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SM No. CSTP0168000101

# PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF  
(EXEMPT)

15

Reconstructing SR 570 West of I-55 near McComb, known as Federal Aid Project Nos. STP-0168-00(010) / 102384301, STP-0168-00(010) / 102384302, & STP-7570-00(004) / 102384303, in the Counties of Amite & Pike, State of Mississippi.

Project Completion: April 26, 2011

## NOTICE

**BIDDERS MUST PURCHASE A BOUND PROPOSAL FROM MDOT CONTRACT ADMINISTRATION DIVISION TO BID THIS PROJECT.**

Electronic addendum updates will be posted on [www.gomdot.com](http://www.gomdot.com)

**SECTION 900**  
**OF THE CURRENT**  
**(2004) STANDARD SPECIFICATIONS**  
**FOR ROAD AND BRIDGE CONSTRUCTION**  
**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**  
**JACKSON, MISSISSIPPI**

**BIDDER CHECK LIST  
(FOR INFORMATION ONLY)**

- \_\_\_\_\_ All unit prices and item totals have been entered in accordance with Subsection 102.06 of the Mississippi Standard Specifications for Road and Bridge Construction.
- \_\_\_\_\_ If the bid sheets were prepared using MDOT's Electronic Bid System, proposal sheets have been stapled and inserted into the proposal package.
- \_\_\_\_\_ First sheet of SECTION 905--PROPOSAL has been completed.
- \_\_\_\_\_ Second sheet of SECTION 905--PROPOSAL has been completed and signed.
- \_\_\_\_\_ Addenda, if any, have been acknowledged. Second sheet of Section 905 listing the addendum number has been substituted for the original second sheet of Section 905. Substituted second sheet of Section 905 has been properly completed, signed, and added to the proposal.
- \_\_\_\_\_ DBE/WBE percentage, when required by contract, has been entered on last sheet of the bid sheets of SECTION 905 - PROPOSAL.
- \_\_\_\_\_ Form OCR-485, when required by contract, has been completed and signed.
- \_\_\_\_\_ The last sheet of the bid sheets of SECTION 905--PROPOSAL has been signed.
- \_\_\_\_\_ Combination Bid Proposal of SECTION 905--PROPOSAL has been completed for each project which is to be considered in combination (See Subsection 102.11).
- \_\_\_\_\_ Equal Opportunity Clause Certification, when included in contract, has been completed and signed.
- | \_\_\_\_\_ The Certification regarding Non-Collusion, Debarment and Suspension, etc. has been executed in duplicate.
- \_\_\_\_\_ A certified check, cashier's check or bid bond payable to the State of Mississippi in the principal amount of 5% of the bid has been included with project number identified on same. Bid bond has been signed by the bidder and has also been signed or countersigned by a Mississippi Resident Agent for the Surety with Power of Attorney attached.
- | \_\_\_\_\_ Non-resident Bidders: ON STATE FUNDED PROJECTS ONLY, a copy of the current laws regarding any preference for local Contractors from State wherein domiciled has been included. See Subsection 103.01, Mississippi Standard Specifications for Road and Bridge Construction, and Section 31-7-47, MCA, 1972 regarding this matter.

Return the proposal and contract documents in its entirety in a sealed envelope. DO NOT remove any part of the contract documents; exception - an addendum requires substitution of second sheet of Section 905. A stripped proposal is considered as an irregular bid and will be rejected.

Failure to complete any or all of the applicable requirements will be cause for the proposal to be considered irregular.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 2635**

**CODE: (SP)**

**DATE: 05/26/2009**

**SUBJECT: READVERTISEMENT**

**PROJECT: STP-0168-00(010) / 102384301 – Amite County,  
STP-0168-00(010) / 102384302 – Pike County, &  
STP-7570-00(004) / 102384303 -- Pike County**

The contents of this proposal are the same as when advertised for the May, 2009 Letting, except as follows:

Revised Advertisement;

Revised NTB 2531;

NTB No. 2587, replaces NTB No. 2496;

NTB No. 2594, replaces NTB No. 2477;

Added NTB No. 2616;

Revised Bidsheets;

Add this Notice to Bidders No. 2635.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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STP-7570-00(004) / 102384303 -- Pike County**

### READVERTISEMENT NOTICE TO BIDDER NO. 2635

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	Fiber Reinforced Concrete - # 640
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SECTION 905 - PROPOSAL,  
PROPOSAL SHEET NOS. 2-1 THRU 2-13,  
COMBINATION BID PROPOSAL,  
CERTIFICATE OF PERFORMANCE - PRIOR FEDERAL-AID CONTRACTS,  
NON-COLLUSION CERTIFICATE,  
SECTION 902 - CONTRACT FORM, AND SECTION 903 - CONTRACT BOND FORM,  
OCR-485,

(REVISIONS TO THE ABOVE WILL BE INDICATED ON THE SECOND SHEET  
OF SECTION 905 AS ADDENDA)

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SECTION 901 - ADVERTISEMENT

Sealed bids will be received by the Mississippi Transportation Commission in the Office of the Contract Administration Engineer, Room 1013, Mississippi Department of Transportation Administration Building, 401 North West Street, Jackson, Mississippi, until 9:30 o'clock A.M., Tuesday, June 23, 2009; thereafter, bids will be received in the First Floor Auditorium of the Mississippi Department of Transportation Administration Building, Jackson, Mississippi, until 10:00 o'clock A.M., Tuesday, June 23, 2009, and shortly thereafter publicly opened for:

Reconstructing SR 570 West of I-55 near McComb, known as Federal Aid Project Nos. STP-0168-00(010) / 102384301, STP-0168-00(010) / 102384302, & STP-7570-00(004) /102384303, in the Counties of Amite & Pike, State of Mississippi.

The attention of bidders is directed to the Contract Provisions governing selection and employment of labor. Minimum wage rates have been predetermined by the Secretary of Labor and are subject to Public Law 87-58 1, Work Hours Act of 1962, as set forth in the Contract Provisions.

The Mississippi Department of Transportation hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, age, disability, religion or national origin in consideration for an award.

**The award of this contract will be contingent upon the Contractor satisfying the DBE requirements.**

Bid proposals must be acquired from the MDOT Contract Administration Division. These proposal are available at a cost of Ten Dollars (\$10.00) per proposal. Specimen proposals are also available at the MDOT Contract Administration Division at a cost of Ten Dollars (\$10.00) per proposal, or can be viewed or downloaded at no cost at [www.gomdot.com](http://www.gomdot.com).

Plans may be acquired on a cost per sheet basis from MDOT Plans Print Shop, MDOT Shop Complex, Building C, Room 114, 2567 North West Street, Jackson, Mississippi 39216, Telephone (601) 359-7460 or e-mail at [plans@mdot.state.ms.us](mailto:plans@mdot.state.ms.us) or FAX (601) 359-7461. Plans will be shipped upon receipt of payment.

Bid bond, signed or countersigned by a Mississippi Resident Agent, with Power of Attorney attached or on file with the Contract Administration Engineer of the Department, a Cashier's check or Certified Check for five (5%) percent of bid, payable to STATE OF MISSISSIPPI, must accompany each proposal.

The attention of bidders is directed to the provisions of Subsection 102.07 pertaining to irregular proposals and rejection of bids.

LARRY L. "BUTCH" BROWN  
EXECUTIVE DIRECTOR

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 1**

**CODE: (IS)**

**DATE: 05/03/2004**

**SUBJECT: Governing Specifications**

The current (2004) Edition of the Standard Specifications for Road and Bridge Construction adopted by the Mississippi Transportation Commission is made a part hereof fully and completely as if it were attached hereto, except where superseded by special provisions, or amended by revisions of the Specifications contained herein. Copies of the specification book may be purchased from the MDOT Construction Division.

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.

In the event the plans or proposal contain references to the 1990 Edition of the Standard Specifications for Road and Bridge Construction, it is to be understood that such references shall mean the comparable provisions of the 2004 Edition of the Standard Specifications.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 3**

**CODE: (SP)**

**DATE: 05/03/2004**

**SUBJECT: Final Clean-Up**

Immediately prior to final inspection for release of maintenance, the Contractor shall pick up, load, transport and properly dispose of all litter from the entire highway right-of-way that is within the termini of the project.

Litter shall include, but not be limited to, solid wastes such as glass, paper products, tires, wood products, metal, synthetic materials and other miscellaneous debris.

Litter removal is considered incidental to other items of work and will not be measured for separate payment.



## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 640

CODE: (IS)

| DATE: 09/26/2005

SUBJECT: Fiber Reinforced Concrete

Bidders are hereby advised that synthetic structural fibers meeting the requirements of Subsection 907-711.04 may be used in lieu of wire mesh in some items of construction. Substitution of fibers for wire mesh will be allowed in the construction of paved ditches, paved flumes, paved inlet apron, driveways, guard rail anchors and pile encasements. Substitution in any other items of work must be approved by the State Construction Engineer prior to use.

## **SUPPLEMENT TO NOTICE TO BIDDERS NO. 696**

**DATE: 06/06/2008**

The goal is 4 percent for the Disadvantaged Business Enterprise. The low bidder is required to submit Form OCR-481 for all DBEs. Bidders are advised to check the bid tabulation link for this project on the MDOT website (<http://www.gomdot.com/applications/bidsystem/currentletting.aspx>) for results. Bid tabulations are usually posted by 3:00 pm on Letting Day.

Form OCR-481 is available at [http://www.gomdot.com/Divisions/CivilRights/Resources/Forms/pdf/MDOT\\_OCR481.pdf](http://www.gomdot.com/Divisions/CivilRights/Resources/Forms/pdf/MDOT_OCR481.pdf) or by calling 601-359-7466.

All OCR-481s must be returned within 10 days following the bid letting to the MDOT Office of Civil Rights, P.O. Box 1850, Jackson, MS 39215-1850.

For answers to questions, contact the MDOT Office of Civil Rights at (601) 359-7466.

The bidder's execution of the signature portion of the proposal shall constitute execution of the following assurance:

The bidder hereby gives assurance pursuant to the applicable requirements of "Safe, Accountable, Flexible, Efficient Transportation Equity Act, A Legacy For Users (SAFETEA-LU)" and "Part 26, Title 49, Code of Federal Regulation" that the bidder has made a good faith effort to meet the contract goal for DBE participation for which this proposal is submitted.

A pre-bid meeting will be held in Amphitheater 1 & 2 of the Hilton Jackson located at I-55 and County Line Road, Jackson, Mississippi at 2:00 P.M. on the day preceding the date of the bid opening.

This meeting is to inform DBE firms of subcontracting and material supply opportunities. Attendance at this meeting is considered of prime importance in demonstrating good faith effort to meet the contract goal.

A list of "Certified DBE Contractors" which have been certified as such by the Mississippi Department of Transportation and other Unified Certification Partners (UPC) can be found on the Mississippi Department of Transportation website at [www.gomdot.com](http://www.gomdot.com). The DBE firm must be on the Department's list of "Certified DBE Contractors" that is posted online at the time the job is let and approved by MDOT to count towards meeting the DBE goal.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 696

CODE: (IS)

DATE: 12/20/2005

SUBJECT: DISADVANTAGED BUSINESS ENTERPRISES IN FEDERAL-AID HIGHWAY CONSTRUCTION

This contract is subject to the [Safe, Accountable, Flexible, Efficient Transportation Equity Act, A Legacy For Users \(SAFETEA-LU\)](#) and applicable requirements of "Part 26, Title 49, Code of Federal Regulations." Portions of the Act are set forth in this Notice as applicable to compliance by the Contractor and all of the Act, and the MDOT DBE Program, is incorporated by reference herein.

The Department has developed a Disadvantaged Business Enterprise Program that is applicable to this contract and is made a part thereof by reference.

Copies of the program may be obtained from:

Office of Civil Rights  
Mississippi Department of Transportation  
P. O. Box 1850  
Jackson, Mississippi 39215-1850

## POLICY

It is the policy of the Mississippi Department of Transportation to provide a level playing field, to foster equal opportunity in all federally assisted contracts, to improve the flexibility of the DBE Program, to reduce the burdens on small businesses, and to achieve that amount of participation that would be obtained in a non-discriminatory market place. In doing so, it is the policy of MDOT that there will be no discrimination in the award and performance of federally assisted contracts on the basis of race, color, sex, age, religion, national origin, or any handicap.

## ASSURANCES THAT CONTRACTORS MUST TAKE:

MDOT will require that each contract which MDOT signs with a subrecipient or a Contractor, and each subcontract the Prime Contractor signs with a Subcontractor, includes the following assurances:

“The Contractor, subrecipient or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as MDOT deems appropriate.”

**DEFINITIONS**

For purposes of this provision the following definitions will apply:

"Disadvantaged Business" means a small business concern: (a) which is at least 51 percent owned by one or more socially and economically disadvantaged individual(s) or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individual(s); and (b) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individual(s) who own it. It is important to note that the business owners themselves must control the operations of the business. Absentee ownership or title ownership by an individual who does not take an active role in controlling the business is not consistent with eligibility as a DBE under CFR 49 Part 26.71.

**CONTRACTOR'S OBLIGATION**

The Contractor and all Subcontractors shall take all necessary and reasonable steps to ensure that DBE firms can compete for and participate in the performance of a portion of the work in this contract and shall not discriminate on the basis of race, color, national origin, religion or sex. Failure on the part of the Contractor to carry out the DBE requirements of this contract constitutes a breach of contract and after proper notification the Department may terminate the contract or take other appropriate action as determined by the Department.

When a contract requires a zero percent (0%) DBE goal, the Contractor still has the responsibility to take all necessary and reasonable steps to ensure that DBE firms can compete for and participate in the performance of the work in the contract. **In this case,** all work performed by a certified DBE firm is considered to be a "race neutral" measure and the Department will receive DBE credit towards the overall State goals when the DBE firm is paid for their work. If the Prime Contractor is a certified DBE firm, the Department can receive DBE credit only for the work performed by the Prime Contractor's work force or any work subcontracted to another DBE firm. Work performance by a non-DBE Subcontractor is not eligible for DBE credit.

**CONTRACT GOAL**

The goal for participation by DBEs is established for this contract in the attached Supplement. The Contractor shall exercise all necessary and reasonable steps to ensure that participation is equal to or exceeds the contract goal.

The percentage of the contract that is proposed for DBEs shall be so stated on the last bid sheet of the proposal.

The apparent lowest responsive bidder shall submit to the Contract Administration Division Form OCR-481, signed by the Prime Contractor and the DBE Subcontractors, no later than the 10th day after opening of the bids.

FORMS ARE AVAILABLE FROM THE CONTRACT ADMINISTRATION DIVISION

The OCR-481 Form must contain the following information:

The name and address of each certified DBE Contractor / Supplier;

The Reference Number, percent of work and the dollar amount of each item. If a portion of an item is subcontracted, a breakdown of that item including quantities and unit price must be attached, detailing what part of the item the DBE firm is to perform and who will perform the remainder of the item.

If the DBE Commitment shown on the last bid sheet of the proposal, does not equal or exceed the contract goal, the bidder must submit, with the proposal, information to satisfy the Department that adequate good faith efforts have been made to meet the contract goal.

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 Department will consider in judging whether or not the bidder has made adequate good faith effort to satisfy the contract goal.

- (1) Whether the bidder attended the pre-bid meeting that was scheduled by the Department to inform DBEs of subcontracting opportunities;
- (2) whether the bidder advertised in general circulation, trade association, and minority-focus media concerning the subcontracting opportunities;
- (3) whether the bidder provided written notice to a reasonable number of specific DBEs that their interest in the contract is being solicited;
- (4) whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainty whether they were interested;
- (5) whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goal;
- (6) whether the bidder provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;

- (7) whether the bidder negotiated in good faith with interested DBEs and did not reject them as unqualified without sound reasons based on a thorough investigation of their capabilities; and
- (8) whether the bidder made efforts to assist interested DBEs in obtaining any required bonding or insurance.

### **DIRECTORY**

Included with this Bid Proposal is a list of "Certified DBE Contractors" which have been certified as such by the Mississippi Department of Transportation and other Unified Certification Partners (UCP).

The DBE firm must be on the Department's list of "Certified DBE Contractors" that is attached to this proposal and approved by MDOT to count towards meeting the DBE goal.

### **REPLACEMENT**

If a DBE Subcontractor cannot perform satisfactorily, and this causes the OCR-481 commitment to fall below the contract goal, the Contractor shall take all necessary reasonable steps to replace the DBE with another certified DBE Subcontractor or submit information to satisfy the Mississippi Department of Transportation that adequate good faith efforts have been made to replace the DBE. The replacement DBE must be a DBE who was on the Department's list of "Certified DBE Contractors" when the job was awarded, and who is still active. All DBE replacements must be approved by the Department.

Under no circumstances shall the Prime or any Subcontractor perform the DBE's work (as shown on the OCR-481) without prior written approval from the Department. See "Sanctions" at the end of this document for penalties for performing DBE's work.

When a Contractor proposes to substitute/replace/terminate a DBE that was originally named on the OCR-481, the Contractor must obtain a release, in writing, from the named DBE explaining why the DBE Subcontractor cannot perform the work. A copy of the original DBE's release must be attached to the Contractor's written request to substitute/replace/terminate along with appropriate Subcontract Forms for the substitute/replacement/terminated Subcontractor, all of which must be submitted to the DBE Coordinator and approved, in advance, by MDOT.

### **GOOD FAITH EFFORTS**

To demonstrate good faith efforts to replace any DBE that is unable to perform successfully, the Contractor must document steps taken to subcontract with another certified DBE Contractor. Such documentation shall include no less than the following:

- (a) Proof of written notification to certified DBE Contractors by certified mail that their interest is solicited in subcontracting the work defaulted by the previous DBE or in subcontracting other items of work in the contract.
- (b) Efforts to negotiate with certified DBE Contractors for specific items shall include as a minimum:
  - (1) The name, address, and telephone number of each DBE contacted;
  - (2) A description of the information provided about the plans and specifications for those portions of the work to be subcontracted; and
  - (3) A statement of why agreements were not reached.
- (c) For each DBE contacted that was rejected as unqualified, the reasons for such conclusion.
- (d) Efforts made to assist each DBE that needed assistance in obtaining bonding or insurance required by the Contractor.

Failure of the Contractor to demonstrate good faith efforts to replace a DBE Subcontractor that cannot perform as intended with another DBE Subcontractor, when required, shall be a breach of contract and may be just cause to be disqualified from further bidding for a period of up to 12 months after notification by certified mail.

**PARTICIPATION / DBE CREDIT**

Participation shall be counted toward meeting the goal in this contract as follows:

- (1) If the Prime Contractor is a certified DBE firm, only the value of the work actually performed by the DBE Prime can be counted towards the project goal, along with any work subcontracted to a certified DBE firm.
- (2) If the Contractor is not a DBE, the work subcontracted to a certified DBE Contractor 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 DBE partner in the joint venture.
- (4) Expenditures to DBEs 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 DBE suppliers and manufacturers that produce goods from raw materials or substantially alters them for resale provided the suppliers and manufacturers assume the actual and contractual responsibility for the provision of the materials and supplies. The Contractor may count 60 percent 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 DBE Coordinator invoices from the certified supplier to verify the DBE goal.
- (6) Any work that a certified DBE firm subcontracts or sub-subcontracts to a non-DBE firm will not count towards the DBE goal.
- (7) Only the dollars actually paid to the DBE firm may be counted towards the DBE goal.

### **AWARD**

Award of this contract to the low bidder will be contingent upon the following conditions:

- (1) Concurrence from Federal Highway Administration, when applicable.
- (2) Bidder must submit to the Contract Administration Division for approval, Form OCR-481 (DBE Commitment) no later than the 10th day after opening of the bids, or submit information with the bid proposal to satisfy the Department and that adequate good faith efforts have been made to meet the contract goal.
- (3) Bidder must submit **with the bid proposal** a list of all firms that submitted quotes for material supplies or items to be subcontracted. This information must be submitted on form OCR-485 in the back of the contract proposal.

Prior to the start of any work, the bidder must notify the Project Engineer, in writing, of the name of the designated "DBE Liaison Officer" for this project. This notification must be posted on the bulletin board at the project site.

### **DEFAULT**

The contract goal established by MDOT in this proposal must be met to fulfill the terms of the contract. The Contractor may list DBE Subcontractors and items that exceed MDOT's contract goal, but should unforeseen problems arise that would prevent a DBE from completing its total commitment percentage, the Contractor will meet the terms of the contract as long as it meets or exceeds MDOT's Contract Goal. For additional information, refer to "Replacement" section of this Notice.



## **DBE REPORTS**

- (1) OCR-481: Refer to 'CONTRACT GOAL' section of this Notice to Bidders for information regarding this form.
- (2) OCR-482: At the conclusion of the project the Contractor will submit to the Project Engineer for verification of quantities and further handling Form OCR-482 whereby the Contractor certifies to the amounts of payments made to each Contractor / Supplier. The Project Engineer shall submit the completed Form OCR-482 to the DBE Coordinator (Office of Civil Rights). Final acceptance of the project is dependent upon Contract Administration Division's receipt of completed Form OCR-482 which they will receive from the Office of Civil Rights.
- (3) OCR-483: The Project Engineer/Inspector will complete Form OCR-483, the Commercially Useful Function (CUF) Performance Report, in accordance with MDOT S.O.P. No. OCR-03-09-01-483. Evaluations reported on this form are used to determine whether or not the DBE firm is performing a CUF. The Prime Contractor should take corrective action when the report contains any negative evaluations. DBE credit may be disallowed and/or other sanctions imposed if it is determined the DBE firm is not performing a CUF. This form should also be completed and returned to the DBE Coordinator (Office of Civil Rights).
- (4) OCR-484: Each month, the Contractor will submit to the Project Engineer OCR-484 certifying payments to all Subcontractors.
- (5) OCR-485: The bidder must submit **with the bid proposal** a list of all firms that submitted quotes for material supplies or items to be subcontracted.
- (6) OCR-487: Only used by Prime Contractors that are certified DBE firms. This form is used in determining the exact percentage of DBE credit for the specified project. It should be returned to MDOT with the OCR-481 form, or can also be returned with the Permission to Subcontract Forms (CAD-720 or CAD-725).

## **SANCTIONS**

The Department has the option to enforce any of the following penalties for failure of the Prime Contractor to fulfill the DBE goal as stated on the OCR-481 form or any violations of the DBE program guidelines:

- (1) Disallow credit towards the DBE goal
- (2) Withhold progress estimate payments
- (3) Deduct from the final estimate an amount equal to the unmet portion of the DBE goal

- (4) Recover an amount equal to the unmet contract goal
- (5) Debar the Contractor involved from bidding on Mississippi Department of Transportation projects.
- (6) Deduct from the Contractor's final estimate all or any combination of the following.

<u>Offense</u>	<u>Percentage of the monetary amount disallowed from (1) above</u>	<u>Lump Sum</u>
# 1	10%	\$ 5,000 or both
# 2	20%	\$ 10,000 or both
# 3	40%	\$ 20,000 & debarment

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. [777](#)

CODE: (IS)

| DATE: [04/13/2006](#)

**SUBJECT: On-The-Job Training Program**

| Payment for training hours will be handled as outlined in Special Provision 906-6. A pay item for trainees will not be included in individual construction projects. Payment for training individuals will be processed in accordance with the conditions in MDOT's ON-THE-JOB TRAINING PROGRAM (Special Provision 906-6).

| On Federal-Aid projects, failure on the part of the Contractor to carryout the terms of the Alternate Training Special Provision (Special Provision 906-6) will be considered grounds to preclude the Contractor from participating in the Alternate On-The-Job Training Program. In the event the Department is required to preclude the Contractor from participating in the program, the Contractor will be required to adhere to the requirements of the Training Special Provision (Special Provision 906-3), for which purpose the special provision is also made a part of this proposal.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 883**

**CODE: (IS)**

**DATE: 04/28/2006**

**SUBJECT: Payroll Requirements**

Bidders are hereby advised that the Contractor and Subcontractor(s) are required to submit payroll information to the Project Engineers on a weekly basis.

On Federal-Aid Projects, CAD-880, CAD-881 and certified payroll submissions are required each week the Contractor or a Subcontractor performs work on the project. This is addressed in Section V, page 6 of Form FHWA-1273.

On State-Funded Projects, CAD-880 is required each week the Contractor or a Subcontractor performs work on the project.

When no work is performed on either Federal-Aid and State-Funded Projects, the Contractor should only submit CAD-880 showing no work activities.

The Contractor shall make all efforts necessary to submit this information to the Project Engineer in a timely manner. The Engineer will have the authority to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to submit the required information. Submission of forms and payrolls shall be current through the first full week of the month for the estimate period in order for the Project Engineer to process an estimate.

Bidders are advised to review the requirements regarding payroll submissions in Section 110 of the Standard Specifications.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 1312**

**CODE: (SP)**

**DATE: 01/22/2007**

**SUBJECT: Rumble Stripe**

Bidders are hereby advised that when edge lines are placed over rumble strips, the pavement marking stripe must be applied using the atomization method instead of extrusion / ribbon method. The thickness of the stripe will be 60-mils, unless otherwise noted in the plans/proposal or pay item description. To ensure the proper alignment of the rumble stripes, the Contractor will be required to place a layout line to be followed during installation of the edge lines over the rumble strips.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 1321**

**CODE: (SP)**

**DATE: 01/22/2007**

**SUBJECT: Use of Precast Drainage Units**

Bidders attention is brought to the content of Subsection 601.02.3 regarding precast units. The Contractor must make a request to the Project Engineer for approval to use precast units prior to installation. Even though the units have been pre-approved by MDOT, official request for use is required.

MDOT has pre-approved the following manufactures. Any other manufacturer must be pre-approved by MDOT Roadway Design Division prior to use.

Hanson Pipe & Products, Inc.  
2840 W. Northside Drive  
Jackson, MS 39213  
(Formally Choctaw, Inc.)

Custom Precast Products, Inc.  
125 International Boulevard  
Lavergne, TN 37086-3326

Custom Precast Products, Inc.  
P.O. Drawer #242  
#68 Industrial Park  
Lumberton, MS 39455

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1405

CODE: (IS)

DATE: 03/15/2007

SUBJECT: ERRATA AND MODIFICATIONS TO THE 2004 STANDARD SPECIFICATIONS

<u>Page</u>	<u>Subsection</u>	<u>Change</u>
101	201.01	In the second sentence of the first paragraph, change “salvable” to “salvageable”.
107	202.04	In the fourth sentence of the fourth paragraph, change “yard” to “feet”.
107	202.05	In the list of units measurements for 202-B, add “square foot”.
132	211.03.4	In the second sentence of the second paragraph, change “planted” to “plated”.
192	306.02.4	In the first line of the first paragraph, delete the word “be”.
200	307.03.7	In the fourth sentence of the second paragraph, change “lime-fly ash” to “treated”.
236	401.01	Change the header from “Section 403” to “Section 401”.
242	401.02.3.2	In the first sentence of the third full paragraph, add “1/8” in the blank before the inch mark.
250	401.02.6.3	In the second sentence of the first paragraph on page 250, change “rutting over ”” to “rutting over 1/8” ”.
253	401.02.6.4.2	In the paragraph preceding the table, change “91.0” to “89.0”.
259	401.03.1.4	In the first paragraph, change “92.0 percent” to “the specified percentage (92.0 or 93.0)”.
269	403.03.2	In the table at the top of page 269, change the PI requirement from “ = ” to “ ≤ ”.

- 278 404.04 In the second sentence, change the subsection from “401.04” to “403.04”.
- 283 409.02.2 Change “PG 64-22” to “PG 67-22”.
- 294 413.02 In the first sentence of the second paragraph, change “707.02.1.3” to “Subsection 707.02.1.3”.
- 340 511.04 In the second sentence of the second paragraph, change “412” to “512”.
- 349 601.03.3 In the first sentence, change “804.03.2” to “804.03.5”.
- 355 603.02 Change the subsection reference for Joint mortar from “707.03” to “714.11”.
- 369 604.04 In the first sentence, change “601.04” to “Subsection 601.04”.
- 427 619.04 Delete the second paragraph.
- 442 625.04 In the third paragraph, change “626.04” to “Subsection 626.04”.
- 444 626.03.1.2 Delete the third sentence of the first paragraph.
- 464 631.02 Change the subsection reference for Water from “714.01.0” to “714.01.1”.
- 570 682.03 Change the subsection number from “682-03” to “682.03”.
- 575 683.10.4 Change the subsection number from “683.10.4” to “683.04”.
- 575 683.10.5 Change the subsection number from “683.10.5” to “683.05”.
- 596 701.02 In the table under the column titled “Cementations material required”, change Class F, FA” to “Class F FA,”.
- 603 702.11 In the first sentence, change “702.12” to “Subsection 702.12”.
- 612 703.04.2 In the fifth paragraph, delete “Subsection 703.11 and”.
- 616 703.07.2 In the Percentage By Weight Passing Square Mesh Sieves table, change the No. 10 requirement for Class 7 material from “30 - 10” to “30 - 100”.



- 618 703.13.1 In the first sentence of the first paragraph, change “703.09” to “703.06”.
- 618 703.13.2 In the first sentence, change “703.09” to “703.06”.
- 671 712.06.2.2 In the first sentence, change “712.05.1” to “Subsection 712.05.1”.
- 689 714.11.2 In the first sentence, change “412” to “512”.
- 709 715.09.5 In the first sentence of the first paragraph, change “guage” to “gauge”.
- 717 717.02.3.4 In the top line of the tension table, change “1 1/2” to “1 1/8” and change “1 1/8” to “1 1/2”.
- 741 720.05.2.2 In the last sentence of this subsection, change “720.05.2.1” to “Subsection 720.05.2.1”.
- 827 803.03.2.3.7.5.2 In the first sentence of the second paragraph, change “803.03.5.4” to “803.03.2.3.4”.
- 833 803.03.2.6 In the first sentence, change “803.03.7” to “803.03.2.5”.
- 854 804.02.11 In the last sentence of the first paragraph, change “automatically” to “automatic”.
- 859 804.02.13.1.3 In the last sentence, change Subsection “804.02.12.1” to “804.02.12”.
- 879 804.03.19.3.2 In the first sentence of the third paragraph, change “listed on of Approved” to “listed on the Approved”.
- 879 804.03.19.3.2 In the last sentence of the last paragraph, change “804.03.19.3.1” to “Subsection 804.03.19.3.1”.
- 962 814.02.3 In the first sentence, change “710.03” to “Subsection 710.03”.
- 976 820.03.2.1 In the first sentence, change “803.02.6” to “803.03.1.7”.
- 976 820.03.2.2 In the first sentence, change “803.03.9.6” to “803.03.1.9.2”.
- 985 Index Change the subsection reference for Petroleum Asphalt Cement from “702.5” to “702.05”.

985	Index	Change the subsection reference for the Definition of Asphaltic Cement or Petroleum Asphalt from “700.2” to “700.02”.
985	Index	Change the subsection reference for Automatic Batchers from “501.03.2.4” to “804.02.10.4”.
986	Index	Delete “501.03.2” as a subsection reference for Batching Plant & Equipment.
988	Index	Change the subsection reference for the Central Mixed Concrete from “501.03.3.2” to “804.02.11”.
988	Index	Change the subsection reference for the Concrete Batching Plant & Equipment from “501.03.2” to “804.02.11”.
999	Index	Delete “501.03.3.3” as a subsection reference for Truck Mixers.
1001	Index	Change the subsection reference for Edge Drain Pipes from “605.3.5” to “605.03.5”.
1002	Index	Change the subsection reference for Metal Posts from “713.05.2” to “712.05.2”.
1007	Index	Change the subsection reference for Coarse Aggregate of Cement Concrete Table from “703.3” to “703.03”.
1007	Index	Change the subsection reference for Composite Gradation for Mechanically Stabilized Courses Table from “703.8” to “703.08”.
1009	Index	Delete “501.03.3.3” as a subsection reference for Truck Mixers and Truck Agitators.
1010	Index	Delete reference to “Working Day, Definition of”.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1808

CODE: (IS)

DATE: 09/09/2008

SUBJECT: Safety Apparel

Bidders are advised that the Code of Federal Regulations CFR 23 Part 634 final rule was adopted November 24, 2006 with an effective date of November 24, 2008. This rule requires that **"All workers within the right-of-way of a Federal-Aid Highway who are exposed either to traffic (vehicles using the highway for the purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel"**. High-visibility safety apparel is defined in the CFR as **"personnel protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage, and that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled American National Standard for High-Visibility Safety Apparel and Headwear"**. All workers on Mississippi State Highway right-of-way shall comply with this Federal Regulation. Workers are defined by the CFR as **"people on foot whose duties place them within the right-of way of a Federal-Aid Highway, such as highway construction and maintenance forces, survey crews, utility crews, responders to incidents within the highway right-of-way, and law enforcement personnel when directing traffic, investigating crashes, and handling lane closures, obstructed roadways, and disasters within the right-of-way of a Federal-Aid Highway"**.

You can access this final rule at the following link:

<http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/pdf/E6-19910.pdf>

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 1869**

**CODE: (SP)**

**DATE: 02/01/2008**

**SUBJECT: Minimum Wage Rate**

Bidders are advised of an increase in the minimum federal wage rate established by the United States Department of Labor Wage and Hour Division beginning July 24, 2007. On July 24, 2007, the minimum wage rate was increased to \$5.85 per hour.

MDOT gets the minimum wage rates and classifications that are used in proposals from the Department of Labor website. Because of delays in posting to the website, the wages rates and classifications in this proposal may not contain the latest information regarding wage rates and classifications.

Bidders are advised that regardless of the wage rates listed in the Supplement to FHWA 1273, minimum federal wage rates must be paid.

Below are Federal minimum wage rates and effective dates.

Beginning July 24, 2007 .....	\$ 5.85
Beginning July 25, 2008 .....	\$ 6.55
Beginning July 24, 2009 .....	\$ 7.25

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 1922**

**CODE: (SP)**

**DATE: 03/31/2008**

**SUBJECT: Non-Quality Control / Quality Assurance Concrete**

Bidders are advised that the following pay items will not be accepted based on the Quality Control / Quality Assurance (QC/QA) requirements of Section 804 of the specifications. The acceptance of these pay items will be based on sampling and testing at the project site by MDOT forces. The Contractor is required to submit mix designs to accomplish this work in accordance with Section 804 and perform normal Quality Control functions at the concrete plant. Acceptance will be in accordance with the requirements of 907-601, Structural Concrete, and TMD-20-04-00-000. At the discretion of the Engineer, the Contractor may request that the concrete be accepted based on QC/QA requirements.

<b><u>Pay Item</u></b>	<b><u>Description</u></b>
221	Paved Ditches
601	Structural Concrete, Minor Structures - manholes, inlets, catch basins, junction boxes, pipe headwalls, and pipe collars.
606	Guardrail Anchors
607	Fence Post Footings
608	Sidewalks
609	Curb and Gutter
614	Driveways
616	Median and Island Pavement
630	Sign Footings, except Overhead Sign Supports

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 1928

CODE: (IS)

| DATE: 04/14/2008

**SUBJECT: Federal Bridge Formula**

Bidders are hereby advised that Federal Highway Administration Publication No. FHWA-MC-94-007, **BRIDGE FORMULA WEIGHTS**, dated January 1994, is made a part of this contract when applicable.

Prior to the preconstruction conference, the Contractor shall advise the Engineer, in writing, what materials, if any, will be delivered to the jobsite via Interstate route(s).

Copies of the **BRIDGE FORMULA WEIGHTS** publication may be obtained by contacting:

Federal Highway Administration  
400 7<sup>th</sup> Street, SW  
Washington, DC 20590  
(202) 366-2212

or

| [http://ops.fhwa.dot.gov/freight/sw/brdgcalt/calcul\\_page.htm](http://ops.fhwa.dot.gov/freight/sw/brdgcalt/calcul_page.htm)

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 2239**

**CODE: (SP)**

**DATE: 01/06/2009**

**SUBJECT: Department of Labor Ruling**

On December 19, 2008 the U.S. Department of Labor issued a final rule revising their regulations in 29 CFR Parts 3 and 5. This rule takes effect for all Federal funded contracts awarded after January 19, 2009.

The primary change in the rule is a provision that requires Contractors to limit the amount of personal information on the weekly payroll submissions. Personal addresses and full social security numbers may no longer be used. Contractors must use an ". . . individually identifying number for each employee (e.g., the last four digits of the employee's social security number)." Form FHWA-1273 - "Required Contract Provisions Federal-aid Construction Contracts" will eventually be revised to reflect this change.

Until the revised is made to FHWA-1273, bidders are advised to disregard any requirement in FHWA-1273 regarding the use of personal addresses and full social security numbers, such as in Section V, Paragraph 2b.

Bidders are also advised that the requirement for maintaining and submitting form FHWA-47, as referenced in FHWA-1273 Section VI, is no longer required on construction projects.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 2348**

**CODE: (SP)**

**DATE: 01/20/2009**

**SUBJECT: Storm Water Discharge Associated with Construction Activity  
(≥ 5 Acres)**

**PROJECT: STP-0168-00(010) / 102384301 – Amite County  
STP-0168-00(010) / 102384302 – Pike County  
STP-7570-00(004) / 102384303 -- Pike County**

A Construction Storm Water General NPDES Permit to discharge storm water associated with construction activity is required.

The Department has acquired Certificate of Permit Coverage MSR 103383 under the Mississippi Department of Environmental Quality's (MDEQ) Storm Water Construction General Permit. Projects issued a certificate of permit coverage are granted permission to discharge treated storm water associated with construction activity into State waters. Copies of said permit, completed Large Construction Notice of Intent (LNOI), and Storm Water Pollution Prevention Plan (SWPPP) are on file with the Department.

Prior to the execution of the contract, the successful bidder shall execute and deliver to the Executive Director an original signed copy of the completed Prime Contractor Certification (Form No. 1).

Failure of the bidder to execute and file the completed Prime Contractor Certification (Form No. 1) shall be just cause for the cancellation of the award.

The executed Prime Contractor Certification (Form No. 1) shall be prima facie evidence that the bidder has examined the permit, is satisfied as to the terms and conditions contained therein, and that the bidder assumes the responsibility for meeting all permit terms and conditions and for performing permit requirements including, but not limited to, the inspection and reporting requirements. For this project, the Contractor shall furnish, set up and read, as needed, an on-site rain gauge.

The Contractor shall make inspections in accordance with condition No. S-4, page 14, and shall furnish the Project Engineer with the results of each weekly inspection as soon as possible following the date of inspection. A copy of the inspection form provided with the packet completed shall be sufficient. The weekly inspections must be documented monthly on the Inspection and Certification Form. The Contractor's representative and the Project Engineer shall jointly review and discuss the results of the inspections so that corrective action can be taken. The Project Engineer shall retain copies of the inspection reports.



An amount equal to 25 percent (25%) of the total estimated value of the work performed during each period in which the Contractor fails to submit monthly the completed Inspection and Certification Form to the Project Engineer will be withheld from the Contractor's earned work. Thereafter, on subsequent successive estimate periods, the percentage withheld will be increased at the rate of 25 percent per estimate period in which the non-conformance with this specification continues. Monies withheld for this non-conformance will be released for payment on the next monthly estimate for partial payment following the date the monthly submittal of the completed Inspection and Certification Form is brought back into compliance with this specification.

Upon successful completion of all permanent erosion and sediment controls, accepted and documented by the full maintenance release, the Project Engineer shall submit a completed Notice of Termination (NOT) of Coverage to the Office of Pollution Control. If no sediment and/or erosion control problems are identified by MDEQ's inspection of the site, the Construction Storm Water Permit Coverage is terminated.

In summary, prior to the execution of the contract, the successful bidder shall execute and deliver to the Executive Director an original signed copy of the completed Prime Contractor Certification (Form No. 1). Also, prior to the commencement of construction on the project, the Contractor shall transmit by letter an original signed copy of the completed Prime Contractor Certification (Form No. 2) to the Office of Pollution Control, P.O. Box 10385, Jackson, Mississippi 39289-0385. Copies of the completed Prime Contractor Certification (Form No. 2) and letter of transmittal shall be furnished the Project Engineer as proof of the required filing with the Office of Pollution Control. At project completion, when accepted and documented by the Engineer, a Notice of Termination of Coverage will be submitted to the Office of Pollution Control.

Securing a permit (s) for storm water discharge associated with the Contractor's activity on any other regulated area the Contractor occupies, shall be the responsibility of the Contractor.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2361

CODE: (SP)

DATE: 01/26/2009

SUBJECT: Mississippi Resident Agent Requirement

Bidders are advised of new changes in the proposal bond forms and required signatures. Commencing with the February 2009 letting, non-resident agents **WILL NOT** be allowed to sign contract documents, including bonds and insurance. Qualified non-resident agents that were allowed to sign contract documents in the January 2009 letting will not be allowed in future contracts until further notice. Only Mississippi Resident Agents will be allowed to sign contract documents.

Another change for the February 2009 letting is that the new performance bond and new payment bond that was utilized in the January 2009 proposals has been replaced with the one contract bond used by MDOT prior to the January 2009 letting.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. [2382](#)

CODE: (IS)

| DATE: [02/12/2009](#)

| SUBJECT: **Status of Right-of-Way**

Although it is desirable to have acquired all rights-of-way and completed all utility adjustments and work to be performed by others prior to receiving bids, sometimes it is not considered to be in the public interest to wait until each and every such clearance has been obtained. The bidder is hereby advised of possible unacquired rights-of-way, relocatees and utilities which have not been completed.

| The status of right-of-way acquisition, utility adjustments, [encroachments](#), potentially contaminated sites [and asbestos containment](#) are set forth in [the following](#) attachments.

In the event right of entry is not available to ALL parcels of right-of-way and/or all work that is to be accomplished by others on the date set forth in the contract for the Notice to Proceed is not complete, the Department will issue a restricted Notice to Proceed.

**STATUS OF RIGHT-OF-WAY**

STP-0168-00(010)

102384-301000

AMITE COUNTY

102384-302000

PIKE COUNTY

102384-303000

PIKE COUNTY

April 17, 2009

All rights of way and legal rights of entry have been acquired, except:

None.

ASBESTOS CONTAMINATION STATUS OF BUILDINGS  
TO BE REMOVED BY THE CONTRACTOR  
STP-0168-00(010)  
102384-301000  
AMITE COUNTY  
March 20, 2009

Reference is made to notices to bidders entitled "Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP)" and "Removal of Obstructions".

The following pertinent information is furnished concerning asbestos containing materials (ACMs), if any, found in buildings to be removed by the Contractor.

There are no buildings in the contract to be removed.

ASBESTOS CONTAMINATION STATUS OF BUILDINGS  
TO BE REMOVED BY THE CONTRACTOR

STP-0168-00(010)

102384-302000

PIKE COUNTY

March 20, 2009

Reference is made to notices to bidders entitled "Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP)" and "Removal of Obstructions".

The following pertinent information is furnished concerning asbestos containing materials (ACMs), if any, found in buildings to be removed by the Contractor.

There are no buildings in the contract to be removed.

ASBESTOS CONTAMINATION STATUS OF BUILDINGS  
TO BE REMOVED BY THE CONTRACTOR  
STP-7570-00(004)  
102384-303000  
PIKE COUNTY  
March 20, 2009

Reference is made to notices to bidders entitled "Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP)" and "Removal of Obstructions".

The following pertinent information is furnished concerning asbestos containing materials (ACMs), if any, found in buildings to be removed by the Contractor.

There are no buildings in the contract to be removed.

STATUS OF POTENTIALLY CONTAMINATED SITES

STP-0168-00(010)

102384-301000

AMITE COUNTY

March 20, 2009

This project has been inspected and there was no visible indication of potentially contaminated sites within the proposed right of way.



STATUS OF POTENTIALLY CONTAMINATED SITES

STP-0168-00(010)

102384-302000

PIKE COUNTY

March 20, 2009

This project has been inspected and there was no visible indication of potentially contaminated sites within the proposed right of way, except for the following:

Parcel # 003-1-00-W  
Albert May former owner  
May's Mini Mart  
Sta. approx. 220R 108+40

Status: An active service station was located on this property. An Environmental Site Assessment was performed on behalf of the MDOT. No evidence of contamination above the MDEQ regulatory limits was discovered. The USTs were removed by the owner. MDOT should be notified if any suspect hazardous wastes, e.g. drums, barrels, highly visible discolored soils, etc., are encountered so that these materials may be tested to determine proper disposal methods. Should USTs be encountered during construction activities, please contact Tim Cooper of the MDOT Right of Way Division so that UST removal activities may be conducted, under separate contract to the MDOT, as soon as possible thereafter.

A water well was abandoned in accordance with the MDEQ requirements.

Parcel # 004-1-00-W  
Joe O. Harrell former owner  
Yesteryear Antiques/Formal Station  
Sta. approx. 109+50L

Status: According to the previous owners, a service station was located on this property in the past. A Preliminary Site Assessment was performed on behalf of the MDOT. There was no visible indication of USTs on the subject property. Should USTs be encountered during construction activities, please contact Tim Cooper of the MDOT Right of Way Division so that UST removal activities may be conducted, under separate contract to the MDOT, as soon as possible thereafter.

Two (2) buried propane tanks (1-100 gallon & 2-200 gallon) were removed under separate contract to the MDOT. The excavation showed no staining or evidence of leakage and soil samples were not collected due to tank capacities being below MDEQ reporting requirements. The excavation was backfilled with onsite borrow.

A water well was abandoned in accordance with the MDEQ requirements.

Parcel # 062-2-00-W  
Kevin Brumfield former owner  
J & J Grocery/Cockerham Abandoned Service Station  
Sta. approx. 233+50L

Status: A service station was located on this property in the past. A Preliminary Site Assessment was performed on behalf of the MDOT. No evidence of contamination above MDEQ regulatory limits was discovered. The tanks were determined to be outside of the proposed right of way. MDOT should be notified if any suspect hazardous wastes, e.g. drums, barrels, highly visible discolored soils, etc., are encountered so that these materials may be tested to determine proper disposal methods. Should USTs be encountered during construction activities, please contact Tim Cooper of the MDOT Right of Way Division so that UST removal activities may be conducted, under separate contract to the MDOT, as soon as possible thereafter.

STATUS OF POTENTIALLY CONTAMINATED SITES

STP-7570-00(004)

102384-303000

PIKE COUNTY

March 20, 2009

This project has been inspected and there was no visible indication of potentially contaminated sites within the proposed right of way.

**STP-0168-00(010) / 102384301 – Amite County**  
**STP-0168-00(010) / 102384302 – Pike County**  
**STP-7570-00(004) / 102384303 -- Pike County**  
**March 26, 2009**

**Encroachments**

**Pike County:**

1. Sign located on R/W right of centerline at sta. 112+75 "Fireworks"
2. Sign located on R/W left of centerline at sta. 130+25 "Double B Office Park and Storage"
3. Sign located on R/W left of centerline at sta. 142+30 "King's Packing Company"
4. Live stock pastured on R/W between sta. 147+50 and 151+00 right of centerline.
5. Vehicles and equipment parked on R/W between sta. 150+00 and 160+00 right of centerline.
6. Live stock pastured on R/W between sta. 177+50 and sta. 185+00 left of centerline.

**Amite County:**

1. Sign located on R/W right of centerline at sta. 372+50 "Thompson Baptist Church"
2. Sign located on R/W right of centerline at sta. 372+50 "Tangipahoa Baptist Church"
3. Sign located on R/W right of centerline at sta. 372+50 "Clayton Price Pest Control"

If any further information is needed, please advise.

**UTILITY STATUS REPORT**  
STP-0168-00(010) / 102384301,302,  
**STP-7570-00(004) / 102384303**  
Amite & Pike County(ies)  
May 25, 2009

This is to certify that the above captioned project has been inspected and there are no known utilities in conflict with the project.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2400

CODE: (SP)

DATE: 02/19/2009

SUBJECT: Removal of Haul Permit

Bidders are advised that the Haul Permit that had been previously included in the back of the proposal is no longer included in MDOT contracts. The Contractor, Subcontractors, Suppliers, and others transporting loads exceeding the posted limit on bridges when making deliveries to and from the project will no longer be allowed. Bidders are advised that when a road is open to the traveling public, the posted weight limit will be enforced for everyone, including the successful bidder of the project. Bidders are advised to consider this when preparing their bid.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 2438**

**CODE: (SP)**

**DATE: 03/16/2009**

**SUBJECT: American Recovery and Reinvestment Act (ARRA) Sign**

Bidders are hereby advised that the Contractor shall install, maintain, and remove two (2) economic recovery signs at the beginning (BOP) and end (EOP) of this project, unless otherwise directed by the Engineer. A picture of the signs and the dimensions of the signs are shown on the attached sheets. The signs shall be constructed, installed and maintained in accordance with the MUTCD, and Sections 618 & 619 of the Standard Specifications. These signs shall be fabricated from 0.125" sheet aluminum. Signs shall be mounted on three (3) - three pounds per linear foot (3 lbs. / ft.) U-Section posts. Each post shall be 14 feet long mounted onto another 14-foot U-Section post driven halfway into the ground. All cost of installing and maintaining the signs, including material, labor, posts, hardware, etc., will be measured and paid for under the pay item no. 619-D4.

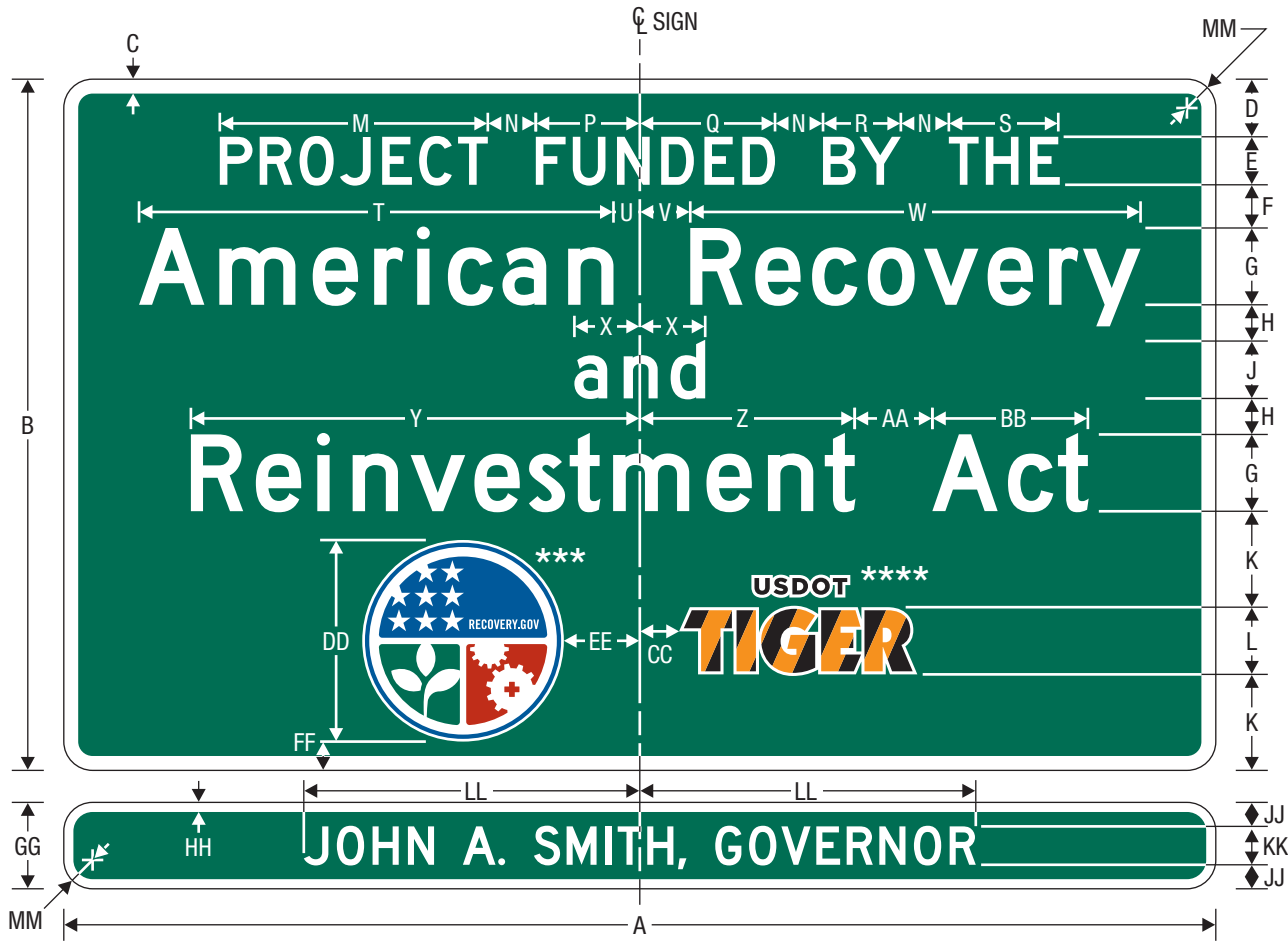
**PROJECT FUNDING SOURCE SIGN ASSEMBLY  
AMERICAN RECOVERY AND REINVESTMENT ACT  
SIGN LAYOUT DETAILS**



PROJECT FUNDING SOURCE  
SIGN ASSEMBLY



# PROJECT FUNDING SOURCE SIGN ASSEMBLY AMERICAN RECOVERY AND REINVESTMENT ACT SIGN LAYOUT DETAILS



PROJECT FUNDING SOURCE SIGN AND OPTIONAL SUPPLEMENTAL PLAQUE

NOTE: SIGN SHALL NOT BE INSTALLED WITHOUT PROJECT FUNDING SOURCE PLAQUE (SEE SHEET 3).

NOTE: SEE SHEET NO. 6 FOR DETAILS OF SUPPLEMENTAL SIGN SHOWING COMMISSIONER'S NAMES.

A	B	C	D	E	F	G	H	J	K	L	M	N	P
84	54	1	5	4 C	3.5	6 C*	3	4D*(3LC)	7.25	5	19.047	4	7.362

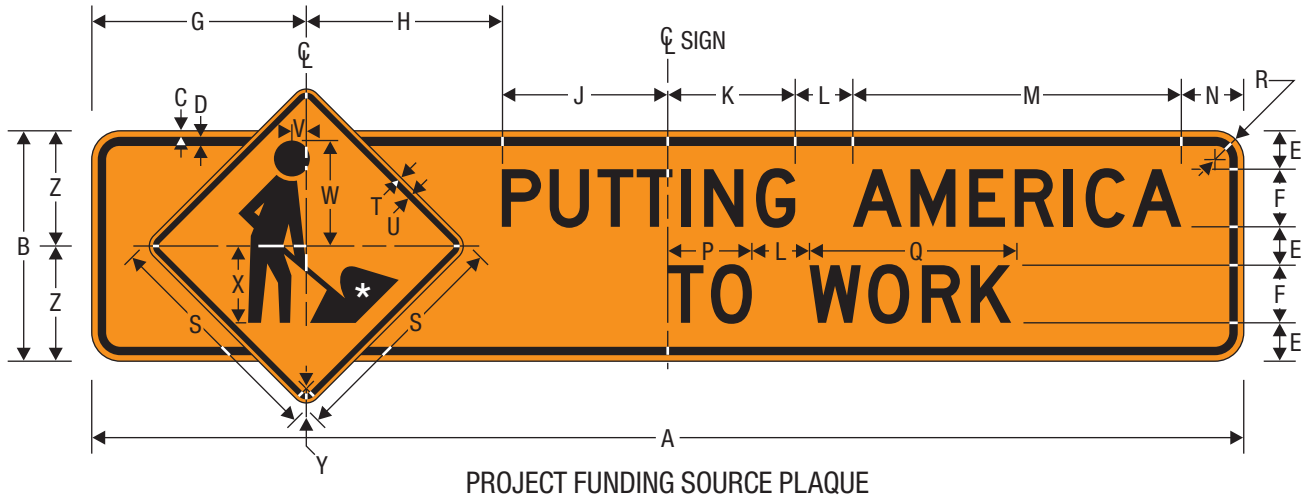
Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD
9.484	5.162	7.763	31.722	2.415	3.585	30.552	4.542	30.911	14.737	6	10.175	3	15

EE	FF	GG	HH	JJ	KK	LL	MM
6	2.25	9	.75	2.75	3.5 C	VAR	2.25

- \* Increase character spacing 50%
- \*\* Series C may be used for longer legends
- \*\*\* See Pictograph page 4
- \*\*\*\* See Pictograph page 5

COLORS: LEGEND, BORDER — WHITE (RETROREFLECTIVE)  
BACKGROUND GREEN (RETROREFLECTIVE)

# PROJECT FUNDING SOURCE SIGN ASSEMBLY AMERICAN RECOVERY AND REINVESTMENT ACT SIGN LAYOUT DETAILS



NOTE: PLAQUE SHALL NOT BE INSTALLED WITHOUT SIGN (SEE SHEET 2).

\* See *Standard Highway Signs* Page 6-59 for symbol design.

A	B	C	D	E	F	G	H	J	K	L	M	N	P
84	18	0.375	0.625	3.5	4 D	16.607	15.686	9.707	10.667	4	22.813	5	5.843

Q	R	S	T	U	V	W	X	Y	Z
14.009	2.25	18	0.375	0.625	1	7	6	1.5	9

COLORS: LEGEND, BORDER — BLACK  
BACKGROUND — ORANGE (RETROREFLECTIVE)

# PROJECT FUNDING SOURCE SIGN ASSEMBLY AMERICAN RECOVERY AND REINVESTMENT ACT SIGN LAYOUT DETAILS



RECOVERY  
Vector-Based, Vinyl-Ready Pictograph

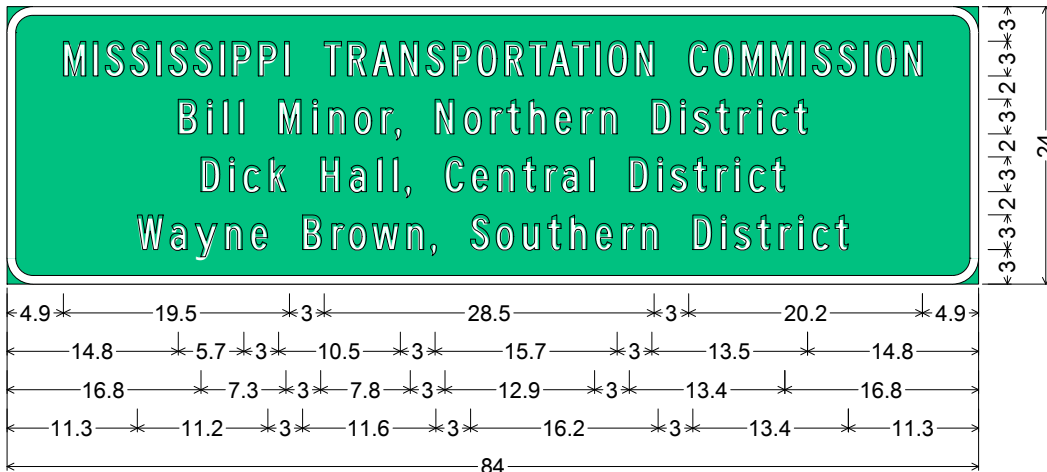
- |                          |                           |
|--------------------------|---------------------------|
| COLORS: LEGEND, OUTLINE  | — WHITE (RETROREFLECTIVE) |
| BORDER                   | — BLUE (RETROREFLECTIVE)  |
| BACKGROUND (UPPER)       | — BLUE (RETROREFLECTIVE)  |
| BACKGROUND (LOWER RIGHT) | — RED (RETROREFLECTIVE)   |
| BACKGROUND (LOWER LEFT)  | — GREEN (RETROREFLECTIVE) |

**PROJECT FUNDING SOURCE SIGN ASSEMBLY  
AMERICAN RECOVERY AND REINVESTMENT ACT  
SIGN LAYOUT DETAILS**



USDOT TIGER  
Vector-Based, Vinyl-Ready Pictograph

COLORS: OUTLINE — WHITE (RETROREFLECTIVE)  
USDOT LEGEND — BLACK  
TIGER DIAGONALS — BLACK,  
ORANGE (RETROREFLECTIVE)



2.3" Radius, 0.8" Border, White on Green;

"MISSISSIPPI TRANSPORTATION COMMISSION" C; "Bill Minor, Northern District" C;

"Dick Hall, Central District" C; "Wayne Brown, Southern District" C;

Table of distances between letter and object lefts.

4.9	M	I	S	S	I	S	S	I	P	P	I								
	2.5	1.1	2.1	2.3	1.1	2.1	2.3	1.0	2.3	2.3									
		T	R	A	N	S	P	O	R	T	A	T	I	O	N				
		3.4	2.0	2.2	2.3	2.3	2.3	2.1	2.4	2.2	1.6	2.1	2.0	1.0	2.4				
		4.6	2.2	2.3	2.6	2.6	1.1	2.1	2.3	1.0	2.4	1.6	4.9						
14.8	B	i	l	i	M	i	n	o	r	,	N	o	r	t	h	e	r	n	
	2.5	1.4	1.4	3.4	2.9	1.4	2.2	2.3	1.3	3.4	2.5	2.3	1.4	1.9	2.2	2.3	1.7		
		4.4	2.5	1.1	2.0	1.9	1.7	1.2	2.0	1.1	14.8								
16.8	D	i	c	k	H	a	l	l	,	C	e	n	t	r	a	i			
	2.4	1.2	2.2	4.5	2.5	2.4	1.4	1.0	3.5	2.2	2.3	2.2	1.9	1.5	2.4				
		3.4	2.5	1.1	1.9	1.9	1.7	1.2	2.0	1.1	16.8								
11.3	W	a	y	n	e	B	r	o	w	n	,	S	o	u	t	h	e	r	n
	2.8	2.1	2.6	2.3	4.4	2.6	1.4	2.1	3.0	2.1	3.4	2.2	2.3	2.1	2.0	2.2	2.2	1.7	
		4.5	2.5	1.1	1.9	1.9	1.7	1.2	2.0	1.1	11.3								

COLORS: LEGEND, BORDER — WHITE (RETROREFLECTIVE)  
 BACKGROUND — GREEN (RETROREFLECTIVE)

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 2476**

**CODE: (SP)**

**DATE: 03/26/2009**

**SUBJECT: Requirements Under Section 902 of the ARRA**

Bidders are advised that Section 902 of the American Recovery and Reinvestment Act (ARRA) of 2009 requires that each contract awarded using ARRA funds must include a provision that provides the U.S. Comptroller General and his representatives with the authority to:

- (1) examine any records of the Contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and
- (2) interview any officer or employee of the Contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.

Accordingly, the Comptroller General and his representatives shall have the authority and rights as provided under Section 902 of the ARRA. Section 902 further states that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

Additionally, Section 1515(a) of the ARRA provides authority for any representatives of the Inspector General to examine any records or interview any employee or officers working on this contract. The Contractor is advised that representatives of the Inspector General have the authority to examine any record and interview any employee or officer of the Contractor, its Subcontractors or other firms working on this contract. Section 1515(b) further provides that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of an inspector general.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 2531**

**CODE: (SP)**

**DATE: 05/26/2009**

**SUBJECT: Contract Time**

**PROJECT: STP-0168-00(010) / 102384301 – Amite County  
STP-0168-00(010) / 102384302 – Pike County  
STP-7570-00(004) / 102384303 -- Pike County**

The calendar date for completion of work to be performed by the Contractor for this project shall be **April 26, 2011** which date or extended date as provided in Subsection 108.06 shall be the end of contract time. It is anticipated that the Notice of Award will be issued by not later than **June 23, 2009** and the effective date of the Notice to Proceed / Beginning of Contract Time will be **July 9, 2009**.

Should the Contractor request a Notice to Proceed earlier than **July 9, 2009**, the date the Notice to Proceed is issued will also be the Beginning of Contract Time date.

A progress schedule as referenced to in Subsection 108.03 will not be required for this contract.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2532

DATE: 04/26/2009

SUBJECT: Specialty Items

PROJECT: STP-0168-00(010) / 102384301, STP-0168-00(010) / 102384302, & STP-7570-00(004) / 102384303 - Amite & Pike Counties

Pursuant to the provisions of Section 108, the following work items are hereby designated as "Specialty Items" for this contract. Bidders are reminded that these items must be subcontracted in order to be considered as specialty items.

### CATEGORY: EROSION CONTROL

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Line No	Pay Item	Description
0160	212-A001	Light Ground Preparation
0170	212-B001	Standard Ground Preparation
0180	213-B001	Combination Fertilizer, 13-13-13
0190	213-C001	Superphosphate
0200	214-A001	Seeding, Bahiagrass
0210	214-A003	Seeding, Tall Fescue
0220	214-A004	Seeding, Crimson Clover
0230	214-A014	Seeding, Browntop Millet
0240	214-A015	Seeding, Oats
0250	214-A017	Seeding, Rye Grass
0260	215-A001	Vegetative Materials for Mulch
0270	216-A001	Solid Sodding
0280	217-A001	Ditch Liner
0290	219-A001	Watering
0300	220-A001	Insect Pest Control
0310	221-A001	Portland Cement Concrete Paved Ditch
0330	234-A001	Temporary Silt Fence
0340	235-A001	Temporary Erosion Checks
0880	907-213-A001	Agricultural Limestone
0890	907-225-A001	Grassing

### CATEGORY: EARTHWORK, CLEARING & GRUBBING

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Line No	Pay Item	Description
0150	209-A004	Geotextile Stabilization, Type V, Non-Woven

### CATEGORY: LANDSCAPING

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Line No	Pay Item	Description
0320	223-A001	Mowing



CATEGORY: PAVEMENT STRIPING AND MARKING

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Line No	Pay Item	Description
0830	627-K001	Red-Clear Reflective High Performance Raised Markers
0840	627-L001	Two-Way Yellow Reflective High Performance Raised Markers
1280	907-626-A003	6" Thermoplastic Traffic Stripe, Skip White
1290	907-626-B004	6" Thermoplastic Traffic Stripe, Continuous White
1300	907-626-C004	6" Thermoplastic Edge Stripe, Continuous White
1310	907-626-D003	6" Thermoplastic Traffic Stripe, Skip Yellow
1320	907-626-E004	6" Thermoplastic Traffic Stripe, Continuous Yellow
1330	907-626-G004	Thermoplastic Detail Stripe, White
1340	907-626-G005	Thermoplastic Detail Stripe, Yellow
1350	907-626-H004	Thermoplastic Legend, White
1360	907-626-H005	Thermoplastic Legend, White

CATEGORY: SURVEY AND STAKING

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Line No	Pay Item	Description
0850	699-A001	Roadway Construction Stakes
1270	907-617-A001	Right-of-Way Marker

CATEGORY: TRAFFIC CONTROL - TEMPORARY

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Line No	Pay Item	Description
0680	619-A1002	Temporary Traffic Stripe, Continuous White
0690	619-A2002	Temporary Traffic Stripe, Continuous Yellow
0700	619-A3006	Temporary Traffic Stripe, Skip White
0710	619-A4006	Temporary Traffic Stripe, Skip Yellow
0720	619-A5001	Temporary Traffic Stripe, Detail
0730	619-A6001	Temporary Traffic Stripe, Legend
0740	619-A6002	Temporary Traffic Stripe, Legend
0750	619-D1001	Standard Roadside Construction Signs, Less than 10 Square Feet
0760	619-D2001	Standard Roadside Construction Signs, 10 Square Feet or More
0770	619-D4001	Directional Signs
0780	619-G4001	Barricades, Type III, Single Faced
0790	619-G4005	Barricades, Type III, Double Faced
0800	619-G5001	Free Standing Plastic Drums
0810	619-G7001	Warning Lights, Type "B"

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 2568**

**CODE (SP)**

**DATE: 04/24/2009**

**SUBJECT: Placement of Fill Material in Federally Regulated Areas**

**PROJECT: STP-0168-00(010) / 102384301 – Amite County  
STP-0168-00(010) / 102384302 – Pike County  
STP-7570-00(004) / 102384303 -- Pike County**

A Permit (404, General, Nationwide, etc.) for placing fill material federally regulated sites is required.

The Department has acquired the following permit for permanently filling at regulated sites that are identified during project development:

**Nationwide Permit No. 14 (Waters of U.S.) - All sites with area less than 0.10 acre.**

Copies of said permit(s) are on file with the Department.

Securing a permit(s) for the filling of any other regulated site, the purpose of which is temporary construction for the convenience of the Contractor, shall be the responsibility of the Contractor.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 – NOTICE TO BIDDERS NO. 2587**

**CODE: (SP)**

**DATE: 5/8/2009**

**SUBJECT: Petroleum Products Base Prices For Contracts Let in June, 2009**

**REFERENCE: Subsection 109.07**

The following base prices are to be used for adjustment in compensation due to changes in costs of petroleum products:

FUELS

	<u>Per Gallon</u>	<u>Per Liter</u>
Gasoline	\$1.9669	\$0.5196
Diesel	\$1.8851	\$0.4980

MATERIALS OF CONSTRUCTION

<u>ASPHALT CEMENT</u>	<u>Per Gallon</u>	<u>Per Ton</u>	<u>Per Liter</u>	<u>Per Metric Ton</u>
Viscosity Grade AC-5	\$1.7197	\$408.00	\$0.4543	\$449.74
Viscosity Grade AC-10	\$1.7282	\$410.00	\$0.4565	\$451.94
Viscosity Grade AC-20	\$1.6965	\$402.50	\$0.4482	\$443.67
Viscosity Grade AC-30	\$1.6755	\$397.50	\$0.4426	\$438.16
Grade PG 64-22	\$1.6679	\$395.71	\$0.4406	\$436.19
Grade PG 67-22	\$1.6739	\$397.14	\$0.4422	\$437.76
Grade PG 76-22	\$2.3183	\$550.00	\$0.6124	\$606.26
Grade PG 82-22	\$2.5360	\$601.67	\$0.6700	\$663.22

EMULSIFIED ASPHALTS, PRIMES, & TACK COATS

Grade EA-4 (SS-1)	\$2.1785	\$0.5755
Grade RS-2C (CRS-2)	\$1.8675	\$0.4933
Grade CRS-2P	\$2.2276	\$0.5885
Grade EA-1, MC-70 & AE-P	\$2.4113	\$0.6370
Grade SS-1 & 1H	\$2.2000	\$0.5812
Grade CSS-1 & 1H (Undiluted)	\$2.1750	\$0.5746
Grade CSS-1 & 1H (Diluted 1 to 1 Fog Seal)	\$1.3750	\$0.3632

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2594

CODE: (SP)

DATE: 05/12/2009

SUBJECT: Special Reporting Criteria

Bidders are advised that this project is using funds from the American Recovery and Reinvestment Act (ARRA) of 2009 and will require the Contractor to report certain information regarding the creation of new positions or employment resulting in the construction of this project. In addition to the Prime Contractor's information, the Prime Contractor will have to collect information from all Subcontractor(s) that were used during the construction of this project.

On a monthly basis, the Contractor shall complete a Department supplied FHWA-1589 reporting form. This form shall also be completed by all Subcontractors that were used during the construction of this project. After receiving the Subcontractor(s) form, the Prime Contractor shall submit the forms (Prime and Subcontractor), to the Project Engineer no later than the 4<sup>th</sup> of each month **The submission of this form will be required for processing the monthly estimate and the Engineer will withhold payments because of the Contractor's failure to submit the required form(s).**

Attached is a copy of the reporting instruction for FHWA-1589 along with a sample copy of the form. The most current ARRA forms can be obtained by following the link at

<http://www.gomdot.com/Divisions/Highways/Resources/ContractAdministration/ARRA/Home.aspx>

or by contacting B. B. House in Contract Administration Division at 601-359-7730.

# THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

## REPORTING REQUIREMENTS

Federal Highway Administration  
U.S. Department of Transportation

March 23, 2009

Version 1.0

**Monthly Employment Report (Form: FHWA-1589)**

This form is a guide for the States in providing employment information on each ARRA project. Monthly employment information on each ARRA project is used by States for meeting the reporting requirements of Sections 1201 and 1512. In order for States to fulfill their reporting obligations, the States must collect and analyze certain employment data for each ARRA funded contract. The data requirement in ARRA extends beyond the number of workers at the work site and, therefore, FHWA has produced a form for guidance to the States. This data to be reported is identified below and will be used by the States in developing Form 1587, which is to be submitted to FHWA. Since States may not currently collect this data, the States should develop a new specification for each ARRA-funded contract in order to obtain this information from contractors and consultants. In doing so, the States should use the provided model form and require the reporting of this data from the prime contractor or consultant. The prime contractor or consultant shall complete a report for each month from the date of the Notice to Proceed until completion of the contract or September, 2012 whichever occurs sooner. This report is only required for contracts that use ARRA funds. States should require contractors and consultants to provide the required information for their own workforce as well as the workforce of all subcontractors that were active on their ARRA funded project(s) for the reporting month. It will be up to each State to determine when they obtain the necessary data from their contractors or consultants, keeping in mind that the summary form is due from the State to the FHWA Division no later than the 20<sup>th</sup> day of each month for the preceding month's data.

It is the State DOT's responsibility to report the number of jobs on projects managed by funding recipients, such as other state agencies or local governments. The State DOT must make arrangements with each ARRA funding recipient to assure each recipient reports the required data in a timely manner.

The States shall require the following data be provided by each contractor, consultant and funding recipient working on an ARRA project. The primary contractor or consultant for each project shall be responsible for reporting their firm as well as all sub-contractors data.

**Format:** The State, contractors, or consultant may use the FHWA provided model form, but the use of the model form is optional and at the discretion of the State.

**Due date:** As determined by the State, until September 2012.

**Due to:** To be sent by each ARRA funded project prime contractor or consultant to the designated office in each State DOT or Federal Lands Division Office.

Coding Instructions

**BOX 1. Report Month:** The month and year covered by the report, as *mm/yyyy* (e.g. "May 2009" would be coded as "05/2009").

**BOX 2. Contracting agency:** The name of the contracting agency. Enter "State" for State DOT projects. For non-State projects, enter the name of the contracting

agency (other State agency, Federal agency, tribe, MPO, city, county, or other funding recipient).

- BOX 3. **Federal-aid project number:** The State assigned federal-aid project number, consistent with the format reported in FMIS.
- BOX 4. **State project number or identification number:** The project number or ID, as assigned by the State of its funding recipient, consistent with the format reported in FMIS.
- BOX 5. **Project location:** State where project occurs. If the project performed for Federal Lands, provide the FLH Division or Federal Land Managing Agency (FLMA) region.
- BOX 6. **Contractor name and address:** The name and address of the contracting or consulting firm shall include the name, street address, city, state, and zip code.
- BOX 7. **Contractor DUNS number:** The unique nine-digit number issued by Dun & Bradstreet. Followed by the optional 4 digit DUNS Plus number. Reported as "999999999.9999"
- BOX 8. **Employment data:** The prime contractor or consultant will report the direct, on-the-project jobs for their workforce and the workforce of their sub-contractors active during the reporting month. These jobs data include employees actively engaged in projects who work on the jobsite, in the project office, in the home office or telework from a home or other alternative office location. This also includes any engineering personnel, inspectors, sampling and testing technicians, and lab technicians performing work directly in support of the ARRA funded project. This does not include material suppliers such as steel, culverts, guardrail, and tool suppliers. States should include in their reports all direct labor associated with the ARRA project such as design, construction, and inspection. The States reports should include their own project labor, including permanent, temporary, and contract project staff. States are asked not to include estimated indirect labor, such as material testing, material production or estimated macro-economic impacts. FHWA will be estimating all indirect labor based on the information provided in this form along with other FHWA data. The form requests specifically:
  - a. **Subcontractor name:** The name of each subcontractor or sub-consultant that was active on the project for the reporting month.
  - b. **Employees:** The number of project employees on the contractor's or consultant's workforce that month, and the number of project employees for each of the active subcontractors for the reporting month. Do not include material suppliers. Total field at bottom will be automatically calculated and reported as a whole number.
  - c. **Hours:** The total hours on the specified project for all employees reported on the contractor's or consultant's project workforce that month, and the total hours for all project employees reported for each of the active subcontractors that month. Total field at bottom will be automatically calculated and reported as a whole number.

- d. **Payroll:** The total dollar amount of wages paid by the contractor or consultant that month for employees on the specified project, and the total dollar amount of wages paid by each of the active subcontractors that month. Payroll only includes wages and does not include overhead or indirect costs. Total field at bottom will be automatically calculated and will be rounded to the nearest whole dollar and reported as a whole number.

**BOX 9. Prepared by:**

- a. **Name:** Indicate the person responsible for preparation of the form. By completing the form the person certifies that they are knowledgeable of the hours worked and employment status for all the employees. Contractors, consultants, and their subs are responsible to maintain data to support the employment form and make it available to the State should they request supporting materials.
- b. **Date:** The date that the contractor completed the employment form. Reported as "mm/dd/yyyy." (e.g. "May 1, 2009" would be coded as "05/01/2009").



<b>MONTHLY EMPLOYMENT REPORT</b> <b>AMERICAN RECOVERY AND REINVESTMENT ACT</b>
-----------------------------------------------------------------------------------

1. Report Month: (mm/yyyy)	2. Contracting Agency	
3. Federal-Aid Project Number	4. State Project Number or ID Number	5. Project Location: State, County or Federal Region

6. CONTRACTOR NAME AND ADDRESS			
Name:			
Address:			
City:		State:	
Zip:			

7. Contractor/Subcontractor DUNS Number:	
------------------------------------------	--

8. Employment Data			
	EMPLOYEES	HOURS	PAYROLL
<b>Prime Contractor Direct, On-Project Jobs (see guidance for definitions)</b>			
<b>Subcontractor Direct, On-Project Jobs</b>			
Subcontractor Name			
<b>Prime and Subcontractor Totals</b>	0	0	0.00

9. PREPARED BY CEO or Payroll Official:	DATE:
Name:	
Title:	

Form FHWA-1589

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2596

CODE: (IS)

DATE: 05/13/2009

SUBJECT: DBE Forms, Participation and Payment

Bidders are hereby advised that the participation of a DBE Firm can not be counted towards the Prime Contractor's DBE goal until the amount being counted towards the goal has been paid to the DBE.

Form OCR-482 has been developed to comply with this requirement. Bidders are hereby advised that at the end of the job, the Prime Contractor will submit this form to the Project Engineer before the final estimate is paid and the project is closed out. This form certifies payments to all DBE Subcontractors over the life of the contract.

Form OCR-484 has also been developed to comply with this requirement. Bidders are hereby advised that each month, the Prime Contractors will submit this form to the Project Engineer no later than the last day of each month. This form certifies payments to all Subcontractors and shows all firms even if the Prime Contractor has paid no monies to the firm during that estimate period (negative report). The Project Engineer will attach this form to the monthly estimate before forwarding the estimate to the Contract Administration Division for processing.

Bidders are also advised that Form OCR-485 will be completed by ALL BIDDERS submitting a bid proposal and must be signed and included in the bid proposal package. Failure to include Form OCR-485 in the bid proposal package will cause the Contractor's bid to be considered irregular.

DBE Forms, including Forms OCR-482, OCR-484 and OCR-485, can be obtained from the Office of Civil Rights Division, MDOT Administration Building, 401 North West Street, Jackson, MS, or at [www.gomdot.com](http://www.gomdot.com) under *Business, Disadvantaged Enterprise, Applications and Forms for the DBE Program, MDOT Forms*.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SECTION 904 - NOTICE TO BIDDERS NO. 2616**

**CODE: (SP)**

**DATE: 05/20/2009**

**SUBJECT: DUNS Requirement for ARRA Funded Projects**

Bidders are advised that the Prime Contractor must maintain current registrations in the Central Contractor Registration ( <http://www.ccr.gov> ) at all times during which they have active federal awards funded with Recovery Act funds. A Dun and Bradstreet Data Universal Numbering System (DUNS) Number ( <http://www.dnb.com> ) is one of the requirements for registration in the Central Contractor Registration.

**SUPPLEMENT TO FORM FHWA-1273**

The following MINIMUM HOURLY WAGE RATES have been predetermined by the Secretary of Labor in General Decision No. **MS20080203** dated April 3, 2009.

**AMITE, COVINGTON, ISSAQUENA, LAWRENCE, LINCOLN, SHARKEY, WALTHALL, AND WARREN COUNTIES**

<b><u>CLASSIFICATION</u></b>	<b><u>MINIMUM HOURLY WAGE RATE</u></b>
Carpenter, Including Form Work	11.42
Cement Mason / Concrete Finisher	10.82
Electrician	21.55
Ironworker, Reinforcing	11.30
Laborer, Common or General	8.64
Laborer, Pipelayer	9.68
Operator, Asphalt Paver and Asphalt Spreader	10.00
Operator, Backhoe / Excavator	11.32
Operator, Broom	10.17
Operator, Bulldozer	10.77
Operator, Crane	14.57
Operator, Grader / Blade	12.46
Operator, Loader	10.15
Operator, Mechanic	12.04
Operator, Oiler	12.33
Operator, Roller	9.31
Operator, Scraper	10.00
Operator, Tractor	7.79
Truck Driver	9.22

Authorized Payroll Code may be used in lieu of classification titles on weekly payrolls submitted to this Department. Codes or classification titles not conforming to those listed will not be acceptable.

## SUPPLEMENT TO FORM FHWA-1273

The following MINIMUM HOURLY WAGE RATES have been predetermined by the Secretary of Labor in General Decision No. **MS20080206** dated April 3, 2009.

### CLAIBORNE, JEFFERSON AND PIKE COUNTIES

<u>CLASSIFICATION</u>	<u>MINIMUM HOURLY WAGE RATE</u>
Carpenter, Including Form Work	11.42
Cement Mason / Concrete Finisher	10.82
Electrician	21.55
Ironworker, Reinforcing	11.30
Laborer, Common or General	8.64
Laborer, Pipelayer	9.68
Operator, Asphalt Paver and Asphalt Spreader	10.00
Operator, Backhoe	11.32
Operator, Broom	10.17
Operator, Bulldozer	10.77
Operator, Crane	14.57
Operator, Grader / Blade	12.46
Operator, Loader	10.15
Operator, Mechanic	12.04
Operator, Oiler	12.33
Operator, Roller	9.31
Operator, Scraper	10.00
Operator, Tractor	7.79
Truck Driver	9.22

Authorized Payroll Code may be used in lieu of classification titles on weekly payrolls submitted to this Department. Codes or classification titles not conforming to those listed will not be acceptable.

**SUPPLEMENT TO FORM FHWA-1273**

**DATE: 6/15/94**

**SUBJECT: Final Certificate and Contract Provisions for Subcontracts**

All subcontracts shall be in writing and contain all pertinent provisions and requirements of the prime contract.

Each "Request for Permission to Subcontract" (Mississippi Department of Transportation Form CAD-720) shall include a copy of subcontract for review by the Mississippi Department of Transportation. The federal contract provisions may be omitted from the subcontract copy submitted for review provided the Contractor certifies that the provisions will be physically incorporated into the agreement furnished to the Subcontractor.

In lieu of submitting a copy of the subcontract for review, the Contractor may certify that the subcontract agreement is in writing and that it contains all the requirements and pertinent provisions of the prime contract.

Each Subcontractor will be required to provide a copy of the subcontract agreement for contract compliance reviews, along with physical evidence (copy of FHWA-1273) that requirements and pertinent provisions have been provided for review and adherence.

**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

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ATTACHMENTS

- A. Employment Preference for Appalachian Contracts  
(included in Appalachian contracts only)

**I. GENERAL**

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

- Section I, paragraph 2;
- Section IV, paragraphs 1, 2, 3, 4, and 7;
- Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

**II. NONDISCRIMINATION**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant

of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be

taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward



qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

**8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

**9. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

### III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

### IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

**1. General:**

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

**2. Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

**3. Payment of Fringe Benefits:**

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

**a. Apprentices:**

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

**b. Trainees:**

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**c. Helpers:**

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under an approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

**5. Apprentices and Trainees (Programs of the U.S. DOT):**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**6. Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the

same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

#### 7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

#### 8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

#### 9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

### V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

#### 1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

#### 2. Payrolls and Payroll Records:

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned,

without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

## VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

## VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

## VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary,

hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

#### **IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

##### **NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS**

18 U.S.C. 1020 reads as follows:

*"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or*

*Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or*

*Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;*

*Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."*

#### **X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

#### **XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

##### **1. Instructions for Certification - Primary Covered Transactions:**

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions**

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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#### **2. Instructions for Certification - Lower Tier Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive

Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared

ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.



**NOTICE OF REQUIREMENTS FOR AFFIRMATIVE  
ACTION TO ENSURE EQUAL EMPLOYMENT  
OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for female participation in each trade (percent)
From April 1, 1978 until March 31, 1979	3.1
From April 1, 1979 until March 31, 1980	5.1
From April 1, 1980 until March 31, 1981	6.9
 Until further notice	 Goals for minority participation for each trade (percent)
 SHSA Cities:	
Pascagoula - Moss Point -----	16.9
Biloxi - Gulfport -----	19.2
Jackson -----	30.3
 SMSA Counties:	
Desoto -----	32.3
Hancock, Harrison, Stone -----	19.2
Hinds, Rankin -----	30.3
Jackson -----	16.9
 Non-SMSA Counties:	
George, Greene -----	26.4
Alcorn, Benton, Bolivar, Calhoun, Carroll, Chickasaw, Clay, Coahoma, Grenada, Itawamba, Lafayette, Lee, Leflore, Marshall, Monroe, Montgomery, Panola, Pontotoc, Prentiss, Quitman, Sunflower, Tallahatchie, Tate, Tippah, Tishomingo, Tunica, Union, Washington, Webster, Yalobusha -----	26.5
Attala, Choctaw, Claiborne, Clarke, Copiah, Covington, Franklin, Holmes, Humphreys, Issaquena, Jasper, Jefferson, Jefferson Davis, Jones Kemper, Lauderdale, Lawrence, Leake, Lincoln, Lowndes, Madison, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Sharkey, Simpson, Smith, Warren, Wayne, Winston, Yazoo -----	32.0
Forrest, Lamar, Marion, Pearl River, Perry, Pike, Walthall -----	27.7
Adams, Amite, Wilkinson -----	30.4

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is to the county and city (if any), stated in the advertisement.
5. The notification required in Paragraph 3 shall be addressed to the following:

Contract Compliance Officer  
Mississippi Department of Transportation  
P.O. Box 1850  
Jackson, Mississippi 39215-1850

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-104-1

CODE: (IS)

DATE: 05/03/2004

SUBJECT: Partnering Process

Section 104, Scope of Work, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-104.01--Intent of Contract.** At the end of Subsection 104.01 on Page 24, add the following:

**907-104.01.1--Partnering Process.**

### COVENANT OF GOOD FAITH AND FAIR DEALING:

This contract imposes an obligation of good faith and fair dealing in its performance and enforcement.

The contractor and the Department, with a positive commitment to honesty and integrity, agree to the following mutual duties:

- A. Each will function within the laws and statutes applicable to their duties and responsibilities.
- B. Each will assist in the other's performance.
- C. Each will avoid hindering the other's performance.
- D. Each will proceed to fulfill its obligations diligently.
- E. Each will cooperate in the common endeavor of the contract.

### VOLUNTARY PARTNERING:

The Mississippi Department of Transportation intends to encourage the foundation of a cohesive partnership with the contractor and its principal subcontractors and supplier. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and completion within budget, on schedule, and in accordance with plans and specifications.

This partnership will be bilateral in make-up, and participation will be totally voluntary. Any cost associated with effectuating this partnering will be agreed to by both parties and will be shared equally.

To implement this partnering initiative prior to starting of work in accordance with the requirements of Subsection 108.02 Notice to Proceed and prior to the preconstruction conference, the contractor's management personnel and MDOT's District Engineer, will initiate a partnering development seminar/team building workshop. The Contractor working with the assistance of the District and the State Construction Engineer will make arrangements to determine attendees for the workshop, agenda of the workshop, duration, and location. Persons required to be in attendance will be the MDOT key project personnel, the contractor's on-site project manager and key project supervision personnel of both the prime and principal subcontractors and suppliers. The project design engineers, FHWA and key local government personnel will be also be invited to attend as necessary. The contractors and MDOT will also be required to have Regional/District and Corporate/State level managers on the project team.

Follow-up workshops may be held periodically throughout the duration of the contract as agreed by the contractor and Mississippi Department of Transportation.

The establishment of a partnership charter on a project will not change the legal relationship of the parties to the contract nor relieve either party from any of the terms of the contract.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT TO SPECIAL PROVISION NO. 907-105-3**

**DATE: 03/31/2008**

**SUBJECT: Cooperation By Contractor**

Delete the first sentence of the first paragraph under 907-105-05 on page 1, and substitute the following:

On projects that include erosion control pay items, the Contractor shall also designate a responsible person whose primary duty shall be to monitor and maintain the effectiveness of the erosion control plan, including NPDES permit requirements.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-105-3

CODE: (IS)

DATE: 02/14/2006

SUBJECT: Cooperation By Contractor

Section 105, Control of Work, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is modified as follows:

**907-105.05--Cooperation by Contractor.** In the third sentence of the second paragraph of Subsection 105.05 on page 35, change “Notice to Proceed” to “Notice of Award”.

Delete the fourth paragraph of Subsection 105.05 on page 35, and substitute the following.

The Contractor shall also designate a responsible person whose primary duty shall be to monitor and maintain the effectiveness of the erosion control plan, including NPDES permit requirements. This responsible person must be a Certified Erosion Control Person certified by an organization approved by the Department. Prior to or at the pre-construction conference, the Contractor shall designate in writing the Certified Erosion Control Person to the Project Engineer. The designated Certified Erosion Control Person shall be assigned to only one (1) project. When special conditions exist, such as two (2) adjoining projects or two (2) projects in close proximity, the Contractor may request in writing that the State Construction Engineer approve the use of one (1) Certified Erosion Control Person for both projects. The Contractor may request in writing that the Engineer authorize a substitute Certified Erosion Control Person to act in the absence of the Certified Erosion Control Person. The substitute Certified Erosion Control Person must also be certified by an organization approved by the Department. A copy of the Certified Erosion Control Person's certification must be included in the Contractor's Protection Plan as outlined in Subsection 907-107.22.1. This in no way modifies the requirements regarding the assignment and availability of the superintendent.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT TO SPECIAL PROVISION NO. 907-107-1**

**DATE:** 03/21/2006

**SUBJECT:** *Liability Insurance*

In the first sentence of the first paragraph of Subsection 907-107.14.2.1 on page 1, change “\$300,000 each occurrence” to “\$500,000 each occurrence”.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-107-1

CODE: (IS)

DATE: 05/03/2004

SUBJECT: Liability Insurance

Section 107, Legal Relations and Responsibility to Public, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-107.14.2--Liability Insurance.** Delete in toto Subsection 107.14.2 beginning on page 60 and substitute:

**907-107.14.2.1--General.** The Contractor shall carry Contractor's liability, including subcontractors and contractual, with limits not less than: \$300,000 each occurrence; \$1,000,000 aggregate; automobile liability - \$500,000 combined single limit - each accident; Workers' Compensation and Employers' Liability - Statutory & \$100,000 each accident; \$100,000 each employee; \$500,000 policy limit. Each policy shall be signed or countersigned by a Mississippi Resident Agent of the insurance company.

The Contractor shall have certificates furnished to the Department from the insurance companies providing the required coverage. The certificates shall be on the form furnished by the Department and will show the types and limits of coverage.

**907-107.14.2.2--Railroad Protective.** The following provisions are applicable to all work performed under a contract on, over or under the rights-of-way of each railroad shown on the plans.

The Contractor shall assume all liability for any and all damages to work, employees, servants, equipment and materials caused by railroad traffic.

Prior to starting any work on railroad property, the Contractor shall furnish satisfactory evidence to the Department that insurance of the forms and amounts set out herein in paragraphs (a) and (b) has been obtained. Also, the Contractor shall furnish similar evidence to the Railroad Company that insurance has been obtained in accordance with the Standard Provisions for General Liability Policies and the Railroad Protective Liability Form as published in the Code of Federal Regulations, 23 CFR 646, Subpart A. Evidence to the Railroad Company shall be in the form of a Certificate of Insurance for coverages required in paragraph (b), and the original policy of the Railroad Protective Liability Insurance for coverage required in paragraph (a).

All insurance herein specified shall be carried until the contract is satisfactorily complete as evidenced by a release of maintenance from the Department.

The Railroad Company shall be given at least 30 days notice prior to cancellation of the Railroad Protective Liability Insurance policy.

For work within the limits set out in Subsection 107.18 and this subsection, the Contractor shall provide insurance for bodily injury liability, property damage liability and physical damage to property with coverages and limits no less than shown in paragraphs (a) and (b). Bodily injury shall mean bodily injury, sickness, or disease, including death at anytime resulting therefrom. Property damage shall mean damages because of physical injury to or destruction of property, including loss of use of any property due to such injury or destruction. Physical damage shall mean direct and accidental loss of or damage to rolling stock and their contents, mechanical construction equipment or motive power equipment.

(a) **Railroad Protective Liability Insurance** shall be purchased on behalf of the Railroad Company with limits of \$2,000,000 each occurrence; \$6,000,000 aggregate applying separately to each annual period for lines without passenger trains. If the line carries passenger train(s), railroad protective liability insurance shall be purchased on behalf of the Railroad Company with limits of \$5,000,000 each occurrence; \$10,000,000 aggregate applying separately to each annual period.

Coverage shall be limited to damage suffered by the railroad on account of occurrences arising out of the work of the Contractor on or about the railroad right-of-way, independent of the railroad's general supervision or control, except as noted in paragraph 4 below.

Coverage shall include:

- (1) death of or bodily injury to passengers of the railroad and employees of the railroad not covered by State workmen's compensation laws,
- (2) personal property owned by or in the care, custody or control of the railroads,
- (3) the Contractor, or any of the Contractor's agents or employees who suffer bodily injury or death as a result of acts of the railroad or its agents, regardless of the negligence of the railroads, and
- (4) negligence of only the following classes of railroad employees:
  - (i) any supervisory employee of the railroad at the job site
  - (ii) any employee of the railroad while operating, attached to, or engaged on, work trains or other railroad equipment at the job site which are assigned exclusively to the Contractor, or
  - (iii) any employee of the railroad not within (i) or (ii) above who is specifically loaned or assigned to the work of the Contractor for prevention of accidents or protection or property, the cost of whose services is borne specifically by the Contractor or Governmental authority.



(b) **Regular Contractor's Liability**, including subcontractors, XCU and railroad contractual with limits of \$1,000,000 each occurrence; \$2,000,000 aggregate. **Automobile** with limits of \$1,000,000 combined single limit any one accident; **Workers' Compensation and Employer's Liability** - statutory and \$100,000 each accident; \$100,000 each employee; \$500,000 policy limit. **Excess/Umbrella Liability** \$5,000,000 each occurrence; \$5,000,000 aggregate. All coverage to be issued in the name of the Contractor shall be so written as to furnish protection to the Contractor respecting the Contractor's operations in performing work covered by the contract. Coverage shall include protection from damages arising out of bodily injury or death and damage or destruction of property which may be suffered by persons other than the Contractor's own employees.

In addition, the Contractor shall provide for and on behalf of each subcontractor by means of a separate and individual liability and property damage policy to cover like liability imposed upon the subcontractor as a result of the subcontractor's operations in the same amounts as contained above; or, in the alternative each subcontractor shall provide same.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-107-3**

**CODE: (IS)**

**DATE: 02/14/2006**

**SUBJECT: Contractor's Protection Plan**

Section 107, Legal Relations and Responsibility to Public, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-107.22.1--Contractor's Protection Plan.** After item number 3 in Subsection 107.22.1 on page 65, add the following:

4. A copy of the certification for the Contractor's Certified Erosion Control Person for monitoring and maintaining the effectiveness of the erosion control plan, including NPDES permit requirements.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT TO SPECIAL PROVISION NO. 907-107-6**

**DATE:** 11/16/2007

**SUBJECT:** Legal Relations and Responsibility to Public

After Subsection 907-107.15 on page 1, add the following:

**907-107.17--Contractor's Responsibility for Work.** Delete the fifth sentence of the fifth paragraph of Subsection 107.17 on page 63 and substitute the following:

The eligible permanent items shall be limited to traffic signal systems, changeable message signs, roadway signs and sign supports, lighting items, guard rail items, delineators, impact attenuators, median barriers, bridge railing or pavement markings. The eligible temporary items shall be limited to changeable message signs, guard rail items, or median barriers.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-107-6

CODE: (IS)

| DATE: 07/03/2007

| SUBJECT: Legal Relations and Responsibility to Public

Section 107, Legal Relations and Responsibility to Public, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-107.02--Permits, Licenses and Taxes.** Delete in toto Subsection 107.02 on page 49 and substitute the following:

The Contractor or any Subcontractor shall have the duty to determine any and all permits and licenses required and to procure all permits and licenses, pay all charges, fees and taxes and issue all notices necessary and incidental to the due and lawful prosecution of the work. At any time during the life of this contract, the Department may audit the Contractor's or Subcontractor's compliance with the requirements of this section.

The Contractor or any Subcontractor is advised that the "Mississippi Special Fuel Tax Law", Section 27-55-501, et seq. and the Mississippi Use Tax Law, Section 27-67-1, et seq., and their requirements and penalties, apply to any contract or subcontract for construction, reconstruction, maintenance or repairs, for contracts or subcontracts entered into with the State of Mississippi, any political subdivision of the State of Mississippi, or any Department, Agency, Institute of the State of Mississippi or any political subdivision thereof.

The Contractor or any Subcontractor will be subject to one or more audits by the Department during the life of this contract to make certain that all applicable fuel taxes, as outlined in Section 27-55-501, et seq., and any sales and/or use taxes, as outlined in Section 27-67-1, et seq. are being paid in compliance with the law. The Department will notify the Mississippi State Tax Commission of the names and addresses of any Contractors or Subcontractors.

| **907-107.15--Third Party Beneficiary Clause.** In the first sentence of the first paragraph of Subsection 107.15 on page 61, change "create the public" to "create in the public".

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-108-17

CODE: (IS)

| DATE: 06/11/2008

SUBJECT: Prosecution and Progress

Section 108, Prosecution and Progress, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

### **907-108.01--Subletting of Contract.**

**907-108.01.1--General.** At the end of the last paragraph of Subsection 108.01.1 on page 73, add the following:

The Engineer will have the authority to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to make prompt payment within 15 calendar days as required above, or failure to submit the required OCR-484 Form, Certification of Payments to Subcontractors, which is also designed to comply with prompt payment requirements.

**907-108.02--Notice To Proceed.** Delete the fourth paragraph of Subsection 108.02 on page 75 and substitute the following:

Upon written request from the Contractor and if circumstances permit, the Notice to Proceed may be issued at an earlier date subject to the conditions stated therein. The Contractor shall not be entitled to any monetary damages or extension of contract time for any delay claim or claim of inefficiency occurring between the early issuance Notice To Proceed date and the Notice to Proceed date stated in the contract.

### **907-108.06--Determination and Extension of Contract Time.**

#### **907-108.06.1--Based on Time Units.**

**907-108.06.1.2--Contract Time Assessment.** At the end of the eighth paragraph of Subsection 108.06.1.2 on page 81, add the following:

When the approved progress schedule indicates that a controlling phase(s) is to be completed prior to December 1 and the physical features of the phase(s) have not been satisfactorily completed, beginning on December 1 the miscellaneous phase will be shown as the only active phase during the months of December, January, and February. Under this condition, time units, monthly time units divided by monthly calendar days, will be assessed in accordance with the applicable column in the TABLE OF TIME UNITS. If the physical features of the phase(s) have not been completed by March 1, the phase will resume as a controlling phase and time assessment will be made accordingly.

Delete the fourth and fifth sentence of the thirteenth paragraph of Subsection 108.06.1.2 on page 82, and substitute the following:

In the event mutual agreement cannot be reached, the Contractor will be allowed a maximum of 25 calendar days following the Contractor's receipt of the monthly report in question to file a protest Notice of Claim in accordance with the provisions of Subsection 105.17. Otherwise, the Engineer's assessment shall be final unless mathematical errors of assessment are subsequently found to exist.

**907-108.06.2--Based on Calendar Date Completion.** After Subsection 108.06.2.1 on page 85, add the following:

**907-108.06.2.2--Cessation of Contract Time.** When the Engineer by written notice schedules a final inspection, time will be suspended until the final inspection is conducted and for an additional 14 calendar days thereafter. If after the end of the 14-day suspension all necessary items of work have not been completed, time charges will resume. If the specified completion date had not been reached at the time the Contractor called for a final inspection, the calendar day difference between the specified completion date and the date the Contractor called for a final inspection will be added after the 14-day period before starting liquidation damages. If a project is on liquidated damages at the time a final inspection is scheduled, liquidated damages will be suspended until the final inspection is conducted and for seven (7) calendar days thereafter. If after the end of the 7-day suspension all necessary items of work have not been completed, liquidated damages will resume. When final inspection has been made by the Engineer as prescribed in Subsection 105.16 and all items of work have been completed, the daily time charge will cease.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT TO SPECIAL PROVISION NO. 907-109-3**

**DATE:** 11/21/2006

**SUBJECT:** Changes in Material Costs

After the last paragraph of Subsection 907-109.06.1 on page 1, add the following:

**907-109.07--Changes in Material Costs.** Delete the second sentence of the first paragraph of Subsection 109.07 on page 95, and substitute the following:

When a pay item on the bid sheets indicate that an adjustment is allowed and when a notice to bidders is included in the contract showing current monthly base prices, an adjustment will be provided as follows:

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-109-3**

**CODE: (IS)**

**DATE: 04/21/2006**

**SUBJECT: Partial Payment**

Section 109, Measurement and Payment, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-109.04--Extra and Force Account Work.** Delete the first sentence of the second paragraph of Subsection 109.04 under (d) on page 92 and substitute the following:

In the event an agreement cannot be reached for a particular piece of equipment, the book entitled "Rental Rate Blue Book For Construction Equipment" as published by EquipmentWatch® and is current at the time the force account work is authorized will be used to determine equipment ownership and operating expense rates.

**907-109.06--Partial Payment.**

**907-109.06.1--General.** Delete the fourth and fifth sentences of the third paragraph of Subsection 109.06.1 on page 94, and substitute the following:

In the event mutual agreement cannot be reached, the Contractor will be allowed a maximum of 25 calendar days following the Contractor's receipt of the monthly estimate in question to file in writing, a protest Notice of Claim in accordance with the provisions Subsection 105.17. Otherwise, the Engineer's estimated quantities shall be considered acceptable pending any changes made during the checking of final quantities.



**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

| **SPECIAL PROVISION NO. 907-213-2**

**CODE: (IS)**

| **DATE: 01/25/2008**

**SUBJECT: Agricultural Limestone**

Section 907-213, Fertilizing, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-213.05--Basis of Payment.** Delete the first sentence of the first paragraph of Subsection 213.05 on page 136 and add the following as the first paragraph of this subsection.

| Hard rock agricultural limestone will be paid for at the contract unit price per ton. Hard rock agricultural limestone with a relative neutralizing value (RNV), determined in accordance with Subsection 907-715-02.2.1.3, of between 60.0% and 62.9% will be paid for at half (½) the contract unit price per ton. No payment will be made for hard rock agricultural limestone with an RNV less than 60.0%.

Delete the first pay item listed on page 137 and substitute the following:

907-213-A: Agricultural Limestone

- per ton

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT TO SPECIAL PROVISION NO. 907-225-1**

**DATE: 04/29/2008**

**SUBJECT: Grassing**

Delete the first paragraph of Subsection 907-225.05 on page 1 and substitute the following:

Hard rock agricultural limestone will be paid for at the contract unit price per ton. Hard rock agricultural limestone with a relative neutralizing value (RNV), determined in accordance with Subsection 907-715-02.2.1.3, of between 60.0% and 62.9% will be paid for at half ( $\frac{1}{2}$ ) the contract unit price per ton. No payment will be made for hard rock agricultural limestone with an RNV less than 60.0%.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-225-1**

**CODE: (IS)**

**DATE: 09/23/2004**

**SUBJECT: Grassing**

Section 907-225, Grassing, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-225.04--Method of Measurement.** After the second sentence of Subsection 225.04 on page 163, add the following:

Acceptable quantities of agricultural limestone will be measured by the ton.

**907-225.05--Basis of Payment.** After the first paragraph of Subsection 225.05 on page 163, add the following:

Agricultural limestone will be paid for at the contract unit price per ton. Grade "A" agricultural limestone with an equivalent neutralizing value (ENV), determined in accordance with Subsection 907-715-02.2.1.3, of between 60.0% and 62.9% will be paid for at half (1/2) the contract unit price per ton. No payment will be made for Grade "A" agricultural limestone with an ENV less than 60.0%.

Delete the first pay item listed on page 163 and substitute the following:

907-225-A: Grassing	- per acre
907-225-B: Agricultural Limestone	- per ton

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-242-12**

**CODE: (SP)**

**DATE: 04/03/2009**

**SUBJECT: Utilities**

**PROJECT: STP-0168-00(010) / 102384301 and 302 & STP-7570-00(004) / 102384303 -  
Amite and Pike Counties**

Section 907-242, Utilities, is hereby added to and made part of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows:

**SECTION 907-242--UTILITIES**

The specification format for this item of work is different than normal. The Contractor shall perform the utility work in accordance with the requirements set forth as follows.

**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 herein.
  
- B. The items listed below beginning with Item 620-A, refer to and are the same pay items listed in the Bid Sheets. These items 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, sanitary requirements, testing, safety devices without pay items, approval and record drawings, water supplies, power, removal of waste, watchmen, bonds, insurance, taxes, 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, as listed in the Bid Sheets, 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 MDOT Requirements.
  
- B. Changes in Contract Price: Refer to MDOT Requirements.

**1.04 Pay Items**

- A. 620-A – Mobilization:  
Description, Measurement and Payment: The lump sum payment for 620-A will be full compensation for providing all initial services, bonds, insurance, temporary facilities, and required job mobilization to commence the Work as specified and the

removal of all on-site facilities upon completion of the work. The lump sum payment for Mobilization will in accordance with Section 620 of the Standard Specifications.

- B. 907-265-A – Water Main Pipe:
  - 1. Description and Measurement: 907-265-A shall include furnishing all materials, equipment, and labor required to install all designated water main pipe, restraining devices, trench excavation, bedding, backfilling over pipe, compaction of bedding and backfill, sheeting, shoring, concrete collars, bracing, dewatering, testing and flushing the system and related items not specifically covered under other pay items. All water main pipe shall be measured per linear foot for all cut zones installed and accepted.
  - 2. Payment: Water main pipe shall be paid for at the unit price indicated in the Prices Bid Table per linear foot of water main installed and accepted.
  
- C. 907-265-C – Ductile Iron Fittings:
  - 1. Description and Measurement: 907-265-C shall include furnishing all fittings and specials and general construction and equipment required to install ductile iron fittings and restraining necessary to complete the work as shown and specified.
  - 2. Payment: Payment for 907-265-C shall be made at the unit price indicated in the Bid Sheets per pound of fittings installed and accepted.
  
- D. 907-265-F – Fire Hydrant Assembly:
  - 1. Description and Measurement: 907-265-F shall include furnishing all materials, equipment, and labor to install all piping, valves, valve box and covers, fittings and specials, restraining devices, and thrust blocking required to install a complete fire hydrant assembly as indicated and specified in the Contract Drawings. Fire hydrant assembly shall be measured per each fire hydrant assembly installed and accepted.
  - 2. Payment: Payment for 907-265-F shall be made at the unit price indicated in the Bid Sheets per each fire hydrant assembly installed and accepted.
  
- E. 907-260-A, 907-262-A, 907-262-H, 907-262-I, 907-262-J, 907-263-A, & 907-604-C – Force Main Sewer Pipe, Grinder Pump Stations, Sanitary Sewer Pipe, etc.
  - 1. Description and Measurement: These pay items shall include furnishing all materials, equipment, and labor required to install all designated force main pipe, fittings, restraining devices, trench excavation, bedding, backfilling over pipe, compaction of bedding and backfill, sheeting, shoring, concrete collars, bracing, dewatering, grinder pump station, electrical and instrumentation, testing and flushing the system and related items not specifically covered under other pay items. These pay items shall be measured per each or linear foot for all cut zones installed and accepted.

2. Payment: Sanitary sewer pipe, Force main pipe, Grinder pump stations, etc. and accessories shall be paid for at the unit prices indicated in the Bid Sheets per each or linear foot as installed and accepted.
- F. 907-261-A – Bored Crossings (Water and Sewer):
1. Description and Measurement: 907-261-A shall include furnishing and installing all designated carrier pipe, casing pipe, casing spacers, end seals, restraining devices, bulkheads, pipe supports, and for all bore pit preparation and required dewatering. Bored street crossing shall be measured per linear foot of bored street crossing installed and accepted.
  2. Payment: Bored street crossing payment shall be made at the unit price indicated in the Bid Sheets per linear foot of bored street crossing installed and accepted.
- G. 203-G & 907-304-A - Open Cut Gravel Drive Removal and Replacement:
1. Description and Measurement: 907-304-A shall include excavation and backfill material, compaction of required gravel replacement, bedding and backfill, trench excavation, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, and related items not specifically covered under other pay items. Open cut gravel drive measurement shall be per the appropriate pay item for all cut zones for designated carrier pipe, and required bedding, as indicated on the drawings.
  2. Payment: Open cut gravel drive payment shall be at the unit price indicated in the Prices Bid Table for open cut gravel drive installed and accepted.
- H. 202-B – Asphalt Pavement Removal:
1. Description and Measurement: 202-B shall include removing, disposing of existing asphalt pavement. Asphalt pavement removal shall be measured per square yard removed.
  2. Payment: Asphalt pavement removal shall be paid for at the unit price indicated in the Prices Bid Table per square yard of asphalt pavement removed and replaced.
- I. 907-403-A – Hot Mix Asphalt:
1. Description and Measurement: 907-403-A shall include furnishing, hauling, and placing all HMA and for all materials, equipment, tools, labor, and incidentals necessary to complete the work. HMA shall be measured per ton installed and accepted.
  2. Payment: 907-403-A shall be paid for at the unit price indicated in the Prices Bid Table per ton of HMA installed and accepted.
- J. 907-265-D – Valves (Water and Sewer):
1. Description: 907-265-D shall include furnishing all materials, equipment, and labor necessary to install piping, valves, restraining devices, valve boxes

as shown and specified, and related items not specifically covered under other pay items.

2. Measurement and Payment: Valves shall be paid for per each at the price indicated in the Prices Bid Table per each size valve installed and accepted.
- K. 907-265-J – Connection to Existing Water Main:
1. Description: 907-265-D shall include furnishing all materials, equipment, and labor required to connect to existing water lines at the connection points indicated on the Contract Drawings, including providing and installing the tap, saddle, necessary fittings and all work required to make the connection and related items not specifically covered under other pay items.
  2. Measurement and Payment: 907-265-D shall be paid for per each at the price indicated in the Bid Sheets per each connection size installed and accepted.
- L. 907-265-K – Capping Existing Water Main and Plugging Existing Valves:
1. Description and Measurement: 907-265-K shall include furnishing all materials, equipment, and labor required to install a ductile iron pipe cap or plug on the existing water main or valve, restraining devices or thrust blocking, as shown on the Contract Drawings. Pipe cap or plug shall be measured per each size pipe cap installed and accepted.
  2. Payment: 907-265-K shall be paid for at the unit price indicated in the Bid Sheets per each size pipe cap or plug installed and accepted.
- M. 202-B – Relocation, Removal, and Salvage:
1. Description and Measurement: 202-B shall include furnishing all materials, equipment and labor required for the relocation, removal and salvage of existing equipment such as fire hydrants, and water meters. Relocation, Removal, and Salvage shall be measured per each described bid item as indicated on the Contract Drawings.
  2. Payment: Relocation, Removal, and Salvage shall be paid for at the unit price indicated in the Priced Bid Table per each item relocated, removed and salvaged.
- N. 907-304-A – Miscellaneous Clay Gravel:
1. Description and Measurement: 907-304-A includes furnishing all materials, equipment and labor for the placement of miscellaneous clay gravel as ordered by the ENGINEER. The quantity of miscellaneous clay gravel will be measured for payment on the basis of an average length, depth, and width calculation after placement, as ordered by the ENGINEER.
  2. Payment: Miscellaneous Clay Gravel shall be paid for at the unit price indicated in the Bid Sheets per cubic yard of clay gravel installed and accepted, as ordered by the ENGINEER.
- O. 907-225-A – Seeding and Fertilizing:



1. Description and Measurement: 907-225-A includes furnishing all materials, equipment, and labor necessary to establish grass vegetation within the disturbed working limits, including soil preparation, fertilizing, seeding, and watering. Seeding and fertilizing shall be measured per acre placed on disturbed surfaces within limits of excavation for seed and fertilizer placed, established, and accepted.
  2. Payment: Seeding and fertilizing shall be paid for the unit price indicated in the Bid Sheets per acre placed, established, and accepted.
- P. 618-A – Maintenance of Traffic:
1. Description: 618-A includes furnishing all materials, equipment and labor for work required for maintaining traffic during construction in accordance with the requirements of the Specifications for Maintenance of Traffic as included in the Contract Documents and as shown on the Contract Drawings.
  2. Measurement and Payment: The lump sum payment for maintenance of traffic will be full compensation for providing maintenance of traffic as described in the Requirements for Maintenance of Traffic as included in the Contract Documents and as shown on the Contract Drawings. Payment for maintenance of traffic will be based on the percent completed to date.

**\*\* END OF SECTION \*\***

**SECTION 02200**

**EXCAVATION AND BACKFILL**

**PART 1 - GENERAL**

**1.01 Description**

A. Scope:

1. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required to perform all excavating, backfilling and disposing of earth materials as shown, specified, and required for the purpose of constructing conduits, pipelines, roads, ditches, grading, and other facilities required to complete the Work in every respect.
2. All necessary preparation of subgrade for slabs and pavements is included.
3. All temporary means needed to prevent discharge of sediment to water courses because of dewatering systems or erosion are included.
4. No classification of excavated materials will be made. Excavation includes all materials regardless of type, character, composition, moisture, or condition thereof.

B. Related Work Specified Elsewhere:

1. Section 15052, Buried Piping Installation.

**1.02 Quality Assurance**

A. Tests:

1. The CONTRACTOR shall give full cooperation to the testing lab personnel so that the required soil tests can be taken in an efficient and timely manner.

B. Permits and Regulations:

1. The CONTRACTOR shall perform excavation work in compliance with applicable requirements of the specifications.
2. Reference Standards: The CONTRACTOR shall comply with applicable provisions and recommendations of the *Mississippi Standard Specifications for Road and Bridge Construction* and contract provisions.

**1.03 Submittals**

The CONTRACTOR shall submit samples of all select backfill, fill, gravel, base, and pipe bedding materials required.

**1.04 Job Conditions**

- A. Subsurface Information:
  - 1. Refer to the Appendix for a listing of available subsurface investigation reports. Data on subsurface conditions is not intended as a representation or warranty of continuity of such conditions between soil borings. The ENGINEER will not be responsible for interpretations or conclusions drawn therefrom by the CONTRACTOR.
  - 2. Additional test borings and other exploratory operations may be made by CONTRACTOR at no cost to OWNER.
  
- B. Existing Structures and Utilities:
  - 1. Shown on the Drawings are certain surface and underground structures adjacent to the Work. This information has been obtained from existing records. It is not guaranteed to be correct or complete and is shown for the convenience of the CONTRACTOR. CONTRACTOR shall explore ahead of the required excavation to determine the exact location of all structures. All structures shall be supported and protected from injury by the CONTRACTOR. If they are broken or injured, they shall be restored immediately by the CONTRACTOR at his expense.
  - 2. The CONTRACTOR shall locate existing underground utilities in the areas of Work. If utilities are to remain in place, the CONTRACTOR shall provide adequate means of protection during earthwork operations. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the ENGINEER immediately for directions as to procedure. Cooperate with the OWNER and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
  - 3. Do not interrupt existing utilities serving facilities occupied and used by the OWNER or others, except when permitted in writing by the ENGINEER and then only after acceptable temporary utility services have been provided.
  
- C. Use of Explosives: Not permitted on the job site.
  
- D. Protection of Persons and Property:
  - 1. Barricade open excavations occurring as part of this Work and post with warning lights.
  - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
  - 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
  
- E. Dust Control: Conduct all operations and maintain the area of activities, including sweeping and sprinkling of roadways, so as to minimize creation and dispersion of dust. Use calcium chloride to control serious or prolonged dust problems.

## **PART 2 - PRODUCTS**

### **2.01 Soil Materials**

- A. Select Fill and Backfill Material.  
Select fill and backfill material shall have the following properties:
1. Fine-grain soil as classified by ASTM D-2487.
    - a. Liquid Limit: 45 maximum.
    - b. Plasticity Index: 5 minimum to 25 maximum.
    - c. Shall not consist of any organic soils.
  2. Class 9, Group E of Section 703.07 of the *Mississippi Standard Specifications for Road and Bridge Construction*.
  3. B9-10 of Section 703.21 of the *Mississippi Standard Specifications for Road and Bridge Construction*.
- B. General Backfill and Fill Material: Provide approved soil materials for backfill and fill that meet the following requirements.
1. Free of clay, rock or gravel larger than 6 inches in any dimensions, debris, waste, frozen materials, vegetable and other deleterious matter.
  2. Fill shall consist of any non-organic soil, free of debris and capable of being placed and compacted to the specified densities.
- C. All costs associated with tests required by the ENGINEER to verify that material obtained either on-site or off-site meets the above requirements shall be borne by the CONTRACTOR.

## **PART 3 - EXECUTION**

### **3.01 Inspection**

The CONTRACTOR will examine the areas and conditions under which excavating, filling, and grading are to be performed and notify the ENGINEER of conditions the CONTRACTOR may find that are detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in an acceptable manner.

### **3.02 Site Preparation**

The CONTRACTOR shall clear all areas to be occupied by permanent construction of all trees, brush, roots, stumps, logs, wood and other materials and debris in accordance with Section 02100. Subgrades for fills shall be cleaned and stripped of vegetation, sod, topsoil and organic matter.

### **3.03 Test Pits**

- A. Where ordered by the ENGINEER, the CONTRACTOR shall excavate and backfill, in advance of construction, test pits to determine conditions or location of existing facilities.
- B. The CONTRACTOR shall perform all work required in connection with excavating, stockpiling, maintaining, sheeting, shoring, backfilling and replacing pavement for the test pits.
- C. Payment for this work will be included in the lump sum price bid for the excavation work.
- D. Test pits made by the CONTRACTOR for his own use at his option shall not be paid for.

### **3.04 Excavation**

- A. General:
  - 1. Scope: Perform all excavation required to complete the Work as shown and specified.
  - 2. Excavated Materials: Earth, sand, clay, gravel, hardpan, boulders not requiring drilling or jackhammering to remove, decomposed rock, pavements, sediment, rubbish and all other materials within the excavation limits.
- B. Structures and Pipelines:

Excavations: Open excavations shall be constructed to prevent injury to workmen and to new and existing structures or pipelines. All open excavation shall comply with current OSHA requirements.
- C. Dewatering:
  - 1. Placement Below Groundwater Table: Use well points, cofferdams or other acceptable methods to permit construction of said structure or pipeline under dry conditions.
  - 2. Pipelines: Maintain dry conditions until the pipelines are properly jointed and backfilled.
  - 3. Water Level: Maintain water level below trench bottom at all times.
  - 4. Under no conditions shall water be permitted to stand in the bottom of an excavation for more than 24 hours.
  - 5. The use of sanitary sewers for disposal of water from dewatering operations is prohibited.
- D. Pumping: Pump excavations in such a manner to prevent the carrying away of unconsolidated concrete materials and to prevent damage to the existing subgrade.
- E. Size of Excavations: Extend excavation sufficiently on each side of structures, footings, etc., to permit setting of forms, installation of sheeting, the safe sloping of banks, or etc.

F. Subgrades:

1. Subgrade Requirements for Fill Areas, Roadways, and Trench Bottoms:
  - a. Strong, dense, and thoroughly compacted and consolidated.
  - b. Free from mud, muck and other soft or unsuitable materials.
  - c. Remain firm and intact under all construction operations.
2. All subgrades shall be proof-rolled with a loaded dumptruck or other suitable equipment approved by the Engineer. Any area that “pumps” is considered a soft subgrade and shall be corrected as specified in paragraph 3.04.F.3.
3. Soft Subgrades: Subgrades which are otherwise solid, but which become soft or mucky on top due to construction operations, shall be removed and replaced or processed to establish a stable surface. Soft area shall be proof-rolled after corrective action has been taken.
4. Use "Mud-mat" for subgrade, as shown on the Drawings.
5. Finished Elevation of Stabilized Subgrades: Do not place finished elevation of stabilized subgrades above subgrade elevations shown on the Drawings.

G. Stability of Excavations:

1. Sides of Excavations: Slope sides of excavations to comply with codes and ordinances of agencies having jurisdiction.
2. Shoring and Bracing: Shore and brace excavations where sloping is not possible either because of space restrictions or stability of material excavated. Comply with all OSHA requirements for bracing and shoring of excavations.
3. Safety: Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
4. Caving: If caving occurs outside the excavation area, backfill the resulting hole in accordance with the requirements of this section after removing the loose material.

H. Pipe Trench Preparation:

1. No more than 200 feet of trench may be opened in advance of pipe laying.
2. Trench width shall be minimized to greatest extent practical but shall conform to the following:
  - a. Sufficient to provide room for installing, jointing and inspecting piping, but in no case wider at top of pipe than pipe barrel O.D. plus 3 feet.
  - b. Enlargements at pipe joints may be made if required and approved by the ENGINEER.
  - c. Sufficient for sheeting, bracing, sloping, and dewatering.
  - d. Sufficient to allow thorough compacting of pipe bedding material.
  - e. Excavating equipment which requires the trench to be excavated to excessive width will not be used.
3. Depth of trench shall be as shown on the Drawings.

I. Material Storage:

1. Stockpile satisfactory excavated materials in approved areas, until required for backfill or fill.
  2. Place, grade and shape stockpiles for proper drainage.
  3. Locate and retain soil materials away from edge of excavation.
  4. Dispose of excess soil and waste materials as specified hereinafter.
- J. Unsuitable Material: Where the existing material beneath the subgrade is considered unsuitable by the ENGINEER, remove and replace it with select backfill material.

### **3.05 Unauthorized Excavation**

- A. Limits: All excavation outside the lines and grades shown on the Drawings.
- B. Responsibility: All unauthorized excavation together with the removal and disposal of the associated materials is at the CONTRACTOR'S expense.
- C. Backfill and compact the unauthorized excavation with select backfill and at the CONTRACTOR'S expense.

### **3.06 Drainage and Dewatering**

- A. General:
1. Prevent surface and subsurface water from flowing into excavations and from flooding adjacent areas.
  2. Remove water from excavation as fast as it collects.
  3. Maintain the ground water level below the bottom of the excavation to provide a stable surface for construction operations, a stable subgrade for the permanent work, and to prevent damage to the Work during all stages of construction.
  4. Provide and maintain pumps, sumps, suction and discharge lines and other dewatering system components necessary to convey water away from excavations.
  5. Obtain the ENGINEER'S approval before shutting down dewatering system for any reason.
- B. Standby Requirements for Dewatering: Provide standby equipment to ensure continuity of dewatering operations.
- C. Disposal of Water Removed by Dewatering System:
1. Dispose of all water removed from the excavation in such a manner as not to endanger public health, property, or any portion of the Work under construction or completed.
  2. Dispose of water in such a manner as to cause no inconvenience to the OWNER, ENGINEER, or others involved in work about the site.

3. Convey water from the construction site in a closed conduit. Do not use trench excavations as temporary drainage ditches.

### **3.07 Sheeting, Shoring and Bracing**

#### **A. General:**

1. Excavations for Pipe Lines: Open excavation, sheeted, shored and braced where necessary to prevent injury to workmen, structures, or pipe lines.
2. Observe all municipal, county, state and federal ordinances, codes, regulations and laws.
3. Used material shall be in good condition, not damaged or excessively pitted. All steel or wood sheeting designated to remain in place shall be new. New or used sheeting may be used for temporary work.
4. Design in accordance with the provisions of the "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings", of the AISC all steel work for sheeting, shoring, bracing, cofferdams, etc., except that field welding will be permitted.
5. Steel Sheet Piling: Interlocked steel sheet piling conforming to ASTM A 328. Furnish mill test reports on new piling but not used ones.
6. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
7. Unless otherwise shown, specified, or ordered, remove all materials used for temporary construction when work is completed. Make this removal in a manner not injurious to the structure or its appearance or to adjacent Work.
8. Provide permanent steel sheet piling wherever shown on the Drawings or wherever subsequent removal of sheet piling might permit lateral movement of soil under adjacent structures. Cut off tops as required and leave permanently in place.
9. The clearances and types of the temporary structures, insofar as they affect the character of the finished Work, and the design of sheeting to be left in place, will be subject to the approval of the ENGINEER; but the CONTRACTOR shall be responsible for the adequacy of all sheeting, shoring, bracing, cofferdamming, etc.
10. Safe and satisfactory sheeting shall be the entire responsibility of the CONTRACTOR.

#### **B. Removal of Sheeting and Bracing:**

1. Remove sheeting and bracing from excavation unless otherwise directed in writing by the ENGINEER.
2. Conduct removal so as to not cause injury to the Work.
3. Removal shall be equal on both sides of excavation to ensure no unequal loads on pipe or structure.

### **3.08 General and Select Backfill**



- A. General: Furnish, place and compact all backfill required for excavations and trenches as required to provide the finished grades shown and as described herein.
  
- B. Restrictions: Backfill excavations as promptly as Work permits, but not until completion of the following:
  - 1. Reviewed by ENGINEER of construction below finish grade including dampproofing, waterproofing, and perimeter insulation, where applicable.
  - 2. Inspection, testing, approval, and recording of locations of underground utilities.
  - 3. Removal of concrete formwork.
  - 4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities, or leave in place if required.
  - 5. Removal of trash and debris.
  - 6. Permanent or temporary horizontal bracing is in place on horizontally supported walls.
  
- C. Placement:
  - 1. Keep excavation dry during backfilling operations. At no time shall water be permitted to stand in the bottom of an excavation for more than 24 hours.
  - 2. Bring up backfill evenly on all sides around structures and piping.
  - 3. It is intended that the elevations, lines, grades and typical sections (after settlement and compaction during construction) shall be those shown on the Drawings.
  
- D. Pipe Trenches:
  - 1. Place all select backfill in pipe trenches which are below structures, other pipes, roadway areas, or as shown on drawings, in horizontal loose lifts not exceeding 6 inches in depth and thoroughly compacted before the next layer is placed.
  - 2. Place all general backfill in other pipe trenches in horizontal loose lifts of 6 inches and compact as required.
  
- E. Rock Excavation:
  - 1. Where pipe is laid in rock excavation, provide a minimum of 4 inches of sand under pipes smaller than 4 inches and a minimum of 6 inches of crushed stone or gravel under piping 4 inches and larger.
  - 2. After laying pipe, place the balance of the backfill as described herein.
  
- F. Moisture:
  - 1. In general, maintain the moisture content of the backfill within 5 percent of the optimum moisture content for compaction as determined by laboratory tests.
  - 2. Perform all necessary work to adjust the water content of the material to within the range necessary to permit the compaction specified.

3. Do not place backfill material when free water is standing on the surface of the area where the backfill is to be placed.
  4. No compaction of backfill will be permitted with free water on any portion of the backfill to be compacted.
- G. Unacceptable Material:
1. Do not place or compact backfill in a frozen condition or on top of frozen material.
  2. Remove backfill containing organic materials or other unacceptable material and replace with approved backfill material.
- H. Equipment:
1. Compact backfill with equipment suitable for the type of material placed and which is capable of providing the densities required.
  2. Select compaction equipment and submit it and proposed procedure to the ENGINEER for approval.
  3. All backfill within one foot horizontally from structural walls shall be compacted to the specified density using hand-operated mechanical tampers.
- I. Coverage:
1. Compact backfill by at least two coverages of all portions of the surface of each lift by compaction equipment.
  2. One coverage is defined as the condition obtained when all portions of the surface of the backfill material have been subjected to the direct contact of the compactor.
- J. Compaction:
1. Minimum Standard Proctor Density for Select and Initial Backfill: 95 percent of maximum density obtained in the laboratory in accordance with ASTM D 698 Method C including Note 2. The top 12 inches of select backfill shall be compacted to 98% Standard Proctor.
  2. Minimum Standard Proctor Density for General Backfill: Compact to a density of not less than that of the surrounding soil.
  3. If the field and laboratory tests indicate unsatisfactory compaction, provide the additional compaction necessary to obtain the specified degree of compaction.
- K. Inadequate Compaction:
1. If the specified densities are not obtained because of improper control of placement or compaction procedures, or because of inadequate or improperly functioning compaction equipment, perform whatever work is required to provide the required densities.
  2. This work includes complete removal of unacceptable backfill areas and replacement and re-compaction until acceptable backfill is provided.
- L. Settlement:

1. Repair any settlement that occurs, at CONTRACTOR'S expense.
2. Make all repairs and replacements necessary within 30 days after notice from the ENGINEER or OWNER.

### **3.09 General and Select Fill**

- A. Locations:
1. Provide select fill in the following locations:
    - a. Support below and around piping and foundations.
    - b. Subgrade for roadway areas, driveways, and sidewalks.
    - c. Where shown on drawings or directed by the ENGINEER.
  2. Provide general fill material in all other places.
- B. Restrictions:
1. Make subgrade surface level, dry, firm and subject to the ENGINEER'S approval.
  2. Do not place fill if any water is on the surface of area to receive fill.
  3. Do not place or compact fill in a frozen condition or on top of frozen material.
- C. Thickness of Lifts:
1. Place select fill in horizontal loose lifts of 6 inches maximum thickness.
  2. Place general fill in horizontal loose lifts of 9 inches maximum thickness.
  3. Mix and spread in a manner to assure uniform lift thickness after placing.
  4. Compact each layer of fill before placement of the next lift.
- D. Unacceptable Material:
1. Do not place fill containing lumps, pockets or concentrations of silt or clay, rubble, debris, wood or other organic matter.
  2. Remove and dispose of fill containing unacceptable material.
- E. Moisture:
1. In general, maintain the moisture content of the backfill within 5 percent of the optimum moisture content for compaction as determined by laboratory tests.
  2. Wet or dry the fill materials during placement to achieve water contents needed for effective compaction.
  3. Do not place fill material when free water is standing on the surface of the area where the fill is to be placed.
  4. No compaction of fill will be permitted with free water on any portion of the fill to be compacted.
- F. Equipment:
1. Perform compaction of fill with equipment suitable for the type of fill material being placed.

2. Select equipment which is capable of providing the densities required and submit the equipment to the ENGINEER for review.
  3. Vibratory rollers or vibratory plate compactors are suitable for compaction of structural fill.
  4. All fill within one foot horizontally from structural walls shall be compacted to the specified density using hand- operated mechanical tampers.
- G. Coverage:
1. Compact each layer of fill material by at least two complete coverages of all portions of the surface of each lift using suitable compaction equipment.
  2. One coverage is defined as the condition reached when all portions of the fill lift have been subjected to the direct contact of the compacting surface of the compactor.
- H. Compaction:
1. Minimum Standard Proctor Density for Select Fill: 95 percent of the maximum density obtained in the laboratory in accordance with ASTM D 698 Method C including Note 2. The top 12 inches of select fill shall be compacted to 98 percent Standard Proctor.
  2. Minimum Standard Proctor Density for General Fill: 85 percent of the maximum density obtained in the laboratory in accordance with ASTM D 698 Method C including Note 2.
  3. If the field and laboratory tests indicate unsatisfactory compaction, provide the additional compaction necessary to obtain the specified degree of compaction.
- I. Inadequate Compaction:
1. If the specified densities are not obtained because of improper control of placement or compaction procedures, or because of inadequate or improperly functioning compaction equipment, perform whatever work is required to provide the required densities.
  2. This work includes complete removal of unacceptable fill areas and replacement and re-compaction until acceptable fill is provided.
- J. Disturbed Materials:
1. Provide, place and compact select fill necessary to replace subgrade materials disturbed and softened as a result of the CONTRACTOR'S operations.
  2. Furnish additional fill at CONTRACTOR'S expense.
- K. Settlement:
1. Repair any settlement that occurs, at CONTRACTOR's expense.
  2. Make all repairs and replacement necessary within 30 days after notice from the ENGINEER or OWNER.

### 3.10 Grading

- A. General:
  - 1. Uniformly grade areas within limits of grading under this Section, including adjacent transition areas.
  - 2. Smooth subgrade surfaces within specified tolerances.
  - 3. Compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

### 3.11 Clay Gravel

- A. General:
  - 1. Place material, in layers of specified thickness, over ground surface where indicated on Contract Drawings.
  - 2. Comply with Mississippi Department of Transportation (MDOT) Standard Specification. Clay gravel shall be Class 5, Group C as outlined in Section 703.07 of the MDOT Specifications.
- B. Grade Control: During construction, maintain lines and grades including crown and cross-slope.
- C. Placing:
  - 1. Place clay gravel material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness.
  - 2. Maintain optimum moisture content for compacting clay gravel material during placement operations.
  - 3. When a compacted clay gravel course is shown to be 6 inches thick or less, place material in a single layer.
  - 4. When a compacted clay gravel course is shown to be more than 6 inches thick, place material in equal layers, except no single layer shall be more than 6 inches or less than 3 inches in thickness when compacted.
- D. Compaction:
  - 1. The minimum density for clay gravel shall be as stated in the *Mississippi Standard Specifications for Road and Bridge Construction*.
  - 2. If the field and laboratory tests indicate unsatisfactory compaction, the CONTRACTOR shall provide the additional compaction necessary to obtain the specified degree of compaction.

### 3.01 Disposal of Excavated Materials

#### Excess or Unsuitable Material:

- A. Haul away from the project site all material removed from the excavations which does not conform to the requirements for fill or backfill or is in excess of that required for backfill.

- B. Dispose of excess or unsuitable material in compliance with municipal, county, state, federal or other applicable regulations at no additional cost to the OWNER.

### **3.02 Field Quality Control**

- A. Quality Control Testing During Construction:
  - 1. Testing lab will inspect and approve subgrades and fill layers before further construction work is performed thereon.
  - 2. Tests of subgrades, backfill and fill layers shall be taken as follows:
    - a. Select Fill and Backfill: One field density for every 2,500 square feet of fill or backfill installed for each of the last six layers of select fill or backfill placed.
    - b. Pipeline Installation, Roadway and Driveway Crossings: Two field densities for each crossing for each of the last six layers of backfill placed. Placement of test will be as directed by ENGINEER.
    - c. Pipeline Installation, Running in Roadways: One field density for every 100 feet of pipe installed for each of the last six layers of backfill placed. Placement will be as determined by ENGINEER.
- B. Unsuitable Compaction: If, based on reports of testing lab and inspection, subgrade, backfills or fills which have been placed are below specified density, provide additional compaction and testing at no additional expense to the OWNER

**\*\* END OF SECTION \*\***

**SECTION 02722**

**PRECAST CONCRETE MANHOLES**

**PART 1 - GENERAL**

1.01 DESCRIPTION

- A. Scope: The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary to provide all concrete precast sanitary sewer manholes shown, specified, and otherwise required to complete the Work.
- B. General:
  - 1. Structures shall conform in shape, size, dimensions, material, and other respects to the details shown on the Drawings or as ordered by the ENGINEER.
  - 2. Metal frames, grates, covers, and similar required items shall be as shown and as specified in this section.
  - 3. Inverts shall conform accurately to the size and elevation of the adjoining pipes. Side inverts shall be curved and main inverts, where direction changes, shall be laid out in smooth curves of the longest possible radius which is tangent to the centerlines of adjoining pipelines.
- C. Related Work Specified Elsewhere:
  - 1. Section 02200, Excavation and Backfill
  - 2. Section 15052, Buried Piping Installation

1.02 QUALITY ASSURANCE

Reference Standards:

ASTM C 478, Precast Reinforced Concrete Manhole Sections.

1.03 SUBMITTALS

- A. Samples: Submit for approval samples of mastic joint material and all accessories required for the manholes, if requested by ENGINEER.
- B. Shop Drawings:
  - 1. Submit for approval Shop Drawings of design and construction details of all precast concrete manholes.
  - 2. Submit manufacturer's data on interior lining material, preformed mastic joint material and rubber manhole boots, manhole water stops, and/or lateral connectors.

- C. The CONTRACTOR shall submit an affidavit from the coating applicator that each manhole section and special has been coated in accordance with these specifications.

## **PART 2 - PRODUCTS**

### **2.01 PRECAST CONCRETE MANHOLES**

- A. Precast manholes shall conform to the details shown on the Drawings. Manhole bases may be precast unless cast-in-place is required by the Drawings.
- B. Except where otherwise specified, manhole sections shall conform to ASTM C 478.
- C. Precast manhole bases shall be of approved design and of sufficient strength to withstand the loads to be imposed upon them. An approved joint shall be provided to receive the riser sections forming the barrel.
- D. The date of manufacture and the name or trademark of the manufacturer shall be marked on inside of the barrel.
- E. Unless a larger size is required by the Drawings, the barrel of precast manholes shall be constructed of 48-inch diameter standard reinforced concrete manhole sections. The barrel shall be constructed of various lengths in combination to provide the correct height with the fewest joints. Wall sections shall not be less than five inches thick. For 72-inch and larger manholes, a transition slab, as shown on the Contract Drawings, is required for manholes greater than 12 feet deep.
- F. Joints shall be tongue and groove with preformed mastic joint compound.
- G. A precast slab or precast eccentric cone, as shown or approved, shall be provided at the top of the manhole barrel to receive the cast iron frame and cover. The slab or cone shall be of acceptable design and of sufficient strength to safely support an H-20 loading. Concrete slabs shall be not less than eight inches thick.
- H. Lifting holes in the manhole base or riser section will not be allowed.
- I. Manhole Coating:
  - 1. All manhole sections shall be lined with an approved epoxy coating.
  - 2. Manhole coating system shall be a two (2) coat, 100% solids epoxy system installed a at a minimum of 20 mils dry film thickness (DFT) for each coat. Each coat shall have contrasting colors. All surface preparation and installation shall be per manufacturer's requirements.
  - 3. Manhole coating system shall be as manufactured by TNEMEC or equal as approved by the Engineer.

### **2.02 MANHOLE FRAMES AND COVER**



Provide manhole frames with covers as manufactured by one of the following:

- A. "Paved Areas" Manholes:
  - 1. Vulcan Foundry Co., Model V-1480-1
  - 2. Or equal.
- B. "Non-Paved Areas" 48" Manholes:
  - 1. Vulcan Foundry Co., Model V-1480-1
  - 2. Or equal
- C. Flat Slab Top Manholes:
  - 1. Vulcan Foundry Co., Model V-3810-5.
  - 2. Or equal.
- D. All other "Waterproof" (Bolted Lid) Manholes:
  - 1. Vulcan Foundry Co., Model V-2312A (Bolted to Concrete Structure).
  - 2. Or equal.

2.03 DROP INLET CONNECTIONS

Drop inlet connections for manholes shall be constructed where shown on the Drawings and shall conform to the design and details shown on the Drawings. Pipe and fittings shall be same as inlet pipe. Concrete shall be bonded to manhole in a manner shown or otherwise approved by ENGINEER.

2.04 RUBBER MANHOLE BOOTS

- A. Rubber manhole boots complying with ASTM C923 shall be employed in the connection of each sewer pipe with an outside diameter less than 59 inches to precast manholes.
- B. The connector will consist of rubber EPDM and elastomers designed to resist ozone, acids, alkalis, oils and petroleum products.
- C. The banding mechanism shall be totally non-magnetic 304 stainless steel and torqued for 60-70 inch/lbs.
- D. Manufacturer:
  - 1. Kor-N-Seal.
  - 2. Or equal.

2.05 MANHOLE WATERSTOPS

- A. Elastomeric PVC manhole waterstops shall be employed in the connection of each sewer pipe with outside diameter greater than 59 inches to precast manholes.
- B. The waterstop will consist of elastomeric PVC designed to resist ozone, acids, alkalis, oils and petroleum products.

- C. The banding mechanism shall be totally non-magnetic stainless steel, torqued for 60 inch/lbs, and furnished with a waterstop.
- D. Installation:
  - 1. Slide waterstop over clean end of entrance pipe.
  - 2. Position waterstop on centerline of manhole wall.
  - 3. Tighten the stainless steel band to required torque.
  - 4. Use waterplug around the waterstop to close the opening in the manhole.
- E. Manufacturer:
  - 1. Fernco, Inc.
  - 2. Or equal.

## 2.06 LATERAL CONNECTORS

- A. Lateral connectors can be employed in the connection of sewer pipe 15" in diameter or less in lieu of rubber manhole boots.
- B. Lateral connectors shall consist of a PVC hub, rubber sleeve, and stainless steel band.
- C. The PVC hub shall meet ASTM D3034 and be SDR 26. The gasket in the hub shall meet ASTM F477. The rubber sleeve shall meet ASTM C443. The band and housing shall be type 301 stainless steel and the screw shall be type 305 stainless steel.
- D. Model and Manufacturer:
  - 1. Inserta Tee by Inserta Fittings Company.
  - 2. Or equal.

## PART 3 - EXECUTION

### 3.01 LAYING MASONRY

Each grading ring shall be laid in a full bed of mortar and shall be thoroughly bonded.

### 3.02 PLASTERING

The outside of grading rings shall be neatly plastered with **2** inch of cement mortar as the Work progresses.

### 3.03 MANHOLE BASES

Precast bases shall be set on a concrete foundation or compacted granular material as shown on the Drawings. Precast bases shall be set at the proper grade and carefully leveled and aligned.

3.04 PRECAST MANHOLE SECTIONS

- A. Set sections vertical with sections in true alignment.
- B. Install sections in accordance with manufacturers recommendations.

3.05 MANHOLE CHANNELS

- A. For straight through flow, inverts shall be formed of concrete and shall be given a hard trowel finish.
- B. Where side channels and curved sections occur, the channels within the manholes shall be formed of concrete and shall be given a hard trowel finish.
- C. Inverts shall be coated as specified in Section 02725.

3.06 GRADING RINGS

Grading rings shall be used for all precast manholes where required. Stacks shall be a maximum of 12 inches in height and shall be constructed on the roof slab or cone section on which the manhole frame and cover shall be placed. The height of the stack shall be such as is necessary to bring the manhole frame to the proper grade.

3.07 TESTING MANHOLES

- A. All manholes shall be free of visible leakage.
- B. All manholes shall be tested for leakage by applying a vacuum of at least 10 inches of mercury to each assembled manhole.
- C. The manhole shall be considered acceptable if the time required for a 1-inch drop in mercury is greater than the times shown in the table below:

Diameter Manhole (in.)	Minimum Hold Time (sec/vert. ft.)
48"	5.0
60"	6.5
72"	8.0
84"	9.5

96"	11.0
108"	12.5

- D. The test will be conducted with the frame secured to the manhole as shown on the Plans.
- E. Each manhole shall be tested after the monolithic surfacing system has been applied.
- F. All pipes entering the manhole shall be plugged, taking care to securely brace the plug from being drawn into the manhole.
- G. If the manhole fails the initial test, the CONTRACTOR shall locate the leak(s) and make the appropriate repairs acceptable to the ENGINEER in preparation for additional tests.
- H. Retesting shall be required until a satisfactory test is obtained.
- I. In the event that a manhole is adjusted or damaged after the vacuum test is completed, the manhole shall be retested.
- J. The CONTRACTOR shall furnish all equipment, material and labor necessary for this test and the cost of this work shall be included in the unit price for the manholes.
- K. The tests shall be conducted in the presence of the ENGINEER and a complete written and tabulated report of the tests shall be prepared by the CONTRACTOR and submitted to the ENGINEER.

3.08 FLEXIBLE PIPE CONNECTOR AND WATERSTOP AT MANHOLE BASE

An approved flexible connector or waterstop shall be provided between each pipe entering and exiting the manhole. The joint into the manhole base shall be completely watertight.

**\*\* END OF SECTION \*\***

## SECTION 03315

### CONCRETE

#### PART 1 - GENERAL

##### 1.01 Description

- A. Scope: The CONTRACTOR shall provide all labor, materials, equipment and incidentals as shown, specified and required to furnish and install cast-in-place concrete reinforcement and related materials.
- B. Coordination: Review installation procedures under other Sections and coordinate the installation of items that must be installed in the concrete.

##### 1.02 Quality Assurance

- A. Source Quality Control:
  - 1. Concrete Testing Service:
    - a. The CONTRACTOR shall employ an acceptable testing laboratory to perform materials evaluation, testing and design of concrete mixes.
    - b. The CONTRACTOR'S laboratory shall also evaluate concrete delivered to and placed at the site.
  - 2. Certificates, signed by concrete producer and CONTRACTOR, may be submitted in lieu of material testing when acceptable to ENGINEER.
  - 3. Quality Control: Perform sampling and testing during concrete placement, as follows:
    - a. Sampling: ASTM C 172.
    - b. Slump: ASTM C 143, one test for each load at point of discharge.
    - c. Air Content: ASTM C 31, one for each set of compressive strength specimens.
    - d. Compressive Strength: ASTM C 39, one set for each 50 cubic yards or fraction thereof for each class of concrete; 1 specimen tested at 7 days, 2 specimens tested at 28 days.
  - 4. Report test results in writing to ENGINEER on same day tests are made.
- B. Reference Standards: Comply with the applicable provisions and recommendations of the following, except as otherwise shown or specified.
  - 1. ACI 301, Specifications for Structural Concrete for Building (includes ASTM Standards referred to herein except ASTM A 36).
  - 2. ACI 347, Recommended Practice for Concrete Formwork.
  - 3. ACI 304, Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete.
  - 4. ACI 315, Manual of Standard Practice for Detailing Reinforced Concrete

Structures.

5. ACI 305, Recommended Practice for Hot Weather Concreting.
6. ACI 306, Recommended Practice for Cold Weather Concreting.
7. ASTM A 36, Structural Steel.
8. Concrete Reinforcing Steel Institute, Manual of Standard Practice, include ASTM Standards referred herein.

### **1.03 Submittals**

- A. Samples: Submit samples of materials as specified and may be requested by the ENGINEER including names, sources and descriptions.
- B. Shop Drawings: Submit the following for approval in accordance with Shop Drawing Procedures Section 01340 and the General Requirements and with additional requirements as specified.
  1. Copies of manufacturer's specifications with application and installation instructions for proprietary materials and items, including admixtures and bonding agents.
  2. Drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315, Chapters 1 thru 8. For walls, show elevations to a minimum scale of **3** inch to 1 foot. Show bar schedules, stirrup spacing, diagrams of bent bars, arrangements and assemblies, as required for the fabrication and placement of concrete reinforcement.
  3. List of concrete materials and concrete mix designs proposed for use. Include the results of all tests performed to qualify the materials and to establish the mix designs in accordance with ACI 301, 3.9. Submit written report to ENGINEER for each proposed concrete mix at least 15 days prior to start of Work. Do not begin concrete production until mixes have been reviewed and are acceptable to ENGINEER. Mix designs may be adjusted when material characteristics, job conditions, weather, test results or other circumstances warrant. Do not use revised concrete mixes until submitted to and accepted by ENGINEER.
- C. Laboratory Test Reports: Submit copies of laboratory test reports for concrete cylinders, materials and mix design tests. Production of concrete to comply with specified requirements is the responsibility of the CONTRACTOR.

### **1.04 Product Delivery, Storage and Handling**

- A. Deliver concrete reinforcement materials to the site bundled, tagged and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on placement diagrams.
- B. All materials used for concrete must be kept clean and free from all foreign matter during transportation and handling and kept separate until measured and placed in the

mixer. Bins or platforms having hard clean surfaces shall be provided for storage. Suitable means shall be taken during hauling, piling and handling to insure that segregation of the coarse and fine aggregate particles does not occur and the grading is not affected.

## **PART 2 - PRODUCTS**

### **2.01 Concrete Materials**

- A. Portland Cement: ASTM C 150, Type I.
- B. Aggregates: ASTM C 33.
  - 1. Fine Aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances. Dune sand, bank run sand and manufactured sand are not acceptable.
  - 2. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
    - a. Crushed stone, processed from natural rock or stone.
    - b. Washed gravel, either natural or crushed. Use of slag and pit or bank run gravel is not permitted.
- C. Coarse Aggregate Size: Size to be ASTM C 33, Nos. 57 or 67, unless permitted otherwise by ENGINEER.
- D. Water: Clean, potable.
- E. Air-Entraining Admixture: ASTM C 260.
- F. Water-Reducing Admixture: ASTM C 494. Only use admixtures which have been tested and accepted in mix designs.
- G. Slump Limits: Proportion and design mixes to result in concrete slump at the point of placement of not less than one inch and not more than four inches.

### **2.02 Form Materials**

- A. Provide Form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection.
- B. Exposed Concrete Surfaces: Acceptable panel-type to provide continuous, straight, smooth, as-cast surfaces. Use largest practical sizes to minimize form joints.
- C. Unexposed Concrete Surfaces: Suitable material to suit project conditions.

- D. Provide : -inch chamfer at all exposed corners.

### 2.03 Reinforcing Materials

- A. Reinforcing Bars: ASTM A 615, Grade 60.
- B. Welded Wire Fabric: ASTM A 185.
- C. Steel Wire: ASTM A 82.
- D. Supports for Reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place.
  - 1. Use wire bar type supports complying with CRSI recommendations, except as specified below. Do not use wood, brick, or other unacceptable materials.
  - 2. For slabs on grade, use supports with sand plates or horizontal runners where base materials will not support chair legs.
  - 3. For all concrete surfaces, where legs of supports are in contact with forms, provide supports complying with CRSI, Manual of Standard Practice as follows:
    - Either hot-dip galvanized, plastic protected or stainless steel legs.

### 2.04 Grout

- A. Non-metallic, 100 percent solids, high-strength epoxy grout.
  - 1. Use clean, well-graded sand with epoxy resins suitable for use on dry or damp surfaces.
  - 2. Product and Manufacturer: Provide one of the following:
    - a. Euco High Strength Grout by the Euclid Chemical Company,
    - b. Sikadur 42 Grout by Sika Chemical Company,
    - c. Five Star Epoxy Grout by U.S. Grout Corporation, or
    - d. equal.
- B. Nonshrink, Nonmetallic Grout:
  - 1. Premixed nonstaining cementitious grout requiring only the addition of water at the job site.
  - 2. Product and Manufacturer: Provide one of the following:
    - a. Euco N-S by the Euclid Chemical Company,
    - b. Masterflow 713 by Master Builders Company,
    - c. Five Star by U.S. Grout Corporation, or
    - d. equal.
- C. Ordinary Cement-Sand Grout:

Except where otherwise specified use 1 part cement to 3 parts sand complying with the following:



1. Cement: ASTM C 150, Type I.
2. Sand: ASTM C 33.

D. Water: Clean, Potable water.

## 2.05 Expansion Joints

- A. Expansion joint filler shall be preformed expansion joint filler complying with ASTM D1752, Type II cork.
- B. Expansion joint sealer:
1. Exterior and Interior Joints in Horizontal Planes: Two-Component Polyurethane Sealant:
    - a. Polyurethane-based, 2-part elastomeric sealant complying with the following:
      - (1) FS TT-S-00227, Type 1 (self-leveling) Class A.
      - (2) Water Immersion Bond, FS TT-S-00227; Elongation of 25 percent with no adhesive failure.
      - (3) Hardness (Standard Conditions), ASTM C 661: 30-40.
      - (4) Stain and Color Change, FS TT-S-00227 and ASTM C 510: No discoloration or stain.
      - (5) Accelerated Aging, ASTM C 793: No change in sealant characteristics after 250 hours in weatherometer.
    - a. Product and Manufacturer: Provide one of the following:
      - (1) Sonolastic Paving Joint Sealant by Sonneborn Division of Contech Incorporated,
      - (2) Vulkem 255 by Mameco International, or
      - (3) equal.

## **2.06 Waterspots**

- A. Reference Standard: CRD-C 572.
- B. Construction Joints: A dumbbell shape polyvinyl chloride waterstop with the following minimum requirements:
  - 1. Thickness: 3/8 inch.
  - 2. Length: 6 inches.
  - 3. Bulb diameter: 3/4 inch.
- C. Expansion Joints: A dumbbell shape polyvinyl chloride waterstop with the following minimum requirements:
  - 1. Thickness: 3/8 inch.
  - 2. Length: 9 inches.
  - 3. Bulb diameter: 3/4 inch.
- D. Product and Manufacturer: Provide waterstops as manufactured by one of the following:
  - 1. Vulcan Products, Inc,
  - 2. W.R. Meadows, Inc, or
  - 3. equal.

## **PART 3 - EXECUTION**

### **3.01 Inspection**

The CONTRACTOR and his installer shall examine the substrate and the conditions under which the Work is to be performed and notify the ENGINEER of unsatisfactory conditions. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to the ENGINEER.

### **3.02 Formwork**

- A. Formwork: Construct so that concrete members and structures are correct size, shape, alignment, elevation and position, complying with ACI 347.
- B. Provide openings in formwork to accommodate the Work of other trades. Accurately place and securely support items built into forms.
- C. Clean and adjust forms prior to concrete placement. Apply form release agents or wet forms, as required. Retighten forms during and after concrete placement if required to eliminate mortar leaks.

### **3.03 Reinforcement, Joints, and Embedded Items**

- A. Comply with the applicable recommendations of specified codes and standards, and CRSI, Manual of Standard Practice, for details and methods of reinforcement placement and supports.
- B. Clean reinforcement to remove loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.
- C. Position, support, and secure reinforcement against displacement during formwork construction or concrete placement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required.
  - 1. Place reinforcement to obtain the minimum concrete converges as shown and as specified in ACI 318. Arrange, space, and securely tie bars and bar supports together with 16 gage wire to hold reinforcement accurately in position during concrete placement operations. Set with ties so that twisted ends are directed away from exposed concrete surfaces.
  - 2. Reinforcing steel shall not be secured to forms with wire, nails or other ferrous metal. Metal supports subject to corrosion shall not touch formed or exposed concrete surfaces.
- D. Provide sufficient numbers of supports of strength required to carry reinforcement. Do not place reinforcing bars more than two inches beyond the last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
- E. Splices: Provide standard reinforcement splices by lapping ends, placing bars in contact, and tying tightly with wire. Comply with requirements shown for minimum lap of spliced bars.
- F. Install welded wire fabric in as long lengths as practical, lapping at least one mesh.
- G. Concrete shall not be placed until the reinforcing steel is inspected and permission for placing concrete is granted by the ENGINEER. All concrete placed in violation of this provision will be rejected.
- H. Joints: Provide construction, isolation, and control joints as indicated or required. Locate construction joints so as to not impair the strength and appearance of the structure. Place isolation and control joints in slabs on ground to stabilize differential settlement and random cracking.
- I. Installation of Embedded Items: Set and build into the Work anchorage devices and embedded items required for other Work that is attached to, or supported by cast-in-place concrete. Use setting diagrams, templates and instructions provided under other Sections and other contracts for locating and setting. Refer also to Paragraph 1.01.B., Coordination, above.

- J. Waterstops
  - 1. General:
    - a. Comply with ACI 301, Chapter 6, and as specified below. All joints shall be made in accordance with manufacturer's instructions.
    - b. Obtain ENGINEER'S approval for waterstop locations not shown.
    - c. Provide waterstops in all foundations, tanks and other substructures up to an elevation at least 12 inches above grade or to an elevation at least 12 inches above liquid level in tanks, whichever is higher, except where otherwise shown or noted.
  - 2. Polyvinyl Chloride Waterstop:
    - a. Tie waterstop to reinforcement so that it is securely and rigidly supported in the proper position during concrete placement. Continuously inspect waterstops during concrete placement to insure their proper positioning.
    - b. Waterstops shall be fused using equipment as supplied by or recommended by the manufacturer.
    - c. Where required, weld polyvinyl chloride waterstop to steel waterstop by gently heating while applying pressure to the two materials. Use a steel plate and two "C" clamps to apply the pressure and a propane torch to apply the heat. The polyvinyl chloride waterstop shall be clamped between the steel waterstop and the steel plate which is held in place by the two "C" clamps. As heat is applied to the steel waterstop tighten the "C" clamps. Heat for approximately 15 minutes at a temperature just enough to make the polyvinyl chloride "runny" and the weld complete. After cooling remove the "C" clamps and plate. The ENGINEER must approve polyvinyl chloride before embedding in concrete.

### 3.04 Concrete and Placement

- A. Proportioning and Design of Mix:
  - 1. Minimum compressive strength at 28 days: 4000 psi.
  - 2. Maximum water cement ratio by weight: 0.45.
  - 3. Minimum cement content: 564 pounds per cubic yard.
  - 4. Normal weight: 145 pounds per cubic foot.
  - 5. Use air-entraining admixture in all concrete: Provide not less than four percent nor more than eight percent entrained air for concrete exposed to freezing and thawing, and from two percent to four percent for other concrete.
  - 6. Calcium Chloride: Do not use calcium chloride in concrete, unless otherwise authorized in writing by the ENGINEER. Do not use admixtures containing calcium chloride.
- B. Job-Site Mixing: Use drum type batch machine mixer, mixing not less than 12 minutes for one cubic yard or smaller capacity. Increase mixing time at least 15

seconds for each additional cubic yard or fraction thereof.

- C. Ready-Mixed Concrete: ASTM C 94.
- D. Concrete Placement: Comply with ACI 304, placing concrete in a continuous operation within planned joints or sections. Do not begin placement until work of other trades affecting concrete is completed.
- E. Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into all parts of forms.
- F. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placement, and curing.
  - 1. In cold weather comply with ACI 306.
  - 2. In hot weather comply with ACI 305.

### **3.05 Quality of Concrete Work**

- A. Make all concrete solid, compact and smooth, and free of laitance, cracks and cold joints.
- B. Cut out and properly replace to the extent ordered by the ENGINEER, or repair to the satisfaction of the ENGINEER, surfaces which contain cracks or voids, are unduly rough, or are in any way defective. Patches or plastering will not be acceptable.
- C. Repair, removal, and replacement of defective concrete as ordered by the ENGINEER shall be at no additional cost to the OWNER.

### **3.06 Curing**

Begin initial curing after placing and finishing concrete as soon as free water has disappeared from the exposed surfaces. Where possible, keep continuously moist for not less than 72 hours. Continue curing the concrete using a moisture-retaining cover or membrane-forming curing compound. Cure formed surfaces by moist curing until forms are removed. Provide protection as required to prevent damage to exposed concrete surfaces.

### **3.07 Finishes**

Finish:

- A. After placing concrete slabs, do not work the surface further until ready for floating. Begin floating when the surface water has disappeared or when the concrete has stiffened sufficiently. Use a wood float only. Check and level the surface plane to a tolerance not exceeding **3** inch in 10 feet when tested with a 10 foot straightedge placed on the surface at not less than two different angles. Cut down high spots and

fill all low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat the surface to a uniform, smooth, granular texture.

- B. After floating, begin the first trowel finish operation using a trowel. Begin final troweling when the surface produces a ringing sound as the trowel is moved over the surface.
- C. Consolidate the concrete surface by the final hand troweling operation. The finish shall be free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding **C** inch in 10 feet when tested with a 10 foot straight edge. Grind smooth surface defects.
- D. Use trowel finish for the following: Interior exposed slabs unless otherwise shown or specified.
- E. Apply non-slip broom finish to exterior concrete slab and elsewhere as shown on the Drawings.

### **3.08 Grout Placement**

General:

- A. Place grout as shown and in accordance with manufacturer's instructing. If manufacturer's instructions conflict with the Specifications do not proceed until the CONTRACT OFFICER provides clarification.
- B. Drypacking will not be permitted.
- C. Manufacturer's of proprietary products shall make available upon 72 hours notification the services of a qualified, full-time employee to aid in assuring proper use of the product under job conditions.
- D. Placing grout shall conform to the temperature and weather limitations described in Article 3.04 above.

**\*\* END OF SECTION \*\***

**SECTION 11300**

**PACKAGE SEWAGE GRINDER PUMPING STATIONS  
(LOW PRESSURE)**

**PART 1 - GENERAL**

**1.01 Summary**

- A. Furnish all labor, materials, equipment and incidentals required to provide complete (low pressure) packaged sewage grinder pumping systems as specified herein. The system shall be by a single source so as to ensure compatibility of controls and ensure system responsibility.

**1.02 System Performance Requirement**

- A. The equipment furnished shall be produced by a company experienced in the design and manufacture of grinder pumps. Manufacturer shall have a minimum of twenty five years experience in the design and manufacture of grinder pump systems for use in low pressure sewer projects. A project is defined as an installation of 50 or more pumps discharging into a common force main.
- B. Pumps shall be designed to meet the design head conditions based on the sewer system. Minimum flow requirements for a grinder pump, must illustrate minimum 2 fps velocity through force main.
- C. The sewer system hydraulic analysis shall include the following:
  - 1. Color coded piping schematic of the entire system.
  - 2. Complete flow, velocity, and pressure requirements for each pipe segment.
  - 3. Complete written report and design drawing.

**1.03 Submittals**

- A. The complete submittal packet shall include shop drawing information which includes, but is not limited to the following items: Pump, motor, impeller, grinder assembly, lift out assembly, check valve, shut off valve, piping, level controls, basin, electrical control panel, electrical junction boxes, alarm facilities. Any deviations from the specifications shall be noted in the submittal.
- B. The manufacturer shall submit detailed installation, user instructions, and service instructions.
- C. The manufacturer shall submit a certificate of compliance for Underwriters Laboratories approval for the complete package.

**1.04 Substitutions**

- A. Refer to Section 01630 and the following requirements.
- B. The contractor shall prepare his bid based on the specified equipment for purposes of determining low bid. Award of contract shall constitute an obligation to furnish the specified equipment and materials.
- C. In the event the contractor obtains engineer's approval for equipment substitution, the contractor shall, at his own expense, make all resulting changes to the enclosures, buildings, piping or electrical systems as required accommodating the proposed equipment. Revised detail drawings illustrating the substituted equipment shall be submitted to the engineer prior to acceptance.

**1.05 Delivery, Storage and Handling**

The manufacturer shall furnish and deliver assembled grinder pump stations. Simplex units, containing one grinder pump and all necessary parts and equipment, shall be installed in ribbed wall, corrosion resistant polyester tanks for outside installations. All equipment shall be factory installed, except for externally mounted control panel, gravity sewer inlet hubs and pump assembly, which are to be installed in the field.

**1.06 Warranty**

- A. All equipment and materials provided for this project shall be warranted against defects in materials and workmanship for a period of two (2) years from the date of installation. The manufacturer will provide a new or remanufactured part free of charge.
- B. Comply with the requirements of the General Conditions and Section 01740.

**PART 2 - PRODUCTS**

**2.01 Description**

System shall consist of sewage grinder pump(s), level control switches, discharge plumbing, flexible hosing, and stainless steel lifting chain to be installed in factory built polyethylene basin. A NEMA 4X fiberglass weatherproof control box shall be supplied for mounting at the sump site or remote from the basin as required.

**2.02 Operating Conditions (Typical)**

- A. Pump Capacity



1. First design point: 10 GPM at 93 feet head.
  2. Second design point: 43 GPM at 57 feet head.
- B. Pump Rating: 2 HP, 230 volts, single phase, 60 Hz, 1725 RPM.
- C. Number of Units: Three (3).
- D. Pump shall be a sealed submersible grinder type pump Model HPG200M2-2 as manufactured by Hydromatic Pumps, Inc., or equal.

### **2.03 Design**

The pump volute, motor and seal housing shall be gray cast iron, ASTM A-48, Class 30. All external mating parts shall be machined and sealed with Buna-N rubber O-Rings on a beveled edge. Gaskets shall not be acceptable. All fasteners exposed to the pumped liquids shall be 316 series stainless steel.

### **2.04 Electrical Power Cord**

- A. Electrical power cord shall be water resistant 12 GA, SOW/SOW-A, UL and/or CSA-approved and applied dependent on amp draw for size. Cords shall be furnished by manufacturer and shall be a minimum of 30 feet in length.
- B. The power cable entry into the cord cap assembly shall first be made with a rubber compression washer and compression nut. Each individual lead shall be stripped down to bare wire, at staggered intervals, and each strand shall be individually separated. The area of the cord cap shall be filled with an epoxy compound potting which will prevent water contamination to gain entry even in the event of wicking or capillary attraction.

### **2.05 Motors**

- A. Each pump shall be driven by a Submersible Squirrel Cage Type Electric Motor. Motor shall be NEC Code D for continuous duty, capable of sustaining 10 starts per hour. The pump and motor shall be produced by one manufacturer and shall be of submersible design.
- B. The stator, rotor and bearings shall be mounted in a sealed submersible type housing. The stator windings shall have Class F insulation, (155° C or 311° F), and a dielectric oil filled motor, NEMA L design (single phase).
- C. Pump shall be equipped with heat sensor. The sensor shall be a low resistance, bi-metal disc that is temperature sensitive. It shall be mounted directly in the stator and sized to open between 120 or 130°C and automatically reset at 30 - 35°C differential. The sensor shall be connected in series with the motor starter coil so that the starter is

tripped if a heat sensor opens. The motor starter shall be equipped with overload heaters so all normal overloads are protected by external heater block.

- D. Stators shall be securely held in place with a removable end ring and threaded fasteners so they may be easily removed in the field without the use of heat or a press. Stators held by a heat shrink fit shall not be acceptable. Units requiring service by the factory shall not be acceptable. No special tools shall be required for pump and motor disassembly. The stator must be capable of being repaired or rewound by a local motor service center.
- E. Air-filled motors shall not be considered an equal. The pump and motor shall be specifically designed so that they may be operated partially dry or completely submerged in the liquid being pumped without compromise. The pump shall not require cooling water jackets.

## **2.06 Bearings and Shaft**

- A. Motor shall have an upper single row ball radial bearing and a lower single row ball thrust bearing. Bearings are to be permanently lubricated by the dielectric oil which fills the motor housing.
- B. The common motor pump and grinder shaft shall be machined from solid #400 series stainless steel and be designed with large diameters and minimum shaft overhang to reduce shaft deflection.
- C. The shaft shall be threaded to mount the pump impeller and grinder impeller.

## **2.07 Seals and Sensors**

Motor shall be protected by two type 21 mechanical seals. Seal face shall be carbon and ceramic and lapped to a flatness of one light band. All hardware is to be 300 series stainless steel and sealing elastomers are to be Buna-N Rubber. The seal housing shall be equipped with a moisture sensing probe installed between the seals, and the sensing of the moisture in the seal chamber shall be automatic, continuous, and not require the pump be stopped or removed from the wet well.

## **2.08 Impeller**

- A. The impeller shall be designed for rough duty service and shall be of a five-vane, semi open design with hydrodynamic sealing vanes on the rear shroud. The impeller shall be constructed of engineered thermo plastic, with a permanently molded, hexagonally locked bronze insert. The impeller shall be of a non-overloading design and be factory or field trimmable to meet specific performance conditions. Wear of field trimming shall not deter the factory balance.

## 2.09 Grinder Cutters

- A. The combination centrifugal pump impeller and grinder unit shall be attached to the common motor and pump shaft made of 416 stainless steel. The grinder unit shall be on the suction side of the pump impeller and discharge directly into the impeller inlet leaving no exposed shaft to permit packing of ground solids. The grinder shaft shall consist of two stages. The cutting action of the second stage shall be perpendicular to the plane of the first cut for better control of the particle size. The grinder shall be capable of grinding all materials found in normal domestic sewage, including plastics, rubber, sanitary napkins, disposable diapers, and wooden articles into a finely ground slurry with particle dimensions no greater than ¼ inch. Both stationary and rotating cutters shall be made of 440C stainless steel hardened to Rockwell 60C and ground to close tolerance.
  
- B. The upper (axial) cutter and stationary cutter ring shall be reversible to provide new cutting edges to double life. The stationary cutter ring shall be pressed into the suction opening of the volute and held in place by three 300 series stainless steel screws. The lower (radial) cutter shall macerate the solids against the i.d. of the cutter ring and extrude them through the slots of the cutter ring. The upper cutter shall cut off the extrusions, as they emerge from the slots of the cutter ring to eliminate any roping effect which may occur in single cutting action. The upper cutter shall fit over the hub of the impeller and the lower cutter shall be slip fit and secured by means of peg and hole and rotate simultaneously with the rotation of the shaft and impeller. The grinding mechanism shall be locked to the shaft by a 300 series stainless steel countersunk washer in conjunction with a 300 series steel flat head cap screw threaded into the end of the shaft.

## 2.10 Painting/Coating

The pump shall have a High Build Epoxy protective coating on all outside surfaces.

## 2.11 Testing

Commercial testing at the factory shall be required and include the following:

- A. The pump shall be visually inspected to confirm that it is built in accordance with the specification as to HP, voltage, phase, and hertz.
  
- B. The stator motor leads shall be tested for integrity using a megohmmeter at the highest setting..
  
- C. Pump shall be allowed to run dry to check for proper rotation.
  
- D. Discharge piping shall be attached; the pump submerged in water and amp readings shall be taken in each leg to check for an imbalanced stator winding. If there is a

significant difference in readings, the stator windings shall be checked with a bridge to determine if an unbalanced resistance exists. If so, the stator will be replaced.

## 2.12 Fiberglass Sump Basin

- A. Basin – The diameter shall be a minimum 24 inches and depth shall be a minimum 5 foot deep.
- B. Basin shall be made from commercial grade unsaturated polyester resin. Resins used shall be acceptable for the intended environment and have excellent long term outdoor weatherability and excellent low temperature impact resistance. The completed material shall be inert and acceptable to the environment. The basin shall be water-tight with a wall thickness not less than 0.325”.
- C. Inner and Outer Surfaces – All surfaces shall be smooth and resin rich, free of cracks and porosity, with uniform molded in color and thickness. Air bubbles will not be acceptable.
- D. Tank Wall – Wall thickness shall provide the aggregate strength necessary to meet the tensile and flexural physical properties requirements. The basin wall must be designed to withstand wall collapse or buckling based on:
  - 1. Wall thickness (see prior statement)
  - 2. Hydrostatic pressure (62.4 lbs per square foot)
  - 3. Saturated soil weight (120 lbs per cubic foot)
  - 4. Soil Modulus (1,000 lbs per square foot)
  - 5. Pipe stiffness values as specified (ASTM D3753-81, Table 1)

Tank wall must be constructed to withstand or exceed (2) two times the actual imposed loading on any depth of basin.
- E. Tank Bottom – The basin bottom shall be of sufficient thickness to withstand applicable hydrostatic uplift pressure. In saturated conditions, the center deflection of the empty basin bottom shall be less than 3/8” (elastic deflection) and shall not interfere with bottom pump mounting requirements. Any mounting studs, plates, cap screws into tank bottom should be stainless steel and resin covered except for threads. Any inserts should be stainless steel or brass and resin covered except for threads.
- F. Tank Collar (Anti-Flotation) – A means to counteract buoyancy forces shall be provided on the tank bottom in the form of a ring, and shall extend a minimum of 2” beyond the O. D. of the basin wall. Wall and collar should be blended with a radius not to exceed 1 ½” beyond wall O.D.
- G. Top Flange – The top flange should be parallel to the tank bottom/collar and perpendicular to the tank wall. Corrosion resistant inserts shall be embedded in the

top flange for securing the basin cover. The inserts shall be totally encapsulated to prevent turning (minimum turning torque should not be less than 30 foot/lbs.), pullout and corrosion.

- H. Venting – Tank shall be vented to the atmosphere via non-degradable integrated venting screen at the ground level with at least 10 square inches of perforated surface area.
- I. Lifting Lugs – 2 lifting lugs shall be provided integrally molded into the side walls of the basin for use in lifting, transport, and tie-down of the basin while in transit and at the job site.
- J. Capacity – Tanks with a nominal outer diameter of 24” shall be capable of holding at least 45 gallons of water in the bottom 16” (antifloat region), and a minimum of 28 gallons of water per vertical foot above the antifloat region.

### **2.13 Basin Cover**

- A. A one piece, solid polypropylene (24” dia) cover shall be provided for each installation. The cover shall be constructed with a minimum thickness of 3/8”.
- B. If cover is to be fitted to rotationally molded polyethylene basin, cover shall be constructed of medium density rotationally molded polyethylene with structural foam insulation within its inner cavity for thermal & acoustic insulation and added structural integrity. Cover shall be constructed in such a way as to allow integrated venting of the basin interior at ground level.
- C. The cover shall be grass green in color. The cover surface shall have a non-skid design, and shall be water-tight. Cover shall be bolted to the basin with stainless steel cap screws for “light duty” loading. Design of cover shall allow for basin to be mounted flush with ground.
- D. Provide a 2” mushroom vent for cover. Note: If inlet pipe is connected to vent stack in house, vent on basin cover is not required.

### **2.14 Piping Assembly**

- A. The pump discharge shall consist of a stainless steel riser pipe which is teed between the anti siphon valve and flexible coupling that connects to the pump quick disconnect.
- B. The Anti-Siphon Valve The anti siphon valve pipe shall be mounted at the highest point on the riser pipe before the check valve and the gate valve and will not interfere with pump removal and installation.

- C. The lift-out check valve pump disconnect shall be of the ball type with a corrosion resistant neoprene ball. The ball shall be the only moving part and shall move automatically out of the path of flow, thus providing an unobstructed smooth flow through the valve body. The connection between the pump and discharge header shall be sealed by a hydraulic sealing flange that is integrated onto the check valve assembly. The hydraulic sealing flange shall consist of a Buna-N diaphragm that is connected to the cast iron check valve housing by a stainless steel clamp ring and fasteners.
- D. Discharge Header shall be 1-1/4" stainless steel piping, stainless steel pump connection and brass ball type shutoff valve. A handle extension shall be supplied. Handle shall be attached to the valve stem and supported near the top of basin, within reach for service personnel.
  - 1. Pump shall sit on basin floor on a stainless steel base.
  - 2. An adequate length stainless steel chain shall be supplied for removing the pump. The chain shall be of sufficient length and strength for easy removal.
- E. Inlet Flange: One-piece, flexible basin inlet fitting for 4" SCH 40 plastic pipe shall be shipped loose for field installation.

**2.15 Junction Box**

- A. A U.L. listed, NEMA Type 6 submersible rated junction box shall be provided. Junction box shall be formed from corrosion resistant, flame retardant thermoplastic. The enclosure shall be of adequate thickness and properly reinforced to provide good mechanical strength. The junction box shall have a fully gasketed, hinged cover that is held in place by four (4) stainless steel screws.
- B. An adequate number of sealing-type cord grips shall be supplied for incoming pump and level control cords. The cord grips shall be made of non-corrosive material such as PVC or nylon, and shall make an effective seal around the wire jacket.
- C. The junction box shall have a PVC solvent weld socket with an integral 2" NPT pipe for attaching basin conduit hub. The hub shall be made of a corrosion resistant material and shall be of adequate size to accommodate the number of wires required for pump and level control operation.
- D. The incoming wires shall be sealed by external means so that condensation from the conduit or groundwater will not enter the enclosure. The interior of the enclosure shall be of adequate size to accommodate the wires and connections for pump and level control operation.
- E. The wires (supplied by Contractor) running between the control panel and the junction box shall be color-coded and fastened to the pump and level controls by means of adequately sized and insulated twist lock or crimp connectors.

## **2.16 Electrical Control Panel and Appurtenances**

- A. Control Panel Model / General Construction
  - 1. Control Panel – Hydromatic Pumps, Inc., or equal, with Float Switch Operation.
  - 2. Simplex – Weather Proof Controller with Alarm.
  
- B. General Operation / Construction
  - 1. A complete wiring diagram and installation instructions shall be provided. The control panel assembly shall be completely factory tested and shall be “UL” 508A listed and labeled.
  - 2. Hand Run Buttons shall be provided for each motor and mounted on the sub door for user convenience. The controller shall include push-to-run (HAND) pushbuttons for the motor starters output and a push-to-test (TEST) pushbutton for the alarm output. The TEST/SILENCE pushbutton shall be of momentary contact design and be accessible on the controller sub-door. The push-to-run (HAND) pushbuttons shall toggle their respective outputs off and on each time pushed under normal operation. If, however, the controller goes above the HIGH LEVEL setting or the REDUNDANT OFF float is tipped up the HAND pushbuttons revert to momentary contact design and must be held down to maintain it's respective output on.
  - 3. Motor Contactors. The motor contactor shall be a 25 amp. heavy duty definite purpose rated contactor. It shall provide the electrical start / stop control for each pump along with an integral overload protection and have 120 volt operating coil.
  - 4. The features shall be integrated on a single control board with scope for future expansion. The compactness of the control board shall eliminate the need for several discrete components resulting in ease of serviceability, reduction in probability of failure and lower heat generation. The plug-ins feature of the control board shall enhance ease of serviceability by eliminating the need for all manual wiring. The control board shall operate on a low voltage DC.

## **2.17 Control Panel/Testing**

- A. Factory Tests – Each control panel shall receive a factory test to ensure proper operation prior to shipment. Factory Tests shall include at a minimum:
  - 1. All control logic functions, including: turn on, turn off, alarms, etc.
  - 2. All fuses and circuit breakers
  - 3. All indicator lights and switches
  - 4. Audible and visual alarm indicators (when provided).
  - 5. Power transfer circuit to pump motor
  - 6. Float switch input circuits (for float operated models)
  - 7. Pressure level operation (for pressure transducer operated models)

8. The panel shall be connected to a representative test pump. The panel shall be tested for proper motor starting and running operation

B. Enclosure

1. Durable NEMA 4X Fiberglass Enclosure intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose directed water; undamaged by the formation of ice on the enclosure. 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 degrees Fahrenheit. The resin system shall be resistant to ultraviolet light.
2. Removable non-metallic hinged door with standard lockable stainless steel latches, for safe operation indoor and outdoor.
3. Non-Conductive Standard Molded Sub-Door (Dead Front). The sub-door will isolate the user from energized components and line voltage.
4. Non-Conductive Injected Molding Back Panel The back panel shall have a raised platform for mounting circuit breakers, a heavy-duty parallel ground lug, housing for motor contractors and elevated terminal strip.
5. Inside Sub-Door Quick disconnect circuit board for easy replacement and troubleshooting. Spare fuses for Alarm and Control fuse replacement. The inner door shall include a screwdriver for ease of field service.

C. Alarms / Indicators

1. Visual Alarm Circuitry, – A top mounted high intensity flashing red light with various flashing modes depending on alarm condition. The panel will have an individual alarm circuit fuse.
2. Audible Alarm Circuitry, – Audible piezo alarm, +/- 95 db with in 2 feet, with a side mounted touch to silence pad and circuitry as a standard feature. The silence circuitry *must not* incorporate a silence push-button through the outside enclosure wall. The panel shall have an individual alarm circuit fuse.
3. Individual Control and Alarm Fuses with fail indicator lights. Each fuse shall have an individual fuse “blown” indicator light for simple troubleshooting.
4. Control, Alarm, Pump Run and Float Indicator lights. Pump Run lights shall be provided for each motor and mounted on the sub door, along with a separate control circuit power light and alarm circuit power light. The float operated panels shall have float status indicator lights for both the simplex and duplex models.

D. Circuit Breakers

1. Control Circuit Breakers. The 120 Volt common control circuit shall be protected by an auxiliary single (1) pole circuit breaker. Breaker shall be rated 10,000 Amps interrupt current (10KAIC). The circuit breakers shall be accessible through the sub door.
2. Motor Circuit Breakers. The pump breakers shall be thermal magnetic trip



devices and provide for individual motor disconnect and overload / short circuit protection as required by the NEC rating for motor branch circuit protection. Breaker shall be rated 10,000 Amps interrupt current (10KAIC). The voltage rating shall match that of the panel incoming service. All circuit breakers shall be accessible through the sub door.

E. Level Controls

1. Float Switch Control Operation

- a. The control panel shall provide terminal strip inputs for: pump off, pump on, and alarm float controls.
- b. The controller shall provide float switch status indicator lights. The indicator LED's shall activate to indicate the closure of each of the float switches. The indicator LED's shall also flash to indicate float switch failure. The out of sequence or float failure indicators shall remain activated until the next pump down sequence after the fault has been corrected. A chirping audible alarm shall also be activated when a float switch failure or out of sequence operation is detected.

2. Float Controls

- a. Simplex control panel operation shall be automatically controlled by 3 mercury level controls. Float switches shall control off, on and alarm functions.
- b. Float switch shall be capable of operating at temperatures between 32 and 170° F. Float switches shall activate and deactivate between 5 degrees above horizontal and 5 degrees below horizontal. Float switch shall be constructed with a polypropylene outer shell for durability and resistance to wastewater environment. Outer shell shall be filled with polyurethane foamed interior to provide best buoyancy, water tight integrity and protect the mercury switch.
- c. Float switches shall be of normally open type.
- d. Float switch cables shall be made of chlorinated polyethylene, type SJOOW, 18 AWG, 2-wire type. Float switch contacts shall be capable of handling 10 amps at 115 VAC or 3 amps at 240 VAC.
- e. Float switch shall be third party safety listed by UL, US and shall be capable of operating intrinsic safe relays.
- f. Float switches shall have an external zinc plated cast iron weight. Weight shall be of the split design and shall be easily adjustable for tether length. Float switch weights made of heavy metals which may contaminate the waste flow stream shall not be acceptable.

**2.18 Spare Parts**

A. The following spare pumping equipment items shall be provided.

1. Pump Parts

- a. Seal 1 for every 10 pumps installed
- b. Impeller 1 for every 10 pumps installed

- c. Grinder ring 1 for every 10 pumps installed
- d. Screw 1 for every 10 pumps installed
- e. Impeller retainer 1 for every 10 pumps installed
- f. Gasket 1 for every 10 pumps installed
- 2. Control Panel Parts
  - a. Circuit Breakers 1 for every 10 pumps installed
  - b. Start/Run Capacitor Kit 1 for every 10 pumps installed
  - c. Fuse 1 for every 10 pumps installed

**PART 3 - EXECUTION**

**3.01 Installation**

- A. Install pumps and accessories in accordance with the Drawings, approved shop drawings, and the manufacturer's installation instructions.
- B. Align, adjust, and lubricate in accordance with the manufacturer's instructions and leave in proper working condition.
- C. Perform any required touch-up painting in accordance with recommendations of paint system or coating manufacturer.

**3.02 Field Quality Control**

- A. Required Manufacturer Services: Retain a qualified representative of the manufacturer for a minimum period of 16 hours to perform the following services:
  - 1. Equipment Installation:
    - a. Oversee installation of the equipment and accessories specified herein.
    - b. Inspect the completed installation and note deficiencies.
    - c. Be present and assist CONTRACTOR during the start-up, adjusting, and field testing of completed installation.
  - 2. Furnish test forms and procedures for field testing.
  - 3. The manufacturer's representative shall revisit the job site as often as necessary until all trouble is corrected and the installation is entirely satisfactory to the ENGINEER.
- B. Field Testing:
  - 1. Field test and calibrate equipment to demonstrate to the OWNER'S representative that all equipment will satisfactorily perform the functions and criteria specified in Part 2.
  - 2. Provide all test apparatus required at no extra cost to OWNER. Testing shall include providing calibrated/certified instruments to verify results.

3. Follow testing procedures recommended by the manufacturer and approved by the ENGINEER.
  4. Motor Field Tests:
    - a. Assembly details, motor-rating, and electrical connections, etc., shall be checked for compliance with approved Shop Drawings.
    - b. A motor and cable insulation test for moisture content or insulation defects shall be made.
    - c. Prior to submergence, the unit shall be run dry to establish correct rotation and mechanical integrity.
    - d. The pump shall be run for 10 minutes submerged.
    - e. After operational test (subparagraph d), stop motor and leave the motor submerged for 30 minutes. Then, run the insulation test (subparagraph b) again with the motor still submerged.
  5. Seal the pump cable end with a high quality protective covering to make it impervious to moisture or water seepage prior to electrical installation.
  6. Start up and testing of grinder pump shall be completed before warranty period ends. Contractor can either provide a generator or wait until homeowner supplies electricity to grinder pump station. Water for testing can be either sewage from home or potable water paid for by contractor.
- C. Instruction of OWNER'S Operating Personnel:
1. Comply with Section 01665.
  2. Initial Instruction Course: After equipment is fully operational, and before OWNER will assume responsibility for the operation of the equipment, the equipment manufacturer's operating specialist shall instruct the OWNER'S operating personnel in the care, maintenance and proper operation of the equipment.
- D. Manufacturer's Installation Report:
1. Prepare manufacturer's installation reports and submit them within 30 days after completion of field testing and operation instruction. Prepare the reports in accordance with the requirements of Section 01665, Operation and Maintenance Data.
  2. Include the following information:
    - a. Field testing reports.
    - b. Description of installation deficiencies not resolved to the OWNER'S satisfaction.
    - c. Description of problems or potential problems.
    - d. Names of OWNER's personnel who attended the operations and maintenance training sessions.
    - e. Record copy of materials used for the training sessions including an outline summary of the course.

**\*\* END OF SECTION \*\***

## **SECTION 15050**

### **BASIC MATERIALS AND METHODS**

#### **PART 1 - GENERAL**

##### **1.01 Reference Standards**

All work performed and materials and equipment specified shall, as a minimum, conform to standards set forth by the following:

- A. Standard Building Code (1991)
- B. Standard Plumbing Code (1991)
- C. NFPA 70 – National Electrical Code (1991)
- D. NFPA 90A – Standards for the Installation of Air Conditioning and Ventilation Systems (1991)
- E. Standard Mechanical Code (1991)
- F. Other applicable building, fire or safety codes having jurisdiction.

Where the specification and/or drawing requirements exceed the requirements of the above standards, the drawings and specifications shall govern. In the event of an absence of requirements on the drawings or in the specifications, the requirements of the applicable standard shall apply.

##### **1.02 Submittals**

- A. Submittals shall be prepared for, but not limited to the following:
  - 1. Control and interlock wiring.
  - 2. Sewer, gas and water lines from building to termination of contract. Show all new taps, meters, valves, manholes, inverts, sizes and material.
  - 3. Equipment arrangement required for substituted items.
- B. The submittals shall clearly indicate support points, sizes, elevations and grades of piping, dimensions of equipment, valving, clearances and points of access. The shop drawings shall be coordinated with the related trades.

##### **1.03 Site Visitation**

Prior to submission of bids, the Contractor shall visit the proposed construction site and

become familiar with all existing conditions that will affect the construction covered by these specifications and as shown on the plans. At the time the Contractor submits his bid, it shall be assumed that he is fully aware of all existing conditions and obstacles and has made allowance for such in his bid. Verify all utility locations prior to submitting bid.

**1.04 Submittal Date**

- A. Within four (4) weeks after award of the contract and prior to the purchase of any equipment, the Contractor shall prepare six (6) copies of a brochure of all equipment and material to be furnished by him under this contract. These brochures will be neatly bound together in folder form and indexed. Summary cover sheets for different categories of equipment shall be provided along with back-up detailed sheets to facilitate approval by category and to eliminate the necessity of processing individual data sheets. These brochures shall include all rates, dimensions, diagrams, specifications, and all other pertinent data required to determine the equipment's suitability. Consideration shall not be given partial submissions. Dimensions of substituted equipment and service and access points thereto shall be shown on shop drawings of equipment layout. Submittal data shall clearly indicate the agency that will be responsible for start-up and warranty period replacements and adjustments.
- B. Prior approval will not be given.
- C. The suitability of the physical dimensions and electrical demand of substituted equipment to the spaces and services provided shall be the sole responsibility of the contractor. Should changes be required to items shown on the contract drawings to suit substituted equipment, if approved by the Engineer, this shall be accomplished at not additional cost to the Owner.
- D. Substituted equipment is hereby defined as any piece of equipment or material that is different from the Engineer's basis of design item. This includes any item that is different in brand name, model number, description, performance, size, arrangement, weight, type, category or function; or that requires a different electrical demand, wire size, fuse size, switch size, panel size, gas/water/drain/vent size, connection point, connection sizes, utility demand; or other features that, in the opinion of the Engineer, categorize the equipment as substituted equipment. It is hereby made the responsibility of the contractor to determine, prior to bidding the project, which items on his bid proposal are substituted items. When submittal data is sent to the Engineer for substituted equipment, the contractor will attach a cover letter to the submittal data stating which items are substituted items. The letter will further certify that the contractor has personally studied the submittal data for contract document compliance and that the submitted equipment meets or exceeds the specifications and operating characteristics of the basis of design equipment on the contract documents. Specific areas where the submitted equipment varies from the

contract documents will be pointed out. The cover letter will further certify that the contractor will bear any and all expenses to accommodate any contract changes to suit the proposed substituted equipment.

- E. Coordinate the electric service required for the mechanical equipment with the electrical drawings and the electrical sub-contractor. When submittal data is checked by the mechanical engineer, it will be assumed that the proper electrical services have been coordinated by the mechanical sub-contractor with the electrical sub-contractor and that the electrical characteristics shown on the submittal data are, in fact, proper for the job.
- F. Do not purchase material or equipment prior to approval by Engineer. Notify Engineer in writing if early approvals are required on long delivery items or items needed early during construction.

## **PART 2 - PRODUCTS**

### **2.01 Pipe and Fittings**

Pipe and fittings for the various piping systems included in this section of the specifications shall be in accordance with the following paragraphs.

- A. Condensate piping shall be of Schedule 40 PVC with PVC fittings.
- B. Sanitary waste piping and vents below the floor shall be Schedule 40 PVC DWV.
- C. Water piping outside the building shall be Schedule 40 PVC with PVC fittings.
- D. Sanitary waste and vent piping above the first floor shall be Schedule 40 PVC DWV.
- E. Water piping inside the building shall be Type "L" copper (hard drawn) with wrought copper fittings. Use Type "K" copper, (soft drawn) below the floor slab with no joints below the floor.
- F. All pipe and fittings shall be new and of American manufacturer. Cast iron pipe shall bear the seal of the Cast Iron Pipe Institute. Steel piping shall be kept rust and scale free. All piping ends shall be protected from physical damage and the entrance of foreign material. Unless otherwise indicated or approved, minimum standards for piping and materials shall be as listed in Table 3.5 of the National Plumbing Code. Changes to the standards listed in Table 3.5 in effect at the date of these specifications shall apply to this contract.

### **2.02 Pipe Joints**

- A. All joints shall be water-tight and gas-tight as required by the service rendered. Joints shall be free of leaks under the pressure prescribed for the test of the various systems herein specified. Provide insulating type fitting between joints in dissimilar metals.
- B. The joints required for the various piping systems shall be in accordance with the following schedule:
  - Cast iron, No-Hub or IY-Seal
  - Copper water pipe, Clean, flux and solder (95/5)
  - Copper A. C. Pipe, Silver solder
  - PVC sewer pipe within building and all PVC water piping, Chemical solvent.
  - Steel pipe, Threaded joint with Teflon seal. Weld all gas piping below grade.
  - PVC drainage pipe beyond 5'0" from building, neoprene slip seal joint.

**2.03 Cleanouts**

- A. Provide cleanouts where shown on the plans and on fifty foot (50') intervals on straight runs of soil piping whether shown on the plans or not.
- B. Provide cleanouts on soil piping of the same size as piping up to four inch (4"). Cleanouts larger than four inch (4") are not required.
- C. Cleanouts outside the building shall be brought up to grade level after final grading has been accomplished and secured in a twelve inch (12") square concrete pad four inches (4") level with grade.
- D. All floor type cleanouts (FCO) shall be equal to Josam or Smith adjustable type, style as required for floor finish. Provide scoriated brass finishing plate flush with finished floor.
- E. Outside cleanouts to equal Smith 4250 with vandalproof screws.

**2.04 Pipe Sleeves**

Full size sleeves at all wall or floor penetrations constructed of 22 gage galvanized steel. Where required for beam penetrations, use Schedule 40 galvanized pipe. Insulation to pass full thickness through pipe sleeves. Seal with oakum and caulking where sleeves penetrate exterior walls or grade beams. Extend sleeves one-half inch (1/2") beyond floors where water may accumulate. Cut off flush with walls.

**2.05 Flashing For Roof Vents**

Plumbing vents shall extend twelve inches (12") above the roof level and shall be flashed with a pre-made aluminum based, neoprene nipple vent flashing device suitable for the roof type, forming a weathertight seal. Paint aluminum base flashing to match roof.

**2.06 Escutcheons**

Nickel plated escutcheons shall be installed where exposed piping passes through the building construction. Securely anchor escutcheon plates to piping.

**2.07 Plumbing Fixtures, Drains, and Specialty Items**

- A. The contractor shall furnish and install in accordance with the manufacturer's instructions and rough-in drawings and Standard Plumbing Code, all plumbing fixtures as described herein and/or shown on the plans. All fixtures shall be free of scratches and defects and manufactured by American Standard or Kohler. Fixtures shall be equal to the units scheduled on the plans and shall be equipped with the highest grade chrome plated brass of the manufacturer.
- B. All fixtures shall be connected into waste, vent and water systems in accordance with the Standard Plumbing Code and as recommended by the unit manufacturer.
- C. Drains, hydrants and chair carriers shall be as manufactured by Smith, Wade, Josam, or equal.
- D. Water closets shall be elongated bowl tank type, complete and operational with open front check hinge white seat. Water closets, where indicated to be installed in conjunction with handrails shall meet all ADA requirements for the physically disabled. Water closet seats shall be heavy duty molded white Moltex with open fronts by Olsonite, Church, Beneke, or equal. All water closets shall be siphon jet type.
- E. All fixtures shall be complete with all required chrome plated cast brass traps with cleanouts, tailpieces, chrome plated flexible supplies with wheel stops, stainless steel frames where required, chrome plated escutcheons, chair carriers, seats and all required incidentals. Urinals mounted on walls shall have concealed arm carriers secured to walls. Unless noted otherwise, all lavatories shall have wrist blade type operating handles meeting all ADA requirements. All lavatories or sinks with exposed traps and supply pipes shall be fitted with TCI Products "Skal+Gard" anti-scald/anti-scrape devices.
- F. Provide backing plate where required for mounting wall hung devices where chair carriers are not applicable.
- G. Drinking fountains shall be as manufactured by Halsey, Taylor, Cordley, or Elkay



and shall meet all current ADA requirements for accessibility and use of the physically disabled.

- H. If specific model numbers and manufacturers are noted on the drawings, the Contractor may consult standard cross reference data for comparable fixture and trim model numbers to those noted for the other manufacturers' name in the specifications and submit for approval, the cross referenced fixture and trim. Mixing of brand names will not be permitted.
- I. Trap primers exposed below lavatories (if indicated) shall be J. R. Smith, or equal, chrome plated brass.

#### **2.08 Shock Eliminators**

Water hammer shock eliminators sized in accordance with the plumbing Drainage Institute methods and standards. Provide at all battery of fixtures and at individual remote fixtures.

#### **2.09 Valves and Miscellaneous Fittings**

- A. Provide water valves suitable for a minimum of 125 psig and 180 °F hot water. Valve and connections shall be suitable for the type of pipe joining methods employed. Valves shall be bronze bodied.
- B. Gate valves shall be MSS-SP, Class 125 except valve sizes 2.5 inches and larger shall conform to Fed. Spec. WW- V-58, Class 125.
- C. Check valves shall be MSS-SP-80, Class 125, swing check, except sizes 2.5 inches and larger shall conform to Mil. Spec. MIL-V-18436, Class 125, swing check, bronze body. Check valves are required on the discharge of each condensate pump.
- D. Ball valves shall be Fed. Spec. WW-V-35, full port design, copper alloy or bronze body with two position lever handles.
- E. Temperature and pressure relief valves. Mil. Spec. MIL-V-13612 with test lever.
- F. Water pressure reducing valve (if shown). ANSI A112.26.2, all bronze, 125-200 psig inlet, 60 psig outlet, 0-15 GPM.

#### **2.10 Valve Boxes for Valves Below Grade**

Cast iron coated with a bituminous paint. Provide valve access door. Set level with grade.

#### **2.11 Protective Covers and Guards**

Provide protective covers and guards over and around rotating, reciprocating and/or high temperature (above 165 °F) components of machines that pose potential hazards to workers, the building or grounds occupants, pets, wildlife and/or the general public. All open tanks, pits, manholes, vaults, panels, traps and similar devices that pose a hazard to workers, the building or ground occupants, pet, wildlife and/or the general public; or that require the containment of noxious liquids, odors, gases or hazardous electrical components; or that require the exclusion of foreign matter from the mechanical systems shall be fitted protective covers of sufficient strength, size, type and configuration to perform the intended protective service. The protective devices shall be primed and painted to match adjacent surfaces and their method of security, appearance, and adequacy of service shall be to the complete satisfaction of the Engineer.

### **PART 3 - EXECUTION**

#### **3.01 Drawings – General**

- A. The drawings are diagrammatic and, for clarity, mechanical systems are indicated on the drawings in the most advantageous position to convey to the Contractor the quantity requirements of the contract, not necessarily exact locations of all systems.
- B. The Contractor shall examine all of the contract documents (general construction, structural, electrical, etc.) and plan and arrange his work consistent with building dimensions, structural members, lighting, conduit, and actual field conditions and dimensions to insure a coordinated installation with due regard to the function and appearance of all the phases of this contract.
- C. Unless otherwise indicated, all piping, wiring, ducts, and conduit (except in equipment rooms) shall be concealed.
- D. Contractor shall arrange equipment, piping, ducts and conduit in such a manner to facilitate future maintenance, service and/or replacement. Do not obstruct access doors, service points or access aisles; coordinate all installations with all other trades.

#### **3.02 Piping, Hangers, Valves and Fittings - General Arrangement**

- A. Piping shall be carefully installed parallel or perpendicular to adjacent building construction. Arrange the piping in parallel groups where applicable and install lines to permit ease of insulation and access to valves and fittings. Group piping to sides of accessible chases and mechanical spaces to provide passage space for future maintenance and/or alterations.
- B. Location, time of installation and arrangement of the piping shall be carefully

coordinated with other trades to insure a minimum of conflicts and delays.

- C. The piping systems shall be installed with due regard to the preservation of the building structural system. Sleeves through structural members shall only be permitted with permission of the Engineer or as noted on the drawings.
- D. Lay sanitary and vent piping to the slopes and methods outlined in the Plumbing code. Piping shall be laid in straight runs with constant slopes. Offsets, sags, or high points shall not be permitted. In no case shall sanitary lines be sloped more than one-fourth inch (1/4") per foot or less than one-eighth inch (1/8") per foot unless specifically approved by the Engineer or indicated otherwise on the plans.
- E. Locate valves where shown on the plans and in the following locations whether shown on the plans or not:
  - 1. At each connection point to equipment.
  - 2. On drain lines.
  - 3. In bypass lines.
- F. Install valves with their stems above the horizontal. In the event of concealed valves and/or cleanouts, coordinate their location with access doors.
- G. Provide unions where shown on the plans and at each connection to equipment and control valves whether shown on the plans or not.
- H. Do not use bushings at points where piping changes size. Use only reduced fittings.
- I. The piping systems shall be securely supported from building construction so as to be free of sags, humps, and loose sections of piping. The maximum spacing for pipe hangers shall be considered to be eight feet (8') on piping smaller than one and one half inch (1 1/2") and larger. Pipe hangers shall be adjustable, malleable iron, open ring type with threaded hanger rods and beam clamps or inserts as required. All cast iron piping to be supported each five feet (5') maximum spacing. Pipe hangers for copper piping shall be of a compatible material. Copper piping branch lines within plumbing chases shall be secured to waster and vent stacks and chair carriers with special purpose plastic clamps, 12" long, galvanized sheet metal saddles at all pipe hangers on insulated piping.

### **3.03 Cutting and Patching**

Where cutting of existing construction is necessary for the installation of the mechanical systems, the Mechanical Contractor shall bear the cost of patching and repairing such to restore the original function, construction, and finish to the complete satisfaction of the Engineer.

### **3.04 Freeze Protection**

- A. Where piping is installed in outside walls or above dropped ceilings, position piping on the interior side of the building insulation so the building heat will assist in freeze protection. Insulate such piping with 1" thick insulation. DO NOT install any water piping in the attic space.
- B. Piping that contains water and is located above grade, outside a heated space shall be insulated with a minimum of one inch (1") thick fiberglass or ¾" thick Armaflex. Weatherproof with pre-formed aluminum jacket, sealed watertight if exposed to the weather.

### **3.05 Equipment Foundations, Pads and Supports**

- A. Where mechanical items are suspended or supported from roof or upper floor framing, the Mechanical Contractor shall furnish and install all required structural channels, angles, brackets, clips, pipe columns, pitch pockets, hanger rods, inserts and other similar supporting devices to suspend such items in a safe and sound manner acceptable to the Engineer and in strict accordance with equipment manufacturer's recommendations.
- B. Provide adequate concrete bases for mechanical equipment formed with 3000 pound concrete, reinforced with 6" x 6" 10 gauge mesh. Bases shall be a minimum of 6" thick and be 6" larger on all sides than equipment.

### **3.06 Excavating, Ditching, and Backfilling**

- A. The bottom of all trenches shall be sufficiently smooth to give support to the piping to be installed therein. Notch trench bottom at pipe bells to permit pipe barrels to rest in trench bottoms. Piping shall not be installed or set in place with water standing in the trenches. The Contractor shall take all necessary action to keep the trenches free of water.
- B. Roots of nearby trees extending into the trench shall be pruned evenly and carefully.
- C. Provide six inches (6") of compacted red sand in the bottom of all trenches prior to installing piping.
- D. Trenches shall not be closed until the piping has been visually observed by the Engineer. Obtain 95% compaction at backfill.
- E. All trenches and earth excavations over 4'0" deep shall be safely shored and braced and provided with properly sloped sides to existing grade in accordance with all current OSHA requirements to preclude collapse of trench and excavation walls. Mark all trenches with florescent red marking tape and safety barricades.

**3.07 Tests**

- A. Where local codes or utility companies have jurisdiction, acceptance tests shall be conducted for representatives of agencies having jurisdiction. Written statements of acceptance shall be obtained from these representatives and forwarded to Engineer.
- B. The Contractor shall bear the cost of all labor, materials, equipment, instruments, and all incidentals required for all tests described herein or on the drawings or required by local codes or utility companies having jurisdiction.
- C. Once the pressures or heads are applied to the system under test, the system shall be sealed off from the pressure supplying device and allowed to stand for the period listed.
- D. If pressure loss or leaks are evident during or after the test period, the system leaks shall be found and sealed and the entire test procedure repeated until the system is demonstrated to be free of leaks.
- E. Test all components of the heating and air conditioning systems for a forty-eight (48) hour period. Record all temperatures in each room and outside temperature every eight (8) hours. Forward all reading to the Engineer.
- F. All tests to be run in the presence of the Engineer or his representative.
- G. All tests above to be witnessed and approved by the Engineer before backfilling, insulation and/or concealing of systems is accomplished and before final inspection in case of temperature tests.
- H. Water piping shall be tested at 150 psi hydrostatic test pressure for a period of eight (8) hours.
- I. Sanitary piping shall be tested by water head test at 10' water column for a period of twenty-four (24) hours.

**3.08 Cleaning Of Equipment and Piping**

- A. All piping shall be flushed clean of foreign matter. Strainers installed shall be cleaned after the system has been in operation under normal operating temperatures for twenty- four (24) hours and as required thereafter to insure cleanliness of piping system.
- B. The potable water system shall be disinfected with a Chlorine solution as set forth in the Plumbing Code. Provide documentation from the Health Department.

- C. All pieces of equipment shall be thoroughly cleaned, polished and touched-up as required and as specified to assure the intended finish and appearance is obtained by the Owner at the time of acceptance.

**3.09 Starting Equipment and Instructions to Owner**

- A. The Contractor shall start-up, test and adjust the equipment installed under this contract to insure its safe, dependable and efficient operation and forward to the Engineer a letter certifying start-up and testing in accordance with manufacturer's recommendations.
- B. The Contractor shall provide a bound volume of operating instructions on all items of equipment as deemed necessary by the Engineer. The Owner's representative scheduled to operate the equipment shall be thoroughly briefed on all aspects of the equipment operation by the Contractor and the manufacturer's representative. Operating instructions to include all wiring diagrams and parts list.

**3.10 Filter Cleaning**

Filters for air system shall be new and clean at the time of acceptance of the systems. Filters shall be one inch (1") thick disposable type. Do not run air systems without filters.

**3.11 Coordination with Utility Companies**

- A. The Contractor shall contact and make all arrangements with the local utility companies or agencies having jurisdiction and arrange for the connection to, expansion of or extension of their services to fulfill the requirements of this contract.
- B. All expenses necessary to obtain services to this building shall be paid for by the Owner. The Owner will provide all necessary utility taps and meters.
- C. Confirm all utility locations prior to roughing-in any piping.

**3.12 Manufacturer's Instructions**

- A. Provide two copies of manufacturer's printed installation, start-up, and check-out instructions for all mechanical equipment under this contract, neatly bound and indexed for job use and ease of access by the Engineer's representative.
- B. Locate such literature in the job construction office and in the central mechanical room.
- C. Manufacturer's installation instructions shall constitute minimum standards and

shall prevail in the event of an absence or conflict with details on the drawing. In the event the requirements on the drawings shall govern. In the event of a difference in requirements, consult the Engineer prior to installation.

**\*\* END OF SECTION \*\***

## SECTION 15052

### BURIED PIPING INSTALLATION

#### PART 1 - GENERAL

##### 1.01 Description

- A. Scope:
  - 1. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals as shown, specified and required to install all buried piping, fittings, and specials.
  - 2. The Work includes, but is not limited to, the following:
    - a. All types of buried piping unless specifically included under other Sections.
    - b. Pipe beneath structures.
    - c. Testing, cleaning, and disinfecting.
    - d. Installation of all jointing and gasketing materials, specials, couplings, and all other Work required to complete the piping installation.
    - e. All appurtenances and specials shown, specified or required shall be incorporated into the piping systems. Valves, specials and appurtenances shall be as specified in other Division 15 Sections.
- B. Coordination: Review installation procedures under other Sections and coordinate with the Work that is related to this Section.

##### 1.02 Submittals

- A. Shop Drawings: Submit for approval the following:
  - 1. Size, class and other details of pipe to be used.
  - 2. Information on typical joint and harnessing details.
- B. Tests: Submit description of proposed testing methods, procedures and apparatus. Submit copies of all test reports.
- C. Record Drawings: During progress of the Work, keep an up to date set of drawings showing field modifications. Submit drawings at a scale satisfactory to the ENGINEER that show the actual in-place installation of all piping and appurtenances installed under this Section. The drawings shall show all piping on plans with all reference dimensions and elevations required for complete record drawings of the piping systems. The drawings shall be furnished not later than 30 days after Substantial Completion of the Work.



### 1.03 Product Delivery, Storage and Handling

- A. Delivery, storage and handling of pipe, fittings, and specials shall be in complete compliance with the manufacturer's instructions.
- B. Handle all pipe, fittings and accessories carefully with approved handling devices. Do not drop or roll pipe off trucks. Do not otherwise drop, roll or skid pipe. Materials cracked, gouged, chipped, dented or otherwise damaged will not be approved.
- C. Pipe, fittings and specials shall be unloaded opposite to or as close to the place where they are to be laid as is practicable to avoid unnecessary handling. Interiors shall be kept free from dirt and foreign matter.

## PART 2 - PRODUCTS

### 2.01 Materials

- A. Pipe materials are specified under each applicable pipe material sections of Division 15.
- B. Pipe Marking:
  - 1. General:
    - a. Each piece of pipe or fitting shall be clearly marked with a designation which shall conform with designations shown on the Shop Drawings.
    - b. Class designation shall be cast or painted on each piece of pipe or fitting four inches in diameter and larger.
    - c. Piping, smaller than 4-inch diameter shall be clearly marked by manufacturer as to material, type and rating.
  - 2. Magnetic Underground Warning Tape:
    - a. The CONTRACTOR shall place magnetic warning tape approximately 12 to 18 inches below grade in all pressure pipe trenches.
    - b. Buried water piping warning tape:
      - (1) Message: **CAUTION BURIED WATER LINE.**
      - (2) Size and Color: 3-inch wide and blue background with black lettering.
- A. See Contract Drawings for required pipe materials.

**PART 3 - EXECUTION**

**3.01 Installation**

A. General:

1. Install piping as shown, specified and as recommended by the manufacturer.
2. Request instructions from the ENGINEER before proceeding if there is a conflict between the manufacturer's recommendations and the Drawings or Specifications.
3. Pipe, fittings and accessories that are cracked, damaged or in poor condition or with damaged linings will be rejected.
4. Minimum cover over piping shall be three (3) feet unless otherwise shown or approved by the ENGINEER.
5. Earthwork required is in Division 2 of these specifications.

B. Bedding Pipe:

1. Select bedding material used around and under flexible pipes shall be crushed limestone conforming to the gradation set out below:

<b>Sieve Size</b>	<b>% Passing by Weight</b>
1"	100
2"	60 - 82
No. 4	40 - 55

2. Select bedding material used around and under rigid pipes shall be gravel conforming to the gradation set out below:

<b>Sieve Size</b>	<b>% Passing by Weight</b>
1"	80 - 100
2"	25 - 60
No. 4	0 - 10

3. Select Backfill Material: Select material for backfilling pipe trenches shall be as specified in Section 02200, Paragraph 2.01 A.
4. Select Bedding and Backfill Installation: Promptly after the pipe is laid, all trenches and excavation shall be backfilled and compacted until it covers the pipe at least one foot. This backfill shall be brought up and tamped equally and thoroughly along each side of the pipe in such a manner as to avoid displacement of or damage to the pipe. The select bedding shall be dumped, spread out, and compacted to 70% relative density. Backfill material shall be

thoroughly compacted to a density at least equal to 95 percent of the maximum density determined by the Standard Proctor in accordance with ASTM D 698 Method C including Note 2.

5. No piping shall be laid until the ENGINEER approves the bedding condition.
6. No pipe shall be brought into position until the preceding length has been bedded and secured in its final position.
7. All ledge rocks, boulders, and large stones shall be removed during trench excavation to provide a minimum clearance of four to six inches below and a minimum clearance of 12" on each side of pipe.

C. Laying Pipe:

1. Comply with manufacturer's instructions, technical specifications, and details on Contract Drawings.
2. Install all pipe accurately to line and grade shown unless otherwise approved by ENGINEER. Remove and relay pipes that are not laid correctly.
3. Slope piping uniformly between elevations given.
4. Ensure that water level in trench is at least six inches below bottom of pipe. Do not lay pipe in water. Maintain dry trench until jointing and backfilling are complete.
5. Start laying pipe at lowest point and proceed towards the higher elevations, unless otherwise approved by ENGINEER.
6. Place bell and spigot pipe so that bells face the direction of laying, unless otherwise approved by ENGINEER.
7. Excavate around joints in bedding and lay pipe so that only the barrel receives bearing pressure from the trench bottom.
8. Permissible deflections at joints shall not exceed the amount allowed by manufacturer.
9. Take every precaution to ensure that no foreign material enters the piping prior to and during installation.
10. All pipe and fittings shall be carefully examined for cracks, damage, or other defects while suspended above the trench before installation. Defective materials shall be immediately removed from site.
11. Interior of all pipe and fittings shall be inspected and all dirt, gravel, sand, debris or other foreign materials shall be completely removed from the pipe interior before it is moved into the trench.
12. Bell and spigot mating surfaces shall be thoroughly wire brushed and wiped clean and dry immediately before pipe is laid.
13. Every time that pipe laying is not actively in progress, the open ends of pipe shall be closed by a watertight plug.
14. Field cutting pipe, where required, shall be made with a machine specially designed for cutting piping. Cuts shall be carefully done, without damage to pipe or lining, so as to leave a smooth end at right angles to the axis of pipe. Cut ends shall be tapered and sharp edges filed off smooth. Flame cutting will not be allowed.
15. Blocking under piping shall be permitted only when accepted by ENGINEER

for special conditions.

16. Touch up protective coatings in a satisfactory manner prior to backfilling.
17. All piping shall be inspected by the ENGINEER prior to any backfilling operations. The CONTRACTOR shall notify the ENGINEER in advance of any backfilling operation.
18. Water mains shall be laid at least 10' horizontally **and** 18" vertically from any sewer or manhole (water over sewer). Where water lines cross over sewer lines, the above requirements will be waived if pipe segments are centered to provide maximum spacing of the joints of both water and sewer lines and a vertical separation of at least 18" (water over sewer) is maintained. Where local conditions prevent adequate horizontal and vertical separation, a detailed drawing shall be included in the plans for the water line construction submitted to this Division for review and approval.
19. In addition to Paragraph 3.01.C.18, the CONTRACTOR shall protect water supplies in accordance with Section 28 of the Department of Environmental Quality guidance.

D. Jointing Pipe:

1. Clean completely all jointing surfaces and adjacent areas immediately before mating joint.
2. Lubricate and adjust gaskets as recommended by manufacturer.
3. After gaskets are compressed and before pipe is brought fully home, each gasket shall be carefully checked for proper position around full circumference of the joint.
4. Conform to manufacturers' recommendations pertaining to jointing pipe.

E. Restraints, Supports and Thrust Blocks:

1. Install restrained joints as shown, specified, required, and as recommended by the manufacturer.
2. Provide concrete and steel collars, thrust blocks, and cradles as shown or otherwise approved by ENGINEER.

F. Transitions from One Type of Pipe to Another:

Provide all necessary adapters, specials and connection pieces required when connecting different types and sizes of pipe or when connecting pipe made by different manufacturers.

G. Closures:

1. Provide all closure pieces shown or required to complete the Work.
2. Locate closures in straight runs of pipe.

H. Backfilling:

1. Conform to applicable requirements of the Division 2 Specifications.
2. Backfill by hand and use hand or pneumatic tamping until pipe is covered by

at least one foot of backfill.

- I. Concrete Pipe Supplementary Requirements:
  - 1. Conform to Paragraph 3.01.B above, unless otherwise specified and in accordance with applicable recommendations of the following:
    - a. AWWA Manual M9.
    - b. Concrete Pipe Handbook.
  - 2. Joints: Joints shall be made so that alignment and slope are in accordance with the Drawings. Joints shall be inspected and approved by the ENGINEER before backfilling.
  
- J. Movable Sheeting, Trench Boxes or Shields:
  - 1. When using movable trench support, care should be exercised not to disturb the pipe location, jointing or embedment.
  - 2. Removal of any trench protection below the top of the pipe is prohibited after the pipe embedment has been compacted.
  - 3. Movable trench supports shall only be used in either wide trench construction where supports extend below the top of the pipe, or on a shelf above the pipe with the pipe installed in a narrow, vertical-wall subditch.
  - 4. Any voids left in the embedment material by support removal shall be carefully filled with granular material which is adequately compacted.
  - 5. Removal of bracing between sheeting shall only be done where backfilling proceeds and bracing is removed in a manner that does not relax trench support.
  - 6. When advancing trench boxes or shields, prevent longitudinal pipe movement or disjointing.
  - 7. In those instances where the trench support must extend to the bottom of the ditch, a subditch is impractical or native soils are unstable, a simple alteration to the commonly used trench box may be the best alternative. A section one-half the length of the box, with a depth of approximately two feet, cut from the bottom of the box will allow the trench shield to ride on the bottom of a narrow trench, while allowing undisturbed pipe embedment in the back half. See Figure 10.20 in Uni-Bell PVC Pipe Association's *Handbook of PVC Pipe - Design and Construction*.

### **3.02 Work Affecting Existing Piping**

- A. Location of Existing Piping:
  - 1. Locations of existing piping shown should be considered approximate.
  - 2. The CONTRACTOR is responsible for determining exact location of existing piping to which connections are to be made, or which may become disturbed during earth moving operations, or which may be affected by the work in anyway.
  - 3. Conform to applicable requirements of Section 01045, Cutting and Patching.

B. Work on Existing Pipelines:

1. Cut pipes as shown or required with machines specifically designed for this work.
2. Install temporary plugs to keep out all mud, dirt, water and debris.
3. Provide all necessary adapters, fittings, pipe and appurtenances required.

**3.03 Testing of Piping**

A. General:

1. The CONTRACTOR shall conduct high-pressure leakage test for all filtered water, and potable water.
2. Notify ENGINEER 48 hours in advance of testing.
3. Provide all testing apparatus.
4. Pipelines which fail to hold specified test pressure or which exceed the allowable leakage rate shall be repaired and retested.
5. Test pressures required are at the lowest elevation of the pipeline section being tested unless otherwise specified.
6. Unless otherwise approved, conduct all tests in the presence of the ENGINEER.

B. High-Pressure Leakage Test:

1. After the pipe has been laid and backfilled, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of not less than 1.25 times the maximum anticipate sustained working pressure, in accordance with AWWA Standard C600 requirements, unless shown to be different in piping schedule. The duration of each pressure test shall be at least 2 hours.
2. Each valved section of pipe shall be slowly filled with water and the specified test pressure (based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge) shall be applied by means of a pump connected to the pipe in a manner satisfactory to the ENGINEER. The pump, pipe connection, gauges and all necessary apparatus shall be furnished by the CONTRACTOR. The CONTRACTOR shall furnish all necessary assistance for conducting the tests.
3. Before applying the specified test pressure, all air shall be expelled from the pipe. If permanent air vents are not located at all high points, the CONTRACTOR shall install corporation stops at such points, so that the air can be expelled as the line is filled with water. After all air has been expelled, the corporation chocks shall be closed and the test pressure applied.
4. All exposed pipe, fittings, valves, hydrants and joints shall be carefully examined during the test. Any cracked or defective pipe, fittings, valves or hydrants discovered in consequence of this pressure test shall be removed and replaced by the CONTRACTOR with sound material. The test shall be repeated until satisfactory to the ENGINEER.
5. A leakage test shall be conducted by the CONTRACTOR after the pressure

test has been satisfactorily completed. The duration of each leakage test shall be six hours. During the test, the main shall be subjected to a pressure of 50 psi unless shown to be different in the piping schedule.

- 6. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe or any valved section thereto to maintain the specified leakage test pressure after the air in the pipe line has been expelled and the pipe has been filled with water.
- 7. No pipe installation will be accepted if the leakage is greater than that determined by the most current AWWA Standard C600 for the type of pipe being installed. The formula is:  $Q = \frac{LDvP}{148,000}$

148,000

Where:

Q = quantity of makeup water, in gallons per hour

L = length of pipe section being tested, in ft

D = nominal diameter of pipe, in inches

P = average test pressure during the hydrostatic test, in pounds per square inch.

C. Deflection Test:

- 1. Deflection tests shall be performed on all PVC pipe. The tests shall be conducted after the final backfill has been in place at least 30 days.
- 2. No pipe shall exceed a deflection of 5%.
- 3. If the deflection test is to be run using a rigid ball or mandrel, it shall have a diameter equal to 95% of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices.
- 4. The mandrel shall be drawn through the pipe by hand. Irregularities or obstructions encountered in the line shall be corrected by the CONTRACTOR.
- 5. If a section of pipe with excessive deflection is found, the CONTRACTOR shall uncover the pipe for inspection. Damaged pipe will be replaced. If the pipe is undamaged, the CONTRACTOR may reinstall the bedding and backfill and retest the pipe. Retesting shall include mandrel and low-pressure air testing.

**3.04 Cleaning and Disinfection**

A. All piping shall be thoroughly cleaned and flushed in a manner approved by ENGINEER prior to placing in service. Piping 48 inches diameter and larger shall be inspected from inside and all debris, dirt and foreign matter removed.

B. Disinfection:

- 1. Disinfect all filtered water piping and potable water piping.
- 2. Completely clean interior of all piping and flush piping prior to disinfection with water at a minimum velocity of 2-1/2 feet per second.

3. Conform to procedures described in AWWA C651 unless otherwise approved by ENGINEER.
4. Water for flushing, testing and chlorination shall be furnished and paid for by the CONTRACTOR. The CONTRACTOR shall provide all temporary piping, hose, valves, appurtenances, and services required.
5. Chlorine will be supplied by the CONTRACTOR.
6. Bacteriologic tests will be sampled by the ENGINEER or a certified water plant operator of the OWNER and analyzed by the Mississippi State Department of Health.
7. Chlorine concentration in the water entering the piping shall be between 50 and 100 mg/l, such that a minimum residual concentration of 25 mg/l will be left after a 24-hour retention period. The operation shall be repeated as necessary to provide complete disinfection. Water being collected for testing shall not have a chlorine residual higher than normally maintained in the water system. No chlorine will be present which is a result of line disinfection.
8. Complete disinfection shall be defined as no confluent growth for samples taken on two consecutive days.

**\*\* END OF SECTION \*\***



## SECTION 15076

### PLASTIC PIPE

#### PART 1 - GENERAL

##### 1.01 Description

- A. Scope:
  - 1. Furnish all labor, materials, equipment and incidentals for PVC pipe systems.
  - 2. The extent of plastic piping is shown on the Contract Drawings.
  
- B. Coordination: Review installation procedures under other Sections and coordinate the Work that must be installed with the materials specified herein and which is related to this Section.
  
- C. Related Work Specified Elsewhere:
  - 1. Section 02200, Excavation and Backfill.
  - 2. Section 15052, Buried Piping Installation.

##### 1.02 Quality Assurance

Reference Standards: Comply with the latest edition of the following:

- A. ASTM D 1248, Standard Specification for Polyethylene Plastics Molding and Extrusion Material
  
- B. ASTM D 1784, Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
  
- C. ASTM D 3034, Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
  
- D. ASTM D 3350, Standard Specification for Polyethylene Plastic Pipe and Fittings Material
  
- E. ASTM F 679, Standard Specification for Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
  
- F. ASTM F 714, Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter (3" IPS and larger)
  
- G. ASTM F 1803, Standard Specification for Poly (Vinyl Chloride) (PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter

- H. ASTM D 2241, Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR series).

### **1.03 Submittals**

- A. Shop Drawings and Product Data: Comply with the general requirements of Section 01340 and the supplemental requirements.
- B. Submit drawings and manufacturer's data showing details of each piping system to include material composition of pipe and fittings, pressure ratings, nominal size and wall dimensions, fittings and interfacing with equipment and appurtenances in conjunction with the Shop Drawings required under Section 15052. Delivery, Storage and Handling

Refer to Section 15052.

## **PART 2 - PRODUCTS**

### **2.01 General**

All pipes shall be furnished by a pipe manufacturer having experience in manufacturing the specific type of pipe in the specific sizes required for use on this project.

### **2.02 Polyvinyl Chloride (PVC) Gravity Flow**

- A. Pipe and Fitting Material:
  - 1. Standard: ASTM D 1784.
  - 2. Type: Cell Classification as specified in ASTM D 3034, ASTM F 679, or ASTM F 1803.
- B. Pipe Standard:
  - 1. ASTM D 3034, SDR-26, sizes 4 inch through 15 inch diameter.
  - 2. ASTM F 679, PS-46, sizes 18 inch through 36 inch diameter.
  - 3. ASTM F 1803, PS-46 psi, sizes 21 inch through 54 inch diameter.
- C. Joints:
  - 1. Standard: ASTM D 3212.
  - 2. Type: Integral bell and spigot.
  - 3. Flexible seals: Elastomeric, conforming to ASTM F-477.
  - 4. Lubricant: As recommended by manufacturer.
  - 5. Gaskets shall be factory applied.

- D. Fittings:
  - 1. Standard: ASTM D 3034 and F 679 and F 1803.
  - 2. Joint Standard: ASTM D 3212.
  - 3. Schedule: SDR-26, sizes 4 inch through 15 inch diameter  
PS-46, sizes 18 inch through 36 inch.
- E. Lateral Connectors:
  - 1. Lateral connectors can be employed in the connection of service line to sewer trunk line.
  - 2. Lateral connectors shall consist of a PVC hub, rubber sleeve, and stainless steel band.
  - 3. PVC hub shall meet ASTM D 3034 and be SDR 26 and gasket in hub shall meet ASTM F 477. Rubber sleeve shall meet ASTM C 443. Band and housing shall be type 301 stainless steel and screw shall be type 305 stainless steel.
  - 4. Model and Manufacturer:
    - a. Inserta Tee by Inserta Fittings Company.
    - b. Or equal.

**2.03 Polyvinyl Chloride (PVC) Pipe for Water Transmission and Distribution Mains**

- A. Pipe and Fitting Material:
  - 1. Standard: ASTM D 1784.
  - 2. Type: Cell Classification, 12454-B.
- B. Pipe:
  - 1. Standard: ASTM D 2241, AWWA C900, size 4-inch thru 12-inch  
AWWA C905, size 14-inch thru 48-inch.
  - 2. Schedule: DR 18, PC-150.
- C. Joints:
  - 1. Type: Integral bell and spigot.
  - 2. Flexible seals: elastomeric, conforming to ASTM F 477.
  - 3. Lubricant: As recommended by the manufacturer.
- D. Fittings:
  - 1. Mechanical Joint Ductile iron fittings as specified in Section 15068.
  - 2. Restraint Devices: Megalug by EBAA Iron Sales, Inc., or equal.

**2.04 Polyvinyl Chloride (PVC) for Sewer Force Main**

- A. Pipe and Fitting Material:
  - 1. Standard: ASTM D 1784.
  - 2. Type: Cell Classification, 12454-B.
- B. Pipe:
  - 1. Standard: ASTM D 2241, size 3-inch and smaller for potable water and

- all sizes for sewage force mains.
- 2. Schedule: Pressure Class 160.

C. Joints:

- 1. Type: Integral bell and spigot.
- 2. Flexible seals: elastomeric, conforming to ASTM F 477.
- 3. Lubricant: As recommended by the manufacturer.

D. Fittings:

- 1. Mechanical Joint Ductile iron fittings as specified in Section 15068.
- 2. Restraint Devices: Megalug by EBAA Iron Sales, Inc., or equal.

## 2.05 Marking Requirements

- A. Intervals: Five feet maximum.

B. Designation:

- 1. Pipe nominal size.
- 2. Pipe stiffness or SDR designation.
- 3. Designation "Specification ASTM D 3034 or ASTM F 679 or ASTM F 1803.
- 4. PVC cell classification.
- 5. Manufacturer's name or trade name and code.
- 6. PVC pipe intended for water transmission or distribution shall bear the National Sanitation Foundation seal for potable water.

## PART 3 - EXECUTION

### 3.01 Installation

Comply with Section 15052.

**\*\* END OF SECTION \*\***

## SECTION 15080

### FLEXIBLE PIPE COUPLINGS

#### PART 1 - GENERAL

##### 1.01 Description

- A. Scope:
  - 1. Furnish all labor, materials, equipment and incidentals required for pipe couplings.
  - 2. The extent of pipe couplings is shown on the Drawings.
- B. Coordination: Review installation procedures under other Sections and coordinate the installation of items that must be installed with the pipe couplings.

##### 1.02 Submittals

Shop Drawings and Product Data: Submit drawings and data for all piping accessories including instructions for installation in conjunction with the Shop Drawings required under Sections 15052.

##### 1.03 Delivery, Storage and Handling

Comply with the requirements of Sections 01600.

#### PART 2 - PRODUCTS

##### 2.01 Sewer and Service Lines Couplings

Flexible Pipe Couplings:

- A. Minimum Wall Thickness: Comply with manufacturer's recommendations for service conditions as shown and specified.
- B. Minimum Length: Comply with manufacturer's recommendations for service conditions as shown and specified.
- C. Materials:
  - 1. Coupling **C** Elastomeric Polyvinyl Chloride
  - 2. Clamps **C** Series 300 Stainless Steel Clamps

- D. Size: As needed.
- E. Manufacturer:
  - 1. Fernco #1056 Series
  - 2. Or equal.

## **2.02 Identification**

Stamp, mark, or identify all couplings with the following:

- A. Name of manufacturer.
- B. Date of manufacture.
- C. Manufacturer's part number.

## **PART 3 - EXECUTION**

### **3.01 Installation**

Comply with Section 15052.

**\*\* END OF SECTION \*\***

## SECTION 15100

### VALVES AND APPURTENANCES

#### PART 1 - GENERAL

##### 1.01 Description

- A. Scope: The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required to provide all valves and appurtenances as shown and specified.
- B. Related Work Specified Elsewhere:
  - 1. Division 15, Mechanical.

##### 1.02 Quality Assurance

- A. Manufacturer's Qualifications:
  - 1. Valves and appurtenances provided under this Section shall be the standard product in regular production by manufacturers whose products have proven reliable in similar service for at least two years.
  - 2. Insofar as possible all valves of the same specific type shall be the product of one manufacturer.
- B. Reference Standards: Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.
  - 1. AWWA C500, Gate Valves - 3 Inch through 48 Inch - For Water and Other Liquids.
  - 2. AWWA C502, Dry Barrel Fire Hydrants.
  - 3. AWWA C504, Rubber-Seated Butterfly Valves.
  - 4. AWWA C506, Backflow Prevention Devices C Reduced Pressure Principle and Double Check Valve Types.
  - 5. AWWA C507, Ball Valves, Shaft or Trunnion-Mounted, 6-Inch Through 48-Inch, For Water Pressure up to 300 PSIG.
  - 6. AWWA C508, Swing Check Valves for Ordinary Waterworks Service.
  - 7. ANSI B16.1, Cast-Iron Pipe Flanges and Flanged Fittings.
  - 8. ANSI B16.4, Cast-Iron Screwed Fittings.
  - 9. ASTM A 307, Carbon Steel Externally and Internally Threaded Standard Fasteners.
  - 10. ASTM D 1784, Rigid Polyvinyl Chloride Compounds and Chlorinated Polyvinyl Chloride Compounds.
  - 11. ASTM D 2464, Threaded-Type Schedule 80 PVC Pressure Fittings.
  - 12. ASTM D 2467, Socket-Type Schedule 80 PVC Pressure Fittings.
  - 13. MSS SP-80, Bronze Gate, Globe, Angle and Check Valves.

14. Standards of National Electrical Manufacturer's Association.

### **1.03 Submittals**

- A. Shop Drawings:
  1. Comply with the requirements of Section 01340.
  2. Submit for approval detailed drawings, data, and descriptive literature on all valves and appurtenances, including:
    - a. Dimensions.
    - b. Size.
    - c. Materials of construction.
    - d. Weight.
    - e. Protective coating.
    - f. Wiring diagram including:
      - (1) Ladder diagrams.
      - (2) Point-to-point wiring.
- B. Manufacturer's Certificates:
  1. Comply with the requirements of Section 01340.
  2. Submit manufacturer's certificates of compliance with ANSI, AWWA and other Standards listed herein.
- C. Manufacturer's Service Report:
  1. Comply with the requirements of Section 01340.
  2. Certify that valves are properly installed except as noted.
  3. Recommend corrective action for any deficiencies noted.
- D. Operation and Maintenance Data:
  1. Comply with the requirements of Section 01730.
  2. Submit a detailed operation and maintenance manual for all valves and appurtenances provided under this Section including the following information:
    - a. Product name and number.
    - b. Name, address and telephone number of manufacturer and local distributor.
    - c. Instruction bulletins for operation, maintenance and recalibration.
    - d. Complete parts and recommended spare parts lists.

### **1.04 Product Delivery, Storage and Handling**

- A. Comply with the requirements in Section 01600.
- B. Handle all valves and appurtenances with care.



- C. Valves and appurtenances which are cracked, chipped, distorted or otherwise damaged or dropped will not be acceptable.
- D. Store all valves and appurtenances off the ground in enclosed shelter.

## **PART 2 - PRODUCTS**

### **2.01 Materials**

- A. General:
  - 1. All valves shall have manufacturer's name and working pressure cast in raised letters on valve body.
  - 2. All manual valve operators shall turn right to close unless otherwise specified. Valves shall indicate the direction of operation.
  - 3. Unless otherwise specified all flanged valves shall have ends conforming to ANSI B16.1, Class 125.
  - 4. All buried valves shall be provided with adjustable three piece valve boxes, extension stems, operating nuts, and covers unless otherwise shown or specified.
  - 5. All bolts, nuts and studs on or required to connect buried or submerged valves shall be stainless steel.
  - 6. Bolts and nuts shall have hexagon heads and nuts.
  - 7. Gasket material and installation shall conform to manufacturer's recommendations.
- B. Water Air Release Valves:
  - 1. Type: Float with compound lever.
  - 2. Size: As shown on the Drawings.
  - 3. Construction:
    - a. Body and cover: Semi-steel or cast iron.
    - b. Float: Stainless steel.
    - c. Seat: BUNA-N.
    - d. Lever Arms: Bronze or stainless steel.
  - 4. Manufacturer and Model:
    - a. Valve and Primer Corp., APCO Model No. 200A.
    - b. Val-Matic Model No. 38.
    - c. G-A Industries, Fig. No. 2-AR.
    - d. Or equal.
- C. Ball Valves:
  - 1. Type: Standard circular port ball.
  - 2. Construction:
    - a. Body and Ball: Bronze.

- b. Stem: Bronze or composition alloy.
      - c. Seat, Stem Seal and Body Seal: TFE.
    - 3. End Connections: Threaded unless otherwise shown.
    - 4. Manufacturer and Model:
      - a. Jenkins, Fig. 32-A.
      - b. Or equal.
  
- D. Corporation Stops:
  - 1. Standard: AWWA C800
  - 2. Material: Red brass: 85-5-5-5.
  - 3. End Connections: Male Taper Thread and Grip Joint.
  - 4. Manufacturer and Model:
    - a. Ford Meter Box Company, Inc., Model FB 1001-4G.
    - b. Or equal.
  
- E. Curb Stops:
  - 1. Standard: AWWA C800.
  - 2. Material: Red brass: 85-5-5-5.
  - 3. End Connections: Grip Joints.
  - 4. Manufacturer and Model:
    - a. Ford Meter Box Company, Inc., Catalog No. B66 - 444G.
    - b. Or equal
  
- F. Tapping Saddles:
  - 1. Study: AWWA Manual M23.
  - 2. Material **S** Red Brass: 85-5-5-5 with Stainless Steel Straps.
  - 3. Connection: Saddle thread shall match the threads of the corporation stop.
  - 4. Manufacturer and Model:
    - a. Ford Meter Box Company, Inc., Model 101BS.
    - b. Or equal.
  
- G. Fire Hydrants:
  - 1. Standard: AWWA C502, except as modified herein.
  - 2. Main Valve:
    - a. Nominal Size: 5-1/4 inches.
    - b. Type: Compression type closing with water pressure for positive sealing.
    - c. Direction of Opening: Left.
  - 3. Nozzle Connections (Verify with Owner)
    - a. 2-Hose Nozzle Thread Size: Two 2-1/2 (3.09 inches O.D.) inch hose connections with matching chained cap, facing outwards.

- b. 1-Pumper Nozzle Thread Size: All threads are to be 6 NH facing outward.
  - c. Field replaceable.
  - 4. Inlet Connection: Shoe inlet with six inch mechanical joint hub inlet, complete with accessories with hydrant bury being suitable for three to eight foot depth.
  - 5. Operating Assembly:
    - a. 1-1/2 inch (point to flat) pentagon operating nut.
    - b. Operating threads sealed from water in an oil reservoir by two O-ring seals; one sealing the oil and one sealing the water.
    - c. Protect by use of weather shield or nut.
  - 6. Cover:
    - a. Four foot minimum.
    - b. Provide barrel and stem extension where cover exceeds 4 feet.
  - 7. Materials of Construction:  
Hydrant barrels, bonnet, and shoe: ASTM A126, Class B.
  - 8. Required Features:
    - a. Provide ground line breakable component that will shear off upon impact at the ground line without damage to the barrel.
    - b. Provide cast iron safety stem coupling that will separate upon impact.
    - c. Drain assembly: Two drain valves and at least two drain openings to insure quick and complete drainage.
    - d. Hydrants shall incorporate no parts which require field adjustments.
    - e. Hydrant design shall place nozzles at least 18 inches from ground line when measured not more than two inches below the mating of ground flange complying with NFPA handbook.
    - f. Friction losses through the hydrant not to exceed the following:
      - (1) 2.5 psi at 1000 gpm through the pumper nozzle.
      - (2) 1.25 psi at 1000 gpm through two hose nozzles simultaneously.
    - g. Hydrant repair kits and extensions shall interchange with existing city of McComb equipment.
  - 9. Location: As shown on the drawings.
  - 10. Manufacturer and Model:
    - a. Mueller Super Centurion, Model A-423,
    - b. Or equal.
- H. Gate Valve:
- 1. 2-1/2-inches Diameter and Smaller:
    - a. Type: Rising stem with solid wedge and union bonnet.
    - b. Construction:
      - (1) Body: Bronze.
      - (2) Packing: TFE impregnated asbestos.

- (3) Trim: Bronze.
    - c. End Connections: Threaded.
    - d. Manufacturer and Model:
      - (1) Jenkins Brothers, Fig. 47-U.
      - (2) Walworth, Fig. 2.
      - (3) Or equal.
  - 2. 3-inches Diameter and Larger:
    - a. Standard: AWWA C500.
    - b. Type: Non-Rising Stem, double disc, and parallel seats.
    - c. Construction:
      - (1) Body and Bonnet: Cast iron.
      - (2) Wedges and Trim: Bronze.
      - (3) Packing: O-ring.
    - d. End Connections:
      - (1) Exposed Valves: Flanged, conforming to ANSI B16.1, Class 125, unless otherwise shown.
      - (2) Buried Valves: Mechanical joint, conforming to ANSI B21.11.
    - e. Manufacturer:
      - (1) Dresser, M&H Style 67.
      - (2) American-Darling 50 Line.
      - (3) Or equal.
- I. Sewage Air and Vacuum Valves:
  - 1. Type: Elongated Body and Dual Float.
  - 2. Size: 20 inlet and 10 outlet.
  - 3. Construction:
    - a. Body, Cover and Baffle: Cast iron.
    - b. Float: Stainless steel.
    - c. Seat: Buna-N.
    - d. Other Internal Parts: Bronze.
  - 4. Required Features:
    - a. Backflush attachments:
      - (1) Flushing water inlet valve.
      - (2) Blowoff valve.
      - (3) 6" of hose for flushing.
      - (4) Quick-disconnect couplings.
    - b. Isolation valve to isolate valve from line.
    - c. End Connection: Threaded.
  - 5. Manufacturer and Model:
    - a. Valve and Primer Corp., APCO Model 401.
    - b. Or equal.
- J. Check Valve:

1. Swing Check Valve.
  - a. Type: Counter-weighted swing check.
  - b. Construction:
    - (1) Body, Cover, Disc and Levers: Cast iron.
    - (2) Counterweight Arm: Cast iron or manufacturer standard.
    - (3) Shaft: 18-8 Stainless steel.
    - (4) Body Seat: Bronze.
    - (5) Seat Ring: Rubber.
    - (6) Shaft Packing Gland: Compression type.
  - c. Manufacturer and Model:
    - (1) Clow F-5382.
    - (2) American Flow Control 50SC.
    - (3) Or equal.

## 2.02 Valve Appurtenances

### Valve Boxes:

1. Location: Provide for all buried valves.
2. Construction:
  - a. Heavy pattern cast iron box.
  - b. Type: Three-piece adjustable, telescoping.
  - c. Inside Diameter: 4-1/2 inches minimum.
  - d. Cover: Heavy-duty cast iron.
  - e. Direction to Open Arrow: Cast in cover.
3. Provide extension stem and operating nut.
4. Operating nut and stuffing box enclosed by lower section which rests on bonnet.

## PART 3 - EXECUTION

### 3.01 Installation

- A. Install all valves and appurtenances in accordance with manufacturer's instructions.
- B. Install suitable corporation stops at all points shown and required where air binding of pipe lines might occur.
- C. Unless otherwise approved install all valves plumb and level. Valves shall be installed free from distortion and strain caused by misaligned piping, equipment or other causes.
- D. Valve boxes shall be set plumb, and centered with the bodies directly over the valves. Earth fill shall be carefully tamped around each valve box to a distance of four feet

on all sides of the box, or to the undisturbed trench face, if less than four feet.

- E. Hydrants and connecting pipe shall have at least the same depth of cover as the distributing pipe. The hydrants shall be set upon a slab of concrete not less than 4 inches thick and 15 inches square. Where restrained hydrants are not used the side of hydrant opposite the pipe connections shall be firmly blocked against the vertical face of the trench with a concrete thrust block. Not less than **2** cubic yard of washed gravel shall be placed around the base of the hydrant at the location of the drain holes.

### **3.02 Field Test and Adjustments**

- A. Adjust all parts and components as required correct operation.
- B. Conduct functional field test of each valve in presence of the ENGINEER to demonstrate that each part and all components together function correctly. All testing equipment required shall be provided.

**\*\* END OF SECTION \*\***

## SECTION 16010

### GENERAL REQUIREMENTS

#### PART 1 - GENERAL

##### 1.01 GOVERNING CLAUSE

The phrase "CONTRACTOR shall furnish and install" unless specified or indicated otherwise, shall be omitted for the sake of brevity in these specifications. However, these phrases are implied. Any mention of material and/or operations in the specifications or drawings will require CONTRACTOR to furnish and install such materials and perform each and every operation required for a complete and operable system and to the complete satisfaction of the ENGINEER. The drawings are diagrammatic and may not necessarily show each and every wire, conduit, conduit routing, junction electrical box and/or final connection required for all pieces of equipment. However, the intent of this paragraph is to require that the CONTRACTOR furnish labor and materials to make all required final electrical power connections whether or not shown to all equipment shown on the drawings issued as bidding documents for this project.

##### 1.02 GENERAL CONDITIONS

- A. General Conditions, Supplementary General Conditions, Information to Bidders, General Requirements, Special Conditions, Addenda, Wage Rates, and other pertinent documents issued under these specifications shall be complied with in every respect as though fully written herein.
- B. Notwithstanding any reference in the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, such reference shall be interpreted as establishing a standard of quality and performance and shall not be construed as limiting competition; and in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the final judgment of the ENGINEER expressed in writing, is an approved equal to that specified.

##### 1.03 RECORD DRAWINGS AND OPERATING AND MAINTENANCE MANUALS

Furnish to the ENGINEER at job acceptance and completion, the following in compliance with Section 01720:

- A. Record Drawings: One set of blue line prints marked in black, showing an accurate location of all variations of the work actually installed related to the original drawings. The drawings shall include all approved and installed Change Orders,

field condition changes, and other variations from the original plans and specifications.

- B. Operation and Maintenance Manuals: Furnish three copies of an operation and maintenance manual for each electrical system and for each piece of equipment. Three copies of the complete manuals bound in a 3" C 3 ring black binder with color coded tabs as directed by the ENGINEER labeling all shop drawings, approved manufacturers brochures, control diagrams, maintenance instructions and other data required by the contract documents reflecting the record fabrication and installation of all systems or equipment installed. One manual shall be furnished prior to the time that the system or equipment tests are performed. The remaining two manuals shall be furnished to the ENGINEER before the contract is closed-out.
- C. The following identification shall be inscribed in minimum 3/4" high alphabet type letters on the outside front corner: The words "OPERATING AND MAINTENANCE MANUAL", the name and location of the project and the contract number. The manual shall include the names, addresses, and telephone number of each subcontractor installing equipment and systems, and the local manufacturer's representative for each item of equipment and each system. This information shall be contained on the first page of the binder. Lettering shall be permanent signage and not stick-on type.
- D. The manual shall have a typewritten table of contents with the tab sheets placed before instructions covering the subject. The instruction sheets shall be legible with large sheets of drawings folded in. The manual shall include a system layout showing circuits, devices, and controls; control diagrams with explanation of operation and control of each component; start-up control sequence, and operation; a detailed description of the function of each principal component of the system; the procedure for starting; the procedure for operating; shut-down instructions; installation instructions, maintenance and overhaul instructions; lubrication schedule including type, grade, illustrations; test procedures; performance data; and parts list. The parts list for equipment shall indicate the sources of supply, recommended spare parts, and the service organization which is reasonably convenient to the site. The manual shall be complete in all respects for all equipment, controls, and accessories provided.

#### 1.04 TESTS AND INSPECTIONS

The complete job shall be, during actual construction, and for the warranty provision period, subject to the supervision of the ENGINEER and will have the following tests and inspections conducted without any additional cost to the contract.

- A. By ENGINEER'S inspections and tests conducted by him or for him in his presence. Upon written notice, CONTRACTOR shall furnish not to exceed two men, one to include the job foreman and tools to assist and be directed by the ENGINEER for a



reasonable amount of time to make such tests and inspections as are requested by the ENGINEER pertaining to the safety and operation of any device or system installed.

- B. By complete insulation break-down tests with a megger of each and every branch circuit, and service entrance. All 600 volt conductors shall meet a minimum of resistance of 1,000,000 OHMS. Tests shall be performed prior to any connections to overcurrent devices, devices or equipment. All readings shall be made in the ENGINEER'S presence or his authorized representative and a type-written report of same submitted to him before the job is subject to his approval. The manufacturer, cat. no. and type of megger shall be noted on the report.
- C. By any federal, state or local authority having jurisdiction of the project.
- D. By the Mississippi State Rating Bureau. After inspection by this agency, corrections of any deficiencies shall be made which were found adversely affecting the insurance to be carried by the OWNER. Acceptance of the Rating Bureau's report or subsequent reports lie with the ENGINEER or OWNER. Electrical contractor/subcontractor shall pay all cost for this work.
- E. Properly phase out the entire electrical system to balance all loads as close as possible.
- F. Certified Test Reports: Before any equipment or materials are delivered to the project site, certified copies of all test reports specified in the individual sections of this specification shall be submitted to the ENGINEER for his approval.

#### 1.05 GUARANTEE

- A. Guarantee to the OWNER all work performed and all equipment installed under this contract shall be free from defects in workmanship and materials for a period of one year unless noted otherwise from date of final written acceptance by the ENGINEER and the OWNER.
- B. Defects shall be corrected arising during this one year period at the CONTRACTOR'S own expense, upon written notice of the OWNER or his authorized representative.

#### 1.06 GENERAL INFORMATION

- A. Plans are diagrammatic. Judgment and care shall be exercised to install all electrical work in a practical manner which shall function properly and fit the construction and finishes. Electrical devices not shown or specified which shall be required or any device or system to produce a complete and operative system shall be brought to the ENGINEER'S attention at least five days prior to the bid date in order for such

devices to be noted or clarified in an addendum, otherwise furnished at his own expense.

- B. Cooperate with others in laying out work so that the electrical phase of the work will properly fit the construction and finishes. Space requirements, etc. other than that shown on the plans required to facilitate the electrical construction, shall be brought to the ENGINEER'S attention prior to commencing any work so that proper action may be taken to remedy this.
- C. Exact location of equipment shall be determined on the job. **Do not scale electrical drawings for exact location of any equipment.** All mounting heights shall be verified prior to rough-in.
- D. ENGINEER reserves the right to change the location of any equipment improperly installed and to change the exact location of any equipment connection location up to twenty feet prior to rough-in with no additional cost to the contract.
- E. Circuit grouping, conduit or cable runs are indicated diagrammatically with number of conductors shown in each raceway to clarify the operation and function of various systems. Provide the proper number of conductors and conduits or cables to produce an operative system as specified herein. Where conductors are not shown, consult manufacturer's recommendations.
- F. Branch circuit shall be indicated as 2 or 3 wire circuits unless otherwise noted. No two ungrounded conductors will be connected to the same ungrounded main in any panel. There shall be no splicing of branch circuit conductors in any panel, safety switch or non-automatic circuit breaker in separate enclosures.
- G. All materials shall be new (unless otherwise noted on the drawings or specified herein) and of approved equal or superior quality to those specified. All equipment or materials shall conform to the latest requirements of Underwriter's Laboratories, National Electrical Code, National, State or local agency having jurisdiction, American National Standards Institute (ANSI), National Electrical Safety Code and National Fire Protection (NFPA) Codes.
- H. All conductors shall be color coded as specified herein. All conductors not complying with the specified color code shall be removed and replaced solely at the electrical subcontractor's expense.
- I. All materials, devices, equipment, etc. shall be installed, tested and connected in strict compliance with manufacturer's recommendations.
- J. Install all materials, equipment, devices, etc. in a neat and workmanlike manner. Use only experienced labor or employ appropriate subcontractor to do all cutting and patching necessary for the installation of his materials.

- K. Protect from damage all apparatus and equipment furnished on this project. Equipment and materials shall be properly stored and adequately protected and carefully handled to prevent damage before and during installation. Equipment and materials shall be handled, stored and protected in accordance with the manufacturer's recommendations and as approved by the ENGINEER. Electrical conduit shall be stored to provide protection from the weather and accidental damage. Plastic conduit shall be stored on even supports and in locations not subject to direct sun rays or excessive heat. Cables shall be sealed, stored and handled carefully to avoid damage to the outer covering or insulation and damage from moisture and weather. Any piece of equipment or material marred or damaged shall be repaired, repainted and/or replaced to the complete satisfaction of the ENGINEER.
- L. Any piece of equipment, switch, device, etc. shown mounted on and/or adjacent to any installed equipment which, if installed, may impair the proper operation of that equipment, shall be removed by the electrical contractor/subcontractor as required in order that installed equipment shall function properly. ENGINEER shall be notified immediately if any such condition exists.

#### 1.07 REMOVAL OF SALVAGE MATERIAL AND DEBRIS

It shall be the responsibility of the CONTRACTOR to have all trash, salvage material, etc. related to the electrical work completely removed from the project site at all times during construction.

#### 1.08 TRENCHING AND BACKFILLING

- A. Width of trenches shall not exceed eight inches on either side of placed equipment.
- B. All backfill material and compaction shall meet requirements of Section 02200.
- C. Shoring method and material shall be the CONTRACTOR'S responsibility.

#### 1.09 CUTTING, PATCHING, FINISHING AND PAINTING

- A. The CONTRACTOR shall be responsible for all cutting required to install his work. All existing walls shall be carefully trenched, cut, etc. to depths required to completely recess conduit and boxes. Where masonry walls are encountered, blocks and/or brick shall be carefully saw cut to exact box dimensions and conduit shall be routed in cavities, air spaces, etc.
- B. It shall be the responsibility of the CONTRACTOR to have all patching, finishing, painting, etc. done by qualified personnel related to his work.

- C. It shall be the responsibility of the CONTRACTOR to have all exposed conduit, piping and wireways painted where exposed in any space or location.

#### 1.10 CORROSION PROTECTION

It is the intent of these specifications to have all joints, connections, etc. exposed to climatic conditions to be completely watertight using the following:

- A. Nylon gland rings on all Liquid-tite conduit connectors.
- B. Nylon gland rings on all locknuts installed in boxes subject to moisture.
- C. Insulated throat connectors on all compression connectors.
- D. Corrosion inhibitors shall be placed in all environmental, control panels, exposed to damp or wet locations. Inhibitors shall be an approved equal to "Hoffman" A-HCI-1, A-HCI-5 and A-CI-40 and shall be sized in accordance with volume content of the device to be protected.
- E. Where equipment is exposed to severe conditions such as salts, acids, alkalies, sewer gases, etc., all equipment shall be sprayed inside and out with two coats of General Electrical "Glyptal No. 1201-A" or an approved equal.

#### 1.11 PROJECT SITE INSPECTION

It shall be the responsibility of the CONTRACTOR to visit the proposed sites and make his own observation of the work to be done under the plans and specifications and same shall be contained in his bid proposal. Failure to do so will not relieve him of any responsibility and will not be justification for requesting additional money from the OWNER.

#### 1.12 COORDINATION OF EXISTING UTILITIES

It shall be the responsibility of the CONTRACTOR to coordinate all existing utilities location both overhead and underground and verify their locations with the various utilities prior to commencing any work. CONTRACTOR shall call Mississippi One Call System, (601) 362-4374, and obtain a utility location request number and refer to this number each time a utility company is notified of diggings or trenching near their utilities. Failure to do this shall not relieve him of any responsibility and will not be justification for requesting additional money from the OWNER due to damage of any of these utility lines.

#### 1.13 CONSTRUCTION TOOLS, UTILITIES AND BUILDINGS

The CONTRACTOR shall furnish all tools, utilities, job office and storage buildings required for his use and to protect all electrical equipment as directed by the ENGINEER.

1.14 PAYMENT ITEMS

Progress payments shall be made to the CONTRACTOR based on the percentage of work performed on various payment items. The electrical payment items shall be included with the preliminary schedule of values and payment requests submitted by the CONTRACTOR.

1.15 MANUFACTURER'S RECOMMENDATIONS

Where installation procedures are specified to be in accordance with the recommendations of the manufacturer of the material or equipment being installed, printed copies of these recommendations shall be furnished to the ENGINEER by the CONTRACTOR prior to installation. Installation of the item will not be allowed to proceed until the recommendations are received. Failure to furnish these recommendations can be cause for rejection of the material.

1.16 SUBMITTALS

Specific items requiring submittals shall be as specified herein. Shop drawings shall be submitted and approved before procurement, fabrication or delivery of such items to the project site. Partial submittals are not acceptable; such submittals will be returned without review.

- A. Manufacturer's Data: Submittals for each manufactured item shall be manufacturer's descriptive literature, equipment drawings, diagrams, performance and characteristic curves and catalog cuts. Each submittal shall include the manufacturer's name, trade name, catalog model or number, nameplate data, size, layout dimensions, capacity, specification reference, applicable federal, military and industry specification references and all other information necessary to establish contract compliance.
- B. Shop drawings shall show types, sizes, accessories, elevations, plans, sectional view, installation details, elementary diagrams and wiring diagrams. Wiring diagrams shall identify circuit terminals and shall indicate the internal wiring for each item of equipment and the interconnection between the items. Drawings shall also indicate adequate clearance for operation, maintenance and replacement of operating equipment devices. If any equipment is disapproved, the drawings shall be revised to show acceptable equipment and be resubmitted.
- C. Standards Compliance: When materials or equipment must conform to the standards of organizations such as the American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturer's Association (NEMA) and Underwriters' Laboratories (UL), proof of such conformance shall be submitted to the ENGINEER for approval. If any organization uses a label or listing to indicate compliance with a particular standard, the label or listing will be acceptable evidence, unless otherwise specified in the individual sections. In lieu of the label or listing, the CONTRACTOR shall submit a

certificate from an independent testing organization, which is competent to perform acceptable tests and is approved by the ENGINEER. The certificate shall state that the item has been tested in accordance with the specified organization's test methods and that the item conforms to the specified organization's standard. For materials and equipment whose compliance with organizational standards or specifications is not regulated by an organization using its own listing or label as proof of compliance, a certificate of compliance from the manufacturer shall be submitted for approval. The certificate shall identify the manufacturer, the product and the referenced standard and shall simply state that the manufacturer certifies that the product conforms to all requirements of the project specification and of the referenced standards listed.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS AND EQUIPMENT**

All materials, equipment and devices shall, as a minimum standard, meet the requirements of UL where UL standards are established for those items and the requirements of NFPA 70. All items shall be new unless specified or indicated otherwise.

### **2.02 NAMEPLATES**

Fed. Spec. L-P-387. Provide laminated plastic nameplates for each panel, motor control center, transformer, relay, contactor, starter, safety switch and device. Each nameplate inscription shall identify the equipment and serving panel, and when applicable, the location. Nameplates shall be melamine plastic, 0.125-inch thick, white with black center core. Surface shall be matte finish. Corners shall be square. Accurately align lettering and engrave into the black core. Minimum size of nameplates shall be as follows:

- A. Style No. 1: 1.0 inch by 2.5 inches for panelboard and terminal cabinet enclosures.
- B. Style No. 2: 0.5 inch by 1.5 inches for safety switches, enclosed individually mounted circuit breakers, small junction/terminal boxes, etc.

### **2.03 WARNING SIGNS**

ANSI Z35.1. Provide warning signs for the power panel enclosures. Provide signs with the legend "DANGER HIGH VOLTAGE KEEP OUT" printed in three lines of nominal 3-inch high letters.

## **PART 3 C EXECUTION**

### **3.01 NAMEPLATE MOUNTING**

Provide number, location and letter designation of nameplates. Fasten nameplates to the device or enclosure with a minimum of two oval head stainless steel screws.

### 3.02 PAINTING OF EQUIPMENT

- A. **Factory Applied:** Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA ICS 6 corrosion-resistance test.
- B. **Field Applied:** Paint electrical equipment as required to match finish or to meet safety criteria. Painting shall be a minimum of three coats consisting of primer and two finish coats. Touch-up paint of all equipment shall be required where equipment has become damaged as a result of handling, rusting, etc. Paint shall be applied in even three coats, consisting of prime coat and two finish coats. See plans for special PVC applications.

**\*\* END OF SECTION \*\***

**SECTION 16020**

**CODES AND STANDARDS**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

The following codes and standards shall be complied with as though fully written herein in these specifications and shall be applicable to CONTRACTOR, supplier and manufacturer. Dates and amendments shall be the latest edition thereof in force at time of project bid date. Bidders shall be responsible for obtaining their own copies of these codes and standards and pay all cost thereof. Bidders may request addresses of codes and standards issuing agency from ENGINEER in writing in sufficient time to obtain required copies from issuing standards institute.

- A. National Fire Protection Association (NFPA)
  - NFPA 70 National Electrical Code (N.E.C.)
  - NFPA 78 Lightning Protection Code
  - NFPA 77 Recommended Practice on Static Electricity
  
- B. American National Standards Institute (ANSI)
  - ANSI B16.11 Forged Steel Fittings, Socket Welding and Threaded
  - ANSI C57.12.01 General Requirements for Dry-Type Distribution and Power Transformers
  - ANSI C57.12.91 Test Code for Dry-Type Distribution and Power Transformers
  - ANSI Z35.1 Accident Prevention Signs
  - C80.1 Specification for Rigid Steel Conduit, Zinc-Coated
  
- C. Occupational Safety and Health Act (OSHA) Requirements
  
- D. Underwriters Laboratories (UL)
  - UL 6 Rigid Metallic Conduit
  - UL 50 Cabinets and Boxes
  - UL 360 Liquid-Tite Flexible Steel Conduit
  - UL 467 Grounding and Bonding Equipment
  - UL 486A Wire Connectors and Soldering Lugs for Use with Copper Conductors
  - UL 468C Splicing Wire Connectors
  - UL 489 Molded Case Circuit Breakers
  - UL 508 Enclosures
  - UL 510 Insulating Tape
  - UL 514A Outlet Boxes and Fittings
  - UL 651 Schedule 40 and 80 Rigid PVC Conduit



UL 854	Service-Entrance Cables
UL 869	Service Equipment
UL 943	Ground-Fault Circuit Interrupters
UL 1059	Terminal Blocks
UL 1449	Transient Voltage Surge Suppressors
UL 1561	Dry-Type General Purpose and Power Transformers
UL 1581	Reference Standard for Electrical Wires, Cables and Flexible Cords
UL 2200	Stationary Engine Generator Assemblies

E. National Electrical Manufacturer's Association (NEMA)

WC3	Rubber-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
TC3	PVC Fittings for Use with Rigid PVC Conduit and Tubing
RN1	PVC Externally Coated Rigid Galvanized Steel Conduit and Electrical Metallic Tubing
ICS1	General Standards for Industrial Control and Systems
ICS2	Standards for Industrial Control Devices, Controllers and Assemblies
ICS6	Terminal Blocks for Industrial Control Equipment and Systems
TC2	Electrical Plastic Tubing (EPT) and Conduit EPC-40 and EPC-80
TR1	Transformers, Regulators and Reactors
WD1	General Purpose Wiring Devices
LA1	Surge Arrestors

F. Institute of Electrical and Electronic Engineers (IEEE): Standard Dictionary of Electrical and Electronics Terms

G. American Society for Testing and Materials (ASTM)

A53	Pipe, Steel, Black and Hot-Dipped Zinc-Coated
A123	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
A153	Zinc Coating (Hot-Dip) on Iron and Steel Hardware
B8	Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard or Soft
A525	General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process
A780	Repair of Damaged Hot-Dip Galvanized Coatings

**PART 2 - PRODUCT (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**\*\* END OF SECTION \*\***

**SECTION 16030**

**ELECTRICAL SYSTEMS SCHEDULE**

**PART 1 - GENERAL**

1.01 DESCRIPTION

- A. CONTRACTOR to furnish all materials and labor and perform all operations, including, but not limited to, coordination with general construction shop and field drawings, manufacturer's recommendations and installation instructions, to produce a complete and operative system. It is specifically noted that the plans are diagrammatic and the specifications are descriptive and do not show every piece of equipment, conduit, wiring boxes, etc.; however, where any mention of a system or system operation is indicated in the contract documents, CONTRACTOR shall provide material and labor for that system to be fully operational to the satisfaction of the ENGINEER and OWNER.
  
- B. The following operative systems shall be applicable to this project.
  - 1. Secondary 240 3 Phase and 240 Single phase distribution system, complete with conduit, conductors, termination lugs, trenching and backfill, and testing.
  - 2. Miscellaneous systems complete as shown on the drawings and as stated herein.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**\*\* END OF SECTION \*\***

## SECTION 16040

### BASIC MATERIALS AND METHODS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. Equipment and materials specified by manufacturer's name and catalog number or an approved equal by the ENGINEER unless otherwise specifically stated herein.
- B. CONTRACTOR shall submit to the ENGINEER in triplicate, typewritten copies of all electrical materials and equipment proposed for use on the project within ten (10) days after award of contract. If this list is not received prior to fifteen (15) days after award of contract, CONTRACTOR is required to furnish specified items by manufacturer and catalog number.
- C. Verbal or written requests by sales agents, manufacturer's agents, CONTRACTOR'S or subcontractors for substitutions of specified equipment by manufacturer and catalog number prior to opening of bids will not be considered or approved. In no case will prior approval be given verbally or in writing of any equipment whether specified by manufacturer and catalog or not prior to opening of bids.
- D. CONTRACTOR shall not place any orders or release shipment of any piece of equipment or materials until all formal submittals have been approved by ENGINEER including any supplemental submittal requirements requested by the ENGINEER.
- E. Samples of any equipment or materials may be required at the ENGINEER's request. This shall apply to specified items and substituted items. Samples shall be made available to the ENGINEER at his designated location. Special equipment such as motor control centers, generators, automatic transfer switch, radio equipment, fire alarm or intrusion alarm systems would be required to be set up and inspections made available at the manufacturer's plant locations. All expenses for travel, per diem, etc. will be paid for by the CONTRACTOR. This expense may include an OWNER'S representative.
- F. The ENGINEER's opinion shall be final and binding on the approved equal status for equality of any substituted item from that listed by manufacturer and/or manufacturer catalog number.
- G. Submittals for approval by ENGINEER shall include shop drawings, manufacturer's brochures and data sheets, samples where required such as paint, waterproofing, marking tape, wiring and cable; test reports, testing procedures, finishes, etc. Refer

to Section 01340.

- H. Submittals shall be required, but not limited to, the following:
1. Wire and cable.
  2. Conduit and fittings.
  3. Boxes, covers and plates.
  4. Branch circuit compression connectors.
  5. Marking and identification devices.
  6. Paint.
  7. Miscellaneous as shown on drawings.
  8. Controls and instrumentation.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**\*\* END OF SECTION \*\***

**SECTION 16111**  
**CONDUIT AND FITTINGS**

**PART 1 - GENERAL**

1.01 DESCRIPTION

- A. Metal conduit.
- B. Flexible metal conduit.
- C. Liquid-Tite flexible metal conduit.
- D. Non-metal conduit.
- E. Fittings and conduit bodies.

1.02 RELATED SECTIONS

- A. Section 16130, Boxes.
- B. Section 16170, Grounding and Bonding.
- C. Section 16190, Supporting Devices.
- D. Section 16195, Electrical Identification.

1.03 REFERENCES

- A. ANSI C80.1 ? Rigid Steel Conduit, Zinc Coated
- B. ANSI/NEMA PB 1 - Fittings, Cast Metal Boxes and Conduit Bodies for Conduit and Cable Assemblies.
- C. ANSI/NFPA 70 - National Electrical Code.
- D. NECA "Standard of Installation".
- E. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
- F. NEMA TC 2 - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).

G. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

1.04 DESIGN REQUIREMENTS

Conduit Size: ANSI/NFPA 70 (unless noted otherwise on the drawings and contained herein).

1.05 SUBMITTALS

- A. Submit under provisions of Section 16010, General Requirements and Section 01340, Submittals.
- B. Product Data: Provide for metallic conduit, Liquid-tite flexible metal conduit, non-metallic conduit, conduit bodies and fittings.

1.06 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 16010.
- B. Accurately record actual routing of all underground conduits and mark on record drawings.

1.07 FIELD SAMPLES

- A. Provide under provisions of Section 16040.
- B. Provide field sample of connectors and fittings.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site.
- B. Accept conduit on site. CONTRACTOR shall, prior to acceptance, inspect for damage.
- C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- D. Protect PVC conduit from sunlight.

1.09 PROJECT CONDITIONS

- A. Verify all field measurements as required or shown on drawings.
- B. Verify routing and termination locations of conduit prior to rough-in.

- C. Conduit routing is shown on drawings in approximate locations unless dimensioned. Route as required parallel and perpendicular to structures.

## **PART 2 - PRODUCTS**

### **2.01 CONDUIT REQUIREMENTS**

- A. All wiring shall be installed in conduit, including power, low voltage, sensor control, and instrumentation.
- B. Minimum size conduit shall be as follows:
  - 1. 3/4-inch for power and branch circuit wiring, unless noted otherwise on the drawings.
  - 2. 1-inch for low voltage, sensor control and instrumentation, unless noted otherwise on the drawings.
- C. Conduit shall be installed in accordance with the following schedule:
  - 1. Outside secondary service and feeder conduit risers above grade: Galvanized thick wall rigid steel (GRC).
  - 2. Conduit in earth (no encasement): Galvanized thick wall rigid steel (GRC) or Schedule 80 PVC as noted. Metallic conduit shall be coated with three (3) coats of polyvinyl polyethylene or hot asphalt application.
  - 3. In exposed locations and outdoors: Galvanized thick wall rigid steel (GRC).
  - 4. Signal wiring and data highway: Galvanized thick wall rigid steel (GRC) in non-corrosive areas or PVC. Minimum spacing of six inches must be maintained from power and control wiring.
  - 5. In exposed locations outdoors: Galvanized thick wall rigid steel (GRC).

### **2.02 FITTINGS**

- A. Where conduits, 1/2-inch through 1-inch conduits, enter junction boxes, pullboxes, panels, cabinets, gutters, etc. use insulated throat connectors, Raco Cat. #1003 and 1004, Locknuts #1133 and 1134, insulated throat bushing and #1222, 1223, and 1224, insulated throat ground bushings for rigid conduit, Raco Cat. #2912, 2913, 2914, for EMT. Raco Cat. #3302, 3303, 3304 for flexible metal conduit. Raco Cat. 3512, 3513 and 3514 for Liquid-Tite connectors. Conduits 1-1/4-inch and above entering junction boxes, pullboxes, panels, cabinets, gutters, etc. shall have insulated throat grounding bushings equal to Raco Cat. #1225, 1226, 1228, 1230, 1232, 1234 and 1236.
- B. Only threaded joint connectors and malleable iron no thread compression box connectors shall be used on rigid conduit. No fittings requiring set screws or indentor type applications, including BM connectors, will be allowed.



### 2.03 CONDUIT STRAPS AND HANGERS

Two (2) hole push-on stamped straps Raco Cat. #2232, 2233, 2234, 2235, 2236 and 2238 for rigid conduit. These anchors shall be used on surface areas such as concrete, masonry, wide flange beams, columns and wood. All screws shall be stainless steel.

### 2.04 EXPANSION AND SEAL OFF FITTINGS

Install seal-off fittings where required by code or shown on the drawings for the job. Fittings shall be Crouse-Hinds Type EYS for vertical runs, Type EZS for horizontal and vertical runs, or Type EYS elbow seals, or approved equal in Killark or Appleton. All seals shall be properly installed using a non-hardening sealing compound and shall be sealed as soon as cable is installed.

### 2.05 RIGID METAL CONDUIT

#### A. Manufacturers:

1. Allied
2. Wheatland
3. Republic
4. Approved equal.

#### B. Rigid Galvanized Steel Conduit (GRC): ANSI C801. UL 6.

### 2.06 LIQUID-TIGHT FLEXIBLE METAL CONDUIT

#### A. Manufacturers:

1. Alflex
2. Anamet
3. AFC
4. Approved equal.

#### B. Description: Interlocked aluminum construction with PVC jacket.

#### C. Fittings: ANSI/NEMA FB1.

### 2.07 ELECTRICAL METALLIC TUBING (EMT)

#### A. Manufacturers:

1. Allied Tubing
2. LTV Steel
3. Wheatland
4. Triangle
5. Approved equal.

- B. Description: ANSI C80.3, UL 797 zinc-coated. Maximum size 2 inches.

## 2.08 NON-METALLIC CONDUIT

- A. Manufacturers:
  - 1. Carlon
  - 2. Approved equal.
- B. Description: NEMA TC2; Schedule 80 PVC.
- C. Fittings and Conduit Bodies: NEMA TC3.

## 2.09 ALUMINUM CONDUIT

- A. Manufacturers
  - 1. Allied Tubing
  - 2. Approved equal.
- B. Description: ANSI C 80.5, U.L. 6.

## 2.10 CONDUIT IDENTIFICATION PLATES

- 1. Conduit identification plates shall be brass with stainless steel and permanently secured to the conduit without screws.
- 2. Identification plates shall be as manufactured by the Panduit Corp or equal.

# **PART 3 - EXECUTION**

## 3.01 INSTALLATION

- A. Install conduit in accordance with NECA "Standard of Installation".
- B. Install non-metallic conduit in accordance with manufacturer's instructions.
- C. Arrange supports to prevent misalignment during wiring installation.
- D. Support conduit using coated steel straps with stainless steel screws.
- E. Fasten conduit supports to structures and surfaces under provisions of this section.
- F. Do not support conduit with wire or perforated pipe straps in any type structure. Remove wire used for temporary supports.

- G. Route all conduit, whether exposed or concealed, parallel and perpendicular to structures.
- H. Route conduit in and under slab from point-to-point.
- I. Maintain 12-inch (300 mm) clearance between conduit and surfaces with temperatures exceeding 104E F. (40E C.).
- J. Bring conduit to shoulder of fittings, fasten securely.
- K. Join non-metallic conduit using cement as recommended by manufacturer. Wipe non-metallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.
- L. Use conduit hubs for sealing locknuts to fasten conduit to cast boxes. All conduit entering top or sides of all junction boxes, pullboxes, wiring gutters, etc., exposed to weather shall have myers hub connectors.
- M. Install no more than equivalent of four 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use factory elbows for bends in metal conduit larger than 2-inch (50 mm) size. Radio telemetry system conduit bends shall not exceed two (2) 90-degree turns. All bends shall be long radius. All field bends on conduit shall be made in accordance with tables in Article 346, NFPA 70.
- N. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- O. Provide suitable fittings to accommodate expansion and deflection where conduit crosses control and expansion joints.
- P. Provide suitable nylon pull string or No. 14 AWG steel wire in each conduit except sleeves and nipples.
- Q. Use suitable caps to protect installed conduit against entrance of dirt and moisture.
- R. Ground and bond conduit under provision of Section 16170.
- S. Identify conduit under provisions of Section 16195.
- T. All conduit male threads shall be coated with "General Electric" RTV silicone sealer where conduit is installed outdoors, in contact with concrete or earth.
- U. All feeders shall be run in galvanized or sheradized thick wall rigid steel (GRC), or EMT.

- V. All conduits shall be sized as noted on the drawings and contained herein. Where size not shown, consult ENGINEER.
- W. All upturned conduits shall be capped during construction rough-in to prevent moisture or debris from entering. Pull through each and every conduit a dry swab of sufficient size to remove any and all moisture. Seal all conduit terminations with GE Silicone or duct puddy prior to final acceptance of the project.
- X. Maximum length of flexible liquid-tite conduit shall not exceed 5 feet.
- Y. Assure ground continuity on all branch circuitry conduits with myers hubs, one inside and one outside of all boxes, cabinets and gutters for rigid conduit.
- Z. Conduit Curb:
  - 1. In concrete slabs or floors, provide a 2-inch high curb extending 2-inches from the outer surface of the conduit penetrating the floor, to prevent corrosion.
  - 2. Terminate conduit stub-ups in couplings, slightly above the finished concrete curb.
  - 3. Paint the stub-up with Scotch-Clad Protective Coating #1706 or equal, a minimum of 6-inches above and below the finished surface of the concrete.
- AA. Each conduit shall have brass tab with conduit number stamped and attached by stainless steel chain.

### 3.02 CONDUIT SUPPORTS

Support conduits as follows:

- A. Galvanized rigid thick wall conduit (GRC), IMC and EMT, within three feet of all outlet boxes, junction boxes, cabinets, gutters or fittings. Horizontally anchored at 10'-0" maximum intervals. Other spacings are noted on the plans.
- B. Liquid-tite flexible conduit (Sealtite), within 12 inches of all outlet boxes, junction boxes, cabinets, gutters or fittings and bends or turns. Horizontally anchored at 2-foot intervals. Minimum size permitted is 3/4-inch.

**\*\* END OF SECTION \*\***

## SECTION 16120

### WIRE AND CABLE

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. Building wire.
- B. Cable including instrumentation, control, etc.
- C. Wiring connections and terminations.

##### 1.02 REFERENCES

- A. NEMA WC 3 C Rubber-insulated wire and cable for the transmission and distribution of electrical energy.
- B. NEMA WC 5 C Thermoplastic-insulated wire and cable for the transmission and distribution of electrical energy.

##### 1.03 SUBMITTALS

- A. Submit manufacturer's product data under the provisions of Section 16010, General Requirements.
- B. Submit manufacturer's instructions.

#### PART 2 - PRODUCTS

##### 2.01 CONDUCTORS

- A. Thermoplastic-Insulated Building Wire: NEMA WC 5.
- B. Rubber-Insulated Wire: NEMA WC 3.
- C. Feeders and Branch Circuits: Copper, stranded conductor, 600-volt insulation, THWN.
- D. Service Entrance Cable: Copper, stranded conductor, 600-volt insulation, THHN - THWN.

- E. Control Circuits: Copper, stranded conductor, 600-volt insulation, THHN - THWN.
- F. Electronic Sensor Cable: Per manufacturer's recommendations.
- G. Instrumentation Cable: Per manufacturer's recommendations.

**PART 3 - EXECUTION**

3.01 GENERAL WIRING METHODS

- A. Use no wire smaller than #12 AWG for power circuits and no smaller than #14 AWG for control wiring.
- B. Place an equal number of conductors for each phase of a circuit in same raceway or cable.
- C. Splice only in junction or outlet boxes.
- D. Neatly train and lace wiring inside boxes, equipment and panelboards.

3.02 WIRING INSTALLATION IN RACEWAYS

- A. Pull all conductors into a raceway at the same time. Use UL listed wire pulling lubricate for pulling #4 AWG and larger wires.
- B. Completely and thoroughly swab raceway system before installing conductors.

3.03 CABLE INSTALLATION

- A. Provide protection for exposed cables where subject to damage.

3.04 WIRING CONNECTIONS AND TERMINATIONS

- A. Splice only in accessible junction boxes.
- B. Thoroughly clean wires before installing lugs and connectors.
- C. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.
- D. Terminate spare conductors with electrical tape and wire nut.
- E. Splices in all junction boxes shall be made by the compression method. Crimp connectors shall be "Buchanan" Cat. #2006S, #2008S or #2011S with #2007, #2014 or #3007B caps or approved equal.

3.05 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 16010.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Torque test conductor connections and terminations to manufacturer's recommended values.
- D. Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

3.06 WIRE AND CABLE INSTALLATION SCHEDULE

- A. Exterior Locations: Conductors in raceways.
- B. Underground Locations: Conductors in raceways.
- C. Color Coding (Power System): The following conductor color coding shall be used:

480/277-Volt System

208Y/120-Volt System

Phase A C Brown

Phase A C Black

Phase B C Orange

Phase A C Switch Leg C Gray

Phase C C Yellow

Phase B C Red

Neutral C Gray

Phase B C Switch Leg C Pink

Equipment Ground C Green

Phase C C Blue

Phase C C Switch Leg C Purple

Travelers C Yellow

Neutral C White

Equipment Ground C Green

**\*\* END OF SECTION \*\***

## SECTION 16140

### WIRING DEVICES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

Furnish and install wiring devices as shown or noted on plans, including all required mounting hardware, etc.

##### 1.02 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Sections 16010 and 01300, Submittals.
- B. Submit manufacturer's data.

#### PART 2 - PRODUCTS

##### 2.01 SAFETY SWITCHES

- A. Type: Horsepower rated, heavy-duty, single throw, three pole with visible blade and safety handle. Fused and/or unfused as specified elsewhere and/or designated on the Drawings and/or as required by NEC. Sized as required by NEC and/or as shown on the Drawings.
- B. Each switch shall have indented plastic phenolic sign (minimum 1/8-inch lettering) identifying load served with voltage and horsepower attached to switch with stainless steel screws.
- C. Enclosure: Painted Steel NEMA 1 for dry, indoor locations and Stainless Steel NEMA 4X for outdoor and wet locations.
- D. Manufacturers:
  - 1. Square D Co.
  - 2. General Electric Co.
  - 3. Westinghouse.
  - 4. Or equal.

##### 2.02 RECEPTACLE

- A. Indoor Locations:



1. Duplex grounding receptacle, two pole, three wire, 125 volt AC, 20 ampere, stainless steel cover plates. Products and Manufacturers:
    - a. Cat. #5362-CR, by Arrow-Hart Inc.
    - b. Cat. #53CM62, by Harvey Hubbell Inc.
    - c. Or equal.
  2. Single grounding receptacle, corrosion resistant, two pole, three wire, 125 volt AC, 20 ampere, stainless steel cover plates. Products and Manufacturers:
    - a. Cat. #5361-CR, by Arrow-Hart Inc.
    - b. Cat. #53CM61, by Harvey Hubbell In
    - c. Or equal.
- B. Ground Fault Receptacle Where Designated on the Drawings:
1. Type: UL listed, 20 ampere, 125 volt AC, sensitivity of 5 mA, three wires, weather-proof cover plates.
  2. Manufacturer:
    - a. Hubbell, No. 6F-5362-GY with a 5221 cover plate.
    - b. Or equal.
- C. Weatherproof Receptacle Where Designated on the Drawings: Type UL listed duplex grounding receptacle, corrosion resistant, two pole, three wire, 20 ampere, 125 volt AC, weatherproof cover plates.

## 2.03 SWITCHES

- A. Indoor Non-Hazardous Locations:
1. Single pole AC toggle switch, quiet type, 120/277 volt AC, 20 ampere, Brown, specification grade with stainless steel cover, screws and grounding terminal. Products and Manufacturers:
    - a. Cat. #20AC1 by Pass & Seymour, Inc.
    - b. Cat. #CS 120 by Hubbell.
    - c. Or equal.
  2. Toggle switches of the three-way type shall be quiet type, 120/277 volt AC, 20 ampere, specification grade with stainless steel cover, screws and grounding terminal. Products and Manufacturers:
    - a. Cat. #20AC3 by Pass & Seymour, Inc.
    - b. Cat. #CS 320 by Hubbell.
    - c. Or equal.
  3. Toggle switches of the four-way type shall be of the same grade and manufacture as the single pole and three-way type.
  4. Toggle switches of the two-pole, single throw type shall be of the same grade and manufacturer as above.
  5. Dimming Switch:
    - a. Coordinated with fluorescent fixture ballasts specified.
    - b. Suitable for controlling light output from two of a four-lamp fluorescent fixture.

- c. Include integral snap switch on dimming dialer.
  - d. Manufacturer:
    - (1) Thyrocon Controls.
    - (2) Hunt.
    - (3) Or equal.
- B. Horsepower-Rated Switches:
- 1. Type: Toggle operated, horsepower rated with thermal overload protection.
  - 2. Enclosure: NEMA 1 for dry, indoor locations and NEMA 4 for outdoor and damp or wet indoor locations.
  - 3. Products and Manufacturers: Provide one of the following:
    - a. Type 609T by Allen-Bradley.
    - b. Class 2510 by Square D Co.
    - c. Or equal.

#### 2.04 FUSES

- A. Type: Dual-element, current-limiting, UL Class RK5, 600 volts, unless otherwise noted or specified.
- B. Interrupting Capacities (UL Listed): 200,000 RMS amperes.
- C. Coordination:
  - 1. Coordinated for installation in existing and new equipment.
  - 2. Properly coordinated for size, type and rating as required for equipment and circuits to be protected.
- D. Repair Parts: One replacement fuse for each and every fuse installed under this Contract.
- E. Manufacturers: Provide products from one of the following:
  - 1. Bussman Division, McGraw Edison Company.
  - 2. Gould Inc., Circuit Protection Division.
  - 3. Or equal.

### **PART 3 - EXECUTION**

#### 3.01 MOUNTING

- A. Safety switches shall be mounted on structural frame with minimum of four points of attachment using stainless or galvanized steel hardware.
- B. Install one spare set of fuses inside fused switch enclosure attached to side.

- C. In non-hazardous locations, install wiring devices in outlet or device boxes.
- D. Mount wall switches four feet, zero inches above finished floor unless otherwise noted.

**\*\* END OF SECTION \*\***

## SECTION 16160

### CABINETS AND ENCLOSURES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. Hinged cover enclosures.
- B. Cabinets.
- C. Mounting panel.
- D. Terminal blocks and accessories.

##### 1.02 REFERENCES

- A. NEMA 250 C Enclosures for electrical equipment (1,000 volts maximum).
- B. ANSI/NEMA ICS 1 - Industrial control and systems.
- C. ANSI/NEMA ICS 4 - Terminal blocks for industrial control equipment and systems.
- D. ANSI/NEMA ICS 6 - Enclosures for industrial control equipment and systems.
- E. UL 50 C Enclosures.

##### 1.03 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Sections 16010 and 01300, Submittals.
- B. Shop Drawings for Equipment and Enclosure Panels: Include wiring schematic diagram, wiring diagram, outline drawings and construction diagram as described in ANSI/NEMA ICS 1.

#### PART 2 - PRODUCTS

##### 2.01 HINGED COVER ENCLOSURES

- A. Construction: NEMA 250; Type 3, steel.

B. Finish: Dark gray, rust inhibitor. Red for fire alarm terminal cabinet.

C. Covers: Continuous hinge, held closed by hasp and staple for padlock.

## 2.02 CABINETS

A. Construction:

1. 14-gauge G-90 grade galvanized steel.
2. Drip shield top and seam-free sides, front and back.
3. 16-gauge galvanized steel continuous hinge with stainless steel pin.
4. Cover fasteners with captive plated steel screws.
5. Hasp and staple for padlocking.
6. Knockouts in bottom.
7. Collar studs with back mounting panel.
8. Dark gray epoxy finish. Red finish on fire alarm terminal cabinet.
9. Corrosion inhibitors.
10. Electric heater with thermostat where located outdoors.
11. Size: Verify size required with equipment to be housed or as noted on drawings.

B. Manufacturer and Catalog No.: Hoffman Cat. No. scheduled with back panel or approved equal (minimum size).

## 2.03 TERMINAL BLOCKS AND ACCESSORIES

A. Terminal Blocks: ANSI/NEMA ICS 4; UL listed.

B. Power Terminals: Unit construction type, closed-back type, with tubular pressure screw connectors, rated 600 volts.

C. Signal and Control Terminals: Modular construction type, channel mounted; tubular pressure screw connectors, rated 300 volts.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

A. Install cabinets and enclosures plumb; anchor securely to structural supports at each corner with galvanized bolts, nuts and Belleville washers.

B. Install trim plumb.

**\*\* END OF SECTION \*\***

## SECTION 16170

### GROUNDING AND BONDING SYSTEMS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. Power system grounding.
- B. Communication and instrumentation system grounding.
- C. Electrical equipment and raceway grounding and bonding.

##### 1.02 SYSTEM DESCRIPTION

- A. Ground the electrical service system neutral at service entrance equipment to grounding electrode.
- B. Provide communications system grounding conductor at point of service entrance and connect to grounding electrode.
- C. Bond together system neutrals, service equipment enclosures, exposed non-current carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways and cables, receptacle ground and connectors.

##### 1.03 SUBMITTALS

- A. Submit maintenance and grid layout data and shop drawings under provisions of Sections 16010 and 01340.
- B. Indicate location of system grounding electrode connections and routing of grounding electrode conductor.

#### PART 2 - PRODUCTS

##### 2.01 MATERIALS

- A. Ground Rods: Copper-encased steel, 5/8-inch diameter, minimum length 10 feet.
- B. Ground Electrode Conductor: Size as noted on drawings with THWN insulation.
- C. Exothermic welds shall be as scheduled on the drawings.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

- A. Provide a separate, insulated equipment grounding conductor in branch circuits. Terminate each end on a grounding lug, bus or bushing.
- B. Connect grounding electrode conductors to ground electrode by exothermic weld using cable to rod connection.
- C. Grounding Electrode: Use driven ground rod as shown on plans.
- D. Use minimum #6 AWG copper conductor for communications service grounding conductor. Leave six feet (3 m) slack conductor at terminal cabinet or backboard.
- E. Provide grounding and bonding at utility company's metering equipment.
- F. Bond all metal parts of building, equipment support structures, tanks, etc. to building ground grid.
- G. Refer to drawings for schedule of exothermic connections.

### **3.02 FIELD QUALITY CONTROL**

- A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.
- B. Measure ground resistance from system neutral connection at service entrance to convenient ground reference point using suitable ground testing equipment. Resistance shall not exceed 5 ohms. Where resistance exceeds 5 ohms, additional ground rods shall be driven. Top of all rods shall be a minimum of 2'-0" below finish grade elevation.

**\*\* END OF SECTION \*\***

## **SECTION 16180**

### **EQUIPMENT WIRING SYSTEMS**

#### **PART 1 - GENERAL**

##### 1.01 DESCRIPTION

- A. Make all final electrical connections to all equipment shown on drawings or required for a complete and operable system.
- B. All final electrical connections shall be made in strict compliance with NPFA-70 National Electrical Code 1993 Edition.

##### 1.02 RELATED SECTIONS

- A. Section 16010, General Requirements.
- B. Section 16020, Codes and Standards.
- C. Section 16111, Conduit and Fittings.
- D. Section 16120, Wire and Cable.
- E. Section 16130, Boxes.
- F. Section 16170, Grounding and Bonding Systems.

##### 1.03 PROJECT RECORD DOCUMENTS

Submit documents in accordance with provisions of Section 01720.

#### **PART 2 - PRODUCTS**

Products are listed under related sections of the specifications.

#### **PART 3 - EXECUTION**

##### 3.01 INSTRUCTIONS

Shall be installed in conduit where and as shown on the drawings and in accordance with drawings and specifications.

**\*\* END OF SECTION \*\***



**SECTION 16190**  
**SUPPORTING DEVICES**

**PART 1 - GENERAL**

1.01 DESCRIPTION

- A. Conduit and equipment supports.
- B. Fastening hardware.
- C. Related Work
  - 1. Refer to Section 03315.

1.02 COORDINATION

Coordinate size, shape and location of concrete pads with details on drawings and manufacturer's recommendations.

1.03 QUALITY ASSURANCE

Support systems shall be adequate for weight of equipment and conduit, including wiring, which they carry.

**PART 2 - PRODUCTS**

2.01 MATERIAL

- A. Support Channel
  - 1. Galvanized in non-corrosive areas
  - 2. Aluminum in corrosive areas.
- B. Hardware: Corrosion-resistant.

**PART 3 - EXECUTION**

3.01 INSTALLATION

- A. Fasten hanger rods, conduit clamps and outlet and junction boxes to structure using stainless steel screws and galvanized bolts, nuts and Bellville washers. Do not use spring steel clips and clamps.

- B. Do not fasten supports to conduit.
- C. Fabricate supports from steel angle and steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with Bellville washers under all nuts.
- D. Furnish and install additional steel framing as required to span between ceiling girts for support of lighting fixtures, electric heaters, etc.

**\*\* END OF SECTION \*\***

**SECTION 16195**  
**ELECTRICAL IDENTIFICATION**

**PART 1 - GENERAL**

1.01 DESCRIPTION

- A. Nameplates.
- B. Wire and cable markers.

1.02 RELATED WORK

Section 16010, General Requirements.

1.03 SUBMITTALS

- A. Submit shop drawings under provisions of Sections 16010 and 01300.
- B. Include schedule for nameplates.

**PART 2 - PRODUCTS**

2.01 MATERIALS

- A. Nameplates: Engraved three-layer laminated plastic, white letters on a black background.
- B. Wire and Cable Markers: Cloth markers, split sleeve or tubing type.

**PART 3 - EXECUTION**

3.01 INSTALLATION

- A. Degrease and clean surfaces to receive nameplates.
- B. Install nameplates parallel to equipment lines.
- C. Secure nameplates to equipment fronts and panels using stainless steel screws.

3.02 WIRE IDENTIFICATION

Provide wire markers on each conductor in enclosures and at load connection. Identify with branch circuit number for power circuits and with control wire number as indicated on equipment manufacturer's shop drawings for control wiring.

### 3.03 NAMEPLATE ENGRAVING SCHEDULE

Provide nameplates to identify all electrical distribution and control equipment and loads served. Letter Height: 1/8 inch (3 mm) for individual switches and loads served and 1/4 inch (6 mm) for control equipment panel identification unless noted otherwise.

**\*\* END OF SECTION \*\***

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-304-11

CODE: (SP)

DATE: 02/18/2009

SUBJECT: Granular Courses

Section 907-304, Granular Courses, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-304.02--Materials.** After the first paragraph of Subsection 304.02.1 on page 183, add the following:

When the contract includes pay item 907-304-E, Granular Material, LVM, RAP, it shall be milled recycled asphalt pavement and shall be visually inspected by the Engineer to insure it is free from chunks and deleterious materials.

**907-304.03--Construction Requirements.**

**907-304.03.5--Shaping, Compacting and Finishing.** Delete the sixth paragraph of Subsection 304.03.5 on page 185.

Delete the first table in Subsection 304.03.5 on page 186 and substitute the following:

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 Courses*	99.0	95.0

\* When placed on filter fabric on untreated subgrade, the individual tests and the average of the five (5) tests shall equal or exceed the following values:

Lot Average	Individual Test
96.0	92.0

Before the last paragraph of Subsection 304.03.5 on page 186, add the following:

Unless otherwise specified, density for granular material, RAP, shall be achieved by two passes of an approved roller and density tests will not be required.

**907-304.05--Basis of Payment.** Add the “907” prefix to the pay items listed on page 187.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SUPPLEMENT TO SPECIAL PROVISION NO. 907-401-2

**DATE:** 05/09/2008

**SUBJECT:** Hot Mix Asphalt (HMA)

After Subsection 907-401-02.6.2 on page 2, add the following:

**907-401.02.6.4.1--Roadway Density.** Delete subparagraphs 1., 2., & 3. on page 251 and substitute the following:

1. For all leveling lifts, when full lane width and with a thickness as specified in the table in Subsection 401.02.4, the required lot density shall be 92.0 percent of maximum density.
2. For all single lift overlays, with or without leveling and/or milling, the required lot density shall be 92.0 percent of maximum density.
3. 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.
4. For all pavements on new construction, the required lot density for all lifts shall be 93.0 percent of maximum density.

**907-401.03.1.2--Tack Coat.** Delete the three sentences of Subsection 401.03.1.2 on page 259, and substitute the following:

Tack coat shall be applied to previously placed HMA and between lifts, unless otherwise directed by the Engineer. Tack coat shall be applied with a distributor spray bar. A hand wand will only be allowed for applying tack coat on ramp pads, irregular shoulder areas, median crossovers, turnouts, or other irregular areas. Bituminous materials and application rates for tack coat shall be as specified in Table 410-A on page 293. Construction requirements shall be in accordance with Subsection 407.03 of the Standard Specifications.

**907-401.03.1.4--Density.** Delete the first sentence of the first paragraph of Subsection 401.03.1.4 on page 259 and substitute the following:

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 the specified percent (92.0% or 93.0%) of the maximum density based on AASHTO Designation: T 209 for the day's production. For all leveling lifts, when full lane width and with a thickness as specified in the table in Subsection 401.02.4, the required lot density shall be 92.0 percent of maximum density.

**907-401.03.9--Material Transfer Equipment.** Delete the paragraph in Subsection 401.03.9 on page 264 and substitute the following:

Excluding the areas mentioned below, the material transferred from the hauling unit when placing the top lift, or the top two (2) lifts of a multi-lift HMA pavement with density requirements, 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 State Construction Engineer. Areas excluded from this requirement include: leveling courses, 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.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-401-2**

**CODE: (IS)**

**DATE: 11/04/2005**

**SUBJECT: Hot Mix Asphalt (HMA)**

Section 401, Hot Mix Asphalt (HMA) - General, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

Delete in toto Subsection 401.02.6.2 on pages 248 and 249, and substitute:

**907-401.02.6.2--Assurance Program for Mixture Quality.** The Engineer will conduct a quality assurance program. The quality assurance program will be accomplished as follows:

- 1) Conducting verification tests.
- 2) Validate Contractor test results.
- 3) Periodically observing Contractor quality control sampling and testing.
- 4) Monitoring required quality control charts and test results.
- 5) Sampling and testing materials at any time and at any point in the production or laydown process.

The rounding of all test results will be in accordance with Subsection 700.04.

The Engineer will conduct verification tests on samples taken by the Contractor under the direct supervision of the Engineer at a time specified by the Engineer. The frequency will be equal to or greater than ten percent (10%) of the tests required for Contractor quality control and the data will be provided to the Contractor within two asphalt mixture production days after the sample has been obtained by the Engineer. At least one sample shall be tested from the first two days of 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. Certification shall be in accordance with the *MDOT HMA Technician Certification Program* chapter in the Materials Division Inspection, Testing, and Certification Manual. The Department shall post a chart giving the names and telephone numbers for the personnel responsible for the assurance program.

The Engineer shall be allowed to inspect Contractor testing equipment and equipment calibration records to confirm both calibration and condition. The Contractor shall calibrate and correlate all testing equipment in accordance with the latest versions of the Department's Test Methods and AASHTO Designation: R 18.

Random differences between the Engineer's verification tests and the current running average of four quality control tests at the time of obtaining the verification sample will be considered acceptable if within the following limits:



Item	Allowable Differences
Sieve - % Passing	
3/8-inch and above	6.0
No. 4	5.0
No. 8	4.0
No. 16, for 4.75 mm mixtures ONLY	3.5
No. 30	3.5
No. 200	2.0
AC Content	0.4
Specimen Bulk SG, Gmb @ $N_{Design}$	0.030
Maximum SG, Gmm	0.020

If four quality control tests have not been tested prior to the time of the first verification test, the verification test results will be compared to the average of the preceding quality control tests. If the verification test is the first material tested on the project or if a significant process adjustment was made just prior to the verification test, the verification test results will be compared to the average of four subsequent quality control test results. For all other cases after a significant process adjustment, the verification test results will be compared to the average of the preceding quality control tests (taken after the adjustment) as in the case of a new project start-up when four quality control tests are not available.

In the event that; 1) the comparison of the Contractor's running average quality control data and Engineer's quality assurance verification test results are outside the allowable differences in the above table, or 2) if a bias exists between the results, such that one of the results is predominately higher or lower than the other, and the Engineer's results fail to meet the JMF control limits, the Engineer will investigate the reason immediately. As soon as the need for an investigation becomes known, the Engineer will increase the quality assurance sampling rate to the same frequency required for Contractor testing. The additional samples obtained by the Engineer may be used as part of the investigation process or for routine quality assurance verification tests. The Engineer's investigation may include testing of the remaining quality control split samples, review and observation of the Contractor's testing procedures and equipment, and a comparison of split sample test results by the Contractor quality control laboratory, Department quality assurance laboratory and the Materials Division laboratory. The procedures outlined in the latest edition of MDOT's Field Manual for HMA may be used as a guide for the investigation. In the event that the Contractor's results are determined to be incorrect, the Engineer's results will be used for the quality control data and the appropriate payment for the mixture will be based on the procedures specified in Subsection 401.02.5.8(j).

The Engineer will periodically witness the sampling and testing being performed by the Contractor. The Engineer, both verbally and in writing, will promptly notify the Contractor of any observed deficiencies. When differences exist between the Contractor and the Engineer which cannot be resolved, a decision will be made by the State Materials Engineer, acting as the referee. The Contractor will be promptly notified in writing of the decision. If the deficiencies are not corrected, the Engineer will stop production until corrective action is taken.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT TO SPECIAL PROVISION NO. 907-403-4**

**DATE:** 03/30/2007

**SUBJECT:** Hot Mix Asphalt (HMA)

Before Subsection 907-403-05.2 on page 1, add the following:

Delete Subsection 403.03.5.5 on page 273 and substitute the following:

**907-403.03.5.5--Preliminary Leveling.** All irregularities of the existing pavement, such as ruts, cross-slope deficiencies, etc., shall be corrected by spot leveling, skin patching, feather edging or a wedge lift in advance of placing the first overall lift.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-403-4**

**CODE: (IS)**

**DATE: 11/04/2005**

**SUBJECT: Hot Mix Asphalt (HMA)**

Section 403, Hot Bituminous Pavement, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-403.05.2--Pay Items.** Add the "907" prefix to the pay items listed on page 275 & 276.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-407-1**

**CODE: (SP)**

**DATE: 02/26/2008**

**SUBJECT: Tack Coat**

Section 407, Tack Coat, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-407.02.1--Bituminous Material.** Delete the second sentence of the first paragraph of Subsection 407.02.1 on page 281, and substitute the following:

When not specified, the materials shall be as specified in Table 410-A on page 293.

**907-407.03.3--Application of Bituminous Material.** Delete the first paragraph of Subsection 407.03.3 on page 281, and substitute the following

Tack coat shall be applied with a distributor spray bar. A hand wand will only be allowed for applying tack coat on ramp pads, irregular shoulder areas, median crossovers, turnouts, or other irregular areas. Bituminous materials and application rates for tack coat shall be as specified in Table 410-A on page 293. Tack coat shall not be applied during wet or cold weather, after sunset, or to a wet surface. Emulsions shall be allowed to "break" prior to superimposed construction.

**907-407.05--Basis of Payment.** Delete the pay item at the end of Subsection 407.05 on page 282, and substitute the following:

907-407-A: Asphalt for Tack Coat \*

- per gallon

\* Grade may be specified

**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. 907-603-8

CODE: (SP)

DATE: 05/12/2008

SUBJECT: Culverts and Storm Drains

Section 603, Culverts and Storm Drains, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

### **907-603.03--Construction Requirements.**

**907-603.03.2--Bedding.** After the first paragraph of the Subsection 603.03.2 on page 356, add the following:

Non-rigid pipe used in cross drains and storm drains shall have a Class B bedding. Non-rigid pipe used in side drains shall have a Class C bedding. No separate measurement will be made for pipe bedding. Costs associated with pipe bedding shall be included in the cost of the pipe.

### **907-603.03.4--Joining Conduit.**

**907-603.03.4.1--Storm Drainage.** Delete the first sentence of the seventh paragraph of Subsection 603.03.4.1 on page 358, and substitute the following:

Flexible steel conduits shall be firmly joined by coupling bands.

**907-603.03.7--Backfilling.** After the first paragraph of the Subsection 603.03.7 on page 360, add the following:

Backfill of non-rigid corrugated polyethylene and poly (vinyl chloride) (PVC) pipe used in cross drains and storm drains shall be performed using one of the following methods:

1. Flowable fill meeting the requirements of Section 631 of the Standard Specifications. If flowable fill is used, care shall be taken to prevent the pipe from "floating".
2. Crushed stone aggregate meeting the requirements of Subsection 703.04.3 of the Standard Specification.

No separate measurement will be made for backfilling pipe. Costs associated with backfilling pipe will be included in the cost of the pipe.

**907-603.05--Basis of Payment.** Add the "907" prefix to pay item nos. 603-ALT, 603-MA thru 603-MH, 603-NA thru 603-NL, 603-PE, and 603-PVC on pages 364 thru 366.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-617-2

CODE: (IS)

| DATE: 08/12/2005

**SUBJECT: Right-Of-Way Markers**

Section 617, Right-Of-Way Markers, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is deleted in toto and replaced as follows:

### **SECTION 907-617 - RIGHT-OF-WAY MARKERS**

**907-617.01--Description.** This work consists of furnishing and placing right-of-way markers in accordance with the plans and these specifications and at points designated on the plans, 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.

Generally, Type “A” markers shall be placed in the ground and Type “B” markers shall be placed in concrete areas. The estimated quantity of markers will be shown on the plans, and it is the Contractor’s responsibility to verify the type and number of markers required.

**907-617.02--Materials.** The right-of-way marker shall be constructed using a reinforcement bar of the size indicated and a brass or bronze cap as indicated on the plan sheet. The cap shall be Mark-It® model C/M-HS-3-1/4B, Berntsen® 6000 Series, or approved equal. The cap shall be stamped with information indicated on the plans. The rebar shall meet the requirement of Section 711 of the Standard specifications.

Right-of-way markers for placement in concrete shall be Mark-It® model C/M-SS-3-1/4B, Berntsen® C Series, or approved equal brass or bronze stem designed marker. The cap shall be stamped with information indicated on the plans.

The witness post shall be made of fiberglass or Poly Vinyl Chloride (PVC) and shall not rust, rot or corrode within the service temperature range of -40°F to 140°F. It shall be of the color and size indicated in the plans or contract documents. The color shall not be painted on the marker but shall be pigmented into the material composition of the post. The post shall feature ultra violet (U.V.) inhibitors to eliminate cracking, peeling and deterioration of the post.

### **907-617.03--Construction Requirements.**

**907-617.03.1--General.** Markers shall be manufactured in accordance with the details shown on the plans and the requirements of this section.

| Prior to installation, the rebar shall be checked to assure there are no large burrs or mushrooming on the end that will receive the brass cap. Any burrs shall be filed or ground off before installation. The Contractor shall use rebar drivers to eliminate mushrooming of the rebar during

the driving operations.

Type "B" markers may be installed in freshly placed concrete or placed in cured concrete by drilling and anchoring. The marker shall be anchored using a bonding material recommended by the manufacturer of the marker.

The Contractor shall use specially designed post drivers or other means necessary to eliminate damage to the witness posts during installation. The Contractor will not be required to place witness posts in concrete.

All letters, symbols, and other markings shall be as shown on the plans and shall be neatly imprinted in the caps.

The markers shall be set at the locations designated on the plans, or as directed by the Engineer with assistance as needed by the District Surveyor. The markers shall be set to within 1/4 inch of the lines indicated or established and a minimum of two inches below to a maximum of six inches below the natural ground elevation.

The layout and placement of right-of-way markers shall be performed by, or under the supervision of, or directed by, a Licensed Professional Surveyor who is duly licensed and entitled to practice as a Professional Surveyor in the State of Mississippi and shall have responsible charge for these duties. The duties performed by said Professional shall conform to the definitions under the practice of "land surveying" in Mississippi Law. The location of the markers shall be as shown in the plans. Accuracy standards for placement of markers shall be 0.05 feet relative to the project control established by MDOT using either state plane coordinate monuments or centerline control monuments used for construction; or those accuracies as listed in the Mississippi State Board of Licensure for Professional Engineers and Surveyors publication entitled "Standards of Practice for Surveying in the State of Mississippi". The more stringent of these two accuracy standards will apply and shall be used. The Contractor shall not engage the services of any person in the employ of the Department for the performance of any of the work covered by this Section or any person who has been employed by the Department within the past six months, except those who have legitimately retired from service with the Department during this period.

The Department will establish, one time only, State Plane Coordinate System horizontal control monuments. It shall be the responsibility of the Contractor to establish additional control as may be required to facilitate the staking of the right-of-way. Control monuments set by the Contractor shall meet the minimum standards of surveying as required by the Mississippi State Board of Licensure for Professional Engineers and Surveyors. The accuracy of the control established by the Contractor shall be not less than 1:20,000 relative to the control provided by the Department. The Contractor shall reference, guard and protect control points from damage and obliteration. The Contractor shall verify the accuracy of the control points before proceeding with the installation.

**907-617.03.2--Removal of Existing Markers.** Existing right-of-way markers which are specified to be removed shall be removed in accordance with the plans or as directed by the



Engineer without additional compensation.

**907-617.03.3--Certification.** After all the markers are installed, the Licensed Professional Surveyor **tasked with responsible charge for this** installation shall submit a written certification to the Engineer certifying that all right of way markers were set at the locations designated on the plans, or otherwise directed by MDOT, and to the specified tolerances. The certification shall also include a copy of the right-of-way plan sheets with the right-of-way marker table completed for all locations in which the Licensed Professional Surveyor installed right-of-way markers. The table shall be completed showing the as-built (in-place) northing and easting location based on the State **Plane Coordinate** System. Each right-of-way plan sheet shall be signed and stamped by the Licensed Professional Surveyor.

The Licensed Professional Surveyor **tasked with responsible charge** will furnish a signed and stamped Final Right-of-Way Plat meeting the minimum standards of surveying **for a Class A, B, or C survey** as required by the Mississippi State Board of **Licensure** for Professional Engineers and Surveyors. **In no incidence shall the standards for surveying be less accurate than a Class C survey.**

The Final Right-of-Way Plat shall show all horizontal control points, whether provided by the Department or by the Contractor. In addition, the as-built project alignment shall be shown with stationing, curve data, and State Plane Coordinates for the BOP, PC's, PT's, and EOP.

**907-617.04--Method of Measurement.** Right-of-way markers will be measured by the unit. Such measurements shall include all the components and imprinting necessary for the right-of-way marker, the witness post and surveying decals, all labor, materials and incidentals necessary to furnish a complete in-place right-of-way marker.

**907-617.05--Basis of Payment.** Right-of-way markers will be paid for at the contract unit price per each, which shall be full compensation for completing the work.

Payment will be made under:

907-617-A: Right-of-Way Marker - per each

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-618-4**

**CODE: (SP)**

**DATE: 12/12/2006**

**SUBJECT: Placement of Temporary Traffic Stripe**

Section 618, Maintenance of Traffic and Traffic Control Plan, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-618.03.3--Safe Movement of Traffic.** Delete subparagraphs (2) and (3) of Subsection 618.03.3 on pages 415 & 416, and substitute the following:

- (2) Temporary edge lines on projects requiring shoulders constructed of granular material may be delayed for a period not to exceed three (3) days.

Temporary edge lines placed on the final pavement course of projects requiring paved shoulders with surface treatment may be placed on the adjacent shoulder in as near the permanent location as possible until the surface treatment is placed. When the edge lines are obliterated by the placement of the surface treatment, the edge lines shall be placed in the permanent stripe location. The replacement of edge lines may be delayed for a period not to exceed three (3) days for a two or three-lane roads.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-626-15**

**CODE: (IS)**

**DATE: 03/17/2008**

**SUBJECT: Thermoplastic Traffic Markings**

Section 626, Thermoplastic Traffic Markings, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-626.05--Basis of Payment.** Add the “907” prefix to the pay items listed on page 446.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENT TO SPECIAL PROVISION NO. 907-701-3**

**DATE: 10/01/2008**

**SUBJECT: Hydraulic Cement**

In Subsection 907-701.02.2.1 on page 3, delete the line in Table 1 addressing Severe Soluble Sulfate Conditions, and substitute the following:

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, 10% metakaolin, or 8% silica fume
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## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-701-3**

**CODE: (IS)**

**DATE: 11/30/2007**

**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 or Type I(MS), as defined by the description below Table 1. 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, metakaolin, or silica fume shall be as follows in Table 1.

**Table 1- Cementitious Materials for Soluble Sulfate Conditions**

Sulfate Exposure	Water-soluble sulfate (SO <sub>4</sub> ) in soil, % by mass	Sulfate (SO <sub>4</sub> ) 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, 10% metakaolin, or 8% silica fume
Severe	0.20 - 2.00	1,500 - 10,000	Type II ** cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, 10% metakaolin, 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 I cement conforming to AASHTO Designation: M85 with a maximum 8% tricalcium aluminate (C<sub>3</sub>A) may be used in lieu of Type II cement; this cement is given the designation "Type I(MS)". Type III cement conforming to AASHTO Designation: M85 with a maximum 8% tricalcium aluminate (C<sub>3</sub>A) 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. No additional cementitious materials shall be added to or as a replacement for blended cement.

\*\*\*\* 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. Neither metakaolin nor 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 I(SM) – Slag-modified Portland cement
- Type IS – Portland blast-furnace slag cement
- Type I(PM) – Pozzolan-modified Portland cement
- Type IP – Portland-pozzolan cement

Blended cement 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 2 and the “(MS)” suffix shall be added to the type designation.

**907-701.04.1.2--Alkali Content.** All blended cement types in this Subsection shall meet the Mortar expansion requirements listed in AASHTO Designation: M 240, Table 2.

**907-701.04.2--Replacement by Other Cementitious Materials.** 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.

**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 2.

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. 907-703-7

CODE: (SP)

DATE: 03/06/2009

SUBJECT: Aggregates

Section 703, Aggregates, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-703.03.2.4--Gradation.** Delete the last sentence of the last paragraph of Subsection 703.03.2.4 on page 611.

**907-703.04--Aggregate for Crushed Stone Courses.**

**907-703.04.1--Coarse Aggregate.** Delete the first sentence of the first paragraph of Subsection 703..04.1 on page 611, and substitute the following:

Coarse aggregate, defined as material retained on No. 8 sieve, shall be either crushed stone, slag, granite, shell, gravel, crushed concrete, or combination thereof.

**907-703.04.2--Fine Aggregate.** Delete the first sentence of the first paragraph of Subsection 703..04.2 on page 611, and substitute the following:

Fine aggregate, defined as material passing no. 8 sieve, shall be material resulting from the crushing of stone, slag, gravel, concrete, or combination thereof.

**907-703.04.3--Gradation.** Add the following to the "TABLE OF SIZES AND GRADATION OF CRUSHED STONE AGGREGATE" in Subsection 703.04.3 on page 613.

Sieve Size	Percent Passing By Weight	
	Size No. 825	Crushed Stone
2 inch	100	
1 1/2 inch	90 - 100	100
1 inch	75 - 98	90 - 100
3/4 inch		
1/2 inch	60 - 85	62 - 90
3/8 inch		
No. 4	40 - 65	30 - 65
No. 8	28 - 54	
No. 10		15 - 40
No. 16	19 - 42	
No. 40		
No. 50	9 - 27	
No. 200	4 - 18	3 - 16

After the "TABLE OF SIZES AND GRADATION OF CRUSHED STONE AGGREGATE" in Subsection 703.04.3 on page 613, add the following:

**907-703.04.4--Crushed Concrete.** Crushed reclaimed concrete shall also be allowed as a crushed aggregate course provided it meets the requirements of Subsection 703.04 and the following.

**Crushed Concrete**

Sieve Size	Percent Passing By Weight
2 inch	
1 1/2 inch	100
1 inch	90 - 100
3/4 inch	
1/2 inch	60 - 85
3/8 inch	
No. 4	40 - 65
No. 8	28 - 54
No. 10	
No. 16	19 - 42
No. 40	
No. 50	9 - 27
No. 200	2 - 18

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-708-5**

**CODE: (IS)**

**DATE: 05/12/2008**

**SUBJECT: Non-Metal Drainage Structures**

Section 708, Non-Metal Structures and Cattlepasses, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-708.02.1.2--Fly Ash.** In the first sentence of Subsection 708.02.1.2 on page 639, change “20 percent” to “25%”.

**907-708.02.3.2--Marking.** Delete the second sentence of Subsection 708.02.3.2 on page 640, and substitute the following:

Machine made pipe shall be marked in accordance with one of the following methods: 1) the pipe shall be inscribed on the outside of the pipe and stenciled on the inside of the pipe, or 2) the pipe shall be inscribed on the inside of the pipe, only. All other pipe may be stenciled.

**907-708.17--Corrugated Plastic Pipe Culverts.**

**907-708.17.1--Corrugated Polyethylene Pipe Culverts.** Delete the first sentence of the first paragraph of Subsection 708.17.1 on page 645 and substitute the following.

Corrugated polyethylene pipe shall conform to the requirements of AASHTO Designation: M 294, Type S and/or SP, as applicable, and shall have soil tight joints, unless otherwise specified.

Delete the last sentence of the second paragraph of Subsection 708.17.1 on page 645.

After Subsection 708.17.1 on page 645, add the following:

**907-708.17.1.1--Inspection and Final Acceptance of Corrugated Polyethylene Pipe Culverts.**

Approximately 50% of the installed length of corrugated polyethylene pipe shall be inspected for excess deflection no sooner than 30 days after the embankment material over the pipe is placed to the required subgrade elevation or the maximum required fill height. The inspection shall be performed using either electronic deflectometers, calibrated television or video cameras, or a “go, no-go” mandrel that has an effective diameter of 95% of the nominal inside diameter of the pipe.

Pipe found to have deflection values greater than 5% shall be removed and replaced at no cost to the State.

**907-708.17.2--Corrugated Poly (Vinyl Chloride) (PVC) Pipe Culverts.** Delete the first sentence of the first paragraph of Subsection 708.17.2 on page 645 and substitute the following.

Corrugated poly (vinyl chloride) (PVC) pipe shall conform to the requirements of AASHTO Designation: M 304 and shall have soil tight joints, unless otherwise specified. Non-perforated PVC pipe used in underdrains shall either be manufactured with an ultra-violet light inhibitor or be fully coated with an ultra-violet light inhibitor.

After Subsection 708.17.2 on page 645, add the following:

**907-708.17.2.1--Inspection and Final Acceptance of Poly (Vinyl Chloride) (PVC) Pipe Culverts.** Approximately 50% of the installed length of PVC pipe shall be inspected for excess deflection no sooner than 30 days after the embankment material over the pipe is placed to the required subgrade elevation or the maximum required fill height. The inspection shall be performed using either electronic deflectometers, calibrated television or video cameras, or a “go, no-go” mandrel that has an effective diameter of 95% of the nominal inside diameter of the pipe.

Pipe found to have deflection values greater than 5% shall be removed and replaced at no cost to the State.

**907-708.18--Sewer Pipe Used for Underdrains.**

**907-708.18.1--General.** After the second paragraph of Subsection 708.18.1 on page 645 add the following:

In lieu of the pipe listed in this subsection, pipe meeting the requirements of Subsection 708.19 may also be used for plastic underdrain pipe.

**907-708.18.3--Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe.** After the first sentence of Subsection 708.18.3 on page 645, add the following.

Non-perforated PVC pipe shall either be manufactured with an ultra-violet light inhibitor or be fully coated with an ultra-violet light inhibitor.

**907-708.18.4--Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe.** Delete the paragraph in Subsection 708.18.4 on page 645 and substitute the following.

This pipe shall conform to the following requirements. For pipe sizes less than or equal to six inches ( $\leq 6''$ ), the pipe shall be Class PS46 meeting the requirements of AASHTO Designation: M 278. For pipe sizes greater than six inches ( $> 6''$ ), the pipe shall meet the requirements of AASHTO Designation: M 304. Non-perforated PVC pipe shall either be manufactured with an ultra-violet light inhibitor or be fully coated with an ultra-violet light inhibitor.

Delete Subsection 708.19 on page 645 and substitute the following:

**907-708.19--Corrugated Polyethylene Pipe.** This pipe shall be high density polyethylene pipe or drainage tubing meet the requirements of AASHTO Designation: M 294, Type S or SP, or

AASHTO Designation: M 252, Type S or Type SP, as applicable.

**907-708.22.2--Exceptions to AASHTO.** Delete the sixth paragraph of Subsection 708.22.2 on page 647.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-709-1

CODE: (SP)

DATE: 05/05/2008

SUBJECT: Metal Pipe

Section 709, Metal Pipe, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

After Subsection 709.02 on page 649, add the following:

**907-709.02.1--Aluminized Corrugated Metal Culvert Pipe and Pipe Arches.** All aluminized metal pipe and arches shall be manufactured from Type 2 corrugated metal pipe and arches in accordance with the requirements of Subsection 709.02.

**907-709.03--Bituminous Coated Corrugated Metal pipe and Pipe Arches.**

**907-709.03.1--Materials.** Delete the first sentence of the first paragraph of Subsection 709.03.1 on page 649, and substitute the following:

Bituminous coated corrugated metal pipe and arches shall conform to the requirements of AASHTO Designation: M 190 and be completely coated inside and out with an asphalt cement which will meet the performance requirements hereinafter set forth.

**907-709.05--Polymer Coated Corrugated Metal Pipe and Pipe Arches.** Delete the first sentence of the first paragraph of Subsection 709.05 on pages 649 and 650, and substitute the following:

Polymer coated corrugated metal pipe and arches shall conform to the requirements of AASHTO Designation: M 245, except the minimum gauge thickness shall be as shown on the plans or in the contract; however, corrugated metal pipe manufactured from sheets thicker than that specified will be acceptable when approved by the Engineer. The internal diameter of corrugated metal pipe will be determined by inside measurement between the crests of the corrugations. Corrugations greater than 3" x 1" will not be allowed in arch pipe.

**907-709.06--Corrugated Metal Pipe for Underdrains.** Delete the sentence in Subsection 709.06 on page 650, and substitute the following:

Corrugated metal pipe shall conform to AASHTO Designation: M 36, Type III. Type I pipe which has been perforated to permit the in-flow or out-flow of water may be used in lieu of Type III pipe.

**907-709.06.1--Aluminized Corrugated Metal Culvert Pipe For Underdrains.** All aluminized corrugated metal pipe for underdrains shall be manufactured from Type 2 corrugated metal pipe

and arches in accordance with the requirements of AASHTO Designation: M 36, Type III. Manufacturer must repair any damaged coating caused from perforating the pipe.

**907-709.07--Bituminous Coated Corrugated Metal Pipe for Underdrains.** Delete the sentence in Subsection 709.07 on page 650, and substitute the following:

Bituminous coated corrugated metal pipe shall conform to the requirements of AASHTO Designation: M 190, Type A with a bituminous coating applied in accordance with the requirements of Subsection 709.03. Manufacturer must repair any damaged coating caused from perforating the pipe.

**907-709.08--Polymer Coated Corrugated Metal Pipe for Underdrains.** Delete the sentence in Subsection 709.08 on page 650, and substitute the following:

The metal pipe for underdrains shall conform to the requirements of AASHTO Designation: M 245, Type III and the polymer coating shall conform to the requirements of Subsection 709.05. Type I pipe which has been perforated to permit the in-flow or out-flow of water may be used in lieu of Type III pipe. Manufacturer must repair any damaged coating caused from perforating the pipe.

**907-709.09--Corrugated Aluminum Alloy Culvert Pipe and Arches.** Delete the first sentence in Subsection 709.09 on page 650, and substitute the following:

Corrugated aluminum culvert pipe and arches shall conform to the requirements of AASHTO Designation: M 196, Type IA.

**907-709.10--Corrugated Aluminum Alloy Pipe for Underdrains.** Delete the first sentence in Subsection 709.10 on page 650, and substitute the following:

Corrugated aluminum pipe underdrains shall conform to the requirements of AASHTO Designation: M 196, Type III. Type I pipe which has been perforated to permit the in-flow or out-flow of water may be used in lieu of Type III pipe.

**907-709.11--Bituminous Coated Corrugated Aluminum Alloy Culvert Pipe and Arches.** Delete the sentence in Subsection 709.11 on page 650, and substitute the following:

Bituminous coated aluminum culvert pipe and arches shall conform to AASHTO Designation: M 196, Type IA, and in addition shall be coated inside and out as specified in Subsection 709.03. Manufacturer must repair any damaged coating caused from perforating the pipe.

**907-709.13--Bituminous Coated Corrugated Aluminum Alloy Pipe for Underdrains.** Delete the sentence in Subsection 709.13 on page 650, and substitute the following:

This pipe shall conform to AASHTO Designation: M 196, Type III, and shall be coated with bituminous material conforming to AASHTO Designation: M 190, type coating as specified. Manufacturer must repair any damaged coating caused from perforating the pipe.



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-711-3

CODE: (IS)

DATE: 09/26/2005

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. Synthetic structural fibers shall meet the requirements of ASTM Designation: C 1116, Section 4.1.3, Note 3. The fibers shall be monofilament made of polypropylene or polypropylene/polyethylene blend meeting the following conditions:

<u>Property</u>	<u>Results</u>
Length, minimum .....	1.5 inches
Aspect Ratio (length / equivalent diameter) .....	90
Breaking tenacity, minimum * .....	530 mN/tex
(Tensile Strength, minimum .....	70 ksi)
Chord modulus, minimum * .....	980 cN/tex
(Modulus of Elasticity, minimum .....	1,300 ksi)

\* When tested in accordance with ASTM Designation: D 3822

The dosage rate for the fibers shall be a minimum of three pounds per cubic yard (3 lb / yd<sup>3</sup>). The dosage rate for the fibers when used in pile encasements shall be a minimum of four pounds per cubic yard (4 lb / yd<sup>3</sup>).

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.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-713-1**

**CODE: (IS)**

**DATE: 12/11/2007**

**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 Contractor's responsibility 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 Portland Cement Concrete.** Admixtures shall only be approved by the Department for classification as a single type following the applicable types from AASTHO Designation: M 154 or M 194, or the definition of a mid-range water reducer listed below with the following exception: when requested by the manufacturer the Department will consider classifying an admixture as both a Type A and a Type D. Admixtures shall only be used in accordance with the manufacturer's recommended dosage range for that type. Where an admixture is classified as both a Type A and Type D, the dosage range for use as a Type A shall not overlap the dosage range for use as a Type D.

Air-entraining admixtures shall comply with AASHTO Designation: M 154. Set-retarding, accelerating, and/or water-reducing admixtures shall comply with AASHTO Designation: M 194. Mid-range water-reducers are classified as water-reducing admixtures that reduce the mix water a minimum of 8% when compared to a control mix with no admixtures when tested in accordance with the requirements in AASHTO Designation: M 194. The type designation for admixtures approved by the Department and classified as meeting the requirements of a mid-range water-reducer shall be "MR".

**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.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SUPPLEMENT TO SPECIAL PROVISION NO. 907-714-5

**DATE:** 04/21/2009

**SUBJECT:** Miscellaneous Materials

Delete the second exception under the first paragraph in Subsection 907-714.05.2 regarding the strength activity index.

Delete Subsection 907-714.11.6 on page 5, and substitute the following:

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.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-714-5

CODE: (IS)

DATE: 06/18/2008

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 6.0%.**

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 exceptions:

The loss on ignition shall not exceed 6.0 percent.

The strength activity index with Portland cement shall be at least 55 percent of the control mix at seven days.

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.

**907-714.11.6--Rapid Setting Commercial Grouts and Concrete Patching Compounds.** Delete the first sentence of the first paragraph of Subsection 714.11.6 on page 690 and substitute the following:

Rapid setting commercial grouts and 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.

**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. 907-715-3

CODE: (IS)

DATE: 01/25/2008

SUBJECT: Roadside Development Materials

Section 715, Roadside Development Materials, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-715-02.2.1--Agricultural Limestone. Delete the first sentence of Subsection 715-02.2.1 on page 704 and substitute the following.

Agricultural limestone shall be either a hard-rock limestone material or a marl or chalk agricultural liming material as addressed in the latest amendment to the Mississippi Agricultural Liming Material Act of 1993, published by the Mississippi Department of Agriculture and Commerce.

907-715.02.2.1.1--Screening Requirements. Delete the first sentence of Subsection 715.02.2.1.1 on page 704.

Delete Subsection 715.02.2.1.2 on page 704 and substitute the following:

907-715-02.2.1.2--Calcium Carbonate Equivalent. 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.

907-715-02.2.1.3--Neutralizing Values. Hard-rock limestone material shall have a minimum Relative Neutralizing Value (RNV) of 63.0%, which is determined as follows:

$$\% \text{ RNV} = \text{CCE} \times (\% \text{ passing \#10 mesh} + \% \text{ passing \#50 mesh})/2$$

Where: CCE = Calcium Carbonate Equivalent

907-715.03--Seed.

907-715.03.2--Germination and Purity Requirements. Add the following to Table B on page 705.

Name (Kind)	Name (Variety)	Percent Germination	Percent Purity
<b>GRASSES</b>			
Rye Grass	Annual	80	98

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-720-1**

**CODE: (IS)**

**DATE: 3/17/2008**

**SUBJECT: Pavement Markings Materials**

Section 720, Pavement Marking Materials, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-720.02--Thermoplastic Pavement Markings.** Delete the first paragraph of Subsection 720.02 on page 730 and substitute the following:

The thermoplastic material shall be lead free and conform to AASHTO Designation: M 249 except the glass beads shall be moisture resistant coated.

After the first sentence of the second paragraph of Subsection 720.02 on page 730, add the following:

In addition, the certification for the thermoplastic material shall state that the material is lead free.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SUPPLEMENT TO SPECIAL PROVISION NO. 907-804-8

**DATE:** 06/09/2008

**SUBJECT:** Concrete Bridges and Structures

Before the first sentence of 907-804.02.1 on page 1, add the following:

Delete the third and fourth sentences of the first paragraph of Subsection 804.02.1 on page 846, and substitute the following:

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.

Before the first sentence of Subsection 907-804.02.10 on page 2, add the following:

Delete the first sentence of the first paragraph of Subsection 804.02.10 on page 850 and substitute the following:

At least 30 days prior to production of concrete, the Contractor shall submit to the Engineer proposed concrete mix designs complying with the Department's *Concrete Field Manual*.

Delete the second paragraph of Subsection 907-804.02.11 on page 3 and substitute the following:

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.

Delete Subsection 907-804.02.13 on page 4 and substitute the following:

**907-804.02.13--Quality Assurance Sampling and Testing.** Delete subparagraph c) in Subsection 804.02.13 on page 858 and substitute the following:

- 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.

In Table 5 of Subsection 804.02.13 on page 858, delete "and FM" from the requirements on line A.3.

After Subsection 907-804.02.13.1.4 on page 4, add the following:

**907-804.02.13.1.5--Compressive Strength.** Delete the heading of the second paragraph of Subsection 804.02.13.1.5 on page 860 and substitute the following:

**Projects with 1000 Cubic Yards and More.**

Delete the second heading in Subsection 804.02.13.1.5 on page 860 and substitute the following:

**Projects of More Than 200 but Less Than 1000 Cubic Yards.**

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION NO. 907-804-8**

**CODE: (IS)**

**DATE: 02/05/2008**

**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 amended as follows:

**907-804.02-- Materials.**

**907-804.02.1--General.** Add the following materials to the list of materials in Subsection 804.02.1 on page 847.

- Blended Cement..... 907-701.01 and 907-701.04
- Ground Granulated Blast Furnace Slag (GGBFS)..... 907-714.06
- Metakaolin ..... 907-714.07
- Silica Fume ..... 907-714.07.2

**907-804.02.8--Laboratory Accreditation.** In Table 1 of Subsection 804.02.8 on page 849, substitute AASHTO: R 39 - Making and Curing Concrete Test Specimens in the Laboratory for AASHTO: T 126 - Making and Curing Concrete Test Specimens in the Laboratory.

**907-804.02.9--Testing Personnel.** Delete Table 2 in this subsection and replace it with the following.

**Table 2**

<b>Concrete Technician's Tasks</b>	<b>Test Method Required</b>	<b>Certification Required**</b>
Sampling or Testing of Plastic Concrete	AASHTO Designation:T 23, T 119, T 121, T 141, 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 an 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
Interpretation and Application of Maturity Meter Readings	AASHTO Designation: T 325 and ASTM Designation: C 1074	MDOT Class III or Two hours maturity method training

- \* Technicians making concrete test specimens for meeting the requirements of Subsection 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.

For specifics about the requirements for each level of certification, please refer to the latest edition of the Department's *Concrete Field Manual*. Technicians holding current MDOT Class I, MDOT Class II and/or MDOT Class III certifications shall be acceptable until those certifications expire. Upon a current certification expiration, recertification with the certifications listed in Table 2 shall be required. Technicians currently 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 Mix Design.** Delete the Notes under Table 3 of Subsection 804.02.10 on pages 850 & 851, and substitute the following:

- \* Maximum size aggregate shall conform to the concrete mix design for the specified aggregate.
- \*\* The replacement limits of Portland cement by weight by other cementitious materials (such as fly ash, GGBFS, metakaolin, 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.
- \*\*\* The slump may be increased up to six (6) inches with an approved mid-range water reducer or up to eight (8) inches with an approved type F or G high range water reducer, in accordance with 907-713.02. Minus slump requirements shall meet those set forth in Table 3 of AASHTO M157 specifications.
- \*\*\*\* Entrained air is not required except for concrete exposed to seawater. For concrete exposed to seawater, the total air content shall be 3.0 % to 6.0%. For concrete not exposed to seawater, the total air content shall not exceed 6.0%.
- \*\*\*\*\* Class DS Concrete for drilled shafts shall have an  $8\pm 1$ -inch slump.

Delete the last paragraph of Subsection 804.02.10 on page 851 and substitute the following:

Either Type A, D, F, G or mid-range chemical admixture, shall be used in all classes of concrete. Any combinations of water reducing admixtures shall be approved by the Engineer before their use.

**907-804.02.10.1.1--Proportioning on the Basis of Previous Field Experience of Trial Mixtures.** Delete the first sentence of the first paragraph of Subsection 804.02.10.1.1 on page 851, and substitute the following:



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.

**907-804.02.10.3--Field Verification of Concrete Mix Design.** Delete the third sentence of the third paragraph of Subsection 804.02.10.3 on page 853, and substitute the following:

If the requirements of yield, slump, or total air content are not met within three (3) production days after the first placement, subsequent field verification testing shall not be permitted on department projects, and the mix design shall not be used until the requirements listed above are met

**907-804.02.10.4--Adjustments of Mixture Proportions.** Delete the paragraph in Subsection 804.02.10.4 on page 854, and substitute the following:

The mixture 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 804.02.10.3 and approval by the Engineer.

**907-804.02.11--Concrete Batch Plants.** Delete the first three paragraphs of Subsection 804.02.11 on page 854, and substitute the following:

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 large volume projects 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 small volume projects, the concrete batch 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.** Delete the fourth paragraph of Subsection 804.02.12 on page 854 & 855, and substitute the following:

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 is allowed to be added. Water shall not be added at a later time. If the maximum permitted slump is exceeded after the addition of water at the job site, the concrete shall be rejected.

**907-804.02.12.3--Documentation.** After the second sentence of the second paragraph of Subsection 804.02.12.3 on page 856, add the following:

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. Batch tickets shall also contain the concrete producer's permanent unique mix number assigned to the concrete mix design.

**907-804.02.12.5--Non-Conforming Materials.** In Table 4 of Subsection 804.02.12.5 on page 857, delete “/ FM” from the requirements on line B.3.a.

**907-804.02.13--Quality Assurance Sampling and Testing.** In Table 5 of Subsection 804.02.13 on page 858, delete “and FM” from the requirements on line A.3.

**907-804.02.13.1.4--Temperature.** Delete the first paragraph of Subsection 804.02.13.1.4 on pages 859 & 860, and substitute the following:

Cold weather concreting shall follow the requirements of Subsection 907-804.03.16.1. Hot weather concreting shall follow the requirements of Subsection 804.03.16.2 with a maximum temperature of 95°F for Class DS concrete or for concrete mixes containing cementitious materials meeting the requirements of Subsection 907-701.02.2 as a replacement of Portland cement. For other concrete mixes, the maximum concrete temperature shall be 90°F. Concrete with a temperature more than the maximum allowable temperature shall be rejected and not used in Department work.

**907-804.03--Construction Requirements.**

**907-804.03.15--Removal of Falsework, Forms, and Housing.** Delete the first sentence of the second paragraph of Subsection 804.03.15 on page 871, and substitute the following:

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.

Delete the first sentence of the third paragraph of Subsection 804.03.15 on page 871, and substitute the following:

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.

Delete the fourth and fifth paragraphs of Subsection 804.03.15 on pages 871 & 872, and substitute the following:

The cylinders shall be cured under conditions which are not more favorable than those existing for the portions of the structure which they represent.

Delete the table in Subsection 804.03.15 on page 872, and substitute the following:

**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

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**

<b>Structure Component</b>	<b>Quantity of Concrete</b>	<b>No. of Probes</b>
Slabs, beams, walls, & miscellaneous items	0 - 30 yd <sup>3</sup>	2
	> 30 to 60 yd <sup>3</sup>	3
	> 60 to 90 yd <sup>3</sup>	4
	> 90 yd <sup>3</sup>	5
Footings, Columns & Caps	0 - 13 yd <sup>3</sup>	2
	> 13 yd <sup>3</sup>	3
Pavement, Pavement Overlays	1200 yd <sup>2</sup>	2
Pavement Repairs	Per repair or 900 yd <sup>2</sup> Whichever is smaller	2

**907-804.03.16--Cold or Hot Weather Concreting.**

**907-804.03.16.1--Cold Weather Concreting.** After the third paragraph of Subsection 804.03.16.1 on page 873, add the following:

In lieu of the protection and curing of concrete in cold weather, 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.

Rename the Table in Subsection 804.03.16.1 on page 874 from "Table 6" to "Table 8".

**907-804.03.19--Finishing Concrete Surfaces.**

**907-804.03.19.7--Finishing Bridge Floors.**

**907-804.03.19.7.4--Acceptance Procedure for Bridge Deck Smoothness.** After the first sentence of the second paragraph of Subsection 804.03.19.7.4 on page 886, add the following:

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.

**907-804.05--Basis of Payment.** Add the "907" prefix to the pay items listed on page 898.

### **SPECIAL PROVISION NO. 906-3**

#### **Training Special Provisions**

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," (Attachment 1), and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor's equal employment opportunity affirmative action program training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under this special provision will be as indicated in the bid schedule of the contract.

In the event that a Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the State highway agency for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeymen status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a

journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the State highway agency and the Federal Highway Administration. The State highway agency and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A

Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

## **SPECIAL PROVISION NO. 906-6**

### **MISSISSIPPI DEPARTMENT OF TRANSPORTATION ON-THE-JOB TRAINING PROGRAM**

#### **ALTERNATE TRAINING SPECIAL PROVISION**

##### **PURPOSE**

The purpose of the On-The-Job Training (OJT) Program is to provide training for minority, female and economically disadvantaged individuals in order that they may develop marketable skills and gain journey status in the skilled craft classifications in which they are being trained.

##### **INTRODUCTION**

This voluntary OJT Program has been developed through the partnering efforts of the Road Builders of Mississippi, the Federal Highway Administration (FHWA) and the Mississippi Department of Transportation (MDOT).

The OJT Program has been designed for use by participating contractors and subcontractors in meeting their training needs. The objective of the OJT Program is to develop skilled workers in the skilled craft trade areas of highway construction who are sufficiently trained to be productive employees in the highway construction industry work force.

The success of the OJT Program will require that contractors and subcontractors take part in the program and follow uniform procedures in training and in tracking trainee's progress.

##### **FUNDING**

MDOT will establish an annual OJT Fund from which, contractors and subcontractors may bill the Department directly for hours worked by trainees. The funding source of this money will be state and federal funds for MDOT's OJT Program.

##### **DISBURSEMENT OF FUNDS**

MDOT will pay \$3.00 per hour toward the trainee's salary for each hour of training performed by each trainee in an approved training program. Program reimbursements will be made directly to the prime or sub contractor. Requests for payment will be submitted to the Office of Civil Rights for approval.

Contractors must provide a signed invoice providing the following information to be reimbursed.

- Contractor's Name
- Mailing Address
- Trainee Name
- Social Security Number



- Race
- Sex
- Project Number
- Job Classification
- Total Number of Hours Completed

### **TRAINING PROGRAM APPROVAL**

A. To use the OJT Program on highway construction projects, the contractor will notify the Department Office of Civil Rights using the On-the-Job Trainee Schedule Form. The notification must include the following information:

- Trainee Starting Date
- Project number (s) trainee starting on
- Training program (classification) to be used; and
- Number of Training Hours Required

B. If a contractor chooses to use a training program different from those listed in the OJT Program Manual, or desires to train in a different classification, the training program must be submitted in its entirety for approval by the Department and FHWA. The training proposal must include the following:

1. The primary objective of the program: To provide training for minority, female and economically disadvantaged individuals for development to full journey status in the work classifications in which they are being trained.
2. The minimum number of hours and type of training the trainee will receive as it relates to each specific task required to achieve journey status.
3. No less than minimum wage.
4. Trainee certification of completion.
5. Records and reports submitted to the Office of Civil Rights on a monthly basis.

### **DEPARTMENT RESPONSIBILITY**

1. Department project staff will monitor trainees on the project. They will monitor payrolls for payment of correct wage rates and fringe benefits. The Office of Civil Rights will maintain a master list by contractor name, project number, trainee name and trainee social security number to aid project staff in monitoring trainees who work on multiple projects.
2. The Office of Civil Rights may elect to interview trainees periodically during the training period to assess their performance and training program.

## **CONTRACTOR RESPONSIBILITY**

1. Trainees must be identified on payrolls (i.e. dragline trainee).
2. When any trainee completes a program, or is terminated for a reason or reasons other than successful completion, the contractor must include the date of completion or an explanation for the termination and date of termination on the OJT Termination Report.
3. The contractor will assign each trainee to a particular person--either a supervisor or a journeyman/woman who is proficient in the craft the trainee is being trained in, to ensure that timely instructional experience is received by the trainee. This person, cooperating with the appropriate company personnel, will see that proper records and the total intended training hours are completed during the allocated number of hours set up in the classification criteria.
4. The contractor has the prerogative of terminating the training period of the trainee and advancing the trainee to journey status. Approval requests must be submitted to the Office of Civil Rights with an explanation (*refer to 2 above*).
5. Upon notification from the contractor, the Department will issue a skill verification card and certificate of training to the trainee.
6. Trainees may be transferred to state-aid highway construction projects in order to complete the training program. If transfers are made the Office of Civil Rights must be notified on the Monthly Trainee Form. All of the training hours completed by trainees will count toward overall program completion.
7. Program reimbursements will be made directly to the prime or sub contractor.

## **WAGE RATE**

The wage rate for all trainees is [the current Minimum Federal Wage Rate](#), during their OJT training program. Trainees shall be paid full fringe benefit amounts, where applicable. At the completion of the training program, the trainee shall receive the wages of a skilled journey.

## **RECRUITMENT AND SELECTION PROCEDURES**

### A. Prerequisites for Trainees

To be qualified for enrollment in the OJT Program, trainees must possess basic physical fitness for the work to be performed, dependability, willingness to learn and ability to follow instructions.

### B. Licenses

Truck driver trainees must possess appropriate driver permits or licenses for the operation of Class A, B and C trucks. However, when an instructional permit is used in lieu of a license, the trainee must be accompanied by an operator who:

1. Holds a license corresponding to the vehicle being operated;
2. Has had at least one year of driving experience; and
3. Is occupying the seat next to the driver.

#### C. Recruitment

1. Notices and posters setting forth the contractor's Equal Employment Opportunity Policy and availability of training programs will be placed in areas readily accessible to employees, applicants for employment and potential employees.
2. The contractor must target minority, female or economically disadvantaged trainees.
3. The contractor will conduct systematic and direct recruitment through public and private employee referral sources. Contractors must submit the trainee's name and completed application form to the Office of Civil Rights for review and approval. Approval must be obtained before the trainee can begin work under the training program.
4. Present employees will be screened for upgrading.

#### D. Selection

1. The selection and employment of a person by participating contractor shall qualify the person for the OJT Program.
  2. Selection will be made without regard to race, color, religion, sex, age or national origin and shall be completely nondiscriminatory.
  3. Employment of trainees will be in accordance with the work force requirements of the contractor. Each contractor will hire and train the trainees for uses in their own organization.
  4. Written certification of individuals under the category of economically disadvantaged can be provided to the contractor at the time of the interview. This certification must then be provided to the Office of Civil Rights with the other required information as part of the approval process for trainees.
- **NOTE:** The OJT Program is to provide training for minority, female and economically disadvantaged individuals in order that they may develop marketable skills and gain journey status in the skilled craft classifications in which they are being trained. However, this program does not exclude trainees that are not members of the above groups.

# SECTION 905 - PROPOSAL

Date \_\_\_\_\_

Mississippi Transportation Commission  
Jackson, Mississippi

Sirs: The following proposal is made on behalf of \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_

for constructing the following designated project(s) within the time(s) hereinafter specified.

The plans are composed of drawings and blue prints on file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

The Specifications are the current Standard Specifications of the Mississippi Department of Transportation approved by the Federal Highway Administration, except where superseded or amended by the plans, Special Provisions and Notice(s) to Bidders attached hereto and made a part thereof.

I (We) certify that I (we) possess a copy of said Standard and Supplemental Specifications.

Evidence of my (our) authority to submit the Proposal is hereby furnished. The proposal is made without collusion on the part of any person, firm or corporation. I (We) certify that I (we) have carefully examined the Plans, the Specifications, including the Special Provisions and Notice(s) to Bidders, herein, and have personally examined the site of the work. On the basis of the Specifications, Special Provisions, Notice(s) to Bidders, and Plans, I (we) propose to furnish all necessary machinery, tools, apparatus and other means of construction and do all the work and furnish all the materials in the manner specified. I (We) understand that the quantities mentioned herein 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, in accordance with the above.

Attached hereto is a certified check, cashier's check or Proposal Guaranty Bond in the amount as required in the Advertisement (or, by law).

**INSTRUCTION TO BIDDERS:** Alternate and Optional Items on Bid Schedule.

1. Two or more items entered opposite a single unit quantity WITHOUT DEFINITE DESIGNATION AS "ALTERNATE ITEMS" are considered as "OPTIONAL ITEMS". Bidders may or may not indicate on bids the Optional Item proposed to be furnished or performed WITHOUT PREJUDICE IN REGARD TO IRREGULARITY OF BIDS.
2. Items classified on the bid schedule as "ALTERNATE ITEMS" and/or "ALTERNATE TYPES OF CONSTRUCTION" must be preselected and indicated on bids. However, "Alternate Types of Construction" may include Optional Items to be treated as set out in Paragraph 1, above.
3. Optional items not preselected and indicated on the bid schedule MUST be designated in accordance with Subsection 102.06 prior to or at the time of execution of the contract.
4. Optional and Alternate items designated must be used throughout the project.

I (We) further propose to perform all "force account or extra work" that may be required of me (us) on the basis provided in the Specifications and to give such work my (our) personal attention in order to see that it is economically performed.

**SECTION 905 -- PROPOSAL (CONTINUED)**

I (We) further propose to execute the attached contract agreement (Section 902) as soon as the work is awarded to me (us), and to begin and complete the work within the time limit(s) provided for in the Specifications and Advertisement. I (We) also propose to execute the attached contract bond (Section 903) in an amount not less than one hundred (100) percent of the total of my (our) part, but also to guarantee the excellence of both workmanship and materials until the work is finally accepted.

I (We) enclose a certified check, cashier's check or bid bond for **five percent (5%) of total bid** and hereby agree that in case of my (our) failure to execute the contract and furnish bond within Ten (10) days after notice of award, the amount of this check (bid bond) will be forfeited to the State of Mississippi as liquidated damages arising out of my (our) failure to execute the contract as proposed. It is understood that in case I am (we are) not awarded the work, the check will be returned as provided in the Specifications.

Respectfully Submitted,

DATE \_\_\_\_\_

\_\_\_\_\_  
Contractor

BY \_\_\_\_\_  
Signature

TITLE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

PHONE \_\_\_\_\_

FAX \_\_\_\_\_

E-MAIL \_\_\_\_\_

(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

The following is my (our) itemized proposal.

Section 905  
 Proposal (Sheet 2 - 1)

STP-0168-00(010) / 102384301 STP-0168-00(010) / 102384302 STP-7570-00(004) / 102384303  
 Amite & Pike Counties

Reconstructing SR 570 West of I-55 near McComb, known as Federal Aid Project Nos. STP-0168-00(010) / 102384301, STP-0168-00(010) / 102384302, & STP-7570-00(004) / 102384303, in the Counties of Amite & Pike, State of Mississippi.

I (We) agree to complete the entire project within the specified contract time.

**\*\*\* SPECIAL NOTICE TO BIDDERS \*\*\***

**BIDS WILL NOT BE CONSIDERED UNLESS BOTH UNIT PRICES AND ITEM TOTALS ARE ENTERED.  
 BIDS WILL NOT BE CONSIDERED UNLESS THE BID CERTIFICATION LOCATED AT THE END OF THE BID SHEETS IS SIGNED**

**\*\*\*BID SCHEDULE\*\*\***

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Item Amount	
						Dollar	Ct	Dollar	Ct
<b>Roadway Items</b>									
0010	201-A001		1	Lump Sum	Clearing and Grubbing	XXXXXXXX	XXX		
0020	201-B001		1	Acre	Clearing and Grubbing				
0030	202-B005		13,977	Square Yard	Removal of Asphalt Pavement, All Depths				
0040	202-B018		2,899	Square Yard	Removal of Concrete Driveways, All Depths				
0050	202-B042		2	Each	Removal of Flared End Section, All Sizes				
0060	202-B076		600	Linear Feet	Removal of Traffic Stripe				
0070	202-B094		700	Linear Feet	Removal of Curb &/or Curb and Gutter, All Types				
0080	202-B106		2,784	Linear Feet	Removal of Pipe, All Sizes				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0090	202-B108		10	Linear Feet	Removal of Curb Inlets				
0100	202-B231		7	Each	Removal of Fire Hydrant				
0110	202-B259		8	Each	Removal of Water Meters, All Sizes				
0120	203-A003	(E)	42,871	Cubic Yard	Unclassified Excavation, FM, AH				
0130	203-G003	(E)	28,661	Cubic Yard	Excess Excavation, FM, AH				
0140	206-A001	(S)	1,559	Cubic Yard	Structure Excavation				
0150	209-A004		30,667	Square Yard	Geotextile Stabilization, Type V, Non-Woven				
0160	212-A001		134,106	Square Yard	Light Ground Preparation				
0170	212-B001		268,210	Square Yard	Standard Ground Preparation				
0180	213-B001		35	Ton	Combination Fertilizer, 13-13-13				
0190	213-C001		29	Ton	Superphosphate				
0200	214-A001		1,387	Pounds	Seeding, Bahiagrass				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0210	214-A003		416	Pounds	Seeding, Tall Fescue				
0220	214-A004		555	Pounds	Seeding, Crimson Clover				
0230	214-A014		555	Pounds	Seeding, Browntop Millet				
0240	214-A015		2,495	Pounds	Seeding, Oats				
0250	214-A017		694	Pounds	Seeding, Rye Grass				
0260	215-A001		140	Ton	Vegetative Materials for Mulch				
0270	216-A001		11,374	Square Yard	Solid Sodding				
0280	217-A001		22,615	Square Yard	Ditch Liner				
0290	219-A001		228	Thousand Gallon	Watering	20.	00	4,560.	00
0300	220-A001		29	Acre	Insect Pest Control	30.	00	870.	00
0310	221-A001	(S)	1,730	Cubic Yard	Portland Cement Concrete Paved Ditch				
0320	223-A001		49	Acre	Mowing	40.	00	1,960.	00



Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0330	234-A001		10,022	Linear Feet	Temporary Silt Fence				
0340	235-A001		2,300	Bale	Temporary Erosion Checks				
0350	236-A001		93	Each	Silt Basin, Type A				
0360	239-A001		360	Linear Feet	Temporary Slope Drains				
0370	305-B001	(GY )	2,729	Cubic Yard	Size I Stabilizer Aggregate, Coarse				
0380	423-A001		10	Mile	Rumble Strips, Ground In				
0390	503-C005		173	Linear Feet	Saw Cut, 8-inch				
0400	602-A001	(S )	442	Pounds	Reinforcing Steel				
0410	603-CA003	(S )	480	Linear Feet	24" Reinforced Concrete Pipe, Class III				
0420	603-CA004	(S )	392	Linear Feet	30" Reinforced Concrete Pipe, Class III				
0430	603-CA005	(S )	124	Linear Feet	36" Reinforced Concrete Pipe, Class III				
0440	603-CB001	(S )	1	Each	18" Reinforced Concrete End Section				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0450	603-CB002	(S)	20	Each	24" Reinforced Concrete End Section				
0460	603-CB003	(S)	12	Each	30" Reinforced Concrete End Section				
0470	603-CB004	(S)	4	Each	36" Reinforced Concrete End Section				
0480	603-CE003	(S)	56	Linear Feet	36" x 23" Concrete Arch Pipe, Class A III				
0490	603-CE004	(S)	64	Linear Feet	44" x 27" Concrete Arch Pipe, Class A III				
0500	603-CE005	(S)	56	Linear Feet	51" x 31" Concrete Arch Pipe, Class A III				
0510	603-CE006	(S)	72	Linear Feet	58" x 36" Concrete Arch Pipe, Class A III				
0520	603-CE007	(S)	160	Linear Feet	65" x 40" Concrete Arch Pipe, Class A III				
0530	603-CE009	(S)	64	Linear Feet	88" x 54" Concrete Arch Pipe, Class A III				
0540	603-CF003	(S)	2	Each	36" x 23" Concrete Arch Pipe End Section				
0550	603-CF004	(S)	2	Each	44" x 27" Concrete Arch Pipe End Section				
0560	603-CF005	(S)	2	Each	51" x 31" Concrete Arch Pipe End Section				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0570	603-CF006	(S)	2	Each	58" x 36" Concrete Arch Pipe End Section				
0580	603-CF007	(S)	4	Each	65" x 40" Concrete Arch Pipe End Section				
0590	603-CF009	(S)	2	Each	88" x 54" Concrete Arch Pipe End Section				
0600	604-A001		79	Pounds	Castings				
0610	604-B001		762	Pounds	Gratings				
0620	609-D002	(S)	5,091	Linear Feet	Combination Concrete Curb and Gutter Type 2				
0630	609-D006	(S)	559	Linear Feet	Combination Concrete Curb and Gutter Type 1 Modified				
0640	614-B001	(S)	1,174	Square Yard	Concrete Driveway, With Reinforcement				
0650	616-A001	(S)	1,346	Square Yard	Concrete Median and/or Island Pavement, 4-inch				
0660	616-A003	(S)	216	Square Yard	Concrete Median and/or Island Pavement, 10-inch				
0670	618-A001		1	Lump Sum	Maintenance of Traffic	XXXXXXXXXX	XXX		
0680	619-A1002		19	Mile	Temporary Traffic Stripe, Continuous White				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0690	619-A2002		19	Mile	Temporary Traffic Stripe, Continuous Yellow				
0700	619-A3006		1	Mile	Temporary Traffic Stripe, Skip White				
0710	619-A4006		5	Mile	Temporary Traffic Stripe, Skip Yellow				
0720	619-A5001		44,300	Linear Feet	Temporary Traffic Stripe, Detail				
0730	619-A6001		1,697	Linear Feet	Temporary Traffic Stripe, Legend				
0740	619-A6002		1,504	Square Feet	Temporary Traffic Stripe, Legend				
0750	619-D1001		428	Square Feet	Standard Roadside Construction Signs, Less than 10 Square Feet				
0760	619-D2001		1,176	Square Feet	Standard Roadside Construction Signs, 10 Square Feet or More				
0770	619-D4001		116	Square Feet	Directional Signs				
0780	619-G4001		744	Linear Feet	Barricades, Type III, Single Faced				
0790	619-G4005		72	Linear Feet	Barricades, Type III, Double Faced				
0800	619-G5001		242	Each	Free Standing Plastic Drums				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0810	619-G7001		6	Each	Warning Lights, Type "B"				
0820	620-A001		1	Lump Sum	Mobilization	XXXXXXXX	XXX		
0830	627-K001		127	Each	Red-Clear Reflective High Performance Raised Markers				
0840	627-L001		1,799	Each	Two-Way Yellow Reflective High Performance Raised Markers				
0850	699-A001		1	Lump Sum	Roadway Construction Stakes	XXXXXXXX	XXX		
0860	815-A006	(S)	221	Ton	Loose Riprap, Size 100				
0870	815-E001	(S)	310	Square Yard	Geotextile under Riprap				
0880	907-213-A001		168	Ton	Agricultural Limestone				
0890	907-225-A001		1	Acre	Grassing				
0900	907-260-A003		3	Each	Package Simplex Grinder Pump Station, Electrical and Installion				
0910	907-261-A001	(S)	143	Linear Feet	2" Diameter PVC Force Main Pipe, SDR 26, in 6" HDPE Casing				
0920	907-261-A002	(S)	30	Linear Feet	Bored Crossing, Without Casing				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0930	907-261-A003	(S)	545	Linear Feet	8" Diameter PVC in 16" Steel Casing				
0940	907-261-A004	(S)	55	Linear Feet	8" Diameter PVC in Steel Casing				
0950	907-262-A002	(S)	475	Linear Feet	1 1/4" Pressure Service Line				
0960	907-262-H001		2	Each	Connection to Existing Manhole				
0970	907-263-A002	(S)	750	Linear Feet	2" Diameter PVC Force Main Pipe, SDR 26				
0980	907-263-A004	(S)	450	Linear Feet	8" Diameter PVC SS				
0990	907-265-A002	(S)	6,800	Linear Feet	8" PVC Pipe, C-900				
1000	907-265-C002		4,300	Pounds	Ductile Iron Fittings				
1010	907-265-D002		29	Each	8" Gate Valve and Value Box				
1020	907-265-D003		2	Each	6" Gate Valve and Value Box				
1030	907-265-D004		10	Each	8" Plug Valve and Value Box				
1040	907-265-D005		1	Each	6" Plug Valve and Value Box				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
1050	907-265-D006		1	Each	2" Plug Valve and Value Box				
1060	907-265-F002		11	Each	Fire Hydrant Assembly, 3-Way, With Box and Cover				
1070	907-265-H002	(S)	1	Each	Connection to Existing Cleanout				
1080	907-265-I002		4	Each	Service Line Shutoff Box				
1090	907-265-J001	(S)	700	Linear Feet	Solid Location Wire, #12				
1100	907-265-J002		3	Each	Connection to Existing 6" Water Main				
1110	907-265-J003		2	Each	Connection to Existing 8" Water Main				
1120	907-265-K001		1	Each	Cap Existing 1" Water Main				
1130	907-265-K002		1	Each	Cap Existing 2" Water Main				
1140	907-265-K003		1	Each	Cap Existing 6" Water Main				
1150	907-265-K004		1	Each	Cap Existing 8" Water Main				
1160	907-304-A004	(GY)	21,197	Cubic Yard	Granular Material, LVM, Class 6, Group C				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
1170	907-304-H002	(GY)	9,548	Cubic Yard	3/4" and Down Crushed Stone Base, LVM				
1180	907-403-A011	(BA1)	13,250	Ton	Hot Mix Asphalt, ST, 12.5-mm mixture				
1190	907-403-A012	(BA1)	5,834	Ton	Hot Mix Asphalt, ST, 19-mm mixture				
1200	907-403-A015	(BA1)	10,026	Ton	Hot Mix Asphalt, ST, 9.5-mm mixture				
1210	907-403-B007	(BA1)	8,777	Ton	Hot Mix Asphalt, ST, 12.5-mm mixture, Leveling				
1220	907-403-C005	(BA1)	1,827	Ton	Hot Mix Asphalt, ST, 19-mm mixture, Trench Widening				
1230	907-601-B003	(S)	15	Cubic Yard	Class "B" Structural Concrete, Minor Structures				
1240	907-603-ALT01	(S)	5,508	Linear Feet	18" Type A Alternate Pipe				
1250	907-603-ALT02	(S)	248	Linear Feet	24" Type A Alternate Pipe				
1260	907-604-C001	(S)	2	Each	Precast Manhole, 48-inch Diameter				
1270	907-617-A001		99	Each	Right-of-Way Marker				
1280	907-626-A003		1	Mile	6" Thermoplastic Traffic Stripe, Skip White				



Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
1290	907-626-B004		3	Mile	6" Thermoplastic Traffic Stripe, Continuous White				
1300	907-626-C004		9	Mile	6" Thermoplastic Edge Stripe, Continuous White				
1310	907-626-D003		3	Mile	6" Thermoplastic Traffic Stripe, Skip Yellow				
1320	907-626-E004		10	Mile	6" Thermoplastic Traffic Stripe, Continuous Yellow				
1330	907-626-G004		16,920	Linear Feet	Thermoplastic Detail Stripe, White				
1340	907-626-G005		4,706	Linear Feet	Thermoplastic Detail Stripe, Yellow				
1350	907-626-H004		870	Linear Feet	Thermoplastic Legend, White				
1360	907-626-H005		752	Square Feet	Thermoplastic Legend, White				

\*\*\* BID CERTIFICATION \*\*\*

TOTAL BID.....\$\_\_\_\_\_

\*\*\* DBE/WBE SECTION \*\*\*

Complete item nos. 1, 2, and/or 3 as appropriate. See Notice to Bidders addressing Disadvantaged Business Enterprises in Highway Construction.

1. I/We agree that no less than \_\_\_\_\_ percent shall be expended with small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE and WBE).
2. Classification of Bidder: Small Business (DBE)\_\_\_\_\_ Small Business (WBE)\_\_\_\_\_
3. A joint venture with a Small Business (DBE/WBE): \_\_\_\_\_

\*\*\* SIGNATURE STATEMENT \*\*\*

BIDDER ACKNOWLEDGES THAT HE/SHE HAS CHECKED ALL ITEMS IN THIS PROPOSAL FOR ACCURACY AND CERTIFIED THAT THE FIGURES SHOWN THEREIN CONSTITUTE THEIR OFFICIAL BID.

\_\_\_\_\_  
BIDDER'S SIGNATURE

\_\_\_\_\_  
BIDDER'S COMPANY

\_\_\_\_\_  
BIDDER'S FEDERAL TAX ID NUMBER

**CONDITIONS FOR COMBINATION BID**

If a bidder elects to submit a combined bid for two or more of the contracts listed for this month's letting, the bidder must complete and execute these sheets of the proposal in each of the individual proposals to constitute a combination bid. In addition to this requirement, each individual contract shall be completed, executed and submitted in the usual specified manner.

Failure to execute this Combination Bid Proposal in each of the contracts combined will be just cause for each proposal to be received and evaluated as a separate bid.

\*\*\*\*\*

**COMBINATION BID PROPOSAL**

I. This proposal is tendered as one part of a Combination Bid Proposal utilizing option \_\_\_\* of Subsection 102.11 on the following contracts:

\* Option to be shown as either (a), (b), or (c).

<u>Project No.</u>	<u>County</u>	<u>Project No.</u>	<u>County</u>
1. _____	_____	6. _____	_____
2. _____	_____	7. _____	_____
3. _____	_____	8. _____	_____
4. _____	_____	9. _____	_____
5. _____	_____	10. _____	_____

A. If option (a) has been selected, then go to II, and sign Combination Bid Proposal.

B. If option (b) has been selected, then complete the following, go to II, and sign Combination Bid Proposal.

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
1. _____	_____ _____	_____ _____	_____ _____	_____ _____	
2. _____	_____ _____	_____ _____	_____ _____	_____ _____	
3. _____	_____ _____	_____ _____	_____ _____	_____ _____	
4. _____	_____ _____	_____ _____	_____ _____	_____ _____	
5. _____	_____ _____	_____ _____	_____ _____	_____ _____	
6. _____	_____ _____	_____ _____	_____ _____	_____ _____	
7. _____	_____ _____	_____ _____	_____ _____	_____ _____	
8. _____	_____ _____	_____ _____	_____ _____	_____ _____	

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
9. _____	_____ _____	_____ _____	_____ _____	_____ _____	
10. _____	_____ _____	_____ _____	_____ _____	_____ _____	

C. If option (c) has been selected, then initial and complete one of the following, go to II. and sign Combination Bid Proposal.

\_\_\_\_\_ I (We) desire to be awarded work not to exceed a total monetary value of \$ \_\_\_\_\_.

\_\_\_\_\_ I (We) desire to be awarded work not to exceed \_\_\_\_\_ number of contracts.

II. It is understood that the Mississippi Transportation Commission not only reserves the right to reject any and all proposals, but also the right to award contracts upon the basis of lowest separate bids or combination bids most advantageous to the State.

It is further understood and agreed that the Combination Bid Proposal is for comparison of bids only and that each contract shall operate in every respect as a separate contract in accordance with its proposal and contract documents.

I (We), the undersigned, agree to complete each contract on or before its specified completion date.

SIGNED \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Certification with regard to the Performance of Previous  
Contracts or Subcontracts subject to the Equal Opportunity  
Clause and the filing of Required Reports**

The Bidder \_\_\_\_\_, proposed Subcontractor \_\_\_\_\_, hereby certifies that he has \_\_\_\_\_, has not \_\_\_\_\_, participated in a previous contract or subcontract subject to the Equal Opportunity Clause, as required by Executive Orders 10925, 11114, or 11246, and that he has \_\_\_\_\_, has not \_\_\_\_\_, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

\_\_\_\_\_  
(COMPANY)

BY \_\_\_\_\_

\_\_\_\_\_  
(TITLE)

DATE: \_\_\_\_\_

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7 (b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the Equal Opportunity Clause. Contracts and Subcontracts which are exempt from the Equal Opportunity Clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such Contractors submit a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U. S. Department of Labor.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

CERTIFICATION  
(Execute in duplicate)

I, \_\_\_\_\_,  
(Name of person signing certification)

individually, and in my capacity as \_\_\_\_\_ of  
(Title)

\_\_\_\_\_ do hereby certify under  
(Name of Firm, Partnership, or Corporation)

penalty of perjury under the laws of the United States and the State of Mississippi that \_\_\_\_\_

\_\_\_\_\_, Bidder  
(Name of Firm, Partnership, or Corporation)

on Project No. **STP-0168-00(010) / 102384301 & 302, & STP-7570-00(004) /102384303**,

in **Amite, Pike** County(ies), Mississippi, has not 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 contract; nor have any of its corporate officers or principal owners.

Except as noted hereafter, it is further certified that said legal entity and its corporate officers, principal owners, managers, auditors and others in a position of administering federal funds:

- a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in (b) above; and
- d) Have not within a three-year period preceding this application/ proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Initial here "\_\_\_\_\_" if exceptions are attached and made a part thereof. Any exceptions shall address to whom it applies, initiating agency and dates of such action.

Note: Exceptions will not necessarily result in denial of award but will be considered in determining bidder responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

The bidder further certifies that the certification requirements contained in Section XI of Form FHWA 1273, will be or have been included in all subcontracts, material supply agreements, purchase orders, etc. except those procurement contracts for goods or services that are expected to be less than the Federal procurement small purchase threshold fixed at 10 U.S.C. 2304(g) and 41 U.S.C. 253(g) (currently \$25,000) which are excluded from the certification requirements.

The bidder further certifies, to the best of his or her knowledge and belief, that:

- 1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this contract, Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions will be completed and submitted.

The certification contained in (1) and (2) above is a material representation of fact upon which reliance is placed and a prerequisite imposed by Section 1352, Title 31, U.S. Code prior to entering into this contract. Failure to comply shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000. The bidder shall include the language of the certification in all subcontracts exceeding \$100,000 and all subcontractors shall certify and disclose accordingly.

All of the foregoing and attachments (when indicated) is true and correct.

Executed on \_\_\_\_\_  
Signature \_\_\_\_\_



**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

CERTIFICATION  
(Execute in duplicate)

I, \_\_\_\_\_,  
(Name of person signing certification)

individually, and in my capacity as \_\_\_\_\_ of  
(Title)

\_\_\_\_\_ do hereby certify under  
(Name of Firm, Partnership, or Corporation)

penalty of perjury under the laws of the United States and the State of Mississippi that \_\_\_\_\_

\_\_\_\_\_, Bidder  
(Name of Firm, Partnership, or Corporation)

on Project No. **STP-0168-00(010) / 102384301 & 302, & STP-7570-00(004) /102384303**,

in **Amite, Pike** County(ies), Mississippi, has not 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 contract; nor have any of its corporate officers or principal owners.

Except as noted hereafter, it is further certified that said legal entity and its corporate officers, principal owners, managers, auditors and others in a position of administering federal funds:

- a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in (b) above; and
- d) Have not within a three-year period preceding this application/ proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Initial here "\_\_\_\_\_" if exceptions are attached and made a part thereof. Any exceptions shall address to whom it applies, initiating agency and dates of such action.

Note: Exceptions will not necessarily result in denial of award but will be considered in determining bidder responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

The bidder further certifies that the certification requirements contained in Section XI of Form FHWA 1273, will be or have been included in all subcontracts, material supply agreements, purchase orders, etc. except those procurement contracts for goods or services that are expected to be less than the Federal procurement small purchase threshold fixed at 10 U.S.C. 2304(g) and 41 U.S.C. 253(g) (currently \$25,000) which are excluded from the certification requirements.

The bidder further certifies, to the best of his or her knowledge and belief, that:

- 1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this contract, Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions will be completed and submitted.

The certification contained in (1) and (2) above is a material representation of fact upon which reliance is placed and a prerequisite imposed by Section 1352, Title 31, U.S. Code prior to entering into this contract. Failure to comply shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000. The bidder shall include the language of the certification in all subcontracts exceeding \$100,000 and all subcontractors shall certify and disclose accordingly.

All of the foregoing and attachments (when indicated) is true and correct.

Executed on \_\_\_\_\_  
Signature

**S E C T I O N   9 0 2**

CONTRACT FOR STP-0168-00(010) / 102384301 & 302, & STP-7570-00(004) /102384303

LOCATED IN THE COUNTY(IES) OF Amite, Pike

STATE OF MISSISSIPPI,

COUNTY OF HINDS

This contract entered into by and between the Mississippi Transportation Commission on one hand, and the undersigned contractor, on the other witnesseth;

That, in consideration of the payment by the Mississippi Transportation Commission of the prices set out in the proposal hereto attached, to the undersigned contractor, such payment to be made in the manner and at the time of times specified in the specifications and the special provisions, if any, the undersigned contractor hereby agrees to accept the prices stated in the proposal in full compensation for the furnishing of all materials and equipment and the executing of all the work contemplated in this contract.

It is understood and agreed that the advertising according to law, the Advertisement, the instructions to bidders, the proposal for the contract, the specifications, the revisions of the specifications, the special provisions, and also the plans for the work herein contemplated, 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.

It is further agreed that for the same consideration the undersigned contractor shall be responsible for all loss or damage arising out of the nature of the work aforesaid; or from the action of the elements and unforeseen obstructions or difficulties which may be encountered in the prosecution of the same and for all risks of every description connected with the work, exceptions being those specifically set out in the contract; and for faithfully completing the whole work in good and workmanlike manner according to the approved Plans, Specifications, Special Provisions, Notice(s) to Bidders and requirements of the Mississippi Department of Transportation.

It is further agreed that the work shall be done under the direct supervision and to the complete satisfaction of the Executive Director of the Mississippi Department of Transportation, or his authorized representatives, and when Federal Funds are involved subject to inspection at all times and approval by the Federal Highway Administration, or its agents as the case may be, or the agents of any other Agency whose funds are involved in accordance with those Acts of the Legislature of the State of Mississippi approved by the Governor and such rules and regulations issued pursuant thereto by the Mississippi Transportation Commission and the authorized Federal Agencies.

The Contractor agrees that all labor as outlined in the Special Provisions may be secured from list furnished by

It is agreed and understood that each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and this contract shall be read and enforced as though it were included herein, and, if through mere mistake or otherwise any such provision is not inserted, then upon the application of either party hereto, the contract shall forthwith be physically amended to make such insertion.

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.

Witness our signatures this the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Contractor (s)

By \_\_\_\_\_

MISSISSIPPI TRANSPORTATION COMMISSION

Title \_\_\_\_\_

By \_\_\_\_\_

Signed and sealed in the presence of:  
(names and addresses of witnesses)

Executive Director

\_\_\_\_\_  
Secretary to the Commission

Award authorized by the Mississippi Transportation Commission in session on the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, Minute Book No. \_\_\_\_\_, Page No. \_\_\_\_\_.

S E C T I O N   9 0 3

CONTRACT BOND FOR: STP-0168-00(010) / 102384301 & 302, & STP-7570-00(004)  
/102384303

LOCATED IN THE COUNTY(IES) OF: Amite, Pike

STATE OF MISSISSIPPI,

COUNTY OF HINDS

Know all men by these presents: that we, \_\_\_\_\_

\_\_\_\_\_ Principal, a \_\_\_\_\_

residing at \_\_\_\_\_ in the State of \_\_\_\_\_

and \_\_\_\_\_

residing at \_\_\_\_\_ in the State of \_\_\_\_\_,

authorized to do business in the State of Mississippi, under the laws thereof, as surety, are held and firmly bound unto the State of Mississippi 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. \_\_\_\_\_.

The conditions of this bond are such, that whereas the said \_\_\_\_\_

\_\_\_\_\_ principal, has (have) entered into a contract with the Mississippi Transportation Commission, bearing the date of \_\_\_\_\_ day of \_\_\_\_\_ A.D. \_\_\_\_\_ hereto annexed, for the construction of certain projects(s) in the State of Mississippi as mentioned in said contract in accordance with the Contract Documents therefor, on file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

Now therefore, if the above bounden \_\_\_\_\_

\_\_\_\_\_ in all things shall stand to and abide by and well 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 terms 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 Subsection 109.11 of the approved specifications, and save harmless said Mississippi Transportation Commission 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 the State at the instance of the Mississippi Transportation Commission or any officer of the State

**SECTION 903 - CONTINUED**

authorized in such cases, for double any amount in money or property, the State may lose or be overcharged or otherwise defrauded of, by reason of 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 therefor, including premiums incurred, for Surety Bonds, Liability Insurance, and Workmen's Compensation Insurance; with the additional obligation that such Contractor shall promptly make payment of all taxes, licenses, assessments, contributions, damages, any liquidated damages which may arise prior to any termination of said principal's contract, any liquidated damages which may arise after termination of the said principal's contract due to default on the part of said principal, 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 in accordance with Sections 31-5-51 et seq. Mississippi Code of 1972, and other State statutes applicable thereto, and shall carry out to the letter and to the satisfaction of the Executive Director of the Mississippi Department of Transportation, all, each and every one of the stipulations, obligations, conditions, covenants and agreements and terms of said contract in accordance with the terms thereof and all of the expense and cost and attorney's fee that may be incurred in the enforcement of the performance of said contract, or 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 and seals this the \_\_\_\_\_ day of \_\_\_\_\_ A.D. \_\_\_\_\_.

_____	_____
(Contractors) Principal	Surety
By _____	By _____
	(Signature) Attorney in Fact
	Address _____
	_____
Title _____	_____
(Contractor's Seal)	Mississippi Resident Agent
	_____
	(Signature) Mississippi Resident Agent
	Address _____
	_____
	_____
	(Surety Seal)



# BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we \_\_\_\_\_  
Contractor

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State ZIP

as Principal, hereinafter called the Principal, and \_\_\_\_\_

a corporation duly organized under the laws of the state of \_\_\_\_\_

as Surety, hereinafter called the Surety, are held and firmly bound unto State of Mississippi, Jackson, Mississippi

As Obligee, hereinafter called Obligee, in the sum of **Five Per Cent (5%) of Amount Bid**  
Dollars (\$ \_\_\_\_\_)

for the payment of which sum will and truly to be made, the said Principal and said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for **Reconstructing SR 570 West of I-55 near McComb, known as Federal Aid Project Nos. STP-0168-00(010) / 102384301, STP-0168-00(010) / 102384302, & STP-7570-00(004) /102384303, in the Counties of Amite & Pike, State of Mississippi.**

NOW THEREFORE, the condition of this obligation is such that if the aforesaid Principal shall be awarded the contract, the said Principal will, within the time required, enter into a formal contract and give a good and sufficient bond to secure the performance of the terms and conditions of the contract, then this obligation to be void; otherwise the Principal and Surety will pay unto the Obligee the difference in money between the amount of the bid of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former, but in no event shall liability hereunder exceed the penal sum hereof.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 2009

\_\_\_\_\_  
(Principal) (Seal)

\_\_\_\_\_  
(Witness)

By: \_\_\_\_\_  
(Name) (Title)

\_\_\_\_\_  
(Surety) (Seal)

\_\_\_\_\_  
(Witness)

By: \_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_  
MS Resident Agent

\_\_\_\_\_  
Mississippi Insurance ID Number

Bid bond must be signed or countersigned by a qualified Mississippi resident agent and the bidder as per Section 102.08 of the Mississippi Standard Specifications for Road and Bridge Construction, 2004 edition.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
OFFICE OF CIVIL RIGHTS  
JACKSON, MISSISSIPPI  
**LIST OF FIRMS SUBMITTING QUOTES**

I/we received quotes from the following firms on Project No: **STP-0168-00(010) / 102384301  
& 302, & STP-7570-00(004) /102384303**

County: **Amite, Pike**

Disadvantaged Business Enterprise (DBE) Regulations as stated in 49 CFR 26.11 require the Mississippi Department of Transportation (MDOT) to create and maintain a comprehensive list of all firms quoting/bidding subcontracts on prime contracts and quoting/bidding subcontracts on federally-funded transportation projects. For every firm, we require the following information:

Firm Name: \_\_\_\_\_  
Contact Name/Title: \_\_\_\_\_  
Firm Mailing Address \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
\_\_\_\_\_ DBE Firm \_\_\_\_\_ Non-DBE Firm

Firm Name: \_\_\_\_\_  
Contact Name/Title: \_\_\_\_\_  
Firm Mailing Address \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
\_\_\_\_\_ DBE Firm \_\_\_\_\_ Non-DBE Firm

Firm Name: \_\_\_\_\_  
Contact Name/Title: \_\_\_\_\_  
Firm Mailing Address \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
\_\_\_\_\_ DBE Firm \_\_\_\_\_ Non-DBE Firm

Firm Name: \_\_\_\_\_  
Contact Name/Title: \_\_\_\_\_  
Firm Mailing Address \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
\_\_\_\_\_ DBE Firm \_\_\_\_\_ Non-DBE Firm

Firm Name: \_\_\_\_\_  
Contact Name/Title: \_\_\_\_\_  
Firm Mailing Address \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
\_\_\_\_\_ DBE Firm \_\_\_\_\_ Non-DBE Firm

\_\_\_\_\_  
**SUBMITTED BY (Signature)**

\_\_\_\_\_  
**FIRM NAME**

Submit this form to **Contract Administration as a part of your bid package**. If this form is not **signed** and included as part of the bid packet, your bid will be deemed irregular. For further information about this form, call Mississippi DOT's Office of Civil Rights at (601) 359-7466; FAX (601) 576-4504.  
**Please make copies of this form when needed and also add those copies to the bid package.**