out procedures respecting this grant and the final settlement and conclusion of all issues arising out of this grant.

29. Excessive Force

The contracted parties will adopt and enforce a policy of prohibiting the use of excessive force by law enforcement agencies within its jurisdiction any individuals engaged in nonviolent civil rights demonstrations; and enforcing applicable State and local laws against physically barring entrance to or exit from a facility or location which is the subject of such nonviolent civil rights demonstrations within its jurisdiction.

30. Minority and Women-Owned Business Participation

Minority and Women-Owned Business participation for this project is established by CSD Policy Statement #90-03 which identifies the following:

“The Mississippi Minority Business Enterprise Act of 1988 which calls for the establishment of goals and programs to provide the maximum opportunity for increased participation by minority owned businesses in the procurement of goods and services”.

The goals established by CSD Policy Statement #90-03 state that **10% MBE** and **5% WBE** be utilized.

The contractor shall foster equal opportunity and attempt to achieve the amount of participation that would be obtained in a non-discriminatory market place. There will be no discrimination in the award and performance of contracts on the basis of race, color, sex, age, religion, national origin, or any handicap.

Failure of the lowest bidder to furnish acceptable proof of good faith efforts, submitted with the bid proposal, shall be just cause for rejection of the proposal. Award may then be made to the next lowest responsive bidder or the work may be readvertised.

The following factors are illustrative of matters the Owner will consider in judging whether or not the bidder has made adequate good faith efforts to satisfy the contract goal.

1. Whether the bidder advertised in general circulation, trade association, and minority-focus media concerning the subcontracting opportunities.
2. Whether the bidder provided written notice to a reasonable number of specific MBE and WBE entities that their interest in the contract is being solicited.
3. Whether the bidder followed up initial solicitations of interest by contacting MBE and WBE entities to determine with certainty whether they were interested.
4. Whether the bidder selected portions of the work to be performed by MBE and WBE entities in order to increase the likelihood of meeting the contract goal.
5. Whether the bidder provided interested MBE and WBE entities with adequate information about the plans, specifications and requirements of the contract.

6. Whether the bidder negotiated in good faith with interested MBE and WBE entities and did not reject them as unqualified without sound reason based on a thorough investigation of their capabilities.
7. Whether the bidder made efforts to assist interested MBE and WBE entities in obtaining any required bonding or insurance.

If a MBE or WBE subcontractor can not perform satisfactorily and removal of the subcontractor requires the project to fall below the contract goal for participation, the Contractor shall take all necessary reasonable steps to replace the subcontractor with another certified MBE or WBE entity. Under no circumstances shall the Prime Contractor perform the subcontractors work without approval from the Engineer.

Participation shall be counted toward meeting the goal in this contract as follows:

1. If the Prime Contractor is a certified MBE or WBE firm, only the value of the work actually performed by the MBE or WBE prime can be counted towards the project goal, along with any work subcontracted to a certified MBE or WBE entity.
2. If the Prime Contractor is not a MBE or WBE, the work subcontracted to a certified MBE or WBE will be counted toward the goal.
3. The Contractor may count toward the goal a portion of the total dollar value of a contract with a joint venture eligible under the standards of this provision equal to the percentage of the MBE and WBE partner in the joint venture.
4. Expenditures to MBE and WBE entities that perform a commercially useful function may be counted toward the goal. A business is considered to perform a commercially useful function when it is responsible for the execution of a distinct element of the work and carries out its responsibilities by actually performing, managing, and supervising the work involved.
5. The contractor may count 100% of the expenditures for materials and supplies obtained from certified MBE and WBE suppliers and manufactures that produce goods from raw materials or substantially alters them for resale provided the suppliers and the manufacturers assume the actual and contractual responsibility for the provision of the materials and supplies. The contractor may count 60% of the expenditures to suppliers that are not manufacturers, provided the supplier performs a commercially useful function in the supply process. Within 30 days after receipt of the materials, the Contractor shall furnish to the Owner invoices from the certified supplier to verify the MBE and WBE goals.
6. Any work that a certified MBE or WBE firm subcontracts to a non-MBE or non-WBE firm will not count toward the MBE and WBE goals.
7. Only the dollars actually paid to the MBE and WBE entities may be counted toward the goals.

The Prime Contractor must pay all subcontractors for satisfactory performance of their contracts as follows:

- a. Within fifteen (15) calendar days after receiving payment from the Owner for work satisfactorily completed, the Prime Contractor shall make prompt payment to all subcontractors or material suppliers for all monies due.
- b. Within fifteen (15) calendar days after receiving payment from the Owner for work satisfactorily completed, the Prime Contractor shall promptly return all retainage monies due to all subcontractors or material suppliers.

The Prime Contractor is to complete Section 902 on the following page when submitting a proposal for the project. Failure to submit this page with the proposal shall be cause for rejection of the bid.

PART 4

SPECIAL PROVISIONS AND REGULATIONS

SPECIAL PROVISIONS AND REGULATIONS

For the purpose of clarification, the Contracted Party shall refer to the Contractor providing services to the Owner as specified in the contract to which this document is attached.

1. Termination of Contract For Cause

If, through any cause, the Contracted Party shall fail to fulfill in a timely and proper manner, his obligations, or stipulations of this Contract, the Owner shall thereupon have the right to terminate this Contract by giving written notice to the Contracted Party of such termination and specifying the effective date of such termination. In such event, all finished or unfinished documents, data, studies and reports prepared by the Contracted Party shall entitle the Contracted Party's receipt of just and equitable compensation for any satisfactory work completed on such documents.

Notwithstanding the above, the contracted Party shall not be relieved of liability to the Owner for damages sustained or the Owner by virtue of any breach of the Contract by the Contracted Party. The Owner may withhold any payments to the Contracted Party for the purpose of set off until such time as the exact amount of damages due the Owner from the Contracted Party is determined.

2. Termination for Convenience of the Owner

The Owner may terminate this contract any time by a notice in writing from the Owner to the Contracted party. If the Contract is terminated by the Owner as provided herein, the Contracted Party will be paid an amount which bears the same ratio to the total compensation as the services actually performed bear to the total services of the Contracted Party covered by this Contract, less payments of compensation previously made provided that if less than sixty percent of the services covered by this Contract have been performed upon the effective date of such termination, the Contracted Party shall be reimbursed (in addition to the above payment) for that portion of actual out-of-pocket expenses (not otherwise reimbursed under this Contract) incurred by the Contracted Party during the contract period which are directly attributable to the incomplete portion of the services covered by this Contract.

3. Records

All records required to be kept on the project shall be maintained for at least three years after final payments and until all other pending matters under the project are closed.

4. Health and Safety Standards

All parties participating in this project agree to comply with Section 107 of the Contract Work Hours and Safety Standards Act. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to this health and safety as determined under construction, safety, and health standards promulgated by the Secretary of

Labor. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or contracts for transportation.

5. Environmental Compliance

Contracts, subcontracts, and sub grants of amounts in excess of \$100,000 shall comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1957 (h)), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency (EPA) regulations (40 CFR, 15), which prohibit the use under nonexempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. The provisions shall require reporting of violations to the grantor agency and the U.S. EPA Assistant Administrator for Enforcement (EN-329).

6. Energy Efficiency

All participants in the projects shall recognize mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (PL-94-163).

7. Changes

The Owner may, from time to time, request changes in the scope of the services of the Contracted Party to be performed hereunder. Such changes, including any increase or decrease in the amount of the Contracted Party compensation which are mutually agreed upon by and between the Owner and the Contracted Party, shall be incorporated in written amendments to this Contract.

8. Personnel

The Contracted Party represents that it has, or will secure at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the Owner. All the services required hereunder will be performed by the Contracted Party or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services. No person who is serving sentence in a penal or correctional institution shall be employed on work under this Contract.

9. Anti-Kickback Rules

Contracts, subcontracts, and subgrants shall comply with all applicable requirements of the Anti-Kickback Act of June 13, 1934 (48 Stat. 948; 62 Stat. 740; 63 Stat. 108; Title 18 U.S.C. 874; and Title 40 U.S.C. 276c).

Salaries of personnel performing work under this Contract shall be paid unconditionally and not less than once a month without payroll deduction or rebate on any account except only such

payroll deductions as are mandatory by law or permitted by the applicable Anti-Kickback regulations issued by the Secretary of Labor.

10. Withholding of Salaries

If in the performance of this Contract, there is any underpayment of salaries by the Contracted Party or by any subcontracted thereunder, the Owner shall withhold from the Contracted Party out of payment due to him an amount sufficient to pay to employees underpaid the difference between the salaries required thereby to be paid and the salaries actually paid such employees for the total number of hours worked. The amounts withheld shall be disbursed by the Owner for and on account of the contracted party or subcontractor to the respective employees to whom they are due.

11. Claims and Disputes Pertaining to Salary Rates

Claims and disputes pertaining to salary rates or to classifications of professional staff or technicians performing work under this Contract shall be promptly reported in writing by the Contracted Party to the Owner for the latter decision which shall be final with respect thereto.

12. Equal Employment Opportunity

During the performance of this Contract, the Contracted Party agrees to comply with FAR 22.8, and the regulations issued pursuant thereto. These requirements include:

1. A prohibition on segregated facilities on the basis of race, color, religion, sex, or national origin with the exception of rest rooms and sleeping areas;
2. Affirmative action requirements specifying recruitment, training, employment and record-keeping methods and goals for minorities and women covered in construction trades;
3. Equal training and work hours for all employees on the contract regardless of race, sex, color, or national origin;
4. A prohibition on discrimination against any employee on the basis of race, color, religion, sex or national origin; and
5. A prohibition on harassment, intimidation and coercion at all sites and facilities where contract employees work with specific attention to minority and female workers.

13. Anti-Discrimination Clauses

In the exercise of their respective rights and obligations under this Agreement, the contractor shall comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701 -3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act

(formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c)).

Contractors and subcontractors must comply with FAR 22.9, which states they may not discriminate against any employee on the basis of their age.

14. Federal Labor Standards Provisions

The Contractor will comply with all provisions established by the Fair Labor Standards Act of 1938 (29 U.S.C. § 201) which establishes minimum wage, overtime pay, recordkeeping, and child labor standards affecting full-time and part-time workers.

15. Discrimination Because of Certain Labor Matters

No person employed on the work covered by this Contract shall be discharged or in any way discriminated against because he has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable hereunder to his employer.

16. Compliance with Local Laws

The Contracted Party shall comply with all applicable laws, ordinances, and codes of the state and local governments, and shall commit no trespass on any public or private property in performing any of the work embraced by this Contract.

17. Subcontracting

The Contracted Party shall be as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by him. The Contracted Party shall insert in each subcontract appropriate provisions requiring compliance with the labor standards provisions of this Contract.

18. Assignability

The Contracted Party shall not assign any interest in this Contract, and shall not transfer any interest in the same (whether by assignment or novation) without prior written approval of the Owner provided that claims for money due or to become due the Contracted Party from the Owner under this Contract may be assigned to a bank, trust company, or other financial institution, or to a Trustee in Bankruptcy, without such approval. Notice of any such assignment or transfer shall be furnished promptly to the Owner.

19. Interest of Members of Local Public Agency and Others

The Contracted Party agrees to establish safeguards to prohibit employees from using positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have a family, business, or other tie.

The Contracted Party will comply with Section 21-39-1, Mississippi Code Annotated (1972), which prohibits municipal officers and employees from having or owning any interest or share, individually or as agent or employee of any person or corporation, either directly or indirectly, in any contract made or let by the governing authorities of such municipality for the construction or doing of any public work, or for the sale or purchase of any materials, supplies or property of any description, or for any other purpose whatsoever, or in any subcontract arising therefrom or connected therewith, or to receive, either directly or indirectly, any portion of share of any money or other thing paid for the construction or doing of any public work, or for the sale or purchase of any property, or upon any other contract made by the governing authorities of the municipality, or subcontract arising therefore or connected therewith.

The Contracted Party will also be aware of and avoid any violation of Section 97-11-19, Mississippi Code Annotated (Supp. 1982), which prescribes a criminal penalty for any public officer who has an interest in any contract passed by the board of which he is a member during the term he was a member and for one year thereafter.

20. Interest of Certain Federal Officers

No member of or delegate to the Congress of the United States and no Resident Commissioner, shall be admitted any share of part of this Contract or to any benefit to arise therefrom.

21. Interest of Contractor

The Contracted Party stipulates that they presently have no interest and shall not acquire any interest direct or indirect in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of their services hereunder. The Contracted Party further agrees that in the performance of this Contract no person having any such interest shall be employed.

22. Political Activity

The Contracted Party will comply with the provisions of the Hatch Act (5 U.S.C. 1501 et seq.), which limits the political activity of employees.

23. Lead-Based Paint Requirements

The Contracted Party will comply with Title IV of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4831) which prohibits the use of lead-based paint.

24. Program Monitoring

The Contracted Party agrees to assist and cooperate with the grantor or their duly designated representatives in the monitoring of the project or projects to which this project relates, and to provide in form and manner approved by the grantor agency such monitoring reports, progress reports, and the like as may be required and to provide such reports at the times specified.

25. Procurement

The contractor must comply with all State laws dealing with the purchasing and acquisition for goods, services and other allowable cost as specified in the application.

26. Discrimination Due to Beliefs

No person with responsibilities in operation of the project to which this grant relates will discriminate with respect to any program participant or any applicant for participation in such program because of political affiliation or beliefs.

27. Confidential Findings

All of the reports, information data, etc., prepared or assembled by the Contracted Party under this Contract are confidential, and the Contracted Party agrees that they shall not be made available to any individual or organization without prior written approval of the Owner.

28. Third-Party Contracts

Contracts, Subcontracts, and Subgrants of amounts in excess of \$2,000 shall include the following provisions.

Each Participating Party shall keep and maintain books, records, and other documents relating directly to the receipt and disbursement of such grant funds.

Any duly authorized representative of the Owner, Engineer, and/or Mississippi Development Authority shall, at all reasonable times, have access to and the right to inspect, copy, audit, and examine all such books, records, and other documents of such Participating Party until the completion of all close-out procedures respecting this grant and the final settlement and conclusion of all issues arising out of this grant.

29. Excessive Force

The contracted parties will adopt and enforce a policy of prohibiting the use of excessive force by law enforcement agencies within its jurisdiction any individuals engaged in nonviolent civil rights demonstrations; and enforcing applicable State and local laws against physically barring entrance to or exit from a facility or location which is the subject of such nonviolent civil rights demonstrations within its jurisdiction.

30. Minority and Women-Owned Business Participation

Minority and Women-Owned Business participation for this project is established by CSD Policy Statement #90-03 which identifies the following:

“The Mississippi Minority Business Enterprise Act of 1988 which calls for the establishment of goals and programs to provide the maximum opportunity for increased participation by minority owned businesses in the procurement of goods and services”.

The goals established by CSD Policy Statement #90-03 state that **10% MBE** and **5% WBE** be utilized.

The contractor shall foster equal opportunity and attempt to achieve the amount of participation that would be obtained in a non-discriminatory market place. There will be no discrimination in the award and performance of contracts on the basis of race, color, sex, age, religion, national origin, or any handicap.

Failure of the lowest bidder to furnish acceptable proof of good faith efforts, submitted with the bid proposal, shall be just cause for rejection of the proposal. Award may then be made to the next lowest responsive bidder or the work may be readvertised.

The following factors are illustrative of matters the Owner will consider in judging whether or not the bidder has made adequate good faith efforts to satisfy the contract goal.

1. Whether the bidder advertised in general circulation, trade association, and minority-focus media concerning the subcontracting opportunities.
2. Whether the bidder provided written notice to a reasonable number of specific MBE and WBE entities that their interest in the contract is being solicited.
3. Whether the bidder followed up initial solicitations of interest by contacting MBE and WBE entities to determine with certainty whether they were interested.
4. Whether the bidder selected portions of the work to be performed by MBE and WBE entities in order to increase the likelihood of meeting the contract goal.
5. Whether the bidder provided interested MBE and WBE entities with adequate information about the plans, specifications and requirements of the contract.
6. Whether the bidder negotiated in good faith with interested MBE and WBE entities and did not reject them as unqualified without sound reason based on a thorough investigation of their capabilities.
7. Whether the bidder made efforts to assist interested MBE and WBE entities in obtaining any required bonding or insurance.

If a MBE or WBE subcontractor can not perform satisfactorily and removal of the subcontractor requires the project to fall below the contract goal for participation, the Contractor shall take all necessary reasonable steps to replace the subcontractor with another certified MBE or WBE entity. Under no circumstances shall the Prime Contractor perform the subcontractors work without approval from the Engineer.

Participation shall be counted toward meeting the goal in this contract as follows:

1. If the Prime Contractor is a certified MBE or WBE firm, only the value of the work actually performed by the MBE or WBE prime can be counted towards the project goal, along with any work subcontracted to a certified MBE or WBE entity.
2. If the Prime Contractor is not a MBE or WBE, the work subcontracted to a certified MBE or WBE will be counted toward the goal.
3. The Contractor may count toward the goal a portion of the total dollar value of a contract with a joint venture eligible under the standards of this provision equal to the percentage of the MBE and WBE partner in the joint venture.
4. Expenditures to MBE and WBE entities that perform a commercially useful function may be counted toward the goal. A business is considered to perform a commercially useful function when it is responsible for the execution of a distinct element of the work and carries out its responsibilities by actually performing, managing, and supervising the work involved.
5. The contractor may count 100% of the expenditures for materials and supplies obtained from certified MBE and WBE suppliers and manufactures that produce goods from raw materials or substantially alters them for resale provided the suppliers and the manufacturers assume the actual and contractual responsibility for the provision of the materials and supplies. The contractor may count 60% of the expenditures to suppliers that are not manufacturers, provided the supplier performs a commercially useful function in the supply process. Within 30 days after receipt of the materials, the Contractor shall furnish to the Owner invoices from the certified supplier to verify the MBE and WBE goals.
6. Any work that a certified MBE or WBE firm subcontracts to a non-MBE or non-WBE firm will not count toward the MBE and WBE goals.
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The Prime Contractor must pay all subcontractors for satisfactory performance of their contracts as follows:

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- b. Within fifteen (15) calendar days after receiving payment from the Owner for work satisfactorily completed, the Prime Contractor shall promptly return all retainage monies due to all subcontractors or material suppliers.

The Prime Contractor is to complete Section 902 on the following page when submitting a proposal for the project. Failure to submit this page with the proposal shall be cause for rejection of the bid.

PART 5

MDEQ LARGE CONSTRUCTION GENERAL PERMIT



STATE OF MISSISSIPPI

PHIL BRYANT
GOVERNOR

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

GARY C. RIKARD, EXECUTIVE DIRECTOR

May 10, 2016

CERTIFIED MAIL 7010 0780 0001 9993 2064

Mr. Tommy Thornton
Hattiesburg Clinic
415 South 28th Avenue
Hattiesburg, Mississippi 39401

Dear Mr. Thornton:

Re: Hattiesburg Clinic, Medical Park
Forrest County, Mississippi
General Construction Storm Water Coverage No.
MSR107104

Enclosed is a Certificate of Permit Coverage granted under the State of Mississippi's Large Construction Storm Water General NPDES Permit (enclosed). The submitted Storm Water Pollution Prevention Plan (SWPPP) appears to meet permit requirements and will be further reviewed during compliance inspections. You or your contractor must be in compliance with the SWPPP upon commencement of construction.

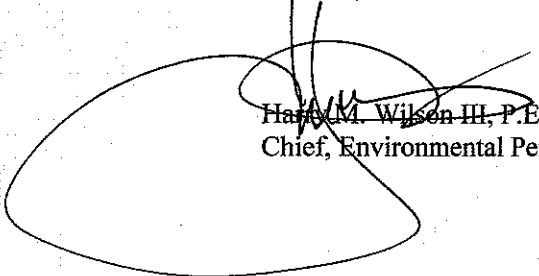
The Storm Water Construction General Permit was reissued on January 11, 2011, by the Permit Board on Environmental Quality. There are several significant changes in the new permit which are listed on the attached addendum. This is a summary and is not a substitute for the coverage recipient carefully reading and understanding the permit and its conditions.

The process to reissue Mississippi's Large Construction Storm Water General Permit (MSR10) is currently underway. Even though the current General Permit has an expiration date of December 31, 2015, your current coverage will remain in effect until the General Permit is reissued. When the General Permit is reissued, MDEQ will mail recoverage notifications and instructions to everyone that holds an active coverage.

One condition that is often overlooked is the requirement to request termination of coverage once the project has been completed and stabilized. Failure to submit the "Request for Termination of Coverage" form is a permit violation and subject to enforcement action.

This permit coverage is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Sections 49-17-1, et seq., Mississippi code of 1972), and the regulations and standards adopted and promulgated thereunder and under the authority granted to the Mississippi Environmental Quality Permit Board pursuant to Section 402(b) of the Federal Water Pollution Control Act. Any appeal of this action must be made within the 30-day period provided for in Section 49-17-29(4)(b) Mississippi code of 1972.

Sincerely,


Harold M. Wilson III, P.E., DEE
Chief, Environmental Permits Division

Enclosures
HMW:ljw

OFFICE OF POLLUTION CONTROL

POST OFFICE BOX 2261 • JACKSON, MISSISSIPPI 39225-2261 • TEL: (601) 961-5171 • FAX: (601) 354-6612 • www.deq.state.ms.us

AN EQUAL OPPORTUNITY EMPLOYER



*State of Mississippi
Department of Environmental Quality
Office of Pollution Control*

Certificate of Permit Coverage

under Mississippi's Large Construction Storm Water General NPDES Permit

Be it known

**Hattiesburg Clinic
Hattiesburg, Mississippi**

having submitted an acceptable Construction Notice of Intent, is hereby granted this Certificate of Permit Coverage in order to discharge storm water associated with the construction of

**Hattiesburg Clinic, Medical Park; Highway 11 Medical Park Mass Grading
Receiving Stream: Unnamed ditch into Burkett's Creek
Forrest County**

Coverage No: MSR107104

Date of Coverage: May 10, 2016

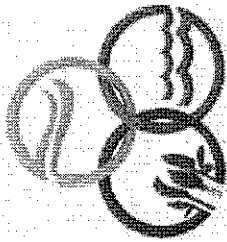
Date General Permit Expires: December 31, 2015

69224 GNP20160001

Chief, Environmental Permits Division



State of Mississippi
Mississippi Department of Environmental Quality
Office of Pollution Control



LARGE CONSTRUCTION GENERAL PERMIT

FOR LAND DISTURBING ACTIVITIES OF FIVE (5) OR MORE ACRES

THIS CERTIFIES THAT

**PROJECTS ISSUED A CERTIFICATE OF COVERAGE UNDER THIS PERMIT ARE GRANTED
PERMISSION TO DISCHARGE STORM WATER FROM REGULATED CONSTRUCTION ACTIVITIES
INTO STATE WATERS**

in accordance with effluent limitations, inspection requirements and other conditions set forth in herein. This permit is issued in accordance with the provisions of the Mississippi Water Pollution Control Law (Section 49-17-1 et seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder, and under authority granted pursuant to Section 402(b) of the Federal Water Pollution Control Act.

Mississippi Environmental Quality Permit Board

Authorized Signature

Mississippi Department of Environmental Quality

Issued: January 11, 2011

Expires: December 31, 2015

Permit No. MSR10

AI 24066

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ACT1 (LCGP) Introduction:

Narrative Requirements:

Condition No.	Condition
T-1	The Large Construction General Permit (LCGP) authorizes storm water discharges from construction activities five (5) acres or greater or less than five (5) acres if part of a "larger common plan of development or sale" (see Definitions). Storm water discharges that enter waters of the State or storm water conveyance systems leading to waters of the State are subject to regulation and compliance with the conditions set forth in this permit. This permit also authorizes storm water discharges from any other construction activity designated by the Executive Director based on the potential for contribution to an excursion of a water quality standard or for significant contribution of pollutants to waters of the State. This permit replaces the previous Large Construction General Permit that expired on May 31, 2010. [WPC-1]

ACT2 (continued):**Narrative Requirements:**

Condition No.	Condition
---------------	-----------

T-3 ELIGIBILITY (continued):**(3) Prohibited Non-Storm Water Discharges:**

- (A) Wastewater from washout of concrete (unless managed by an appropriate control)
- (B) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials
- (C) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance
- (D) Soaps or solvents used in vehicle and equipment washing
- (E) Wastewater from sanitary facilities, including portable toilets

(4) A project is eligible for coverage under this general permit for discharges of pollutants of concern to water bodies for which there is a Total Maximum Daily Load (TMDL) established or approved by the Environmental Protection Agency (EPA) if measures and controls are incorporated that are consistent with the assumptions and requirements of such TMDL. To be eligible for coverage under this general permit, the project must incorporate in the Storm Water Pollution Prevention Plan (SWPPP) and/or effluent limitation any conditions applicable to any discharge(s) necessary for consistency with the assumptions and requirements of such TMDL. If, after coverage issuance, a specific wasteload allocation is established that would apply to the project's discharge, the project must implement steps necessary to meet that allocation within six (6) months from the final TMDL approval date. MDEQ's approved TMDL list may be found at the link listed in paragraph (5) below. In addition, MDEQ's Planning & Design Manual for the Control of Erosion, Sediment and Storm Water identifies specific controls that may be used to address consistency with any applicable TMDLs. The manual can be found at: http://www.deq.state.ms.us/MDEQ.nsf/page/epd_epdgeneral.

(5) A project is eligible for coverage under this general permit for discharges of storm water to impaired water bodies on MDEQ's 303(d) list, provided best management practices (BMPs) are employed that prohibit further impairment of the designated and/or existing beneficial uses in the receiving water body. To be eligible for coverage under this general permit, the owner/operator must indicate on the LCN01 that the project discharges to a 303(d) listed receiving water and incorporate appropriate BMPs in its SWPPP. MDEQ's 303(d) list of impaired water bodies may be found on MDEQ's website at: http://www.deq.state.ms.us/MDEQ.nsf/page/TWB_Total_Maximum_Daily_Load_Section. [WPC-1]

ACT3 (LCGP) Obtaining Coverage:

Submittal/Action Requirements:

Condition No.	Condition
---------------	-----------

S-1 OBTAINING AUTHORIZATION:

(1) Owners and/or operators (see Definitions) desiring coverage associated with large construction activity under this permit must submit a Large Construction Notice of Intent (LCNOI) and other required submittals in accordance with the requirements of this permit. For construction activities, the operator is typically the Prime Contractor. However, if the prime contractor does not meet the definition of operator, then the owner must apply. The owner may submit the LCNOI and later, prior to actual construction, the operator may submit the Prime Contractor Certification accepting responsibility for applicable permit conditions.

The owner(s) of the property and the operator(s) associated with the regulated construction activity on the property have joint and severable responsibility for compliance with the permit. Notwithstanding any permit condition to the contrary, the coverage recipient and any person who causes pollution of waters of the state or places waste in a location where they are likely to cause pollution, shall remain responsible under applicable federal and state laws and regulations, and applicable permits.

(2) Upon review of the LCNOI, the MDEQ staff may require additional information (including modification of the SWPPP, which could require the implementation of additional controls), recommend that coverage not be granted and/or that an alternate permit would be more appropriate. The MDEQ staff recommendations may be brought before the Mississippi Environmental Quality Permit Board (Permit Board) for review and consideration at a regularly scheduled meeting or at a special meeting at its discretion.

(3) Coverage under this permit will not be granted until all other required MDEQ permits, certifications and approvals are satisfactorily addressed.

(4) Owners or operators are authorized to discharge storm water associated with large construction activity under the terms and conditions of this permit only upon receipt of written notification of approval of coverage by the Permit Board staff. Discharge of storm water without written notification of coverage under this permit or issuance of an individual National Pollutant Discharge Elimination System (NPDES) Storm Water Permit is a violation of the Mississippi Air and Water Pollution Control Law 49-17-29(2)(b). [WPC-1]

ACT3 (continued):

Submittal/Action Requirements:

Condition No.	Condition
S-4	COMMERCIAL DEVELOPMENT - INDIVIDUAL LOTS OR PARCELS: Individual lots or parcels within a commercial development that are part of the "larger common plan of development or sale" (see Definitions) are regulated regardless of size or owner. If the owner or developer obtains construction permit coverage for a development then sells lots or parcels within that development, permit coverage must continue on those areas under new ownership. The original coverage recipient is responsible for all construction activities until individual lots or parcels within the development are sold to others and the new owner submits a LCNOI and obtains coverage under Mississippi's Large Construction General Permit or applies for an individual permit. [WPC-1]
S-5	RESIDENTIAL SUBDIVISION - INDIVIDUAL LOTS: Individual lots within a residential subdivision that are part of the "larger common plan of development or sale" (see Definitions) are regulated regardless of size or ownership. If the owner or developer obtains construction permit coverage for a residential development, then sells individual lots within that development, permit coverage shall continue on those lots under new ownership. The original coverage recipient may retain responsibility for permit compliance, or the new owner (purchaser) or operator shall satisfy authorization requirements by: (1) Completing and submitting the MDEQ Registration Form (see Large Construction Forms Package) and developing and implementing a sediment and erosion control plan for the specific lot(s), or (2) Completing and submitting for approval from the MDEQ, a LCNOI and required documents, or (3) Applying for an individual storm water permit. The owner or developer (seller) is responsible for providing the new owner or operator (purchaser) with a copy of the MDEQ Registration Form and a copy of the Large Construction General Permit. These documents, as well as the individual application, may be found on MDEQ's website at www.deq.state.ms.us or by calling 601-961-5171. [WPC-1]
S-6	RESIDENTIAL SUBDIVISION - EXPANSIONS: For subsequent phases, expansions and major modifications of subdivision development that are proposed but were not included in the original SWPPP, the coverage recipient shall submit to MDEQ the Major Modification Form (see Large Construction Forms Package). [WPC-1]

ACT4 (LCGP) Large Construction Notice of Intent (LCNOD):

Submittal/Action Requirements:

Condition No.	Condition
S-1	DEADLINES FOR NOTIFICATION: Persons desiring coverage for a storm water discharge associated with construction activity under this general permit must submit a LCNOD Form with the required submittals. The LCNOD should be submitted at least 30 days prior to the commencement of construction activities. Discharge of storm water without written notification of coverage under this permit or issuance of an individual National Pollutant Discharge Elimination System (NPDES) Storm Water Permit is a violation of the Mississippi Air and Water Pollution Control Law 49-17-29(2)(b). [WPC-1]
S-2	REQUIRED SUBMITTALS WITH THE LCNOD: Submittals required with a completed LCNOD include a site-specific SWPPP associated with the construction activities, a United States Geological Survey (USGS) quad map, or photocopy, extending at least 1/2 mile beyond the facility property boundaries with the site location outlined or highlighted. [WPC-1]
S-3	ADDITIONAL SUBMITTALS MAY INCLUDE THE FOLLOWING: (1) Appropriate Section 404 documentation from U.S. Army Corps of Engineers, (2) Appropriate documentation concerning future disposal of sanitary sewage and sewage collection system construction, (3) Appropriate documentation from the MDEQ Office of Land & Water concerning dam construction and low flow requirements, and/or (4) Approval from County Utility Authority in Hancock, Harrison, Jackson, Pearl River and Stone Counties in the form of a signed certification by the official responsible for the wastewater treatment facility that will serve the proposed project. [WPC-1]
S-4	ADDITIONAL NOTIFICATION: The covered owner or operator must notify the Permit Board at least 30 days before any planned changes of ownership or whenever there are any changes in information previously submitted in the LCNOD Form. [WPC-1]

ACT4 (continued):

Narrative Requirements:

Condition No.	Condition
T-1	WHERE TO OBTAIN LCNOI FORMS: LCNOI Forms may be obtained from the MDEQ at the address shown below or by calling 601-961-5171. LCNOI Forms, as well as the general permit and guidance manual, may be found on the MDEQ web site at www.deq.state.ms.us. Coverage under this permit will not be granted until all other required MDEQ permits, certifications and approvals are satisfactorily addressed. [WPC-1]
T-2	WHERE TO SUBMIT THE LCNOI: Complete and appropriately signed LCNOI Forms must be submitted to: Chief, Environmental Permits Division Mississippi Department of Environmental Quality Office of Pollution Control P.O. Box 2261 Jackson, Mississippi 39225 For priority or overnight deliveries, the physical address is: 515 East Amite Street Jackson, Mississippi 39201. [WPC-1]
T-3	FAILURE TO NOTIFY: Persons who discharge storm water associated with Large Construction activity to waters of the State without an NPDES permit are in violation of the Mississippi Air and Water Pollution Control Law 49-17-29(2)(b). [WPC-1]

ACT5 (continued):

Narrative Requirements:

Condition No.	Condition
T-3	SWPPP CONTENT (continued): (5) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site; (6) Provide and maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible; and (7) Minimize soil compaction and, unless infeasible, preserve topsoil; (8) Direct storm water to vegetated areas, brush barriers, silt fences, hay bales, etc. to aid in the filtration, infiltration, velocity reduction and diffusion of the discharge; (9) Transport runoff down steep slopes through lined channels or piping; (10) Minimize the amount of cut and fill, and soil compaction; and (11) Minimize off-site vehicle tracking of sediments. [WPC-1]

ACT5 (continued):

Narrative Requirements:

Condition No.	Condition
T-5	(2) Structural practices shall divert flows from exposed soils, store flows or otherwise limit runoff from exposed areas. Such practices may include, but are not limited to, construction entrance/exit, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drains, pipe slope drains, level spreaders, drain inlet protection, outlet protection, detention/retention basins, sediment traps, temporary sediment basins or equivalent sediment controls. Specific practices that must be included, unless infeasible, are: (A) For drainage locations (a drainage point at boundary of land disturbing activity) that serve an area with ten (10) or more disturbed acres at one time, a temporary (or permanent) sediment basin providing at least 3600 cubic feet (133 cubic yards) of storage per acre drained shall be provided until final stabilization of the site. Sediment basins must be installed before major site grading and utilize outlet structures that withdraw water from the surface and that are designed for a minimum 2-year, 24-hour storm event. If flocculants are being introduced, sediment basins must be downstream of the point of introduction and include baffles to increase sediment removal efficiency and turbidity reduction. Due to the unique characteristics of linear projects, such as the lack of space within project rights of way and having multiple, distributed discharge points, sedimentation basins are not common practices. Therefore, MDEQ will not require the use of sedimentation basins for linear projects disturbing ten (10) or more acres at one time. Appropriate alternate structural practices, such as sediment traps and check dams, must be included in the SWPPP if sediment basins are deemed infeasible. [WPC-1] (B) Steep Slopes (see Definition) that cannot be avoided must have, at a minimum, silt fences or equivalent sediment controls for all down slope boundaries (and for those side slope boundaries deemed appropriate by individual site conditions), unless a sediment basin providing storage for a calculated volume of runoff from a 2-year, 24-hour storm or 3,600 cubic feet of storage per acre drained is provided. (C) Construction entrances/exits shall be installed wherever traffic will be leaving a construction site and moving directly onto a paved public road. (D) Storm Drain Inlets-Inlets that could receive storm water form construction activities shall be protected by surrounding or covering with a filter material until final stabilization has been achieved. [WPC-1]
T-6	

ACT5 (continued):

Narrative Requirements:

Condition No.	Condition
T-10	Flocculant Application: Flocculants, meeting the criteria contained in ACT8 and used in accordance with manufacturer's instructions, may be incorporated as part of an overall storm water management system. If flocculant application is proposed, the SWPPP must list the proposed flocculants to be used, describe the method, frequency and location of introduction, and identify the location of BMPs where flocculated material will settle. [WPC-1]
T-11	Prepare Scaled Site Map(s): The owner or operator shall prepare a scaled site map showing: (1) Boundaries of property and proposed construction activities, noting any phasing of construction activities, (2) Original and proposed contours (if feasible), with steep slopes identified, (3) North arrow, (4) Drainage pattern arrows, (5) Location of sensitive areas, such as wetlands, perennial streams and adjacent receiving water bodies, (6) Location of any storm drain inlets, (7) All erosion and sediment controls (vegetative and structural), (8) Any post-construction control measures, and (9) Location of housekeeping practices. If flocculant application is proposed, the location(s) of the following items shall be marked and labeled on the site map. (1) Flocculant introduction point(s), and (2) BMPs where flocculated material will settle. If the construction project is a linear construction project (e.g., pipeline, highway, etc.), a scaled site map is not required, however standard diagrams (e.g., cross sections showing dimensions and labeled components) of erosion and sediment controls to be used must be submitted. [WPC-1]
T-12	Implementation Sequence: The SWPPP shall outline an implementation sequence (including any phasing of construction activities), which coordinates the timing of all major land-disturbing activities together with the necessary erosion and sedimentation control measures planned for the project. [WPC-1]

ACT5 (continued):

Narrative Requirements:

Condition No.	Condition
T-17	Example Storm Water Pollution Prevention Plans (SWPPPs): Example SWPPPs are included in the Mississippi Storm Water Pollution Prevention Plan Guidance Manual for Construction Activities as well as the MDEQ Registration Form for Individual Residential Lots The Mississippi Storm Water Pollution Prevention Plan Guidance Manual for Construction Activities is also available online at: http://www.deq.state.ms.us/MDEQ.nsf/pdf/epd_conguidman/\$File/ConstructionGM.pdf The MDEQ Registration Form for Individual Residential Lots is in the Large Construction Forms Package, which is available online at: http://www.deq.state.ms.us/MDEQ.nsf/pdf/epd_Large_Construction_Forms_Package/\$File/LARGE_CONST_FORMS_PACKAGE.pdf US EPA also lists example SWPPPs on their website at: http://cfpub.epa.gov/npdcs/stormwater/swppp.cfm#model. [WPC-1]

ACT6 (continued):

Submittal/Action Requirements:

Condition No.	Condition
S-2	IMPLEMENTATION REQUIREMENTS (continued): (6) Install needed erosion controls even if they may be located in the way of subsequent activities, such as utility installation, grading or construction. It shall not be an acceptable defense that controls were not installed because subsequent activities would require their replacement or cause their destruction. (7) Install additional and/or alternative erosion and sediment controls when existing controls prove to be ineffective in preventing sediment from leaving the site. (8) Comply with applicable State or local waste disposal, sanitary sewer or septic system regulations (9) Erosion and sediment controls shall be maintained at all times. Except for sediment basins, all accumulated sediment shall be removed from structural controls when sediment deposits reach one-third to one-half the height of the control. For sediment basins, accumulated sediment shall be removed when the capacity has been reduced by 50%. All removed sediment deposits shall be properly disposed. Non-functioning controls shall be repaired, replaced or supplemented with functional controls within twenty-four (24) hours of discovery or as soon as field conditions allow. (10) If, after coverage issuance, a specific wasteload allocation is established that would apply to the facility's discharge, the facility must implement steps necessary to meet that allocation. [WPC-1]
S-3	COMPLIANCE WITH LOCAL STORM WATER ORDINANCES: (1) The SWPPP shall be in compliance with all local storm water ordinances. (2) When storm water discharges into an MS4 (municipal separate storm sewer system), the owner or operator shall make the SWPPP available to the local authority and/or allow site access, upon request. [WPC-1]

ACT7 (LCGP) Limitation Requirements:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		NON-NUMERIC LIMITATION REQUIREMENTS: Storm water discharges shall be free from: (1) Debris, oil, scum, and other floating materials other than in trace amounts, (2) Eroded soils and other materials that will settle to form objectionable deposits in receiving waters, (3) Suspended solids, turbidity and color at levels inconsistent with the receiving waters, (4) Chemicals in concentrations that would cause violation of State Water Quality Criteria in the receiving waters. [WPC-1]

ACT9 (LCGP) Optional Monitoring:

Narrative Requirements:

Condition No.	Condition
T-1	Monitoring under this general permit is strictly voluntary, the results of which will not be required to be documented and/or reported. At the time of the issuance of this general permit, the U.S. EPA had temporarily stayed the numeric effluent limit for construction storm water that was prescribed in the December 1, 2009 Effluent Limitation Guidelines and Standards for the Construction and Development Point Source Category Final Rule (ref. Federal Register, Vol. 74, No. 229, pages 62996-63058). Accordingly, this general permit does not contain a numeric effluent limit for construction storm water discharges. The optional effluent monitoring provisions of this section are included as guidance to coverage recipients that may be interested in evaluating and optimizing the effectiveness of storm water BMPs in anticipation of a mandatory effluent limit being incorporated in the next general permit re-issuance (scheduled to occur in 2015). The following guidelines were developed based on the above referenced final rule and will likely be the basis of mandatory monitoring requirements of a subsequent general permit re-issuance in the event a final federal numeric effluent limit is promulgated by the expiration date of this general permit. [WPC-1] (1) Monitor the turbidity of each storm water discharge from actively disturbed areas of the project site for each work day the discharge occurs. Actively disturbed areas are those portions of the project site that have undergone soil disturbing activities (i.e., clearing, grading, filling, excavating, etc.) and have not been stabilized. (A) Monitoring should be conducted for each point of storm water discharge from the project site. For the purpose of this permit, a discharge point means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which storm water and/or pollutants are, or may be, discharged. (B) Diffuse storm water, such as non-channelized flow that infiltrates into a vegetated area, and does not then discharge to surface waters, would not generally require monitoring. (2) Due to the unique characteristics of linear projects, portions may have suspended construction activity and have undergone temporary or final stabilization (see Definitions) while other portions of the same project may have active construction activities. Therefore, in recognition of these unique regulatory circumstances only those areas that have active construction activities will require numeric turbidity monitoring. Those areas that have been completed and stabilized will not require turbidity monitoring. [WPC-1]
T-2	

ACT9 (continued):

Narrative Requirements:

Condition No.	Condition
T-4	(C) Monitoring may be accomplished via portable turbidity meters or fixed automated sampling/meter stations. (i) Monitoring should be based on grab samples for portable meters. (ii) Automated samplers should be programmed to yield a minimum of three (3) representative readings per discharge, per day. (iii) Daily turbidity averages should be the average of all monitoring results collected on the day of discharge for the respective discharge point(s). For example, if there were five (5) turbidity readings in a given day, then the average turbidity for that day would be the average of all five (5) readings. (D) Grab samples should be collected according to the following methodology to ensure that each sample is representative of the flow conditions and other characteristics of the discharge. (i) Collect samples from the horizontal and vertical center of the storm water outfall channel(s) or other sources of concentrated flow. (ii) Avoid stirring the bottom sediments in the storm water channel in which samples are taken by not walking through the areas of storm water flow or disturbing the sediment with the sampling device. (iii) Hold sampling container so that the opening faces the upstream direction of the storm water channel in which samples are taken. (iv) Avoid overfilling sample container. (E) Monitoring should be conducted for any discharge that occurs during the normal working hours of the project site. [WPC-1]

ACT10 (LCGP) Record Keeping and Reporting Requirements:

Record-Keeping Requirements:

Condition No.	Condition
R-1	RETENTION OF RECORDS: All records, reports, forms and information resulting from activities required by this permit shall be retained for a period of at least three (3) years from the date that the document(s) was generated. [WPC-1]

Submittal/Action Requirements:

Condition No.	Condition
S-1	SUSPENSION OF WEEKLY INSPECTIONS AND MONTHLY RECORD KEEPING: Coverage recipients under this general permit may suspend weekly inspection and monthly record keeping requirements, if the coverage recipient certifies that: (1) Land disturbing activities have temporarily ceased, (2) No further land disturbing activities are planned for a period of at least six (6) months, (3) Areas that have been disturbed meet the definition of "final stabilization" (see Definitions), with no active erosion, and (4) Vegetative cover has been established.

Color photographs representative of the site must be submitted with the Inspection Suspension Form provided in the Large Construction Forms Package. The coverage recipient shall notify the MDEQ once construction activities are resumed and the weekly inspections shall commence immediately and as required in ACT6, S-4. The coverage recipient is still responsible for all permit conditions during the suspension period and nothing in this condition shall limit the rights of the MDEQ to take enforcement or other actions against the coverage recipient. [WPC-1]

ACT11 (LCGP) Termination of Permit Coverage:

Submittal/Action Requirements:

Condition No.	Condition
S-1	Within thirty (30) days of final stabilization (see Definition of Final Stabilization (1)) for a covered project, a completed Request for Termination (RFT) of Coverage form (provided in the Large Construction Forms Package) shall be submitted to the Permit Board. Upon receiving the completed RFT, the MDEQ staff will inspect the site. If no sediment and erosion control problems are identified and adequate permanent controls are established, the owner or operator will receive a termination letter. Coverage is not terminated until notified in writing by MDEQ. Failing to submit a RFT is a violation of permit conditions. The coverage recipient of a "larger common plan of development or sale" must submit a RFT within thirty (30) days after the following conditions are met: (1) Final stabilization (see Definition of Final Stabilization (2)) has been achieved on all portions of the site for which the coverage recipient is responsible, and (2) Other owner(s) or operator(s) have assumed control (by completing a LCN01 or MDEQ Registration Form) over all areas of the site that have not achieved final stabilization. The coverage recipient of a residential "larger common plan of development or sale" must submit a copy of the MDEQ Registration Form for each lot sold with the RFT. Residential lot owners or operators that have completed the MDEQ Registration Forms are not required to submit a RFT, unless specifically requested by the MDEQ staff. The lot permit coverage is considered terminated upon "successful completion of all permanent erosion and sediment controls" (see Definitions). [WPC-1]

ACT12 (continued):

Narrative Requirements:

Condition No.	Condition
T-7	SIGNATORY REQUIREMENTS: All LCNNOs and requests for recovery shall be signed as follows: (1) For a corporation by a responsible corporate officer. For this permit, a responsible corporate officer means: (A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (B) The manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; Note: MDEQ does not require specific assignments or delegations of authority to responsible corporate officers identified in paragraph (1)(A) above. The Department will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Permit Board to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under paragraph (1)(B) above rather than to specific individuals. (2) For a partnership or sole proprietorship by a general partner or the proprietor, respectively; or (3) For a municipal, State, Federal, or other public agency by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (A) The chief executive officer of the agency, or (B) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency. [WPC-1]

ACT12 (continued):

Narrative Requirements:

Condition No.	Condition
T-11	PROPER OPERATION AND MAINTENANCE: The coverage recipient shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the coverage recipient to achieve compliance with the conditions of this permit including the Storm Water Pollution Prevention Plan. Proper operation and maintenance includes adequate laboratory controls with appropriate quality assurance procedures and requires the operation of backup or auxiliary facilities when necessary to achieve compliance with permit conditions. [WPC-1]
T-12	MONITORING AND RECORDS: (1) Monitoring. Samples and measurements shall be representative of the monitored activity and must be conducted according to test procedures approved under 40 CFR Part 136. (2) Retention of Records. The owner or operator shall retain records of all required monitoring information for a period of at least three years from the date of the measurement, report, or application. This information includes all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the Notice of Intent to be covered by this permit. This period may be extended by request of the Permit Board or its designee. (3) Record Contents. Records of monitoring information shall include: (A) The date, exact location, and time of sampling or measurements, (B) The initials or names of the individuals who performed the sampling or measurements, (C) The date(s) and time(s) analyses were performed, (D) The initials or names of the individuals who performed the analyses, (E) References and written procedures, when available, for the analytical techniques or methods used, and (F) The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results. [WPC-1]

ACT12 (continued):

Narrative Requirements:

Condition No.	Condition
T-15	INSPECTION AND ENTRY: The coverage recipient shall allow the Permit Board staff or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to: (1) Enter upon the owner or operator's premises where a regulated activity is located or conducted or where records must be kept under the conditions of this permit; (2) Have access to and copy at reasonable times any records that must be kept under the conditions of this permit; (3) Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location. [WPC-1]

T-16 PERMIT ACTIONS:

This permit may be modified, revoked and reissued, or terminated for cause. A request by the coverage recipient for permit or coverage modification, revocation and reissuance, or termination, or a certification of planned changes or anticipated noncompliance does not stay any permit condition. [WPC-1]

T-17 NONCOMPLIANCE REPORTING:

- (1) Anticipated Noncompliance. The coverage recipient shall give at least ten (10) days advance notice, if possible, before any planned noncompliance with permit requirements. Giving notice of planned or anticipated noncompliance does not immunize the coverage recipient from enforcement action for that noncompliance.
- (2) Unanticipated Noncompliance. The coverage recipient shall notify the MDEQ orally within twenty-four (24) hours from the time he or she becomes aware of unanticipated noncompliance, which may endanger health or the environment. A written report shall be provided to the MDEQ within five (5) working days of the time he or she becomes aware of the circumstances leading to the unanticipated noncompliance. The report shall describe the cause, the exact dates and times, steps taken or planned to reduce, eliminate, or prevent reoccurrence and, if the noncompliance has not ceased, the anticipated time for correction. MDEQ may waive the written report on a case-by-case basis, if the oral report is received within 24 hours. [WPC-1]

ACT12 (continued):

Narrative Requirements:

Condition No.	Condition
T-22	FALSIFYING REPORTS: Any coverage recipient who falsifies any written report required by or in response to a permit condition shall be deemed to have violated a permit condition and shall be subject to the penalties provided for a violation of a permit condition pursuant to Section 49-17-43 of the Mississippi Water Pollution Control Law (Mississippi Code Ann. Sections 49-17-1 et seq.). [WPC-1]
T-23	CIVIL AND CRIMINAL LIABILITY: (1) Any person who violates a term, condition or schedule of compliance contained within this permit or the Mississippi Air and Water Pollution Control Law is subject to the actions defined by the Mississippi Air and Water Pollution Control Law. (2) Except as provided in permit conditions on "Bypassing" and "Upsets", nothing in this permit shall be construed to relieve the coverage recipient from civil or criminal penalties for noncompliance. (3) It shall not be the defense of the coverage recipient in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [WPC-1]

ACT13 (continued):

Narrative Requirements:

Condition No.	Condition
T-10	DAILY DISCHARGE means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily average" is calculated as the average measurement of the discharge of the pollutant over the day. [WPC-1]
T-11	EXECUTIVE DIRECTOR means the Executive Director of the Department of Environmental Quality. [WPC-1]
T-12	FACILITY or ACTIVITY means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program. [WPC-1]
T-13	FINAL STABILIZATION means that either: (1) All soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of at least 70% for the area has been established or equivalent measures (i.e., concrete or asphalt paving, rip rap, etc.) have been employed; or (2) For individual lots part of a larger common plan of development or sale in residential or commercial developments, that either: (A) The coverage recipient has completed final stabilization as specified in (1) above, or (B) The coverage recipient has established temporary stabilization before another property owner assumes operational control for the property AND the coverage recipient for the larger common plan of development has provided the appropriate Notice of Intent or Registration form, the appropriate Construction General Permit, and guidance documents to the new property owner and the new owner assumes control by completing the appropriate NOI or Registration Form. [WPC-1]
T-14	GRAB SAMPLE is a sample that is taken from a wastestream on a one-time basis without consideration of the flow rate of the wastestream and without consideration of time. Samples should be collected from the center of the flow channel, where turbulence is at a maximum. [WPC-1]
T-15	INFEASIBLE means there is a site-specific constraint that makes a control technology impossible and/or not reasonable to implement, or that implementing the control would be cost-prohibitive. [WPC-1]

Large Construction Storm Water General Permit

ACT13 (continued):

Narrative Requirements:

Condition No.	Condition
T-23	OWNER or OPERATOR for the purpose of this permit and in the context of storm water associated with construction activity, means any party associated with a construction project that meets either of the following two criteria: (1) The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or (2) The party has day to day operational control of those activities at a project which are necessary to ensure compliance with a storm water pollution prevention plan for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions). This definition is provided to inform coverage recipients of MDEQ's interpretation of how the regulatory definitions of "owner or operator" and "facility or activity" are applied to discharges of storm water associated with construction activity. [WPC-1]
T-24	PERMIT BOARD means the Mississippi Environmental Quality Permit Board established pursuant to Miss. Code Ann. 49-17-28. [WPC-1]
T-25	POLLUTANT is defined at 40 CFR 122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, sediment, silt, cellar dirt, and industrial or municipal waste. [WPC-1]
T-26	POLYMER FLOCCULANT, for the purpose of this permit, is a chemical that when added to storm water containing small suspended particles (e.g., fine silts and clays) causes the particles to stick together and fall out of suspension, reducing the overall turbidity of the storm water discharge. [WPC-1]
T-27	QUALIFIED PERSONNEL means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity. [WPC-1]
T-28	STATE LAW means The Mississippi Air and Water Pollution Control Law, specifically, Miss. Code Ann 49-17-1 through 49-17-43, and any subsequent amendments. [WPC-1]
T-29	STEEP SLOPES, as used in this permit, means slopes or grades steeper than (3:1). [WPC-1]
T-30	STORM WATER means rainfall runoff, snowmelt runoff, and surface runoff. [WPC-1]
T-31	STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY as used in this permit, refers to a discharge of pollutants in storm water from areas where soil disturbing activities (e.g., clearing, grading, or excavation), construction materials or equipment storage or maintenance (e.g., stock piles, borrow area, concrete truck chute wash down, fueling) are located. [WPC-1]

ACT13 (continued):

Narrative Requirements:

Condition No.	Condition
T-42	WPC-1 means the State of Mississippi's Wastewater Regulations for National Pollutant Discharge Elimination System (NPDES) Permits, Underground Injection Control (UIC) Permits, State Permits, Water Quality Based Effluent Limitations and Water Quality Certifications. [WPC-1]

PART 6

TECHNICAL SPECIFICATIONS

SECTION S-101 - DEFINITIONS AND TERMS

Wherever in these specifications or in other contract documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

S-101.01--Abbreviations. Wherever the following abbreviations are used, with or without periods, in these specifications or other contract documents, they are to be construed the same as the respective expressions represented:

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGC	Associated General Contractors
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
AOAC	Association of Official Analytical Chemists
API	American Petroleum Institute
APWA	American Public Works Association
ARA	American Railway Association
ARBA	American Road Builders Association
AREA	American Railway Engineering Association
ARTBA	American Road and Transportation Builders Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWG	American Wire Gage
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practices
CBR	California Bearing Ratio
CFR	Code of Federal Regulations
CRSI	Concrete Reinforcing Steel Institute
CCR	Construction Change Request
CS	Commercial Standards, U. S. Department of Commerce
CSPI	Corrugated Steel Pipe Institute
CWA	Clean Water Act
DEQ	Department of Environmental Quality
EIA	Electronic Industries Association
EOSE	Estimated On Site Excavation
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FM	Final Measure
FME	Final Measure Embankment
FSS	Federal Specifications and Standards (General Services Administration)
HMA	Hot Mix Asphalt

HRB	Highway Research Board
ID	Inside Diameter
IES	Illuminating Engineering Society
IMSA	International Municipal Signal Association
IPS	Interior Pipe Size
IS	Interim Specification
ITE	Institute of Traffic Engineers
LVM	Loose Vehicular Measure
MAPA	Mississippi Asphalt Pavement Association
MBM	Thousand Feet Board Measure
MDEQ	Mississippi Department of Environmental Quality
MDOT	Mississippi Department of Transportation
MS	Military Specifications
MSG	Manufacturers Standard Gage
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of Corrosion Engineers
NAPA	National Asphalt Pavement Association
NBC	National Building Code
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NPC	National Plumbing Code
NPDES	National Pollutant Discharge Elimination System
NSF	National Sanitation Foundation
NTB	Notice To Bidders
OD	Outside Diameter
OSHA	Occupational Safety and Health Administration
PCI	Prestressed Concrete Institute
PM	Plan Measure
RAP	Recycled Asphalt Pavement
RCRA	Resource Conservation and Recovery Act
SA	Supplemental Agreement
SAE	Society of Automotive Engineers
SP	Special Provisions
SS	Supplemental Specifications
SSPC	Steel Structures Painting Council
SWPPP	Storm Water Pollution Prevention Plan
TRB	Transportation Research Board
TSR	Tensile Strength Ratio
UL	Underwriters Laboratories, Inc.
UNC	Upset National Coarse Threaded Bolts
UST	Underground Storage Tank

S-101.02--Definitions.

Additive - A substance or agent added in small amounts to a basic ingredient of a mixture prior to mixing.

Admixture - A substance or agent added in small amounts to the basic ingredients of a mixture during the mixing process.

Advertisement - The public announcement, as required by law, inviting bids for work to be performed or materials to be furnished.

Alternate Designs - Alternate design of construction or of construction and materials designated in the bid schedule of the proposal as Alternate Designs which must be pre-selected by the Contractor and indicated on his bid. Alternate Designs may contain Alternate or Optional Items.

Alternate Items - Alternate pay items of work, or materials and work designated in the bid schedule of the proposal as Alternate Items, with separate pay item numbers, and which must be preselected by the Contractor and indicated on his bid.

Award - The acceptance by the Owner of a bid.

Base Course - The layer or layers of specified or selected material of designed thickness placed on a subbase or a subgrade to support a pavement.

Basement Soils - That portion of the roadway in embankment areas below the design soil and to the bottom of the embankment or undercut, whichever is lower, and that portion of the earthwork in cut areas below the design soil and to the bottom of any undercut or other treatment required, whichever is lower.

Bidder - An individual, firm, partnership or corporation formally submitting a bid for the advertised work.

Binder Course - A combination of graded aggregate and bituminous material which constitutes the lower layer or layers of a flexible pavement, but not part of bituminous base or subbase course.

Board - The legally elected Alderman of the City who are responsible for the project and are shown as the party of the first part to the contract.

Borrow - Suitable material from approved sources outside the roadway prism, used primarily for embankments.

Box Bridge - A box culvert having a clear distance between inside face of the end supports exceeding 20 feet measured along the centerline of the roadway.

Bridge - A structure, including supports, erected over a depression or an obstruction, as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads and having a length measured along the center of the roadway of more than 20 feet between undercopings of abutments or extreme ends of openings for multiple boxes.

Bridge Length - The length of a bridge structure is the overall length measured along the line of survey stationing back to back of backwalls of abutments, if present, otherwise end to end of the bridge floor; but in no case less than the total clear opening of the structure.

Bridge Roadway Width - The clear width measured at right angles to the longitudinal centerline of the bridge between the bottom of curbs or railing.

Bridge Site - Unless otherwise specified in the contract, the bridge site shall be the entire area between the right-of-way lines and between lines paralleling the bridge ends and passing through the longitudinal extremities of the substructure or superstructure, whichever is greater.

Calendar Day - Any day shown on the calendar, beginning and ending at midnight.

Catastrophic Event - Slides, flooded major streams when such flood is determined to be in excess of the design stage; earthquakes, tornadoes, hurricanes, and other such disastrous phenomena of nature.

Commission - The Mississippi Transportation Commission.

Conformity - The degree of perfection required for the materials furnished and the work performed, and determined:

- (a) In the case of a "specified" value of a measurable characteristic, as set out in S-700.04.
- (b) In the case of a required "minimum" or "maximum" value of a measurable characteristic, as set out in S-700.04.
- (c) In the case of a required non-measurable characteristic, as being satisfactory to the Engineer.

Construction Change Request - An approved written order covering changes in the plans or quantities or both, within the scope of the contract, and establishing the basis of payment and time adjustments for the work affected by the changes.

Contract - The written agreement between the Owner, the Contractor and the Engineer setting forth the obligations of the parties thereunder, including but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The contract includes the invitation for bids, proposal, contract form and contract bond, specifications, supplemental specifications, general and detailed plans, special provisions, notices to bidders, and also any construction change requests and agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

Contract Bond - The approved form of security, executed by the Contractor and his Surety, guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto and the payment of all legal debts pertaining to the construction of the project.

Contract Documents - All original or official papers relied upon as the basis, proof or support of the contract and shall include papers stated in the definition of the Contract.

Contract Time - The period of time, including authorized extensions, allowed for completion of the work under the contract.

Contract Unit Price - The price established in S-902-Proposal, or by Supplemental Agreement for a specifically described unit of work.

Contractor - The individual, firm, partnership or corporation contracting with the Owner for performance of prescribed work.

Controlling Work - The work or construction operations normally expected to be in progress as determined by the Engineer.

County - The county in which the work specified is to be performed.

Cross Slope - The rate of transverse slope in a roadbed element.

Culvert - Any structure not classified as a bridge which provides an opening under the roadway.

Department - The Mississippi Department of Transportation.

Design Grade - Design grade is any intermediate control grade at a vertical distance, as established on the typical section of the plans for the various intermediate courses, below profile grade.

Design Soil - That portion of the roadbed consisting of the top three feet of untreated or treated soils in excavated sections and embankments.

Detour - A designated existing route around a construction site.

Director - The Executive Director of the Mississippi Department of Transportation acting directly or through his authorized representatives.

Diversion - Temporary rerouting of traffic on a construction site.

Documentation - Written evidence recorded by an authorized individual of facts or conditions relating to a particular contractual matter.

Elements of Geometric Design - Those geometric elements of the highway which are defined in the "AASHTO Policy on Geometric Design" in effect at the time bids are received.

Engineer - The Project Engineer, acting directly or through his duly authorized representatives, who is responsible for engineering supervision of the construction.

Equipment - All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

Executive Director - The Executive Director of the Mississippi Department of Transportation acting directly or through his authorized representatives.

Extra Work - An item of work not provided for in the contract as awarded, or an item of work provided for in the contract the nature or character of which is changed such as to justify a price adjustment, either of which is found essential in the satisfactory completion of the contract within its intended scope.

Extra Work Order - A CCR/SA concerning the performance of work or furnishing of materials involving extra work. Such extra work may be performed at contract prices or on a force account basis as provided elsewhere in these specifications.

Fixed Contract Unit Price - When the bid schedule of the proposal form indicates a fixed contract unit price (FCP), this price shall become the contract price for that item and shall be used in determining the total amount of the proposal.

Foreign Materials - Foreign materials are defined as being any material or manufactured product whose manufacturing process takes place outside the United States.

Hazardous Waste - Wastes that are regulated or “listed” under RCRA(40 CFR 261), or are ignitable, corrosive, reactive or toxic.

Highway, Street, or Road - A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.

Holidays, Legal- In the State of Mississippi, holidays occur on:

January 1	New Year's Day
Third Monday in January	Robert E. Lee's and Dr. Martin Luther King, Jr.'s Birthday
Third Monday in February	Washington's Birthday
Last Monday in April	Confederate Memorial Day
Last Monday in May	National Memorial Day and Jefferson Davis' Birthday
July 4	Independence Day
First Monday in September	Labor Day
November 11	Armistice (Veterans') Day
Thanksgiving Day	As Proclaimed
December 25	Christmas Day

When a legal holiday falls on a Saturday or Sunday, the following Monday will be observed as a legal holiday.

Inspector- The Engineer's authorized representative assigned to make detailed inspections of contract performance.

Invitation for Bids - The advertisement for proposals for all work or materials on which bids are required. The advertisement will indicate with reasonable accuracy the quantity and location of the work to be done or the character and quantity of the material to be furnished and the time and place of the opening of proposals.

Laboratory - The testing laboratory utilized by the Contractor.

Legend - The words, letters and arrows, and other symbols shown on the plans and designated as legend, required to be placed on the surface of a pavement in the form of paint and glass beads, thermoplastic and glass beads or other similar specified materials, to serve as pavement markings.

Local Traffic - Traffic whose origin or destination is adjacent to that part of the project under construction.

Major and Minor Contract Items - A major item of work shall be defined as an item whose total monetary value, determined by multiplying the proposal quantity by the contract unit price, is equal to or greater than five percent of the original total contract amount. Unless otherwise specifically shown in the contract, all other items shall be considered minor items. Minor items shall become major items when increased to the extent that the total monetary value of such item at the original contract unit price is equal to or greater than five percent of the original total contract amount. A major item of work will remain a major item of work unless it is completely eliminated, or reduced by Supplemental Agreement for the purpose of substituting another item(s) in lieu thereof. When an item is eliminated, it shall be treated as provided for under S-109.05.

Materials - Any substances specified for use in the construction of the project and its appurtenances.

Notice to Bidders - All notices, issued to the prospective bidders, pertaining to or establishing requirements governing the submission of proposals, quantities or qualities of materials or work, the performance of the work, or payment therefor.

Notice to Contractors - Pre-bidding notices to prospective bidders, including the advertisement and other pertinent pre-bid information labeled as Notice to Contractors.

Notice to Proceed - Written notice to the Contractor to proceed with the contract work including, when applicable, the date of beginning of contract time.

Omitted Section - A section within the designated project limits in which no work (excluding construction signing, approaches and/or temporary connections) is to be performed, and the Contractor does not have any responsibility for maintenance of the roadway or traffic unless specifically provided of in the contract.

Optional Items - Items listed in the bid schedule of the proposal which are considered to be comparable for the purpose intended and from which the Contractor is not required to make a selection prior to or at the time of execution of the contract.

Pavement - The portion of the roadbed constructed upon the base course and specifically constructed as the contact element for vehicular traffic.

Pavement Structure - The combination of a pavement, a base course and, when specified, a subbase course, placed on a subgrade to support the traffic load and distribute it to the roadbed.

Pay Item - A specifically described unit of work for which a price is provided in the contract.

Plans - The approved plans, profiles, typical cross-sections, working drawings and supplemental drawings, or exact reproduction thereof, which show the location, character, dimensions, and details of the work to be done.

Profile Grade - The trace of a vertical plane intersecting the top surface of the proposed wearing surface as shown on the plans or established by the Engineer, usually along the longitudinal centerline of the roadbed. Profile grade means either elevation or gradient of such trace according to the context.

Project - The specific section of the highway together with the appurtenances and construction to be performed thereon under the contract.

Proposal - The offer of a bidder, on the prescribed form, to perform the work at the prices quoted.

Proposal Form - The approved form on which the Engineer requires bids to be prepared and submitted for the work.

Proposal Guaranty - The certified check, cashier's check or bid bond furnished with the bid to guarantee that the bidder will enter into a contract for the work and furnish acceptable bond if his bid is accepted.

Qualified prison facility - Any prison facility in which convicts, during the 12 month period ending July 1, 1987, produced materials for use in Federal Aid highway construction projects.

Retainage - A general term denoting funds withheld from partial payments.

Right-of-Way - A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to a highway and its appurtenances.

Roadbed - The graded portion of a highway within top and side slopes prepared as a foundation for pavement structure and shoulders.

Roadside - A general term denoting the area adjoining the outer edge of a roadway.

Roadside Development - Those items necessary to the complete highway which provide for the preservation of landscape materials and features; the rehabilitation and protection against erosion of all areas disturbed by construction through seeding, sodding, mulching and the placing of other ground covers; and such suitable planting, other improvements and public facilities as may increase the effectiveness and usefulness and enhance the appearance of the highway.

Roadway - All surface portions of the highway between shoulder lines. Divided highways are considered to have two roadways.

Roadway Structure - All vertical and horizontal elements of the work, exclusive of bridges, designed to provide and support the roadway.

Shoulders - The portion of the roadway contiguous with the traveled way for the lateral support of the other elements of the pavement structure, and for emergency use of stopped vehicles.

Sidewalk - That portion of the road, highway, or street primarily constructed for use by pedestrians.

Special Provisions - Additions and revisions to the standard and supplemental specifications covering conditions peculiar to an individual project, and included in the proposal assemblies.

Specifications - A general term applied to all directions, provisions and requirements pertaining to performance of the work or materials to be used.

State - The State of Mississippi acting through its authorized representative.

Structures - Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and similar features which may be required in the work.

Subbase Course - The layer(s) in the pavement structure between the design soil and the base course. Treated portions of the design soil may be considered as subbase or a portion thereof when its treatment or stabilization is sufficient to adequately improve the bearing value.

Subcontractor - An individual, firm, partnership or corporation to whom the Contractor, with the written consent of the Owner and the Engineer, sublets part of the contract.

Subgrade - The top surface of a design soil upon which the pavement structure and shoulders are constructed.

Substructure - Those parts of a bridge below the bearings of simple and continuous spans, below the bottom surface of concrete box girder spans in which the piers form an integral part of the span-pier entity, or below wingwalls of abutments.

Superintendent - The Contractor's authorized representative in responsible charge of the work.

Superstructure - All parts of a bridge above and exclusive of the substructure.

Supplemental Agreement - A written agreement by the parties of the contract covering alterations or extra work necessary for the completion of the contract.

Surety - The corporate body, qualified under the laws of Mississippi, which is bound with and for the successful bidder by the "bid bond" to execute a satisfactory contract with and for the Contractor for the acceptable performance of the contract and for his payment of all legal taxes and debts pertaining to the construction of the project, including payment of State Sales Tax as prescribed by law.

Temporary Structures - Structures required to maintain traffic while the Contractor constructs structures. The temporary structure shall include the earth approaches thereto unless otherwise specified.

The Work - The furnishing of all labor, materials, equipment, and incidentals necessary to the successful completion of the project and the carrying out of the duties and obligations imposed by the contract.

Titles (or Headings) - The titles or headings of the sections and subsections herein are intended for convenience of reference and shall not be considered as having any bearing on their interpretation.

Township, Town, City or District - A subdivision of the County used to designate or identify the location of the proposed work.

Traveled Way - A portion of the roadway improved, designed or ordinarily used for vehicular travel, exclusive of shoulders or berms.

Work Order - A written order, signed by the Engineer, of a contractual status requiring performance by the Contractor without negotiation of any sort.

Working Day - A calendar day, exclusive of the days listed below, on which weather and soil conditions are such that the Contractor can proceed with construction for seven (7) consecutive daylight hours with normal working forces engaged in performing the controlling work which would be in progress at that time. Excluded days are:

1. Saturdays
2. Sundays
3. State recognized legal holidays
4. Days on which delays are attributable to:
 - (a) The County or State
 - (b) Governmental Authorities
 - (c) Catastrophic events
 - (d) Awaiting growth and coverage of planted vegetation, waiting for prime or concrete to cure, or other specific conditions set out elsewhere in the contract

State recognized legal holidays are as set out in this Subsection. When a legal holiday falls on a Saturday or Sunday, the following Monday will be observed as a legal holiday.

The controlling work will be determined after careful consideration of the Contractor's operation(s) of construction that normally should be in progress at that time, as essential to the orderly completion of the work within the time allowed.

The acceptance of any progress payment accompanying any estimate, without written protest, shall be acknowledgment by the Contractor that the number of working days shown on the estimate are correct. The number of working days shall be indicated in the proposal and counted from the designated date for beginning work or date work actually began, whichever occurs first, to the date of final acceptance.

Working Drawings - Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data which the

Contractor is required to submit to the Engineer for approval.

S-101.03. Whenever in these specifications terms not defined herein are used to identify geometric elements of the work, such terms shall be understood to have the meaning as established by AASHTO, and current at the time bids are received.

S-101.04--Presumption. To avoid repetition of expressions, it is provided that any directive, action or opinion that is not so denoted shall be understood to be followed by the words "by the Engineer" or "to the Engineer."

SECTION S-102 - BIDDING REQUIREMENTS AND CONDITIONS

S-102.00--Advertisement. In conformity with State law, the Owner will publish a Notice to Contractors giving notice of a request for bids. This notice will become one of the contract documents if award is made.

The advertisement will state the time and place for submission of sealed proposals; the location and description of the proposed work; estimates of the quantities and kinds of work to be performed or materials to be furnished and a schedule of pay items for which unit bid prices are asked; specified contract time; and instructions to bidders regarding proposal forms, basis of award, proposal guaranty required, plans, specifications, labor requirements, supplemental specifications and/or special provisions, and other pertinent information. Proof of publication of advertisement shall be available at the time of opening of bids.

S-102.01--Prequalification of Bidders. Information may be required from time to time from prospective bidders before issuing proposals.

The attention of prospective bidders is directed to all fees and taxes required for the privilege of doing business within the State.

As a condition precedent to the opening of a bid financed wholly with State funds and which is equal to or in excess of 50,000 dollars, the bidder must have a Certificate of Responsibility issued by the Mississippi State Board of Contractors and the certificate number must be shown on the outside of the sealed envelope containing the bid proposal. When a bid is less than 50,000 dollars, a Certificate of Responsibility is not required but either the statement, "Bid less than 50,000 dollars" or a certificate number must be shown on the envelope.

In addition, prospective bidders are reminded of the requirements set forth by the Mississippi State Board of Public Contractors that the classification of a contractor, as registered with the Board, must be the same as the nature of the proposed work on which the bid will be submitted.

When two or more persons, firms, partnerships or corporations are submitting a joint proposal, each of the persons, firms, partnerships or corporations may be required to comply with the above prequalification requirements.

S-102.02--Contents of Proposal Forms. The proposal forms will state the location and description of the contemplated construction, will show estimates of the quantities and kinds of work to be performed or materials to be furnished, and will have a schedule of items for which unit bid prices are invited.

The proposal form will state the time in which the work must be completed, the amount of the proposal guaranty, and the date, time and place of the opening of proposals. The form will also include supplemental specifications and/or special provisions and requirements which vary from or are not contained in the Standard Specifications.

All papers bound with, attached to, or designated for addition or substitution in the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted.

The plans, specifications and other documents designated in the proposal form shall be considered a part of the proposal as if attached to and included in the proposal form.

Plans and specifications for the project identified in the Advertisement will be on file in the office of the Engineer.

Prospective bidders will obtain proposals and plans from the Engineer. Cost and other general information concerning the proposal and plans will be as contained in the Notice to Contractors published by the Owner.

S-102.03--Issuance of Proposal Form. The Owner reserves the right to refuse to furnish a prospective bidder with a proposal form for any of the following reasons:

- (a) Lack of competency and adequate machinery, plant, or other equipment, as revealed by the information obtained as provided in S-102.01 or other determinations made by the Owner.
- (b) Uncompleted work which, in the judgment of the Owner and Engineer, might hinder or prevent the prompt completion of additional work if awarded.
- (c) Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force at the time of issuance of proposals.
- (d) Unsatisfactory performance on previous contracts.
- (e) Failure to promptly reimburse the Owner for any overpayment that might have occurred.
- (f) Actions in bidding or subcontracting which have the effect of limiting competition and violating the competitive bid process; or if any partner, association member, corporate official or individual owner, respectively, has been convicted or entered a plea of guilty or nolo contendere in any legal jurisdiction of the United States or any of the various states of federal or state crimes that involve the restraint of trade or limiting competition in any manner, or has been debarred from bidding on public contracts by the State of Mississippi or any of its agencies; or by one or more of the other States or any of their agencies; or by a federal agency.

S-102.04--Interpretation of Quantities in Bid Schedule. The quantities appearing in the bid schedule are approximate only and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished and accepted in accordance with the contract. The scheduled quantities of work to be done and materials to be furnished may each be increased, decreased, or omitted as hereinafter provided.

S-102.05--Examination of Plans, Specifications, Special Provisions, Notices to Bidders and Site of Work. It is the intent that the Engineer will prepare full, complete, and accurate plans and specifications giving directions that will enable any competent Contractor to carry them out. The bidder is expected to examine carefully the site of the proposed work, the proposal, plans, specifications, supplemental specifications and/or special provisions, notices to bidders and contract forms before submitting a proposal. The submission of a bid shall be considered prima facie evidence that the bidder has made such an examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the plans, specifications, supplemental specifications, notices to bidders, special provisions, contract, and the Federal, State, and local laws which will in any way affect his execution of the work.

Boring logs and other records of subsurface investigations may be available for inspection by bidders. It is understood that such information was obtained and is intended for design and estimating purposes only. It is made available to bidders so that they will have access to identical subsurface information available to the Owner and is not intended as a substitute for personal investigation, interpretations and judgment of the bidders.

Bidders may inspect records of the Engineer as to investigations made, subject to the conditions hereinbefore set forth.

S-102.06--Preparation of Proposal. The bidder shall submit his proposal on the forms furnished by the Engineer and shall enter in figures a unit price and extension in the appropriate columns for each bid item exclusive of those items for which a fixed contract unit price and the extension are shown. The bidder shall also enter where indicated the subtotal amount for each of the various divisions and the total amount of the proposal which shall also include the extensions of the items with a fixed contract unit price. In case of discrepancy between a unit price and the extension, the unit price will govern; and the extension and the total amount of the proposal will be corrected. All the figures shall be in ink or typed.

When the bid schedule contains a fixed contract unit price (FCP) for an item, this price shall be the contract unit price for the item and no alteration shall be made by the bidder.

When an item in the proposal contains a choice to be made by the bidder, the bidder shall indicate his choice in accordance with the instruction to bidders in Section S-902 - Proposal (reference is made to Alternate Designs, Alternate Items, and Optional Items in S-101.02).

Where the bid schedule lists alternate designs or alternate items, one alternate that is bid shall be designated by drawing a line or lines through other listed alternate(s) as provided, and thereafter no further choice will be permitted.

When the bid schedule lists optional items, the Contractor may, but is not required to, make his selection at the time of bidding or prior to or at the time of execution of the contract. It shall be the Contractor's responsibility to provide notice of selection to the Engineer sufficiently in advance to provide a reasonable time for the exchange of the documentation for selection prior to ordering materials or performing work on any optional item.

Each proposal issued to prospective bidders will contain, in duplicate, blank affidavit forms to be executed, and sworn to, by the bidder, before a person who is authorized by the laws of any State to administer oaths, and returned with the bidder's proposal.

This "Non-Collusion Affidavit" shall be a sworn statement, filed in duplicate, executed by, or on behalf of, the individual, firm or corporation to whom the contract is to be awarded (if the successful bidder), certifying that such individual, firm, or corporation has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract nor have any of its officers, partners, employees, or principal owners; and that such individual, firm or corporation nor any of its directors, officers, partners, principal owners or managerial employees are debarred from bidding on public contracts by the State of Mississippi or any of its agencies; or by one or more of the other States or any of their agencies; or by a federal agency.

Failure on the part of the bidder to execute the affidavit will result in his proposal being declared incomplete and rejected.

S-102.07--Irregular Proposals. Proposals will be considered irregular and may be rejected for any of the following reasons:

- (a) If the proposal is on a form other than that secured from the Engineer, or if the form is altered or any part thereof is detached.
- (b) If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning.
- (c) If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.

- (d) If the proposal does not contain a unit price for each pay item listed except in the case of alternate or optional pay items.
- (e) If the proposal, Section S-902, does not contain acknowledgment of receipt and addition to the proposal and contract documents of all addenda issued prior to opening of bids.
- (f) Failure to execute required affidavits, certificates, etc., and furnish proposal guaranty.

S-102.08--Proposal Guaranty. Proposals will not be considered unless accompanied by certified check, cashier's check or bid bond, made payable to the Owner, in an amount of not less than five percent of the total amount of the proposal offered, as evidence of good faith and as a guaranty that if awarded the contract, the bidder will execute the contract and give contract bond as required by law and stipulated in S-103.05.

If a bid bond is offered as guaranty, the bond must be on a form approved by the Engineer, made by a Surety, and must be acceptable to the Owner and signed or countersigned by a qualified Mississippi resident agent and the bidder.

S-102.09--Delivery of Proposal. Unless otherwise specified, each proposal must be submitted sealed in a plain envelope with the following listed information plainly written on the outside or face of the envelope:

- (1) Addressee: Owner Name
- (2) Bid of: Name of Person or Firm submitting the bid.
- (3) Permanent address of the Bidder: Post Office Box Number, or Street Address, and the City and State of the Bidder.
- (4) For: Project Name
- (5) Date of Submission of Bid.
- (6) Bidders Certificate of Responsibility Number issued by the Mississippi State Board of Public Contractors.

Proposal forms when issued, by the Engineer, are not transferable and no name or names of interested parties may be added other than those to whom the proposal was issued.

The Engineer will keep a list of the bidders to whom proposals have been issued and bids will be accepted only under the name of the bidders issued proposals.

No proposal will be accepted or considered which has not been received at the Owner's designated location prior to the time specified in the Notice to Contractors.

S-102.10--Withdrawal or Revision of Proposals. A bidder may withdraw or revise a proposal after it has been deposited with the Owner, provided the request for such withdrawal or revision is received by the Owner, by facsimile, in writing or by telegram, before the time set for opening proposals.

S-102.12--Public Opening of Proposals. Proposals will be opened and read publicly at the time and place indicated in the proposal. Bidders, their authorized agents, and other interested parties are invited to be present.

S-102.13--Disqualification of Bidders. Either of the following reasons may be considered as being sufficient for the disqualification of a bidder and the rejection of his proposal or proposals:

- (a) More than one proposal for the same work from an individual, firm, or corporation under the same or different names.
- (b) Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for any future work of the Owner until any such participant shall have been reinstated as a qualified bidder.

S-102.14--Material Guaranty. At the option of the Owner or Engineer, the successful bidder shall be required at any time before or after the award or execution of the contract to furnish a complete statement of the origin, composition, and manufacture of any and all materials to be used in the construction of the work, and shall provide access to all sources of materials for sampling and testing to determine their quality, uniformity, and fitness for the work in accordance with the contract.

SECTION S-104 - SCOPE OF WORK

S-104.01--Intent of Contract. The intent of the contract is to provide for the execution, construction, and completion of every detail of the work described, and to compensate the Contractor for all acceptable work done in accordance with the provisions of the contract. The Contractor shall furnish all labor, materials, equipment, supplies, transportation, supervision, methods, and procedures necessary to complete the work in accordance with the plans, specifications, and terms of the contract.

S-104.02--Alterations of Plans or Character of Work. The Owner and Engineer reserve the right to make, at any time during the progress of the work, increases or decreases in quantities and alterations in the details of construction, including alterations in the grade or alignment of the road or structure or both, as may be found necessary or desirable. Such increases or decreases and alterations shall neither invalidate the contract nor release the Surety, and the Contractor agrees to perform the work as altered, the same as if it had been a part of the original contract.

Except as may be necessary to satisfactorily complete the contract, no alterations of the plans or the nature of the work will involve work beyond the termini of the contemplated construction without contract modifications approved by all parties concerned.

Except as provided herein, all quantities will be paid for at the contract unit price (reference is made to S-109.03).

No claim shall be made by the Contractor for any loss of anticipated profit because of such alterations, or by reason of any variation between the approximate quantities and the quantities of work done.

Unless otherwise provided, Supplemental Agreements will be required under the following conditions:

- (1) When the total amount of any increase or decrease, whether applying to one or more than one item, exceeds in value twenty-five percent (25%) of the total Contract amount as determined by the total sum of the estimated values in the Contract proposal. Those items, the quantities for which cannot be pre-determined with reasonable accuracy, such as rock excavation, extra depth excavation, extra depth concrete and reinforcing steel for same, shall be excluded in determining increases or decreases under this provision.
- (2) When there is lengthening or shortening of the project.
- (3) When the character or nature of the work is materially altered.
- (4) When there is a substitution of one type of material for another type of material. (Contract items found not necessary for the proper completion of the work will be eliminated from the Contract as set out in Subsection S-109.05.)
- (5) When there is a change of quantities of sufficient magnitude to cause an inequity on the Contractor or the Owner.

S-104.02.1--Changes in Character of the Work and Changed Physical Conditions. Should any change ordered, exclusive of changes in contract quantities, alter the characteristics of the original contract; or should subsurface or latent physical conditions be discovered by the Engineer or encountered by the Contractor at the site of the work that differ materially from those originally encountered in and generally recognized as usual in work of the character provided for in the contract; and the changes or conditions are of sufficient magnitude to cause an inequity on the Contractor or on the Owner, the Engineer or the Contractor, as the case may be, shall promptly notify the other in writing of these changes or conditions before work is continued. The Engineer may thereupon provide for an adjustment of the contract unit price or contract time if an engineering study warrants that the changes or conditions do so materially differ and cause inequity.

Before beginning or continuing work which justifies an adjustment of the contract unit price or time under the above provisions, a supplemental agreement acceptable to all parties to the contract shall be executed. In the event an agreement acceptable to all parties cannot be reached, the Engineer may order the work to proceed in accordance with the applicable specifications and as directed, and that part of the work which the Engineer has determined to justify an adjustment of the contract unit price or the establishment of a unit price will be paid for in accordance with S-109.04.

If the altered or added work is of a character as to require more than the normal time to complete the work, an adjustment of the contract time may be made in accordance with the provisions of S-108.06.

A net total increase or decrease of more than 25 percent in the total original contract amount may be considered for adjustment under this subsection, in lieu of the otherwise applicable provisions of S-104.02.

S-104.03--Extra Work. The Contractor shall perform unforeseen work for which there is no price included in the contract or work included in the contract which is materially changed as set out in S-104.02 after execution of the contract, whenever it is deemed necessary or desirable in order to complete fully the work as contemplated. Such work shall be performed in accordance with the applicable specifications and as directed, and payment or adjustment in payment will be made as provided under S-109.04.

S-104.04--Maintenance of Traffic. The responsibility for the construction and maintenance of detour routes and or diversions shall be as indicated herein unless amended by special provisions.

The implementation of traffic control shall be in accordance with the traffic control plan, which includes the plans, specifications, special provisions and the MUTCD.

Unless otherwise indicated all detour routes shall be maintained by the Owner. The Contractor will be required to provide and satisfactorily maintain on site diversions, as determined by the Engineer. Ingress and egress for residents adjacent to the improvement,

U. S. Mail Carrier and school buses on official business shall be provided throughout construction. Where necessary, the Contractor will remove and replace mail boxes.

In case it is necessary or desirable to maintain through traffic on the road during construction it will be set out in the special provisions.

Special maintenance directed by the Engineer, for the benefit of the traveling public, will be paid for on the basis of the contract unit prices or under S-104.03, Extra Work. The Engineer will be the sole judge of work to be classified as Special Maintenance.

S-104.05--Removal and Disposal of Structures and Obstructions. The Contractor shall remove and dispose of all existing structures and obstructions in accordance with the provisions of S-202. In the event separate pay items are not provided, the cost of removal and disposal shall be included in prices bid for items under S-201 and S-203.

The Contractor shall not remove or disturb any buildings, public utilities, or other public or private improvements that are to be removed and replaced or reconstructed by the Owner or by the owners under separate agreement.

It is anticipated that obstructions to be removed by the Owner or the owners will be removed and disposed of in advance of construction operations, but in the event there are improvements or other properties on the project retained by the property owner, the Contractor shall not interfere with this property until notified in writing by the Engineer that the rights of the property owner have expired.

Upon notification by the Engineer that the property owner's rights have expired, the Contractor shall proceed to remove and dispose of structures and obstructions in accordance with this subsection and other applicable provisions of the contract.

Principal existing improvements not reserved to the property owner or to the County and which are to be removed by the Contractor will be indicated on the plans for the Contractor's information only.

All other structures and obstructions or residual portions of existing structures and obstructions not specified to remain are also to be removed by the Contractor.

All removals by the Contractor are to be made in accordance with the provisions of S-201, and, by reference therein, S-202.

S-104.06--Rights in and Use of Materials Found on the Work. It is understood that title to all materials found within the right-of-way or easements remains with the County unless specifically noted on the plans or in the contract documents. However, the Engineer may permit the Contractor to use on the project stone, gravel, and sand or other material found in the excavation that may be determined suitable and useful in fulfillment of the contract requirements. The Contractor will be paid both for the excavation of the materials at the contract unit price for excavation and for the pay item for which the excavation material is acceptably used. He shall replace at his own expense with other acceptable material all of the excavation material needed for use in embankments, backfills, approaches, or otherwise in the work. No charge for the material so used will be made against the Contractor. The Contractor shall not excavate or remove any material from within the highway location which is not within the grading limits established by slope stakes without prior written authorization from the Engineer. The Contractor will not be paid for excavation outside the grading limits without prior authorization.

Unless otherwise provided, material from existing structures required to be removed may be used temporarily by the Contractor. Material designated to be salvaged shall not be cut or otherwise damaged.

When the contract documents indicate that certain materials or other matter are to be removed, or are permitted to be removed from the right-of-way and disposed of at locations provided by the Contractor, the Contractor shall furnish the Engineer with two signed copies of a release from each property owner for the servitude of his lands prior to removal. The Owner will have no ownership or liability whatsoever for the materials or matter upon removal from the right-of-way.

S-104.07--Final Cleaning Up. Without any extra compensation and before acceptance and final payments will be made, the right-of-way, borrow pits and adjacent property, and all other grounds occupied or affected by the Contractor in connection with the work shall be cleaned of all rubbish, temporary buildings and structures, equipment, and excess materials. Salvaged or excess materials expressly reserved by the Engineer for use by the County shall be neatly stockpiled at locations designated on the project. The Contractor shall restore, repair, or settle for in an acceptable manner all property, both public and private, which he may have damaged in the prosecution of the work. The Contractor shall leave all public or private property occupied or affected by him and all parts of the work in a neat and acceptable manner with all waterways unobstructed. This shall include, but not necessarily be limited to, the cleaning out of all pipe and ditches, and the removal from the right-of-way all debris from clearing and grubbing.

Prior to final inspection or release from maintenance, all sod turf areas of the work which have developed an undesirable growth shall be given a final mowing. All undesirable bushes, high grasses, and weeds shall be cut and disposed of as directed.

Where construction involves only base and/or surfacing, the Contractor shall be required to mow between ditch lines in cut sections and down the fill slope for a distance of 10 feet measured horizontally from the edge of the shoulder through fill sections.

S-104.08-Value Engineering Incentive. Value Engineering Incentive applies to any cost reduction recommendation initiated and developed by the Contractor for the purpose of refining the contract documents and plans so as to contribute to design cost effectiveness or significantly improve the quality of the final product. This subsection does not apply unless the recommendation is identified by the Contractor at the time of submission as a Value Engineering Incentive. The Owner and the Engineer shall be the judge of the acceptability of any such recommendation.

Cost reduction recommendations approved by the Owner and Engineer are to be implemented by a supplemental agreement to the contract and must result in savings without impairing any essential functions and characteristics such as safety, service life, reliability, economy of operations, ease of maintenance, aesthetics and necessary standard design features. Proposed changes in the basic design requirements of a bridge or of a pavement system will not normally be given consideration as a Value Engineering Incentive. The mere substitution of one contract bid item for another bid item or substitution of any other item for which the Engineer has previously established a pay item will not be allowed as value engineering nor will a submittal based on the use of material from the right-of-way.

As a minimum, the following information shall be submitted by the Contractor:

- (a) A statement that the recommendation is submitted as a Value Engineering Incentive.
- (b) Description of the recommendation.
- (c) Discuss contract requirements which will require modification and present a recommendation for each change.
- (d) An estimate of cost reductions.
- (e) Prediction of any effects on other costs to the project.
- (f) State when the supplemental agreement must be executed to obtain maximum cost reduction during the remainder of the contract and the reasons therefor.
- (g) A statement as to any effect on the project completion date.

The County will not be liable for any delay in acting upon a recommendation. The decision of the Owner and Engineer as to acceptance of any such recommendation will be final and not subject to S-105.17. The Owner and Engineer may accept the recommendation, in whole or in part, by executing a supplemental agreement which will specifically state that it is executed pursuant to these provisions. Such agreement will incorporate the changes or additions to the plans and specifications which are necessary to permit the recommendation, or accepted part thereof, to be put into effect. If conditional, it will include conditions upon which the Owner and Engineer's approval is based. The agreement will also set forth the estimated net savings attributable to the recommendation and will further provide that the Contractor be paid 50 percent of said savings. The cost to the project in evaluating the recommendation will be considered in determining the estimated net savings. The Contractor's share of the savings shall constitute full compensation for the Value Engineering Incentive.

Approval of the recommendation and performance of the work thereof shall not change the contract completion date unless specifically provided for in the supplemental agreement implementing the work.

This incentive provision applies only to contracts awarded pursuant to competitive bidding.

SECTION S-105 - CONTROL OF WORK

S-105.01--Authority of the Engineer. The Engineer, acting as the duly authorized representative of the Owner and subject to the rules and regulations and approval of the Engineer, shall decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the plans and specifications; and all questions as to the fulfillment of the contract on the part of the Contractor.

The Engineer has the authority to suspend the work wholly or in part and to withhold payments due to failure of the Contractor to correct conditions unsafe for workmen or the general public; for failure to carry out provisions of the contract; for failure to carry out orders; for periods he may deem necessary due to unsuitable weather conditions; for any conditions considered unsuitable for the prosecution of the work; or for any other condition or reason deemed to be in the public interest.

The Engineer has executive authority to enforce and make effective all decisions and orders relating to the contract, but is not authorized to change the obligations of the Owner to the Contractor or waive any rights of the Owner under the contract.

S-105.02--Plans and Working Drawings. The Engineer will furnish the Contractor two bound copies of the proposal and contract documents and three half-scale copies of the plans without charge. The Contractor shall have one copy of the proposal and contract documents and one half-scale copy of the plans available on the project at all times during work activity on the project.

Plans will show details of all structures, lines, grades, typical cross sections of the roadway, and a summary of items appearing in the proposal.

Any authorized alterations affecting the requirements and information given on the approved plans, or changes made on any plan or drawing upon which the contract was awarded, shall be made only with the Engineer's written approval.

The plans will be supplemented by working drawings necessary to adequately control the work. Working drawings for structures are not included in the plans furnished by the Owner. They shall be furnished by the Contractor and shall consist of detailed plans necessary to adequately control the work. They shall include stress sheets, shop drawings, erection plans, false-work plans, cofferdam plans, bending diagrams for reinforcement, and other supplementary plans and similar data as required. All working drawings shall be submitted to the Engineer for approval, as required, but this approval will not relieve the Contractor of any of his responsibility under the contract.

If required, the original tracings of working plans or drawings shall be furnished the Engineer.

The contract price bid shall include the cost of furnishing all working drawings. If, however, design details of the plans are changed after the Contractor has submitted the required working drawings, the Engineer may order the Contractor to furnish revised or new working drawings, based on changed plan details, as Extra Work.

S-105.03--Conformity with Plans and Specifications. All work performed and all materials furnished shall be in reasonably close conformity with the line, grades, cross-sections, dimensions, material requirements, and other construction requirements shown on the plans or indicated in the specifications.

Contract specification values are target values to be strived for and from which tolerances are allowed. It is the intent of the specifications that the materials and workmanship shall be uniform in character and shall conform as nearly as realistically possible to the prescribed target value or to the middle portion of the tolerance range. The purpose of the tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons. When either a maximum and minimum value or both are specified, the

production and processing of the material and the performance of the work shall be so controlled that the material or work will not be predominately of borderline quality or dimension.

In the event the Engineer finds the materials, or the finished product in which the materials are used, not to be within reasonably close conformity with the plans and specifications but that reasonably acceptable work has been produced, he will then make a determination if the work will be accepted and remain in place. In this event the Engineer will make an appropriate adjustment in the contract price for the work or materials as provided in the specifications. In the event no provision for adjustment in contract price is included in the contract, the Engineer will document the basis of acceptance by contract modification which will provide for an appropriate adjustment in contract price for the work or materials as he deems necessary to conform to his determination. His determination will be based on engineering judgment.

In the event the Engineer finds the materials or the finished product in which the materials are used or the work performed are not in reasonably close conformity with the plans and specifications and have resulted in an inferior or unsatisfactory product, the work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

S-105.04--Coordination of Plans, Specifications, Supplemental Specifications, Special Provisions and Notice(s) to Bidders. These specifications, supplemental specifications, plans, special provisions, notices to bidders, and all other supplemental documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; the word "day" appearing anywhere in the contract shall mean work days unless the context is determined to indicate otherwise; and parts of the contract will prevail in the following order:

1. Notices to Bidders
2. Special Provisions
3. Plans
4. Supplemental Specifications
5. Standard Specifications

In case of conflict between a plan quantity and the advertisement and/or proposal, the plan quantity shall prevail.

The Contractor shall not take advantage of any apparent error or omission in the plans or specifications. In the event the Contractor discovers an error or omission, he shall immediately notify the Engineer. The Engineer will then make corrections and interpretations deemed necessary for fulfilling the intent of the plans and specifications. A reference in any contract document to controlling requirements in another portion of the contract documents shall be understood to apply equally to any revision or amendment thereof included in the contract.

S-105.05--Cooperation by Contractor. The Contractor shall keep available on the work at all times during working hours one set of approved plans, standard specifications, and proposal assemblies.

The Contractor shall give the work the attention necessary to expedite its progress, and shall cooperate with the Engineer, his inspectors, and other contractors in every way possible.

The Contractor shall have on the work and available to the work at all times, as his agent, a competent resident superintendent capable of reading and thoroughly understanding the plans and specifications and thoroughly experienced in the type of work being performed. The superintendent shall receive instructions from the Engineer or his authorized representative. Upon issuance of the Notice to Proceed, the Contractor or his duly appointed agent authorized to bind the Contractor shall file with the Owner, with copies to the Engineer, the name of the superintendent who will supervise the work. The Owner shall be immediately notified in writing with copies to those stated, if any changes are made in the Contractor's superintendent or his contact information.

The superintendent shall have full authority to execute orders or directives of the Engineer without delay, and to promptly supply materials, equipment, labor, and incidentals as may be required. Such superintendence shall be furnished irrespective of the amount of work sublet. The superintendent shall advise the Engineer of an intended absence from the work and designate a person to be in charge of the work during such absence.

S-105.06--Cooperation with Utilities. The Engineer will notify all utility companies, all pipe line owners or other known parties affected and endeavor to have a plan and agreement for all necessary adjustments of utilities, pipe lines or other appurtenances which are within or adjacent to the limits of construction before bids are received. Such utility plans or agreements will be made available for inspection by the Contractor if requested. The Owner will also endeavor to have all necessary adjustments made as soon as practicable.

All relocation or adjustment of utility appurtenances within the limits of the proposed construction will be performed by others unless otherwise specified.

All known utilities within the project are shown on the plans. It is understood and agreed that the Contractor has considered in his bid all of the utility appurtenances in their present or relocated positions and that no additional compensation will be allowed for delays, inconvenience, or damage sustained by him due to interference from the said utility appurtenances or the operation of moving them.

S-105.06.1--High Voltage Overhead Lines. The Contractor shall not perform any function or activity upon any land, building, highway or other premises if at any time during the performance of that function or activity the person performing the function or activity could be reasonably expected to move or be placed within 10 feet of any high voltage overhead line or if any equipment or part of any tool or material used by the person could be reasonably expected to move or be placed within 10 feet of any high voltage overhead line during the performance of any function or activity.

The Contractor shall comply with the State of Mississippi law concerning work within the proximity of overhead power lines.

No person shall, individually or through an agent or employee, operate or bring any mechanical equipment or hoisting equipment or any other equipment or part of any tools or material within 10 feet of any high voltage overhead line.

If any person desires to carry on any function, activity, work or operation in closer proximity to any high voltage overhead line than permitted by this chapter, the person responsible for performing the work shall promptly notify the electric utility operating the high voltage overhead line, in writing, on a form to be provided by such electric utility, and shall not perform the work until mutually satisfactory arrangements have been made between such electric utility and the person or business entity responsible for performing the work.

The required 10 foot clearance shall not be provided by movement of the high voltage overhead line through strain impressed, by attachments, or otherwise.

The person responsible for performing the work in the vicinity of the high voltage overhead lines shall at no cost to the Owner, receive a written cost estimate from the utility for providing the necessary safety arrangements.

"High voltage" means a voltage in excess of six hundred (600) volts between conductors or from any conductor to ground.

"Overhead lines" mean all bare or insulated electrical conductors installed above the ground.

"Warning sign" means a weather-resistant sign of not less than 7 inches by 10 inches reading as follows: "DANGER-UNLAWFUL TO OPERATE THIS EQUIPMENT NEARER THAN 10 FEET TO HIGH VOLTAGE OVERHEAD LINES."

Any person who knowingly violates this chapter may be subject to a civil penalty in an amount not to exceed Five Thousand Dollars (\$5,000.00) to be imposed by a court of competent jurisdiction against said person.

The Form entitled, "NOTICE OF WORK TO BE PERFORMED IN PROXIMITY OF HIGH VOLTAGE POWER LINE" is included in the contract documents. The top portion only of the form shall be completed, signed and returned by the Contractor upon execution of the contract. The Engineer will transmit a copy of the signed form to each of the electric utility companies that may be involved with providing protective services.

It is not expected that the Contractor will suffer any cost from the utility company providing necessary safety arrangements when a high voltage overhead line is located on right-of-way. When an electric utility company claims otherwise, the Contractor shall notify the Engineer so the may take appropriate action.

S-105.07--Cooperation Between Contractors. The Owner and the Engineer reserve the right at any time to award contracts for and perform other or additional work on or near the work covered by the contract. Each Contractor will be expected to cooperate with the other Contractor(s) and with the Owner in every reasonable manner.

The Owner and the Engineer will make a determination as to the practicability of prosecuting an existing contract in an area before an additional award is made for work in the same area. Insofar as is practicable, the Owner will give notice of the intent to award subsequent contracts in the same area. Failure to do so, however, shall not prejudice the rights of the Owner to award additional contracts and shall not constitute grounds for claims against the Owner.

When separate contracts are let for work, any part or all of which is within the same limits, each Contractor shall conduct his work so as to cause the least interference with or hindrance of the progress and completion of work being performed by other Contractor(s).

Each Contractor shall arrange his work and shall place and dispose of the materials and equipment being used so as not to interfere with the operations of the other Contractor within limits of the same work. He shall join his work with that of others in an acceptable manner and shall perform it in the sequence called for by the plans and contract documents or as directed.

Each Contractor involved shall assume all liability, financial and otherwise, in connection with his contract and shall protect and save harmless the Owner from all damages or claims that may arise because of inconvenience, delay, or loss experienced by him because of the presence and operations of the other Contractor(s) working within the same contract limits.

S-105.08--Construction Stakes, Lines and Grades. The Engineer will set construction stakes establishing lines, slopes, and profile grade in road work, and all necessary lines and grades to control the work on bridge work, culvert work, protective and accessory structures, and appurtenances as he may deem necessary, and will furnish the Contractor with all necessary information relating to lines, slopes, and grades. The Contractor, however, will be required to check all the controlling dimensions and clearances measured from such stakes and thereafter become responsible for alignment, elevation, and dimensions of all parts of the work and their mutual agreement.

The Contractor shall be held responsible for the preservation of all stakes and marks, and if any of the construction stakes or marks have been carelessly or willfully destroyed or disturbed by the Contractor, the cost of replacing them will be the Contractor's responsibility and costs will be deducted from the current progress estimate if agreed to by the Engineer and the Owner.

S-105.09--Authority and Duties of the Engineer. As the representative of the Owner, the Engineer has immediate charge of the engineering details of the contract. He is responsible for the administration and satisfactory completion of the work in accordance with the contract, and he is delegated authority commensurate with these responsibilities.

S-105.10--Duties of the Inspector. Inspectors employed by the Owner or Engineer will be authorized to inspect all work done and materials furnished. The inspection may extend to all parts of the work and to the preparation, fabrication, or manufacture of the materials to be used. The inspector will not be authorized to alter or waive the provisions of the contract or to issue instructions contrary to the plans and specifications, or to act as foreman for the Contractor.

S-105.11--Inspection of Work. All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection. The Contractor shall be required to give the Engineer notice before beginning or doing any work or continuing any work after any delay in construction.

If the Engineer requests it at any time before acceptance of the work, the Contractor shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standards required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as Extra Work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Work done or materials used without supervision or inspection by the Engineer or his authorized representative may be ordered removed and replaced. This work will be inspected and accepted or rejected in accordance with the preceding paragraph except that the uncovering or removing shall not be paid for as extra work.

S-105.12--Removal of Unacceptable and Unauthorized Work. All work which does not conform to the requirements of the contract will be considered as unacceptable work, unless otherwise determined acceptable under the provisions of S-105.03.

Unacceptable work, whether the result of poor workmanship, defective materials, damage through carelessness, or any other cause, found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner.

No work shall be done without lines and grades having been given or approved by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans, or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract.

Upon failure on the part of the Contractor to comply promptly with an order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs from monies due or to become due the Contractor.

S-105.13--Load and Speed Restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the project. A special permit will not relieve the Contractor of liability for damages which may result from the moving of material or equipment. The Contractor will be responsible for repairs, at his own expense, for damages to public roads off the project which were caused by him through violation of all legal load restrictions.

The operation of equipment within the project limits of such weight or so loaded as to cause damage to structures or the roadway or to any other type of construction will not be permitted. Hauling of materials over the base course or pavement courses under construction shall be limited to the maximum legal loads, both gross and axle loads, allowed on Mississippi highways. No loads will be permitted on a concrete base, or structure before the expiration of the curing period. In no case shall legal load limits be exceeded after processing the surface of the design soil for

placement of subsequent subbase, base, and pavement courses unless permitted in writing. The Contractor shall be responsible for all damages caused by his hauling equipment.

The Contractor shall be responsible for maintenance of safe and reasonable speeds of vehicles assigned to the project. Further, reduced speeds may be ordered in writing by the Engineer when in his opinion lower speeds are essential to the public safety or to the quality of the completed work.

S-105.14--Maintenance During Construction. The Contractor shall maintain all the work during construction and until the work is finally accepted.

Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces to the end that the roadway, or structures are kept in satisfactory condition at all times.

In the event that the Contractor's work is ordered shut down for failure to comply with the provisions of the contract the Contractor shall maintain the roadway and structures, as provided herein, and provide ingress and egress for local residents during the period of suspended work or until the contract has been declared in default.

All cost of maintenance work during construction and before the work is finally accepted shall be included in the unit price bid on the various pay items and the Contractor will not be paid an additional amount for such work.

S-105.15--Failure to Maintain Roadway or Structures. If the Contractor, at any time, fails to comply with the provisions of S-105.14, the Engineer will immediately notify the Contractor of such non-compliance. If the Contractor fails to remedy unsatisfactory maintenance within twenty-four(24) hours after receipt of such notice, the Engineer, subject to the approval of the Owner, may immediately proceed to maintain the project with such forces as he deems necessary.

The entire cost of maintenance, as provided herein, requiring forces, equipment, materials, and incidentals other than those provided by the Contractor will be deducted from monies due or to become due the Contractor under his contract.

S-105.16--Acceptance. When, in the opinion of the Engineer, the Contractor has satisfactorily completed all work prescribed in his contract, he will so notify the Owner requesting that a joint final inspection be made. If on such joint final inspection it is agreed by the Engineer and the Owner's representative that the work has been completed in accordance with the terms of the contract, then the Owner and the Engineer will issue a final acceptance notice to the Contractor officially accepting the work and thereby relieving the Contractor of further construction and maintenance responsibility.

The acceptance of projects financed, in whole or in part, with Federal funds will require the approval of the Director and the Federal Highway Administration, except FHWA acceptance is not required on projects considered exempt by FHWA.

S-105.17--Claims for Adjustments and Disputes. It is in the public interest that the Owner and the Engineer have early or prior knowledge of an existing or impending claim of any nature by the Contractor. The Owner and the Engineer may then consider modifying the details of the work or other actions which might result in mitigation or elimination of the effect of the act or conditions objected to by the Contractor.

The Owner and the Engineer may then institute appropriate procedures, as required, to keep strict account of actual costs and to verify at the time, facts upon which a claim for contract adjustment is made. Therefore, if in any case the Contractor deems that additional compensation is due for work or materials not clearly covered in the contract or not ordered by the Engineer as Extra Work, or if the Contractor deems that adjustment in the contract time should be made because of any of the reasons provided for in the contract as a basis for an extension of time, the

Contractor shall notify the Engineer in writing of an intention to make such claim for additional compensation before beginning the work on which the Contractor bases the claim or for such extension of time as soon as the facts first become known on which the Contractor bases the claim for adjustment. If such written notification is not given by the Contractor in accordance with these specifications, the Contractor hereby agrees that failure to provide written notice has denied the Owner and the Engineer the prerogative of verifying additional time, materials, equipment, labor and making adjustment in the work which might remove or mitigate the conditions for which a claim might be made, and the Contractor further agrees that such failure on the Contractor's part shall be a conclusive waiver of any claim, or part thereof.

Mere oral notice or statement will not be sufficient, nor will an unnecessarily delayed notice or statement after the event.

Any such notice shall be in writing and shall describe any act of omission or commission by the Owner and the Engineer or their agents that allegedly caused or contributed to the condition for which a claim may be made and the nature of the claimed damage. The Contractor shall deliver or mail the notice to the Engineer.

Upon receipt of the notice, the Engineer will acknowledge receipt in writing to the Contractor with a copy of the notice and acknowledgment to the Owner.

The Engineer will evaluate the Contractor's claim and forward his/her recommendations to the Owner.

Even when the Engineer determines that the Contractor's documentation relative to the time, materials, equipment and labor are legitimate, the Engineer and the Owner will continue to monitor the Contractor's charges until the Contractor's services are complete.

Such notice by the Contractor and the fact that the Engineer has kept account of the costs and the Engineer has verified the legitimacy of the Contractor's documentation and other facts as aforesaid shall not in any way be construed as substantiating the validity of a claim.

In presenting a claim, the Contractor shall clearly and specifically state:

- (a) The contract subsection number(s) under which each part of the claim is made.
- (b) The event(s) or condition(s) covered in each such subsection(s) and made the basis for each part of the

A claim for additional compensation shall include supporting auditable cost figures from entries made in the original records entered at the time of the work. The Contractor will be required to provide all records that the Engineer deems necessary for the performance of an audit in accordance with the United States General Accounting Office's Governmental Auditing Standards, the Institute of Internal auditor's Professional Practice Standards, and the American Institute of Certified Public Accountant's Standards.

All claims made shall be sent to the Engineer for review and processing.

If a claim is so vague that the Engineer cannot reasonably and expeditiously determine the specific contractual provisions relied on by the Contractor as the basis of each part of the claim, it will be denied by the Engineer or returned without action.

Any part of a claim based on after-the-fact general statements of costs such as "Normal cost of such work", computed as a percentage of, etc." or other such indefinite statements will be denied or returned to the Contractor without action.

The Engineer may request supplemental data in writing, or return the claim to the Contractor for resubmission in accordance with these specifications.

A claim, as approved by the Owner and the Engineer, will be paid in accordance with the provision of S-104.02 and S-104.03 and adjustments in contract time will be made in accordance with the provision of S-108.06. When a claim is denied or returned without action, the notice will state the reasons therefor.

S-105.18--Automatically Controlled Equipment. Unless otherwise prohibited in other sections of the specifications or other contract documents, automatically controlled equipment that malfunctions may be operated manually or by other approved methods for a period of time approved by the Engineer so as to prevent loss or damage to the work already produced, manufactured, or processed at the time of the breakdown or malfunction. The resulting work must meet the requirements of the contract.

Section S-106-Control of Materials**S-106.10--Source of Supply and Quality Requirements**

S-106.01.1--General. The materials used in the work shall meet all quality requirements of the contract. At the option of the Engineer, materials may be tested at the source of supply to determine conformance with the specifications, in which case the Contractor shall notify the Engineer of his proposed source of material well in advance of the time of proposed delivery to the work in order to expedite the inspection and testing. If it is found after trial that sources of supply for previously approved materials do not produce uniform and satisfactory products, or if the product from any source proves unacceptable at any time, the Contractor shall furnish materials from other approved sources.

S-106.01.2--Warranties, Guaranties, Instruction Sheets and Parts Lists. For manufactured articles, units, components, or materials for use as or incorporated in any mechanical or electrical facility required under the contract, the manufacturer's warranties, guaranties, instruction sheets, and parts lists, normally available to the purchaser, shall be delivered to the Engineer by the Contractor before final acceptance of the work.

S-106.02--Local Materials Sources.

S-106.02.1--Local Materials Sources General. Possible sources of local material may be designated on the plans or described in the Special Provisions. The quality of material in such deposits will be acceptable in general, but the Contractor shall determine for himself the amount of equipment and work required to produce uniform, acceptable material. It shall be understood that it is not feasible to ascertain from samples the specific limits of acceptable material from the entire deposit and variations shall be considered as usual and are to be expected. The Engineer may order procurement of material from any portion of the deposit and may reject other portions of the deposit as unacceptable.

The Contractor shall construct and maintain all necessary haul roads to facilitate hauling of material from any and all pits or sources of material and shall bear all costs of clearing and grubbing, furnishing all material, constructing, maintaining (including sprinkling as required) and all other costs related to haul roads.

All pits and quarry sites shall be subject to the approval of the Engineer prior to opening. Unless otherwise permitted by the Engineer in writing, borrow pits, gravel pits, other pits and quarry sites, exclusive of commercially operated sources determined not to have been opened primarily to provide material for work under the contract, shall be so located as not to be visible from a public highway. In the event any pits or quarries are permitted to be located so that they are visible from a public highway, site grading, roadside development, or other items will be required as necessary to prevent an unsightly appearance of the disturbed area.

The Contractor will be responsible for all permits and licenses required to operate a borrow pit and will comply with requirements of S-107.23.

The Contractor shall so schedule and conduct all clearing and grubbing operations, stripping, opening up of the source, and all mining and hauling operations, and shall so finish and protect the surface of the disturbed area(s) as to prevent, where practicable, or otherwise minimize siltation or pollution of ditches, streams, lakes, reservoirs and adjacent property with sediment, fuels, oils, or other objectionable material occasioned by, or as a result of, his operations. Where site grading, roadside development or other items of work are required in the contract, the performance of such work shall be in the particular manner and sequence related to pit operations as deemed necessary to promote the stability of the surface of the disturbed area of the pit and to promote the maximum possible permanent vegetation establishment at the earliest possible time.

Unless the excavations, pits or quarries are determined to be appropriate to serve as lakes or ponds for recreational or other purposes, the area shall be finished, where practicable, so that the water will not collect or pond therein. Unless otherwise specified or permitted in writing, the areas or surfaces of waste overburden or stripping shall be finished, neatly dressed and terraced or otherwise left in a satisfactory condition to prevent, where practicable, or

minimize siltation and pollution of ditches, streams, lakes, reservoirs and adjacent property.

S-106.02.2--Contractor Furnished Sources. The Contractor shall provide sources of materials meeting the requirements of the contract and shall bear all costs involved, including pit explorations, necessary permits, licenses and environmental and other clearances before opening a source of materials. Testing of all materials shall be done by the contractor. Any defects disclosed by the tests shall be rectified without additional cost to the Owner.

S-106.03--Samples, Tests, and Cited Specifications. All materials used in the work shall conform to the general requirements of S-700, Materials and Tests, and, in addition, shall conform to the specific requirements of the various Subsections of S-700 cited for the various items of work. Cited Specifications of AASHTO, ASTM or Federal Specifications for materials or test methods shall be understood to mean approved pre-published or published "Standards" of ASTM, AASHTO, Federal Specifications, Interim Specifications of AASHTO (denoted by the suffix "I"), Tentative Specifications of ASTM (denoted by the suffix "T"); or Federal Specifications (denoted by a numbered amendment) current on the date of advertisement for bids. All materials will be inspected and tested for acceptance in accordance with S-700.03 unless otherwise provided. The work shall be considered incomplete until acceptance of all materials used in the work. Any work performed prior to approval of materials will be the sole responsibility of the Contractor.

It is understood that the Owner reserves the right to retest all materials even though they have been tested and approved before incorporation in the project and to reject all materials which, when retested, do not meet the requirements of the contract.

Prior inspection, test, and approval of material used as a component of other items of work for which there is a pay item in the contract shall in no way imply acceptance and payment or reimbursement to the Contractor for such previously approved material if the work in which the materials are incorporated fails to meet the requirements of the contract.

Copies of all test reports will be furnished to the Engineer's representative at his request.

S-106.04--Certification of Compliance. The Engineer may permit use, prior to sampling and testing, certain materials or assemblies accompanied by acceptable certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. Each lot of such materials or assemblies delivered to the work must be accompanied by an approved certificate of compliance in which the lot is clearly identified.

Certificates of compliance shall meet the following requirements.

I. Certifications:

- (a) Show the letterhead of the manufacturer, producer, supplier, or fabricator, as applicable.
- (b) Include the project number.
- (c) Contain an itemized list of materials covered by the certification.
- (d) Contain a material conformance statement.-- This statement should certify that the materials listed conform to the specific specification requirements.
- (e) Bear the signature of a responsible company official.
- (f) Certification for all iron, steel and steel wire products must also include a certified statement by the manufacturer that all of the manufacturing processes, excluding those for pig iron and processed, pelletized, and reduced iron ore used in the manufacture of said steel and/or iron products, have occurred domestically.

II. Certified Test Reports:

- (a) Show the letterhead of the manufacturer, producer, supplier, fabricator, or laboratory, as applicable.
- (b) Include the name and description of material tested, number, heat number, etc., as applicable.
- (c) Show the test results obtained for each test required, and state that the material was run according to the test method specified in the contract.
- (d) Be signed by a supervisor of the laboratory performing the tests.
- (e) Test reports for all iron, steel and steel wire products must also include a certified statement by the manufacturer that all of the manufacturing processes, excluding those for pig iron and processed, pelletized, and reduced iron ore used in the manufacture of said steel and/or iron products, have occurred domestically.

Certifications or Certified Test Reports will not be accepted unless they comply with the foregoing. Conformance requirements for the certification of asphalt and cement are set out separately in Mississippi Department of Transportation S.O.P. TMD-22-0100-000 and Mississippi Department of Transportation S.O.P. TMD-21-0100-000, respectively.

Materials and assemblies used on the basis of Certificates of Compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

Unless otherwise requested, the original and three copies of all Certificates of Compliance shall be furnished to the Engineer. Payment for the work will not be made until proper certification has been received unless specifically provided for elsewhere in the contract.

S-106.05--Plant Inspection. The Contractor shall provide access at any facility used in the production of materials, for personnel to inspect and test materials supplied for the project.

In the event such plant inspection is undertaken the following conditions shall be met:

- (a) The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.
- (b) The Engineer shall have full entry at all times to parts of the plant as may concern the manufacture or production of the materials being furnished.
- (c) The Engineer reserves the right to retest all materials which have been tested and accepted at the source of supply after the materials have been delivered and to reject all materials which do not meet the requirements of these specifications.

S-106.06--Field Laboratory. "Blank".

S-106.07--Foreign Materials. Foreign materials are defined as being any material or manufactured product whose manufacturing process takes place outside the United States.

S-106.08--Storage of Materials. Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected or tested prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. Approved portions of the right-of-way and/or subject property may be used for storage purposes and for the placing of the Contractor's equipment, but any additional space required therefor must be provided by the Contractor at his

expense.

Private property shall not be used for storage purposes without written permission of the owner or lessee, and duplicate copies of such written permission shall be furnished the Engineer. All storage sites shall be restored to their original conditions by the Contractor at his expense.

S-106.09--Handling Materials. All materials shall be handled in such manner as to preserve their quality and fitness for the work. Materials shall be transported from the storage or other site to the work in tight vehicles so constructed as to prevent loss or segregation of materials after loading and measuring in order that there may be no inconsistencies in the quantities of materials intended for incorporation in the work as loaded, and the quantities as actually received at the place of use.

S-106.10--Unacceptable Materials. All materials not conforming to the requirements of the specifications at the time they are used shall be considered as unacceptable and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed by the Engineer. No rejected material, the defects of which have been corrected, shall be used until approval has been given in writing by the Engineer.

S-107 – Legal Relations and Responsibility to Public

S-107.01--Laws to Be Observed. The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees, and shall protect and indemnify the Owner and Engineer and its representatives against all claims or liability arising from or based on the violation of such laws, ordinances, regulations, orders, or decrees, whether by himself or his employees, subcontractors or their employees, or agents of either.

Open burning of combustible materials shall be in accordance with current rules and regulations of the Mississippi Department of Environmental Quality, Office of Pollution Control. The basic requirements contained herein for open burning to dispose of vegetation from clearing of right-of-way or construction site were published by the Mississippi Department of Environmental Quality in Regulation APC-S-1.

Open burning of land-clearing debris must not use starter or auxiliary fuels which cause excessive smoke (rubber tires, plastics, etc.); must not be performed if prohibited by local ordinances; must not cause a traffic hazard; must not take place where there is a High Fire Danger Alert declared by the Mississippi Forestry Commission or Emergency Air Pollution Episode Alert imposed by the Executive Director and must meet the following buffer zones.

- (1) Open burning without a forced-draft air system must not occur within 500 yards of an occupied dwelling.
- (2) Open burning utilizing a forced-draft air system on all fires to improve the combustion rate and reduce smoke may be done within 500 yards of but not within 50 yards of an occupied dwelling.
- (3) Burning must not occur within 500 yards of commercial airport property, private air fields, or marked off-runway aircraft approach corridors unless written approval to conduct burning is secured from the proper airport authority, owner or operator.

S-107.02--Permits, Licenses, and Taxes. Except as provided in S-107.09, and S-107.22, the Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

S-107.03--Patented Devices, Materials, and Processes. If the Contractor employs any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor shall not involve the Owner or Engineer in the payment for royalties, either directly or indirectly, in violation of applicable State Laws to the contrary. Attention is invited to Section 65-1-61, Mississippi Code 1972, Annotated, regarding use of patented materials for paving. The Contractor and the Surety shall indemnify and save harmless the Owner, any affected third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner and Engineer for any costs, expenses, and damages which it may be obligated to pay by reason of any infringement, at any time during the prosecution or after the completion of the work.

S-107.04—Blank.

S-107.05—Blank.

S-107.06--Sanitary, Health and Safety Provisions. The Contractor shall provide adequate sanitation facilities for the use of his employees, and shall maintain these facilities in a sanitary condition. The location of such accommodations shall be subject to the prior approval of the Engineer. He shall also provide adequate dust control on the project, or haul roads, and at other areas of operation.

Such accommodations shall be designed and operated to conform to the local and State health regulations. The Contractor shall not require any worker to work in surroundings or under conditions contrary to local, State, and Federal health and safety regulations. All such requirements and regulations shall be considered as binding upon the Contractor as if actually included in these specifications.

This shall be considered necessary work auxiliary to the accomplishment of the contract and no direct payment will be made therefor.

S-107.07--Public Convenience and Safety. The Contractor shall at all times so conduct his work as to assure the least possible obstruction to traffic.

The Contractor shall use all reasonable care and precaution to avoid accidents, damage, or unnecessary delay or interference with traffic, and, if necessary, in conjunction with this work the Contractor shall provide, without additional compensation, competent flaggers to insure the maximum public safety.

S-107.08--Blank.

S-107.09--Blank.

S-107.10--Barricades, Warning Signs and Flaggers. The Contractor shall provide, erect, and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs, and other traffic control devices; shall provide qualified flaggers where necessary to direct the traffic; and shall take all necessary precautions for the protection of the work and the safety of the public. Roads or parts of the work closed to through traffic shall be protected by effective barricades. Obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to properly control and direct traffic.

The Contractor shall erect warning signs in advance of all places on the project where operations may interfere with traffic, and at all intermediate points where the new work crosses or coincides with existing traveled roads. Such warning signs shall be constructed and erected in accordance with the provisions of the contract.

All barricades, warning signs, lights, temporary signals, other protective devices, flaggers and signaling devices shall conform with the minimum requirements contained in the MUTCD current at the time bids are received.

All traffic control devices on an existing highway, road or street are to be understood to be public property under the provisions of S-107.12.

On all sections of a project which are coincident with an existing highway, road, or street and are open to traffic, the Contractor shall be fully responsible for the protection, maintenance, and replacement of all existing signs, route markers, traffic control signals, and other traffic service features existing on the work from the beginning of contract time or beginning of work, whichever occurs earlier, until final acceptance of the work.

The Contractor shall restore or replace in kind, under the provisions of S-107.12, all devices damaged, destroyed, or lost.

S-107.11--Use of Explosives. Use of explosives is not permitted.

S-107.12--Protection and Restoration of Property and Landscape. The Contractor shall be responsible for the preservation of public and private property and shall protect from disturbance or damage all land monuments, historical markers and property marks until the Engineer has witnessed or otherwise referenced their location, and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to public or private property of any character, resulting from any act, omission, neglect, misconduct, inefficiency in his manner, or method of executing the work, or the non-execution thereof, or due to defective work or materials.

The Contractor shall take sufficient precaution to prevent pollution of streams, lakes, and reservoirs with any harmful materials including but not limited to fuels, oils, bitumens, calcium chloride, and poisons. He shall schedule and conduct his grading operations, production of materials from material pits or quarry sites (exclusive of commercially operated sources) construction of haul roads, hauling operations, and other operations so as to prevent or minimize the pollution of adjacent property, ditches, streams, lakes, and reservoirs with mineral or organic sediment. Unwarranted pollution of any nature will be considered to be injury or damage within the intent of this subsection, and such injury or damage shall be subject to the restoration requirements and provisions herein set forth.

When, or where, any damage or injury is done to public or private property by, or on account of any act, omission, neglect, or misconduct in the execution or nonexecution of the work by the Contractor, he shall restore, at his own expense, the property to a condition equal to that existing before the damage or injury was done, or he shall make good such damage or injury in an acceptable manner.

In case of failure on the part of the Contractor to restore or make good such damage or injury, the Engineer may, upon forty-eight hours written notice, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof shall be deducted from monies due or which may become due the Contractor. In the event no such monies are available the amount shall be charged against the Contractor's Surety. Nothing within this subsection shall be construed to relieve the Contractor from his responsibilities under the requirements of S-107.01.

S-107.13—Forest Protection.

The Contractor shall take all reasonable precaution to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at the request of forest officials, to do all reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires. He shall make every possible effort to notify a forest supervisor or other appropriate official at the earliest possible moment of the location and extent of any fire seen by them.

S-107.14--Responsibility for Damage Claims. The Contractor shall indemnify and save harmless the Owner and Engineer, its officers, and employees from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property resulting from his operations; or on account of or in consequence of any neglect in safeguarding the work; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree; and so much of the money due the Contractor under and by virtue of his contract as may be considered necessary by the Owner and Engineer for such purpose, may be retained for the use of the Owner; or, in case no money is due, his Surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner and Engineer; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

S-107.15--Third Party Beneficiary Clause. It is not intended by any of the provisions of any part of the contract to create the public or any member thereof as a third party beneficiary hereunder, or to authorize any one not a party to this contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this contract. The duties, obligations, and responsibilities of the parties to this contract with respect to third parties, shall remain as imposed by law.

S-107.16--Blank.

S-107.17--Contractor's Responsibility for Work. Until final written acceptance of the project by the Owner and Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by action of the elements or from any other cause, whether arising from the execution or the non-execution of the work. The Contractor shall rebuild, restore, and make good, in accordance with the requirements of the contract, all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof, except as provided in S-203.11 and as provided herein.

In case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the project and shall take the precautions necessary to prevent damage to the project, provide for normal drainage, erect necessary temporary structures, signs, or other facilities; shall maintain the work in such a manner as to fully carry out his responsibility for maintaining traffic as required under the contract; shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under the contract, and shall take adequate precautions to protect new trees and other vegetative growth against injury. Except when the suspension is ordered by the Engineer for the sole benefit of the Owner, all such protection and maintenance shall be performed by the Contractor without additional cost to the Owner.

S-107.18--Contractor's Responsibility for Utility Property and Services. At points where the Contractor's operations are adjacent to or coincide with properties of railway, telegraph, telephone, and power companies, or are adjacent to or coincide with other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

The Contractor shall cooperate with the owners of all underground and overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner and that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

In the event of interruption to utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authorities and shall cooperate with them in the restoration of service. If water service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

The Contractor is advised of Section 45-15-1, et seq., Mississippi Code of 1972, Annotated, regarding the performance of work in the proximity of high voltage overhead power lines. It is the Contractor's responsibility to comply with those statutory requirements.

S-107.19--Blank.

S-107.20--Personal Liability of Public Officials. In carrying out any of the provisions of the contract, or in exercising the power or authority granted to them by or within the scope of the contract, there shall be no liability upon the Owner, Engineer, or their authorized representatives, personally, it being understood that, in all

such matters, they act solely as agents and representatives of the Owner and Engineering firm.

S-107.21--No Waiver of Legal Rights. The Owner and the Engineer shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the work and payment therefor, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that any such measurement, estimate or certificate is untrue or is incorrectly made, nor that the work or materials do not in fact conform to the contract. The Owner and Engineer shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor or his Sureties, or both, within the provisions of the laws of the State of Mississippi, such damage as they may sustain by reason of the Contractor's failure to comply with the terms of the contract. Neither the acceptance by the Owner and Engineer, or any of their representatives, nor any payment for or acceptance of the whole or any part of the work, nor any extension of time, nor any possession taken by the Owner, shall operate as a waiver of any portion of the contract or of any power herein reserved, or of any right to damages. A waiver of any breach of the contract shall not be held to be a waiver of any other subsequent breach.

The Owner and Engineer reserve the right to correct any error in any estimate that may have been paid on work that has been performed, and to adjust the same to meet the requirements of the contract and specifications. Upon conclusive proof of error or collusion or dishonesty, between the Contractor or his agents and the Engineer or his assistants being discovered after final payment has been made, the Owner and Engineer reserve the right to claim and recover by process of law, sums as may be sufficient to correct the error or make good the defects in the work resulting from such errors, dishonesty, or collusion.

S-107.22--Environmental Protection. Occupancy by the Contractor or subcontractor of any lands, whether on or off the project right-of-way and/or subject property, for the performance of any work under the contract, or preparation therefor, shall be contingent upon provisions being made and carried out to prevent or minimize air pollution or water pollution and for the proper disposal of all toxic, hazardous, or other waste material. Each operation carried on by the Contractor shall include, as a part of that operation, the best management practices and effective use of temporary measures necessary to maintain ground surface conditions so as to prevent or minimize soil erosion, sedimentation, and water pollution which may degrade receiving waters including rivers, streams, lakes, reservoirs, tidal waters, groundwater and wetlands. The primary objective shall be to establish and maintain all permanent erosion control features as soon as possible.

S-107.22.1--Section 404 Permits. Work in waters of the United States or their adjacent wetlands requires a Clean Water Act (CWA) Section 404 Permit from the U.S. Army Corps of Engineers. Section 404 Nationwide Permits are available for activities with minimal adverse effects on the aquatic environment, including wetlands and streams. If an individual Section 404 permit or notification is required, it will be provided by the Owner. These permits will be included in the contract when deemed necessary or made available for inspection in the office of the Engineer and the Owner. The Contractor will be required to adhere to any stipulations, agreements, mitigation plans and associated best management practices required by the permit. If the Contractor proposes the use of construction methods that may result in changes to project impacts, then the Contractor will be responsible for coordinating the review and approval process, as may be required.

S-107.22.2--National Pollutant Discharge Elimination System (NPDES) Permits. The Mississippi Department of Environmental Quality (DEQ) is the NPDES permit authority for Mississippi. Construction that disturbs 1 acre or more, or less than 1 acre if part of a larger common plan of development or sale, requires permit coverage. The current Large Construction General Permit (disturbs 5 or more acres) or the Small Construction Notice of Intent (disturbs 1 to 5 acres) issued by DEQ are hereby included by reference. They are available online at the DEQ web page and are revised and reissued every 5 years by DEQ. The Owner will obtain permit coverage for each project as required.

The Contractor will be required to implement and adhere to the conditions included in the general permit and the

project's Storm Water Pollution Prevention Plan (SWPPP) under the direction of the Engineer. It is the intent of the contract that construction storm water management be an integral part of all operations. Best management practices (BMP) for erosion and sediment control including silt fences, erosion control bales, check dams, berms, water bars, silt traps, silt basins, pipe slope drains, paved flumes, construction exits, temporary seeding, sodding, mulching, soil reinforcing mat, brush barriers, and other structural or non-structural practices shall be installed as shown on the plans and described in the project SWPPP. General locations for the control measures will be shown on the plans. Failure to implement or maintain the SWPPP or comply with permit requirements may result in suspension of work or withholding of estimates by the Engineer.

S-107.22.4--Storm Water Pollution Prevention Plan. The SWPPP for each construction project that disturbs 1 or more acres and the Certificate of Permit Coverage for each project that disturbs 5 or more acres will be included as a supplement in the contract documents.

S-107.22.5--Contractor's Pollution Prevention Plan. Before starting any work on the project, the Engineer may require the Contractor to submit for approval, schedules for installation, maintenance, and removal of temporary measures and establishment of permanent measures as required by the SWPPP and indicated on the plans, including a plan for the disposal of waste materials generated on the project site.

The Contractor may also be required to provide the Engineer a written plan of pollution control measures to be installed during Contractor operations in areas that are not addressed in the SWPPP or the plans to support the Contractor's operations, such as material processing plants or handling areas, haul roads, field offices, equipment and supply areas, and material sources. After review of this plan, the Engineer may require the Contractor obtain separate construction storm water permit coverage from DEQ. Pollution control measures outside the property (if necessary) shall be performed at the Contractor's expense.

The Contractor shall effectively prevent and control erosion and sedimentation on the site at the earliest practicable time as outlined in the approved schedule. Control measures, where applicable, will be implemented prior to the commencement of each construction operation or immediately after the area has been disturbed. The Contractor shall limit the amount of disturbed earth to that which can be effectively controlled. If, in the opinion of the Engineer, the Contractor is not able to effectively control soil erosion and sedimentation resulting from construction operations, the Engineer will limit the amount of disturbed area to that which the Contractor is able to control. Under no conditions shall the surface area of erodible earth exposed at one time by clearing and grubbing exceed 750,000 square feet without approval by the Engineer. After significant rainfall events, the Contractor will remove silt accumulations as soon as possible and deposit the material as approved by the Engineer.

Should the control measures fail to function effectively, the Contractor shall, without delay, act to bring the erosion and sedimentation under control by maintaining existing controls or by providing additional controls as directed by the Engineer. When in the opinion of the Engineer the site is adequately stabilized, temporary control measures will be removed and properly disposed of by the Contractor and the area restored or prepared for subsequent work.

S-107.22.6--Clearing and Grubbing, Haul Roads on or off the Right-of-way, Waste Areas, Plant Sites, or Other Areas Occupied by the Contractor in Connection with the Work. Clearing and grubbing on erodible areas, construction and maintenance of haul roads, plant sites, or other areas occupied by the Contractor in connection with the work shall include adequate protection by means selected by the Contractor and approved by the Engineer for preventing excessive erodible material from entering water or waterways off lands occupied by the Contractor and for preventing dust created by hauling equipment. Provisions for burning and dust and smoke control at plants are found elsewhere in these specifications.

Temporary erosion control measures as necessary shall be employed by the Contractor from the beginning of the work by the expeditious use of brush, vegetation or other residue from clearing and grubbing, temporary or permanent terraces, berms, dikes, dams, sediment basins, or other effective means of containing sediment. All temporary or permanent erosion control features shall be maintained in an effective manner so long as their use is essential to the

abatement of siltation.

After temporary features are deemed to no longer be useful, such features shall be removed and the area restored or prepared for subsequent work.

All temporary protection from siltation and pollution resulting from clearing and grubbing, construction of haul roads, and other areas indicated herein shall be the responsibility of the Contractor, and measurement for direct payment for construction, maintenance, removal, and satisfactory disposal will not be made unless indicated on the plans or authorized by the Engineer. Under no conditions shall the surface area of erodible earth exposed at one time by clearing and grubbing exceed 750,000 square feet without approval by the Engineer.

S-107.22.7--Pit Operations. The Contractor shall schedule, arrange, and conduct clearing and grubbing operations, stripping, opening up of the source, and all mining and hauling operations, and shall finish and protect the surface of disturbed areas so as to prevent siltation or pollution of ditches, streams, lakes, reservoirs and adjacent property with sediment, fuels, oils, or other objectionable material resulting from his operations.

Unless otherwise specified, or permitted in writing, upon completion of operations, excavations, pits, or quarries shall be finished so that water will not collect or pond therein. Areas or surfaces of waste overburden or stripping shall be finished, neatly dressed and terraced or otherwise left in a satisfactory condition to prevent siltation and pollution of ditches, streams, lakes, reservoirs and adjacent property.

S-107.22.8--Structures, Grading, and Other Construction. The Contractor shall perform all work required under the contract in such manner and with such protective features as will contain undesirable siltation under control within the limits of the work. Performance in the designated or directed sequence and the providing of all erosion protection for which pay items are not included in the contract shall be considered as included in prices bid for the various pay items of the contract.

The Contractor shall employ all temporary or permanent measures necessary to prevent or minimize undesirable siltation in connection with the excavation for and the construction and backfill of structures. Such temporary measures as are indicated herein for clearing and grubbing, or other measures such as covering of excavated materials, lining channels, construction bulkheads, or other effective measures shall be employed.

The Engineer will limit the areas of excavation, borrow, and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent erosion control measures current. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified. Under no conditions shall the surface area of erodible material exposed at one time by excavation, borrow, or fill within the right-of-way and/or property exceed 750,000 square feet without prior approval by the Engineer.

S-107.22.9--All Operations. It shall be fully understood that nothing in this subsection shall be construed in any manner to relieve the Contractor from any of his responsibilities for the establishment of permanent erosion control and other permanent work specified for erosion control in the sequence and manner included in other provisions and requirements of the contract.

S-107.23--Material Pits.

I. Bidders are reminded of the Mississippi Surface Mining and Reclamation Act and the Rules and Regulations adopted to implement this act. Questions or problems concerning the Act or the Rules and Regulations should be directed to the Department of Environmental Quality, Office of Geology, Department of Mining & Reclamation, P.O. Box 20307, Jackson, MS 39289-1307. Telephone Number: 601\961-5500

S-107.24--Construction Noise Abatement. The Contractor shall comply with all state and local sound control and

noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract.

Each internal combustion engine, used for any purpose on the work or related to the work, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without such muffler.

S-107.25--Hazardous and/or Toxic Waste Procedures. No matter how extensive a field investigation, the possibility exists that hazardous and/or toxic wastes on a site will go undetected until excavation is initiated. If underground storage tanks (USTs), buried containers, hazardous and/or toxic substances are uncovered - or even suspected - during construction, work in this area shall be immediately discontinued and measures taken to protect susceptible nearby wetlands or ground-water sources.

It is essential that the suspected hazardous substances be left in place until they have been identified. The Contractor shall make every effort to prevent his personnel, Owner and Engineer personnel and the general public from becoming exposed to substances that may be hazardous or toxic. Once contaminated soil or debris has been removed from the ground and leaves the site, it is considered a hazardous waste (if the concentration exceeds regulatory levels). In such cases, the Contractor becomes a hazardous waste generator, and the Owner becomes subject to the provisions of the Resource Conservation and Recovery Act (RCRA).

Disposition of all underground storage tanks (USTs), containers, hazardous and/or toxic waste shall be in accordance with current rules and regulations of the Department of Environmental Quality, Office of Pollution Control.

The Contractor shall report to the Engineer and the Office of Pollution Control any evidence or conditions which may cause suspicion that a waste site of hazardous or toxic materials and/or containers or USTs has been located within right-of-way and/or property limits of the construction project. Work shall cease immediately at such suspected site and shall not resume until directed by the Engineer.

The Owner reserves the right to use other forces for exploratory work to identify and determine the extent of hazardous and/or toxic waste. Should the disposition of such material require special procedures by certified personnel, the Owner will make arrangements with qualified persons to dispose of the material.

SECTION S-109 - MEASUREMENT AND PAYMENTS

S-109.01--Measurement of Quantities. The measurement and determination of quantities of each pay item will be made in general as prescribed hereinafter, and specifically as set out under Method of Measurement and Basis of Payment in the specifications for each pay item. Actual authorized quantities of work completed under the contract will be measured by the Engineer according to United States standard measures, and in accordance with well recognized engineering practices. Unauthorized wastage of material will be deducted, and only quantities actually incorporated in the completed work or ordered to be wasted will be included in the final estimate.

A station when used as a definition, term or measurement will be one hundred (100) linear feet.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of nine square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered by the Engineer.

Where the area unit for measurement and payment is specified for erosion control items, the measurements will be taken on the slope of the ground to compute the actual surface area for payment.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

All items which are measured by the linear foot, such as pipe culverts, guardrail, underdrains, etc., will be measured as specified under the Method of Measurement for the item unless otherwise shown on the plans.

No payment will be made for unauthorized excavation. Excavation or embankment performed beyond the required neat lines, or slope stakes, will not be measured for payment except as elsewhere provided herein or when within tolerances specified.

In computing volumes of excavation and embankment, the average end area method will be used, unless otherwise specified.

The term gage, when used in connection with the measurement of plates, will mean the U.S. Standard Gage, except that when reference is made to the measurements of galvanized sheets used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing, the term gage will mean that specified in the AASHTO Designation: M 36 or M 167.

When the term gage refers to the measurement of wire, it will mean the gage specified in the AASHTO Designation: M 32.

The term ton will mean the short ton consisting of 2000 pounds avoirdupois. All materials which are specified for measurement by the ton shall be weighed by competent personnel on accurate, approved scales set at locations approved by the Engineer. If material is shipped by rail, the car weight may be accepted provided the actual weight of material only will be paid for, and not minimum car weight used for assessing freight tariff. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such time as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Timber will be measured by the thousand feet board measure (MBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Volumes of materials computed in cubic yards by the average end area method are designated as "Final Measure" (FM), "Final Measure Embankment" (FME) or "Plan Measure" (PM). Volumes of materials designated for measurement loose in the vehicle are designated as "Loose Vehicle Measure" (LVM).

Volumetric measurement of excavation, embankment, granular materials, or similar materials in cubic yards will be made by the methods (see below) designated on the plans or in the proposal. For justifiable reasons, such as impracticability of measurement of volumes (usually small) by the designated method, the Engineer may order measurement by another method as follows:

- (1) Volumes designated for payment by FM may be measured LVM, and converted to contract measurement by multiplying the loose measure by eighty percent.
- (2) Volumes designated for payment by LVM may be measured at the source by the average end area method and converted to contract measurement by multiplying the FM measure by one hundred twenty-five percent.
- (3) Volumes designated for payment by FME may be measured in its original position by the average end area method and multiply the FM measure by 90 percent.
- (4) Small volumes of surplus, excess excavation or other small volumes of excavation which are impractical to measure by the average end area method but are designated to be measured by FME may be measured LVM and multiply the loose measure by 72 percent.

When any of the above conversion measurements are ordered by the Engineer, the method of measurement shall be deemed acceptable to all parties and shall be final.

When the average end area method is indicated, other three dimensional measurements of the prismoid occupied by the material in its natural position before removal, may be used.

When requested by the Contractor and approved by the Engineer in writing, materials specified to be measured by the cubic yard or ton may be converted to the other measure as appropriate. Factors for conversion from weight measurement to volume measurement or from volume measurement to weight measurement, will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

All materials for which measurements are obtained by the cubic yard LVM shall be hauled in approved vehicles and verified therein at the point of delivery. Approved vehicles for this purpose may be of any size or type acceptable to the Engineer, provided the body is of such shape that actual delivered contents may be readily and accurately determined to the whole cubic yard. Unless all approved vehicles on the work are of uniform capacity, each vehicle must bear a plainly legible identification mark, indicating its measured capacity.

All vehicles shall be loaded to a sufficient level to ensure a water level load when the vehicles arrive at the point of delivery. Loads not hauled in approved vehicles, or of a quantity less than the measure quantity for the hauling vehicles, will be subject to rejection.

Bituminous materials will be measured by the gallon or ton. Volumes will be measured at 60⁰ F or will be corrected to the volume at 60⁰ F.

S-109.02--Scope of Payment. The compensation, as herein provided, constitutes full payment for the complete work, including all materials, labor, tools, equipment, and incidentals necessary for performing all work contemplated and embraced under the contract; for all loss or damage arising out of the nature of the work; for all loss from the action of the elements, except as otherwise provided; for any unforeseen difficulties or obstruction of

the work which may arise or be encountered during the prosecution of the work until its final acceptance; for all risks connected with the prosecution of the work; for all expenses incurred by or in consequence of suspension or discontinuance of the work as herein specified, or for any infringement of patents, trademarks, or copyrights; and for completing the work in an acceptable manner according to the plans and specifications.

If the "Basis of Payment" clause in the specifications relating to any pay item in the contract requires that the contract unit price cover and be considered compensation for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item which may appear elsewhere in the specifications.

The payment of any current estimate, prior to final acceptance of the work by the Owner and Engineer, shall in no way constitute acceptance of the work, nor in any way affect the obligation of the Contractor to repair or renew defective parts of the work. The Engineer will be the judge of defects or imperfections, and the Contractor shall be liable to the Owner for failure to correct same as provided herein.

S-109.03--Compensation for Altered Quantities. Whenever the quantity of any pay item is increased or decreased from the original contract quantity, payment for the item will be made on the basis of the actual quantity completed at the contract unit price, except as otherwise provided in S-104.02, in the detailed specifications for the particular pay item or by supplemental agreement.

S-109.04--Extra and Force Account Work. Extra work performed in accordance with the requirements and provisions of S-104.03 will be paid for at the unit prices or lump sum stipulated in the agreement authorizing the work, or the Engineer with the approval of the Owner may require the Contractor to do such work on a force account basis to be compensated in the following manner:

- (1) **Labor.** For all labor and foremen in direct charge of the specific operations, the Contractor will receive the rate of wage (or scale) agreed upon in writing before beginning work for each hour that labor and foremen are actually engaged in such work.

An amount equal to fifteen (15) percent of the sum of the above item will also be paid the Contractor.

- (2) **Bond, Insurance, and Tax.** For property damage, liability, and workmen's compensation insurance premiums, unemployment insurance contributions and social security taxes on the force account work, the Contractor will receive the actual cost, to which cost no percentage will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for the bond, insurance, and tax.
- (3) **Materials.** For materials accepted by the Engineer and used, the Contractor will receive the actual cost of the materials, including transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth), to which cost fifteen (15) percent will be added.
- (4) **Equipment.** For any machinery or special equipment (other than small tools) authorized by the Engineer, the Contractor will receive the rental rates agreed upon in writing.

In the event an agreement cannot be reached for a particular piece of equipment, the pamphlet entitled "Construction Equipment Ownership and Operating Expense Schedule, Region III" as published by the Department of Army, U.S. Army Corps of Engineers, current at the time the force account work is authorized, will be used to determine equipment ownership and operating expense rates. These rates do not include allowances for operating, labor, mobilization or demobilization costs, overhead or profit, and do not represent rental charges for those in the business of renting equipment. Operating labor and overhead cost will be allowed. Subject to advance approval of the Engineer, actual transportation cost for a distance of not more than 200 miles will be reimbursed for equipment not already on the project. The cost of transportation after completion of the force account work will be reimbursed except it cannot

exceed the allowance for moving the equipment to the work.

The hourly use rates are computed on the basis of a 40-hour work week. When the Contractor works more than 40 hours per week, the cost for "Cost of Facilities Capital" will be excluded from the hourly rate for those hours in excess of 40 hours per week.

No more than eight hours of standby will be paid during a 24-hour day, nor more than 40 hours per week. Standby time will not be allowed unless the equipment has been in idle status in excess of 16 hours during a 24-hour day. Likewise, standby will not be allowed during periods when the equipment would have otherwise been in idle status. Actual operating time during a week will be credited against the 40 hours maximum standby allowance.

All equipment shall be subject to approval from day to day in accordance with the requirements of S-108.05.

- (5) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- (6) Compensation. No extra work on a force account basis will be paid for unless unit prices for labor, materials, and equipment rentals have been agreed upon in writing before work is started. In no case shall the unit prices paid to the Contractor exceed the amount of the quoted unit price for each item stipulated in the Force Account agreement.

The Contractor, or his authorized representative, and the Engineer shall compare records of extra work done on a force account basis at the end of each day. Copies of these records shall be made upon the form provided for this purpose, and shall be certified to by the Contractor and the Engineer. The Contractor shall furnish to the Engineer itemized statements of the cost of all force account work. The statements shall include a true copy of the payroll and the original receipted bills and invoices for the material used and the freight charges paid on same. Where materials used are not specifically purchased for use on extra work but are taken from the Contractor's stock, the Contractor may submit an affidavit of the quantity, price, and freight on these materials in lieu of certified copies of original bills and invoices. Statements covering force account work for each specific agreement shall be submitted promptly at the end of the month in which the work was actually completed.

S-109.05--Eliminated Items. Should any item contained in the proposal be found unnecessary for the proper completion of the work, the Engineer may, upon written order to the Contractor, eliminate the item from the contract and in no way invalidate the contract. When the Contractor is notified of the elimination of items, he will be reimbursed for actual work done and all costs incurred prior to the notification as provided in S-104.02.

S-109.06--Partial Payments.

S-109.06.1--General. Monthly estimates will be authorized by the Engineer provided the amount due on completed work is at least \$1,000.00 including advancement on materials. The monthly estimate will be prepared by the Engineer on the day of the month prescribed by the Owner. Partial payments based on monthly estimates and computed at contract unit prices will be made on or about the day prescribed by the Owner.

If defective work and/or materials are discovered or reasonable doubt arises as to the integrity of any part of the work for which partial payment has been allowed, a deduction from subsequent estimates in an amount equal to the value of the defective or questioned work will be made until the defects have been remedied or the causes for doubt removed.

S-109.06.2--Advancement on Materials. Upon written request of the Contractor, written consent of the Surety, approval by the Owner, advance payments for bulky non-perishable durable materials constituting significant portions of the project cost stored and stockpiled on or near the project or at other locations approved by the Engineer may be allowed. Borrow material, granular materials, topsoil, living or perishable plant materials and seeds are not to be considered for partial payment, nor will partial payments be made on relatively small quantities of materials. If partial payment is allowed, such payment will be based on the verified actual material costs plus the freight charges (excluding sales tax, local hauling and handling costs) without regard to percentage of completion of work. Estimates will not be allowed until the Engineer receives duplicate copies of material invoices plus a testing engineer's certification. In all cases the Contractor shall save harmless the Owner and Engineer in event of loss or damage, regardless of cause, as a result of such advance payments.

As the materials are incorporated into the work in accordance with specification requirements proportionate reductions for advanced payments shall be made from the monthly estimates covering the work performed. Calculation of percentage of completion, or rate of progress, shall be based on completed work and no consideration shall be given to inclusion of stockpiled materials in such calculations.

S-109.06.3--Retainage. Ten percent (10 %) of the total of each monthly estimate will be deducted and retained until after the completion of all work in the contract, and the balance, less all previous payments, will be certified by the Engineer. The monthly estimates will be approximate only, and all estimates and payments will be subject to correction following discovery of error in any previous estimate. When all work has been completed the Engineer may, with the approval of the Owner and consent of the Surety, reduce the retainage to two and one-half percent of the total amount earned.

Should defective work or materials be discovered or should reasonable doubt arise as to the integrity of any part of the work completed previously, there will be deducted from subsequent estimates an amount equal to the value of the defective or questioned work, and this work will not be included for payment until the defects have been remedied or the causes for doubt removed.

S-109.06.4--Withholding of Estimates. An estimate may be withheld indefinitely until all directions given by the Engineer, in compliance with and by virtue of the terms of the contract, have been complied with by the Contractor.

S-109.07--Payment for Material on Hand. See S-109.06.2.

S-109.08---Changes in Material Costs. Because of the uncertainty in estimating the costs of petroleum products that will be required during the life of a contract, adjustment in compensation for certain materials is provided as follows:

Bituminous Products-- Each month the Department will acquire unit prices from producers or suppliers who supply the State highway construction industry with bituminous products. The average of all quotes for each product will serve as the base price for contracts let in the subsequent month.

S-109.09--Freight Rates and Labor Rates. "Blank".

S-109.10--Payment of Withheld Funds. "Blank".

S-109.11--Acceptance and Final Payment. When the Engineer has determined the Contractor has performed all of the work in accordance with the terms of the contract, and that all test reports are on file, he will notify the Owner accordingly, requesting that a final inspection of the work be performed. The Engineer or his representative shall make such final inspection in company with the Owner and, if the Owner concurs with the Engineer's recommendation that the work be accepted, the Owner will then formally accept the work in writing.

Whenever the work provided for in the contract shall have been completely performed on the part of the Contractor and all parts of the work have been approved by the Engineer and accepted by the Owner, a final estimate showing the value of the work will be prepared by the Engineer as soon as the necessary final measurements and computations can be made. The amount of this estimate, less any sums that have been deducted or retained under the provisions of the contract, will be paid to the Contractor as soon as practicable after the final acceptance. The Owner may at their discretion withhold final payment until receipt from the Contractor's Surety of a statement consenting to the release of a part of or all of the retainage.

The acceptance by the Contractor of the last payment as aforesaid shall operate as and shall be a release to the Owner from all claims or liabilities under the contract for anything done, furnished or relating to the work under the contract, or for any act or neglect of said Owner relating to or connected with the contract.

S-109.12--Right to Audit. The Owner reserves the right to audit the Contractor's records at any time during the contract period and up to three years after the final contract payment or up to three years after any litigation is filed with court, whichever is later. If the Owner commences an audit, the Contractor will be required to provide sufficient original documents and records to satisfy the Owner that the costs included in the Contractor's claim were incurred solely in performance of the referenced project and project phase and were not incurred on any other project or phase of the referenced project that the Contractor is constructing or has constructed. The audit will be conducted in accordance with United States General Accounting Office's Governmental Auditing Standards, the Institute of Internal Auditor's Professional Practice Standards, and the American Institute of Certified Public Accountant's Auditing Standards.

S-109.13--Contract Overpayment(s). The Contractor is duly responsible to and will immediately reimburse the Owner, without any demand therefor, for any overpayment(s) of which he has knowledge or through due diligence, should have knowledge.

By the execution of the contract, the Contractor also agrees that if the Owner has made any overpayment(s) to the Contractor on any previously executed contract(s), the Owner may notify the Contractor in writing of the nature and the amount of the overpayment(s). If the Contractor fails to remit the overpayment(s) to the Owner within thirty (30) calendar days, the Owner may withhold any payment(s) due the Contractor until said overpayment(s) are received.

SECTION S-200 - MOBILIZATION

S-200.01--Description. Mobilization shall consist of moving all labor, equipment, supplies, and incidentals to the project site and removing same after other work under the contract has been completed. It shall also include all mobilization preconstruction costs which are necessary direct costs to the project and are of a general nature rather than directly attributable to other pay items.

COMPENSATION**S-200.02--Method of Measurement.**

S-200.02.1--Mobilization. Measurement for payment will be in accordance with the following schedule:

- (1) When five percent of the original contract amount is earned from other bid items (exclusive of those listed as dependent items), fifty (50) percent of the amount bid for mobilization, or five percent of the original contract amount, whichever is less, will be paid.
- (2) When ten (10) percent of the original contract amount is earned from other bid items (exclusive of those listed as dependent items), one hundred (100) percent of the amount bid for mobilization, or ten (10) percent of the original contract amount, whichever is less, will be paid.
- (3) Upon completion of all work, payment of any amount bid for mobilization in excess of ten (10) percent of the original contract amount will be paid.

In the event the contract is terminated under the provisions of S-108.09, the percentages listed will not be used in computing total payment, but the percentages of original contract amount (exclusive of dependent items) earned at the time of termination will be applied to the lump sum price bid for mobilization.

S-200.03--Basis of Payment. Mobilization will be paid for at the contract lump sum price, which shall be full compensation for completing the work specified.

Payment will be made under:

S-200-A: Mobilization - lump sum

When not listed as a pay item, the cost of this work shall be included in the prices bid for other items.

S-201 – Clearing and Grubbing

S-201.01--Description. This work shall consist of clearing, grubbing, removing and disposing of all things within the limits of the right-of-way and/or property and easement areas, except things designated to remain or to be removed in accordance with other provisions of the contract. This work shall also include the preservation from injury or defacement of all vegetation, objects, or materials designated to remain or to be salvaged, and the removal and satisfactory disposal of obstructions and salvable material when their removal and disposal is not otherwise provided in the contract. The requirements for removal and disposal shall be in accordance with the provisions and requirements of S-202.

CONSTRUCTION REQUIREMENTS

S-201.02--General. It is the intent of these specifications that all desirable natural growth within the right-of-way, property and easement areas be preserved where practicable, and that all things which detract from the aesthetic value of the completed work, unnecessarily interfere with construction, or would unnecessarily interfere with future maintenance be removed. The Contractor shall be responsible for preserving all things designated to be salvaged or to remain. In areas where desirable natural growth is designated to remain, the Contractor shall thin or trim shrubbery and live trees to the extent consistent with the intent of these specifications. Use of methods or equipment which might mar or destroy vegetation designated for preservation will not be permitted.

All clearing and grubbing necessary for setting construction stakes shall be completed a satisfactory distance ahead of grading operations. Refer to S-107.22.5 for restrictions and protection of the cleared area.

S-201.03--Clearing and Grubbing.

S-201.03.1--Clearing and Grubbing-Lump Sum Basis. Surface objects, trees, stumps, roots, and other protruding or underground obstructions, not designated to remain, shall be cleared and grubbed (including mowing, as required).

Except in areas to be excavated, stump holes and other holes from which obstructions are removed shall be backfilled with suitable material and thoroughly compacted as specified.

All operations shall be conducted in such a manner as to prevent damage to anything that is to remain on the right-of-way, property or to adjacent property.

Burning of perishable material shall be done only in accordance with applicable laws, ordinances, and regulations. If not burned, materials and debris shall be removed from the right-of-way and/or property and disposed of outside the limits of view from any public road or facility.

Low hanging and unsound or unsightly branches on trees or shrubs designated to remain shall be removed as directed. Branches of trees extending over the roadway shall be trimmed to give a clear height of at least twenty (20) feet above the roadway surface. All trimming shall be done by skilled workmen and in accordance with good tree surgery practices. An approved asphaltum base paint prepared specifically for tree surgery shall be furnished and applied by the Contractor to cut or scarred surfaces on trees or shrubs selected to remain.

S-202 – Removal of Structures and Obstructions

S-202.01--Description. This work shall consist of the removal and the satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and other obstructions which are not designated to remain or to be removed and disposed of under other provisions of the contract or under separate contracts or agreements. This work shall also consist of necessary excavation incidental to the removal of structures and obstructions and backfilling the resulting cavity.

CONSTRUCTION REQUIREMENTS

S-202.02--General. The Contractor shall preserve and protect all structures, fences, public and private utilities, and improvements, above or below the ground, which are to remain or be removed by others. Unless specified, removal or adjustment of these items will not be the responsibility of the Contractor.

The Contractor shall raze or remove and satisfactorily dispose of all buildings, structures, fences, and other obstructions, except those items indicated to remain or be otherwise removed and disposed of. Basements or cavities left by structure removal shall be filled to the level of the surrounding ground, compacted as directed, or if within the limits of construction, compacted in accordance with S-203.09.3.

All materials not designated for salvage shall be disposed of by the Contractor in accordance with S-201.03.

Operations necessary for the removal of an existing structure or other obstruction which may damage new construction shall be completed prior to constructing the new work. The Contractor shall employ methods for removal to ensure that new work, items in place to remain, or materials to be salvaged will not be damaged (Reference is made to S-107.12).

All material designated for salvage shall be removed, without unnecessary damage, in sections or pieces which may be readily transported and shall be stored by the Contractor at designated sites within the project limits.

S-202.03--Removal of Bridges, Culverts, and Other Drainage Structures. Bridges, culverts, and other structures, in use by traffic, shall not be removed until the traffic is satisfactorily accommodated otherwise.

Unless otherwise directed, existing structures shall be removed to at least one foot below the final ground line or designated low water level. The removal of portions of bridges located in navigable streams shall be subject to the requirements set out in the permit of the authority approving the location and plans and authorizing construction of the new structure.

Unless otherwise specified in the proposal, or noted on the plans, structural steel, timber, and salvageable material shall remain the property of the Owner. Steel or timber bridges shall be carefully dismantled without unnecessary damage. Steel members shall be match marked, and all salvaged material shall be stored as specified in S-202.02.

When required on the plans or in the proposal, concrete which is suitable for riprap shall be salvaged and stockpiled, or otherwise disposed of in accordance with S-202.05.

S-202.04--Removal of Pipe. All culvert pipe designated to be salvaged or relaid shall be carefully removed and every reasonable precaution taken to avoid breaking or damaging. Pipes designated to be relaid shall be removed, handled, and stored when necessary so that there will be no loss or damage before relaying. The Contractor shall replace without extra compensation all sections lost from storage or damaged by negligence or improper methods to the extent its reuse is deemed by the Engineer to be unsatisfactory. Pipes not designated to be salvaged or relaid shall be disposed of by the Contractor in accordance with S-201.03.1.

S-202.05--Removal of Pavement, Sidewalks, Curbs, Etc. When required on the plans or in the proposal, concrete pavement, sidewalks, curbs, gutters, etc. designated for salvage shall be broken into pieces not exceeding 150 pounds in weight unless otherwise specified and shall be stockpiled at locations designated by the Engineer within the project limits or at other locations designated in the contract. All excess over that required for salvage, and all when none is required for salvage, shall be disposed of by the Contractor, without regard to size of pieces in accordance with S-201.03.

S-203 – Excavation and Embankment

S-203.01--Description. This work shall consist of excavation and embankment required for the proposed improvements, and includes the preparation of subgrade and foundations, the construction of embankments and other utilization or disposal of materials excavated, and the compaction and dressing of excavated areas and embankments.

S-203.02--Classifications of Excavation. Where classification is provided by separate pay items in the proposal, the excavation specified under this section may be classified by any of the following classes:

S-203.02.1--Unclassified Excavation. When no pay item is included in the contract for other classes of excavation, unclassified excavation will consist of the excavation and processing or disposal of all materials of whatever character encountered in the work. When pay items are included for other classes of excavation, unclassified excavation will consist of the excavation and processing or disposal of all materials except those for which additional pay items are provided.

S-203.02.2—Blank.

S-203.02.3--Muck Excavation. When shown as a pay item, muck excavation will consist of the excavation, removal, and disposal of natural deposits of saturated or unsaturated mixtures of soils and organic matter unsuitable for foundation materials. The Engineer, after consideration of the material and the conditions involved at the time of excavation, will be the sole judge as to whether the material involved will be classified as muck excavation.

S-203.02.4--Borrow Excavation. Borrow excavation will consist of approved material required for the construction of embankments or other portions of the work. The Contractor shall make arrangements for obtaining borrow, and shall pay all costs involved. Contractor furnished borrow with a LL of not more than 25 and a PI between 8 and 12.

S-203.02.5--Channel Excavation. When shown as a pay item, channel excavation will consist of excavation and disposal of all material required for the widening, deepening, or straightening of an existing channel or the construction of a new channel. Material from channel excavation used in the roadbed or other required embankment construction will be classified as unclassified excavation.

S-203.02.6--Special Excavation. When shown as a pay item, special excavation will consist of the excavation and disposal of the following: unsuitable materials required to be removed below natural ground under embankments; unsuitable materials encountered in soils not placed under this contract; or excavation below required embankments specified for the salvaging and stockpiling of topsoil and plating material.

S-203.02.7--Excess Excavation. When shown as a pay item, excess excavation will consist of excavation which cannot be satisfactorily used or disposed of within the right-of-way and/or property. Except for muck excavation, excess excavation may include any type, kind, or class of excavation which the Engineer determines must be removed from the right-of-way and/or property. It will not include any excess caused by the Contractor importing too much excavation; in this case the excess excavation shall be removed from the project at the expense of the contractor.

When shown as a pay item and unless otherwise indicated in the contract, the Contractor shall provide a disposal area for excess excavation.

S-203.02.8--Surplus Excavation. When shown as a pay item, surplus excavation will consist of required excavation within the project limits, which is in excess of or unsuitable for that required for embankments and which can be satisfactorily used or disposed of within the project limits.

S-203.02.9--Stripping Excavation. Stripping excavation shall consist of the excavation, removal and disposal of all overburden materials of whatever character necessary to satisfactorily expose suitable selected material.

S-203.02.10--Estimated On Site Excavation (E.O.S.E.). Where projects cannot be balanced from material from within the project limits, excavation identified as Estimated On Site Excavation (E.O.S.E.) shall become the property of the contractor. It shall be excavated, used in the embankment if suitable, and paid for as Borrow Excavation (F.M.E.), (or in lump sum item), if used in the embankment.

CONSTRUCTION REQUIREMENTS

S-203.03--General. Excavation and embankment operations may be started at the location and in the sequence approved by the Engineer when:

- (1) sufficient clearing and grubbing has been completed and accepted;
- (2) the work has been cross sectioned and slope staked (if necessary);
- (3) installation of required pipes, culverts, and approved backfills are complete;
- (4) the site has been prepared in accordance with these specifications;
- (5) the Contractor has informed himself as to the proper haul and disposal of material.

Excavations and embankments shall be finished to reasonably smooth and uniform surfaces. No material shall be wasted without permission of the Engineer. Excavation operations shall be conducted so that material outside the limits of slopes will not be unnecessarily disturbed.

Where plating is contemplated, either in cut or fill sections, appropriate adjustment shall be made in the graded section during construction so that the finished section after plating will conform within allowable tolerances to the typical sections shown on the plans.

Unless otherwise specified, rock larger than three inches shall be removed to a minimum depth of eight inches below subgrade, and the excavation backfilled with material designated on the plans or approved by the Engineer. Care shall be taken that undrained pockets are not left in the surface of rock.

Borrow material should not be placed until after excavation has been placed in embankments. Excess material determined to have been caused by the Contractor importing too much excavation from sources shall be removed from the project limits in accordance with S-104.06 unless the Engineer orders that the material be disposed of within the project limits. The Contractor shall not excavate beyond the dimensions and elevations established or approved.

When the Contractor's excavating operations encounter remains of prehistoric dwelling sites or other artifacts of historical or archeological significance, the operations shall be temporarily discontinued. The Engineer will contact appropriate authorities to determine the disposition thereof.

When directed by the Engineer, the Contractor shall excavate the site in a manner to preserve the artifacts encountered, and if required shall remove them for delivery to the owner.

Where excavation to grade results in a foundation, subgrade, or slope of unsuitable soil, the Engineer may require the Contractor to remove unsuitable materials and backfill to the required grade with approved material. Slides or other soil failures shall be removed by the Contractor.

The Engineer may designate as unsuitable those soils which cannot be properly compacted under satisfactory conditions. All unsuitable material shall be disposed of as specified or directed.

S-203.04--Topsoil. Where the salvaging and stockpiling of topsoil or plating material is specified, this operation shall be completed before beginning excavation of the underlying material.

S-203.05—Blank.

S-203.06--Excavation Operations. Excavation operations shall be so conducted as to minimize the loosening of materials outside the required slopes or below the indicated grade. No payment will be made for the removal, disposal, or replacement of material determined to be loosened or undercut through carelessness or negligence on the part of the Contractor. Neither will payment be made for excavation which is used for purposes other than designated.

When practicable, excavation and disposal of the material shall be conducted in such a manner that the most suitable material will be placed in the top courses of embankments. Adequate drainage which will conform to the finished drainage system shall be maintained.

All earth cut slopes shall be dressed to smooth and uniform surfaces to conform to the specified sections. Allowable tolerances for cut slopes shall be plus or minus five-tenths (0.5) foot horizontally at subgrade elevation. On deep cuts, a greater tolerance is allowable but not to exceed an additional three-tenths (0.3) foot horizontally for each ten (10) feet of depth. Allowable vertical tolerances at subgrade elevation shall be plus or minus 0.10 foot in elevation.

S-203.07--Blank.

S-203.08--Disposal of Unsuitable, Surplus, Channel, and Excess Excavation. All material encountered in excavation within the project limits which is unsuitable for use in the work shall be removed and disposed of as specified in the contract or as directed. Unsuitable material shall be understood to be any material, which at the proper moisture content cannot be processed to the required density and stability. Unless otherwise specified, the Contractor shall provide at his own expense the location for the disposal of muck and excess excavation, and shall furnish the Engineer with two signed copies of the release as provided in S-104.06.

S-203.09--Embankment Construction.

S-203.09.1--General. Embankment construction shall consist of: constructing roadway embankments; dikes; placing and compacting of approved material where unsuitable material has been removed; backfilling of structures where not otherwise provided for; and placing and compacting embankment material in holes, pits, or other depressions.

This work shall also consist of preparation of the areas upon which embankments are to be constructed. Only approved materials excavated as provided in the contract shall be placed in embankments and backfills; unsuitable or perishable materials such as rubbish, sod, brush, roots, loose stumps, logs, heavy vegetation, sawdust, etc. shall not be incorporated in embankments. Rocks, broken concrete, or other solid material shall not be placed in embankment areas.

Special materials for embankments such as for inundated areas, filter beds, etc. or special backfill material may be specified elsewhere in the contract.

S-203.09.2--Preparation of Embankment Areas. Preparation of embankment areas shall be in accordance with one or a combination of the following procedures:

S-203.09.2.1. All grade points shall be undercut, back-filled with suitable excavation material, and compacted to the density for the design soil portion of embankments. The material excavated from the undercut, if

suitable, shall be used in other portions of the work. The undercut at each grade point shall be approximately three feet below the subgrade in the embankment. The undercut shall be extended a sufficient distance into the cut to provide an undercut grade at the point of intersection with the subgrade of not less than two feet below natural ground.

S-203.09.2.2. Unless otherwise specified or directed by the Engineer, where the height of an embankment to subgrade will be three feet or less, all sod, vegetable matter, and unsuitable soil shall be removed from the surface upon which the embankment is to be constructed. The cleared surface shall be completely broken up by plowing, scarifying, or disk-harrowing to a depth of at least six inches. The loosened material shall then be compacted to the density specified (SV) for the design soil portion of the embankment.

The removed vegetation and unsuitable soil shall be disposed of as directed.

No additional payment will be made for plowing, scarifying, or disk-harrowing under this type of preparation.

S-203.09.2.4. In areas where the height of embankment to subgrade is to be greater than three feet, all material determined by the Engineer to be unsuitable for foundation for the embankment shall be undercut and disposed of as directed. All sod on all other areas shall be thoroughly disk-harrowed before construction of the embankment.

S-203.09.2.5. Where embankment is to be constructed on hillsides or against existing roadway slopes, slopes which are steeper than 4:1 shall be continuously benched as the new work is brought up against the slope. Benching shall be of sufficient width to permit operation of placing and compacting equipment. Each horizontal cut shall begin at the intersection of the original ground or slope and the vertical sides of the previous cut. Material thus cut out shall be recompacted along with the new embankment material and will not be measured for payment.

S-203.09.3--Embankment Formation. After the area has been prepared as specified, the embankment shall be constructed in full width layers parallel to the finished grade.

Except as herein provided, each layer shall not exceed eight inches (loose) in thickness, and shall be spread, shaped, and compacted so that the completed embankment will conform to the required density, stability, line, grade, and cross-section.

The required stability in embankment construction shall be that which the Engineer determines can be reasonably obtained at the proper moisture content for the material being placed. Sponginess, shoving, or other displacement under heavy equipment will be considered prima facie evidence of lack of stability under this requirement.

Direct casting or similar methods will not be permitted unless authorized in writing by the Engineer. Should direct casting be authorized, all cast material shall be moved from the point where it is deposited, spread and compacted in uniform layers as specified herein.

S-203.09.3.1--Basement Soils. In low, swampy ground which will not support the weight of hauling equipment, the Engineer may permit the bottom portion of the embankment to be constructed in a uniformly distributed layer of sufficient thickness to support equipment placing subsequent layers. However, this method will not be permitted in any portion of the fill less than three feet below subgrade.

In areas where the embankment material is of a highly varying character, construction shall be performed so as to eliminate pockets or strata of varying materials. Each layer shall be disk-harrowed and heavily bladed for its

full depth; or moved from its position of deposit by motor grader, bulldozer, or other equipment; or processed by other means to the extent necessary to eliminate pockets or strata of material of varying character. The layer shall then be shaped and compacted in accordance with these specifications.

Rock in embankment shall be distributed over the area to avoid bridging, nests, or pockets, and all interstices shall be completely filled with earth or stone fragments and compacted. Where only occasional boulders are encountered, they shall be placed near the outer slopes in lower portions of the embankment.

S-203.09.3.2--Design Soils. Each layer of the design soil shall be disk-harrowed and heavily bladed for its full depth, or processed by other approved means to the extent necessary to provide a layer of material reasonably uniform in character. Each layer shall then be shaped and compacted in accordance with these specifications.

S-203.09.3.3--Backfill and Embankment Formation Adjacent to Structures. Backfilling around structures shall not start until the structure has been properly cured for the minimum number of days required and permission has been granted by the Engineer to proceed with the work. The work shall be performed only under the direct supervision of the Engineer or his designated representative.

The material shall be approved before placement, and shall be the best available from the sources. It shall preferably be nonplastic, sandy, or loamy earth and shall be free from large lumps, clods, rock, or other objectionable matter. Adequate provision shall be made for thorough drainage of all backfilling.

The backfill material shall be deposited in uniform, parallel layers on the sides of box bridges or culverts, or other structures. Each layer shall be disk-harrowed and bladed for its full depth or processed by other approved means to the extent necessary to provide a layer of material reasonably uniform in character, and shall be so placed and compacted that drainage of the layer will be away from both the longitudinal and the transverse axes of the structure. In addition, the backfill for abutments, retaining walls, wing walls, or other structures or sections thereof shall be built in layers with each layer being constructed for the full length of the unit and special precaution shall be taken to prevent any wedging action against the structure.

The material for each layer shall be uniformly compacted, preferably by approved mechanical equipment including self-powered mechanical tampers, to not less than the density required in the adjacent embankment. The work shall be conducted so as to form a berm of compacted soil of sufficient width on each side of the structure such that the berms at the top of the structure shall be at least six feet in width. The slopes of the backfill shall not be steeper than 3:1 at any point. Unless otherwise specified, backfilling shall continue to the level of the original ground, to an elevation at least one foot above the top of the structure, or to the top of the graded section, as applicable.

The Contractor shall repair, restore with new work, or make good without extra compensation all damage done to the structure as a result of the backfilling operations.

S-203.09.4--Compaction of Embankments. All embankment material shall be at the moisture content determined to be proper for the particular material being placed so that the resulting work will be both dense and stable.

It shall be the Contractor's responsibility to maintain the proper moisture content during compaction operations, and the Engineer may require moistening or drying as necessary, without additional compensation to the Contractor.

The material shall be compacted until the required density, determined in accordance with S-700.03 and S-700.04 has been attained and the embankment is stable.

Acceptance of compaction will be on a lot basis.

For basement and design soils, the required density shall be 95.0 percent and 98.0 percent, respectively. If a density test fails within minus two percent (-2.0%), 93.0 to 95.0% or 96.0 to 98.0%, of the required density, a verification test will be performed and the average of the two tests will be the test value for the lot. If this test value does not meet the required density (95.0 or 98.0%), the lot shall be rejected. If the original test value exceeds minus two percent (-2%) of the required density, no verification test will be performed and the lot shall be rejected.

Acceptance of compaction for structural backfill will be considered a separate frame of work. The backfill at each structure up to a depth of five feet will be considered a lot. For long structures, the Engineer may specify that the backfill be divided into smaller lots. Each lot will be divided into four approximately equal sublots with two density tests taken at random on each side of the structure. The single test and the lot average shall conform to the required densities set forth above for basement soils or design soils as applicable.

The Contractor shall make allowance for shrinkage and compaction in the construction of embankment.

S-203.09.5--Tolerances. The allowable vertical tolerance at subgrade elevation shall be plus or minus one-tenth foot in elevation.

The allowable horizontal tolerance at subgrade elevation will be five-tenths of a foot. The allowable tolerance from staked slopes on fills will be plus or minus five-tenths foot horizontally for each 10 feet of fill height except where surplus excavation is required or permitted by the Engineer to be used for uniformly widening embankments or flattening slopes. In these cases tolerances will be modified accordingly.

S-203.10--Settlement by Blasting.

S-203.11--Maintenance of Earthwork. The Contractor shall satisfactorily maintain all portions of the work until the completion and acceptance of the contract. The Contractor shall replace, restore, or reconstruct without extra compensation all portions, including materials, determined by the Engineer to have been displaced or damaged due to carelessness or negligence on the Contractor's part. Carelessness or negligence may include but not be limited to inadequate drainage; failure to remove forms or obstructions; failure to properly prosecute and complete work within the time specified in the contract; neglecting to establish erosion control items; failing to provide continuous maintenance as required; or other avoidable causes for displacement or damages.

S-205 – Subgrade Preparation

S-205.01--Description. The subgrade is designated as that part of the roadbed or foundation structure consisting of the design soils upon which the base structure (or building/paving) is to be placed and its finished construction shall conform to the provisions herein and such special preparation as may be required. The subgrade preparation shall consist of the construction and compaction of the subgrade in accordance with these specifications.

S-205.02--Subgrade Preparation. The subgrade shall be constructed as indicated above in accordance with S-700.04.3 and with the lines, grades and typical section for the particular type of structure, as shown on the plans or established by the Engineer. No structure shall be placed on the subgrade until same has been checked and approved by the Engineer.

The subgrade material shall be moistened or dried to the optimum moisture content as determined by AASHTO T-99, Method C, as modified by Mississippi Test MT-8.

The specified value (SV) for subgrade density shall be ninety-eight (98) percent. A unit of deviation will be one percentage point. Field density determinations will be made in accordance with AASHTO T-191, as modified by Mississippi Test MT-10 or MT-16.

All soft and yielding or other unsuitable material which will not compact readily shall be removed and disposed of as directed.

All loose rock or boulders found in the subgrade shall be removed.

The volume of such unsuitable materials described above shall be replaced with approved material and the entire subgrade brought to lines, grades and uniform compaction.

S-205.03--Protection of Subgrade. After the subgrade has been prepared, as specified above, it shall be maintained in a smooth and compacted condition free from ruts and depressions and shall be adequately drained. In handling of materials and the operation of tools and equipment, the Contractor shall protect the subgrade from damage. If damage occurs, the subgrade shall be reshaped, recompacted and maintained reasonably close to line and grade until the structure is placed.

S-206 – Structure Excavation for Culverts, Boxes, and Minor Structures

S-206.01--Description. This work shall consist of the removal of all material necessary for the construction of foundations for box culverts, box bridges, pipe culverts and headwalls, and other minor structures when authorized by the section covering their construction. It shall also cover all necessary pumping, bailing, drainage, cribbing, or sheeting; other foundation work; and the backfilling and proper disposal of all excavated material as directed. Unless otherwise specified, excavation for pipe used as sidedrains, underdrains, manholes, inlets and catch basins will not be included in this item.

S-206.02--Construction Methods.

S-206.02.1--Excavation. No excavation shall be made until the Engineer has staked out the work. The Contractor shall exercise care to ensure that the adjacent natural ground is not unnecessarily disturbed or the foundation loosened below the bottom of the footing unless additional excavation is required.

When the plans indicate or the Engineer directs removal of material classified in the contract as muck excavation or special excavation under and adjacent to the location of the structure, the undercut shall be made and the area backfilled and compacted to the required density for approximately one foot above the flow line of the structure before structure excavation is performed.

Foundation areas shall be excavated to the footing elevations and dimensions shown on the plans or as established. The right is reserved to make adjustments in the location or flow line and to make changes in the dimensions of the footings that may be necessary to obtain a satisfactory foundation or to provide adequate drainage.

In addition to the requirements of this subsection, excavation for pipe culverts will be performed in accordance with S-603.03 and S-603.04.

Material encountered which is unsuitable for a stable foundation shall be excavated and backfilled as provided in S-203.03.

S-206.02.2--Backfill. When the plans indicate or the Engineer orders removal of unsuitable material or other undercut below the normal grade line to provide a satisfactory foundation and further orders a specified depth of select material that may not be available from within the right-of-way or easement areas, the Contractor shall furnish a suitable backfill material such as sand, gravel, or other similar granular materials.

S-208 – Linear Grading

S-208.01--Description. This work shall consist of grading sections of roadway where, in general, the elevation of the existing ground surface or roadbed is practically parallel with the proposed grade line and the bulk of such excavation made will make the necessary embankment construction and can be moved by motor patrols, bulldozers or other similar equipment to its final position on the adjacent roadway.

CONSTRUCTION REQUIREMENTS S-208.02--Construction Details.**S-208.02.1--Types of Linear Grading.**

S-208.02.1.1--Light Linear Grading. Light linear grading shall consist of pulling ditches, shaping foreslopes and machining the roadbed on a previously constructed road where only a small amount of machining is required to produce a finished section. Unless specifically shown on the plans machining of backslopes will not be required.

S-208.02.1.2--Heavy Linear Grading. Heavy linear grading shall consist of grading of such character that, in general, the excavation from backslopes, ditches and roadbed will be sufficient to construct the roadbed to the required lines, grades and cross-section.

S-208.02.1.3--Linear Grading Special. Linear grading special shall consist of mowing when necessary and grading ditches at locations noted on the plans. The material, from the grading operation, will be used to dress shoulders and foreslopes. It will not be necessary to dress back slopes unless noted on plans.

S-208.02.2--General Requirements. Clearing and grubbing, when required, shall be done only within the grading construction limits plus the addition of any necessary clearing for sight distance.

After the completion of the clearing and grubbing, removal of heavy sod and vegetable matter, the construction shall proceed. Such loosening as is necessary shall be done by plowing or scarifying preparatory to moving the excavation.

The finished section, constructed as shown on the typical section, shall be maintained and preserved by machining. The ditches shall be reasonably close to line and grade and completely drained.

Compaction will be accomplished as specified in S-203.09.4.

S-208.02.3--Disposal of Material. Where linear grading is performed and the yield from pulling ditches, shaping backslopes or roadbed is in excess of the material necessary for the construction of the adjacent embankment and cannot be economically moved into its final position with a motor patrol or bulldozer or if necessary to obtain embankment material from other sources to complete the incidental grading corrections, such materials shall be classed as Unclassified Excavation (FM) and shall be hauled to their designated final position, or disposal made as ordered by the Engineer.

S-210 Roadside Development – General Provisions

Where the term "plant establishment" is used, it shall be understood to mean the work and time necessary to provide fully established, healthy vegetation.

Where the term "dormant" is used, it shall be understood to mean the temporary inactive stage of a living plant or seed. When the term "dormant season" is used, it shall be understood to mean a period of time during the year when germination and growth is not expected.

Areas on which planting, plant establishment, and maintenance have been performed in accordance with the requirements of the contract, the requirements for growth and coverage for each kind of plant which is in its dormant season may be waived provided at least one of the kind of the plantings which is not in its dormant season shows satisfactory growth and coverage.

When contract time has expired and all work under the contract has been completed except for the specified growth and coverage of vegetative items, liquidated damages will not be charged provided the Engineer's diary documents that all the following conditions have been met:

1. The Contractor has performed all plant establishment work that soil and weather conditions would permit;
2. The Contractor has complied with all instructions of the Engineer with regard to maintenance of the work and plant establishment, including but not limited to watering, replanting, mowing, and other work specified for plant establishment; and
3. The entire work is deemed to be in a satisfactory state of maintenance, or every reasonable effort is being made to provide satisfactory maintenance.

S-211 -- Topsoiling

S-211.01--Description. This work shall consist of furnishing if specified, excavating, stockpiling if necessary, transporting, spreading, compacting, and finishing topsoil as specified or directed.

MATERIALS

S-211.02--Material Requirements. Topsoil may be salvaged from within the construction limits. The topsoil shall be removed only from areas and to depths designated by the Engineer.

S-211.02.1--Materials Specified to be Obtained from within the Project Limits. Areas from which topsoil is to be obtained shall be mowed and cleared of foreign materials to the satisfaction of the Engineer.

The approved area shall be excavated neither deeper than the limits of good topsoil nor than necessary to produce sufficient volume to cover the designated areas.

If strata or seams of unsuitable material are encountered during the excavation of topsoil, the material shall be removed from the topsoil. If considered necessary, the area shall be abandoned and satisfactory material produced from other sources.

Topsoil shall either be transported and stockpiled on well drained areas approved by the Engineer, or transported, deposited, and processed directly on designated areas which have been finished, prepared, and approved to receive the topsoil. The Contractor shall spread or dispose of, as directed, all surplus material left in stockpiles without additional cost to the project.

S-211.02.2--Materials to be obtained from Sources Outside the Project Limits. Before mining the material, approved areas shall be mowed and raked and cleared of foreign materials to the satisfaction of the Engineer.

It is intended that approved mining operations shall include the mixing or blending of materials that will insure a homogeneous mixture complying with the requirements of the contract.

The Engineer may, at his discretion, sample the material at any point prior to spreading on the project. This sampling and testing will be for the purpose of determining whether or not corrective measures should be taken.

Material produced and approved as provided herein, will be accepted as meeting all requirements at the point of final loading for delivery and incorporation into the work.

Approved topsoil, mined as prescribed, shall be transported and deposited and processed directly into its final position on designated areas which have been finished, prepared, and approved unless temporary stockpiling is required or permitted by the Engineer. In case stockpiling is required or permitted, the Contractor shall spread or dispose of, as directed, surplus material left in the stockpile without additional cost to the project.

CONSTRUCTION REQUIREMENTS S-211.03--Construction Requirements.

S-211.03.1--Conditioning of Areas to be Plated. The conditioning of areas to be plated will depend on the type of existing soil on cut slopes or fill slopes. Conditioning shall be performed so as to secure a bond between the existing soil and the topsoil. Unless otherwise directed, the area to be plated shall be shaped and dressed to the required line, grade, and typical section; disk-harrowed to a depth of at least two inches; and be reasonably free of large clods and stones (exceeding three inches in diameter) and other foreign materials before topsoil is deposited.

On non-tillable slopes, the areas shall be shaped and dressed to the required section, and the Contractor shall cut trenches or furrows approximately six inches deep and approximately 24 to 36 inches apart, as directed by the Engineer dependent upon the steepness of the slope, and on approximate contours. Surplus material from trenching shall be uniformly spread over the area to be plated or otherwise disposed of in a satisfactory manner. In no case shall topsoil be placed on slopes until conditioning of the areas has been approved.

S-211.03.2--Application. It is intended that the application of topsoil, the application and incorporation of fertilizer, and other erosion control work will constitute continuous construction, and the Contractor shall so organize his overall operation accordingly. When the Engineer has determined that the Contractor has made suitable arrangements to carry out these operations as indicated, topsoil shall be deposited on approved areas and spread to the required depth and section. When the required depth of plating material exceeds eight inches, it shall be placed in two or more approximately equal layers of no more than eight inches each.

Objectionable foreign material, large clods that cannot be broken down, and oversize stones shall be removed and the area dressed to present a uniform appearance.

S-211.03.3--Compaction. After spreading and shaping of the topsoil, compaction shall be performed to the degree that will provide a firm layer having a density of at least what might be expected from one complete coverage of a crawler type tractor track while the material is at a satisfactory moisture content.

S-211.03.4--Compacted Depth of Topsoil. Topsoil shall be deposited and spread in sufficient quantity so that when compacted it will have the depth specified in the contract.

Determination of depth will be made at random and recorded following compaction of each plated area (lot) of approximately 20,000 square feet and more often if determined by the Engineer to be necessary to control the specified depth. The depth of each lot checked will be the average of at least two and not more than four measurements taken within a square yard area. Except as provided in the following two paragraphs, the average depth of each lot shall not vary from the specified depth by more than one inch or twenty-five (25) percent of the specified depth, whichever is larger. The average depth of the entire area topsoiled (the average of the depths of individual lots) shall not vary from the specified depth by more than one inch.

Topsoil measured and paid for on a cubic yard basis may exceed the stated plus tolerances, provided the finished surface is uniform, does not obstruct drainage, and otherwise meets the approval of the Engineer.

Topsoil specified to be measured and paid for on a square yard basis may exceed the stated plus tolerance and remain in place provided the finished surface is uniform, does not obstruct drainage, and otherwise meets the approval of the Engineer. No additional payment will be made for the excessive material placed. The removal of excessive topsoil shall be at the election of the Contractor and at his expense.

S-211.04--Maintenance. The Contractor shall, at his expense, preserve, protect, replace, and do other work necessary to maintain the topsoil in a satisfactory and acceptable condition from the time of placing until final acceptance.

S-212 – Ground Preparation and Fertilizer

S-212.01--Description. This work shall consist of plowing, loosening and pulverizing the soil in the area to be seeded to form suitable beds to receive erosion control items as set out hereunder. Areas prepared and finished under these specifications shall be in reasonably close conformity with established lines, grades and without appreciable humps or depressions. This item shall also consist of furnishing, spreading and incorporating fertilizers of the type (s) and the amount designated on the plans.

MATERIALS

S-212.02--Fertilizers. Amounts and types of fertilizers will be as indicated on the plans and in the proposal, or as directed by the Engineer. All fertilizers shall comply with the State Fertilizer Laws in effect on the date of the letting and, unless otherwise stipulated, with the requirements set out in the following Subsections:

Agricultural Limestone..... S-715.02
Manufactured Fertilizers..... S-715.02

All fertilizers shall be transported in containers which will ensure proper protection and handling. Fertilizers allowed to collect moisture or get wet causing the material to become hard or lumpy, will be rejected.

CONSTRUCTION REQUIREMENTS

S-212.03--Equipment. All equipment necessary for soil preparation and for properly handling, storing, spreading and incorporating the fertilizers into the prepared soil shall be provided.

S-212.04--Ground Preparation. Ground preparation shall consist of plowing and pulverizing the soil within the area to be planted or seeded. Unless otherwise stipulated, the soil shall be prepared to a depth of not less than four inches. The soil area shall be thoroughly disked and harrowed until well pulverized to the full depth and the area shall present a smooth, uniform, loose appearance with all large clods, earth balls, boulders, stumps, large roots or other particles which will interfere with the work removed.

The Engineer may, at his discretion, authorize elimination of ground preparation areas where the soil is sufficiently loose and pulverized.

If wetting of the soil is necessary for proper ground preparation the Contractor shall supply sufficient water therefor.

Full advantage shall be taken of weather and soil conditions and no attempt shall be made to prepare the soil while it is wet or in an otherwise non-tillable condition.

In any case the soil shall be so pulverized and cultivated as to provide a suitable bed for planting or seeding operations and the area shall be true to the lines and grades as established.

S-212.05--Application of Fertilizers and Agricultural Limestone. The Contractor shall furnish all equipment necessary to properly handle, store, uniformly spread, and incorporate the specified application of fertilizer.

The type and rate of application of each fertilizer to be applied will be indicated on the plans, determined by soil tests, or directed. The amounts and types of fertilizers shall be applied uniformly on the areas to be planted or seeded and uniformly incorporated into the soil.

Fertilizers shall be applied on individual areas of not more than approximately three acres. The Engineer will

determine the actual amounts of fertilizers to be applied on each area. For agricultural limestone, a tolerance of fifteen (15) percent will be permitted without correction. For all other types of fertilizer, a tolerance of ten (10) percent will be permitted without correction. Areas deficient in application by more than these tolerances shall be corrected by reapplication in a manner approved by the Engineer. For areas on which fertilizer has been placed in excess of the tolerance permitted the amounts in excess of the tolerances will be deducted from the measured quantities.

All fertilizer shall be incorporated within twenty-four (24) hours following spreading unless otherwise directed. Incorporation of fertilizer into soils other than topsoil shall include standard ground preparation in accordance with S-212.04. When topsoil is used, the fertilizer shall be incorporated into the top three inches.

Unless otherwise specified, when fertilizer is to be applied to existing vegetation, incorporation shall be accomplished immediately after the application by mowing the vegetation to a height of approximately four inches.

S-214 -- Seeding

S-214.01--Description. This work shall consist of furnishing the specified seeds and treatment materials, treating the seeds, and planting the seeds in a prepared and approved seedbed; covering the seeds and compacting the seedbed; and providing plant establishment on designated areas. All the work shall be in accordance with the plans and these specifications.

MATERIALS

S-214.02--Material Requirements. Seeds shall meet the requirements of S-715.03, subject to the provisions of this subsection. The Contractor shall acquire seed from seedmen registered with the Mississippi Department of Agriculture and Commerce.

Except for the germination test (Reference is made to S-715.03), bags of seeds properly labeled or tagged according to law and indicating characteristics meeting or exceeding the requirements of these specifications will be acceptable for planting.

When pretested seeds are planted, a minus tolerance of five percent of the specified germination percentage will be allowed without adjustment. Seeds failing to comply by more than five percent may be planted, provided the rate of seeding is increased by one hundred (100) percent of the deficiency with the same or approved seeds, without additional compensation.

The Engineer may permit the Contractor to plant non-tested seeds, provided the seeds are properly tagged and have indicated characteristics meeting the requirements (without tolerance) of these specifications. If the seeds are planted, the Contractor shall assume full responsibility for the specified percent germination of the seeds. Acceptance or resowing will be based on the results of the subsequent growth and coverage. If the subsequent growth and coverage indicate a deficiency in excess of five percent, the deficiency shall be corrected by immediately resowing an amount of seeds equal to two hundred (200) percent of the observed deficiency with the same or approved seeds without additional compensation.

Ground preparation and fertilizing shall be in accordance with S-212. Mulching shall be in accordance with S-215.

CONSTRUCTION REQUIREMENTS

S-214.03--Construction Details. Prior to planting the seeds, topsoil, ground preparation, and fertilizing shall have been satisfactorily performed and the area approved by the Engineer.

Seeding may be required for temporary protection or for establishment of permanent ground cover.

The rates of application, kinds, and the planting dates of seeds shall be as specified herein.

Seeding mixtures for the various project conditions or degree of completion and seasonal limitations shall be as shown on the following tables:

MIXTURE NO. 1

Spring & Summer (March 1 to Aug. 31)

1. Common Bermudagrass

@ 15 pounds/acre

MIXTURE NO. 3

Fall & Winter (Sept. 1 to Nov. 15)

- | | |
|------------------------|------------------|
| 1. Common Bermudagrass | @ 15 pounds/acre |
| 2. Crimson Clover | @ 20 pounds/acre |

MIXTURE NO. 5 (State-Wide) Winter (Nov. 16 to Feb. 28)

- | | |
|---|------------------|
| 1. Rye Grain (Marshall) | @ 20 pounds/acre |
| 2. Crimson Clover (Tibbee, Dixie, Autauga, Chief) | @ 10 pounds/acre |
| 3. Bermuda (unhulled) (Common) | @ 25 pounds/acre |

USE:

- The recommended quantity of fertilizer for all of the above listed seed mixtures is as follows:

800 pounds	10-20-10	per acre
600 pounds	13-13-13	per acre
200 pounds	Ammonium Nitrate	per acre

Legume seeds shall be treated in accordance with S-715.03.4 immediately before sowing. Seeds shall be uniformly sown over the entire area with approved mechanical seeders. Seeds of different sizes may necessitate separate sowing. Should legume seeds become dry, they shall be reinoculated.

Seeding shall not be done during windy weather or when the ground is frozen, extremely wet, or in an untillable condition.

All seeds shall be covered lightly with soil by raking, rolling, or other approved methods, and the area compacted with a cultipacker.

When specified, mulching shall be performed in accordance with the requirements of S-215 as soon as practicable (no later than twenty-four (24) hours after seeding unless weather conditions are such that mulch cannot be placed).

S-214.04--Plant Establishment.

S-214.04.1--Plant Establishment and Maintenance. When an area is seeded or top seeded, with or without the addition of mulch, growth or coverage shall be considered acceptable when a satisfactory stand and growth of in season plantings have sufficiently covered the area seeded to provide ample erosion protection exclusive of any protective cover provided by the mulch. It shall be the responsibility of the Contractor that the seed planted has produced a living and growing vegetative cover at the time of acceptance.

Plant establishment and maintenance shall consist of the necessary protection of the seeded or top seeded areas and other operations of maintenance including watering, weeding, mowing, repairing, and reseeding or all areas damaged or eroded as a result of the Contractor's operations, negligence or by normal rains or storms.

Inspection for overall project acceptance will not be made until a minimum period of thirty (30) days has elapsed after the final planting of seed.

S-215 -- Mulching

S-215.01--Description. This work shall consist of furnishing, transporting, placing, and anchoring vegetative mulch on slopes, shoulders, and other areas indicated on the plans, or designated.

MATERIALS

S-215.02--Material Requirements. The vegetative materials for mulch shall meet the requirements of S-715.05.

It is intended that Type I Vegetative Materials shall be used when available. When it is determined by the Engineer that Type I Vegetative Material is not reasonably available, Type II Vegetative material will be permitted as provided in S-715.05.

Bituminous material for mulch shall be Emulsified Asphalt, Grade SS-1, meeting the requirements of S-702.07.

S-215.03--Equipment. Mulching equipment shall be capable of maintaining a constant air stream which will blow or eject controlled quantities of mulch in a uniform pattern. If asphalt is used, a jet or spray nozzle for applying uniform, controlled amounts of asphalt to the vegetative material as it is ejected shall be located at or near the discharge spout.

Mulch stabilizers shall consist of dull blades or disks without camber and approximately 20 inches in diameter. The disks shall be notched, shall be spaced at approximately 8 inches and shall be equipped with scrapers. The stabilizer weight shall be approximately 1000 - 1100 pounds, shall have a working width of no more than 8 feet, and shall be equipped with a ballast compartment so that, when directed, weight can be increased.

CONSTRUCTION REQUIREMENTS**S-215.04--Construction Details.**

S-215.04.1--Placement of Vegetative Mulch. Mulching shall be placed uniformly on designated areas within 24 hours following seeding unless weather conditions are such that mulching cannot be performed. Placement shall begin on the windward side of areas and from tops of slopes. In its final position the mulch shall be loose enough to allow air to circulate but compact enough to partially shade the ground and reduce erosion.

The baled material shall be loosened and broken thoroughly before it is fed into the machine to avoid placement of unbroken clumps.

S-215.04.2--Rates of Application and Anchoring Mulch. The rate of application of vegetative mulch should be within the limits of one (1) to three (3) tons per acre. The mulch shall be anchored by either the use of a mulch stabilizer or by tacking with bituminous material as directed by the Engineer. If bituminous material is used, the rate of application shall be 90 to 150 gallons per ton of vegetative material. If a mulch stabilizer is used, the mulch shall be punched into the soil for a minimum depth of 1 inch.

Where steep slopes or soil conditions are such that anchoring cannot be performed satisfactory with a mulch stabilizer the Engineer will require that bituminous material be applied at the time or immediately following the mulch placement. When mulch stabilizers are used, anchoring the mulch shall be performed along the contour of the ground surface. As the work progresses, the Engineer will determine the actual rate of application of the vegetative mulch and the bituminous material (if used) on each area not to exceed three acres. For vegetative

mulch, a tolerance of fifteen (15) percent will be permitted without correction. For bituminous material (if used), a tolerance of ten (10) percent will be permitted without correction. Areas deficient in application by more than these amounts shall be corrected by reapplication in a manner approved by the Engineer. In the event an excess of vegetative material has been placed in a quantity deemed by the Engineer to be undesirable, the Contractor shall remove and replace all material placed on that area at no additional cost to the project.

S-215.05--Protection and Maintenance. The Contractor shall maintain and protect mulched areas until final acceptance of the project. He shall take every precaution to prevent unnecessary foot and vehicular traffic and shall repair and restore immediately any displacement of mulch without extra compensation.

At appropriate times determined by the Engineer, the Contractor shall mow or otherwise remove or destroy all undesirable growth on all areas mulched to prevent competition with the desired plants and to prevent reseeding of undesirable growth. All mowing shall be a part of protection and maintenance.

S-226 – Solid Sodding

S-226.01--Description. This work shall consist of furnishing, transporting, and planting approved grass sod in accordance with the plans and these specifications. This work shall also include plant establishment as specified and required to assure satisfactory growth of the solid sod.

MATERIALS

S-226.02--Material Requirements. Unless otherwise specified, solid sod shall be bermuda (common), or other approved sod species and shall be live, fresh, growing grass with at least one and one-half inches of soil adhering firmly to the roots when placed. The sod shall be reasonably free from obnoxious weeds or other grasses, and shall not contain any matter deleterious to its growth, or which might affect its subsistence or hardiness when transplanted. The sod shall be in strips or blocks at least eight inches by eight inches and reasonably free from ragged edges.

All sod shall be harvested from areas where the topsoil is fertile, and the areas shall have been grazed or mowed sufficiently to form a dense turf. After approval, the area from which the solid sod is to be harvested shall be closely mowed and raked, if deemed necessary, to remove excessive top growth and debris.

When specified, the solid sod material shall be the kind specified, nursery grown, healthy, free from damage, and free from obnoxious weeds and grasses. The nursery grown sod shall be in blocks at least eight inches by eight inches by one inch and reasonably free of ragged edges.

All solid sod materials shall be approved by the Engineer prior to transplanting. Fertilizer used in the construction shall be in accordance with S-212.

CONSTRUCTION REQUIREMENTS S-226.03--Construction Details.

S-226.03.1--Procuring and Handling Sod. Approved sod cutters shall be used for cutting the sod into strips or blocks. Care shall be exercised at all times to retain the native soil on the roots of the sod during the process of excavating, hauling, and planting.

The sod shall be transplanted within twenty-four (24) hours after arriving on the project, unless it is stacked in a manner satisfactory to the Engineer. All sod in stacks shall be kept moist and protected from exposure to the wind and sun and from freezing. In no event shall more than three days elapse between the cutting and planting of the sod.

S-226.03.2--Grading of the Area to Receive Solid Sodding. Prior to ground preparation for solid sodding, all excavating, shaping, and dressing shall have been completed in such a manner that the foundation for the sod has the proper cross section, line, and grade and so that the sod after placement will be flush with or slightly below the adjacent final ground line.

S-226.03.3--Ground Preparation and Fertilizing. After the area has been graded as required, the specified types and quantities of fertilizers shall be uniformly spread and then incorporated by standard ground preparation in accordance with S-212. The prepared area shall be at an approved moisture content and shall present a smooth, uniform surface with reasonably close conformity to the specified line, grade, and cross section. After approval by the Engineer of the prepared and fertilized area, sodding shall follow immediately.

S-226.03.4--Planting Sod. The sod shall be placed on the prepared surface with edges in close contact and starting at the lowest point and working upward. Cracks between blocks of sod shall be filled with small pieces of fresh sod, and all cracks too small for sod shall be filled by a light dressing of approved soil. The entire sodded area shall then be compacted and watered to the satisfaction of the Engineer. Light rollers, hand tamps, or other approved equipment shall be used for compacting.

On areas which the Engineer deems that the sodding might slide due to the height and slope of the surface or nature of the soil, the sod shall be "pegged" with wooden pegs driven through the sod blocks into firm earth. Pegs shall be at intervals deemed suitable to hold the sod in place.

S-226.03.5--Limitations. Solid sodding shall be performed only when weather and soil conditions are deemed by the Engineer to be suitable for proper placement.

S-226.04--Plant Establishment. Plant establishment shall consist of preserving, protecting, replacing, watering, mowing, and other work necessary to keep the sod in a satisfactory condition at all times until final acceptance.

A satisfactory growth of solid sodding shall be understood to mean a healthy, living, and growing grass turf which has been planted on an approved prepared foundation and has been maintained in accordance with the requirements of these specifications.

S-227 – Excelsior Blanket

S-227.01--Description. This work shall consist of furnishing, placing, and maintaining excelsior blanket on seeded, or other designated areas in accordance with the requirements shown on the plans and these specifications.

MATERIALS

S-227.02--Material Requirements. The excelsior blanket shall meet the requirements of S-715.09.2.

CONSTRUCTION REQUIREMENTS

S-227.03--Construction Details. The area to be covered shall be prepared, fertilized, and vegetated before the blankets are placed. Immediately following the planting operations, the blankets shall be laid evenly, smoothly, and in contact with the soil throughout and with the fabric net on top of the blankets. Asphalt-coated mulch should be omitted from all areas receiving the excelsior blanket.

In ditches, the blankets shall be unrolled in the direction of water flow. When two or more strips are required to cover a ditch area, they shall overlap a minimum of four inches with the upgrade width on top. In case a strip is spliced lengthwise, the edges of the strips shall overlap a minimum of six inches with the upgrade section on top.

When used on slopes, the blankets may be placed either horizontally or vertically on the slope with the edges and ends of adjacent strips butted tightly against each other.

Each strip shall be stapled in three rows (each edge and center with the center row alternately spaced) with staples spaced not more than four feet longitudinally. When using two or more strips side by side on slopes, a common row of staples shall be used on the adjoining strips to secure the outside netting strand of each strip. Ends of strips shall be stapled at one foot intervals. Staples shall be firmly embedded in the underlying soil.

S-227.04--Protection and Maintenance. The Contractor shall maintain and protect the excelsior blankets until final acceptance or until the Engineer has determined that the blanket has served its useful life, whichever occurs first. Maintenance shall consist of repairs necessitated by erosion, wind, fire, or other cause.

S-231 – Erosion Control Fabric

S-231.01--Description. This work shall consist of furnishing, placing, and maintaining erosion control fabric on seeded or other designated areas in accordance with the requirements of the plans and these specifications.

MATERIALS

S-231.02--Materials. The erosion control fabric shall consist of a flexible knitted construction of high strength degradable yarn with uniform openings interwoven with strips of biodegradable paper and meeting the following requirements:

Width - 48 inch minimum

Weight - 0.2 pounds per square yard (approximate)

Staples for securing the fabric in place shall be "U" shaped, made from eleven (11) gage or heavier steel wire, have a width one to two inches at the throat, and be a minimum of six inches from top to bottom after bending.

For erosion control fabric, the Contractor shall forward to the Engineer three copies of the manufacturer's certification for each shipment of the fabric stating the number of rolls furnished, and that the material complies with the requirements of the specifications.

For staples, the Contractor shall forward to the Engineer three copies of the manufacturer's or distributor's certification showing the wire size for each shipment of staples.

The certifications by the manufacturer or distributor will be prima facie evidence of the materials meeting the above requirements. All erosion control fabric and staples will, however, be subject to approval by the Engineer.

CONSTRUCTION REQUIREMENTS

S-231.03--Construction Requirements. The areas to be covered shall be prepared, fertilized, and vegetated as specified before the fabric is installed. The mulch material shall be omitted from areas receiving the fabric. Immediately following the planting operation, the fabric shall be installed by unrolling it in the direction of water flow and draping it loosely, without folds or stretching, so that continuous ground contact is maintained. The ends of the fabric at the beginning and end of each area to be covered shall be folded and placed in an anchor trench at least four inches deep, and stapled in the trench on approximately twelve (12) inch centers, backfilled, and tamped.

When two or more strips are required to cover an area, they shall overlap a minimum of four inches. In case a strip is to be spliced lengthwise, the edges of the strips shall overlap a minimum of six inches with the upgrade section on top. Each strip shall be stapled in three rows (each edge and center with center row alternately spaced) with staples spaced not more than four feet longitudinally. The ends of all strips spliced lengthwise shall be stapled at one foot intervals across the entire width of the fabric.

Where heavy concentrations of water or extremely erodible soil conditions exist, erosion checks shall be installed at 50 foot intervals as directed by the Engineer. Erosion checks shall be a row of staples 12 inches on center across the width of the fabric perpendicular to the flow line.

All staples shall be firmly embedded in the underlying soil.

S-231.04--Protection and Maintenance. The Contractor shall maintain and protect the erosion control fabric until final acceptance or until the Engineer has determined that the fabric has served its useful life, whichever occurs first. Maintenance shall consist of repairs made necessary by erosion, wind, fire or any other cause.

S-232 – Geotextile Fabric Stabilization

S-232.01--Description. This work consists of furnishing and installing geotextile fabric for stabilization of embankments and subgrades as shown in the plans and in conformance with these specifications.

S-232.02--Material. The fabric and incidental materials for this work shall meet the requirements of S-714.13.

S-232.03--Construction Details. A subgrade which is to receive geotextile fabric shall be shaped and compacted to a smooth finish and free of loose material and sharp objects. An embankment site shall be cleared and graded to establish a relatively smooth surface. Trees and stumps are to be cut off at ground line and sawdust or sand placed over these areas to provide a cushion for the fabric.

The fabric shall be placed as smooth as possible and free from tension, stress, folds, wrinkles or creases.

Where more than one layer of fabric is required, all joints of the bottom layer shall be sewn to develop the required fabric strength perpendicular to the joint. The top layer and single layer installations of fabric may be overlapped a minimum of two feet at each joint or sewn.

Fabrics which weigh less than eight ounces per square yard shall be factory or field sewn with a "J" type seam. Heavier weight fabrics shall be factory sewn with two parallel bag type seams approximately one-fourth inch apart or field sewn with an additional seam zigzagged across the two parallel seams.

Securing pins with washers shall be inserted along a line through the midpoint of any overlap or sewn seam at intervals required by the Engineer to prevent movement of the fabric until covered.

The subsequent course of material shall be back-dumped in such a manner as to avoid damage to the underlying fabric. No equipment will be allowed to operate over the fabric until it is covered with a layer of material of sufficient thickness to protect the fabric installation. When the underlying soil is very unstable, the two outer one-third portions of an embankment layer shall be placed approximately 25 feet in advance of the center one-third portion to prevent excessive mudwave movements and damage to the fabric installation.

The Contractor shall provide equipment necessary for placing the fabric.

S-233 – Temporary Silt Fence

S-233.01--Description. This work shall consist of furnishing, constructing, maintaining, and removing a water permeable filter type of fence for the purpose of removing suspended soil particles from the water passing through it in accordance with the requirements shown on the plans and these specifications.

The quantity of temporary silt fence to be installed will be affected by the actual conditions which occur during the construction of the project.

The quantities for temporary silt fences, when shown in the contract, are estimated for bidding purposes only, and these quantities may be varied dependent upon actual needs for the specific purpose designated.

MATERIALS

S-233.02--Material Requirements. The fabric and incidental materials for this work shall meet the requirements of S-714.13.

S-233.02.1--Posts. Steel posts shall have projections for fastening the wire to the fence.

S-233.02.2--Filter Fabric. The filter fabric shall be composed of strong rot-proof synthetic fibers formed into a fabric of either the woven or unwoven type. Either type of fabric shall be free of any treatment or coating which might significantly alter its physical properties after installation. The fabric shall contain stabilizers and/or inhibitors to make the filaments resistant to deterioration resulting from exposure to sunlight or heat. The fabric shall be a pervious sheet of synthetic fibers oriented into a stable network so that the fibers retain their relative position with respect to each other.

The edges of the fabric shall be finished to prevent the outer yarn from pulling away from the fabric. The fabric shall be free of defects or flaws which significantly affect its physical and/or filtering properties. Sheets of fabric may be sewn or bonded together. No deviation from any physical requirements will be permitted due to the presence of the seam.

During all periods of shipment and storage, the fabric shall be wrapped in a heavy duty protective covering which will protect the cloth from sunlight, mud, dust, dirt and debris. The fabric shall not be exposed to temperatures greater than 140°F.

S-233.02.3--Identification. Each roll of fabric or container shall be visibly labeled with the name of the manufacturer, type of fabric or trade name, lot number and quantity of material.

S-233.02.4--Certification. The Contractor shall furnish to the Engineer three copies of the Manufacturer's certified test report(s) showing results of all required tests and certification that the material meets the specifications. Also forward three copies of the manufacturer's or distributor's certification showing the wire size for each shipment of staples.

CONSTRUCTION REQUIREMENTS

S-233.03--General. Silt fences shall be constructed at the locations shown on the plans or as directed by the Engineer.

All posts shall be installed so that no more than three feet of the post protrude above the ground. Extra post for bracing shall be installed as directed by the Engineer. The wire shall be fastened to the posts with wire or other

approved means. The fabric shall be attached to the wire fence with wire or other approved means. The bottom edge of the fabric shall be buried 6 inches below ground surface to prevent undermining. When splicing of the fabric is necessary, two posts shall be installed approximately 18 inches apart and each piece of fabric shall be fastened to both posts.

At the time of or during installation, the fabric will be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacturing, transporting, storage or installation.

S-233.04--Maintenance and Removal. The Contractor shall maintain the silt fence and shall remove and replace when deteriorated to such extent that it is no longer effective. The Contractor shall remove accumulated siltation when sediment reaches one half the fence height.

Unless otherwise specified, all silt fences shall be removed. Upon removal, the Contractor shall remove and dispose of excess silt accumulations, dress the area to give a pleasing appearance and vegetate all bare areas in accordance with contract requirements. The fence materials will remain the property of the Contractor and may be used at other locations provided the materials are acceptable to the Engineer.

S-235 – Temporary Erosion Checks

S-235.01--Description. This work consists of furnishing, constructing and maintaining baled hay or straw erosion checks for the retention of soil along the toe of fill slopes, around inlets, swale areas, small ditches, sediment basins and other areas as directed by the Engineer in accordance with the requirements shown on the plans and these specifications. Also, the work includes removing and disposing of the erosion checks and silt accumulations as directed by the Engineer.

S-235.02--Materials. Approved baled hay or straw material (Type I or II) shall be rectangular in shape with a minimum length of 32 inches and shall meet the requirements of S- 715.05. The wooden stakes used in securing the baled material in place shall be approximately 2" x 2" x 34" meeting the approval of the Engineer.

S-235.03--Construction Requirements.

S-235.03.1--General. The erosion checks shall be constructed at the locations and according to the requirements shown on the plans or as directed by the Engineer. Erosion checks required along the toe of fill slopes shall be constructed prior to grading operations at the site. For other locations, the erosion checks shall be constructed when directed by the Engineer.

The soil shall be excavated at least three inches in depth to embed the baled material. After securing in place, a sufficient quantity of the excavated material shall be placed around the erosion check and compacted to prevent undermining.

S-235.03.2--Maintenance and Removal. The Contractor shall maintain the erosion checks and remove and dispose of silt accumulations that reach 1/2 the bale height or as directed by the Engineer. When the erosion checks are no longer needed, they shall be removed; and the Contractor shall dispose of silt accumulations and treat the disturbed areas in accordance with the contract requirements.

Section S-907-237 -- Wattles

907-237.01 --Description. This work consists of furnishing, constructing and maintaining wattles for the retention of soil around inlets, swale areas, small ditches, sediment basins and other areas as necessary. Also, the work includes removing and disposing of the wattles and silt accumulations.

Measurement and payment for wattles will be made only when a pay item is included in the bid schedule of the proposal. The quantity is estimated for bidding purposes only and will be dependent upon actual conditions which occur during construction of the project.

907-237.02--Materials. Wattles used around inlets shall have a minimum diameter of twelve inches (12") and a length adequate to meet field conditions. Wattles used at other locations shall have a minimum diameter of twenty inches (20") and a length adequate to meet field conditions. The stakes used in securing the wattles in place shall be placed approximately three feet (3 ') apart throughout the length of the wattle. Stakes shall be wooden and of adequate size to stabilize the wattles to the satisfaction of the Engineer.

In addition to the requirements of these specifications, wattles shall be listed on the Department's "Approved Sources of Materials".

907-237.03--Construction Requirements.

907-237.03.1--General. The wattles shall be constructed at the locations and according to the requirements shown on the erosion control plan.

907-237.03.2--Maintenance and Removal. The Contractor shall maintain the wattles and remove and dispose of silt accumulations.

When the wattles are no longer needed, they shall be removed and the Contractor shall dispose of silt accumulations and treat the disturbed areas in accordance with the contract requirements.

S-304 – Granular Courses

S-304.01--Description. This work shall consist of furnishing granular materials and the construction of one or more courses of subbase, base, shoulders, or other required construction on a prepared foundation in reasonably close conformity with the lines, grades, and cross sections shown on the plans or established by the Engineer.

MATERIALS

S-304.02--Material Requirements. Unless otherwise specified, materials used on this work shall conform to the requirements of S-703.07.

General conditions governing the use of materials shall be as set out under S-106.

CONSTRUCTION REQUIREMENTS

S-304.03--Equipment. When measurement for payment is to be made by the ton, the Contractor shall use approved platform scales capable of weighing the entire loaded vehicle. Scales and their use shall be in accordance with the requirements set out in S-401.03.2.1.11, except they shall be installed at an approved location on or near the project.

Rollers shall be of sufficient number, type, size, and weight to accomplish the required compaction.

Watering equipment shall be pressurized, have spray bars with suitable nozzle openings, and have controls for applying varying quantities of water.

S-304.04--Production of Materials.

S-304.04.1--General. If payment is to be made from cross section (FM) measurements, the Contractor shall not begin excavation in a pit until after the Engineer has taken the necessary cross sections. The Contractor shall be fully responsible for all material in the pit and shall protect the material from use or disposal for any reason other than for work included in the contract. He shall make good to the satisfaction of the Board of Supervisors and State Aid Engineer for all loss or unauthorized use of material.

Prior to beginning mining operations, all necessary clearing and grubbing and stripping of the pit area shall have been performed to the satisfaction of the Engineer.

S-304.04.2--Mining and Mixing. Mining and mixing shall be carried out so that all material meets the specified requirements for gradation, liquid limit, and plasticity index.

Mining and mixing shall be begun by opening the deposit in a manner that will immediately expose the full face of the material. Except as otherwise permitted herein, mining and mixing shall ordinarily consist of a combination of excavating and mixing the material in such a manner that the material meets the specified requirements.

All pit operations shall be confined to daylight hours, except when otherwise permitted.

Inspection of material as mined, mixed, and loaded from the pit will be made, and all obviously unsatisfactory material will be rejected. However, inspection or permission by the Engineer to produce material from any portion of a deposit will not relieve the Contractor of his responsibility to produce a satisfactory blend of material meeting the specified requirements.

When the Contractor elects, with the authorization of the Engineer, to combine two or more materials or to process a single material to provide that specified, all combining or processing shall be performed at the Contractor's expense. The sampling and testing and the cost thereof to control the necessary proportioning and processing will be the responsibility of the Contractor.

S-304.05--Preparation of Grade. The foundation on which granular material is to be placed shall be prepared as set out in S-205. A section of prepared roadbed of sufficient length to allow time for inspection, test, necessary corrections, and approval shall be maintained at all times ahead of placing material.

S-304.06--Placing of Materials. The Contractor shall be responsible for furnishing a material that meets the requirements of the contract and in such quantity to produce the specified compacted thicknesses. All material placed in excess of the tolerances allowed (See S-304.08.1) shall be removed and placed at other approved locations, or removed and hauled off the project without compensation.

If the compacted thickness of a course is to be more than eight inches, the course shall be constructed in two or more layers of approximately equal thickness, and the compacted thickness of a single layer shall not exceed eight inches.

No granular materials shall be placed while frozen or placed on frozen materials.

When the Engineer determines that in-place material, including the top portion of the design soil, is wet to the degree that there is a possibility of rutting, deforming, or displacing the underlying material, the hauling operation shall be suspended.

The Contractor shall produce such material as is necessary to correct any deficiencies in gradation, liquid limit and plasticity index and shall reprocess as necessary to make such corrections or shall remove and replace, without additional compensation, any deficient material placed in the work. In all cases of correcting deficiencies on the roadbed, the Contractor shall be fully responsible for any damage to the underlying course(s) and other work.

S-304.07--Blending. As soon as practicable after the material has been initially shaped, the entire volume of material for the course or layer being placed shall be processed and blended by blading in such a manner and as many times as necessary to produce a course visually uniform in gradation, color, liquid limit, and plastic limit. Care shall be exercised during the blending process to prevent contamination with underlying material. The Contractor shall be fully responsible for damage to or contamination with underlying or other unlike material and shall make the corrections deemed necessary without additional compensation. The requirement for blending will not be waived by the Engineer, and required mixing or further processing under subsequent items of work will not relieve the Contractor from the complete performance of blending as specified in this subsection, except for shoulders as follows:

When granular material is required to be placed adjacent to pavement in place, blending in place will not be required. Blending shall be performed to the satisfaction of the Engineer prior to placement of the material on shoulders.

S-304.08--Shaping, Compacting, and Finishing. Each course or layer of material shall be shaped to the required section, watered or aerated as necessary to produce the required moisture content, and compacted. Throughout the compaction operation, the shape of the course or layer shall be maintained by blading and rolling so that the aggregates are uniformly distributed and firmly keyed.

Shaping and compaction shall be carried out in a manner that will prevent lamination and shall continue until the entire depth and width of the course or layer has reached the required density. Surface compaction and finishing shall be performed so as to produce a smooth, closely knit surface that is free from lamination, cracks, ridges or loose material. The finished surface shall conform (within allowable tolerances) to the required section and established lines and grades.

Prior to subsequent construction or final acceptance all irregularities, depressions, soft spots, and other deficiencies found by the Engineer shall be corrected to meet the requirements of these specifications without additional compensation.

If the mixture contains plus No. 4 aggregate and the course is to serve as a base for bituminous pavement, after compaction and finishing at least one complete coverage shall be made with a steel wheel tandem roller. The resulting surface shall be sprinkled as necessary to maintain the required moisture content and shall be thoroughly compacted and sealed with a pneumatic roller.

Crushed stone shall be placed in layers not to exceed four (4) inches compacted depth and shall conform to the density requirements stated.

In addition to the requirements for density and correction of deficiencies, the Contractor shall be responsible for constructing and maintaining a course which will remain firm and stable under construction equipment and other traffic to which the course will be subjected.

Density tests will be performed in accordance with the methods as provided in S-700.03 and S-700.04.

Determination of acceptance of compaction of granular courses for required density will be performed on a lot to lot basis. Each lot will be each 2,500 linear feet per layer placed. At the discretion of the Engineer, a residual portion of a lot completed during a day's operation may be considered as a separate lot or may be included in the previous or the subsequent lot, except that any day's operation of less than one full lot will be considered a lot.

The lot will be divided into five approximately equal sublots with one density test taken at random in each sublot. The individual tests and the average of the five tests shall equal or exceed the values as shown in the table below.

Granular Material (Class)	Lot Average	Individual Test
7,8,9 or 10	97.0	93.0
5 or 6	99.0	95.0
3 or 4	100.0	96.0
1 or 2	102.0	98.0
Crushed Stone Courses	99.0	95.0

When pavement is not required, the required density for the top course will be as shown in the table below.

Granular Material (Class)	Lot Average	Individual Test
10	94.0	90.0
7,8 or 9	95.0	91.0
5 or 6	96.0	92.0
3 or 4	97.0	93.0
1 or 2	98.0	94.0
Crushed Stone Courses	96.0	92.0

No density tests will be required for granular or crushed stone courses used for temporary work such as maintaining temporary ramps and driveways.

A finished course shall be continually maintained until a subsequent course is placed thereon or the work is released from maintenance.

S-304.08.1--Tolerances for Subbase & Base Course: It shall be understood that although certain tolerances in grade, cross section, and density are allowable under the specifications, it shall be the Contractor's responsibility to prepare the surface of all in-grade courses to the degree of true grade and cross section and to the density and stability necessary to insure his ability to construct subsequent courses to the specified requirements for surface, thickness, and compaction. It is essential in pavement structure construction that the degree of accuracy must be increased for each succeeding course in order that the final surface requirements can be met and the thickness of each course will be within design tolerances. It shall be the Contractor's responsibility to construct each course to the degree of accuracy, maximum allowable tolerances notwithstanding, necessary to insure meeting final requirements.

No vertical tolerances will be allowed which will pond water. Otherwise, allowable tolerances will be as follows:

Tolerances from Design Grade

<u>Subbase</u>		
(a)	Where the subbase is not to be treated in place	$\pm 1 / 2$ inch
(b)	Where the subbase is to be either mechanically stabilized or treated before stabilization or treatment	± 1 inch
(c)	After Treatment inch	$\pm 1 / 2$ inch
<u>Base</u>		
(a)	Where the base is not to be treated	$\pm 3 / 8$ inch
(b)	Where the base is to be either mechanically stabilized or treated before stabilization or treatment	$\pm 1/2$ inch
(c)	After Treatment	$\pm 3 / 8$ inch

S-320 -- Shoulders

S-320.01--Description. This work shall consist of constructing the shoulder portion of courses specified to be constructed; the shaping, compacting, finishing, and surfacing, if required, of the shoulder portion of the work in reasonably close conformity with the required lines, grades, and cross sections; and the construction and establishment of erosion control items specified for the shoulder portion of the work. All work shall conform to the sequence and timing indicated herein and to the other applicable requirements of the contract.

This work shall also include preservation from injury or damage to and repair and reconstruction of, if necessary, underlying courses and other elements of the pavement structure. Except as otherwise specified, construction of shoulders shall also include reshaping, finishing, and mowing of cut ditches, foreslopes, and upper embankment slopes adjacent to shoulders. Areas to receive this work shall include the areas between the finished shoulder line and the same elevation at the back of the ditch in cut sections and the areas on fill slopes between the finished shoulder line and a line ten (10) feet horizontally outside the finished shoulder line. Similar areas in the median portion of divided highways shall also be reshaped and finished.

S-320.02--Materials. Materials used in constructing shoulders shall meet the applicable requirements of S-700.

S-320.03--Construction Details. Except as otherwise specified, the construction of each course of the shoulders shall be in accordance with controlling requirements for subbases and bases constructed of like material.

Shoulder construction shall begin at the earliest practicable time and proceed in the proper sequence with contiguous subbase, base, or pavement construction. Each designated course for shoulders shall be constructed to the established lines, grades, and cross sections within tolerances allowed and shall be firm and stable.

Determination of acceptance of compaction of shoulders for required density will be performed on a lot to lot basis. Each lot will consist of each day's operation per layer placed, with a maximum lot length of 10,000 linear feet.

The lot will be divided into five approximately equal sublots with one density test taken at random in each subplot. The lot average and each single density test shall conform to the required density.

The required density for the shoulder portion of any layer or course shall be the same as for the adjacent (internal) portion of the layer or course when constructed of the same material.

The required density for the shoulder portion of any layer or course where the adjacent (internal) portion is of unlike material shall be as follows:

Granular Material	Lot	Individual
<u>Class</u>	<u>Average</u>	<u>Test</u>
10	94.0	90.0
7,8 or 9	95.0	91.0
5 or 6	96.0	92.0
3 or 4	97.0	93.0
1 or 2	98.0	94.0

except,

- (a) When the finished shoulder is required to be paved, the required density for such shoulder course shall be that required for the same material for bases, and
- (b) Where an existing pavement is to be overlaid, or widened and overlaid, without shoulder widening, and the existing shoulder is to be raised to match the new pavement, satisfactory density of each layer of new shoulder material shall be that which can be obtained from six coverages of a pneumatic roller with an operating weight of approximately six tons while the shoulder material is at the proper moisture content.

In cases of base or pavement in which portland cement is used as a material of construction, shoulder construction shall follow immediately upon expiration of the curing period, unless it has been otherwise provided that the shoulder course be constructed in advance of the contiguous course.

The rate of progress for each phase of shoulder construction shall be consistent with the rate of progress of the controlling construction. When the Engineer deems that other operations are being carried on to the unnecessary neglect of shoulder construction, the Engineer may suspend the operations in progress and order that shoulder construction be brought up to and then continued, without prejudice to other work, in the proper sequence.

SECTION S-401 - PLANT MIX PAVEMENTS (HMA) - GENERAL

S-401.01--Description. These specifications include general requirements that are applicable to all types of HMA along with the specific requirements for each particular mixture when deviations from the general requirements are necessary.

This work consists of the construction of one or more lifts of HMA in accordance with these specifications and the specific requirements for the mixture to be produced and in reasonably close conformity with the lines, grades, thicknesses and typical sections shown on the plans or established by the Engineer.

S-401.01.1--Definitions.

Maximum Sieve Size - Maximum sieve size is the smallest sieve size at which 100 percent of the aggregate passes.

Nominal Maximum Sieve Size -The nominal maximum sieve size is one sieve size larger than the first sieve to retain more than 10 percent of the aggregate.

Maximum Density Line - The maximum density line is a straight line plot on the FHWA 0.45 power gradation chart which extends from the zero origin point of the chart through the plotted point of the combined aggregate gradation curve on the nominal maximum sieve size.

Mechanically Fractured Face - An angular, rough, or broken surface of an aggregate particle created by crushing as determined by ASTM Designation: D 5821.

S-401.02--Materials.

S-401.02.1--Component Materials.

S-401.02.1.1--General. Component materials will be conditionally accepted at the plant subject to later rejection if incorporated in a mixture or in work which fails to meet contract requirements.

S-401.02.1.2--Aggregates. The source of aggregates shall meet the applicable requirements of S-703.

S-401.02.1.2.1--Coarse Aggregate Blend. Mechanically fractured faces by weight of the combined mineral aggregate coarser than the No. 4 sieve:

<u>Mixture</u>	<u>Percent Fractured Faces, minimum</u>
25 mm	70 (one face)
19 mm*	80 (one face)
12.5 mm	90 (two face)
9.5 mm	90 (two face)
4.75 mm	90 (two-face)

*When used on routes requiring polymer modified asphalt, the top intermediate lift (19 mm mixture), including travel lane and adjacent lane, shall have at least 90 percent two fractured faces minimum.

The maximum percentage by weight of flat and elongated particles, for all mixes other than 4.75 mm, maximum to minimum dimension greater than 5, shall not exceed 10% for all mixtures. This shall be determined in accordance with ASTM Designation: D 4791, Section 8.4, on the combined mineral aggregate retained on the 3/8" sieve.

S-401.02.1.2.2--Fine Aggregate Blend. Of all the material passing the No. 8 sieve and retained on the No. 200 sieve, not more than 60 percent shall pass the No. 30 sieve.

Uncrushed natural sand shall pass the 3/8" sieve and may be used, excluding the content in RAP, in the percentages of the total mineral aggregate by weight set out in the following table:

Mixture	Maximum Percentage of Natural Sand by Total Weight of Mineral Aggregate		
	HT	MT	ST
25 mm	10	10	20
19 mm	10	10	20
12.5 mm	10	10	20
9.5 mm	10	10	10
4.75 mm	25	30	35

S-401.02.1.2.3--Combined Aggregate Blend.

Design Master Range

Mixture:	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm
Nominal Maximum Sieve Size:	1 inch	3/4 inch	1/2 inch	3/8 inch	1/4 inch
Sieve Size	Percent Passing				
1-1/2 inch	100				
1 inch	90-100	100			
3/4 inch	89 max.	90-100	100		
1/2 inch	-	89 max.	90-100	100	100
3/8 inch	-	-	89 max.	90-100	95-100
No. 4	-	-	-	89 max.	90-100
No. 8	16-50	18-55	20-60	22-70	-
No. 16	-	-	-	-	30-60
No. 200	4.0-9.0	4.0-9.0	4.0-9.0	4.0-9.0	6.0-12.0

For MT and HT mixtures, the combined aggregate gradation of the job mix formula, when plotted on FHWA 0.45 power chart paper, shall fall entirely below the Maximum Density Line on all sieve sizes smaller than the No. 4 sieve. However, MT and HT mixtures having a minimum fine aggregate angularity index of 44.0, per ASTM Designation: C1252, Method A, may be designed above the maximum density line.

The 9.5 mm mixtures shall have a minimum fine aggregate angularity of 44.0 for HT and MT mixtures and 40.0 for ST mixtures when tested on combined aggregate in accordance with ASTM Designation: C1252 Method A. The 4.75 mm mixtures shall have a minimum fine aggregate angularity of 45.0 for all design levels when tested on combined aggregate in accordance with ASTM Designation: C 1252, Method A.

The minus No. 40 fraction of the combined aggregate shall be non-plastic when tested according to AASHTO Designation: T 90. The clay content for the combined aggregate for underlying layers shall not exceed 1.0 percent, and for the top layer shall not exceed

1.5 percent by weight of the total mineral aggregate when tested according to AASHTO Designation: T 88.

S-401.02.1.3--Bituminous--Materials. Bituminous materials shall meet the applicable requirements of Section S-702 for the grade specified.

Tack coat shall be the same neat grade asphalt cement used in the mixture being placed or those materials specified for tack coat in Table 410-A. Emulsified asphalt shall not be diluted without approval of the Engineer.

S-401.02.1.4--Blank.

S-401.02.1.5--Hydrated Lime. Hydrated lime shall meet the requirements of S-714.03.2 for lime used in soil stabilization.

S-401.02.1.6--Asphalt Admixtures. Additives for liquid asphalt, when required or permitted, shall meet the requirements of S-702.08.

S-401.02.1.7--Polymers. Polymers for use in polymer modified HMA pavements shall meet the requirements of S-702.08.3.

S-401.02.2-- Blank.

S-401.02.3--Composition of Mixtures.

S-401.02.3.1--General. Unless otherwise specified or permitted, the HMA shall consist of a mixture of asphalt, aggregate, hydrated lime and, when required or necessary to obtain desired properties, antistripping agent and/or other materials.

The total amount of crushed limestone aggregate for mixtures, excluding 4.75 mm mixtures, when used in the top lift, shall not exceed 50 percent of the total combined aggregate by weight.

Hydrated lime shall be used in all HMA at the rate of one percent (1%) by weight of the total dry aggregate including aggregate in RAP, if used. The aggregate, prior to the addition of the hydrated lime, shall contain sufficient surface moisture. If necessary, the Contractor shall add moisture to the aggregate according to the procedures set out in S-401.03.2.1.2.

The Contractor shall obtain a shipping ticket for each shipment of hydrated lime. The Contractor shall provide the Engineer and the approved Testing Laboratory with a copy of each shipping ticket from the supplier, including the date, time and weight of hydrated lime shipped and used in hot mix asphalt production. An amount equal to twenty-five percent (25%) of the total value of HMA items performed during the initial estimate period in which the Contractor fails to submit the hydrated lime shipping tickets, as required, will be withheld from the Contractor's earned work. Non-conformance with this specification for successive estimate period(s) will result in the total value (100%) of HMA items performed during this period(s) being withheld from the Contractor's earned work. Monies withheld for this non-conformance will be released for payment on the next monthly estimate following the date the submittal of hydrated lime shipping tickets to the Engineer is brought back into compliance with this specification.

Mixtures will require the addition of an antistripping agent when the Tensile Strength Ratio (MT-63) and/or the Boiling Water Test (MT-59) fail to meet the following criteria.

Tensile Strength Ratio (TSR - MT-63)	
Wet Strength / Dry Strength	85 percent minimum Interior Face Coating 95 percent minimum
Boiling Water Test (MT-59)	
Particle Coating	95 percent minimum

Reclaimed asphalt pavement (RAP) materials may be used in the production of HMA in the percentages of the total mix by weight set out in the following table:

HMA Mixture	Maximum percent RAP by total weight of mix
4.75 mm	0
9.5 mm	15
12.5 mm Top Lift	15
12.5 mm Underlying Lift	30
19 mm	30
25 mm	30

During HMA production, the RAP shall pass through a maximum 2-inch square sieve located in the HMA plant after the RAP cold feed bin and prior to the RAP weighing system.

Crushed reclaimed concrete pavement may be used as an aggregate component of all HMA pavements. When crushed reclaimed concrete pavement is used as an aggregate component, controls shall be implemented to prevent segregation. Crushed reclaimed concrete pavement aggregate shall be separated into coarse and fine aggregate stockpiles using the 3/8-in or 1/2-in sieve as a break-point unless otherwise approved by the Engineer in writing.

S-401.02.3.1.1--Mixture Properties.

ALL MIXTURES

Percent of Maximum Specific Gravity (Gmm)

N Design	96.0
N Initial	Less than 90.0
N Maximum	Less than 98.0

VMA CRITERIA

Minimum percent

Mixture	
25 mm	12.0
19 mm	13.0
12.5 mm	14.0
9.5 mm	15.0
4.75 mm	16.0

Mixtures with VMA more than two percent higher than the minimum may be susceptible to flushing and rutting; therefore, unless satisfactory experience with high VMA mixtures is available, mixtures with VMA greater than two percent above the minimum should be avoided.

The specified VFA range for 4.75 mm nominal maximum size mixtures for design traffic levels >3 million ESAL's (HT Mixtures) shall be 75 to 78 percent, for design traffic levels of 1.0 to 3 million ESAL's (MT mixtures) 65 to 78 percent, and for design traffic levels of <1.0 million ESAL's (ST mixtures) 65 to 78 percent.

DUST/BINDER RATIO for 4.75 mm mixtures

Percent Passing No.200 / Effective Binder Percent 0.9 to 2.0

DUST/BINDER RATIO for 9.5 mm, 12.5 mm, 19 mm & 25mm mixtures

Percent Passing No.200 / Effective Binder Percent 0.8 to 1.6

S-401.02.3.2--Job Mix Formula. The job mix formula shall be established in accordance with Mississippi Test Method: MT-78, where N represents the number of revolutions of the gyratory compactor.

Compaction Requirements:	N _{Initial}	N _{Design}	N _{Maximum}
High Type (HT) Mixtures			
19 mm, 12.5 mm, 9.5 mm & 4.75 mm	7	85	130
Medium Type (MT) Mixtures			
19 mm, 12.5 mm, 9.5 mm & 4.75 mm	7	65	100
All Standard Type (ST) Mixtures; 25 mm HT & MT Mixtures	6	50	75

At least 15 working days prior to the proposed use of each mixture, the Contractor shall submit in writing to the Engineer a proposed job-mix formula or request the transfer of a verified job-mix formula. The job-mix formula shall be signed by a Certified Mixture Design Technician (CMDT).

The approved laboratory shall perform the tests necessary for review of a proposed job-mix formula or transfer for each required mixture.

Review of the proposed job-mix formula will be based on percent maximum specific gravity at N_{Initial}, N_{Design}, and N_{Maximum}, VMA @ N_{Design}, resistance to stripping, and other criteria specified for the mixture.

The mixture shall conform thereto within the range of tolerances specified for the particular mixture. No change in properties or proportion of any component of the job-mix formula shall be made without permission of the Engineer. The job-mix formula for each mixture shall be in effect until revised in writing by the Engineer.

A job-mix formula may be transferred to other contracts in accordance with conditions set forth by the Engineer.

The Contractor shall not place any HMA prior to receiving "tentative" approval from the Engineer.

When a change in source of materials, unsatisfactory results or changed conditions make it necessary, a new job-mix formula will be required. The conditions set out herein for the original job-mix formula are applicable to the new job-mix formula.

S-401.02.4--Substitution of Mixture. The substitution of a one (1) size finer mixture for an underlying lift shall require written permission of the Engineer, except no substitution of a 4.75 mm mixture will be allowed. A 9.5 mm mixture may be substituted for the 12.5 mm mixture designated on the plans as the top lift or pre-leveling. The 19 mm mixture may be substituted for the 25 mm mixture in trench widening work. Any substitution of mixtures shall be of the same type. No

other substitutions will be allowed. The quantity of substituted mixture shall be measured and paid for at the contract unit price for the mixture designated on the plans. The substitution of any mixture will be contingent on meeting the required total structure thickness and maintaining the minimum and/or maximum laying thickness for the particular substituted mixture as set out in the following table.

Mixture	Single Lift Laying Thickness Inches	
	Minimum	Maximum
25 mm	3	4
19 mm	2 ½	3 ½
12.5 mm	1 ½	2 ½
9.5 mm	1	2
4.75 mm	½	1 ¼

S-401.02.5--Contractor's Quality Management Program.

S-401.02.5.1--General. The Contractor shall have full responsibility for quality management and maintain a quality control system that will furnish reasonable assurance that the mixtures and all component materials incorporated in the work conform to contract requirements. The Contractor shall have responsibility for the initial determination and all subsequent adjustments in proportioning materials used to produce the specified mixture. Adjustments to plant operation and spreading and compaction procedures shall be made immediately when results indicate that they are necessary. Mixture produced by the Contractor without the required testing or personnel on the project shall be subject to removal and replacement by the Contractor at no additional cost to the Project.

S-401.02.5.2--Personnel Requirements. The Contractor shall provide at least one Certified Asphalt Technician-I (CAT-I) full-time at each plant site used to furnish material to the project. Sampling shall be conducted by a certified technician or by plant personnel under the direct observation of a certified technician. All testing, data analysis and data posting will be performed by the CAT-I or by an assistant under the direct supervision of the CAT-I. The Contractor shall have a Certified Asphalt Technician-II (CAT-II) available to make any necessary process adjustments. Technician certification shall be in accordance with MDOT SOP TMD-22-10-00-000, MDOT HMA Technician Certification Program. An organizational chart, including names, telephone numbers and current certification, of all those responsible for the quality control program shall be posted in the contractor's laboratory while the asphaltic paving work is in progress.

S-401.02.5.3--Testing Requirements. As a minimum, the Contractor's quality management program shall include the following.

- (a) Bituminous Material. Provide Engineer with samples in sealed one quart metal containers at the required frequency as determined by the Engineer.
- (b) Mechanically Fractured Face. Determine mechanically fractured face content of aggregates retained on the No. 4 sieve, at a minimum of one test per day of production.
- (c) Mixture Gradation. Conduct extraction tests for gradation determination on the mixture. Sample according to the frequency in paragraph (i) and test according to Mississippi Test Method MT-31.
- (d) Total Voids and VMA. Determine total voids and Voids in Mineral Aggregate (VMA) at N Design, from the results of bulk specific gravity tests on laboratory compacted specimens. Sample according to the sampling frequency in paragraph (i), and test according to the latest edition of MDOT's field Manual for HMA.

- (e) Asphalt Content. Sample according to the sampling frequency in paragraph (i). Determine the asphalt content using one of the following procedures.
- (1) Nuclear gauge. (Mississippi Test Method MT-6)
 - (2) Incinerator oven per AASHTO Designation: T 308, Method A.
- (f) Stripping Tests. Conduct a minimum of one stripping test at the beginning of each job-mix production and thereafter, at least once per each two weeks of production according to Mississippi Test Method: MT-63 and one stripping test per day of production according to Mississippi Test Method: MT-59. Should either the TSR (MT-63) or the boiling water (MT-59) stripping tests fail, a new antistrip additive or rate shall be established or other changes made immediately that will result in a mixture which conforms to the specifications; otherwise, production shall be suspended until corrections are made.
- (g) Density Tests. For 25 mm, 19.5 mm, 12.5 mm & 9.5 mm mixtures, conduct density tests as necessary to control and maintain required compaction according to Mississippi Test Method: MT-16, Method C (nuclear gauge), or AASHTO Designation: T 166. Note - The nuclear gauge may be correlated, at the Contractor's option, with the average of a minimum of five pavement sample densities. For 4.75 mm mixtures, conduct density tests as necessary to control and maintain required compaction according to AASHTO Designation: T 166.
- (h) Quality Control Charts. Plot the individual test data, the average of the last four tests and the control limits for the following items as a minimum:

Mixture Gradation (Percent Passing) Sieves:

1/2-in, 3/8-in, No. 8, No. 16, No. 30 and No. 200.

Asphalt Content, Percent Maximum Specific Gravity, G_{mm} Total Voids @ N_{Design} , Percent VMA @ N_{Design} , Percent

NOTE: For 4.75 mm mixtures, Quality Control Charts for mixture gradation are not required on the No. 8 and No. 30 sieves. For 4.75 mm mixtures, as a minimum, Quality Control Charts for mixture gradation shall be kept on the 3/8-in, No. 16 and No. 200 sieves. For all mixtures other than 4.75 mm, Quality Control Charts for mixture gradation are not required on the No. 16 sieve.

Keep charts up-to-date and posted in a readily observable location. Charts may be kept on a computer, however, the charts shall be printed out a minimum of once each production day and displayed in the laboratory. Note any process changes or adjustments on the Air Voids chart.

- (i) Sampling Frequency. Conduct those tests as required above at the following frequency for each mixture produced based on the estimated plant tonnage at the beginning of the day.

Total Estimated Production, tons Number of Tests

50-800	1
801-1700	2
1701-2700	3
2701+	4

NOTE: Material placed in a storage silo from a previous day's production shall be randomly sampled and tested when removed for placement on the roadway. Such sample(s) shall be independent of the day's production sampling frequency and shall be used in calculating the four (4) sample running average.

- (j) Sample Requirements. Obtain the asphalt mixture samples from trucks at the plant. Obtain aggregate samples from cold feed bins or aggregate stockpile. Save a split portion of all mixture samples at the

laboratory site in a dry and protected location for 14 calendar days. At the completion of the project, the remaining samples may be disposed of with the approval of the Engineer.

The above testing frequencies are for the estimated plant production for the day. If production is discontinued or interrupted, the tests will be conducted at the previously established sample tonnage points for the materials that are actually produced. If the production exceeds the estimated tonnage, sampling and testing will continue at the testing increments previously established for the day. A testing increment is defined as the estimated daily tonnage divided by the required number of tests from the table in S-401.02.5.3 paragraph (i).

In addition to the above program, the following tests shall be conducted on the first day of production and once for every eight production samples thereafter, with a minimum of one test per production week.

Aggregate Stockpile Gradations per AASHTO Designations: T-11 and T-27.

Reclaimed Asphalt Pavement (RAP) Gradation per Mississippi Test Method MT-31.

Fine Aggregate Angularity for all 4.75 mm and 9.5 mm mixtures and all MT and HT mixtures designed above the maximum density line per ASTM Designation: C 1252, Method A.

Testing of the aggregate and RAP stockpiles during production will be waived provided the Contractor provides the Engineer with gradation test results for the materials in the stockpile determined during the building of the stockpiles. The test results provided shall represent a minimum frequency of one per one thousand tons of material in the stockpile. If the Contractor continues to add materials to the stockpile during HMA production, the requirements for gradation testing during production are not waived.

S-401.02.5.4--Documentation. The Contractor shall document all observations, records of inspection, adjustments to the mixture, and test results on a daily basis. All tests conducted by the Contractor in accordance with S-401.02.5.3(h) shall be included in the running average calculations. If single tests are performed as a check on individual HMA properties, between regular samples, without performing all tests required in S-401.02.5.3(h), the results of those individual tests shall not be included in the running average calculations for the particular property. The Contractor shall record the results of observations and records of inspection as they occur in a permanent field record. The Contractor shall record all process adjustments and job mix formula (JMF) changes on the air void charts. The Contractor shall provide copies of all test data sheets and the daily summary reports on the appropriate forms to the Engineer on a daily basis. The Contractor shall provide a written description of any process change, including blend proportions, to the Engineer as they occur. Information provided to the Engineer must be received in the Engineer's office by no later than 9:00 AM the day after the HMA is produced. Fourteen days after the completion of the placement of the HMA, the Contractor shall provide the Engineer with the original testing records and control charts in a neat and orderly manner.

S-401.02.5.5--Control Limits. The following control limits for the job mix formula (JMF) and warning limits are based on a running average of the last four data points.

Item	JMF Limits	Warning Limits
Sieve-% passing		
1/2-in	±5.5	±4.0
3/8-in	±5.5	±4.0
No. 8	±5.0	±4.0
No. 16, for 4.75 mm mixtures ONLY	±4.0	±3.0
No. 30	±4.0	±3.0
No. 200	±1.5	±1.0
Asphalt Content %	- 0.3 to + 0.5	- 0.2 to + 0.4
Total Voids @ N Design %	±1.3	±1.0

VMA @ N Design, %

- 1.5

- 1.0

S-401.02.5.6--Warning Bands. Warning bands are defined as the area between the JMF limits and the warning limits.

S-401.02.5.7--Job Mix Formula Adjustments. A request for a JMF adjustment signed by a CAT-II may be made to the Engineer by the Contractor. Submit sufficient testing data with the request to justify the change. The requested change will be reviewed by the Engineer. If current production values meet the mixture design requirements, a revised JMF will be issued. Adjustments to the JMF shall conform to the latest edition of MDOT's Field Manual for HMA. Adjustments to JMF limits to conform to actual production shall not exceed the tolerance specified for the JMF limits. Regardless of such tolerances, any adjusted JMF gradation shall be within the design master range for the mixture specified. The JMF asphalt content may only be reduced if the production VMA meets or exceeds the minimum design VMA requirements for the mixture being produced.

S-401.02.5.8--Action and Adjustments. Based on the process control test results for any property in question, the following actions shall be taken or adjustments made when appropriate:

- (a) When the running average trends toward the warning limits, the Contractor shall consider taking corrective action. The corrective action, if any, shall be documented. All tests shall be part of the contract files and shall be included in the running average calculations.
- (b) The Contractor shall notify the Engineer whenever the running average exceeds the warning limits.
- (c) If two consecutive running averages exceed the warning limit, the Contractor shall stop production and make adjustments. Production shall only be restarted after notifying the Engineer of the adjustments made.
- (d) If the adjustments made under (c) improve the process such that the running average after four additional tests is within the warning limits, the Contractor may continue production with no reduction in payment.
- (e) If the adjustment made under (c) does not improve the process and the running average after four additional tests stays in the warning band, the mixture will be considered unsatisfactory. Reduced payment for unsatisfactory mixtures will be applied starting from the stop point to the point when the running average is back within the warning limits in accordance with S-401.02.6.3.
- (f) Failure to stop production and make adjustments when required shall subject all mixture produced from the stop point to the point when the running average is back within the warning limits to be considered unsatisfactory. Reduced payment for unsatisfactory mixtures will be applied in accordance with S-401.02.6.3.
- (g) If the running average exceeds the JMF limits, the Contractor shall stop production and make adjustments. Production shall only be restarted after notifying the Engineer of the adjustments made.
- (h) All materials for which the running average exceeds the JMF limits will be considered unacceptable and shall be removed and replaced by the Contractor at no additional cost to the Project. The Engineer will determine the quantity of material to be replaced based on a review of the individual testing data which

make up the running average in question and an inspection of the completed pavement. If the Engineer decides to leave the mixture in place because of special circumstances, the quantity of mixture, as defined above, will be paid for in accordance with S-401.02.6.3.

- (i) Single test results shall be compared to twice the warning and JMF limits. If the test results verified by an approved Laboratory or exceed these limits, the pay factor provided in S-401.02.6.3 will apply for the quantity of material represented by the test(s). Single test limits will be used for the acceptance of projects when insufficient tonnage is produced to require four (4) Contractor's tests.

S-401.02.6--Standards of Acceptance.

S-401.02.6.1--General. Acceptance for mixture quality (VMA and total voids at N_{Design} , gradation, and asphalt content) will be based on random samples tested in accordance with the latest edition of MDOT's Field Manual for HMA. Pavement densities and smoothness will be accepted by lots as set out in S-401.02.6.4 and S-401.02.6.5.

S-401.02.6.2--Test for Mixture Quality. The rounding of test results will be in accordance with S-700.04.

Conduct tests on split samples anytime during production. All testing and data analysis shall be performed by a Certified Asphalt Technician-I (CAT-I) or by an assistant under the direct supervision of the CAT-I.

The Engineer shall be allowed to inspect measuring and testing devices to confirm calibration and condition. The Contractor shall calibrate and correlate all testing equipment in accordance with the latest version of the MDOT Test Methods.

S-401.02.6.3--Acceptance Procedure for Mixture Quality. All obviously defective material or mixture will be subject to rejection by the Engineer. Such defective material or mixture shall not be incorporated into the finished work. If the defective material has already been placed in the work, the material shall be removed and replaced at no additional cost to the Project.

The Engineer will base final acceptance of the asphalt mixture production on the results of the Contractor's testing for total voids and VMA @ N_{Design} , gradation, and asphalt content. Areas of pavement that exhibit non-uniformity or failures, materials or construction related, such as but not limited to segregation, bleeding, shoving, rutting over 1/8", raveling, slippage, or cracking will not be accepted. Such areas will be removed and replaced at no additional cost to the Project.

Bituminous mixture placed prior to correction for deficiencies in VMA and total voids @ N_{Design} , gradation, or asphalt content, as required in S-401.02.5.8 and determined by the Engineer satisfactory to remain in place will be paid for in accordance with the following pay factors times the contract unit price per ton.

Pay Factor for Mixture Quality *

Item	Produced in Warning Bands	Produced Outside JMF Limits, Allowed to Remain in Place
Gradation	0.90	0.75
Asphalt Content	0.85	0.75
Total Voids @ N_{Design}	0.70	0.50
VMA @ N_{Design}	0.90	0.75

*The minimum single payment will apply.

S-401.02.6.4--Acceptance Procedure for Density For normal production days, divide the production into approximately

equal lots as shown in the following table. When cores are being used for the compaction evaluation, randomly obtain one core from each lot. When the nuclear density gauge is being used for compaction evaluation, obtain two random readings from each lot and average the results. Additional tests may be required by the Engineer to determine acceptance of work appearing deficient. The Contractor shall furnish and maintain traffic control for all compaction evaluations, including coring, required in satisfying specified density requirements.

Lot Determination

<u>Daily Production - Tons</u>	<u>Number of Lots</u>
0-300	1
301-600	2
601-1000	3
1001-1500	4
1501-2100	5
2101-2800	6
2801+	7

S-401.02.6.4.1--Roadway Density. The density requirement for each completed lift on a lot to lot basis from density tests shall be as follows:

1. For all single lift overlays, with or without leveling and/or milling, the required lot density shall be 92.0 percent of maximum density.
2. For all multiple lift overlays of two (2) or more lifts excluding leveling lifts, the required lot density of the bottom lift shall be 92.0 percent of maximum density. The required lot density for all subsequent lifts shall be 93.0 percent of maximum density.
3. For all pavements on new construction, the required lot density for all lifts shall be 93.0 percent of maximum density.

When it is determined that the density for a lot is below the required density (93.0 percent or 92.0 percent) but not lower than 91.0 or 90.0 percent of maximum density, respectively, the Contractor will have the right to remove and replace the lot(s) not meeting the specified density requirements in lieu of accepting reduced payment for the lot(s).

When it is determined that the density for a lot is above 96.0 percent, the Contractor will make plant adjustments to resolve the problem.

When it is determined that the density for a lot is below 91.0 or 90.0 percent, respectively, the lot(s), or portions thereof shall be removed and replaced in accordance with Chapter 7 of the latest edition of MDOT's Field Manual for HMA at no additional cost to the Project. A corrected lot will be retested for approval. No resampling will be performed when pavement samples are used for determining density.

At any time the average daily compaction (the total of the percent compaction for the lots produced in one day divided by the total number of lots for the day) does not meet the required percent compaction or more for two consecutive days, the Contractor shall notify the Engineer of proposed changes to the compactive effort. If the average daily compaction does not meet the required percent compaction or more for a third consecutive day, the Contractor shall stop production until compaction procedures are established to meet the specified density requirements.

Each lot of work found not to meet the density requirement of 92.0% or 93% of maximum density, respectively, may remain in place with a reduction in payment as set out in the following tables:

PAYMENT SCHEDULE FOR COMPACTION OF 92.0 PERCENT OF MAXIMUM DENSITY

<u>Pay Factor</u>	<u>Lot Density **</u> <u>% of Maximum Density</u>
1.00	92.0 and above
0.90	91.0 - 91.9
0.70	90.0 - 90.9

** Any lot or portion thereof with a density of less than 90.0 percent of maximum density shall be removed and replaced at no additional cost to the Project.

PAYMENT SCHEDULE FOR COMPACTION OF 93.0 PERCENT OF MAXIMUM DENSITY

<u>Pay Factor</u>	<u>Lot Density ***</u> <u>% of Maximum Density</u>
1.00	93.0 and above
0.90	92.0 - 92.9
0.70	91.0 - 91.9

*** Any lot or portion thereof with a density of less than 91.0 percent of maximum density shall be removed and replaced at no additional cost to the Project.

The compaction pay factors and mixture quality pay factor, as described in S- 401.02.6.3, will each apply separately. However, the combined pay factor shall not be less than 0.50 for any mixture allowed to remain in place.

S-401.02.6.4.2--Trench Widening Density. The density for trench widening on a lot to lot basis shall be determined from density tests using pavement samples (cores).

When it is determined that the density for a trench widening lot is below 89.0 percent but not lower than 88.0 percent of maximum density, the Contractor will have the right to remove and replace the lot(s) not meeting the specified density requirements in lieu of accepting reduced payment for the lot(s).

When it is determined that the density for a trench widening lot is above 95.0 percent, the Contractor will make plant adjustments to resolve the problem.

When it is determined that the density for a trench widening lot is below 88.0 percent, the lot(s), or portions thereof shall be removed and replaced in accordance with Chapter 7 of the latest edition of MDOT’s Field Manual for HMA at no additional cost to the Project. A corrected lot will be retested for approval. No resampling will be performed when pavement samples are used for determining density.

At any time the daily compaction (the total of the percent compaction for the lots produced in one day divided by the total

number of lots for the day) does not meet 89.0 percent compaction or more for two consecutive days, the Contractor shall notify the Engineer of proposed changes to the compactive effort. If the average daily compaction does not meet 89.0 percent compaction or more for a third consecutive day, the Contractor shall stop production until compaction procedures are established to meet the specified density requirement.

Each lot of trench widening work found not to meet the density requirement of 89.0 percent of maximum density may remain in place with a reduction in payment as set out in the following table:

**PAYMENT SCHEDULE FOR COMPACTION
TRENCH WIDENING WORK**

<u>Pay Factor</u>	<u>Lot Density *** % of Maximum Density</u>
1.00	89.0 and above
0.50	88.0 - 88.9

*** Any lot or portion thereof with a density of less than 88.0 percent of maximum density shall be removed and replaced at no additional cost to the Project.

The compaction pay factors and mixture quality pay factor, as described in S- 401.02.6.3, will each apply separately. However, the combined pay factor shall not be less than 0.50 for any mixture allowed to remain in place.

S-401.02.6.5--Acceptance Procedure for Pavement Smoothness. When compaction is completed, the lift shall have a uniform surface and be in reasonably close conformity with the line, grade and cross section shown on the plans.

When required by the Engineer, the smoothness of each applicable lift will be determined by using a California profilograph to produce a profilogram (profile trace) at each designated location. The surface shall be tested and corrected to a smoothness index as described in MDOT Specifications.

S-401.02.6.7--Surface Correction. Corrective work to bumps shall consist of diamond grinding in accordance with these specifications or methods approved by the Engineer. All surface areas corrected by grinding shall be sealed with a sealant approved by the Engineer.

S-401.02.6.7.1--Diamond Grinding. Grinding of asphalt surfaces shall consist of diamond grinding the existing asphalt pavement surface to remove surface distortions to achieve the specified surface smoothness requirements.

S-401.02.6.7.2--Equipment. The grinding equipment shall be a power driven, self-propelled machine that is specifically designed to smooth and texture pavement surfaces with diamond blades. The effective wheel base of the machine shall not be less than 12.0 feet. It shall have a set of pivoting tandem bogey wheels at the front of the machine and the rear wheels shall be arranged to travel in the track of the fresh cut pavement. The center of the grinding head shall be no further than 3.0 feet forward from the center of the back wheels.

The equipment shall be of a size that will cut or plane at least 2.0 feet wide. It shall also be of a shape and dimension that does not encroach on traffic movement outside of the work area. The equipment shall be capable of grinding the surface without causing spalls at joints, or other locations.

S-401.02.6.7.3--Construction. The construction operation shall be scheduled and proceed in a manner that produces a uniform finish surface. Grinding will be accomplished in a manner to provide positive lateral drainage by maintaining a constant cross-slope between grinding extremities in each lane.

The operation shall result in pavement that conforms to the typical cross-section and the requirements specified in S-

401.02.6.7.4. It is the intent of this specification that the surface smoothness characteristics be within the limits specified.

The Contractor shall establish positive means for removal of grinding residue. Solid residue shall be removed from pavement surfaces before it is blown by traffic action or wind. Residue shall not be permitted to flow across lanes used by public traffic or into gutters or drainage facilities, but may be allowed to flow into adjacent ditches.

S-401.02.6.7.4--Finished Pavement Surface. The grinding process shall produce a pavement surface that is smooth and uniform in appearance with a longitudinal line type texture. The line type texture shall contain parallel longitudinal corrugations that present a narrow ridge corduroy type appearance. The peaks of the ridges shall not be more than 1/16 inch higher than the bottoms of the grooves.

The finished pavement surface will be measured for riding quality. The grinding shall produce a riding surface which does not exceed either the specified profile index or the specified bump and dip limit.

S-401.02.7--Nuclear Gauges.

S-401.02.7.1--Nuclear Moisture-Density Gauge. The nuclear gauge unit used to monitor density shall contain a full data processor which holds all calibration constants necessary to compute and directly display wet density, moisture, and dry density in pounds per cubic foot. The data processor shall compute and display the percent moisture and percent density based on dry weight.

S-401.02.7.2--Nuclear Asphalt Content Gauge. The Contractor shall furnish and calibrate, unless designated otherwise in the contract, a Troxler Nuclear Asphalt Content Gauge (Model 3241 or updated model) or a Campbell Nuclear Asphalt Content Gauge (Model AC-2) or an approved equal.

S-401.03--Construction Requirements AASHTO "Hot-Mix Asphalt Paving Handbook" is adapted as the guideline for acceptable HMA construction practices.

S-401.03.1--Specific Requirements.

S-401.03.1.1--Weather Limitations. The mixture shall not be placed when weather conditions prevent the proper handling and finishing or the surface on which it is to be placed is wet or frozen. At the time of placement, the air and pavement surface temperature limitations shall be equal to or exceed that specified in the following table.

TEMPERATURE LIMITATIONS

Compacted Thickness	Temperature
Less than 1 1/2 inches	55°F
1 1/2 inches to 2 inches	50°F
2 1/4 inches to 3 inches	45°F
Greater than 3 inches	40°F

When paving operations are discontinued because of rain, the mixture in transit shall be protected until the rain ceases. The surface on which the mixture is to be placed shall be swept to remove as much moisture as possible and the mixture may than be placed subject to removal and replacement at no additional cost to the Project if contract requirements are not met.

S-401.03.1.2--Tack Coat. Tack coat shall be applied to previously placed primed subbase/base, road surface and between layers, unless otherwise directed by the Engineer. The tack coat shall be applied as a spray coating, fog coating, or "spider

webbing". Construction requirements shall be in accordance with S-407.

S-401.03.1.3--Blank.

S-401.03.1.4--Density. The lot density for all dense graded pavement lifts, except as provided below for preleveling, wedging {less than fifty percent (50%) of width greater than minimum lift thickness}, ramp pads, irregular shoulder areas, median crossovers, turnouts, or other areas where the established rolling pattern cannot be performed, shall not be less than 92.0 percent of the maximum density based on AASHTO Designation: T209 for the day's production. If a job-mix formula adjustment is made during the day which affects the maximum specific gravity, calculate a new average maximum density for the lot(s) placed after the change.

Pavement core samples obtained for determining density which have a thickness less than two times the maximum size aggregate permitted by the job-mix formula will not be used as a representative sample.

Preleveling, wedging {less than fifty percent (50%) of width greater than minimum lift thickness}, ramp pads, irregular shoulder areas, median crossovers, turnouts, and other areas where an established rolling pattern cannot be obtained shall be compacted to refusal densification.

S-401.03.2--Bituminous Mixing Plants. S-401.03.2.1--Plant Requirements.

S-401.03.2.1.1--Cold Aggregate Storage. The cold storage for hydrate lime shall be a separate bulk storage bin with a vane feeder or other approved feeder system which can readily be calibrated. The system shall provide a means for easy sampling of the hydrated lime additive and verifying the quantity of lime dispensed. The feeder system shall require a totalizer.

The hydrated lime additive equipment shall be interlocked and synchronized with the cold feed controls to operate concurrently with the cold feed operation which will automatically adjust the hydrated lime feed to variations in the cold aggregate feed. A positive signal system shall be installed which will automatically shut the plant down when malfunctions cause an improper supply of hydrated lime or water.

The plant shall not operate unless the entire hydrated lime system is functioning properly.

S-401.03.2.1.2--Cold Aggregate Feed. The hydrated lime shall be dispensed dry or as a slurry (1 part hydrated lime to 3 parts water) directly onto the composite aggregate between the cold feed and the dryer.

When hydrated lime is introduced dry, a spray bar or other approved system capable of spraying all aggregate with water shall be installed in order to maintain all aggregate at the moisture condition set out in S-401.02.3.1 prior to addition of the hydrated lime. An alternate system for spraying the coarse aggregate stockpiles may be allowed when approved by the Engineer. The approved equipment and methods shall consistently maintain the aggregate in a uniform, surface wet condition. The moisture content of the aggregate-hydrated lime mixture, following spraying and mixing, shall be introduced into the automatic moisture controls of the plant.

The aggregate-hydrated lime mixture shall be uniformly blended by some mechanical means such as a motorized "on the belt" mixer or pug mill located between the cold feed and the dryer. Other mixing devices may be used subject to approval by the Engineer.

A maximum of forty five (45) percent of the total aggregate blend may be fed through any single cold feed bin. If the JMF calls for more than forty five (45) percent of a specific aggregate, that aggregate must be fed through two (2) or more separate cold feed

S-401.03.2.1.3--Dryer. The efficiency of drying aggregates shall be such that the moisture content of the top HMA mixture shall not exceed 0.50 percent by weight of the total mixture, and the moisture content of all the underlying mixtures shall not exceed 0.75 percent by weight of the total mixture being produced.

S-401-03.2.1.4--Blank.

S-401.03.2.1.5--Control of Bituminous Material and Antistripping Agent. Specified bituminous materials from different manufacturers or from different refineries of a single manufacturer shall not be mixed in the plant's asphalt cement supply system storage tank and used in the work without prior written approval of the Engineer. Approval is contingent upon the Engineer's receipt of three copies of the manufacturer's certified test report(s) from the Contractor showing that the bituminous material blend conforms to the specifications.

A satisfactory method of weighing or metering shall be provided to ensure the specified quantity of bituminous material. Provisions shall be provided for checking the quantity or rate of flow. Weighing or metering devices shall be accurate within plus or minus one-half percent.

The antistripping agent shall be injected into the bituminous material immediately prior to the mixing operation with an approved in-line injector system capable of being calibrated so as to ensure the prescribed dosage.

An in-line spigot for sampling of asphalt shall be located between the asphalt storage tank and the antistripping agent in-line injector.

S-401.03.2.1.6--Thermometric Equipment. An armored thermometer of adequate range and calibrated in 5°F increments shall be fixed at a suitable location in the bituminous line near the charging valve of the mixer unit.

The plant shall be equipped with an approved dial-scale, mercury-actuated thermometer, pyrometer or other approved thermometric instrument placed at the discharge chute of the dryer to measure the temperature of the material.

When the temperature control is unsatisfactory, the Engineer may require an approved temperature-recording apparatus for better regulation of the temperature.

S-401.03.2.1.7--Screens. A scalping screen shall be used.

S-401.03.2.1.8--Dust Collector. The plant shall be equipped with a dust collector constructed to waste or return collected material. When collected material is returned, it shall be returned through a controlling device which will provide a uniform flow of material into the aggregate mixture.

S-401.03.2.1.9--Safety Requirements. A platform or other suitable device shall be provided so the Engineer will have access to the truck bodies for sampling and mixture temperature data.

S-401.03.2.1.10--Blank.

S-401.03.2.1.11--Truck Scales. The specifications, tolerances and regulations for commercial weighing and measuring devices as recommended by the National Bureau of Standards {National Institute of Standards and Technology (NIST) handbook 44} shall govern truck scales used in the State of Mississippi, except weighing devices with a capacity of ten thousand (10,000) pounds or more used to weigh road construction materials (i.e. sand, gravel, asphalt, fill dirt, topsoil and concrete) shall have a tolerance of one-half of one percent (1/2 of 1%) in lieu of the requirements of Handbook 44 and shall be regulated by the Mississippi Department of Transportation.

Agriculture and Commerce. Certification shall be performed in the presence of an authorized representative of MDOT or a copy of the certification may be furnished for scales that have been checked and certified within the last six months for use on Department of Transportation or projects and are still in the position where previously tested. Scales that have not been checked and certified under NIST Handbook 44 guidelines, except for the herein modified tolerances allowed, shall be so checked and certified prior to use for measurement of materials. Tests shall be continued on six month intervals with the test conducted in the presence of an authorized representative of MDOT.

Truck scales shall be accurate to one-half percent of the applied load, shall be sensitive to 20 pounds, and shall have a graduation of not more than 20 pounds.

The Contractor may use an electronic weighing system approved by the Engineer in lieu of truck scales. The system shall be equipped with an automatic print out system which will print a ticket for each load with the following information:

Contractor's name, , Owner name, project name, county, ticket number, load number, pay item number, item description of the material delivered, date, time of day, haul vehicle number, gross weight, tare weight, net weight and total daily net weight.

When approved by the Engineer, and materials are measured directly from a storage bin equipped with load cells, exceptions may be made to the gross and tare weight requirement.

The ticket shall also have a place for recording the temperature of HMA mixtures, if applicable, and the signatures of the Engineer's plant and roadway inspectors. The load numbers for each project shall begin with load number one (1) for the first load of the day and shall be numbered consecutively without a break until the last load of the day. The Contractor shall provide the Engineer with an original and one copy of each ticket. When the ticket information provided by the Contractor proves to be unsatisfactory, the Engineer will use imprinter(s) and imprinter tickets to record load information. All recorded weights shall be in pounds and shall be accurate to within one-half of one percent of the true weight, and the system shall be sensitive to 20 pounds. The Engineer will require random loads to be checked on certified platform scales at no cost to the project.

When an electronic weighing system utilizes the plant scales of a batch plant, the system may be used only in conjunction with a fully automatic batching and control system.

S-401.03.2.2--Additional Requirements for Batching Plants.

S-401.03.2.2.1--Plant Scales. The plant batch scale weight shall not exceed the platform scale weight by more than one percent (1%).

S-401.03.2.3--Additional Requirements for Drum Mixing Plants.

S-401.03.2.3.1--Plant Controls. The plant shall be operated with all the automatic controls as designed and provided by the plant manufacturer. If the automatic controls malfunction, brief periods of manual operations to complete the day's work or to protect the work already placed may be conducted with the approval of the Engineer. During manual operation, the Contractor must continue to produce a uniform mixture meeting all contract requirements.

S-401.03.2.3.2--Aggregate Handling and Proportioning. A screening unit shall be placed between the bins and the mixer to remove oversized aggregate, roots, clayballs, etc.

S-401.03.2.4--Surge or Storage Bins. Surge and/or storage systems may be used at the option of the Contractor provided each system is approved by the Engineer prior to use. Surge bins shall be emptied at the end of each day's operation. Storage silos may be used to store mixtures as follows:

19 mm & 25 mm mixtures	24 hours
9.5 mm & 12.5 mm mixtures	36 hours

The storage silos must be well sealed, completely heated and very well insulated. The mixture when removed from the storage silo shall be tested to ensure that it meets all the same specifications and requirements as the mixture delivered directly to the paving site. See S-401.02.5.3, subparagraph (i) for sampling and testing requirements.

S-401.03.3--Hauling Equipment. The inside of each vehicle bed shall be coated with a light application of water and thin oil, soap solution, lime water solution or other approved material to prevent the mixture from sticking. Diesel fuel or gasoline shall not be used to lubricate vehicle beds. Truck beds shall be raised to drain excessive lubricants before placing mixture in the bed. An excess of lubricant will not be permitted.

S-401.03.4--Bituminous Pavers. The screed or stroke-off assembly shall be capable of vibrating and heating the full width of the mixture being placed and shall lay the lift with an automatic control device to the specified slope and grade without tearing, pulling or gouging the mixture surface.

S-401.03.5--Rollers. All rollers shall be self-propelled units capable of maintaining a smooth and uniform forward and reverse speed as required for proper compaction. They shall be equipped with adjustable scrapers, water tanks, mats and a device for wetting the wheels or tires to prevent the mixture from sticking. Adhesion of the mixture to the rollers will not be permitted. The use of diesel fuel or gasoline for cleaning roller wheels or tires or to aid in preventing the mixture from sticking to the wheels or tires is prohibited.

All rollers shall be in good mechanical condition, free from leaking fuels and lubricants, loose link motion, faulty steering mechanism, worn king bolts and bearing. They shall be operational at slow speeds to avoid displacement of the mixture and capable of reversing direction smoothly and without backlash.

S-401.03.6--Preparation of Grade. The foundation upon which HMA pavement is to be placed shall be prepared in accordance with plans and specifications.

Unless otherwise directed, tack coat shall be applied to the underlying surface on which the mixture is to be placed. Emulsions, if used, must be allowed to "break" prior to placement of the bituminous mixture.

Bituminous mixture shall not be placed against the edge of pavements, curbs, gutters, manholes and other structures until sprayed with a thin uniform tack coating. The tack coat shall be protected until the mixture has been placed.

Existing pavements that require preliminary leveling or patching in advance of placing the bituminous mixture shall be sprayed with a tack coat material and then brought as nearly as practicable to uniform grade and cross section. The material shall be placed by hand or machine in one or more compacted layers approximately two (2) inches or less in compacted thickness.

S-401.03.7--Blank.

S-401.03.8--Preparation of Mixture. The temperature of the mixture, when discharged from the mixer, shall not exceed 340°F.

S-401.03.9--Material Transfer Equipment. Except for the areas mentioned below, when placing the top intermediate lift and/or the top lift of HMA pavements, the material transferred from the hauling unit shall be remixed prior to being placed in the paver hopper or insert by using an approved Materials Transfer Device. Information on approved devices can be obtained from the MDOT State Construction Engineer. Areas excluded from this requirement include: temporary work of short duration, detours, bridge replacement projects having less than 1,000 feet of pavement on each side of the structure, acceleration and deceleration lanes less than 1,000 feet in length, tapered sections, transition sections for width, shoulders less than 10 feet in width, crossovers, ramps, side street returns and other areas designated by the Engineer.

S-401.03.10--Spreading and Finishing. Grade control for HMA pavements shall be established by string line at least 500 feet ahead of spreading, unless placement is adjacent to curb and gutter, concrete pavement, or other allowed grade control.

The mixture shall be spread to the depth and width that will provide the specified compacted thickness, line, grade and cross section. Placing of the mixture shall be as continuous as possible. On areas where mechanical spreading and finishing is impracticable, the mixture may be spread, raked and luted by hand tools.

Immediately after screeding and prior to compaction, the surface shall be checked by the Contractor and irregularities adjusted. When the edge is feathered as in a wedge lift, it may be sealed by rolling. Irregularities in alignment and grade along the edges shall be corrected before the edges are rolled.

Hauling, spreading and finishing equipment shall be furnished that is capable of and operated in such a manner that the rolling operation will satisfactorily correct any surface blemishes.

The longitudinal joint in the subsequent lift shall offset that in the underlying lift by approximately six (6) inches. However, the joint in the top lift shall be at the centerline or lane line.

S-401.03.11--Compaction. After the mixture has been spread and surface irregularities corrected, it shall be thoroughly and uniformly compacted to the required line, grade, cross section and density.

S-401.03.12--Joints. Joints between previously placed pavement and pavement being placed shall be so formed as to insure thorough and continuous bond.

Transverse construction joints shall be formed by cutting the previously placed mixture to expose the full depth of the lift.

The contact surface of transverse joints and longitudinal joints, except hot joints, shall be sprayed with a thin uniform tack coating before additional mixture is placed against the previously placed material.

Longitudinal joints shall be formed by overlapping the screed on the previously placed material for a width of at least one (1) inch and depositing the quantity of mixture to form a smooth, tight joint.

S-401.03.13--Pavement Samples. The Contractor shall cut samples from each lift of HMA at the time and locations designated by the Engineer. The samples shall be taken for the full depth of each lift and shall be of a size approved by the Engineer but not to exceed 120 square inches. Tools used for cutting or coring of samples shall be of the revolving blade type such as saw or core drill. Cores shall be taken using a 4.0 to 6.0-inch inside diameter coring bit. The sample hole shall be filled, compacted and finished by the Contractor to conform with the surrounding area. No additional compensation will be allowed for furnishing samples and repairing the areas with new pavement.

SECTION S-403 – HOT MIX ASPHALT PAVEMENT

S-403.01--Description: This work consists of constructing one or more lifts of HMA pavement meeting the requirements of S-401 on a prepared surface in accordance with the requirements of this section and in reasonably close conformity with the lines, grades, thicknesses, and typical cross sections shown on the plans or established by the Engineer.

S-403.02--Material Requirements: Materials and their use shall conform to the applicable requirements of S-401.02.

S-403.03--Construction Requirements.

S-403.03.1--General. Construction requirements shall be as specified in S-401.03 except as otherwise indicated in this section or applicable special provisions.

S-403.03.2--Smoothness Tolerances. Except as noted herein, the finished smoothness of each lift shall conform to the designated grade and cross section within the following tolerances from grade stakes or other grade reference points set at 25 foot intervals:

	Lower * & Leveling Lifts	Lower * Intermediate Lifts	Top Intermediate Lift	Surface Lift
Max. deviation from grade and cross section at any point.....	1/2"	3/8"	1/4"	1/4"
Max. deviation from a 10 foot straight edge...	3/8"	1/4"	1/8"	1/8"

* When tested longitudinally from a string line located equidistant above points 50 feet apart, the distance from the string line to the surface at any two points located 12 ½ feet apart shall not vary one from the other more than the maximum deviation allowed above from a 10 foot straight edge.

Grade stakes or other grade reference points set at 25-foot intervals and maximum deviation from grade and cross section will not be required provided an approved profile averaging device is furnished and properly used for the five conditions set forth herein; however, all other surface requirements are applicable.

- (a) Overlays with one overall lift.
- (b) Overlays with two or more overall lifts -- for each lift above the first overall lift provided each underlying overall lift is within the allowable tolerances.
- (c) Surface lift of new construction provided the underlying lift is within the allowable tolerances.

- (d) Full-depth asphalt construction for lifts above the lower lift provided the lower lift is within the specified tolerances for the lower intermediate lift.
- (e) Base lifts.

Acceptance and payment of HMA will be determined on a lot to lot basis by cores taken from the completed pavement as outlined in S-403.03.3.

Approved contacting type profile averaging devices are those devices capable of working in conjunction with a taut string or wire set to grade, or ski-type device with extreme contact points with the surface at least 30 feet apart. Approved non-contacting type profile averaging devices are laser type ski devices with at least four referencing mobile stations at a minimum length of 24 feet, or an approved equal.

When approved by the Engineer, a short ski or shoe may be substituted for a long ski on the second paving operation working in tandem.

During the finishing and compacting of base and pavement lifts, it shall be the responsibility of the Contractor to check the surface and joints for progress toward conformance to surface requirements set forth herein. Variations from surface requirements exceeding the allowable tolerances shall be corrected at the Contractor's expense.

S-403.03.3--Thickness Requirements. Hot mix asphalt overlay lifts shall be constructed as nearly in accordance with the thickness shown on the plans as the underlying pavement and foundation will permit. Periodic and cumulative yield tests will be made to determine practicable conformity to the thickness of each lift. The Engineer may order modifications in placement thicknesses to prevent unwarranted variations in plan quantities.

When the paver is operating off an established grade line, no thickness determination will be required for the various lifts of base and pavement. It is understood that the tolerances from design grade will control the thickness requirements.

When grade stakes are eliminated as outlined in S-403.03.2, acceptance and pavement will be determined on a lot to lot basis by cores taken from the completed pavement. Lots will be coincidental with acceptance lots for the surface lift as provided in S-401.02.6.4, except that only lots resulting from the placement of mainline surface lift will be used for thickness assessment. One core will be obtained at random for each lot. Irregular areas will not be cored.

When the average thickness of all the cores from the lots representing a day's production (excluding any discarded by the Engineer for justifiable reason) is within $\frac{3}{8}$ of an inch of the total pavement thickness shown on the plans, excluding lift(s) placed using an established grade line, corrective action will not be required and a price adjustment will not be made for non-conformity to specified thickness.

When the average thickness of all the cores from the lots representing a day's production is deficient in thickness by more than $\frac{3}{8}$ of an inch of the total pavement thickness shown on the plans, excluding lift(s) placed using an established grade line, the deficiency shall be corrected by overlaying the entire length of the day's production. The thickness of the overlay shall be equal to the thickness deficiency but no less than the minimum single lift laying thickness for the specified mixture.

When the thickness of all the cores from the lots representing a day's production is more than $\frac{3}{8}$ of an inch thicker than the total thickness shown on the plans, excluding lift(s) placed using an established grade line, a price adjustment will be made in accordance with S-403.05.1.

The cores shall be cut and removed by the Contractor in the presence of the Engineer's representative. The Contractor shall fill each core hole with HMA and compact to the satisfaction of the Engineer within 24 hours after coring.

S-403.03.4--Lift Corrections. Pavement exceeding the allowable surface tolerances shall be corrected at the Contractor's expense by the following methods:

Lower, Leveling and Lower Intermediate Lifts:

- (a) Removal or addition of mixture by skin patching, feather edging, wedge lift construction of full depth patching where appropriate and can be completed in a satisfactory manner.
- (b) Superimposing an additional layer which shall be an approved grade raise for the full width and length of the area to be corrected.

Top Intermediate Lift

- (a) Removal and the addition of sufficient mixture to provide the specified thickness. Corrections by this method shall be square or rectangular in shape and shall completely cover the area to be corrected.
- (b) Superimposing an additional layer (minimum lift thickness for mixture being used) which shall be an approved grade raise for full lane width of the area to be corrected. Transverse joints shall be perpendicular to the centerline of the pavement.

Surface Lift:

- (a) Removal and the addition of sufficient mixture to provide new material of at least minimum single lift laying thickness for full lane width of the area to be corrected. Transverse joints shall be perpendicular to the centerline of the lane.
- (b) Superimposing an additional layer (minimum lift thickness for mixture being used) which shall be an approved grade raise for full lane width of the area to be corrected. Transverse joints shall be perpendicular to the centerline of the pavement.

All mixtures used in the correction of unacceptable pavement shall be approved by the Engineer prior to use.

S-403.03.5-- Overlays or Widening and Overlays.

S-403.03.5.1--General. In addition to the requirements of S-403.03.1 through S-403.03.4 the following requirements will be applicable when an existing pavement is to be overlaid or widened and overlaid.

S-403.03.5.2--Sequence of Operations. In order to expedite the safe movement of traffic and to protect each phase of the work as it is performed, a firm sequence of operations is essential. Unless otherwise provided in the traffic control plan and/or the contract, the following appropriate items of work shall be begun and continually prosecuted in the order listed:

- (a) In sections designated by the Engineer, trim the shoulders along the pavement edges to provide drainage from the pavement.
- (b) Perform selective undercutting and patching as directed (S-403.03.5.4).

- (c) Clean and seal joints. (If required)
- (d) Complete preparation on one side of roadway to be widened and place widening materials.
- (e) Reconstruct shoulders to elevation necessary to assure traffic safety.
- (f) Open the widened section to traffic.
- (g) Complete above work for other side of roadway.
- (h) Perform preliminary leveling as directed.
- (i) Apply interlayer (If required).
- (j) Place the first overall leveling lift. (If required)
- (k) After the first overall leveling lift, reconstruct shoulders as necessary to eliminate vertical differentials which may be hazardous to traffic.
- (l) Place first intermediate lift. (If required)
- (m) Construct shoulders to the contiguous elevation as required.
- (n) Place remaining intermediate lift (if required)
- (o) Place surface lift.
- (p) Complete construction of shoulders.
- (q) Apply permanent traffic marking.
- (r) Final cleanup.

The above operations shall be performed in such a manner that traffic will be maintained on a paved surface at all times. Two-lane highways should not be restricted to a single lane in excess of a 3,000 foot section.

S-403.03.5.3--Widening of Base or Pavement. The foundation for widening shall be formed by trenching or excavating to the required depth and constructing a smooth, firm and compacted foundation. It shall have sufficient density and stability to withstand the placement and compaction of subsequent lifts. Soft, yielding and other unsuitable material which the Engineer determines will not compact readily shall be removed and backfilled with granular material or hot mix asphalt as directed.

Except as provided herein, excavation for widening, undercutting or other required excavation shall be spread along the edge of the shoulders, foreslopes or other adjacent areas as directed and will be an absorbed item. When the quantity is in excess of what may be used satisfactorily on adjacent areas, the Engineer may direct that the material be loaded, hauled and spread uniformly on other designated areas. In this case, compensation for handling surplus material will be in accordance with the appropriate pay items as provided in the contract or as extra work.

If the plans require widening of the shoulders or embankment with contractor furnished material, all suitable material obtained from widening excavation may be used and will be measured and paid for as Contractor furnished materials. No measurement for payment of haul will be made.

Removal and disposal of old stakes, forms and other debris encountered in excavating shall be in accordance with S-201 and shall be considered as incidental to and included in the unit prices bid for other items. No separate measurement will be made therefor. Pavement edges and surfaces shall be cleaned prior to final shaping and compaction of adjacent trenching or undercut areas.

Granular material for widening shall be placed on a previously prepared, smooth, firm and unyielding foundation in accordance with the typical section. Density of the granular material shall be that specified for subbase.

Hot mix asphalt for widening, including trench widening, shall meet the applicable requirements of this section and S-401 and shall be placed in one or more layers as shown on the plans or as directed. The surface of the mixture shall be finished as a continuation of the adjacent pavement slope.

Trench rollers or other compaction equipment shall be used to compact the foundation, granular material and bituminous mixtures for widening when standard width rolling equipment cannot be used.

S-403.03.5.4--Patching. Existing pavement which has failed or unsatisfactorily stabilized shall be removed as directed. Removal of pavement will be measured and paid for under the appropriate pay items as provided in the contract.

Backfill shall consist of hot mix asphalt or a combination of compacted layers of granular material and hot mix asphalt. Unless otherwise specified, the Engineer will make this determination based on depth and field conditions.

Hot mix asphalt used for backfilling will be measured and paid for at the contract unit price for the mixture designated on the plans as the lowest lift. Granular material will be measured and paid for under the appropriate pay item as provided in the contract or as extra work.

S-403.03.5.5--Preliminary Leveling. All irregularities of the existing base or pavement that result in a thickness greater than approximately two and one-half inches for the first overall leveling lift shall be corrected by skin patching, feather edging or a wedge lift and shall be approved by the Engineer in advance of placing the first overall lift.

S-403.03.5.6--Placement of Lifts. The leveling lift shall be placed in a layer (or layers) not exceeding approximately two and one-half inches compacted thickness.

When single lane construction is required, placement of a lift on the adjacent lane may be performed by an approved profile averaging device provided the lane previously placed is within the allowable tolerances for all surface requirements. When any of the tolerances are exceeded, the contractor shall reestablish the control string line for laying the adjacent lane should he elect to perform this work prior to correcting the deficiencies of the lane previously placed. In no case shall a "matching shoe" be used to control the grade of an adjacent lane.

In instances where there are only minor deviations from the allowable tolerances in the first overall lift, the Engineer may permit the Contractor to place the next higher lift by graded string line in lieu of making the corrections.

Single lane placement of leveling, intermediate and surface lifts shall be limited to the distance covered in one and one-half days in advance of that placed in the adjacent lane.

S-403.03.5.7--Protection of Pavement. The base and pavement shall be protected and properly maintained until it has been compacted and cooled sufficiently for use by traffic.

S-403.04--Method of Measurement. HMA pavement, complete in place and accepted, will be measured by the ton. The weight of the composite mixture shall be determined in accordance with the provisions of S-401.03.2.1.11.

Unless shown as a separate pay item, the furnishing and application of the tack coat will not be measured for payment. When payment is provided, tack coat will be measured as set out in S-407.06.

The quantity of bituminous mixture required to correct the work, when made at the expense of the Contractor, will not be measured for payment.

Any trenching required for widening will not be measured for payment; the cost thereof shall be included in other items of work.

Undercut required by the Engineer will be measured for payment under the appropriate excavation item as provided in the contract or as extra work. Pavement removal and any required trenching will not be included in the measurement for undercut.

S-403.05--Basis of Payment. Subject to the adjustments set out in S-401.02.6.3, S-401.02.6.4 & S-403.03.2, hot mix asphalt pavement, complete-in-place, accepted, and measured as prescribed above, will be paid for at the contract unit price per ton for each lift of pavement specified in the bid schedule and shall be full compensation for completing the work.

S-403.05.1--Price Adjustment for Thickness Requirement. When grade stakes are eliminated as provided in S-403.03.3 and the average thickness of all cores from lots representing a day's production is more than 3/8 inch thicker than the total specified thickness of the pavement, excluding lift(s) placed using an established grade line, a lump sum reduction in payment for the surface lift of lots representing a day's production will be made as follows:

$$\begin{array}{lcl} \text{(Individual Day's} & & \text{(Monetary Value of the Day's} \\ \text{L.S. Reduction)} & = & \text{Surface Lift Production)} \times \frac{\text{(D - 3/8)}}{\text{ST}} \end{array}$$

Where:

D = The day's average deviation from total pavement thickness shown on the plans excluding lift(s) placed using an established grade line.

ST = Specified thickness for lift.

The total L.S. reduction for the project is the summation of the individual day's reductions in payment.

S-403.05.2--Pay Items

Payment will be made under:

<u>S-403-A:</u>	Hot Mix Asphalt,	(1) _____ (2) _____	- per ton
	Type	Mixture	
<u>S-403-B:</u>	Hot Mix Asphalt,	(1) _____ (3) _____, Leveling	- per ton
	Type	Mixture	
<u>S-403-C:</u>	Hot Mix Asphalt,	(1) _____ (4) _____, Trench Widening	- per ton
	Type	Mixture	
<u>S-403-D:</u>	Hot Mix Asphalt, HT	(3) _____, Polymer Modified Mixture	- per ton
<u>S-403-E:</u>	Hot Mix Asphalt, HT	(3) _____, Polymer Modified, Leveling Mixture	- per ton

- (1) ST, MT or HT
- (2) 4.75 mm mixture, 9.5 mm mixture, 12.5-mm mixture, 19-mm mixture or 25-mm mixture
- (3) 4.75 mm mixture, 9.5 mm mixture, 12.5-mm mixture, or 19-mm mixture
- (4) 19-mm mixture or 25-mm mixture

SECTION S-406 – COLD MILLING

S-406.01--Description. This work consists of removal of pavement materials on the roadway and shoulders by cold milling to the designated depth and, loading, hauling, and disposal of the milled materials by the Contractor in accordance with the plans and specifications, or as directed by the Engineer. The milled surface shall provide a desirable surface free from gouges, continuous grooves, ridges, oil film, and other imperfections of workmanship and shall have a uniform appearance.

S-406.02--Blank.

S-406.03--Construction Requirements.

S-406.03.1--Equipment. The equipment to be used for this work shall be a self-propelled milling machine capable of removing a minimum width of four feet. The equipment shall have sufficient power, traction, and stability to remove material and maintain an accurate grade and cross slope. The equipment shall be capable of accurately and automatically establishing profile grades along each edge of the machine by referencing from the existing pavement with means of an approved profile averaging device with extreme contact points with surface at least 30 feet apart, or from an independent grade line and shall have an automatic system for controlling cross slope. The machine shall be equipped with an integral loading and reclaiming means to immediately remove material being cut from the surface and discharge the cuttings into a truck or windrow, all in one operation.

Adequate back-up equipment, such as mechanical sweepers, loaders, water truck, etc., and personnel shall be provided to insure that all cuttings are removed immediately behind the milling machine.

S-406.03.2--Construction Methods. On the roadway, when hot mix asphalt will be required on the milled area, milling operations shall not begin until the Contractor has an approved job-mix formula and is prepared to begin paving operations. The milled roadway area opened to public traffic shall be covered by placing the first required course within 30 calendar days after milling. During the period from November 1 to March 1, the uncovered milled area shall not exceed one mile of full roadway width.

The pavement and shoulder materials shall be removed to the depth, width, grade, and cross section shown on the plans, or as directed by the Engineer. The number of passes necessary to accomplish the work required herein and on the plans shall be determined by the Contractor.

The surface of the pavement and shoulders, after milling, shall be reasonably smooth and true to the established line, grade and cross section. Areas damaged by the Contractor's operations shall be corrected and/or repaired as directed by the Engineer at no additional costs to the Project. The Contractor shall take necessary action to prevent or minimize the ponding of water on the milled roadway and shoulder.

Where traffic is required to be maintained adjacent to the milled area, no more than a 2¼-inch differential in grade between the milled area and the adjacent surface will be allowed, unless a positive separation in accordance with the plans and specifications is established between the traffic and milled area.

A longitudinal pavement edge that traffic is expected to move across should have an elevation difference of not more than 2¼ inches. If the pavement edge is more than 1½ inches and less than or equal to 2¼ inches, uneven pavement signs will be required as shown in the plans, or contract documents. If the pavement edge is less than or equal to 1½ inches, no uneven pavement signs will be required. Transverse pavement joints shall be sufficiently tapered to allow for the safe movement of traffic.

When traffic is required to be maintained adjacent to milled shoulders, traffic control devices shall be placed in accordance with the requirements of the Traffic Control Plan, or as directed by the Engineer.

It is understood that the milled shoulder shall be covered with the next required course as soon as possible but in no case later than 30 calendar days after milling.

S-406.04--Method of Measurement. Cold milling of pavement, all depths, will be measured by the square yard. Loading, hauling, and disposal will not be measured for separate payment.

S-406.05--Basis of Payment. Cold milling of pavement, all depths, measured as prescribed above, will be paid for at the contract unit price per square yard, which price shall be full compensation for completing the work.

When not shown as a separate pay item in the contract, the price for each item of cold milling shall include the cost of continuous maintenance of traffic and protective services as required by the Traffic Control Plan, including all required individual traffic control devices.

Payment will be made under:

S-406-A: Cold Milling of Bituminous Pavement, All Depths - per square yard

S-406-B: Cold Milling of Concrete Pavement, All Depths - per square yard

SECTION S-407 – TACK COAT

S-407.01--Description. This work shall consist of preparing and treating an existing bituminous or concrete surface with bituminous material in accordance with these specifications and in reasonably close conformity with the lines shown on the plans or established by the Engineer.

MATERIALS

S-407.02--Bituminous Material. The materials shall conform to the applicable requirements of S-702. The particular type and grade will be specified in the contract or by the Engineer.

When emulsified asphalt is used, the Engineer may require dilution with additional water to meet job conditions, but it shall not be diluted without approval of the Engineer.

CONSTRUCTION

S-407.03--Equipment. The Contractor shall provide equipment for heating and applying bituminous material. Heating equipment and distributors shall meet the applicable requirements of S-410.08. Other equipment for applying tack coat shall be approved by the Engineer prior to use.

S-407.04--Preparation of Surface. The existing surface shall be prepared in accordance with S-401.03.6 and S-410.09.

S-407.05--Application of Bituminous Material. The tack coat shall be applied in such a manner as to offer the least inconvenience to traffic and to permit one-way traffic without pickup or tracking of the bituminous material. Tack coat shall not be applied during wet or cold weather, after sunset, or to a wet surface. The quantity, rate+ of application, temperature, and areas to be treated shall be approved prior to application, and the applied tack coat shall be properly cured prior to superimposed construction.

COMPENSATION

S-407.06--Method of Measurement. Tack coat will not be measured for direct payment, but shall be considered a necessary part of the construction involved, and the cost thereof shall be included in the appropriate contract price.

S-407.07--Basis of Payment. Tack coat will be absorbed into the asphalt pay item(s).

SECTION S-601 - STRUCTURAL CONCRETE

S-601.01--Description. This work shall consist of furnishing and placing portland cement concrete for specified structures in accordance with these specifications and in reasonably close conformity with the lines, grades, and dimensions shown on the plans or established by the Engineer.

Structural concrete will be divided into two groups. One group will be designated as Structural Concrete. The other group will be designated as Structural Concrete, Minor Structures. Unless otherwise specified in the contract Structural Concrete, Minor Structures, will include inlets, catch basins, junction boxes, headwalls, and pipe collars, regardless of the concrete quantity required for each of these structures; and other small structures containing less than 3.0 cubic yards of concrete each.

S-601.02--Classification of Concrete. Concrete for this work shall be the class specified on the plans or in the bid schedule of the contract. Classes of concrete are identified in S-804.02.6.

MATERIALS

S-601.03--Materials. Materials for structural concrete and their use, care, and handling shall be in accordance with S-804.02. In addition Type IP portland cement meeting the requirements of S-701.03 will be permitted. Sampling and testing will be in accordance with S-804.02.3. The composition of the concrete for the class specified will be in accordance with the Master Proportion Table for Structural Concrete as shown in S-804.02.10.

S-601.03.1--Precast Units. Design standards normally contemplate that structural concrete will be cast in place. However, the Contractor may request approval from the Engineer to furnish and install precast units in lieu of cast-in-place units. The request shall be accompanied by detailed drawings of the precast units and design data.

The foundation for precast units shall be carefully shaped to the precise contour and grade of the bottom of the unit before the unit is placed.

Precast units which are to be joined to other units shall be designed and manufactured with proper and adequate joints. Joints shall be sealed with a joint material meeting the applicable requirements of S-707.

No additional payment will be allowed for precast units approved for use. Pay items and quantities will be as in cast-in-place in accordance with design standards.

No pre-cast tops on inlets will be allowed. All tops are to be cast in the field and are to match the profile of the roadway curb and gutter. Any tops not matching the curb and gutter profile (slope) will be removed and replaced at contractor's expense. Tops shall also be cast integral with curb and gutter per Sheet 322.

CONSTRUCTION REQUIREMENTS

S-601.04--Composition of Concrete. The composition of the concrete shall be in accordance with S-804.02.

S-601.05--Batching. Measuring and batching of component materials shall be in accordance with the applicable provisions of S-804.

S-601.06--Mixing and Conveying Concrete. Concrete shall be mixed and conveyed in accordance with the applicable provisions of S-804.03.

S-601.07--Cold or Hot Weather Concreting. Requirements for placement, protection, and curing of concrete during cold or hot weather are stipulated in S-804.03.16.

S-601.08--Consistency. The slump of the concrete, determined in accordance with the provisions of S-700.03, shall conform to the applicable requirements of S-804.

S-601.09--Falsework and Forms.

S-601.09.1--Falsework. Falsework shall be in accordance with the applicable provisions of S-804.03.13.

S-601.09.2--Forms. Forms shall conform to the requirements of S-804.03.14.

S-601.09.3--Removal of Falsework, Forms, and Housing. The removal of falsework, forms, and the discontinuance of heating, shall be in accordance with the provisions and requirements of S-804.03.15, and in addition shall conform to the following age or cylinder strength requirements:

<u>Column A</u>	<u>Column B</u>	
Forms not under Stress	24 to 48 hours*, minimum	1,000 psi
Forms under Stress	7 days, minimum	2,200 psi
Backfill and Cover	3 days per foot clear span or clear height, whichever is the greater (10 days minimum)	2,400 psi

* As directed by the Engineer.

If Type IP or Types I or II portland cement plus fly ash is used, only Column B will be applicable.

When the walls and top slab of box culverts and box bridges are not to be poured monolithically, extreme care shall be used when forming and pouring the top slab on walls in which the concrete has not attained its full design strength. In order to prevent damage to fresh concrete, either of the following methods of forming and pouring may be used:

1. Subject to approval by the Engineer, the wall forms and deck forms may be so constructed and separately supported and braced that the walls may be poured and the wall forms removed as for wall forms not under stress. The Engineer may require a detailed plan of the proposed method of forming for his approval. When this method of forming is used, the deck forms shall be in place and adequately and independently supported throughout before pouring the walls. Deck forms shall overlay the top edge and be flush with the face of the inside wall forms, but shall not be dependent upon any part of the inside wall forms for support. The intersection of the wall and deck forms shall be mortar tight. The wall forms may be constructed slightly less than the specified inside clear height of the structure and wedged upward from the bottom of the riser wall to permit easier removal. When this method is used, the concrete in the wall shall be poured flush with the top of the deck form.
2. At the option of the Contractor, the walls may be formed, adequately braced, and poured before the deck forms are in place. In this case the forms may be removed as for walls not under stress. Before erecting any part of the forming for the top slab, the concrete in the walls shall have attained the age or the strength specified for the removal of wall forms under stress.
3. The Contractor may elect to form and adequately support and brace the wall and deck forms as a composite unit before pouring the walls. In this case the outside forms may be removed as indicated for wall forms not under stress provided adequate provisions are made for forming the outer (vertical) surfaces for the subsequent deck pour. The inside wall forms shall remain in place as indicated for wall forms under stress.

S-601.09.4--Damage to Previously Placed Concrete. In the event previously placed concrete is damaged, all work on the affected structure shall cease immediately for an engineering assessment of the damage and the corrective work to be performed. No additional work shall be performed until this determination has been made, and the Engineer has given the Contractor approval to proceed with the corrective work and subsequent construction. All corrective work required shall be performed by the Contractor at no additional cost to the Project.

S-601.10--Foundations and Footings. Foundations for structures shall be prepared in accordance with the requirements and provisions of S-206.

All footings shall be poured "dry". Where footings can be placed in the "dry" without the use of cribs or cofferdams, the Engineer may permit back forms to be omitted, and concrete poured against the faces of the excavation.

S-601.11--Placing Reinforcing Steel. Reinforcing steel shall be placed in accordance with the requirements of S-602 and as shown on the plans.

S-601.12--Handling and Placing Concrete. Handling and placing concrete shall be in accordance with the provisions of S-804.03.6.

S-601.13--Expansion and Fixed Joints. All expansion and fixed joints shall conform to the applicable provisions of S-804.03.18.

S-601.14--Finishing Concrete Surfaces. Unless otherwise authorized, the surface of the concrete shall be finished immediately after form removal.

Surface finishes shall conform to the applicable provisions of S-804.03.19.

S-601.15--Curing Concrete. Concrete shall be cured in accordance with the provisions of S-804.03.17.

S-602 – Reinforcing Steel

S-602.01--Description. This work shall consist of furnishing and placing reinforcing steel in accordance with these specifications and in reasonably close conformity with the dimension, bending, spacing, and other requirements shown on the plans.

MATERIALS

S-602.02--Material Requirements. Reinforcing steel shall conform with the requirements of S-711 and S-805.02.

CONSTRUCTION REQUIREMENTS

S-602.03--Bar List and Order Lists. Lengths of box culverts and box bridges, and depths of inlets, etc. shown on the plans are also approximate. The Contractor shall verify the quantity, size, and shape of the reinforcement for compliance with the structural drawings and make the necessary corrections, if any, before ordering. The Contractor shall be fully responsible for all expenses caused by his failure to furnish the proper size, shape, length, and quantity of reinforcing steel required.

When stipulated in the contract, or at the option of the Contractor when not stipulated, order lists and bending diagrams shall be furnished by the Contractor to the Engineer for approval. In these cases no materials shall be ordered until the lists and bending diagrams have been approved. The approval of order lists and bending diagrams by the Engineer will in no way relieve the Contractor of the responsibility for the correctness of the lists and diagrams. All expense incidental to the revision of materials furnished in accordance with such lists and diagrams to make them comply with the design drawings and lengths shall be borne by the Contractor.

S-602.04--Protection of Materials. Steel reinforcement shall be protected in accordance with S-805.03.1.

S-602.05--Bending. Bending shall be in accordance with S-805.05.

S-602.06--Placing and Fastening. The steel reinforcement shall be accurately placed in the positions shown on the plans and firmly held during the placing and setting of concrete. Bars shall be tied at all intersections, except where spacing is less than one foot in each direction then alternate intersections shall be tied.

All reinforcing steel shall be securely spaced from the forms and between adjacent reinforcement by means of approved precast mortar blocks (of minimum size for adequacy) or metal spacers or devices. Where possible, all spacer devices shall be arranged so that they cannot be detected in the completed structure. Metal devices which are in contact with the exterior surface of the concrete shall be one of the types specified in S-711.02.7. Gravel, pieces of broken stone or brick, metal pipe, and wooden blocks shall not be used for spacers or chairs.

Reinforcement shall be accurately and securely placed to the dimensions shown on the plans, with a tolerance of one-half inch, then inspected and approved by the Engineer prior to the placing of concrete. Concrete placed in violation of this provision may be rejected and its removal required.

Substitution of different size bars will be permitted only with specific authorization by the Engineer. If steel is substituted, it shall have a cross sectional area equivalent to or greater than the design area.

S-602.06.1--Splicing. Except where shown on the plans, splicing of bars will not be permitted without the written approval of the Engineer. Splices, when permitted, shall be staggered as far apart as possible.

Unless otherwise shown on the plans spliced bars shall be lapped twenty (20) diameters. In lapped splices, the bars shall be placed in contact and wired together in a manner that will maintain the minimum clear distance specified between bars and to the surface of the concrete.

Welding of reinforcing steel will be permitted only if detailed on the plans or if authorized by the Engineer in writing. If done, it shall conform to AWS Recommended Practices for Welding Reinforcing Steel, Metal Inserts, and Connections in Reinforced Concrete Construction.

S-602.06.2--Lapping of Mesh and Bar Mats. Sheets of mesh or bar mat reinforcement shall overlap each other sufficiently to maintain a uniform strength and shall be securely fastened at the ends and edges. The edge lap shall be at least one mesh in width.

S-603 – Culverts and Storm Drains

S-603.01--Description. This work shall consist of the construction or reconstruction of pipe culverts, precast box culverts, cattlepasses, storm drains, sewers, downspouts, special sections and headwalls, hereinafter referred to as "conduit," in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or established. It shall also consist of furnishing all materials, and joining the work to other conduit, catch basins, manholes, inlets, etc., as may be required to complete the work as designated.

This work shall also consist of constructing conduits for the encasement of underground utilities or for other use by the method of jacking or boring in accordance with these specifications and in reasonably close conformity with the lines and grades specified on the plans or established.

MATERIALS

S-603.02--Material Requirements. Conduit shall conform to the design and dimensions shown on the plans, and materials shall meet the requirements specified in the following sections or subsections:

Bituminous coated corrugated aluminum pipe and pipe arches	S-709.11
Bituminous coated corrugated metal pipe and pipe arches	S-709.03
Bituminous coated paved invert corrugated aluminum pipe and pipe arches	S-709.12
Bituminous coated paved invert corrugated metal pipe and pipe arches	S-709.04
Bituminous plastic sealer for joints	S-707.05
Cast iron pipe	S-709.01
Concrete arch pipe end sections	S-708.04
Concrete for headwalls	S-601
Concrete pipe cattlepasses	S-708.03
Corrugated aluminum pipe and pipe arches	S-709.09
Corrugated metal pipe and pipe arches	S-709.02
Corrugated poly vinyl chloride (PVC) pipe	S-708.17
Corrugated polyethylene pipe	S-708.17
Elbows and branch connections for concrete pipe	S-708.23
Flexible plastic gaskets for joints	S-707.06
Joint Mortar	S-707.02
Joints for sanitary sewers	S-603.06, S-707.04, S-707.06
Metal end sections, elbows, and branch connections	S-709.18
Non-reinforced concrete pipe	S-708.02
Polymer coated corrugated metal pipe and pipe arches	S-709.05
Precast box culverts	S-708.22
Reinforced concrete arch pipe	S-708.14
Reinforced concrete elliptical pipe	S-708.15
Reinforced concrete end sections	S-708.04
Reinforced concrete pipe	S-708.02
Reinforcing steel	S-602
Rubber-type gaskets	S-707.04
Steel pipe	S-709.19

When material requirements provide for modifications of design, acceptable modified designs will be shown on the plans.

CONSTRUCTION REQUIREMENTS

S-603.03--Excavation. Except for conduit to be installed by jacking and boring, trenches shall be excavated in accordance with the requirements of S-206 to a width sufficient to allow for proper jointing of the conduit and thorough compaction of the bedding and backfill material under and around the conduit. Where feasible, trench walls shall be vertical.

The completed trench bottom shall be firm for its full length and width. Where required, in the case of cross drains, the trench shall have the camber specified.

Where conduit is to be placed in embankment, the excavation shall be made after the embankment has been completed to the specified height above the flow line of the conduit. In all cases the height above flow line shall be at least one foot.

In the case of pipe to be jacked or bored, only the trench excavation and bedding as set out in S-603.11 shall be performed.

S-603.04--Bedding. Except for conduit placed in a vertical position or jacked or bored, the conduit bedding shall conform to one of the classes specified. When no bedding class is specified the requirements for Class C bedding or Class C modified bedding, as applicable shall apply.

CLASS A bedding shall consist of a continuous concrete cradle conforming to the plan details, and constructed on an approved foundation.

CLASS B bedding shall consist of bedding the conduit to a depth of at least thirty (30) percent of the vertical outside dimension of the conduit. The thickness of bedding material beneath the pipe shall be at least four inches. The bedding material shall be sand or selected sandy soil, all of which passes a 3/8" sieve and not more than ten (10) percent of which passes a No. 200 sieve. The layer of bedding material shall be shaped to fit the conduit for at least fifteen (15) percent of its total height. Recesses in the trench bottom shall be shaped to accommodate the bell when bell and spigot type conduit is used.

CLASS C bedding shall consist of bedding the conduit to a depth of at least ten (10) percent of its total height. The bed shall be shaped to fit the conduit and shall have recesses shaped to receive the bell if bell and spigot type pipe is used.

CLASS C MODIFIED bedding shall consist of bedding corrugated conduit to a depth of at least ten (10) percent of its total height. A bedding blanket of approved silty loam, sandy loam, concrete sand, or other approved sand or sandy soil shall be roughly shaped to fit the bottom of the pipe. Minimum thickness before placing pipe shall be as follows:

- 1 inch for 1/2 inch deep corrugations
- 2 inches for 1 inch deep corrugations
- 3 inches for 2 inches or 2 1/2 inches corrugations

For structural plate pipe the length of bedding arc need not exceed the width of the bottom plate.

Bedding for precast concrete box culverts shall consist of at least two inches of granular material (Class 9, Group C or better) placed between graded forms set at least one foot outside each outside wall of the box culvert. The granular material shall be shaped to fit the bottom of the precast box culvert sections by screeding off the graded forms. After placement of the precast box culvert sections on the graded bedding, the forms may be removed and reused.

S-603.05--Laying Conduit. The conduit laying shall begin at the staked location of the downstream end of the conduit line. The lower segment of the conduit shall be in contact with the shaped bedding throughout its full length. Bell or groove ends of rigid conduits and outside circumferential laps of flexible conduits shall be placed facing upstream. Flexible conduits shall be placed with longitudinal laps or seams at the sides.

Paved or partially lined conduit shall be laid so that the longitudinal center line of the paved segment coincides with the flow line. Elliptical and elliptically reinforced conduits shall be placed with the major axis within five degrees of a horizontal plane through the longitudinal axis of the conduit.

Construction requirements for end sections shall conform to the requirements for placing the pipe to which they are joined.

At the Contractor's option, subject to the written approval of the Engineer, concrete headwalls conforming to the MDOT Standard Drawings may be substituted in lieu of premanufactured end sections without change in compensation.

S-603.06--Joining Conduit.

S-603.06.1--Storm Drainage. Rigid conduits shall be bell and spigot design. The method of joining conduit sections shall be such that the ends are fully entered, and the inner surfaces are reasonably flush and even. Unless otherwise specified, joints shall be sealed with preformed rubber-type gaskets.

Joints for precast concrete box culverts shall be made with bituminous plastic sealer.

Rubber-type gaskets shall be installed so as to form a flexible watertight seal.

For joints to be sealed with bituminous plastic, the joining ends shall be wiped clean and dry. The plastic compound shall be applied cold to the entire surface of tongues and grooves, the entire surface of bells and spigots, and the entire area of metal pipes to be covered by connecting bands. Sections of concrete pipe shall be forced together, and sections of metal pipe banded together, with excess compound extruding both inside and outside the pipe. Excess compound shall be removed from interior surfaces, and the exterior shall be finished reasonably flush. After pipe has been joined with bituminous plastic compound, suitable kraft or other approved paper shall be placed over the outside joints to avoid mixing of soil with the compound.

For joints to be sealed with preformed plastic gasket material, the pipe shall be installed in a dry trench. Joints shall be made in such a manner that a slight internal extrusion of the plastic gasket will occur for the full circumference when the sections of pipe are forced together. Installation shall be in accordance with these specifications and the manufacturer's instructions. Plastic gasket material shall be applied only to surfaces which are dry. A primer of the type recommended by the manufacturer of the plastic gasket shall be applied to the tongue and groove and to the end surfaces, and the surface to be primed shall be clean and dry when the primer is applied.

During cold weather the joint surfaces and the gasket shall be lightly heated, without damage to the pipe or joint material, immediately prior to forcing the sections of pipe together. During hot weather the Contractor shall place kraft or other approved paper over the joints to avoid mixing soil with the plastic gasket material.

For joints constructed of either bituminous plastic sealer or preformed plastic material, special care shall be taken to provide an equal uniform joint between pipe sections and to prevent one section from supporting the other.

Backfilling operations may follow immediately.

Flexible conduits shall be firmly joined by coupling bands. The ends of flexible conduits fabricated with helical corrugations shall be adapted by reforming and/or modification for circumferential corrugated coupling bands. The width and thickness of corrugated bands for both circumferential and helical corrugated flexible conduits shall be in accordance with AASHTO Designation: M 36 except that the bands shall be no less than 10½ inches in width.

In lieu of the preceding requirements and in addition to being supplied or recommended by the pipe manufacturer, coupling bands for joining corrugated polyethylene pipe shall be in accordance with AASHTO Designation: M 294 and shall meet or exceed the soil-tightness requirements of the AASHTO Standard Specifications for Highway Bridges, Section 26, paragraph 26.4.2.4 (e).

Corrugated polyethylene pipe may also be furnished with bell & spigot type joints with O-ring rubber gasket meeting ASTM Designation: F 477 placed on the spigot end. At least two (2) corrugations of the spigot end must insert into the bell end.

Joints and fittings for poly (vinyl chloride) (PVC) pipe shall meet the requirements of ASTM Designation: F 949.

S-603.06.2--Pipes With Gaskets. Unless otherwise specified, joints for pipe requiring gaskets shall conform to the following:

- (a) Pipes requiring gaskets shall be constructed to accommodate the gasket in accordance with the recommendations of the manufacturer of the gasket. Rubber gaskets shall comply with S-707.04, and flexible plastic gaskets shall comply with S-707.06.
- (b) In municipalities and other local governments having codes and specifications for joining sanitary sewer conduit, the local codes and specifications shall be applicable.
- (c) Depending upon the type of pipe specified and the joint to be used, the Contractor shall perform the joining in accordance with the recommendations of the manufacturer of the joint material to the extent that the line will be water proofed both from infiltration and exfiltration insofar as is practicable. Evidence of leakage shall be corrected immediately.
- (d) Evidence of leakage or suspected leakage may be cause for requiring the Contractor to perform testing to determine the leakage present. In the case of sanitary sewer lines, leakage exceeding the tolerance permitted under the local governing code, or in the absence of such code the tolerances permitted by the Mississippi Department of Environmental Quality, Office of Pollution Control, will not be allowed. Leakage in excess of the tolerances permitted shall be corrected by reworking the line as necessary. Retesting may be required if deemed by the Engineer to be indicated. All testing shall be at no additional cost to the Project.

S-603.07--Relaid Pipe. These construction specifications shall equally apply to relaid conduits. In addition, conduit salvaged for relaying shall be cleaned of all foreign material prior to reinstallation. All pipe damaged through carelessness or negligence on the part of the Contractor shall be replaced by new pipe or approved pipe at no additional cost to the project.

Pipe and end sections designated for removal and relaying shall be removed in accordance with the provisions of S-202.04.

S-603.08--Field Strutting. Where required by the plans, the vertical diameter of round flexible pipe shall be uniformly increased five percent by means of jacks applied after the entire line of pipe has been installed on the

bedding but before backfilling. The vertical elongation shall be uniformly maintained by means of sufficient sills and struts or by sufficient horizontal ties as specified. Only horizontal ties shall be used for paved invert pipe.

Unless otherwise directed, ties and struts shall be left in place until the embankment is completed and compacted.

S-603.09--Backfilling. Conduit shall be inspected before backfill is placed. Conduit found to be out of alignment, unduly settled, or damaged shall be taken up and relaid or replaced. After approval of conduit, it shall be backfilled with specified material in accordance with S-203.09.3.3.

S-603.10--Blank.

S-603.11--Pipes and Encasements Jacked or Bored. No pipe shall be placed by jacking or boring unless so designated in the contract.

When jacking or boring is designated, the area of placement shall be carefully investigated so as not to interfere with existing underground utilities. Care shall also be taken to keep the disturbed area of construction to a minimum.

Unless otherwise shown on the plans, sections of steel pipe shall be joined by welding for the full circumference of the pipe to form a continuous, rigid, watertight structure of the required length. Welding shall be performed in accordance with S-810.03.5.

S-603.11.1--Jacking. The designated strength of the pipe to be jacked is determined for the final loading under the embankment. Additional reinforcement or strength of pipe required to withstand jacking pressure shall be the responsibility of the Contractor. Extra strength pipe furnished by the Contractor shall be at no additional cost to the project.

Pipe larger than 3 1/2 inches ID shall not be pushed or jacked without boring or otherwise removing the soil as the pipe is advanced.

When required, suitable pits or trenches shall be excavated for the jacking operation and for placing the end joints of pipe. Where necessary, they shall be securely sheeted and braced to prevent caving.

Where pipe is required to be installed under railroads, highways, streets or other facilities by jacking or boring methods, construction shall be done in a manner that will not interfere with the operation of the facility or weaken the roadbed or structure.

Jacks for forcing the pipe through the roadbed shall have a jacking head constructed in such a manner as to apply uniform pressure around the ring of the pipe. The pipe to be jacked shall be set on guides braced together to properly support the section of the pipe and direct it to the proper line and grade. In general, roadbed material shall be excavated just ahead of the pipe, the excavated material removed through the pipe, and the pipe then forced through the roadbed into the excavated space.

When requested, the Contractor shall furnish for the Engineer's approval, a plan showing his proposed method of handling. The plan shall include the design for the jacking head, and show the jacking support or back stop, arrangement and position of jacks, pipe guides, etc., complete in assembled position. The approval of this plan by the Engineer will not relieve the Contractor from his responsibility to obtain the specified results.

The diameter of the excavation shall conform to the outside circumference of the pipe as closely as practicable. Voids which develop during the installation operation and which are determined by the Engineer to be detrimental to the work shall be pressure grouted with an approved mix.

The distance that the excavation extends beyond the end of the pipe will depend upon the character of the excavated material, but shall not exceed two feet in any case. This distance shall be decreased on instructions from the Engineer if the character of the material being excavated makes it desirable.

The pipe shall be jacked from the low or downstream end. Variation in the final position of the pipe from the line and grade established by the Engineer will be permitted only to the extent of two percent in lateral alignment and one percent in vertical grade, provided that the final grade of flow line is in the direction designated.

If the Contractor desires, he may use a cutting edge around the head end which extends a short distance beyond the pipe end and has inside angles or lugs to keep the cutting edge from slipping back into the pipe.

Once jacking of pipe has begun, the operation shall be carried on without interruption, insofar as practicable, to prevent the pipe from becoming firmly set in the embankment.

All pipe damaged in jacking operations shall be removed and replaced by the Contractor at their expense.

Pits or trenches excavated to facilitate jacking operations shall be backfilled immediately after the jacking has been completed.

S-603.11.2--Boring. The boring shall proceed from a pit provided for the boring equipment and workmen. Excavation for pits and installation of shoring shall be as outlined under jacking. The location of the pit shall meet the approval of the Engineer. The holes are to be bored mechanically. The boring shall be done using a pilot hole. By this method an approximate two inch pilot hole shall be bored the entire length of the crossing and shall be checked for line and grade on the opposite end of the bore from the work pit. This pilot hole, when approved, shall serve as the centerline of the larger diameter hole to be bored. Excavated material shall be placed near the top of the working pit and disposed of as required. The use of water or other fluids in connection with the boring operation will be permitted only to the extent to lubricate cuttings as provided herein. Jetting will not be permitted.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least ten (10) percent of high grade carefully processed bentonite may be used to consolidate cuttings of the bit, seal the walls of the hole, and furnish lubrication for subsequent removal of cuttings and installation of the pipe immediately thereafter.

Allowable variation from line and grade shall be as specified under jacking. Precise measures are to be taken to prevent overcutting. Overcutting in excess of one-half inch shall be remedied by pressure grouting.

S-603.11.3--Grouting, Backfilling, and Cleanup. After the jacked conduit is in place, all joints in concrete pipe shall be cleaned carefully and pointed from the inside to afford a smooth continuous interior surface.

Extension of the line beyond that required to be jacked or bored shall be by conventional methods as set out in this section.

As soon after jacking as possible, the interstices around the outside of the pipe shall be filled by pressure grouting. The grout mixture shall consist of fine sand or silt, Type I cement of not less than fifteen (15) percent of volume, and water. The grout shall be placed through holes bored at such intervals that the grout can be determined as rising in an adjacent hole at least six inches above the top of the pipe. The water content of the grout shall be the minimum necessary to provide proper placement. Grouting shall be performed by qualified personnel with equipment especially designed for the purpose.

At the end of each day's grouting operation, or at the completion of the grouting operation for each line of pipe,

whichever occurs first, the conduit shall be carefully inspected on the inside and all grout which has penetrated the pipe shall be removed and the inside surface wiped clean. Other waste grout which will impair the work shall be removed and disposed of at on-project sites as designated by the Engineer.

After successive operations are completed, all sheeting, shoring, etc., shall be removed, excavations backfilled to the surface of the existing ground or as directed, the backfill compacted in accordance with the specifications, and all surplus material disposed of at on-project sites as designated by the Engineer.

SECTION S-604 – MANHOLES, INLETS AND CATCH BASINS

S-604.01--Description. This work shall consist of the construction of manholes, inlets, and catch basins in accordance with these specifications and in reasonably close conformity with the details, lines, grades, and dimensions shown on the plans or established by the Engineer.

Precast sectional manholes shall consist of furnishing and assembling precast sections for manholes, together with necessary fittings, bases, and connections, all constructed in accordance with these specifications and in reasonably close conformity with the details, lines, grades and dimensions shown on the plans, or established.

MATERIALS

S-604.02--Material Requirements. The materials used in this construction shall meet the requirements of the following:

Masonry Brick (Grade SM)	S-706.01 Mortar	S-714.11
Concrete	S-601	
Reinforcing Steel	S-711.01 and S-711.02	
Gray Iron Castings	S-716.04	

Bar gratings, unless otherwise specified, shall be constructed of plain, round, billet steel bars conforming with the requirements of AASHTO Designation M 31, Grade 60 or better.

All bars, anchors, frames, hangers, etc. for castings and plates shall be approved prior to installation.

Inlet and outlet pipes shall be of the type, class and size indicated on the plans and shall conform to the requirements as set out in S-603 for the particular type, class, and size of pipe specified.

Precast units will be considered for use under the provisions of S-601.03.01 and of S-601.04. Precast (sectional) manholes shall conform to the requirements of AASHTO Designation: M 199.

CONSTRUCTION REQUIREMENTS

S-604.03--Construction Details.

S-604.03.1--Brick Masonry. Brick masonry shall be constructed in conformity with the details shown on the plans and in accordance with the provisions of S-611.

Where irons or other fittings enter the brick work, they shall be placed as the work is laid up, thoroughly bonded, accurately spaced, and lined. Upon completion of the masonry and setting of castings and fittings, the inside and outside surfaces of the masonry shall be neatly plastered with mortar 1/2 inch thick. Plastering shall have a uniform, smooth finish and shall be neatly pointed to all fittings.

S-604.03.2--Concrete Masonry. Unless otherwise specified, concrete masonry shall be constructed of Class "B" concrete in accordance with the requirements of S-601.

S-604.03.3--Reinforcement. Reinforcement shall be placed as indicated on the plans or as directed and in accordance with the provisions of S-602.

S-604.03.4--Optional Construction. When plan standards indicate portions of the structure may be constructed of either brick masonry or concrete, the Contractor may use either concrete or brick masonry for these portions, provided the plan dimensions for wall thickness, etc. are maintained. In either case the masonry, whether concrete or brick, will be measured for payment as stipulated in S-604.04.

S-604.03.5--Inlet and Outlet Pipes. Unless otherwise directed, inlet and outlet pipes shall extend through the walls of manholes and catch basins for a sufficient distance beyond the outside surface to allow for connections and shall be cut flush with the wall on the inside surface and neatly pointed.

The concrete, or brick and mortar, shall be constructed around the pipes so as to prevent leakage and to form a neat connection.

S-604.03.6--Castings, Gratings, and Fittings. All castings and gratings shall be carefully handled. Injurious cracks, chips, surface mars, etc. which render them unsuitable for use or unsightly after being placed will be cause for rejection, and if so directed they shall be replaced.

The castings, gratings, and fittings shall be placed as indicated on the plans or as directed to line and grade and in such a manner that subsequent adjustments will not be necessary.

When castings or gratings are to be set in concrete or cement mortar, all anchors or bolts shall be in the correct place and position before the concrete or mortar is placed, and they shall not be disturbed while the concrete or mortar is hardening.

Castings and gratings placed on previously constructed masonry shall be set in mortar beds or anchored to the masonry as shown on the plans or as directed. The bearing surface of the original masonry shall present an even surface and conform to line and grade so that the entire face of the back of the casting will come in contact with the masonry.

Castings and gratings shall be set firm and snug so that they will not rattle, shake, or move unnecessarily.

S-604.03.7--Precast Manholes. As trenches are opened for the pipe conduit, truly leveled bases shall be prepared at each manhole site. The bases may be cast-in-place or may consist of precast base units. In either case, the seated base shall be truly horizontal. Inverts shall be smooth and accurately shaped to a semi-circular bottom conforming to the inside of the adjacent conduit, and extend upward at least half of the diameter of the conduit, or as shown on the plans. Joints shall be sealed in accordance with S-603.

Steps in the manhole may be of cast-iron, aluminum, wrought iron, plastic or other material approved by the Engineer. All steps shall be built into the walls of precast sections in straight alignment to form a continuous ladder with a maximum distance of 16 inches between steps.

Each precast section shall have not more than two holes for handling. The holes shall be plugged with mortar after installation.

Concrete covers may be precast, or cast at the site. The covers shall be cast accurately to the dimensions and design indicated on the plans.

S-604.03.8--Excavation and Backfill. Excavation shall be performed as required for proper construction. Backfill shall be performed in accordance with the provisions of S-203.09.3.3.

S-604.03.9--Cleaning Up. Upon completion, all structures shall be thoroughly cleaned of accumulations of silt, debris, and foreign matter. All surplus material shall be removed, and the site and the structure shall be maintained in a clean and neat condition until final acceptance.

COMPENSATION

S-604.04--Method of Measurement. When either concrete masonry or brick masonry is permitted, and when concrete is specified, measurement will be by the cubic yard in accordance with S-601.16 for Structural Concrete - Minor Structures.

Precast manholes will be measured per linear foot of depth from the flowline of the manhole to the top of the cover, or as indicated on the plans.

Reinforcing steel will be measured per pound in accordance with S-602.07.

When brick masonry only is specified, measurement will be by the cubic yard or per thousand (M) brick in accordance with S-611.06.

Excavation will not be measured for payment as a separate item. The cost of excavation shall be included in the unit price bid for concrete or brick masonry.

Castings, gratings and metallic manhole covers will be computed in pounds from the dimensions shown on the plans and based on the unit weights of metals set out in S-810.04.4.

Fittings will not be measured for separate payment. Their cost shall be included in the price bid for concrete or brick masonry.

S-604.05--Basis of Payment. Structural concrete, reinforcing steel, and brick masonry will be paid for at the respective contract unit price in accordance with S-601.17, S-602.08, or S-611.07 as applicable.

Precast Manholes will be paid for at the contract bid price per linear foot of depth, which price shall be full compensation for all necessary excavation, sheeting, cribbing, shoring, bracing, well-pointing, furnishing and assembling all elements of the manhole including concrete bases & covers except metallic cover and frame, for all other items of work necessary and incident to the complete construction and for all equipment, labor, tools and incidentals necessary to complete the work.

Castings and gratings will be paid for at the contract unit price per pound for castings or gratings, complete in place. These prices shall be full compensation for completing the work specified.

Payment will be made under:

- | | | |
|------------------------|----------------------------------|-------------------|
| <u>S-604-A:</u> | Castings | - per pound |
| <u>S-604-B:</u> | Gratings | - per pound |
| <u>S-604-C:</u> | Precast Manhole, _____" Diameter | - per linear foot |

SECTION S-608 – CONCRETE SIDEWALKS AND DRIVEWAYS

S-608.01--Description. This work shall consist of constructing portland cement concrete sidewalk or driveway on a prepared subgrade in accordance with the plans and specifications. Lines and grades shall be as shown on the plans or established. "Subgrade" in this section shall mean the prepared foundation on which the sidewalk or driveway is constructed.

MATERIALS

S-608.02--Material Requirements. All material furnished for use shall comply with appropriate requirements of the S-700 series of these specifications, and the following:

Concrete shall be Class B meeting the requirements of S-804.

Reinforcing steel shall meet the applicable requirements of S-602 and S-711 and plan details.

Expansion joint filler shall be either premolded or poured and shall conform to the requirements as set forth in S-707 for the particular type specified.

CONSTRUCTION REQUIREMENTS

S-608.03--Equipment. The Contractor may use forms or, if requested in writing and approved by the Engineer, an approved automatic extrusion type paving machine.

Forms shall be wood or metal. If wood, they shall be dressed on all sides, and be free of bulges, warps and loose knots. If metal, they shall be of approved section and have a flat surface on top. The depth of the forms shall be equal to the depth of the sidewalk or driveway. Adequate means shall be provided for securely fastening the ends of forms together.

Prior to use, an automatic extrusion machine must be demonstrated to produce a consolidated concrete section conforming to the dimensions, cross section, line, and grades shown on the plans or established.

S-608.04--Excavation and In-Grade Preparation. Excavation shall be made to the required depth and to a width that will permit the installation and bracing of forms. The foundation shall be shaped and compacted at the proper moisture content to a firm, even surface conforming to the lines, grades, and sections shown on the plans or established. All soft, spongy, or other unsuitable materials encountered shall be removed and replaced with acceptable material.

S-608.05--Setting Forms. Forms shall be set to the required line and grade and rigidly held in place by stakes or braces. Ends of adjoining form sections shall be flush. Forms and division plates shall be cleaned and oiled before placing concrete against them.

S-608.06--Handling, Measuring, Proportioning and Mixing Materials. The method of handling, measuring, proportioning and mixing concrete materials shall conform to S-804. Where reinforcement is required, it shall be placed in accordance with S-602.

S-608.07--Placing Concrete. A template resting upon the side forms and having its lower edge at the elevation of the subgrade shall be drawn along the forms to shape and grade the subgrade before concrete is deposited. The subgrade shall be moist and free of debris and foreign material before concrete is deposited upon it. The concrete

mixture shall be placed on the prepared subgrade to the depth required to complete the sidewalk or driveway in one course. It shall then be vibrated and/or tamped and struck off with an approved straightedge resting upon the side forms and drawn forward with a sawing motion. The surface shall be given a Class 6 float finish as set out in S-804.

The edges of sidewalk shall be rounded with an edging tool having a radius of 1/2 inch. Expansion joints shall be edged with an edger having a radius of 1/4 inch.

The edges of driveways at expansion joints shall be edged with an edger having a radius of 1/2 inch. Curb returns shall be finished as specified for integral curb in S-609.

S-608.08--Joints. Expansion joints shall be of the dimensions specified and shall be filled with the type of premolded expansion joint filler specified. Sidewalks shall be divided into sections by dummy joints formed by a jointing tool or other acceptable means. These dummy joints shall extend into the concrete for at least one inch and shall be approximately 1/8 inch wide. Joints shall match as nearly as possible adjacent joints in curb or pavements. Dummy joints may be sawed in lieu of forming with a jointing tool.

Construction joints shall be formed around all appurtenances such as manholes, utility poles, etc. extending into and through the sidewalk. Premolded expansion joint filler 1/4 inch thick shall be installed in these joints. Expansion joint filler of the thickness indicated shall be installed between concrete sidewalks and fixed structures such as a building or bridge. This expansion joint material shall extend for the full depth of the sidewalk.

S-608.09--Protection and Curing. Concrete shall be protected and cured in accordance with the requirements of S-804.03.17 or by other approved methods.

Placement, protection, and curing of concrete during cold or hot weather shall conform to the limitations, conditions, and requirements set out in S-804.

S-608.10--Backfilling and Cleaning Up. When the concrete has set sufficiently, all forms, bracing, etc., shall be removed and the sides of the sidewalk or driveway shall be backfilled and compacted to the required elevation with suitable material. All surplus material shall be disposed of as directed, and the completed work and the site shall be left in a neat and presentable condition.

COMPENSATION

S-608.11--Method of Measurement. Completed and accepted concrete sidewalks and driveways will be measured for payment by the square yard.

Excavation, backfill, expansion joint material, and other miscellaneous items will not be measured for separate payment.

S-608.12--Basis of Payment. Concrete sidewalks and driveways will be paid for at the contract unit price per square yard, which shall be full compensation for completing the work specified.

Payment will be made under:

- | | | |
|------------------------|-------------------|-------------------|
| <u>S-608-A:</u> | Concrete Sidewalk | - per square yard |
| <u>S-608-B:</u> | Concrete Driveway | - per square yard |

SECTION S-609 – CONCRETE GUTTER, CURB AND COMBINATION CURB AND GUTTER

S-609.01--Description. This work shall consist of constructing curb, gutter, and combination curb and gutter in accordance with these specifications and in reasonably close conformity with the lines, grades, dimensions, and cross sections shown on the plans or as established.

MATERIALS

S-609.02--Material Requirements. Concrete for curb, gutter, and combination curb and gutter shall meet the requirements of S-601.

No bituminous curb will be allowed.

CONSTRUCTION REQUIREMENTS

S-609.03--Excavation and Grade Preparation. Excavation and grade preparation for gutter, curb, and combination curb and gutter shall be performed in accordance with the applicable provisions of S-205.

S-609.04--Cast-in-Place Portland Cement Concrete.

S-609.04.1--Forms. Forms, except for divider plates and templates, may be wood or metal. All forms shall be full depth, straight, and free of warp and shall be securely staked, braced, and sufficiently tight to prevent leakage of mortar. All forms shall be cleaned thoroughly and oiled before placing concrete against them.

Lumber for wood forms shall be sound, free of bulges, loose knots, and warps, and of uniform width. All lumber shall be dressed and at least two inches (commercial) thick, except the Engineer may permit the use of flexible material on short radii.

Metal forms shall be approved sections and shall have a flat surface on top. They shall present a smooth surface and be of sufficient strength when braced to withstand the weight of the concrete without bulging or displacement. Special care shall be exercised to keep metal forms free from rust, grease, or other foreign matter which would discolor the concrete.

Metal templates or dividing plates shall be of sufficient thickness and of such design as to hold the forms rigidly in place and to produce a smooth vertical joint after the plates are removed. They shall be of the full dimensions shown on the plans for curb, gutter, or combination curb and gutter.

S-609.04.2--Proportioning, Mixing, and Placing Concrete. Unless otherwise specified, concrete used for curb, gutters, and combination curb and gutter shall be Class "B" proportioned, mixed, and placed in accordance with the provisions of S-601.

The concrete shall be placed on a moist grade and consolidated by vibration or other acceptable methods. Weep holes shall be placed through curbs where indicated on the plans or as directed.

S-609.04.3--Extruded Construction. Concrete curb and curb and gutter shall be constructed by the use of a curb forming machine. Conventional methods will not be allowed unless approved by the Engineer. Such a machine shall conform to Parts 1, 2, and 5 of S-609.05.2, and in addition, its continued use shall be contingent upon it producing curb with the specified section, line, and grade.

S-609.04.4--Sections and Joints. Concrete curb, gutter, or combination curb and gutter shall be constructed in uniform sections of the length specified on the plans. These lengths may be reduced where necessary for closure but no section less than six feet will be permitted. The templates shall be accurately set before placing the concrete and allowed to remain in place wherever possible until the concrete has set sufficiently to hold its shape, but shall be removed while the forms are still in place.

Expansion joints shall be formed of premolded joint filler of the specified thickness, and shall be placed in line with expansion joints in the adjoining pavement or structure and at other locations designated on the plans. All joint fillers shall be cut to full cross section and shall extend for full depth, width, and length. All expansion joint material protruding after the concrete is finished shall be trimmed as directed. Immediately after removal of forms, the outer edges of filled joints shall be carefully exposed.

S-609.04.5--Finishing. The concrete shall be finished smooth and even by an approved float. Plastering will not be permitted. Strikeoff templates of the form and shape of the gutter shall be used to shape the top surface of gutters. Before final finishing the surface of gutters shall be checked with a ten (10) foot straightedge, and all irregularities of more than 1/8 inch in ten (10) feet shall be corrected. Edges on the faces of curbs shall be rounded with finishing tools having the radii shown on the plans. Edges where templates have been removed or expansion joint material has been placed shall be finished with an edging tool having a radius of 1/4 inch.

All exposed surfaces against which some rigid type of construction is to be made shall be left smooth and uniform so as to permit free movement of the curb, gutter, or combination curb and gutter.

All tool marks shall be removed with a wetted brush or wood float. The finished surface shall be a uniform color free from discolorations.

S-609.04.6--Protection and Curing. Concrete shall be cured for at least seventy-two (72) hours. Curing shall be by moist cotton or burlap mats, waterproof paper, white polyethylene sheeting, or by other approved methods.

The Contractor shall have materials available at all times for the protection of unhardened concrete against rain. During the curing period all traffic, both pedestrian and vehicular, shall be kept off the concrete. Vehicular traffic shall be kept off for such additional time as the Engineer may direct. The Contractor shall protect the work from damage until final acceptance. All sections which are damaged before final acceptance shall be removed and reconstructed by the Contractor without extra compensation.

S-609.05--Bituminous Curbing. Not allowed.

COMPENSATION

S-609.07--Method of Measurement. Complete-in-place concrete gutter, curb, and combination curb and gutter and bituminous curb will be measured by the linear foot along the face of the curb or flow line of gutter. Deduction will be made for driveway openings.

Concrete integral curb, complete in place, will be measured by the linear foot along the face of the curb including the full length of curb return for driveways.

No deduction in length will be made for drainage structures such as catch basins and inlets installed in the curbing.

Excavation backfill, expansion joint material, and other related miscellaneous items will not be measured for separate payment. The cost thereof shall be included in the unit prices bid for other items.

S-609.08--Basis of Payment. This work will be paid for at the contract unit prices per linear foot, complete in place, which shall be full compensation for completing the work specified.

Payment will be made under:

S-609-A: Concrete Gutter (_____) - per linear foot
(Designation)

S-609-B: Concrete Curb, Type - per linear foot

S-609-C: Concrete Curb (Integral) Type - per linear foot

S-609-D: Combination Concrete Curb and Gutter* - per linear foot

* Type may be specified.

SECTION S-617 – RIGHT-OF-WAY MARKERS

S-617.01--Description. This work shall consist of furnishing and placing concrete markers in accordance with the plans and these specifications or as directed. The work also shall include the removal of right-of-way markers from their original locations and resetting at new locations as specified or established.

MATERIALS

S-617.02--Material Requirements. The materials used in this construction shall conform to the requirements of S-706.04.

CONSTRUCTION REQUIREMENTS

S-617.03--Construction Requirements. Markers shall be cast in accordance with the details shown on the plans, the requirements of S-706.04, and the requirements of this section.

Reinforcement shall conform to the details shown on the plans and the requirements of S-602.

All letters and other markings shall be as shown on the plans and shall be neatly imprinted in the markers. Where required on the plans, the markings shall be painted in a workmanlike manner with the type of paint specified.

The markers shall be set to the depth and in the position designated on the plans and established by the Engineer. They shall be set to within 1/4 inch of the lines indicated or established, 1/2 inch of the depth or elevation indicated or directed, and in a vertical position within a tolerance of 1/8 inch per foot. Backfilling shall be made with suitable material thoroughly tamped in six- inch layers. All surplus material shall be disposed of as directed and the site shall be left in a neat and presentable condition.

S-617.04--Removal and Resetting. Markers which are specified to be removed and reset shall be carefully removed and reset at the location indicated and established in accordance with the provisions and requirements of S-617.03.

The Contractor shall replace without additional compensation all markers broken or damaged due to his carelessness or negligence during the removal and resetting operation.

COMPENSATION

S-617.05--Method of Measurement. New and removed and reset right-of-way markers will be measured per each.

S-617.06--Basis of Payment. Right-of-way markers complete in place will be paid for at the contract unit price per each, which shall be full compensation for completing the work specified.

Payment will be made under:

S-617-A: Right-of-Way Markers (_____) - per each
(Type)

S-617-B: Right-of-Way Markers Removed and Reset - per each

S-618—Maintenance of Traffic and Traffic Control Plan

S-618.01--Description.

S-618.01.1--General. This work shall consist of maintaining two-way local traffic at all times, except as provided herein or in other contract documents. It shall consist of removing temporary structures, constructing and maintaining in good condition approach roadways and other facilities required for the maintenance of traffic and furnishing temporary materials therefor, unless otherwise indicated in the contract.

This work shall include furnishing, erecting, maintaining in good condition, and removing all required construction signs, barricades, and temporary traffic stripe.

S-618.01.2--Traffic Control Plan. This work shall also consist of complying with the contract requirements of the Temporary Traffic Control Plan. The purpose of the Temporary Traffic Control Plan is to maintain through and local traffic safely through construction zones. In addition to this section, the Plan includes: S-104.04, S-105.15, S-107.07, and S-107.10; special provisions modifying this section and supplements thereto; individual plan sheets applicable to the plan; and Part VI of the Manual on Uniform Traffic Control Devices (MUTCD), latest edition. These parts of the Plan are listed for the bidders' information and do not change provisions of the contract, listed or unlisted, unless so specifically stated.

Where the plans call for guardrail to be replaced or removed and reset, all material shall be on hand at the time of removal and the resetting will be accomplished as per subsection S-606.05.1.

The Contractor's Traffic Safety Officer's responsibility shall be maintenance of the effectiveness of the Temporary Traffic Control Plan. The Contractor's Traffic Safety Officer's duties shall include the following:

1. Understand the requirements of the MUTCD and contract provisions.
2. Be responsible for assuring compliance of the Contractor's maintenance and protection of traffic relative to the requirements of the contract provisions.
3. Be responsible for maintaining current documentation of deficiencies with respect to the Contractor's maintenance and protection of traffic operations.
4. Be responsible for maintaining documentation on how and when the deficiencies were corrected.
5. Hold Contractor's traffic safety meetings.
6. Be responsible for assuring that all deficiencies are corrected.
7. Be responsible for coordinating maintenance of traffic operations with the Engineer.
8. Be responsible for reviewing Contractor's equipment location storage and operation relative to traffic safety and operation as required by the contract provisions.
9. Be responsible for reviewing Contractor's material location storage and handling of materials relative to traffic safety and operations.

10. Be responsible for maintaining current documentation of deficiencies and corresponding corrections relative to equipment operation, equipment storage, and material handling and storage pertaining to traffic safety and operations.

The Contractor shall also provide a suitable traffic vehicle, adequately marked and equipped, for the use of the Traffic Safety Officer. The Engineer shall be furnished with the telephone numbers where the Contractor's Traffic Safety Officer and a substitute, authorized to act in his absence, may be reached at all times when not on the project. This in no way modifies the requirements of S-105.05 regarding the assignment and availability of the superintendent.

Within three weeks time the Contractor shall provide the Engineer with a copy of each accident report for those accidents occurring within the limits of the project. In the event no accident report is available, the Contractor and the Engineer shall jointly attempt to describe the accident from sources or information that may be available. The Engineer, or other appropriate personnel as required, will analyze these reports to determine if corrective action is needed.

In the event corrective action is indicated, the Contractor shall proceed immediately with same.

The Engineer will designate a responsible person at the project level to monitor the Contractor's compliance with the plan.

MATERIALS

S-618.02--Material Requirements. Unless otherwise specified, the Contractor shall provide all materials for the construction and maintenance of detours required for the maintenance of traffic, except the Engineer may permit the Contractor to use excavation from the roadbed, or other designated sources, that is available at the time of construction of diversions without detriment to the work and provided the excavation is ultimately placed in its final position in the roadbed in an uncontaminated condition. No additional compensation will be made to the Contractor for the extra handling of the material.

Unless otherwise specified, the applicable material requirements set out in the S-700 series of sections or in other contract documents shall apply to all materials used in temporary traffic facilities. The Contractor shall select and use materials that with adequate maintenance or replacement will provide a satisfactory facility for the entire period the temporary facility is required.

CONSTRUCTION REQUIREMENTS S-618.03--Construction Details.

S-618.03.1--General. All diversions shall be constructed and maintained in such a manner that they will adequately carry the required traffic.

Requirements for temporary traffic facilities shown on the plans, or set forth in these specifications, shall be understood to be the minimum requirements anticipated. Actual traffic conditions may require work or devices in addition to those shown on the plans.

Traffic lanes shall be kept free of dust, and when deemed necessary they shall be sprinkled with water, or some other dust palliative shall be applied.

Unless otherwise specified, temporary structures and roads shall be sufficiently strong to safely carry the load permitted on the road under construction. Structures shall be provided with suitable curbs, rails, or other devices as required for the protection of traffic. Unless otherwise specified, walkways when required for pedestrians shall have a clear width of at least four feet and shall be protected from vehicular traffic in the manner specified or directed.

Unless otherwise specified, the Contractor shall remove all temporary diversions, satisfactorily dispose of all surplus materials, grade, finish, and dress the disturbed areas to the required section, and complete all work incidental thereto prior to final acceptance.

S-618.03.2--Barricades, Signs, and Flaggers. The Contractor shall construct, erect, and maintain in good order all barricades and danger and warning signs specified or ordered.

Flaggers shall be stationed at such points as may be deemed necessary. Movable construction signs shall be moved from sections as their use become inapplicable.

Such signs and all other signs and devices of a temporary nature shall be in accordance with the plans, and the MUTCD, as applicable.

S-618.04--Widening, Overlays, and Seal Coats. On widening or widening and overlaying projects, the Contractor shall limit the base widening, pavement removal, undercutting, and patching operations to the lengths that are deemed to be consistent with backfilling and traffic handling requirements.

Pavement edge excavated for widening shall be protected with drums, cones, vertical panels or barricades until the trench is filled and compacted.

On the traffic lane adjacent to the lane being paved, opposing traffic may be alternately routed over the single lane in such a manner as to provide safe movement of the traffic with minimum delay. In such case, flaggers will be required and, when deemed necessary, an approved pilot vehicle with sign meeting the requirements of the plans and the current edition of the Manual on Uniform Traffic Control Devices (MUTCD), shall be provided and operated to control the speed and sequence of movement of the traffic.

A pavement edge that traffic is expected to cross in changing lanes should have an elevation difference of no greater than 1 1/2 inches. There should be adequate signs to warn the traveling public of lane drop-off.

All failed areas that have been removed and all trenches shall be filled and compacted to the elevation of the existing pavement before work is discontinued for the day. In emergencies, the Engineer may permit the use of approved temporary materials for backfill, provided the temporary materials will be adequate to facilitate normal safe movement of traffic. Separate measurement for payment will not be made for the furnishing, placing, maintaining, removing, and disposing of such temporary materials.

Except under the following conditions, no portion of the roadway which is intended to be used for maintenance of traffic shall be blocked after work hours. In exceptional cases when all efforts have been made to restore the surface of the roadway and because of equipment failure or other uncontrollable causes complete restoration is not possible before work must be discontinued for that day, the Contractor shall provide adequate warning signals, barricades, flares, other appropriate devices, and flaggers, appropriately placed or stationed for the protection of the public. The Engineer may also require the use of a pilot vehicle as provided herein.

S-618.05--Contractor's Responsibility. The Contractor shall be responsible for protection against loss or damage from any cause to all temporary structures (including approaches), and shall maintain them in a satisfactory condition until their use is no longer required. If a temporary structure, or approaches, is damaged due to high water or other reasons, it shall be replaced by the Contractor without extra compensation, except that for temporary structure and approaches constructed of materials and the grades and sections indicated on the plans and in accordance with the applicable construction requirements of the contract and adequately maintained, consideration will be given under the conditions and provisions of S-107.17.

The Contractor shall maintain the surface of the existing facility and connections thereto on which he is required to maintain traffic. Such maintenance shall be in accordance with the provisions of S-104.04 and S-105.14 and other applicable requirements and shall be subject to the provisions of S-105.15. All costs for such maintenance and surface repairs shall be included in the lump sum bid.

SECTION S-621 – THERMOPLASTIC TRAFFIC MARKINGS

S-621.01--Description. This work consists of furnishing materials and placing thermoplastic pavement markings in reasonably close conformity with these specifications and the details shown on the plans or established.

MATERIALS

S-621.02--Materials. Thermoplastic material shall meet the requirements of S-720.03, except an alkyd resin shall be used in the formulation when used in construction of stop lines, crosswalks, and legends.

Glass beads shall meet the requirements of S-720.01.

CONSTRUCTION REQUIREMENTS

S-621.03--Equipment. Equipment for hot application shall be of sufficient size and stability to insure smooth, uniform, properly aligned markings of the thickness specified.

The application equipment shall be capable of automatic placement of intermittent and continuous line patterns in single or double line applications simultaneously. The intermittent timer mechanism shall provide a variable ratio of materials applied and variable cycle length such that accurate placement of new patterns, or replacement of existing patterns can be achieved.

The equipment shall also be capable of applying the top dressing of glass beads in a manner which will firmly embed them into the surface of the thermoplastic material for at least one half the diameter of the larger gradation sizes of the beads. The dispensing equipment shall be equipped with an automatic cut-off control for the application of the beads which is synchronized with the cut-off of the thermoplastic material.

S-621.04--Construction Details. Application of thermoplastic material shall be made only in periods of dry weather and when the temperature of the pavement surface is at least 55°F. The pavement shall be surface dry, to the satisfaction of the Engineer, before application will be permitted. The temperature of the thermoplastic material shall be between 400°F and 450°F.

Upon request, the Engineer will establish the control points for markings at necessary intervals not to exceed 600 feet on tangents and more often on curves. All additional work necessary to establish intermediate control points shall be performed by the Contractor. On curves, unsightly variations from the normal curvature will not be permitted unless specifically shown on the plans or ordered by the Engineer.

Immediately before application, the areas to receive markings shall be cleaned thoroughly in accordance with S-619.04. On areas of pavement cured with compound, the membrane shall be removed completely by "shot" blasting, sand blasting or other approved method.

Unless otherwise directed by the Engineer, traffic stripes that are coincidental with the thermoplastic stripe shall be removed prior to placement of the thermoplastic material, except that short-term paint stripe may be left in place when satisfactorily placed in the proper location. Any short-term stripe not covered shall be removed. Payment for removal of stripe, except temporary and short-term stripe, will be made under S-202.

When thermoplastic material is to be applied to portland cement concrete pavements or bridge surfaces, a binder-sealer of the type and amount recommended by the manufacturer of the thermoplastic material shall be applied prior to placement of the thermoplastic material. On other pavement surfaces, a binder-sealer shall be applied under those conditions recommended by the manufacturer of the thermoplastic material.

The thickness of the thermoplastic material, when measured above the surface plane of the pavement, shall be within tolerance of the specified thickness. Unless otherwise specified in the plans or contract documents, the thickness shall be 60 mils for edge lines, 90 mils for centerlines, lane lines, barrier lines and detail stripe including gore markings, and 120 mils for crosswalks, stop lines, and railroad, word and symbol markings. The measured thickness at the center of the line shall be no less than the specified thickness with the edge of the line not thinner than 75% of the specified center thickness and will be checked at intervals of one mile or less as directed by the Engineer.

Any thermoplastic traffic marking less than the required thickness shall be corrected by overlaying with an additional application of thermoplastic material. Any such required overlay will be no less than 30 mils. Although a tolerance of 25 percent from center to edge is allowed, a consistent underrun of any amount in thickness will not be acceptable.

All newly applied thermoplastic material shall be protected from traffic until the material is sufficiently dry so as not to sustain damage from vehicle tires. Any material so damaged, marred or picked up by traffic shall be repaired, and the thermoplastic material tracked onto the pavement shall be removed.

The tolerance for placing thermoplastic stripe shall be the same as required for paint (reference S-619.05).

COMPENSATION

S-621.05--Method of Measurement. Thermoplastic stripe completed in accordance with the plans and specifications will be measured by the mile or by the linear foot. In the case of skip lines, the measurement will include skips. The length used to measure centerline and edge stripes will be the horizontal length computed along the stationed control line.

Detail traffic stripe will be measured by the linear foot from end-to-end of individual stripes. Measurement will be made along the surface of each stripe and will include skip intervals where specified. A normal stripe is 4 to 6 inches wide, as indicated in the plans. Wide stripes will be converted to equivalent lengths of the normal stripes.

Legend, which is to include railroad markings, pedestrian crosswalks and stop lines, will be measured by the square foot or linear foot. Pay areas of individual letters and symbols will usually be shown on the plans and measured by the square foot. Transverse railroad bands, pedestrian crosswalks and stop lines will generally be measured by the linear foot.

S-621.06--Basis of Payment. Thermoplastic traffic markings will be paid for at the contract unit price per mile, linear foot, or square foot, as applicable, which shall be full compensation for completing the work.

Payment will be made under:

<u>S-621-A:</u>	“ Wide Thermoplastic Traffic Stripe (Skip White) (_____) Thickness	- per mile
<u>S-621-B:</u>	“ Wide Thermoplastic Traffic Stripe (Continuous White) (_____) Thickness	- per mile
<u>S-621-C:</u>	“ Wide Thermoplastic Edge Stripe (Continuous White) (_____) Thickness	- per mile

<u>S-621-D:</u>	“ Wide Thermoplastic Traffic Stripe (Skip Yellow) (_____) Thickness	- per mile
<u>S-621-E-1:</u>	“ Wide Thermoplastic Traffic Stripe (Continuous Yellow) (_____) Thickness	- per linear foot
<u>S-621-E-2:</u>	“ Wide Thermoplastic Traffic Stripe (Continuous Yellow) (_____) Thickness	- per mile
<u>S-621-F:</u>	“ Wide Thermoplastic Edge Stripe (Continuous Yellow) (_____) Thickness	- per mile
<u>S-621-G-1:</u>	Thermoplastic Detail Stripe (4" Equivalent Length) (<u>White</u>) (_____) Thickness	- per linear foot
<u>S-621-G-2:</u>	Thermoplastic Detail Stripe (4" Equivalent Length) (<u>Yellow</u>) (_____) Thickness	- per linear foot
<u>S-621-H-1:</u>	Thermoplastic Legend (White) (_____) Thickness	- per linear foot
<u>S-621-H-2:</u>	Thermoplastic Legend (White) (_____) Thickness	- per square foot

SECTION S-627 – RAISED PAVEMENT MARKERS

S-627.01--Description. This work consists of furnishing and placing pavement markers of the types, colors, shapes, and dimensions specified and in reasonably close conformity with the location lines, and details shown on the plans or as directed by the Engineer.

MATERIALS

S-627.02--Materials. Pavement and jiggle markers of the types specified shall conform to the applicable requirements of S-720.06 and shall be listed on MDOT's "Approved Sources of Materials".

Types B through G High Performance reflective markers shall be listed on MDOT's "Approved Source of Materials" for high performance raised pavement markers.

The bituminous adhesive for pavement markers shall meet the requirements of S-720.06.7.

CONSTRUCTION REQUIREMENTS

S-627.03--Construction Requirements.

S-627.03.1--General. Unless waived by the Engineer on the basis of known performance qualifications, the Contractor or approved subcontractor shall certify to the Engineer that sufficient experience has been acquired to have become proficient in the placement of the required markers, or the Contractor or approved subcontractor shall require the manufacturer of the markers to have a qualified technical representative on or immediately available to the project during the application of the markers to assist the Contractor's personnel in the proper application of the adhesive and markers and to render technical assistance to the Engineer as may be deemed desirable.

Any such waiver shall be subject to the conditions set forth in the waiver.

S-627.03.2--Construction Details. The markers shall be installed when the relative humidity of the air is 80% or less, the pavement surface is dry and the temperature of the pavement surface is no less than 50°F. Other pavement marking materials, such as thermoplastic, cold plastic and paint, shall be placed prior to installation of markers.

The portion of the roadway surface to which the marker is to be bonded shall be cleaned so as to be free of dirt, curing compound, grease, oil, moisture, loose or unsound layers, paint and any other material which would adversely affect the bond of the adhesive.

The bituminous adhesive shall be melted and heated in either thermostatically controlled double boiler type units utilizing heat transfer oil or thermostatically controlled electric heating pots. Direct flame melting units shall not be used. The melter/applicator unit shall be suited for both melting and pumping application through heated applicator hoses.

The adhesive shall be heated to between 375°F and 425°F and applied directly to the pavement surface from the melter/applicator by either pumping or pouring. It is important that application temperature be maintained between 375°F and 425°F and lower temperatures may result in decreased adhesion while higher temperatures may damage the adhesive.

The adhesive should be applied in a puddle approximately two-thirds to three-fourths the diameter of the marker. Markers should be applied to the adhesive within 10 seconds to assure bonding. The marker shall be placed in

position by applying downward pressure until the marker is firmly seated with the required adhesive thickness and squeeze out. Excessive adhesive squeeze out shall be removed from the pavement and adhesive on the exposed surfaces of the markers shall be immediately removed. Soft rags moistened with mineral spirits conforming to Federal Specification TT-T-291 or kerosene may be used if necessary, to remove adhesive from exposed faces of pavement markers. No other solvent shall be used.

All markers shall be installed in a uniform line, with controls established by the Engineer. The Engineer will establish controls for each line of markers by setting control points at not less than approximately 600-foot intervals on tangents and 50-foot intervals on curves. All additional work necessary to establish intermediate control points and individual marker points shall be performed by the Contractor, including smoothing out minor irregularities in any line established by the Engineer. On curves, the line of markers on lane lines and edge lines shall follow the normal curvature of the curve and placement on chords or other variations from the normal curvature will not be permitted, unless specifically shown on the plans or ordered by the Engineer.

Reflective markers shall be installed in such a manner that the reflective face of the marker is perpendicular to a line parallel to the roadway centerline. No markers shall be installed over longitudinal or transverse joints of the pavement surface.

The marker shall be protected against impact until the adhesive has hardened. The Engineer shall be the judge as to the minimum time necessary to cure the adhesive for sufficient set to bear traffic. The adhesive may be reheated and reused. However, the pot life at application temperatures shall not be exceeded.

Clean out of equipment and tanks may be performed using petroleum solvents such as diesel fuel or similar materials. CAUTION: Be sure that all heating is off before cleaning operations are begun. All solvent must be removed from the equipment tanks and lines before the next use of the melter.

S-627.04--Method of Measurement: Each type of raised markers acceptably placed will be measured as determined from actual count in place.

S-627.05--Basis of Payment: Raised pavement markers will be paid for at the respective contract unit price per each, which shall be full compensation for completing the work.

Payment will be made under:

<u>S-627-A:</u>	Type A, Non-Reflective White Raised Jiggle Markers_____	(Class)	- per each
<u>S-627-AY:</u>	Type AY, Non-Reflective Yellow Raised Jiggle Markers_____	(Class)	- per each
<u>S-627-B:</u>	Two-Way Clear Reflective Raised Markers		- per each
<u>S-627-C:</u>	Red-Clear Reflective Raised Markers		- per each
<u>S-627-D:</u>	Two-Way Yellow Reflective Raised Markers		- per each
<u>S-627-E:</u>	One-Way Clear Reflective Raised Markers		- per each
<u>S-627-F:</u>	One-Way Yellow Reflective Raised Markers		- per each

- S-627-G:** Yellow-Clear Reflective Raised Markers - per each
- S-627-H:** Chip Seal Clear Reflective Raised Markers - per each
- S-627-I:** Chip Seal Yellow Reflective Raised Markers - per each
- S-627-J:** Two-Way Clear Reflective High Performance Raised Markers - per each
- S-627-K:** Red-Clear Reflective High Performance Raised Markers - per each
- S-627-L:** Two-Way Yellow Reflective High Performance Raised Markers - per each
- S-627-M:** One-Way Clear Reflective High Performance Raised Markers - per each
- S-627-N:** One-Way Yellow Reflective High Performance Raised Markers - per each
- S-627-O:** Yellow-Clear Reflective High Performance Raised Markers - per each

S-630 – Traffic Signs and Delineators

S-630.01--Description. This work shall consist of furnishing and installing delineators, reflectorized traffic signs and markers and reflectorized warning and railroad crossing signs together with accessories and posts of the designated materials, sizes, shapes, weights and designs in reasonably close conformity with the requirements shown on the plans and set out in these specifications.

In general, the work and materials shall meet the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways," or latest revision thereof, except as modified by these specifications or as shown on the plans.

Sign fabrication shall be in a properly equipped plant which shall show evidence of successful experience in fabrication and erection of quality reflectorized highway warning signs.

MATERIALS

S-630.02--Materials. All materials or equipment shall be of new stock and shall be the product of a reputable manufacturer. Completed equipment and materials shall be guaranteed to be free from defects in materials and workmanship for a reasonable period of time after erection.

Materials furnished or used shall conform with the following and shall be subject to inspection and testing as required by the Engineer:

S-630.02.1--Steel Posts. Steel posts for small signs shall be furnished in accordance with S-721.02.3.

Posts for railroad cross buck signs shall be 4" x 6" treated timber. The minimum length shall be fourteen (14) feet when erected.

S-630.02.2--Fabrication of Aluminum Extrusions and Sheets. The fabrication of aluminum extrusions and sheets shall generally conform to the requirements of S-721.03.

S-630.02.3--Concrete shall conform to S-601.

S-630.02.4--Colors and Paints shall match the colors specified by "The Manual on Uniform Traffic Control Devices for Streets and Highways," and S-721.05.

S-630.02.5--Reflective Sheeting. The reflective sheeting materials used in the manufacture of standard Highway and Marking signs shall conform to S-721.06 for brightness, adhesiveness, color, film, surface and durability.

S-630.02.6--Delineators and Prismatic Markers. See S-721.07 for design requirements, fabrication and finishing of the frames, as well as the tests and durability qualifications.

S-630.02.7--Timber Posts for All Signs. See S-721.09 for requirements of size and treatment with pentachlorophenol-petroleum solution.

S-630.02.8--Preparation of Sheet Aluminum or Steel for the Application of Reflective Sheeting or Painting. See S-721.

S-630.02.9--Silk Screen Method of Reflectorization. See S-721.

S-630.02.10--Packing, Storing and Shipping Highway Warning Signs. See S-721.

CONSTRUCTION REQUIREMENTS S-630.03--Construction Methods.

S-630.03.1--Construction Stakes. The Engineer or his authorized personnel will furnish and set a construction stake at each site clearly indicating thereon the respective sign for that site. The Contractor will be required to check all leading dimensions and clearances measured from such stakes and thereafter become responsible for orientation, elevation, offset and level of all signs so erected.

S-630.03.2--Sign Positioning. The glossy surface on sign face may produce specular reflection. Signs shall be positioned to eliminate or minimize specular reflection.

S-630.03.3--Ground-Mounted Highway Signs. Signs shall be erected so that the sign face is truly vertical and at 93° away from center of the travel lane which the sign serves and the direction of travel unless otherwise directed by the Engineer. Where lanes divide or on curves, sign faces shall be oriented so as to be most effective both day and night and to avoid the possibility of specular reflection.

S-630.03.4--Horizontal Clearance and Height. Signs erected at the side of the road shall be placed as shown on the plans.

Where raised edge curbs, guard rails, or paved shoulders are present the sign should ordinarily be placed with its nearest edge two feet outside of such curb or guard rail.

S-630.03.5--Posts. When steel posts are used they shall be ten (10) feet minimum length. Steel posts may be driven in place to a minimum depth of two and one-half (2 1/2) feet with the ground plate at least six inches below the ground elevation.

When treated timber posts are used they shall be set in holes dug to full depth and to sufficient diameter to allow proper tamping and compaction of the backfill. The backfill shall be made with the most suitable material available and shall be tamped until the posts are firm and rigid in a truly vertical position. Treated timber posts shall be a minimum length of ten (10) feet and set to a minimum depth of two and one-half (2 1/2) feet into the ground.

S-630.03.6--Erection of Signs. Erection of signs shall be done in a neat and workmanlike manner. After installation of signs is complete they shall be inspected at night by the Engineer. If specular reflection is apparent on any sign, its positioning shall be adjusted by the Contractor to eliminate this condition.

S-630.03.7--Erection of Delineators. The location of each type of delineators shall be as shown on the plans or as directed by the Engineer. They shall be placed two feet outside the shoulder edge, except in curbed sections where they will be placed two feet outside the face of the curb. The post shall be driven and a driving cap used to protect the post. Posts shall be installed so that the delineator units will be at the elevations specified on the plans or established by the Engineer and they shall be vertical and reasonably true to line and grade. The delineator shall be attached to the post as shown on the plans.

S-630.03.8--Removal of In-Place Signs, Markers and Posts. The Contractor shall salvage existing signs, markers and posts and stockpile at the locations shown on the plans or as directed by the Engineer. Signs and markers shall be removed from posts and be stacked edgewise with paper separators between units. Posts shall be pulled without being bent, and stockpiled off the ground. All handling, hauling and storing shall be such as to avoid damage. The work shall be incidental to items of the contract and separate payment will not be allowed.

S-630.04--Placement and Erection of Railroad Warning and Crossing Signs. This work shall conform to the requirements as shown on the plans and the requirements of American Association of Railroad specifications.

The cross buck signs shall be mounted on the right hand side of the roadway on each approach to the crossing not more than fifteen (15) feet from the center line of the nearest track. It shall not be less than six feet, or more than twelve (12) feet from the edge of the pavement, or less than two feet outside of the paved shoulder or curb. The height shall be approximately nine feet above the level of the highway to the center of the cross buck.

The Railroad Advanced Warning signs shall be yellow disk, 36 inches in diameter, carrying a 90-degree cross buck X and letter RR in black, reflectorized with reflective sheeting and mounted on a wooden post in advance of every railroad crossing. Advance warning signs are required whether the crossing is protected with cross bucks, signals or flaggers. Exception to the installation of advanced warning signs are (1) a minor siding or spur which is infrequently used and which is guarded by a member of the train crew when in use, or (2) in business districts where crossings are fully protected and physical conditions are such that even a partially effective display of the sign is impossible. In areas where low train speeds are prevalent, the advanced warning sign may be placed a minimum of 100 feet from the crossing. Street or road intersections within 100 feet of a crossing may also require additional signs to warn approaching traffic from each intersection road or street.

The Contractor will be required to check all controlling dimensions and clearances mentioned above and become responsible for orientation, elevation, offset and level of all signs erected.

S-630.05--Final Cleaning Up. The Contractor will be required to remove all rejected and unused materials and debris from the right-of-way. He shall restore shoulders and slopes to their original condition. Excess excavation shall be disposed of off the right-of-way at the Contractor's own expense unless otherwise directed by the Engineer. Before final inspection the Contractor shall perform such touching up of paint finishes, cleaning of exposed sign and support surfaces and other cleaning up as may be necessary to ensure the effectiveness and neat appearance of the work.

S-700 – Materials and Tests

S-700.01--General.

Unless otherwise provided, all materials furnished which are to remain in place after final acceptance shall be new and unused before incorporation into the work, except that crushed reclaimed concrete pavement meeting the requirements of S-703, as amended, may be used to produce aggregate for all hot mix asphalt pavements. When allowed by the specifications, Recycled Asphalt Pavement (RAP) may be used in the manufacture of hot mix asphalt pavements.

S-700.02--Glossary of Terms and Definitions.

Aggregate - Inert material such as sand, gravel, lightweight aggregates, broken stone, slag, or combinations thereof.

Argillaceous - Containing or consisting of clay.

Asphaltic Cement - A product of the refining of crude oil to form a residue which is used usually without the addition of more than a small quantity of flux or any liquifying agent of a higher volatile material than the residue itself.

Calcareous Material - A material containing more than 50 percent calcium type material.

Cementitious Material - Portland cement, or blend of portland cement and pozzolan material used as the bonding agent in portland cement concrete. Cementitious shall mean "as having cementing properties".

Clay - The fraction of a soil finer than 0.005 mm that is more or less plastic when wet.

Compaction - The process of obtaining the density of a soil or material.

Contemplated Mean Value (CMV) - The CMV is the desirable average or target value that is designated between extreme limits that are tolerable in materials or workmanship.

Crusher Run - The product of a crushing plant that has not been rescreened or separated into various sizes.

Cutback Asphalt - An asphaltic material obtained from the refining of petroleum by adding to or fluxing the residue from distillation with volatile petroleum fractions to produce a uniform mixture which is capable of becoming quite fluid at relatively low temperatures.

Fineness Modulus - An empirical factor obtained by adding the total percentages of aggregate retained on the Nos. 100, 50, 30, 16, 8, 4, 3/8", 3/4", 1 1/2", and 3" sieves and dividing the sum by 100.

Frame - The part of the work or materials for which the same quality characteristics are specified, such as a base course, an aggregate stockpile, a hot bituminous pavement course, etc.

Gravel - The granular, pebbly material (usually retained on a No. 8 sieve) resulting from the natural disintegration of rock.

Increment - The smallest unit(s) set aside for the sampling and testing process.

Liquid Limit (LL) - The water content, expressed in percentage by weight of the oven dried soil, at which the soil passes from a plastic to a liquid state when subjected to a standard method of determining liquid limit of soils.

Loess - Wind-blown, yellowish-brown loam having little or no stratification.

Lot - A subdivision of a frame, representing a designated quantity of work or materials, and is the unit of such work or materials which will be accepted or rejected.

Mechanical Analysis - The determination of the size and grading of soil particles by standard tests.

Optimum Moisture - The moisture content necessary to obtain the standard density of a soil.

Overburden - Refers to soil or similar material directly above a deposit of rock, sand, gravel, or select material.

Pea Gravel - That portion of uncrushed gravel passing a 3/8 inch sieve and retained on a No. 8 sieve.

Plastic Limit (PL) - The water content, expressed in percentage by weight of the oven-dried soil, at which a soil passes from a solid or semi-solid state to a plastic state when subjected to a standard method of determining plastic limit of soils.

Plasticity Index (PI) - The range of water content through which the soil remains in a plastic condition. This term is the numerical difference between the liquid limit and plastic limit and is a measure of cohesion.

Portland Cement Concrete - A concrete mixture composed of cementitious materials, water, fine aggregate, coarse aggregate and possibly admixture(s).

Sample - The portion taken from a lot and considered to represent the whole or a designated portion of the lot. It may consist of one or more increments or a fractional part of one or more combined increments.

Sand - A fine granular material resulting from the natural or mechanical disintegration of rock. Depending on its use, material may be classed as sand if it passes the 3/8 inch, No. 4 or No. 10 sieve.

Sand Clay - A mixture of sand and clay often found blended so that their opposite qualities tend to maintain a condition of stability under varying moisture contents.

Screenings - Broken rock, limestone, slag, or other material, including the dust, of a size that will pass a 1/2 inch sieve.

Selected Material - Material from approved sources, for use in subbases, bases, or for other specified use.

Shale - A fissile rock formed by the consolidation of clay, mud, or silt having a finely stratified or laminated structure.

Shrinkage Limit (SL) - The maximum calculated water content of a soil at which a reduction in water content will not cause a decrease in the volume of the soil mass.

Sieves - Sieves for testing purposes conforming to the requirements of the standard Specifications for Sieves for Testing Purposes of the AASHTO Designation: M 92.

Silt - The finer particles of organic or rock substance, ranging in size from 0.05 mm to 0.005 mm.

Slag - The nonmetallic product thrown off from molten ore or metal or other processes and used as fine or coarse aggregate.

Soil - A natural aggregate of mineral grains, with or without organic constituents, that can be separated by gentle mechanical means such as agitation in water.

Spall - A relatively small piece or fragment broken from rock, concrete, or other material.

Specific Gravity - The ratio of the weight of a volume of some substance to the weight of an equal volume of substance, usually water, taken as a standard or unit.

Standard Density (Standard Compaction) - The maximum dry unit weight in pounds per cubic foot obtained by the compactive effort exerted under the applicable test designation as provided in S-700.03.

Sublot - The smallest unit(s) set aside from a lot for the sampling and testing process.

Test Portion - The actual quantity of material tested--may be in some instances the whole of the sample or in other instances only a quartered or other portion of the sample.

Test Result - The value of the specified characteristic obtained from testing a single test portion.

Test Value -The value determined as being the test result when only one test is required to satisfy a specified condition, or the average of the test results on two or more test portions of a lot, or a designated portion thereof.

Volume Change (VC) - The decrease in volume of the soil mass when the water content is reduced from a given percentage to the shrinkage limit.

Water-Cement Ratio - The ratio of the weight of water used, including free moisture in the aggregate, to the weight of cementitious material.

Other Definitions - Other applicable definitions as prepared by the Special Committee on Nomenclature and adopted by AASHTO.

S-700.03--Sampling and Testing. Sampling and testing for acceptance and control of materials may be performed at any time prior to incorporation in the work. Sampling and testing for control and acceptance of a work item will be performed progressively as sections of the work item are being constructed or completed, as applicable.

Unless otherwise designated, all tests will be made in accordance with applicable standard methods of AASHTO, ASTM, Federal Specifications, or approved Mississippi Test Methods in effect on the date of advertisement for bids.

S-700.04--Determination of Conformity. The determination of conformity with each required measurable characteristic under the intent of S-105.03 will be made in accordance with the following:

All test values or test results used to determine compliance will be rounded off to the nearest decimal point as expressed in the specification for the particular characteristic under consideration. Fractions beyond the point of rounding amounting to less than 0.50 will be dropped. Similar fractions amounting to more than 0.50 will be rounded off by increasing the last digit within the rounding. Similar fractions, amounting to even 0.50 will be rounded toward the specifications by dropping, or by increasing the last digit within the rounding, as applicable.

The various frames of materials or work will be divided into lots as specified for frequency of sampling and testing, as necessary.

In the case of borderline quality products or a demonstrated trend toward borderline quality products, the Engineer will require the Contractor to improve the quality of the materials or work to more nearly conform to the specifications and may require a suspension of the operations which have resulted in the borderline product or the trend toward borderline quality until such corrective measures have been taken as deemed necessary to produce the contemplated quality products.

All increments of tests for determination of acceptance will be taken by random sampling. However, during or as a result of visual inspection, the Engineer will take increments for testing for progress checks or spot checks at any time and place he may deem necessary to determine weak spots or other progress information. The results of any such progress or spot checks may be used to determine whether or not additional work or corrective action is considered necessary prior to acceptance testing.

Minimum and maximum requirements in these specifications are set out on the basis that the desirable average test value of the materials or work is appreciably above the minimum requirement or appreciably below the maximum requirement established.

S-700.05--Material Certifications and Certified Test Reports. All certifications and certified test reports shall meet the requirements set forth herein except.

S-700.05.1--Certifications. All certifications shall:

- (a) Have letterhead of the manufacturer, producer, supplier, or fabricator.
- (b) Include the project number.
- (c) Itemized list of materials covered by the certification.
- (d) Contain a material conformance statement which certifies that the materials conform to the specific specification requirements. Example: I/We hereby certify the materials listed herein conform to the requirements of S-714.13.
- (e) Signature of a responsible company official.

S-700.05.2--Certified Test Reports. All certified test reports shall:

- (a) Have letterhead of the manufacturer, producer, supplier, fabricator, or laboratory.
- (b) Include name and description of material, lot, batch or heat number, etc., as applicable.
- (d) Show results of each required test, and state that the test was run according to the test method specified.
- (e) Signature of the responsible laboratory official.

S-701 – Hydraulic Cement

S-701.00--General. The following requirements shall be applicable to hydraulic cement:

1. Different brands of cement, or the same brand of cement from different mills, shall not be mixed or used alternately in any one class of construction or structure, without written permission from the Engineer; except that this requirement will not be applicable to cement treatment of design soils, subbases, or bases.
2. The Contractor shall provide suitable means for storing and protecting the cement against dampness. Cement, which for any reason, has become partially set or which contains lumps of caked cement will be rejected. Cement salvaged from discarded or used bags shall not be used.
3. The temperature of bulk cement shall not be greater than 165°F at the time of incorporation in the mix.
4. One barrel (bbl) of cement shall be equivalent to four bags or 376 pounds.
5. Low-alkali cement, with maximum sodium and potassium oxides of 0.6%, will be furnished in all types.
6. Except when otherwise specified or prohibited, either Type I, IP or II portland cement shall be used. Type III portland cement may be used in the production of precast or prestressed concrete members.
7. Acceptance of hydraulic cement will be based on the certification program and job control sampling and testing as established in the SOP.
8. Retests of cement may be made for soundness and expansion within 28 days of test failure and, if the cement passes, it may be accepted. Cement shall not be rejected due to failure to meet the fineness requirements if upon retests after drying at 100°C for one hour, it meets such requirements.

S-701.01--Portland Cement. Portland cement shall conform to the requirements of AASHTO Designation: M 85 with the following exceptions:

The maximum values for the fineness of the grind as set out in Table 2 of AASHTO M 85 are hereby waived for Type I cement to be used in the production of prestressed concrete members.

When Portland cement concrete or cement for soil stabilization is exposed to moderate or severe soluble sulfates, or to seawater, cement types and/or replacement of cement by Class F fly ash (FA) or ground granulated blast furnace slag (GGBFS) shall be as follows:

Cementitious Materials for Soluble Sulfate Conditions

Sulfate Exposure	Water-soluble sulfate (SO ₄) in soil, % by mass	Sulfate (SO ₄) in water, ppm	Cementitious material required
Moderate and Seawater	0.10 - 0.20	150 - 1500	Type II cement or Type I cement with 25% Class F, FA or 50% GGBFS replacement
Severe	0.20 - 2.00	1500 - 10,000	Type II cement with 25% Class F, FA or 50% GGBFS replacement

S-701.02--Masonry Cement. Masonry cement shall conform to S-701.00 and ASTM Designation: C 91.

S-701.03--Blended Hydraulic Cement. When permitted in the contract, blended hydraulic cement shall conform to S-701.00 and AASHTO Designation: M 240.

SECTION S-702 - BITUMINOUS MATERIALS

S-702.00--Bituminous Materials.

S-702.01--General. Bituminous materials shall include asphalt cement, cutback asphalt, or emulsified asphalt and shall meet the requirements of the applicable specifications. The material furnished for any item in any one contract shall be of one brand, type, and grade, unless special permission is obtained otherwise. Materials furnished shall exhibit uniform characteristics.

When more than one grade of material is called for under any item, the Contractor, with the approval of the Engineer, will select the grade to be used.

All testing will be performed in accordance with applicable AASHTO methods unless specifically modified by a Mississippi Test Method (MT____).

Bituminous material shall not be heated during the process of its manufacture, or during construction, to a temperature which causes injury as evidenced by the formation of carbonized particles.

Bituminous material wasted through careless handling or material that has been rendered unfit for use by overheating or long continued heating will not be paid for, and the use of such unfit material will not be permitted.

S-702.02--Measurement. Volumetric measurement of bituminous materials by the U.S. gallon will be based upon a temperature of 60°F. Corrections to this temperature for asphalt cement, cutback asphalts and emulsified asphalt will be made in accordance with the Temperature Correction Tables set out in the MDOT State Aid Standard Operating Procedures.

For purposes of measurement, a U.S. gallon shall be a volume of 231 cubic inches.

When bituminous material is to be paid for by the gallon, the distributor tank(s) or storage tank(s), as applicable, to be used for measurement shall be calibrated by an agency and in a manner approved by MDOT. Each tank shall have an identifying serial number on a steel plate welded or riveted to the tank. In the event the Contractor does not have a calibration chart, previously made by an approved agency, Contractor should perform the calibration and furnish required charts.

The measurements shall be taken when the bituminous material is of a uniform temperature and free of air bubbles. In no case shall the total number of gallons of bituminous material allowed for a tank exceed the capacity of the tank as rated by either the U. S. Interstate Commerce Commission, the State Tax Commission, or MDOT.

S-702.03--Heating Bituminous Material. Tanks for heating and storage of bituminous materials shall be capable of heating the material to the specified temperature under effective and positive control at all times. The heating system shall provide uniform heating for the entire contents of the tank. The circulating system shall be adequate to insure proper and continuous circulation of the material during the entire operating period. Suitable means shall be provided, either by steamjacketing or other insulation, for maintaining the specified temperature of the bituminous material in the lines, meters, weigh buckets, spray bars, and other containers or flow lines.

Thermometers of approved type and adequate range, calibrated in 5°F increments, shall be located at points readily visible. These thermometers shall be kept clean and in good condition at all times.

Where storage tanks are required, the capacity shall be sufficient for at least one day's run.

The heating of bituminous materials shall be rigidly maintained at the "lowest workable temperature."

S-702.04--Sampling. Sampling of bituminous materials will be in accordance with AASHTO Designation: T 40.

S-702.05--Petroleum Asphalt Cement. Asphalt cement shall be homogeneous, free of water and shall not foam when heated to a temperature of 175°C.

Except for use in hot mix asphalt, asphalt cement of the grade specified shall conform to the requirements of S-702.12, Table I or II.

Bituminous material conforming to AASHTO Designation: M 320, Grade PG 58-28 may be used in lieu of petroleum asphalt cement, Grade AC-10.

The bituminous material used in all types of hot mix asphalt shall conform to AASHTO Designation: M 320, Performance Grade PG 67-22, as modified in the table below, except when otherwise specified or when polymer modified hot mix asphalt is specified.

Specifications For Performance Graded Asphalt Binders Not Addressed By AASHTO M 320

	Grade	
Property	PG 67-22	
	Specification	Test Method, ASSHTO
Original Binder		
Flash Point Temperature	minimum 230°C	T 48
Rotational Viscosity	maximum 3 Pa·s @ 135°C	T 316
Dynamic Shear, G*/sin δ	minimum 1.00 kPa @ 67°C	T 315
Rolling Thin Film Oven Residue (AASHTO Designation: T 240)		
Mass Loss (RTFO)	maximum 1.00 %	T 240
Dynamic Shear, G*/sin δ	minimum 2.20 kPa @ 67°C	T 315
Pressure Aging Vessel Residue (AASHTO Designation: PP1)		
Dynamic Shear, G* sin δ	maximum 5000 kPa @ 26.5°C	T 315
Creep Stiffness, S	maximum 300 MPa @ -12°C	T 313
m-value	minimum 0.300 @ -12°C	T 313

The bituminous material used in polymer modified hot mix asphalt shall conform to AASHTO Designation: M 320, Grade PG 76-22 or PG 82-22. Unless otherwise indicated in the contract, Grade PG 76-22 will be used in polymer modified hot mix asphalt.

Asphalt cement Grade PG 76-22 & PG 82-22 shall be the product resulting from the addition of a polymer modifier to a PG 67-22 or lower grade asphalt cement and not by some other refining technique. The polymer shall meet the requirements of S-702.08.3.

S-702.06--Cutback Asphalts. Cutback asphalt shall consist of a liquid asphalt produced by the fluxing of an asphaltic base with a suitable distillate. It shall be of uniform consistency, free of water, and shall show no separation or curdling prior to use; and shall conform to the following requirements.

S-702.06.1--Rapid-Curing Cutback Asphalt. AASHTO Designation: M 81.

S-702.06.2--Medium-Curing Cutback Asphalt. AASHTO Designation: M 82. The standard naphtha solvent

shall be used when the spot test is performed.

S-702.07--Emulsified Asphalt. Emulsified asphalt shall be homogeneous, showing no separation of asphalt, limits for settlement excepted, after thorough mixing, within 30 days after delivery.

Emulsified asphalts which have been subjected to freezing temperatures while in storage shall be retested and acceptance of the material shall be based on the results of such retest.

Emulsified asphalts, of the grade specified, shall conform to the following requirements:

S-702.07.1--Emulsified Primes. Emulsified Primes shall conform to the requirements of S-702.12, Table III.

S-702.07.2--Anionic and Cationic. Anionic and Cationic Emulsion shall conform to the requirements of AASHTO Designation: M 140 and AASHTO Designation: M 208, respectively, with the following exceptions.

Exception: The required tests on residue may be performed on residue obtained by evaporation at 325°F., three hours, 50 grams, after filtering through a No. 50 sieve; however, in the event of the failure of any test performed on this residue, the emulsion shall be distilled and the test repeated on the residue so obtained.

S-702.07.3--Polymer Modified Cationic Emulsified Asphalt (CRS-2P). Polymer Modified Cationic Emulsified Asphalt shall conform to the requirements of AASHTO Designation: M 316.

S-702.08--Asphalt Additives.

S-702.08.1--Asphalt Antistrip Additives. The antistrip additive shall meet the following properties:

1. The bituminous mixture (with antistrip additive) when tested in accordance with Mississippi Test Method MT-63, shall yield a minimum Tensile Strength Ratio (TSR) of 85 and must show an increase in indirect tensile strength for a water conditioned specimen; and by visual examination of the interior faces of the water conditioned specimen, the proportion of stripped aggregate particles shall not exceed five (5) percent.
2. The rate of application shall be determined for each job-mix formula during the mix design process using Mississippi Test Method MT-63.

3. A stripping test, MT-63, will be performed for each job-mix formula at the beginning of plant production and thereafter, no less than one test per two week's production. A minimum of one stripping test per day of production according to Mississippi Test Method MT-59 shall also be conducted. Should either the TSR (MT-63) or the boiling water (MT-59) stripping test fail, a new antistrip rate shall be established or other changes made immediately that will result in a mixture which conforms to the specifications; otherwise, production shall be suspended until corrections are made.

The antistrip additive shall not present any difficulties in mixing of the liquid asphalt with the particular aggregates proposed for use.

The liquid asphalt and antistrip agent mixture shall meet the viscosity requirements for the grade of liquid asphalt used in the paving mix.

S-702.08.2--Silicone. When specified or permitted, silicone with a viscosity of 1,000 centistokes at 77°F shall be added to the asphalt cement at the rate of one ounce per 5,000 gallons.

S-702.08.3--Polymers. The polymer shall be a Styrene Butadiene Styrene (SBS), a Styrene Butadiene Rubber (SBR) or an equal approved by the Engineer. The polymer shall be thoroughly blended with the asphalt cement at the refinery or terminal prior to shipment to the hot-mix plant. Producers of polymer modified asphalt cement must be listed on MDOT's Approved List of Suppliers of Polymer Modified Asphalt Cement. The producer of the polymer modified asphalt cement shall perform or have performed by an approved laboratory all tests contained in AASHTO Designation: M 320 on a lot basis. A lot shall consist of one (1) refinery or terminal storage tank not to exceed

225,000 gallons. The Producer shall furnish two copies of a certified test report (one copy for the Contractor and one copy for the Engineer) with each shipment. The certified test report shall contain the following:

4. Test results showing complete conformance to AASHTO Designation: M 320.
5. Type and percentage of polymer added.
6. A statement certifying that the transport vehicle was inspected prior to loading and was found to be empty.
7. A statement certifying that the shipment conforms to Mississippi Department of Transportation specifications for the grade of polymer modified asphalt cement specified.
8. A copy of the temperature-viscosity curve attached to the certified test report.

Crumb rubber used as a polymer modifier shall meet the following additional requirements:

Crumb rubber shall be produced by ambient grinding methods. The rubber shall be sufficiently dry so as to be free flowing and to prevent foaming when mixed with asphalt cement. The rubber shall be free of contaminants including fabric, metal, minerals and other non-rubber substances. Up to four percent, by weight of rubber, of talc, such as magnesium silicate or calcium carbonate, may be added to prevent sticking and caking of the particles.

The crumb rubber shall be tested in accordance with AASHTO Designation: T 27 with the following exceptions: a 100-gram sample size and up to 25% dusting agent (talc). Rubber balls may also be used to aid in the sieving of finely ground rubber. The resulting rubber gradation shall meet the gradation limits shown herein.

<u>Gradations of Crumb Rubber Type A</u>	
<u>Sieve Size</u>	<u>% Passing</u>
10	--
20	--
30	--
40	100
60	98-100
80	90-100
100	70-90
200	35-60

The specific gravity of the rubber shall be 1.15 ± 0.05 when tested in accordance with ASTM Designation: D 297, pycnometer method.

The moisture content shall be determined in accordance with AASHTO Designation: T 255, with the exception that the oven temperature shall be $140 \pm 5^\circ\text{F}$ and the weight of the sample shall be 50 grams. The moisture content shall not exceed 0.75% by weight.

No more than 0.01% metal particles shall be detected when thoroughly passing a magnet through a 50-gram sample.

The chemical composition of the crumb rubber shall be determined in accordance with ASTM Designation: D 297 and shall meet the following requirements:

Acetone Extract	Maximum 25 percent
Rubber Hydrocarbon Content	40 to 55 percent
Ash Content	Maximum 10 percent
Carbon Black Content	20 to 40 percent
Natural Rubber	16 to 34 percent

Crumb rubber meeting these specifications shall be supplied in moisture resistant packaging such as either disposal bags or other appropriate bulk containers. Each container or bag of crumb rubber shall be labeled with the manufacturer's designation for the rubber and the specific type, maximum nominal size, weight and manufacturer's batch or lot designation.

The producer of the polymer modified asphalt cement shall furnish the Engineer one copy of the manufacturer's certified test results covering each shipment of crumb rubber. These reports shall indicate the results of tests required by this specification. The reports shall also include a certification that the material conforms with the specifications, and shall be identified by manufacturer's batch or lot number.

S-702.09 and S-702.10--Blank.

S-702.11--Application Temperatures. Bituminous materials for the several applications indicated in the specifications shall be applied within the temperature ranges shown in S-702.12, Table IV.

S-702.12--Tables.

TABLE I
SPECIFICATIONS FOR ASPHALT CEMENT (PETROLEUM)

Test	*AC-5		AC-10		**AC-13	
	Min.	Max.	Min.	Max.	Min.	Max.
Viscosity @ 140°F, poises	400	600	800	1200		
Viscosity @ 140°F, poises	175	--	240	--		
Penetration @ 32°F					25	
Penetration @ 77°F, 100g, 5 sec.	140	--	80	—	65	90
Penetration @ 115°F						325
Flash Point COC, °F	400	--	425	—	450	--
Solubility in Trichloroethylene	99.0	--	99.0	—	99.0	--
Tests on Residue from Thin-Film Oven Test:						
Viscosity, 140°F, poises	---	2250	—	4500		
Ductility, 77°F, 5 cm per min. cm.	100	—	100	—	75	--
% Loss on Heating	---	1.0	---	0.5	—	0.5
Specific Gravity @ 60°F/60°F					1.0	
Spot Test: Standard Naphtha Solvent		Negative for all Grades ***				
Softening Point, °F (R & B)					110	

NOTES: * When cut-back asphalt cement is to be produced as specified in S-702.06, this material shall be the base asphalt.

** This is an asphaltic material used primarily for sealing joints and cracks.

*** If positive, the test must be rerun with a solution of 75% naphtha and 25% xylene.

TABLE II
SPECIFICATIONS FOR ASPHALT CEMENT (PETROLEUM) (Continued)

Test	*AC-5		AC-10		**AC-13	
	Min.	Max.	Min.	Max.	Min.	Max.
Viscosity @ 140°F (60°C), poises	1600	2400	2400	3600	3200	--
Viscosity @ 275°F (135°C), C _S	300	—	350	—	350	
Penetration @ 32°F (0°C)						--
Penetration @ 77°F (25°C) 100g, 5 sec.	60	--	50	—	40	--
Penetration @ 115°F (46°C)						
Flash Point COC, °F	450	--	450	—	450	--
Solubility in Trichloroethylene	99.0	—	99.0	—	99.0	--
Tests on Residue from Thin-Film Oven Test:						
Viscosity, 140°F (60°C), poises	---	9000	—	13500	—	18000
Ductility, 77°F (25°C), 5 cm / min., cm.	80	—	60	—	40	--
% Loss on Heating	---	0.5	---	0.5	—	0.5
Specific Gravity @ 60°F/60°F						
Spot Test: Standard Naphtha Solvent		Negative for all Grades *				
Softening Point, °F (R & B)						

NOTES: * If positive, the test must be rerun with a solution of 75% naphtha and 25% xylene.

TABLE III
SPECIFICATION FOR EA-1 PRIME

Test Requirements	Minimum	Maximum
Furol Viscosity @ 122°F	30	100
Water Content Xylene Distillation, %	3	8
Test on Residue from Distillation		
Ductility @ 77°F, cms.	40	
Solubility in Trichloroethylene, %	97.0	
Asphalt Cement, % of Total Primer	50.0	
Penetration @ 77°F, 100 g., 5 sec.	80	300

SPECIFICATION FOR AE-P PRIME

Test Requirements	Min.	Max.	AASHTO Test Method
25°C SFS Viscosity, sec.	10	50	T-59
5-Day Settlement, %	--	5	T-59
Total Distillate, % weight	--	55	T-59
Oil Distillate, % volume	--	12	T-59
Tests on Residue from Distillation: Distillation to 500°F (AASHTO T-59)			
60°C Float Test, sec.	20	--	T-50
Solubility in TCE, %	97.5	--	T-44

TABLE IV
WORKING TEMPERATURES FOR BITUMINOUS MATERIALS

Bituminous Materials	Temperature, °F			
	Spraying		Mixing	
	Min.	Max.	Min.	Max.
Asphalt All Cements	275	350	225	350
Cutback Asphalts RC & MC				
30	80	150	60	105
70	80	150	95	140
250	100	200	135	175
800	195	270	165	205
3000	235	300	200	240

S-703 -- Aggregates

S-703.01--General. All aggregate sources shall be approved by the Engineer prior to use. All approved aggregate sources will be re-examined periodically for conformance to the quality requirements set herein.

When reference is made to the Los Angeles Test (AASHTO Designation: T 96), the percentage of wear is based on 500 revolutions, unless otherwise specified.

The term "thin or elongated piece" is intended to mean a piece whose length is more than five times its average thickness. Suspected pieces will be chosen from a representative sample, and the length and average thickness will be determined visually.

The term "fractured face" is intended to mean that the approximate area of a fractured face shall not be less than the approximate cross-sectional area at the minor axis of the particle: This area will be visually determined. A piece of aggregate with a small chipped area will not be considered as crushed.

These general provisions shall apply, as applicable, to all the subsections of this section.

S-703.02--Fine Aggregate For Portland Cement Concrete.

S-703.02.1--General Requirements. Fine aggregate for portland cement concrete used in construction of culverts, headwalls, retaining walls, steps, or other minor structures shall consist of natural sand or manufactured limestone sand. Fine aggregate used in major construction, such as concrete pavements and bridges, shall be natural sand unless otherwise designated on the plans or in the special provisions. Natural sand, or manufactured limestone sand, shall be composed of clean, hard, durable, and uncoated particles free of deleterious substances and organic impurities. Fine aggregate from more than one source shall not be used alternately, or mixed, without the written consent of the Engineer. Approval of fine aggregate sources will be based on the following:

- (1) Soundness of aggregates shall meet the requirements set-out in S-703.02.2.3.
- (2) Expansion of mortar bars shall not exceed 0.5% in six months or 1.0% in one year when tested in accordance with ASTM Designation: C 227.

A source of sand may be rejected if experience proves that concrete made from the source does not have a satisfactory service record.

Unless indicated otherwise, fine aggregate shall meet the requirements hereinafter specified.

S-703.02.2--Detail Requirements.

S-703.02.2.1--Deleterious Substances. The quantity of deleterious substances shall not exceed the following limits:

<u>Deleterious Substances</u>	<u>Maximum Permissible Limits (% by Weight)</u>
Clay lumps	0.3
Coal and Lignite (see Note)	0.5
Material Passing the No. 200 sieve	2.0
Other deleterious substances such as shale, alkali, mica, coated grains, and soft and flaky particles	2.0
Total shale, coal, lignite, clay lumps, and other deleterious substances	3.0

Note: No coal or lignite will be permitted in the aggregate used for constructing superstructures of bridges.

S-703.02.2.2--Gradation Requirements. Fine aggregate for concrete shall be well graded from coarse to fine and shall conform to the following:

<u>Square Mesh Sieve</u>	<u>Percent Passing by Weight</u>
1/2 inch	100
3/8 inch	97-100
No. 4	92-100
No. 8	75-100
No. 16	45-90
No. 30	25-70
No. 50	3-35
No. 100	0-10

S-703.02.2.3--Soundness. When subjected to five cycles of soundness test by the use of magnesium sulfate (AASHTO Designation: T 104), the weighed percentage of loss shall not be more than 15.

S-703.02.2.4--Additional Requirements. Fine aggregate shall also meet the organic impurities and mortar-making properties specified in AASHTO Designation: M 6.

S-703.03--Coarse Aggregate For Portland Cement Concrete.

S-703.03.1--General Requirements. Coarse aggregate shall consist of gravel or crushed limestone unless otherwise designated or permitted on the plans or in special provisions.

The gravel or crushed limestone shall be hard, durable particles that are thoroughly clean, free from adherent coatings of injurious character, and reasonably free of soft or disintegrated pieces, frozen lumps, vegetable, or other deleterious matter. Coarse aggregate from more than one source shall not be used alternately, or mixed, without the written approval of the Engineer. Approval of coarse aggregate sources will be based on the following:

- (1) Soundness of aggregates shall meet the requirements set out in S-703.03.2.3.
- (2) Resistance to abrasion shall meet the requirements set out in S-703.03.2.2.
- (3) Expansion of mortar bars shall not exceed 0.5% in six months or 1.0% in one year when tested in accordance with ASTM Designation: C 227.

A source of coarse aggregate may be rejected if experience proves that concrete made from the source does not have a satisfactory service record.

S-703.03.2--Detail Requirements.

S-703.03.2.1--Deleterious Substances. The quantity of deleterious substances shall not exceed the following maximum limits:

Deleterious Substance	For General Use	For Bridge Superstructures
	(Percent by Weight)	
Shale	1.00	1.00
Coal, Lignite, or combination of the two	0.5	None
Clay lumps	0.3	0.3
Material passing the No 200 sieve:		
Limestone	1.5	1.5
Other Materials	1.0	1.0
Thin or elongated pieces		
(S-703.01) Soft fragments Free	15.0	15.0
Shells	3.0	3.0
Sticks (oven-dry)	1.0	1.0
Shale, coal, lignite, clay lumps, and soft fragments, total	None	None
Other deleterious substances	3.0	2.5
	1.0	1.0

S-703.03.2.2--Percentage of Wear. When coarse aggregate is subjected to the Test for Abrasion of Coarse Aggregate, AASHTO Designation: T 96, the percentage of wear shall not be more than 40.

S-703.03.2.3--Soundness. When subjected to five cycles of soundness test by the use of magnesium sulfate, the weighted percentage of loss shall not be more than 15.

S-703.03.2.4--Gradation. Coarse aggregate for cement concrete, of the type designated, shall be well-graded from coarse to fine, and shall conform to the following:

Table of Sizes and Gradation of Coarse Aggregate for Portland Cement Concrete

Square Mesh Sieves	Percent Passing (by Weight)			
	Size No. 467	Size No. 57	Size No. 67	Size No. 7
2 inch	100			
1-1/2 inch	95-100	100		
1-1/4 inch *				
1 inch		80-100	100	
3/4 inch	35-70		80-100	100
1/2 inch		25-60		90-100
3/8 inch	10-30		20-55	40-70
No. 4	0-5	0-10	0-10	0-15
No. 8		0-5	0-5	0-5

*NOTE: A maximum tolerance of three percent retained on the one-inch sieve will be allowed for aggregate Size No. 67 provided all of the material passes a one and one-fourth-inch sieve. This tolerance is not applicable for Class F and Class FX Concrete.

The gradation from any one source shall be reasonably uniform and not subject to the extreme limits of gradation shown in the table.

For the purpose of determining the degree of uniformity, a fineness modulus determination will be made upon representative samples from the sources proposed for use by the Contractor. Coarse aggregate from any one source, having a variation in fineness modulus greater than 0.20 from the approved base modulus of the source may be rejected or may be accepted subject to changes in the proportions used, as directed.

S-703.04--Aggregate for Crushed Stone Courses.

S-703.04.1--Coarse Aggregate. Coarse aggregate, defined as material retained on No.8 sieve, shall be either crushed stone, slag, granite, shell; gravel, or combination thereof. When the required properties of the mix are not obtained with uncrushed gravel, the addition of crushed gravel or other approved material is required.

Individual sources of coarse aggregate shall conform to the following quality requirements:

Percentage of wear shall not exceed 45 when tested in accordance with AASHTO Designation: T 96.

The coarse aggregate shall have a minimum dry rodded unit weight of 70 pounds per cubic foot when tested in accordance with AASHTO Designation: T 19.

S-703.04.2--Fine Aggregate. Fine aggregate, defined as material passing no. 8 sieve, shall consist of hard, durable particles of naturally disintegrated rock, or material obtained by crushing stone, slag, gravel or combination thereof. Fine aggregate, when manufactured, shall be manufactured from material meeting the quality requirements for coarse aggregate, and it shall be free of lumps of clay and friable particles, loam, organic or foreign matter.

Individual sources of fine aggregate shall be non-plastic when tested in accordance with AASHTO Designation: T 90.

Natural deposits of fine aggregate shall contain no more than 10 percent by weight passing the No. 200 sieve when tested in accordance with AASHTO Designation: T 11.

Fly ash, when used as a portion of the fine aggregate to obtain desired properties of the mixture, shall be from an approved source.

When the fine aggregate is combined with other aggregate fractions in the proper proportion, the resultant mixture shall meet the requirements of S-703.04.3 and the job-mix formula.

S-703.04.3-Gradation. Aggregates for crushed stone shall be well-graded from coarse to fine, and shall conform to the following:

TABLE OF SIZES AND GRADATION OF CRUSHED STONE AGGREGATE

Sieve Size	Percent Passing by Weight		
	Size ¾ inch and Down	Size No. 610	Size No. 825 B
2 inch			100
1 1/2 inch		100	90 - 100
1 inch	100	90 - 100	75 - 98
¾ inch		70 - 100	
1/2 inch		62 - 90	60 - 85
3/8 inch	50 - 85	50 - 80	
No. 4	35 - 65	40 - 65	40 - 70
No. 8			28 - 54
No. 10	25 - 50		
No. 16			19 - 42
No. 40	15 - 30	12 - 26	
No. 50			9 - 32
No. 200	5 - 15	5 - 12	4 - 18

S-703.05--- Blank.

S-703.06--Aggregates for Hot Mix Asphalt.

S-703.06.1--Coarse Aggregates. Coarse aggregate, material retained on the No. 8 sieve, shall be either crushed stone, slag, or granite; shell; expanded clay; expanded shale; crushed gravel or combination thereof. Crushed reclaimed concrete pavement shall also be allowed as a coarse aggregate provided it meets the quality requirements below and the final product produced therefrom meets all other specification requirements.

The percentage of wear shall not exceed 45 when tested in accordance with AASHTO Designation: T 96.

When tested in accordance with AASHTO Designation: T 19, the dry rodded unit weight of all aggregates except expanded clay and shale shall not be less than 70 pounds per cubic foot, and crushed slag used in the surface course shall have a dry rodded unit weight of not more than 90 pounds per cubic foot except the maximum unit weight is waived for chromium slag.

The coarse aggregate shall be free of any injurious coating which will prohibit the adherence of asphalt to the aggregate particles.

The percentage of loss shall not exceed 20 when tested for soundness using magnesium sulfate in accordance with AASHTO T 104.

Shell shall consist of durable, washed particles of dead clam or dead reef oyster shell, or combination thereof. The shell shall be free of objectionable matter such as sticks, mud, clay lumps, cannery or live shell, or other deleterious matter. Not more than five percent by weight of the dredged material shall pass the No. 200 sieve; any such material shall be dispersed throughout the mass.

S-703.06.2--Fine Aggregates. Fine aggregate, material passing the No. 8 sieve, shall consist of hard, durable particles of naturally disintegrated rock, or material obtained by crushing stone, slag, gravel, reclaimed concrete pavement, or combinations thereof. Fine aggregate produce from crushing reclaimed concrete pavement shall be manufactured from material meeting the quality requirements for coarse aggregate.

Fine aggregate shall be free of lumps of clay and friable particles, loam, organic or foreign matter.

Fine aggregate produced by crushing stone, slag or gravel shall be manufactured from aggregate meeting the quality requirements of coarse aggregate.

Individual sources of fine aggregate shall be non-plastic when tested in accordance with AASHTO Designation: T 90.

Natural deposits of fine aggregate shall contain no more than 10 percent by weight passing the No. 200 sieve when tested in accordance with AASHTO Designation: T 11.

Individual fine aggregate components shall be of such consistency and dryness that a uniform and even flow from the cold feed will be provided.

Fly ash shall not be used in hot mix asphalt pavements.

S-703.07--Granular Materials.

S-703.07.1--General. Granular materials shall be composed of a natural or manufactured mixture of soil binder and sand; soil binder, sand and gravel; stone; slag; or combinations thereof. The mixture shall have satisfactory cementing qualities and shall be homogeneous in character and reasonably free of clay balls, vegetable matter, or other deleterious substances that cannot be classed as serviceable.

To insure adequate soil drainage through the shoulders, no material used above the design soil in the construction of shoulders shall have a minus No. 200 sieve fraction, liquid limit, or plasticity index appreciably exceeding like characteristics in the adjacent subbase or base courses.

S-703.07.1.1--Fine Aggregate (Portion Passing The No. 10 Sieve). The fine aggregate shall be composed of a natural or artificial mixture of soil binder and granular material.

The soil binder shall be clay or silt or other materials, or combinations thereof having satisfactory cementing qualities, homogeneous in character, and reasonably free of vegetable matter, clay balls, or other deleterious substances that cannot be classed as serviceable. The granular portion shall be composed of sand, stone, or slag screening and shall be hard and durable and preferably sharp.

S-703.07.1.2--Coarse Aggregate (Portion Retained on the No. 10 Sieve). The coarse aggregate shall be composed of gravel, stone, slag, or combinations thereof, and shall consist of hard, durable particles reasonably free of vegetable matter or other deleterious substances. Materials that break up and weather rapidly when alternately frozen and thawed or wetted and dried shall not be used.

Coarse aggregate, when tested in accordance with AASHTO Designation: T 96, shall have a percentage of wear not to exceed 50.

S-703.07.2--Gradation. The gradations shown in the following tables are the maxima and minima for all sources, and the gradation from any one source shall be reasonably uniform and not subject to the extreme limits in the tables. It shall be the responsibility of the Contractor to furnish a material which will have sufficient silt and clay, within the ranges permitted in the tables, to insure that the material will, when processed as specified, bind together and form a stable course and will, when properly compacted, have the required density.

The gradation of the composite mixture shall meet the applicable requirements of the following tables:

Percentage (by weight) Passing Square Mesh Sieves

Class	1 & 2	3 & 4	5 & 6	7	8	9	10
Passing							
3 inch	100	100	100	100	100	100	100
1-1/2 inch	85-100	85-100	85-100				
1 inch	65-100	65-100	65-100				
1/2 inch	35-90	35-90	35-100				
No. 4	30-70	30-75	30-85				
No. 10	30-50	30-57	30-65	30-100	30-100	30-100	30-100

Note: The minimum percentage passing the No. 10 sieve may be lowered to 25% by the Engineer if proper placement characteristics and stability can be obtained by the coarser gradation.

Material Passing the No. 10 Sieve

Class	1	2	3	4	5	6	7	8	9	10
No. 10	100	100	100	100	100	100	100	100	100	100
No. 40	20-80	20-90	20-90	20-90	20-100	20-100	40-80	20-85	20-100	20-100
No. 60	15-70	15-80	15-80	15-80	15-80	15-80	30-70	15-70	15-85	15-100
No. 200	8-40	6-40	8-40	6-40	8-40	6-40	10-40	8-40	6-40	8-60

Material Passing the No. 40 Sieve shall meet the following:

Group Symbol	LL Max.	PI	
		Min.	Max.
A B C	25		6
**D	25		8
**E	30		10
	35		15
	35	6	15

General Note: Material will be designated in the contract by Class _____, Group _____.

- ** In the case of Group D material, the range of PI shall be no more than nine in any half-mile section. When Group E material is specified in the contract, that portion to be treated with cement may be less plastic or non-plastic except that the range in PI shall be no more than nine in any half-mile section.

S-703.07.3--Sampling and Testing. The material shall be sampled and tested as outlined in S-700.03.

S-703.08--Mechanically Stabilized Courses. Specified aggregates meeting the requirements of S-703.20 when combined with soils or other aggregates as required will be tested for gradation and plasticity of the composite mixture.

In the case of gravel, stone, or slag aggregates or combinations thereof, the composite mixture will be designated in the contract as Type A, Type B, or Type C. In the case of reef shell or clam shell aggregates or combinations thereof, the composite mixture will be designated in the contract as Type D.

The composite mechanically stabilized mixture of the type and group specified in the contract shall meet the following requirements:

Percentage (by weight) Passing Square Mesh Sieves				
Type	A	B	C	D
3 inch	100	100	100	95 - 100
1-1/2 inch	85 - 100	85 - 100	85 - 100	
1 inch	65 - 100	65 - 100	65 - 100	
1/2 inch	35 - 90	35 - 90	35 - 100	
No. 4	30 - 70	30 - 75	30 - 85	
No. 10	30 - 50	30 - 57	30 - 65	55 (Max.)
No. 40				

Material Passing the No. 40 Sieve shall meet the following:

Group Symbol	LL Max.	PI	
		Min.	Max.
A B C	25	6	6
**D	25		8
**E	30		10
	35		15
	35	6	15

Note: Desired product will be designated in the contract as Type _____, Group _____

- ** In the case of Group D material, the range of PI shall be no more than nine in any half-mile section. When Group E material is specified in the contract, that portion to be treated with cement may be less plastic or non-plastic except that the range in PI shall be no more than nine in any half-mile section.

S-703.09 thru S-703.13 -- Blank.

S-703.14--Aggregate for Bituminous Surface Treatments.

S-703.14.1--General Requirements. Aggregate for bituminous surface treatments and liquid seals shall consist of crushed stone, crushed slag, gravel, or expanded clay as specified in the contract.

Only one kind and type of aggregate shall be used on a single course unless otherwise authorized in writing by the Engineer.

S-703.14.2--Detail Requirements.

S-703.14.2.1--Gradation. Aggregates shall conform to the gradation requirements contained in the following table:

GRADATION REQUIREMENTS FOR COVER AGGREGATE

Square Mesh Sieve	Coarse Aggregate Cover Material			Seal Aggregate Cover Material			
	Slag, Stone, Granite or Gravel (Crushed or Uncrushed)			Slag, Stone, Granite or Crushed Gravel		Slag or Expanded Clay	
	Size No. 5	Size No. 56	Size No. 6	Size No. 7	Size No. 89	Size No. 7	Size No. 8
Percent Passing Square Opening Sieves							
1 1/2 inch	100	100					
1 inch	90-100	90-100	100				
3/4 inch	20-55	40-85	90-100	100		100	
1/2 inch	0-10	10-40	20-55	90-100	100	90-100	100
3/8 inch	0-5	0-15	0-15	40-85	90-100	40-85	85-100
No. 4		0-5	0-5	0-15	20-55	0-15	10-30
No. 8				0-5	5-30	0-5	0-10
No.16					0-10	0-5	0-5

The size coarse aggregate cover material and the size seal aggregate cover material shall be as specified in the bid schedule of the contract; however, only one type of aggregate shall be used unless otherwise authorized by the Engineer in writing.

S-703.14.2.2--All Materials. The quantity of deleterious substances shall not exceed the limits set out in S-703.03.2.1 for general use.

When subjected to five cycles of Soundness Test for Coarse Aggregate by use of magnesium sulfate, the weighted percentage of loss shall not be more than 15.

The percentage of wear, when tested for abrasion in accordance with AASHTO Designation: T 96, shall not be more than 40%.

S-703.14.2.3--Crushed Stone. Crushed stone shall consist of clean, tough, durable, uncoated fragments free from an excess of soft or disintegrated pieces.

S-703.14.2.4--Crushed Slag. Crushed slag shall be air-cooled slag consisting of angular fragments, reasonably uniform in density and quality, and reasonably free of dirt or other objectionable matter. Crushed slag shall have a

dry-rodded weight of 70 to 90 pounds per cubic foot when tested in accordance with AASHTO Designation: T 19 and shall not contain more than 10 percent by weight of glassy particles. The maximum unit weight is waived for chromium slag.

S-703.14.2.5--Crushed Gravel. Crushed gravel shall be composed of clean, tough, durable particles of gravel, free from excess dirt or other objectionable matter. At least 85% by weight of the particles retained on the No. 10 sieve shall have one or more fractured faces.

S-703.14.2.6--Uncrushed Gravel. Uncrushed gravel shall be composed of clean, tough, durable particles free from excess vegetable or other objectionable matter. It shall meet the requirements specified above for all materials as to deleterious substances.

S-703.14.2.7--Expanded Clay. Expanded clay aggregate shall be the product of a plant approved by the Engineer. It shall conform to the gradation requirements in the preceding table and to requirements of ASTM Designation: C 330, with the following exception: The loss by abrasion shall not be more than 40% when subjected to the Los Angeles Abrasion Test, AASHTO Designation: T 96.

When used for sealing joints, the soundness and abrasion requirements will be waived.

S-703.15--Blank.

S-703.16--Mineral Filler. Mineral filler shall consist of shell dust, limestone dust, portland cement, or other calcareous type materials having a high affinity for asphalt. The source of the material shall be approved by the Engineer.

Mineral filler shall meet the following gradation requirements:

Passing the No. 30 sieve, %	100
Passing the No. 50 sieve, not less than, %	95
Passing the No. 200 sieve, not less than, %	65

S-703.17--Blank.

S-703.18--Mortar Sand. Sand for mortar shall consist of hard, strong, durable, uncoated mineral or rock particles, free of injurious amounts of organic or other deleterious substances. It shall not contain, by weight, more than three percent clay or inorganic silt or combination thereof.

Mortar sand shall be uniformly graded from coarse to fine within the following limits:

<u>Sieve Size</u>	<u>% Passing</u>
No. 4	100
No. 8	97-100
No. 50	8-40
No. 100	0-10
No. 200	0-5

Mortar sand shall meet other requirements of AASHTO Designation: M 45.

S-703.19--Blank.

S-703.20--Aggregate for Stabilizer.

S-703.20.1--General Requirements. The material for stabilizer aggregate shall meet the requirements hereinafter specified for each type.

The gradation limits shown below are the maxima and minima for all cases, and a closer control appropriate to the job materials will be required for the specific project. Each type of aggregate shall be uniformly graded from coarse to fine. Skip-graded material will not be acceptable.

S-703.20.2--Detail Requirements.

S-703.20.2.1--Gravel, Stone, or Slag Coarse Stabilizer. Gravel or stone shall be composed of hard, tough, durable particles reasonably free of injurious or deleterious substances. The percentage of wear, when tested in accordance with AASHTO Designation: T 96, shall not exceed 50%. Slag shall be air-cooled slag, consisting of angular fragments, reasonably uniform in density and quality, and reasonably free of dirt or other objectionable matter. The weight shall be not less than 70 pounds per cubic foot. The percentage of wear, when tested in accordance with AASHTO Designation: T 96, shall not exceed 50%.

S-703.20.2.2--Shell. Shell shall consist of durable, washed particles of slaked clam or reef shell or combination thereof. The shell shall be free of objectionable matter such as sticks, mud, clay lumps, or other deleterious matter. Not more than four percent by weight of clay and sand will be permitted and such material shall be dispersed throughout the mass.

Clam shell shall consist of washed dead clam shell. Reef shell shall consist of washed dead oyster shell and not contain cannery or live shell.

S-703.20.2.3--Medium and Fine Stabilizer. Medium aggregate stabilizer and fine aggregate stabilizer shall consist of sand, stone, shell, and/or slag screenings.

Slag screenings, sand, or stone shall be composed of hard, durable particles reasonably free of injurious amounts of soft or flaky particles, dust lumps, organic, or other deleterious substances. Shell shall comply with the requirements set out S-703.20.2.2.

S-703.20.3--Gradation. The gradation of the various types of stabilizer shall be as follows:

PERCENT PASSING (BY WEIGHT)					
Type	Shell	Coarse		Medium	Fine
Material		Gravel, Stone, or Slag		Gravel, Stone, Slag or Shell	
Square Opening Sieves		Size I	Size II Note (1)		

2 1/2"	90-100				
2"		100			
1 1/2"		90-100	100		
1"		80-100	97-100		
3/4"		55-100	55-100		
1/2"		35-85	35-85	100	
3/8"		12-65	12-65	97-100	
No.4 Note (2)		0-30	0-30	92-100	
No. 10		0-8	0-8	80-100	100
No. 40				10-40	80-100
No. 60				0-20	30-100
No. 100					15-80
No. 200	0-5	0-4	0-4	0-5	0-30
PI Material					
Passing No. 40				6 or less	0

Note (1): Size II is intended for use in bases in which portland cement is used.

Note (2): Ground shell shall contain at least 97% passing the No. 4 sieve.

S-703.20.4--Stabilizer Aggregate, Local Materials. When local materials are designated for use as stabilizer aggregate, their requirements will be shown on the plans or in the special provisions.

S-703.21--Borrow Excavation. Borrow excavation shall be composed of a natural or manufactured mixture of sand, silt, and clay or combinations of sand, silt, clay, gravel or stone. The material shall have satisfactory cementing qualities, shall be reasonably free of vegetable matter or other deleterious substances that cannot be classed as serviceable, and shall be such that when properly compacted will form a dense mass. When rock or stone is used in the embankment, it shall be so graded and manipulated that the embankment will contain no appreciable interstices.

Borrow excavation from outside the right-of-way is divided into classes, each class conforming to the requirements set-out in the following table:

Class	1	2	3	4	5	6	7	8	9	10
Percent Passing No. 200 Sieve (Max.)	25	35	10	35	35	35	100	100	100	100
Fraction Passing No. 40 Sieve - Liquid Limit (Max.)	--	40	--	45	40	45	40	55	40	55
Plasticity Index, (Max.)	6	10	np	10	20	25	10	10	20	--

The Class of material will be specified in the contract.

When the contract contains a numerical designation after the class number, it shall be understood to indicate the requirement that the material shall have a minimum PI of not less than that indicated by the numerical designation. For example, Class 9-6 requires Class 9 material having a minimum PI of 6; or a Class 9-10 requires Class 9 material having a minimum PI of 10, etc.

When a minimum PI is specified, the maximum plasticity index and the maximum liquid limit, as indicated in the table, will be raised the numerical designation for minimum PI, except that in the case of Class 8 and Class 10 the maximum liquid limit shall remain as indicated in the table above.

For the design soil portion of the embankment all of the material shall pass a 3 inch sieve. Individual contracts may further restrict the maximum size of material in the top portion of the design soil.

SECTION S-708 - NON-METAL STRUCTURES

S-708.01--General. The structures covered in these specifications are for use as pipe culverts, precast box culverts, sidedrains, sewers, underdrains, and downspouts.

S-708.02--Concrete Pipe. Unless otherwise specified, pipe and tile shall conform to the requirements hereinafter set forth. When more than 20% of the pipe in a lot is rejected, the entire lot of pipe will be rejected.

When elliptical reinforcing is used, lift holes shall be cast in the top and "Top" or "Bottom" shall be clearly inscribed or stenciled on the inside of the pipe to indicate the proper position when laid. When it is found that the position for laying is not marked, or is marked improperly, the entire lot of such pipe will be rejected.

When rubber gasket joints are permitted or specified, the pipe joints shall be so constructed as to accommodate this type of jointing.

S-708.02.1--Materials for Use in Concrete Pipe.

S-708.02.1.1--Cement. Portland Cement Types I, II or III, or blended hydraulic cement, shall conform to the requirements set out in S-701.

S-708.02.1.2--Fly Ash. Fly ash conforming to the requirements of S- 714.05 may be used to replace portland cement on a one to one replacement rate but not to exceed 20 percent by weight of the portland cement.

S-708.02.1.3--Fine Aggregate. Fine aggregate shall consist of natural sand and shall conform to the requirements set out in S-703.02, except that the requirements for gradation are not applicable.

S-708.02.1.4--Coarse Aggregate. Coarse aggregate shall consist of gravel or crushed limestone conforming to the requirements of S-703.03, except that the requirements for gradation are not applicable. Concrete pipe made with crushed limestone coarse aggregate will not be permitted for use on a project with a soil pH lower than 4.5.

S-708.02.1.5--Water. The water shall conform to the requirements set out in S-714.01.2.

S-708.02.1.6--Reinforcement. Reinforcement shall consist of wire conforming to the applicable requirements of S-711.02.

S-708.02.2--Manufacture. General. Circular pipe of 54-inch diameter and smaller shall be machine made. Other pipe may be either machine made or wet cast.

All sizes of concrete pipe may be furnished with either bell and spigot or tongue and groove, provided that the minimum thickness of concrete on the groove end is at least 1¼ inches. This measurement for thickness will be made at a point 3/8 inch from the outer end of the groove.

When no particular length is specified, the pipe shall be manufactured in standard lengths.

The pipe shall be constructed in such a manner and of such design that the joint will meet the same requirements for strength stipulated for the pipe.

S-708.02.3--Exceptions to AASHTO Standard Specifications.

S-708.02.3.1--Liquid Membrane Curing Compound. Liquid membrane curing compound will not be permitted.

S-708.02.3.2--Marking. Required markings shall be placed on the inside wall of the pipe. Machine made pipe shall be inscribed on the outside of the pipe and stenciled on the inside, other pipe may be stenciled. The specification designation for reinforced pipe may be excluded from the required markings.

S-708.02.3.3--Basis of Acceptance. All pipe will be tested under Option I, three-edge bearing test, or Option II, cylinder test, as set forth in MDOT SOP.

Pipe having a diameter of 30 inches or less will be tested under Option I.

Pipe larger than 30 inches in diameter will be tested under Option I or II.

Flared end sections and cattlepasses will be tested under Option II unless otherwise authorized by the MDOT Testing Engineer.

The specified D-load and compressive strength shall be considered as minimum and allowable failures will not apply.

Normally, neither the absorption test nor the ultimate load will be required.

S-708.02.3.4--Rejection. All pipe shall be subject to rejection for nonconformance to the specifications. Individual sections of pipe may be rejected for one or more of the following:

- Visible fractures or cracks, except for a single end crack that does not exceed the depth of the joint.
- Defects that indicate imperfect proportioning, mixing, and molding. Surface defects indicating honey-combed or open texture.
- Damaged or cracked ends which would prevent a satisfactory joint. Defects indicating incorrect positioning of reinforcing steel.

S-708.02.3.5--Repairs. Repairs will not be permitted in the barrel of the pipe. Repairs may be made on the ends, tongue and groove or bell and spigot, with an approved commercial concrete patching compound used according to manufacturer's recommendations and properly cured.

S-708.02.3.6--Tongue and Groove. The thickness of the tongue shall not vary more than 1/4 inch or five percent of the wall thickness, whichever is greater, when measured at the outer edge. The thickness of the groove shall not vary more than 1/4 inch or five percent of the wall thickness, whichever is greater, when measured at a point 3/8 inch from the outer end of the groove. The depth of the groove shall not vary more than 1/4 inch from the length of the tongue.

S-708.02.3.7--Lift Holes. Lift holes may be formed, punched, or drilled in plastic concrete. Lift holes may be placed in cured pipe only by drilling with a diamond core-drill bit.

S-708.02.4--Nonreinforced Concrete Pipe. In addition to the applicable requirements of S-708.02, nonreinforced concrete pipe shall meet the requirements of AASHTO Designation: M 86 for the class specified. Testing shall be in accordance with AASHTO Designation: T 280.

S-708.02.5--Reinforced Concrete Pipe. All reinforced concrete pipe except Class V pipe with diameters of 54 inches and larger shall meet the requirements of AASHTO Designation: M 170 as modified by S-708.02.

Class V pipe with diameters of 54 inches and larger shall meet the requirements of AASHTO Designation: M 170 or M 242 as modified by S-708.02 and herein.

Circular reinforced concrete pipe with S-stirrup reinforcement shall be in accordance with Figure 1 and the following requirements.

The wall thickness, amount of circular reinforcement, S-stirrup system and concrete strength shall comply with those set out in Table 1 herein. The spacing center to center of adjacent inner rings of circumferential reinforcement in a cage shall not exceed 4 inches for pipe up to and including pipe having a 4-inch wall thickness nor exceed 5 1/2 inches for 54 inch pipe and 6 inches for all other pipe sizes.

Each line of S-stirrups shall have a continuous S shape extending longitudinally from end to end of the pipe. They shall extend from the inner cage toward the outer surface of the pipe for a distance not less than the minimum amplitude. S-stirrups shall pass around and be in contact with each inside circumferential member of the inner cage. Each line of S-stirrups shall lie essentially in a plane passing through the longitudinal axis of the pipe.

Where more than one length of stirrup material is used per line, a lap around one circumferential member of the inner cage shall be made. The ends of "S" shaped stirrups at splices shall include an outer bend. Not more than three lengths of S material may be used in a line, and the minimum length of a section of S-stirrups shall be 30 inches.

All designs in Table 1 are accepted designs with noted 0.01 inch crack and ultimate D-load.

Additional Markings. After the capital letter "D" designating the D-load, show the design wall thickness in inches expressed as a decimal. Pipe with "S" stirrups shall have the symbol S. Pipe requiring axis orientation without lift holes, i.e. stirrup pipe, quadrant reinforced pipe, shall have the center line of the crown of the pipe marked inside and outside with the symbol TB. Pipe with quadrant steel shall be marked with the symbol Q. Pipe with deformed wire reinforcement required in the design shall have the symbol DF.

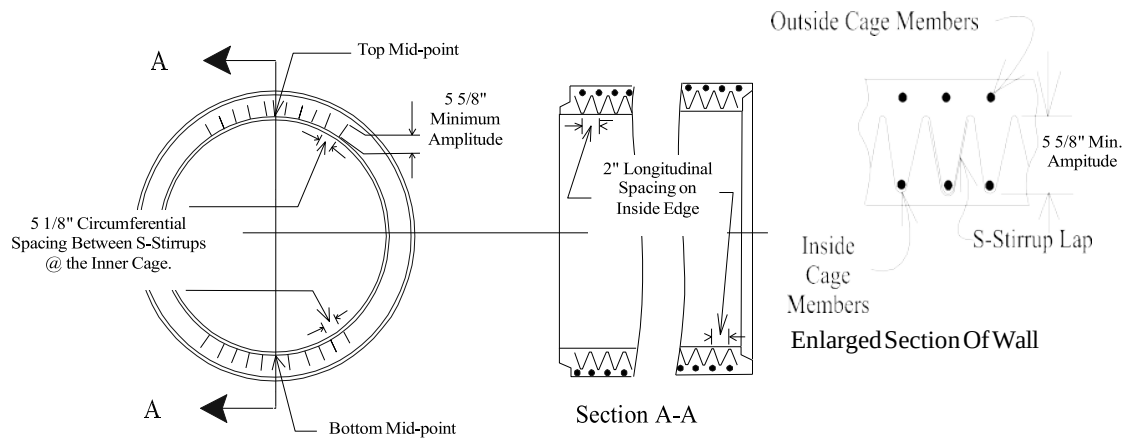


Figure 1.

Illustrative Example of S-Stirrup Support System for 0.01 inch Crack D-load 3,000, 102-inch Dia. Pipe Minimum area Per support 0.053 Sq. In., 11 Lines Spaced @ 5 1/8 inches. For Other Classes and Sizes, See Table 1.

TABLE 1
0.01 Inch Crack D-Load 3,000
Ultimate Strength D-Load 3,750

Internal Diameter of Pipe	Wall Thickness	Circular Reinforcement in Circular Pipe		"S" Stirrups				
		Inner Cage sq. in./ft. of pipe	Outer Cage sq. in./ft. of pipe	Minimum Area Per Support Element sq. in.	Number of Lines	Longitudinal Spacing	Circumferential Spacing on Inner Cage	Minimum Amplitude of Stirrups
in.	in.					in.	in.	in.
Concrete Strength 5,000 Psi								
54	5 1/2	0.64	0.48	0.029	15	2	2 1/8	2 5/8
60	6	0.70	0.53	0.029	14	2	5 5/8	3 1/8
66	6 1/2	0.79	0.59	0.029	13	2	3 1/8	3 5/8
72	7	0.87	0.66	0.029	12	2	3 5/8	4 1/8
78	7 1/2	0.92	0.69	0.031	11	2	4 1/8	4 5/8
84	8	0.99	0.74	0.034	11	2	4 5/8	5 1/8
90	8	1.13	0.85	0.041	11	2	4 5/8	5 1/8
96	8 1/2	1.20	0.90	0.045	11	2	5 1/8	5 5/8
102	8 1/2	1.34	1.00	0.053	11	2	5 1/8	5 5/8
108	9	1.51	1.13	0.063	11	2	5 5/8	6 1/8
114	9 1/2	1.51	1.13	0.064	11	2	6 1/8	6 5/8
120	10	1.62	1.21	0.068	11	2	6 1/2	7 1/8
126	10 1/2	1.73	1.30	0.072	11	2	6 7/8	7 5/8
132	11	1.84	1.38	0.076	11	2	7 1/4	8 1/8
144	12	2.09	1.57	0.085	11	2	8	9 1/8

* Number of lines in the table indicates the number of longitudinal lines required in each top and bottom portion of the pipe. The area of each support element in the pipe is 2 times the cross-sectional area of the "S" stirrups wire used. There shall be an equal number of these lines of "S" stirrups on either side of the mid-point of both the top and bottom of the pipe. See Fig. 1.

** The amplitude is the overall width of the line of stirrups.

S-708.03--Blank.

S-708.04--Reinforced Concrete Flared-End Section. Reinforced concrete flared-end sections shall conform to the plans, the applicable requirements of S-708.02 and the following: The requirements as to manufacturer, materials, and curing shall be the same as for the connecting pipe. The compressive strength of the concrete shall be at least 3000 psi at 28 days.

S-708.05--Perforated Concrete Pipe. Perforated concrete pipe shall conform to the requirements of S-708.02.4 and AASHTO Designation: M 175.

S-708.06--Concrete Drain Tile. Standard drain tile or extra quality drain tile shall conform to the applicable requirements of AASHTO Designation: M 178.

S-708.07--Porous Concrete Pipe for Underdrains. Porous concrete pipe for underdrains shall conform to the requirements of AASHTO Designation: M 176.

S-708.08 thru S-708.13--Blank.

S-708.14--Reinforced Concrete Arch Pipe. Reinforced concrete arch pipe shall meet the requirements of AASHTO Designation: M 206.

S-708.15--Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe. This pipe shall conform to the requirements of AASHTO Designation: M 207.

S-708.16--Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets. The joints shall conform to the requirements of AASHTO Designation: M 198.

S-708.17--Corrugated Plastic Pipe Culverts.

S-708.17.1--Corrugated Polyethylene Pipe Culverts. Corrugated polyethylene pipe shall conform to the requirements of AASHTO Designation: M 294, Type S.

The Contractor shall furnish to the Engineer three copies of the manufacturer's certified test reports and certification covering each shipment of pipe stating the amount furnished and that the pipe, fittings, couplings, etc. comply with the requirements of the specifications. Certifications and certified test reports for compliance with this specification shall be performed by an approved third-party testing source. All corrugated polyethylene pipe shall be smooth wall interior.

S-708.17.2--Corrugated Poly (Vinyl Chloride) (PVC) Pipe Culverts. Corrugated poly (vinyl chloride) (PVC) pipe shall conform to the requirements of ASTM Designation: F 949.

The Contractor shall furnish to the Engineer three copies of the manufacturer's certified test reports and certification covering each shipment of pipe stating the amount furnished and that the pipe, fittings, etc. comply with the requirements of the specifications.

S-708.18--Sewer Pipe Used for Underdrains.

S-708.18.1--General. Pipe less than four inches in diameter shall conform to commercial grade PVC water pipe. Perforations, when required, shall be circular and conform to the requirements of AASHTO Designation: M 278.

S-708.18.2--Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe. This pipe and fittings used for underdrains shall meet the requirements of ASTM Designation: D 2751 for the pipe SDR number specified.

S-708.18.3--Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe. This pipe and fittings used for underdrains shall meet the requirements of ASTM Designation: D 3034 for the pipe SDR number specified.

S-708.18.4--Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe. This pipe with a smooth interior and fittings shall conform to the requirements of ASTM Designation: F 949. The pipe is for use in non-pressure drainage applications as an alternate to ABS and PVC sewer pipe when the SDR number is specified as 35 or greater.

S-708.19--Corrugated Polyethylene Drainage Tubing. This tubing used for underdrains shall meet the requirements of AASHTO Designation: M 252, Type S and/or Type SP, as applicable.

S-708.20--Perforated Semicircular Plastic Pipe for Underdrains.

S-708.20.1--General. Semicircular plastic subdrain pipe is intended for direct burial and shall be extruded from thermoplastic materials as specified below. Unless otherwise specified, the pipe shall be supplied in 20-foot lengths. The pipe shall have an expanded bell on one end for direct coupling, or separate couplings shall be supplied. The pipe sections shall be joined by a friction fit.

The pipe fittings including straight couplings, end caps, tees, right laterals, left laterals, 45° elbows, and 90° elbows shall be molded from thermoplastic materials as specified below. Fabricated fittings shall be made of the same material as the pipe sections.

S-708.20.2--Pipe Sections and Fabricated Fittings. The pipe sections and fabricated fittings shall be made from virgin poly vinyl chloride (PVC). PVC resins shall conform to ASTM Designation: D 1784, Class 12454-B. Virgin resin is defined as resin which contains not more than 10 percent regrind material and has not previously been used to make another product.

S-708.20.3--Molded Fittings. Molded fittings shall be made from virgin high density polyethylene (HDPE) conforming to ASTM Designation: D 1248, Type III, Class B, Category 3; with the addition of a minimum of 0.25% carbon black.

S-708.20.4--Workmanship. The plastic pipe and fittings shall be homogeneous throughout and free of visible surface flaking, chips or cracks. The semicircular trough interior shall be smooth and free from obstructions. The products shall be as uniform as commercially practicable in respect to color, opacity, density and other physical properties.

S-708.20.5--Dimensions. The minimum wall thickness of the pipe at any point shall be 0.125 inch, protective lip excluded. Sufficient additional wall thickness shall be supplied at perforated areas to maintain an effective wall strength equal to 0.125 inch thick nonperforated wall. The protective lip shall extend a minimum of 0.500 inch from the pipe at an angle of approximately 30°. The nominal inside radius of the semicircular trough shall be 2 5/16 inch, providing a minimum cross-sectional flow area of 8.3 square inch below the water entry level. Total water intake area shall be 3.5 square inch per linear foot. All measurements shall be taken at 72 ±5°F.

S-708.20.6--Load Deformation. At a deflection of 0.2 inch, the minimum pipe stiffness, $F\Delta y$, shall be 100 psi when tested in accordance with ASTM Designation: D 2412, except that specimens shall be conditioned a minimum of 12 hours at approximately 72°F.

S-708.20.7--Impact Resistance. Impact resistance of the plastic pipe and fittings shall be as follows when tested in accordance with ASTM Designation: D 2444, except that specimens for routine inspection shall be conditioned for a minimum of one hour at approximately 72°F or two hours at approximately 32°F.

Using a 20-pound Tup B, the plastic pipe and fittings shall be capable of withstanding 125 foot-pounds at 72°F and 62 foot-pounds at 32°F.

S-708.20.8--Hydrocarbon Resistance. The plastic pipe and fittings shall meet the load deformation requirements specified above after being immersed for seven days in normal heptane as specified in ASTM Designation: D 543.

S-708.20.9--Product Marking. Each section of pipe and each fitting shall be clearly marked on the exterior surface to show the manufacturer's name or trademark and the material from which it is made, PVC or HDPE. Product marking shall be permanent and legible in characters at least 3/8 inch high.

S-708.20.10--Packing and Storage. All pipe sections and fittings shall be so stored prior to shipment that they do not warp, deteriorate or suffer dimensional distortion.

All pipe sections shall be banded or palletized so as to protect them during shipment, handling and subsequent storage. Fittings shall be banded together or packed in suitable containers.

S-708.21--Blank.

S-708.22--Precast Concrete Box Culvert.

S-708.22.1--General. Precast concrete box culverts shall conform to the design and dimensions shown on the plans, and the materials and manufacture of box sections shall meet the requirements of AASHTO Designation: M 259 or M 273, as applicable, with the following exceptions:

S-708.22.2--Exceptions to AASHTO.

Cement shall meet the requirements of S-701.

Aggregates shall meet the requirements of S-703.02 and S-703.03, except that gradation will not apply.

Admixtures and blends may be used with the approval of the Engineer.

Reinforcement shall meet the requirements of S-711.02.3.

Water shall meet the requirements of S-714.01.

A lot will consist of a group of 15 box sections of a single size or fraction thereof; or all units produced in one calendar week, Sunday through Saturday, whichever comes first.

Each line of box section should be manufactured by one producer's plant.

The slab and wall thickness shall not vary from the design dimensions by more than five percent or 3/16 inch, whichever is greater.

The depth of cover and amount of steel may, at the discretion of the MDOT Testing Engineer, be checked by an electromagnetic device.

The permissible variation in diameter of any wire in finished fabric shall conform to the tolerances prescribed for the wire before fabrication by AASHTO Designation: M 32.

Box sections may be repaired, if necessary, because of occasional imperfections in manufacture or handling damage and will be acceptable if, in the opinion of the Engineer, the repairs are sound, properly finished, and cured and the repaired box section conforms to the specifications. These repairs will be allowed in the ends and on joints, only. No repairs will be allowed in the barrel of the box section.

S-708.23--Special Sections. Any special section, not otherwise specified, shall be of the same wall thickness, size, and type as the pipe to which it is joined and shall conform to the applicable requirements for the particular type of pipe as set forth therein.

Elbows, tees, wyes, or other such special sections shall, unless otherwise specified, have a minimum length for each projection sufficient to properly join the section to the joining elements of the completed structure.

Other details shall be as shown on the plans.

S-710 - PAINT**S-710.01--General.**

S-710.01.1--Requirements. All paint materials, including vehicle, pigment, paste, driers, thinners, and mixed paint shall conform to the requirements of these specifications unless otherwise stipulated. Paint shall be furnished ready-mixed or in paste or powder form, as may be specified, and shall be of the type and color shown on the plans or as otherwise indicated.

All paints for incorporation in the work shall be manufactured in the United States. Acceptance will be based on manufacture's certification. It shall be the responsibility of the Contractor to obtain and furnish the Engineer certification by the manufacturer that all components used in paint comply with this provision and other applicable provisions under the contract with respect to each component. Any paint that has caked, hardened or otherwise deteriorated shall not be used. The Engineer reserves the right to sample and test the paint as per S-710.01.2.

S-710.01.2--Sampling and Testing. Sampling and testing of paint shall be in accordance with the appropriate method in Federal Test Method No. 141, ASTM and/or Mississippi Test Method.

The approved laboratory may utilize x-ray analysis, gas chromatography, infrared, or ultra violet spectral analysis of the paint or its components to determine whether specified ingredients were used. Paint found not to be in compliance with the approved formula shall not be used.

Each container or label thereon shall be marked as follows:

Net weight in pounds

Net volume in U. S. gallons

Colors

Code Number Batch Number

Name and percentage of each component Name and address of manufacturer

Date of manufacture

In addition, each container and labeling thereon shall meet the requirements of State and Federal Regulations for transporting the paint.

S-710.02--Mixed Paints. Unless otherwise specified, paint shall be delivered completely mixed and ready for use without further additions or alterations. Paint shall be of a uniform consistency and when applied shall dry to a hard tough film without running, streaking or sagging.

All paints and components thereof shall conform to the applicable subsection as contained herein.

Mixed paint in storage shall not be exposed to temperatures less than 32°F, or such higher temperature as recommended by the paint manufacturer. Paint exposed to temperatures lower than specified will be subject to rejection or retesting.

S-710.02.1-Aluminum Paint. This paint shall be aluminum alkyd paint as specified by the Steel Structures Painting Council Paint Specifications SSPC 101-64T. Paint that is to be stored for periods longer than six months shall be a two component system. A two component paint shall be prepared by mixing two pounds of aluminum paste with one gallon of vehicle.

Type I Leafing Aluminum Paint shall always be used as the finish or top coat. Intermediate coats shall be alternate coats of Type II Non-Leafing Aluminum Paint and Type I Leafing Aluminum Paint.

S-710.03--Traffic Paint: S-710.03.1--Materials.

S-710.03.2--Binder. The binder shall consist of a mixture of synthetic resins, at least one of which is solid at room temperature. The total binder content of the paint compound shall be well distributed throughout the compound. The binder shall be free from all foreign objects or ingredients that would cause bleeding, staining or discoloration. The binder shall be 26 percent minimum by weight of the paint compound. The binder shall be characterized by an IR Spectra.

S-710.03.3--Pigment. The pigment used for the white paint compound shall be a high-grade pure (minimum 93 percent titanium dioxide TiO₂). The white pigment content shall not be less than 10 percent by weight and shall be uniformly distributed throughout the paint compound.

The pigments used for the yellow paint compound shall be heat resistant, silica encapsulated lead chromate yellow and moly oranges which shall produce a compound meeting the requirements of FED 595 Color No. 33538. The yellow marking material shall contain a minimum of 4 percent by weight of the yellow pigment with a minimum lead chromate content of 60 percent where Type III drop on glass beads are specified and 50 percent for other drop on glass beads.

S-710.03.4--Filler. The filler to be incorporated with the resins and a binder shall be a white calcium carbonate, silica, or an approved substitute. Any filler which is insoluble in 6N hydrochloric acid shall be of such particle size as to pass a No. 100 sieve.

S-710.03.5--Glass Beads. Acceptance will be based on manufacture's certification. It shall be the responsibility of the Contractor to obtain and furnish the Engineer certification by the manufacturer that glass beads comply with this specification and any applicable provisions under the contract. The Engineer reserves the right to sample and test the glass beads. Intermix glass beads shall be uniformly mixed throughout the material at the rate of not less than 27 percent by weight (retained on the No.100 sieve) of paint compound. Drop on beads shall be used with pavement markings material and shall be applied uniformly at a minimum rate of 12 pounds per 100 square feet where Type III drop on glass beads are specified and at a rate of 8 pounds per 100 square feet for other drop on glass beads.

S-710.03.6--Properties. The drop on glass beads furnished under this specification shall consist essentially of transparent, water-white glass particles of a spherical shape. They shall be manufactured from a glass of a composition designed to be highly resistant to traffic wear and to the effects of weathering. The glass beads shall conform to the following requirements:

- (a) **Sieve Analysis.** The glass beads shall meet the following sieve requirements:

(1) Type III Drop On Glass Beads

	<u>Sieve No.</u>	<u>% Retained</u>	<u>% Passing</u>
	12	0	100
14		0-5	95-100
16		5-20	75-95
18		40-80	10-47
20		10-40	0-7
25		0-5	0-2
Pan		0-2	- -

(2) Other Drop On Beads

<u>Sieve Size</u> No. 16	<u>% Passing</u> 99-100
No. 20	75-95
No. 30	65-95
No. 50	15-35
No. 100	0-5

- (b) **Imperfections.** The surface of the glass beads shall be free of pits and scratches. The sizes beads shall have a roundness of 70% minimum average (ASTM D 1155) with the exception of the +20 portion, which shall have a 65% minimum true spheres, tested visually.
- (c) **Index of Refraction.** The index of refraction of the glass beads shall be not less than 1.50 when tested by the immersion method at 77°F.
- (d) **Silica Content.** The glass beads shall contain not less than 65 percent silica (SiO₂).
- (e) **Chemical Stability.** Glass beads which show tendency toward decomposition, including surface etching, when exposed to paint or paint constituents will be rejected. The glass beads shall be tested by Federal Specification T-T-B-1325A, Section 4.3.11 (water resistant soxhlet extraction method) with the following exceptions: Under "Procedure", the size of sample to be tested shall be 25 grams. Under testing, Paragraph (1), the reflux-time shall be 5 hours and upon examination after testing the glass beads shall show no dulling effect. Under Paragraph (2), if more than 4.5 mls of 0.1N hydrochloric acid are used to reach the end point, it shall constitute failure of the test.
- (f) **Flowing Properties.** The glass beads shall flow uniformly through dispensing equipment in atmospheric humidity up to 94%. The drop beads shall pass the following test: One hundred grams of glass beads, spread evenly and thinly in a suitable container, shall be conditioned at 77°F for 4 hours over a solution of sulfuric acid (Sp. Gr. 1.10) in a closed desiccator. After 4 hours, the glass beads shall flow readily through a clean glass analytical funnel, 60°, 5 mm diameter and 105 mm stem. Inside diameter of the stem shall be a nominal 1/4 inch.
- (g) **Coating:** The glass beads used for intermix shall be uncoated. The glass beads used for the drop on application shall be coated with an adhesion promoting coating. Silicone coated drop on beads shall not be allowed.
- (h) **Packaging.** The Drop on glass beads shall be delivered in approved moisture proof bags consisting of at least five-ply paper construction unless otherwise specified. Each bag shall contain 50 or 55 pounds net, and shall be legibly marked with the manufacturer, specifications and type, lot number, and the month and year the glass beads were packaged.

S-710.03.7--Paint: In the plastic state, the material shall not give off fumes that are toxic or otherwise injurious to persons or property. The manufacturer shall provide material safety sheets for the product.

The temperature versus viscosity characteristic of the plastic material shall remain constant and the material shall not deteriorate in any manner during reheating processes.

There shall be no obvious change in color of the material as a result of repeated heating or from batch to batch. The maximum elapsed time after application after which normal traffic will leave no impression or imprint on the new stripe shall be 30 seconds when the air and road surface temperature is approximately (68°F $\pm$ 6°F). After appreciable deformation or discoloration, shall remain free from tack, and shall not lift from the pavement under normal traffic conditions within a road temperature range of -20° to 150°F. The stripe shall maintain its original dimensions and placement. Cold ductility of the material shall be such as to permit normal dimensional distortion as a result of traffic impact within the temperature range specified.

The material shall provide a stripe that has a uniform thickness throughout its cross section and has the density and character to provide a sharp edge of the line.

The paint compound after heating for 4 hours $\pm$ 5 minutes at 375° $\pm$ 3°F and cooled to 77°F shall meet the following requirements for daylight reflectance and color, then tested, using a color spectrophotometer with 45° circumferential/0° geometry, illuminate C, and 2° observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

White: Daylight Reflectance (Y) 75 percent minimum

*Yellow: Daylight Reflectance (Y) 42-59 percent

*Shall match Federal 595 Color No. 33538 and Chromaticity limits as follows:

x	.470	.510	.485	.530
y	.455	.485	.425	.456

S-710.03.7.1--Specific Gravity. The specific gravity of the paint material shall not exceed 1.87.

S-710.03.7.2--Softening Point. After heating the paint material for 4 hours $\pm$ 5 min. at 375° $\pm$ 3°F and testing in accordance with ASTM E 28, the material shall have a minimum softening point of 180°F as measured by the ring and ball method.

S-710.03.7.3--Tensile Bond Strength. After heating the paint material for 4 hours $\pm$ 5 min. at 375°F, the tensile bond strength to unprimed, sandblasted portland cement concrete block, 0.0625 inch thick film drawdown at 375°F, tested at 75° $\pm$ 2°F shall exceed 180 psi when tested in accordance with ASTM D 4796-88.

S-710.03.7.4--Impact Resistance. After heating the paint material for 4 hours $\pm$ 5 min at 375° $\pm$ 3°F, the impact resistance shall be a minimum of 50 inch pounds with no cracks or bond loss when 0.0625-inch thick film drawdown is made at 375°F on an unprimed sandblasted portland cement concrete block, male indenter 5/8 inch, no female Die, tested at 75° $\pm$ 2°F when tested in accordance with ASTM D 2794 minimum.

S-710.03.7.5--Yellowness Index. The white paint material shall not exceed a yellowness index of 12 when tested in accordance with ASTM D 1925.

- (a) **Identification** - Each package of material shall be stenciled with the manufacturer's name, the type of material and specification number, the month and year the material was packaged and lot number. Lot numbers must begin with the last two digits of the year manufactured and be sequential. The letters and numbers used in the stencils shall be a minimum of 1/2 inch in height.
- (b) **Packaging** - Paint material shall be packaged in suitable containers which will not adhere to the product during shipment and storage. The container of paint material shall weigh approximately 50 pounds. Each container shall designate the color, binder (alkyd or hydrocarbon), spray and user information. The label shall warn the user that the material shall be heated in the range of 350° - 425°F.

- (c) **Storage Life** - The material shall meet the requirements of this specification for a period of one year. The paint must also melt uniformly with no evidence of skins or unmelted particles for this one year period. Any material not meeting the above requirements shall be replaced by the manufacturer.

S-710.04-Inorganic Zinc Rich System:

S-710.04.1--Inorganic Zinc Primer. The shop coat or prime coat shall be a self-curing multiple component inorganic zinc rich primer conforming to the requirements of AASHTO M 300, Type I or Type II. The inorganic zinc rich primer, as applied, shall meet State and Federal regulations on Volatile Organic Compounds (VOC).

The inorganic zinc primer shall be formulated so as to produce a distinct contrast in color with the blast cleaned metal surface and the intermediate field coat to be applied thereon.

The inorganic zinc primer must be one from the Mississippi Department of Transportation's "List of Approved Sources of Materials".

The paint manufacturer's technical representative who is certified by the National Association of Corrosion Engineers (NACE) shall be present at the beginning of coating operations as needed to provide technical expertise in the application of the coating. This technical expertise shall be provided without additional cost to the Project. The fabricator is responsible for arranging for the presence of the manufacturer's technical representative.

S-710.04.2--Epoxy Mastic Field Touch-Up Paint. Inorganic zinc primer coat which has been damaged during storage, handling, transporting and/or erection shall be repaired using epoxy mastic touch-up paint prior to finish coating.

Epoxy mastic touch-up paint shall be manufactured or recommended by the supplier of the inorganic zinc primer, shall be as listed on the Mississippi Department of Transportation's "List of Approved Sources of Materials" and, as applied, shall be VOC compliant with State and Federal Regulations.

The epoxy mastic touch-up paint shall conform to the same formulation as originally approved by the Mississippi Department of Transportation. Determination of conformance to the originally approved formulation will be based on physical tests, x-ray diffraction pattern and infrared spectrum. The results of these tests shall be in agreement with the results obtained on the originally approved formulation.

S-710.04.3--Acrylic Latex Intermediate and Top Coats (Field Coats). The acrylic latex field coats shall be manufactured by the supplier of the inorganic zinc primer coat, shall be as listed on the Mississippi Department of Transportation's "List of Approved Sources of Materials" and, as applied, shall be VOC compliant with State and Federal regulations. The acrylic latex paint shall conform to the same formulation as originally approved by MDOT.

Determination of conformance to the originally approved formulation will be based on physical tests and infrared spectrum of the vehicle component. The infrared spectrum (2.5 to 15 microns) of the vehicle component shall agree with the infrared spectrum of the vehicle component of the originally approved paints in both peak position and relative intensity of the peaks.

The color of the acrylic latex intermediate coat shall be white in color. The color of the acrylic latex top coat shall be light gray in color.

At the Engineer's request, the paint manufacturer's technical representative who is certified by the National Association of Corrosion Engineers (NACE) shall be present at the job site at the beginning of each separate coating operation as needed to provide technical expertise in the application of the field coats. This technical expertise shall be provided without additional cost to the Project. The Contractor shall be responsible for arranging for the presence of the manufacturer's technical representative.

S-710.04.4--Mixing of Paint. All paint shall be mixed in accordance with the paint manufacturer's printed instructions.

S-710.04.5--Packaging and Marking. Multiple component paints shall be furnished in premeasured packages so as to form one unit of mixed paint when mixed with the vehicle in its container.

The containers of all paints shall be coated as necessary to prevent attack by the paint. Each container shall bear a label with the following information shown thereon: name and address of manufacturer, trade mark or trade name, kind of paint, date of manufacture and lot number, mixing instructions and equipment clean up instructions. The VOC content shall be stated on the label, product data sheet, or Material Safety Data Sheet.

S-710.04.6--Acceptance Procedure. Prior to use, the Contractor must furnish the Engineer a certificate from the manufacturer, covering each lot of paint in the shipment, attesting that the paint in the shipment conforms to the same formula as that originally approved by the Mississippi Department of Transportation.

Final acceptance of the paint will be based on results of tests performed by the approved Laboratory on samples obtained by the Contractor prior to or after delivery. The use of any lot of paint prior to its final acceptance shall be prohibited.

S-710.05--Epoxy Mastic System. The coating system shall consist of modified epoxy mastic prime coat with a uniform dry film thickness of not less than 5 mil nor more than 8 mil and a vinyl finish coat of not less than 3mil nor more than 5 mil.

S-710.05.1--Prime Coat. The prime coat shall be a two-component epoxy mastic designed as a one-coat high build complete protective coating system with excellent adhesion to rusted steel and old coating systems after such surfaces have been cleaned as specified.

S-710.05.1.1--Pigment. The silica and metallic aluminum pigment shall include rust inhibitors and adhesion reinforcers/promoters. The aluminum factor shall contain both leafing and nonleafing types.

S-710.05.1.2--Vehicle. The vehicle shall be a modified epoxy-polymide resin formulated to have suitable insensitivity to moisture and shall contain special wetting agents to insure adequate adhesion.

S-710.05.1.3--Mixed Paint. The mixed paint shall conform to the following requirements:

The catalyzed epoxy shall contain $92\% \pm 2\%$ solids by weight when tested in accordance with ASTM Designation: D 1644 (modified to a drying time of 72 hours at 100°F).

Total solids by volume shall be a minimum of 90%.

The coating shall air cure to a hard, tough film within five days at a temperature of 75°F. It shall be dry to the touch in 24 hours at 75°F.

The usable pot life of the mixed paint shall be not less than four hours at 75°F and two hours at 90°F.

It shall exhibit good compatibility with inorganic zinc primers. The color shall contrast with the steel and the finish coat.

The catalyzed mixture, after thinning 20% by volume with specified thinner, shall be suitable for spraying in one coat to a 10 mil wet thickness without exhibiting runs or sags.

The coating shall be suitable for application with both conventional and airless spray equipment.

S-710.05.1.4--Packaged Qualities. The paint shall be supplied as a two-package material with a one-to-one mixing ratio and shall be well ground and not caked, skinned or badly settled in the container. Usable shelf life shall be not less than 12 months.

S-710.05.1.5--Flexibility Test. Apply a five mil dry film thickness of paint to one side of a 4" x 30" x 1/8" steel panel which has been cleaned in accordance with Steel Structures Painting Council SSPC-SP-5, Commercial Blast Cleaning. After the coating has been cured for two weeks at 75°F, it shall show no signs of cracking or loss of adhesion after the panel is uniformly bent 180° degrees (coated side out) around an eight inch diameter pin.

S-710.05.1.6--Resistance Tests. The panel (3" x 5" x 1/8") meeting the requirements of ASTM Designation: D 609 shall be prepared by blast cleaning in accordance with SSPC-SP-6, Commercial Blast Cleaning.

After cleaning, the panels shall be exposed to the weather for 30 days to allow uniform rusting. The panels shall then be hand-cleaned with a wire brush in accordance with SSPC-SP-2.

The modified epoxy mastic paint shall be spray applied in one coat to the prepared panels with a uniform dry film thickness of six mils. Curing shall be in accordance with manufacturer's recommendations.

Each test shall be performed on one or more panels, and the paint will be unacceptable if it fails one or more of the following tests:

- (1) Salt Water Resistance. One or more panels shall be scribed with an X of at least two-inch legs down to the base metal and immersed in 5% sodium chloride at 75 ±5°F. The panel(s) shall be examined after 7, 14 and 30 days and shall show neither rusting, blistering, nor softening of the coating beyond 1/16 inch from the scribe mark. The solution shall be changed after each examining period.
- (2) Weathering resistance. One or more panels shall be tested in accordance with ASTM Designation: G 23, Type D. The panel(s) shall be placed on test at the beginning of the wet cycle. After 1,000 hours continuous exposure, the coating shall show neither rusting, blistering, nor loss of bond.
- (3) Salt Fog Resistance. One or more panels shall be scribed with a X of at least two-inch legs down to the base metal. The panel(s) shall then be tested in accordance with ASTM Designation: B 117. After 1,000 hours continuous exposure, the coating shall show neither loss of bond, rusting nor blistering beyond 1/16" from the scribe mark.

S-710.05.2--Vinyl Finish Coat (Field Coat). The vinyl finish coat shall be manufactured by the supplier of the prime coat. The vehicle shall consist essentially of vinyl chloride-acetate copolymer resin dissolved in aromatic or ketone and aromatic solvents. The vinyl coat shall display compatibility with, and adhesion to, the cured primer film when applied in accordance with the manufacturer's printed instructions.

S-710.05.2.1--Composition.

- (a) The vinyl finish coat shall be gray in color and supplied in a single package at a consistency ready for use. It shall be well grounded and not caked, livered, skinned or badly settled in the container.
- (b) The vinyl finish coat shall contain not less than 29% pigment (by weight) and 19% vehicle (by weight) for a total of no less than 48% solids by weight. The weight per gallon shall be 9.6 ± 0.5 pounds at 77°F. The grind minimum shall be four. Any extender pigments shall be barytes.
- (c) The vinyl finish coat shall air dry at temperatures of 70°F or above to a hard tough film within four hours, entirely by evaporation of solvents. It shall be dry-to-touch in 25 minutes at 70°F.

S-710.05.3--Packaging. Two-component paint shall be packaged so that one unit of pigment can be mixed with the vehicle in its container. The containers for all paints shall be coated as necessary to prevent attack by the paint.

Each container shall be plainly marked with the net weight in pounds, net volume in U.S.gallons, color, code number, batch number(s), the name and address of the manufacturer and the date of manufacture. Each container, or label thereon, shall bear a true statement of the name and percentage of each component or constituent, both solid and liquid. Any package not so marked will be unacceptable.

Each shipment of paint shall be accompanied by complete written instructions and precautions for use, either on the container label or in a separate document.

S-710.05.4--Acceptance Procedure. Before each shipment is used, the Contractor

must furnish the Engineer a certificate from the manufacturer attesting that the commercial product furnished conforms to the same formula as that previously approved by MDOT.

If deemed necessary, final acceptance will be based on results of tests performed on samples obtained by the Engineer prior to or after delivery. Batches of paint found not to be of the approved formulation will be rejected.

S-711 - REINFORCEMENT AND WIRE ROPE

S-711.01--Reinforcing Steel and Wire Rope. General. All reinforcement used in concrete construction, unless otherwise stipulated, shall conform to the provisions and requirements hereinafter set out. The materials when incorporated into the work shall be reasonably free from dirt, paint, oil, grease, loose-thick rust, or other foreign substances and when deemed necessary, shall be cleaned to the satisfaction of the Engineer. Tight-thin rust or powdering rust on these materials shall not be cause to require cleaning. Reinforcement which has rusted sufficiently to cause it to fail to meet specified physical properties or prestressing strands displaying pits visible to the naked eye shall be rejected.

S-711.02--Reinforcing Steel.

S-711.02.1--Bar Reinforcement. Bar reinforcement shall conform to the requirements of AASHTO Designation: M 31, Grade 60, for billet steel bars.

Bars shall be fabricated as indicated on the plans, shall be cold-bent, unless otherwise permitted, to the shapes shown on the plans or as directed; and shall be bent prior to being wholly or partially embedded in concrete.

Unless otherwise authorized or provided on the plans, bends or hooks shall not be fabricated to a smaller diameter than that indicated for the bend test. Rail steel bars shall be bent to the specified shapes at the mill or fabricating plant.

The areas and weights to be used in calculations for the various size reinforcing bars shall be as follows:

STANDARD REINFORCING BARS

* Bar Numbers	Weight (Lbs./Foot)	Nominal Dimensions-Round Sections		
		Diameter (Inches)	Cross-Sectional Area (Sq. Inches)	Perimeter (Inches)
2 (1)	0.167	0.250	0.05	0.786
3	0.376	0.375	0.11	1.178
4	0.668	0.500	0.20	1.571
5	1.043	0.625	0.31	1.963
6	1.502	0.750	0.44	2.356
7	2.044	0.875	0.60	2.749
8	2.670	1.000	0.79	3.142
9 (2)	3.400	1.128	1.00	3.544
10 (2)	4.303	1.270	1.27	3.990
11 (2)	5.313	1.410	1.56	4.430
14	7.65	1.693	2.25	5.32
18	13.60	2.257	4.00	7.09

* The bar numbers are based on the number of 1/8 inch increments in the nominal diameter of the bar, except as noted in (2) below.

- (1) No. 2 bars in plain rounds only
- (2) Nos. 9, 10, and 11 are round bars and equivalent in weight and nominal cross-sectional area to the old type 1 inch, 1 1/8 inch, and 1 1/4 inch square bars, respectively.

S-711.02.2--Bar Mats. Bar mats for concrete pavement reinforcement shall be Grade 60 billet steel, AASHTO Designation: M 31, and shall conform to the requirements of AASHTO Designation: M 54.

S-711.02.3--Steel Wire Fabric. Steel wire fabric shall conform to the requirements of AASHTO Designation: M 55, or AASHTO Designation: M 221.

S-711.02.4--Dowel Bars and Marginal Bars. Unless otherwise indicated, dowel bars used to span transverse joints and marginal bars shall be plain round bars. They shall be Grade 60 billet steel, AASHTO Designation: M 31.

Before installation, each dowel bar shall be painted with one coat of industrial grade zinc base primer, epoxy or other approved rust inhibitive primer. One half of each dowel bar shall be greased with a heavy grease equivalent to 600W or cup grease to prevent bonding with concrete. The greased end is to be inserted into the dowel bar sleeve described in the following paragraph.

Sleeves for dowel bars shall be metal or plastic of an approved design, mortar-tight, of sufficient strength to prevent collapse, and at least two inches in length. A suitable stop shall be provided in the sleeve to permit movement of the dowel bar within the sleeve of not less than the thickness of the expansion filler used.

Dowel bars shall be free from burring or other deformations restricting slippage in the concrete.

S-711.02.5--Tie Bars. Unless otherwise indicated, tie bars used to span longitudinal joints shall be deformed bars, billet steel, meeting the requirements set forth in S-711.02.1.

S-711.02.6--Cold-Drawn Steel Wire. Cold-drawn steel wire shall conform to the requirements of AASHTO Designation: M 32.

S-711.02.7--Supports for Bar Reinforcement. Metal bar supports shall be fabricated from stainless steel wire conforming to ASTM Designation: A 493, 16% chromium minimum, or cold-drawn wire with a minimum of 1/2 inch of the height of the leg above the form surface protected by one of the following:

Plastic coating conforming to CRSI Standards.

Galvanized, conforming to ASTM Designation: A 153, Class D. Stainless steel conforming to ASTM Designation: A 493,

16% chromium minimum.

Other protective coating as approved by the Engineer. Other supports as approved by the Engineer may be used.

S-711.02.8--Epoxy Coated Reinforcing Bars. All reinforcement to be epoxy coated shall conform to the requirements of S-711, or as specified on the plans. The epoxy coat shall be in accordance with ASTM Designation: A 775. The Contractor shall furnish written certification that the coated reinforcing bars were

cleaned, coated and tested in accordance with the specifications and ASTM Designation: A 775.

S-711.03--Reinforcement for Prestressed Concrete.

S-711.03.1--Pretensioning Reinforcing.

S-711.03.1.1--Uncoated Seven-Wire Stress Relieved Strand for Prestressed Concrete. Uncoated seven-wire stress-relieved strand for prestressed concrete shall conform to the requirements of AASHTO Designation: M 203.

S-711.03.1.2--Uncoated Stress-Relieved Wire for Prestressed Concrete. Uncoated stress-relieved wire for prestressed concrete shall conform to the requirements of AASHTO Designation: M 204.

S-711.03.2--Posttensioning Reinforcing.

S-711.03.2.1--Bars. Bars for posttensioning shall be of high tensile strength steel. They shall be equipped with wedge-type anchorages which will develop the minimum specified ultimate bar stress on the nominal bar area.

The minimum physical properties of the bar steel, and of the stress-strain curve determined by static tensile tests, shall conform to the following:

Stress at 0.3% elongation, psi	75,000
Stress at 0.7% elongation, psi	130,000
Ultimate stress, psi	145,000
Elongation in 20 diameters, %	4
Modulus of elasticity, psi	25,000,000

The diameter tolerance of the bar steel shall be from -0.01 to +0.02375 inch.

S-711.03.2.2--Parallel Wire Assemblies. Wire assemblies for posttensioning shall consist of parallel wires of the number and size shown on the plans. Wires shall conform to the requirements of AASHTO Designation: M 204. Minimum ultimate strength requirements for various sizes shall be as follows:

<u>Diameter</u> <u>(inches)</u>	<u>Minimum Ultimate Strength</u> <u>(psi)</u>
0.177	255,000
0.192	251,000
0.225	245,000
0.250	240,000
0.276	236,000

The stress-strain curve for wires shall show the following minimum characteristics, based on the minimum ultimate strength requirements:

Proportional limit (0.01% offset from tangent), %	55
Yield point (0.2% offset from tangent), %	80
Elongation at rupture	4% in 10 inches

The diameter tolerance of wires shall be ± 0.002 inch.

S-711.03.3--Anchorages for Post-Tensioned Tendons.

S-711.03.3.1--For Bars. Wedge-type anchorages shall be used for bars. The wedge device shall develop the minimum ultimate strength specified for the nominal bar area.

Wedge anchorages shall bear against anchor plates fabricated of hot-rolled steel having physical characteristics not less than that specified for No. 104 of American Iron and Steel Institute (AISI) Specifications.

S-711.03.3.2--For Parallel Wire Assemblies. Wedge or direct-bearing type anchorage shall be used, generally. The anchorage device shall be capable of developing the ultimate strength of the total number of wires anchored. Conical type anchorages shall be embedded within the ends of the concrete members unless otherwise specified. Anchorages shall generally bear against grids of reinforcing steel of approved type.

S-711.03.3.3--Alternate Anchorage Types. Alternate anchorage types conforming to the general physical requirements for wedge or direct-bearing type anchorages will be permitted. All anchorage types shall develop the specified ultimate strength of the reinforcing tendons, or the allowable stress of the tendon will be based on the anchorage strength.

As a specified exception, threaded anchorages not on upset or oversize reinforcing ends will not be considered for approval.

Any alternate type anchorage, before being considered, will be required to show evidence of being capable of withstanding at least 3,000,000 cycles of twice the maximum live load stress variation.

S-711.03.4--Tests for Prestressing Reinforcing. The Engineer shall be furnished with three certified copies of test results for all tests specified below. These tests shall be performed by the manufacturer or a recognized commercial laboratory at no additional cost to the Project. The Engineer or his representative shall have the privilege of witnessing any or all tests.

S-711.03.4.1--Strand. The physical characteristics of strand shall be determined in accordance with AASHTO Designation: M 203.

S-711.03.4.2--Bars.

S-711.03.4.2.1--Proof Test. During manufacture, each bar shall be proof tested to a minimum stress of 130,000 psi.

S-711.03.4.2.2--Static Test. From each mill heat, one static test shall be made on an assembled bar and anchorage to determine the physical properties of the steel and the assembly. Such physical properties shall conform to the minimum physical properties hereinbefore specified.

S-711.03.4.3--Wires and Wire Anchorages. One static test shall have been made from each five coils received, except that at least one static test shall have been made for each shipment. For each 500 anchorages received, or fraction thereof, one anchorage assembly shall have been tested statically to destruction.

SECTION S-713 - CONCRETE CURING MATERIALS AND ADMIXTURES

S-713.01--Curing Materials. Concrete curing agents (including water and earth) shall be free of any ingredients which may damage or be detrimental to the concrete. Such agents, unless otherwise specified, shall conform to the requirements hereinafter set forth.

S-713.01.1--Burlap Cloth. Burlap to be used for curing concrete shall conform to the requirements of AASHTO Designation: M 182.

Class 3 burlap shall be used (one or two layers as required) except that substitutions of other classes may be made, provided their combined weight will equal or exceed the weight required.

S-713.01.2--Liquid Membrane Compound. Membrane-forming compound for curing concrete shall conform to the requirements of AASHTO Designation: M 148.

Unless otherwise specified, only Type 2 (White Pigmented) will be permitted for use.

The use of liquid membrane for curing concrete surfaces which are to have a rubbed finish or faces of construction joints will not be permitted.

S-713.01.3--Polyethylene Sheeting (White). White polyethylene sheeting shall conform to the requirements of AASHTO Designation: M 171 for white opaque polyethylene film.

S-713.02--Admixtures for Concrete. Air-entraining admixtures used in portland cement concrete shall comply with AASHTO Designation: M 154. Set-retarding, accelerating, and/or water reducing admixtures shall comply with AASHTO Designation: M 194.

The Engineer reserves the right to sample, for check tests, any shipment or lot of admixture delivered to a project.

The Engineer reserves the right to require tests of the material to be furnished, using the specific cement and aggregates proposed for use on the project, as suggested in AASHTO Designation: M 154 and outlined in AASHTO Designation: M 194.

Admixtures containing chlorides will not be permitted.

Failure to maintain compliance with any requirement of these specifications shall be cause for rejection of any previously approved source or brand of admixture.

When an admixture is used in portland cement concrete, it shall be the responsibility of the Contractor to produce satisfactory results.

SECTION S-714 - MISCELLANEOUS MATERIALS

S-714.01--Water.

S-714.01.1--General. All water used shall be free from injurious quantities of oil, acid, alkali, or vegetable matter; shall be reasonably clear; and shall not be brackish. If at any time water from source becomes of unsatisfactory quality or of insufficient quantity, the Contractor shall provide satisfactory water from some other source. Where the source of water is relatively shallow, the Engineer may require the intake to be so enclosed as to exclude silt, mud, grass, or other foreign materials.

Requirements for impurities set out in these specifications are general maximums which may be used as a basis for acceptance. However, if the preliminary analysis indicates that any of the specified limits for acidity or alkalinity, organic solids, or inorganic solids are exceeded, the water may be further tested as provided in S-714.01.6 to determine its suitability for the purpose intended.

S-714.01.2--Water for Use in Concrete. Water used in mixing of concrete, mortar, and grout shall be as set out above. In addition, the water shall not contain impurities in excess of the following limits:

Acidity or alkalinity (calculated in terms of calcium carbonate), %	0.05
Total organic solids, %	0.05
Total inorganic solids, %	0.05

The tests for organic solids and inorganic solids may be waived by the Engineer on water samples from ponds, lakes, streams, rivers, and ditches in all except the following counties: Pearl River, Stone, George, Hancock, Harrison and Jackson Counties.

S-714.01.3--Water for Use in Chemically-Stabilized Subbase and Base. Water used in construction of subbases or bases which contain cement, lime, or other chemical additive shall be as set out in S-714.01.1 and, in addition, shall not contain impurities in excess of the following limits:

Acidity or alkalinity (calculated in terms of calcium carbonate), %	0.5
Total organic solids, %	0.05
Total inorganic solids, %	0.20

The tests for organic solids and inorganic solids may be waived by the Engineer on water samples from ponds, lakes, streams, rivers, and ditches in all except the following counties: Pearl River, Stone, George, Hancock, Harrison and Jackson Counties.

S-714.01.4--Water for Use in Granular Subbase and Base. Water for use in granular subbases or bases may be brackish.

S-714.01.5--Water for Use in the Planting and Establishment of Vegetation. Water used for planting and establishment of vegetation shall meet the requirements of S-714.01.1 as related to injurious quantities of oil, acid, or alkali and shall not be brackish.

S-714.01.6--Tests. Water obtained, from a potable source approved by the Mississippi State Health Department will not be required to be tested; otherwise, as applicable, a routine analysis of the sample of water submitted will be made. If the routine analysis indicates that any of the specified limits for acidity or alkalinity, organic solids, or inorganic solids are exceeded, the water may be further tested by either or both of the following methods as determined by the Engineer.

1. A chemical analysis to determine the nature of the specified characteristics for which minimum values are established.
2. Strength and Time-of-Set Test. Results of additional tests may be considered satisfactory if:
 - (a) The solids are found to be not detrimental to the materials with which the water is used;
 - (b) The alkali carbonates and bicarbonates do not exceed 0.1% by weight of water when the combination of carbonates and bicarbonates is calculated to sodium carbonate, Na_2CO_3 ;
 - (c) The 28-day strength of mortar with the water is not less than 90% of that made with distilled water; and
 - (d) The time of set is not less than 45 minutes.

In general, water will be approved if it complies with the applicable requirements of the Standard Specifications, or if the results of additional tests as provided above are determined by the Engineer to be satisfactory.

No formal tests of water used for granular subbase, base, or embankment construction, or in connection with the planting and establishment of vegetation will be made unless the Engineer questions the quality of the water.

S-714.02--Calcium Chloride. Calcium chloride shall conform to the requirements of AASHTO Designation: M 144. Calcium chloride shall not be used in concrete which will be prestressed; nor shall it be used in other concrete unless specifically approved by the Engineer.

S-714.03--Lime.

S-714.03.1--General. Lime shall be stored and handled in closed, weather-proof containers until used. If local storage is provided, lime shall be used only from approved storage facilities and shall meet the requirements of the contract at the time of use.

S-714.03.2--Hydrated Lime. Hydrated lime for use in mortar shall conform to the requirements of ASTM Designation: C 207, Type N.

Hydrated lime for soil stabilization shall conform to the following requirements:

Calcium and magnesium oxides	
(nonvolatile basis), %, min.....	90
Carbon dioxide, %, maximum.....	7
Moisture loss, 2 hrs. @ 120°C, maximum	3
Gradation of Residue:	
Retained on No. 30 sieve, %, maximum	2.5
Retained on No. 200 sieve, %, maximum	15

S-714.03.3--Quick Lime

S-714.03.3.1--Granular or Pelletized Quick Lime Granular or pelletized quick lime for soil stabilization shall be a commercial granular or pelletized quick lime and shall conform to the following requirements prior to slaking:

Calcium and magnesium oxides, nonvolatile basis, %, minimum.....	90
Carbon dioxide, %, maximum	7
Gradation, percent passing by weight:	
¾ inch sieve	100
No. 4 sieve	0-30

The Contractor shall furnish certified test reports with each shipment of quick lime attesting to the purity of the lime and that the lime meets the requirements of the specifications; however, the material shall be subject to inspection, test, or rejection by the Engineer at any time.

S-714.03.3.2--Dry Quick Lime Dry quick lime used for soil stabilization by the dry application method shall be a commercial quick lime and shall conform to the following requirements after two minutes on a Ro-tap shaker:

<u>Sieve</u>	<u>Percent Passing By Weight</u>
No. 10	100
No. 20	90 - 100
No. 100	0 - 20
No. 200	0 - 5

Dry quick lime shall meet the slaking standards as defined in ASTM Designation: C 110, and shall reach maximum heat rise in no more than six (6) minutes.

The Contractor shall furnish certified test reports with each shipment of quick lime attesting to the purity of the lime and that the lime meets the requirements of the specifications; however, the material shall be subject to inspection, test, or rejection by the Engineer at any time.

S-714.03.4--Bag Lime When bag lime is used, the bag shall bear the weight certified by the manufacturer. Bags varying more than five percent from the certified weight will be rejected, and the average weight of 50 bags in any shipment taken at random shall not be less than the certified weight. Bag lime shall conform to the requirements of hydrated or quick lime as applicable.

S-714.03.5--Limestone Dust The source of the material shall be approved by the Engineer and meet the following gradation requirements:

<u>SIEVE</u>	<u>PERCENT PASSING</u>
No. 30	95-100
No. 200	20-100

S-714.04--Sodium Chloride. Sodium chloride shall conform to the requirements of AASHTO Designation: M 143.

S-714.05--Fly Ash.

S-714.05.1--General. When required or permitted in construction, fly ash shall be obtained from an approved source. The acceptance of fly ash shall be based on certified test reports, certification of shipment from the supplier, and tests performed on samples obtained after delivery in accordance with the Office of State Aid Road Construction's Standard Operating Procedures.

Different classes of fly ash or different sources of the same class shall not be mixed or used in the construction of a structure or unit of a structure, without written permission from the Engineer. The Contractor shall provide suitable means for storing and protecting the fly ash against dampness. Fly ash, which for any reason, has become partially set or which contains lumps of caked fly ash shall not be used.

The temperature of the bulk fly ash shall not be greater than 165°F at the time of incorporation into the work.

In addition to the above requirements fly ash shall meet the following specific requirements for the intended use.

S-714.05.2-Fly Ash for Use in Concrete. When used with portland cement (Types I or

II) in the production of concrete, grout, or in soil stabilization, the fly ash shall meet the requirements of AASHTO Designation: M 295, Class C or Class F, with the following exceptions:

The loss on ignition shall not exceed 6.0 percent.

The Pozzolanic activity index with portland cement, at 7 days, shall be at least 55 percent of the control mix. The water requirement shall not exceed 105 percent of the control mix.

Fly ash shall not be used with portland cement Type IP.

S-714.05.3-Fly Ash for Soil Stabilization. When used with hydrated lime in soil stabilization, the class of fly ash shall be as specified in the contract. The fly ash, when mixed with hydrated lime and soil or soil-aggregate, shall produce the minimum design characteristics for the course to be stabilized. The fly ash shall meet the requirements of AASHTO Designation: M 295 for the class specified, except the loss on ignition shall not exceed 10.0 percent.

S-714.06--Ground Granulated Blast Furnace Slag (GGBFS).

S-714.06.1--General. GGBFS shall be obtained from an approved source. The acceptance of GGBFS shall be based on certified test reports, certification of shipment from the supplier and tests performed on samples obtained after delivery in accordance with the Office of State Aid's Standard Operating Procedures.

The Contractor shall provide suitable means for storing and protecting the GGBFS against dampness and contamination. Separate storage silos, bins, or containers shall be provided for GGBFS. GGBFS which has become partially set, caked or contains lumps shall not be used.

The Engineer shall be notified in writing of the nature, amount and identity of any processing or other additions made to the GGBFS during production.

GGBFS from different mills shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer; except that this requirement will not be applicable to cement treatment of design soil, subbases or bases.

In addition to these requirements, GGBFS shall meet the following specific requirements.

S-714.06.2--Specific Requirements. GGBFS shall meet the requirements of AASHTO Designation: M 302, Grade 120. GGBFS shall contain no chlorides.

S-714.07--Blank.

S-714.08--Frames, Grates, Covers, and Ladder Rungs. Metal units shall conform to the plan dimensions and to the applicable requirements in S-716 or S-717.

Galvanizing, where specified for these units, shall conform to the requirements of AASHTO Designation: M 111, unless otherwise designated.

S-714.09--Blank.

S-714.10--Elastomeric Bearings.

S-714.10.1--General. This work shall consist of furnishing and installing elastomeric bearings in accordance with the plans and these specifications. All required testing and furnishing of sample bearings is considered to be part of the covered work. Shop drawings shall be approved by the Engineer prior to beginning of fabrication or production of bearings. Elastomeric bearings, as herein defined, shall include plain or nonreinforced pads consisting of elastomer only, and reinforced or laminated bearings consisting of elastomer reinforced with steel laminates.

All elastomeric bearings shall be furnished to the dimensions indicated on the plans. They shall be composed of the specified elastomer type, grade and hardness (or shear modulus); shall be adequate for the specified design load; shall be tested at the appropriate level; and shall satisfy any special requirements as shown on the plans.

S-714.10.2--Elastomer. The raw elastomer shall be virgin polychloroprene (Neoprene), Grade 3 (Ref. ASTM Designation: D 4014).

Elastomer for plain or non reinforced bearings shall be 70-Durometer, adequate for 800 psi design compression stress, and shall be tested to Level I as hereinafter described.

Unless otherwise shown on the plans, elastomer for laminated or reinforced bearing shall be 50-Durometer, adequate for 1,000 psi design compression stress, and shall be tested to Level I as hereinafter described.

An elastomer of higher grade number may be substituted for the specified grade.

The elastomer compound shall also meet the minimum requirements of Table I except as otherwise specified by the Engineer. When test specimens are cut from the finished product, a 10 percent variation in physical properties shall be permitted. All material tests shall be carried out at 73°F $\pm$ 4°F unless otherwise specified.

Table 1

MATERIAL PROPERTY	ASTM DESIGNATION	TEST REQUIREMENTS	POLYCHOROPRENE			UNITS
			50 DURO	60 DURO	70 DURO	
Physical Properties	D2240 D412	Hardness Min. tensile strength Min. ultimate elongation	50±5 2250 400	60±5 2250 350	70±5 2250 300	Shore A Pts. psi %
Heat Resistance at specified temp.	D573	Specified temperature of test-22hrs. Aging time Max. change in durometer hardness Max. change in tensile strength Max. change in ultimate elongation	212 70 +15 -15 -40	212 70 +15 -15 -40	212 70 +15 -15 -40	°F Hours Shore A Pts. % %
Compression Set at specified temp.	D395 Method B	Specified temperature of test degrees Max. permissible set	212 35	212 35	 35	°F %
Ozone Resistance	D1149	Partial pressure of ozone during test Duration of test Tested at 20% strain 100°F±2°F mounting procedure D518, Procedure A	50 100 no cracks	50 100 no cracks	50 100 no cracks	mPa Hours
Low Temperature	D2137 Method A D1415 or D2240 D1229	Low temperature Brittleness Test (required for Grade 3 & 5 only) at -13°F for Grade 3 and -40°F for Grade 5 Low temperature stiffness (required for Grades 2, 3 and 5 only). Conditioned for 22 hours at 14°F for Grade 2, -13°F for Grade 3 and -40°F for Grade 5. Max. change in hardness Max. low temperature compression set (required for Grades 2, 3 and 5 only) when tested at 25% compression for: 22 hours at 32°F for Grade 2, 7 days at 14°F for Grade 3, 14 days at each of 14°F and -13°F for Grade 5.	no failure +15 65	no failure +15 65	no failure +15 65	 Shore A Pts. %

S-714.10.3--Steel Laminates. Steel laminates used for reinforcement shall be made from rolled mild steel conforming to ASTM Designation: A 36 or A 1011, unless otherwise specified by the Engineer. The laminates shall have a minimum nominal thickness of 16-gauge. Holes in plates for manufacturing purposes shall be considered in design.

S-714.10.4--Bonding Adhesive. The vulcanized bond between the elastomer and steel laminates shall have a minimum peel strength of 40 pounds per inch. The peel strength shall be performed in accordance with ASTM Designation: D 429, Method B.

S-714.10.5--Fabrication.

S-714.10.5.1--General. Plain pads shall be cast as a single unit in individual molds under heat and pressure except leveling pads 3/8 inch or less in thickness may be sheared. Bearings with steel laminates shall be cast as a unit in a mold and bonded and vulcanized under heat and pressure. The molds shall have standard shop practice mold finish. The internal steel laminates shall be sandblasted and cleaned of all surface coating rust and mill scale before bonding, shall be free of sharp edges and burrs, and shall have a minimum edge cover of 1/8 inch.

Flash tolerance, finish, and appearance shall meet the requirement of the latest edition of the Rubber Handbook as published by the Rubber Manufacturers Association, Inc., RMA F3 and T.063 for molded bearings and RMA F2 for extruded bearings.

S-714.10.5.2--Tolerances. Plain pads and laminated bearings shall be built to the design dimensions and these specifications with the following tolerances:

(a)	Overall Vertical Dimensions Design Thickness 1 1/4" or less Design Thickness >1 1/4"	(Inches) -0, +1/8" -0, +1/4"
(b)	Overall Horizontal Dimensions 36" and less over 36"	-0, +1/4" -0, +1/2"
(c)	Thickness of Individual Layers of Elastomer Laminated Bearings Only at any point within the bearing	±20% of design value but no more than ±1/8"
(d)	Variation from a Plane Parallel to the Theoretical Surface as determined by measurements at the edge of the bearings:	
	Top	slope relative to bottom of no more than .005 radians
	Sides	1/4"
(e)	Position of Exposed Connection Members	1/8"
(f)	Edge cover of Embedded Laminates or Connection Members	-0, +1/8"
(g)	Size of Holes, Slot or Inserts	±1/8"
(h)	Position of Holes, Slots, or Inserts	±1/8"

S-714.10.6--Acceptance Procedure. The acceptance criteria shall be at two levels. Level I acceptance shall be applied to all elastomeric bearings. Level II acceptance criteria shall be applied as required on the plans or contract documents. Level II criteria shall also be used to resolve differences over the acceptance of bearings to which only Level I tests have been applied.

Level I criteria require that bearing pads be manufactured according to this specification and any additional requirements specified on the plans. The manufacturer shall proof load each steel reinforced bearing with a

compressive load of 1500 psi. If bulging patterns imply laminate placement which does not satisfy design criteria and manufacturing tolerances or if bulging suggests poor laminate bond, the bearing shall be rejected. If there are 3 separate surface cracks which are greater than 0.08 inch wide and inch deep, the bearing shall be rejected.

A copy of the proof loading results for each lot of steel reinforced bearings shall be furnished to the Engineer prior to shipment of the bearings.

The Engineer reserves the right to require that proof

loading be done in the presence of and witnessed by a representative of the Engineer. Whether an Engineer representative was present to witness the proof loading or not, the manufacturer's certification concerning compliance with the requirements of the contract shall attest to acceptable proof loading.

Level I criteria require that the elastomer satisfy the minimum properties of Table I. Level I criteria also include bond test for laminated bearings (ASTM Designation: D 429, Method B).

Level II certification requires that all Level I conditions be satisfied, except that individual conditions may be waived by the Engineer if Level II certification is used as an arbitration of disputes. Additionally, shear modulus and compressive stiffness shall be determined in accordance with ASTM Designation: D 4014. The shear modulus shall fall within the range of values specified in the following Table. Compressive stiffness tests shall be performed on the complete bearing. The compressive stiffness shall vary by no more than ± 10 percent from the median value of all bearings.

Table

HARDNESS (SHORE A)	50	60	70
Shear Modulus at 73°F (psi)	85-100	120-155	160-200

The Contractor shall furnish to the Engineer three copies of the manufacturer's certified test reports and certification that each lot in a shipment complies with the requirements of the contract.

S-714.10.7--Marking. Each reinforced bearing shall be marked in indelible ink or flexible paint. The marking shall consist of the order number, lot number, bearing identification number, and elastomer type and grade number. Unless otherwise specified in the contract documents, the marking shall be on a face which is visible after the erection of the bridge.

S-714.10.8--Sampling. A lot for plain bearings shall be the manufacturer's lot. Each designated thickness of laminated bearings used on a project shall constitute a lot. Unless otherwise specified on the plans or in the contract documents, sampling shall be at the rate of one bearing per lot. The supplier shall produce sufficient extra bearings (pads) to accommodate this sampling. Bearings (pads) from within a lot shall be selected at random by the Engineer as samples for inspection and testing.

S-714.11--Portland Cement Mortar and Grout.

S-714.11.1--General. The ingredients for portland cement mortar and grout shall conform to the following requirements:

1. Portland Cement - S-701.01
2. Masonry Cement - S-701.02 3.
3. Water - S-714.01.2
4. Fine aggregate unless otherwise designated shall conform to the requirements of S-703.02 or S-703.18
5. Calcium chloride - S-714.02
6. Hydrated lime - S-714.03.2 7.
7. Fly Ash - S-714.05
8. Limestone Dust - S-714.03.5

S-714.11.2--Grout for Pressure Grouting. Grout for pressure grouting shall consist of a mixture of portland cement, water, calcium chloride, fly ash and/or limestone dust and fine sand in the proportions set forth in S-612.02.2.

Fine sand shall meet the following requirements:

<u>Square Mesh Sieve</u>	<u>Percent Passing by Weight</u>
No. 10	100
No. 60	40-90
No. 200	0-50
Percent Silt	0-25
Percent Clay	0-12
Percent Organic Material	0-3
Plasticity Index	N.P.

S-714.11.3--Grout for Posttensioned Members. Grout for posttensioned members shall consist of a mixture of:

1 part portland cement, Type 1 1/4 part fly ash

3/4 part washed sand (all passing No 16 sieve,
not more than five percent retained on No. 30 sieve)

Four to six gallons of water per bag of cement

A plasticizing admixture, subject to approval by the Engineer, shall be used in accordance with the manufacturer's recommendations.

The grout shall be mixed in a mechanical mixer, shall have the consistency of heavy paint and shall be agitated until placed.

Members shall not be moved before the grout has set; ordinarily 24 hours minimum at 80°F or higher.

S-714.11.4--Blank.

S-714.11.5--Masonry Mortar. Masonry mortar shall consist of masonry cement mixed in accordance with the formula shown on the bag or shall consist of one part portland cement, three parts mortar sand (the addition of hydrated lime will be permitted in the proportion of 1/10 part by volume of the cement), and sufficient water to make a mortar of such consistency that it can be easily handled and spread with a trowel.

Mortar for use in other than masonry work, fine aggregate meeting the requirements of S-703.02 may be used.

Unless an approved mortar mixing machine is used, the sand and mortar mix, or cement and lime, shall be mixed dry in a tight box until the mixture assumes a uniform color, after which water shall be added as the mixing continues until the mortar attains the proper consistency.

Mortar shall be used within 45 minutes after its preparation. Retempering of mortar will not be permitted.

S-714.11.6--Rapid Setting Commercial Grouts and Concrete Patching Compounds. Rapid setting commercial grouts and concrete patching compounds must be approved for listing in the MDOT's "Approved Sources of Materials" prior to use, and shall be premeasured and packaged dry by the manufacturer. All liquid solutions included by the manufacturer as components of the packaged material shall be packaged in a watertight container. The manufacturer may include aggregates in the packaged material or recommend the addition of Contractor furnished aggregates.

The type, size and quantity of aggregates, if any, to be added at the job site shall be in accordance with the manufacturer's recommendations and shall meet the requirements of S-703.02 for fine aggregate and S-703.03 for coarse aggregate. Required mixing water to be added at the job site shall meet the requirements of S-714.01.2.

Only those bonding agents, if any, recommended by the manufacturer of the grout or patching compounds may be used for increasing the bond to old concrete or mortar surfaces.

Grout or patching compounds containing chlorides will not be permitted when in contact with steel.

Site preparation, proportioning of materials, mixing, placing and curing shall be performed in accordance with the manufacturer's recommendation for the specific type of application, and the Contractor shall furnish a copy of these recommendations to the Engineer.

Rapid setting non-shrink commercial grouts and concrete patching compounds, including components to be added at the job site, shall conform to the following physical requirements:

Compressive strength shall equal or exceed 3000 psi in 24 hours when tested in accordance with Mississippi Test Method MT-4.

Bond strength shall equal or exceed 100 psi in 24 hours when tested in accordance with Mississippi Test Method MT-4.

The material shall not shrink, and the increase in length at 28 days shall not be greater than 0.3% when tested in accordance with Mississippi Test Method MT-4.

The Contractor shall furnish to the Engineer three copies of the manufacturer's certified test report(s) showing results of all required tests and certification that the material meets the specifications when mixed and placed in

accordance with the manufacturer's instructions. When the mixture is to be placed in contact with steel, the certification shall further state that the packaged material contains no chlorides. Certified test report(s) and certification shall be furnished for each lot in a shipment.

The proportioning of materials must be approved by the an approved lab, and any subsequent change in proportioning must also be approved. A sample of each component shall be submitted to the Engineer along with the quantity or percentage of each to be blended. At least 45 days must be allowed for initial approval.

The proportioning of materials for subsequent lots may be approved by the a n approved lab, upon receipt of certification from the manufacturer that the new lot of material is the same composition as that originally approved and that the material has not been changed or altered in any way.

S-714.11.7--Commercial Grout for Anchoring Doweled Tie Bars in Concrete.

S-714.11.7.1--Epoxy Grout Anchor System. Epoxy grout shall consist of one part liquid epoxy to a maximum of four parts clean dry silica sand by volume. The epoxy shall be a two-component epoxy-resin bonding system for application to portland cement concrete. The silica sand shall be bagged general purpose blast cleaning sand. The grout shall be placed with equipment that dispenses the grout evenly around the bar and completely fills the hole. Tamping the material in the hole by hand will not be satisfactory.

S-714.11.7.2--Non-Expanding Chemical Anchor System. Chemical anchor system shall consist of a premeasured unit containing polymeric or epoxy type resin, a hardener and may also include quartz sand aggregate. The resin and hardener shall be isolated from each other by a physical-chemical barrier or may be contained in separate premeasured units.

S-714.11.7.3--Installation. Unless otherwise specified, installation and hole sizes shall be in accordance with the manufacturer's recommendations.

S-714.11.7.4--Acceptance Procedure. The anchor system must be one from MDOT's "Approved Sources of Materials". Prior to use, the Contractor shall furnish the Engineer three copies of the manufacturer's certification for each shipment stating that the material furnished is of the same composition as that originally approved and that the material has not been changed or altered in any way.

Each day an in-place tension test shall be performed at random on a tie bar with a maximum curing time of two hours. If the test fails to meet the total load required to stress the bar to 50,000 psi, three additional tests shall be made at random. If any of the additional tests fail, all bars installed on that day shall be tested and any bar that fails shall be replaced. The Contractor shall furnish the testing device which shall include a certified calibration chart. No separate measurement for payment will be made for the testing device.

S-714.11.8--Epoxy Joint Repair System.

S-714.11.8.1--General. When the epoxy system is from MDOT's current list of "Approved Sources of Materials", the Contractor shall furnish the Engineer three copies of the manufacturer's certification, for each shipment, stating that the epoxy and all components is the same composition as that originally approved and that the material has not been changed or altered in any way.

If the materials proposed for use are not from the MDOT's current list of approved materials, a sample of

the epoxy and all components required for the epoxy mortar mix shall be submitted to the Engineer for evaluation and approval at least 30 calendar days prior to placement. Subsequent approval of each shipment may be by manufacturer's certification as set out above.

A representative of the epoxy manufacturer must be present for sufficient time to assure that the Contractor is properly schooled in the use of the epoxy materials.

S-714.11.8.2--Epoxy Resin. The material shall meet the requirements of ASTM Designation: C 881, Type I, Grade 2, Class C.

S-714.11.8.3--Silica Sand. The material shall be bagged general purpose blast cleaning sand.

S-714.11.8.4--Epoxy Mortar Mix. The mortar mix shall consist of one part liquid epoxy to 3.5 parts clean dry sand by volume.

S-714.11.8.5--Mixing and Curing. Mixing of all epoxy materials shall be accomplished with a mechanical mixer. A trial batch of mortar, approximately one cubic foot, will be mixed and used for joint repair. From this batch, the pot life and subsequent amount of material to be mixed will be determined.

S-714.12--Sprayed Finish for Concrete Surfaces. The spray material shall be an approved commercial product designed specifically for a sprayed finish and when applied to the concrete specimens at a rate of one gallon per 50 square feet shall conform to the following requirements:

S-714.12.1--Freeze-Thaw Test. Cast and cure three concrete specimens, not less than 4" x 6" x 6", of the mix designed for the structure. Fourteen days moist curing with a drying period in room air at 60° to 80°F for 24 hours before coating with spray finish is required. Caution shall be taken that there be no excessive oil on specimen forms. Coat sides of specimens (brush permitted) as hereinbefore set out and cure at room temperature for 48 hours; after which:

1. Immerse in water at room temperature (60° to 80°F) for three hours; remove and,
2. Place in cold storage at -15°F for one hour; remove and,
3. Thaw at room temperature (60° to 80°F) for one hour.
4. Repeat Steps 2 and 3 to complete a total of 50 cycles.

At the end of 50 cycles of Freeze/Thaw Test, the specimens shall show no visible defects.

S-714.12.2--Accelerated Weathering. Material shall be subjected to a 5000 hour exposure test in accordance with ASTM Designation: G 151. Testing shall be performed in conjunction with either ASTM Designation: G 153, Carbon Arc Light Apparatus, or ASTM Designation: G 155, Xenon Arc Light Apparatus. Test Exposure Conditions shall be as specified in Table X1.1, Cycle 1 in ASTM Designation: G 153, or Table X3.1, Cycle 1 in ASTM Designation: G 155. At the end of the exposure test, the exposed sample must not show any chipping, flaking or peeling.

S-714.12.3--Fungus Growth Resistance. Material to be used shall pass a fungus resistance test as described by ASTM Designation: D 3273 with a minimum incubation period of 21 days where no growth shall have been indicated after the test.

S-714.12.4--Color. The color of the finish shall be that deemed by the Engineer to be as close as practicable to the color of a rubbed concrete finish.

S-714.12.5--Testing and Certification. All testing shall be performed by a qualified commercial testing laboratory acceptable to the Engineer.

Before part of a shipment is applied on the project, the Contractor shall furnish the Engineer with a certificate from the manufacturer attesting that the commercial product furnished conforms to the same formula as that previously subjected to the specified tests, and approved. Copies of the current test reports shall be attached to the certificate.

No test report for tests made more than four years prior to shipment to the project will be accepted.

S-714.13--Geotextiles.

S-714.13.1--General. Unless specified otherwise, the geotextile may be woven or non-woven. The fibers used in the manufacture of the geotextiles and the threads used in joining geotextiles by sewing, shall consist of long-chain synthetic polymers, composed of at least 95% by weight polyolefins, polyesters, or polyamides. They shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including selvages. The geotextile shall be mildew resistant and inert to biological degradation and naturally encountered chemicals, alkalines and acids. Geotextile which is not protected from sunlight after installation shall contain stabilizers and/or inhibitors to make it resistant to deterioration from direct sunlight, ultraviolet rays, and heat.

The edges of the geotextile shall be salvaged or finished in such a manner to prevent the outer yarn of filaments from raveling. The geotextile shall be free of defects or flaws, which affect the required physical properties.

Geotextile for silt fence shall be manufactured in widths of not less than three feet, and geotextile for other applications shall be manufactured in widths of not less than six feet. Sheets of geotextile may be sewn or bonded together at the factory or other approved locations, but deviation from the physical requirements will not be permitted.

Acceptance testing, except geotextile for silt fence, will be conducted with geotextile samples from each lot shipped to the project, as per Subsection S-714.13.10.

S-714.13.2--Geotextile for Silt Fence. The geotextile shall conform to the physical requirements of Type I or II as shown in Table I. Unless a specific type is specified in the plans or contract documents, the Contractor may select Type I or II.

S-714.13.2.1--Woven Wire Backing. Except as provided herein, silt fence shall be reinforced with a woven wire backing. The wire backing shall be at least 32 inches high and have no less than six horizontal wires. Vertical wires shall be spaced no more than 12 inches apart. The top and bottom wire shall be 10 gage or larger. All other wire shall be no smaller than 12 1/2 gage.

S-714.13.2.2--Posts. Wood or steel posts may be used. Wood posts shall have a minimum diameter of three inches and length of five feet and shall be straight enough to provide a fence without noticeable misalignment. Steel tee posts shall be five feet long, approximately 1 3/8 inches wide, 1 3/8 inches deep, and 1/8 inch thick with a nominal weight of 1.33 pounds per foot prior to fabrication. The posts shall have projections, notches or holes for fastening the wire backing or geotextile to the posts.

S-714.13.2.3--Staples. Staples shall be made of nine gage wire with a minimum length of one inch after bending.

S-714.13.3--Geotextile for Subsurface Drainage. Unless otherwise specified, the geotextile shall conform to the physical requirements of Type III as shown in Table I.

S-714.13.3.1--Geotextile for Edge Drains. The geotextile shall conform to the physical requirements of Type V as shown in Table I, except the AOS for the woven geotextile shall have a range of 0.15 mm to 0.43 mm.

S-714.13.4--Geotextile Underseal. The geotextile shall be non-woven polyester or polypropylene, which is satisfactory for use with asphalt cements. Unless otherwise specified, the geotextile shall conform to the physical requirements of Type IV in Table I.

S-714.13.5--Geotextile for Use Under Riprap. Unless otherwise specified, the geotextile shall conform to the physical requirements of Type V in Table I. The requirements for grab tensile, puncture, and trapezoidal tear strengths may be reduced 50 percent when the geotextile is cushioned from rock placement by a 6-inch minimum layer of sand.

S-714.13.6--Geotextile Stabilization. The geotextile shall meet the physical requirements as shown in Table I for the Type specified in the plans or contract documents.

S-714.13.7--Securing Pins. Steel pins used for anchoring the geotextile shall be three-sixteenth inch (3/16") in diameter, minimum length of 15 inches, pointed at one end and fabricated with a head for retaining a steel washer. A minimum one and one-half inch (1 1/2") washer shall be installed on each pin.

S-714.13.8--Identification. Each roll of geotextile or container shall be visibly labeled with the name of the manufacturer, type of geotextile or trade name, lot number, and quantity of material.

S-714.13.9--Shipment and Storage. During shipment and storage, the geotextile shall be protected from direct sunlight, ultraviolet rays, temperatures greater than 140°F, mud, dirt, dust, and debris. The geotextile shall be wrapped and maintained in a heavy-duty protective covering, including ends of roll.

S-714.13.10--Acceptance By Certification. The Contractor shall furnish to the Engineer three copies of the manufacturer's certification that each lot in a shipment complies with the requirements of the contract. Certification of geotextile fabric shall include a material conformance statement, as per S-700.05.1, that the geotextile fabric meets or exceeds the minimum average roll values specified in Table I. All geotextile, steel pins, washers, fence posts, woven wire and wire staples are subject to approval by the Engineer upon delivery to the work site.

714.13.11 – Table.

TABLE I, GEOTEXTILES

Type Designation	I ^a	II ^a	III	IV	V	VI		VII		
Application	Sediment Control		Drainage	Paving	Separation & Drainage	Separation, Stabilization & Reinforcement				
Physical Properties										
Grab Strength, Pounds	50	90	110	90	200	W 280	NW 180	W 450	NW 280	ASTM D 4632
Elongation %	----	50% max @ 45 lbs.	20% min	50% min @ break	50% min	50% max	50% min	50% max	50% min	ASTM D 4632
Seam Strength, Pounds	----	----	70	----	180	240	160	400	240	ASTM D 4632
Puncture Strength, Pounds	----	----	40	----	80	110	75	180	115	ASTM D 4883
Trapezoidal Tear, Pounds	----	----	40	----	80	100	70	150	100	ASTM D 4533
Asphalt Retention, gallons / square yard	----	----	----	0.2	----	----	----	----	----	ASTM D 6140
Permittivity, sec ⁻¹	0.05	0.05	0.5	----	0.15	0.2	0.2	0.2	0.2	ASTM D 4491
AOS Woven, mm	0.15 - 0.84	0.15 - 0.84	0.15 - 0.43	----	0.21 - 0.43	0.15 - 0.21	----	0.15 - 0.21	----	ASTM D 4751
AOS Non-Woven, mm	<0.84	<0.84	<0.43	----	<0.43	----	<0.43	----	<0.43	ASTM D 4751
Tensile Strength after UV, % Retained	70@500 Hr.	70@ 500 Hr.	70@ 150 Hr.	----	70@ 150 Hr.	70@ 150 Hr.		70@ 150 Hr.		ASTM D 4355
Melting Point, °F	----	----	----	325	----	----		----		ASTM D 276

a. All property values, with the exception of apparent opening size (AOS), represent minimum average roll values in the weakest principal direction.

SECTION S-715 - ROADSIDE DEVELOPMENT MATERIALS

S-715.01--Topsoil.

S-715.01.1--General. Topsoil shall be a well-graded soil of good uniform quality, without detrimental admixture of subsoil, refuse, or foreign material and reasonably free of hard clods, stones, cement, brick, slag, concrete, sticks, or other undesirable material harmful to plant life.

S-715.01.2--Material to be Obtained from within the Project Limits. Topsoil for slope treatment shall meet the general requirements as stated above and shall have a pH value of not less than 4.5 nor more than 8.0.

S-715.01.3--Material to be Furnished by the Contractor. Topsoil for slope treatment shall meet the general requirements of S-715.01.1, shall have a pH value of not less than 4.5 nor more than 8.0, and shall be classified as a group A-4 or A-6 soil with minimum PI of 6.0 as specified by AASHTO Designation: M 145.

S-715.01.4--Sampling and Testing. Sampling and testing of topsoil shall be as set out in S-700.03.

S-715.02--Fertilizers.

S-715.02.1--General. Fertilizers shall comply with the fertilizer laws of the State of Mississippi.

S-715.02.2--Commercial Combination or Manufactured Fertilizer. Combination or manufactured fertilizer shall be "standard commercial products" and shall contain not less than the percentages by weight of the ingredients set out in Table A, except for agricultural limestone which shall meet the requirements of S-715.02.2.1.

TABLE A – TYPES OF FERTILIZERS

	COMBINATION								MANUFACTURED				
	* 10	18	6	15	12	8	0	13	Super Phosphat e	Ammonium Nitrate	Ure a	Muriat e Potash	Ureafor m
	10	46	8	10	24	24	20	13					
	10	0	8	10	12	24	20	13					
CHEMICAL COMPONENTS													
Nitrogen	* 10	18	6	15	12	8	0	12		33	45		38
Phosphorous P ₂ O ₅	10	46	8	10	24	24	20	13	20				
Potash K ₂ O	10	0	8	10	12	24	20	13				60	

*Ureaform (38-0-0) – This fertilizer shall contain a minimum of 38% total nitrogen, 27% of which shall be insoluble nitrogen derived from ureaform. The final mixture shall have a minimum activity index (AI) of 50% as determined by the appropriate AOAC procedure.

*Ureaform (10-10-10) – This fertilizer shall contain a minimum of 10% total nitrogen, 35% of which shall be insoluble nitrogen derived from ureaform. The final mixture shall have a minimum activity index (AI) of 40% as determined by the appropriate AOAC procedure.

S-715.02.2.1-- Agricultural Limestone. Agricultural limestone shall be either a Grade “A” liming material, or a marl or chalk agricultural liming material as addressed in the latest Mississippi Agricultural Liming Material Act of 1993, published by the Mississippi Department of Agriculture and Commerce.

S-715.02.2.1.1--Screening Requirements. Grade “A” liming material, including ground shells, shall not have less than 90% of the material passing the No. 10 sieve, and not less than 50% passing the No. 60 sieve. Marl or chalk lining material shall not have less than 90% of the material passing the No. 10 sieve.

S-715.02.2.1.2--Neutralizing Values. Grade “A” liming material shall not have less than 90% calcium and magnesium carbonate calculated as calcium carbonate equivalent when expressed on a dry weight basis. Marl or chalk liming material shall not have less than 70% calcium and magnesium carbonate calculated as calcium carbonate equivalent when expressed on a dry weight basis.

S-715.02.3--Sampling and Testing. Sampling and testing of agricultural limestone shall be in accordance with S-700.03. Labels on containers or attached thereto showing the guaranteed analysis of other fertilizers will be prima facie evidence as to conformity with the specified requirements.

S-715.03--Seed.

S-715.03.1--General. All seeds shall comply with the seed law of the State of Mississippi and the current regulations duly promulgated thereunder. The seed shall be delivered in bags with certified tags or labels attached to each bag showing the name (kind and variety), percent of germination and purity of the seed, and the percent of obnoxious weeds and inert matter.

S-715.03.2--Germination and Purity Requirements. The requirements for germination and purity shall be as set out in Table B:

TABLE B
GERMINATION AND PURITY REQUIREMENTS

Name (Kind)	Name (Variety)	Percent Germination	Percent Purity
GRASSES			
Bermudagrass	Common	85	95
Bahiagrass	Pensacola or Wilmington	85	85
Tall Fescue	Kentucky 31	80	95
Lovegrass	Weeping	80	97
Carpetgrass	-----	80	85
Millet	Browntop	85	98
Oats	-----	90	98
Rye Grain	-----	80	98
Centipede	-----	80	85
LEGUMES			
Crimson Clover	Dixie, Chief, Tibbee or Autauga	85	98
Annual Lespedeza	Kobe, Summit, or Climax	80	98
Sericea Lespedeza	Common, Interstate or Serala	80	98
Lespedeza	Vergata	90	98
Vetch	Hairy	85	95

S-715.03.3--Sampling and Testing. Except as provided in S-214.02, the certified analysis shown on the seed bags will be used to determine the purity, obnoxious seeds, and inert matter as to conformance with the above requirements. Seeds from bags not identified by certified analysis or from bags with certified analysis indicating the seeds do not meet contract requirements shall not be used.

All seeds may be sampled and tested for percent germination, and the Engineer reserves the right to sample and test seeds for any required characteristic when deemed appropriate to do so as a check on the quality of the seeds; in which case the results of such tests shall be the basis for acceptance, rejection, or adjustment under the provisions of the contract.

Samples of seed to be tested will be taken by personnel under the supervision of the Engineer. The seeds will be sampled by means of a trier (probe) through the seed bags. A 1/4 pound sample will be required from each seed lot with equal quantities being taken from each sack within a lot to make up the sample.

S-715.03.4--Leguminous Inoculants. Approved legume seeds shall be treated with leguminous inoculant under the supervision of the Engineer. The inoculants for treating leguminous seeds shall be standard, pure culture of nitrogen fixing bacteria. The seed shall be treated at the rate specified and according to the directions shown on the container of the inoculants and before the expiration date for use of the inoculant as also shown on the container.

S-715.04--Water. Water used in planting and establishment of vegetation shall comply with the applicable requirements of S-714.01.

S-715.05--Vegetative Materials for Mulch. The vegetative materials for mulch shall be classed as follows:

Type I. Approved baled straw of wheat, oat, rye grain, rice, broomsage or Bahia grass (with seed heads) which has reached maturity prior to cutting.

Type II. Approved baled hay produced from Bermuda, Bahia, Fescue, Dallis Grass, any of the Lespedezas, or combinations thereof.

All of the above materials shall have been properly cured prior to baling and shall be reasonably free from Johnson Grass and other obnoxious grasses and weeds. Vegetative material shall be reasonably bright in color, dry, and shall not be musty, moldy, or of otherwise low quality. Vegetative material that is wet or that has been baled green (nor cured properly) shall not be used.

Unless otherwise permitted in writing by the Engineer, Type I shall be furnished and used. The Engineer may permit the use of Type II when the Contractor has furnished satisfactory evidence in writing that Type I material is not available.

S-715.06--Blank.

S-715.07--Mulch for Woody Plant Materials. The mulch materials shall conform to the following.

S-715.07.1--Tree Bark Mulch. The mulch shall be a standard manufactured product of ground, shredded, or broken particles from the bark of trees and shall be reasonably free of weed seeds, harmful bacteria, or disease spores and substances toxic to plant growth. The mulch particles shall be of the following type(s), as specified in the contract:

Type I - Commonly known as extra coarse. Particle size shall be approximately one inch to 2 1/2".

Type II - Commonly known as coarse. Particle size shall be approximately 1/2 inch to one inch.

Type III - Commonly known as medium. Particle size shall be approximately 1/4 inch to 1/2 inch.

Type IV - Commonly known as fine. Particle size shall be approximately 1/8 inch to 1/4 inch.

All tree bark mulch shall be handled so as to insure proper protection against contamination at all times. The mulch shall be delivered to the job in unbroken bags or bales with a manufacturer's label or tag on each container. Labels or tags on the containers shall show the physical analysis of the contents, the size of the particles, and the volume. Labels on containers or attached thereto showing the guaranteed analysis and volume will be prima facie evidence of the materials meeting the above requirements. All mulch will, however, be subject to approval by the Engineer as to quality and quantity.

S-715.07.2--Aggregate Mulch. Aggregate used as mulch shall be crushed or uncrushed gravel Size 5 or Size 56 meeting the gradation requirements of S-703.14 for coarse aggregate cover material.

S-715.07.3--Straw. Straw material for mulch shall be classed as follows:

Class I - Approved baled wheat, oat, rice or rye straw. The materials shall have been cured properly prior to baling and shall be reasonably free from obnoxious grasses and weeds. The straw material shall be reasonably bright in color, dry and shall not be musty, moldy, or of otherwise low quality.

Class II - Approved baled pine needles that is reasonably free of twigs, branches, and obnoxious grasses and weeds. The material shall be dry and shall not be musty, moldy, or of otherwise low quality. All straw mulch shall be inspected and approved by the Engineer prior to its use.

S-715.08--Fertilizer for Woody Plant Materials. The fertilizer material for woody plants shall conform to the following requirements:

S-715.08.1--Fertilizer Packet. The fertilizer packet shall consist of an approved manufactured sealed polyethylene-paper laminated perforated packet containing one, two, or four ounces of water soluble fertilizer with a minimum guaranteed analysis of 16-8-16, 16% Nitrogen, 8% Phosphoric Acid, 16% Potash.

S-715.08.2--Fertilizer Tablet. The fertilizer tablet shall consist of an approved tightly compressed slow-release tablet 5, 10 or 21 gram size containing a minimum guaranteed analysis of 20-10-5, 20% Nitrogen, 10% Phosphoric Acid, 5% Potash.

S-715.08.3--Guaranteed Analysis. Labels on containers or attached thereto showing the guaranteed analysis will be prima facie evidence of the fertilizer materials meeting the specified requirements. All fertilizer packets and tablets will, however, be inspected and approved by the Engineer or, at the Engineer's discretion, may be sampled and tested.

S-715.09 - Ditch Liner Material. All ditch liner materials shall be new and free of rips or tears.

S-715.09.1--Jute Mesh. Jute mesh shall be of uniform, plain weave with warp and weft yarns of approximately the same size. The physical requirements shall be:

Length	50 yards per roll, minimum
Width	48" plus or minus 1"
Warp ends	78 per width, minimum
Weft yarns	41 per yard, minimum

The weight of cloth Shall average 1.22 pounds per linear yard with a tolerance of plus 10% or minus 5%.

S-715.09.2--Excelsior Blanket. Excelsior blanket shall consist of a machine-produced mat of interlocking wood excelsior with uniform thickness and the fiber evenly distributed over the entire area of the blanket. A fabric net of extruded plastic shall be applied to one side of the excelsior wood mat to hold the wood fibers in place.

The blankets shall not be exposed to moisture prior to placing.

The blanket shall meet the following requirements:

Interlocking Wood Fibers	0.02" x 0.04" (+ 25%) 50% must be 3 1/2" or longer
Fabric Net	1 1/2" x 3 1/2" maximum mesh size
Width	36" minimum

S-715.09.3--Erosion Control Blanket. The erosion control blanket shall consist of a machine-produced mat whose primary component is clean, weed-free straw from cereal grain crops. The straw must be evenly distributed throughout the mat. The top side of the blanket shall be covered with a photodegradable plastic mesh having 3/4" x 3/4" maximum openings which shall be substantially adhered to the straw by a knitting process using degradable thread. The blanket shall be supplied in a protective covering and shall meet the following requirements:

Straw *	0.50 pounds per square yards minimum dry weight
Netting	Photodegradable plastic
Width	48-inch minimum

* Coconut fiber may be used to replace a portion or all of the straw.

S-715.09.4--Erosion Control Fabric. Erosion control fabric shall consist of a flexible knitted construction of high strength degradable yarn with uniform openings interwoven with strips of biodegradable paper and shall conform to the following requirements:

Width	- 48 inches minimum
Weight	- 0.2 pound per square yard (approximate)

S-715.09.5--Wire Staples. The staples for securing the ditch liner material in place shall be a double prong "U" configuration made from 11-gauge or heavier steel wire with an approximate length of six inches after bending.

S-715.09.6--Roving.

S-715.09.6.1--Polypropylene Roving. This material shall be formed from continuous strands of fibrillated polypropylene yarn, collected into a rove. Fibrillation is defined as a net-like physical structure of the yarn created by splitting the yarn in a precise pattern during manufacture.

The polypropylene shall contain a sufficient amount of UV inhibitors so as to retain 70 percent of its strength after 500 hours of exposure in an Atlas Twin Arc Weatherometer.

The fibrillated polypropylene roving shall have the following detailed requirements:

Property	Limits	Test Method
Strands / Rove	20-30	End Count
Yards per Pound of Rove	410-620	ASTM Designation: D 1907
Package Weight, pounds	18 minimum	Scale
Color	Black	

S-715.09.6.2--Fiberglass Roving. The material shall be formed from continuous fibers drawn from molten glass, coated with a chrome complex sizing compound, collected into strands, and lightly bound together into a rove.

The fiberglass roving material shall meet the following detailed requirements:

<u>Property</u>	<u>Limits</u>	<u>Test Method</u>
Yield, yards per pound	170 - 300	ASTM Designation: D 578 Fiber Diameter, inch
	0.00035 - 0.00055	ASTM Designation: D 578 Strands / Rove
	50 - 70	End Count
Package Weight, pounds	25-50	Scale

S-715.09.7--Certification. The Contractor shall furnish the Engineer with three copies of the manufacturer's certification for each shipment of ditch liner material stating the amount furnished and that the material complies with the requirements of the specifications and also forward three copies of the manufacturer's or distributor's certification showing the wire size for each shipment of staples.

The certifications by the manufacturer or distributor will be prima-facie evidence of the materials meeting the specified requirements. All ditch liner material and staples will, however, be subject to approval by the Engineer.

SECTION S-720 - PAVEMENT MARKING MATERIALS

S-720.01--Glass Beads for 40 mil Hot Applied Spray Paint. Shall meet the requirements of S-710.03.5 and S-710.03.6 unless stated otherwise. Glass beads for thermoplastic shall be Class A, unless otherwise specified.

S-720.01.1--Class A. The Class A, Standard, beads shall be Type 1, non-flotation with a moisture resistant coating conforming to the requirements of AASHTO Designation: M 247.

S-720.01.2--Class B. The Class B, High-Visibility, beads shall be non-flotation, embedment coated and conform to the following specific requirements.

S-720.01.2.1--Gradation. The beads shall meet the gradation requirements of Table 1.

Table 1

<u>Sieve No.</u>	<u>% Retained</u>
12	0
14	0-5
16	5-20
18	40-80
20	10-40
25	0-5
Pan	0-2

S-720.01.2.2--Roundness. The beads shall have a minimum of 80 percent rounds per screen for the two (2) highest sieve quantities. The remaining sieve fractions shall be no less than 75 percent rounds.

S-720.01.2.3--Angular Particles. The beads shall have no more than three (3) percent angular particles per screen.

S-720.01.2.4--Refractive Index. The beads shall have a refractive index of 1.50 to 1.52.

S-720.01.3--Packaging and Marking. The beads shall be packaged in 50 or 55-pound moisture proofed bags. Each bag shall be stamped with the following information: name and address of manufacturer, shipping point, trademark or name, the wording "glass beads", class, weight, lot number and the month and year of manufacture.

S-720.01.4--Acceptance Procedures. The manufacturer shall furnish the Engineer three copies of the certified test report(s) showing results of all required tests and certification that the material meets the specifications.

S-720.02--Temporary Raised Pavement Markers. S-720.02.1—

Material Requirements:

- A. The temporary raised markers shall be flexible reflective tabs. The markers shall be yellow with amber reflective area on both sides. The body of the marker shall consist of a base and vertical wall made of polyurethane or other approved material and shall be capable of maintaining a reasonable vertical position after installation. The initial minimum reflectivity at an angle of incidence of 4° and an observation angle of 0.2° shall be 2.5.
- B. The markers shall be of standard size and quality with amenities as manufactured by: an approved manufacturer as listed on the Mississippi Department of Transportation's List of Approved Products for Traffic Marking Materials.
- C. The reflective material shall be protected with an easily removable cover of heat resistant material capable of withstanding and protecting the reflective material from the application of asphalt at temperatures exceeding 325°F.

S-720.02.2--Certificates of Compliance. The contractor shall furnish three copies of certifications from the manufacturer stating that the material meets the requirements of these specifications, (Reference S-106.04 of the standard specifications).

S-720.03--Thermoplastic Pavement Markings. The thermoplastic material shall conform to AASHTO Designation: M 249 except the glass beads shall be moisture resistant coated. Additional beads by the drop-on method shall be applied at a rate of not less than two pounds of beads per 100 feet of four-inch stripe.

The manufacturer/producers of the thermoplastic compound, glass beads, epoxy resin, and primer/sealer shall furnish to the Engineer three copies of certified test reports showing results of all tests specified therein and shall further certify that the materials meet all requirements.

S-720.04--Cold Plastic Pavement Markings.

S-720.04.1--General. The prefabricated markings described shall consist of white or yellow pigmented plastic films with reflective glass spheres uniformly distributed throughout their entire cross-sectional area, and be capable of being affixed to bituminous or portland cement concrete pavements by either a pressure sensitive precoated adhesive or a liquid contact cement. The markings shall be provided complete in a form that will facilitate rapid application and protect the markings in shipment and storage.

The manufacturer shall identify proper solvents and/or adhesives to be applied at the time of application, and equipment necessary for proper application, and recommendations for application that will assure an effective performance life.

Prefabricated legends and symbols shall conform to the applicable shapes and sizes as outlined in the "Manual on Uniform Traffic Control Devices", latest edition.

Cold plastic pavement markings shall be listed on MDOT's "Approved Sources of Materials". Prior to use, the Contractor shall furnish the Engineer three copies of the manufacturer's certification for each shipment stating that the material furnished is of the same composition as that originally approved by MDOT and that the material has not been changed or altered in any way.

S-720.04.2--Requirements. The material shall be 60 mil retroreflective pliant polymer film.

S-720.04.2.1--Composition. The retroreflective pliant polymer pavement marking film shall consist of a mixture of high quality polymeric materials, pigments, 1.5 index glass beads uniformly distributed

throughout its cross sectional area and with a reflective layer of beads bonded to the top surface. The film shall be composed of the following materials:

Minimum Percent <u>Material</u>	<u>by Weight</u>
Resins & Plasticizers	20
Pigments	30
Graded Glass Beads	33

This film shall be capable of being fabricated into pavement markings of specified thickness and dimensions and of being adhered to asphaltic and/or portland cement concrete by means of a pressure sensitive precoated adhesive, or a liquid contact cement which is applied at the time of installation.

S-720.04.2.2--Conformability and Resealing. The retroreflective pliant polymer pavement marking film shall be capable of conforming to pavement contours, breaks, faults, etc., through the action of traffic at normal pavement temperatures. The film shall have resealing characteristics such that it is capable of fusing with itself and previously applied marking film of the same composition under normal conditions of use.

The film shall show patchability when tested as follows:

- a. Cut two 1" x 3" pieces of the pliant polymer and mark the reflective side of one of the pieces with a pencil to delineate a 1" x 1" area at the end of the piece.
- b. Wet the surface of the area delineated with a cloth soaked in contact cement or a mixture of MEK and toluene for one minute, keeping the surface wet. At the end of one minute, scrape the beads and binder off the sample and wipe the residual binder from the area. Let the sample dry for at least one minute.
- c. Remove the liner from the back of the second piece of film and place the backside on top of the cleaned area on the first piece. The sample (while held together) should now form one piece four inches long by 1 inch wide with the 1" x 1" overlap patch in the center.
- d. Place the patched sample on a hard surface under 1,000 grams per square inch (the area of the overlap splice) maintained at 140°F for two hours.
- e. Remove the sample from the heat and allow to cool to 70°F (room temperature).
- f. Pull the sample in opposite directions to place a shear strain on the patched area. The two pieces shall not separate without tearing.

S-720.04.2.3--Tensile Strength. The film shall have a minimum tensile strength of 40 pounds per square inch of cross section when tested according to ASTM Designation: D 638. A sample 6"x 1" x 0.06" shall be tested at a temperature between 70°F and 80°F using a jaw speed of 12 inches per minute.

S-720.04.2.4--Elongation. The film shall have a minimum elongation of 75% at break when tested according to ASTM Designation: D 638 using a jaw speed of 12 inches per minute.

S-720.04.2.5--Plastic Pull Test. A test specimen made the same size as in S-720.04.2.3 shall support a dead weight of four pounds for not less than five minutes at a temperature between 70°F and 80°F.

S-720.04.2.6--Pigmentation. The pigments shall be selected and blended to provide a marking film which is white or yellow conforming to standard highway colors through the expected life of the film.

S-720.04.2.7--Glass Beads. The glass beads shall be colorless and have a minimum index of refraction of 1.50 when tested using the liquid oil immersion method. The size and quality of the beads will be such that performance requirements for the retroreflective pliant polymer film shall be met.

Bead adhesion shall be such that beads are not easily removed when film surface is scratched firmly with thumbnail.

The film shall have glass bead retention qualities such that when a 2" x 6" sample is bent over a 1/2" diameter mandrel, with the 2" dimension perpendicular to the mandrel axis, microscopic examination of the area on the mandrel shall show no more than 10% of the beads with entrapment by the binder of less than 40%.

S-720.04.2.8--Skid Resistance. The surface of the retroreflective pliant polymer shall provide a minimum skid resistance value of 35 BPN when tested according to ASTM Designation: E 303.

S-720.04.2.9--Reflective Intensity. The photometric quantity to be measured shall be specific luminance and shall be expressed as millicandelas per square foot per foot candle. The minimum initial reflective values shall be 250 for white and 200 for yellow as measured in accordance with Mississippi Test Method MT-70.

S-720.04.2.10--Reflective Retention. The following tests shall be employed to measure reflectivity retention:

- (a) **Taber Abraser Simulation Test.** Using a taber abraser with an H-18 wheel and a 125 gram load, the sample shall be inspected at 200 cycles, under a microscope, to observe the extent and type of bead failure.

No more than 15% of the beads shall be lost due to pop-out and the predominant mode of failure shall be "wear down" of the beads.

- (b) **Qualitative Tests.** Bead bond strengths shall be judged under a microscope with a magnification of at least 5X. The beads shall be difficult to remove, and when removed, beads shall show a portion of the polymeric bead bond retained with the beads rather than clean removal from the sockets.

S-720.04.2.11--Thickness. Unless otherwise indicated on the plans, the retroreflective pliant polymer film, without adhesive, shall be supplied in a standard thickness of 0.06 inch.

S-720.04.2.12--Effective Performance Life. The film, when applied according to the recommendations of the manufacturer, shall provide a neat, durable marking that will not flow or distort due to temperature if the pavement surface remains stable. Although reflectivity is reduced by wear, the pliant polymer shall provide a cushioned, resilient substrate that reduces bead crushing and loss. The film shall be weather resistant and, through normal traffic wear, shall show no appreciable fading, lifting or shrinkage throughout the useful life of the marking, and shall show no significant tearing, roll back, or other signs of poor adhesion.

S-720.04.3--Manufacture's Certification. The Contractor shall furnish the Engineer with three copies of the manufacture's certification stating that each lot in a shipment complies with the requirements of the contract. The Engineer reserves the right to select samples at random for testing.

S-720.05--Preformed Pavement Markings for Construction Zones.

S-720.05.1--General. In addition to the specific material requirements set forth herein, pavement marking materials must have been approved for listing in MDOT's "Approved Sources of Materials" prior to their use. The preformed markings shall consist of white or yellow retroreflective films on a conformable backing.

The size, quality, and refractive index of the glass beads shall be such that the performance requirements for the markings will be met. The bead adhesion shall be such that beads are not easily removed when the material surface is scratched with a thumbnail.

The pigments shall be selected and blended to provide pavement markings which are white or yellow and conform to standard highway colors.

The markings shall be precoated with a pressure sensitive adhesive and shall be capable of being adhered to asphalt concrete or portland cement concrete in accordance with manufacturer's instructions without the use of heat, solvents or other additional adhesive means, and shall be immediately ready for traffic after application.

The markings shall be provided in specified widths and shapes. Preformed words and symbols shall conform to the applicable shapes and sizes as outlined in the current edition of the MUTCD.

The materials shall be packaged in accordance with accepted commercial standards, and when stored in a cool dry area indoors shall be suitable for use for one year after the date of purchase.

S-720.05.2--Classification of Markings. Retroreflective preformed pavement markings shall be of the following types, as specified on the plans or bid sheets:

S-720.05.2.1--Type 1. The markings shall consist of a mixture of high quality polymeric materials, pigments and glass beads with a reflective layer of beads bonded to the top surface. A non-metallic medium coated with a pressure sensitive adhesive shall be incorporated to facilitate removal. The adhesive shall be of a type that is completely removed with the pavement marking or colorless so as not to leave a color mark on the pavement.

Reflectance. The markings shall meet or exceed the initial reflectance values when measured in accordance with the testing procedures of ASTM Designation: D 4592.

INITIAL REFLECTANCE VALUES

	<u>White</u>		<u>Yellow</u>	
Entrance Angle	86°		86°	
Observation Angles	0.2°	0.5°	0.2°	0.5°
SL (mcd/ft ² /fc)	1770	1270	1310	820

The photometric quantity to be measured shall be specific luminance (SL) and shall be expressed in millicandelas per square foot per footcandle. The test distance shall be 50 feet, and the sample size shall be

a 2.0 x 2.5-foot rectangle. The angular aperture of both the photoreceptor and light projector shall be six minutes of arc. The reference center shall be the geometric center of the sample, and the reference axis shall be taken perpendicular to the test sample.

The quantity SL (specific luminance) treats the retroreflector as a surface source rather than a point source whose projected area is visible as an area at the observation position. The quantity SL related to the way the effective retroreflective surface is focused on the retina of the human eye and to the visual effect thereby produced. It is recommended for describing the performance of highway signs and striping, or large vehicular markings which are commonly viewed as discernable surface areas.

S-720.05.2.2--Type 2. The pavement markings shall consist of retroreflective materials on a conformable metallic backing, precoated with a pressure sensitive adhesive which is colorless so as not to leave a color mark on the pavement or of a type that is substantially removed with the pavement marking.

Reflectance. The markings shall meet or exceed the initial reflectance values when measured in accordance with the testing procedures of ASTM Designation: D 4592.

INITIAL REFLECTANCE VALUES

	<u>White</u>		<u>Yellow</u>	
Entrance Angle		86°	86°	
Observation Angles	0.2°	0.5°	0.2°	0.5°
SL (mcd/ft ² /fc)	1360	760	820	510

The sample size, test procedure and measurement of test values shall be as prescribed for Type 1 in S-720.05.2.1.

S-720.05.3--Certificates of Compliance. The Contractor shall furnish three copies of certifications from the manufacturer for each lot of pavement markings used stating that the material meets the requirements of the contract.

S-720.06--Raised Pavement Markers.

S-720.06.1--General. Raised pavement markers, including high performance raised pavement markers, shall be listed in MDOT's "Approved Sources of Materials".

S-720.06.2--Type of Markers. Pavement and jiggle markers shall conform to one or more of the following types:

Type A - Non-Reflective White Jiggle Markers.
 Class 1- Acrylonitrile-Butadiene-Styrene Markers. Class 2 - Ceramic Markers.
 Type AY - Non-Reflective Yellow Jiggle Markers.
 Class 1 - Acrylonitrile-Butadiene-Styrene Polymer Markers. Class 2- Ceramic Markers.
 Type B - 2-Way Clear Reflective Markers. Type C -
 Red-Clear Reflective Markers.
 Type D - 2-Way Yellow Reflective Markers. Type E -
 One-Way Clear Reflective Markers. Type F - One-Way Yellow Reflective
 Markers. Type G - Yellow-Clear Reflective Markers.
 Type H - Chip Seal Clear Reflective Markers. Type I - Chip
 Seal Yellow Reflective Markers.

High performance raised pavement markers shall be available in Types B through G.

S-720.06.3--Acceptance Procedures.

S-720.06.3.1--Marker Type A. The Contractor shall furnish the Engineer three copies of the manufacturer's certified test reports covering all pavement markers shipped to the project. The certified test report shall show the test results on each part of each section contained in Mississippi Test Method MT-17 and shall state that the markers represented by the test results comply with the specifications contained herein in all respects.

The pavement markers will be accepted on the basis of the manufacturer's certified test reports. The Engineer reserves the right to obtain check samples as deemed necessary for determining compliance with this specification

S-720.06.3.1.1--Marker Type B through G. The Contractor shall furnish the Engineer three copies of the manufacturer's certified test reports covering all pavement markers shipped to the project. The certified test reports shall show the test results on each part of the applicable requirements of ASTM Designation: D 4280.

The pavement markers will be tentatively accepted on the basis of the manufacturer's certified test reports. The Engineer reserves the right to obtain check samples as deemed necessary for determining compliance with this specification.

S-720.06.3.2--Marker Type H and I. Prior to use, the Contractor shall furnish the Engineer three copies of a certification for each shipment stating that the material furnished is of the same composition as that originally approved by MDOT and that the material has not been changed or altered in any way. The Engineer reserves the right to obtain check samples as deemed necessary for determining compliance with this specification.

S-720.06.4--Sampling, Tolerances, and Packaging. Pavement markers shall conform to sampling, tolerance, and packaging requirements as set out below.

S-720.06.4.1--Sampling. For Marker Type A, H and I, ten (10) markers of each type and class, selected at random, will constitute a representative sample for each lot regardless of lot size.

For Marker Type B through G, check sampling, when performed, shall require ten (10) markers of each type, selected at random, to constitute a representative sample for each lot regardless of lot size.

A resample of any marker type will consist of twice as many markers as originally sampled.

S-720.06.4.2--Tolerances.

S-720.06.4.2.1--Tolerances For Marker Type A, H & I. At least 90% of the original sampling of each lot of markers shall pass all tests with the following exceptions:

When less than 90% but more than 70% pass all tests, a resample of that lot will be allowed at the request of the Contractor. When less than 70% of the markers from the original sample comply with the requirements, the lot represented by the samples will be rejected and no resample will be allowed. Tolerances for resamples shall be in the same ratio as specified above.

At least two of three specimens, randomly selected for strength, water absorption, and autoclave, and also the averages of the three, must pass the stated requirements; otherwise, three additional markers selected at random shall be tested, and if the same conditions for passing are not met for these latter three markers, the lot will be rejected.

S-720.06.4.2.2--Tolerances For Marker Type B through G. At least 90% of the check sampling of each lot of markers shall pass the strength test required in the Physical Properties Section of ASTM Designation: D 4280 with the following exceptions:

When less than 90% but more than 70% pass the test, a resample of that lot will be allowed at the request of the Contractor. When less than 70% of the markers from the check sample comply with the requirements, the lot represented by the samples will be rejected and no resample will be allowed. Tolerances for resamples shall be in the same ratio as specified above.

S-720.06.4.3--Packaging. Shipments shall be made in containers which are acceptable to common carriers and packaged in such a manner as to insure delivery in perfect condition. All damaged shipments shall be replaced by the Contractor.

Each package shall be clearly marked as to the name of the manufacturer, type, quantity enclosed, lot number, and date of manufacture.

S-720.06.5--Non-Reflective Pavement Markers. Non-reflective jiggle markers shall be either Class 1 or Class 2. Markers shall be approved products as listed on MDOT's "List of Approved Sources of Materials".

S-720.06.5.1--Class 1 Markers. Class 1 non-reflective jiggle markers shall consist of

an acrylonitrile-butadiene-styrene polymer or other approved material, and shall be 4 inches wide x 6 inches long. Infrared curves of materials used in markers shall match approved curves on file at MDOT's Central Laboratory.

Property

Requirement

Heat Resistance	No change in shape or appearance
Resistance	Impact
Load Resistance	No break, chip or crack
	No break, chip, crack or permanent deformation

S-720.06.5.2--Class 2 Markers. Class 2 non-reflective jiggle markers shall consist of a heat-fired, vitreous, ceramic base, and a heat-fired, opaque, glazed surface to produce the properties required in these specifications. The bottom of the marker shall not be glazed. The markers shall be produced from any suitable combination of intimately mixed clays, shales, talcs, flints, feldspars, or other inorganic material which will meet the properties herein required. The markers shall be thoroughly and evenly matured and free from defects which affect appearance or serviceability.

Non-reflective markers shall conform to the following finish and testing requirements:

The top surface of the marker shall be in reasonably close conformity with the configuration shown on the plans. All edges shall be rounded and any change in curvature shall be gradual. The top and sides shall be smooth and free of mold marks, pits, indentations, air bubbles, or other objectionable marks or discolorations. The base of all markers shall be flat (the deviation from a flat surface shall not exceed 0.05 inch) and free from gloss glaze or substances that may reduce its bond to the adhesive.

All tests shall be performed in accordance with Mississippi Test Method: MT-17, which will be on file in the MDOT Materials Division.

<u>Test</u>	<u>Requirement</u>
Glaze thickness	0.005 inch min.
Moh Hardness	6 min.
Directional reflectance (Type A, white markers only)	
Glazed Surface	75 min.
Body of Marker	70 min.
Yellowness Index (Type A, white markers only)	
Glazed Surface	0.07 max.
Body of Marker	0.12 max.
Color (Type AY, yellow markers only), FHWA Highway Yellow Color Tolerance Chart	PR Color # 1
Autoclave Craze, or peel	Glaze shall not spall,
Compressive Loading	750 pounds min.
Water Absorption	2.0% max.

S-720.06.6--Reflective Pavement Markers. Reflective pavement markers shall be listed on MDOT's "Approved Sources of Materials" and shall meet the applicable requirements of ASTM Designation: D 4280.

S-720.06.7--Adhesive for Pavement Markers.

S-720.06.7.1--General Requirements. The adhesive shall be an asphaltic or thermoplastic material suitable for bonding pavement markers to portland cement concrete pavement, hot bituminous pavement and chip-sealed surfaces when the road surface and marker temperatures are in the range of 50°F to 160°F. The composition of the adhesive must be such that its properties will not deteriorate when heated to and applied at temperatures up to 425°F using either air or oil-jacketed melters.

S-720.06.7.2--Specific Requirements. In addition to the specific requirements set forth herein, the adhesive shall be listed on MDOT's "Approved Sources of Materials" prior to its use.

S-720.06.7.3--Packaging and Labeling. The adhesive shall be packaged in self-releasing cardboard containers which will stack properly. The label shall show the manufacturer, quantity, and lot or batch number. "Adhesive for Pavement Markers" or "Adhesive for Traffic Markers" shall be printed in bold lettering on the label.

S-720.06.7.4--Sampling. When required by the Engineer, a minimum of 10 pounds of adhesive per lot or batch received shall be submitted for compliance testing. This may be submitted in the form of an adhesive testing package from each batch or material obtained from a package shipped to the project.

S-720.06.7.5--Manufacturer's Certified Test Report. The adhesive will be accepted by a manufacturer's certified test report. The certified test report shall show the test results and shall state that the adhesive represented by the test results meets all the requirements of the contract and has the properties and characteristics as herein specified. It shall be the Contractor's responsibility to furnish three copies of the manufacturer's test report for each batch of adhesive shipped to the project. The Engineer reserves the right to take samples for testing as he deems necessary.

S-720.06.7.6--Bituminous Adhesive (Standard Type). The asphaltic material and mineral filler shall comply with the following requirements:

(a) Adhesive Properties:

<u>Min.</u>		<u>Max.</u>	<u>Method</u>
Softening Point, °F	200	-	ASTM D 36
Penetration @ 77°F	10	20	ASTM D 5
Flow, inch	-	0.2	MT-73
Heat Stability Flow, inch	-	0.2	MT-73
Viscosity, 400°F, Poises	-	75	MT-73
Flash Point, C.O.C., °F	550	-	ASTM D 92

(b) Asphalt properties determined on the filler-free material derived from the extraction and Abson recovery process as explained in Mississippi Test Method MT-73.

	<u>Min.</u>	<u>Max.</u>	<u>Method</u>
Filler Content, percent by weight	50	75	MT-73
Filler Fineness, percent passing Sieve No. 100	100	-	MT-73
Sieve No. 200	90	-	MT-73
Sieve No. 325	75	-	MT-73

S-720.06.7.7--Flexible Adhesive. The hot applied flexible pavement marker adhesive shall be a hot melt thermoplastic material capable of bonding the marker without excessive marker movement at hot summer temperatures and remain flexible at winter temperatures. The adhesive shall comply with the following physical requirements when melted in accordance with ASTM Designation: D 3407 and poured into suitable test molds:

<u>Test</u>	<u>Result</u>	<u>Test Method</u> ASTM
Penetration, 77°F	25 max.	Designation: D 5 ASTM
Softening point	200°F min.	Designation: D 36
Brookfield viscosity, 400°F	10,000 cp max.	ASTM Designation: D 3236
Ductility @ 77°F, 5 cm/min	15 cm min.	ASTM Designation: D 113
Ductility @ 39.2°F, 1 cm/min	5 cm min.	ASTM Designation: D 113
Asphalt Compatibility	Pass	ASTM Designation: D 5329
Flexibility	Pass at 20°F	Per S-720.06.7.8

S-720.06.7.8--Test Procedure for Flexibility.

Sample preparation - One-eighth inch thick steel shims are used to enclose an opening which is one-inch wide and four-inches long on a sheet of release paper or a release treated metal plate. The heated adhesive is poured into the opening until it is slightly overfilled. After one hour of cooling the excess adhesive is trimmed flush with the shims using a hot knife and then the sample is removed from the shims.

Conditioning - The trimmed samples are placed in a freezer maintained at 20 $\pm$ 2°F for a minimum of four hours.

Testing - The conditioned samples are removed from the freezer and immediately bent through an arc of 90 degrees at a uniform rate in 10 seconds (9 degrees per second) over a one inch diameter mandrel. A passing result is one in which no cracking occurs in the test sample. At least two of the three specimens tested must meet the flexibility requirement at 20°F for a passing result.

SECTION S-721 - MATERIALS FOR SIGNING

S-721.01--General. All materials included in this section will be conditionally accepted on the basis of the manufacturer's certification of compliance, as specified in S-106.04, except those materials normally tested by MDOT (i.e. concrete, reinforcing steel, timber posts, etc.). The Engineer shall be furnished the original and three copies of the manufacturer's certification. The Engineer reserves the right to test or have tested by a commercial laboratory any material that has been conditionally accepted by certification.

S-721.02--Ferrous Materials.

S-721.02.1--General. All welds shall be mechanically cleaned before galvanizing. All ferrous metal except reinforcing steel, and sheet steel unless otherwise specified, shall be zinc-coated (galvanized) by the hot dip method in accordance with AASHTO Designation: M 111 after all fabrication has been completed.

S-721.02.2--Structural Steel for Sign Supports. Structural steel used in sign support structures shall be of standard shape. Structural steel pipe per ASTM Designation: A 53 shall be manufactured by the open-hearth or basic oxygen process.

S-721.02.2.1--Ground Mounted Sign Supports. Posts shall be provided with "break-away" mountings (as shown on the plans) of the following materials:

Structural steel beams for posts per AASHTO Designation: M 160.

Steel plates for steel beam posts per AASHTO Designation: M 160.

Welded and seamless steel pipe for posts per ASTM Designation: A 53, Type E or S, Grade B, or steel structural tubing per ASTM Designation: A 501.

U-Section posts for supplementary directional signs per S-721.02.3 "Steel Posts for Small Signs" modified as shown on the plans.

Structural steel shapes, bars, and plates used for bracing, framing and other accessories, including base plates for steel posts, per ASTM Designation: A 36.

High strength bolts, nuts, and washers for post bases and for fuse plates per S-717.01.7 and S-810.02.21 modified as shown on the plans.

S-721.02.2.2--Overhead Sign Supports. Materials approved for use in the construction of overhead sign supports include the following:

Welded and seamless steel pipe per ASTM Designation: A 53, Type E or S, Grade B or Type F.

Steel structural tubing per ASTM Designation: A 501.

Structural shapes, plates, and bars per ASTM Designation: A 36. Castings for post, base, and truss flange per AASHTO Designation: M 106, Grade 35018.

Castings for post caps and chord caps per AASHTO Designation: M 105, Class 25 S.

High strength bolts, nuts, and washers for chord connections per S-717.01.7 and S-810.02.21.

Anchor bolts per ASTM Designation: A 307, Grade A.

S-721.02.3--Steel Posts for Small Signs.

S-721.02.3.1--Material. The posts shall be of high carbon rail steel ASTM Designation: A 499.

S-721.02.3.2--Workmanship. All posts shall be straight with no bending, warping, splits, or breaks.

S-721.02.3.3--Cross-Section. The posts shall be "U" section as shown on the plans. The bends in the cross-section of the post must be sharp and well defined, and the radius of the bend shall not be greater than 13/32 of an inch.

S-721.02.3.4--Weight. The weight of the posts per linear foot without ground plates, shall be 2.0 pounds for 7-foot and 9-foot lengths and 3.0 pounds for 11-foot and 14-foot lengths with a tolerance of three and one-half percent, or as shown on the plans.

S-721.02.3.5--Punching. The posts shall be punched on the center line of the web while hot. Posts of 7-foot to 14-foot lengths shall have 3/8 inch holes one inch apart on centers starting one inch from the top of the posts and extending the full length of the post.

S-721.02.3.6--Pointing. The posts shall not be pointed.

S-721.02.3.7--Ground Plates. Posts of 7-foot lengths are not required to have ground plates. The distance from the top of the ground plate to the bottom of 9 foot to 11-foot length posts shall be 24 inches. The distance for 12-foot or greater length posts shall be 30 inches.

S-721.02.4--Reinforcing Steel. Reinforcing steel used shall conform to S-711 and shall be placed in accordance with S-602.

S-721.02.5--Bolts, Nuts, Washers, Screws, and other Hardware. Except as otherwise specified, all bolts, nuts, washers, sheet metal screws, and machine screws shall be coated by the zinc chromate process. The zinc chromate process shall be in accordance with the requirements of ASTM Designation: B633. Bolts shall have a 1/2-inch head and shall meet the requirements of ASTM Designation: A307, Grade A. Nuts shall be self-locking and shall meet the requirements of ASTM Designation: A563. Flat washers shall be installed between the sign support and the self-locking nut and shall meet the requirements of ANSI Designation: B27.2. Sheet metal screws shall meet the requirements of ANSI Designation: B18.6.4. Machine screws shall meet the requirements of ANSI Designation: B18.6.3. Vinyl spacers shall be installed between the bolt head and the sign face and shall meet the following maximum dimensions: 7/8-inch outside diameter by 3/8-inch inside diameter by 1/16-inch thickness.

Post clips used with extruded panel signs shall be cast aluminum per ASTM Designation: B 108, Alloy No. 356.0-T6 or extruded aluminum per ASTM Designation: B 221, Alloy 6063-T6. Unless otherwise specified, all bolts, sheet metal screws, and machine screws used in assembling signs, frames, and post braces, including post clips and panel bolts, shall be in accordance with ASTM Designation: A 307, Grade A.

S-721.02.5.1--Vandal-Resistant Bolts, Vandal-Resistant Nuts, Nylon Washers and other Hardware. When Vandal-Resistant Hardware for signs are noted on the plans, all bolts, nuts, washers, sheet metal screws, and machine screws shall be coated by the zinc chromate process. The zinc chromate process shall be in accordance with the requirements of ASTM Designation: B633. Bolts shall be 5/16 inch diameter, 2 1/2 inch long (minimum) carriage bolts, hex bolts or "one-way" bolts. Carriage bolts shall be round headed with a square neck and shall not have any slots or other opening for any type of tool. This square neck shall fit snugly and not move when tightened into the hole in the sign face. Hex bolt and one-way bolt heads shall not be square necked, but shall tighten flat against the sign face. One-way bolts shall be able to be tightened but not loosened by a screw driver. If hex bolts or one-way bolts are used, a nylon washer shall be provided to place between the bolt head and the sign face.

An approved vandal-resistant nut will be required regardless of the type of bolt used. A 5/16 inch inside diameter rustproofed steel, aluminum or approved equal washer shall be provided to place between the post and the vandal-resistant nut. The outside diameter of this washer will be dependent on the type of vandal-resistant nut used.

S-721.03--Aluminum. All aluminum shall be free from corrosion, white rust, water stains, dirt, and grease. Fabrication shall be accomplished in a uniform and workmanlike manner. All fabrication, including cutting and punching of holes, shall be completed prior to metal treatment. Sign blanks shall be cut to size and shape and shall be free of buckles, warps, dents, cockles, burrs, and defects resulting from fabrication. The surface of all sign blanks shall be flat.

All blanks not having corner radii shall have square (90°) corners to facilitate sign fabrication.

S-721.03.1--Sheet Aluminum. Sheet aluminum or blanks shall meet the requirements of ASTM Designation: B 209, Alloy 6061-T6 or 5052-H38. Gauge, dimension, punching and corner radii shall be in accordance with the plans.

S-721.03.2--Extruded Signs. Extruded sign panels, extruded moldings, and extruded post clips shall meet the requirements of ASTM Designation: B 221, Alloy 6063-T6. Sections and dimensions shall be as shown on the plans. The panel shall be of the butt type, designed to withstand a wind pressure of 50 pounds per square foot. All panels shall be flat and straight within commercial tolerances as established by the aluminum industry. Extruded sign sections shall be subject to approval by the Engineer. Extruded sign sections shall be provided with slotted bolt holes. Sign moldings and post clips shall be designed for the sign panel section with which it is used. Sign moldings shall be anchored to the sign panels by means of aluminum pull-through rivets or self tapping screws.

S-721.03.3--Overhead Sign Support Material. Material approved for use in the construction of Overhead Sign Supports include the following:

Extruded structural tube and pipe per ASTM Designation: B 221, B 241 or B 429, Alloy 6061-T6.

Extruded structural tube and pipe per ASTM Designation: B 221, B 241 or B 429, Alloy 6063-T6.

Structural shapes per ASTM Designation: B 308, Alloy 6061-T6.

Sheet and plate per ASTM Designation: B 209, Alloy 6061-T6.

Castings for post and chord caps per ASTM Designation: B 26, Alloy No. 356.0.

Base and filler metals for welding shall be as listed below:

BASE
METAL ALLOYS

6061-T6 to 6061-T6
6063-T6 to 6061-T6
or 6063-T6

FILLER
METAL ALLOYS

ER-5556
ER-4043, ER-5356
or ER-5556

S-721.04--Concrete. Unless otherwise specified, concrete shall be Class B. Composition, manufacture, and placement shall be in accordance with S-601.

S-721.05--Colors and Paint. All colors for signs shall match FHWA Specifications for standard highway sign colors. The molding which is attached to the extruded panel signs shall be painted with a semi-gloss baking enamel meeting Federal Specification TT-E-529a.

Aluminum paint shall conform to S-710.02.1. Transparent and black opaque process colors used in silk screening shall be that or equal to that recommended by the manufacturer of the retroreflective sheeting, and shall match FHWA Specifications for standard highway sign colors. Toning of certain colors for adjustment in hue shall be accomplished in accordance with the recommendations of the manufacturer of the process paste.

S-721.06--Reflective Sheeting.

S-721.06.1--General. Retroreflective sheeting materials shall comply with all applicable requirements of ASTM Designation: D 4956, except as specifically modified herein, and be listed on MDOT's "Approved Sources of Materials".

Reflective sheeting shall be one of the following types.

- Type III. A high-intensity retroreflective sheeting. This shall be an encapsulated glass-bead or unmetallized microprismatic retroreflective material. This sheeting shall have a protected, pre-coated, pressure-sensitive adhesive backing.
- Type VII. A super high-intensity retroreflective sheeting. This shall be an unmetallized microprismatic retroreflective material. This sheeting shall have a protected, pre-coated, pressure sensitive adhesive backing.
- Type VIII. A super high-intensity retroreflective sheeting. This shall be an unmetallized microprismatic retroreflective material. This sheeting shall have a protected, pre-coated, pressure sensitive adhesive backing.
- Type IX. A very-high intensity retroreflective sheeting. This shall be an unmetallized, microprismatic retroreflective material. This sheeting shall have a protected, pre-coated, pressure sensitive, adhesive backing.

All other retroreflective sheeting shall be as shown in the plans.

S-721.06.2--Performance Requirements. The retroreflective sheeting shall have the following minimum brightness values at 0.2° and 0.5° observation angle, in addition 1.0° for Type IX sheeting, expressed as average candelas per footcandle per square foot of material.

Sheetings and inks processed and applied in accordance with the manufacturer's recommendations, shall perform effectively for the number of years stated below. The sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions or (2) the coefficient of retroreflection is less than the minimum specified for that sheeting during the periods listed below. For screen printed transparent colored areas on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for the corresponding color in the table.

Type III Sheeting	Retain 85% of initial values listed in Table 1 through 7 years Retain 80% of initial values listed in Table 1 between 7 & 10 years
Type VII Sheeting	Retain 85% of initial values listed in Table 2 through 7 years Retain 80% of initial values listed in Table 2 between 7 & 10 years Retain 50% of initial values listed in Table 2 through 3 years for Fluorescent Orange
Type VIII Sheeting	Retain 85% of initial values listed in Table 3 through 7 years Retain 80% of initial values listed in Table 3 between 7 & 10 years Retain 50% of initial values listed in Table 3 through 3 years for Fluorescent Orange Retain 80% of initial values listed in Table 3 through 7 years for Fluorescent Yellow/Green & Fluorescent Yellow
Type IX Sheeting	Retain 85% of initial values listed in Table 4 through 7 years Retain 80% of initial values listed in Table 4 between 7 & 10 years Retain 80% of initial values listed in Table 4 for 7 years for Fluorescent Yellow/Green & Fluorescent Yellow

MINIMUM COEFFICIENTS OF RETROREFLECTION

Candela per foot candle per square foot (cd/fc/ft²) Per ASTM Designation: E 810

TABLE 1
Type III Sheeting

Observation	Entrance	Sheeting Color						
Angle (°)	Angle (°)	White	Yellow	Orange	Green	Red	Blue	Brown
0.2	- 4	250	170	100	45	45	20	12
0.2	+30	150	100	60	25	25	11	8.5
0.5	- 4	95	62	30	15	15	7.5	5.0
0.5	+30	65	45	25	10	10	5.0	3.5

TABLE 2
Type VII Sheeting

Observation	Entrance	Sheeting Color						
Angle (°)	Angle (°)	White	Yellow	Green	Red	Blue	Brown	Fluorescent Orange
0.2	- 4	750	560	75	150	34	23	200
0.2	+30	430	320	43	86	20	10	85
0.5	- 4	240	180	24	48	11	8	90
0.5	+30	135	100	14	27	6.0	4	50

MINIMUM COEFFICIENTS OF RETROREFLECTION
Candela per foot candle per square foot (cd/fc/ft²)

TABLE 3
Type VIII Sheeting

Observation Angle (°)	Entrance Angle (°)	White	Yellow	Green	Red	Blue	Brown	Fluorescent Orange	Fluorescent Yellow/Green	Fluorescent Yellow
0.2	- 4	700	525	70	105	42	21	200	480	375
0.2	+3	325	245	33	49	20	10	85	240	170
0.5	- 4	250	190	25	38	15	7.5	90	235	165
0.5	+3	115	86	12	17	7	3.5	50	110	85

TABLE 4
Type IX Sheeting

Observation Angle (°)	Entrance Angle (°)	White	Yellow	Green	Red	Blue	Fluorescent Yellow/Green	Fluorescent Yellow
0.2	- 4.0	380	285	38	76	17	325	240
0.2	+30.0	215	162	22	43	10	205	150
0.5	- 4.0	240	180	24	48	11	240	165
0.5	+30.0	135	100	14	27	6.0	110	75
1.0	- 4.0	80	60	8	16	3.6	65	45
1.0	+30.0	45	34	4.5	9	2.0	35	25

S-721.06.3--Certification. The Contractor shall require the supplier to furnish certified evidence and/or samples to the Engineer showing conformance to these requirements. Manufacturer's warranties or guarantees provided as customary trade practice shall be furnished the Engineer.

S-721.06.4--Color. Reflective sheeting shall meet the color requirements of ASTM Designation: D 4956. See Table 5 below for color specifications for fluorescent yellow green, fluorescent orange, and fluorescent yellow sheeting.

TABLE 5
Color Specification Limits for New Sheeting- Daytime

Color	Chromaticity Coordinate	Chromaticity Coordinate	Chromaticity Coordinate	Chromaticity Coordinate	Total Luminance Factor Limit
	1	2	3	4	Yn
	x y	x y	x y	x y	<u>Min.</u>
Fluorescent Yellow Green	0.387 0.610	0.460 0.540	0.438 0.508	0.376 0.568	60%
Fluorescent Orange	0.562 0.350	0.645 0.355	0.570 0.429	0.056 0.404	30%
Fluorescent Yellow	0.521 0.424	0.577 0.442	0.479 0.520	0.454 0.491	40%

S-721.06.5--Adhesive. The retroreflective sheeting shall include a pre-coated pressure sensitive adhesive, as referenced in ASTM Designation: D 4956, Class I, applied without the necessity of additional adhesive coats on the retroreflective sheeting or application surface.

The Class I adhesive shall be a pressure sensitive adhesive of the aggressive tack type requiring no heat solvent or other preparation for adhesion to smooth clean surfaces.

The protective liner attached to the adhesive shall be removed by peeling without soaking in water or other solutions and shall be easily removed after accelerated storage for four hours at 160°F under a weight of 2.5 pounds per square inch.

S-721.06.6-Blank.

S-721.07--Delineators. Delineators shall consist of encapsulated lens reflective sheeting of the specified colors applied to sheet metal with mechanical equipment in a manner specified by the sheeting manufacturer. The sheet metal shall be the same as that used for small sheet signs as required under S-721.03.1.

S-721.07.1--Flexible Posts. Flexible posts for delineators shall be composed of high impact fiberglass reinforced composite, engineering blended plastic or thermosetting polymers which is reasonably unaffected by long term U.V. exposure. Flexible posts for delineators must be one from MDOT's "Approved Sources of Materials". Prior to use, the Contractor shall furnish the Engineer three copies of the manufacturer's certification for each shipment stating that the material furnished is of the same composition as that originally approved by the MDOT and that the material has not been changed or altered in any way.

S-721.07.1.1--Performance Testing for Flexible Posts.

S-721.07.1.1.1--Impact Resistance. The post must be self erecting after withstanding 10 vehicle impacts at temperatures of 0°F or above without complete loss of serviceability. The impacts shall be made at an impact angle of 25 ±5° with a sedan at 35 mph.

S-721.07.1.1.2--Heat Resistance. A post shall be conditioned a minimum of two hours in an oven at $115^{\circ} \pm 3^{\circ}\text{F}$. The conditioned post shall be capable of straightening itself within 10 seconds when bent 90° at or near midpoint for each of four bends. The test on each post shall be completed within two minutes after removal from the oven. The post shall be bent in the direction to form a 90° angle on the convex side of the post.

S-721.07.1.1.3--Cold Resistance. A post shall be conditioned a minimum of two hours at $-5^{\circ} \pm 3^{\circ}\text{F}$ in an environmentally controlled test chamber. Testing shall be performed in the environmental chamber. The conditioned post shall not be adversely affected when bent at or near midpoint to a 90° angle formed on the convex side of the post. The post shall return to its original shape within 60 seconds for each of four separate bends.

S-721.07.1.1.4--Color Fastness. The post materials shall be exposed for 1000 hours in an Atlas Type B or BH Xenon Arc Weatherometer per ASTM Designation: G 26 with no significant yellowing or darkening.

S-721.07.1.2--Acceptance Procedure. Flexible posts for delineators must be one from MDOT's "Approved Sources of Materials". Prior to use, the Contractor shall furnish the Engineer three copies of the manufacturer's certification for each shipment stating that the material furnished is of the same composition as that originally approved by MDOT and that the material has not been changed or altered in any way.

S-721.08--Removable Copy. Removable copy shall include letters, numerals, symbols, and borders. All designs shall conform to the MUTCD. All removable copy will be attached to the sign face from the front by means of a huck or a cherry rivet gun and aluminum pull-through rivets without the use of clips. Removable copy shall consist of encapsulated lens retroreflective sheeting which has been carefully selected by the manufacturer for uniformity of day and night appearance and applied to flat aluminum backing. The backing shall be a minimum of .032" thick aluminum sheet as per ASTM Designation: B 209, alloy 3003-H14. The metal treatment shall be the same as that for aluminum sheet.

S-721.09--Timber Sign Posts. The posts shall conform to the requirements set forth in S-712.01.2, except that the preservative shall conform with S-718.04.3 or S-718.04.4.

S-721.10--Direct Applied Copy. Direct applied copy which is to be provided on guide directional signs, ground mounted or overhead, shall be directly applied to the sign face. Direct applied copy shall include letters, numerals, symbols and borders. All designs shall conform to the MUTCD. All direct applied copy shall be attached to the sign face by means of pressure sensitive adhesive meeting the requirements of S-721.06.5. Direct applied copy shall consist of encapsulated lens retroreflective sheeting meeting the requirements of S-721.06.

All signs shall be delivered to the site of their erection in one piece with all bolts, rivets, moldings, extrusions, copy, and other required appurtenances thereto attached, complete and ready to be mounted to the sign support structure. Any required supplemental or temporary supports required for stability during transport shall be firmly attached but easily removed prior to erection.

SECTION S-722 - GEOGRIDS**S-722.01--Geogrids.**

S-722.01.1--General. A geogrid is defined as a geosynthetic formed by a regular network of integrally connected elements with apertures greater than 0.25 inch to allow interlocking with surrounding soil, rock, earth and other surrounding materials to function primarily as reinforcement.

The geogrid shall be creep tested in accordance with ASTM Designation: D 5262. The long term design load that shall be reported for design use, shall be that load at which no more than 10% strain occurs over a 100-year design life of the geogrid, as calculated from tests run on representative samples for no less than 10,000 hours. The long term design load shall be reported unfactored, as the AASHTO strength reduction - Durability and Installation, and safety factors - will be considered by the MDOT Geotechnical Branch on a site specific design basis.

The geogrid shall meet the physical requirements of Table II for the type shown on the plans and shall be selected from MDOT's list of "Approved Sources of Materials."

The geogrid shall be mildew resistant and inert to biological degradation and naturally encountered chemicals, alkalis and acids. The geogrid shall contain stabilizers and/or inhibitors, or a resistance finish or covering to make it resistant to deterioration from direct sunlight, ultraviolet rays, and heat.

S-722.02--Marking, Shipment and Storage. Each roll or container of geogrid shall be visibly labeled with the name of the manufacturer, trade name of the product, lot number, and quantity of material. In addition, each roll or container shall be clearly tagged to show the type designation that corresponds to that required by the plans. During shipment and storage the geogrid shall be protected from direct sunlight, and temperatures above 120°F or below 0°F. The geogrid shall either be wrapped and maintained in a heavy duty protective covering or stored in a safe enclosed area to protect from damage during prolonged storage.

S-722.03--Manufacturer's Certification. The Contractor shall furnish the Engineer three copies of the manufacturer's certified test reports indicating that the geogrid furnished conforms to the requirements of the specifications and is of the same composition as that originally approved by MDOT.

S-722.04--Acceptance Sampling and Testing. Final acceptance of each shipment will

be based upon results of tests performed by the approved laboratory on verification samples submitted from the project, as compared to the manufacturer's certified test reports. The Engineer will select one roll or container at random from each shipment for sampling. A sample extending full width of the randomly selected roll or container and being at least five (5) square yards in area will be obtained and submitted by the Engineer. The sample from each shipment shall be provided at no cost to the Project.

Physical Properties	Type Designation						Test Method
	I	II	III	IV	V	VI	
Long Term Design Load, pounds per foot, Machine Direction	250	500	750	1500	2500	3500	ASTM Designation: D-5262
Minimum Ultimate Tensile Strength, pounds per foot, Machine Direction	500	1000	1500	3000	5000	7000	ASTM Designation: D-4595
Open Area, percent	70	70	50	50	50	50	Direct Measurement

DIVISION 16

ELECTRICAL

The Contractor must provide each item mentioned or indicated of quality or subject to qualification noted; perform according to conditions stated each operation prescribed; and provide therefore all necessary labor, equipment, and incidentals for articles, material separations or methods mentioned herein or indicated on the Drawings.

Requirements for the General Conditions, Supplementary Conditions, and Addenda, if issued, shall apply under this Division of Work.

Separation of these Specifications into Divisions and Sections is only for convenience and is not intended to establish limits of work.

Consult index to be certain that set of documents is complete.

INDEX TO DIVISION 16

SECTION 16000	General Provisions
SECTION 16100	Basic Materials and Methods
SECTION 16200	Raceways
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SECTION 16400	Power Distribution Equipment
SECTION 16500	Exterior Lighting System
SECTION 16600	Electrical Service
SECTION 16800	Mechanical System Wiring
SECTION 16900	Excavation, Trenching and Backfilling

SECTION 16000 - GENERAL PROVISIONS**1.01 SCOPE:**

- A. This Section of the Specifications covers all labor, equipment, supplies and materials, and all operations, including cutting, channeling and chasing necessary for the installation of any required electrical wiring in strict accordance with this Section of the Specifications, the applicable Drawings, and equipment manufacturer recommendations.

1.02 SPECIAL CONDITIONS:

- A. The bidders for the work covered by the Division of the Specifications shall carefully examine the Plans and Specifications to familiarize themselves with the structure and extent of the various contracts and all applicable documents.
1. Coordination of Work: The Contractor is responsible for coordinating the work as required. The Electrical Contractor is responsible for completion of all electrical items under their Division and cooperating with the Contractor and Owner.
 2. Work Included: The work involves electrical systems for the exterior lighting as indicated on the Drawings. Generally the work includes, but is not limited to the following items:
 - a. Coordinate with local utility suppliers and Mississippi One Call for locations of all existing underground utilities
 - b. Coordination and verification of locations of new power sources and underground services with local utility suppliers
 - c. Install new electrical power sources complete with meter socket, panelboard with breakers, underground feeders to new lighting standards, underground service from local utility companies, and galvanized equipment support rack.
 - d. Necessary wiring, conduits and junction-boxes for new exterior lighting standards
 - e. Installation of new exterior lighting systems complete with fixtures, lamps, control devices, and direct embedded and breakaway poles
 - g. Trenching, backfilling, directional boring and landscaping for underground feeders
 - g. Connection of all equipment furnished by others or by the Owner
 - h. Following OSHA and NEC safety requirements and maintaining a safe work environment
 - i. Maintain clean work area and testing and adjusting electrical systems

1.03 SITE CONDITIONS:

- A. The Contractor must visit the site and familiarize himself with all existing conditions prior to submitting bid. No change orders will be allowed because of the Contractor's misunderstanding as to the amount of work involved or their lack of knowledge of any condition with the required work and location.

1.04 PERMITS AND INSPECTIONS:

- A. The Contractor shall secure and pay for all taxes, assessments, permits, and inspections required on work performed under this Section of the Specifications.
- B. Additional costs to aid the construction of the local retail suppliers for relocations or modifications to their facilities and new underground service points shall also be the responsibility of the contractor.

1.05 APPLICABLE STANDARDS AND CODES:

- A. All materials and workmanship shall comply with the current editions of all applicable codes, specifications, local ordinances, industry standards and utility company regulations. The following standards and codes form a part of these specifications:
 - 1. International Building Code
 - 2. State, Municipal, Federal and Local Building Code
 - 3. National Electrical Code (NEC)
 - 4. National Fire Protection Association (NFPA)
 - 5. Underwriters Laboratories
 - 6. National Electrical Manufacturer's Association
 - 7. National Electrical Safety Code (ANSI-C2)
 - Illumination Engineering Society (IES)

1.06 APPROVAL OF MATERIALS AND EQUIPMENT:

- A. Equipment is specified by manufacturer's name and catalog number and is intended to establish the minimum standards of quality acceptable. After installation, the City of Picayune will contract with Mississippi Power Company for maintenance of the new street lighting system. **Therefore any substitute equipment, equivalent in all respects to that specified, must be on the Mississippi Power Company Approved Materials Standards List or accepted by MPC for approval and must have prior approval of MPC, the Engineer of Record and the Owner. Prior written approval** for any substitute exterior lighting standards must be submitted complete with computerized

photometric layout of lighting levels and ratios for the spacing indicated on the drawings for the applications to include street lighting so that all potential contractors may be notified of other equals. After the contract has been awarded, catalog cuts for all materials and equipment, and computerized photometrics for all lighting applications shall be submitted for final approval before purchases are made.

Six (6) copies of Manufacturer's Brochures and Shop Drawings shall be submitted to the Engineer. A complete electrical connection diagram for each electrically controlled component shall be submitted for approval. The approval of Manufacturer's Brochures and Shop Brochures shall not relieve the Contractor from any responsibility for deviation, quantities, physical dimensions, available space, etc., unless approved by the Engineer.

1.07 DEVIATIONS:

- A. The Drawings indicate the general arrangement of the electrical work and locations of lighting standards and power sources. Details of any major departures deemed necessary by the Contractor including spacing or relocation of new exterior light fixtures shall be submitted to the Engineer for approval. Lighting standards pole locations made be adjusted no more than 5' without prior approval. No major additional departures shall be made without prior written approval.

1.08 FINAL SUBMITTAL:

- A. At the completion of the projects prior to final acceptance, each Contractor shall furnish to the Engineer six (6) complete sets of approved Shop Drawings, together with all warranties, maintenance and operating instructions, and computerized photometric for all exterior lighting applications to include side walks and street lighting, bound in a folder to the Engineer. This folder shall also contain one copy of each of complete operating instructions for all control equipment. The folder shall contain panel boards, breakers for power panels, lighting contactors, photocells and any other equipment and systems furnished. Special requirements shall include manufacturer's installation instructions furnished with equipment, lubricating manuals and replacement parts manuals.
- B. This Contractor shall provide as-built drawings at the completion of the job showing all significant modifications and any approved changes.

1.09 COORDINATION:

- A. Contractor must coordinate all construction with the owner. Locations of all existing utilities belonging to the Owner and local retail suppliers must be identified before any construction begins.
- B. Damage to any existing underground utilities made by the Contractor will become the responsibility of the Contractor for all required repairs.

1.09 GUARANTEE:

- A. This Contractor shall guarantee to Owner, work performed under this Contract to be free from defects in workmanship and materials for a period of one year from date of final acceptance by the Engineer of Record and the Owner. Any defects arising during this period will be promptly remedied by the Contractor within a reasonable period without cost to Owner. Manufacturer's warranty for all LED type fixtures will be honored.

SECTION 16100 - BASIC MATERIALS AND METHODS**1.01 GENERAL:**

- A. **MATERIALS:** All electrical materials shall be new and approved by the NEMA and Underwriters' Laboratories, Inc., wherever standards have been established by that agency.
- B. **STANDARD PRODUCTS:** The materials furnished under this Section of the Specifications shall be the standard products of manufacturers regularly engaged in the production of such equipment.
- C. **CIRCUITS:** Circuit grouping, conduit or cable runs, and home runs are indicated diagrammatically. Contractor shall provide proper conductors and conduits or cables to produce an operative system and comply with the exterior lighting system manufacturer's requirements.
- D. **HOME RUNS:** Home Runs are indicated on the Drawings but may be regrouped if Contractor desires. In any case, however, no two ungrounded conductors shall be connected to the same ungrounded lug of a breaker or switch.

1.02 WIRING METHODS:

- A. Unless otherwise specified or indicated on the drawings, wiring shall consist of insulated conductors in rigid zinc-coated steel conduit (GRC), electrical metallic tubing (EMT), and/or Poly Vinyl Chloride (PVC) as indicated on the drawings.

1.03 CONDUIT SYSTEM:

- A. Minimum size of conduit and tubing shall be 1/2". Raceways shall be concealed within finished walls, ceilings, floors, and foundations. Raceways shall be supported with mechanical fastening devices (wire is not acceptable), at intervals not to exceed the requirements of the NEC. Conduits shall be fastened to sheet metal boxes and cabinets with two locknuts where required by the National Electrical Code, where insulating bushing are used and where bushing cannot be brought into firm contact with the box; otherwise a single locknut and bushing is acceptable. Bushings shall be of the insulating type where required by the National Electrical Code. Install heavy wall rigid galvanized steel conduit or Schedule 80 PVC conduits on all feeders exposed outdoors unless otherwise noted. Where flexible metallic conduit is needed, contractor shall use "sealtite" type in damp or wet locations and green field in dry locations. The maximum length of flexible vapor tight or metallic conduit required shall be 60".
- B. Special underground junction-pull-splice box enclosures will be required at each street lighting standard and at intersection of the underground street lighting feeders. These special enclosures will be equal to Quazite UL listed type PG precast polymer concrete complete with covers and logo. Underground enclosures will meet UL Tier Designation

8 for sidewalk applications with a safety factor for occasional non-deliberate vehicular traffic.

- C. Each outlet in the wiring or raceway systems shall be provided with an outlet box to suit the conditions encountered. All outlet and junction boxes, conduit fittings, covers and supports shall be galvanized or sheradized steel. Junction or pullboxes as required by field conditions shall be polymer concrete composite. Each junction or pull box shall have sufficient volume to accommodate the number of conductors. See Article #370 NEC. Note: All junction boxes shall have covers installed upon completion of the job.
- D. Close all unused knockout holes and install weather tight blank covers on boxes having no fixture or device.
- E. Plates and/or covers shall be provided on all switches, convenience outlets, receptacles, telephone outlets, computer outlets, and special purpose outlets. All surface outlets shall have galvanized jumbo type plates.

1.05 CONDUCTORS:

- A. GENERAL: All wiring shall be 98% conductivity and having 600 volt insulation level. Conductors shall be stranded copper with thermoplastic insulation unless otherwise noted. Solderless pressure type connectors be used for all connections where required and then properly sealed with heat shrink tubing and rubber tape.
- B. SIZES: Conductor sizes shall not be less than indicated. Branch circuit conductors shall be not smaller than No. 12 AWG. Conductors for branch circuits of 120 volts more than 100' long from panel to load center shall be No. 10 AWG. Class 1 remote-control and signal-circuit conductors shall not be less than No. 14 AWG Class 2 low-energy remote-control and signal circuit conductors shall be not less than No. 16 AWG.
- C. INSULATION: Conductors No. 8 AWG or larger shall be Type RHW or THW. Conductors smaller than No. 8 AWG shall be Type TH, THW, or THHN except that No. 16 AWG conductors for Class 2 remote-control and signal circuits may be commercial fixture wire, Type RF-2 or TF. Conductors of all sizes for temperatures in excess of 75 degrees centigrade shall be Type RHH or SA.
- D. IDENTIFICATION: Identification of branch circuits shall be of color coding. Control circuit conductor identification shall be made of color coded insulated conductors, plastic-coated self-sticking printed markers, permanently attached stamped metal foil markers, or equivalent means as approved by the Engineer. Conductor identification shall be provided within each enclosure where at tap, splice, or termination is made. Control circuit terminals of equipment shall be properly identified. Terminal and conductor identification shall match that shown on approved shop drawings. Hand lettering or marking is not acceptable.

E. IDENTIFICATION CONTINUED

1. All branch circuit wiring shall be color coded by insulation covering as follows:

120/240 or 120/208-Volts, 3-Wire, 1-Phase

Phase A - Black

Phase B - Red

Neutral - White

Ground - Green

2. Switch legs - pink with traces of base phase color or other marking as approved by Engineer.

3. Travellers for 3-way Switching - Solid violet or other color as approved by the Engineer.

4. All Conductors - No. 6 and larger may have solid black insulation with use identified by banding with tape at all terminations and access points for not less than 2" along cable. Tape used will be same colors as described above.

5. The Phases A, B, Neutral and Ground shall be established and marked at all panels, lighting contactors and any control panels as follows: Front to rear; top to bottom; or left to right when facing the equipment wiring access area.

E. GROUNDING: All equipment, raceways, service neutrals, etc., shall be grounded. Service conduits and conduits entering and leaving service switches shall be grounded with grounding type bushings complete with lugs. Bond each bushing by means of copper connections to neutral conductor and bar or lug. Ground rods shall be extendable type and 5/8" X 10' - 0" copper clad sectional, solid rods. They shall be installed with top 6" below finished grade. Resistance to ground shall not exceed 25 ohms and may require multiple extendable rods be required to meet this resistance. Provide a separate

equipment grounding conductor in each branch circuit. Equipment grounding conductor shall have a green colored insulation and shall be sized in accordance with Table 250-95 of the NEC. The grounding electrode conductor shall be sized in accordance with Table 250-94 of the NEC.

F. INSTALLATION: An approved lubricant non-injurious to the conductor insulation shall be used where necessary for pulling conductors into raceways.

1.06 DEVICES:

A. Furnish and install all wiring devices as indicated on the Drawings and as required for a complete electrical system.

- B. WALL SWITCHES: Switches shall be of specification grade, totally enclosed tumbler type with bodies constructed of phenolic compound. Wiring terminals shall be of screw or solderless pressure type having a suitable conductor-release arrangement. Switches shall be rated 20 amp, 125-277 volts, for use on alternating current only unless otherwise indicated.
- C. RECEPTACLES: All duplex receptacles shall be provided with third grounded pole and shall be of specification grade. Receptacles shall be capable of receiving a two-wire parallel-bladed cap or three pole cap. The third pole shall be connected to the metal mounting yoke. Receptacles shall be rated 20 amperes, 125 volts. Special purpose receptacles shall be located as indicated on drawings. Each shall be of top specification grade, of proper NEMA configuration for equipment, served, and equipped with proper cap completely installed. All exterior receptacles shall be weatherproof and non-metallic type.
- D. DEVICE PLATES: Plates shall be provided for all outlets and fittings to suit the devices installed. Plates will be 302 stainless steel jumbo type. Screws shall be of metal with counter-sunk heads. Plates shall be installed with all four edges in continuous contact with finished wall surfaces without the use of mats or similar devices. Plaster fillings will not be permitted. Plates shall be installed with an alignment tolerance of 1/16". The use of section-type device plates will not be permitted. Plates installed in wet locations shall be gasketed. Plates used on exterior boxes shall be non-metallic type having round or beveled edges.

1.07 DEVICE LOCATIONS:

- A. OUTLET LOCATION: The approximate location of all outlets is indicated on the Drawings as diagrammatic only. The exact location of all outlets shall be determined by the Engineer and outlets may be moved before rough-in to a distance of 10 feet from the position indicated without extra charge by the Contractor. Unless otherwise shown or directed, the outlet boxes shall be located with center lines at elevations above the finished floor line or below ceiling lines as follows.
 - 1. General Lighting Switches - 48"
 - 2. Wall and Convenience Outlets - 18" from floor and 42" in shop areas
 - 3. Safety Switches (Max. to Handle) - 72"
 - 4. Panelboards (Max. to Top Breaker/Switch) - 72"

1.08 EQUIPMENT SUPPORTS:

- A. The Contractor shall furnish and install all necessary supports for properly mounting all electrical equipment and raceways. Such supports shall be fabricated and installed in a neat and workmanlike manner, and care shall be taken so that at no time shall any portion of the building structure be overloaded nor weakened in any manner. All structural steel furnished shall be standard shapes and sizes and shall be free from rust and/or scale and shall have one shop coat of lead and oil paint thereon when delivered to the job site. All interior steel shall be firmly and rigidly welded or bolted in place. The Contractor may use prefabricated structural systems manufactured by Kindorf Company, Unistrut

Products Company, or Powerstrut, Inc., for the support of raceways and/or equipment. The Contractor shall be fully responsible for the proper sizing and assembling of such systems, if used to adequately and rigidly support raceways and/or equipment mounted thereon. It shall be the responsibility of the Contractor to select bolts of adequate strength for the service required. Lock washers shall be installed under all nuts which bear on metal. Fastenings for securing conduit runs, boxes, light apparatus, etc., shall be bolts, beam clamps, or velocity driven studs on steel work; lag bolts with expansion shields, velocity driven studs, or inserts on concrete; toggle bolts on hollow tile or concrete block. Holes for lead expansion shields shall be drilled in solid brick or concrete and, where necessary, holes around same shall be neatly cemented after bolts are in place.

1.09 MOTOR CONNECTIONS:

- A. All motors shall be connected to the conduit system by means of a short section (18" minimum) of flexible conduit unless otherwise noted. For motor connections, the Contractor shall furnish and install the grounding conductor inside the flexible section. Terminate the ground conductor by means of a solderless lug and a bolt through a hole to be drilled in the side wall of the conduit. Risers from feeders on ceiling to individual motors on/or close to floor shall be firmly fastened at lower end and controls or protective apparatus shall be as shown on Plans. If not shown on Plans, conductor shall be as recommended by the manufacturer of the apparatus or as required by the NEC.

1.10 EQUIPMENT LABELING AND IDENTIFICATION

- A. Provide permanent engraved plastic nameplates, white letters on black field, permanently attached to equipment as follows:

1. Light Panels	Name of Panel
2. Power Panels/Circuits	Name of Panels/Each Branch Load
3. Disconnect Safety Switch	Name of Load Served
4. Special Purpose Outlets	Position Breaker in Panelboard
5. Lighting Contactors	Lighting Circuits Controlled
6. Underground enclosures	Logo-City of Hattiesburg Street Lighting
- B. Provide a complete typewritten directory under transparent plastic cover inside of each power panel and lighting contactor identifying circuits controlled.
- C. Provide cover plate with resetting instructions on each thermal trip switch.
- D. Leave all electrical equipment, including fixtures, free of dust, plaster, paint spots, etc.

1.11 INSPECTION AND TESTS:

- A. The complete job will be, during and/or after construction, subject to supervision of the Engineer. Inspections shall be conducted by the Engineer or his designated representative as necessary to maintain compliance with the contract requirements.

- B. Prior to acceptance by the Owner/Engineer, the Contractor shall conduct and record insulation tests of all feeder and motor branch circuits. The insulation testing shall be accomplished utilizing a meg-ohm meter and complying with minimum requirements of the NEC. Verification of test results shall be witnessed by the Engineer or his designated representative.

SECTION 16200 - RACEWAYS**PART 1 - GENERAL****1.01 DESCRIPTION:**

- A. Raceways indicated on Drawings and specified herein shall be complete in all respects including all necessary and incidental fittings, hangers and appurtenances required for a complete installation.
- B. Minimum size of raceways shall be 1/2".

PART 2 - PRODUCTS**2.01 RIGID CONDUIT:**

- A. Hot-dipped galvanized rigid steel conduit (GRC) in all sizes may be used throughout project without regard to location or application. Any portion of a raceway using galvanized rigid conduit shall not be joined with IMC, EMT, or PVC. Refer to Article 346 NEC for further restrictions.
- B. Conduit shall be galvanized for interior use and where embedded in concrete or earth conduit shall be coated with applications of two coats of asphaltum.

2.02 INTERMEDIATE METALLIC CONDUIT:

- A. Intermediate metallic conduit (IMC) in all sizes may be used throughout project without regard to location or application, except that IMC shall not be used below grade, and shall not be cast in concrete. Refer to Article 345 NEC for further restrictions.
- B. Electrical metallic tubing (EMT) may be used in all indoor applications in dry locations and shall not be embedded in concrete, earth or run exposed in wet locations.

2.03 FLEXIBLE METALLIC CONDUIT:

- A. In damp or wet locations, flexible metallic conduit shall be of the "sealtite" type and shall be UL approved installed with proper connectors to fit the condition encountered.
- B. In dry locations, flexible galvanized conduit (greenfield) shall be installed. Do not use "BX" in any location.
- C. Flexible conduit lengths shall not exceed 60 inches for equipment and/or lighting fixture connections unless otherwise specified.

2.03 RIGID NONMETALLIC CONDUIT (PVC)

- A. PVC type conduit may be used for underground applications as indicated on the drawings. Exposed PVC conduit shall be schedule 80 type.
- B. PVC conduit may not be used for building interior wiring.
- C. Where directional boring is required, conduits shall be polyethylene (HDPE) type.

PART 3 - EXECUTION

3.01 LAYOUT:

- A. Plans are diagrammatic and judgement shall be exercised to install electrical work in a practical manner to function properly and to fit building construction and finish. Items not shown or specified which are required to produce a complete, operative and finished system shall be provided.
- B. Cooperate with others in laying out work so that this phase of the work will properly fit the building and other Contractors requirements. Exact location of various outlets shall be determined from dimensions on general construction drawings or as may be determined on the job. Do not scale drawings for exact location of any outlet. Locations and characteristics of equipment furnished under other sections of the contract shall be determined from other Contractor's shop drawings or layouts prior to locating outlets.
- C. The right is reserved to change the location of any fixture improperly installed to fit equipment or finish, as well as to change the exact location of any fixture before initial installation.
- D. Raceways exposed to view will be run perpendicular or paralleled to the planes of the building structure. Where concealed in or below grade construction, raceways will take the most direct route between exit points. Where concealed above finished ceilings and in attic voids conduits may take the most direct route between points of connection. Raceways exposed on the building exterior of structure shall be painted to match the exterior color.

3.02 INSTALLATION:

- A. Where several conduits are run together, they shall be neatly paralleled with concentric and true radii. All bends shall be true and even without kinks or flats. Seal the exposed ends of conduits during construction to prevent the entry of foreign materials. Clean and dry all conduits before installing conductors.
- B. All empty conduits shall have a nylon pull cord (not nylon jet line) installed. This pull cord shall be free from knots and splices from box to box. Provide labeled tags on the pull cord to identify the location of each end.
- C. Raceway systems shall be concealed in new construction wherever practical, and in all instances in above ceiling.
- D. Conduits shall terminate with bushings of solid insulating plastic material utilizing two lock nuts where lock nuts are permitted. Where lock nuts are not permitted, conduit shall terminate with threaded hub connections equal to "Scru-tite". If it is not possible to install two lock nuts, then OZ Type B or equal insulated bushings shall be utilized with one lock nut.
- E. EMT crimp type connectors shall be installed with two opposing operations of the crimping tool to assure electrical continuity.
- F. Where conduits are stubbed up from the floor or slab and are not mechanically bonded to the terminal enclosure, then OZ type BL or equal insulated grounded bushings shall be utilized and grounded as specified hereinafter. Threads on steel conduit shall be protected with approved corrosion resistant conductive compound.
- G. At all connections to equipment, unions, or flanges shall be utilized to facilitate maintenance, repair, or replacement. Flexible connection shall be utilized as specified hereinafter.
- H. Where raceway systems join equipment of dissimilar metals, they shall be made with fittings specially approved for the application.
- I. Conduits installed below grade shall be buried a minimum of 24" to top below grade.

3.03 FLEXIBLE CONDUIT INSTALLATION:

- A. Flexible conduit shall be used for all equipment connections where the equipment is on a sliding or adjustable base or where mounted of vibration isolators.

- B. When flexible connections are utilized separate grounding conductors shall be installed within the raceway or a separate bonding conductor shall be external in accordance with Article 250 NEC - Grounding.
- C. Use not to exceed five (5) feet of flexible metal conduit for connections to motors and/or recessed light fixtures unless otherwise specified herein.
- D. Flexible connections subject to moisture under normal conditions or where specifically indicated or noted shall be liquid tight with proper liquid tight fittings.

SECTION 16250 - GROUNDING**PART 1 - GENERAL****1.1 GENERAL.**

Ground all equipment, systems, structures, etc., per the latest edition of the National Electrical Code (NEC).

PART 2 - PRODUCTS

- 2.1 Use mechanical bolted connections in dry locations that are accessible.
- 2.2 Use exothermic welds in wet locations and locations that will be inaccessible at the end of construction.
- 2.3 Ground rods shall be UL listed 5/8" x 10' copper-clad steel extendable type ground rods with a minimum copper cladding thickness of 10 mils.

PART 3 - EXECUTION

- 3.1 Ground rods shall be installed with their tops no less than 6" below grade.
- 3.2 Bond ground connections to metal raceways at each end of the conduit run. Provide grounding bushings where required by the NEC. Where cable trays are used, bond the ground conductor to each section and fitting of the tray.
- 3.3 Provide all circuits with an equipment grounding conductor sized per the NEC, or as shown on the drawings. Circuitry shown on drawings does not include the required equipment grounding conductor. Where multiple circuits are run with a common neutral, only one equipment grounding conductor is needed. The equipment grounding conductor shall be furnished with green insulation for conductors #8 AWG and smaller; where larger than #8, the equipment grounding conductor shall be taped green for its entire exposed length.
- 3.4 The grounding electrode conductor(s) shall be bare or shall be colored green for its entire exposed length.
- 3.5 Individual ground conductors shall be installed in PVC conduit sized per the NEC.
- 3.6 Provide receptacles, luminaires, and other devices with a green conductor that bonds the receptacle grounding screw or pigtail, the outlet box grounding screw, and the equipment grounding conductor together.
- 3.7 Telephone, cable television, and other auxiliary systems shall be bonded to the electrical building service ground using a conductor no smaller than #6 AWG.

END OF SECTION

SECTION 16300 - CONDUCTORS**PART 1 - GENERAL****1.01 DESCRIPTION:**

Electrical conductors, cables and related items required to complete the work shall be provided as indicated on the Drawings and as described in the Specifications.

1.02 SUBMITTALS:

A. Submit all required data in accordance with the Submittals.

B. Submittals shall include, but not be limited to, the following:

1. Conductor types and insulation.
2. Manufacturer.
3. Spec-Data Sheets.

C. All branch circuit wiring shall be color coded by insulation covering as follows:

Service Voltage – 480/277-Volts, 3-wire, 1-phase (Verify)
Phase A - Black
Phase B - Red
Three-way and four-way travelers - Yellow
Neutral - White
Equipment Ground - Green

PART 2 - PRODUCTS**2.01 INSULATED CONDUCTORS (600 Volts):**

- A. Sizes shall be not less than indicated. Branch circuit conductors shall be not smaller than No. 12 AWG. Conductors for branch circuits of 120 volts more than 100' long from panel to load center, shall be No. 10 AWG. Class 1 remote-control and signal-circuit conductors shall be not less than No. 14 AWG Class 2 low-energy remote-control and signal circuit conductors shall be not less than No. 16 AWG. All conductors to be stranded annealed copper rated 600 volts.
- B. Insulation shall be type THW, THWN, THHN, or XHHN. Do not mix insulation types in the same raceway or on the same circuit. Insulation shall be of a solid color for color coding as specified hereinafter on conductors # 10 and smaller. On #8 and larger, all conductor insulations shall be solid black, color identified with color banding at each outlet, junction and pull box.
- C. Exterior underground services to building panels and exterior lighting standards will be 600-volt THWN copper in conduit and designed for direct burial applications.

2.02 CONNECTIONS (600 Volts):

- A. Pigtail splices will be permitted only on conductors #10 AWG and smaller and shall be made with a crimp cap, equal to Buchanan, applied with a crimping tool or "Scotlok" connectors or equal.
- B. Straight splices #8 and larger shall be made with pressure tool applied compression type splices.
- C. Lugs shall be crimp-type equal to "Burndy". A hydraulic crimping tool will be used for crimp connections and all sizes #4 AWG and larger.
- D. Split bolt connectors will not be permitted.
- E. All splices and taps shall be insulated with at least three layers of half-lapped Scotch #88 electrical tape or equal.
- F. Speaker cable connections shall be made with silicone-filled type connectors where connections are necessary to prevent moisture contamination.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Only approved commercially available wire pulling compounds shall be utilized for lubricants when installing conductors in raceways. Such lubricants are a requirement of these specifications when installing conductors sized #2 and larger.
- B. Wire shall be pulled into raceways from pay-out reels or reels on which the wire was shipped. Wire furnished in coils in boxes shall be removed from the boxes and placed on reels. Wire shall not be fed from the interior of the coil through the holes cut in the side of the boxes.

END OF SECTION

SECTION 16400 - POWER DISTRIBUTION EQUIPMENT**Part I - GENERAL****1.01 PANELBOARDS:**

LIGHT AND POWER PANELBOARDS: Panelboards are scheduled on the drawings. Panelboards shall be circuit breaker type for 480/277, 1-Phase, 3-Wire service as verified with local utility supplier and complete with main breaker (Contractor must verify exact service voltage with local utility provider). Panelboards shall be dead front construction complete with bolt-on branch breakers, pressure terminals, copper busses of ratings scheduled, neutral bar, ground bus, code gauge steel enclosure with door and keyed lock. Panelboards shall be mounted on a galvanized steel rack with meter socket and controls as per detail drawings and schedule. Provide a typewritten schedule inside door. Panelboard shall have minimum interrupting rating of 22,000 amperes RMS symmetrical. Panelboards mounted on exterior racks or enclosures shall be enclosed in a NEMA 3-R weatherproof type enclosure with locking doors.

1.02 METER SOCKET

Meter socket shall be a self-contained type as approved by the local utility provider and mounted on a galvanized steel rack by above panel and as per detail drawing. Meter socket shall be equal to Milbank and rated for approved service voltage.

1.03 SAFETY SWITCHES:

A. Safety switches shall be furnished and installed in accordance with the following requirements:

1. Type HD as defined by NEMA and shall be of voltage rating as required.
2. Horsepower rated in accordance with "fusetrone" fuses on motor circuits.
3. Enclosures: NEMA-3R outdoors, NEMA-1 indoors.
4. Safety Switches shall be Square D, ITE, General Electric or of the same manufacturer as major power distribution components.
5. Safety Disconnect switches shall be equipped with external locking devices
6. All fused switches shall be fused with Bussman Fusetrone dual element type fuses as appropriate to the circuit voltage with size fuse appropriate for motor load.

1.04 LIGHTING CONTACTORS:

- A. Lighting Contactors shall be rated for 600-V, 3-Wire, 1-Phase application, 30-Amp, multiple pole and equal to Square-D Type S.
- B. Lighting Contactors shall be electromagnetically operated, mechanically latched three wire control contactors complete with auxiliary contacts.
- C. Lighting Contactors shall be mounted in a NEMA-3R enclosure.
- D. Lighting Contactors shall be approved for use to control high intensity discharge type lighting systems.
- E. Lighting Contactors shall be controlled by photo-electric cells.

Part 2 - PRODUCTS

2.01 STARTER, CONTROLS, AND DISCONNECTS:

- A. All disconnect switches shall be standard type HP rated, sized to the load and fused so as to provide running overcurrent protection. All fuses shall be dual-element fusetron or equal. Use NEMA type 3R switches for all outside installations.
- B. Supply all motor controls and starters unless furnished with the equipment. Furnish additional interlocks for the starters as required to proper connect the starter as called for in the control wiring diagrams.
- C. Push buttons, limit switches, and other control devices generally will be furnished by installing trade unless specifically called for in this section of the specifications.
- D. Starters for three phase motors shall be furnished with three overload devices, one for each ungrounded leg.

Part 3 - EXECUTION

- A. Motors shall be furnished by the trade supplying the motor driven equipment. Review the requirements of other sections of these specifications to determine electrical requirements to be provided under this section. Generally, motors will be installed by supplying trade and the necessary electrical power supply connections will be a part of the requirements of this Division.

- B. Furnish and install all power wiring required for the entire project as a part of this Division. Control wiring is herein defined to embrace temperature control, interlock sequencing, and initiating controls, and other controls as may be required. Refer to other sections of these specifications and the drawings to determine the extent of such other wiring as may be required.

END OF SECTION

SECTION 16500 - EXTERIOR LIGHTING SYSTEM**Part 1 - GENERAL**

- 1.0 Contractor shall provide and install lighting standards complete with 230-260-W LED fixtures mounted on 6' arms with 2' upsweep and direct embedded aluminum poles for 35'+ mounting heights. Contractor shall also provide multiple power sources complete with meter sockets, power panel boards complete with breakers, underground services from local utility providers, and underground feeders to new lighting standards and mounted on a PVC or galvanized steel and break away rack in accordance with the schedule on the Drawings.
- 2.0 For purposes of identification, specific manufacturers and catalog numbers have been specified. After installation, the Owner will contract with Mississippi Power Company or City of Hattiesburg for maintenance of the new street lighting system. Therefore, fixtures and poles of other manufacturers of equal quality, general dimension, photometric characteristics, and appearance will require prior approval and must be listed or approved on Mississippi Power Company's Materials Standards List. Approval for equal lighting standards will require all equipment submittals complete with computerized photometric drawings indicating maintained lighting levels and all performance ratios for the complete project area within 10 days prior to the bid and upon prior written approval by the Engineer and Owner. Comply with Paragraph 16000-1.06 before bidding.
- 4.0 Procure fixtures completely factory wired for proper operation in the application shown on the drawings shall be furnished with proper fittings and accessories for installation in the area encountered.

1.02 EXTERIOR LUMINAIRES:

- A. Exterior street light fixtures shall be a unique IP66 rated LED light engine provided 0% uplight and restricted backlight to within sidewalk depth, and providing optimal application coverage and optimal pole spacing.
 1. The street light fixture shall be rated for 230-260-watt LED type light, 1,300-ma drive current, standard 4000K color temperature (CCT), minimum of 70 CRI, and complete with integral photo-cell control, and multi-voltage driver for operation for multi-volt operation and IES Type II light distribution.
 2. The fixture shall be equipped with both luminance and illuminance for 0% uplight, low glare, semi-cutoff and excellent NEMA photo control receptacle and twist-lock type photocell.
 3. The fixture shall be made with rugged die-cast aluminum housing with the body painted with black finish in color or as approved by the owner using five-stage pre-treated and painting process to comply with ASTM B117 process with a 5 year warranty.
 4. Light fixture shall be designed for mounting on a 2" diameter 6' length and 2' upsweep aluminum arm which in turn is mounted to the side of an aluminum pole and provide a 3G vibration rating per ANSI C136.
 5. The Street Light Fixture shall be rated for -40 degree C to +40 degree C ambient and shall be provided with an unconditional 5-year warranty.

6. Exterior Light Fixtures shall be equal as approve to American Electric Lighting Autobahn Series ATB2 Roadway Lighting as approved on MPC Materials Standards.

1.03 EXTERIOR FIXTURE POLES AND ARMS:

- B. Pole shall be sized for 35' mounting height and shall be made of tapered aluminum, 0.156" wall alloy 6063-T6 tapered aluminum tube.
 1. The poles shall be design to withstand a wind speed of 100-MPH with a gust factor of 1.3 with required fixtures Effective Projective Areas for twin light fixtures and 6' bracketed arm with 2' upsweep.
 2. The pole shall be equipped with a reinforced 4" X 6" handhole with cover and stainless steel screws. The pole base shall be equipped with grounding lug provided inside base opposite hand hole.
 3. Poles shall be direct burial type and equipped with 9" X 156" aluminum tube shaft with flattened at bottom and 2-1/2" X 8" slotted wireway hole at 24" below ground level.
 4. The pole shall be painted with a power coat paint system, black in color or other specific color as designated by the owner using an electrostatically applied semi-gloss, super durable polyester powder coat painting system with a 5 year warranty.
 5. The aluminum pole shall be equal to Hapco RTA Aluminum Embedded Pole (RTA-35-C-9-A-E-BM) or as approved on MPC Materials Standards List or prior approve equal.

1.04 BRACKET ARMS

Double Elliptical bracket arms shall be made of aluminum and 6' in length with 24" upsweep, slipfitter for 3" tennon mounted with stainless steel mounting screws or mounted to pre-molded side of the aluminum pole as per the pole manufacturer's requirements..

1.05 PHOTO CELL CONTROLS

Photo cell controls shall be locking-type with built-in time delay to prevent false cycling caused by lightning flashes or stray vehicle headlights. Photo cells shall be equipped with

FAIL-ON feature which allows the contacts to default to the closed position upon photo cell failure. The locking type photo-cell shall be mounted to a locking type receptacle complete with mounting bracket and threaded nipple. Photo Control Cells shall be equal to Precision or Fisher Pierce.

1.10 INSTALLATION:

- A. Comply with manufacturer's recommendations for mounting of direct burial cast aluminum poles, 6' arms, and LED style fixtures to the respective poles.
- B. Cast aluminum poles shall be direct buried in select backfill of wet sand or #610 limestone and 18" diameter hole as per details on the drawings.

1.11 LIGHTING FIXTURE PERFORMANCE CRITERIA

- A. Lighting fixture performance criteria for 230-260 Watt LED light source type street light fixture mounted at 35'+ AFG with standard located 2' off the street curb in the grass area between the street curb and sidewalk and adjacent staggered pole spacing of 140-150' (maximum) with IES Type II light distribution shall have the following luminance grid minimum values:

Average Maintained Illuminance levels of 2.0+ FC (3.58 FC Max and 0.9 FC Min)

Avg/Min Illuminance Ratio = 2.6:1

Max/Min Illuminance Ratio = 3.8:1

Located 2' behind street curb

Mounting Height of 35' +2' Upsweep Arm AFG

Total Light Loss factor = 0.9

Street Classification is a Business Parkway

END OF SECTION

SECTION 16600 - ELECTRICAL SERVICE**1.01 GENERAL:**

- A. Electrical contractor shall coordinate extension of underground 480/277-Volt, 3-Wire, 1-Phase electrical service, protective equipment, and metering requirements for the Customer owned lighting standards with Mississippi Power Company. Contractor must verify exact service voltage with MPC.
- B. The electrical contractor will be required to include in the corresponding quote for construction the costs for any contribution to aid new construction and extension of existing wiring and underground service as required by Mississippi Power Company.

1.02 VOLTAGE:

- A. The exterior lighting service voltages shall be 480/277-Volt, 1-Phase, 3-Wire, and 60 Hertz as available with the existing services or as to be determined by MPC (Verify).

1.03 ELECTRIC METER AND METER SOCKET:

Electric metering will be provided by MPC as required. Contractor shall provide and install the required self-contained 600-Volt rated meter socket equal to Milbank or as approved by MPC.

1.04 GROUNDING:

- A. Ground the electrical service in accordance with Article 250 of the National Electrical Code.
- B. Ground the lighting fixtures, pole foundations, lighting standards and new panels as per detail drawings.

1.05 COORDINATION WITH OWNER/ENGINEER:

- A. Contractor shall provide to Owner and Engineer a calendar schedule of work to be performed. This schedule shall be developed after investigation of scheduling and needs, equipment delivery dates and work to be performed by other trades.

END OF SECTION

SECTION 16800 - MECHANICAL SYSTEM WIRING**1.01 GENERAL**

- A. Unless otherwise mentioned herein, the Electrical Contractor shall be responsible for all power wiring of mechanical system. This Contractor is cautioned to familiarize himself with the Mechanical Specification regarding the Electrical Work. Motors shall be installed and mechanically connected by the Mechanical Contractor and electrically connected by the Electrical Contractor. Mechanical Contractor shall be responsible for furnishing to this Contractor all necessary name plate data, equipment power requirements, wiring diagrams, etc., pertaining to the electrical phases of the mechanical installation. Where fuses only are permitted, furnish fusible disconnect with fuse size required by manufacturer of equipment. Obtain written approval of Division 15 contractor of overcurrent size before energizing equipment.

1.02 CONTROL WIRING:

- A. Control wiring is specified to be furnished under DIVISION 15 MECHANICAL WORK: Motor Starter and Motor Contactors, related to Mechanical Work, to be mounted in the equipment cabinet or individually shall be supplied to the electrical Contractor. All wiring internal of motor control centers, motor starter panelboards, etc., shall be the responsibility of the Electrical Contractor. All starters and contactors furnished this Contractor shall be installed by him. Provide 125 volt service to all mechanical system control panels for operation of control devices.

END OF SECTION

SECTION 16900 - EXCAVATION, TRENCHING, AND BACKFILLING**PART 1 - GENERAL****1.01 SCOPE**

This Section covers the excavation, trenching, and backfilling for utilities and appurtenances.

1.02 RELATED WORK SPECIFIED ELSEWHERE**1.03 APPLICABLE PUBLICATIONS**

Where reference is made to other publications, they are referred to by basic designation only and form a part of this specification to the extent indicated by reference thereto. All referenced publications shall be the latest issue, including amendments as of the date of this specification.

PART 2 - PRODUCTS (NOT APPLICABLE)**PART 3 - EXECUTION****3.01 EXCAVATION**

All excavation of every description and of whatever substances encountered shall be performed to the depths indicated or as otherwise specified. During excavation, material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. All excavated materials not required or suitable for backfill shall be removed and disposed of off site at CONTRACTOR's expense. Grading shall be done as necessary to prevent surface water from flowing into trenches or other excavations, and any water accumulating therein shall be removed by pumping or by other approved methods. Sheet piling and shoring shall be done as necessary for the protection of the work and for the safety of personnel. Excavation shall comprise all materials encountered, including rock and filled-in material of whatever nature is involved.

- A. The utilities shall be laid and maintained to lines and grades established by the plans and specifications with fittings and valves at the required locations unless otherwise approved by the OWNER.
- B. Prior to excavation, investigation shall be made to the extent necessary to determine the location of existing underground structures and conflicts. Care

should be exercised by the CONTRACTOR during excavation to avoid damage to existing structures.

- C. When obstructions that are not shown on the plans are encountered during the progress of work and interfere so that an alteration of the plans is required, the Engineer will alter the plans or order deviation in line and grade or arrange for removal, relocation, or reconstruction of the obstructions.
- D. When crossing existing pipelines or other structures, alignment and grade shall be adjusted as necessary, with the approval of the Engineer, to provide clearance as required by federal, state, or local regulations or as deemed necessary by the Engineer to prevent future damage or contamination of either structure.

3.02 TRENCHING - GENERAL

The trench shall be excavated to the required alignment, depth, and width and in conformance with all federal, state, and local regulations for the protection of the workmen.

- A. Trench preparation shall proceed in advance of pipe installation for only as far as stated in the specifications.
- B. Discharge from any trench dewatering pumps shall be conducted to natural drainage channels, storm sewers, or an approved reservoir.
- C. Excavated material shall be placed in a manner that will not obstruct sidewalks, driveways, or other structures and shall be done in compliance with federal, state, or local regulations.
- D. Removal of pavement and road surfaces shall be a part of the trench excavation and the amount removed shall depend upon the width of trench required for the installation of structures. The dimensions of pavement removed shall not exceed the dimensions of the opening required for installation of pipe and other structures by more than 6 inches in any direction unless required or approved by the OWNER. Methods, such as sawing, drilling, or chipping, shall be used to ensure the breakage of pavement along straight lines.
- E. The width of the trench at the top of the pipe shall be that of the single-pass capabilities of normally available excavating equipment and ample to permit the pipe to be laid and joined properly and allow the backfill to be placed as specified. Trench widths at the top of the trench shall be not greater than the normal diameter of the pipe plus 24 inches. Trenches shall be of such extra width, when

required, to permit the placement of timber supports, sheeting, bracing, and appurtenances.

- F. Holes for the bells shall be provided at each joint but shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the trench bottom. Other than noted previously, the trench bottom shall be true and even in order to provide support for the full length of the pipe barrel, except that a slight depression may be provided to allow withdrawal of pipe slings or other lifting tackle.
- G. When excavation of rock is encountered, all rock shall be removed to provide a clearance of at least 9 inches below and on each side of all pipe, valves, and fittings. When excavation is completed, a bed of sand, crushed stone, or earth that is free from stones, large clods, or frozen earth, shall be placed on the bottom of the trench to the previously mentioned depths, leveled, and tamped. These clearances and bedding procedures shall also be observed for pieces of concrete or masonry and other debris or subterranean structures, such as masonry walls, piers, or foundations that may be encountered during excavation. This installation procedure shall be followed when gravel formations containing loose boulders greater than 8 inches in diameter are encountered. In all cases, the specified clearances shall be maintained between the bottom of all pipe and appurtenances and any part, projection, or point of rock, boulder, or stones of sufficient size and placement which, in the opinion of the ARCHITECT, could cause a fulcrum point.
- H. Should the trench pass over a sewer or other previous excavation, the trench bottom shall be sufficiently compacted to provide support equal to that of the native soil or conform to other regulatory requirements in a manner that will prevent damage to the existing installation.
- I. Trees, shrubs, fences, and all other property and surface structures shall be protected during construction unless their removal is shown in the plans and specifications or approved by the OWNER. Any cutting of tree roots or branches shall be done only as approved by the OWNER.
- J. Temporary support, adequate protection, and maintenance of all underground and surface structures, drains, sewers, and other obstructions encountered in the progress of the work shall be furnished by the CONTRACTOR. All properties that have been disturbed shall be restored as nearly as practical to their original condition.
- K. When the subgrade is found to be unstable or to include ashes, cinders, refuse, organic material, or other unsuitable material, such material shall be removed, to a

minimum of at least 12 inches, or to the depth ordered by the Engineer and replaced under the directions of the ARCHITECT with clean, stable backfill material. The bedding shall be consolidated and leveled in order that the pipe may be installed in accordance with Section 3.02F.

- L. When the bottom of the trench or the subgrade is found to consist of material that is unstable to such a degree that, in the judgment of the Engineer it cannot be removed, a foundation for the pipe and/or appurtenance shall be constructed using piling, timber, concrete, or other materials at the direction of the Engineer. Appropriate traffic control devices shall be provided in accordance with federal, state, or local regulations to regulate, warn, and guide traffic at the work site.

3.03 BACKFILLING - GENERAL

The trenches shall not be backfilled until the as installed conform to the requirements specified. Where, in the opinion of the Engineer damage is likely to result from withdrawing sheeting, the sheeting shall be left in place. Except as otherwise specified for special conditions of over-depths, trenches shall be backfilled to the ground surface with material that is suitable for the compaction specified hereinafter. Trenches improperly backfilled shall be reopened to the depth required for proper compaction, then refilled and compacted as specified, or the condition shall be otherwise corrected as approved. The surface shall be restored to its original condition as near as practicable as hereinafter specified. Pavement, base course, and compacted subgrade disturbed by trenching operations shall be replaced in an acceptable manner with materials equal to the adjacent compacted subgrade, base course, and pavement for a minimum distance of 12 inches on each side of the trench.

- A. In the lower portion of the trench backfill material shall be deposited in 6-inch maximum thickness layers and compacted with suitable tampers to the density of the adjacent soil or graded as hereinafter specified until there is a cover of not less than one foot over the pipe for Class A and Class B bedding and six inches over the pipe for Class C bedding. The backfill material in this portion of the trench shall consist of a selected material at a moisture content that will facilitate compaction, free from stones larger than 3 inches in any dimension and hard clods and frozen conglomerates larger than 6 inches in any dimension, except that where the pipe is coated or wrapped for protection against corrosion the backfill material shall be free from stones larger than 1 inch in any dimension. If any portion of the cover in the lower portion of the trench is in the depth of special compaction and materials requirements under pavement, the special requirements shall control. Special care shall be taken not to damage the coating or wrapping of pipes.
- B. Except for special materials for pavements, turfed or seeded areas, and sidewalks

the remainder of the trench shall be backfilled with material that is free of stones larger than 6 inches or $\frac{1}{2}$ the layered thickness, whichever is smaller, in any dimension. Backfill material shall be deposited in layers not exceeding twelve inches, and each layer shall be compacted to the minimum density specified as applicable to the particular area. Degree of compaction shall be 90 percent for Class C bedding.

- C. Under paved areas or other areas indicated by the plans Class B bedding shall be required. Backfill trenches from 12 inches above the pipe to pavement base course in six-inch layers to 95 percent of maximum density as determined by AASHTO T180.
- D. Under turfed or seeded areas and sidewalks Class C bedding shall be required. Backfill trenches from 6 inches above the pipe to finished grade in twelve-inch layers to 95 percent of maximum density as determined by AASHTO T180.

END OF SECTION

ADVERTISEMENT FOR BIDS

The City of Hattiesburg will receive sealed proposals at the City Clerk's office, located at 200 Forrest Street, Hattiesburg, Mississippi 39401 until **10:00am, Thursday, June 8, 2017**, for furnishing all labor, materials and equipment in connection with the Highway 11 Medical Park Access Roadway, as described in and reflected by the plans and specifications prepared by The Walker Associates, Engineers-Planners-Designers, PLLC Hattiesburg, Mississippi, dated April, 2017, immediately after which time said sealed proposals shall be publicly opened and read.

A single contract shall be let for the complete project.

Detailed drawings and specifications are on file and may be examined at the office of the City Clerk located at 200 Forrest Street, Hattiesburg, Mississippi 39401; the office of The Walker Associates, Engineers-Planners-Designers, PLLC 2203 Hardy Street, Hattiesburg, Mississippi 39401, or viewed online at www.thewalkerassociates.com.

Bidders may obtain complete sets of drawings and specifications from The Walker Associates, Engineers-Planners-Designers, PLLC 2203 Hardy Street, Hattiesburg, Mississippi 39401 (Post Office Box 16496, Hattiesburg, MS 39404-6496), upon payment of \$75.00 per set, non-refundable. Only bidders who have received printed drawings and specifications from The Walker Associates, Engineers-Planners-Designers, PLLC will be considered bona fide bidders.

Proposals shall be submitted in duplicate only upon the blank bid forms provided with the drawings and general conditions and must be accompanied by bid security in the form of a certified check or acceptable bid bond in an amount equal to at least five percent (5%) of the base bid. Said security to be forfeited, as liquidated damages, not penalty, by a bidder who may be awarded the contract, but who fails to carry out the terms of the proposal, execute the contract and post the required performance and payment bonds in the form and amount, and within the time specified. The bid bond, or the certified check, if used in lieu thereof, shall be payable unconditionally to Forrest County General Hospital.

Bids on the project must be received on or before the time specified above, and no bid may be withdrawn after the scheduled closing time and date for the receipt of bids for a period of sixty (60) days. All bids submitted must comply with the requirements of Chapter 3, Title 31 (Sections 31-3-1, et. seq.) of the Mississippi Code of 1972, as amended, and the performance of any contract shall be bonded in accordance with Chapter 5, Title 31 of the Mississippi Code of 1972, as amended.

"Minority Business and Women's Business Utilization Requirements:

Positive efforts as required by the Community Development Block Grant (CDBG) Program and funding under the Development Infrastructure Program (DIP) shall be made by BIDDERS to utilize minority-owned and women-owned businesses as sources of construction, materials, supplies and services. Such efforts must allow these sources the maximum feasible opportunity to compete for sub-agreements and contracts. Documentation of efforts made to utilize minority and women-owned firms must be maintained by all BIDDERS."

Bidders who are non-residents of the State of Mississippi must also comply with the provisions of Section 31-3-21(3) of the Mississippi Code of 1972, as amended.

The City of Hattiesburg reserves the right to reject any and all bids and to waive informalities.

DATED this, the 2nd day of May, 2017.

BY: /s/
City Clerk
Hattiesburg, Mississippi

Dates of Publication:

May 8, 2017

May 15, 2017



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-391

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Approve plans and specifications for the Comprehensive Water Improvements Phase V Project

Title: Approve plans and specifications for the Comprehensive Water Improvements Phase V- Blackwell Boulevard, Commerce Drive, Lincoln Road, Oak Grove Road, Thornhill Drive, US Highway 49 & US Highway 98 project; Authorize advertisement for bids for same.

Type: Action Item

Drafter: Marie Harris

In Control: City Council

Reference: Lamar Rutland

Attachments: Plans,
Specifications, Bid Adv

File Created: 04/25/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information: Hattiesburg American and Clarion
Ledger
2 Consecutive Weeks

History of Legislative File

PUBLIC UTILITIES

CABLE
COMCAST
2100 LINCOLN RD
HATTIESBURG, MS 39402
(601) 264-1188

POWER
MISSISSIPPI POWER. CO.
6356 U.S. HIGHWAY 49
HATTIESBURG, MS 39401
(601) 544-6511

SOUTHERN PINE ELECTRIC EPA
P O BOX 60
TAYLORSVILLE, MS 39168
(601) 785-6511

TELECOMM
AT&T
P.O. BOX 1191
HATTIESBURG, MS 39401
(601) 545-6424

INLINE
405 LEGACY PARK
RIDGELAND, MS 39157
(601) 956-8909
(888) 346-5463

TELEPAK DBA CSPIRE FIBER
1018 HIGHLAND COLONY PKWY
SUITE 300
RIDGELAND, MS 39157
(855) 277-4732

GAS
WILMUT GAS
P.O. BOX 1649
HATTIESBURG, MS 39403
(601) 544-6001

DIXIE PIPELINE ENTERPRISE
PRODUCTS
1275 HWY 11
PETAL, MS 39465
(888) 806-8152
(NON-EMERGENCY)
(888) 883-6308 (EMERGENCY)

SEWER
CITY OF HATTIESBURG
WATER & SEWER DEPT.
900 JAMES ST
HATTIESBURG, MS 39403
(601) 545-4530

LAMAR PARK WATER & SEWER
2137 OAK GROVE RD
HATTIESBURG, MS 39402
(601) 264-5933

SANDY RUN UTILITIES, LLC
119 MAYFAIR RD
HATTIESBURG, MS 39402
(601) 550-5489

WATER
CITY OF HATTIESBURG
WATER & SEWER DEPT.
900 JAMES ST
HATTIESBURG, MS 39403
(601) 545-4530

LAMAR PARK WATER & SEWER
2137 OAK GROVE RD
HATTIESBURG, MS 39402
(601) 264-5933

NORTH LAMAR WATER ASSOC
5295 OLD HWY 11
HATTIESBURG, MS 39402
(601)264-1157

RAWLS SPRINGS UTILITY DISTRICT
39 ARCHIE SMITH RD
HATTIESBURG, MS 39402
(601) 268-2248

TRAFFIC
CITY OF HATTIESBURG
TRAFFIC DEPT.
125 WALNUT ST
HATTIESBURG, MS 39401
(601) 545-4626

MDOT DISTRICT 6 HEADQUARTERS
6356 HWY 49 N
HATTIESBURG, MS 39401
(601) 544-6511

CONSTRUCTION PLANS

FOR

COMPREHENSIVE WATER
IMPROVEMENTS - PHASE V

BLACKWELL BOULEVARD, COMMERCE DRIVE,
LINCOLN ROAD, OAK GROVE ROAD,
THORNHILL DRIVE, US HIGHWAY 49 & US HIGHWAY 98

FOR THE

CITY OF HATTIESBURG

FORREST & LAMAR COUNTIES
MISSISSIPPI



Know what's below.
Call before you dig.

SPECIAL UTILITY NOTES:

- UTILITY LOCATION REQUESTS WERE SUBMITTED TO MISSISSIPPI 811 (FORMERLY MISSISSIPPI ONE CALL) DURING THE FIELD DATA COLLECTION PHASE FOR THE DESIGN OF THIS PROJECT. ALL UTILITIES THAT LOCATED THEIR FACILITIES DURING THE FIELD DATA COLLECTION & ALL UTILITIES SHOWN ON AVAILABLE AS-BUILT CONSTRUCTION DRAWINGS ARE SHOWN ON THESE PLANS AND MAY NOT BE ALL THAT EXIST ON-SITE. ALL CONFLICTS WITH EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE COORDINATED WITH THE UTILITY OWNER, THE ENGINEER AND THE PROJECT OWNER PRIOR TO INSTALLATION OF THE PROPOSED WATER MAIN AND/OR APPURTENANCES. (NO SEPARATE PAY FOR COORDINATION)
- THE CONTRACTOR SHALL PROPERLY DOCUMENT THE EXISTENCE OF ANY MISSING, INCORRECT AND/OR OVERLAPPING UNDERGROUND UTILITIES AND STORM DRAINAGE AND SUBMIT THE INFORMATION TO ENGINEER FOR AS-BUILT CONSTRUCTION DRAWING PURPOSES.

MISSISSIPPI 811 TICKETS	
TICKET NUMBER	DESCRIPTION
15102215400882	BLACKWELL BLVD (EAST/WEST)
15102215420884	BLACKWELL BLVD (NORTH/SOUTH)
15092516511262	COMMERCE DRIVE
16041210400656	INTERSTATE 59
16030816191030 16030815500994	LINCOLN ROAD
16030816211031	OAK GROVE ROAD
16041210310626	THORNHILL DRIVE
15102013530773	US HWY 49 (RAWLS SPRINGS LOOP RD TO RED OAK DR)
15102013550780	US HWY 49 (RED OAK DR TO WATTS BRO TRACTOR CO)
15092516511262 15110216121185	US HWY 98 @ WESTOVER DRIVE

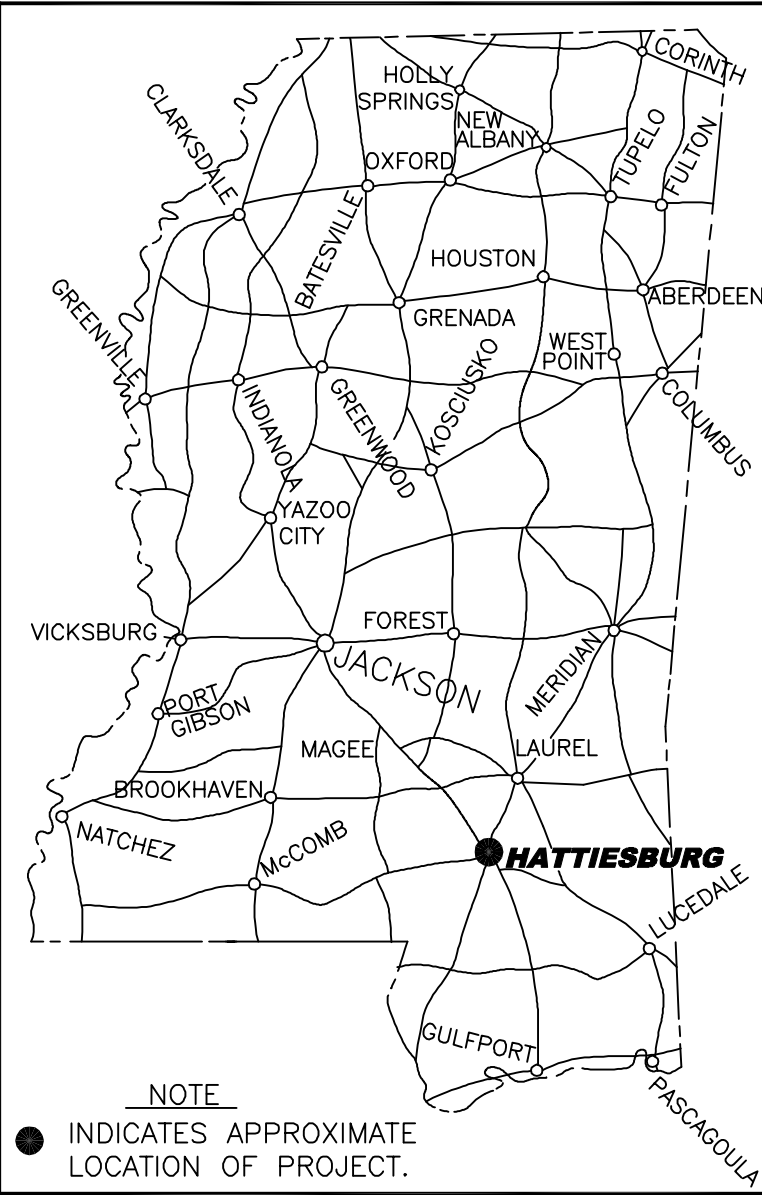
GEODETTIC REFERENCE (NAD83) FOR THE APPROXIMATE MIDDLE OF THE PROJECT:

SITE 1 - US HWY 49 & BLACKWELL BLVD
LATITUDE: N 31°22'13.0"
LONGITUDE: W 89°21'32.3"

SITE 8 ~ 10 - COMMERCE DR, I-59 & THORNHILL DR
LATITUDE: N 31°19'52.3"
LONGITUDE: W 89°21'06.4"

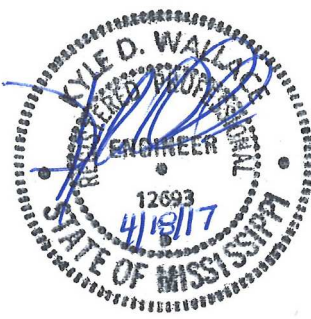
SITE 11 - US HWY 98 @ WESTOVER
LATITUDE: N 31°19'25.6"
LONGITUDE: W 89°21'22.7"

SITE 12 - LINCOLN RD & OAK GROVE RD
LATITUDE: N 31°18'03.7"
LONGITUDE: W 89°22'37.5"



DETAILED SHEET INDEX

SHEET No.	DESCRIPTION
1	COVER SHEET
2	VICINITY MAP, (SITE 1)
3	VICINITY MAP, (SITES 8-10 & 11)
4	VICINITY MAP, (SITE 12)
5	GENERAL NOTES & LEGEND
6	SITE 1 - US HWY 49: STA. 108+00 - 137+00
7	SITE 1 - US HWY 49: STA. 137+00 - 163+00
8	SITE 1 - BLACKWELL BLVD
9	SITE 8 ~ 10 - COMMERCE DR & INTERSTATE 59
10	SITE 8 ~ 10 - INTERSTATE 59 & THORNHILL DRIVE
11	SITE 8 ~ 10 - THORNHILL DR
12	SITE 11 - US HWY 98 @ WESTOVER DR
13	SITE 12 - OAK GROVE RD
14	SITE 12 - OAK GROVE RD
15	SITE 12 - OAK GROVE RD
16	SITE 12 - LINCOLN RD
17	SITE 12 - LINCOLN RD
18	WATER INSTALLATION DETAILS
19	WATER INSTALLATION DETAILS
20	VEGETATION SCHEDULE
21	TYPICAL TEMPORARY EROSION/SEDIMENT CONTROL APPLICATIONS
22	DETAILS OF SEDIMENT BARRIER APPLICATIONS
23	DETAILS OF SILT FENCE INSTALLATION
24	DITCH CHECK STRUCTURES, TYPICAL APPLICATIONS AND DETAILS
25	DETAILS OF EROSION CONTROL WATTLE DITCH CHECK
26	DETAILS OF EROSION CONTROL SANDBAG DITCH CHECK
6145	DETAILS OF TYPICAL DITCH TREATMENTS
6250	TRAFFIC CONTROL PLAN WITH FLAGGER (ONE-LANE CLOSURE OF TWO-WAY TRAFFIC)
6251	TRAFFIC CONTROL PLAN FOR POSTED SPEED LIMIT LESS THAN 65 MPH (4-LANE: MEDIAN LANE OR OUTSIDE LANE CLOSURE) (WORK DAY ONLY)
6254	TRAFFIC CONTROL PLAN FOR POSTED SPEED LIMIT OF 65 OR 70 MPH (INTERSTATES AND OTHER 4-LANE DIVIDED HIGHWAYS) (MEDIAN LANE OR OUTSIDE LANE CLOSURE) (WORK DAY ONLY)



MAYOR

Johnny DuPree, Ph. D.

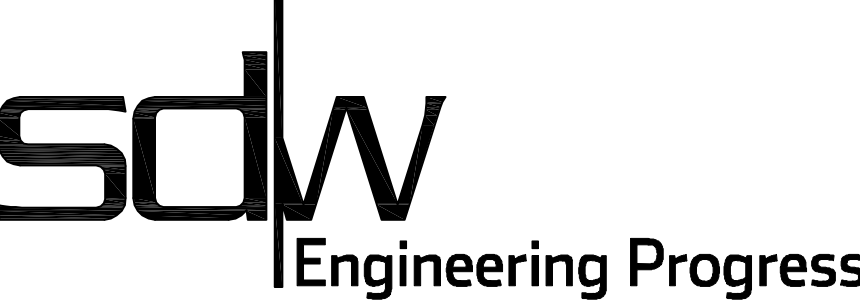
COUNCIL PERSONS

Carter Carroll, President
Mary Dryden, Vice President
Deborah Denard Delgado
Kim Bradley
Henry E. Naylor

DIRECTOR OF ENGINEERING

Lamar Rutland, PE

PREPARED BY:

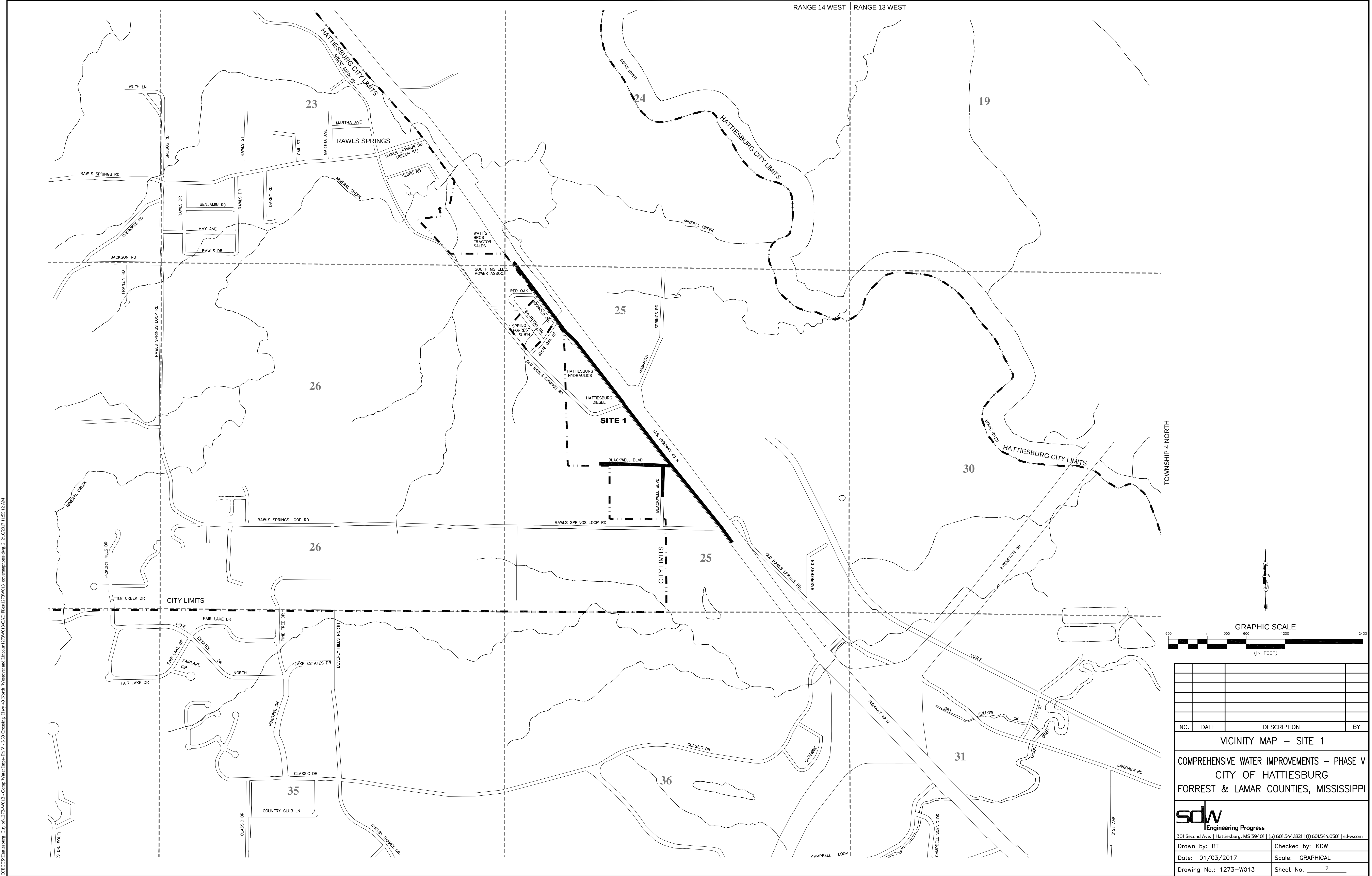


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Sheet No. 1
Drawing No.: 1273-W013

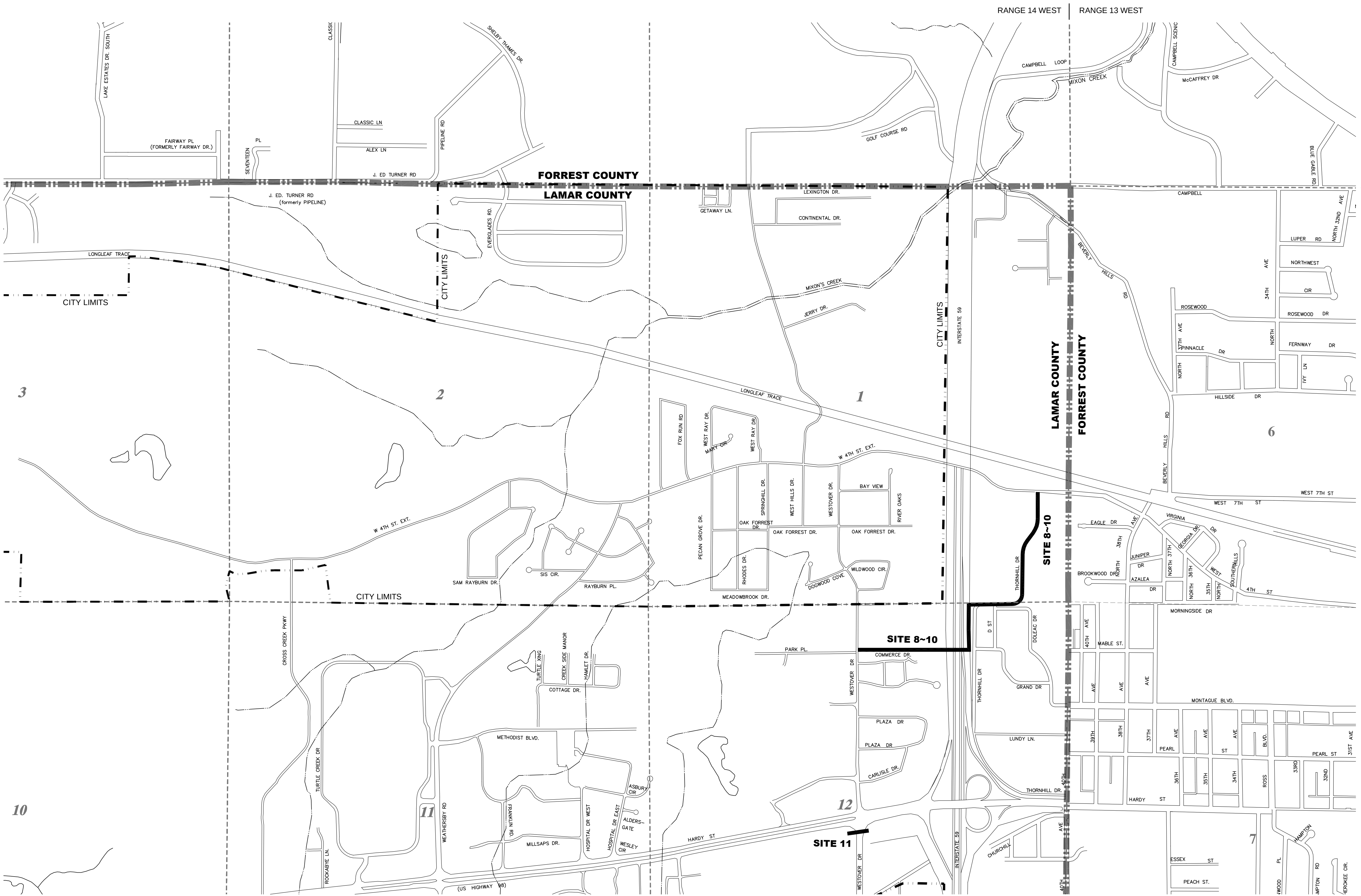
APRIL 2017

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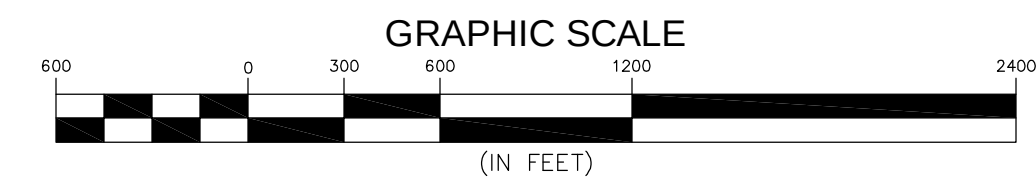


NO.	DATE	DESCRIPTION	BY
VICINITY MAP – SITE 1			
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com			
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TOWNSHIP 4 NORTH
TOWNSHIP 5 NORTH

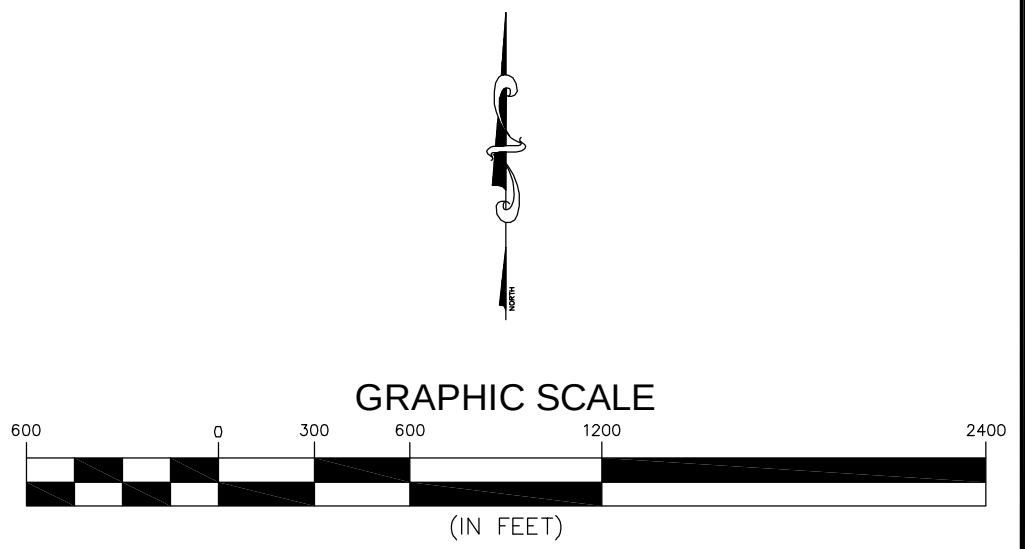
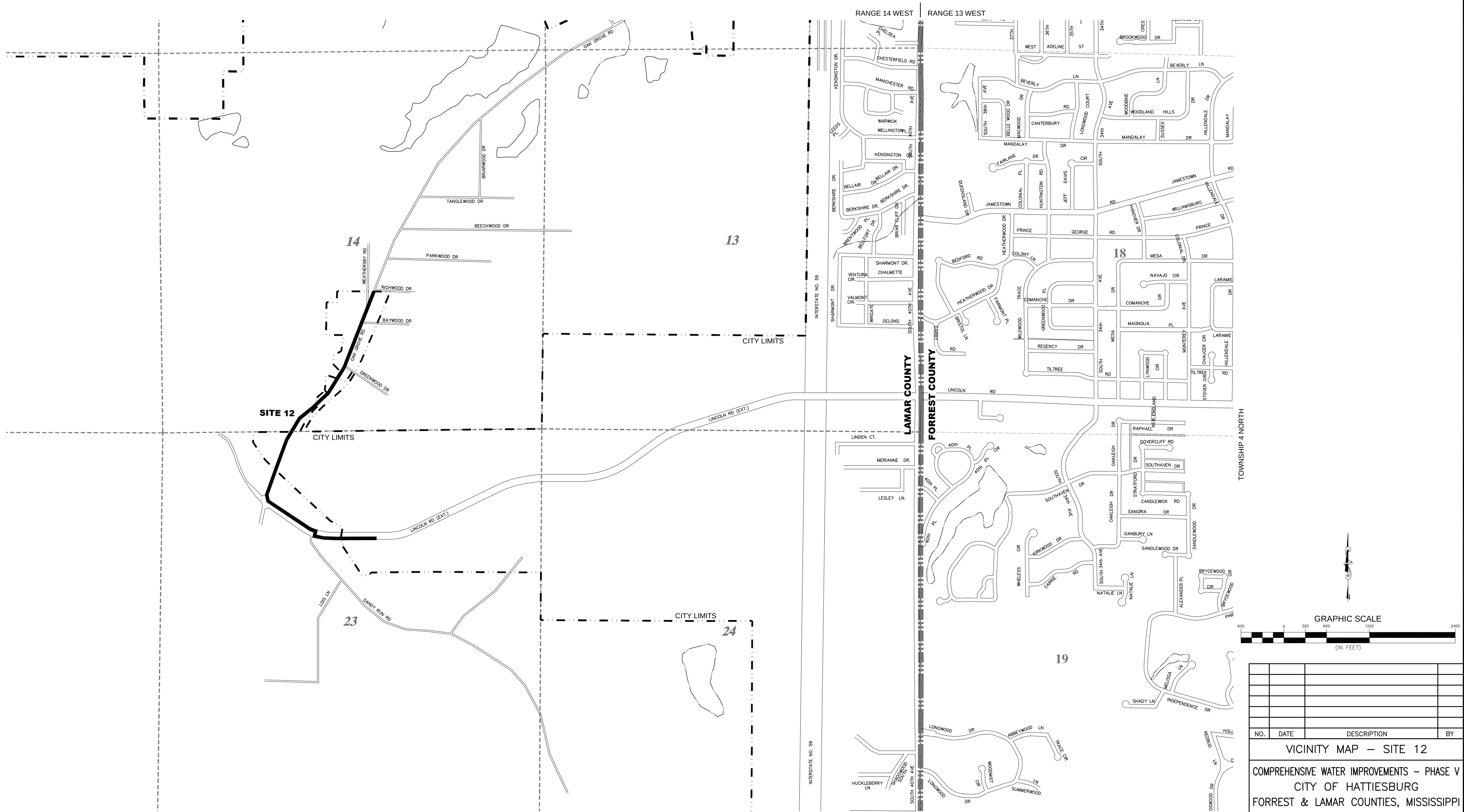


NO.	DATE	DESCRIPTION	BY

VICINITY MAP – SITES 8~10 & 11
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V
CITY OF HATTIESBURG
FORREST & LAMAR COUNTIES, MISSISSIPPI

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Date: 01/03/2017	Scale: GRAPHICAL
Drawing No.: 1273-W013	Sheet No. 3

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NO.	DATE	DESCRIPTION	BY

VICINITY MAP – SITE 12
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V
CITY OF HATTIESBURG
FORREST & LAMAR COUNTIES, MISSISSIPPI

sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com	
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Date: 01/03/2017	Scale: GRAPHICAL
Drawing No.: 1273-W013	Sheet No. 4

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES.
2. THE APPROVED MDOT PERMIT(S) SHALL BE CONSIDERED A PART OF THESE DOCUMENTS.
3. THE CONTRACTOR SHALL KEEP A SET OF CONSTRUCTION DRAWINGS OF THE PROJECT ON THE JOB SITE SHOWING THE ACCURATE MEASUREMENTS AND ELEVATIONS OF THE "AS-BUILT" SYSTEM. THIS DATA SHALL BE COLLECTED AND PLACED ON THE CONSTRUCTION DRAWINGS DAILY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE ENTIRE PROJECT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CITY OF HATTIESBURG, FORREST COUNTY AND/OR LAMAR COUNTY FEES AND PERMITS ASSOCIATED WITH CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN SUB-SURFACE SOIL INVESTIGATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES WITHIN THE WORK AREA.
8. ALL UNDERGROUND UTILITIES, FOR THE ENTIRE PROJECT, SHALL BE LOCATED BY THE CONTRACTOR AND UTILITY OWNERS PRIOR TO THE CONSTRUCTION OF THE PROJECT. ANY CONFLICTS SHALL BE COORDINATED BETWEEN CONTRACTOR, UTILITY OWNER AND ENGINEER.
9. ALL CULVERT CROSS DRAINS AND SIDE DRAINS SHALL BE PROTECTED. NO SEPARATE PAY ITEM SHALL BE ESTABLISHED FOR REMOVAL AND REPLACEMENT, IF REQUIRED.
10. PROPER MAINTENANCE OF STREETS, INCLUDING DUST CONTROL, SHALL BE STRICTLY ADHERED TO.
11. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
12. THE CONTRACTOR SHALL PROVIDE PROPER TRAFFIC CONTROL SIGNS AND FLAGGERS TO MAINTAIN ONE LANE TRAFFIC DURING CONSTRUCTION, WHERE LANE CLOSURES ARE NEEDED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SEE SHEET No. 6250, 6251 &/OR 6254 FOR TYPICAL LANE CLOSURE DETAILS. ANY ROAD CLOSURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO IMPLEMENTATION.
13. ALL WORK ITEMS FOR WHICH NO PAY ITEMS ARE ESTABLISHED SHALL BE ABSORBED IN THE COST OF THE PIPE LAYING OPERATION.
14. ALL DISTURBED AREAS SHALL BE FERTILIZED AND SEEDED ACCORDING TO THE VEGETATION SCHEDULE IN THESE PLANS, UNLESS OTHERWISE NOTED.
15. ALL EXISTING MAILBOXES, STREET SIGNS, FENCES, AND OTHER STRUCTURES LOCATED WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED AND RESET AS DICTATED BY CONSTRUCTION ACTIVITIES. (NO SEPARATE PAY)
16. NO PIPE SHALL BE LAID IN THE PRESENCE OF WATER.
17. WHERE THE WATER MAIN IS WITHIN 10 FEET OF A SEWER MAIN HORIZONTALLY, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" FROM THE TOP OF THE SEWER MAIN, UNLESS OTHERWISE NOTED.
18. THE COST OF CLEARING AND GRUBBING/REMOVAL AND DISPOSAL OF CLEARING AND GRUBBING MATERIAL SHALL TO BE INCLUDED IN THE PRICE OF THE PIPE LAYING OPERATION. OFFSITE DISPOSAL AREAS ARE TO BE FURNISHED BY THE CONTRACTOR.
19. ALL GRAVEL ROADS AND GRAVEL DRIVEWAYS SHALL BE OPEN CUT WITHOUT CASING, UNLESS OTHERWISE NOTED, AND REPLACED IN KIND.
20. ALL PAVED SURFACES IMPACTED BY OPEN TRENCHING FOR THE PROPOSED WATER LINES SHALL BE SAW CUT FULL DEPTH PRIOR TO REMOVAL. PRIOR TO REPLACEMENT OF PAVED SURFACES, ALL BROKEN PAVEMENT IN THE WORK AREA SHALL BE REMOVED AND DISPOSED OF AT A SITE SUITABLE TO RECEIVE SUCH DEBRIS, AND ALL BROKEN EDGES SHALL BE SAW CUT TO CREATE A SMOOTH AND CLEAN EDGE TO TIE TO. (NO SEPARATE PAY FOR SAW CUTTING, DEBRIS REMOVAL, PAVEMENT REMOVAL AND DISPOSAL)
21. ALL STEEL CASINGS SHALL BE THE STANDARD WALL THICKNESS OF THE PIPE SIZE SPECIFIED, UNLESS NOTED OTHERWISE OR DIRECTED BY THE ENGINEER.
22. ALL DISTRIBUTION LINES SHALL BE DUCTILE IRON, CLASS 350, OR HDPE (DR9), AS NOTED ON THE PLANS.
23. ALL FITTINGS AND VALVES SHALL BE DUCTILE IRON WITH CONCRETE THRUST BLOCKING AT ALL BENDS AND RODDED TOGETHER WITH ALL THREAD RODS, UNLESS NOTED OTHERWISE. ALL TEES AND VALVES SHALL BE RODDED TOGETHER AS ONE UNIT. VALVES AND FIRE HYDRANTS SHALL BE RODDED TOGETHER, BUT SEPARATE FROM THE TEE AND OTHER VALVES. ALL FITTINGS, EXCEPT VALVES AND REQUIRED CONNECTION FITTINGS SHALL BE ABSORBED ITEMS.
24. ALL PROPOSED DISTRIBUTION LINE BENDS SHALL BE ACCOMPLISHED USING ACCEPTABLE FITTINGS ONLY (11.25', 22.5' OR 45'). SINGLE 90° BENDS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY NOTED ON THE PLANS AND/OR APPROVED BY THE ENGINEER. 90° BENDS SHALL BE ACCOMPLISHED BY USING MULTIPLE SMALLER BEND FITTINGS. ONLY HORIZONTAL BENDS ARE SHOWN ON THE PLAN SHEETS, THE CONTRACTOR SHALL VERIFY THE PROPOSED HORIZONTAL BENDS AS WELL AS DETERMINING WHICH VERTICAL BENDS MAY BE REQUIRED DUE TO OBSTRUCTIONS PRIOR TO BIDDING, ORDERING MATERIAL OR THE COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FITTINGS NECESSARY TO INSTALL THE PROPOSED WATER LINE. (NO SEPARATE PAY) OTHER FITTINGS SUCH AS TEES, CROSSES, REDUCERS, ETC SHALL BE PAID FOR UNDER THE CONNECTION ITEM.
25. ALL FIRE HYDRANTS SHOWN FOR INSTALLATION ON THE CONSTRUCTION DRAWINGS SHALL BE 3-WAY HYDRANTS AS DETAILED. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH A 2" DIAMETER BRASS TAG (SEE DETAIL) ENGRAVED WITH "CITY OF HATTIESBURG" AND "FH #XXX" (WHERE "XXX" WILL BE A NUMBER WHICH SHALL BE ASSIGNED TO EACH FIRE HYDRANT BY THE OWNER). (NO SEPARATE PAY). ACCEPTABLE FIRE HYDRANTS SHALL BE M & H, MUELLER, AMERICAN DARLING OR APPROVED EQUAL.
26. FULL LENGTH PIPE SECTIONS ARE REQUIRED BEFORE AND AFTER ALL FITTINGS, UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.
27. ALL PROPOSED VALVES SHALL BE RESILIENT WEDGE GATE VALVES, UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.
28. ALL MATERIALS FOR THE PROJECT SHALL BE A PRODUCT OF THE U.S.A.
29. PRESSURE TESTS SHALL BE REQUIRED ON ALL WATER MAINS INSTALLED AND TESTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
30. WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE BORING OR EXCAVATION ACTIVITIES REQUIRE THAT EXTREME CAUTION BE EXERCISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE CONSTRUCTION AREA, THE PUBLIC THAT MAY BE ABOVE OR ADJACENT TO THE CONSTRUCTION AREA, OR ANY STRUCTURE ADJACENT TO THE CONSTRUCTION AREA. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEMS.
31. ALL NEW WATER LINES SHALL BE FLUSHED WITH CLOSE SUPERVISION OF THE SYSTEM OPERATOR.
32. ALL BACTI-SAMPLES SHALL BE TAKEN BY THE SYSTEM OPERATOR OR HIS REPRESENTATIVES. ANY AND ALL SAMPLING FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
33. ALL ITEMS NOTED FOR REMOVAL IN THESE PLANS, SHALL BE SALVAGED FOR THE OWNER. ALL FIRE HYDRANTS AND VALVES REMOVED FROM THE PROJECT SHALL BE CLEANED BY POWER WASHING. SAID ITEMS SHALL BE STACKED AND SECURED ON PALLETS. SAID ITEMS SHALL BECOME THE PROPERTY OF THE OWNER AND DELIVERED TO A SITE DETERMINED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF SAID ITEMS PRIOR TO DELIVERY TO THE OWNER AND FOR REPLACEMENT IN KIND FOR ANY MISSING ITEMS. (NO SEPARATE PAY)
34. THE CONTRACTOR SHALL HAVE A COMPETENT AND EXPERIENCED SUPERINTENDENT ON SITE AT ALL TIMES. THE SUPERINTENDENT SHALL NOT OPERATE EQUIPMENT WHILE ON THE PROJECT SITE. WORK ON THE PROJECT SHALL STOP IF THE ASSIGNED PROJECT SUPERINTENDENT IS NOT ON SITE.
35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONNECTING ANY SERVICE LINES DAMAGED DUE TO CONSTRUCTION. SERVICE SHALL INCLUDE (BUT MAY NOT BE LIMITED TO) SADDLE, CORPORATION STOP, YOKE, SERVICE LINE OF MATCHING SIZE AND ALL NECESSARY FITTINGS. (NO SEPARATE PAY).
36. NO SERVICES SHALL BE CONNECTED TO THE PROPOSED WATER LINES IN THIS PROJECT.
37. THERE SHALL BE NO CONNECTIONS TO EXISTING WATER MAINS, EXCEPT AS SHOWN ON THESE PLANS OR DIRECTED BY THE ENGINEER.

EROSION CONTROL NOTES

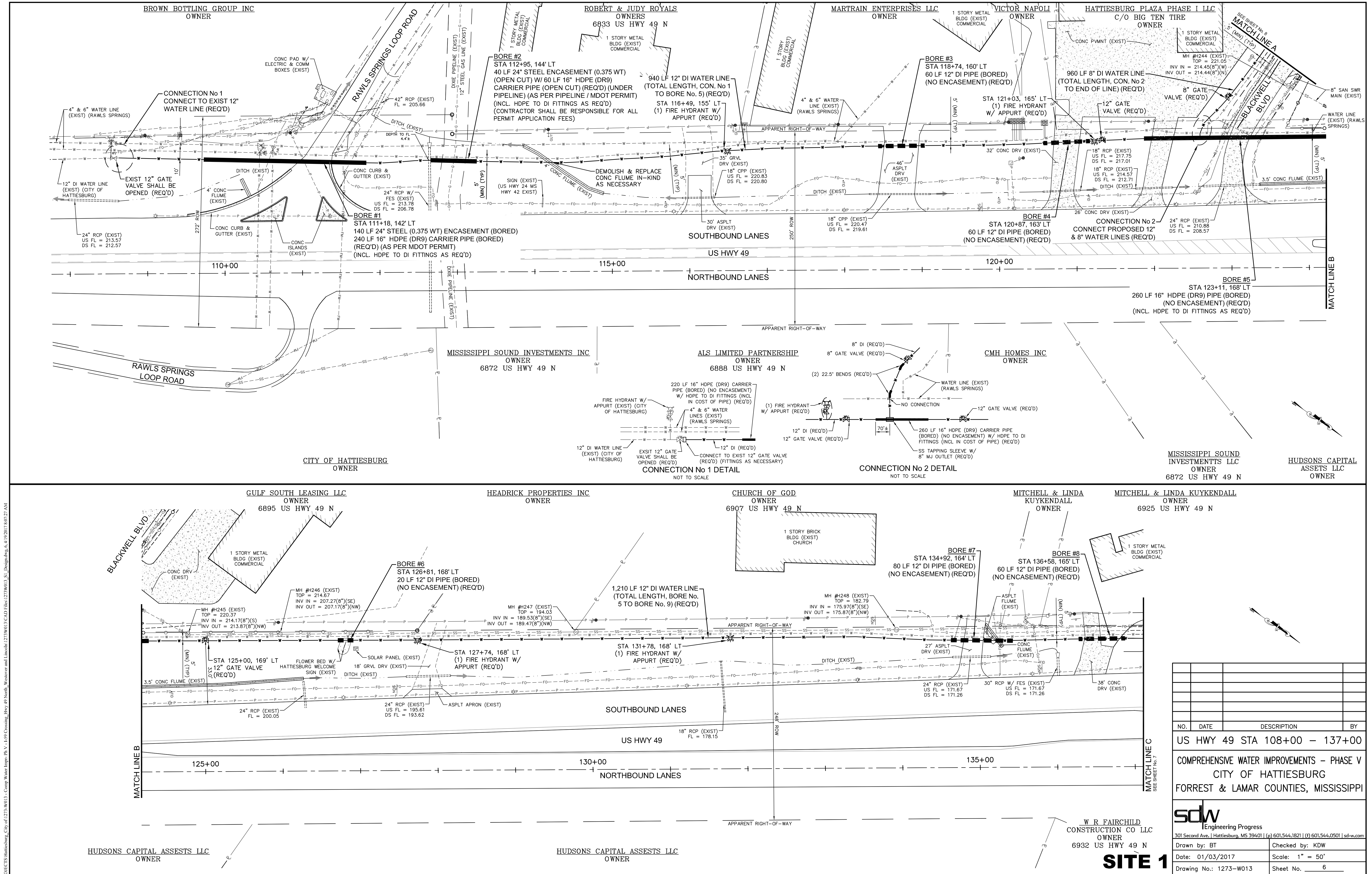
1. PROTECTING THE SITE(S) FROM EROSION SHALL BE A REQUIREMENT OF THIS CONTRACT. THE EROSION CONTROL DEVICES REFERENCED IN THESE PLANS ARE A MINIMUM REQUIREMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SILT DOES NOT LEAVE THE CONSTRUCTION SITE(S) OR CONTAMINATE WATERS OF THE U.S. DURING CONSTRUCTION. MAINTENANCE SHALL BE PERFORMED A MAXIMUM OF 24 HOURS AFTER SILT ACCUMULATION. THE CONTRACTOR SHALL MAINTAIN THE PLAN DAILY DURING CONSTRUCTION.
2. THE TYPICAL TEMPORARY EROSION CONTROL MEASURES AND TYPICAL DITCH TREATMENTS REFERENCED IN THESE PLANS ARE A MINIMUM REQUIREMENT. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN LOCATIONS BASED ON THE EROSION CONTROL DETAILS AND AS DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR SHALL ADHERE TO ALL CURRENT MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY GUIDLINES.

LEGEND:

ASPLT	- ASPHALT		- POWER LINE (OVERHEAD) (EXIST)
APPURT	- APPURTENANCES		- POWER LINE (UNDERGROUND) (EXIST)
BGS	- BELOW GROUND SURFACE		- POWER TRANSFORMER (EXIST)
COMM	- COMMUNICATION		- PROPERTY LINE
CONC	- CONCRETE		- PULL BOX (EXIST)
CON.	- CONNECTION	RCAP	- REINFORCED CONCRETE ARCH PIPE
CMP	- CORRUGATED METAL PIPE	RCP	- REINFORCED CONCRETE PIPE
CPP	- CORRUGATED PLASTIC PIPE	REQ'D	- REQUIRED
DR	- DIMENSION RATIO	RT	- RIGHT
DI	- DUCTILE IRON	ROW	- RIGHT OF WAY
DBL	- DOUBLE	SAN	- SANITARY
DS	- DOWNSTREAM		- SANITARY SEWER CLEAN-OUT (EXIST)
DRV	- DRIVE		- SANITARY SEWER FORCE MAIN (EXIST)
EXIST	- EXISTING		- SANITARY SEWER LINE (EXIST)
FT	- FEET		- SANITARY SEWER MANHOLE (EXIST)
	- FENCE LINE (EXIST) (ALL TYPES)	SWR	- SEWER
	- FIBER OPTIC IDENTIFICATION POST (EXIST)		- SERVICE POLE (EXIST)
	- FIBER OPTIC LINE (UNDERGROUND) (EXIST)		- SPRINKLER HEAD
	- FIRE HYDRANT (EXIST)	SE	- SOUTHEAST
FES	- FLARED END SECTION	SY	- SQUARE YARD(S)
FL	- FLOW LINE	SS	- STAINLESS STEEL
	- GAS LINE (EXIST)	STA	- STATION
	- GAS VALVE (EXIST)		- STREET LIGHT ON POLE (EXIST)
GRVL	- GRAVEL		- TELEPHONE LINE (OVERHEAD) (EXIST)
	- GUY WIRE (EXIST)		- TELEPHONE LINE (UNDERGROUND) (EXIST)
HDPE	- HIGH DENSITY POLYETHYLENE PIPE		- TELEPHONE MANHOLE (EXIST)
	- HOSE BIBB		- TELEPHONE PEDESTAL (EXIST)
INCL	- INCLUDED	TYP	- TYPICAL
INV	- INVERT	US	- UP STREAM
LT	- LEFT		- UTILITY POLE (EXIST)
LF	- LINEAR FEET	VAR	- VARIABLE
MH	- MANHOLE		- WATER LINE (EXIST)
MJ	- MECHANICAL JOINT		- WATER METER (EXIST)
MDOT	- MISSISSIPPI DEPARTMENT OF TRANSPORTATION		- WATER VALVE (EXIST)
(N)	- NORTH		- WEST
NE	- NORTHEAST	(W)	- WEST
NW	- NORTHWEST	W/	- WITH
NO.	- NUMBER		
PVMNT	- PAVEMENT		
PVC	- POLYVINYL CHLORIDE PIPE		

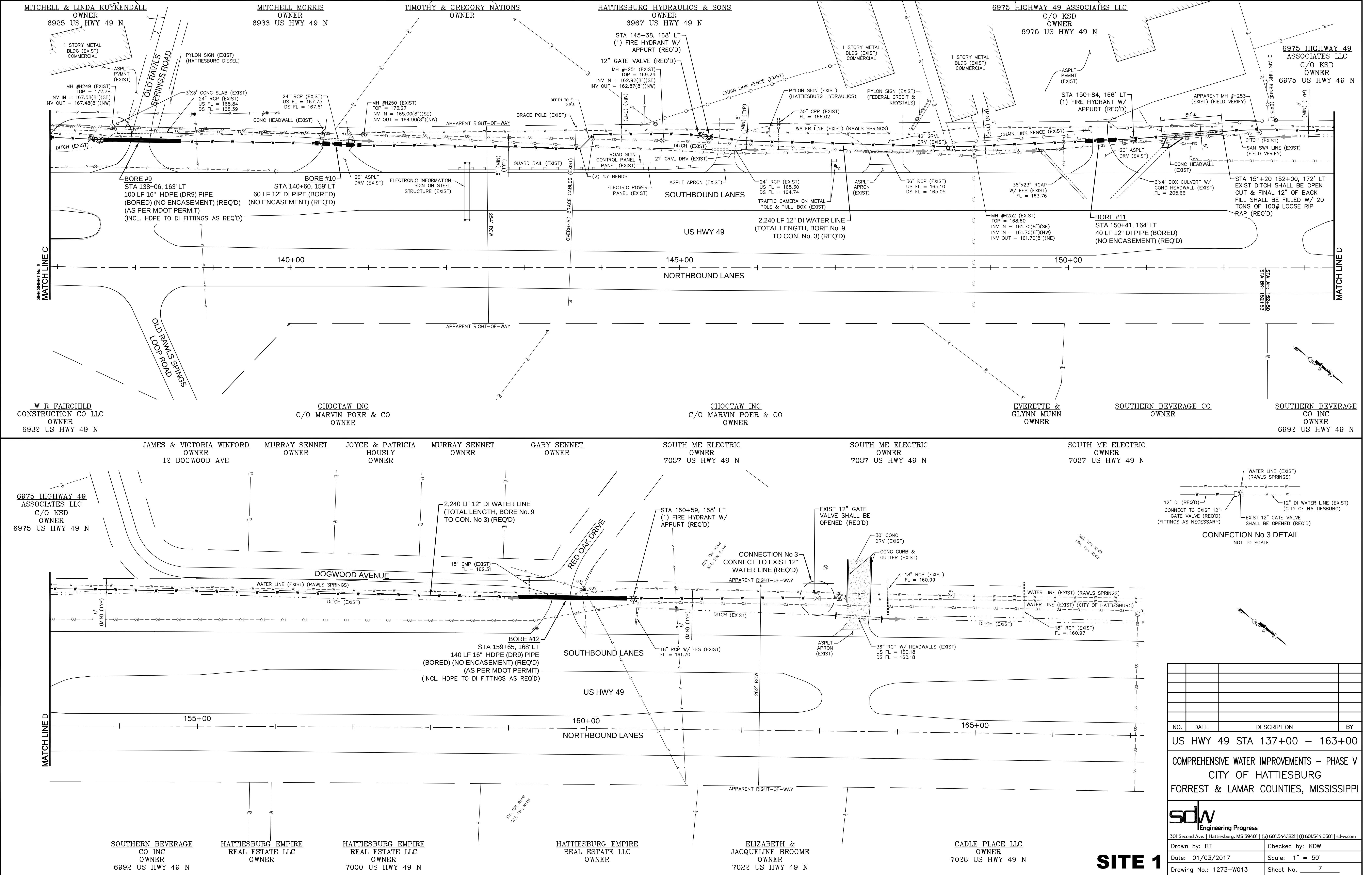
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CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com			
Drawn by: BT		Checked by: KDW	
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COMPREHENSIVE WATER IMPROVEMENTS - PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sd-w.com			
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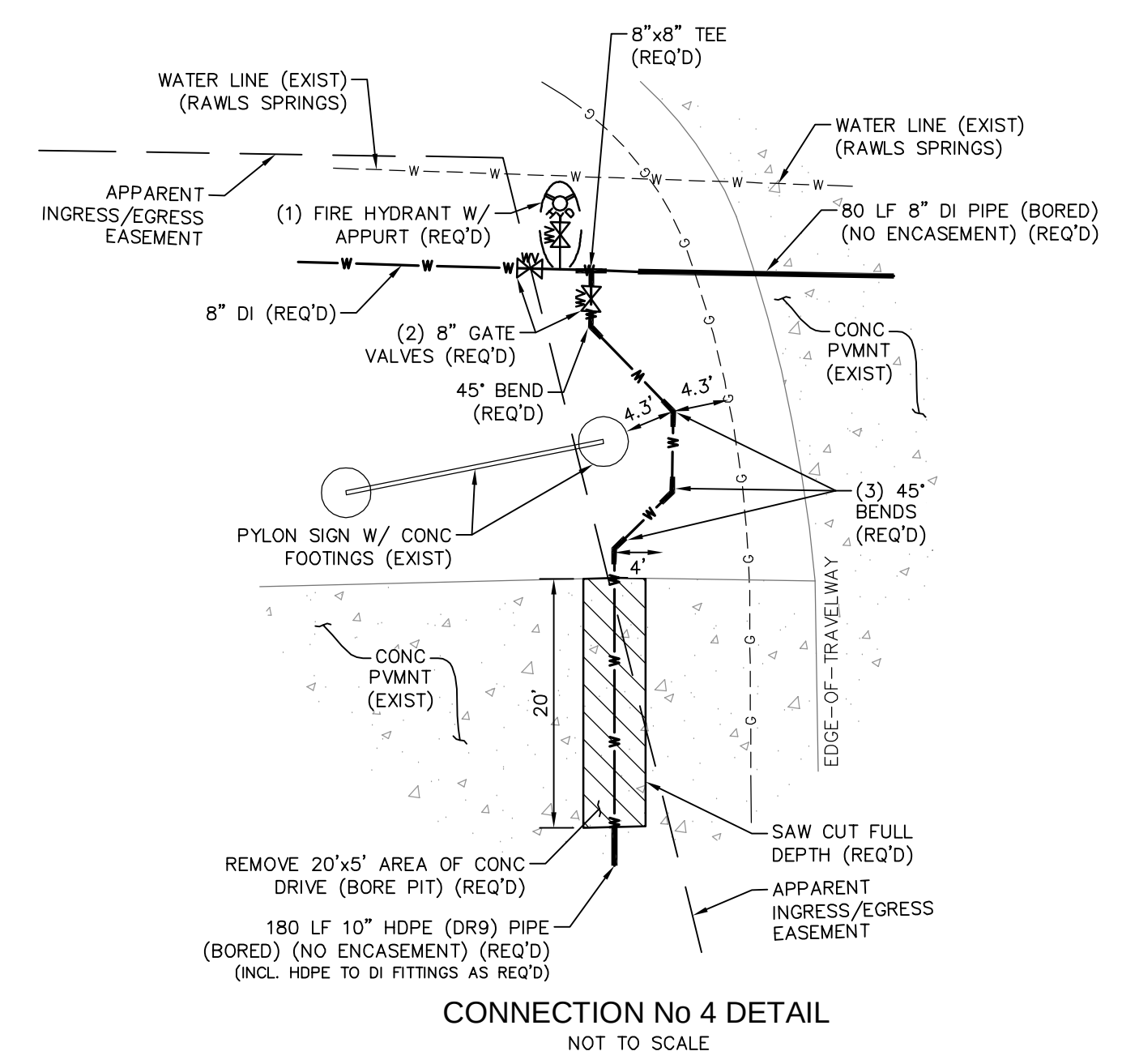
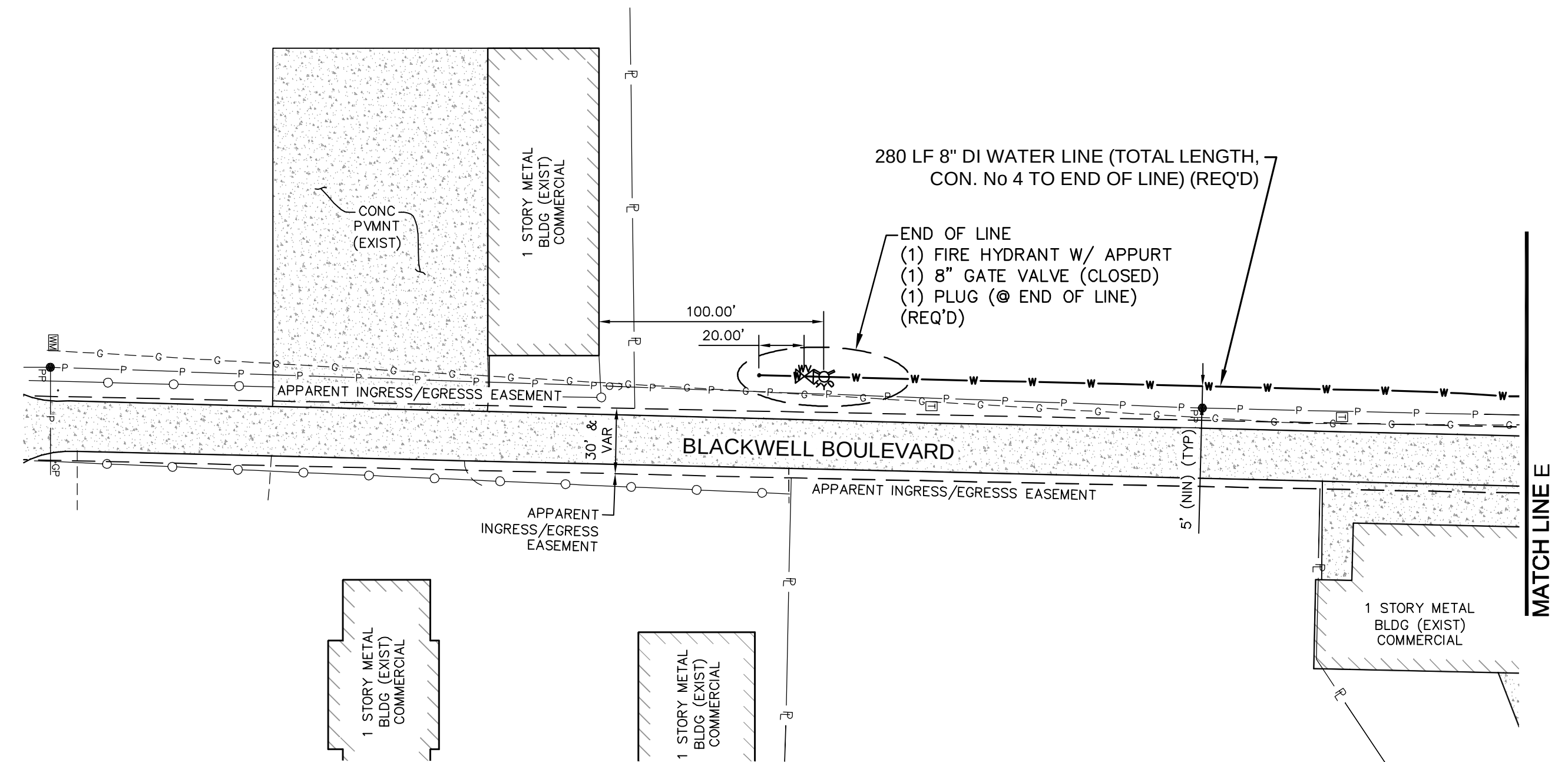
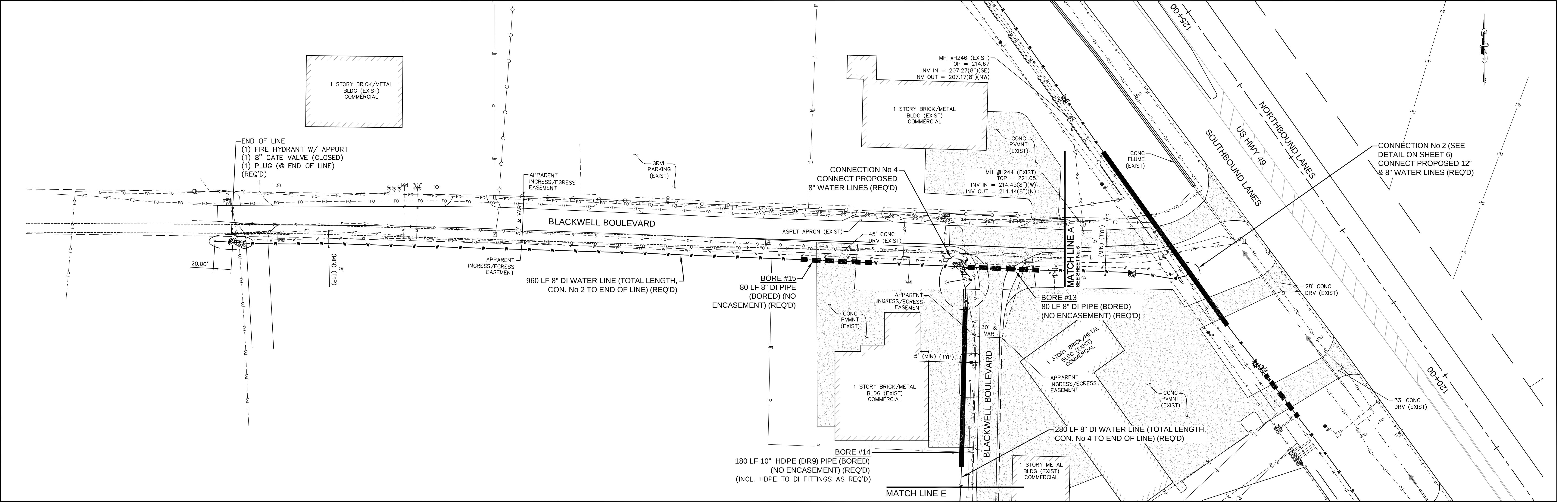
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NO.	DATE	DESCRIPTION	BY
US HWY 49 STA 137+00 - 163+00			
COMPREHENSIVE WATER IMPROVEMENTS - PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress			
301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com			
Drawn by:	BT	Checked by:	KDW
Date:	01/03/2017	Scale:	1" = 50'
Drawing No.:	1273-W013	Sheet No.:	7

SITE 1

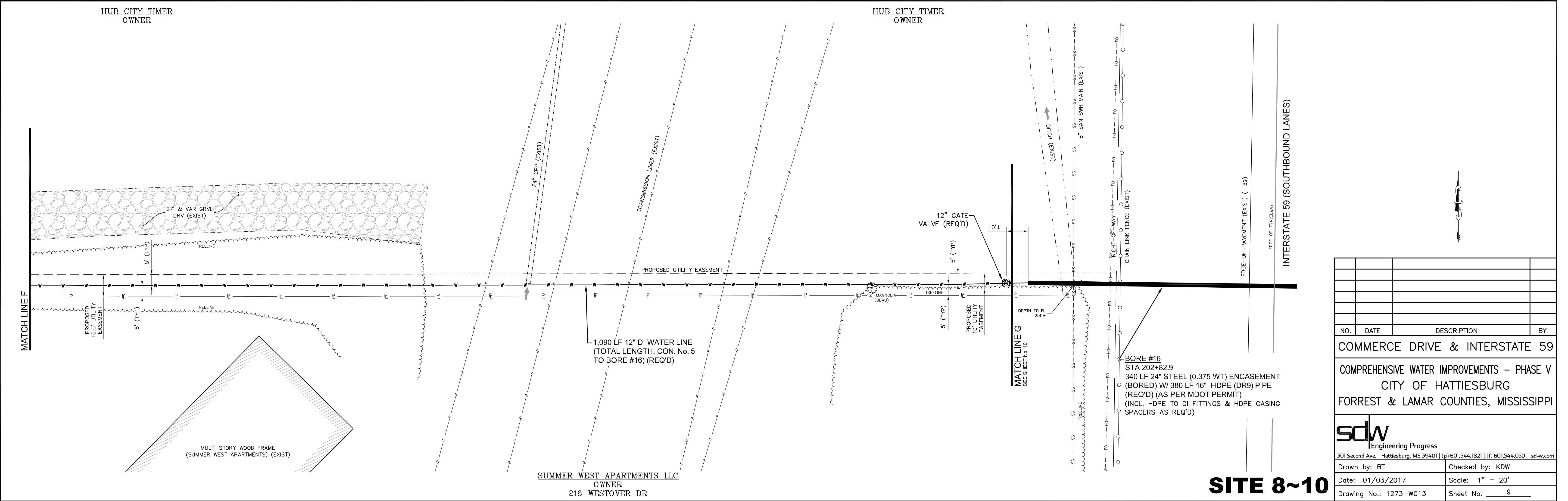
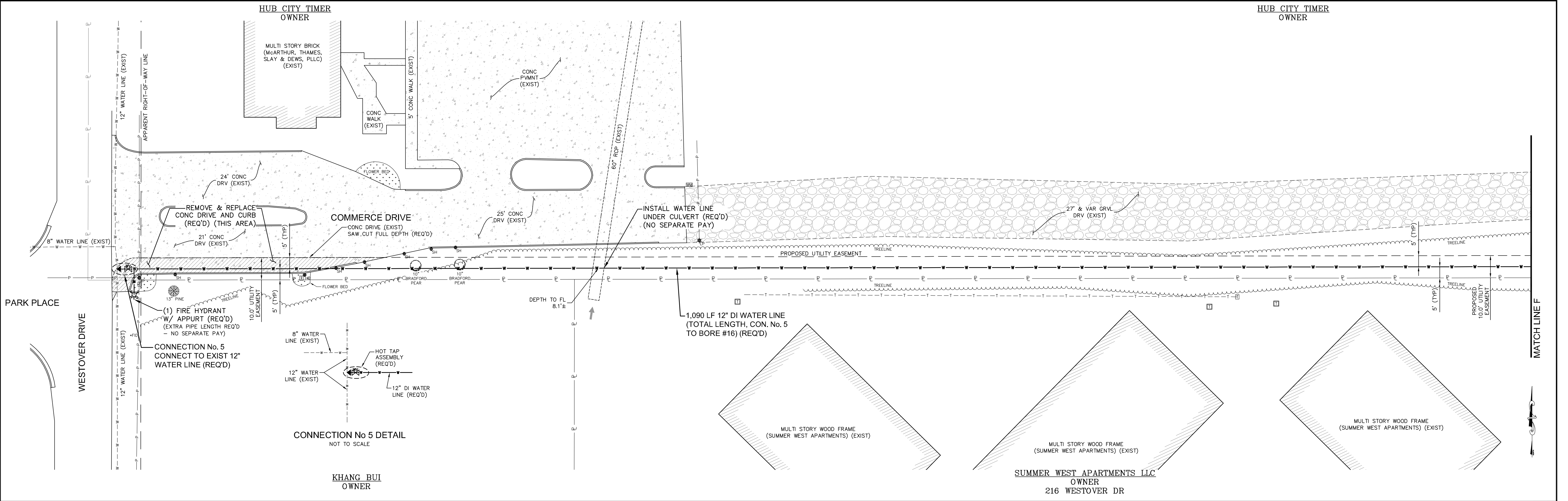
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NO.	DATE	DESCRIPTION	BY
BLACKWELL BOULEVARD – PLAN			
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress			
301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com			
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SITE 1

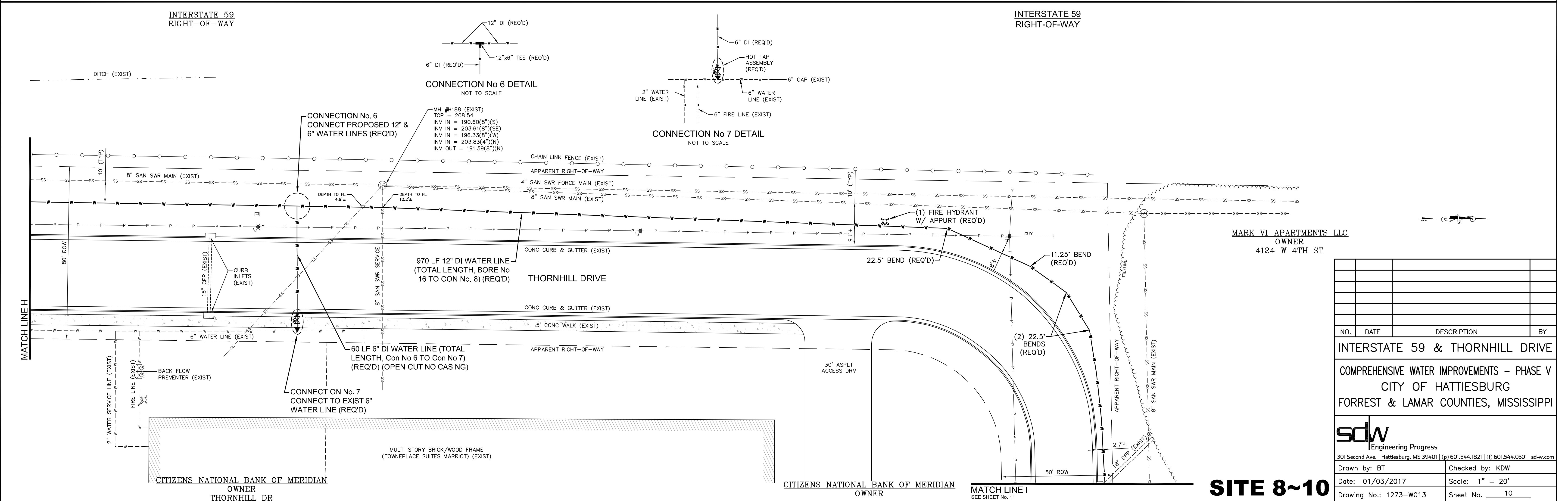
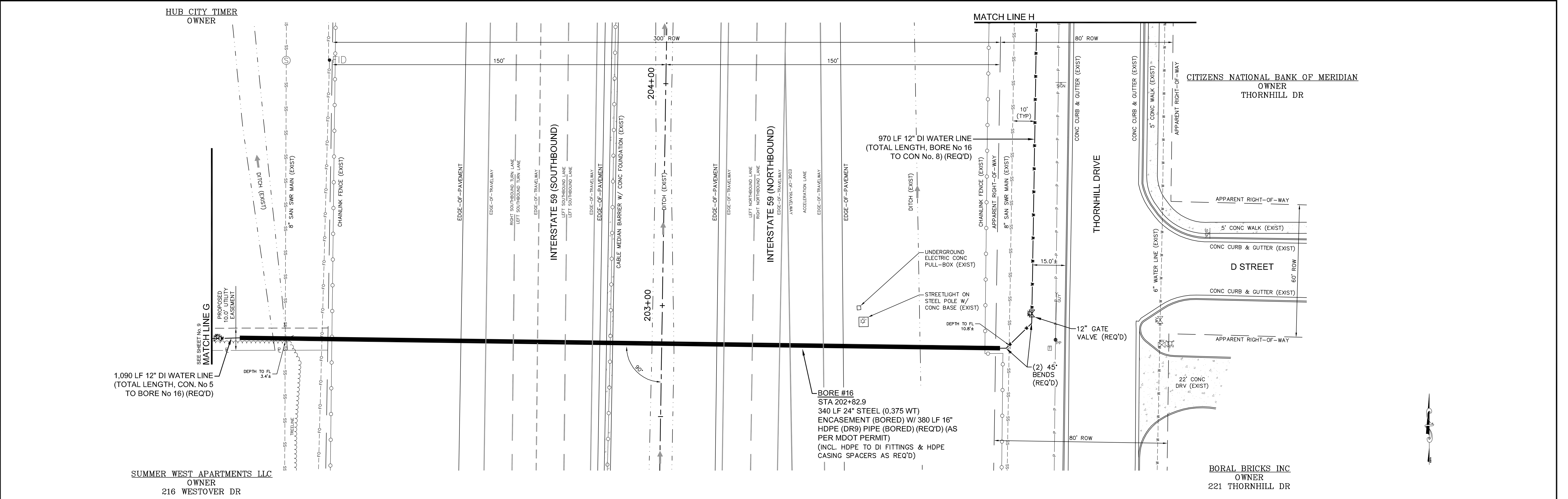
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NO.	DATE	DESCRIPTION	BY
COMMERCE DRIVE & INTERSTATE 59			
COMPREHENSIVE WATER IMPROVEMENTS - PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress			
301 Second Ave., Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sd-w.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03/2017		Scale: 1" = 20'	
Drawing No.: 1273-W013		Sheet No. 9	

SITE 8~10

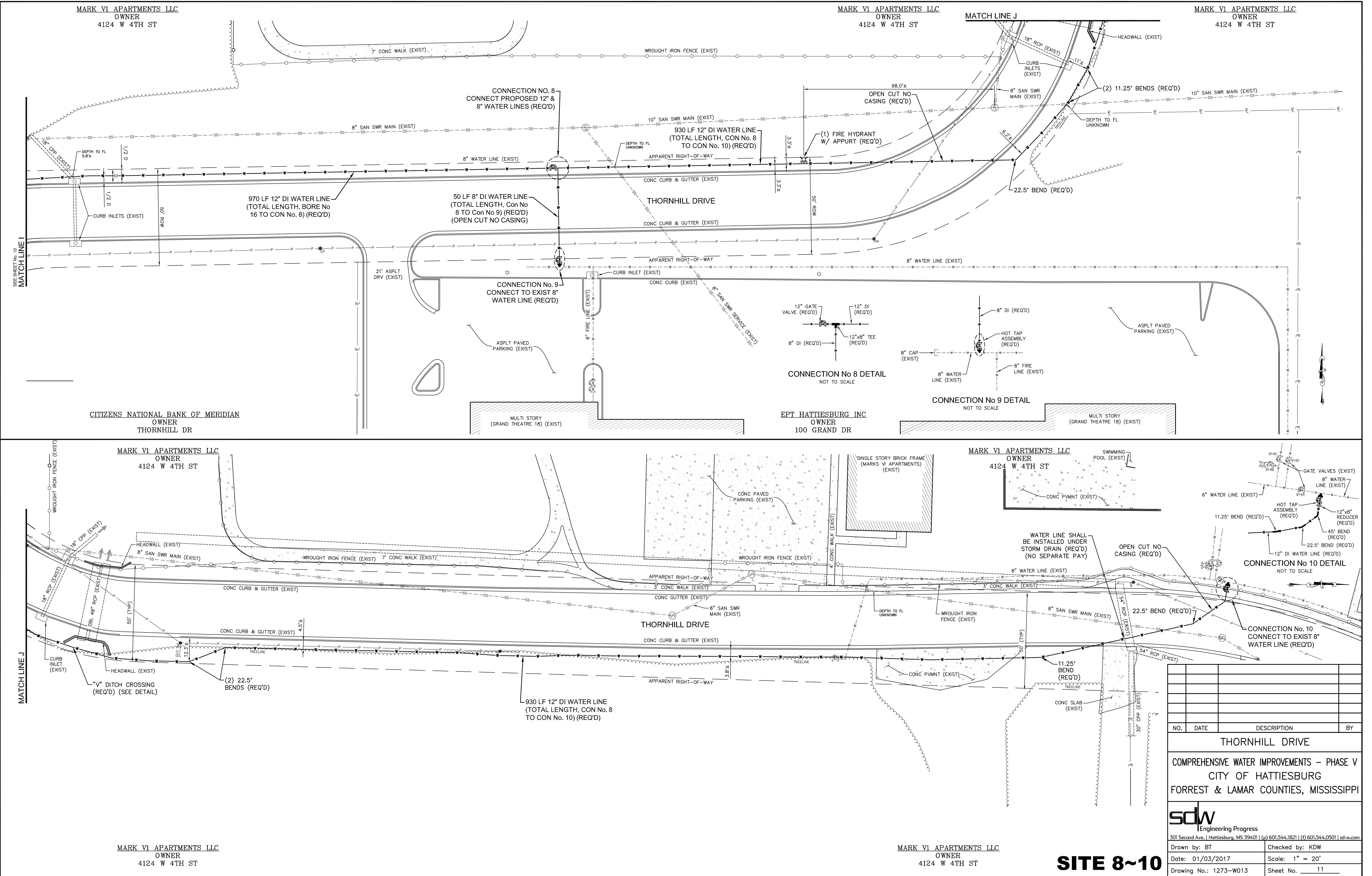
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NO.	DATE	DESCRIPTION	BY
INTERSTATE 59 & THORNHILL DRIVE			
COMPREHENSIVE WATER IMPROVEMENTS - PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress			
301 Second Ave., Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sd-w.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03/2017		Scale: 1" = 20'	
Drawing No.: 1273-W013		Sheet No. 10	

SITE 8~10

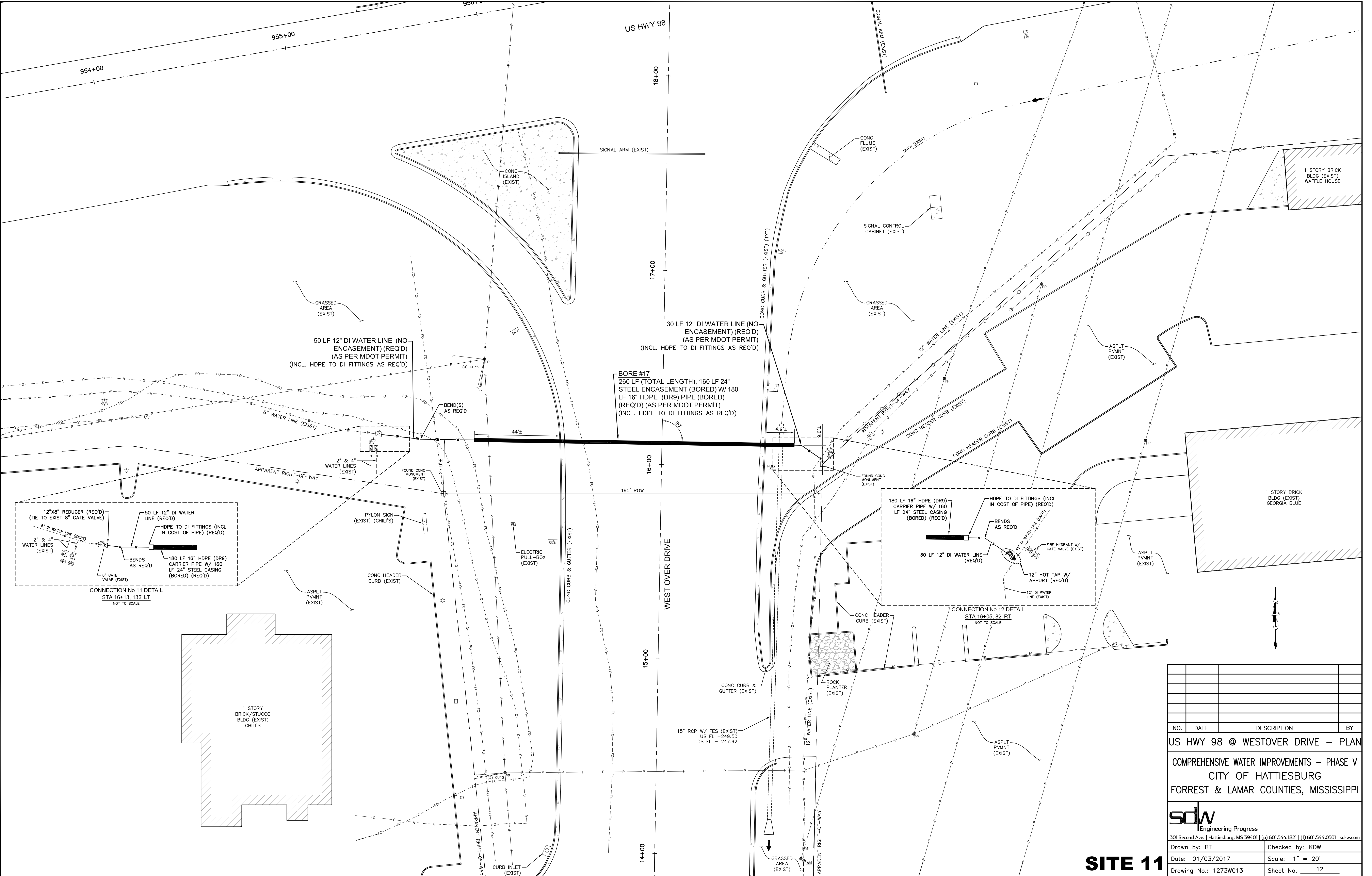
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NO.	DATE	DESCRIPTION	BY
THORNHILL DRIVE			
COMPREHENSIVE WATER IMPROVEMENTS - PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sd-w.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03/2017		Scale: 1" = 20'	
Drawing No.: 1273-W013		Sheet No. 11	

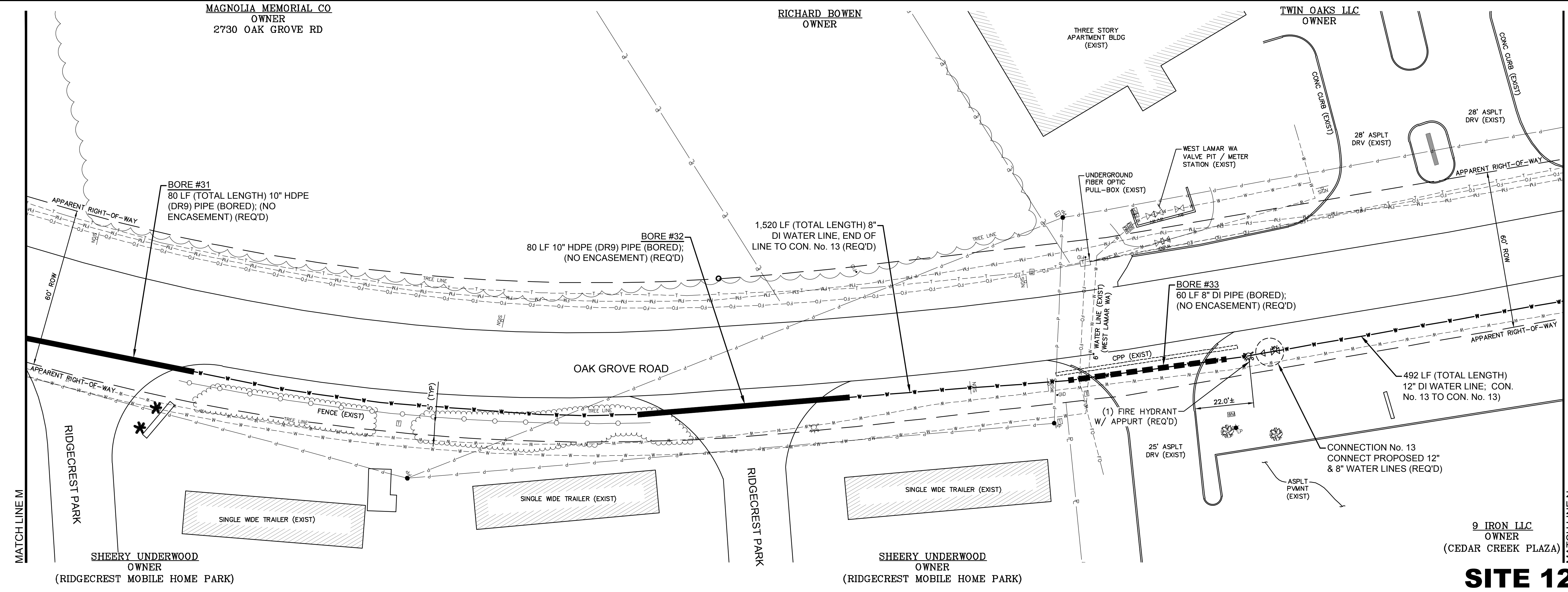
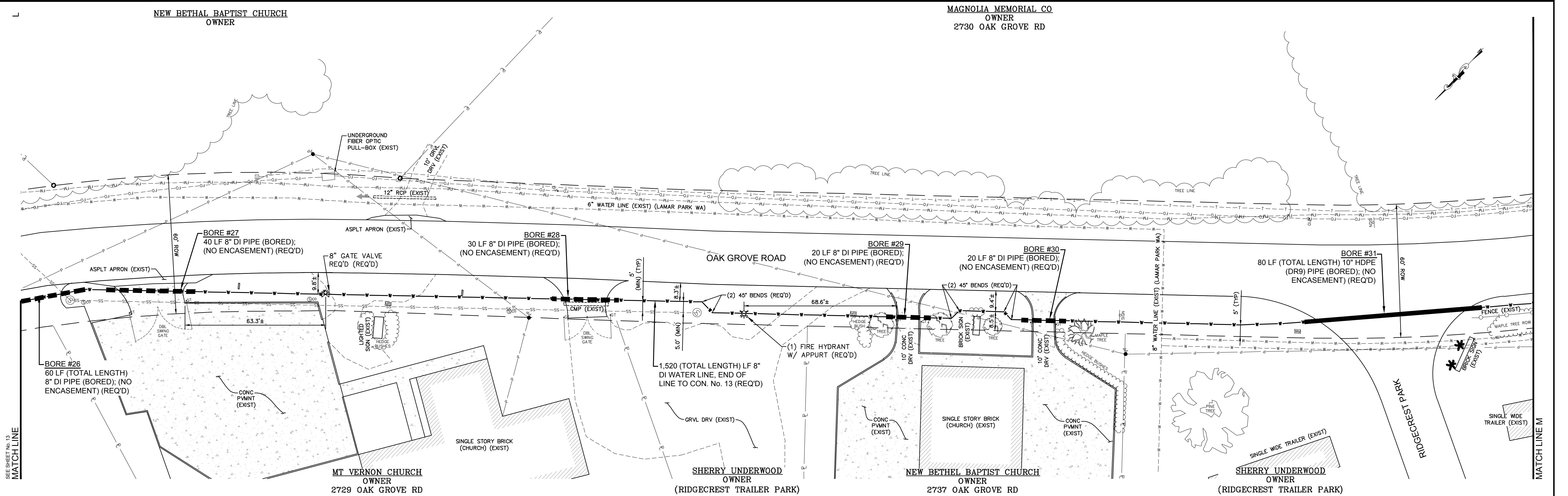
SITE 8~10

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NO.	DATE	DESCRIPTION	BY
US HWY 98 @ WESTOVER DRIVE – PLAN			
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sd-w.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03/2017		Scale: 1" = 20'	
Drawing No.: 1273W013		Sheet No. 12	

SITE 11



12" 8" REDUCER (REQ'D)
8" DI (REQ'D)
12" GATE VALVE (REQ'D)
12" DI (REQ'D)
FIRE HYDRANT W/ APPURT (REQ'D)

CONNECTION No 13 DETAIL
NOT TO SCALE

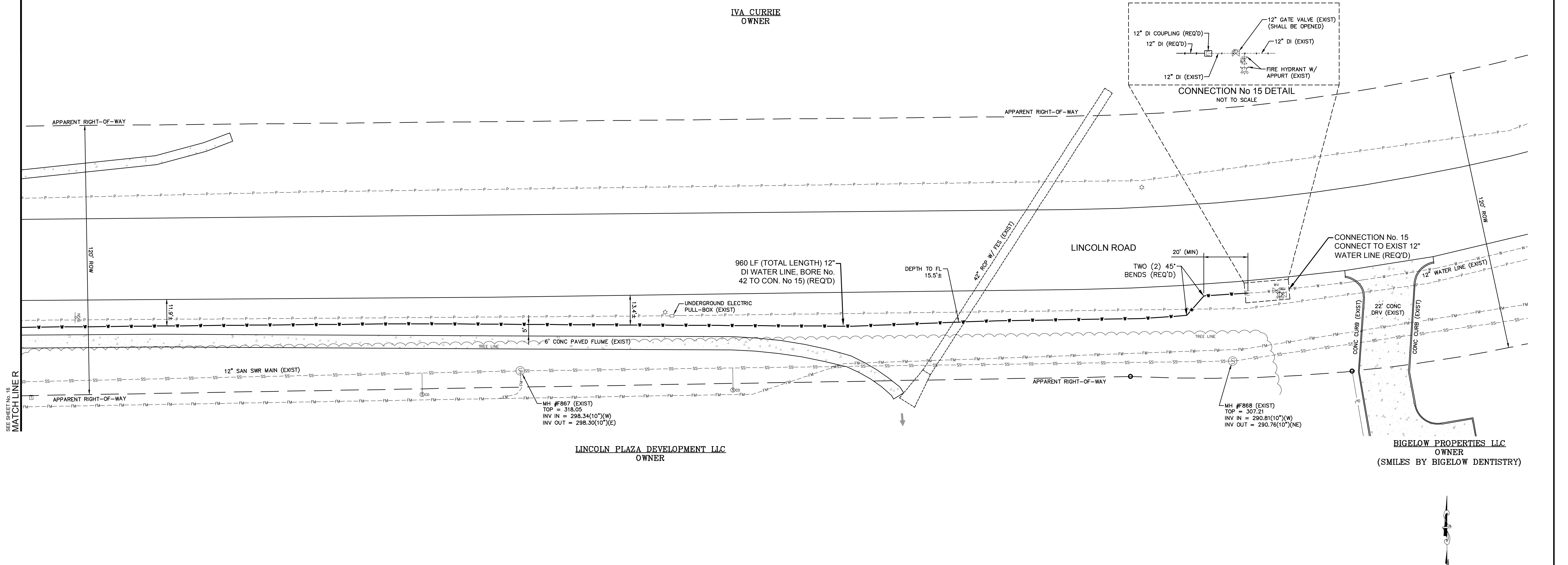
NO.	DATE	DESCRIPTION	BY
OAK GROVE ROAD – PLAN			
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sd-w.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03/2017		Scale: 1" = 20'	
Drawing No.: 1273-W013		Sheet No. 14	

9 IRON LLC
OWNER
(CEDAR CREEK PLAZA)

SITE 12

G:\PROJECTS\Hattiesburg_City of 1273-W013 - Camp Water Impr. Ph. V - 1.50 Crossing Hwy 49 North, Westover and Lincoln\1273W013 CAD Files\1273W013_S12.dwg, 12.dwg, 14, 4/19/2017 9:35:12 AM

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SEE SHEET No. 18
MATCH LINE R

LINCOLN PLAZA DEVELOPMENT LLC
OWNER

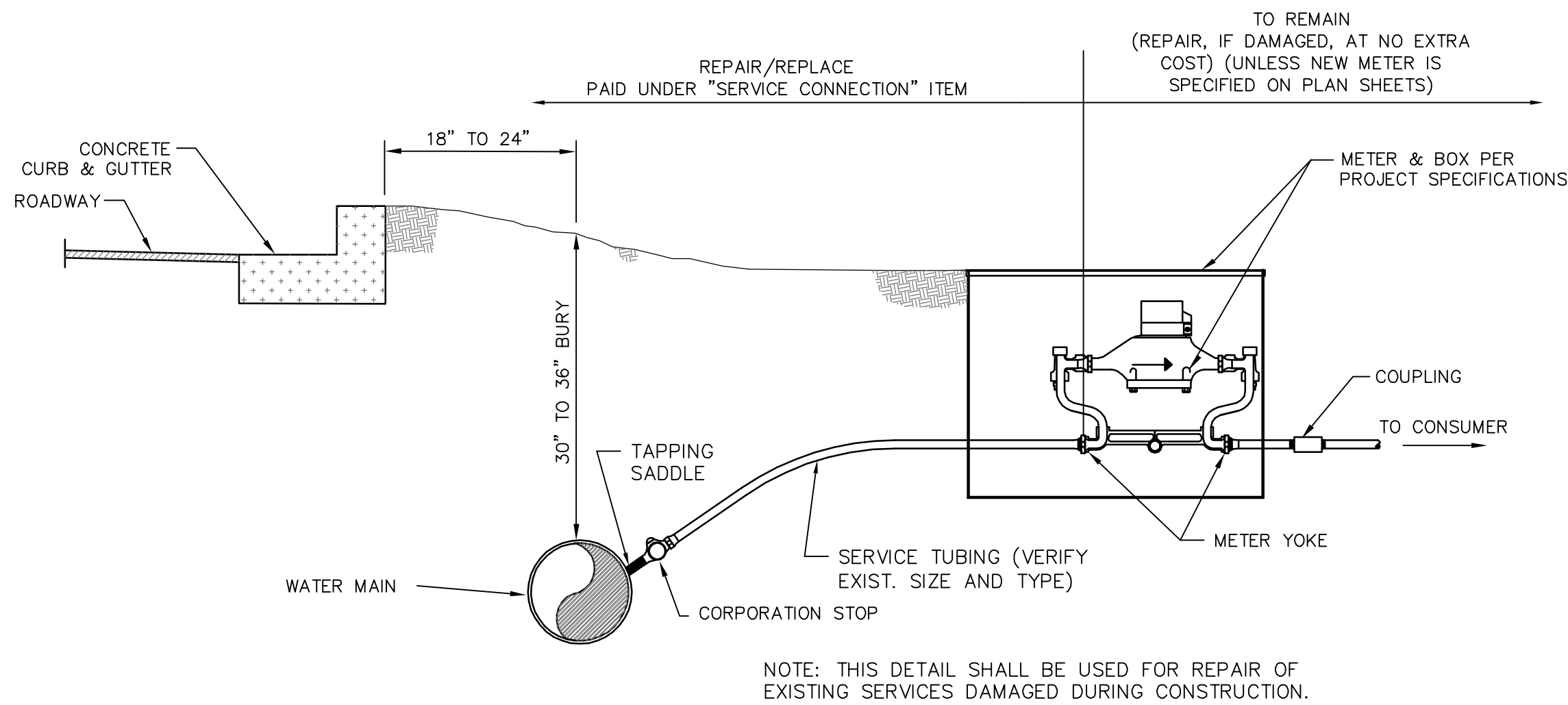
IYA CURRIE
OWNER

BIGELOW PROPERTIES LLC
OWNER
(SMILES BY BIGELOW DENTISTRY)

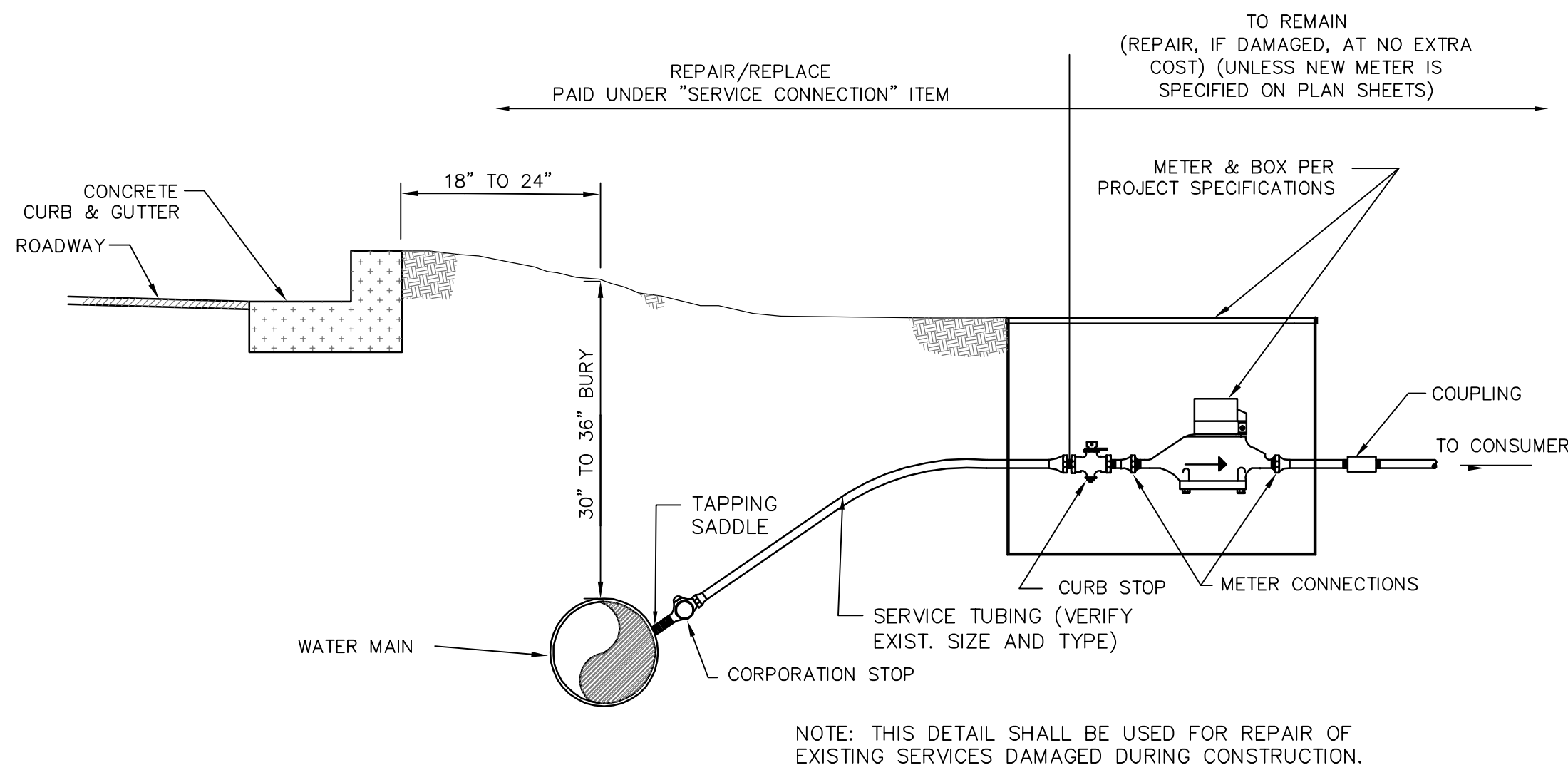
NO.	DATE	DESCRIPTION	BY
LINCOLN ROAD — PLAN			
COMPREHENSIVE WATER IMPROVEMENTS — PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sd-w.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03/2017		Scale: 1" = 20'	
Drawing No.: 1273-W013		Sheet No. 17	

SITE 12

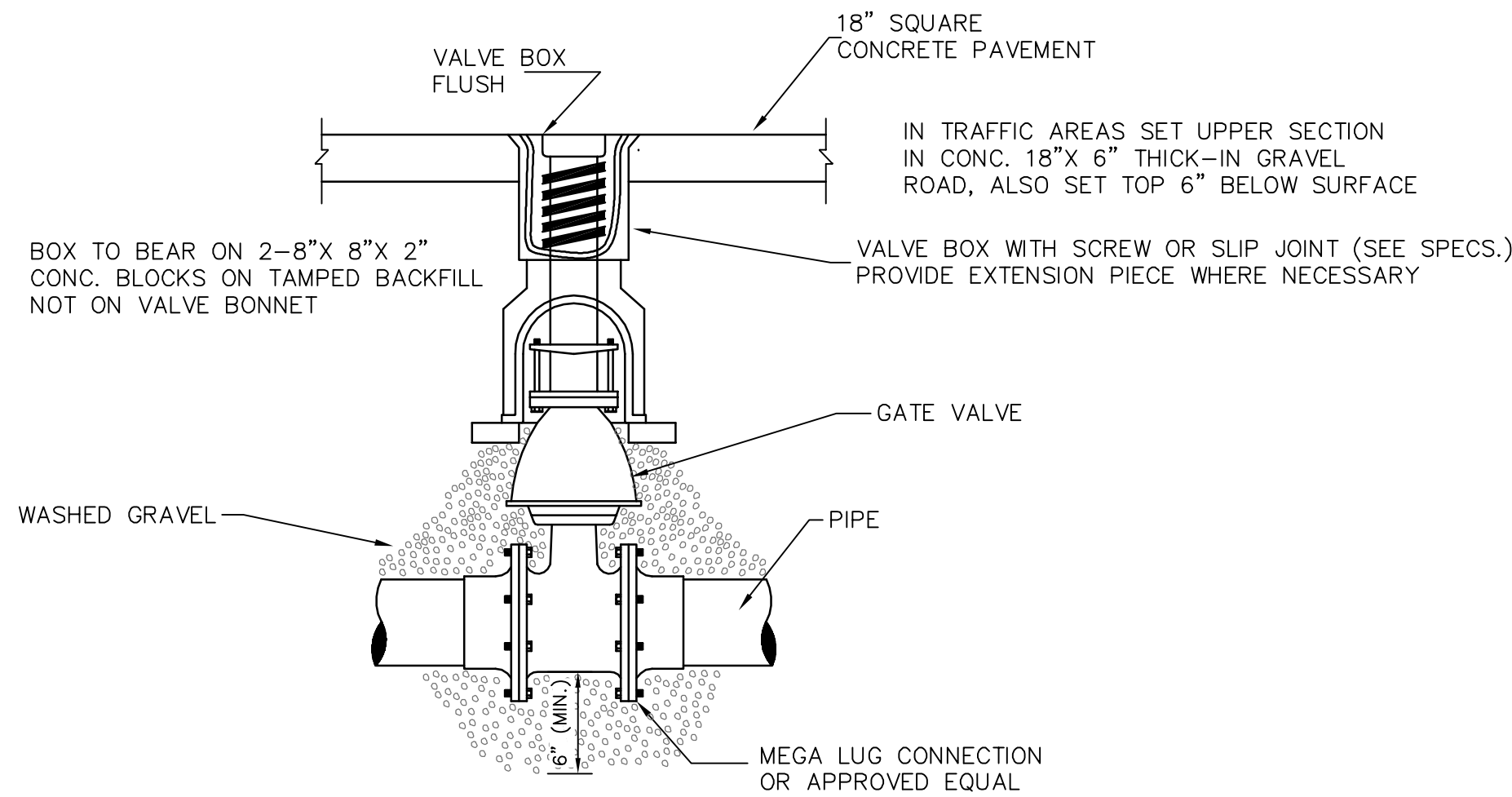
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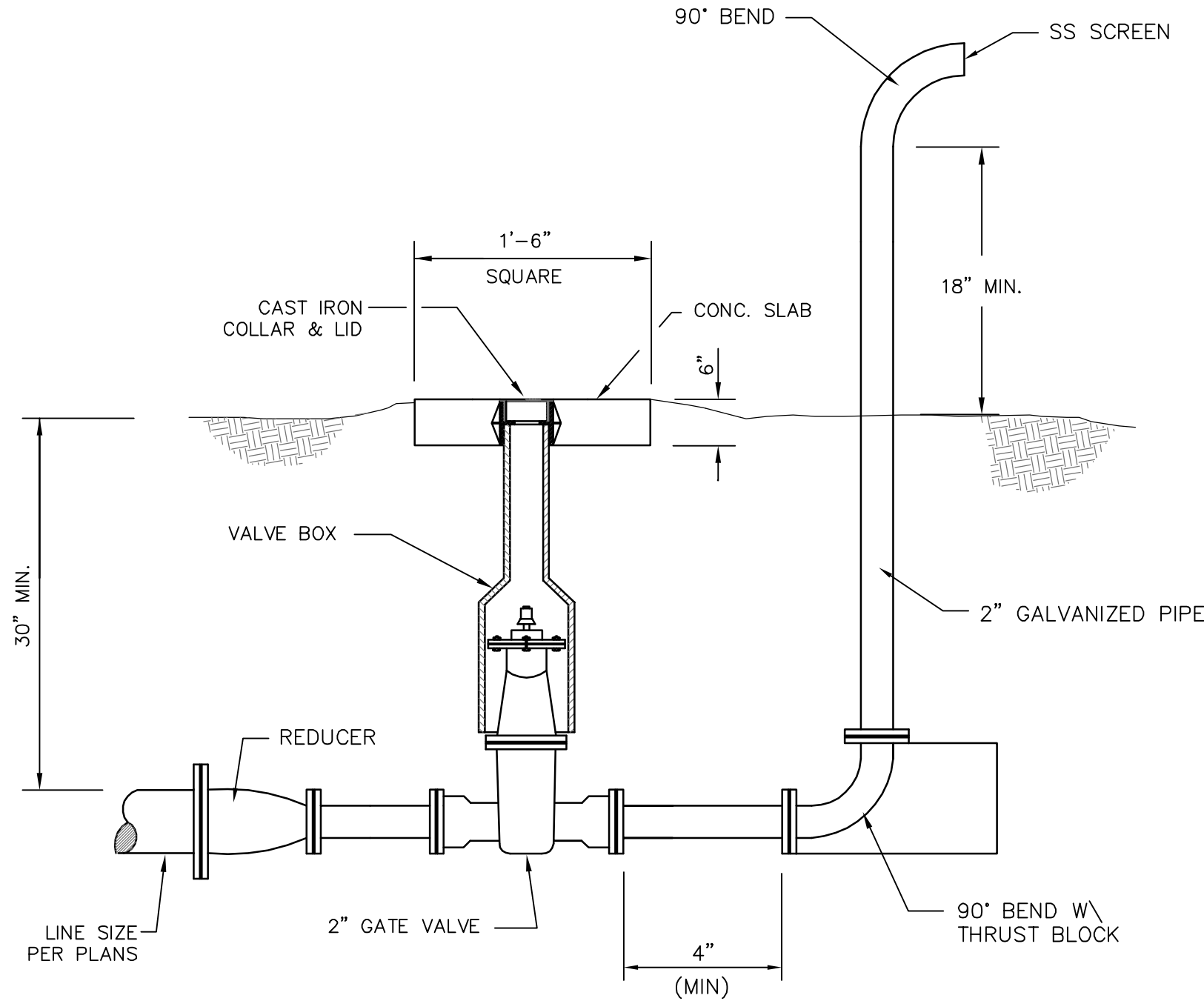
TYPICAL METER SETTING WITH YOKE



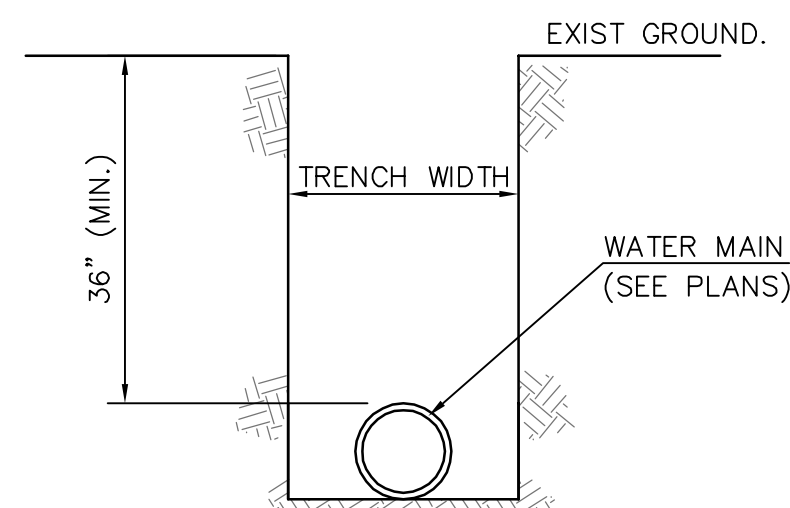
TYPICAL METER SETTING WITHOUT YOKE



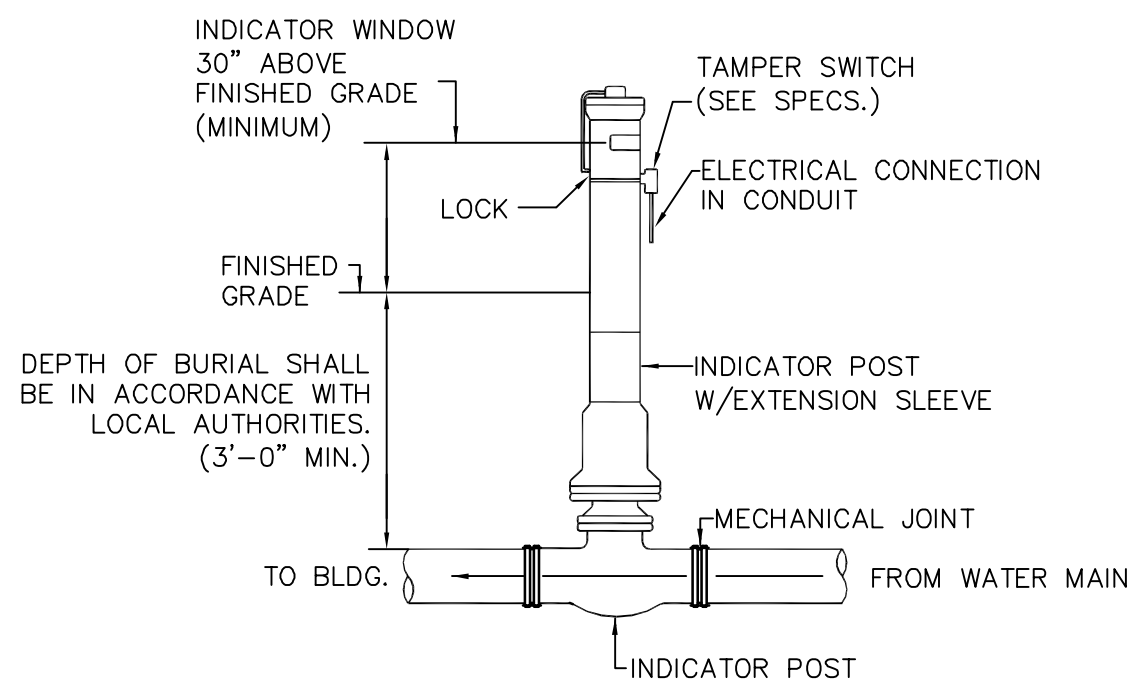
DETAIL OF VALVE & BOX



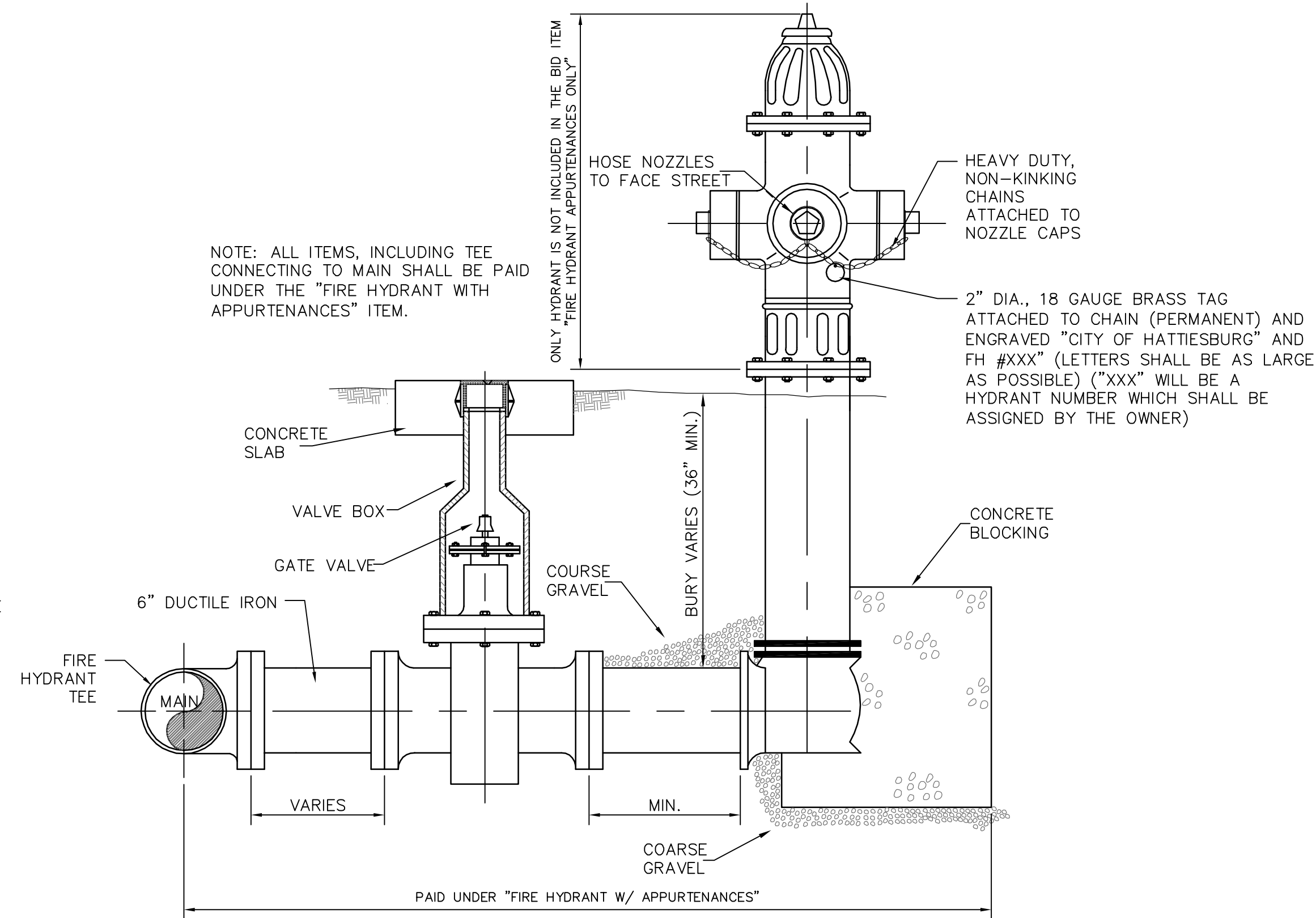
BLOW-OFF VALVE DETAIL



DETAIL OF TRENCH

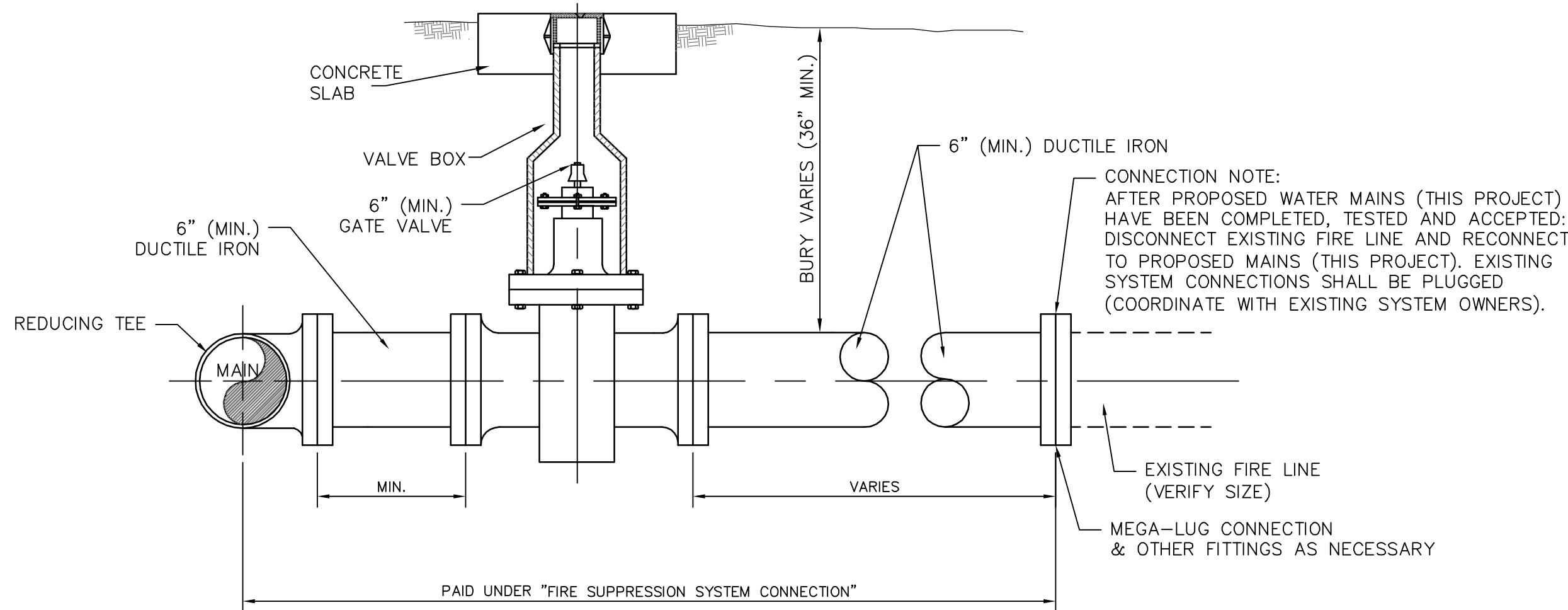


POST INDICATOR VALVE DETAIL



STANDARD 3-WAY FIRE HYDRANT

NOTE: ALL ITEMS, INCLUDING TEE CONNECTING TO MAIN, VALVE, PIPE, CONNECTION TO EXITING FIRE LINE AND DISCONNECTION OF EXISTING FIRE LINE FROM EXISTING SYSTEM MAIN SHALL BE PAID UNDER THE "FIRE SUPPRESSION SYSTEM CONNECTION" ITEM.

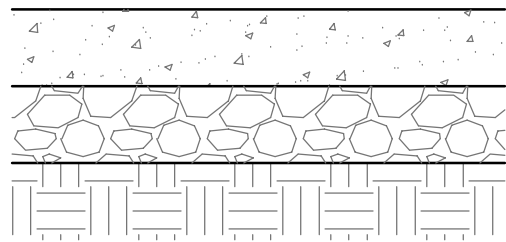


FIRE SUPPRESSION SYSTEM CONNECTION

PIV NOTES:

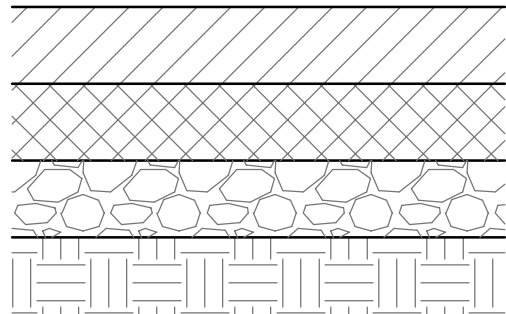
1. POST INDICATOR VALVES SHALL BE REQUIRED AT ALL EXISTING STRUCTURES WHICH ARE BEING CONNECTED TO THE PROPOSED SYSTEM UNDER THIS PROJECT, IF THE EXISTING PIV IS DAMAGED AND/OR INOPERABLE OR IF NO PIV IS IN PLACE AT THE TIME OF CONNECTION.
2. LOCATIONS FOR PROPOSED PIV'S SHALL BE AS DIRECTED BY THE ENGINEER BUT SHALL BE AT LEAST 40 FEET FROM THE EXISTING STRUCTURE AND CLEARLY VISIBLE.
3. POST INDICATOR VALVES SHALL BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS AND AS DETAILED HERE.
4. ALL ITEMS, INCLUDING POSSIBLE INSTALLATION ON EXISTING FIRE LINE SHALL BE PAID UNDER THE "POST INDICATOR VALVE" ITEM.

NO.	DATE	DESCRIPTION	BY
WATER INSTALLATION DETAILS			
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress			
301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03//2017		Scale: NONE	
Drawing No.: 1273-W013		Sheet No. 18	



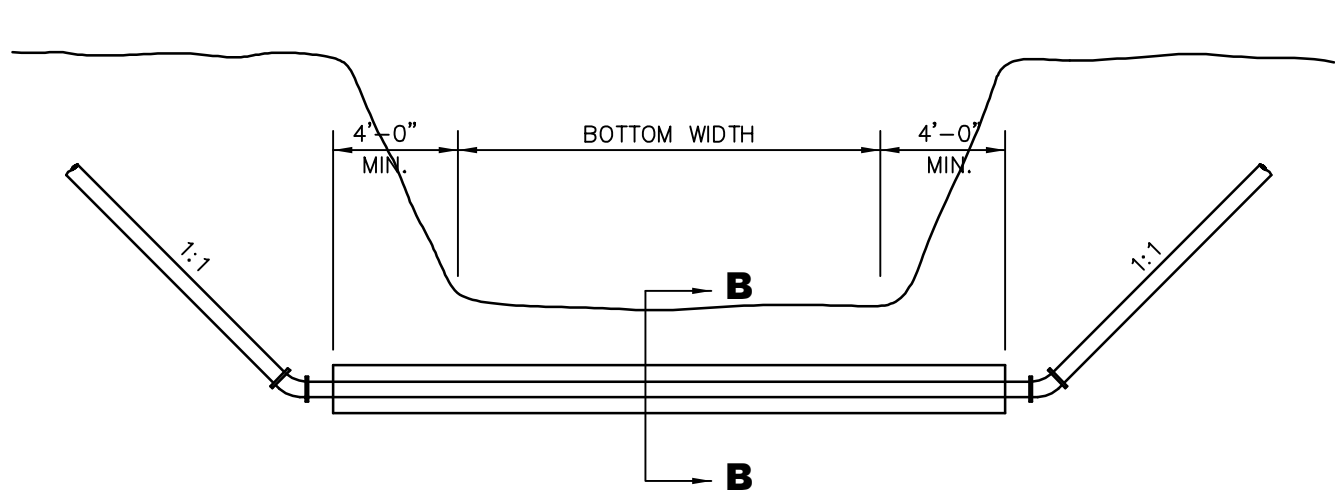
- TEMPORARY: 6" CRUSHED AGGREGATE (SIZE 825) (REMOVE PRIOR TO PAVING)
- PERMANENT: 6" 3000 PSI CONCRETE W/ FIBER GLASS REINFORCEMENT
- 6" CRUSHED AGGREGATE (SIZE 825) COMPACTED TO 95%
- EXISTING SUBGRADE AND/OR FILL MATERIAL COMPACTED TO 95%

TYPICAL CONCRETE PAVEMENT REPAIR



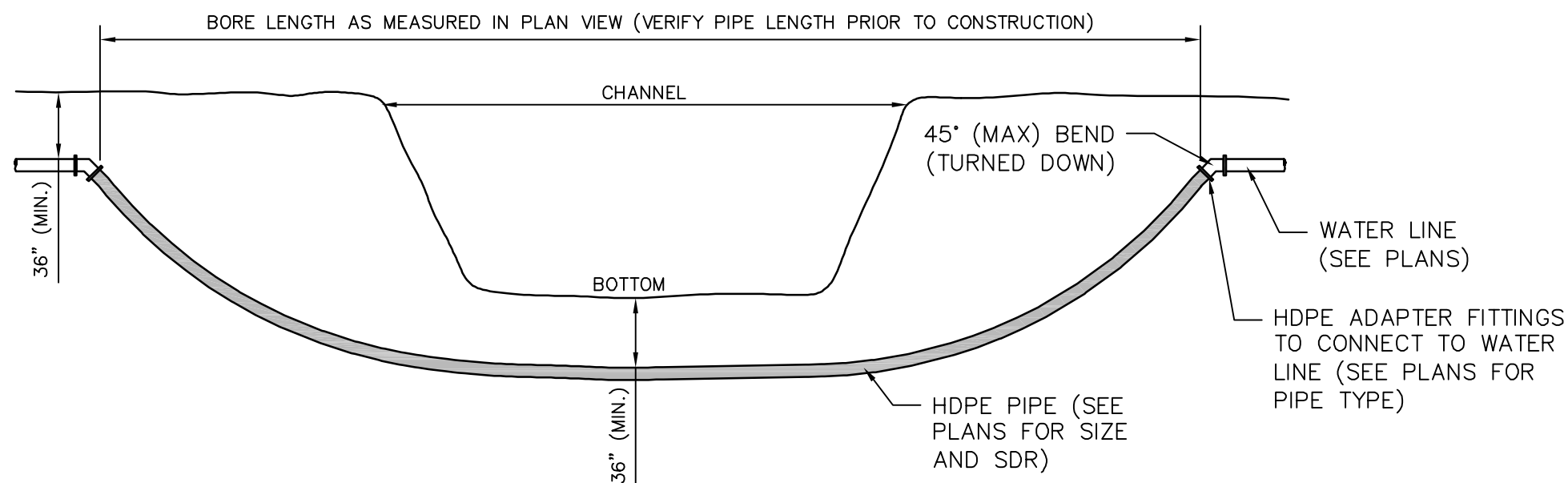
- PERMANENT: 1 1/2" SURFACE COURSE ASPHALT
- TEMPORARY: 4" CRUSHED AGGREGATE (SIZE 825) (REMOVED PRIOR TO PAVING)
- PERMANENT: 2" BASE COURSE ASPHALT
- 6" CRUSHED AGGREGATE (SIZE 825) COMPACTED TO 95%
- EXISTING SUBGRADE AND/OR FILL MATERIAL COMPACTED TO 95%

TYPICAL ASPHALT PAVEMENT REPAIR

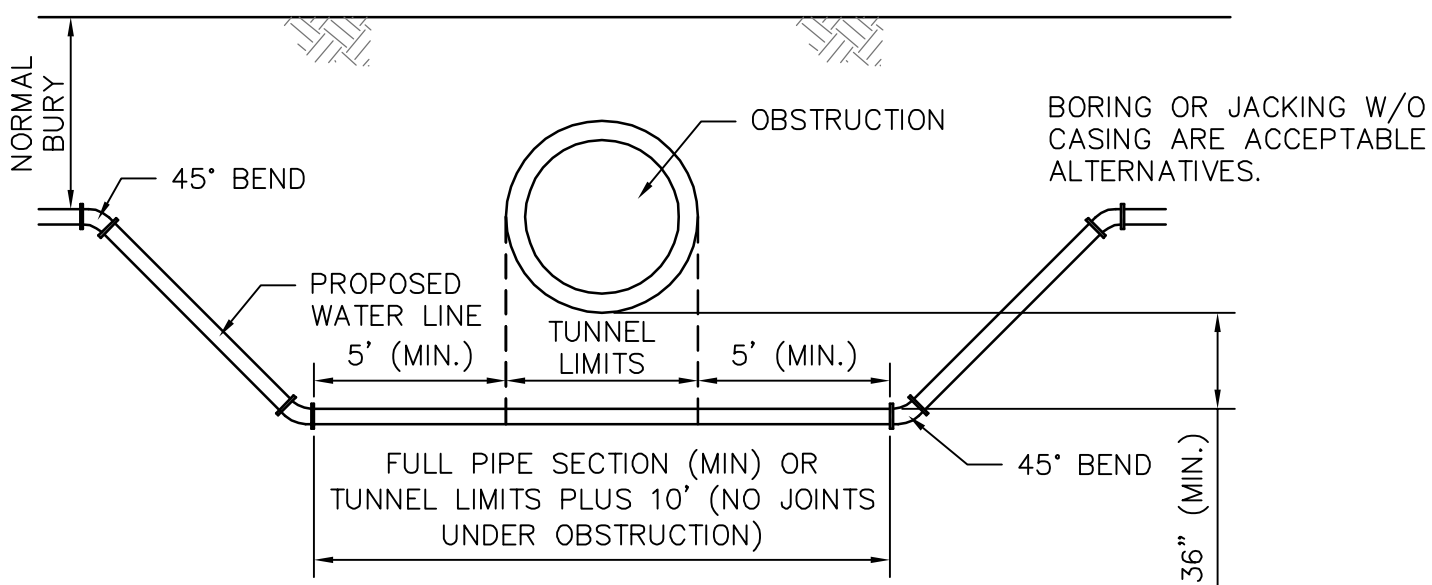


CONCRETE ENCASEMENT OF PIPE IS REQUIRED WHEN BOTTOM WIDTH IS GREATER THAN 8'-0".

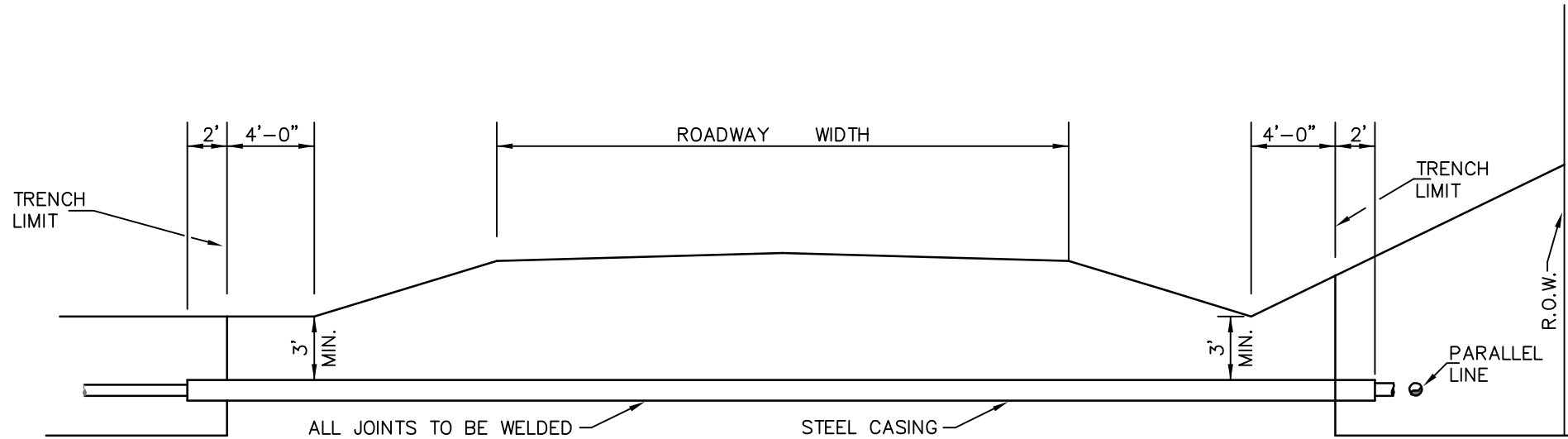
OPEN CUT CHANNEL CROSSING DETAIL



DIRECTIONAL BORED CHANNEL CROSSING DETAIL

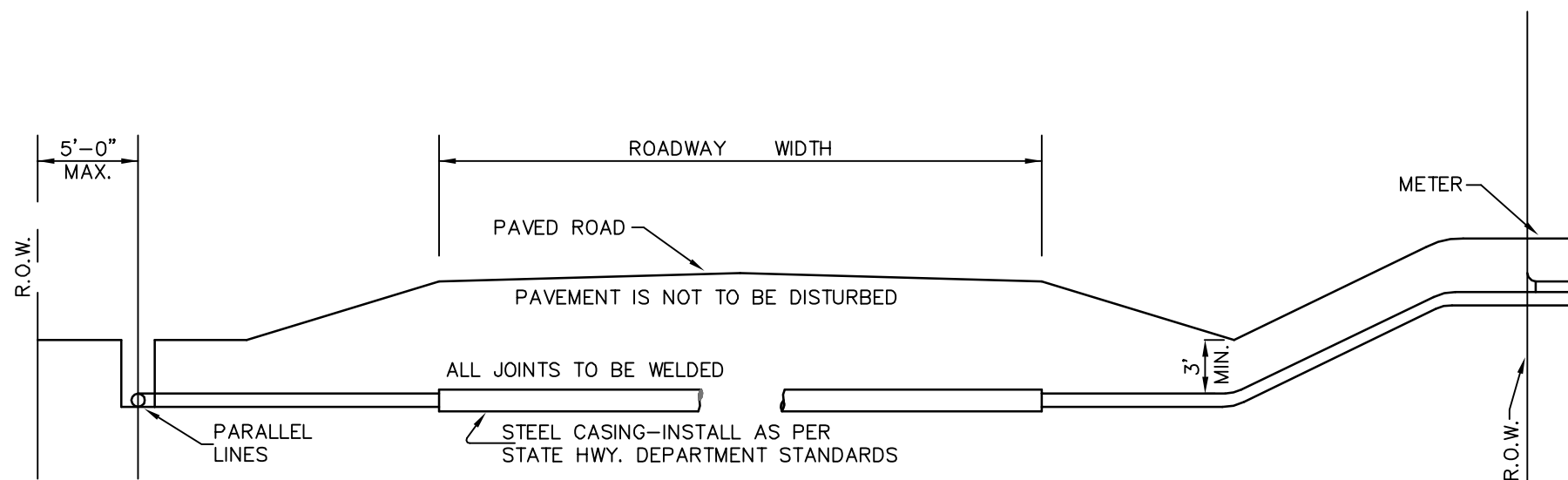


OBSTRUCTION CROSSING DETAIL

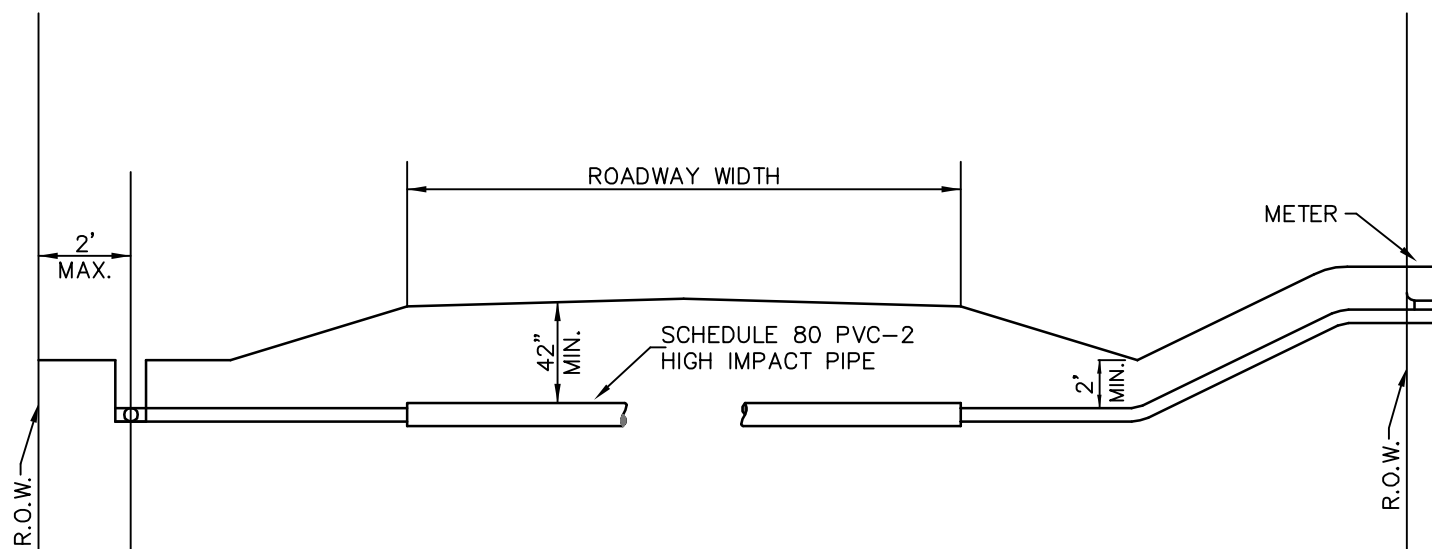


STEEL CASING TO BE INSTALLED BY JACKING THROUGH, WET BORE OR DRY BORE (AS SPECIFIED) OF A SIZE NOT GREATER OR LESS THAN 1" OF O.D. OF ENCASEMENT, LAYING STEEL CASING IN OPEN TRENCH WILL BE PERMITTED ONLY WHEN SET OUT IN THE SPECIFICATIONS AND WITH THE APPROVAL OF THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION.

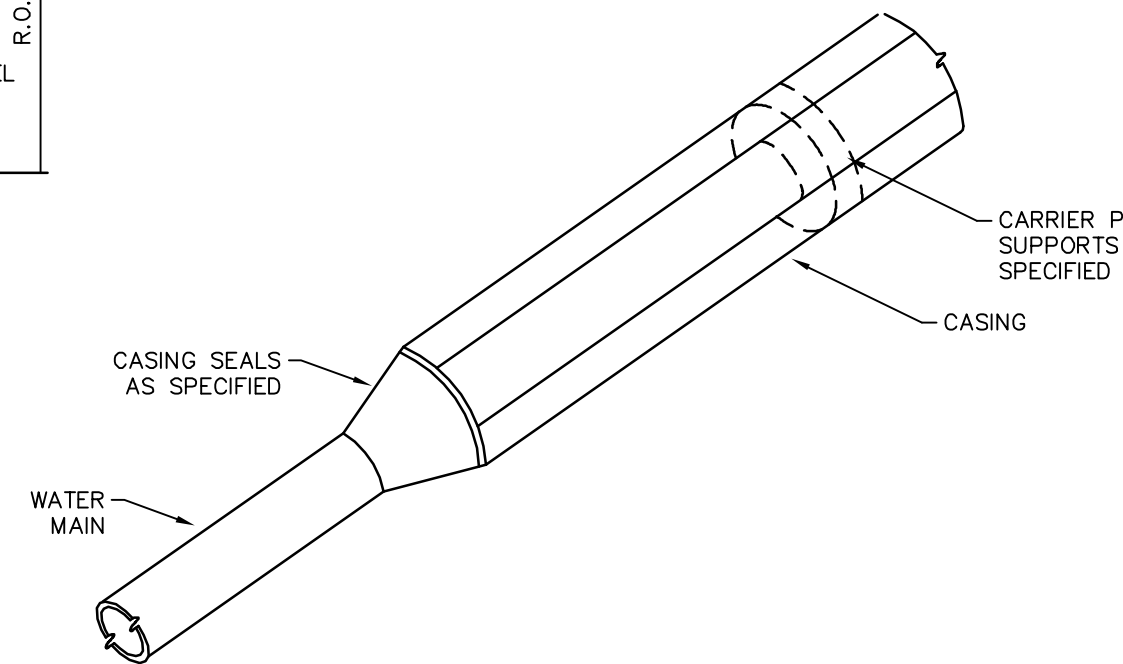
HIGHWAY CROSSING & WATER LINE PARALLELING HWY. IN R.O.W.



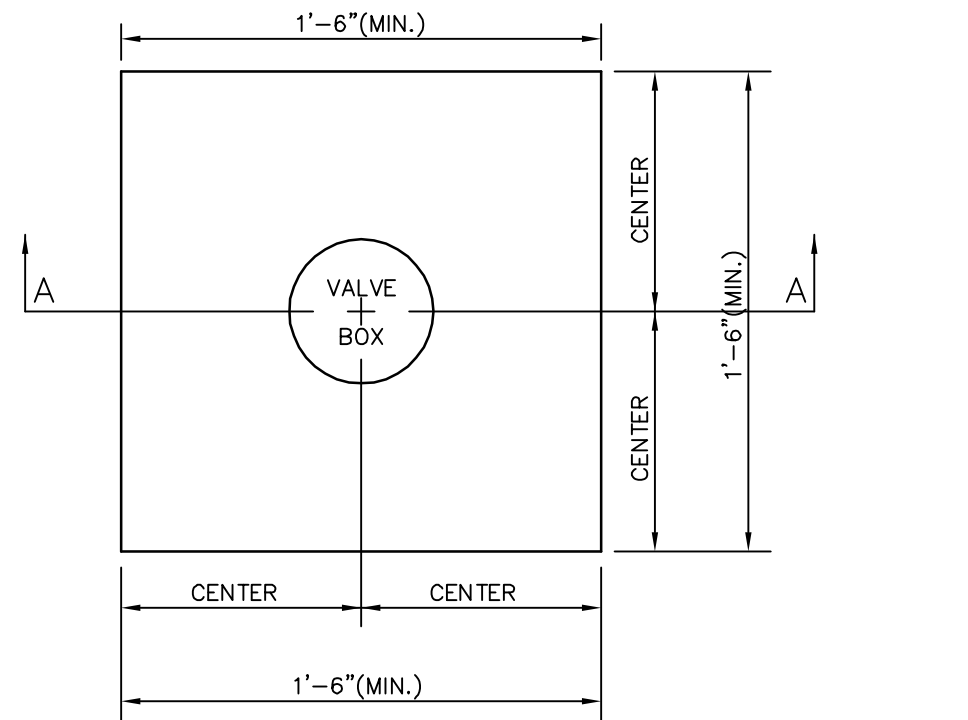
ROAD BORE & WATER LINE PARALLELING ROAD IN R.O.W.



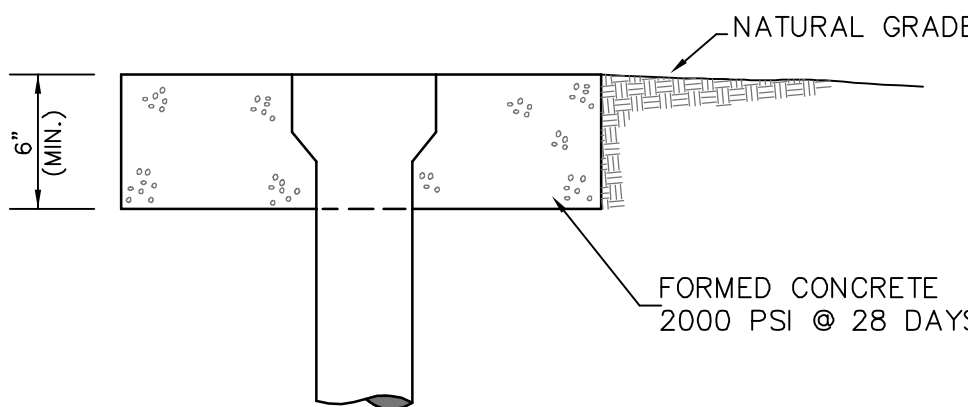
COUNTY GRAVEL ROAD & WATER LINE PARALLELING ROAD IN R.O.W.



CASING END DETAIL

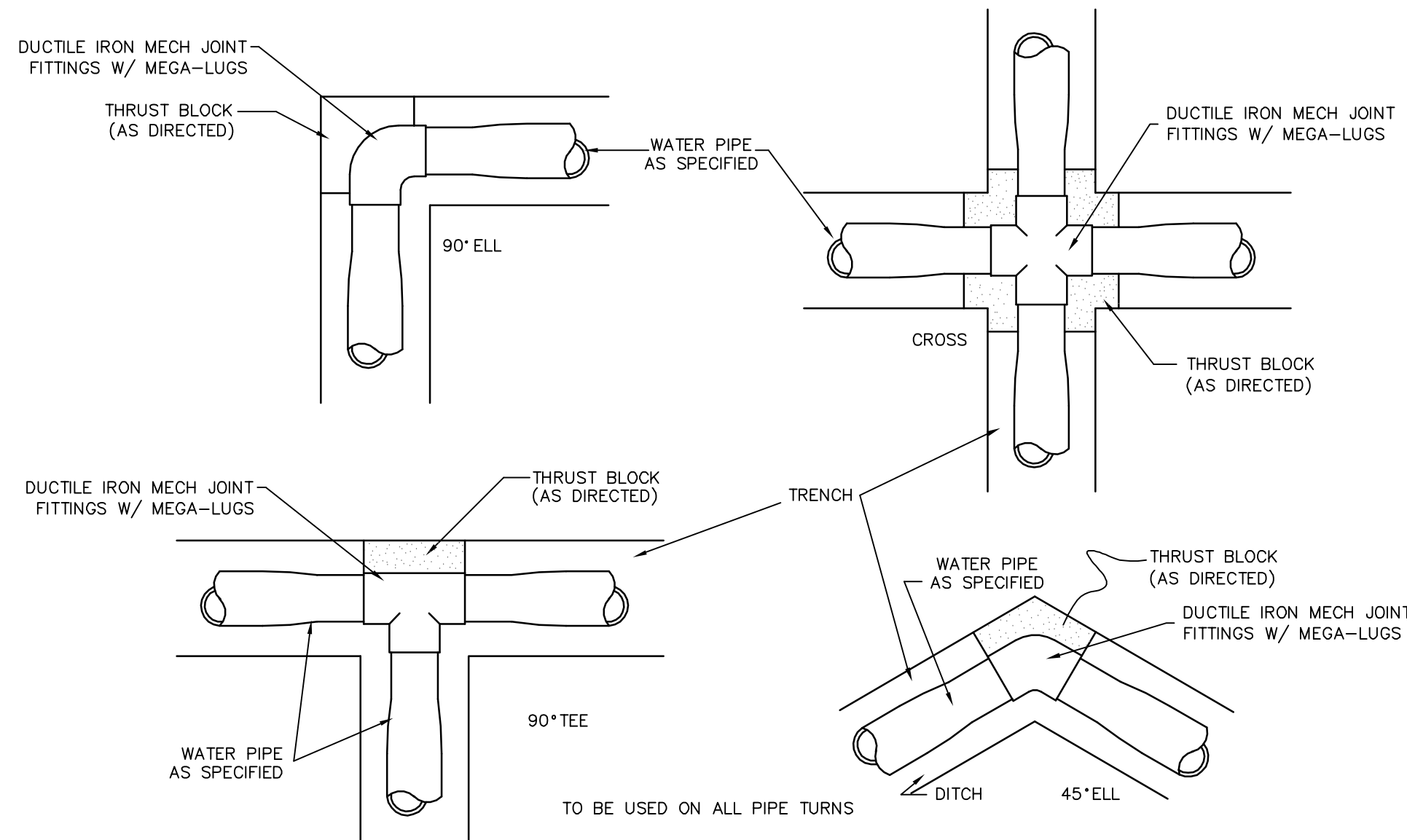


PLAN

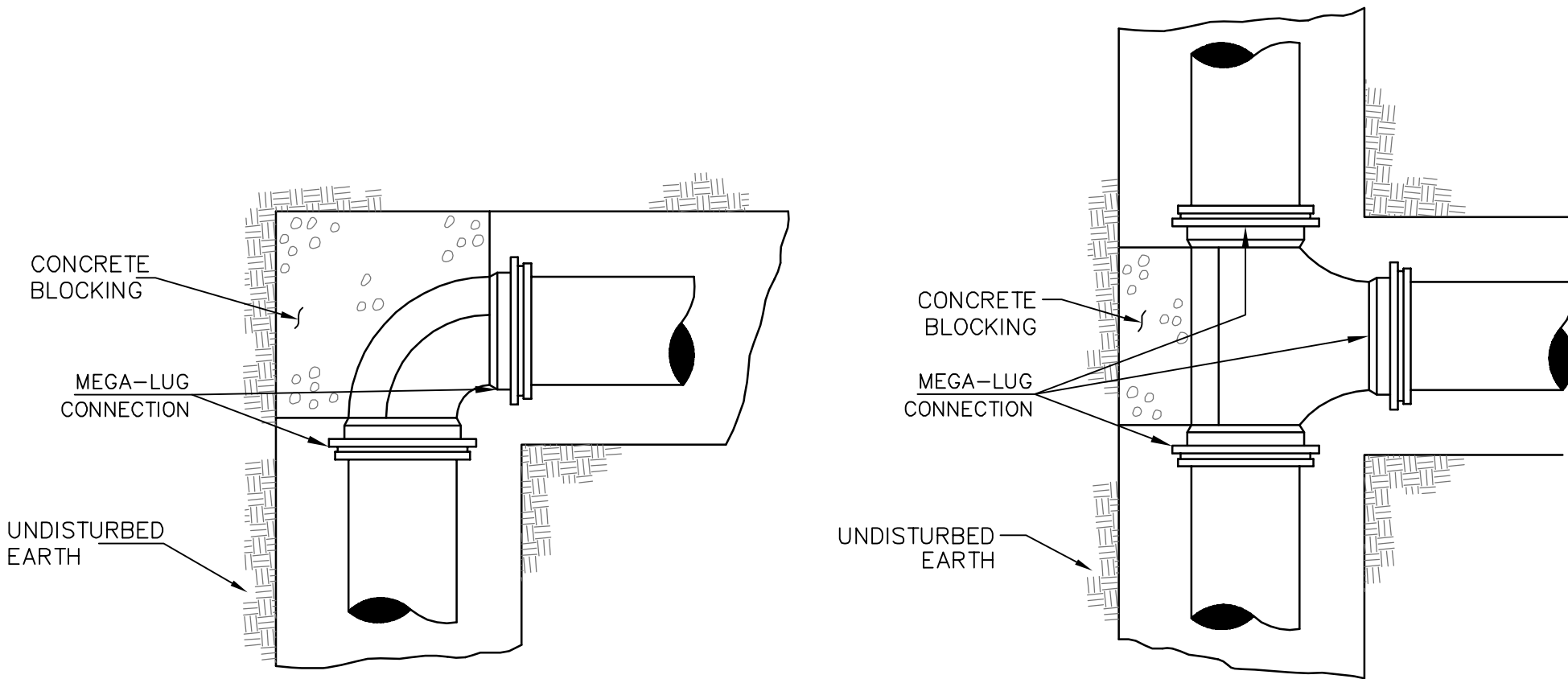


SECTION A-A

VALVE LOCATION



THRUST BLOCK DETAILS



PLAN

PLAN

NO.	DATE	DESCRIPTION	BY
WATER INSTALLATION DETAILS			
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03//2017		Scale: NONE	
Drawing No.: 1273-W013		Sheet No. 19	

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VEGETATION SCHEDULE						
EROSION CONTROL ITEMS		SEASONAL APPLICATIONS - DATES & RATES				REQUIREMENTS
		SPRING & SUMMER		FALL & WINTER		
PAY ITEM NO.	ITEMS	RATES	DATES	RATES	DATES	
211-B001	TOPSOIL FOR SLOPE TREATMENT (LVM)	4" THICK	MARCH 1 TO SEPTEMBER 1	4" THICK	SEPTEMBER 1 TO MARCH 1	TOPSOIL REQUIRED ON SLOPES DETERMINED BY THE ENGINEER DURING CONSTRUCTION
212-B001	STANDARD GROUND PREPARATION	PER SQ. FT.	MARCH 1 TO SEPTEMBER 1	PER SQ. FT.	SEPTEMBER 1 TO MARCH 1	GROUND PREPARATION REQUIRED ON AREAS TO RECEIVE SOLID SODDING OR SEEDING, AS APPLICABLE
907-213-A001	AGRICULTURAL LIMESTONE	3 TONS / ACRE	MARCH 1 TO SEPTEMBER 1	3 TONS / ACRE	SEPTEMBER 1 TO MARCH 1	LIMESTONE SHALL BE MECHANICALLY SPREAD UNIFORMLY AND INCORPORATED INTO THE SOIL PRIOR TO PLANTING
213-B001	COMBINATION FERTILIZER (13-13-13)	1000 LBS / ACRE	MARCH 1 TO SEPTEMBER 1	1000 LBS / ACRE	SEPTEMBER 1 TO MARCH 1	FERTILIZER SHALL BE MECHANICALLY SPREAD UNIFORMLY AND INCORPORATED INTO THE SOIL PRIOR TO PLANTING
213-C001	SUPER PHOSPHATE	0.5 TON / ACRE (EST)	MARCH 1 TO SEPTEMBER 1			SUPER PHOSPHATE (FOR BID ITEM PURPOSES)
214-A002	SEEDING (BERMUDA GRASS)	20 LBS / ACRE	MARCH 1 TO SEPTEMBER 1	20 LBS / ACRE	SEPTEMBER 1 TO MARCH 1	SEED REQUIRED ON DISTURBED AREAS. UNHULLED SEED MAY BE REQUIRED DURING THE DORMANT SEASON AS DIRECTED
214-A003	SEEDING (TALL FESCUE)			15 LBS / ACRE	AUGUST 15 TO MARCH 15	SEED REQUIRED IN DISTURBED AREAS
214-A004	SEEDING (CRIMSON CLOVER)			20 LBS / ACRE	AUGUST 15 TO MARCH 15	SEED REQUIRED ON DISTURBED AREA
215-A001	VEGETATIVE MATERIAL FOR MULCH	2 TONS / ACRE (EST)	MARCH 1 TO SEPTEMBER 1	2 TONS / ACRE (EST)	SEPTEMBER 1 TO MARCH 1	THE ENGINEER WILL DESIGNATE THE RATES OF APPLICABLE (SEE SUBSECTION 215-03.3)
216-A001	SOLID SODDING	PER SQ. YD.	MARCH 1 TO SEPTEMBER 1	PER SQ. YD.	SEPTEMBER 1 TO MARCH 1	SOLID SOD REQUIRED ON AREAS SPECIFIED IN THE CONTRACT OR BY THE ENGINEER
219-A001	WATERING	20 GAL / S.Y. (EST)	MARCH 1 TO SEPTEMBER 1	20 GAL. / S.Y. (EST)	SEPTEMBER 1 TO MARCH 1	TO BE USED AS DIRECTED IN THE PLANTING AND ESTABLISHING OF SOLID SOD
220-A001	INSECT PEST CONTROL	PER ACRE		PER ACRE		SEE SECTION 220
TEMPORARY EROSION CONTROL ITEMS						
212-A001	LIGHT GROUND PREPARATION	PER SQ. YD.		PER SQ. YD.		APPROXIMATELY HALF SQ.YD. STANDARD GROUND PREPARATION
213-B001	COMBINATION FERTILIZER (13-13-13)	0.25 TONS/ ACRE		0.25 TONS/ ACRE		QUANTITY BASED ON LIGHT GROUND PREPARATION
214-A013	SEEDING (BROWN TOP MILLET)	20 LBS / ACRE	APRIL 1 TO AUGUST 31			QUANTITY BASED ON LIGHT GROUND PREPARATION
214-A017	SEEDING (RYE GRASS)			25 LBS / ACRE	SEPTEMBER 1 TO MARCH 31	QUANTITY BASED ON LIGHT GROUND PREPARATION
214-A015	SEEDING (OATS)			90 LBS / ACRE	SEPTEMBER 1 TO DECEMBER 15	QUANTITY BASED ON LIGHT GROUND PREPARATION
215-A001	VEGETATIVE MATERIAL FOR MULCH	1 TON / ACRE (EST)		1 TON / ACRE (EST)		QUANTITY BASED ON LIGHT GROUND PREPARATION

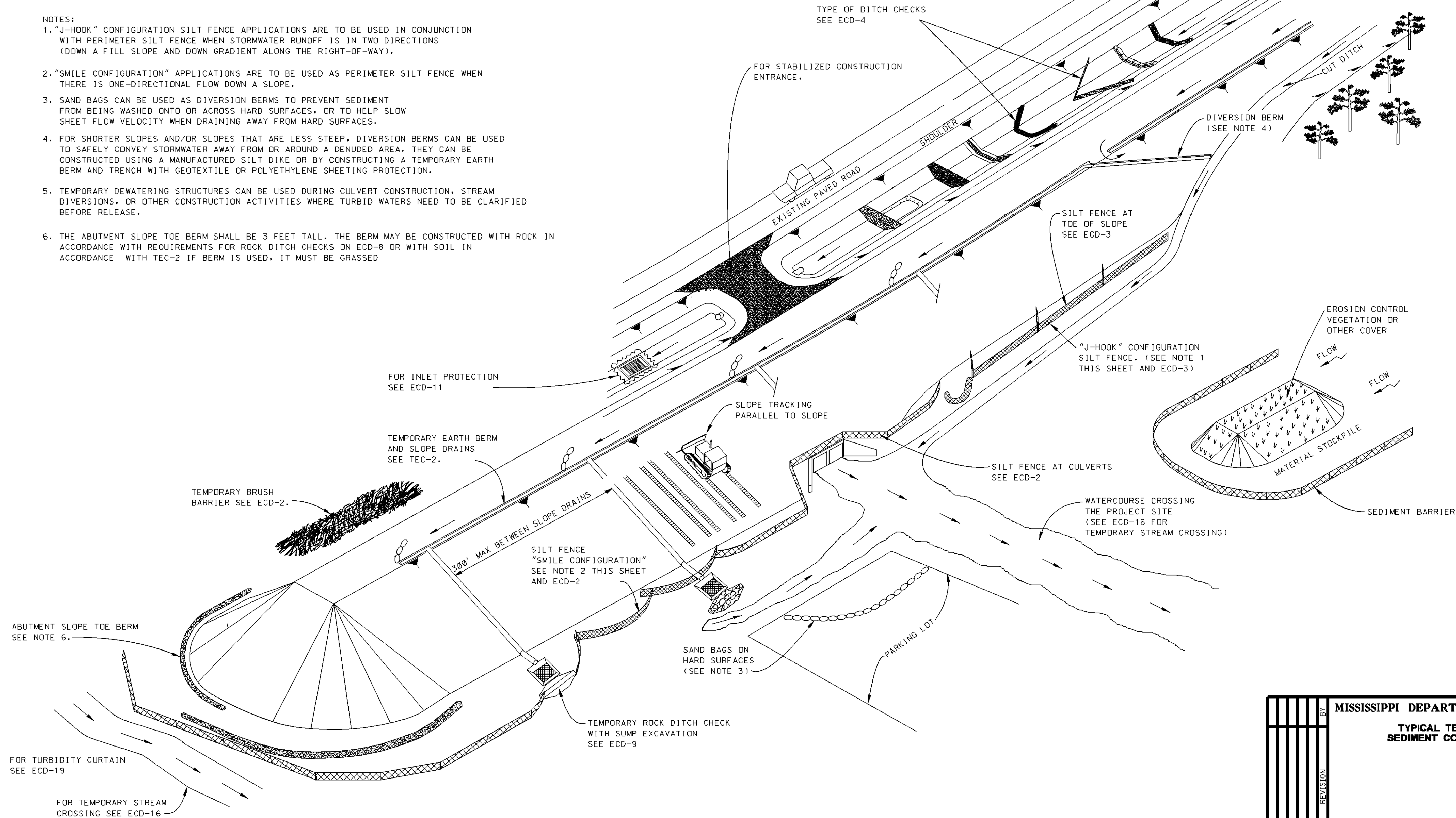
- ① ALL AREAS THAT HAVE BEEN VEGETATED, UNDER THIS CONTRACT, FOR AT LEAST (60) SIXTY DAYS, SHALL RECEIVE ADDITIONAL APPLICATION(S) OF FERTILIZER(S) OF THE TYPE(S) AND RATE(S) OF APPLICATIONS AS DETERMINED BY SOIL TEST OR AS DIRECTED DURING THE GROWING SEASONS THE CONTRACT IS IN FORCE. GROUND PREPARATION WILL NOT BE REQUIRED FOR THE ADDITIONAL APPLICATIONS.
- ② PROPOSAL QUANTITIES ESTIMATED ON THE BASIS THAT 100% OF THE ACREAGE WILL BE SEEDED.
- ③ PROPOSAL QUANTITIES ESTIMATED ON THE BASIS THAT 50% OF THE ACREAGE WILL BE SEEDED.
- ④ QUANTITY ESTIMATED ON THE BASIS THAT 50% OF THE ACREAGE VEGETATED MAY REQUIRED TREATMENT.
- ⑤ THIS ITEM MAY BE OMITTED ON AREAS SELECTED BY THE ENGINEER.
- ⑥ BAHIA GRASS WILL NOT BE PERMITTED AS A MULCH MATERIAL.
- ⑦ PROPOSAL QUANTITIES ESTIMATED ON THE BASIS THAT 75% OF THE ACREAGE SEEDED MAY REQUIRE TOPSOIL

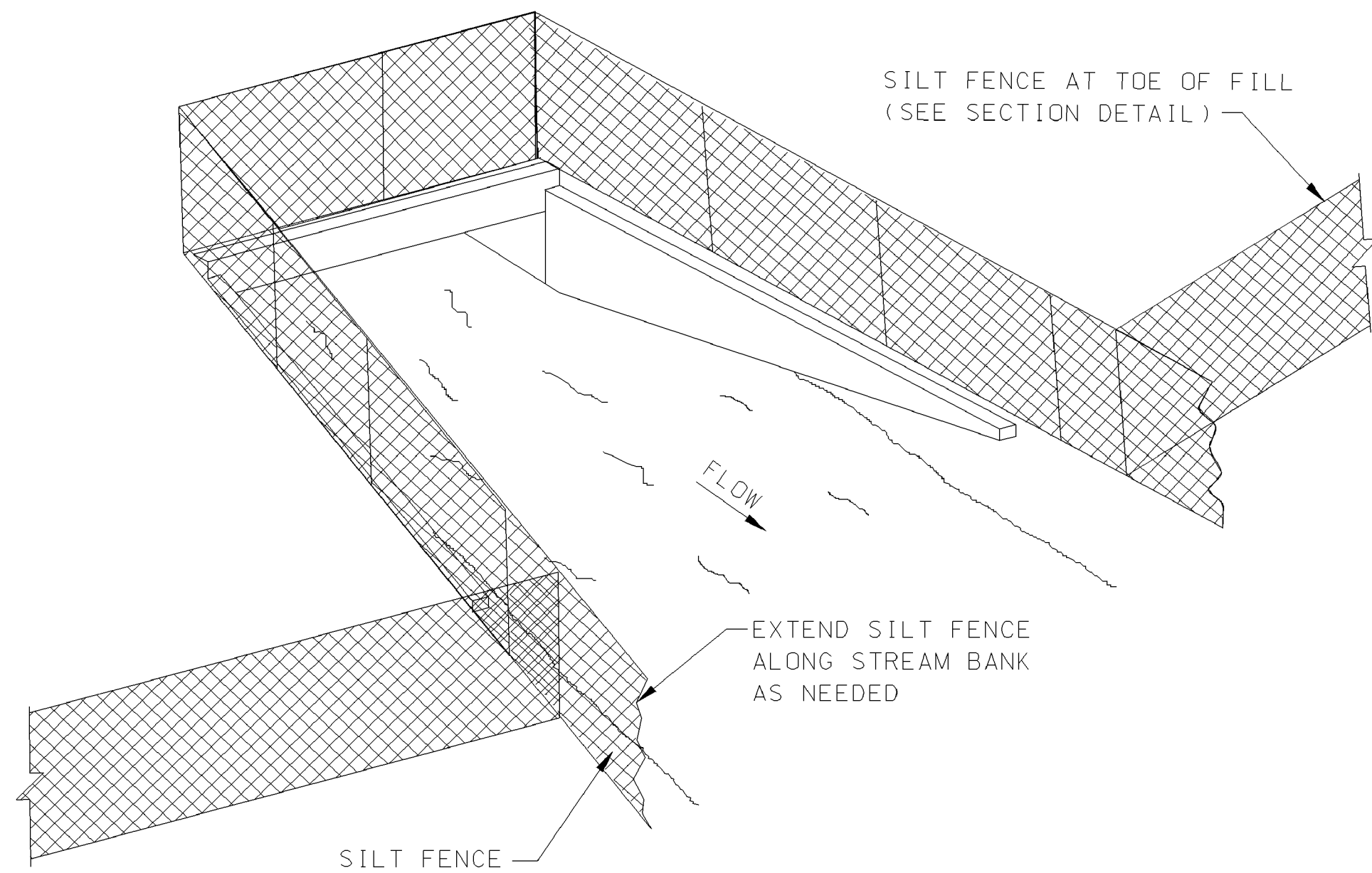
TEMPORARY EROSION CONTROL ITEMS REQUIRED FOR DETOURS		
ITEM	RATE	SEASONAL LIMITATIONS
STANDARD GROUND PREPARATION	---	---
COMBINATION FERTILIZER (13-13-13)	500 LBS/ACRE	---
SEEDING (BERMUDA GRASS)	10 LBS/ACRE	---
SEEDING (TALL FESCUE)	20 LBS/ACRE	AUGUST 15 TO MARCH 15
VEGETATIVE MATERIAL FOR MULCH	2 LBS/ACRE	---

NOTE:
ALL DISTURBED AREAS SHALL BE TREATED WITH TEMPORARY GRASSING MEASURES IF NOT TREATED WITH PERMANENT GRASSING FOR OVER 14 DAYS. NO SEPARATE PAY, ABSORBED IN ITEM "TEMPORARY EROSION CONTROL".

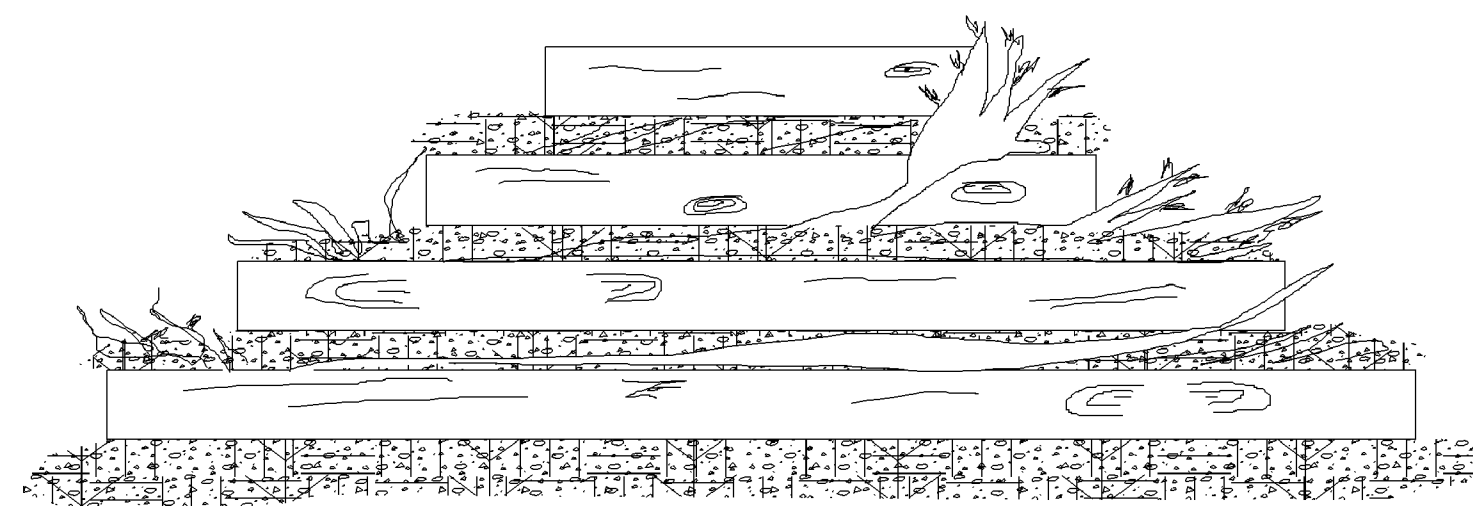
NO.	DATE	DESCRIPTION	BY
VEGETATION SCHEDULE			
COMPREHENSIVE WATER IMPROVEMENTS – PHASE V			
CITY OF HATTIESBURG			
FORREST & LAMAR COUNTIES, MISSISSIPPI			
sdw Engineering Progress 301 Second Ave. Hattiesburg, MS 39401 (p) 601.544.1821 (f) 601.544.0501 sdw.com			
Drawn by: BT		Checked by: KDW	
Date: 01/03//2017		Scale: NONE	
Drawing No.: 1273-W013		Sheet No. 20	

1. "J-HOOK" CONFIGURATION SILT FENCE APPLICATIONS ARE TO BE USED IN CONJUNCTION WITH PERIMETER SILT FENCE WHEN STORMWATER RUNOFF IS IN TWO DIRECTIONS (DOWN A FILL SLOPE AND DOWN GRADIENT ALONG THE RIGHT-OF-WAY).
2. "SMILE CONFIGURATION" APPLICATIONS ARE TO BE USED AS PERIMETER SILT FENCE WHEN THERE IS ONE-DIRECTIONAL FLOW DOWN A SLOPE.
3. SAND BAGS CAN BE USED AS DIVERSION BERMS TO PREVENT SEDIMENT FROM BEING WASHED ONTO OR ACROSS HARD SURFACES, OR TO HELP SLOW SHEET FLOW VELOCITY WHEN DRAINING AWAY FROM HARD SURFACES.
4. FOR SHORTER SLOPES AND/OR SLOPES THAT ARE LESS STEEP, DIVERSION BERMS CAN BE USED TO SAFELY CONVEY STORMWATER AWAY FROM OR AROUND A DENUDED AREA. THEY CAN BE CONSTRUCTED USING A MANUFACTURED SILT DIKE OR BY CONSTRUCTING A TEMPORARY EARTH BERM AND TRENCH WITH GEOTEXTILE OR POLYETHYLENE SHEETING PROTECTION.
5. TEMPORARY DEWATERING STRUCTURES CAN BE USED DURING CULVERT CONSTRUCTION, STREAM DIVERSIONS, OR OTHER CONSTRUCTION ACTIVITIES WHERE TURBID WATERS NEED TO BE CLARIFIED BEFORE RELEASE.
6. THE ABUTMENT SLOPE TOE BERM SHALL BE 3 FEET TALL. THE BERM MAY BE CONSTRUCTED WITH ROCK IN ACCORDANCE WITH REQUIREMENTS FOR ROCK DITCH CHECKS ON ECD-8 OR WITH SOIL IN ACCORDANCE WITH TEC-2 IF BERM IS USED, IT MUST BE GRASSED.

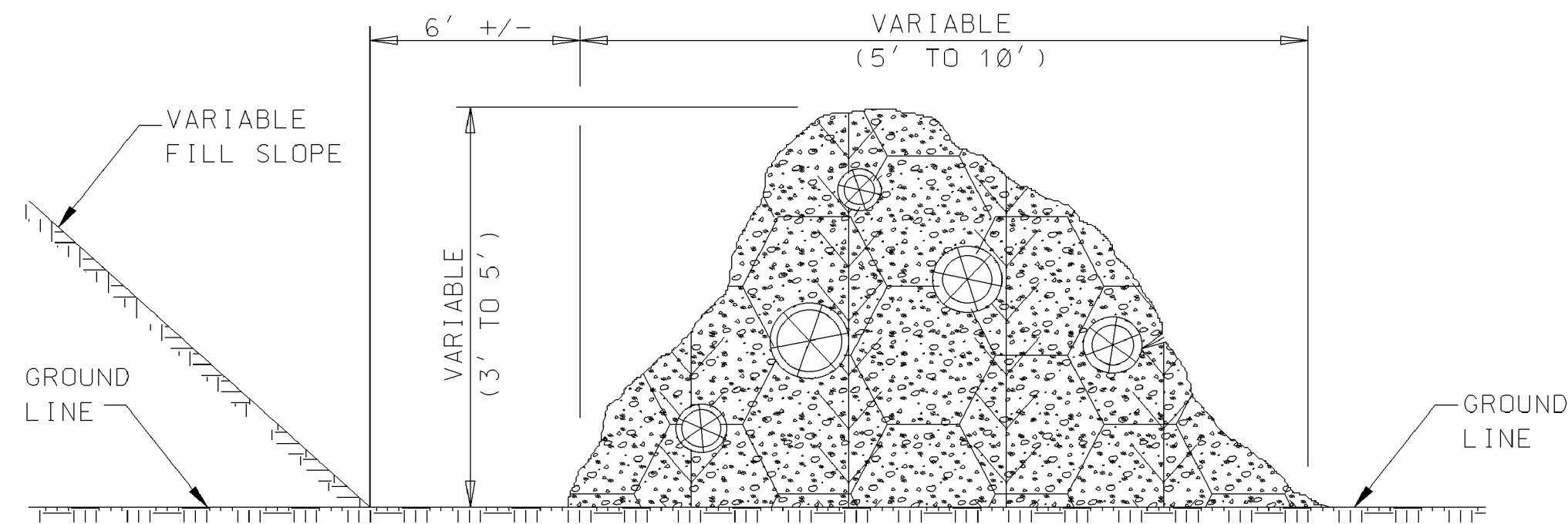
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SEDIMENT BARRIER AT CROSS DRAIN



FRONT ELEVATION

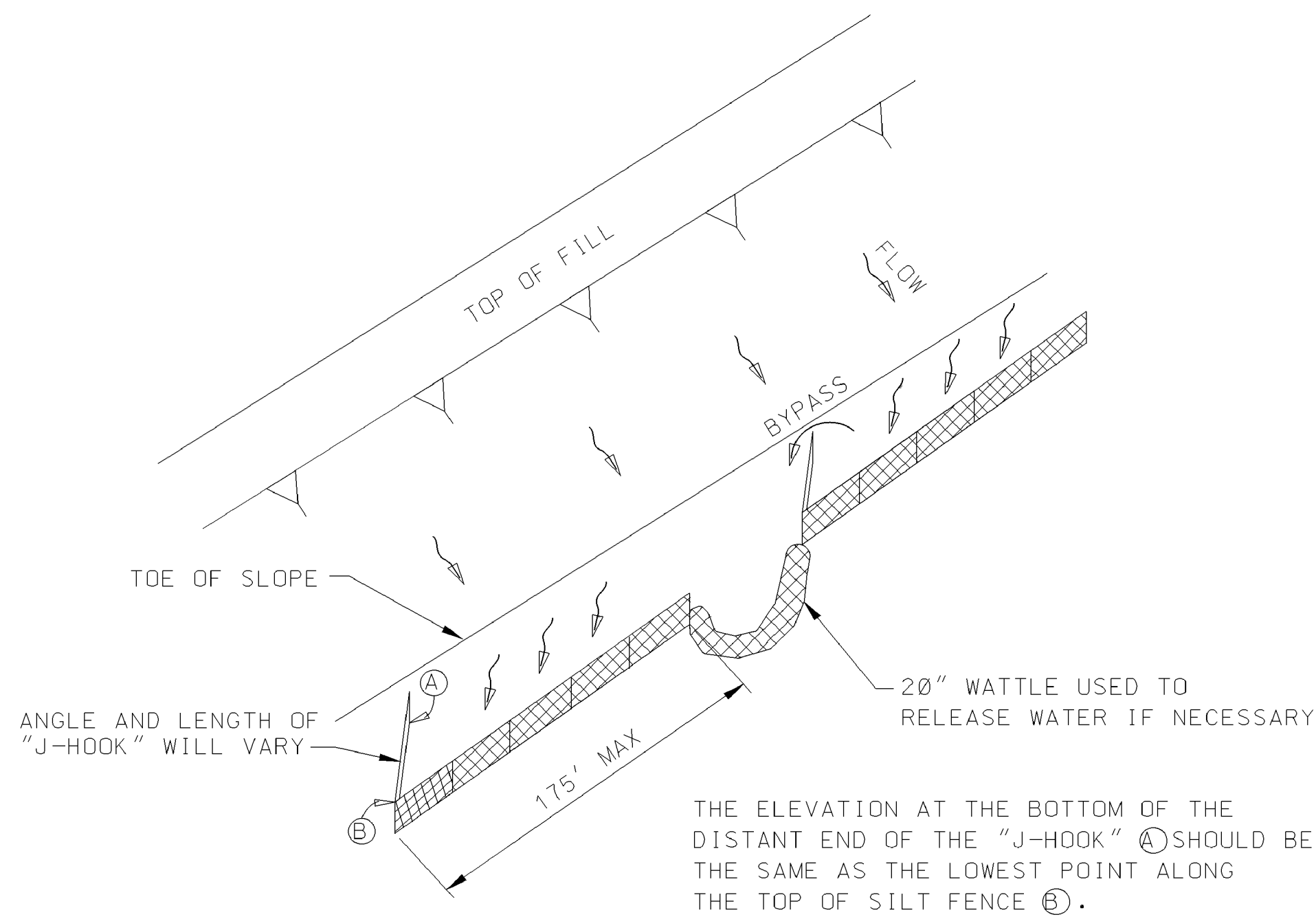


SIDE ELEVATION

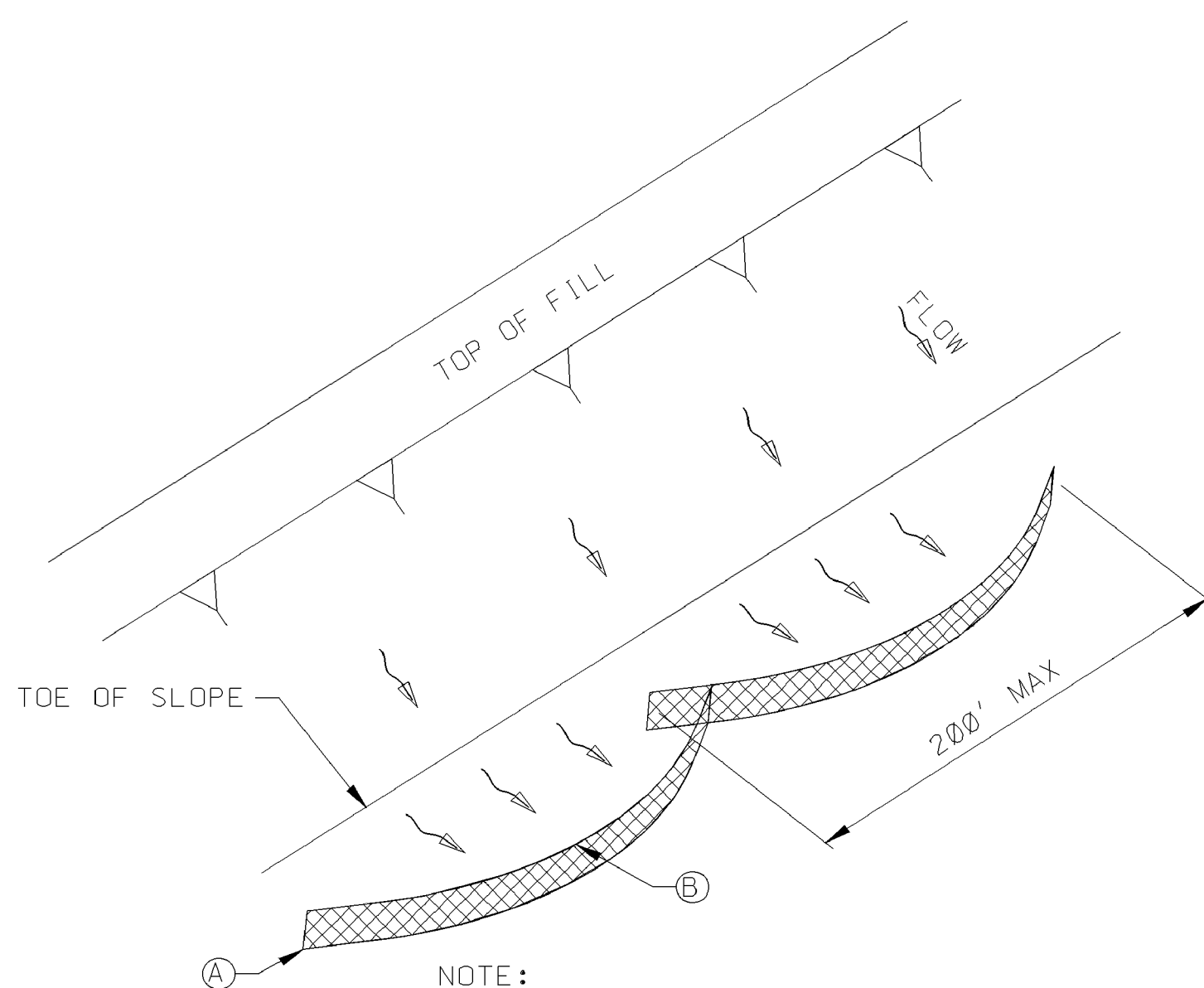
TEMPORARY BRUSH BARRIER

- NOTES:
1. BRUSH BARRIER MAY BE USED WHERE NATURAL GROUND IS LEVEL OR SLOPING AWAY FROM PROJECT.
 2. PLACE BRUSH, LOG AND TREE LAPS APPROXIMATELY PARALLEL TO TOE OF FILL SLOPE WITH SOME OF THE HEAVIER MATERIALS BEING PLACED ON TOP TO PROPERLY SECURE THE BARRIER AS DETAILED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED OR PERMITTED BY THE ENGINEER.
 3. TO ALLOW WATER TO SEEP THROUGH BRUSH BARRIER, INTERMINGLE THE BRUSH, LOG AND TREE LAPS SO AS NOT TO FORM A SOLID DAM.
 4. THE BRUSH BARRIER MAY BE CHOKED WITH FILTER FABRIC.
 5. TEMPORARY BRUSH BARRIER WILL NOT BE MEASURED FOR SEPERATE PAYMENT

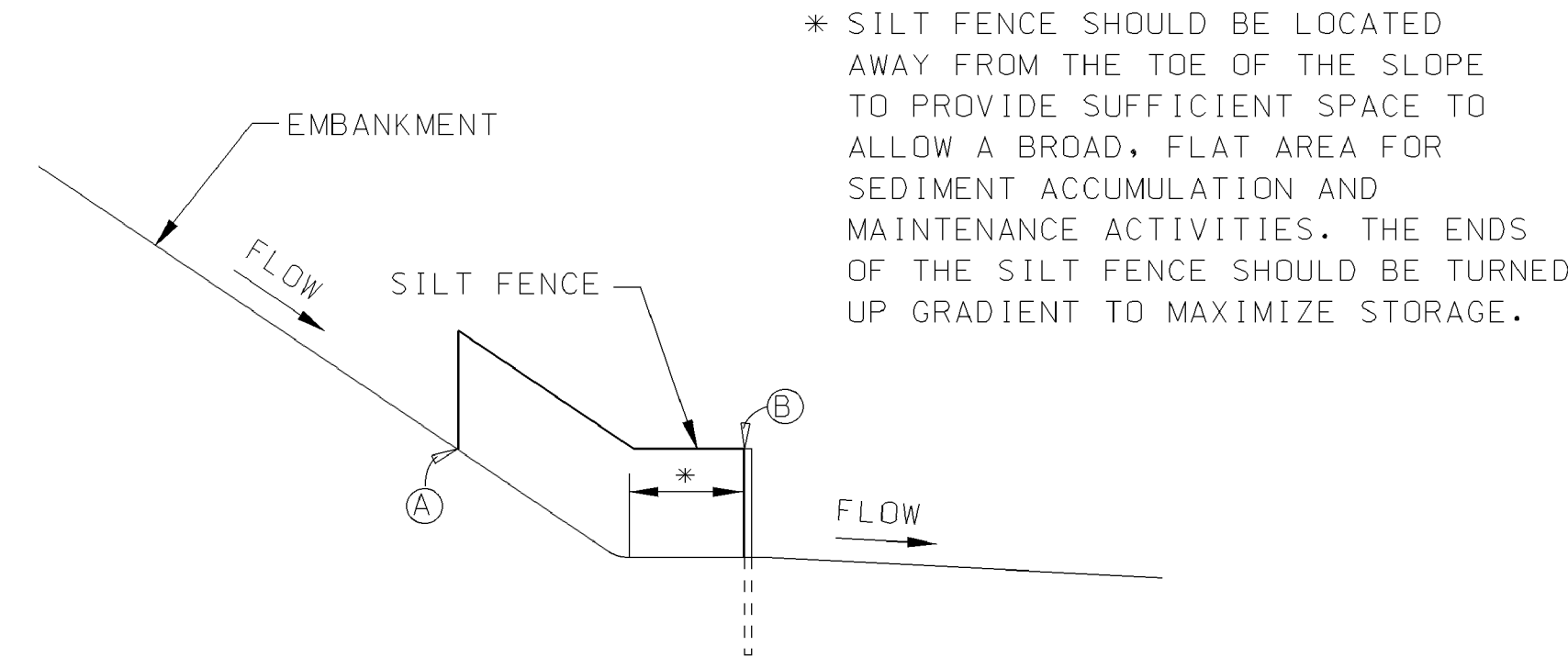
- NOTE:
1. ANCHOR AND INSTALL SILT FENCE PER DETAILS SHOWN ON ECD-3



"J-HOOK" SILT FENCE APPLICATION

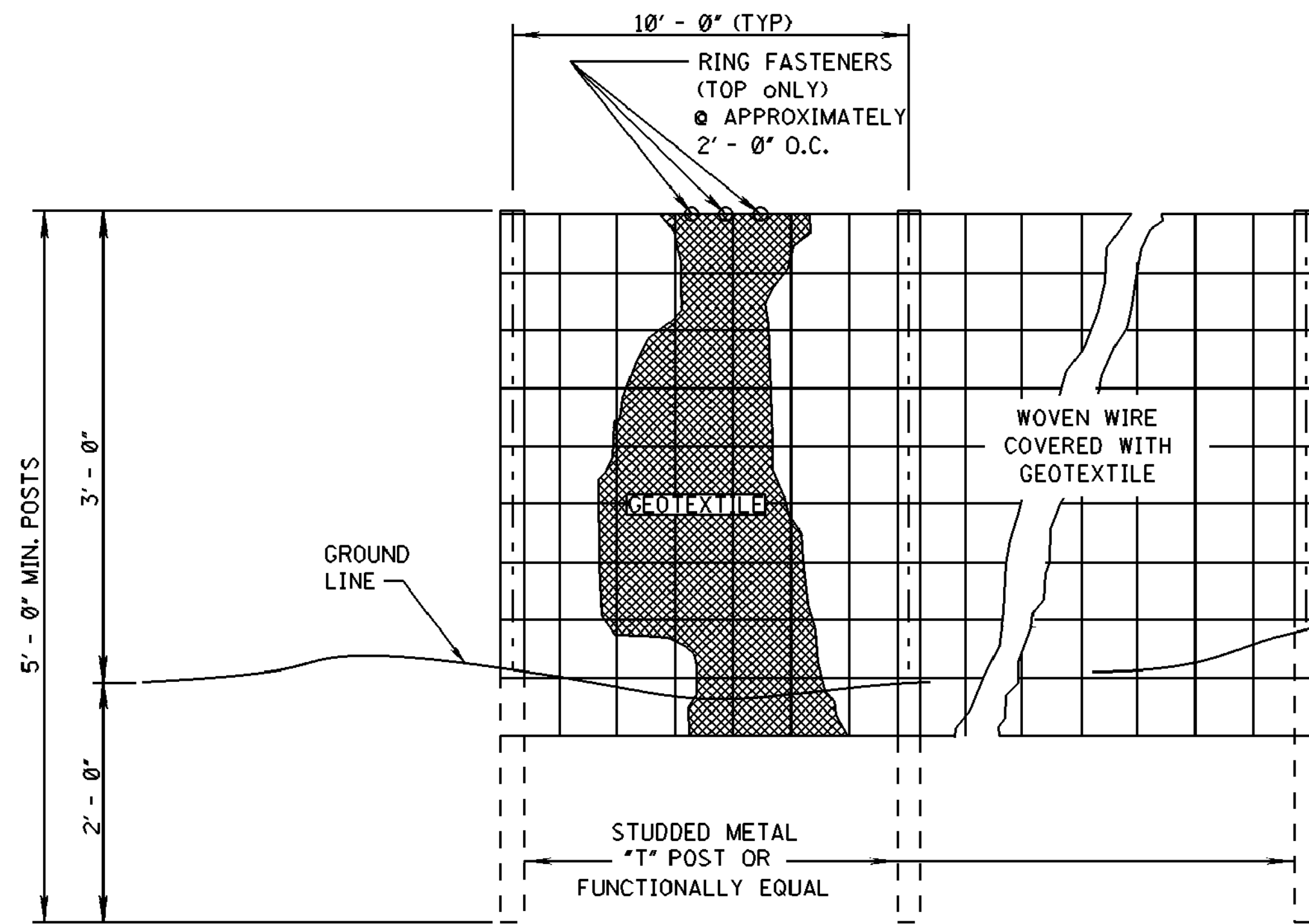


"SMILE-CONFIGURATION" SILT FENCE APPLICATION

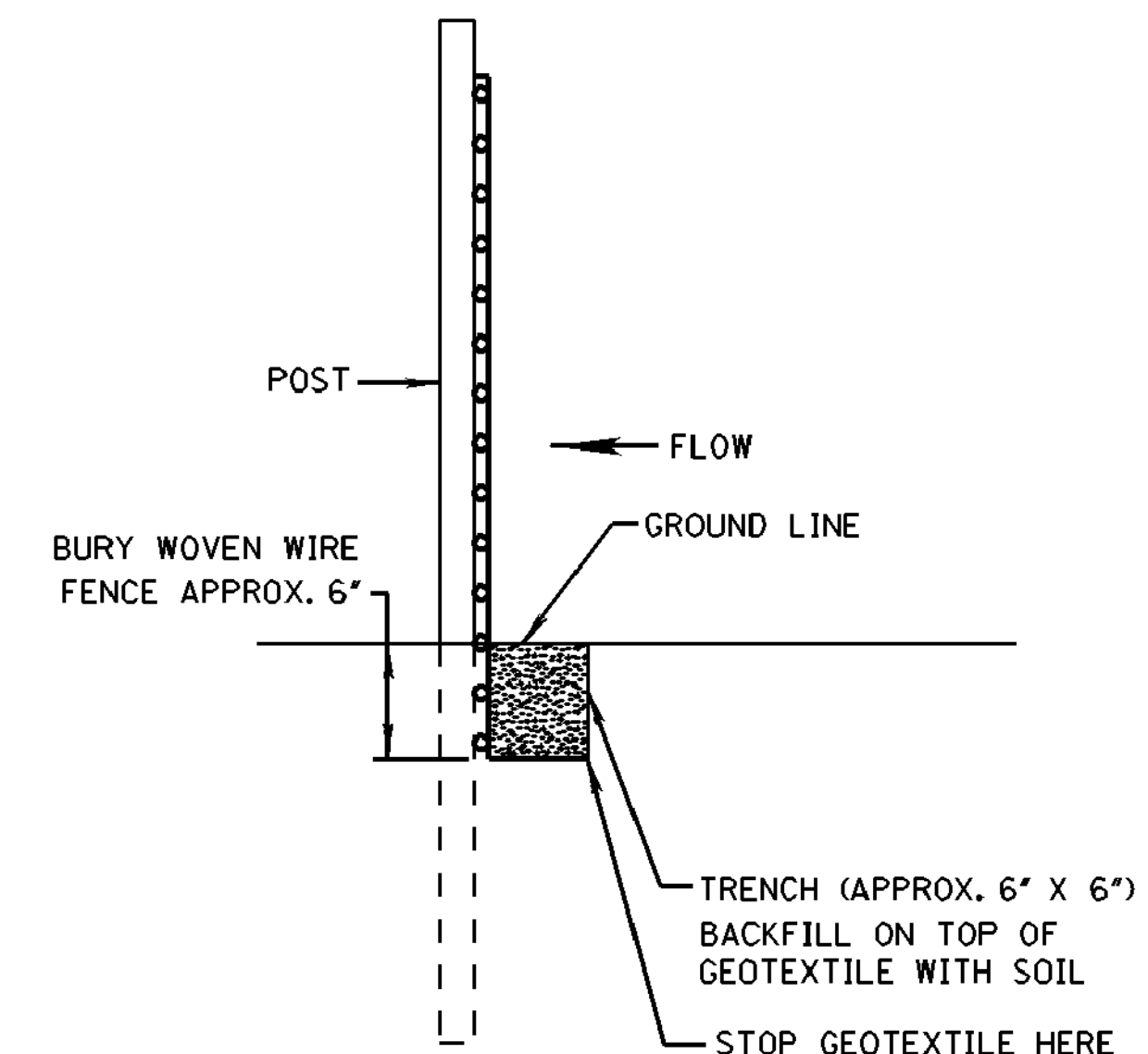


SILT FENCE SECTION AT TOE OF FILL

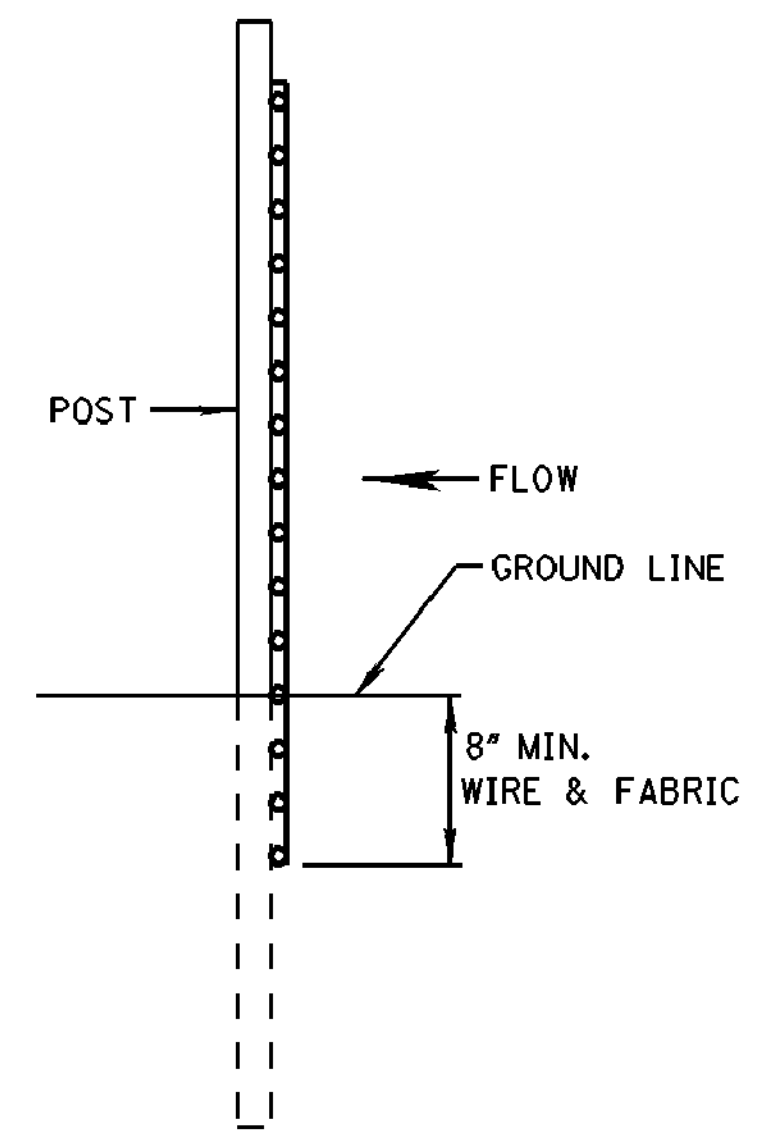
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
					DETAILS OF SEDIMENT BARRIER APPLICATIONS	
				REVISION		
			</			



ELEVATION VIEW



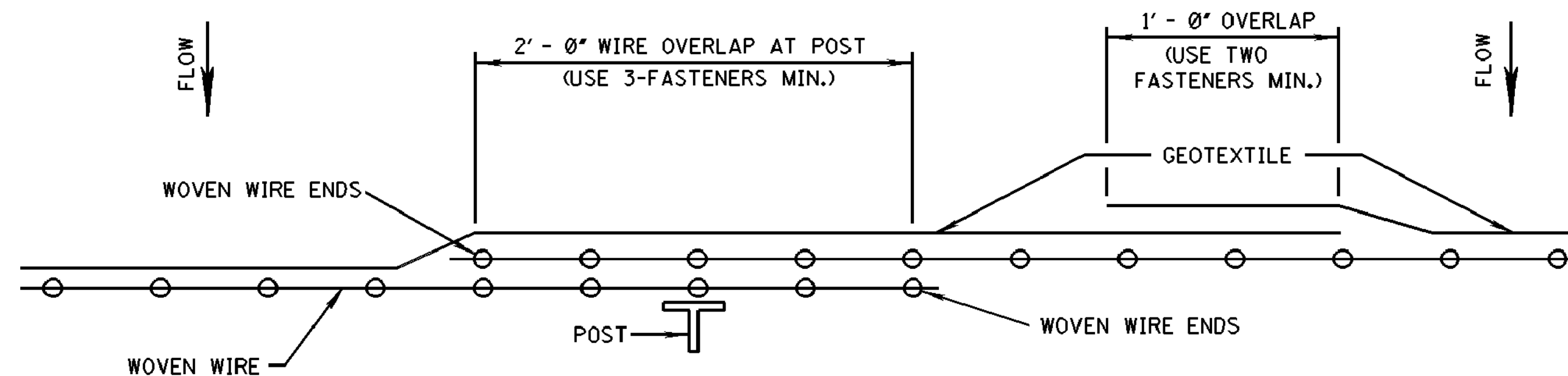
METHOD I



METHOD II
MECHANICAL INSTALLATION

SIDE VIEW

- NOTES:
1. SILT FENCES SHALL BE USED IN AREAS WHERE FLOW IS NOT SEVERE.
 2. SILT FENCES ARE TEMPORARY SEDIMENT CONTROL ITEMS THAT SHALL BE ERRECTED OPPOSITE ERODIBLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO STREAMS AND CHANNELS.
 3. SILT FENCE SHOULD BE PLACED WELL INSIDE RIGHT-OF-WAY AND ALONG EDGE OF CLEARING LIMITS. THIS WILL ALLOW ROOM FOR A BACK-UP FENCE IF FIRST FENCE BECOMES FULL.
 4. WHEREVER POSSIBLE SILT FENCE SHALL BE CONSTRUCTED ACROSS A LEVEL AREA IN THE SHAPE OF A SMILE. THIS AIDS IN PONDING OF RUNOFF AND FACILITATES SEDIMENTATION.
 5. THE CONTRACTOR MAY ELECT TO USE EITHER METHOD I OR METHOD II. COST TO BE LINEAR FEET OF SILT FENCE.
 6. METHOD II INSTALLATION SHALL BE ACCOMPLISHED USING AN IMPLEMENT THAT IS MANUFACTURED FOR THE APPLICATION AND PROVIDES A CONFIGURATION MEETING THE REQUIREMENTS OF THE DETAIL.
 7. WIRE SHALL BE MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
 8. GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATION MAY BE USED WITHOUT WIRE FENCE.



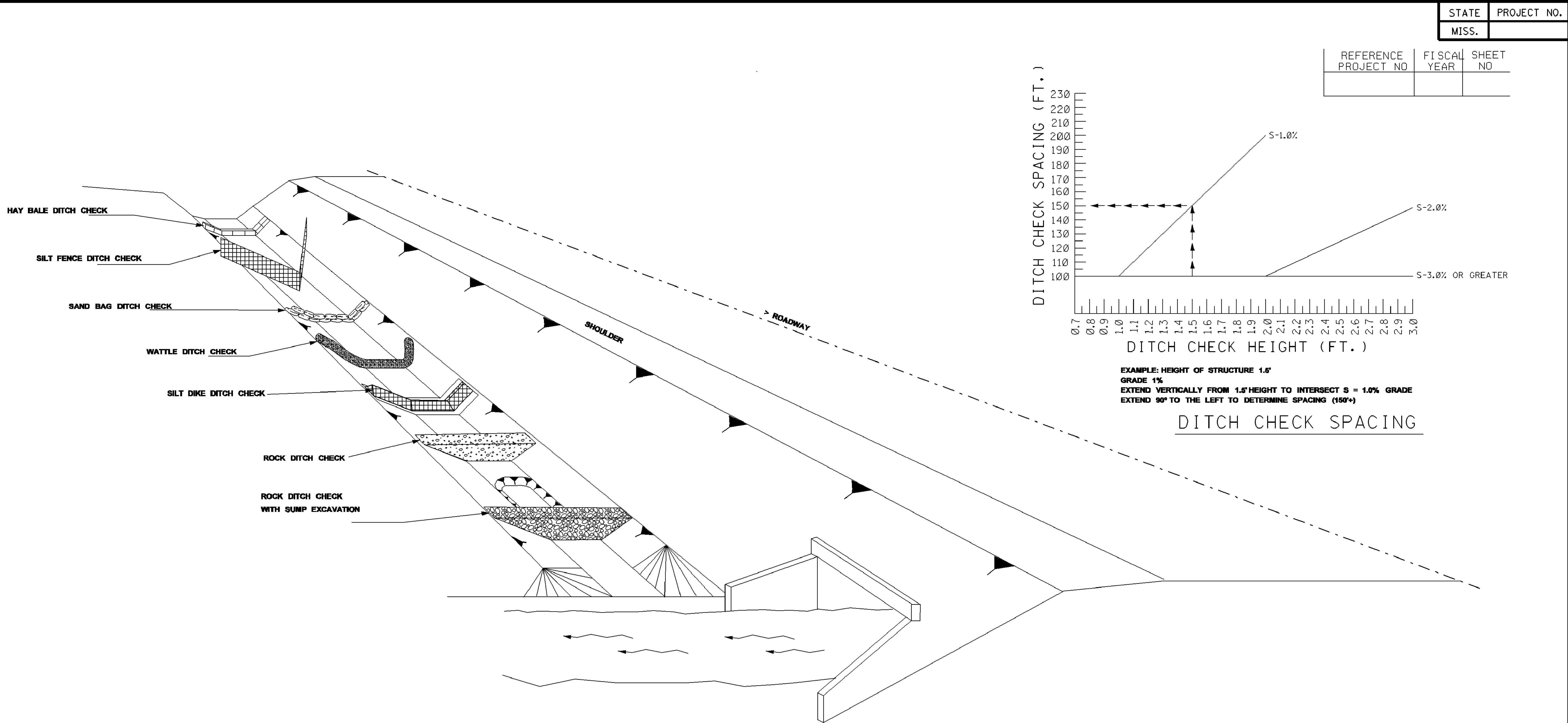
PLAN VIEW
REQUIRED LAPPING

MISSISSIPPI DEPARTMENT OF TRANSPORTATION			
DETAILS OF SILT FENCE INSTALLATION			
DATE	FILENAME: EROSION_CONTROL\ECD-3.DGN	WORKING NUMBER	ECD-3
DESIGN TEAM	CHECKED	DATE	SHEET NUMBER 23

C:\PROJETS\Hattiesburg_City of\1273-W013 - Comp Water Imp.pn - 1-99 Crossing Hwy 49 North, Wosover and Lincoln\1273W013\CAD Files\1273W013_W013.dwg - 24, 2/10/2017 11:56:42 AM

PLAN
ROADWAY DESIGN DIVISION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

1/20/2010 8:10 AM ECD-4.DGN

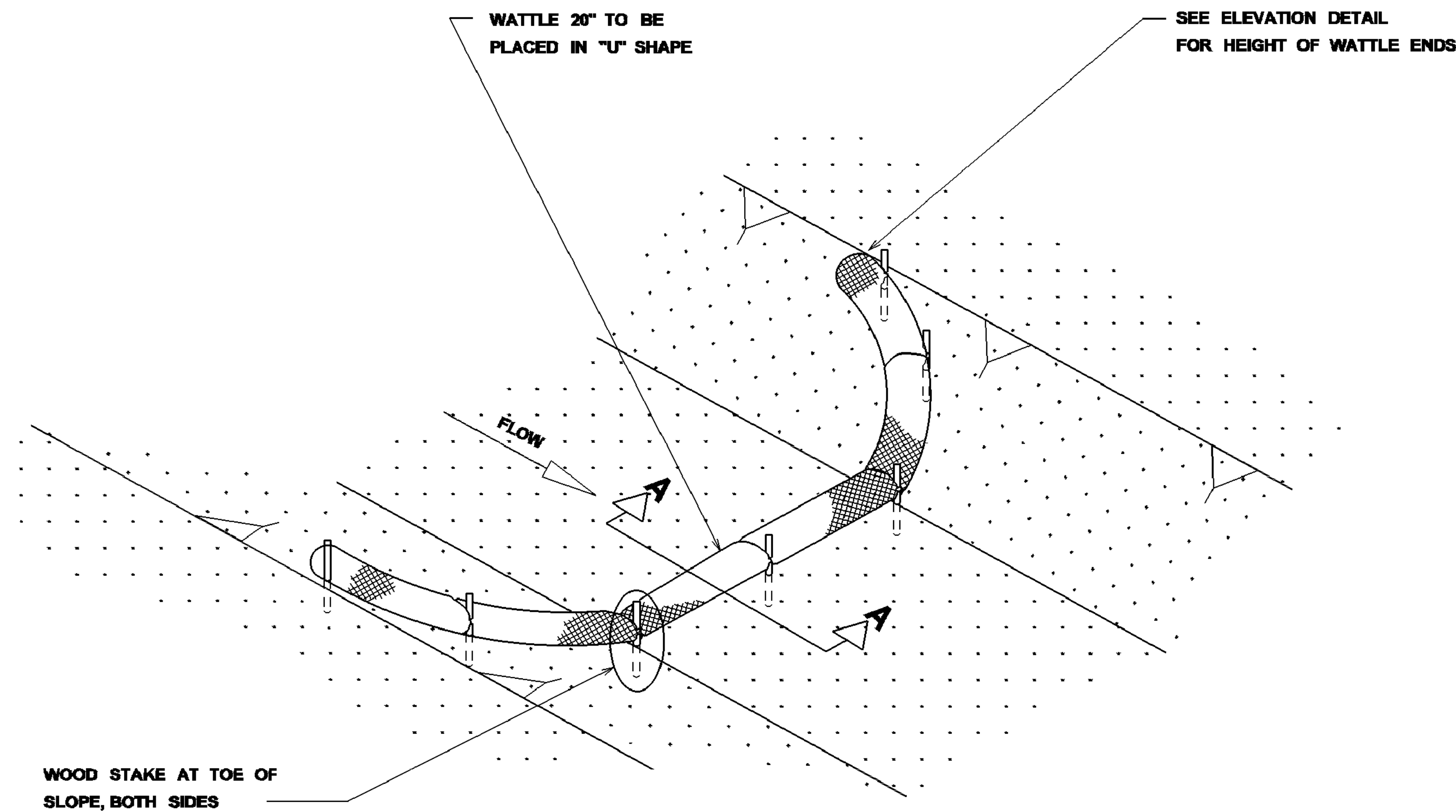


NOTES:

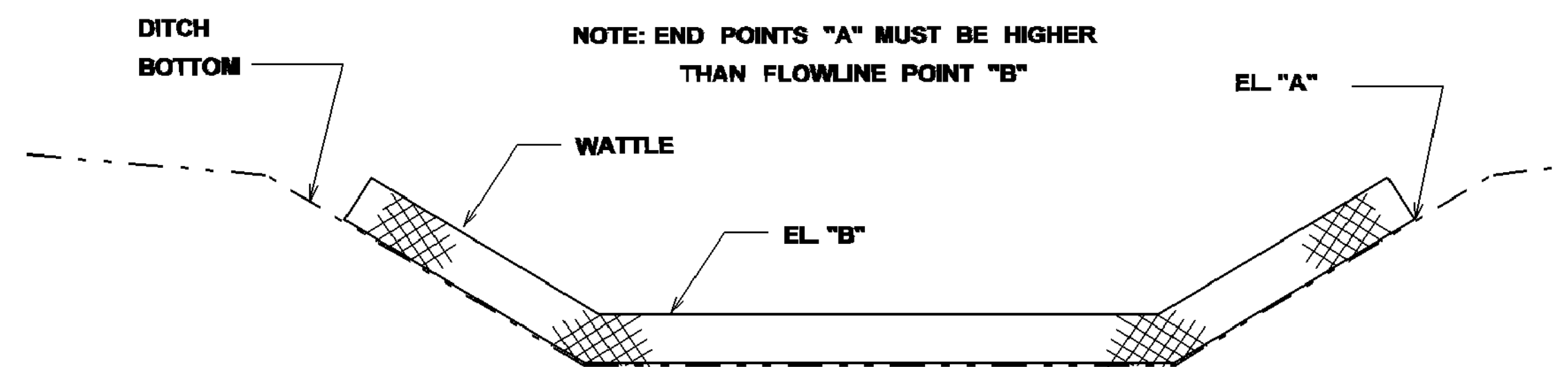
1. THE DITCH CHECK PERSPECTIVE ILLUSTRATES A TOOL BOX OF TEMPORARY PRACTICES THAT MAY BE USED. DITCH CHECKS ARE INSTALLED TO CONTROL RUNOFF VELOCITY AND THUS REDUCE EROSION AND PROVIDE FOR TRAPPING OF SEDIMENTS.
2. SELECTION OF THE APPROPRIATE DITCH CHECK SHOULD BE A FUNCTION OF CONSTRUCTION PHASE, DRAINAGE AREA, DITCH GRADIENT, SOIL TYPE ECONOMY AND SAFETY.
3. DITCH CHECKS CAN BE REMOVED FOR MAINTENANCE AND/OR REPLACEMENT BUT MUST REMAIN IN PLACE UNTIL UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED. MAINTENANCE INCLUDES REMOVAL OF SEDIMENT BEGINNING WHEN SEDIMENT ACCUMULATION REACHES 1/3 THE CAPACITY OR HEIGHT OF THE STRUCTURE AND NEVER ALLOWING FOR SEDIMENT TO ACCUMULATE MORE THAN 1/2 THE VOLUME OR HEIGHT OF THE DITCH CHECK STRUCTURE.
4. HAY BALES ARE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
5. SILT FENCE DITCH CHECKS ARE USED WHERE IT HAS BEEN DETERMINED THAT HAY BALE CHECKS ARE INADEQUATE. SILT FENCE DITCH CHECKS ARE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
6. SAND BAG DITCH CHECKS ARE USED FOR VELOCITY REDUCTION AND MINIMAL SEDIMENT TRAPPING IN CONCRETE PAVED DITCHES OR IN DITCHES THAT HAVE ROCKY BOTTOMS.
7. WATTLE DITCH CHECKS ARE APPROPRIATE FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.
8. SILT DIKES CAN BE USED IN DITCHES WITH CONCENTRATED FLOWS WITHIN THE CLEAR ZONE WHERE RIPRAP CAN NOT BE USED. AS CONSTRUCTION PROGRESSES.
9. ROCK DITCH CHECK WITH SUMP EXCAVATION CAN BE PLACED IN DITCHES TO ASSURE ON-SITE SEDIMENT TRAPPING REQUIREMENTS ARE MET. DITCH CHECK WITH SUMP EXCAVATION IS USED WHEN DITCHES RECEIVE DRAINAGE FROM CUT OR FILL SLOPES OR OTHER CRITICAL AREAS WHERE SOIL EROSION IS EXPECTED. DRAINAGE AREA FOR A TEMPORARY SEDIMENT TRAP SHALL NOT EXCEED 3 ACRES. THEY CAN BE USED IN SERIES TO INCREASE ON-SITE SEDIMENT TRAPPING EFFICIENCY.
10. IN GENERAL, DITCH CHECKS SHOULD NOT BE PLACED IN LIVE STREAMS.
11. CONFIGURATION AND SPACING MAY BE ADJUSTED IF APPROVED BY THE ENGINEER TO ACCOMMODATE TRAVELWAY SAFETY, WATER FLOW, OR SOIL AND INSTALLATION CHALLENGES.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
DITCH CHECK STRUCTURES, TYPICAL APPLICATIONS AND DETAILS	
WORKING NUMBER ECD-4	SHEET NUMBER 24
DATE DESIGN TEAM	FILENAME: EROSION CONTROL/ECD-4.DGN CHECKED DATE

DRAWING No.: 1273-W013



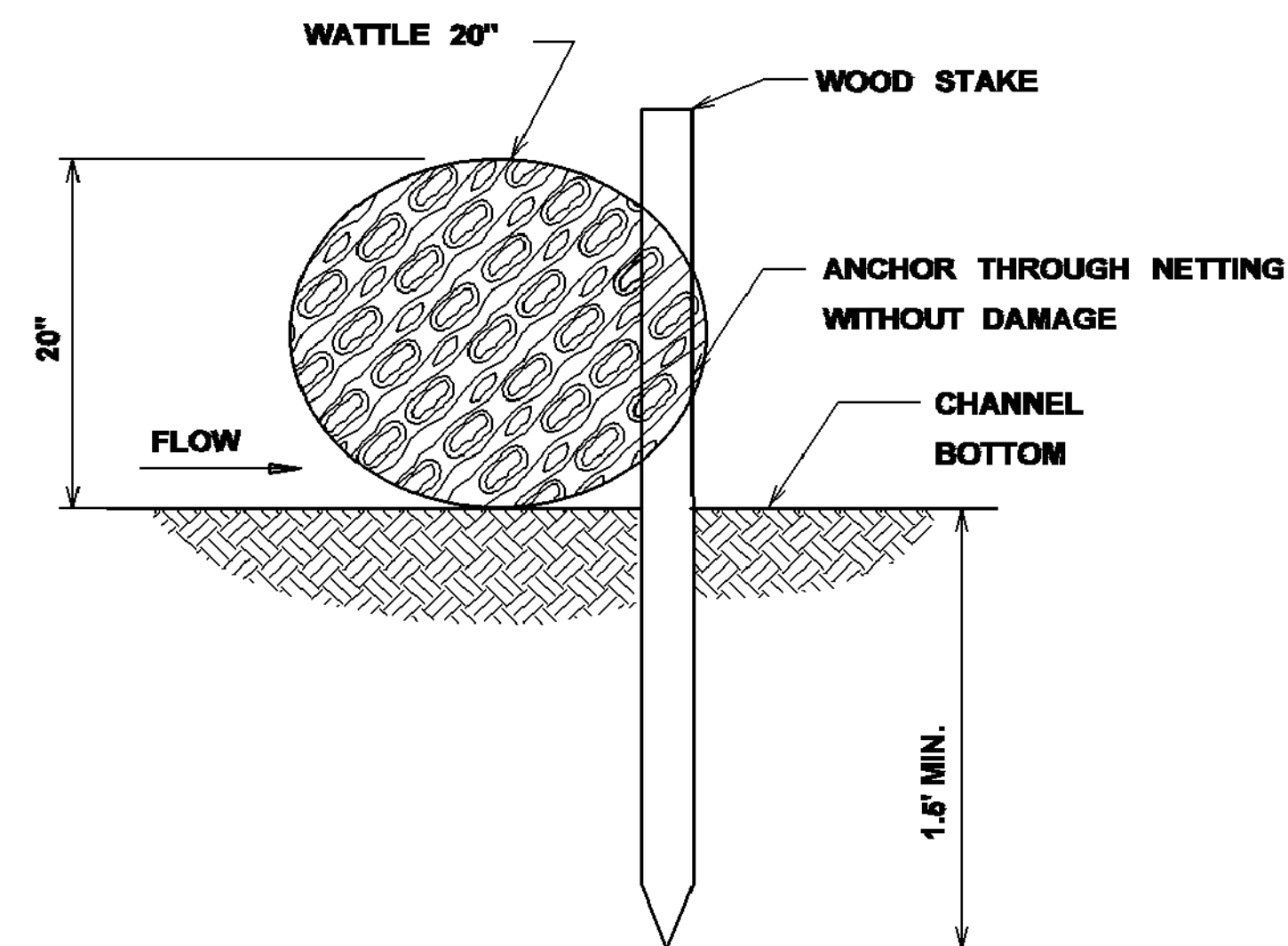
DETAIL (DITCH CHECK)



ELEVATION DETAIL

WATTLE DITCH CHECK SELECTION GUIDELINES

WATTLE DITCH CHECKS ARE APPROPRIATE FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.

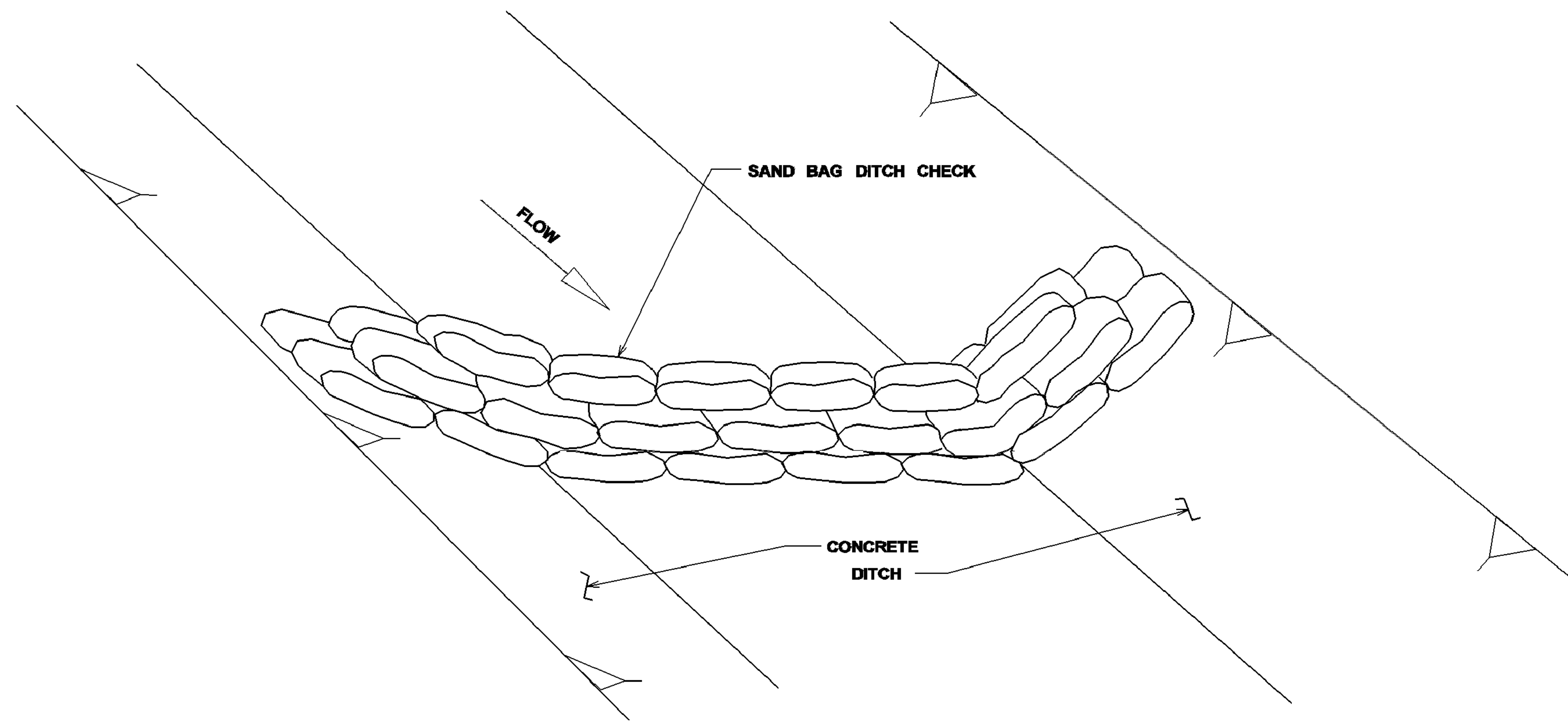


SECTION A-A

NOTES:

1. MINIMUM RECOMMENDED PLACEMENT INTERVAL BETWEEN WATTLE DITCH CHECK IS 100' UNLESS SHOWN OTHERWISE ON THE PLANS OR EROSION CONTROL PLAN APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON ECD-4
2. ANCHORING WOOD STAKES SHALL BE SIZED, SPACED, DRIVEN, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE CHECK. STAKE SPACING SHALL BE A MAXIMUM OF THREE FEET. ALL NON-DEGRADABLE MATERIALS SHALL BE REMOVED WHEN NO LONGER NEEDED.
3. TRENCHING OF WATTLES MAY BE NECESSARY IF PIPING BECOMES EVIDENT.
4. WATTLES SHOULD NOT BE USED IN HARD BOTTOM CHANNELS.

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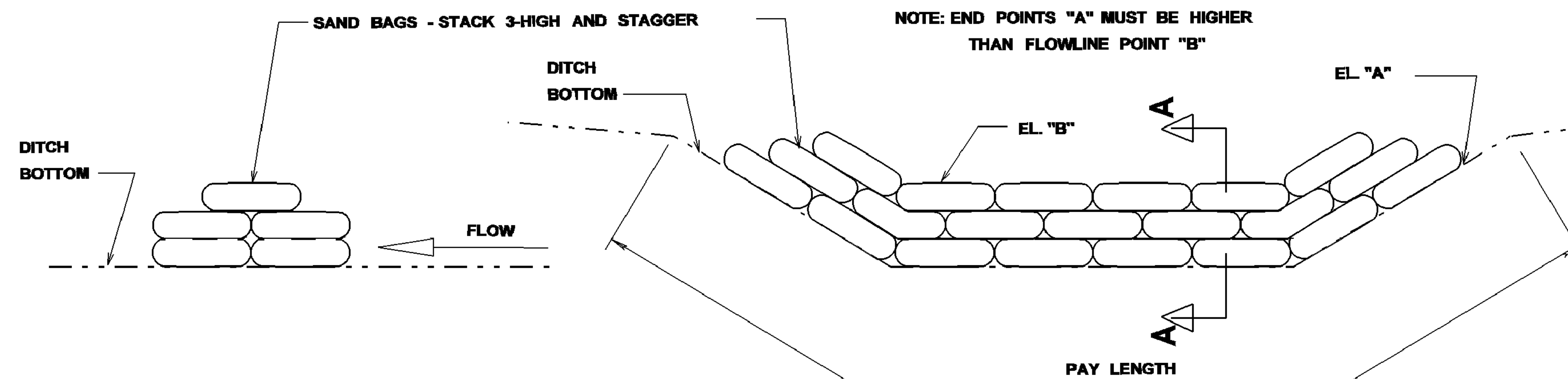
DETAIL (DITCH CHECK)

NOTES:

1. MINIMUM RECOMMENDED PLACEMENT INTERVAL BETWEEN SAND BAG DITCH CHECK IS 100' UNLESS SHOWN OTHERWISE ON THE PLANS OR APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON ECD-4.
2. PREVENTING SEDIMENT FROM ENTERING A PAVED DITCH IS PREFERABLE TO CAPTURING SEDIMENT WITHIN PAVED DITCH.

SAND BAG DITCH CHECK SELECTION GUIDELINES

SAND BAG DITCH CHECKS ARE USED FOR VELOCITY REDUCTION AND MINIMAL SEDIMENT TRAPPING IN CONCRETE PAVED DITCHES OR IN DITCHES THAT HAVE ROCKY BOTTOMS.

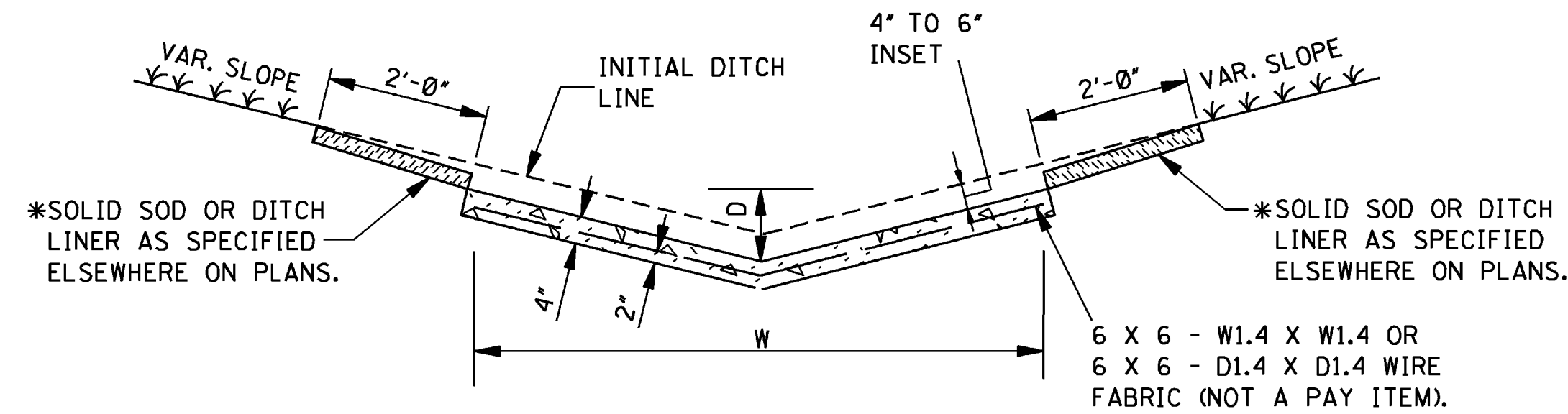


SECTION A-A

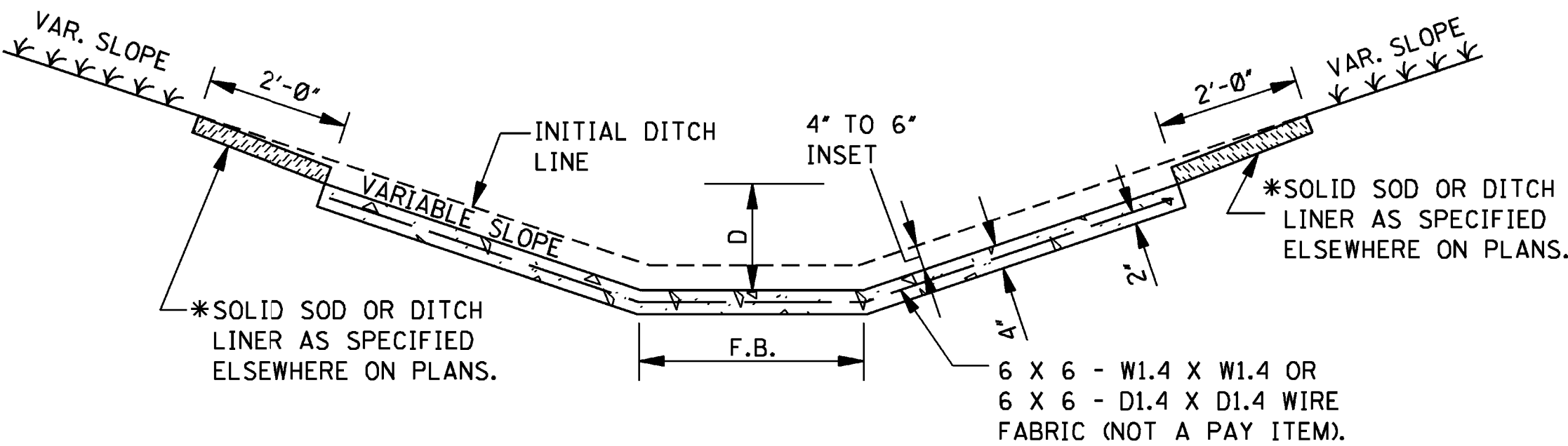
ELEVATION DETAIL

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
DETAILS OF EROSION CONTROL	
SANDBAG DITCH CHECK	
WORKING NUMBER	ECD-20
DATE	FILENAME: EROSION CONTROL/ECD-20.DGN
DESIGN TEAM	CHECKED DATE

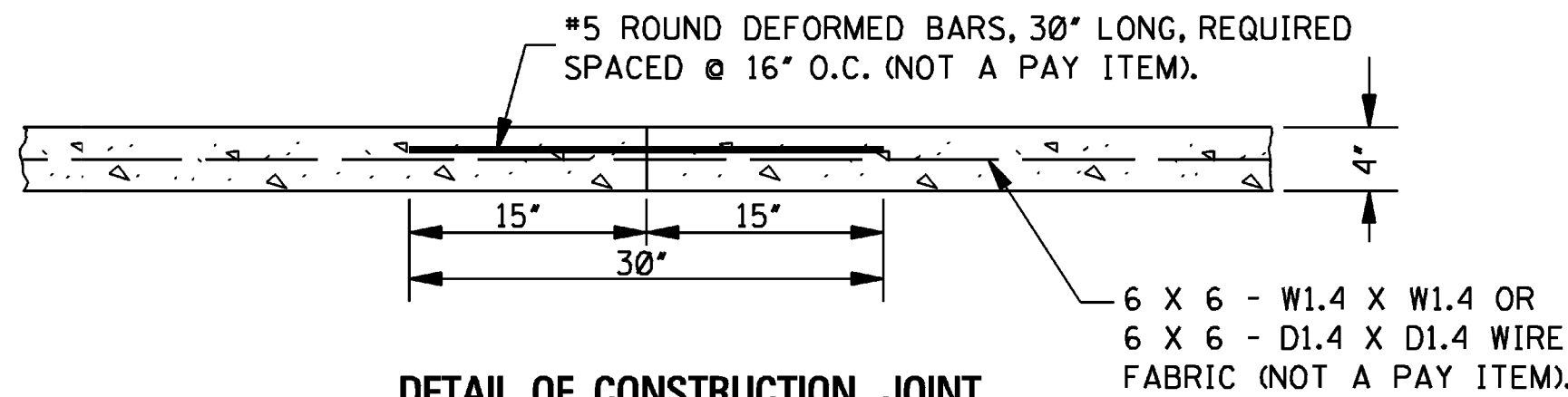
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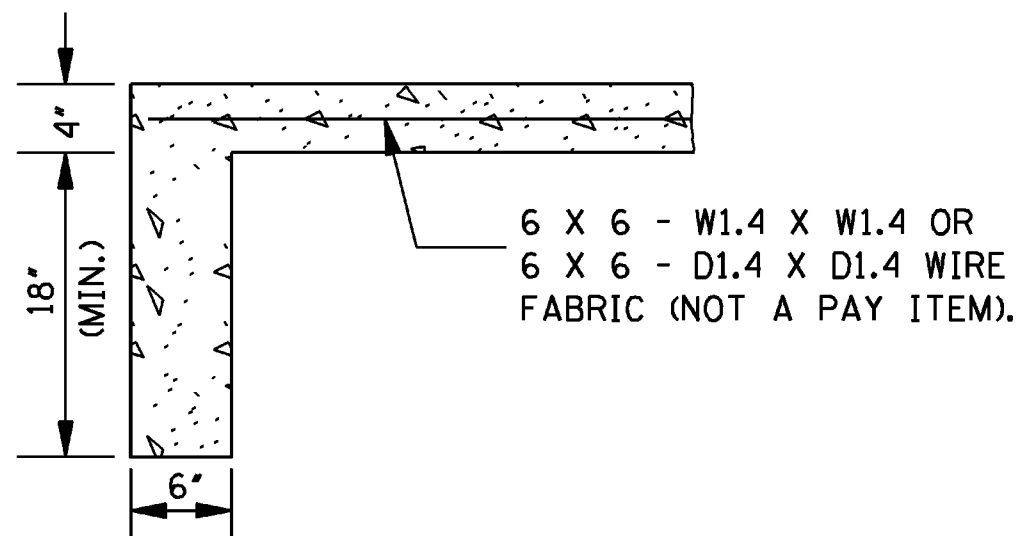
V" TYPE SECTION



FLAT BOTTOM SECTION



DETAIL OF CONSTRUCTION JOINT



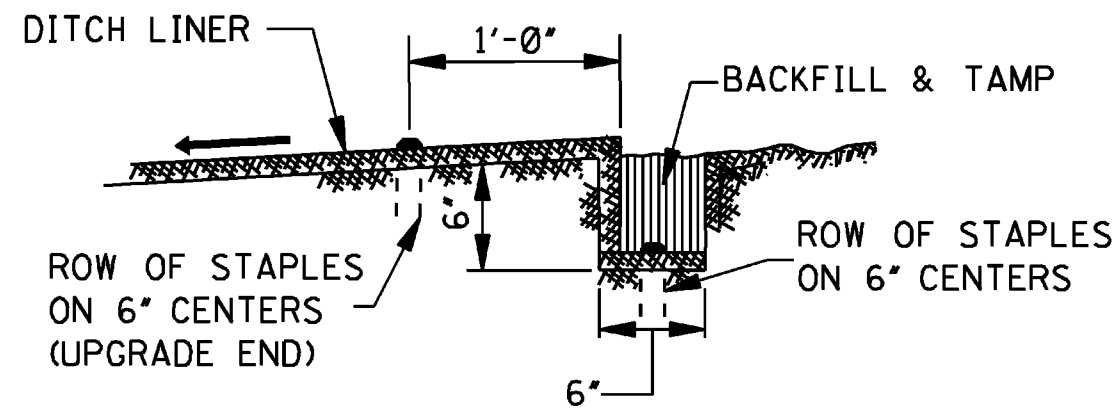
DETAIL OF TOE WALL

NOTE: TOE WALL REQUIRED UPSTREAM AND DOWNSTREAM.

CONCRETE PAVED DITCH

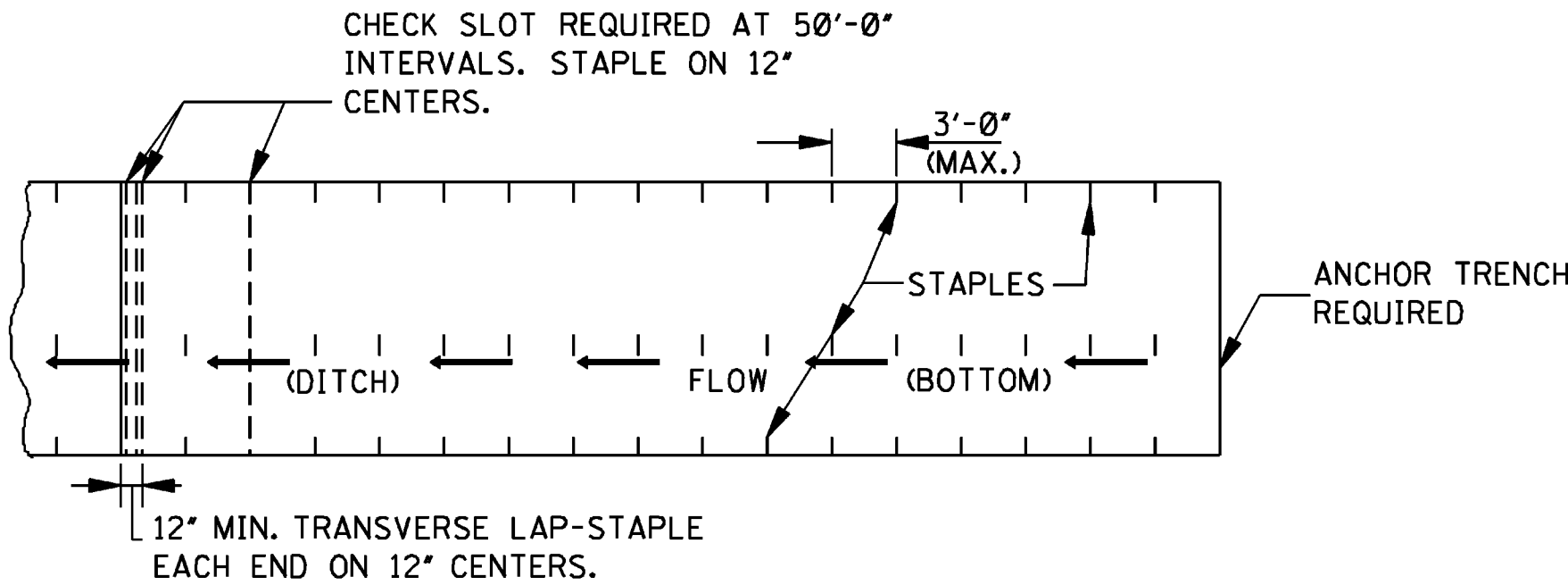
NOTES:

- CONCRETE PAVED DITCHES SHALL BE GROOVED AT 20'-0" INTERVALS. THE GROOVES SHALL BE CUT TO A DEPTH OF NOT LESS THAN 1".
- DIMENSIONS D & W ARE AS FOLLOWS:
D(MINIMUM) = 6"
D(NOMINAL) = 9"
W(MINIMUM) = 24"
- CHAIR SUPPORTS FOR THE WIRE MESH WILL NOT BE REQUIRED. HOWEVER, THE CONTRACTOR SHALL PLACE THE WIRE MESH IN A SATISFACTORY AND WORKMANLIKE MANNER TO ENSURE THAT THE FINAL POSITION IS REASONABLY NEAR THE POSITION INDICATED.
- * 4. CENTER ROW OF STAPLES MAY BE OMITTED ON DITCH LINER.

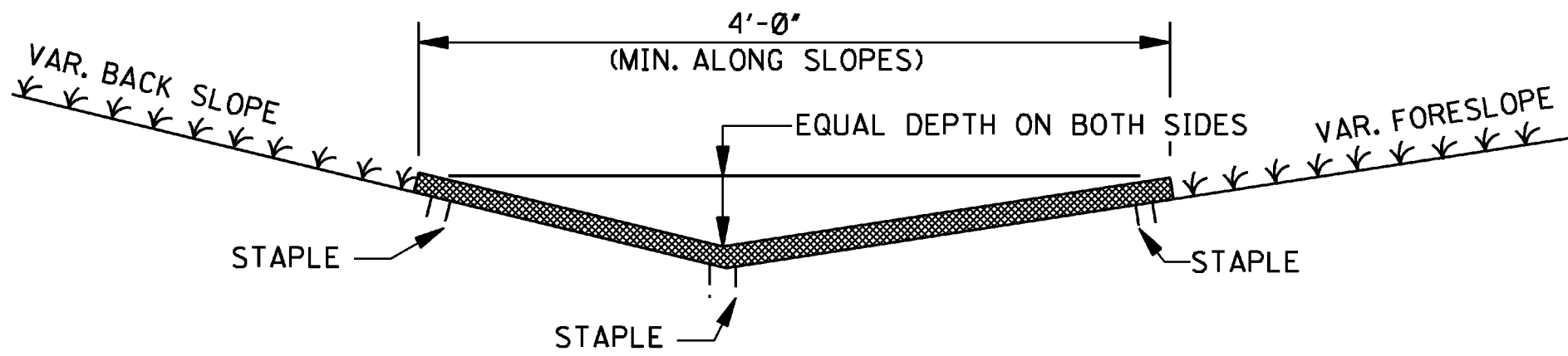


ANCHOR TRENCH DETAIL

NOTE: ANCHOR TRENCH REQUIRED AT THE BEGINNING AND ENDING OF EACH AREA TO BE COVERED, EXCEPT DOWNSTREAM END ADJOINING A STRUCTURE.



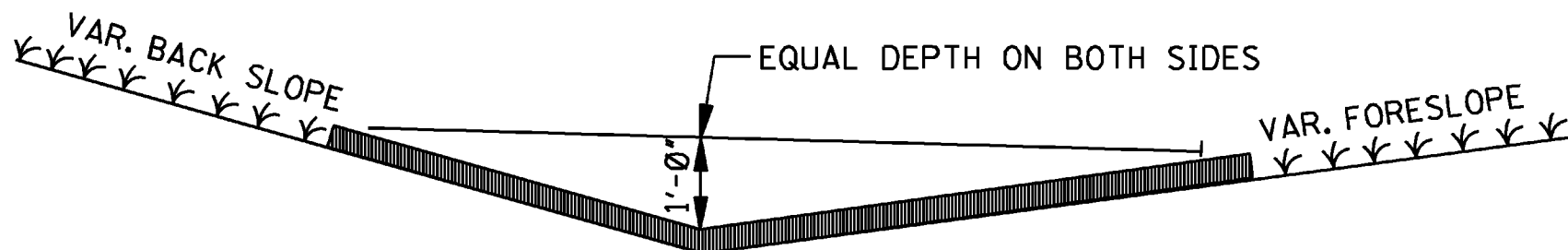
PLAN



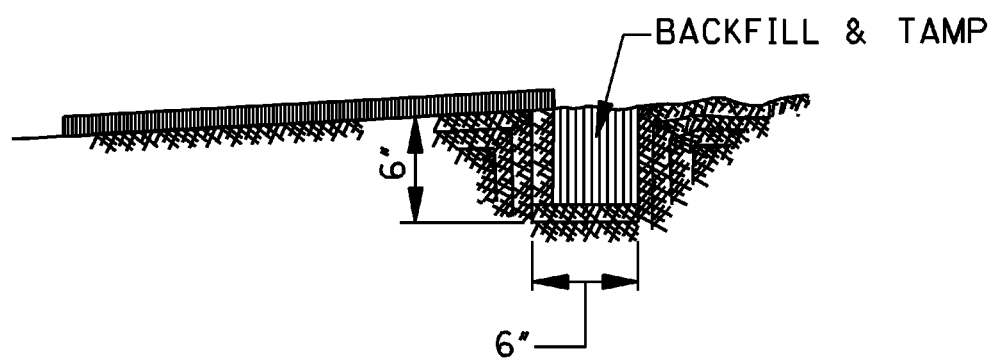
SECTION

DITCH LINER TREATMENT (EXCELSIOR BLANKET, JUTE MESH OR EROSION CONTROL FABRIC)

NOTE: DITCHES TREATED WITH DITCH LINER WILL BE VEGETATED PRIOR TO TREATMENT, UNLESS OTHERWISE INDICATED.



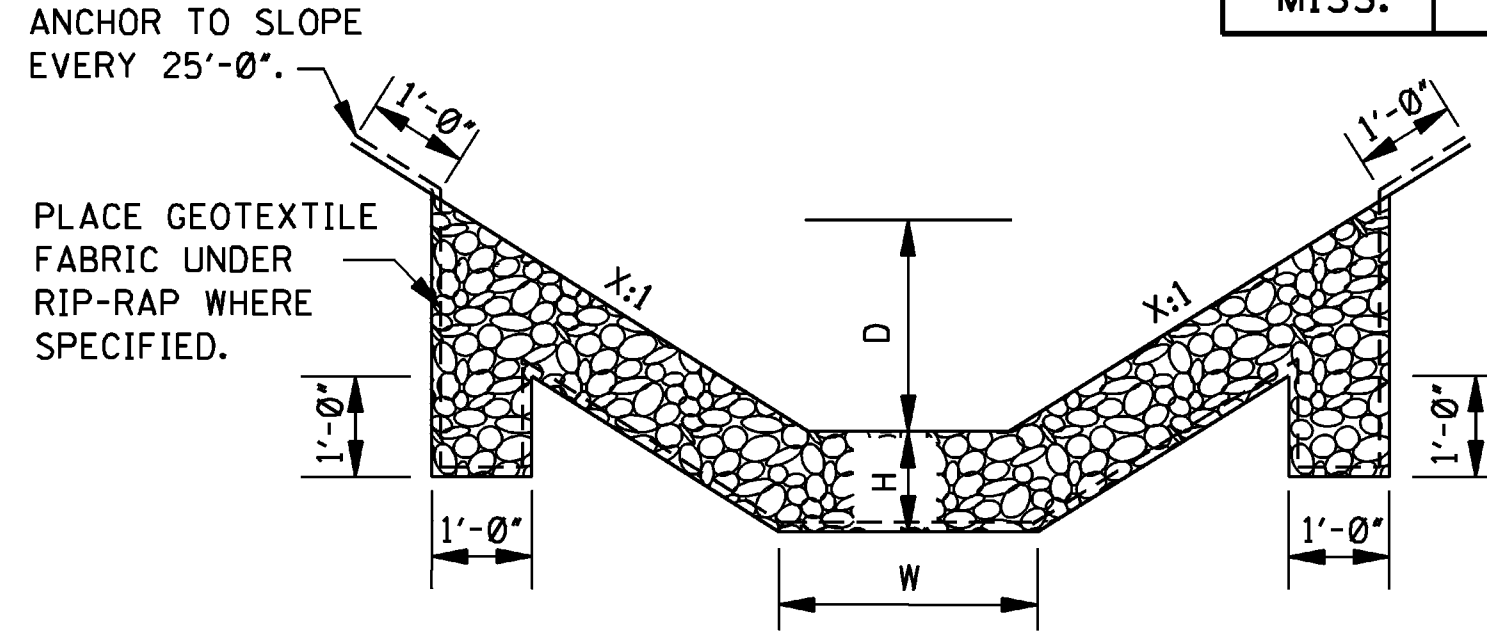
SECTION



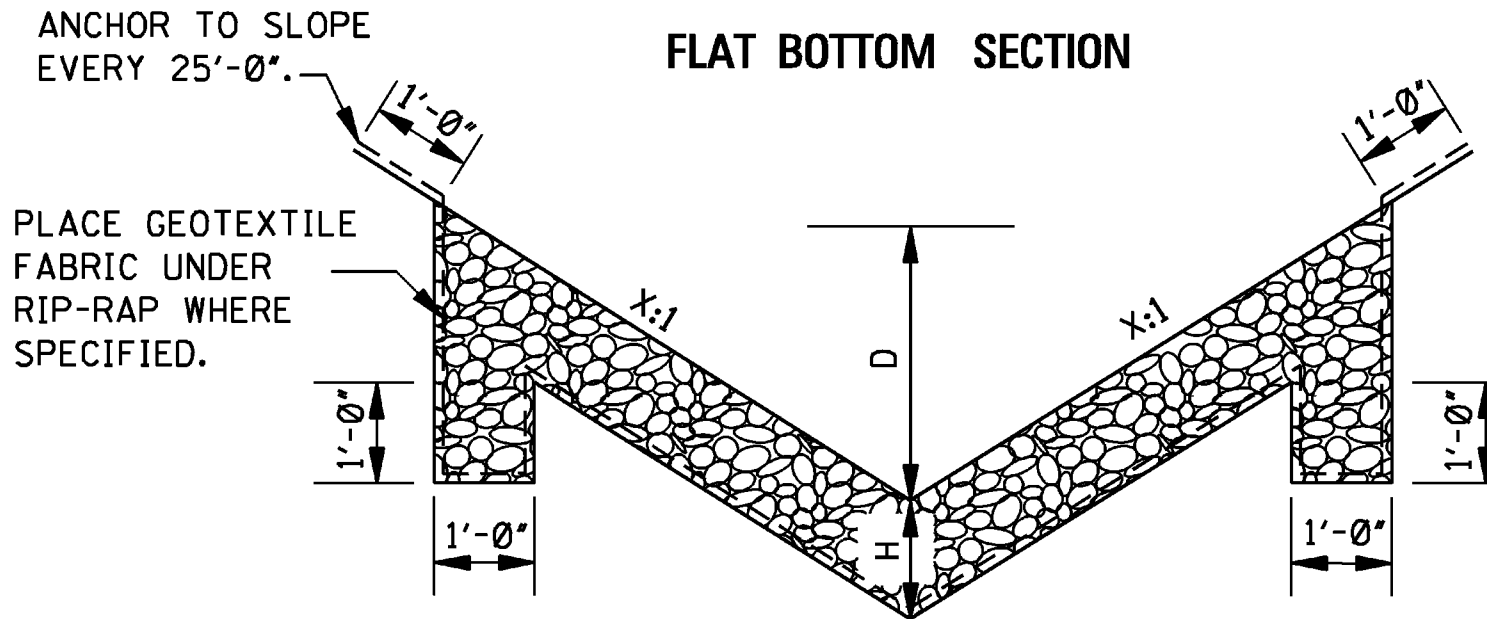
SLOT DETAIL

BITUMINOUS TREATED ROVING

NOTE: UPGRADE AND DOWNGRADE ENDS OF THE BITUMINOUS TREATED ROVING SHALL BE BURIED IN A 6" MINIMUM VERTICAL SLOT AND THE SOIL TAMPED FIRMLY AGAINST IT.



FLAT BOTTOM SECTION

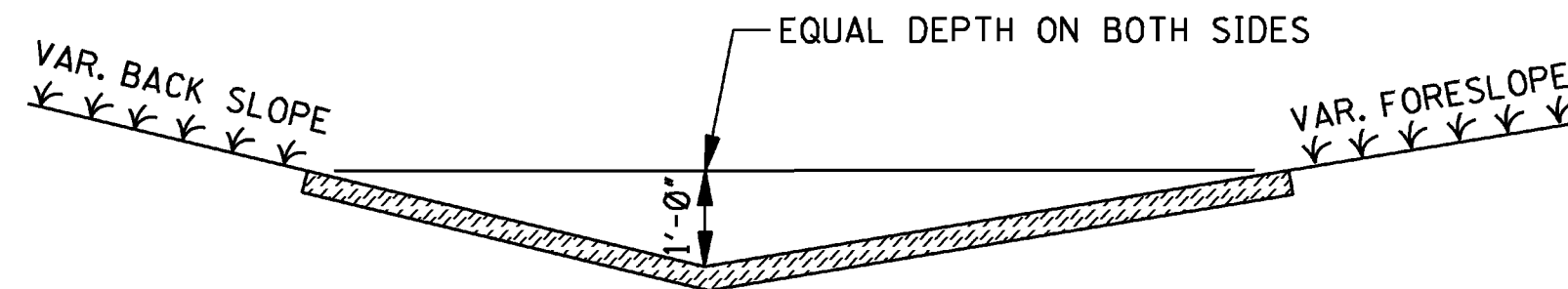


V" TYPE SECTION
RIP-RAP TREATMENT

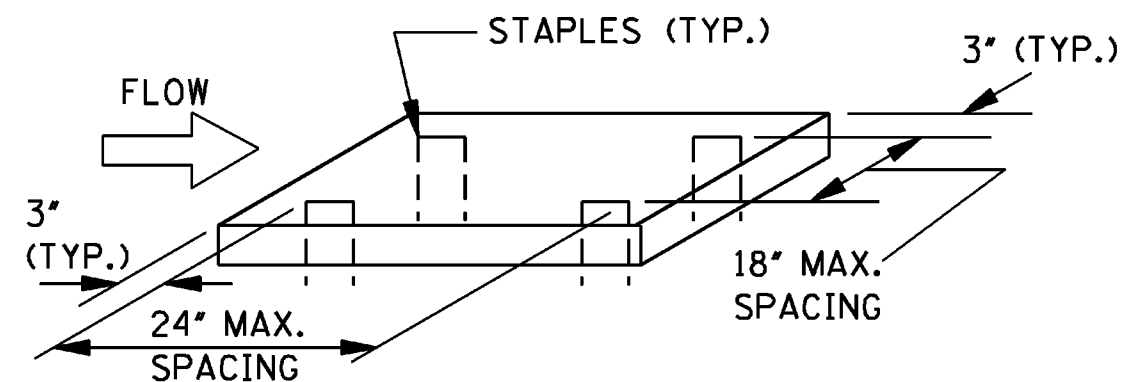
NOTES:

- DIMENSIONS D, W AND X ARE VARIABLE AND ARE SHOWN ELSEWHERE ON THE PLANS.
- THE RIP-RAP SIZE AND MINIMUM DEPTH "H" FOR RIP-RAP TREATMENT ARE AS FOLLOWS.

RIP-RAP SIZE & MINIMUM DEPTH "H"	
H (in)	RIP-RAP SIZE (lbs)
12"	100
18"	300



SOLID SOD TREATMENT



NOTE: SOLID SOD (STRIPS OR BLOCKS) ARE TO BE STAPLED, PINNED, PEGGED OR STAKED AT THE FOUR CORNERS OR AT THE MAXIMUM SPECIFIED SPACING.

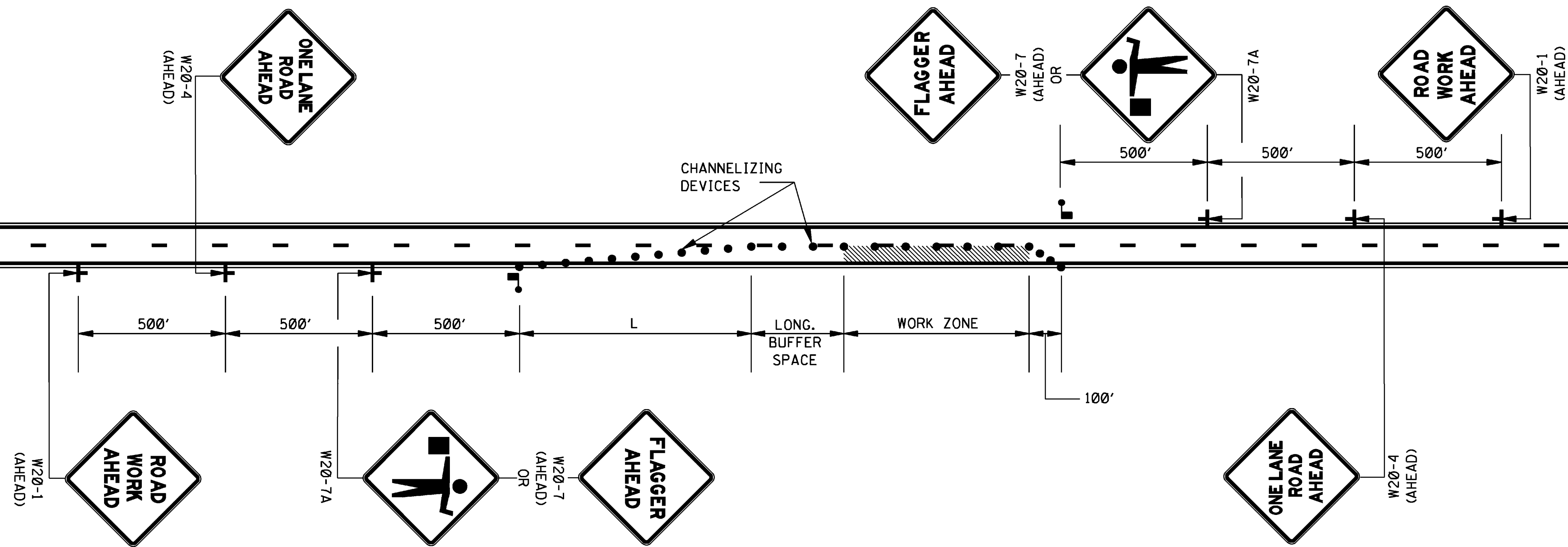
GENERAL NOTE:

- FOR LOCATION OF APPROPRIATE DITCH TREATMENTS, SEE PLAN SHEETS AS DENOTED BY THE FOLLOWING LEGEND OR AS DIRECTED BY THE ENGINEER:

	DITCH LINER
	BITUMINOUS TREATED ROVING
	SOLID SOD
	CONCRETE PAVED DITCH
	RIP-RAP

		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
		DETAILS OF TYPICAL DITCH TREATMENTS	
		WORKING NUMBER DT-1	
		SHEET NUMBER 6145	
		ISSUE DATE: OCTOBER 1, 1998	

STATE	PROJECT NO.
MISS.	



LEGEND

- FLAGGER
- CHANNELIZING DEVICES

GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		MINIMUM LONGITUDINAL BUFFER SPACE (ft)	TAPER + RATES
	TAPER	ALONG LANE LINE & WORK ZONE		
mph				
≤40	40	80	170	27:1
45	45	90	220	45:1
50	50	100	280	50:1
55	55	110	335	55:1
60	60	120	415	60:1
65	65	130	485	65:1
70	70	140	575	70:1

- + NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:
 $L = WS$ FOR SPEEDS OF 45 mph OR GREATER
 $L = WS^2/60$ FOR SPEEDS OF 40 mph OR LESS
 WHERE: L = MINIMUM LENGTH OF TAPER IN FEET
 W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET
 S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR

2. ALL CHANNELIZING DEVICES SHALL BE A MINIMUM OF 24" IN HEIGHT.
3. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.
4. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHALL BE A MINIMUM OF 48" x 48".
5. WHEN THERE IS NO EXISTING HAZARD OR AT THE END OF THE WORK DAY, ALL SIGNS SHALL BE COVERED OR REMOVED AND ALL CHANNELIZING DEVICES SHALL BE MOVED TO THE SHOULDER EDGE.
6. WHERE THE WORK ZONE IS STATIONARY, THE W20-7 (500 FT.) SIGN OR THE W20-7A SIGN TOGETHER WITH THE W20-7 (500 FT.) SUPPLEMENTAL PLATE SHOULD BE USED TO INDICATE THE DISTANCE TO THE FLAGGER.

						BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN					
						REVISION	TRAFFIC CONTROL PLAN WITH FLAGGER (ONE-LANE CLOSURE OF TWO-WAY TRAFFIC)					
												
							WORKING NUMBER TCP-1					
						DATE	ISSUE DATE: _____ OCTOBER 1, 1998 _____					
							SHEET NUMBER 6250					

SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
COMPREHENSIVE WATER IMPROVEMENTS - PHASE V

FOR THE
CITY OF HATTIESBURG
FORREST COUNTY
MISSISSIPPI

APRIL 2017

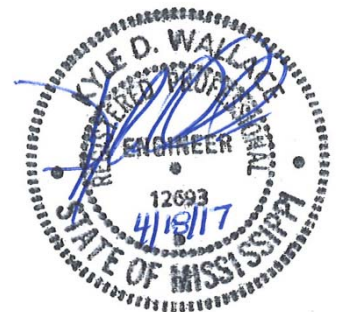


PREPARED BY:

SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS

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ADVERTISEMENT FOR BIDS

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until 10:00 a.m. on June 15, 2017 in the City Clerk's Office in the City Hall at 200 Forrest Street of said City for furnishing the City's requirements for the following:

COMPREHENSIVE WATER IMPROVEMENTS - PHASE V

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., 301 Second Avenue, Hattiesburg, Mississippi, 39401, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

COMPREHENSIVE WATER IMPROVEMENTS - PHASE V HATTIESBURG, MISSISSIPPI

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the ____ day of _____ A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____
Kermas Eaton, City Clerk

Publish on May 10, 2017 and May 17, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
PO Box 1898
Hattiesburg, MS 39403-1898

INFORMATION FOR BIDDERS

BIDS will be received by the CITY OF HATTIESBURG, MISSISSIPPI herein called the "OWNER", at City Hall until 10:00 a.m. on June 15, 2017, and then at said office publicly opened and read aloud.

Each BID must be submitted in sealed envelope, addressed to City of Hattiesburg. Each sealed envelope containing a BID must be plainly marked on the outside as BID for COMPREHENSIVE WATER IMPROVEMENTS - PHASE V and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed addressed to the Owner at P. O. Box 1898, Hattiesburg, MS 39403

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent (5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsive, responsible BIDDERS. When the Agreement is executed the BONDS of the two remaining

unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent (100%) of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their Power of Attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period; the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable Laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

FURTHER, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is SHOWS, DEARMAN & WAITS, INC. The address of the ENGINEER is 301 2nd Avenue, Hattiesburg, MS 39401.

PROPOSAL FORM

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 180 calendar days thereafter. The undersigned further agrees that the unit bid price quoted includes all items of work required or necessary for the accomplishment of the projected work. BIDDERS agree to perform all the work described in the CONTRACT DOCUMENTS for the following unit bid prices:

Note: All materials and components shall be a product of the U.S.A.

Site 1 - US Hwy 49 N & Blackwell Blvd					
Item	Description	Unit	Quantity	Unit Price	Amount
	Water Pipe Items				
1	8" Class 350 Ductile Iron Water Pipe (Open Cut)	LF.	1,240		
2	8" Class 350 Ductile Iron Water Pipe (Bored) (No Casing)	LF	160		
3	12" Class 350 Ductile Iron Water Pipe (Open Cut)	LF	4,390		
4	12" Class 350 Ductile Iron Water Pipe (Bored) (No Casing)	LF	380		
5	16" HDPE (DR9) (Open Cut) (Incl. Adapter Fittings)	LF	60		
6	16" HDPE (DR9) (Bored) (No Casing) (Incl. Adapter Fittings)	LF	760		
7	24" Steel Casing, 0.375" WT (Open Cut)	LF	40		
8	24" Steel Casing, 0.375" WT (Bored)	LF	140		
9	10" HDPE (DR 9) (Bored) (No Casing) (Inc. Adapter Fittings)	LF	180		
	Connection Items				
10	Connection: Proposed 12" Water Line to Existing 12" Water Line (Straight)	Each	2		
11	Connection: Proposed 8" Ductile Iron Water Line to Proposed 12" HDPE Water Line (Stainless Steel Tapping Sleeve & Other Fittings)		1		
12	Connection: Proposed 8" Water Line to Proposed 8" Water Line (Tee)	Each	1		

	Valve and Hydrant Items	Unit	Quantity	Unit Price	Amount
13	8" Gate Valve	Each	6		
14	12" Gate Valve	Each	4		
15	3 Way Fire Hydrant w/ Appurtenances (Incl. Tee, Valve, Hydrant, Brass Tag, Pipe, & other fittings)	Each	10		
	Miscellaneous Construction Items				
16	Concrete Pavement Repair (All Depths)	SY	15		
17	Loose Rip Rap, Size 100	Ton	20		
18	Temporary Erosion Control	Lump Sum	1		
19	Grassing	Lump Sum	1		
20	Mobilization	Lump Sum	1		
21	Maintenance of Traffic	Lump Sum	1		
		Subtotal (Site 1):			

Site 8~10 - Commerce Drive, I-59 and Thornhill Drive

Item	Description	Unit	Quantity	Unit Price	Amount
	Water Pipe Items				
1	6" Class 350 Ductile Iron Water Pipe (Open Cut)	LF	60		
2	8" Class 350 Ductile Iron Water Pipe (Open Cut)	LF	50		
3	12" Class 350 Ductile Iron Water Pipe (Open Cut)	LF	2,990		
4	16" HDPE (DR9) (Open Cut) (Incl. Adapter Fittings)	LF	380		
5	24" Steel Casing, 0.375" WT (Bored)	LF	340		
	Connection Items				
6	Connection: Proposed 12" Water Line to Existing 12" Water Line (Hot Tap)	Each	2		
7	Connection: Proposed 12" Water Line to Proposed 6" Water Line (Tee)	Each	1		
8	Connection: Proposed 6" Water Line to Existing 6" Water Line (Hot Tap)	Each	1		
9	Connection: Proposed 12" Water Line to Proposed 8" Water Line (Tee)	Each	1		
10	Connection: Proposed 8" Water Line to Existing 8" Water Line (Hot Tap)	Each	1		
11	Connection: Proposed 12" Water Line to Existing 8" Water Line (Hot Tap)	Each	1		
	Valve and Hydrant Items				
12	12" Gate Valve	Each	4		
13	3 Way Fire Hydrant w/ Appurtenances (Incl. Tee, Valve, Hydrant, Brass Tag, Pipe, & other fittings)	Each	6		

	Miscellaneous Construction Items				
14	Asphalt Pavement Repair (All Depths)	SY	54		
15	Concrete Pavement Repair (All Depths)	SY	85		
16	Concrete Curb & Gutter Repair (All Types)	LF	125		
	Concrete Sidewalk Repair (All Depths)	SY	5		
17	Temporary Erosion Control	Lump Sum	1		
18	Grassing	Lump Sum	1		
19	Mobilization	Lump Sum	1		
20	Maintenance of Traffic	Lump Sum	1		
		Subtotal (Site 8~10):			

Site 11 - US Hwy 98 @ Westover Drive

Item	Description	Unit	Quantity	Unit Price	Amount
Water Pipe Items					
1	12" Class 350 Ductile Iron Water Pipe (Open Cut)	LF	80		
2	16" HDPE (DR9) (Bored) (No Casing) (Incl. Adapter Fittings)	LF	180		
3	24" Steel Casing, 0.375" WT (Bored)	LF	160		
Connection Items					
4	Connection: Proposed 12" Water Line to Existing 8" Water Line (Straight Reducer)	Each	1		
5	Connection: Proposed 12" Water Line to Existing 12" Water Line (Hot Tap)	Each	1		
Valve and Hydrant Items					
6	12" Gate Valve	Each	2		
Miscellaneous Construction Items					
7	Temporary Erosion Control	Lump Sum	1		
8	Grassing	Lump Sum	1		
9	Mobilization	Lump Sum	1		
10	Maintenance of Traffic	Lump Sum	1		
				Subtotal (Site 11):	

Site 12 - Lincoln Road and Oak Grove Road

Item	Description	Unit	Quantity	Unit Price	Amount
Water Pipe Items					
1	8" Class 350 Ductile Iron Water Pipe (Open Cut)	LF	1,520		
2	8" Class 350 Ductile Iron Water Pipe (Bored) (No Casing)	LF	540		
3	12" Class 350 Ductile Iron Water Pipe (Open Cut)	LF	2,472		
4	12" Class 350 Ductile Iron Water Pipe (Bored) (No Casing)	LF	350		
5	10" HDPE (DR9) (Bored) (No Casing) (Incl. Adapter Fittings)	LF	240		
6	16" HDPE (DR9) (Bored) (No Casing) (Incl. Adapter Fittings)	LF	150		
Connection Items					
7	Connection: Proposed 8" Water Line to Proposed 12" Water Line (Straight)	Each	1		
8	Connection: Proposed 12" Water Line to Existing 12" Water Line (Straight)	Each	1		
9	Connection: Proposed 12" X 12" X 12" (Tee)	Each	1		
Valve and Hydrant Items					
10	8" Gate Valve	Each	3		
11	12" Gate Valve	Each	6		
12	3 Way Fire Hydrant w/ Appurtenances (Incl. Tee, Valve, Hydrant, Brass Tag, Pipe, & other fittings)	Each	10		
Miscellaneous Construction Items					
13	Temporary Erosion Control	Lump Sum	1		
14	Grassing	Lump Sum	1		
15	Mobilization	Lump Sum	1		
16	Maintenance of Traffic	Lump Sum	1		
				Subtotal (Site 12):	

Comprehensive Water Improvements – Phase V

Site 1: US Hwy 49 N & Blackwell Blvd	Subtotal (Site 1):	
Site 8~10: Commerce Drive, 1-59 and Thornhill Drive	Subtotal (Site 8~10):	
Site 11: US Hwy 98 @ Westover Drive	Subtotal (Site 11):	
Site 12: Lincoln Road and Oak Grove Road	Subtotal (Site 12):	
	Project Total:	

The undersigned certifies that the bid prices contained herein have been carefully checked and is submitted as correct and final.

If within thirty (30) days of the scheduled closing time for receipt of bids, this Proposal is accepted, the undersigned will execute a formal contract within ten (10) days after official notification thereof, will deliver a surety bond for the faithful performance of this contract, and will complete the work within the time specified from the date of execution of the contract.

Respectfully Submitted,

Name of Firm or Bidder

By: _____

Address

City, State

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the under signed,
_____Principal, and _____as Surety, are hereby
held and firmly bound unto _____as Owner in the penal sum of 5%
(Five Percent) for payment of which, well and truly to be made, we hereby jointly and
severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20_____.

The Condition of the above obligation is such that whereas the Principal has submitted to
a certain BID, attached hereto and hereby made a part hereof to enter into a contract in
writing, for the following project:

COMPREHENSIVE WATER IMPROVEMENTS - PHASE V HATTIESBURG, MISSISSIPPI

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in
the Form of Contract attached hereto (properly completed in accordance with said BID)
and shall furnish a BOND for his faithful performance of said contract, and for the
payment of all persons performing labor or furnishing materials in connection therewith,
and shall in all other respects perform the agreement created by the acceptance of said
BID, then this obligation shall be void, otherwise the same shall remain in force and effect;
it being expressly understood and agreed that the liability of the Surety for any and all
claims hereunder shall, in no event, exceed the penal amount of this obligation as herein
stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said
Surety and its BOND shall be in no way impaired or affected by any extension of the time
within which the OWNER may accept such BID; and said Surety does hereby waive notice
of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and
seals, and such of them as are corporations have caused their corporate seals to be hereto
affixed and these presents to be signed by their proper officers, the day and year set forth
above.

_____(L.S.)
PRINCIPAL

SURETY

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasure Department's most current line (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 20____ by and between _____ hereinafter called the CONTRACTOR, CITY OF HATTIESBURG hereinafter called the OWNER, Witnesseth that the Contractor and the OWNER, for the consideration hereafter named and agrees as follows.

ARTICLE 1: SCOPE OF WORK

The Contractor agrees to furnish all tools, labor, equipment, materials, and supplies required to be furnished, and perform all work required under and in accordance with the plans entitled:

COMPREHENSIVE WATER IMPROVEMENTS PHASE - V

which are on file at the office of the OWNER, and the Specifications, Proposals, General and Special Conditions, attached hereto and made a part hereof as fully as though copied herein, under the direct supervision and to the entire satisfaction of the OWNER and in accordance with the Laws of the State of Mississippi.

ARTICLE 2: THE CONTRACT SUM

It is further agreed and understood by and between the parties hereunto that the OWNER agrees to pay and the Contractor agrees to accept full and final compensation for all work done under this agreement, the lump sum amount adjusted for variation of quantities at the unit prices named in the Proposal, which is hereto attached, such payment to be made in lawful money of the United States, at the time and in the manner hereinafter set forth.

ARTICLE 3: TIME OF COMPLETION

The Contractor agrees, for the consideration above expressed, to begin and complete the work within the time specified in the Proposal. If the Contractor fails to complete the work in the time specified, he shall pay the OWNER as **LIQUIDATED DAMAGES**, ascertained and agreed, and not in the nature of a penalty, the sum of \$ 350.00 for each day delayed, which shall be deducted from the final amount to be paid under the contract; provided that the extension of time with the waiver of liquidation damages may be granted as provided for in the Specifications.

ARTICLE 4: PROGRESS PAYMENTS

The owner agrees to make progress payments during the construction as provided herein as follows:

The ENGINEER will on or before the tenth (10th) day of each month make an estimate of the value of the work done, based on contract prices.

The OWNER agrees to pay the CONTRACTOR 100% of the value of the work done each month, less five percent (5%) RETAINAGE until final acceptance of the work has been made).

ARTICLE 5: ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final acceptance and inspection, the Engineer shall promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he shall promptly issue a final certificate, over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof. Then, the entire balance shall be due the Contractor within sixty (60) days the date of said final acceptance.

Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the ENGINEER that all payrolls, materials, bills, and other indebtedness connected with the work have been paid.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work or materials appearing within one (1) year after payment, or claims previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer, so certifies, the OWNER shall, upon certificate of the Engineer and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 6: THE PERFORMANCE BOND

The Contractor agrees to furnish a bond, with an approved surety thereon guaranteeing the performance of this contract, in no less than one hundred percent (100%) of the amount of the Contract. Said Bond shall be conditioned on full and complete performance of the Contract, and for the payment of all labor and materials for a period of one (1) year after completion. The Surety on said Bond shall be a surety company of financial resources satisfactory to the OWNER and authorized to do business in the State of Mississippi.

ARTICLE 7: INSURANCE

The Contractor agrees to also carry Public Liability Insurance, Property Damage Insurance, and Workman's Compensation Insurance in amounts as required by the Specifications.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

OWNERS:

SEAL

City of Hattiesburg

BY _____

Title _____ ATTEST _____

CONTRACTOR:

SEAL

BY _____

Title _____ ATTEST _____

PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the Undersigned (hereinafter called the Principal), a corporation, partnership or individual duly unauthorized by law to do business as a construction contractor in the State of Mississippi, and _____ of (herein called the Surety), a corporation duly authorized to do a surety business under the laws of the State of Mississippi, are held and firmly bound unto City of Hattiesburg, (hereinafter called the Obligee), a Municipality existing under the laws of the State of Mississippi, in the penal sum of Dollars (_____) lawful money of the United States, for the payment of which well and truly to be made, the said Principal and the said Surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents, as follows:

The Condition of this obligation is such that; whereas Principal by an instrument In writing attached here-to and bearing date of _____ has agreed with said Obligee to do all work necessary and to furnish labor, materials, tools, supplies and services to construct COMPREHENSIVE WATER IMPROVEMENTS PHASE - V as shown on Plans and specified thereby in the Specifications, Proposal and other Contract Documents hereto attached.

NOW THEREFORE, if said Principal shall well and truly in good, sufficient and workmanlike manner, and to the satisfaction of Obligee perform and complete the work required, and shall defend, indemnify and save harmless said Obligee against all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising out of injury or damage to persons or property by reason or arising from any act, omission or neglect of said Principal, his agent, servants or employees with relation to said work; and shall pay all cost, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to Obligee completed and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to Obligee by reason of any default or neglect of the said Principal in the relation of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract, or the work to be performed hereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond and does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED FURTHER, that if Principal, his or its subcontractor or subcontractors fail to duly pay for any labor, materials, team hire, sustenance provisions or any other supplies or materials used or consumed by such Principal or his, their or its subcontractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest as provided by law.

IN WITNESS THEREOF: Said Principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20__.

(SEAL)

WITNESSES:

PRINCIPAL

ADDRESS

Name of person executing for Principal

TITLE

SURETY

ADDRESS

WITNESSES:

Name of person executing for Surety

TITLE

NOTICE OF AWARD

TO: _____

Project: COMPREHENSIVE WATER IMPROVEMENTS - PHASE V

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated _____, 20____, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$_____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20____.

CITY OF HATTIESBURG
OWNER

BY: _____

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by This the _____ day of _____, 20____.

Name: _____ Title: _____

NOTICE TO PROCEED

TO: _____ DATE: _____

Project: COMPREHENSIVE WATER IMPROVEMENTS PHASE - V

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20__ on or before _____, 20__, and you are to complete the WORK within 180 consecutive CALENDER DAYS thereafter. The date of completion of all WORK is therefore _____, 20__.

CITY OF HATTIESBURG
OWNER

BY: _____

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ This the _____ day of _____, 20__.

Name: _____

Title: _____

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meaning indicated which shall be applicable to both the singular and plural thereof.

ACCEPTANCE: By the OWNER of the Work as being fully complete in accordance with the Contract Documents.

AGREEMENT: The written agreement between the OWNER and the CONTRACTOR covering the Work to be performed: the Contract Documents are attached to and made a part of the Agreement. Also designated as the Contract.

ADDENDA: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by addition, deletions, clarifications or corrections.

APPLICATION FOR PAYMENT: The form furnished by the ENGINEER which is to be used by the CONTRACTOR in requesting progress payments and an affidavit of the CONTRACTOR that progress payments theretofore received from the OWNER on account of the WORK have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR'S obligations stated in prior Applications for Payment.

APPROVAL: Accept as satisfactory.

BID: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER: Any person, firm or corporation submitting a Bid for the Work.

BONDS: Bid, performance and payment bonds and other instruments of security furnished by the CONTRACTOR and his surety in accordance with the Contract Documents and in accordance with the law of the place of the project.

CHANGE ORDER: A written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

CONTRACT DOCUMENTS: The Agreement, Addenda, Instruction's to Bidders, CONTRACTOR'S BID, the Bonds, the Notice of Award, these General Conditions, the Supplementary conditions, Special Conditions, Technical Conditions, the Specifications, Drawings and Modifications, and Notice to Proceed.

CONTRACT PRICE: The total moneys payable to the CONTRACTOR under the Contract Documents.

CONTRACT TIME: The number of calendar days stated in the Agreement for the completion of the Work.

CONTRACTING OFFICER: The owner (Grantee) - The individual who is authorized to sign the contract documents on behalf of the owner's governing body.

CONTRACTOR: The person, firm or corporation with whom the OWNER has executed the Agreement.

DAY: A calendar day of twenty-four hours measured from midnight to the next midnight.

DRAWINGS: The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

ENGINEER: The person, firm or corporation named as such in the Contract Documents.

FIELD ORDER: A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with Paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

MODIFICATION: (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order (c) a written clarification or interpretation issued by the ENGINEER in accordance with paragraph 9.3 or (d) a written order for a minor change or alteration in the Work issued by the ENGINEER pursuant to paragraph 10.2. A modification may only be issued after execution of the Agreement.

NOTICE OF AWARD: The written notice by OWNER to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him within the time specified, OWNER will execute and deliver the Agreement to him.

NOTICE TO PROCEED: A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligations under the Contract Documents.

OWNER: A public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

PROJECT: The entire construction to be performed as provided in the Contract

Documents.

CONSTRUCTION OBSERVER

RESIDENT INSPECTOR

CONSTRUCTION INSPECTOR

PROJECT REPRESENTATIVE: An authorized representative of the ENGINEER assigned to observe the Work performed and materials furnished by the CONTRACTOR or such other person as may be appointed by the OWNER as his representative. The CONTRACTOR shall be notified in writing of the identity of this representative.

SHOP DRAWINGS: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work and as required by the Contract Documents.

SAMPLES: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

SPECIFICATIONS: Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

SUBCONTRACTOR: An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION: The stage in construction when a project can be utilized for the purposes for which it was intended. At substantial completion, minor items and items that are seasonally restricted need not be completed, but the items that affect operational integrity and function of the facility must be capable of continuous use.

SUPPLEMENTARY GENERAL CONDITIONS: Federal Conditions in effect at time of submission of Bid.

SUPPLIER: Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

SPECIAL CONDITIONS: When included as a part of the Contract Documents, Special Conditions refer only to the Work under this Contract.

SURETY: The corporate body which is bound with the CONTRACTOR and which engages to be responsible for the CONTRACTOR and his acceptable performance of the Work.

WORK: Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by CONTRACTOR under the Contract Documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

WRITTEN NOTICE: The term "Notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with Contract requirements. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the notice. Unless otherwise stated in writing, any notice to or demand upon the OWNER under this Contract shall be delivered to the OWNER through the ENGINEER.

ARTICLE 2 - PRELIMINARY MATTERS:

AWARD:

2.1 The award of the Contract, if it is awarded, will be to the lowest responsible, responsive Bidder. No Notice of Award will be given until the OWNER has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the BID of any Bidder who does not pass such investigation to the OWNER'S satisfaction. In analyzing Bids, the OWNER may take into consideration alternates and unit prices, if requested by the Bid Form. If the Contract is awarded, the OWNER will issue the NOTICE of AWARD and give the successful Bidder a contract for execution within sixty (60) days after the opening of Bids.

EXECUTION OF AGREEMENT:

2.2 At least three counterparts of the Agreement and such other Contract Documents will be executed and delivered by CONTRACTOR to the OWNER within 10 working days or 15 calendar days of receipt from the OWNER.

FORFEITURE OF BID SECURITY:

2.3 Failure of the successful Bidder to execute and deliver the Agreement and deliver the required Bonds as stipulated in paragraph 2.2 shall be just cause for the OWNER to annul the Notice of Award and declare the Bid and any security therefore forfeited.

CONTRACTOR'S PRE-START REPRESENTATIONS:

2.4 CONTRACTOR represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the Contract Documents, Work, Locality, and local conditions and will obey all federal, state, and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. CONTRACTOR also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Specifications and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

COMMENCEMENT OF CONTRACT TIME:

2.5 The Contract Time will commence to run no less than the 15 days after receipt by the CONTRACTOR of the Notice to Proceed.

STARTING THE PROJECT:

2.6 CONTRACTOR shall start to perform his obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to the date on which the Contract Time commences to run, except with the written consent of the OWNER.

BEFORE STARTING CONSTRUCTION:

2.7 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to ENGINEER any conflict, error or discrepancy which he may discover; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Drawings or Specifications.

SCHEDULE OF COMPLETION:

2.8 Within ten (10) days after delivery of the Notice to Proceed by OWNER to CONTRACTOR, CONTRACTOR shall submit to ENGINEER an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the Work, and a preliminary schedule of Shop Drawing submissions. See paragraphs 6.22 through 6.26. The ENGINEER shall review and return this schedule or require revisions thereto within 14 days of its submittal. If there is more than one CONTRACTOR involved in a project, the responsibility for coordinating the Work of all CONTRACTORS shall be as provided in the Special Conditions.

2.9 Within twenty (20) days after delivery of the executed agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling shop drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the OWNER or his representative, ENGINEER, Resident Project Representatives, CONTRACTOR and his Superintendent.

QUALIFICATION OF SUBCONTRACTORS MATERIALMEN AND SUPPLIERS:

2.10 Within ten (10) working days after bid opening, the CONTRACTOR will (if required) submit to the OWNER and the ENGINEER for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish principal items of material or equipment) proposed for those portions of the Work as to which the identity of the Subcontractors and other person and organizations must be submitted as specified in the Contract Documents. Within thirty (30) working days after receiving the list, the ENGINEER will notify the CONTRACTOR in writing if either the OWNER or the ENGINEER, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the OWNER or the ENGINEER to make objection to any Subcontractor, person or organization on the list within thirty days of receipt shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or the ENGINEER to reject defective Work, material or equipment, or Work, material or equipment not in conformance with the requirements of the Contract Documents.

ARTICLE 3 - CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS:

3.1 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the ENGINEER'S attention in writing at once and before proceeding with the Work affected thereby; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Specifications or Drawings. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Agreement Modifications, Addenda, Special Conditions, and Instruction's to Bidders, General Conditions, Technical Specifications and Drawings.

3.3 The words "furnish", "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service."

3.4 Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or usable structure or plant providing the indicated function, shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the ENGINEER before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

3.5 The Work of all trades under this Contract shall be coordinated by the CONTRACTOR in such a manner as to obtain the best workmanship possible for the entire Project, and all components of Work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes or standard specifications or other data published by regulating agencies or accepted organizations, including but not limited to National Electrical Code, applicable State Building Code, Federal Specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of Bid.

3.7 Brand names where used in the Technical Specifications, are intended to denote the standard of quality required for the particular material or product. The use of a brand name item is to set a standard of quality and is not intended to restrict the Contractor from offering an equal item from other source(s) of supply. The term "equal" or "equivalent" when used in connection with brand names, shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color and other applicable characteristics to the material or product specified by trade name, and that is for the same use and capable of performing the same function, in the opinion of the ENGINEER, as the material or product so specified. Proposed equivalent items must be approved by ENGINEER before they are purchased or incorporated in the Work.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS; REFERENCE POINTS:

Availability of Lands

4.1 The OWNER will furnish, as indicated in Contract Documents the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise specified in the Contract Documents. Other access to such lands or rights-of-way for the CONTRACTOR'S convenience shall be the responsibility of the CONTRACTOR. The CONTRACTOR will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 The OWNER will, upon request, furnish to the BIDDERS copies of all available boundary surveys.

Subsurface Conditions:

4.3 The CONTRACTOR acknowledges that he has investigated prior to bidding and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the grounds, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done on behalf of the OWNER on the site or any contiguous site, as well as from information presented by the Drawings and Specifications made a part of this Contract, or any other information made available to him prior to receipt of Bids. Any failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The OWNER assumes no responsibility for any conclusions or interpretations made by the CONTRACTOR on the basis of the information made available by the OWNER.

Differing Site Conditions

4.4 (a) The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The

OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above.

(c) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 5 - BONDS AND INSURANCE:

Performance and Payment Bonds:

5.1 The contractor's attention is directed to the Information for Bidders.

Contractor's Liability Insurance:

5.2 The CONTRACTOR shall provide the OWNER with insurance certificates certifying that all required insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

5.3 The CONTRACTOR agrees that if any part of the Work under the contract is sublet, he will require the Subcontractor(s) to carry insurance as required, and that he will require the Subcontractor(s) to furnish to him insurance certificates similar to those required by the OWNER in 5.1 above.

5.4 The CONTRACTOR agrees to add ENGINEER to insurance policy as additional insured.

Owner's Liability Insurance

5.4 The OWNER will be responsible for purchasing and maintaining his own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the Contract Documents.

Fire and Extended Coverage Insurance (Builders' Risk):

5.5 The CONTRACTOR shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the OWNER, Fire, Extended Coverage and Vandalism & Malicious Mischief Insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and

constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance should at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the OWNER and the CONTRACTOR, as their interests may appear, and shall also cover the interests of all Subcontractors performing work.

5.6 The CONTRACTOR shall provide the OWNER with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

Cancellation and Re-Insurance:

5.7 If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this Contract, the CONTRACTOR shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this Contract.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES:

Supervision and Superintendence:

6.1 The CONTRACTOR will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work. (Copies of written communications given to the Superintendent shall be mailed to the Contractor's home or office.)

Labor, Materials and Equipment:

6.2 The CONTRACTOR will provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site.

6.3 The CONTRACTOR will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

6.4 All materials and equipment will be new, except as otherwise provided in the Contract

Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

6.5 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

Materials, Equipment, Products and Substitutions:

6.6 Materials, equipment and products incorporated in the Work must be approved for use before being purchased by the CONTRACTOR. The CONTRACTOR shall submit to the ENGINEER a list of proposed materials, equipment or products, together with such samples as may be necessary for him to determine their acceptability and obtain his approval, within ninety (90) calendar days after award of Contract. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the ENGINEER.

6.6.1 Whenever a material, article or piece of equipment is identified on the drawings or Specifications by reference to brand names or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand names or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Incidental charges or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the Contract Price, or Contract Time.

6.6.2 No substitute shall be ordered or installed without the written approval of the ENGINEER who shall be the judge of equality.

6.6.3 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.4 Should any work or materials, equipment or products not conform to requirements of the Drawings and Specifications or become damaged during the process of the Work, such Work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the Project. All such work shall be done at the expense of the CONTRACTOR. (See paragraph 7.10)

6.6.5 No materials or supplies for the Work shall be purchased by the CONTRACTOR or by

any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the Seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the Work.

Concerning Subcontractors:

6.7 The CONTRACTOR will not employ any Subcontractor, other person or organization of the types referred to in paragraph 2.10 (whether initially or as a substitute) against whom the OWNER or the ENGINEER may have reasonable objection, nor will the CONTRACTOR be required to employ any Subcontractor against whom he has reasonable objection. The CONTRACTOR will not make any substitution for any Subcontractor who has been accepted by the OWNER and the ENGINEER, unless the ENGINEER determines that there is good cause for doing so.

6.8 The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or other person or organization having a direct contract with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done in accordance with the schedule of values.

6.9 The divisions and sections of the Specifications and the identifications of any drawings shall not control the CONTRACTOR in dividing the work among Subcontractors or delineating the Work to be performed by any specific trade.

6.10 The CONTRACTOR agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the OWNER.

6.11 All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

6.12 The CONTRACTOR shall be responsible for the coordination of the trades, Subcontractors and material men engaged upon his Work.

6.12.1 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the CONTRACTOR by the terms of these General Conditions and other Contract Documents insofar as applicable to the Work of Subcontractors, and to give the CONTRACTOR the same power as regards

terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

6.12.2 The OWNER or ENGINEER will not undertake to settle any differences between the CONTRACTOR and his Subcontractors or between Subcontractors.

6.12.3 If in the opinion of the ENGINEER, any Subcontractor on the project proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed in writing.

Patent Fees and Royalties:

6.13 The CONTRACTOR will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

6.14 The CONTRACTOR shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles or systems prior to bidding. However, he shall not be responsible for such determination on systems which do not involve purchase by him of materials, appliances, and articles.

Permits:

6.15 The CONTRACTOR will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid. When such charges are normally made by the OWNER, there will be no charges to the CONTRACTOR. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR will also pay all public utility charges.

Laws and Regulations:

6.16 The CONTRACTOR will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, he will give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he will bear all costs arising wherefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and

regulations.

Taxes:

6.17 Cost of all sales and other taxes for which the CONTRACTOR is liable under the Contract shall be included in the Contract Price stated by the CONTRACTOR.

Record Drawings:

6.18 The CONTRACTOR will keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer and shall be delivered to him for the OWNER upon completion of the Project. It shall be used for this purpose only.

Safety and Protection:

6.19 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

6.19.1 All employees on the work and other persons who may be affected thereby.

6.19.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

6.19.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

6.20 The CONTRACTOR will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR'S superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER.

Emergencies:

6.21 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He will give the ENGINEER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall be issued covering the changes and deviations involved. If the CONTRACTOR

believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 & 12.

Shop Drawing and Samples:

6.22 After checking and verifying all field measurements, the CONTRACTOR will submit to the ENGINEER for review, in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9) copies (or at the ENGINEER'S option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the ENGINEER to review the information as required.

6.23 The CONTRACTOR will also submit to the ENGINEER for review, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

6.24 At the time of each submission, the CONTRACTOR will in writing call the ENGINEER'S attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

6.25 The ENGINEER will review with reasonable promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The CONTRACTOR will make any corrections required by the ENGINEER and will return the required number of corrected copies of Shop Drawings and resubmit new samples until the review is satisfactory to the ENGINEER. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the ENGINEER on previous submissions. The CONTRACTOR'S stamp of approval on any Shop Drawings or sample shall constitute a representative to the OWNER and the ENGINEER that the CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawings or sample with the requirements of the Work and the Contract Documents.

6.26 No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed by the ENGINEER. A copy of each Shop Drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6.27 The ENGINEER'S review of Shop Drawings or samples shall not relieve the

CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER'S attention to such deviation at the time of submission and the ENGINEER has given written approval to the specific deviation, nor shall any review by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omission in the Shop Drawings.

Cleaning Up:

6.28 The CONTRACTOR shall clean up behind the Work as much as is reasonably possible as the Work progresses. Upon completion of the Work, and before acceptance of and final payment for the Project by the owner, the CONTRACTOR shall remove all his surplus and discarded materials excavated material and rubbish from the roadways, sidewalks, parking areas, lawns and all adjacent property; shall clean his portion of Work involved in any building under this Contract, so that no further cleaning by the OWNER is necessary prior to his occupancy; shall restore all property, both public and private, which has been disturbed or damaged during the prosecution of the Work; and shall leave the whole in a neat and presentable condition.

6.29 Clean-up operations shall consistently be carried on by the CONTRACTOR at all times to keep the premises free from accumulation of waste materials and rubbish. Upon completion of the Work he shall remove all rubbish, tools, scaffolding, surplus materials, etc., and shall leave his work "broom clean", or its equivalent, unless more exactly specified elsewhere in the Contract. The General CONTRACTOR shall do the following special cleaning for all trades upon completion of the Work.

6.30 General. In case of dispute, the OWNER may remove the rubbish and charge the cost to the several contractors as the ENGINEER shall determine to be just.

Public Convenience and Safety:

6.31 The CONTRACTOR shall, at all times, conduct the Work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the Work shall be provided for in a satisfactory manner, consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the Work, in a conspicuous position at such locations as traffic demands. At any time that streets are required to be closed, the CONTRACTOR shall notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

Sanitary Provisions:

6.32 The General CONTRACTOR shall furnish necessary toilet conveniences, secluded from

public observation, for use of all personnel on the Work, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the Public Authorities having jurisdiction. He shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the Work and the premises shall be left clean.

Indemnification:

6.33 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses, and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Work itself) including the loss of use resulting wherefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

6.34 In any and all claims against the OWNER or the ENGINEER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.35 The obligations of the CONTRACTOR under paragraph 6.33 shall not extend to the liability of the Engineer's negligent acts, errors or omissions or those of his employees or agents.

Responsibility for Connecting to Existing Work:

6.36 It shall be the express responsibility of the CONTRACTOR to connect his Work to each part of the existing work or work previously installed as required by the Drawings and Specifications to provide a complete installation.

Work in Street, Highway and Other Rights-of-Way:

6.37 Excavation, grading, fill, storm drainage, paving and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of the special conditions. The OWNER will be responsible for obtaining all permits necessary for the work. Upon completion of the Work, CONTRACTOR shall present to ENGINEER certificates, in triplicate, from the proper authorities stating that the Work has been done in

accordance with their requirements.

6.37.1 The OWNER will cooperate with the CONTRACTOR in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The ENGINEER shall be responsible for obtaining elevations of curbs and gutters, pavement, storm drainage structures, and other such items which must be established by governmental departments as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse effect on the Project.

Cooperation with Governmental Departments, Public Utilities, Etc:

6.38 The OWNER shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structure connected therewith, that are encountered in the work in order that such items may be properly shored, supported and protected, or the CONTRACTOR may relocate them if he so desires. The CONTRACTOR shall give all proper notices, shall comply with requirements of such parties in the performance of his Work, shall permit entrance of such parties on the Project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

6.38.1 The CONTRACTOR'S attention is called to the fact that there may be delays on the Project due to work to be done by governmental departments, public utilities, and others in repairing or moving poles, conduits, etc. The CONTRACTOR shall cooperate with the above parties, in every way possible, so that the construction can be completed in the least possible time.

6.38.2 The CONTRACTOR shall have made himself familiar with all codes, laws, ordinances and regulations which in any manner affect those engaged or employed in the Work, or materials and equipment used in or upon the Work, or in any way affect the conduct of the Work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

Use of Premises:

6.39 CONTRACTOR shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of ENGINEER and OWNER, and shall not unnecessarily encumber any part of site.

6.39.1 CONTRACTOR shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the Work to

stresses or pressures that will endanger it.

6.39.2 CONTRACTOR shall enforce OWNER'S instructions in connection with signs, advertisements, fires and smoking.

6.39.3 CONTRACTOR shall arrange and cooperate with OWNER in routing and parking of automobiles of his employees, subcontractors and other personnel and in routing material delivery trucks and other vehicles to the Project Site.

Protection of Existing Property Improvements:

6.40 Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings or structures (including portions thereof), trees, and shrubbery not indicated on the Drawings or noted in the Specifications as being removed or altered shall be protected from damage during construction of the Project. Any such improvements damaged during construction of the Project shall be restored to a condition equal to that existing at time of award of Contract.

Temporary Heat:

6.41 The General CONTRACTOR shall provide heat, fuel and services as necessary to protect all work and materials, within all habitable areas of permanent building construction, for all contracts against injury from dampness and cold until final acceptance of all work and materials for the Project, unless building is fully occupied by the OWNER prior to such acceptance, in which case the OWNER shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be responsible for providing such temporary heat, fuel and services as required to protect his work or shall make all necessary arrangements with the General CONTRACTOR for providing such temporary heat, fuel and services. Unless otherwise specifically permitted by Special Conditions, the permanent heating system shall not be used to provide temporary heat. CONTRACTOR'S proposed methods of heating shall be submitted for approval.

ARTICLE 7 - WORK BY OTHERS:

7.1 The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts therefore which shall contain General Conditions similar to these. The CONTRACTOR will afford the other contractors who are parties to such direct contracts (or the OWNER, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2 If any part of the CONTRACTOR'S work depends for proper execution or results upon the work of any such other CONTRACTOR (or the OWNER), the CONTRACTOR will

promptly report to the ENGINEER in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

7.3 The CONTRACTOR will do all cutting, fitting, and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and of the other contractors whose work will be affected.

7.4 If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the OWNER or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provide in Articles 11 and 12.

7.5 Where practicable, the General CONTRACTOR shall build around the work of other separate contractors or shall leave chases, slots and holes as required to receive and to conceal within the general construction work the work of such other separate contractors as directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the ENGINEER.

7.6 Necessary chases, slots and holes not built or left by the General CONTRACTOR shall be cut by the separate contractor requiring such alterations after approval of the General CONTRACTOR. The General CONTRACTOR shall do all patching and finishing of his Work where cut by other contractors at the expense of such other contractors.

7.7 Cooperation is required in the use of site facilities and in the detailed execution of the Work. Each CONTRACTOR shall coordinate his operations with those of the other contractors for the best interest of the Work in order to prevent delay in the execution thereof.

7.8 Each CONTRACTOR shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the CONTRACTOR shall notify the ENGINEER immediately. Lack of such notice to the ENGINEER will be construed as acceptance by the CONTRACTOR of the status of the work of other contractors as being satisfactory for proper coordination of his own work.

7.9 Each CONTRACTOR shall give notices of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The General Contractor shall give notices of the progress of his Work so that work of other contractors, when required to be concealed, may be placed before the general construction Work. All such notices shall be submitted to the ENGINEER with copies to other prime contractors on

the Project sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 The cost of extra work resulting from lack of notices, untimely notices, failure to respond to notices, defective work or lack of coordination shall be borne by the CONTRACTOR responsible for such lack of notices, etc.

ARTICLE 8 - OWNER'S RESPONSIBILITIES:

8.1 The OWNER will issue all communications to the CONTRACTOR through the ENGINEER.

8.2 In case of termination of the employment of the ENGINEER, the OWNER will appoint an engineer against whom the CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration, if mutually agreeable.

8.3 The OWNER will furnish the data required of him under the Contract Documents promptly and shall make payments to the CONTRACTOR promptly after they are due as provided in Article 14.

8.4 OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1, 4.4 and the Special Conditions. Paragraphs 4.2 and 4.3 refer to OWNER'S identifying and making available to CONTRACTOR copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

8.5 The OWNER'S responsibilities in respect of liability and property insurance are set forth in paragraph 5.4.

8.6 In addition to his rights to request changes in the Work in accordance with Article 10, the OWNER (especially in certain instances as provided in paragraph 10.4) will be obligated to execute Change Orders.

8.7 In connection with the OWNER'S right to stop Work or suspend Work; see paragraph 15.1. Paragraph 15.3 deals with the OWNER'S right to terminate services of the CONTRACTOR under certain circumstances.

8.8 The OWNER shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the fact that the time for completing the entire Work or any portion thereof may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays

the Work, the CONTRACTOR shall be entitled to such extra compensation or extension of time or both, except by prior agreement, as the ENGINEER may determine. See paragraph 14.11.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION:

Owner's Representative:

9.1 The ENGINEER shall be the OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER'S representative during construction are set forth in Articles 1 through 17 of these General Conditions and shall not be extended without written consent of the OWNER and the ENGINEER.

9.1.1 The ENGINEER'S decision, in matters relating to aesthetics shall be final, if within the terms of the Contract Documents.

9.1.2 Except as may be otherwise provided in this contract all claims, counter-claims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the State in which the OWNER is located.

Visits to Site:

9.2 The ENGINEER will make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He will not be required to make continuous on-site observations to check the quality or quantity of the Work. His efforts will be directed toward ascertaining on behalf of the OWNER that the completed Project will conform to the requirements of the Contract Documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the OWNER informed of the progress of the Work and will endeavor to guard the OWNER against defects and deficiencies in the Work of contractors.

Clarifications and Interpretations:

9.3 The ENGINEER will issue with reasonable promptness such written clarification or interpretations of the Contract Documents (in the form of Drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the Contractor believes that a written clarification and interpretation entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

Measurement of Quantities:

9.4 All Work completed under the Contract will be measured by the ENGINEER according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

Rejecting Defective Work:

9.5 The ENGINEER will have authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not meet the requirements of any inspection, test or approval or has been damaged prior to final acceptance). He will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.6 In connection with the ENGINEER'S responsibility as to Shop Drawings and samples, see paragraphs 6.22 through 6.27, inclusive.

9.7 In connection with the ENGINEER'S responsibility for Change Orders; see Articles 10, 11, and 12.

9.8 In connection with the ENGINEER'S responsibilities in respect of Application for Payment, etc., see Article 14.

Resident Project Representative:

9.9 The OWNER or the ENGINEER will provide on-site representation sufficient to guarantee that construction is in general compliance with the construction drawings and the contract specifications.

Decisions on Disagreements:

9.10 The ENGINEER will be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance hereunder. In his capacity as interpreter and judge, he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of or performance under the Contract Documents shall be referred initially to the ENGINEER for decision; which he shall render in writing within a reasonable time.

9.11 Either the OWNER or the CONTRACTOR, if the other agrees, may request legal action with respect to any such claim, dispute or other matter that has been referred to the

ENGINEER, except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.11, such legal action to be in accordance with Article 16. However, no request for legal action of any such claim, dispute or other matter shall be made until the earlier of (a) the date on which the ENGINEER has rendered his decision or (b) the tenth day after the parties have presented their evidence to the ENGINEER if he has not rendered his written decision before that date. No request for legal action shall be made later than thirty (30) days after the date on which the ENGINEER rendered his written decision in respect of the claim, dispute or other matter as to which legal action is sought; and the failure to request legal action within said thirty (30) days period shall result in the ENGINEER'S decision being final and binding upon the OWNER and the CONTRACTOR. If the ENGINEER renders a decision after legal proceedings have been initiated, such decision may be entered as evidence but shall not supersede the legal proceedings, except where the decision is acceptable to the parties concerned.

Limitations on Engineer's Responsibilities:

9.12 Neither the ENGINEER'S authority to act under this Article 9 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

9.13 The ENGINEER will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

9.14 The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other person performing any of the Work.

ARTICLE 10 - CHANGES IN THE WORK:

10.1 Without invalidating the Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, the CONTRACTOR will proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12. A Change Order signed by the CONTRACTOR indicates his agreement therewith.

10.2 The ENGINEER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor

change or alteration authorized by the ENGINEER entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

10.3 Additional Work performed by the CONTRACTOR without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.21 and except as provided in paragraph 10.2.

10.4 The OWNER will execute appropriate Change Orders prepared by the ENGINEER covering changes in the Work to be performed as provided in paragraph 4.4, and Work performed in an emergency as provided in paragraph 6.21 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.

10.5 It is the CONTRACTOR'S responsibility to notify his surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such adjustment to the OWNER.

ARTICLE 11 - CHANGE OF CONTRACT PRICE:

11.1 The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without changing the Contract Price.

11.2 (a) The OWNER may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the Work within the general scope of the contract, including but not limited to changes:

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Owner-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a change order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment hereunder.

(d) If any change under this clause causes an increase or decrease in the CONTRACTOR'S cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: PROVIDED, HOWEVER, that except for claims based on defective specifications, no claim for any change under (b) above shall be allowed for any costs incurred more than 20 days before the CONTRACTOR gives written notice as therein required. And provided further, that in the case of defective specifications for which the OWNER is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective specifications.

(e) If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1 Where the Work involved is covered by unit prices contained in the Contract

Documents by application of unit prices to the quantities of the items involved. Should the Work (by quantity) be increased or decreased by 15 per cent from that stipulated in the Contract Documents, the OWNER and the CONTRACTOR may request adjustment of the unit prices by negotiation. If negotiation fails to reach agreement, then either party may request arbitration for the volume in excess of the 15 per cent differential.

11.3.2 By negotiated lump sum.

11.3.3 The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise maybe agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to salaries and wages plus the costs of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be included in the above to the extent authorized by OWNER.

11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturer's field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to him and shall deliver such Bids to OWNER who will then determine with the advice of ENGINEER, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of Work plus a Fee, the cost of the Work shall be determined in accordance with paragraphs 11.4 and 11.5.

11.4.4 Costs of special consultants (including but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, travelling and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or other in accordance with rental agreements approved by

OWNER with the advice of ENGINEER, and the cost of transportation, loading, unloading, installation, dismantling and removal thereof--all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall end when the use thereof is no longer necessary for the Work.

11.4.5.4 Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable imposed by any governmental authority.

11.4.5.5 Deposits lost for causes other than CONTRACTOR'S negligence, royalty payments and fees for permits and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 Losses, damages and expenses, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of Work for the purpose of determining CONTRACTOR'S fee. If however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9 Cost of premiums for additional Bonds and Insurance required because of changes in the Work.

11.5 The term cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals, (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in subparagraph 11.4.1 -- all of which are to be considered administrative costs covered by the CONTRACTOR'S Fee.

11.5.2 Expenses of CONTRACTOR'S principal and branch offices other than his office at the site.

11.5.3 Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S

capital employed for the Work and charges against CONTRACTOR'S for delinquent payments.

11.5.4 Cost of premiums for all bonds and for all insurance policies whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as otherwise provide in subparagraph 11.4.5.9.)

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR'S Fee which shall be allowed to CONTRACTOR for his overhead and profit shall be determined as follows;

11.6.1 A mutually acceptable firm fixed price; or if none can be agreed upon,

11.6.2 A mutually acceptable fixed fee based on the estimate of the various portions of the Cost of the Work.

11.7 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will submit in form prescribed by ENGINEER an itemized cost breakdown together with supporting data.

11.9 Allowances: It is understood that the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such material men, suppliers, or Subcontractors and for such sums within the limit of the allowances as the ENGINEER may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost to the CONTRACTOR less any applicable trade

discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes.

11.9.2 The CONTRACTOR'S costs for unloading and handling on site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Price and not in the allowance.

11.9.3 Whenever the cost, as described in 11.9.1 above, is more than or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses, except that whenever unit price allowances are stipulated for brick, the Change Order will not include any cost as described in 11.5 above.

ARTICLE 12 - CHANGE OF THE CONTRACT TIME:

12.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to OWNER and ENGINEER within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

12.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if he makes a claim therefore as provided in paragraph 12.1. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of the Article 12 shall not exclude recovery for damages (including compensation for additional professional services) for delay by either parties.

12.4 No claim for delay shall be allowed because of failure to furnish Drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

12.5 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

ARTICLE 13 - GUARANTY:

13.1 The CONTRACTOR shall guarantee all materials and equipment furnished and Work

performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs or adjustments, in the Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

ARTICLE 14 - PAYMENTS AND COMPLETION:

Payments to Contractors:

14.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within sixty (60) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER may retain a portion of the amount otherwise due the CONTRACTOR. Except as State law otherwise provides, the amount the OWNER retains shall be limited to the following:

14.1.1 Withholding of not more than 10 percent of the payment claimed until work is 50 percent complete;

14.1.2 When Work is 50 percent complete, reduction of the withholding to 5 percent of the dollar value of all Work satisfactorily completed to date, provided that the CONTRACTOR is making satisfactory progress and there is no specific cause for greater withholding;

14.1.3 When the Work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 5 percent to only that amount necessary to assure completion.

14.1.4 The OWNER may reinstate up to 10 percent withholding if the OWNER determines, at its discretion, that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.

Contractor's Warranty of Title:

14.2 The CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the OWNER prior to the making of the Application for payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens") and that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR or by any other person performing the Work at the Site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.

Approval of Payments:

14.3 The ENGINEER'S approval of any payment requested in an Application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application of Payment and the supporting data, that the Work has progressed to the point indicated; That, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval), and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment, the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction or that he has made any examination to ascertain how or for what purpose the CONTRACTOR has used the moneys paid or to be paid to him on account of the Contract Price, or that title to any Work, materials, or equipment has passed to the OWNER free and clear of any Liens.

14.4 The CONTRACTOR shall make the following certification on each request for payment:

"I hereby certify that the labor and materials listed on this request for payment has been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location; and payment received from the last request for payment has been used to make payments to all first tier subcontractors and suppliers except as listed below."

14.5 The ENGINEER'S approval of final payment shall constitute an additional

representation by him to the OWNER that the conditions precedent to the CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.11 have been fulfilled.

14.6 The ENGINEER may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such payment, because of subsequently discovered evidence or the results of subsequent inspections or tests nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:

14.6.1 The Work is defective, or completed Work has been damaged requiring correction or replacement,

14.6.2 The Work for which payment is request cannot be verified,

14.6.3 Claims or Liens have been filed or there is reasonable evidence indicating the probable filing thereof,

14.6.4 The Contract Price has been reduced because of Modifications,

14.6.5 The OWNER has been required to correct defective Work or complete the Work in accordance with paragraph 13.1,

14.6.6. Of unsatisfactory prosecution of the Work, including failure to clean up as required by paragraphs 6.29 and 6.30,

14.6.7. Of persistent failure to cooperate with other contractors on the Project and persistent failure to carry out the Work in accordance with the Contract Documents,

14.6.8. Of liquidated damages payable by the CONTRACTOR or,

14.6.9. Of any other violation of, or failure to comply with, the provisions of the Contract Documents.

14.7 Prior to Substantial Completion, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute and acceptance of such portions of the Work.

14.8 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work, or restoration of any damaged Work, except such as may be caused by agents or employees of the OWNER.

14.9 Upon completion and acceptance of the Work, the ENGINEER shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within sixty (60) days of completion and acceptance of the Work.

14.10 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

Acceptance of Final Payment as Release:

14.11 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this Work and for every act and neglect of the OWNER and others relating to or arising out of this Work. Any payment however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION:

Owner May Suspend Work:

15.1 The OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which Work shall be resumed. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefore

as provided in Articles 11 and 12.

Work During Inclement Weather:

15.2 No Work shall be done under these Specifications except by permission of the OWNER when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the CONTRACTOR, upon the direction of the OWNER, shall suspend all work until instructed to resume operations by the OWNER and the Contract Time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the CONTRACTOR. Any compensation for repairs or replacements shall be subject to approval of the OWNER.

Owner May Terminate:

15.3 If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property; or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the Contract Documents, then the OWNER may without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety seven days written notice, terminate the services of the CONTRACTOR and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR or the Surety will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a Change Order.

15.4 Where the CONTRACTOR'S services have been so terminated by the OWNER, said terminations shall not affect any rights of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys by the OWNER due the CONTRACTOR will not release the CONTRACTOR from liability.

15.5 Upon seven days written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed and any expense sustained plus a reasonable profit.

Removal of Equipment:

15.6 In the case of termination of this Contract before completion, for any cause whatever, the CONTRACTOR if notified to do so by the OWNER, shall promptly remove any part or all of his equipment and supplies from the property of the OWNER. Should the CONTRACTOR not remove such equipment and supplies, the OWNER shall have the right to remove them at the expense of the CONTRACTOR. Equipment and supplies shall not be construed to include such items for which the CONTRACTOR has been paid in whole or in part.

Contractor May Stop Work or Terminate:

15.7 If, through no act or fault of the CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any Application for Payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR any sum approved by the ENGINEER or awarded by court ruling within thirty (30) days of its approval and presentation, then the CONTRACTOR may, upon seven (7) days written notice to the OWNER and the ENGINEER, terminate the Agreement and recover from the OWNER payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the ENGINEER has failed to act on an Application for Payment or the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon seven (7) days notice to the OWNER and the ENGINEER stop the Work until he has been paid all amounts then due.

Owner Furnished Equipment:

15.8 In case the OWNER furnishes equipment to the CONTRACTOR to install, but fails to deliver it to the CONTRACTOR as required and in case such failure causes the CONTRACTOR additional expense or need for extension of time, the CONTRACTOR may make such claims upon the OWNER and obtain adjustments as provided herein.

Liquidated Damages:

15.9 If the CONTRACTOR shall fail to complete the work within the contract time, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the Contract Documents for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract Documents.

ARTICLE 16 - DISPUTE SETTLEMENT:

16.1 All claims, disputes and other matters in question arising out of, or relating to, this Agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided by paragraph 14.11, shall be decided in a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS:

17.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

17.2 If the OWNER fails to make payment sixty (60) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such progress payment, interest at 1% per month commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

17.3 All Specifications, Drawings and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and, with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.

17.4 The duties and obligations imposed by these General Conditions, and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.36 and 14.3 and the rights and remedies available to OWNER and ENGINEER there under, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available by law, by special guarantee or by other provisions of the CONTRACT DOCUMENTS.

17.5 Should the OWNER or the CONTRACTOR suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employee or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 The CONTRACT DOCUMENTS shall be governed by the law of the place of the Project.

Progress Charts and Requirements for Overtime Work

17.7 The CONTRACTOR shall within 5 days or within such time as determined by the OWNER after date of commencement of work prepare and submit to the OWNER for

approval a practicable schedule, showing the order in which the CONTRACTOR proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The CONTRACTOR shall enter on the chart the actual progress at such intervals as directed by the OWNER and shall immediately deliver to the OWNER three (3) copies thereof. If the CONTRACTOR fails to submit a progress schedule within the time herein prescribed, the owner may withhold approval of progress payment estimates until such time as the CONTRACTOR submits the required progress schedule.

If, in the opinion of the OWNER, the CONTRACTOR falls behind the progress schedule, the CONTRACTOR shall take such steps as may be necessary to improve his progress and the OWNER may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or update the progress schedule to reflect increased production for meeting the completion date, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the OWNER.

Failure of the CONTRACTOR to comply with the requirements of the OWNER under this provision shall be grounds for determination by the OWNER that the CONTRACTOR is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination the OWNER may terminate the CONTRACTOR'S right to proceed with the work or any separable part thereof in accordance with the clause of the contract entitled, "Termination for Default-Damages for Delay - Time Extensions.

Should the Contractor fail to complete the work within the specified time, or within any extra time allowed under these specifications, a sum of money, determined by the following schedule, shall be deducted from any funds due the Contractor, the Owner shall have the right recover the said sum or sums from the Contractor or from the surety, or from both. The amounts of these deductions are to cover the liquidated damages to the Owner incurred by additional or other expenses due to the failure of the Contractor to complete the work or any part of the work within the time specified, and such deductions are not to be considered penalties.

The damages indicated above shall be considered as liquidated damages for the loss to the Owner on account of the expense due to the employment of Engineers and their assistants and to any others expenses incurred after the expiration of the Contract time as determined by the Engineer.

MEASUREMENT AND PAYMENT

Measurement and Payment for the following bid items shall be as described and shall include all material, equipment, labor, testing, etc. to install and make operational a complete water system as detailed on the contract drawings and as specified in the contract documents.

DUCTILE IRON, PVC and HDPE WATER SYSTEMS

Payment for item shall include furnishing and installing all pipe, trenching, compaction of required bedding and backfill excavation, disposal of excess excavated material sheeting, shoring, bracing, dewatering, testing, fittings, reducers, flushing the system and related items not specifically covered under other pay items. The contract price shall be determined by the measured distance of pipe installed and accepted per linear foot.

STEEL CASING

Payment for installation of bored or open cut steel casing shall include furnishing and installing all steel pipe, spacers, end caps, excavating, compaction of backfill, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing and related items not specifically covered under other pay items. Length shall be determined by the measured distance of casing pipe installed and accepted per linear foot.

CONNECTION ITEMS

Payment for connection items shall include installation of reducers, fittings, valve boxes, trenching, excavation, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring bracing, dewatering, testing, flushing and related items not specifically covered under other pay items as depicted on the construction plans. Pay shall be determined per each.

GATE VALVES

Payment for installation of gate valves shall include furnishing gate valves, valve boxes, trenching, excavating, compaction of backfill, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items as depicted on the construction plans. Pay shall be determined per each.

FIRE HYDRANT WITH APPURTENANCES

Payment for installation of fire hydrant with appurtenance shall include furnishing fire hydrant, gate valve, valve box, piping, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items. Pay shall be determined per each to include fire hydrant, tees, gate valve, valve box, pipe and other miscellaneous items as required to provide an operational hydrant. Pay shall be determined

per each.

FIRE SUPPRESSION CONNECTION

Payment for installation of fire suppression connection with appurtenance shall include furnishing tee, gate valve, valve box, piping, disconnection from existing system, connection to new system, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items. Pay shall be determined per each to include tees, gate valve, valve box, pipe and other miscellaneous items as required to provide an operational fire suppression connection. Pay shall be determined per each.

ASPHALT PAVEMENT REPAIR

Payment for asphalt repair shall include furnishing and installing asphalt pavement as specified in the plans and specifications. Item shall include material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per ton.

CONCRETE PAVEMENT REPAIR

Payment for concrete pavement repair shall include furnishing and installing concrete pavement as specified in the plans and specifications. Item shall include forming, material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per square yard.

CONCRETE CURB AND GUTTER

Payment for concrete curb and gutter shall include removal, grading, forming, materials, placement, compaction and testing necessary to match existing curb and gutter. Item shall be paid per linear foot.

TEMPORARY EROSION CONTROL

Payment for erosion control shall include furnishing, installing and maintaining silt fence or other erosion control measures as required by current Mississippi Department of Environmental Quality standards. Erosion control measures shall be installed and maintained as planned by the contractor or as directed by the Engineer to prevent erosion under or excess siltation within 24 hours of a rain event. The unit measurement shall be lump sum and includes any required maintenance.

GRASSING

Basis of payment shall include the vegetation schedule as noted and shall be according to the Mississippi Standard Specifications for Road and Bridge Construction, Latest Edition. The unit of measurement shall be lump sum.

MAINTENANCE OF TRAFFIC

Payment for maintenance of traffic will be lump sum. Item shall include all materials, labor and equipment to maintain traffic based on the current MUTCD or as required by

the Engineer.

MOBILIZATION

Payment for mobilization shall enable contractor to assemble materials, equipment, etc. on site to prepare for construction. The unit measurement shall be lump sum. Mobilization shall be paid 50 percent at 5 percent of construction complete and 100 percent at 25 percent of construction complete.

WATER SYSTEMS

1) GENERAL

- a) This item shall consist of furnishing all of the necessary materials, supervision, labor, tools, equipment and incidentals, and the installation of various types and sizes of water pipe and related items in accordance with the contract drawings and specifications, as stated in the Proposal.

2) APPLICABLE PUBLICATIONS

- a) The following publications form a part of these specifications and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

- i) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- A 139 Electric-Fusion (Arc) welded steel pipe (sizes 4 inch and over).

- A 252 Welded and Seamless steel pipe piles.

- C 31 Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.

- C 33 Concrete Aggregates

- C 39 Test for Compressive Strength of Cylindrical Concrete Specimens.

- D 2922 Density of Soil Aggregate in place by the clear Method (shallow depths).

- ii) AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- 21.10 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch for Water and other Liquids.

- 21.11 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

- 21.50 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-line Molds, for Water or other Liquids.

iii) AMERICAN WATER WORKS ASSOCIATION (AWWA)

C 104 Cement-Mortar Lining for Cast Iron Pipe and Fittings for Water and Other Liquids.

C 106 Cast Iron Pipe Centrifugally Cast in Metal Molds, for water and other Liquids.

C 110 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids.

C 111 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

C 150 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or other Liquids.

iv) AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO)

T-88 Particle Size Analysis of Soils.

T-89 Determining the Liquid Limit of Soils.

T-90 Determining the Plastic Limit and Plasticity Index of Soils.

T-99 Moisture Density Relations of Soils Using a 5.5 lb. Rammer and 12-inch Drop.

T-191 Density of Soil In-Place by the Sand-Cone Method.

v) MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Standard Specifications for Road and Bridge Construction 1990 Edition.

3) SUBMITTALS

a) The following submittals shall be required for the respective materials used in the work. All submittals shall be submitted through the Contractor to the Engineer.

i) Ductile Iron Pipe: The following submittals shall be required for ductile iron pipe systems utilized on the project. The Contractor shall furnish

manufacturer's certificates certifying that the pipe and fittings conform to the requirements as specified hereinafter under Article 4.0, Materials. In addition, the submittals shall include the following:

- (1) Joints: The following shall be required for ductile iron joints.
- (2) Drawings or Manufacturer's Catalogue data indicating dimensions and tolerance.
- (3) Gaskets shall be tested in accordance with the respective standards as indicated in ANSI 21.11 and results shall be included in the submittals. Test shall be for similar materials on the gaskets and be not more than one year old.
- (4) Mechanical Joints: Should the Contractor elect to use mechanical joints in lieu of push-on joints, manufacturer's data shall be submitted in accordance with the "Special Requirements for the Mechanical Joint" as stated in ANSI 21.11 (AWWA C 111).

ii) Ductile Iron Pipe Submittal Shall Include the Results of:

- (1) Tension Test
- (2) Impact Test
- (3) Low Temperature Impact Test
Sampling procedure shall be as indicated in ANSI 21.51.

b) PVC Pipe: The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements of these specifications and appropriate construction drawings.

4) MATERIALS - WATER SYSTEM

a) Ductile Iron Pipe:

- i) Ductile iron pipe shall be designed in accordance with the latest revision of ANSI/AWWA C51/A21.51), rated working pressure of 350 psi plus a 100 psi surge allowance; a 2 to 1 safety factor on the sum of working pressure plus surge pressure in Type 3 laying condition with a depth of cover as required per plans.
- ii) Pipe shall have standard asphaltic coating on the exterior. Pipe also shall have a cement mortar lining on the interior in accordance with the latest revision of ANSI/AWWA C104/A21.4. If corrosion protection is required, polyethylene

encasement shall be installed prior to the pipes installation in accordance with ANSI/AWWA C105/A21.5-88.

- iii) All non-restrained pipe shall be furnished with push-on type joints such as "Fastite," or equal. Joints shall be in accordance with the latest revision of ANSI/AWWA C111/A21.11 and shall be furnished complete with all necessary accessories.
- iv) Where restrained joint pipe is required, "Fast Grip", "Flex-Ring", or "Field Flex-Ring" or approved equal shall be used. The length of restrained pipe shall be as tabulated or noted on the plans.
- v) Ductile iron fittings shall conform to the latest revisions of either ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53. Fittings, linings, and coatings shall be as specified for the pipe above.
- vi) All pipe, fittings and accessories shall be installed and tested in accordance with the latest revision of AWWA C600. Newly installed ductile iron water mains shall be disinfected in accordance with the latest revision of AWWA C651 prior to placing in service.

b) PVC Pipe

- i) PVC pipe for this project shall be PVC, C-900, Class 200. This standard covers the installation of Pressure Class 100, 150 and 200 PVC pipe complying with AWWA Standard C-900-89. PVC pipe shall bear the National Sanitation seal for potable water.
- ii) The pipe shall be equipped with a push on joint in a single elastomeric gasketed joint. It is assembled by positioning the elastomeric gasket in the annular groove of the bell and inserting the spigot end of the pipe into the bell. The spigot end of the pipe compresses the gasket radially to form a positive seal. The gasket and annular groove are designed, sized and shaped so that the gasket will resist displacement. Care shall be taken so that only the correct elastomeric gasket, compatible with the annular groove of the bell, is used. Insertion of the elastomeric gasket in the annular groove of the bell must be in accordance with the manufacturer's recommendations.

c) Gate Valves:

- i) Where indicated on the Plans or directed by the ENGINEER, the CONTRACTOR shall furnish and install gate valves as hereinafter specified.
- ii) All gate valves shall be cast iron mechanical joint, Mueller A-2360, equivalent or better. All gate valves shall be furnished with O-ring packing and 2" square

operating nut, AWWA 200lb., for cast iron water main.

- iii) Valve boxes shall be cast iron top and bottom. Extension pieces shall be provide as required.
- iv) Payment for furnishing and installing gate valves with box shall be made at the contract unit price per valve according to type and size as listed in the proposal.
- v) All valves will be set at a perfect 90-degree angle from level pipe, (perpendicular) so as to be easily accessible through properly set valve box as per specifications above.
- vi) The CONTRACTOR shall furnish and install either a two-piece or three-piece, slip type, cast iron valve box over each gate valve. Valve boxes will be set over valve operating nut, centered so as to be easily accessible with a valve operating wrench or key. They will be set to correspond with the finished grade of street, lot, or easement. No dirt will be left in box; box will not rest directly on valve body.

d) Fittings, Valves and Hydrants, etc.

- i) All fittings, valves and valve boxes, hydrants, and other appurtenances are to be set at the points indicated on the plans, or as directed by the ENGINEER, and omission to do so shall be corrected by the CONTRACTOR without extra cost to the OWNER.
- ii) All fittings shall either be Ductile Iron Compact (ANSI/AWWA C153/A21.53) or Cast Iron (ANSI/AWWA-C110/A21-10) and shall have mechanical joint ends and mechanical joint restraints (Series 1120) and shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
- iii) The mechanical joint restraint device shall have a working pressure of a least 250 psi with a minimum safety factor of 2:1 and shall be EBAA Iron., MEGALUG or equal.

- iv) To improve the sealing capacity, the gaskets for all mechanical joints conforming to the requirements of ANSI/AWWA C110/A/21.10, C111/A21.11, or C153/A21.53 shall be of a design that causes the gasket to deflect approximately 30% during assembly of the mechanical joint. The gasket material shall conform to the requirements of ANSI/AWWA C111/A21.11, Section 1-6.4 of the latest revision. Mechanical joint gaskets shall be EBAA Iron's EBAA Seal- Improved Mechanical Joint Gasket or approved equal.
 - v) Fittings (bends, tees, plus, and caps) shall be securely braced by mechanical joint restraints, as indicated on the Plans, to prevent the possibility of blowing off under pressure. And a full length of pipe shall be installed on each end of the fitting. Then cut pieces can be installed beyond the full lengths of pipe.
 - vi) The prices bid furnishing and installing valves, fittings, etc., shall include compensation for furnishing mechanical joint restraints as required at beds, tees, plugs and caps. No separate or extra compensation will be allowed for any of the above specified incidental work or material.
- e) Plugs and Caps
- i) Where indicated on the Plans, or as directed by the ENGINEER, the CONTRACTOR shall install plugs for anticipated future extensions by placing a branch fitting (tee or cross) in the line and plugging the unused branch or branches. In general, such plugs will be located at street intersections where present plans provided lines running in only two or three directions from the intersections and where, in the opinion of the ENGINEER, a connection may be required for future extension. Where "deadend" lines are installed, the ends of such lines shall be plugged or capped as required.
 - ii) For the various hot taps required according to the plans, and up to 12 inches, the JCM 432, stainless Tapping Sleeve shall be required. The CONTRACTOR shall furnish all materials for these various taps and the OWNER will actually make the tap.
- f) Casing Pipe: Steel pipe utilized as casing at locations shown on the Contract Drawings shall be new round piling pipe conforming to the requirements of ASTM A 252 or A 139. Casing diameter shall be adequate to allow pushing of the specified diameter of water pipe and make proper connections at the ends. Minimum Wall Thickness for steel casing is 0.375 inch.
- g) Wash Gravel Bedding Material: Select Granular material for pipe bedding shall be coarse concrete aggregate. The coarse concrete aggregate shall conform to the gradation sizing Number 467 specified in Table 2 of ASTM Standard Specification C-33. (See Following Table.)

SIZE No. 467

Nominal Size (Sieves w/Square Openings)	Percent Passing by Weight
2"	100
1-1/2"	95–100
3/4"	35–70
3/8"	10–30
No. 4	0–5

- h) Stabilization Material: Stabilization Material shall be a pit run mixture of sand and gravel. The sand shall be hard, sharp and durable particles. All gravel shall pass a 1 - 1/2" sieve.
- i) Concrete: Concrete shall be in accordance with the requirements of Technical Specifications – CONCRETE.
- j) Select Backfill
- i) General: The select material shall be composed of a natural or artificial mixture of sand, silt, clay or soil binder or other material of satisfactory cementing value. The sand shall be hard, sharp, and durable particles, preferably siliceous. The binder shall be a grade of clay or other material having satisfactory cementing qualities and shall be homogenous in character, free from vegetable matter, clay balls or other deleterious substances that cannot be classed as serviceable base material.
- ii) Gradation: Any coarse aggregate contained in the material shall pass the one and one-half (1-1/2); sieve and not more than thirty-five percent (35%) shall be retained in the Number 10 sieve. The plasticity index (P.I.) shall not exceed 12, nor shall the liquid limit exceed 30.
- iii) The composite selected sand-clay material passing the Number 10 sieve shall conform to the following minimum and maximum gradation limits:

Sieve	Percent Passing by Weight
Number 40	40–85
Number 60	30–70
Number 270	8–30
Silt (.05 to .005 mm)	03–15
Clay (Passing .005 mm)	3--15

iv) Backfill: All other backfill shall consist of excavated material removed from the trench.

5) CONSTRUCTION

a) Earthwork

i) Site Preparation:

(1) Topsoil shall be stripped and stockpiled in accordance with Technical Specifications - Restoration of Roads, Driveways, Fences, Lawns, and other Grassed Areas.

(2) All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetative matter, rubbish and any other unsuitable material within the area of trenching shall be stripped or otherwise removed before the trenching is started, and in no case, shall such objectionable material be allowed in the trench.

(3) Stripping operation shall be to a depth of not less than 6 inches in all cases.

b) Asphalt or Concrete Removal: Before trenching operations begin, the existing asphalt or concrete pavement shall be scored or cut to a proper depth to give a straight vertical edge when removed. The asphalt or concrete shall be disposed of offsite by the Contractor. While removing the asphalt or concrete in the trench line, never shall the adjacent asphalt be raised or pulled from its base.

c) Trenching:

i) The Contractor shall determine all requirements for trench dimensions, alignment, and grades. The trench shall be excavated in conformance with all federal, state and local regulations for the protection of the workmen. Shoring, sheeting and/or a moveable form shall be used as required to provide

earth stability during the laying operations.

- ii) The final excavation of the trench for the pipe installation shall be as indicated on the Plans. Minor variations in horizontal (within the permanent easement) or vertical alignment during construction shall be made during construction (with the Engineer's approval) to facilitate ease of installation and operation (due to potential conflicts; i.e., utility conflict) at no additional cost to the Owner except for additional piping, if any. The trench from the top of the pipe down to the bottom of the bedding shall be of a consistent width as indicated on the plans. Should the excavated width of the trench be larger than the design width, the Engineer may direct that a higher type or class of bedding be used; or other adjustments be made to increase the load carrying capacity of the pipe.
- iii) The Contractor shall not excavate more trench in advance of pipe laying than is necessary to perform the work efficiently. No more than 100 feet of open trench shall be allowed unless approved by the Engineer.
- iv) Excavated material shall be place in a manner that will not obstruct sidewalks, driveways, or other structures. Excavated material shall not be placed so as to surcharge the walls and jeopardize trench stability.

d) Disposal:

- i) The Contractor shall satisfactorily dispose of all excess earth from excavations either in approved (by the Engineer) areas within the construction limits or away from the project in disposal sites obtained by the Contractor.
- ii) The Contractor will be permitted to mound excess earth over the trench to a maximum depth of 12 inches above the original ground surface or finished grade where the trench is located in unimproved property. Wasting of excess excavated material will not be permitted within any road ROW. All material within the construction limits shall be placed so that natural drainage is maintained and the surface shall be graded to a smooth and uniform appearance. The disposal of waste and excess excavating materials, including hauling, handling, grading, and surfacing shall be subsidiary obligation of the contractor and no separate payment will be made. Therefore, the cost of such work shall be included in the Contract Unit Price for installation of water pipe.

e) Dewatering

- i) The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches and dikes and shall perform all pumping and other work necessary to divert or remove rainfall and other accumulations of surface water from the excavations. The diversion and removal of surface water

performed in a manner that will prevent the accumulation of water behind temporary structures or at any other locations within the construction area where it may be detrimental. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hoses, piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least one foot below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of one foot below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures.

- ii) Where groundwater is encountered, the Contractor shall make the effort necessary to secure a dry trench bottom before laying pipe. In sandy and in other suitable type soils, dewatering shall be done by well pointing. If, in the opinion of the Engineer, the Contractor has failed to obtain an absolutely dry trench bottom by insufficient use of all known methods of trench dewatering, the Engineer may order the Contractor to excavate below grade and place not less than 6 inches of graded crushed stone fill material over the trench bottom to form trench drains to suitably located sumps and to remove the water by bailing or pumping. The graded crushed stone fill material shall be placed at the Contractor's own expense and shall be of such depth that there shall be not water in bell holes at the time of coupling pipe. All costs of equipment, labor, and materials required for dewatering shall be included in the bid price.

f) Bedding

- i) The Contractor shall satisfactorily shape the trench area (to specified line, grade and cross section) to receive bedding material. The bottom of the trench shall be undisturbed soil. Should the Contractor over excavate the trench without direction from the Engineer, the trench shall be brought up to grade with select backfill and compacted to at least 90% of maximum laboratory density as measured by AASHTO T 99. Such additional work and materials for over excavation without direction of the Engineer shall be at the expense of the Contractor.
- ii) Holes for the bells shall be provided at each joint in the subgrade or in the granular fill bedding material as required. The holes shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the material. The Contractor shall install the proper bedding for the respective type of pipe and depth of installation as shown in the details and schedules on the plans. When depths vary in a particular manhole run, the Contractor shall change bedding systems in accordance with the depth installation requirements.

- iii) Stabilization Materials: When the subgrade is found to be unstable or to

include ashes, refuse, organic material, or other unsuitable material, the Engineer may direct that the subgrade be over excavated to remove such material. The depths of over excavation shall be as directed by the Engineer. Stabilization material shall be placed into the over excavated area of the trench and shall be paid for in accordance with these specifications. Stabilization shall be compacted to at least 90% of maximum laboratory density in six inch lifts.

iv) Bedding Materials

(1) As detailed in the plans, bedding material shall be placed to the specified depth below the pipe and tamped to a minimum of 90% of maximum laboratory density as determined in accordance with AASHTO T 99. Following placement of pipe, additional bedding material shall be placed and consolidated under the haunches of the pipe. Special tools shall be required to work the material into place and leave no voids beneath the pipe. The bedding material shall be tamped along the spring line (or along the top of the bedding material as indicated) of the pipe to sufficiently compact the material insofar as practical.

(2) The Engineer may direct additional moisture be added to the bedding material to aid in the compaction effort. Mechanical tampers may be employed to aid the process. depending on the particular bedding required, additional bedding shall be added and tamped to a minimum of 90% of maximum laboratory density, with AASHTO T-99.

v) Select Backfill: Select backfill shall be placed in 6 inch lifts and tamped to a minimum laboratory density with AASHTO T-99. Overall depth of the select backfill shall be as directed by the Engineer.

vi) Normal Condition Bedding: Under normal conditions the trench bottom shall be undisturbed earth shaped to the specified line, grad, and cross section with proper bell holes at each joint to ensure that pipe barrel lies flat on trench bottom. The bedding material will be selected native materials excavated from the trench and placed in two lifts. The first lift being placed up to the spring line of the pipe and extending out to the trench walls and hand tamped to a minimum of 90% of maximum laboratory density. Special care shall be used in placing and tamping bedding to insure no voids under the haunches of the pipe. The second lift shall extend to approximately 6" above pipe (Material permitting) and hand tamped to 90% density.

g) Backfilling: Upon completion of placement of select material the excavated materials shall be immediately placed back into the trench. Specific requirements are:

i) Backfill requirements for road crossings, parking lots, driveways, and

sidewalks shall be in accordance with Technical Specifications - RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS and OTHER GRASSED AREAS.

- ii) Backfill requirements for unimproved areas (pastures, wooded areas) shall consist of placement and shaping of the soil in such a manner as to allow maximum natural consolidation. No compaction of the general backfill in the unimproved areas will be required, except that caused by conventional shaping equipment.
 - iii) No debris shall be used as backfill which has a volume in excess of one-half of one cubic foot or weight excess of 75 pounds.
- h) Sheeting Removal: Wooden sheeting or other thick sheeting or shoring members which have been driven or otherwise placed along the trench walls to an elevation below the spring line of the pipe shall be cut off at the spring line or higher and left in place.
- i) Grading and Grassing: Final grading and grassing shall be in accordance with Technical Specifications, "RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS, and OTHER GRASSED AREAS."
- j) Pipe Handling and Storage: Pipe shall be handled, staked, and stored in accordance with manufacturer's printed literature. The Contractor shall provide security as required to prevent damage by vandals. PVC pipe shall be shaded from sunlight for extended lengths of time. Pipe damaged during storage and handling shall be rejected.
- k) Pipe Laying
- i) Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the water shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water earth or other substance will enter the pipe or fittings.
 - ii) The water main shall maintain a minimum of 30 inches of cover at all times.

- iii) Pipe laying shall be performed in such a manner that no foreign material enters the pipe. The Engineer may require that before lowering pipe, heavy canvas bags be placed over each end, and left in place until joints are ready to be made. If water is in the trench, the seals shall remain in place until the trench is pumped completely dry. If conditions are unsuitable, no pipe shall be laid until satisfactory laying conditions are obtained in accordance with the above specified requirements.
- l) Pipe Jointing: Piping shall be jointed in accordance with the manufacturer's printed recommendations. Gaskets shall be firmly set within the bells and grooves as required. The manufacturer's recommended lubricant or an approved equal shall be applied for slip type joints.
 - i) Ductile Iron Pipe Joint Construction: The installation and jointing of ductile iron pipe shall generally conform to the applicable provisions of AWWA Standard Specifications C-600 for pipe laying.
 - ii) Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loose dirt and to lubricate gasket as it is forced into its retaining space.
 - iii) When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's specifications.
 - iv) All joints of whatever type shall be completely water tight after being subjected to the required tests.
- m) Borings: Borings shall be accomplished in accordance with Mississippi State Highway Department Standards. The contractor shall provide all necessary sheeting, bracing, cribbing, supports and appurtenances to insure the proper line and grade throughout the entire length of the crossing.
 - i) Casing Pipe: Casing Pipe shall be installed as indicated on the Contract Drawings. Joints shall be completely welded to provide structural integrity and shall be watertight.
 - ii) Carrier Pipe: Carrier pipe may be any of the allowed options of piping. However, the piping and joints shall be capable of withstanding the stress exerted by pushing the pipe within the casing.

iii) Carrier Pipe Supports: Supports for the carrier pipe shall be as recommended by the manufacturer for such installation. Supports shall be spaced to adequately support the piping under all conditions.

iv) Casing Seal: The annulus between the casing and carrier pipe shall be sealed at each end by installing WMSON Type U end seals, as manufactured by T.D. Williamson, Inc. Tulsa, Oklahoma, or equal, in accordance with the instructions of the manufacturer of the seals.

6) SEPARATION of WATER and SEWER MAINS: The water and sewer specifications should state that the water line be constructed no less than 10 feet horizontally and 18" vertically with water line over sewer line. If those conditions cannot be met then they will be decided on a case by case basis.

7) TESTING

a) Ductile Iron Pipe

i) Field Inspection: The Engineer shall perform visual inspection of the material prior to placement by the Contractor. The Engineer may make non-destructive tests to determine the soundness of the pipe. The Contractor shall assist the Engineer in handling and moving the pipe as required.

ii) Material Test: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittals. No other material test shall be required.

b) Steel Casing Pipe Material test shall be included as part of the submittal. No other material test shall be required.

c) Compaction Tests

i) Compaction tests shall be performed in accordance with AASHTO T 191 or ASTM D 2922. Maximum compaction shall be determined in accordance with AASHTO T 99.

ii) Compaction tests for water pipe related work shall not be less than as follows:

NUMBER of COMPACTION TESTS AASHTO T-99, AASHTO T-191, or ASTM D 2922		
Stabilization Material	1	One per 100 C.Y.
Bedding material	2	One per 600 L.F.
Tamped Backfill	2	One per 600 L.F.

d) Hydrostatic Testing

i) After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 times the working pressure at the point of testing and not less than 1.25 times the working pressure along the test section, for a minimum of 2 hours.

ii) And all tests shall be in accordance with AWWA Standard C600, Section 4.

iii) Allowable leakage shall be no more than that determined by the following formula:

$$L = \frac{SD \sqrt{P}}{133,200}$$

iv) In which L is the allowable leakage in gallons per hour; S is the length of pipe tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test in pounds per square inch.

v) These tests are to be made at the Contractor's expense and he is to provide all necessary fittings, equipment, appliances and any other necessary items to conduct the tests in a manner satisfactory to the ENGINEER. All costs incidental to conducting these tests are to be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore. Record of testing is to be furnished to the OWNER.

8) CLEANING and STERILIZING

a) Before each section of work is placed in service, it shall be thoroughly flushed to remove any dirt or other foreign material from inside the lines; and the inside of the lines shall be sterilized by pumping into and through them as solution of chlorine of 50mg/l for 24 hours in such manner as to meet the requirements of the State Board of Health.

b) At least two (2) samples of chlorine free water, taken from each section shall be submitted to the State Board of Health for examination to determine if the system

is free from organisms of the Coli-Aerogenes group. If such samples are not negative from organisms of the Coli-Aerogenes group, the system shall be disinfected and re-disinfected in a manner meeting the requirements of the State Board of Health, until the system is freed of contamination.

- c) All water mains will be flushed, chlorinated and re-chlorinated until two (2) consecutive negative water samples are obtained by the Local Health Department. The samples shall be collected by the Certified Operator of the system or the Professional Engineer of the project.
- d) The CONTRACTOR shall be responsible for the conduct of all of the above defined activities, and any and all costs incident thereto shall be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore.

9) WATER SERVICE

- a) Service pipe shall be $\frac{3}{4}$ " Polyethylene Plastic tubing meeting the following specifications:
 - i.) 200 PSI and complying with AWWA standards when tested by methods ASTM 1599, copper tube size (O.D.) farmable for use with standard heavy duty waterworks brass flare fittings.
 - ii.) Tubing shall comply with the standards and bear the seal of the National Sanitary Foundation.
 - iii.) All connections and fittings shall be Ford brand.

10) TRACER WIRE

a) Materials

- 1. General
 - i.) All trace wire and trace wire products shall be domestically manufactured in the U.S.A.
 - ii.) All trace wire shall have HDPE insulation intended for direct bury, color coated per APWA standard for the specific utility being marked, green for Sewer.

2. Trace wire

- i) Open Trench - Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.
- ii) Directional Drilling/Boring - Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.
- iii) Pipe Bursting/Slip Lining - Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 mil HDPE insulation thickness.

3. Connectors

- i.) All mainline trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.
- ii.) Direct bury wire connectors – shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.
- iii.) Non-locking friction fit, twist on or taped connectors are prohibited.

4. Termination/Access

- i.) All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
- ii.) All grade level/in-ground access boxes shall be appropriately identified with “water” cast into the cap and be color coded.
- iii.) A minimum of 2 ft. of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
- iv.) All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
- v.) Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.
- vi.) Service Laterals - Trace wire must terminate at an approved grade level/inground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
- vii.) Hydrants – Trace wire must terminate at an approved above-ground trace wire access box, properly affixed to the hydrant grade flange. (affixing with tape or plastic ties shall not be acceptable)
- viii.) Long-runs, in excess of 500 linear feet without service laterals or hydrants - Trace wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48” polyethylene marker post, color coded per APWA standard for the specific utility being marked.

5. Grounding

- i.) Trace wire must be properly grounded at all dead ends/stubs
- ii.) Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20ft of #12 red HDPE insulated copper clad steel wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose, and buried at the same elevation as the utility.
- iii.) When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance.
- iv.) When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.
- v.) Where the anode wire will be connected to a trace wire access box, a minimum of 2 ft. of excess/slack wire is required after meeting final elevation.

b. Installation

1. General

- i.) Trace wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances in excess of 1,000 linear feet, and without distortion of signal caused by multiple wires being installed in close proximity to one another.
- ii.) Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.
- iii.) Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire, and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
- iv.) Trace wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 5' intervals.

- v.) Trace wire must be properly grounded as specified.
- vi.) Trace wire on all service laterals/stubs must terminate at an approved trace wire access box located directly above the utility, at the edge of the road right-of-way, but out of the roadway. (See Trace wire Termination/Access)
- vii.) At all mainline dead-ends, trace wire shall go to ground using an approved connection to a drive-in magnesium grounding anode rod, buried at the same depth as the trace wire. (See Grounding)
- viii.) Mainline trace wire shall not be connected to existing conductive pipes. Treat as a mainline dead-end, ground using an approved waterproof connection to a grounding anode buried at the same depth as the trace wire.
- ix.) All service lateral trace wires shall be a single wire, connected to the mainline trace wire using a mainline to lateral lug connector, installed without cutting/splicing the mainline trace wire.
- x.) In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors, and shall be properly grounded at the splice location as specified.

2. Water System

- i.) A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
- ii.) Lay mainline trace wire continuously, by-passing around the outside of valves and fittings on the North or East side.
- iii.) Trace wire on all water service laterals must terminate at an approved trace wire access box color coded blue and located directly above the service lateral at the edge of road right of way.
- iv.) Above-ground tracer wire access boxes will be installed on all fire hydrants.
- v.) All conductive and non-conductive service lines shall include tracer wire.

c. Prohibited Products and Methods

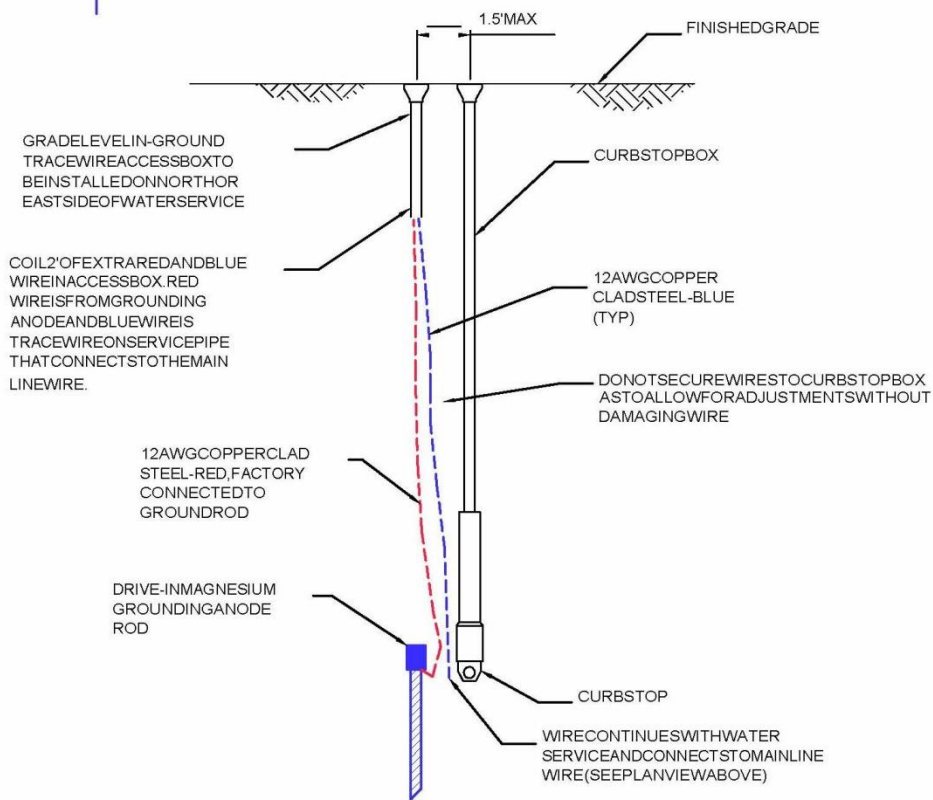
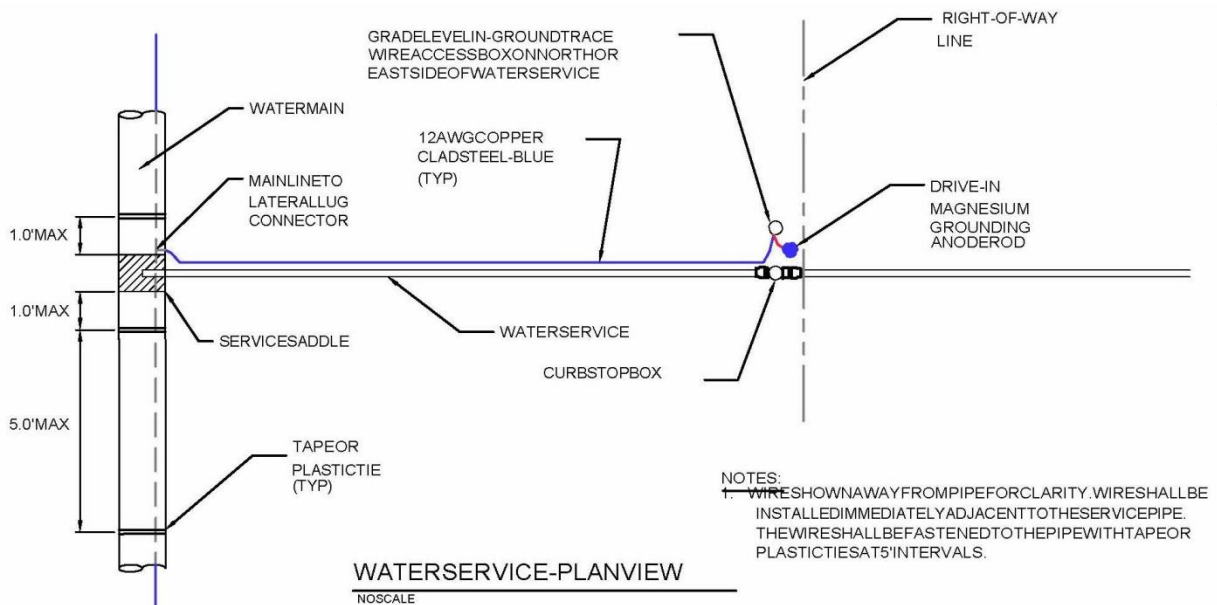
1. The following products and methods shall not be allowed or acceptable

- i.) Uninsulated trace wire

- ii.) Trace wire insulations other than HDPE
- iii.) Trace wires not domestically manufactured
- iv.) Non locking, friction fit, twist on or taped connectors
- v.) Brass or copper ground rods
- vi.) Wire connections utilizing taping or spray-on waterproofing
- vii.) Looped wire or continuous wire installations, that has multiple wires laid side-by-side or in close proximity to one another
- viii.) Trace wire wrapped around the corresponding utility
- ix.) Brass fittings with trace wire connection lugs
- x.) Wire terminations within the roadway, i.e. in valve boxes, cleanouts, manholes, etc.
- xi.) Connecting trace wire to existing conductive utilities

d. Testing

1. All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the contractor, engineer and facility owner as applicable, prior to acceptance of ownership.
2. This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project.
3. Continuity testing in lieu of actual line tracing shall not be accepted.





RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS, and OTHER GRASSED AREAS

- 1) **GENERAL:** The work under this item of work shall consist of furnishing all necessary materials, labor, supervision, tools, equipment and incidentals for the restoration of roads, driveways, fences, lawns and other grassed areas so as to provide satisfactory repair to all damage caused by general construction work. It is the intent of these Specifications to restore all such features to the general conditions that existed prior to construction activity insofar as practical. It is not the intention of this Specification that trees, which must be cut and removed, be restored. The Contractor is expected to be familiar with the overall area and be satisfied as to the materials required and level of effort needed to accomplish such restoration in accordance with this Specification.

- 2) **APPLICABLE PUBLICATIONS:** The following publications form a part of this specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work:
 - a) **AMERICAN ASSOCIATION of STATE HIGHWAY and TRANSPORTATION OFFICIALS (AASHTO):**
 - i) T 99 The Moisture Density Relations of Soils Using a 5.5lb. (2.5 kg) Rammer and a 12-inch (305 mm) Drop
 - ii) T 167 Compressive Strength of Bituminous Mixture
 - iii) T 191 Density of Soil In-Place by the Sand-Cone Method
 - iv) T 230 Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
 - b) **AMERICAN SOCIETY for TESTING and MATERIALS (ASTM)**
 - i) D 2922 Density of Soil and Soil Aggregate in Place by the Nuclear Method (shallow depths)
 - c) **MISSISSIPPI DEPARTMENT of TRANSPORTATION (MDOT)**
 - i) Standard Specifications for Road and Bridge Construction, 2004 Edition
 - ii) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)

3) SUBMITTALS: Mix Designs: Design mix will be provided by Contractor and approved by Engineer prior to production of asphalt.

4) MATERIALS

a) 4.1 Subbase and Base Courses: Subbase and base courses under paved areas shall be as specified in MSHD Specification, Section 300.

b) 4.2 Prime Coat: Prime coat shall consist of Grade MC-30 or Grade MS-70 in accordance with the applicable requirements of MDOT Specification Section 408.

c) Bituminous Pavement: Bituminous Pavement for roadway and parking areas, wearing and binder courses shall consist of a mix in accordance with MDOT Specifications Section 403.

d) Materials shall conform to the following subsection of MDOT, Specifications Sections 702 and 703.

i) Bituminous Materials (AC-20) 702.01

ii) Aggregate

iii) BC-1 Binder Course

iv) SC-1 for Surface Course

v) Filler 703.14

vi) Topsoil: Topsoil shall be in accordance with Technical Specifications - SEEDING and SODDING.

vii) Seeding and Sodding: Seeding and sodding operations shall be in accordance with Technical Specifications - "SEEDING and SODDING."

5) CONSTRUCTION

a) Maintenance of Traffic

i) Prior to limiting or restricting traffic on any street or road, the Contractor shall obtain permission from the City of Hattiesburg. Through or local traffic shall at all times be accommodated by the use of temporary approaches, crossings or detours (if allowed by the City of Hattiesburg). Satisfactory (to the Property Owner) ingress and egress to any public or private property shall be properly maintained. Proper barricades, signs and

detour signs shall be provided by the Contractor to adequately warn motorists of obstructions ahead. Lighted (flashing) barricades shall be used at night.

- ii) Flagmen shall be provided to direct traffic around equipment and for one way movement of traffic around equipment and for one way movement of vehicles. The Contractor may have to stop construction and restore full traffic during certain rush hours.
- iii) The Contractor shall at all times (unless otherwise permitted in writing by the City of Hattiesburg) maintain open one lane to traffic during construction operations and restore roadways to two-way traffic during non-construction hours.

b) Repair of Asphalt; Concrete Streets; Driveways; Parking Lots

i) Removal and Earthwork:

(1) The existing asphalt pavement shall be uniformly saw cut on straight lines and the material shall be removed. Other methods of cutting the existing asphalt surface which will result in a uniform straightedge similar to a sawed cut may be acceptable. Upon completion of the pipe laying, select backfill shall be placed in the excavation in maximum 8-inch lifts and compacted to at least 90% of maximum laboratory density to within one foot of the top subgrade and to 95% of maximum laboratory density in the upper one foot of the subgrade.

(2) Maximum density of typical select backfill material shall be determined in accordance with AASHTO T 191 or ASTM D 2922. Portable mechanical tampers or vibratory compactors shall be used in the trenches. Rollers may be used at street level. Existing base and asphalt surfaces which become undermined during construction shall be removed until firm undisturbed subgrade is reached.

c) Asphaltic Base: Asphaltic base shall be constructed in accordance with MSHD Specification, Section 300.

- i) Prime Coat: Prime coat shall be applied to exposed existing base material prior to overlay with asphaltic base course in accordance with MSHD Specification, Section 408.
- ii) Tack Coat: Tack coat shall be applied to existing or new asphaltic wearing course and asphaltic base, or concrete which is to require asphalt wearing course.

- iii) Asphalt Wearing Course: Placement and compaction of the bituminous pavement shall be in accordance with MSHD Specification Section 403.03.
- iv) Utilities: All utility covers excavated during removal of streets, driveways, parking lots shall be restored to finished grade.
- d) Driveways and Sidewalks:
 - i) Driveways and sidewalks shall be repaired in similar manner to the original construction. Asphalt drives shall be saw cut where required and repaired in accordance with Paragraph 6(b) of this Specification. Concrete drives shall be saw cut or removed to the next joint. The minimum thickness for concrete driveway repair is 6 inches and for sidewalks is four (4) inches.
 - ii) Concrete surfaces shall be properly tooled and receive a broom finish. Installation (if required) of new driveway drainage culvert shall be made only at the direction of the Engineer. The Contractor shall take all reasonable precautions to allow for reuse of existing drainage culverts.
- e) Repair to Gravel Roads: Gravel roads shall be backfilled and compacted in accordance with Paragraph 6(b) of this Specification. The final surface shall consist of 12-inch in-place compacted clay gravel. Compaction shall be to 100% of maximum laboratory density in accordance with AASHTOT 99.
- f) Repair to Lawns:
 - i) General: The Contractor shall exercise extreme care to minimize damage to improved lawns. Trees and shrubs within the limits of work shall be removed only for essential construction requirements. Any shrubs, which are removed or damaged, shall be replaced by satisfactory (to the Property Owner) planting by the contractor. Any grass seed areas, roads, streets, driveways, culverts, fences, water lines, metal boxes or other items (excluding trees unavoidably cut) which are damaged by the Contractor, shall be satisfactorily restored by Contractor. Acceptance of improved lawn repairs shall be based on the firm establishment of live stand of grasses and live growth of any replanted and acceptable shrubs. The Contractor shall water and fertilize such areas until healthy growth of grass (and shrubs, if applicable) are attained
 - ii) Grading: The surface areas shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.
 - iii) Topsoil: The Contractor shall strip topsoil and sod and stockpile for later

use. Upon completion of trenching over the area. Additional topsoil shall be furnished if required (at no additional cost) to provide a uniform thickness of 3 inches. Lime at a rate of 1 - 1/2 tons per acre and fertilizer (13-13-13) at a rate of 800 pounds per acre shall be applied as needed to further establish grass growth.

iv) Grassing: Grass seed, sprigs, or sod similar to the existing lawn grasses shall be planted in accordance with the supplier's recommendations. Winter cover grasses such as rye grass shall be applied (in addition to planting the permanent grasses) if seeding, sprigging, or sodding is done at a time of year when the permanent grasses will not actively grow. The type(s) of permanent grasses shall be the same as the grass(es) in the damaged lawns. If the lawn repairs are accomplished between September 1 and March 1, the Contractor shall continue the restoration work during the next period of March 15 and April 5 and mow the grass and continue the restoration until satisfactory growth of the permanent grass (es) is obtained. Such additional restoration work shall include the 1 - 1/2 tons of lime per acre, application of 13-13-13 fertilizer at a rate of 800 pounds per acre and replanting and watering permanent grass as necessary to obtain satisfactory (to Engineer) growth. No time will be charged against the Contract Time for any such additional restoration work.

v) Sodding: Sodding shall be in accordance with Technical Specifications - SEEDING and SODDING.

g) Erosion Control:

i) During all phases of construction, the Contractor shall adequately protect all work from adverse erosion. Soil shall not be allowed to flow off the limits of work area. The Contractor shall employ the use of ditch checks, matting, temporary grass cover, blankets, or other measures to control erosion. The Contractor shall be responsible to correct damage caused by erosion.

ii) During the construction of this project, all work areas will be strictly monitored. All trench lines will be kept in excellent condition, all streets and drives will receive careful maintenance, keeping potholes and settled areas filled in. Dust control is essential and will also be strictly monitored.

h) General Grassing of Unimproved Areas

i) General: The Contractor shall seed and establish grass growth in all disturbed areas in unimproved areas (to include pastures and roadsides). Acceptance of the grass cover shall be based upon the firm establishment of a live stand of grass. The contractor shall water such grass if natural rainfall fails to adequately provide moisture. On slope and

other areas subject to erosion, grassing shall be accomplished as soon as practical (within 48 hours unless weather is prohibiting) after finish grading operations.

- ii) Grading: The surface area shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.
- iii) Topsoil: The Contractor shall remove existing topsoil and stockpile for later use. Upon completion of backfilling (to establish contours as before construction), the topsoil shall be uniformly spread back over the area. The Engineer may require additional topsoil be furnished by the Contractor, if in the opinion of the Engineer, adequate provisions and efforts were not made by the Contractor to stockpile and re-use existing topsoil material.
- iv) Fertilizer and Agricultural Limestone: The Contractor shall uniformly apply 800 lbs. per acre of 13-13-13 fertilizer and also apply two (2) tons per acre of agricultural limestone to the area to be seeded. The fertilizer and limestone shall be tilled into the soil to a depth of four (4) inches.
- v) Seeding: Seed shall be uniformly sown in accordance with Technical Specification - SEEDING and SODDING.
- vi) Sodding: Sod shall be place in accordance with Technical Specification – SEEDING and SODDING.
- i) Mulch Cover: Erosion prone areas such as steep slopes and highway shoulders shall receive a layer of loose straw mulch or equivalent at the rate of one and one-half (1-1/2) tons per acre. The mulch cover shall be established by the application of emulsified asphalt or by "crimping" parts of the material into the soil.
- j) Miscellaneous Items: Items such as fences, gates, headwalls, paved ditches, and other items shall be replaced or repaired as required for restoration. Should additional fencing material be required, new post and new wire of similar size, type and gauge shall be provided and installed.
- k) General Care: Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees, which do not have to be removed in the opinion of the Engineer, and which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be

treated with a tree dressing.

6) TESTING

- a) General: All sampling and testing shall be accomplished by the testing laboratory approved by the Owner and employed by the Contractor to perform such services. Results shall be immediately forwarded to the Engineer by the Contractor.
- b) Earthwork: Earthwork directly involved with road and street repair shall be tested as follows:
 - i) Moisture Density Relationship (Standard Proctors): Two tests of sampled native material shall be required.
 - ii) Tests shall be in accordance with AASHTO T 99.
 - iii) Field Density: A minimum of two and a maximum of four field density tests shall be required. Density tests shall be in accordance with AASHTO T 191 or ASTM D 2922
 - iv) Topsoil: Two pH tests and two organic content tests (wet combustion method) will be required.

SEEDING and SODDING

- 1) **DESCRIPTION:** This item consists of furnishing all labor, supervision, materials, tools, incidentals and equipment and performing all work for top soiling, tilling, fertilizing, seeding, watering, and otherwise establishing, protecting and maintaining seeded and sodded areas as required by the Contract Drawings and these specifications, and including repair, re-fertilizing and reseeding as required until final inspection and acceptance of the project.
- 2) **SUBMITTALS:** Certificates for fertilizer, limestone, seed.
- 3) **MATERIALS**
 - a) **Topsoil:** Topsoil shall be the surface layer of soil that is stockpiled by the Contractor during stripping and/or excavation on the site. The topsoil shall be free of subsoil, clay, lumps, stones, brush or seed. Topsoil shall have a pH value of not less than 4.5 or more than 8.0.
 - b) **Lime:** Lime shall be ground limestone containing not less than 80% of total carbonates and shall be ground to such fineness that 80% will pass through a No. 10 mesh sieve and 40% will pass through a No. 40 mesh sieve.
 - c) **Fertilizer:** Fertilizer shall be water soluble commercial carriers of available plant food elements or combinations thereof, as stated herein and shall conform to the applicable state fertilizer laws. They shall be uniform in composition, dry, and free flowing materials in condition for application by suitable equipment. The fertilizer shall be delivered in standard bags or other convenient standard containers, each fully labeled with manufacturer's guaranteed analysis. Any fertilizer shall contain not less than the percentages by weight of the ingredients set out as follows: (1) Nitrogen, 13% (2) Phosphorous P O, 13%, (3) Potash K C, 13%. Invoices for fertilizer will show the kind and have analysis furnished.
 - d) **Seed:** Seeds with a minimum pure live seed content of 90% shall be used. They shall be of the best grade and of known vitality, purity, and germination and shall be delivered in containers bearing seed tags as required by law showing percentages of germination content and purity of seed as well as percentages of weed seed content.
 - i) All seeds shall be free of wild onion, Canadian thistle, Johnson grass, crab grass or other seeds of noxious weeds. All seeds shall be furnished in standard containers, or as acceptable to the Engineer. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be acceptable.

Purity, Germination, and Planting Schedule			
Spring and Summer Seeding (March 1 to September 1)			
Name	Percent Purity	Percent Germination	Mix (dry wt. lbs.) per Acre
Hulled Bermuda	95	90	20
Pensacola Bahia	95	90	30
TOTAL			50
Fall and Winter Seeding (September 1 to March 1)			
Name	Percent Purity	Percent Germination	Mix (dry wt. lbs.) per Acre
Unhulled Bermuda	95	90	20
Pensacola Bahia	95	90	30
Rye	95	85	15
Crimson Clover	95	85	8
TOTAL			73

- ii) Seeding in Existing Lawns: Grass seeds for existing lawns shall be the same as the existing grass.
- e) Leguminous Inoculants: Inoculation media containing live nitrogen-fixing bacteria shall be supplied with all legume seed. The inoculants shall be standard, pure culture of nitrogen-fixing bacteria. Each kind of legume will require cultural bacteria that are adapted to that particular kind of seed. The bacteria shall be supplied in convenient containers seed. The bacteria shall be supplied inconvenient containers of a proper size to treat the amount of seed to be planted. The legume seeds shall be treated according to the directions, and before the expiration date for use of the media shown on the container.
- i) Soil for Repairs: for fills or areas to be repaired, soil shall be topsoil of a least equal quality to that which exists in areas adjacent to the area to be repaired.
- f) Water: Water shall be free from oil, acid, alkali, salt, and other substances harmful to growth of grass, and shall be from a source accepted prior to use.
- g) Solid Sod: Bermuda or Carpet Grass and shall be native to the locality of the work and shall, when placed be live, fresh, growing grass with at least two and one-half (2-1/2) inches of soil adhering firmly to the roots. The sod shall be reasonably free from obnoxious weeds or other grasses, and shall not contain

any matter deleterious to its growth; or which might affect its subsistence or hardiness when transplanted. The sod shall be in blocks at least 3"x 8", and free from ragged edges.

4) INSPECTION AND TESTS

- a) Fertilizer and Limestones: Duplicate copies of material invoices shall be furnished to the Engineer. Invoices shall show quantities and grade of fertilizer, quantity of limestone, percentages of calcium carbonate and magnesium carbonate, as applicable, and the percentages of limestone that pass the No. 40 and the No. 10 mesh sieves. Samples of each lot of fertilizer and limestone shall be furnished for testing. Upon completion of project a final check of total quantities of fertilizer and limestone used will be made against total area treated, and if minimum rates of application have not been met, additional quantities of these materials to make up minimum application specified shall be distributed.
- b) Seed: Contractor shall furnish to the Engineer duplicate signed copies of statement(s) from vendor(s), certifying that each container of seed delivered is labeled in accordance with Federal Seed Act and is at least equal to requirements specified therein. This certification shall be obtained from vendor and shall be furnished before application.

5) PREPARATION of GROUND SURFACE

- a) General: Equipment, in good operating condition, shall be used for the proper preparation of the ground and for handling and placing all materials. Equipment shall be acceptable before work is started.
- b) Top soiling: Topsoil shall be obtained from job site stockpiles formed during stripping and/or excavation operations and shall be free from subsoil, clay lumps, stones, brush, grasses or weeds, excess acids or alkali, or any other material to subsequent, smooth, grading, planting, and maintenance operations.
- c) Grading: Previously established grades shall be maintained on the areas to be treated in a true and even condition; necessary repairs shall be made to previously graded areas by means of graders or other approved equipment.
- d) Tillage: After the areas required to be treated have been brought to the grades shown, the soil shall be tilled to a depth of at least 4 inches by plowing, disking, harrowing, or other acceptable operations until the condition of the soil is acceptable. The work shall be performed only during period when beneficial results are likely to be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. Undulations or irregularities in the surface shall be leveled before the next

specified operation.

6) APPLICATION of FERTILIZER and LIMESTONE

- a) Pre-planting fertilization of areas to be seeded: Fertilizer shall be distributed uniformly at a rate of 800 pounds per acre over areas to be seeded and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of fertilizer may be part of the operation specified in Section 5.4: TILLAGE of these specifications.
- b) Liming: Immediately following or simultaneously with incorporation of fertilizer, limestone shall be distributed uniformly at a rate of 4000 pounds per acre, and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of limestone along with fertilizer may be part of the operation specified in Section 5.4: TILLAGE of these specifications.
- c) Leveling: Surface irregularities resulting from tillage, fertilizing, liming, or other operations shall be leveled before seeding.
- d) Post-planting fertilization: From 40 to 60 days after seeding, ammonium nitrate or its nitrogen equivalent shall be applied uniformly at a rate of 225 pounds per acre over areas seeded. Fertilizer shall be applied when grass blades are dry to minimize burning. The planted area shall be watered to thoroughly moisten the upper 6 inches of the soil surface after the fertilizer is applied.

7) PLANTING SEED

- a) General: A satisfactory method of sowing shall be employed; using approved mechanical power-drawn drills or seeders, or other approved methods. When drills are used, markers or other means shall be provided to ensure that the successive seeded strips will overlap or be separated by a space no greater than 6 inches. When delays in operations extend the work beyond the most favorable planting season for species designated or when conditions are such by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, work shall be halted as directed and resumed only when conditions are favorable or when approved alternate or corrective measure and procedures have been effected. If inspection during or after seeding operations indicates that strips wider than 6 inches have been left unplanted or other areas skipped, additional seed shall be sown.
- b) Broadcast Seeding: Seeding shall be broadcast either by hand or with acceptable seeding equipment, in combination with fertilizer, or with other acceptable sowing equipment. Seed shall be distributed uniformly over designated areas. Half of the seed shall be sown with sower moving at right

angles to first sowing. Seed shall be covered to an average depth of 1/4 inches by brush harrow, spiketooth harrow, chain harrow, cultipacker, hand rake with wood tines, or another approved device. Seed shall not be broadcast during windy weather.

- c) Drill Seeding: Drill seeding shall be accomplished with approved equipment with drills set not more than 6 inches apart. Seed shall be sown uniformly over designated areas to average depth of 1/4 inch.
 - d) Sodding: All solid sod shall be procured areas where the soil is fertile and contains a high percentage of loamy topsoil, and from areas that have been grazed or mowed sufficiently to form a dense turf.
 - e) Mechanical devices, such as sod cutter, may be used for cutting the sod into strips or blocks. Care shall be exercised at all times to retain the native soil on the roots of the sod during the process of excavating, hauling and planting.
 - f) The solid sod blocks shall be transplanted within 24 hours from the time of cutting, unless they are stacked at their destination in a manner satisfactory to the Engineer. All solid sod in stacks shall be kept moist and protected from exposure to the air and sun, and from freezing. In no event shall more than two (2) days elapse between the cutting and planting of the solid sod.
 - g) Solid sod shall be planted during the period between March 1st and December 15th, unless written permission is given by the Engineer to extend the planting season. The solid sod shall be placed on the prepared surface with the edges in close contact. All cracks between blocks of solid sod shall be closed with small pieces of fresh sod and all cracks too small for sod shall be filled by a light dressing of topsoil. The entire sodded area shall then be compacted and watered to the satisfaction of the Engineer. Rollers, hand tamps or other approved equipment may be used for compacting.
 - h) Surfaces of solid sodding which, in the opinion of the Engineer, may slide due to the height and slope of the surface or nature of the soil, shall, upon direction of the Engineer, be "pegged" with wooden pegs driven through the sod blocks into firm earth, sufficiently close to hold the sod in place.
- 8) MAINTENANCE: Seeded areas shall be maintained until all work or designated portions thereof have been completed and accepted. Tall grass and weeds that tend to impede the desired grass species shall be mowed, and any damage resulting from these operations shall be repaired at the Contractor's expense.

9) ESTABLISHMENT of GROWTH

- a) General: The Contractor shall be responsible for proper care of seeded areas

while grass is becoming established for three (3) months after completion of treatment on the entire project, unless desired cover is established in a shorter period of time and the Owner shortens responsibility period. The Contractor shall be responsible for providing a satisfactory stand of grass. A satisfactory stand of grass is determined as a cover of living grass in which gaps larger than 12 inches square do not occur as determined by an acceptance inspection made at the end of the maintenance period. Maintenance work shall be performed at the Contractor's expense.

- b) Mowing: Seeded and sodded areas shall be mowed with acceptable mowing equipment to a height of about 4 inches when average height of grass becomes about 8 inches. When amount of cut grass is heavy, grass shall be removed to prevent destruction of underlying turf. If weeds or other undesirable vegetation threatens to impede the growth of planted species, such vegetation shall be mowed, or in case of excessive growth, shall be uprooted, raked and removed from area.
- c) Re-fertilizing: The Contractor will determine areas needing re-fertilization at least 15 days before application is required. Fertilization shall be distributed on designated area during periods when grass is dry. 13-13-13 grade fertilizer shall be applied uniformly at a rate of 800 pounds per acre. Fertilizer conforming to physical condition, packaging and marking as specified hereinbefore shall be provided.
- d) Reseeding: The Contractor will determine areas requiring reseeding at least 15 days before period specified for reseeding. Seed specified hereinbefore shall be drilled at rates hereinbefore specified, in a manner that will cause minimum disturbance to existing stand of grass, and at an angle of not less than 15 degrees from direction of previously seeded rows.

FIRE HYDRANT

- 1) **GENERAL:** Fire hydrants shall comply in all respects with AWWA Standard C-502, latest revision. Fire hydrants shall be of the compression type, with the main valve opening against the pressure and closing with the pressure. The main valve opening shall be 5 ¼" in diameter. Fire Hydrant shall be of a dry barrel, dry top design. The nozzle section shall consist of two (2) hose nozzles and one (1) pumper nozzle or other as specified.
- 2) **RATING:** Fire hydrants shall be rated at 250 psi water working pressure, tested at 500 pounds hydrostatic for structural soundness in the following manner: 500-pound hydrostatic test supplied from the inlet side, first with the main valve closed for the testing of the valve seat: second, with the main valve open for testing of the drain valves and the hydrant barrel. Testing to be complete in accordance with AWWA C-502 and ULFM requirements.
- 3) **END CONFIGURATION:** Hydrants shall be connected to the main by a 6" fusion bonded, epoxy coated mechanical joint shoe. Mechanical joint shoes shall be fitted with strapping lugs.
- 4) **DESIGN**
 - a) The main valve seat of the hydrant shall be made of rubber and be supported by a one-piece bronze top plate / drain valve mechanism. Drain valves shall be faced with rubber. The bottom stem threads of the main valve rod shall be fitted with an epoxy coated, cast iron bottom plate, sealing lower rod threads from the water.
 - b) Changes in size or shape of the waterway (hydrant nozzles) shall be accomplished by means of easy curves. Exclusive of the main valve opening, the net area of the waterway of the barrel and the foot piece at the smallest part shall not be less than 120% of that of the net opening of the main valve.
 - c) Hose and pumper nozzles shall be threaded and screwed into the nozzle section and then mechanically locked to prevent turning.
 - d) Hose and pumper caps shall be chained to the hydrant
 - e) The hydrant shall be so designed that when it is in place, no excavation will be required to remove the main valve and movable parts of the drain valve. Further, the hydrant shall be of the type that can be extended without excavating.
 - f) Hydrants shall be so designed that, in the event of accident, or breaking of the hydrant above or near grade level; the main valve will remain closed.
 - g) The main valve rod shall be made in two parts and fitted with breakable coupling at

the ground line flange.

- h) The ground line connection between nozzle section and the barrel shall incorporate the use of a traffic flange. This connection shall be so designed that the nozzle section can be rotated in any increment of 360°. The ground line connection between the barrel and nozzle sections shall have a rubber o-ring gasket to provide a seal.
- i) The operating threads of the hydrant shall be so designed as to avoid the working of any iron or steel parts against either iron or steel. The operating stem and operating nut threads shall be square or acme type.
- j) The operating thread shall be lubricated at factory with food grade grease. Access shall be provided to field lubricate the operating mechanism.
- k) The operating thread shall be sealed from water at all times when the valve is either in the opened or closed position. The operating rod shall be bronze sheathed where it passes through the double "O" ring seal in the bonnet.
- l) The bonnet shall be weather proof and utilize a weather shield integral with the external wrench operating nut.
- m) The operating nut shall be made of bronze with a self-lubricating design.
- n) Hydrants shall be of the dry barrel type and the hydrant shoe shall have two positive acting non-corrosive drain valves that shall drain the hydrant completely by opening when the main valve is closed, and close tightly in accordance with AWWA C-502 requirements when main valve is open.
- o) The main valve assembly shall be seated in the hydrant with a bronze-to-bronze interface to facilitate removal of the main valve, should maintenance be required. The nozzle section shall consist of two-2 1/2" hose nozzles to the specified thread designation (NST) and one pumper nozzle 4 1/2" in diameter to the specified thread designation (NST), or other combination of nozzle outlets, including independent hose gate valves, as shown on the plans.
- p) Two O-ring seals shall be utilized where the main hydrant rod passes through the 1 piece bonnet.
- q) Hydrant standpipe shall be ductile iron and single piece for all bury depths.
- r) All like parts of hydrants of the same size and model produced by the same manufacturer shall be interchangeable.
- s) Hydrant shall open by turning to the left. The direction of opening is to be

permanently marked on the hydrant bonnet.

- t) Threads on hose and steamer nozzles shall be National Standard unless otherwise specified.
- u) Size and shape of operating nuts cap nuts shall conform to National Standard unless otherwise specified.
- v) Bury shall be a minimum of three (3) feet measuring depth from grade line to bottom of trench or connecting pipe.
- w) Auxiliary shut-off (isolation) gate valves, when required, shall be of the same manufacture as the hydrant.

5) COATING

- a) The inside of all hydrants shall be coated in accordance with AWWA standards except for bronze and threaded machined surfaces. Exterior on hydrant nozzle section shall be painted Fire Hydrant Red (or other as shown on the plans).
- b) Hydrant shoes shall have an interior and exterior thermosetting epoxy coating of 5 to 6 mils meeting AWWA C550.

- 6) **MARKINGS:** Hydrant shall be marked with the name of the manufacturer, size of valve opening, direction of opening and the year of manufacture all in accordance with the AWWA C-502.

SOURCE: Hydrants shall be M&H Model 129, Mueller Super Centurion 250, or the American Flow Control.

ADVERTISEMENT FOR BIDS

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until 10:00 a.m. on June 15, 2017 in the City Clerk's Office in the City Hall at 200 Forrest Street of said City for furnishing the City's requirements for the following:

COMPREHENSIVE WATER IMPROVEMENTS - PHASE V

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., 301 Second Avenue, Hattiesburg, Mississippi, 39401, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

COMPREHENSIVE WATER IMPROVEMENTS - PHASE V HATTIESBURG, MISSISSIPPI

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the ____ day of _____ A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____

Kermas Eaton, City Clerk

Publish on May 10, 2017 and May 17, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
PO Box 1898
Hattiesburg, MS 39403-1898



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-386

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Approve the sale of Grave spaces, Per attached memo.

<u>Title:</u> Approve the sale of Grave spaces, Per attached memo.

Type: Action Item

Drafter: Deborah Bourne

In Control: City Council

Reference:

Attachments: Memo 5-2-17, Deeds 5-2-17, Receipts 5-2-17

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

To: CITY COUNCIL

From: Deborah Bourne, Assistant Division Manager of Cemeteries

Date: April 4, 2017

The following represents the grave spaces sold on April 4, 2017

Gary Walker, Jr

(1) Space \$175.00

North Half (N1/2) of the Northeast Quarter (NE1/4)

Lot 39, Section 28, Highland Cemetery

Virgina Carol Hollingsworth

(1) Space \$ 175.00

North Half (N1/2) of the Southwest Quarter (SW1/4)

Lot 59, Section 36, Highland Cemetery

Olivia Ann Welborn Trahan

(1) Space \$ 175.00

South Half (S1/2) of the Southwest Quarter (SW1/4)

Lot 45, Section 35, Highland Cemetery

Dr. LaDonna Woullard

(1) Space \$ 175.00

North Half (N1/2) of the Northeast Quarter (NE1/4)

Lot 1, Section 33, Highland Cemetery

Dorothy J. Reedy

(1) Space \$ 175.00

North Half (N1/2) of the Northwest Quarter (NW1/4)

Lot 31, Section 26, Highland Cemetery

To: CITY COUNCIL

From: Deborah Bourne, Assistant Division Manager of Cemeteries

Date: April 6, 2017

The following represents the grave spaces sold on April 6, 2017

Patricia Simmons

(1) Space \$ 175.00

South Half (S1/2) of the Northwest Quarter (NW1/4)

Lot 63, Section 34, Highland Cemetery

Anthony Wayne Nobles

(1) Space \$ 175.00

South Half (S1/2) of the Northwest Quarter (NW1/4)

Lot 42, Section 28, Highland Cemetery

To: CITY COUNCIL

From: Deborah Bourne, Assistant Division Manager of Cemeteries

Date: April 12, 2017

The following represents the grave spaces sold on April 12, 2017

Marvin or Opera D. Meadows

(1) Space \$ 175.00

North Half (N1/2) of the Southwest Quarter (SW1/4)

Lot 3, Section 33, Highland Cemetery

Marvin & Opera D. Meadows

(1) Space \$ 175.00

South Half (S1/2) of the Northwest Quarter (NW1/4)

Lot 3, Section 33, Highland Cemetery

Donna J. McCrary

(1) Space \$ 175.00

North Half (N1/2) of the Northwest Quarter (NW1/4)

Lot 93, Section 37, Highland Cemetery

To: CITY COUNCIL

From: Deborah Bourne, Assistant Division Manager of Cemeteries

Date: April 18, 2017

The following represents the grave spaces sold on April 18, 2017

Berenetta Martin

(1) Space \$ 175.00

North Half (N1/2) of the Northwest Quarter (NW1/4)

Lot 35, Section 36, Highland Cemetery

Patricia Armstrong

(1) Space \$ 175.00

North Half (N1/2) of the Northwest Quarter (NW1/4)

Lot 4, Section 33, Highland Cemetery

Alice Stewart

(2) Spaces \$ 300.00

Northwest Quarter (NW1/4)

Lot 57, Section 1, South Hill Cemetery

To: CITY COUNCIL

From: Deborah Bourne, Assistant Division Manager of Cemeteries

Date: April 24, 2017

The following represents the grave spaces sold on April 24, 2017.

Bertie Martin

(1) Space \$ 175.00

South Half (S1/2) of the Northwest Quarter (NW1/4)

Lot 35, Section 36, Highland Cemetery

To: CITY COUNCIL

From: John Williams, Assistant Division Manager of Cemeteries

Date: January 12, 2017

The following represents the grave spaces sold on January 12, 2017

Mary Jean Williams

(1) Space \$ 175.00

North Half (N1/2) of the Northeast Quarter (NE1/4)

Lot 37, Section 35, Highland Cemetery

Eddie D. Cooley

(1) Space \$ 175.00

South Half (S1/2) of the Northeast Quarter (NE1/4)

Lot 52, Section 37, Highland Cemetery

Billy and Brenda Strahan

(2) Spaces \$ 350.00

Northeast Quarter (NE1/4)

Lot 10, Section 26, Highland Cemetery

Alice Barnes

(1) Space \$ 175.00

North Half (N1/2) of the Southwest Quarter (SW1/4)

Lot 69, Section 35, Highland Cemetery

Turned in 1/13/17
DB

To: CITY COUNCIL

From: John Williams, Assistant Division Manager of Cemeteries

Date: January 13, 2017

The following represents the grave spaces sold on January 13, 2017

Lewis Jackson

(1) Space \$ 175.00

North Half (N1/2) of the Southeast Quarter (SE1/4)

Lot 7, Section 37, Highland Cemetery

To: CITY COUNCIL

From: John Williams, Assistant Division Manager of Cemeteries

Date: January 19, 2017

The following represents the grave spaces sold on January 19, 2017

Jared Andrew Heard (Infant) ✓

(1) Space \$ 45.00

Baby Space # 34

Lot 2, Section 3, Highland Cemetery

Susan Slaughter ✓

(2) Spaces \$ 350.00

Northwest Quarter (NW1/4) .

Lot 22, Section 37, Highland Cemetery

To: CITY COUNCIL

From: John Williams, Assistant Division Manager of Cemeteries

Date: January 24, 2017

The following represents the grave spaces sold on January 24, 2017

Samuel Vaughn

(1) Space \$ 175.00

South Half (S1/2) of the Southeast Quarter (SE1/4)

Lot 96, Section 23, Highland Cemetery

James Meadows

(2) Spaces \$ 350.00

Northeast Quarter (NE1/4)

Lot 24, Section 33, Highland Cemetery

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of THREE HUNDRED FIFTY AND NO/100 Dollars (\$350.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto, James Meadows, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

Northeast Quarter (NE¹/₄)

Lot Number 24 Section Number 33

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

Two Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Samuel Vaughn, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

South Half (S¹/₂) of the Southeast Quarter (SE¹/₄)

Lot 96 Section 23

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, acting, by and through its duly authorized Mayor day of May, 2017.

ATTEST:

CITY OF HATTIESBURG

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned author State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

The last nine (9) Deeds are the ones that was submitted on 1/27/17 for the Feb. 7, 2017 Council Meeting that was never approved.

No. 67236
1/19/17

Turned in 1/19/17

City of Hattiesburg

445.00

RECEIVED FROM JOHN WILLIAMS
FOUR HUNDRED FORTY FIVE AND 00/100
Check - Number VARIOUS

Dollars
445.00

ACCOUNT OF OPENING/CLOSING CK \$50.00
GRAVE SPACE CK \$395.00

FOR CREDIT OF: F/001 General Fund

Deborah Martin

Deputy Tax Collector

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of THREE HUNDRED FIFTY AND NO/100 Dollars (\$350.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto, Susan Slaughter, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

Northwest Quarter (NW¼)

Lot Number 22 Section Number 37

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

Two Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuFree and Kermas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of FORTY-FIVE AND NO/100 Dollars (\$45.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Jared Andrew Heard(Infant) subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

Baby Space #34

Lot Number: 2 Section Number: 3
 according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing
One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

DEPUTY CITY CLERK

MAYOR

(SEAL)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

No. 67204
1/13/17

City of Hattiesburg

425.00

RECEIVED FROM JOHN WILLIAMS

FOUR HUNDRED TWENTY FIVE AND 00/100 *****

Check - Number VARIOUS

Dollars
425.00

ACCOUNT OF OPENING/CLOSING CK \$250.00
GRAVE SALES \$175.00

FOR CREDIT OF: T/001 General Fund

David Martin

Deputy Tax Collector

Turned in 1/13/17 DB

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Lewis Jackson, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N½) of the Southeast Quarter (SE¼)

Lot 7 Section 37

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

NO. 57190
1/12/17

City of Hattiesburg

RECEIVED FROM JOHN WILLIAMS

ONE THOUSAND NINE HUNDRED TWENTY FIVE AND 00/100 ***** Dollars

Cash

Check - Number VARIOUS

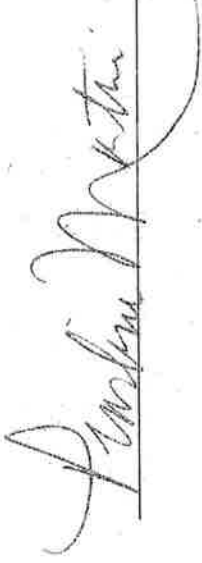
300.00

1,625.00

ACCOUNT OF OPENING/CLOSING CA #300 CKS #750
GRAVE SALES CKS #875

FOR CREDIT OF: T/001

General Fund



Deputy Tax Collector

Turned in 1/12/17

1,925.00

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Mary Jean Williams, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N1/2) of the Northeast Quarter (NE1/4)

Lot 37 Section 35

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Eddie D. Cooley, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

South Half (S½) of the Northeast Quarter (NE¼)

Lot 52 Section 37

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of THREE HUNDRED FIFTY AND NO/100 Dollars (\$350.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto, Billy and Brenda Strahan, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

Northeast Quarter (NE¹/₄)

Lot Number 10 Section Number 26

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

Two Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Alice Barnes, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N¹/₂) of the Southwest Quarter (SW¹/₄)

Lot 69 Section 35

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Bertie Martin, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

South Half (S½) of the Northwest Quarter (NW¼)

Lot 35 Section 36

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Berenetta Martin, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N½) of the Northwest Quarter (NW¼)

Lot 35 Section 36

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Patricia Armstrong, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N $\frac{1}{2}$) of the Northwest Quarter (NW $\frac{1}{4}$)

Lot 4 Section 33

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kermas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

DEED TO CEMETERY LOT
SOUTH HILL CEMETERY

For and in consideration of the sum of THREE HUNDRED AND NO/100 Dollars (\$300.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Alice Stewart, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

Northwest Quarter (NW1/4)

Lot Number : 57

Section Number: 1

according to the Cemetery Survey of the City of Hattiesburg,
Mississippi known as South Hill Cemetery, and containing
Two (2) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK
(S E A L)

MAYOR

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally, appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton Mayor and Deputy City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Patricia Simmons, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

South Half (S½) of the Northwest Quarter (NW¼)

Lot 63 Section 34

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires: _____

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Anthony Wayne Nobles, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

South Half (S½) of the Northwest Quarter (NW¼)

Lot 42 Section 28

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires: _____

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Marvin & Opera D. Meadows, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

South Half (S½) of the Northwest Quarter (NW¼)

Lot 3 Section 33

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Marvin or Opera D. Meadows, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N¹/₂) of the Southwest Quarter (SW¹/₄)

Lot 3 Section 33

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Donna J. McCrary, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N¹/₂) of the Northwest Quarter (NW¹/₄)

Lot 93 Section 37

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Dorothy J. Reedy, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N¹/₂) of the Northwest Quarter (NW¹/₄)

Lot 31 Section 26

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Oliva Ann Welborn Trahan, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

South Half (S¹/₂) of the Southwest Quarter (SW¹/₄)

Lot 45 Section 35

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Gary Walker, Jr., subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N¹/₂) of the Northeast Quarter (NE¹/₄)

Lot 39 Section 28

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kermas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Dr. LaDonna Woullard, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N¹/₂) of the Northeast Quarter (NE¹/₄)

Lot 1 Section 33

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Virginia Carol Hollingsworth, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N¹/₂) of the Southwest Quarter (SW¹/₄)

Lot 59 Section 36

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 2nd day of May, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally appeared before me, the undersigned authority in and for said County and State, Johnny L. DuPree and Kernas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 2nd day of May, 2017.

My Commission Expires: _____

NOTARY PUBLIC

2102 Hamby Cove
Drive
Acworth, GA
30102

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., 04/24 20 17

SOLD TO:

Mr. Mrs. Miss Bertie Martin

ADDRESS 5752 Hwy 49 S. Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

S $\frac{1}{2}$ NW $\frac{1}{4}$ Lot No. 35 Section No. 36 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CK# 8267

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

mail to:
2102 Hamby Cove
Drive
Acworth, GA
30102

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., April 13 20 17

SOLD TO:

Mr. Mrs. Miss Berenella Martin

ADDRESS 1203 Country Club Rd Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N $\frac{1}{2}$ NW $\frac{1}{4}$ Lot No. 35 Section No. 36 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

cash

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., 04-13- 20 17

SOLD TO:

Mr. Mrs. Miss Alice Stewart

ADDRESS 232 N. Chancellor Rd, Hattiesburg, MS. 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

-- $\frac{1}{2}$ NW $\frac{1}{4}$ Lot No. 57 Section No. 1 in South Hill Cemetery

Number of grave spaces 2 Price per grave space \$ 150.00

Price Received \$ 300.00

CITY OF HATTIESBURG, MISSISSIPPI

By Delorah Brune

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., April 13 20 17

SOLD TO:

Mr.. Mrs. Miss Patricia Armstrong

ADDRESS 408 Ruby Ave Hattiesburg, ms

desires to purchase the grave space described below, subject to Cemetery regulations.

N $\frac{1}{2}$ NW $\frac{1}{4}$ Lot No. 4 Section No. 33 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

ck # 600455604

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., 03/27/ 20 17

SOLD TO:

Mr.. Mrs. Miss Dorothy J. Reedy

ADDRESS 811 Fairley St. Hattiesburg, ms 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N $\frac{1}{2}$ NW $\frac{1}{4}$ Lot No. 31 Section No. 26 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

ck # 1219

CITY OF HATTIESBURG, MISSISSIPPI

By Deborah Bourne
Supt. of City Cemeteries

mail to:
P.O. Box 292
Hattiesburg, ms
39403

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., 04/03 20 17

SOLD TO:

Mr.. Mrs. Miss Dr. La Donna Woullard

ADDRESS 5752 Hwy 49 S. Hattiesburg, ms 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N $\frac{1}{2}$ NE $\frac{1}{4}$ Lot No. 1 Section No. 33 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., 03-29 20 17

SOLD TO:

Mr.. Mrs. Miss Gary Walker, JR

ADDRESS 310 Martin Luther King Ave, Hattiesburg, MS. 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N 1/2 NE 1/4 Lot No. 39 Section No. 28 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CITY OF HATTIESBURG, MISSISSIPPI

By Deborah Bourne
Supt. of City Cemeteries

CASH

mail to:
175 Ford Rd
Hattiesburg, MS.
39401

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., 03-29- 20 17

SOLD TO:

Mr.. Mrs. Miss Virginia Carol Hollingsworth

ADDRESS 535 West 4th St, Hattiesburg, MS. 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N 1/2 SW 1/4 Lot No. 59 Section No. 36 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CITY OF HATTIESBURG, MISSISSIPPI

By Deborah Bourne
Supt. of City Cemeteries

CASH

mail to:
24230 Cafe Hill
San Antonio, TX
78260

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., March 31 20 17

SOLD TO:

Mr.. Mrs. Miss Divia Ann Welborn Trahan

ADDRESS 205 Bay Street Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

S 1/2 SW 1/4 Lot No. 45 Section No. 35 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CITY OF HATTIESBURG, MISSISSIPPI

By Deborah Bourne

CASH

1832 Vine Land Lane
Tallahassee, FL 32317
CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., April 06, 2017

SOLD TO:

Mr.. Mrs. Miss Patricia Simmons

ADDRESS 224 Springhill Drive Hattiesburg, MS 39402

desires to purchase the grave space described below, subject to Cemetery regulations.

S 1/2 NW 1/4 Lot No. 63 Section No. 34 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

cash

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature] Supt. of City Cemeteries

mail to
105 Woodside Drive
Petal, MS 39465

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., 4/05 2017

SOLD TO:

Mr.. Mrs. Miss Anthony Wayne Nobles

ADDRESS 1258 Richburg Rd Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

S 1/2 NW 1/4 Lot No. 42 Section No. 28 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CK# 1041

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature] Supt. of City Cemeteries

mail to
P.O. Box 454
Richmond, MS 39476

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., 4/11 2017

SOLD TO:

Mr.. Mrs. Miss Marvin & Opal D. Meadows

ADDRESS 1108 North Main St. Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

S 1/2 NW 1/4 Lot No. 3 Section No. 33 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

PV H. 2521

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]

mail to:
P.O. Box
454

Richton, ms 39476

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., 4/11/ 2017

SOLD TO:

Mr.. Mrs. Miss Marvin or Opera D. Meadows

ADDRESS 1108 North main St. Hattiesburg, ms 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N $\frac{1}{2}$ SW $\frac{1}{4}$ Lot No. 3 Section No. 33 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CK # 2531

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., 04-11 2017

SOLD TO:

Mr.. Mrs. Miss Donna J. McCrory

ADDRESS 304 40th Place Hattiesburg, ms 39402

desires to purchase the grave space described below, subject to Cemetery regulations.

N $\frac{1}{2}$ NW $\frac{1}{4}$ Lot No. 93 Section No. 37 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CK # 546

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

Mail to:
11 Catalina Dr
Petal, MS: 39465

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., 01-10- 20 17

SOLD TO:

Mr. Mrs. Miss

Billy and Brenda Strahan

ADDRESS

805 Hardy St. Hattiesburg, MS. 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

1/2 NE 1/4 Lot No. 10 Section No. 26 in Highland Cemetery

Number of grave spaces

2

Price per grave space \$

175.00

Price Received \$

350.00

ck # 3297

CITY OF HATTIESBURG, MISSISSIPPI

By

Deborah Borne

Supt. of City Cemeteries

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., January 11 20 17

SOLD TO:

Mr. Mrs. Miss

Alice Barnes

ADDRESS

120 Berkshire Drive Hattiesburg, MS 39402

desires to purchase the grave space described below, subject to Cemetery regulations.

N SW 1/4 Lot No. 69 Section No. 35 in Highland Cemetery

Number of grave spaces

175.00

Price per grave space \$

175.00

Price Received \$

175.00

ck # 4123

CITY OF HATTIESBURG, MISSISSIPPI

By

Xallyn

Supt. of City Cemeteries

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., January 9 2017

SOLD TO:

Mr.. Mrs. Miss Mary Jean Williams

ADDRESS 817 Atlanta Street Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N $\frac{1}{2}$ NE $\frac{1}{4}$ Lot No. 37 Section No. 35 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CK # 2419

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

4430 Round Stone Ct
Hope Mills, NC
28348-9498

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., January 10 2017

SOLD TO:

Mr.. Mrs. Miss Eddie D Cooley

ADDRESS 622 New Orleans St Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

S $\frac{1}{2}$ NE $\frac{1}{4}$ Lot No. 52 Section No. 37 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CK # 2013

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., January 13 2017

SOLD TO:

Mr. Mrs. Miss Lewis Jackson

ADDRESS 946 Wedgewood Dr Hattiesburg, ms 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N SE $\frac{1}{2}$ Lot No. 7 Section No. 37 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

CK# 1084
CIC# 190

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., 01-18- 20 17

SOLD TO:

Mr. Mrs. Miss Jared Andrew Hard (Infant)

ADDRESS 8 Park Place Apt # 304-N, Hattiesburg, MS 39402

desires to purchase the grave space described below, subject to Cemetery regulations.

Baby space # 34
1/2 2 1/4 Lot No. 2 Section No. 3 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 45.00

Price Received \$ 45.00

ck # 440

CITY OF HATTIESBURG, MISSISSIPPI

By Deborah Baine
Supt. of City Cemeteries

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., January 18 20 17

SOLD TO:

Mr. Mrs. Miss Susan Slaughter

ADDRESS 1113 Adeline Street Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

1/2 NW 22 1/4 Lot No. 22 Section No. 37 in Highland Cemetery

Number of grave spaces 2 Price per grave space \$ 175.00

Price Received \$ 350.00

ck # 10169

CITY OF HATTIESBURG, MISSISSIPPI

By JaPhy Lipp
Supt. of City Cemeteries

Mail to:

141 Riverwood Rd.

Hattiesburg, MS

39401

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., January 23 20 17

SOLD TO:

Mr.. Mrs. Miss

Samuel Vaughn

ADDRESS

5254 Hwy 49 S. Hattiesburg, MS 39444

desires to purchase the grave space described below, subject to Cemetery regulations.

S SE $\frac{1}{2}$ Lot No. 94 Section No. 23 in Highland Cemetery

Number of grave spaces

1

Price per grave space \$

175.00

Price Received \$

175.00

CITY OF HATTIESBURG, MISSISSIPPI

By

[Signature]
Supt. of City Cemeteries

8134

Mail to:

P.O. Box

523

Richmon, MS

39474

CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES

Hattiesburg, Miss., January 20 20 17

SOLD TO:

Mr.. Mrs. Miss

James Meadows

ADDRESS

3401 W. 7th Street Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

NE $\frac{1}{2}$ Lot No. 24 Section No. 33 in Highland Cemetery

Number of grave spaces

2

Price per grave space \$

175.00

Price Received \$

350.00

CITY OF HATTIESBURG, MISSISSIPPI

By

[Signature]
Supt. of City Cemeteries

CK # 10486



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-389

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Approve and authorize issuance of a manual check f

Title: Approve and authorize issuance of a manual check for CDBG Program Claim per the attached memorandum.

Type: Action Item

Drafter: Clarence Williams

In Control: City Council

Reference: La'Keylah White

Attachments: Memorandum for CDBG Payment May 2, 2017

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-389

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Approve and authorize issuance of a manual check f

Title: Approve and authorize issuance of a manual check for CDBG Program Claim per the attached memorandum.

Type: Action Item

Drafter: Clarence Williams

In Control: City Council

Reference: La'Keylah White

Attachments: Memorandum for CDBG Payment May 2, 2017

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

MEMORANDUM

TO: City of Hattiesburg Council Members

FROM: La'Keylah White
Department of Federal & State Programs

SUBJECT: Authorize issuance of manual check for CDBG Program Claim.

DATE: May 2, 2017

Recipient:	Barnett Concrete Work, LLC
Activity:	Asbestos Abatement and Removal
Program:	CDBG
Project Site:	720 East 7 th Street
Amount Requested:	\$3,000.00
Purpose of Request:	Payment Request
Work Provided by:	Barnett Concrete Work, LLC

INVOICE

Terms: This Invoice is made payable within 30 days

Barnett Concrete Work, LLC



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-381

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Approve and authorize issuance of manual check for

Title: Approve and authorize issuance of manual check for HOME Program Claim per the attached memorandum. {Entitlement HOME}

Type: Action Item

Drafter: Kevin Jordan

In Control: City Council

Reference: La'Keylah
White

Attachments: Manual Check for Hollimon Construction - 106 Ruby
Avenue

File Created: 04/21/2017

Budget Information:

Expenditure Type:

Purchasing Item:

**Publication
Information:**

History of Legislative File

MEMORANDUM

TO: City of Hattiesburg Council Members
FROM: La'Keylah White
Department of Federal & State Programs
SUBJECT: Authorize issuance of manual checks for HOME Program claims
DATE: April 20, 2017

The following request for payment is being submitted for approval during the City Council's May 2, 2017 meeting. Please authorize and approve issuance of manual check for the claim listed below:

Recipient:	Hollimon Construction
Activity:	Substantial Rehabilitation
Program:	HOME
Project Site:	106 Ruby Avenue
Amount Requested:	\$12,600.00
Purpose of Request:	Draw/Payment Request
Work Provided by:	Hollimon Construction

City of Hattiesburg
Federal & State Programs
Community Development Division

Hollimon Construction

Curtis Hollimon
145 Hinton Drive
Hattiesburg, Ms 39401
601.270.3164

Ms. Ferry Coney
106 Ruby Ave
Hattiesburg, Ms 39401

- Remove and replace 22 squares of 30yr shingles
- Replace deteriorated fascia and boot jacks
- Install 15lb felt
- Remove and replace all drip edge around the roof
- Gut entire house and remove all sheetrock and paneling

Material & Labor: \$12,600

Curtis Hollimon

[Signature]



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

FILE NUMBER: 2017-385

MEETING DATE: 05/02/2017

MINUTE BOOK NUMBER:

Brief Title: Claims Docket ending 4/30/2017

<u>Title:</u> Approve claims docket for the period ending April 30, 2017.
--

Type: Action Item

Drafter: Kermas Eaton

In Control: City Council

Reference:

Attachments: Claims Docket-4-30-17

File Created: 04/24/2017

Budget Information:

Expenditure Type:

Purchasing Item:

Publication Information:

History of Legislative File

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date - 04/27/17

PERIOD ENDING APRIL 30, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
GENERAL FUND							
00001 A & R FARM AND GARDEN	275519	00169764	16004808	FOGGERS FOR RECORDS	04/30/17	256940	60.00-
00001 A & R FARM AND GARDEN	322056	00169927	16004890	HEAVY DUTY SPRAYER	04/30/17	256940	115.00-

A & R FARM AND GARDEN							
Sum							175.00-
00001 AAMCO TRANS/AUTOMOTIVE S	134873	00169835	16004789	REPRS U#17017 HEALTH	04/30/17	256941	709.95-

AAMCO TRANS/AUTOMOTIVE S							
Sum							709.95-
00001 ADVANCE AUTO PARTS	PPO#169911 4	00169911	16004876	REPR PTS U#14682 LAND CODE	04/30/17	256943	10.45-

ADVANCE AUTO PARTS							
Sum							10.45-
00001 ADVANCED JANITORIAL SERV	101102 CITY	00169808	16004761	SERV 4/17 CITY HALL/ENGR	04/30/17	256944	1,925.00-
00001 ADVANCED JANITORIAL SERV	101102 TRAFF	00169808	16004762	SERV 4/17 TRAFFIC DEPT	04/30/17	256944	250.00-

ADVANCED JANITORIAL SERV							
Sum							2,175.00-
00001 AFFORDABLE EMERGENCY LIG	969	00169525	16004641	REPR WATCHGUARD U#18321	04/30/17	256945	85.00-

AFFORDABLE EMERGENCY LIG							
Sum							85.00-
00001 ANDERSON RETAIL INC	127107	00169260	16004663	FLOORING 2ND ST PROJECT	04/30/17	256948	478.99-

ANDERSON RETAIL INC							
Sum							478.99-
00001 APPLIED CONCEPTS INC	305935	00169302	16004684	HOLSTERS TRAFFIC GRANT 2017	04/30/17	256949	224.20-

APPLIED CONCEPTS INC							
Sum							224.20-
00001 AT&T	601M26940440	02017466	16004688	SERV 4/8-5/7/17 POLICE	04/30/17	256952	76.00-
00001 AT&T	601545491010	02017464	16004689	SERV 4/8-5/7/17 POL DISPATCH	04/30/17	256953	163.60-
00001 AT&T	601M26684200	00169745	16004719	INTERACT SOFTWARE SUPPORT	04/30/17	256954	6,790.00-
00001 AT&T	601M26684200	00169745	16004720	HPD INTERACT SOFTWARE SUPPORT	04/30/17	256955	108,072.91-
00001 AT&T	056314932900	02017478	16004801	LONG DIST 4/17 POLICE DISPATCH	04/30/17	256956	714.44-

AT&T							
Sum							115,816.95-
00001 AT&T MOBILITY	287273861504	00169871	16004834	GPS TRACKING 11/16 VARI DEPTS	04/30/17	256957	1,827.66-
00001 AT&T MOBILITY	287273861504	00169896	16004835	GPS TRACKING 12/16 VARI DEPTS	04/30/17	256957	3,597.22-

AT&T MOBILITY							
Sum							5,424.88-
00001 ATCO INTERNATIONAL	I0483408	00169631	16004749	HAND WASH SHOP/CONSTR/TRAFFIC	04/30/17	256958	168.48-

ATCO INTERNATIONAL

Sum						168.48-
00001 AUTO ARMATURE SERVICE IN 09286	00169536 16004657 BATTERY U#17407 STREET	04/30/17	256959			107.95-
00001 AUTO ARMATURE SERVICE IN 2411	00169855 16004884 BATTERIES U#14406 SANIT	04/30/17	256959			285.90-

AUTO ARMATURE SERVICE IN

Sum						393.85-
00001 BARHAM, MATTHEW	TRAVEL REIMB 00169724 16004727 EXPNS RESCUE SURVIVAL CLASS	04/30/17	256963			34.05-

BARHAM, MATTHEW

Sum						34.05-
00001 BIG IRON DIESEL REPAIR L RO1667	00169698 16004788 REPRS U#13982 SANIT	04/30/17	256964			4,892.72-
00001 BIG IRON DIESEL REPAIR L RO1678	00169790 16004810 REPRS U#16009	04/30/17	256964			4,984.43-
00001 BIG IRON DIESEL REPAIR L RO1679	00169791 16004811 REPRS U#14402 SANIT	04/30/17	256964			619.46-
00001 BIG IRON DIESEL REPAIR L RO1677	00169792 16004812 REPRS U#16007	04/30/17	256964			523.31-
00001 BIG IRON DIESEL REPAIR L EO1680	00169797 16004813 REPRS U#14405	04/30/17	256964			3,643.68-
00001 BIG IRON DIESEL REPAIR L RO1676	00169823 16004819 REPR PTS U#16009	04/30/17	256964			2,137.52-
00001 BIG IRON DIESEL REPAIR L RO1669	00169497 16004846 REPRS U#20503	04/30/17	256964			2,914.99-
00001 BIG IRON DIESEL REPAIR L RO1668	00169498 16004849 REPRS U#14408 HEALTH	04/30/17	256964			976.36-

BIG IRON DIESEL REPAIR L

Sum						20,692.47-
00001 BLOSSMAN GAS INC	PO#169815 4/ 00169815 16004880 PROPANE PUBLIC WORKS	04/30/17	256966			33.00-

BLOSSMAN GAS INC

Sum						33.00-
00001 BOB BARKER COMPANY, INC	NC1001347402 00169435 16004683 PROPERTY BAGS FOR INMATES	04/30/17	256967			500.86-

BOB BARKER COMPANY, INC

Sum						500.86-
00001 BRACKMAN MOWER WAREHOUSE 26188	00169565 16004655 LAWN MOWER SUPP PUBLIC WORKS	04/30/17	256969			1,989.00-
00001 BRACKMAN MOWER WAREHOUSE 26107	00169538 16004658 REPR PTS U#19294	04/30/17	256969			90.70-

BRACKMAN MOWER WAREHOUSE

Sum						2,079.70-
00001 CAMPER CITY OF HATTIESBU 38031	00169908 16004888 REPR PTS U#16965 FIRE DEPT	04/30/17	256975			109.00-

CAMPER CITY OF HATTIESBU

Sum						109.00-
00001 CANON FINANCIAL SERVICES 17229425	00169759 16004718 COPIER 4/17 PURCHASING DEPT	04/30/17	256976			115.00-

CANON FINANCIAL SERVICES

Sum						115.00-
00001 CARQUEST AUTO PARTS STOR 14758-87780	00169388 16004677 REPR PTS U#9606 ST CLEAN	04/30/17	256978			21.94-
00001 CARQUEST AUTO PARTS STOR 14758-87790	00169387 16004678 STOCK SUPP AIRPORT SHOP	04/30/17	256978			500.38-
00001 CARQUEST AUTO PARTS STOR 14758-83415	00167362 16004864 PARTS CLEANER FOR SHOP	04/30/17	256978			153.44-
00001 CARQUEST AUTO PARTS STOR 14758-82446	00167068 16004871 REPR PTS U#18999 M/ADM	04/30/17	256978			306.28-
00001 CARQUEST AUTO PARTS STOR 14758-81581	00166649 16004877 REPR PTS U#15915 LAND CODE	04/30/17	256978			37.96-
00001 CARQUEST AUTO PARTS STOR 14758-80685	00166233 16004881 REPR PTS VARI UNITS	04/30/17	256978			333.85-

CARQUEST AUTO PARTS STOR

Sum							1,353.85-
00001 CERTIFIED ELECTRICAL TES 6244-000	00167267	16004717	SAFETY/ELEC TESTS U#18602	04/30/17	256980		310.00-

CERTIFIED ELECTRICAL TES							310.00-
Sum							150.00-
00001 CERTIFIED SIGN LANGUAGE INTERPRETER	00169821	16004753	SIGN LANGUAGE INTERPRETER	04/30/17	256982		-----
CERTIFIED SIGN LANGUAGE							150.00-
Sum							333.79-
00001 CHRISTOPHER PLUMBING SER 366090	00169675	16004640	PLUMB SUPP TEMP DISPATCH	04/30/17	256985		-----
CHRISTOPHER PLUMBING SER							333.79-
Sum							1,210,833.95-
00001 CITY OF HATTIESBURG FUND TRF 2ND 4/17	02017480	16004827	TRF 2ND 4/17 PAYROLL	04/26/17	111747		-----
CITY OF HATTIESBURG FUND							1,210,833.95-
Sum							50,000.00-
00001 CITY OF HATTIESBURG FUND 4/17	02016467	16004681	TEMPORARY LOAN	04/18/17	11745		-----
CITY OF HATTIESBURG FUND							50,000.00-
Sum							39.98-
00001 CLEMTS HARDWARE	117628	00169787	16004765 SPRAYERS FOR CREW WORKERS	04/30/17	256986		-----
CLEMTS HARDWARE							39.98-
Sum							72.37-
00001 COMCAST CABLEVISION OF H 095777456150	00169894	16004847	CABLE 4/17 SANIT DEPT	04/30/17	256987		-----
COMCAST CABLEVISION OF H							72.37-
Sum							6,690.00-
00001 COURT PROGRAMS INC	INVOICE #31	00169611	16004631 ANKLE MONITORS 3/17	04/30/17	256991		-----
COURT PROGRAMS INC							6,690.00-
Sum							970.20-
00001 COVINGTON SALES & SERVIC 75735	00169606	16004767		04/30/17	256995		-----
COVINGTON SALES & SERVIC							970.20-
Sum							331.80-
00001 CRAIN TRACTOR & EQUIPMEN CP40440	00169392	16004750	REPR PTS U#11356 HEALTH	04/30/17	256996		-----
00001 CRAIN TRACTOR & EQUIPMEN CP40675	00169539	16004751	REPR PTS U#20373 HEALTH	04/30/17	256996		-----
CRAIN TRACTOR & EQUIPMEN							434.04-
Sum							377,124.15-
00001 CROWDERGULF	HAT040817-05	00169854	16004785 DEBRIS REMOVAL TORNADO 2017	04/30/17	256997		-----
CROWDERGULF							377,124.15-
Sum							2,312.74-
00001 D L T SOLUTIONS INC	4572120A	00169817	16004764 SUBSCRIPT RNWL ENGR DEPT	04/30/17	256999		-----
D L T SOLUTIONS INC							2,312.74-
Sum							1,958.00-
00001 DAKTECH COMPUTERS	INV0330197	00169419	16004711 LAPTOPS COURT AND CFO	04/30/17	257000		

DAKTECH COMPUTERS								-----
Sum								1,958.00-
00001	DEBRISTECH	001055	00169853	16004786	DEBRIS MONITOR SRV TORNADO'17	04/30/17	257002	70,350.50-

DEBRISTECH								
Sum								70,350.50-
00001	DELTA FOREMOST CHEMICAL	108548	00168616	16004638	SUPP POLICE SHOP	04/30/17	257003	594.17-
00001	DELTA FOREMOST CHEMICAL	110252	00169680	16004809	CLEANING SUPP FOR SHOP	04/30/17	257003	802.49-

DELTA FOREMOST CHEMICAL								
Sum								1,396.66-
00001	DOUGLAS, STEPHEN (REFUND		02017476	16004805	DAMAGE DEPOSIT REFUND	04/30/17	257008	250.00-

DOUGLAS, STEPHEN (REFUND								
Sum								250.00-
00001	EATON, ALVIN K (PETTY CA		00169920	16004868	PETTY CASH VARI DEPTS	04/30/17	257019	759.11-

EATON, ALVIN K (PETTY CA								
Sum								759.11-
00001	ECONOMY SUPPLY CO	269747	00168852	16004636	STANDING DESK MATLS	04/30/17	257021	66.75-
00001	ECONOMY SUPPLY CO	271284	00169524	16004664	PLYBOARD CONSTR DEPT	04/30/17	257021	31.92-
00001	ECONOMY SUPPLY CO	270996	00169385	16004714	BAGS COLD ASPHALT MIX	04/30/17	257021	606.95-
00001	ECONOMY SUPPLY CO	271921	00169849	16004848	SQUARE SHOVELS CONSTR DEPT	04/30/17	257021	64.75-

ECONOMY SUPPLY CO								
Sum								770.37-
00001	EMERGENCY EQUIPMENT PROF	426487	00169586	16004646	FIRE AXES	04/30/17	257024	178.36-
00001	EMERGENCY EQUIPMENT PROF	426563	00169726	16004748	REPRS U#13933 FIRE DEPT	04/30/17	257024	533.91-
00001	EMERGENCY EQUIPMENT PROF	426558	00169502	16004839	REPR PTS U#14517 FIRE DEPT	04/30/17	257024	922.72-

EMERGENCY EQUIPMENT PROF								
Sum								1,634.99-
00001	EMPIRE TRUCK SALES (H'BU		00169650	16004889	REPR PTS U#20315 FIRE DEPT	04/30/17	257025	84.56-

EMPIRE TRUCK SALES (H'BU								
Sum								84.56-
00001	EVANS, TERESA (REFUND)		02017476	16004804	DAMAGE DEPOSIT REFUND	04/30/17	257027	100.00-

EVANS, TERESA (REFUND)								
Sum								100.00-
00001	FARRIS, JONATHAN M ATTOR		00169872	16004829	PRO TEM JUDGE 3/17 COURT	04/30/17	257029	4,250.00-

FARRIS, JONATHAN M ATTOR								
Sum								4,250.00-
00001	FIRESTONE COMPLETE AUTO	223991	00169469	16004780	TIRES U#8652 FIRE DEPT	04/30/17	257032	143.76-

FIRESTONE COMPLETE AUTO								
Sum								143.76-
00001	FORREST CTY SOIL & WATER		00169740	16004732	SRVS ENGR DEPT	04/30/17	257034	22,500.00-

FORREST CTY SOIL & WATER

Sum									22,500.00-
00001	FORREST GENERAL HOSPITAL	H90069288901	00169673	16004651	SERV 2/13/17	DEAKLE PRISONER	04/30/17	257035	5,713.70-
00001	FORREST GENERAL HOSPITAL	H90068812301	00169673	16004652	SRV 2/13/17	GILMORE PRISONER	04/30/17	257035	4,706.00-

FORREST GENERAL HOSPITAL

Sum									10,419.70-
00001	FORREST GENERAL HOSPITAL	EAP CHARGE 5	00169812	16004758	EAP CHARGE 5/17		04/30/17	257036	1,785.00-

FORREST GENERAL HOSPITAL

Sum									1,785.00-
00001	FV RECYCLING	2017-3216	00169635	16004673	RECYCLE FEES 3/17	SANIT	04/30/17	257038	44.25-
00001	FV RECYCLING	2017-3215	00169635	16004674	RECYCLE FEES 3/17	SANIT	04/30/17	257038	45.75-
00001	FV RECYCLING	2017-3214	00169635	16004675	RECYCLE FEES 3/17	SANIT	04/30/17	257038	70.25-
00001	FV RECYCLING	2017-3213	00169635	16004676	RECYCLE FEES 3/17	SANIT	04/30/17	257038	72.50-
00001	FV RECYCLING	2017-3287	00169695	16004707	RECYCLE FEES 4/17	SANIT	04/30/17	257038	43.50-
00001	FV RECYCLING	2017-3288	00169695	16004708	RECYCLE FEES 4/17	SANIT	04/30/17	257038	96.25-
00001	FV RECYCLING	2017-3289	00169695	16004709	RECYCLE FEES 4/17	SANIT	04/30/17	257038	84.25-

FV RECYCLING

Sum									456.75-
00001	G & K SERVICES	1035828130	00169706	16004695	UNIFORMS 4/17	TRAFFIC	04/30/17	257042	31.37-
00001	G & K SERVICES	1035828129	00169706	16004696	UNIFORMS 4/17	CONSTR	04/30/17	257042	70.91-
00001	G & K SERVICES	1035828144	00169706	16004697	UNIFORMS 4/17	PUBLIC WORKS	04/30/17	257042	74.10-
00001	G & K SERVICES	1035828141	00169706	16004698	UNIFORMS 4/17	PUBLIC WORKS	04/30/17	257042	23.40-
00001	G & K SERVICES	1035828143	00169706	16004699	UNIFORMS 4/17	PUBLIC WORKS	04/30/17	257042	65.06-
00001	G & K SERVICES	1035828145	00169706	16004700	UNIFORMS 4/17	SHOP	04/30/17	257042	54.60-
00001	G & K SERVICES	1035828142	00169706	16004701	UNIFORMS 4/17	SANIT	04/30/17	257042	214.76-
00001	G & K SERVICES	1035828146	00169706	16004702	UNIFORMS 4/17	HEALTH	04/30/17	257042	68.27-
00001	G & K SERVICES	1035828131	00169707	16004703	MATS 4/17	TRAFFIC	04/30/17	257042	6.40-
00001	G & K SERVICES	1035828147	00169707	16004704	MOP/MAT 4/17	GO&FS	04/30/17	257042	24.80-
00001	G & K SERVICES	1035828148	00169707	16004705	MATS 4/17	SANIT	04/30/17	257042	26.65-
00001	G & K SERVICES	1035828149	00169707	16004706	MATS 4/17	AIRPORT	04/30/17	257042	4.70-
00001	G & K SERVICES	1035823974	00169868	16004793	UNIFORMS 4/03	CEM/FORESTRY	04/30/17	257042	46.97-
00001	G & K SERVICES	1035826060	00169868	16004794	UNIFORMS 4/10	CEM/FORESTRY	04/30/17	257042	46.97-
00001	G & K SERVICES	1035828126	00169868	16004795	UNIFORMS 4/17	CEM/FORESTRY	04/30/17	257042	46.97-
00001	G & K SERVICES	1035830235	00169868	16004796	UNIFORMS 4/24	CEM/FORESTRY	04/30/17	257042	47.33-
00001	G & K SERVICES	1035823973	00169868	16004797	MOP/MAT 4/03	CEM/FORESTRY	04/30/17	257042	22.70-
00001	G & K SERVICES	1035826059	00169868	16004798	MOP/MAT 4/10	CEM/FORESTRY	04/30/17	257042	22.70-
00001	G & K SERVICES	1035828125	00169868	16004799	MOP/MAT 4/17	CEM/FORESTRY	04/30/17	257042	22.70-
00001	G & K SERVICES	1035830234	00169868	16004800	MOP/MAT 4/24	CEM/FORESTRY	04/30/17	257042	22.70-

G & K SERVICES

Sum									944.06-
00001	GALL'S LLC	007277094 AD	00169895	16004833	ADDL AMT DUE	PO#169165	04/30/17	257043	64.15-

GALL'S LLC

Sum									64.15-
00001	GARNER LUMLEY ELECTRIC S	535808	00169244	16004666	ELEC SUPP 2ND ST	PROJECT	04/30/17	257044	3,690.81-
00001	GARNER LUMLEY ELECTRIC S	535996	00168337	16004713	FENCE PTS TEMP	DISPATCH	04/30/17	257044	221.57-

GARNER LUMLEY ELECTRIC S								
Sum								3,912.38-
00001	GARY'S SMALL ENGINE REPA	PO#169570 4/	00169570	16004715	REPR PTS U#19810	04/30/17	257045	44.99-

GARY'S SMALL ENGINE REPA								
Sum								44.99-
00001	GILLIG LLC	40303118	00167659	16004862	WINDSHIELDS U#17899 TORNADO	04/30/17	257046	816.40-
00001	GILLIG LLC	40303119	00167659	16004863	MIRROR ARM U#16235 TORNADO'17	04/30/17	257046	734.25-
00001	GILLIG LLC	40303119(B)	00167659	16004865	HEAD AM MIRROR U#16235 TORNADO	04/30/17	257046	283.25-

GILLIG LLC								
Sum								1,833.90-
00001	GILLILANDS ELECTRONICS S	63888	00169810	16004754	REPR COURT ROOM CAMERA	04/30/17	257047	75.00-
00001	GILLILANDS ELECTRONICS S	63832	00169805	16004759	ALARM 4/17-4/18 FIRE ADM BLDG	04/30/17	257047	480.00-
00001	GILLILANDS ELECTRONICS S	63520	00169820	16004763	FAX MACH LABOR/PROGRAM PHONES	04/30/17	257047	150.00-
00001	GILLILANDS ELECTRONICS S	63808	00169890	16004838	PHONE RENT 3/17 POLICE	04/30/17	257047	884.99-

GILLILANDS ELECTRONICS S								
Sum								1,589.99-
00001	GLOBAL SECURITY INVESTIG	SECURITY DET	02017475	16004802	SECURITY DETAIL RFD 4/30	04/30/17	257048	115.50-
00001	GLOBAL SECURITY INVESTIG	SECURITY DET	02017475	16004803	SECURITY DETAIL RFD 4/30	04/30/17	257048	96.25-

GLOBAL SECURITY INVESTIG								
Sum								211.75-
00001	GRAVES, ROBERT M	372045	00169842	16004782	LOT CLEARING (6) LAND CODE	04/30/17	257050	1,300.00-

GRAVES, ROBERT M								
Sum								1,300.00-
00001	GROVER BROS RESTAURANT &	17038	00169541	16004656	ICE MAKER FILTER PUBLIC WORKS	04/30/17	257054	495.00-

GROVER BROS RESTAURANT &								
Sum								495.00-
00001	GULF COAST OFFICE PRODUC	28400-0	00169755	16004832	OFFICE SUPP POLICE DEPT	04/30/17	257055	565.25-

GULF COAST OFFICE PRODUC								
Sum								565.25-
00001	H'BURG CLINIC PA (PRISON	1088188860 D	00169674	16004653	SRV 1/21/17 DEAKLES PRISONER	04/30/17	257056	113.00-

H'BURG CLINIC PA (PRISON								
Sum								113.00-
00001	H'BURG COCA COLA BOTTLIN	1097216551	00169684	16004745	BOTTLED WATER COUNCIL OFFICE	04/30/17	257057	68.50-

H'BURG COCA COLA BOTTLIN								
Sum								68.50-
00001	H'BURG HYDRAULICS INC	68880	00169537	16004667	REPR PTS U#20093 SANIT	04/30/17	257058	90.20-
00001	H'BURG HYDRAULICS INC	68881	00169537	16004668	REPR PTS U#15892 SANIT	04/30/17	257058	156.98-
00001	H'BURG HYDRAULICS INC	68882	00169537	16004669	REPR PTS U#20093 SANIT	04/30/17	257058	148.65-

H'BURG HYDRAULICS INC								
Sum								395.83-
00001	HANCOCK BANK TRUST & FIN	4/21/17 DUE	02017474	16004826	MDB 2001 BONDS 12/22/08	04/26/17	111746	2,169.83-

HANCOCK BANK TRUST & FIN

Sum									2,169.83-
00001	HAVARD PEST CONTROL INC	1124655	02017481	16004851	SERV 4/17 POLICE COMPLEX	04/30/17	257064		125.00-
00001	HAVARD PEST CONTROL INC	1124687	02017481	16004852	SERV 4/17 FIRE ADM BLDG	04/30/17	257064		48.00-
00001	HAVARD PEST CONTROL INC	1124657	02017481	16004853	SERV 4/17 #1 FIRE STA	04/30/17	257064		50.00-
00001	HAVARD PEST CONTROL INC	1124660	02017481	16004854	SERV 4/17 #4 FIRE STA	04/30/17	257064		48.00-
00001	HAVARD PEST CONTROL INC	1124661	02017481	16004855	SERV 4/17 #5 FIRE STA	04/30/17	257064		48.00-
00001	HAVARD PEST CONTROL INC	1124662	02017481	16004856	SERV 4/17 #6 FIRE STA	04/30/17	257064		48.00-
00001	HAVARD PEST CONTROL INC	1124665	02017481	16004857	SERV 4/17 #8 FIRE STA	04/30/17	257064		48.00-
00001	HAVARD PEST CONTROL INC	1124672	02017481	16004858	SERV 4/17 CITY HALL	04/30/17	257064		65.00-
00001	HAVARD PEST CONTROL INC	1124682	02017481	16004859	SERV 4/17 TRAFFIC BLDG	04/30/17	257064		45.00-
00001	HAVARD PEST CONTROL INC	1124685	02017481	16004860	SERV 4/17 TRAIN DEPOT	04/30/17	257064		85.00-
00001	HAVARD PEST CONTROL INC	1124699	02017481	16004861	SERV 4/17 HIGHLAND CEM	04/30/17	257064		40.00-

HAVARD PEST CONTROL INC

Sum									650.00-
00001	HILL, LEROY COFFEE CO IN	698968	00169933	16004870	COFFEE SERV M/ADM	04/30/17	257066		67.37-

HILL, LEROY COFFEE CO IN

Sum									67.37-
00001	HOBGOOD, GRANT		TRAV ADVANCE	00169814	16004756 TRAV ADV ESRIU CONF SAN DIEGO	04/30/17	257069		2,618.96-

HOBGOOD, GRANT

Sum									2,618.96-
00001	HOL-MAC CORPORATION	339052	00169574	16004734	REPR PTS U#14408 SANIT	04/30/17	257070		867.19-
00001	HOL-MAC CORPORATION	339055	00169585	16004735	REPR PTS U#19948 SANIT	04/30/17	257070		300.00-

HOL-MAC CORPORATION

Sum									1,167.19-
00001	HOLLAND VETERINARY HOSPI	3054 278801	00169893	16004837	SERVS K-9 BOYKE	04/30/17	257071		232.25-

HOLLAND VETERINARY HOSPI

Sum									232.25-
00001	HUGHES SUPPLY	S14983266600	00169334	16004687	A/C CIRCUIT BOARD TRAFFIC	04/30/17	257072		406.00-

HUGHES SUPPLY

Sum									406.00-
00001	INDOFF INC	2933691	00168723	16004645	JANIT SUPP FIRE DEPT	04/30/17	257073		884.38-
00001	INDOFF INC	2948666	00169719	16004821	OFFICE SUPP CEMETERY	04/30/17	257073		195.44-

INDOFF INC

Sum									1,079.82-
00001	INTERFACE SECURITY SYSTE	18703995	00169865	16004791	SECURITY 5/17 HIGHLAND CEM	04/30/17	257075		33.02-
00001	INTERFACE SECURITY SYSTE	18712726	00169865	16004792	SECURITY 5/17 S HILL CEM	04/30/17	257075		29.95-

INTERFACE SECURITY SYSTE

Sum									62.97-
00001	JACKSON, TULLOS & ROGERS	61960	00169761	16004733	SRVS LAKE FORGETFUL	04/30/17	257078		1,798.50-

JACKSON, TULLOS & ROGERS

Sum									1,798.50-
00001	JOHNNY'S WRECKER SERVICE	32329	00169665	16004740	TOWING U#20503 SANIT	04/30/17	257080		350.00-

00001	JOHNNY'S WRECKER SERVICE	32121	00169665	16004741	TOWING U#14402 SANIT	04/30/17	257080	250.00-

JOHNNY'S WRECKER SERVICE								
Sum								600.00-
00001	JONES-RUSSELL, CAROL L	PRO TEMP JUD	00169610	16004632	SERVS PRO TEMP JUDGE	04/30/17	257082	2,400.00-

JONES-RUSSELL, CAROL L								
Sum								2,400.00-
00001	JORDAN, MARK	TRAV ADVANCE	00169841	16004783	TRAV ADV CODE ENFORCE ACDMY	04/30/17	257086	654.00-

JORDAN, MARK								
Sum								654.00-
00001	KRONOS INCORPORATED	11172455 & 1	00168611	16004806	YEARLY MAINT FOR KRONOS	04/30/17	257090	15,462.80-

KRONOS INCORPORATED								
Sum								15,462.80-
00001	LANE, DENISE	LUNCHEON 4/2	00169732	16004721	TAX PARTNERS APPRECIATION	04/30/17	257094	500.00-

LANE, DENISE								
Sum								500.00-
00001	LARRY'S WRECKER SERVICE	3067	00169661	16004643	TOWING U#17895 POLICE	04/30/17	257096	55.00-
00001	LARRY'S WRECKER SERVICE	2914	00169664	16004768	TOWING U#14677 SANIT	04/30/17	257096	55.00-
00001	LARRY'S WRECKER SERVICE	2906	00169664	16004769	TOWING U#18864	04/30/17	257096	135.00-

LARRY'S WRECKER SERVICE								
Sum								245.00-
00001	LINEBARGER GOGGAN BLAIR	3/31/2017	02017465	16004690	POLICE FINES COLL.FEE	04/30/17	257098	2,393.75-

LINEBARGER GOGGAN BLAIR								
Sum								2,393.75-
00001	LONDON & STETELMAN REALT	LEASE 4/5/17	00169870	16004776	MASS TRANSIT LEASE RENT/TAXES	04/30/17	257099	40,488.00-

LONDON & STETELMAN REALT								
Sum								40,488.00-
00001	LYNN PEAVEY COMPANY	330505	00169758	16004886	NEEDLE TUBES FOR EVIDENCE	04/30/17	257103	217.00-

LYNN PEAVEY COMPANY								
Sum								217.00-
00001	MCELHANEY PLUMBING INC	255236	00169604	16004665	WATER HOSE CONSTR DEPT	04/30/17	257106	59.95-

MCELHANEY PLUMBING INC								
Sum								59.95-
00001	MCMULLAN EQUIPMENT CO	170635P	00169800	16004784	REPR PTS U#20053	04/30/17	257108	63.41-
00001	MCMULLAN EQUIPMENT CO	170310P	00169341	16004887	WHEEL NUTS FOR STOCK	04/30/17	257108	351.20-

MCMULLAN EQUIPMENT CO								
Sum								414.61-
00001	MID SOUTH UNIFORM & SUPP	561054	00169177	16004724	UNIFORM SHIRTS CAPT MCLEMORE	04/30/17	257111	65.00-
00001	MID SOUTH UNIFORM & SUPP	561275	00168403	16004777	BODY ARMOR CARRIER BRELAND	04/30/17	257111	155.00-
00001	MID SOUTH UNIFORM & SUPP	561178	00168912	16004778	UNIFORMS/NAME PLATES RECRUITS	04/30/17	257111	2,064.95-
00001	MID SOUTH UNIFORM & SUPP	561112	00169315	16004779	NAME PLATE OFFICER VARNADO	04/30/17	257111	15.50-

MID SOUTH UNIFORM & SUPP									
Sum									2,300.45-
00001	MISSISSIPPI BALANCE OF S	REG	BRANTLEY	00169623	16004634	MBRSHP MEET TICKET BRANTLEY	04/30/17	257114	10.00-
MISSISSIPPI BALANCE OF S									
Sum									10.00-
00001	MR. SIPPI BEVERAGES	022397		00169837	16004774	DRINKING WATER MUN COURT	04/30/17	257118	15.90-
00001	MR. SIPPI BEVERAGES	023004		00169882	16004836	DRINKING WATER POLICE DEPT	04/30/17	257118	137.45-
MR. SIPPI BEVERAGES									
Sum									153.35-
00001	MS ENGINEERING SOCIETY	REG	RUTLAND	00169936	16004883	REG RUTLAND MEETING ALABAMA	04/30/17	257122	350.00-
MS ENGINEERING SOCIETY									
Sum									350.00-
00001	MS GRASS NURSERY	28304		00167713	16004742	GRASS SOD CEMETERIES	04/30/17	257123	130.00-
00001	MS GRASS NURSERY	28468		00167713	16004743	GRASS SOD CEMETERIES	04/30/17	257123	130.00-
00001	MS GRASS NURSERY	28534		00167713	16004744	GRASS SOD CEMETERIES	04/30/17	257123	130.00-
MS GRASS NURSERY									
Sum									390.00-
00001	MS MUNICIPAL WORKERS' CO	7537		00169796	16004752	ADDL PREMIUM 10/15-9/16 AUDIT	04/30/17	257124	6,521.00-
MS MUNICIPAL WORKERS' CO									
Sum									6,521.00-
00001	MS POLICE SUPPLY CO INC	I-1386		00167838	16004725	BDU PANTS POLICE STOCK	04/30/17	257125	1,220.00-
00001	MS POLICE SUPPLY CO INC	I-1386	FRT	00169742	16004726	FREIGHT CHARGE PO#167838	04/30/17	257125	160.00-
MS POLICE SUPPLY CO INC									
Sum									1,380.00-
00001	MS POWER COMPANY	4/17	GENERAL	00201714	16004825	MNTHLY ELEC-GENERAL	04/30/17	257126	102,273.74-
MS POWER COMPANY									
Sum									102,273.74-
00001	MS STATE DEVELOPMENT AUT	#R-103-205-0		02017456	16004627	HCL LEVERAGE LENDER LLC	04/17/17	111739	10,117.67-
MS STATE DEVELOPMENT AUT									
Sum									10,117.67-
00001	MS STATE/EMP SECURITY CO	9200131000	4	00169891	16004828	UNEMP BENEFITS VARI DEPTS	04/30/17	257128	2,237.58-
MS STATE/EMP SECURITY CO									
Sum									2,237.58-
00001	MULTITECH OFFICE MACHINE	17040881		00169780	16004830	PRINTER INK VARI DEPTS	04/30/17	257129	1,041.35-
MULTITECH OFFICE MACHINE									
Sum									1,041.35-
00001	N & H ELECTRONIC DISTRIB	170935		00169783	16004814	REPR PTS U#20067	04/30/17	257130	75.20-
N & H ELECTRONIC DISTRIB									
Sum									75.20-
00001	NEWELL PAPER COMPANY	495825		00169619	16004682	JANIT SUPP TEMP BLD TORNADO	04/30/17	257132	700.50-

00001 NEWELL PAPER COMPANY	896644	00169583 16004869 CLEANING SUPP MUN COURT	04/30/17	257132	215.91-

NEWELL PAPER COMPANY					
Sum					916.41-
00001 NORFOLK SOUTHERN CORP	90328842	00169703 16004710 4/17 LEASE RR ST PK LOT	04/30/17	257136	1,900.00-

NORFOLK SOUTHERN CORP					
Sum					1,900.00-
00001 O'REILLY AUTO PARTS	REG RAY 4/13	00169598 16004659 REG RAY DIESEL CLASSES	04/30/17	257138	94.95-
00001 O'REILLY AUTO PARTS	REG WALTERS	00169598 16004660 REG WALTERS DIESEL CLASS	04/30/17	257138	94.95-
00001 O'REILLY AUTO PARTS	REG MARTIN 4	00169598 16004661 REG MARTIN DIESEL CLASS	04/30/17	257138	94.95-
00001 O'REILLY AUTO PARTS	REG THOMAS 4	00169598 16004662 REG THOMAS DIESEL CLASS	04/30/17	257138	94.95-

O'REILLY AUTO PARTS					
Sum					379.80-
00001 OFFICE DEPOT INC	2056293551	00169394 16004635 COMPUTER SUPP VARI DEPTS	04/30/17	257139	231.38-
00001 OFFICE DEPOT INC	918663325001	00169306 16004644 CHAIRS RECORDS DEPT	04/30/17	257139	989.89-

OFFICE DEPOT INC					
Sum					1,221.27-
00001 PARKER, ANDY (USE 83107-	PETTY CASH 4	00169760 16004736 PETTY CASH CEMETERY	04/30/17	257141	126.70-

PARKER, ANDY (USE 83107-					
Sum					126.70-
00001 PEARL RIVER VALLEY EPA (	4/17 GENERAL	00201714 16004823 MNTHLY 4/17 PUBLIC SERVICES	04/30/17	257142	485.83-

PEARL RIVER VALLEY EPA (					
Sum					485.83-
00001 PHILLIPS CAR CARE CENTER	41488	00169902 16004878 REPRS U#14697 LAND CODE	04/30/17	257143	748.69-

PHILLIPS CAR CARE CENTER					
Sum					748.69-
00001 PINE BELT MENTAL HEALTHC	MAR-17	00169654 16004630 JAIL DIV GRANT 2/17	04/30/17	257145	2,290.10-
00001 PINE BELT MENTAL HEALTHC	FEB-17	00169721 16004691 JAIL DIV GRANT 2/17	04/30/17	257145	786.15-

PINE BELT MENTAL HEALTHC					
Sum					3,076.25-
00001 PINE BELT OIL COMPANY IN	1047018	00169836 16004866 GAS FOR FUEL STATION	04/30/17	257146	11,193.57-
00001 PINE BELT OIL COMPANY IN	1047115	00169836 16004867 DIESEL FOR FUEL STATION	04/30/17	257146	5,974.79-

PINE BELT OIL COMPANY IN					
Sum					17,168.36-
00001 PINE BELT READY MIX CONC	208907	00168584 16004840 CONCRETE CITY WIDE USE	04/30/17	257147	512.50-
00001 PINE BELT READY MIX CONC	510058	00168584 16004841 CONCRETE CITY WIDE USE	04/30/17	257147	717.50-
00001 PINE BELT READY MIX CONC	510777	00168584 16004842 CONCRETE CITY WIDE USE	04/30/17	257147	820.00-
00001 PINE BELT READY MIX CONC	511368	00168584 16004843 CONCRETE CITY WIDE USE	04/30/17	257147	820.00-
00001 PINE BELT READY MIX CONC	512690	00168584 16004844 CONCRETE CITY WIDE USE	04/30/17	257147	820.00-
00001 PINE BELT READY MIX CONC	512103	00168584 16004845 CONCRETE CITY WIDE USE	04/30/17	257147	922.50-

PINE BELT READY MIX CONC					
Sum					4,612.50-
00001 PINE BELT REGIONAL SOLID	100006 3/17	00169627 16004671 REFUSE DISPOSAL SANIT DEPT	04/30/17	257148	38,248.92-

Sum												38,248.92-
00001	PODS ENTERPRISES, LLC	HATT00000172	00169926	16004885	STORAGE CNTNR 5/17	TORNADO'17	04/30/17	257150				338.00-

PODS ENTERPRISES, LLC												
Sum												338.00-
00001	PRO TRAVEL INC	AA/ISVSOY HO	00169811	16004757	TKT HOBGOOD	ESRIU CNR 7/9-15	04/30/17	257154				684.10-

PRO TRAVEL INC												
Sum												684.10-
00001	PUBLIC ENGINES, INC	(CR 24543	00169696	16004693	SUBSCRIPT	RNWL 5/17-4/18	04/30/17	257155				4,059.60-

PUBLIC ENGINES, INC (CR												
Sum												4,059.60-
00001	PUCKETT MACHINERY COMPAN	P05C5621209	00168599	16004731	REPR PTS	U#20093 STREET	04/30/17	257156				177.48-

PUCKETT MACHINERY COMPAN												
Sum												177.48-
00001	REGIONS BANK (SANITATION	001-0000902-	02017461	16004629	GARBAGE TRUCK	LEASE DUE 4/17	04/18/17	111742				41,376.52-

REGIONS BANK (SANITATION												
Sum												41,376.52-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169338	16004891	AIRFARE (4)DOM VIOLANCE CONF	04/30/17	257159				1,560.84-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169784	16004892	MAYOR'S U-VERSE PYMT 3/6-4/5	04/30/17	257159				65.00-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169485	16004893	BUS CHARGERS GPS TORNADO 2017	04/30/17	257159				132.35-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169456	16004894	EXPNS WHITE HOUSING CONF	04/30/17	257159				393.53-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169722	16004895	SUPP DISABILITY AWARENESS	04/30/17	257159				267.97-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169723	16004896	SUPP DISABILITY AWARENESS	04/30/17	257159				316.27-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169454	16004897	CLOTH ALLOW KENNEDY POLICE	04/30/17	257159				333.93-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169489	16004898	CLOTH ALLOW TRAXLER POLICE	04/30/17	257159				339.88-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169575	16004899	CLOTH ALLOW BROWN POLICE	04/30/17	257159				498.99-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169592	16004900	CLOTH ALLOW MYERS POLICE	04/30/17	257159				349.91-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169625	16004901	CLOTH ALLOW TRAXLER POLICE	04/30/17	257159				129.97-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169651	16004902	CLOTH ALLOW MOORE POLICE	04/30/17	257159				343.43-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169484	16004903	HONOR GUARD MANUAL P/F ACDMY	04/30/17	257159				60.19-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169949	16004904	HOTEL ROBERTS/RUSSELL MAPFSE	04/30/17	257159				220.76-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169616	16004905	ICC DUES MITCHELL LAND CODE	04/30/17	257159				95.00-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169374	16004906	REG TRUSSELL/HALL ASBESTOS	04/30/17	257159				400.00-
00001	REGIONS CARDHOLDER SERVI	7079	4/27/17	00169397	16004907	EXTERIOR DOORS 2ND ST PROJECT	04/30/17	257159				498.00-

REGIONS CARDHOLDER SERVI												
Sum												6,006.02-
00001	RICOH CORP	5047884385	00169618	16004647	COPIER 3/17	LAND CODE	04/30/17	257160				173.81-
00001	RICOH CORP	LMS17030005	00169628	16004648	DIGITAL ARCHIVAL PROJ	LDC	04/30/17	257160				1,177.00-
00001	RICOH CORP	LMS17030002	00169630	16004649	DIGITAL ARCHIVING	LAND CODE	04/30/17	257160				12,057.23-
00001	RICOH CORP	5047709562	3	00169705	16004692	PRODUCTION PRINTER CHARGES	04/30/17	257160				947.36-
00001	RICOH CORP	1069305840	00169421	16004872	COPIER STAPLES	HUMAN RES	04/30/17	257160				42.57-
00001	RICOH CORP	5048155675	0016									

Sum								14,840.72-
00001	RJ YOUNG COMPANY	INV1826337	00169913	16004882	COPIER 3/14-4/13/17 ENGR	04/30/17	257161	318.00-

	RJ YOUNG COMPANY							
Sum								318.00-
00001	ROBINSON, ZACHARY	TRAVEL REIMB	00169793	16004737	EXPNS CONTRABAN CNCLMNT CLASS	04/30/17	257164	49.05-

	ROBINSON, ZACHARY							
Sum								49.05-
00001	ROGERS, KEVIN & ASSOCIAT	TITLE OPINIO	00169737	16004728	TITLE OPINIONS (3) LAND CODE	04/30/17	257165	750.00-
00001	ROGERS, KEVIN & ASSOCIAT	TITLE OPINIO	00169749	16004729	TITLE OPINIONS (2) LAND CODE	04/30/17	257165	500.00-

	ROGERS, KEVIN & ASSOCIAT							
Sum								1,250.00-
00001	SCOTTS HYDRAULIC SERVICE	29062	00169697	16004781	LIFT REPR U#11353 FIRE DEPT	04/30/17	257170	694.64-
00001	SCOTTS HYDRAULIC SERVICE	29061	00169824	16004787	REPR PTS U#19887 SANIT	04/30/17	257170	92.16-
00001	SCOTTS HYDRAULIC SERVICE	29050	00169798	16004817	SERV CALL U#16009 LABOR	04/30/17	257170	200.00-

	SCOTTS HYDRAULIC SERVICE							
Sum								986.80-
00001	SHERWIN-WILLIAMS COMPANY	2930-7	00169347	16004650	PAINT MACHINE REPR CONSTR	04/30/17	257172	90.50-
00001	SHERWIN-WILLIAMS COMPANY	2594-1	00169347	16004772	REPR SPRAYER TRAFFIC DEPT	04/30/17	257172	92.60-
00001	SHERWIN-WILLIAMS COMPANY	2929-9	00169347	16004773	CREDIT	04/30/17	257172	92.60

	SHERWIN-WILLIAMS COMPANY							
Sum								90.50-
00001	SOLAR SUPPLY INC	0544991	00169209	16004766	A/C UNIT/SUPP SANIT DEPT	04/30/17	257176	1,676.28-

	SOLAR SUPPLY INC							
Sum								1,676.28-
00001	SOUTHEASTERN CONCRETE CO	27226	00169167	16004818	CONCRETE VARI LOC DRAINAGE	04/30/17	257177	820.00-

	SOUTHEASTERN CONCRETE CO							
Sum								820.00-
00001	SOUTHERN PINE ELECTRIC P	4/17 GENERAL	00201714	16004850	MNTHLY 4/17 PUBLIC SERVICES	04/30/17	257180	99.22-

	SOUTHERN PINE ELECTRIC P							
Sum								99.22-
00001	SOUTHERN PIPE & SUPPLY C	676263-00	00169571	16004716	FLEXAMAT RONIE/HALL AVE DITC	04/30/17	257181	4,495.00-

	SOUTHERN PIPE & SUPPLY C							
Sum								4,495.00-
00001	SOUTHERN TIRE MART LLC	9019684	00169172	16004639	TIRES U#17788 POLICE	04/30/17	257184	771.75-
00001	SOUTHERN TIRE MART LLC	9018803	00168732	16004642	BAL/ALIGN U#17742	04/30/17	257184	91.95-
00001	SOUTHERN TIRE MART LLC	11127257	00169683	16004822	TIRE U#7868 CEMETERY	04/30/17	257184	446.47-

	SOUTHERN TIRE MART LLC							
Sum								1,310.17-
00001	SOUTHGROUP (HATTIESBURG	HATTIES-02 1	00169725	16004722	BOND RNWL KERMAS EATON 17-18	04/30/17	257186	175.00-
00001	SOUTHGROUP (HATTIESBURG	HATTIES-02 1	00169763	16004723	NOTARY BOND LEGGETT 2017-2021	04/30/17	257186	100.00-
00001	SOUTHGROUP (HATTIESBURG	HATTIES-02 1	00169881	16004831	PROPERTY INSURANCE	04/30/17	257186	692.84-

SOUTHGROUP (HATTIESBURG								-----
Sum								967.84-
00001	SPS MARKETING, INC	62913	00169296	16004685	WEAPON CLEAN SUPP P/F ACDMY	04/30/17	257187	262.26-

SPS MARKETING, INC								
Sum								262.26-
00001	STANDARD OFFICE SUPPLY C	0069252-001	00169626	16004686	OFFICE CHAIR FIRE DEPT	04/30/17	257188	89.00-
00001	STANDARD OFFICE SUPPLY C	0069133-001	00169422	16004746	COPY PAPER HUMAN RES	04/30/17	257188	419.90-
00001	STANDARD OFFICE SUPPLY C	0069326-001	00169720	16004747	OFFICE SUPP FIRE DEPT	04/30/17	257188	113.05-
00001	STANDARD OFFICE SUPPLY C	0069081-002	00169352	16004771	CREDIT TAX DEPT	04/30/17	257188	130.97

STANDARD OFFICE SUPPLY C								
Sum								490.98-
00001	STATIONERS INC	89700-0	00169682	16004807	POLICE NOTEBOOKS	04/30/17	257189	758.94-

STATIONERS INC								
Sum								758.94-
00001	STUART, KYLE	TRAVEL REIMB	00169934	16004875	EXPNS K-9 TRAINING CLASSES	04/30/17	257192	160.72-

STUART, KYLE								
Sum								160.72-
00001	TACKLE TECHNOLOGIES, LLC	1096	00169905	16004874	SPILL TACKLE FOR HAZ MATLS	04/30/17	257194	700.00-

TACKLE TECHNOLOGIES, LLC								
Sum								700.00-
00001	TEMPLE INC	INV0160824	00168044	16004739	TRAFF SIGNAL PTS TORNADO 2017	04/30/17	257195	4,159.00-

TEMPLE INC								
Sum								4,159.00-
00001	TOMAHAWK LIVE TRAP COMPA	255534	00168098	16004820	ANIMAL TRAPS/NETS	04/30/17	257197	1,018.56-

TOMAHAWK LIVE TRAP COMPA								
Sum								1,018.56-
00001	TOP NOTCH EMBROIDERY	61	00169668	16004712	EMBROIDER LOGO MAINT DEPT	04/30/17	257198	140.00-

TOP NOTCH EMBROIDERY								
Sum								140.00-
00001	TRUCKPRO INC	039-0626292	00169258	16004670	REPR PTS VARI SANIT UNITS	04/30/17	257201	2,336.78-

TRUCKPRO INC								
Sum								2,336.78-
00001	TRUCKS PLUS AUTO ACCESSO	33671	00169777	16004738	HITCH EXCAVATOR TRLR TRAFFIC	04/30/17	257202	119.00-

TRUCKS PLUS AUTO ACCESSO								
Sum								119.00-
00001	ULTIMATE PARTY #3 (WAS	118170	00169559	16004633	SUPP TAX PARTNERS LUNCHEON	04/30/17	257203	68.41-

ULTIMATE PARTY #3 (WAS								
Sum								68.41-
00001	UNITED FENCE COMPANY	00018074	00167539	16004637	FENCE DISPATCH TEMP BLDG	04/30/17	257204	3,191.00-

UNITED FENCE COMPANY								
Sum								3,191.00-
00001	UNIVERSITY TIRE & SERVIC	506795	00169634	16004654	TIRES U#15921 TRAFFIC	04/30/17	257205	537.96-
UNIVERSITY TIRE & SERVIC								
Sum								537.96-
00001	V F W OF THE US		PARKING SPAC	00169813	16004770 PARKING SPACES 5/17	04/30/17	257206	75.00-
V F W OF THE US								
Sum								75.00-
00001	VARDAMAN BUICK COMPANY	72702	00169750	16004760	REPR PTS U#18063 TRAFFIC	04/30/17	257207	86.63-
VARDAMAN BUICK COMPANY								
Sum								86.63-
00001	VULCAN SIGNS	305921	00168870	16004730	VARI SIGNS TRAFFIC DEPT	04/30/17	257211	463.90-
VULCAN SIGNS								
Sum								463.90-
00001	WAGE HOUR ASSESSMENTS AN	CH0417-004	00169828	16004775	CONSULT SERVS 4/17	04/30/17	257212	500.00-
WAGE HOUR ASSESSMENTS AN								
Sum								500.00-
00001	WASTE MANAGEMENT OF SOUT	009790-25262	00169632	16004672	REFUSE DISPOSAL SANIT DEPT	04/30/17	257214	5,096.30-
WASTE MANAGEMENT OF SOUT								
Sum								5,096.30-
00001	WATERS INTERNATIONAL TRU	08813008	00169252	16004679	REPRS U#16010 CEMETERY	04/30/17	257215	1,133.16-
00001	WATERS INTERNATIONAL TRU	08813121	00169514	16004680	ADDL AMT DUE PO#169252	04/30/17	257215	762.00-
00001	WATERS INTERNATIONAL TRU	08812713	00169785	16004790	DIAGNOSTIC TEST U#13024 CEM	04/30/17	257215	455.70-
WATERS INTERNATIONAL TRU								
Sum								2,350.86-
00001	WATTS BROTHERS TRACTOR C	01-24483	00169534	16004815	REPR PTS U#16076	04/30/17	257217	126.73-
00001	WATTS BROTHERS TRACTOR C	01-24484	00169711	16004816	REPR PTS U#20373	04/30/17	257217	143.00-
WATTS BROTHERS TRACTOR C								
Sum								269.73-
00001	WHEELER'S JANITORIAL SUP	0400567	00169648	16004755	JANIT SUPP TRAIN DEPOT	04/30/17	257219	285.00-
WHEELER'S JANITORIAL SUP								
Sum								285.00-
00001	WILLMUT GAS & OIL COMPAN	4/17 GENERAL	00201714	16004824	MNTHLY GAS-GENERAL	04/30/17	257220	1,120.45-
WILLMUT GAS & OIL COMPAN								
Sum								1,120.45-
00001	WORKWELL SERVICES (NEW V	32662	00169691	16004694	FIRE RECRUIT PHYSICAL	04/30/17	257222	83.00-
WORKWELL SERVICES (NEW V								
Sum								83.00-
Sum								2,301,492.95-

00002 CARQUEST AUTO PARTS STOR 14758-88029	00169644 16000828 MOTOR OIL VARI UNITS	04/30/17	256978	66.64-

CARQUEST AUTO PARTS STOR				66.64-
Sum				64,497.29-
00002 CITY OF HATTIESBURG FUND TRF 2ND 4/17	02017480 16000879 TRF 2ND 4/17 PAYROLL	04/26/17	311368	-----
CITY OF HATTIESBURG FUND				64,497.29-
Sum				623.96-
00002 CLEMTS HARDWARE	117605 00169584 16000840 TENTS CITY WIDE USE	04/30/17	256986	-----
CLEMTS HARDWARE				623.96-
Sum				166.75-
00002 COURTNEY'S RESTAURANT EQ 11217	00169453 16000824 ICE MAKER REPR GRNDS MAINT	04/30/17	256994	-----
COURTNEY'S RESTAURANT EQ				166.75-
Sum				500.00-
00002 DOWNTOWN HATTIESBURG FAR 42317	00169531 16000874 ENTERTAIN 4/20 EARTH DAY	04/30/17	257009	-----
DOWNTOWN HATTIESBURG FAR				500.00-
Sum				5.10-
00002 G & K SERVICES	1035821932 00169816 16000864 MATS 3/27 GRNDS MAINT	04/30/17	257042	5.10-
00002 G & K SERVICES	1035824009 00169816 16000865 MATS 4/07 GRNDS MAINT	04/30/17	257042	5.10-
00002 G & K SERVICES	1035826097 00169816 16000866 MATS 4/10 GRNDS MAINT	04/30/17	257042	5.10-
00002 G & K SERVICES	1035828161 00169816 16000867 MATS 4/17 GRNDS MAINT	04/30/17	257042	5.10-
00002 G & K SERVICES	1035821931 00169816 16000868 UNIFORMS 3/27 GRNDS MAINT	04/30/17	257042	105.47-
00002 G & K SERVICES	1035824008 00169816 16000869 UNIFORMS 4/03 GRNDS MAINT	04/30/17	257042	122.57-
00002 G & K SERVICES	1035826096 00169816 16000870 UNIFORMS 4/10 GRNDS MAINT	04/30/17	257042	101.57-
00002 G & K SERVICES	1035828160 00169816 16000871 UNIFORMS 4/17 GRNDS MAINT	04/30/17	257042	150.57-
00002 G & K SERVICES	1035800862 00169816 16000872 MATS 1/16 GRNDS MAINT	04/30/17	257042	-----
G & K SERVICES				505.68-
Sum				400.00-
00002 GRAVES, GARY L	OFFICIAL 4/2 02017472 16000849 OFFICIAL-ADULT BASKETBALL	04/30/17	257049	-----
GRAVES, GARY L				400.00-
Sum				127.68-
00002 H'BURG COCA COLA BOTTLIN 1167205205	00169465 16000841 DRINKS HHHW EARTH DAY EVENTS	04/30/17	257057	-----
H'BURG COCA COLA BOTTLIN				127.68-
Sum				125.00-
00002 HAVARD PEST CONTROL INC 1124668	02017481 16000887 SERV 4/17 TATUM PARK	04/30/17	257064	-----
HAVARD PEST CONTROL INC				125.00-
Sum				150.00-
00002 HINES, ERIC	OFFICIAL 4/2 02017472 16000850 OFFICIAL-ADULT BASKETBALL	04/30/17	257067	-----
HINES, ERIC				150.00-
Sum				177.38-
00002 INDOFF INC	2946375 00169561 16000881 OFFICE SUPP GRNDS OFFICE	04/30/17	257073	-----

INDOFF INC

Sum							177.38-
00002 J M H GRAPHICS	11071	00169464 16000842 EARTH DAY SHIRTS 4/20/17	04/30/17	257076		1,160.55-	
00002 J M H GRAPHICS	11141	00169532 16000846 EARTH DAY SIGNS/BANNERS	04/30/17	257076		344.50-	

J M H GRAPHICS

Sum						1,505.05-	
00002 JACKSON, ROOSEVELT III	480554	00169781 16000873 PAINT FLOOR 9TH ST RESTROOMS	04/30/17	257077		700.00-	

JACKSON, ROOSEVELT III

Sum						700.00-	
00002 KETTLEY, ANNETTE		SPORTS SERVS 02017473 16000854 SPORTS SUPPORT SERVICES	04/30/17	257088		248.00-	

KETTLEY, ANNETTE

Sum						248.00-	
00002 KINNEL, ISAAC L		OFFICIAL 4/2 02017472 16000851 OFFICIAL-ADULT BASKETBALL	04/30/17	257089		175.00-	

KINNEL, ISAAC L

Sum						175.00-	
00002 LAMAR AUTO SALVAGE INC	84545	00169358 16000863 RPLCMNT DOOR U#11961	04/30/17	257092		200.00-	

LAMAR AUTO SALVAGE INC

Sum						200.00-	
00002 LANCASTER'S MACHINE & WE	23097	00169686 16000844 TRAILER REPR U#18764	04/30/17	257093		400.00-	

LANCASTER'S MACHINE & WE

Sum						400.00-	
00002 MID SOUTH GLASS INC	0043848	00169555 16000836 CONCESSION GLASS 9TH ST PK	04/30/17	257110		117.00-	

MID SOUTH GLASS INC

Sum						117.00-	
00002 MISSISSIPPI AG COMPANY,	W68974	00169362 16000883 REPRS U#13264	04/30/17	257113		868.54-	

MISSISSIPPI AG COMPANY,

Sum						868.54-	
00002 MITCHELL TOOL SALES & SE	97753	00169357 16000829 AIR COMPRESSOR PTS U#16244	04/30/17	257115		382.43-	

MITCHELL TOOL SALES & SE

Sum						382.43-	
00002 MS POWER COMPANY	4/17 PKS/REC	00201714 16000878 MNTHLY ELEC-PARKS & REC	04/30/17	257126		14,307.91-	

MS POWER COMPANY

Sum						14,307.91-	
00002 MS STATE/EMP SECURITY CO	9200131000 4	00169891 16000880 UNEMP BENEFITS GRNDS MAINT	04/30/17	257128		880.00-	

MS STATE/EMP SECURITY CO

Sum						880.00-	
00002 PACE ROOFING	1799	00167420 16000875 EMER ROOF TMBRTN PBX TORNADO	04/30/17	257140		1,700.00-	

PACE ROOFING

Sum						1,700.00-	
00002 PIONEER MANUFACTURING CO	INV633850	00169501 16000882 ATHLETIC FIELD MARKING PAINT	04/30/17	257149		3,034.50-	

PIONEER MANUFACTURING CO								
Sum								3,034.50-
00002	POWELL, RANDY	SPORTS SERVS	02017473	16000855	SPORTS SUPPORT SERVICES	04/30/17	257153	392.00-

POWELL, RANDY								
Sum								392.00-
00002	SMITH, JIM SERVICES	87289	00169727	16000861	A/C UNIT TATUM SB 2ND FLR	04/30/17	257175	4,999.00-

SMITH, JIM SERVICES								
Sum								4,999.00-
00002	SOUTHERN MS PINE STRAW	10576	00169642	16000859	PINE STRAW CITY WIDE USE	04/30/17	257178	550.00-

SOUTHERN MS PINE STRAW								
Sum								550.00-
00002	SOUTHERN ON SITE STORAGE	55506	00169080	16000825	ORTALETS 4/17 TATUM FASTPITCH	04/30/17	257179	170.00-
00002	SOUTHERN ON SITE STORAGE	55573	00169186	16000826	PORTALETS 4/17 TOWN SQUARE PK	04/30/17	257179	680.00-
00002	SOUTHERN ON SITE STORAGE	55577	00169468	16000827	HAND WASH STATIONS TOWN SQ PK	04/30/17	257179	130.00-

SOUTHERN ON SITE STORAGE								
Sum								980.00-
00002	SOUTHERN TIRE MART #9 (M	9019538	00169071	16000830	TIRE U#13130	04/30/17	257183	136.75-
00002	SOUTHERN TIRE MART #9 (M	9020154	00169608	16000835	TIRE U#17050 TRAILER	04/30/17	257183	80.38-
00002	SOUTHERN TIRE MART #9 (M	9020294	00169658	16000838	TIRE REPR U#20419	04/30/17	257183	10.00-
00002	SOUTHERN TIRE MART #9 (M	9020228	00169657	16000845	TIRE REPR U#20419	04/30/17	257183	29.95-
00002	SOUTHERN TIRE MART #9 (M	9020384	00169799	16000884	TIRES U#19534	04/30/17	257183	142.76-

SOUTHERN TIRE MART #9 (M								
Sum								399.84-
00002	VARNADO, ALEXANDRIA	SPORTS SERVS	02017473	16000856	SPORTS SUPPORT SERVICES	04/30/17	257208	248.00-

VARNADO, ALEXANDRIA								
Sum								248.00-
00002	VARNADO, UNDR	SPORTS SERVS	02017473	16000857	SPORTS SUPPORT SERVICES	04/30/17	257209	304.00-

VARNADO, UNDR								
Sum								304.00-
00002	VESELY'S NURSERY	PO#169551 4/	00169551	16000860	COMBO FLOWER PTS GRNDS MAINT	04/30/17	257210	150.00-

VESELY'S NURSERY								
Sum								150.00-
00002	WILLMUT GAS & OIL COMPAN	4/17 PKS/REC	00201714	16000877	MNTHLY GAS-PARKS & REC	04/30/17	257220	232.47-

WILLMUT GAS & OIL COMPAN								
Sum								232.47-
00002	WILSON, JESSICA B	OFFICIAL 4/2	02017472	16000852	OFFICIAL-ADULT BASKETBALL	04/30/17	257221	225.00-

WILSON, JESSICA B								
Sum								225.00-

Sum								104,310.48-

Date - 04/27/17

Vendor

Invoice
Number

Purchase Order

Claims
Number

Item	Description
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Check
Date

Check
No.

Check
Amount

HATT.MUNICIPAL FIRE PROTECTION

00005	EMERGENCY EQUIPMENT PROF	426572	00169406	16000048	FIRE FIGHTER HELMETS	04/30/17	257024	5,633.00-
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EMERGENCY EQUIPMENT PROF

Sum

00005	NAFECO-NORTH AMERICA FIR	874240	00169047	16000047	FIRE FIGHTING PROTECTIVE GEAR	04/30/17	257131	1,942.83-
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00005	NAFECO-NORTH AMERICA FIR	866850 & 874	00168182	16000049	TURNOUT COATS AND PANTS	04/30/17	257131	11,582.22-
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NAFECO-NORTH AMERICA FIR

Sum

00005	SOUTHERN REGIONAL PUBLIC	2085	COLLINS	00169825	16000050	REG	COLLINS	TASER TRAINING	04/30/17	257182	90.00-
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00005	SOUTHERN REGIONAL PUBLIC	2083	COLLINS	00168468	16000051	TUITION COLLINS POLICE CLASS	04/30/17	257182	3,600.00-
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SOUTHERN REGIONAL PUBLIC

Sum

Sum	3,690.00–
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Sum

22,848.05-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date - 04/27/17

PERIOD ENDING APRIL 30, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
WATER & SEWER OPERATION/MAINT.							
00009 ADVANCED JANITORIAL SERV	101102	WTR B	00169808	16000875 SERV 4/17 WTR BILLING OFFICE	04/30/17	256944	495.00-
ADVANCED JANITORIAL SERV							
Sum							495.00-
00009 ARNOLD LINE WATER ASSN I SEWER BILLIN	00169702		16000865	SEWER BILLING 1/17-3/17	04/30/17	256951	405.00-
ARNOLD LINE WATER ASSN I							
Sum							405.00-
00009 AT&T MOBILITY	287273861504	00169871	16000895	GPS TRACKING 11/16 WTR PLT	04/30/17	256957	374.34-
00009 AT&T MOBILITY	287273861504	00169896	16000896	GPS TRACKING 12/16 WTR PLT	04/30/17	256957	736.78-
AT&T MOBILITY							
Sum							1,111.12-
00009 BONNER ANALYTICAL TESTIN	62980	00169645	16000857	BOIL WTR SAMPLES 4/5/17	04/30/17	256968	106.00-
00009 BONNER ANALYTICAL TESTIN	63054	00169831	16000888	NPDES MONITORING 4/17 LAGOONS	04/30/17	256968	1,147.32-
BONNER ANALYTICAL TESTIN							
Sum							1,253.32-
00009 CARQUEST AUTO PARTS STOR	14758-78874	00165420	16000913	REPR PTS U#18706 WTR BILLING	04/30/17	256978	106.21-
CARQUEST AUTO PARTS STOR							
Sum							106.21-
00009 CENTRAL PIPE SUPPLY INC	S100095518.0	00169384	16000856	PLUMB SUPP WTR PLANT	04/30/17	256979	3,000.00-
00009 CENTRAL PIPE SUPPLY INC	S100094331.0	00168268	16000911	METER REGISTERS TRANS DEPT	04/30/17	256979	2,220.00-
CENTRAL PIPE SUPPLY INC							
Sum							5,220.00-
00009 CERTIFIED LABORATORIES	2680096	00169267	16000863	CHEMICALS SEWER DEPT	04/30/17	256981	7,136.20-
CERTIFIED LABORATORIES							
Sum							7,136.20-
00009 CITY OF HATTIESBURG FUND	TRF 2ND 4/17	02017480	16000894	TRF 2ND 4/17 PAYROLL	04/26/17	22023	116,411.56-
CITY OF HATTIESBURG FUND							
Sum							116,411.56-
00009 CONTROL SYSTEMS INC	53842	00169767	16000915	REPRS TO WESLEY TANK	04/30/17	256990	463.32-
CONTROL SYSTEMS INC							
Sum							463.32-
00009 COURTESY MOTORS INC	455616	00166225	16000901	REPR PTS U#14142 SEWER	04/30/17	256992	91.21-
COURTESY MOTORS INC							
Sum							91.21-
00009 CUSTOM PRODUCTS CORP	287686	00169368	16000860	SAFETY EQUIP SEWER DEPT	04/30/17	256998	1,129.44-

CUSTOM PRODUCTS CORP

Sum								1,129.44-
00009 DENNIS COLLIER CONSTRUCT	101032817	00168488	16000858	REPRS ADM BLDG TORNADO 2017	04/30/17	257004		80,330.00-
00009 DENNIS COLLIER CONSTRUCT	101032817	00169157	16000868	REPR VINYL PLT#2 TORNADO 2017	04/30/17	257004		1,980.00-

DENNIS COLLIER CONSTRUCT								
Sum								82,310.00-
00009 DIXIE COMMUNITY UTILITY	SEWER BILLIN	00169708	16000866	SEWER BILLING 3/17	04/30/17	257005		394.50-

DIXIE COMMUNITY UTILITY								
Sum								394.50-
00009 EATON, ALVIN K (PETTY CA	PETTY CASH 1	00169920	16000912	PETTY CASH CUST ACCTS	04/30/17	257019		33.99-

EATON, ALVIN K (PETTY CA								
Sum								33.99-
00009 ELKINS WHOLESALE INC	304505	00167954	16000870	JANIT SUPP WTR PLANT	04/30/17	257023		160.60-
00009 ELKINS WHOLESALE INC	304505-01	00167954	16000871	JANIT SUPP WTR PLANT	04/30/17	257023		56.67-

ELKINS WHOLESALE INC								
Sum								217.27-
00009 EQUIPMENT INC	165501497	00169083	16000869	CONSTR EQUIP U#18988 SEWER	04/30/17	257026		3,149.10-

EQUIPMENT INC								
Sum								3,149.10-
00009 FRIERSON, CHADWICK	PETTY CASH 4	00169772	16000873	PETTY CASH PLT/SEWER/LAGOONS	04/30/17	257037		423.07-

FRIERSON, CHADWICK								
Sum								423.07-
00009 GARNER LUMLEY ELECTRIC S	535966	00169367	16000882	ELEC SUPP PLT #2	04/30/17	257044		120.36-

GARNER LUMLEY ELECTRIC S								
Sum								120.36-
00009 HACH COMPANY	10407285	00168593	16000862	TEST SUPP PLT #2 LAB	04/30/17	257059		432.46-
00009 HACH COMPANY	10409599	00169560	16000878	CHEMICALS WTR PLT #2	04/30/17	257059		244.69-
00009 HACH COMPANY	10411602	00169560	16000879	CHEMICALS WTR PLT #2	04/30/17	257059		106.77-
00009 HACH COMPANY	10414542	00169560	16000880	CHEMICALS WTR PLT #2	04/30/17	257059		427.08-

HACH COMPANY								
Sum								1,211.00-
00009 HAVARD PEST CONTROL INC	1124674	02017481	16000904	SERV 4/17 WATER OFFICE	04/30/17	257064		45.00-
00009 HAVARD PEST CONTROL INC	1124691	02017481	16000905	SERV 4/17 PLT LAKEVW-LOWER	04/30/17	257064		48.00-
00009 HAVARD PEST CONTROL INC	1124692	02017481	16000906	SERV 4/17 PLT LAKEVW-UPPER	04/30/17	257064		50.00-
00009 HAVARD PEST CONTROL INC	1124693	02017481	16000907	SERV 4/17 PLT-JAMES ST	04/30/17	257064		50.00-
00009 HAVARD PEST CONTROL INC	1124694	02017481	16000908	SERV 4/17 BURKETT STA	04/30/17	257064		40.00-
00009 HAVARD PEST CONTROL INC	1124695	02017481	16000909	SERV 4/17 E LAUREL STA	04/30/17	257064		40.00-
00009 HAVARD PEST CONTROL INC	1124696	02017481	16000910	SERV 4/17 N LAGOON	04/30/17	257064		40.00-

HAVARD PEST CONTROL INC								
Sum								313.00-
00009 L & A CONTRACTING CO	483-079	00169615	16000861	AERATOR MNT 3/27-4/9 LAGOONS	04/30/17	257091		38,540.59-

L & A CONTRACTING CO								
Sum								38,540.59-
00009	MALONE, E CORNELL LLC	APPL#2	PLT#2	00168116	16000874	REPLACE ROOF	PLT#2 TORNADO'17	04/30/17 257105 62,650.00-

MALONE, E CORNELL LLC								
Sum								62,650.00-
00009	MS DEPARTMENT OF ENVIRON	GWSW-0000175		00169832	16000883	WATER USE PERMIT		04/30/17 257119 10.00-
00009	MS DEPARTMENT OF ENVIRON	GWSW-0000175		00169832	16000884	WATER USE PERMIT		04/30/17 257120 10.00-
00009	MS DEPARTMENT OF ENVIRON	GWSW-0000175		00169832	16000885	WATER USE PERMIT		04/30/17 257121 10.00-

MS DEPARTMENT OF ENVIRON								
Sum								30.00-
00009	MS POWER COMPANY	4/17	W&SO&M	00201714	16000893	MNTHLY ELEC-W&SO&M		04/30/17 257126 82,816.10-

MS POWER COMPANY								
Sum								82,816.10-
00009	MS RURAL WATER ASSN	10323	2017/2	00169943	16000917	2017/2018 VOTING MEMBER DUES		04/30/17 257127 500.00-

MS RURAL WATER ASSN								
Sum								500.00-
00009	NEWELL PAPER COMPANY	896804		00169617	16000877	PAPER TOWELS WTR BILLING		04/30/17 257132 38.07-
00009	NEWELL PAPER COMPANY	896622		00169558	16000889	PAPER TOWELS/COPY PAPER	PLT#2	04/30/17 257132 147.98-
00009	NEWELL PAPER COMPANY	897030		00169558	16000890	PAPER TOWELS	PLT #2	04/30/17 257132 142.74-

NEWELL PAPER COMPANY								
Sum								328.79-
00009	NORTH LAMAR WATER ASSN	SEWER BILLIN		00169700	16000867	SEWER BILLING	4/17	04/30/17 257137 135.00-

NORTH LAMAR WATER ASSN								
Sum								135.00-
00009	PEARL RIVER VALLEY EPA (	4/17	W&SO&M	00201714	16000891	MNTHLY 4/17 PUBLIC SERVICES		04/30/17 257142 253.38-

PEARL RIVER VALLEY EPA (								
Sum								253.38-
00009	PUCKETT RENTS	595007-0001		00169360	16000902	TOOL BOXES/SAFETY VESTS	SEWER	04/30/17 257157 894.95-

PUCKETT RENTS								
Sum								894.95-
00009	RICOH CORP	5047709562	3	00169705	16000864	PRODUCTION PRINTER CHARGES		04/30/17 257160 89.02-

RICOH CORP								
Sum								89.02-
00009	RJM MCQUEEN CONTRACTING	1227		00169867	16000886	SWR SRV 79-102 VIRGINIA/W 4TH		04/30/17 257162 3,485.00-
00009	RJM MCQUEEN CONTRACTING	1228		00169867	16000887	SWR SRV 80 LUNDY/THORNHILL		04/30/17 257162 3,095.00-

RJM MCQUEEN CONTRACTING								
Sum								6,580.00-
00009	SANFORD, JOHN L JR INC	49804		00169746	16000916	CLAY GRAVEL		04/30/17 257169 1,830.00-

SANFORD, JOHN L JR INC								
Sum								1,830.00-

00009 SHOWS DEARMAN & WAITS IN 19586	00169728 16000872 SRV TOPO/EXPAN WAREHSE PLT#2	04/30/17	257174	115.00-

SHOWS DEARMAN & WAITS IN				115.00-
Sum				115.00-
00009 SOUTHERN PINE ELECTRIC P 4/17 W&SO&M	00201714 16000903 MNTHLY 4/17 PUBLIC SERVICES	04/30/17	257180	1,485.13-

SOUTHERN PINE ELECTRIC P				1,485.13-
Sum				700.00-
00009 SOUTHERN TIRE MART #9 (M 9020078	00169609 16000897 AXLE REPR U#20057 TRAILER	04/30/17	257183	700.00-

SOUTHERN TIRE MART #9 (M				700.00-
Sum				700.00-
00009 SOUTHERN WATERWORKS SUPP 69443	00169533 16000899 PLUMB SUPP SEWER DEPT	04/30/17	257185	1,195.83-
00009 SOUTHERN WATERWORKS SUPP 69581	00169533 16000900 PLUMB SUPP SEWER DEPT	04/30/17	257185	61.10-

SOUTHERN WATERWORKS SUPP				1,256.93-
Sum				409.46-
00009 STANDARD OFFICE SUPPLY C 0069258-001	00169622 16000876 OFFICE SUPP WTR BILLING	04/30/17	257188	409.46-

STANDARD OFFICE SUPPLY C				409.46-
Sum				2,965.80-
00009 THE SPECTRUM GROUP INC 7467	00169179 16000881 CHLORINE MONITOR PLT #2	04/30/17	257196	2,965.80-

THE SPECTRUM GROUP INC				2,965.80-
Sum				1,340.00-
00009 TRI STATE CHLORINATION 488	00169072 16000914 METERING PUMP PLT #2	04/30/17	257199	1,340.00-

TRI STATE CHLORINATION				1,340.00-
Sum				1,289.83-
00009 WARREN PAVING INC 26227MB	00167005 16000918 HOT ASPHALT MIX	04/30/17	257213	1,289.83-

WARREN PAVING INC				1,289.83-
Sum				414.55-
00009 WILLMUT GAS & OIL COMPAN 4/17 W&SO&M	00201714 16000892 MNTHLY GAS-W&SO&M	04/30/17	257220	414.55-

WILLMUT GAS & OIL COMPAN				414.55-
Sum				414.55-

Sum				426,619.20-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

PERIOD ENDING APRIL 30, 2017

Date

- 04/27/17

Vendor

Invoice
NumberPurchase
OrderClaims
NumberItem
DescriptionCheck
DateCheck
No.Check
Amount

WATER & SEWER FUND

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
00011 BLACKWELL, RODNEY	METER DEP RF	02017469	16000577	METER DEP RFD	04/30/17	256965	24.88-

BLACKWELL, RODNEY							24.88-
Sum							26.00-
00011 BRADLEY, MARLENA	METER DEP RF	02017460	16000526	METER DEP RFD	04/30/17	256971	26.00-

BRADLEY, MARLENA							26.00-
Sum							52.00-
00011 BUSBY, TERRI	METER DEP RF	02017460	16000552	METER DEP RFD	04/30/17	256974	52.00-

BUSBY, TERRI							52.00-
Sum							26.00-
00011 CARLEY, CHARLES 7	METER DEP RF	02017469	16000580	METER DEP RFD	04/30/17	256977	26.00-

CARLEY, CHARLES 7							26.00-
Sum							26.00-
00011 CES	METER DEP RF	02017460	16000534	METER DEP RFD	04/30/17	256983	26.00-

CES							26.00-
Sum							75.00-
00011 CHARLETON, JULIA M 105	METER DEP RF	02017460	16000553	METER DEP RFD	04/30/17	256984	75.00-

CHARLETON, JULIA M 105							75.00-
Sum							26.00-
00011 COMPLIANCE ENVIRO SYSTEM	METER DEP RF	02017460	16000535	METER DEP RFD	04/30/17	256988	26.00-

COMPLIANCE ENVIRO SYSTEM							26.00-
Sum							8.76-
00011 CONESTOGA FAMILY STEAK H	METER DEP RF	02017469	16000570	METER DEP RFD	04/30/17	256989	8.76-

CONESTOGA FAMILY STEAK H							8.76-
Sum							1,881.20-
00011 COURTNEY, HEATH	WTR OVRPMT R	02017470	16000512	WTR OVRPMT RFD	04/30/17	256993	1,881.20-

COURTNEY, HEATH							1,881.20-
Sum							26.00-
00011 DEATON, EMILY	METER DEP RF	02017460	16000547	METER DEP RFD	04/30/17	257001	26.00-

DEATON, EMILY							26.00-
Sum							75.00-
00011 DIXON, STELLA L	METER DEP RF	02017469	16000568	METER DEP RFD	04/30/17	257006	75.00-

DIXON, STELLA L							75.00-
Sum							41.88-
00011 DON'S AUTO SLAES LLC	METER DEP RF	02017460	16000524	METER DEP RFD	04/30/17	257007	41.88-

DON"S AUTO SLAES LLC								
Sum								41.88-
00011	DRAKE, COURTNEY A	METER DEP RF	02017469	16000569	METER DEP RFD	04/30/17	257010	75.00-

DRAKE, COURTNEY A								
Sum								75.00-
00011	DREHI 400	METER DEP RF	02017469	16000579	METER DEP RFD	04/30/17	257011	75.00-

DREHI 400								
Sum								75.00-
00011	EAE REALTY, LLC	METER DEP RF	02017469	16000559	METER DEP RFD	04/30/17	257012	160.00-
00011	EAE REALTY, LLC	METER DEP RF	02017469	16000560	METER DEP RFD	04/30/17	257013	160.00-
00011	EAE REALTY, LLC	METER DEP RF	02017469	16000561	METER DEP RFD	04/30/17	257014	160.00-
00011	EAE REALTY, LLC	METER DEP RF	02017469	16000563	METER DEP RFD	04/30/17	257015	160.00-
00011	EAE REALTY, LLC	METER DEP RF	02017469	16000562	METER DEP RFD	04/30/17	257016	160.00-
00011	EAE REALTY, LLC	METER DEP RF	02017469	16000564	160.00	04/30/17	257017	160.00-
00011	EAE REALTY, LLC	METER DEP RF	02017469	16000565	METER DEP RFD	04/30/17	257018	160.00-

EAE REALTY, LLC								
Sum								1,120.00-
00011	ELAM, PRESCOTT	METER DEP RF	02017460	16000546	METER DEP RFD	04/30/17	257022	26.00-

ELAM, PRESCOTT								
Sum								26.00-
00011	FINK, JUDITH LOR	METER DEP RF	02017460	16000529	METER DEP RFD	04/30/17	257030	26.00-

FINK, JUDITH LOR								
Sum								26.00-
00011	FINK, JUDITH 1	METER DEP RF	02017460	16000528	METER DEP RFD	04/30/17	257031	26.00-

FINK, JUDITH 1								
Sum								26.00-
00011	FLANNIGAN CONSTRCUTION A	METER DEP RF	02017469	16000574	METER DEP RFD	04/30/17	257033	26.00-

FLANNIGAN CONSTRCUTION A								
Sum								26.00-
00011	GREEN, MELISSA	METER DEP RF	02017460	16000548	METER DEP RFD	04/30/17	257052	75.00-

GREEN, MELISSA								
Sum								75.00-
00011	HALLMAN PROPERTIES 3017	METER DEP RF	02017460	16000554	METER DEP RFD	04/30/17	257060	26.00-

HALLMAN PROPERTIES 3017								
Sum								26.00-
00011	HANNEKE, MICHAEL J.	WTR OVRPMT R	02017458	16000515	WTR OVRPMT RFD	04/30/17	257061	11.02-
00011	HANNEKE, MICHAEL J.	METER DEP RF	02017460	16000532	METER DEP RFD	04/30/17	257061	75.00-

HANNEKE, MICHAEL J.								
Sum								86.02-

00011 HARDIN, KALEYA	METER DEP RF 02017460 16000533 METER DEP RFD	04/30/17	257062	75.00-

HARDIN, KALEYA				75.00-
Sum				
00011 HERRING ALVIN	WTR OVRPMT R 02017459 16000513 WTR OVRPMT RFD	04/30/17	257065	85.88-
00011 HERRING ALVIN	METER DEP RF 02017460 16000521 METER DEP RFD	04/30/17	257065	75.00-

HERRING ALVIN				160.88-
Sum				26.00-
00011 HINTON, GERALDINE3	METER DEP RF 02017469 16000578 METER DEP RFD	04/30/17	257068	

HINTON, GERALDINE3				26.00-
Sum				75.00-
00011 JENKINS, PATSY	METER DEP RF 02017460 16000545 METER DEP RFD	04/30/17	257079	

JENKINS, PATSY				75.00-
Sum				559.12-
00011 JOHNSON, HILDA M	WTR OVRPMT R 02017471 16000511 WTR OVRPMT RFD	04/30/17	257081	

JOHNSON, HILDA M				559.12-
Sum				75.00-
00011 JONES, JOSHUA STEPHENS	METER DEP RF 02017460 16000541 METER DEP RFD	04/30/17	257083	

JONES, JOSHUA STEPHENS				75.00-
Sum				75.00-
00011 JONES, SHANQUITA	METER DEP RF 02017460 16000558 METER DEP RFD	04/30/17	257084	

JONES, SHANQUITA				75.00-
Sum				75.00-
00011 JONES, TRACEY S	METER DEP RF 02017460 16000531 METER DEP RFD	04/30/17	257085	

JONES, TRACEY S				75.00-
Sum				54.74-
00011 KEMP, LISA KAY	METER DEP RF 02017460 16000537 METER DEP RFD	04/30/17	257087	

KEMP, LISA KAY				54.74-
Sum				19.44-
00011 LANOUE, MARCELLINE	METER DEP RF 02017460 16000544 METER DEP RFD	04/30/17	257095	

LANOUE, MARCELLINE				19.44-
Sum				26.00-
00011 LEWIS, MARY E H	METER DEP RF 02017460 16000551 METER DEP RFD	04/30/17	257097	

LEWIS, MARY E H				26.00-
Sum				41.88-
00011 LOTUS GROUP1	METER DEP RF 02017469 16000571 METER DEP RFD	04/30/17	257100	

LOTUS GROUP1				41.88-
Sum				75.00-
00011 LOVING, TERESA L	METER DEP RF 02017460 16000530 METER DEP RFD	04/30/17	257101	

00011 ROOD, LAURIE	METER DEP RF 02017460 16000538 METER DEP RFD	04/30/17	257166	26.00-

ROOD, LAURIE				
Sum				26.00-
00011 SALVAIL, JANET 1	METER DEP RF 02017460 16000549 METER DEP RFD	04/30/17	257167	75.00-

SALVAIL, JANET 1				
Sum				75.00-
00011 SANDOVAL, RONNA	METER DEP RF 02017469 16000572 METER DEP RFD	04/30/17	257168	26.00-

SANDOVAL, RONNA				
Sum				26.00-
00011 SHAHEED, AKBAR	METER DEP RF 02017469 16000566 METER DEP RFD	04/30/17	257171	26.00-

SHAHEED, AKBAR				
Sum				26.00-
00011 SHOEMAKER PROPERTIES ELL	METER DEP RF 02017469 16000576 METER DEP RFD	04/30/17	257173	11.00-

SHOEMAKER PROPERTIES ELL				
Sum				11.00-
00011 STERLING, HEATHER	METER DEP RF 02017460 16000543 METER DEP RFD	04/30/17	257190	9.36-

STERLING, HEATHER				
Sum				9.36-
00011 STRONG, LEIGH ANN	METER DEP RF 02017460 16000536 METER DEP RFD	04/30/17	257191	16.44-

STRONG, LEIGH ANN				
Sum				16.44-
00011 SWANSON, MARI TRU	WTR OVRPMT R 02017459 16000518 WTR OVRPMT RFD	04/30/17	257193	87.13-

SWANSON, MARI TRU				
Sum				87.13-
00011 TRIANA, BLAKE	METER DEP RF 02017460 16000523 METER DEP RFD	04/30/17	257200	26.00-

TRIANA, BLAKE				
Sum				26.00-
00011 WATSON, ANNA	METER DEP RF 02017460 16000540 METER DEP RFD	04/30/17	257216	19.44-

WATSON, ANNA				
Sum				19.44-
00011 WESLEY BRELAND REALTOR	WTR OVRPMT R 02017459 16000517 WTR OVRPMT RFD	04/30/17	257218	32.00-
00011 WESLEY BRELAND REALTOR	METER DEP RF 02017460 16000556 METER DEP RFD	04/30/17	257218	75.00-

WESLEY BRELAND REALTOR				
Sum				107.00-
00011 28TH AVE BAPTIST CHURCH	WTR OVRPMT R 02017459 16000514 WTR OVRPMT RFD	04/30/17	257223	572.52-
00011 28TH AVE BAPTIST CHURCH	METER DEP RF 02017460 16000522 METER DEP RFD	04/30/17	257223	75.00-

28TH AVE BAPTIST CHURCH				
Sum				647.52-

Sum				6,994.19-

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POLICE FORFEITURES FUND

00019 EVIDENT INC

117603A

00169317

16000024

CRIME SCENE SUPPLIES

04/30/17

257028

1,338.44-

00019 EVIDENT INC

117603B

00169317

16000025

CRIME SCENE SUPPLIES

04/30/17

257028

278.40-

EVIDENT INC

Sum

1,616.84-

Sum

1,616.84-

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TAX COLLECTOR'S FUND

00027 H'BURG PUBLIC SCHOOLS

4/17 MILLAGE 02017479 16000065 4/17 MILLAGE

04/25/17

311365

399,881.90-

00027 H'BURG PUBLIC SCHOOLS

4/17 MILLAGE 02017479 16000066 4/17 MILLAGE

04/25/17

311366

52,118.03-

H'BURG PUBLIC SCHOOLS

Sum

451,999.93-

Sum

451,999.93-

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AIRPORT IMPROVEMENT FUND
00039 ARE CONSULTANTS INC

170307D

00169852

16000019

SRVS TAXIWAY EXTN FNL DESIGN

04/30/17

256950

7,495.45-

ARE CONSULTANTS INC
Sum

7,495.45-

Sum

7,495.45-

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MUNICIPAL ROAD & BRIDGE

00072	RJM	MCQUEEN CONTRACTING	APPL#8	FINAL	00169794	16000069	L'SCAPE/PED	IMPS	BRDWAY/MOBIL	04/30/17	257162	76,851.82-
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RJM MCQUEEN CONTRACTING

Sum	76,851.82–
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Sum	76,851.82–
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CITY OF HATTIESBURG

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MASS TRANSIT FUND							
00073 ADVANCED JANITORIAL SERV	101108	MASS	00169807	16000287 SERV NEW MASS TRANSIT BLDG	04/30/17	256944	600.00-
ADVANCED JANITORIAL SERV							
Sum							600.00-
00073 CARQUEST AUTO PARTS STOR	14758-81020		00166212	16000300 BUS AND SHOP SUPPLIES	04/30/17	256978	1,100.79-
CARQUEST AUTO PARTS STOR							
Sum							1,100.79-
00073 CITY OF HATTIESBURG FUND	TRF 2ND 4/17		02017480	16000297 TRF 2ND 4/17 PAYROLL	04/26/17	111747	30,279.81-
CITY OF HATTIESBURG FUND							
Sum							30,279.81-
00073 ECOLANE USA INC	8126081		00169667	16000284 GPS MAINT 3/17-2/18 BUSES	04/30/17	257020	8,675.00-
ECOLANE USA INC							
Sum							8,675.00-
00073 G & K SERVICES	1035815631		00169839	16000288 UNIFORMS 3/06 DRIVERS	04/30/17	257042	59.74-
00073 G & K SERVICES	1035817733		00169839	16000289 UNIFORMS 3/13 DRIVERS	04/30/17	257042	108.74-
00073 G & K SERVICES	1035819821		00169839	16000290 UNIFORMS 3/20 DRIVERS	04/30/17	257042	45.38-
00073 G & K SERVICES	1035821909		00169839	16000291 UNIFORMS 3/27 DRIVERS	04/30/17	257042	45.38-
00073 G & K SERVICES	103515629		00169840	16000292 UNIFORMS 3/06 MECHANICS	04/30/17	257042	7.80-
00073 G & K SERVICES	1035817731		00169840	16000293 UNIFORMS 3/13 MECHANICS	04/30/17	257042	7.80-
00073 G & K SERVICES	1035819819		00169840	16000294 UNIFORMS 3/20 MECHANICS	04/30/17	257042	7.80-
00073 G & K SERVICES	1035821907		00169840	16000295 UNIFORMS 3/27 MECHANICS	04/30/17	257042	7.80-
G & K SERVICES							
Sum							290.44-
00073 GILLIG LLC	40311154		00167805	16000299 WINDSHIELDS U#16235 BUS	04/30/17	257046	816.40-
GILLIG LLC							
Sum							816.40-
00073 MS POWER COMPANY	4/17 MASS TR		00201714	16000296 MNTHLY ELEC-MASS TRANSIT	04/30/17	257126	65.95-
MS POWER COMPANY							
Sum							65.95-
00073 MS STATE/EMP SECURITY CO	9200131000 4		00169891	16000298 UNEMP BENEFITS MASS TRANSIT	04/30/17	257128	1,410.00-
MS STATE/EMP SECURITY CO							
Sum							1,410.00-
00073 NEWELL PAPER COMPANY	495826		00169621	16000285 JANIT SUPP TEMP BLDG	04/30/17	257132	240.76-
NEWELL PAPER COMPANY							
Sum							240.76-
00073 OFFICE DEPOT INC	2056293551(B		00169394	16000283 COMPUTER SUPP	04/30/17	257139	179.94-

Sum

179.94-

00169652 16000286 REPR PTS U#19552/STOCK

04/30/17 257144

694.62-

Sum

694.62-

Sum

44,353.71-

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WATER&SEWER CONSTRUCTION FUND

00075 SHOWS DEARMAN & WAITS IN 19607

00169762 16000063 SRV INFLOW/INFIL STUDY #4

04/30/17

257174

155,726.54-

SHOWS DEARMAN & WAITS IN

Sum

155,726.54-

Sum

155,726.54-

CITY OF HATTIESBURG

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COMMUNITY CENTERS' FUND							
00077 AYCOCK, SHELBY (REFUND)	CULTURAL CEN	02017477	16000270	DAMAGE DEPOSIT REFUND	04/30/17	256960	250.00-

AYCOCK, SHELBY (REFUND)							250.00-
Sum							250.00-
00077 BAKER, CYNTHIA (REFUND)	CULTURAL CEN	02017477	16000268	DAMAGE DEPOSIT REFUND	04/30/17	256962	250.00-

BAKER, CYNTHIA (REFUND)							250.00-
Sum							250.00-
00077 CITY OF HATTIESBURG FUND TRF 2ND 4/17	02017480	16000275	TRF 2ND 4/17	PAYROLL	04/26/17	311368	24,784.83-

CITY OF HATTIESBURG FUND							24,784.83-
Sum							32.06-
00077 EATON, ALVIN K (PETTY CA PETTY CASH 1	00169920	16000280	PETTY CASH COMM CNTRS		04/30/17	257019	32.06-

EATON, ALVIN K (PETTY CA							32.06-
Sum							134.75-
00077 GLOBAL SECURITY INVESTIG SECURITY DET	02017475	16000266	SECURITY DETAIL RFD 4/30		04/30/17	257048	134.75-
00077 GLOBAL SECURITY INVESTIG SECURITY DET	02017475	16000267	SECURITY DETAIL RFD 4/30		04/30/17	257048	154.00-

GLOBAL SECURITY INVESTIG							288.75-
Sum							100.00-
00077 GREEN, GABRIELLE (REFUND SHERRILL CEN	02017477	16000271	DAMAGE DEPOSIT REFUND		04/30/17	257051	100.00-

GREEN, GABRIELLE (REFUND							100.00-
Sum							100.00-
00077 GRIFFS, KAREN (REFUND) SHERRILL CEN	02017477	16000272	DAMAGE DEPOSIT REFUND		04/30/17	257053	100.00-

GRIFFS, KAREN (REFUND)							100.00-
Sum							48.00-
00077 HAVARD PEST CONTROL INC	1124684	02017481	16000277	SERV 4/17 CE ROY CENTER	04/30/17	257064	48.00-
00077 HAVARD PEST CONTROL INC	1124680	02017481	16000278	SERV 4/17 REC CENTER	04/30/17	257064	48.00-
00077 HAVARD PEST CONTROL INC	1124683	02017481	16000279	SERV 4/17 CULTURAL CENTER	04/30/17	257064	48.00-

HAVARD PEST CONTROL INC							144.00-
Sum							1,966.70-
00077 INNOVATIVE SERVICE SOLUT	20170047	00169277	16000276	SEMI-ANNUAL AED INSPECTIONS	04/30/17	257074	1,966.70-

INNOVATIVE SERVICE SOLUT							1,966.70-
Sum							2,631.39-
00077 MS POWER COMPANY	4/17 COMM CN	00201714	16000274	MNTHLY ELEC-COMM CNTRS	04/30/17	257126	2,631.39-

MS POWER COMPANY							2,631.39-
Sum							100.00-
00077 ROBINSON, TONIERIA (REFU CE ROY CENTE	02017477	16000269	DAMAGE DEPOSIT REFUND		04/30/17	257163	100.00-

ROBINSON, TONIERIA (REFU

Sum			100.00-
00077 WILLMUT GAS & OIL COMPAN 4/17 COMM CN 00201714 16000273 MNTHLY GAS-COMM CNTRS	04/30/17	257220	201.52-

WILLMUT GAS & OIL COMPAN			
Sum			201.52-

Sum			30,849.25-

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SPECIAL SALES TAX-T&A

00107 H'BURG CONVENTION COMMIS FOOD/BEVERAG 02017463 16000014 FOOD/BEVERAGE TAX 3/17

04/18/17

111744

497,617.82-

H'BURG CONVENTION COMMIS

Sum

00107 H'BURG TOURISM COMMISSIO MOTEL SALES 02017462 16000013 MOTEL SALES TAX 3/17

04/18/17

111743

497,617.82-

73,595.10-

H'BURG TOURISM COMMISSIO

Sum

73,595.10-

Sum

571,212.92-

Grand Total Level

Sum

4,211,020.13-