MDOT Use Only

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SM No. CSTP0055010941

PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

(NONEXEMPT)

11
Site Improvements to the Welcome Center on I-55, known as Federal Aid Project No. STP/IM-0055-01(094) / 105569301 & 302, in the County of Pike, State of Mississippi.

Project Completion: October 13, 2010

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

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

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(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, October 27, 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, October 27, 2009, and shortly thereafter publicly opened for:

Site Improvements to the Welcome Center on I-55, known as Federal Aid Project No. STP/IM-0055-01(094) / 105569301 & 302, in the County of 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.

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 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 a 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 5 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
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. 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.

Offense	Percentage of the monetary amount disallowed from (1) above	Lump Sum
# 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. 1405 **CODE: (IS)**

DATE: 03/15/2007

SUBJECT: ERRATA AND MODIFICATIONS TO THE 2004 STANDARD SPECIFICATIONS

Page	Subsection	Change
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 “ $\leq$ ”.

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.

Pay Item	Description
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 7th Street, SW
Washington, DC 20590
(202) 366-2212

or

http://ops.fhwa.dot.gov/freight/sw/brdgcalc/calc_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. 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 containation 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-0055-01(094)
105569-301000/302000
PIKE COUNTY
September 11, 2009

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

NONE.

STATUS OF POTENTIALLY CONTAMINATED SITES
STP-0055-01(094)
105569-301000
PIKE COUNTY
May 11, 2009

THERE IS NO RIGHT OF WAY REQUIRED FOR THIS PROJECT. NO INITIAL SITE ASSESSMENT WILL BE PERFORMED. IF CONTAMINATION ON EXISTING RIGHT OF WAY IS DISCOVERED, IT WILL BE HANDLED BY THE DEPARTMENT.

STATUS OF POTENTIALLY CONTAMINATED SITES
STP/IM -0055-01(094)
105569-302000
PIKE COUNTY
August 14, 2009

THERE IS NO RIGHT OF WAY REQUIRED FOR THIS PROJECT. NO INITIAL SITE ASSESSMENT WILL BE PERFORMED. IF CONTAMINATION ON EXISTING RIGHT OF WAY IS DISCOVERED, IT WILL BE HANDLED BY THE DEPARTMENT.

ASBESTOS CONTAMINATION STATUS OF BUILDINGS
TO BE REMOVED BY THE CONTRACTOR
STP-0055-01(094)
105569-301000
PIKE COUNTY
May 11, 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 is no Right of Way required for this project. There are no buildings to be removed by the contractor.

ASBESTOS CONTAMINATION STATUS OF BUILDINGS
TO BE REMOVED BY THE CONTRACTOR
STP/IM -0055-01(094)
105569-302000
PIKE COUNTY
August 14, 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 is no Right of Way required for this project. There are no buildings to be removed by the contractor.

ENCROACHMENT CERTIFICATION

STP/IM-0055-01(094)
155569301 & 302
PIKE COUNTY(IES)
09/11/2009

This is to certify that the above captioned project has been inspected and no encroachments were found.

UTILITY STATUS REPORT

STP/IM-0055-01(094)
155569301 & 302
PIKE COUNTY(IES)
September 8, 2009

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

Forty-eight hours prior to commencing any excavation, the Contractor is advised to call MS-One-Call at 1-800-227-6477.

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

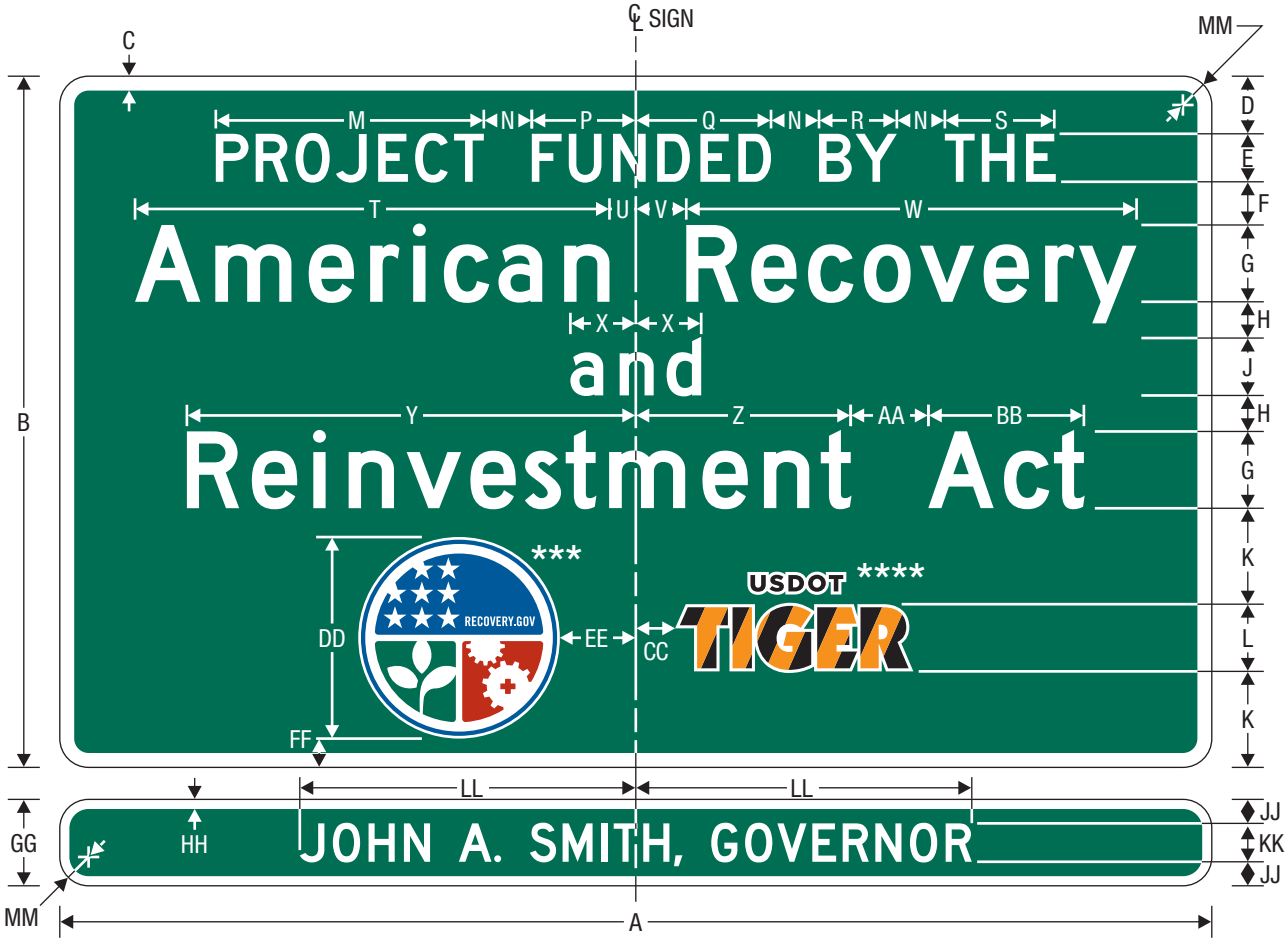
SUBJECT: American Recovery and Reinvestment Act (ARRA) Sign

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	4 D* (3 LC)	7.25	5	19.047	4	7.362

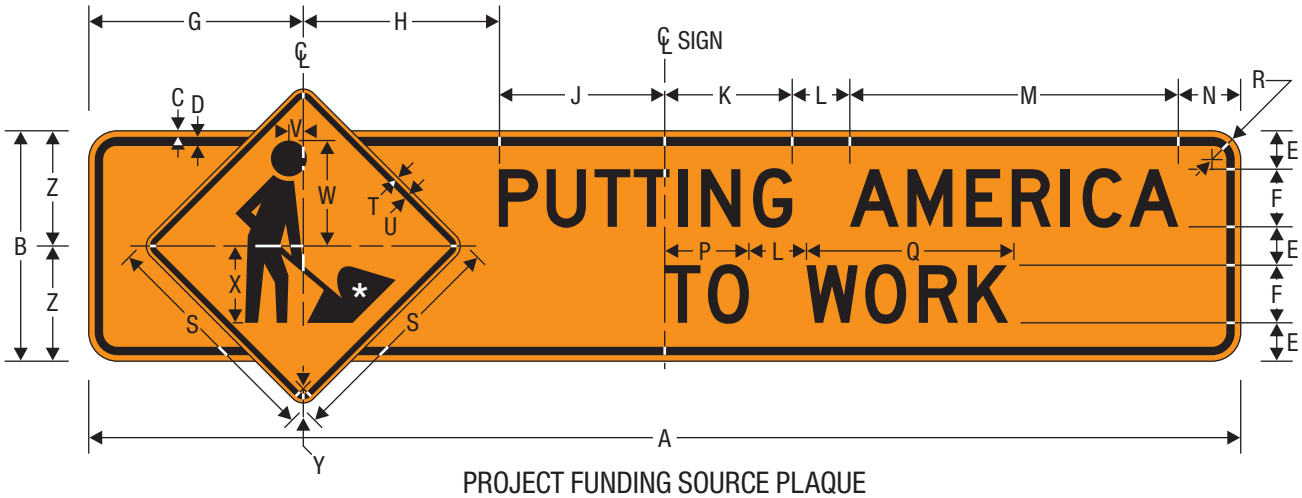
Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD
9.484	5.162	7.763	31.722	2.415	3.585	30.552	4.542	30.911	14.737	6	10.175	3	15

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



PROJECT FUNDING SOURCE PLAQUE

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

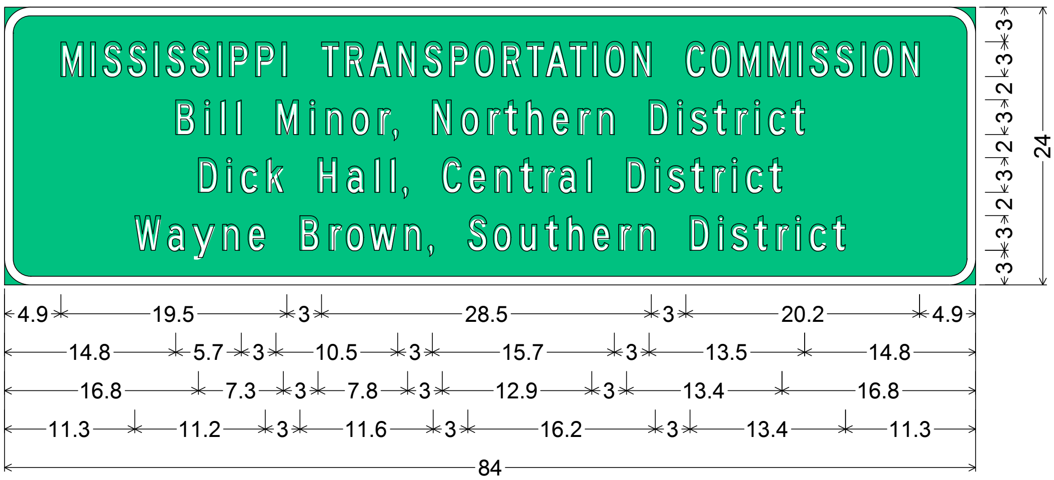
RECOVERY
Vector-Based, Vinyl-Ready Pictograph

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.

	M	I	S	S	I	S	S	I	P	P	I
4.9	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	

	C	O	M	M	I	S	S	I	O	N	
4.6	2.2	2.3	2.6	2.6	1.1	2.1	2.3	1.0	2.4	1.6	4.9

	B	i	l	l	M	i	n	o	r	,	N	o	r	t	h	e	r	n
14.8	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	

	D	i	s	t	r	i	c	t	
4.4	2.5	1.1	2.0	1.9	1.7	1.2	2.0	1.1	14.8

	D	i	c	k	H	a	l	l	,	C	e	n	t	r	a	l
16.8	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	

	D	i	s	t	r	i	c	t	
3.4	2.5	1.1	1.9	1.9	1.7	1.2	2.0	1.1	16.8

	W	a	y	n	e	B	r	o	w	n	,	S	o	u	t	h	e	r	n
11.3	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	

	D	i	s	t	r	i	c	t	
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. 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 4th 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 20th 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 included 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").

MONTHLY EMPLOYMENT REPORT
AMERICAN RECOVERY AND REINVESTMENT ACT

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
Prime Contractor Direct, On-Project Jobs (see guidance for definitions)			
Subcontractor Direct, On-Project Jobs			
Subcontractor Name			
Prime and Subcontractor Totals	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 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.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 – NOTICE TO BIDDERS NO. 2773 **CODE: (SP)**

DATE: **9/9/2009**

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

	Per Gallon	Per Liter
Gasoline	$2.1738	$0.5743
Diesel	$2.2452	$0.5931

MATERIALS OF CONSTRUCTION

ASPHALT CEMENT	Per Gallon	Per Ton	Per Liter	Per Metric Ton
Viscosity Grade AC-5	$1.7366	$412.00	$0.4588	$454.14
Viscosity Grade AC-10	$1.7422	$413.33	$0.4602	$455.61
Viscosity Grade AC-20	$1.7036	$404.17	$0.4500	$445.51
Viscosity Grade AC-30	$1.6895	$400.83	$0.4463	$441.83
Grade PG 64-22	$1.6619	$394.29	$0.4390	$434.62
Grade PG 67-22	$1.7041	$404.29	$0.4502	$445.65
Grade PG 76-22	$2.3042	$546.67	$0.6087	$602.59
Grade PG 82-22	$2.5360	$601.67	$0.6700	$663.22

EMULSIFIED ASPHALTS, PRIMES, & TACK COATS

Grade EA-4 (SS-1)	$2.2971	$0.6068
Grade RS-2C (CRS-2)	$1.9304	$0.5100
Grade CRS-2P	$2.2805	$0.6024
Grade EA-1, MC-70 & AE-P	$2.4113	$0.6370
Grade SS-1 & 1H	$2.3000	$0.6076
Grade CSS-1 & 1H (Undiluted)	$2.3000	$0.6076
Grade CSS-1 & 1H (Diluted 1 to 1 Fog Seal)	$1.4750	$0.3897

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2777 **CODE: (SP)**

DATE: **09/02/2009**

SUBJECT: **Contract Time**

PROJECT: **STP/IM-0055-01(094) / 105569301 & 302 – Pike County**

The calendar date for completion of work to be performed by the Contractor for this project shall be **October 13, 2010** 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 no later than **November 10, 2009** and the effective date of the Notice to Proceed / Beginning of Contract Time will be **March 11, 2010** .

Should the Contractor request a Notice to Proceed earlier than **March 11, 2010** , the requested date will become the new Notice to Proceed / 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. 2778

DATE: 09/02/2009

SUBJECT: Specialty Items

PROJECT: STP/IM-0055-01(094)/105569301 & STP/IM-0055-01(094)/105569302 - Pike County

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: LIGHTING, ALUMINUM TRUSSED ARM

Line No	Pay Item	Description
0450	682-A015	Underground Branch Circuit, AWG 2, 3 Conductor
0460	682-A031	Underground Branch Circuit, AWG 6, 3 Conductor
0470	682-B031	Underground Branch Circuit, Jacked or Bored, AWG 6, 3 Conductor
0480	682-E001	Underground Junction Box
0490	682-F001	Secondary Power Controllers
0500	683-B004	Lighting Assembly, Low Mast, Type 30-1-12-400
0510	683-B163	Lighting Assembly, Low Mast, Type 16-1-0-150
0520	684-A003	Pole Foundation, 24" Diameter
0530	684-B003	Slip Casing, 24" Diameter

CATEGORY: NON ROADWAY ITEMS

Line No	Pay Item	Description
0770	907-259-B001	Lighting Assembly, Bollards

CATEGORY: PAVEMENT STRIPING AND MARKING

Line No	Pay Item	Description
0410	628-G001	6" Cold Plastic Detail Stripe, White
0950	907-626-B003	6" Thermoplastic Traffic Stripe, Continuous White
0960	907-626-E003	6" Thermoplastic Traffic Stripe, Continuous Yellow
0970	907-626-G001	Thermoplastic Detail Stripe, Blue-ADA
0980	907-626-G002	Thermoplastic Detail Stripe, White, 4" Equivalent Length
0990	907-626-G004	Thermoplastic Detail Stripe, White
1000	907-626-H002	Thermoplastic Legend, Blue-ADA Handicap Symbol
1010	907-626-H005	Thermoplastic Legend, White

CATEGORY: DISPOSAL OF BUILDINGS, RIGHT OF WAY CLEA

Line No	Pay Item	Description
0060	202-B076	Removal of Traffic Stripe

CATEGORY: SURVEY AND STAKING

Line No	Pay Item	Description
0540	699-A001	Roadway Construction Stakes

CATEGORY: TRAFFIC CONTROL - PERMANENT

Line No	Pay Item	Description
0420	630-A001	Standard Roadside Signs, Sheet Aluminum, 0.080" Thickness
0430	630-A002	Standard Roadside Signs, Sheet Aluminum, 0.125" Thickness
0440	630-C004	Steel U-Section Posts, 3.0 to 3.5 lb/ft

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

CLASSIFICATION	MINIMUM HOURLY WAGE RATE
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

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 takecorrective 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 thetime 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 ofprogress, 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 a approved definition, shall be paid not less than the applicable wage rate on the wagedetermination 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 that the applicable wage rate and fringe benefits or cash equivalent for the classification of worked 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 provideall 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 represen-tation 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 andsupplemented;

Shall be fined not more that $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 require-ments.

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 knowinglyrendered 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.

* * * * *

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.

* * * * *

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

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 (½) 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 (½) 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. 907-230-10 **CODE: (SP)**

DATE: 07/16/2009

SUBJECT: Tree and Shrub Planting

Section 230, Tree and Shrub Planting, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-230.2--Materials. Delete Subsection 230.02.14 on page 165 and substitute the following:

907-230.02.14--Mulch. Tree Bark Mulch shall meet the requirements of Subsection 907-233.02.

907-230.02.15--Bed Edging. Bed edging shall be steel edging, 3/16-inch by 4-inch in size, green in color with steel stakes, manufactured by Ryerson, an Inland Steel Company, St. Louis, Mo., or an approved equal.

907-230.03--Construction Requirements.

907-230.03.7--Planting, Backfilling, and Watering. After the first paragraph of Subsection 230.03.7 on page 166, add the following:

Plant pits are plant bed areas which are bound all around by bed edging and/or paving, or as noted on the drawings. Bed preparation shall be required within plant pits, which shall consist of stripping the proposed bed area of existing grass or plant material, unless designated to remain; removal and disposal of existing soil in order that finished grade of bed, not including surface mulch, is no higher than surrounding grades/pavement edges unless noted otherwise on the drawings; spreading a 4-inch layer of Tree Bark Mulch, Type III throughout the area, and tilling in the Tree Bark Mulch, Type III to a depth of six inches uniformly throughout the area; and excavating plant holes in accordance with this special provision. The entire bed area shall receive Tree Bark Mulch, Type V as a surface mulch.

Within plant pits, additional Tree Bark Mulch, Type III for each tree, shrub and groundcover plant hole is not necessary beyond the uniform layer of application tilled into the soil as noted on the vegetation schedule. Within each tree and shrub plant hole within a plant pit, backfill with a 50/50 mix of existing soil amended with Type III mulch and topsoil. Groundcover plant holes do not require any other backfill material other than the amended existing soil with Type III mulch incorporated.

Backfill for tree and shrub plant holes outside of plant pits shall be a 50/50 mix of existing soil and topsoil, after applying the 4-inch layer of Tree Bark Mulch, Type III.

907-230.04--Method of Measurement. After the sixth paragraph of Subsection 230.04 on page 169, add the following:

Bed edging, complete in place and accepted, will be measured per linear foot. Excavation, backfilling, and miscellaneous fittings will not be measured for separate payment.

Bed preparation within plant pits, complete in place and accepted, will be measured per square foot. Stripping of existing vegetation, excavation of existing soil, providing and incorporating the designated layer of Tree Bark Mulch Type III, Tree Bark Mulch Type V as a surface mulch, and weeding will not be measured for separate payment.

Tree Bark Mulch will be measured for payment in accordance with Subsection 907-233.04.

Delete the last five paragraphs of Subsection 230.04 on pages 169 & 170 regarding the sequence for measurement of payment and substitute the following:

Measurement for payment will be made in the following sequence:

When plants have been planted and are in a healthy condition in accordance with the contract, seventy-five percent (75%) of the bid price for that species of plant material meeting the requirements of the contract will be allowed.

When the inspection of plants at the end of the growing season has been conducted and the replacement of any dead or unsatisfactory plant material has been made, ninety percent (90%) of the bid price for that species of plant material meeting the requirements of the contract will be allowed.

When the final inspection of the project has been conducted and the replacement of any dead or unsatisfactory plant material has been made, and upon final release of maintenance, one-hundred percent (100%) of the bid price will be allowed for plant material meeting the requirements of the contract.

The Plant Establishment Period shall begin upon the date that the Engineer determines plant material installation has been acceptably completed, including staking/guying and mulching, and continues through the dates noted below:

PLANT ESTABLISHMENT PERIOD

Date of Installation Completion, From and Including	Establishment Period Beyond Installation Completion, (Growing Season) To and Including
August 2nd - November 1st	240 calendar days
November 2nd - January 1st	180 calendar days
January 2nd - May 1st	120 calendar days
May 2nd - August 1st	90 calendar days

Where feasible in the opinion of the Engineer, the Contractor may install plant material well in advance of project completion, in order that the Plant Establishment Period may run concurrent with the Contract Time. However, no matter what date the Plant Establishment Period conclude, the Contractor will be required to maintain healthy plants until final inspection of the entire project.

No contract time or liquidated damages will be charged during the plant establishment period if, and only if, all items of work on the project have been completed.

907-230.05--Basis of Payment. After the first paragraph of Subsection 230.05 on page 170, add the following:

Accepted quantities for bed edging and bed preparation will be paid for at the contract unit price per linear foot and square foot, respectively. Prices paid shall be full compensation for completing the work.

Add the "907" prefix to the pay items numbers listed on page 170.

After the last pay item listed on page 170, add the following:

907-230-C: Bed Edging - per linear foot

907-230-D: Bed Preparation - per square foot

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-242-19 **CODE: (SP)**

DATE: 10/01/2009

SUBJECT: Water Well & Sewage Items

PROJECT: STP/IM-0055-01(094) / 105569301 & 302 – Pike County

Section 907-242, Water Well & Sewage Items, 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-- Water Well & Sewage Items

The specification format for this item of work is different from Standard Road & Bridge Construction. The Contractor shall install the water well & sewage items in accordance with the requirements set forth as follows.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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PROJECT: WATER WELL & SEWAGE ITEMS FOR WELCOME CENTER ON I-55 IN PIKE COUNTY, MISSISSIPPI

PROJECT NUMBER: STP-0055-01(094) 105569

DATE: SEPTEMBER 29, 2009

DESCRIPTION A (Pay Item 907-242-A): This Work shall consist of minor site work and all construction work necessary in constructing a water well, water lines, installing sludge grinders in sewer, and related water / sewer items for the Welcome Center on Interstate 55 (Northbound), Pike County, Mississippi for District Seven, as one Lump Sum in accordance with these Special Provision Specifications and conforming to the Drawings.

It is the intention of these Specifications to provide the necessary items and instruction for construction and installation of this Work including all code compliance. Omission of items or instruction necessary or considered standard good practice for the proper installation and construction of these items shall not relieve the Contractor of furnishing and installing such items and conforming to the codes having jurisdiction.

DIVISIONS 27 – 32 (Not Used)

DIVISION 33

DIVISIONS 34-49 (Not Used)

END OF SECTION

SECTION 00 74 00 SPECIAL CONDITIONS

PART 1 - GENERAL

1.01 VERIFICATION OF DIMENSIONS

A. Before ordering any materials or doing any work, the Contractor shall verify the dimensions and shall be responsible for the accuracy of such dimensions as they affect the Work. No extra compensation will be allowed on account of differences between the dimensions shown on the Drawings and actual dimensions.

1.02 PLANS AND SPECIFICATIONS

A. The Specifications and the Drawings (Plans) are intended to be in agreement with each other, and to be mutually explanatory. They are also intended to be complementary and any Work or material called for by either shall be provided as if called for by both.

1.03 EXECUTION OF THE WORK

A. Sections of Division 1 General Requirements govern the execution of the Work of all 907 Special Provision Specifications.

1.04 WORKMANSHIP

A. All Work as described or required shall be executed in a neat, skillful manner, in accordance with the best-recognized trade practice. Only competent workmen (including the superintendent), who work and perform their duties satisfactorily shall be employed on the Project. When requested by the Project Engineer / MDOT Architect, the Contractor shall discharge and shall not re-employ on the Project, any person who commits trespass or who is, in the opinion of the Project Engineer / MDOT Architect, dangerous, disorderly, insubordinate, incompetent, or otherwise objectionable.

1.05 USE OF SITE AND FACILITIES

A. Contractor shall not allow tradesman, technicians and laborers to enter other portions of the existing facilities except as predetermined and approved by the Project Engineer. Existing utilities shall not be interrupted unless pre-approved by the Project Engineer. Parking for construction vehicles shall be in areas designated by the Owner at the Pre-construction Conference.

1.06 UTILITIES

A. The Owner will furnish utilities for construction (electricity and water). Contractor must use "as- is" or pay for any necessary modifications.

1.07 CHANGES IN THE WORK

A. Change Order and Supplemental Agreement: Contractor's price for changes in the Work shall not exceed the following allowance for overhead and profit, included in the total cost to the Owner. (Provide invoice on all material).

B. The maximum cost included in a Change Order (Supplemental Agreement) for profit and overhead is limited to twenty percent (20%) of the total of the actual cost for materials, labor and subcontracts. Profit and overhead include: all taxes, fees, permits, insurance, bond, job superintendent, job and home office expense. All Subcontractors shall acquiesce to the same requirements when participating in a Change Order (Supplemental Agreement).

C. Cost to which overhead and profit is to be applied shall be determined in accordance with Section 109.04 of the Mississippi Standard Specifications for Road and Bridge Construction, Mississippi State Highway Department, 2004 Edition.

D. In order to facilitate checking of quotations for extras or credits, all Proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, bond, materials and equipment.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 10 00 SUMMARY

PART 1 - GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. Work covered by Special Provision 907-242-19 as a Lump Sum portion of the Contract Documents shall be provided to improve the Mississippi Department of Transportation site to construct a Water Well and other items included in these Specifications at the existing Welcome Center on I-55 in Pike County, Mississippi. Site Improvements shown on separate Drawings shall be provided by the same General Contractor and under the same Contract.

B. Time of Completion: The completion of this Work is to be on or before the time indicated on the Owner and Contractor Agreement.

C. Contractor's Duties:

1. Except as specifically noted, provide and pay for:
   a. Labor, materials, equipment.
   b. Tools, construction equipment, and machinery.
   c. Other facilities and services necessary for proper execution and completion of the Work.
2. Pay legally required sales, consumer, use, payroll, privilege and other taxes.
3. Secure and pay for, as necessary for proper execution and completion of Work, and as applicable at time of receipt of bids:
   a. Permits
   b. Government Fees
   c. Licenses
4. Give required notices.
5. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities that bear on performance of Work.
6. Promptly submit written notice to Project Engineer of observed variance of Contract Documents from legal requirements. Appropriate modifications to Contract Documents will adjust necessary changes. Assume responsibility for Work known to be contrary to such requirements, without notice.
7. Enforce strict discipline and good order among employees. Do not employ on Work, unfit persons or persons not skilled in assigned task.
8. Schedule of Values: Submit 8 copies to the MDOT Architectural Services Unit a Schedule of Values as described in Section 01 29 73 of these Specifications. This submittal will be recorded as submittal number one for this Project. When this submittal is approved, a copy will be transmitted to Construction Administration to be used to review and compare to amounts submitted on the CAD-720 form. Other copies will be kept by Architectural Services Unit and distributed to Project Engineer, MDOT Consultants, and Contractor.
9. Sub-Contractors List: Submit 8 copies of a list, acceptable to the MDOT, of all subcontractors to be used on the Project within seven (7) days after written notice of Contract award by the MDOT. The list shall include the Firm's name, contact person, street address, e-mail address, telephone and fax numbers. Submit original to Contract Administration Division and one copy to the Project Engineer and to the MDOT Architect CAD-720 form - REQUEST FOR PERMISSION TO SUBCONTRACT for each subcontractor before they are allowed to perform any Work.
10. Coordination: The Contractor is responsible for the coordination of the total Project. All subcontractors will cooperate with the Contractor so as to facilitate

the general progress of the Work. Each trade shall afford all other trades every reasonable opportunity for the installation of their Work. Refer to Section 01 31 00 Project Management & Coordination.

1.02 CONTRACTOR'S USE OF PREMISES

A. Confine operations at the site to areas permitted by:
   1. Law
   2. Ordinances
   3. Permits
   4. Contract Documents
   5. Owner

B. Do not unreasonably encumber site with materials or equipment.

C. Do not load structure with weight that will endanger structure.

D. Assume full responsibility for protection and safekeeping of products stored on premises.

E. Move any stored products which interfere with operations of MDOT or other Contractors.

F. Obtain and pay for use of additional storage of work areas needed for operations.

G. Limit use of site for work and storage to the area indicated on the Drawings.

1.03 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Groups, Subgroups, Divisions and Sections using CSI/CSC's "MasterFormat" 2004 Edition numbering system.

   1. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in Divisions 02 through 49 in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

   1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
   2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
      a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 26 00 CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 SCOPE

A. This Section describes the procedures for processing Change Orders (Supplemental Agreements) by the Project Engineer and the Contractor.

1.02 CHANGE ORDER PROCEDURES

A. Change Proposed by the Project Engineer: The Project Engineer may issue a Proposal Request to the Contractor which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications and a change in Contract Time for executing the change. The Contractor shall prepare and submit an estimate within 10 days.

B. Change Proposed by the Contractor: The Contractor may propose a change by submitting a request for change to the Project Engineer, describing the proposed change and it's full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01 62 14 - Product Options and Substitution Procedures.

C. Contractor's Documentation:

1. Maintain detailed records of Work completed on a time and material basis. Provide full information required for evaluation of proposed changes, and substantiate costs of changes in the Work.
2. Document each quotation for a change in cost or time with sufficient data allowing evaluation of the quotation.
3. On request, provide additional data to support computations:

    a. Quantities of products, labor, and equipment.
    b. Taxes, insurance and bonds.
    c. Overhead and profit.
    d. Justification for any change in Contract Time.
    e. Credit for deletions from Contract, similarly documented.

4. Support each claim for additional costs, and for work completed on a time and material basis, with additional information:

    a. Origin and date of claim.
    b. Dates and time work was performed and by whom.
    c. Time records and wage rates paid.
    d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

D. Construction Change Directive: The Project Engineer may issue a document, approved by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order (Supplemental Agreement). The document will describe changes in the Work, and will designate method of determining any change in the Contract Sum or Contract Time. The change in Work will be promptly executed.

E. Format: The Project Engineer will prepare 5 originals of the Change Order (Supplemental Agreement) using the Mississippi Department of Transportation's Change Order (Supplemental Agreement) Form.

F. Types of Change Orders (Supplemental Agreements):

1. Stipulated Sum Change Orders: Based on Proposal Request and Contractor's fixed price quotation, or Contractor's request for a Change Order (Supplemental Agreement) as approved by the Project Engineer and the MDOT Architect.
2. Unit Price Change Order: For pre-determined unit prices and quantities, the Change Order (Supplemental Agreement) will be executed on a fixed unit price basis. For unit costs or quantities of units of work, which are not pre-determined, execute Work under a Construction Change Directive. Changes in Contract Sum or Contract Time will be computed as specified for Time and Material Change Order (Supplemental Agreement).
3. Time and Material Change Order (Supplemental Agreement): Submit itemized account and supporting data after completion of change, within time limits indicated in the Standard Form of Agreement Between the Owner and the Contractor. The Project Engineer will determine the change allowable in Contract Sum and Contract Time as provided in the Contract Documents. The Contractor shall maintain detailed records of Work accomplished on Time and Material basis and shall provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

G. Execution of Change Order (Supplemental Agreement): The Project Engineer will issue Change Orders (Supplemental Agreements) for signatures of parties as provided in the Standard Form of Agreement Between the Owner and the Contractor. Final execution of all Change Orders (Supplemental Agreements) requires approval by the Owner.

H. Correlation of Contractor Submittals: The Contractor shall promptly revise Schedule of Values and the Application for Payment forms to record each authorized Change Order (Supplemental Agreement)as a separate line item and adjust the Contract Sum. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of Work affected by the change and resubmit. Promptly enter changes in Project Record Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 31 00 PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Scope: To set forth procedures, conditions and responsibility for coordination of the total project.

B. Project Coordinator: The General Contractor shall designate one individual as Project Coordinator (Superintendent), as referred to in the General Conditions. Prior to beginning Work his name, qualifications and address shall be submitted, in writing, to the MDOT Executive Director with copies to the Construction Engineer, Contract Administration Engineer, District Engineer, Project Engineer and MDOT Architect. Upon approval, he will remain until the Project is completed and cannot be removed during construction without just cause and without the written consent of the Project Engineer.

1.02 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.03 SUBMITTALS

A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.04 DUTIES OF PROJECT COORDINATOR (SUPERINTENDENT)

A. General:

1. Coordination: Coordinate the work of all subcontractors and material suppliers.
2. Supervision: Supervise the activities of every phase of Work taking place on the project.
3. Contractor's Daily Job Diary: Submit copy of daily job dairy to Project Engineer and MDOT Architect each Monday for previous week.
4. Electrical: Take special care to coordinate and supervise the Work of electrical and other subcontractors.
5. Communication: Establish lines of authority and communication at the job site.
6. Location: The Project Coordinator (Superintendent) must be present on the job site at all times while work is in progress. Superintendent shall advise Project Engineer of an intended absence from the work and designate a person to be in charge of the Work during such absence.
7. Permits: Assist in obtaining building and special permits required for construction.

B. Interpretations of Contract Documents

1. Consultation: Consult with Project Engineer to obtain interpretations.
2. Assistance: Assist in resolution of any questions.
3. Transmission: Transmit written interpretations to concerned parties.

C. Cessation of Work: Stop all Work not in accordance with the requirements of the Contract Documents.

D. Division One: Coordinate and assist in the preparation of all requirements of Division One and specifically as follows:

1. Enforce all safety requirements.
2. Schedule of Values: Assist in preparation and be knowledgeable of each entry in the Schedule of Values.
3. Cutting and Patching: Supervise and control all cutting and patching of other trades work.
4. Project Meetings: Schedule with Project Engineer's approval and attend all project meetings.
5. Construction Schedules: Prepare and submit all construction schedules. Supervise Work to monitor compliance with schedules.
6. Shop Drawings, Product Data and Samples: Administer the processing of all submittals required by the Project Manual.
7. Testing: Coordinate all required testing.
8. Temporary Facilities and Controls: Allocate, maintain and monitor all temporary facilities.
9. Substitutions and Product Options: Administer the processing of all substitutions.
10. Cleaning: Direct and execute a continuing (daily) cleaning program throughout construction, requiring each trade to dispose of their debris.
11. Project Closeout: Collect and present all closeout documents to the Project Engineer.
12. Project Record Documents: Maintain up-to-date Project Record Documents.

E. Changes: Recommend and assist in the preparation of requests to the Project Engineer for any changes in the Contract.

F. Application for Payment: Assist in the preparation and be knowledgeable of each entry in the Application and Certificate for Payment.

1.05 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate space requirements, supports, and installation of Mechanical and Electrical Work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy, if required.

E. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.06 SUBCONTRACTOR'S DUTIES

A. The Subcontractor is responsible to coordinate and supervise his employees in the Work accomplished under his part of the Contract.

B. Schedules: Conduct Work to assure compliance with construction schedules.

C. Suppliers: Transmit all instructions to his material suppliers.

D. Cooperation: Cooperate with the Project Coordinator and other subcontractors.

1.07 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:

1. Project name.
2. Date.
3. Name of Contractor.
4. Name of Architect.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
    a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

C. Hard-Copy RFIs: CSI Form 13.2A

1. Identify each page of attachments with the RFI number and sequential page number.

D. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:
   a. Requests for approval of submittals.
   b. Requests for approval of substitutions.
   c. Requests for coordination information already indicated in the Contract Documents.
   d. Requests for adjustments in the Contract Time or the Contract Sum.
   e. Requests for interpretation of Architect's actions on submittals.
   f. Incomplete RFIs or RFIs with numerous errors.
2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
   a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 7 days of receipt of the RFI response.

E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log the first week of each month. Use CSI Log Form 13.2B. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00 SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Scope: Submit to the MDOT Architectural Services Unit shop drawings, product data, and samples required by Specification Sections. Faxed submittals WILL NOT be accepted. DO NOT submit Material Safety Data Sheets for approval. Refer to Section 01 62 14 – Product Options and Substitution Procedures, for requirements concerning products that will be acceptable on this Project.

B. Shop Drawings: Original (LEGIBLE) drawings (NO FAXED COPIES) prepared by Contractor, subcontractor, supplier or distributor which illustrates actual portions of the Work; showing fabrication, layout, setting or erection details. REPRODUCTIONS of the Contract Drawings WILL NOT be acceptable. Minimum requirements for shop drawings shall include the following:

1. Prepared by a qualified detailer.
2. IDENTIFY DETAILS BY REFERENCE TO SHEET AND DETAIL NUMBERS SHOWN ON CONTRACT DRAWINGS.
3. Minimum sheet size: 8-1/2 inches by 11 inches.
4. Shop drawings shall be stamped and signed by the Contractor certifying accuracy, completeness and COMPLIANCE with Contract requirements PRIOR TO SUBMITTING to the MDOT Architectural Services Unit.

C. Product Data: Minimum information (NO FAXED COPIES) submitted shall include the following:

1. Manufacturer's standard schematic drawings: Modify drawings to delete information that is not applicable to the Project. Supplement standard information to provide additional information applicable to Project.
2. Manufacturer’s catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data: CLEARLY MARK each copy to identify pertinent materials, products or models. Show dimensions and clearances required. Show performance characteristics and capacities, wiring diagrams and controls.
3. Product Data shall be stamped and signed by the Contractor certifying accuracy, completeness and COMPLIANCE with contract requirements PRIOR TO SUBMITTING to the MDOT Architectural Services Unit.

D. Samples: Provide physical examples to illustrate materials, equipment or workmanship and to establish standards by which completed Work is judged.

1. Provide two copies each of sufficient size and quantity to clearly illustrate functional characteristics of products or material with integrally related parts and attachment devices and full range of color samples.
2. Samples remain the property of the Architectural Services Unit until completion of construction of the Project.
3. Samples (except for color charts/samples) will not be required when specified product is submitted.
4. If a specified product color is discontinued, Contractor shall notify Project Engineer promptly to determine if it affects other color selections.

E. Field Samples and Mock-Ups: Erect on Project Site at location acceptable to Project Engineer.

1. Construct each sample or mock-up complete, including Work of all trades required in the finished Work. Field Samples are used to determine standards in materials, color, texture, workmanship, and overall appearance.
2. Work shall not be allowed using these materials until the mock-up is approved.
3. The mock-up shall not be destroyed, until after the Work it represents is finished, without permission of the Project Engineer. This mock-up shall be used as a standard to compare to the Work it represents for color, craftsmanship, overall appearance, and how the different materials make up the whole system.

F. Contractor Responsibilities:

1. Review shop drawings, product data, and samples prior to submission.
2. Verify field measurements, construction criteria, catalog numbers and other data.
3. Coordinate each submittal with requirements of Work and Contract Documents.
4. Contractor's responsibility for errors and omissions in submittals is not relieved by MDOT Architect's / Consultant's review of submittals.
5. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by review of submittals unless written acceptance of specific deviations is given.
6. Notify the Project Engineer in writing at the time of submission, of deviations in submittals from requirements of Contract Documents.
7. Do not order materials or begin Work requiring submittals until the return of submittals bearing MDOT Architect / Consultant's stamp and initials indicating review.
8. After MDOT Architect / Consultant's review, distribute copies.

G. Submission Requirements:

1. Schedule submission with ample time given to review submittals prior to being needed.
2. Submit Eight (8) COPIES of shop drawings and product data with additional number of copies, if required, by Contractor for distribution.
3. Partial submittals are NOT ACCEPTABLE, will be considered non-responsive, and will be returned without review.
4. Submit number of samples specified in each Specification Section.
5. Accompany submittals with transmittal letter, containing data, project title and number; Contractor's name and address; the number of each Shop Drawings, product data and samples submitted; notification of deviations from Contract Documents; and other pertinent data. Submittals shall be sent to MDOT Architect for review or distribution to Consultants, with copy of Transmittal Letter sent to Project Engineer.
6. Each copy of submittal shall include a cover page with the following requirements:
   a. Date and revision dates.
   b. Project title and number.
   c. The names of Project Engineer, Contractor, Supplier, Manufacturer, and separate detailer, when pertinent.
   d. Identification of product or material.
   e. Relation to adjacent structure or materials and COMPLETE dimensions.
   f. Field dimensions, clearly identified as such.
   g. SPECIFICATION SECTION NUMBER.
   h. Applicable standards such as ASTM Number or Federal Specification.
   i. A blank space, 2 inches by 3 inches for the Reviewer's stamp.
   j. Identification to deviations from Contract Documents.

k. Contractor's stamp, initialed or signed, certifying the review of submittal, verification of field measurements, and compliance with Contract Documents.

H. Resubmission Requirements:

1. Shop Drawings: Revise initial Drawings as required and resubmit as specified for initial submittal. Indicate on Drawings, all changes that have been made other than those required by the Reviewer.
2. Product Data and Samples: Submit new data and samples as required for initial submittal.

I. Distribution of Submittals after Review:

1. Distribute copies of Shop Drawings and product data which carry MDOT Architect's / Consultant's stamp to: Project Engineer's File, Architectural Services Unit File, Architect's File(as required) / Electrical / Mechanical / Structural Engineer's File (as required), Materials' File (if concrete), Contractor's File, Job Site File, and Subcontractor, Supplier and/or Fabricator as necessary.
2. Distribute samples as directed. The Project Engineer, MDOT Architect and Consultant (as required) shall retain one of each.

J. MDOT Architect / Consultants' Duties:

1. Review submittals with reasonable promptness.
2. Review for design concept of Project and information given in Contract Documents.
3. Review of separate item does not constitute review of an assembly in which item functions.
4. Affix stamp and initial, or signature, certifying the review of submittal.
5. Return submittals to the Architectural Services Unit, which will retain one copy and forward one copy to the Project Engineer, one copy to the Materials Engineer (if concrete), and the remainder to the Contractor.
6. Retain one copy of reviewed submittals.

K. Delays attributable to untimely submittals, submittals not approved, or time taken to resubmit WILL NOT serve as a basis for a Contract Time extension.

L. Acceptance of submittal items will not preclude rejection of these items upon discovery of defects in them prior to final acceptance of completed Work.

M. After an item has been accepted, no change in brand, make, manufacturer's catalog number, or characteristics will be considered unless:

1. Satisfactory written evidence is presented to and approved by the Project Engineer, that manufacturer cannot make scheduled delivery of accepted item, or;
2. Item delivered has been rejected and substitution of a suitable item is an urgent necessity, or;
4. Other conditions became apparent which indicates acceptance of such substitute item to be in the best interest of the Owner.

PART 2 - PRODUCTS & PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 42 19 REFERENCES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Basic Contract Definitions.

B. Identification and purpose of Reference Standards.

C. Administrative procedures and responsibility for the use of Reference Standards..

1.02 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. “Reviewed”: The term “Reviewed”, when used in conjunction with Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Architect, requested by Architect, and similar phrases.

D. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.

E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": The terms “provide" means to furnish and install, complete and ready for the intended use.

I. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.

J. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1. Using a term such as "carpentry" does not imply that accredited or unionized individuals of a corresponding generic name, such as “carpenter”, must perform certain construction activities. It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

K. "Project site" is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown on the Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.03 IDENTIFICATION AND PURPOSE

A. Identification: Throughout the Contract Documents are references to nationally known and recognized Codes, Reference Standards, Reference Specifications, and similar documents that are published by Regulatory Agencies, Trade and Manufacturing Associations and Societies, Testing Agencies and others. References also include certain Project Documents or designated portions.

B. Purpose: All named and otherwise identified “Reference Standards” are “by reference” hereby incorporated into these Specifications as though fully written and hereby serve to establish specific requirements and pertinent characteristics for materials and workmanship as well as methods for testing / reporting on compliance thereto.

1.04 PROCEDURES AND RESPONSIBILITIES

A. Compliance with Laws and Codes of governmental agencies having jurisdiction shall be mandatory and take precedence over the requirements of all other Reference Standards. For products or workmanship specified by Associations, Trade, or Federal Standards, comply with the requirements of the standard, except when supplemented instructions indicate a more rigid standard and / or define more precise requirements. Should specified reference standards conflict with regulatory requirements or the Contract Documents, request Architect’s clarification before proceeding.

B. The Contractor (including any and all Parties furnishing and / or installing any portion of The Work) shall be familiar with the indicated codes and standards. It shall be the Contractor’s responsibility to verify the detailed requirements of the specifically named codes and standards and to verify (and provide written certification, when required) that the items procured for use in this Work (and their installation, as applicable) meet or exceed the specified requirements.

C. When date of Reference Document is not specified, conform to latest edition of said Document except when earlier editions are specifically required by Codes.

D. The contractual relationship of the Parties to the Contract shall not be altered from the requirements of the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 43 00 QUALITY ASSURANCE

PART 1 - GENERAL

1.01 WORK QUALITY

A. Shop and field work shall be performed by mechanics, craftspersons, artisans, and workers skilled and experienced in the fabrication and installation/application of the work involved. The Work of this Project shall be performed in accordance with the Drawings, reviewed and approved shop drawings, and these Specifications. Quality of work shall conform to the highest established standards and practices of the various trades involved.

B. All work shall be erected and installed plumb, level, square, and true, or true to indicated angle, and in proper alignment and relationship to the work of other trades. Finished work shall be free from defects and damage.

C. Nothing specified in these Specifications shall be construed as relieving the Contractor of any responsibility for the quality of the finished work. Surfaces on which specified finishes are to be applied shall be in proper condition in every respect for superior finished work and long life without defects.

D. The Contractor's performance of the work hereunder shall be to the satisfaction of the Architect. The Architect reserves the right to reject materials and work quality which are not considered to be up to the accepted high standards of the various trades involved. Such inferior material or work quality shall be repaired or replaced, as directed by the Architect, at no additional cost to the Owner.

1.02 MANUFACTURERS' SPECIFICATIONS AND INSTRUCTIONS

A. Unless otherwise indicated or specified, manufactured materials, products, processes, equipment, systems, assemblies, and the like shall be erected, installed, or applied in accordance with the manufacturers' instructions, directions, or specifications. Said erection, installation, or application shall be in accordance with printed instructions furnished by the manufacturer of the material or equipment concerned for use under conditions similar to those at the jobsite. Two copies of such instructions shall be furnished to the Architect, and the Architect's acceptance therefore shall be obtained before work is begun.

B. Any deviation from the manufacturers' printed recommendations shall be explained and acknowledged as correct and appropriate for the circumstances, in writing, by the particular manufacturer. Any deviations must be reviewed by the Architect prior to any action by the Contractor. The Contractor will be held responsible for installations contrary to the respective manufacturers' recommendations.

1.03 SPECIALIST APPLICATOR/INSTALLER

A. Materials, equipment, systems, and assemblies requiring special knowledge and skill for the application or installation of such materials, equipment, systems, or assemblies shall be applied or installed by the specified product manufacturer or its authorized representative or by a skilled and experienced subcontractor qualified and specializing in the application or installation of the specified product with at least five years of successful experience in the type of work indicated and specified.

B. The installation subcontractor shall be approved by the product manufacturer, as applicable, and a copy of the installer's approval letter from the manufacturer shall be submitted to the Architect.

1.04 MANUFACTURER'S FIELD SERVICES

A. The manufacturer of a product, system, or assembly which requires special knowledge and skill for the proper application or installation of such product, system, or assembly shall provide appropriate field or job service at no additional cost to the Contractor or Owner. The manufacturer shall inspect and approve the application or installation work.

B. The Contractor shall make all necessary arrangements with the manufacturer of the products to be installed to provide onsite consultation and inspection services to assure the correct application or installation of the product, system, or assembly.

C. The manufacturer's authorized representative shall be present at the time any phase of this work is started.

D. The manufacturer shall inspect and approve all surfaces over which, or upon which the manufacturer's product will be applied or installed.

E. The manufacturer's representative shall make periodic visits to the site as the work proceeds as necessary for consultation and for expediting the work in the most practical manner.

1.05 TOLERANCES

A. Walls: Finished wall surfaces shall be plumb and shall have a maximum variation of 1/8 inch in 8 feet when a straightedge is laid on the surface in any direction, and no measurable variation in any 2-foot direction.

B. Ceilings: Finished ceiling surfaces shall present true, level, and plane surfaces, with a maximum variation of 1/8 inch in 8 feet when a straightedge and water level are laid on the surface in any direction and no measurable variation in any 2-foot direction.

C. Concrete floors: Tolerances for concrete floors and pavement are specified in Division 3.

D. Wood and Plywood Subfloors: Subfloor surfaces shall be level and shall have a maximum variation of plus or minus 1/8 inch in 10 feet. An additional tolerance of plus 1/4 inch per 2 feet of unsupported span will be allowed for camber.

E. Finished Floors: Level to within plus or minus 1/8 inch in 10 feet for hardwood and resilient floor coverings.

1.06 PROTECTION OF WOOD

A. Provide protection of all wood materials and products, whether or not installed, including erected and installed wood framing and sheathing, from water and moisture of any kind until completion and acceptance of the project.

B. The Contractor shall keep informed of weather conditions and forecasts, and when there is a likelihood of rain, shall protect installed and exposed framing and sheathing and stored lumber exposed to the elements with suitable water-repellent coverings, such as canvas tarpaulins and polyethylene sheeting.

C. Likewise, millwork and trim, paneling, cabinets, shelving, and products manufactured from wood shall be kept under cover and dry at the shop until time for delivery. Such materials shall not be delivered to the site until the building is roofed, and exterior walls are sheathed and protected with building paper as a minimum, the doors and windows are installed and glazed, and there is ample interior storage space for such materials and products. Delivery shall not occur during periods of rain, heavy dew, or fog.

D. Wood materials or products which become wet from rain, dew, fog, or other source will be considered to have moisture damage and will be rejected, requiring replacement by the Contractor with new, dry materials or products at no increase in the Contract Price. Excepted materials: installed exterior wood siding, exterior wood trim, exterior wood doors, and exterior wood windows, after specified treatments, such as exterior wood stain or paint, have been applied.

1.07 GROUT FILL

A. In applications where the grout installation may be subjected to moisture, the manufacturer shall submit a letter stating that the entire grout matrix does not contain any of the following:

1. Added gypsum.
2. Plaster-of-paris.
3. Sulfur trioxide levels in a portland cement component exceeding ASTM C 150's published limits.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 61 15 BASIC PRODUCT REQUIREMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The products of The Work and the requirements for their quality, delivery, handling, storage, protection and installation.

1.02 DEFINITIONS

A. "Products". Defined as: The materials, machinery, equipment, components, and systems, in whole or in part, incorporated into The Work. "Products" does not include materials, tools, devices, machinery, equipment and systems used for the preparation, manufacture, fabrication, conveying and installation of The Work.

B. "Level of Excellence". Defined as: The degree of quality for the Products and Workmanship of this Project. The required "degree of quality" shall be established on the basis of one or more of the following criteria which shall become the minimum acceptable "level of excellence" for the Work of this Project:

1. Products selected by Architect / Engineer.
2. Architect's / Engineer's Specifications.
3. Reference Standards.
4. Manufacturer's Instructions.
5. Industry Standards.
   a. In the absence of all the criteria from the Specifications Section, the normal local Industry Standard shall prevail. The Party or Parties responsible for the required work shall be experienced in the work to be provided; shall have knowledge as to what, in the local area, constitutes "good and acceptable practice" in producing the completed Work of this Section, and will be expected to provide nothing less.
      1) Example: Masonry and Drywall Contractors are expected to know that Industry Standards, "good practice", and "common sense" dictate, to prevent cracks in the completed work, control joints must be installed at minimum distances or should be placed in certain locations where movement or other stress conditions are likely to occur. When such items are not specified or shown on the Drawings, the Contractor will be expected to request the MDOT Architect's clarification for location (primarily for esthetic considerations) and then provide not less than the minimum Industry Standard, at no additional cost to the Owner.

C. "Standard of Quality". Defined as: A specific and particular manufacturer whose product(s) has / have been selected by the Architect as amply suitable to meet the Project requirements in one or more of the following criterions: appearance, physical attributes, performance characteristics, appropriateness for intended use, and cost.

1. The work of the individual Specification Section will be based on product(s) of the "Standard of Quality Manufacturer" and the product(s) of that manufacturer, designated within the Specifications Section by catalog number(s) (or other identification), shall become "Standard of Quality Product(s) and the basis by which the product(s) of "Other Acceptable Manufacturers", and any substitutions, are judged.
2. In the absence of the designation "Standard of Quality", such as for generic product, material or system, then the specified item (product, material or system) shall be the reference standard and shall become the "Standard of Quality".

D. "Equivalent Products". Defined as: Products having a level of excellence which, in the MDOT Architect's judgment, is equal to the level of excellence established by the product(s) selected as Architect's / Engineer's "Standard of Quality".

E. "Manufacturer". Defined as: An entity whose principal business is the manufacturing, fabricating, assembling, and / or supplying of products / systems from off site for incorporation (in whole, or in part, such as components of a system) into the construction at the Project Site.

1. The Architect's / Engineer's selection of a particular manufacturer usually is on the basis of the manufacturer's reputation within the Construction Industry, and / or "track record" with the Architect / Engineer, for producing quality products on time, and providing responsive follow-up and reliable warranties.
2. The terms "Fabricator" and "Supplier" used in these Specifications shall be synonymous with "manufacturer".

F. "Other Acceptable Manufacturers". Defined as: Manufacturers who have qualifications and products similar to those of the "Standard of Quality" Manufacturer (see above) selected by Architect / Engineer and are therefore "acceptable" to offer any of their products considered to be "equivalent" to the specified product(s).

1. To the best of the Architect's / Engineer's knowledge, information and belief, the manufacturers, listed as "Other Acceptable Manufacturers", now have products available that are considered to be "equivalent" to the specified product (or selection) of the "Standard of Quality" Manufacturer. Where no "Standard of Quality" is indicated then any of the "Acceptable Manufacturers" listed may offer products complying with the specified requirements.
2. The inclusion of particular manufacturers as "Other Acceptable Manufacturers" does not signify that other (that is, unlisted) manufacturers are not acceptable or that they do not have equivalent products nor does the omission of any manufacturer's name indicate unacceptability for any reason.
3. Manufacturers, who are not listed in the Contract Documents, and who desire consideration, must submit their product under provisions of Section 01 62 14 - Product Options and Substitutions Procedures.

1.03 QUALITY ASSURANCE – GENERAL

A. The quality of all products and workmanship shall be in accordance with the provisions of this Section and the requirements of the individual Specifications Section.

B. Whenever a "level of excellence" higher than the minimum industry standard is expected for products and workmanship, the more rigid standards and precise requirements will be indicated within individual Specifications Sections.

1. Example: For whatever reason, the Architect may specify a "dry film thickness (DFT)" for a coating that is more than the manufacturer's recommendation or than normally available in a three coat system. It shall be the Contractor's responsibility to achieve the required DFT with one or more additional coats, none of which shall be more than the manufacturer's recommendation for wet film thickness, for a single coat, when applied.

C. Establishing and maintaining Project Quality Control shall be the responsibility of the Contractor.

1.04 QUALITY ASSURANCE – PRODUCTS

A. All products incorporated into The Work shall be new except where otherwise provided by the Contract Documents and shall comply with the requirements of the individual Specifications Sections and as supplemented herein. All products incorporated into the Work shall be asbestos free. Products containing asbestos are not acceptable and will be considered as defective material. Whenever these products containing asbestos are discovered, they shall be removed from the Work at no cost to the Owner. Contractor shall certify that all materials incorporated into the Work are asbestos free, refer to Section 01 77 00 - Closeout Procedures.

B. Matching / Mating of Products:

1. Products required in quantity within a Specifications Section shall be the same, and shall be interchangeable.
2. All manufactured products exposed to view, especially those considered as "Finishes" (including, but not limited to, items as floor material, wall coverings, glass, paint ceiling tile, that are installed or applied directly from manufacturer's containers), shall be of the same factory "run".
3. The Contractor is expected to secure a sufficient quantity with initial purchase to avoid running short. Materials within an area that do not match, as a result of such failure, will be cause to reject all materials and will not be grounds for additional compensation.

C. Extra Materials: When required by individual Specifications Sections, provide products, spare parts and maintenance material in condition and quantities required. All "extra materials" shall be of the same factory "run" as installed materials. Deliver to Project Site, properly store in appropriate locations, and obtain receipt from authorized person prior to Final Payment.

1.05 QUALITY ASSURANCE – WORKMANSHIP

A. Comply with the "level of excellence" required by individual Specifications Sections. In the absence of specific requirements, comply with product(s) manufacturer's instructions and Industry Standards.

B. Use only suitably qualified craftsmen to produce work of the specified quality.

1. Craftsmen shall be of excellent ability, thoroughly trained and experienced in types of work required, completely familiar with the quality standards, procedures and materials required.
2. In the acceptance or rejection of manufactured and / or installed work, the MDOT Architect will make no allowance for the lack of skill on the part of workmen.

C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

D. Provide finishes to match approved samples.

E. Adjusting of Operating Products: As follows:

1. Adjust moving parts of product / equipment (including, but not limited to, doors, drawers, hardware, appliances, mechanical and electrical equipment) to ensure smooth and unhindered operation and movement at time when Owner assumes control of item's use.
2. All items shall be properly set, calibrated, balanced, lubricated, charged, and otherwise prepared and ready for intended use.
3. Starting of Systems: When specified in individual Sections, require manufacturer's representative to be present at the Site to inspect, check, and approve equipment installation prior to start-up; to supervise placing equipment in operation; and to certify by written report that equipment has been properly installed, adjusted, lubricated, and satisfactorily operated under full load conditions.
4. Equipment/systems Demonstrations and Personnel Instruction: When specified in individual Sections, require manufacturer to provide authorized representative to demonstrate operation of equipment and systems and to instruct Owner's personnel on proper operation and maintenance manuals as basis of instruction and demonstration. Include start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at schedule times, at equipment location.

1.06 TRANSPORTATION AND HANDLING

A. Transport products by means and methods to avoid product damage; deliver in undamaged condition in manufacturers' unopened containers or packaging, keep dry.

B. Provide equipment and personnel to handle products by means to prevent soiling or damage.

C. Promptly inspect shipments for compliance with requirements, quantities, and damage.

1.07 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weathertight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions. Protect prefinished surfaces from damage or deterioration by acceptable means; do not use adhesive papers, sprayed or strippable coatings that bond when exposed to sunlight or weather.

B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering (do not use "Visqueen" or other polyethylene sheeting when subject to direct sunlight); provide ventilation to avoid condensation.

C. Store loose granular materials on solid surface in a well-drained area; prevent mixing with foreign matter.

D. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under specified conditions and are fit for use.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 62 14 PRODUCT OPTIONS AND SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Scope: To give the product options available to the Contractor and to set forth the procedure and conditions for substitutions.

1.02 CONTRACTOR'S OPTIONS

A. For products specified only by reference standards, select any product meeting standards by any manufacturer.

B. For products specified by naming several (minimum of three) products or manufacturers, select any product and manufacturer named. Contractor must submit request, as required for substitution, for any product not specifically named and give reasons for not using product specified. Substitutions WILL NOT be granted unless reasons are considered justified.

C. For product specified by naming one or more products, but indicating the option of selecting equivalent products by stating "or approved equal" after specified product, Contractor must submit request, as required for substitution, for any product not specifically named.

D. For products specified by naming only one product and manufacturer, an equivalent product will always be accepted if it is equal in all respects (size, shape, texture, color, etc.). The Contractor must submit a request for substitution as set forth in this section

E. For products specified by naming only one product and manufacturer and stating no substitutions will be accepted, there is no option and no substitutions will be allowed.

1.03 PRODUCT SUBSTITUTION LIST

A. Within 45 days after Notice to Proceed, submit to the MDOT Architect 4 copies of complete list of all proposed product substitutions. Substitutions WILL NOT be considered if received after this time.

B. Tabulate list by each Specification Section.

C. For named products specified with reference standards, include with listing of each product:

1. Name and address of manufacturer.
2. Trade name.
3. Model or catalog designation.
4. Manufacturer's data.
5. Performance and test data.
6. Reference standards.

D. Proposed product will be reviewed for incorporation into the Project. Contractor will be notified for substitution rejection if not allowed, or will be instructed to submit in standard substitution submittal process for approval. See attached Substitution Request Form.

1.04 SUBSTITUTIONS

A. The MDOT Architect will consider formal written requests from Contractor for substitution of products in place of those specified. ONLY ONE REQUEST per product will be allowed. Refer to Section 01 33 00 - Submittal Procedures. Include in request:

1. Complete data substantiating compliance of proposed substitutions with Contract Documents.
2. For products:
   a. Product identification including manufacturer's name and address.
   b. Manufacturer's literature: Submit literature of actual product specified and literature of proposed substitution with all comparable features or components highlighted. Highlighted information is to include, but shall not be limited to, product description, performance, test data and reference standards.
   c. Samples of the proposed substitution.
   d. Name and address of 3 similar projects on which product was used and date of installation.
3. For construction methods:
   a. Detailed description of proposed method.
   b. Drawings illustrating methods.
4. Itemized comparison of proposed substitution with product or method specified.
5. Data relating to changes in construction schedule.
6. Accurate cost data on proposed substitution in comparison with product or method specified.

B. In making request for substitution, Contractor represents:

1. He has personally investigated proposed product or method, compared the product specified with the proposed substitution, and determined that it is equal or superior in all respects to that specified.
2. He will provide the same guarantee for substitution as for product or method specified.
3. He will coordinate installation of accepted substitution into Work, making such changes required of Work to be complete in all respects.
4. He waives all claims for additional costs related to substitution that consequently becomes apparent.
5. Cost data is complete and includes all related costs under his Contract.

C. Substitutions WILL NOT be considered if:

1. They are indicated or implied on Shop Drawings or product data submittals without formal request submitted in accordance with this Section.
2. Acceptance will require substantial revision of Contract Documents.
3. In the MDOT Architect’s judgment, the product or material is not equal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PRODUCT SUBSTITUTION REQUEST FORM (AS FOLLOWS)

SUBSTITUTION REQUEST FORM

PROJECT:_____ PROJECT NO._____

OWNER:_____

CONTRACTOR:_____

ARCHITECT:_____

_____

_____

_____

CONTRACTOR'S REQUEST, WITH SUPPORTING DATA

1. Section of the Specifications to which this request applies:

   _____

   [ ] Product data for specified item and proposed substitution is attached (description of product, reference standards, performance and test data).

   [ ] Sample is attached

2. Itemized comparison of proposed substitution with product specified.

	ORIGINAL PRODUCT	SUBSTITUTION
Name, brand		
Catalog No.		
Manufacturer		

Significant variations:_____

_____

3. Proposed change in Contract Sum:

   Credit to Owner: $_____

   Additional Cost to Owner: $_____

4. Effect of the proposed substitution on the Work:

   Contract Time: _____

   Other Contracts, if any:_____

CONTRACTORS STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENTS

I / We have investigated the proposed substitution. I / We

1. Believe that it is equal or superior in all respects to originally specified product, except as stated in 2. above;
2. Will provide same warranty as required in Contract Documents;
3. Have included all cost data and cost implications of proposed substitution; including, if required, costs to other contractors, and redesign and special inspection costs caused by use of proposed substitution;
4. Will coordinate incorporation of proposed substitution in the Work;
5. Will modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning;
6. Have verified that use of this substitution conforms to all applicable codes.
7. Waive future claims for added cost to Owner caused by proposed substitution.

CONTRACTOR_____DATE:_____
Signature

ARCHITECT'S REVIEW AND ACTION

___ Accepted

___ Not Accepted

___ Provide more information in the following categories and resubmit _____

___ Sign Contractor's Statement of Conformance and resubmit

___ Proposed substitution is accepted, with the following conditions:

_____

_____

Change Order will make the following changes:

(Add to) (Deduct from) Contract Sum: $_____

(Add to) (Deduct from) Contract Time: _____days

ARCHITECT:_____DATE_____

OWNER: _____DATE_____

_____Accepted _____Not accepted

END OF SECTION

SECTION 01 78 23 OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Emergency manuals.
2. Operation manuals for systems, subsystems, and equipment.
3. Maintenance manuals for the care and maintenance of products, materials, a finishes systems and equipment.

B. Related Sections include the following:

1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Division 01 Section "Closeout Procedures" for submitting operation and maintenance manuals.
3. Division 01 Section "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
4. Divisions 02 through 32 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.02 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.03 SUBMITTALS

A. Initial Submittal: Submit 2 draft copies of each manual with request for Final Inspection. Include a complete operation and maintenance directory. MDOT Architect will return one copy of draft and mark whether general scope and content of manual are acceptable.

B. Final Submittal: Submit 2 copies of each manual in final form at least 5 days before Owner’s Final Inspection. MDOT Architect will return one copy with comments (if required) within 15 days after Owner’s Final Inspection.

1. Correct or modify each manual to comply with MDOT Architect's comments. Submit 2 copies of each corrected manual within 15 days of receipt of MDOT Architect's comments.

1.04 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.01 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name, address, and telephone number of Contractor.
6. Name and address of Architect.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2 inches by11 inches paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
   a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
   b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL", Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.

4. Supplementary Text: Prepared on 8-1/2 inches by11 inches white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
   a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
   b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.02 EMERGENCY MANUALS

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. Chemical release or spill.
8. System, subsystem, or equipment failure.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.03 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.

8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.04 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds. Include procedures to follow and required notifications for warranty claims.

2.05 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training videotape, if available from manufacturers / suppliers.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.01 MANUAL PREPARATION

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work.

1. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
2. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared Record Drawings in Division 01 Section "Project Record Documents."

F. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION

SECTION 01 78 39 PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope: To set forth the minimum procedure and requirements for keeping the Project Record Documents. One of these Documents is to be kept on site throughout the Project.

1.02 MAINTENANCE OF DOCUMENTS

A. Maintain 2 copies of all: Half-size Contract Drawings, Project Manual (Proposal), Addenda, Change Orders, Warranties, Certificates, Guarantees, Bonds, reviewed Shop Drawings, reviewed submittals (materials, fixtures, appliances, etc.), hardware schedules, field and laboratory test records, equipment brochures, spare parts lists, maintenance and operation manuals and other modifications to the Contract.

B. Store Record Documents apart from Documents used for construction.

C. Maintain Record Documents in clean, dry, and legible condition. Do not use Record Documents for construction purposes.

D. Make Record Documents available at all times for inspection by the Project Engineer, MDOT Architect and Owner.

1.03 RECORDING

A. General: Mark all modifications in red pencils. Keep Record Documents current. Review log at Progress Meetings. Do not permanently conceal any Work until required information has been accurately recorded.

B. Contract Drawings: Legibly mark to record actual construction:

1. Horizontal and vertical location of underground and overhead utilities with their connections referenced to permanent surface improvements.
2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
3. Field changes that involve dimension and detail.
4. Changes made by Supplemental Agreement (Change Order) or Field Order.

C. Project Manual (Proposal) and Addenda: Legibly mark up each Section to record manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

D. Shop Drawings: Maintain as Record Documents; legibly mark Drawings to record changes made after review.

1.04 SUBMITTALS

A. Furnish two (2) copies of all Record Documents.

B. The information, except Contract Drawings, shall be arranged and labeled by corresponding Specification Section, neatly bound in three ring binders, indexed, and all drawings readable without being removed or unstapled.

C. The name and address of each subcontractor and material supplier shall be listed in front of each binder along with the Project Manual (Proposal).

D. Sufficient information, such as as-built control drawings for air handling system and variable drive controls, shall be furnished to allow qualified personnel to service equipment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 09 90 10 WATER HYDRANT PAINT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Painting and finishing of exposed items and surfaces for items included in this Special Provision, except as otherwise indicated. Surface preparation, priming and finish coats specified in this Section are in addition to shop priming and surface treatment specified under other Sections or Special Provisions of the Work.

B. "Paint" means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.

C. Paint all exposed surfaces whether or not colors are designated. Where items or surfaces are not specifically mentioned, paint these the same as adjacent similar materials or areas. If color or finish is not designated, the Project Engineer / MDOT Architect will select these from standard colors available for the materials system specified.

1.02 PAINTING NOT INCLUDED

A. The following categories of Work are not included as parts of the field-applied finish Work, or are included in other Sections of these Specifications.

B. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under the various Sections for structural steel, miscellaneous metal, hollow metal work, and similar items. Also, for fabricated or factory-built mechanical and electrical equipment or accessories.

C. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer finishing is specified.

D. Operating Parts and Labels: Moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, and motor and fan shafts will not require finish painting, unless otherwise indicated. Do not paint over any code-required labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's technical information including basic materials analysis and application instructions for each coating material specified.

B. Paint Systems: Comply with Article 2.04 indicating each type of primer and top coat required for each substrate by product name and number.

C. Samples: Submit color samples for selection by Project Engineer / MDOT Architect from manufacturer’s full range of colors. Indicate submitted manufacturer’s closest STANDARD colors that match colors specified in Section 09 05 15.

1.04 DELIVERY AND STORAGE

A. Deliver all materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label, and the following information:

1. Name or title of material.
2. Fed. Spec. Number, if applicable.
3. Manufacturer's stock number and date of manufacturer.
4. Manufacturer's name.
5. Contents by volume, for major pigment and vehicle constituents.
6. Thinning instructions.
7. Application instructions.
8. Color name and number.

1.05 PROJECT CONDITIONS

A. Apply water-base paints only when the temperature of surfaces to be painted and the surrounding air temperatures are between 50 degrees F. and 90 degrees F. unless otherwise permitted by the paint manufacturer's printed instructions.

B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and the surrounding air temperatures are between 45 degrees F. and 95 degrees F. unless otherwise permitted by the paint manufacturer's printed instructions.

C. Do not apply paint in snow, rain, fog or mist; or when the relative humidity exceeds 85 percent; or to damp or wet surfaces; unless otherwise permitted by the paint manufacturer's printed instruction. Painting may be continued during inclement weather only if the areas and surfaces to be painted are enclosed and heated within the temperature limits specified by the paint manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Drawings and Specifications are based on products manufactured by the Tnemec Corporation, North Kansas City, MO 64116. Tel. (800) 863-6321

B. Equivalent products by the following manufacturers are acceptable:

1. Sherwin-Williams Co., Cleveland, OH 44115.Tel. (800) 321-8194.
2. Benjamin Moore & Company, Montvale, NJ. Tel. (800) 344-0400.
3. Farrell-Calhoun Paint, Memphis, TN. Tel. (901) 526-2211.

C. Substitutions shall fully comply with specified requirements and Section 01 62 14-Product Options and Substitution Procedures

2.02 COLORS AND FINISHES

A. Paint colors, surface treatments, and finishes will be selected from color chips submitted by contractor. Prior to beginning Work, the Project Engineer / MDOT Architect will select color chips for surfaces to be painted. Use representative colors when preparing samples for review. Final acceptance of colors will be from samples.

B. Color Pigments: Pure, non-fading, applicable types to suit the substrates and service indicated. Lead content in the pigment, if any, is limited to contain not more than 0.5 percent lead, as lead metal based on the total non-volatile (dry-film) of the paint by weight.

C. Paint Coordination: Provide finish coats which are compatible with prime paints used. Review other sections of these Specifications in which prime paints are to be provided to ensure compatibility of total coats system for various substrates. Upon request from other trades, furnish information on characteristics of finish materials provided for use, to ensure compatible prime coats are used. Provide barrier coats over incompatible primer or remove and reprime as required. Notify the Project Engineer / MDOT Architect in writing of any anticipated problems using specified coating systems with substrates primed by others.

2.03 MATERIAL QUALITY

A. Provide the best quality grade of the various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying the manufacturer's identification as a standard, best grade product WILL NOT BE ACCEPTABLE. Proprietary names used to designate colors or materials are not intended to imply that products of the named manufacturers are required to the exclusion of equivalent products of other manufacturers.

B. Provide undercoat paint produced by the same manufacturer as the finish coats. Use only thinners approved by the paint manufacturer, and use only within recommended limits.

2.04 PAINT SYSTEMS

A. Provide the following paint systems for the various substrates, as indicated.

B. Exterior Paint Systems are as follows (Generic Type: Hydrophobic Acrylic Polymer):

1. Coating System:

1st Coat – Tnemec Series 30 Spray Saf EN	2.0-4.0 dry mils
2nd Coat – Tnemec Series 30 Spray Saf EN (color)	2.0-4.0 dry mils

PART 3 - EXECUTION

3.01 EXAMINATION

A. Applicator must examine the areas and conditions under which painting Work is to be applied and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to the Applicator. Starting of painting Work will be construed as the Applicator's acceptance of the surfaces and conditions within any particular area.

B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to the formation of a durable paint film.

3.02 SURFACE PREPARATION

A. Perform preparation and cleaning procedures in strict accordance with the paint manufacturer's instructions and as herein specified, for each particular substrate condition. Remove all hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in

place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for the complete painting of the items and adjacent surfaces. Following completion of painting of each space or area, re-install the removed items by workmen skilled in the trades involved. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Schedule the cleaning and painting so that contaminates from the cleaning process will not fall onto wet, newly painted surfaces.

B. Ferrous Metals:

1. Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
2. Touch-up shop-applied prime coats wherever damaged or bare, where required by other Sections of these Specifications. Clean and touch-up with the same type shop primer.

C. Galvanized Surfaces: Clean free of oil and surface contaminants with acceptable non-petroleum based solvent.

3.03 MATERIALS PREPARATION

A. Mix and prepare painting materials in accordance with manufacturer's directions. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue. Stir materials before application to produce a mixture of uniform density, and stir as required during the application of the materials. Do not stir surface film into the material. Remove the film and if necessary, strain the material before using.

3.04 APPLICATION

A. Remove all chalk and old paint not tightly bonded to the surface with a combination of pressure washing/hand tool cleaning. Clean all visible rust to bare metal using SSPC-SP11 Power tool cleaning to bare metal. Feather the edges of thick coatings, and dull all glossy surfaces by sanding.

B. Apply paint in accordance with the manufacturer's directions. Use applicators and techniques best suited for the substrate and type of material being applied. Apply additional coats when undercoats, stains or other conditions show through the final coat of paint, until the paint film is of uniform finish, color and appearance. Give special attention to insure that all surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

C. Sand lightly between each succeeding coat.

D. Omit the first coat (primer) on metal surfaces that have been shop-primed and touch-up painted, unless otherwise indicated or barrier coat is required for compatibility.

E. Scheduling Painting: Apply the first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration. Allow sufficient time between successive coatings to permit proper drying. Do not re-coat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

F. Minimum Coating Thickness: Apply each material at not less than the manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

G. Prime Coats: Apply a prime coat of material which is required to be painted or finished, and which has not been prime coated by others. Re-coat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.

H. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, or other surface imperfections will not be acceptable.

I. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint Work not in compliance with specified requirements.

3.05 CLEANING AND PROTECTION

A. Cleaning: During the progress of the Work, remove from the site all discarded paint materials, rubbish, cans and rags at the end of each workday. Upon completion of painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

B. Protection: Protect Work of other trades, whether to be painted or not, against damage by painting and finishing Work. Correct any damage by others for protection of their Work, after completion of painting operations. At the completion of Work of other trades, touch-up and restore all damaged or defaced painted surfaces.

END OF SECTION

SECTION 26 00 00 ELECTRICAL INSTALLATION AND EQUIPMENT

PART 1 – BASIC ELECTRICAL MATERIALS AND METHODS

1.01 ELECTRICAL SPECIFICATIONS

A. The electric supply will be 120/240 Volt, three-phase, four-wire, 60 Hertz. The Contractor shall contact the power company prior to bidding and include in his bid the cost of labor and material necessary to supply the plant with electricity, including any cost, which may be assessed by the power company for installation of Power Company furnished material. The Contractor shall coordinate all aspects of the construction concerning the electric service with the power company. The Approval Drawings shall include all details of the power company electric service and all associated equipment (to include all pole types and locations, switches, fuses, wire sizes and types, etc.) anywhere on the plant property.

1.02 TEMPORARY ELECTRIC SERVICE

A. The Temporary Electric Service for construction power shall be furnished, installed, and removed by the electrical contractor. In addition, Contractor shall make all necessary arrangements with the power company for metering and billing, provide for these charges, and cost in his bid.

1.03 TESTING AND INSPECTIONS

A. Contractor shall assist in making periodic inspections or tests as required by the Engineer. When required, Contractor shall provide the assistance of supervisor and qualified artisans for reasonable duration of each test, etc. Cooperate with other Contractors in preventing premature operation of equipment like water process equipment, etc., which should be first run in presence of personnel responsible for each item.

B. After wiring is completed, the Contractor shall test for shorts and open circuits, intentional and unintentional grounds. All shorts, open circuits, and unintentional grounds shall be corrected.

1.04 DELIVERY AND HANDLING

A. After delivery to the jobsite, the contractor shall store the control panel off of the ground in a dry location until such time as it is mounted and supplied with electrical service. The contractor shall also insure that the power and control cords/cables are protected from submergence until they are properly installed and sealed.

1.05 INTERFERENCES

A. The drawings are generally diagrammatic. Cooperate with other trades so that interferences of conduit, equipment, piping, etc., will be avoided. If interference develops, refer promptly to Engineer for decision.

1.06 GUARANTEE

A. Workmanship and materials shall be guaranteed for period of one year from date of official acceptance of contract. Be responsible for any adjustments, replacements, and corrections necessary to restore project to first-class condition if deficiency is due to faulty workmanship or materials.

PART 2 - PRODUCTS

2.01 CONDUIT SYSTEMS

A. Use galvanized or sheradized steel conduit in damp locations, exterior walls, exposed out of doors or when subject to mechanical damage after installation. Underground runs, use PVC, schedule 80 incased in concrete per NEMA standards and buried at required depth per NEMA standards. Provide electrical line red warning tape buried six (6) inches above conduit run.

B. Protect conduits against entry of debris; keep ends capped during construction; clear or replace obstructed conduits.

C. Size and install conduits so that conductors may be installed without damage or excessive strain, using NEC as a minimum standard. For rigid conduit, use double lock nut and bushings. For conduits larger than 1", use grounding type insulation bushing. Entire conduit system shall provide a dependable path to ground. EMT fittings shall be watertight type, T&B 5100 series. Crimped or setscrew types are not acceptable.

D. Ream ends after threading; make bends with an approved bending tool. Replace deformed bends or off-sets. Avoid hot water pipes, stay at least 3” from covering of hot pipes except as crossing, then at least 1”.

2.02 PULL BOXES AND JUNCTION BOXES

A. Pull boxes shall be code gauge and size galvanized steel and shall be installed where accessible and in location shown on the drawings or where required to facilitate the easy pulling of wires. Boxes shall be sized properly for the conduits and wires entering them. In outdoor and process, areas use weatherproof and corrosion resistant boxes.

2.03 OUTLET BOXES

A. On exposed conduit in process areas, use Crouse-Hinds No. FS or FD, or other galvanized steel types. All boxes galvanized, or cadmium plated, or better.

2.04 CONDUCTORS AND GENERAL WIRING METHODS

A. Type THW 600-Volt copper wire for general use and types THHN 600-volt copper for High Ambient Temperature; where Contractor sizes conduit based on conductor required, basis is type THW. Approved manufacturers, Triangle, General Cable, Collyer, National Electric Products, or approved equal. Size, type, and trade name stamped permanently at regular intervals on all conductors. All wire shall be color-coded.

B. Install wire in conduit after all work which may cause damage is completed. Powdered talc or other approved compound may be used as lubricant where necessary.

C. Make joints and splices in conductors with approved insulating type compression fittings, T&B, Sta-kon, or Buchanan splice caps. Wire-nuts are not acceptable.

2.05 GROUNDING AND BONDING REQUIREMENTS

A. In order to provide a safe and reliable system, all structures, piping, equipment and electrical services involve must be properly grounded and bonded to a properly sized and installed grounding electrode system.

B. All work will comply with every facet of the National Electric Code Article 250, current edition. Particular attention must be given to sections 250.56 and 250.58.

C. The article 250 requirement for a ground resistance of 25 ohms or less shall be considered as the minimum and a resistance of 4 ohms or less shall be the goal. This resistance will be measured

with equipment using a three point resistance measurement and “fall of potential” system.

D. Ground and elevated water tanks are a major source of danger and damage due to lightning and transient voltages. Because of this, these structures will have as a minimum, a ground ring completely around the structure consisting of #2/0 bare copper and 10 foot long by ¾” diameter copper clad ground rods. The rods shall be spaced no more than twelve (12) feet apart. There will be at least four (4) radials to the tank legs or structure. All connections will be exothermic (Cadweld) performed by qualified personnel. All devices located at these tanks will be bonded to the ring.

E. Other structures will have a grounding system appropriate for the location per the National Electric Code article 250.

F. Conduit work, motors, panel boards and electrical equipment are to be effectively and permanently grounded. Feeder conduits shall provide a good path to system ground.

G. The grounding screw on all grounding type receptacles shall be securely grounded to the outlet box with lug and screw, or use self-grounding types.

H. Verify electrical continuity of all conduit runs and correct any discrepancies.

I. The Contractor shall be responsible for determining the extent of grounding and bonding requirements for equipment located at the site(s) covered under the contract(s) as listed herein. The Contractor shall provide for these charges, and cost in his bid.

PART 3 - EXECUTION

3.01 EXCAVATION AND BACKFILLING: Excavate trenches for underground conduit or cable to required depth and width. After conduit of cable has been installed, inspected, and approved, backfill trench with earth free of trash, rock, brick and debris, and compact as required. Under slab, follow compaction rules for general work on this project. Underground workmanship applies under slab; depth can be reduced, but provide full and complete encasement. Bond conduit to any membrane passed through.

3.02 CLEANING: As required, clean all equipment or exposed material provided or installed under this section. Protect from any normal use of paint, mortar, etc.

3.03 WORKMANSHIP: All work shall be done in a thorough, substantial, and skillful manner by competent workers. Applicable rules of National Electric Code apply as minimum standard for this contract but do not replace or reduce any specific requirement herein.

END OF SECTION

SECTION 26 94 00 PROCESS INSTRUMENTATION AND CONTROL

PART 1 – GENERAL

1.01 WORK INCLUDED

A. The work covered under this Section of the Special Provision Specifications includes the furnishing and installing of all instrumentation and control hereinafter specified to perform the intended function.

1.02 RELATED WORK

A. Section 26 00 00 – Electrical Installation and Equipment

1.03 RELATED SYSTEM COMPONENTS

A. The attention of the system supplier is called to sections concerned with electrical work, chemical feeders, valves, piping, etc., and such other devices not specified under this section, but related to it.

PART 2 – PRODUCTS

2.01 SYSTEM SUPPLIER

A. All instrumentation and control systems equipment shall be furnished by one manufacturer. They shall be responsible for the proper operation of all Process Instrumentation, Controls and Control Panels and shall perform in house submittal drawings and assembly of products.

B. Substitutions of functions or equipment specified will not be acceptable.

C. The entire system shall be warranted for one (1) year from Date of Acceptance.

D. The Contractor shall assign full responsibility for the function operation of all new instrumentation and control systems to this system supplier. This system supplier shall be responsible for all coordination necessary in order to select, to furnish, to supervise installation and connections, to calibrate, and to place into operation all instrumentation and controls along with all other equipment and accessories as specified herein.

E. The system supplier shall be one of established favorable reputation who has designed and produced similar systems and components for a period of at least ten (10) years.

F. It shall be required of the system supplier to execute and submit a guarantee to assume full responsibility. A Sample Warranty shall be submitted for review as part of the submittal.

G. Guarantee on system function and equipment shall be one (1) year from date of substantial completion or partial acceptance.

2.02 SUBMITTAL DRAWINGS

A. Descriptive literature and drawings for equipment and systems being furnished under this section shall be included as a complete submittal. It shall include all primary devices, transmitters, sensors, and field mounted equipment. The submittal shall also include as a minimum, equipment specifications, dimensional drawings, flow and other calculations, schematic drawings of each and every system within the complete offering, and such other information requested by

the Engineer or considered necessary to the proper installation of the equipment. Furnish submittals in a Bound Booklet Form, 8-1/2" x 11". No sheets shall be larger than 8-1/2" x 11". Foldout larger sheets will not be acceptable. This submittal shall include coordinated information and drawings for all items that the system supplier is required to furnish under this section of the specifications, all in one integrated and coordinated manual. Each item of a submittal shall carry the appropriate title and be indexed against the appropriate specification item.

B. A quantity of eight (8) sets of submittals shall be furnished for the Engineer's approval.

2.03 INSTRUCTION MANUALS

A. Prior to 65% of the value of job completion, system supplier shall furnish two (2) copies to the Engineer and one (1) copy to the Owner of all descriptive matter and complete system operation instruction manuals in separate indexed binders coordinated with the equipment that is furnished and installed for approval. System supplier shall incorporate Engineer's comments and resubmit for approval within 30 days of receipt of Engineer's comments. Once final approval is obtained, System Supplier shall furnish two (2) copies to the Owner and two (2) to the Engineer. This is also described in Section 01 78 23 of these Special Provision Specifications.

PART 3 – EXECUTION

3.01 ENGINEERING SUPERVISION

A. The services of a qualified representative of the system supplier shall be provided to inspect the completed installation, suggest all adjustments necessary to place the system in proper operation, and instruct operating personnel in the care and operation of the equipment furnished. A minimum of one (1) day and one (1) trip start-up service and training operating personnel shall be included. The services shall be furnished by the Contractor as a part of the work included under this section of the specifications.

B. The system supplier shall show satisfactory evidence that he maintains, a fully equipped factory organization capable of furnishing adequate service for the equipment furnished, included replacement parts. Suppliers employing outside organizations for "ON CALL" service shall not be considered.

3.02 GENERAL INSTALLATION

A. Installation of instrumentation and controls shall be in strict compliance with the manufacturer's instructions. The locations of these items as shown on the Drawings are approximate only. Exact locations shall be as approved by the Engineer during construction. It is the duty of the Contractor to obtain, in the field, all relevant information required for proper placement of instrumentation and controls. In the case of interference with other work, proceed as instructed by the Engineer and provide all materials and labor required to prevent construction delays.

B. Execution of the installation shall be in full accordance with codes and local rulings. The Contractor shall be responsible for any expenses that are a result of work performed contrary to said codes and regulations.

C. The system supplier shall coordinate with the Contractor the installation, the location of process equipment, and connections of process equipment to related equipment panels, subject to the Engineer's approval. The equipment being furnished with electrical controls or instrumentation must be submitted to the System Supplier for approval and coordination with all other control and instrumentation on this project. This engineer will not approve any equipment submittal until this coordination has been accomplished.

3.03 SPARE PARTS

A. A one-year supply of manufactures' recommended spare parts shall be provided. The spare parts shall be packaged for long-term storage and shall be protected against humidity and temperature. A spare parts list shall be furnished listing manufacture, device model number, part number, and quantity supplied.

1. Provide following spare packaged for long-term storage and delivered to owner.

QTY.	DESCRIPTION
1	Simplex Controller, per Component Specifications
1	Motor Monitor, per Component Specifications

2. The system supplier shall maintain an inventory at his facility of at least one part of each type furnished on this Project. These parts shall be available for delivery to the owner in a maximum of eight (8) hours.

PART 4 – CONTROL PANEL

4.01 GENERAL

A. Enclosure shall be constructed of a minimum 14 gauge, galvanized steel with baked enamel finish. Large double door enclosures shall be equipped with a three-point latching mechanism complete with stainless steel padlocking handle. Small single door enclosures shall have stainless steel, quarter turn, quick-release latching mechanisms and a padlocking hasp. The enclosure shall be rated as indicated on drawings and manufactured by Hoffman, Electromate or Stahlin.

B. All power and control wires shall be stranded copper type MTW. All wiring shall be in covered plastic wireway.

C. All points necessary for external connection in the control panel whether power or control shall be wired to a terminal strip located at the top or bottom of the enclosure as directed by the engineer. The terminal strip shall be permanently marked with the same designation as the wire connected to it.

D. All power and control wires shall be marked at both ends using self-adhering wire markers. No two wires having different functions within the control panel shall have the same markings.

E. All circuit breakers, starters, and other control devices mounted within the controller panel shall be labeled for identification both within the panel and on the wiring schematic with corresponding designations.

F. Control power shall be 120 Volts and shall be protected by the correctly sized circuit breaker. If required, provide a properly sized control power transformer with primary over current protection.

G. Each starter shall be provided with overload protection in all three phases and each individual starter shall have phase failure protection.

H. All selector switches, indicators, and pilot lights shall be identified with an engraved Bakelite nameplate. All selector switches, pilot lights, and control devices shall be visible and operable from the Controller exterior door or an interior deadfront panel when required. The deadfront panel shall be constructed of anodized aluminum and shall have a continuous aluminum hinge. An anodized aluminum deadfront shall be utilized when the Controller environment is not conducive to exposed controls or as specified on drawings.

I. All approval drawings shall be prepared per Joint Industrial Conference (J.I.C.) standards for engineers review prior to any fabrication of control equipment. The Controller shall be produced by an Underwriters Laboratories, Inc. (U.L.) 508 listed shop. Proof of label availability shall be submitted with approval drawings.

J. The Controller manufacturer shall provide a written warranty with approval drawings covering all Control materials and parts furnished for a period ending one year after final acceptance of the project. A Sample Warranty shall be submitted with the submittal for review. This warranty shall cover all material replacement, all labor, and all travel expenses.

K. The Controller manufacturer shall show satisfactory evidence that he maintains a fully equipped factory organization capable of furnishing adequate service for the equipment furnished, including replacement parts within a 150-mile radius of the job site. Suppliers employing outside organizations for "ON CALL" service shall not be considered.

L. The quality-establishing brand for the control panels shall be that manufactured by Control Systems, Inc. of Jackson, Mississippi.

4.02 WATER TREATMENT PLANT CONTROL PANEL

A. ELECTRIC SERVICE: The panel shall be designed for 120/240 Volt, three-phase, four-wire power. The panel enclosure shall be NEMA 12 rated with a maximum width of forty-eight inches (48").

B. MAIN BREAKER: Provide a properly sized Main Breaker, as shown on the drawings. The Actual Main Breaker size may differ from that indicated on the drawings dependant of the actual well motor horsepower being furnished. The actual horsepower may differ from that indicated on drawings. In addition, provide a through the door operator mounted on the interior deadfront. The operator shall prevent the deadfront from being opened while the breaker is in the "ON" position. Main Breaker shall be Square D model no. KAL, Siemens model no. NFG3 or Cutler Hammer model no. J250.

C. TRANSIENT VOLTAGE SURGE SUPPRESSOR: Provide a service entrance AC power distribution Transient Voltage Surge Suppressor (TVSS), per Component Specifications, designed to protect all types of loads fed from distribution panels, branch panels and/or individual equipment panels. Unit shall come complete with properly sized internal fusing.

D. IRRIGATION WELL: Provide a properly sized combination circuit breaker and NEMA rated motor starter for type and size required for the irrigation well. The actual horsepower may differ from that indicated on drawings. Circuit breaker shall be Square D model no. QOU, Siemens model no. BQ3 or Cutler Hammer model no. GHB. Starter shall be Furnas model no. 14DS, Square D model no. 8536 or Allen Bradley model no. 509. In addition, provide the following additional equipment:

1. Provide a Simplex Well Controller (SWC-1), per Component Specifications. In the automatic mode, the Simplex Well Controller shall receive start and stop commands from the Irrigation System Control Panel or the Detention Tank Level Meter/Controller dependant of the position of the "Control Mode" selector switch, as described below.

2. Provide a field adjustable well Backspin Timer (BST), per Component Specifications. The timer shall prevent the restarting of the well without a field adjustable time delay.

3. Provide a Motor Monitor (MM-1) complete with Current Transformer, both per Component Specifications, for the Irrigation well. The motor monitor shall provide a positive run signal, monitor proper motor running conditions, indicate motor running time, and motor full load running amperes. In addition, motor monitor shall come complete with high or

low amperes set point for the well.

4. Provide a 2-position Irrigation Well "Control Mode" selector switch (SS-1). Selector switch shall allow the operator to select the Irrigation Well to be controlled by the irrigation system controls or the water treatment plant controls. Selector switch shall be Square D model no. ZB4-BD2, Allen-Bradley model no. 800-T or Cutler Hammer model no. HT-800.

E. PLANT WELL: Provide a properly sized combination circuit breaker and NEMA rated motor starter for type and size required for the plant well. The actual horsepower may differ from that indicated on drawings. Circuit breaker shall be Square D model no. QOU, Siemens model no. BQ3 or Cutler Hammer model no. GHB. Starter shall be Furnas model no. 14FS, Square D model no. 8536 or Allen Bradley model no. 509. In addition, provide the following additional equipment:

1. Provide a Simplex Well Controller (SWC-2), per Component Specifications. In the automatic mode, the Simplex Well Controller shall receive start and stop commands from the Detention Tank Level Meter/Controller (LMC-DT), per Component Specifications and as described below.

2. Provide a field adjustable well Backspin Timer (BST), per Component Specifications. The timer shall prevent the restarting of the well without a field adjustable time delay.

3. Provide a Motor Monitor (MM-2) complete with Current Transformer, both per Component Specifications, for the plant well. The motor monitor shall provide a positive run signal, monitor proper motor running conditions, indicate motor running time, and motor full load running amperes. In addition, motor monitor shall come complete with high or low amperes set point for the well.

4. Provide necessary controls to activate well lube solenoid, if required.

F. AERATOR: Provide a properly sized combination circuit breaker and NEMA rated magnetic motor starter, as shown on drawings. Circuit breaker shall be Square D model no. QOU, Siemens model no. BQ3 or Cutler Hammer model no. GHB. Starter shall be Furnas model no. 14BS, Square D model no. 8536 or Allen Bradley model no. 509. In addition, provide the following additional equipment and controls.

1. Provide a Simplex Controller (SC-3), per Component Specifications. In the automatic mode and after a field adjustable time delay, the Aerator shall operate when the plant well operates.

2. Provide a Motor Monitor (MM-3) with properly sized Current Transformer, both per Component Specifications. The Motor Monitor shall provide a positive run signal, monitor motor running current, and indicate motor running time and motor full load running amperes. In addition, motor monitor shall come complete with high or low amperes set point for the aerator.

G. CHLORINE METERING PUMP: Provide a properly sized combination circuit breaker, contactor, and overload relay for the chlorine metering pump, as shown on drawings. Circuit breaker shall be Square D model no. QOU, Siemens model no. BQ3 or Cutler Hammer model no. GHB. Contactor shall be Siemens model no. 3RT1023, Square D model no. 8910 or Allen Bradley model no. 100-C09. Provide a Simplex Controller (SC-4), per Component Specifications. In the automatic mode and after a field adjustable time delay, the chlorine metering pump shall operate when the plant well operates.

H. SODA ASH FEEDER/MIXER: Provide a properly sized combination circuit breaker, contactors, and overloads for soda ash feeder and mixer. Circuit breaker shall be Square D model no. QOU, Siemens model no. BQ3 or Cutler Hammer model no. GHB. Contactor shall be Siemens model no. 3RT1023, Square D model no. 8910 or Allen Bradley model no. 100-C09. In addition, provide a Universal Module (UM5-6), per Component Specifications for the soda ash mixer/feeder controls. The soda ash feeder and mixer shall operate, after a field adjustable time delay, when the plant well operates. Universal module shall have the following indicators and controls.

1. Soda Ash feeder Manual-Off-Automatic three-position selector switch
2. Soda Ash feeder 'Running' Green LED
3. Soda Ash mixer Manual-Off-Automatic three-position selector switch
4. Soda Ash mixer 'Running' Green LED

I. DETENTION TANK LEVEL / METER CONTROLLER: Provide a six (6) point Storage Tank Level/Meter Controller (LMC-DT), per Component Specifications. The controller shall receive an analog signal from the Detention Tank Pressure/Level Transducer (LT), also per Component Specifications. The Level Meter/Controller shall provide OFF-ON setpoint controls for the Simplex Well Controller and any future wells. The Level Meter/Controller shall be a standard, catalogued product of a water and wastewater automation equipment manufacture regularly engaged in the design and manufacture of such equipment for a period of at least ten (10) years. Provide the following set points for this controller.

1. Detention Tank Full, Well Stop (Rising Level)
2. Well Start (Falling Level)
3. Service Pump Lockout Reset (Rising Level)
4. Detention Tank Low Level Alarm, Service Pump Stop/Lockout (Falling Level)
5. Provide two (2) spare setpoints for future use.

Level meter/controller shall have built in level transducer signal failure relay option with two relays, to energize when the input signal goes above 20 mA or below 4 mA. The relays can energize on both high/low conditions or one can energize on high failure and the other on low failure. In addition, either relay may be set to 'flash' on and off during the failure condition. This failure alarm shall also energize a front panel flashing LED alarm indicator.

J. ANALOG SIGNAL LINE FILTER: Provide an analog signal Line Filter (LF-DT), per Component Specifications, for the Detention Tank Level/Meter Controller. Line filter shall protect equipment from transient voltage surges and induced voltages.

K. SERVICE PUMP: Provide a properly sized combination circuit breaker and NEMA rated motor starter for type and size required for the service pump. Circuit breaker shall be Square D model no. QOU, Siemens model no. BQ3 or Cutler Hammer model no. GHB. Starter shall be Furnas model no. 14DS, Square D model no. 8536 or Allen Bradley model no. 509. The actual horsepower may differ from that indicated on drawings. In addition, provide the following additional equipment:

1. The Service Pump shall be controlled by a Simplex Controller (SC-7), per Component Specifications. In the automatic mode, the Simplex Controller shall receive start and stop commands from the Hydropneumatic Tank Controller (HTC), as described below, based on hydropneumatic tank level.

2. Provide a Motor Monitor (MM-7) with properly sized Current Transformer, both per Component Specifications. The Motor Monitor shall provide a positive run signal, monitor motor running current, and indicate motor running time and motor full load running amperes. In addition, motor monitor shall come complete with high or low amperes set point for the service pump.

L. HYDROWATCH UNIVERSAL MODULE: Provide a Hydrowatch Universal Module (UM-HW), per Component Specifications, with the following control devices.

1. 'Low Pressure' Red Alarm Light
2. 'Pressure Transducer Failure' Red Alarm Light

M. LIGHTING PANEL 'L': Provide a twenty (20) circuit Lightning Panel 'L' with 80 amp, 2-pole main breaker, and number of branch breakers as shown on drawing Lighting Panel Schedule 'L'. Lighting panel shall be Square D model NQOD, Cutler-Hammer model no. PRL1 or Siemens model no. P1.

N. COMMON ALARM LIGHT: Provide a weatherproof exterior common Alarm Light (AL), per Component Specifications, with red Lexan lens mounted on the side of the enclosure. The alarm light shall burn dim during normal conditions to indicate "Power On" and "Light Bulb Good" and shall flash brightly during any alarm condition. Common alarm light shall be RABCO model no. VBR1, Dayton model no. 2V566 or Crouse-Hinds model no. VXHF15GP. Alarm conditions shall be as follows.

1. Well Failure
2. Service Pump Failure
3. Hydropneumatic Tank Common Alarm
   a. Pressure Transmitter Failure
   b. Low Pressure
4. Detention Tank Low Level
5. Detention Tank Pressure/Level Transmitter Failure

4.03 HYDROPNEUMATIC TANK CONTROLLER PANEL: Provide a Hydropneumatic Tank Controller (HTC), as described below and as shown on drawings. Hydropneumatic Tank Controller shall be furnished and installed where shown on the drawings a combination pressure and level control system including all pressure controls, integral, air compressor and controls, air release electric solenoid, tank Pressure Meter/Controller (PMC-1) with automatic level controls, tank level sight gauge and pressure gauge, thermostatically controlled freeze protection and weather proof duplex receptacle. Thermostat shall be adjustable from 50ºF to 90ºF with 2ºF fixed differential. Receptacle shall come complete with a weatherproof cover. Cover shall be UL listed for wet locations, with cover closed, and shall be constructed of tough plastic that is resistant to high impact and sunlight. In addition, the cover shall be non-corrosive, non-conductive and protect against rain, snow and ice. The control system shall accurately and automatically maintain the correct air/water ratio in tank at all times. All the above-described equipment shall be housed in one single factory built enclosure. The complete unit shall be pre-wired, adjusted and tested at the factory for proper system operation prior to shipment. The Control Panel shall include Pressure Meter/Controller (PMC-1) and a Pressure Sensor (PT-1), all per Component Specifications, for Pump(s) or Well(s) Start/Stop and for air pressure control. The pressure control for the system shall be set from within the control system enclosure. Provide Manual-Off-Automatic selector switches for each pump, or well, and for air compressor. The enclosure shall be equal to NEMA 4X, constructed of fiberglass and light gray in color. The enclosure shall be lockable to prevent entry of unauthorized personnel. Enclosure shall be constructed with sectionalized interior control compartments to house all electrical control components and for switch mounting. The hydropneumatic control system shall be equal to the HYDRO WATCH panel as manufactured by Control Systems, Inc., Jackson, Mississippi. The system shall have a pressure range form high pressure of _____ PSI to a low pressure of _____ PSI. Provide the system with a heavy duty air compressor, Thomas catalog no. GH-610B, capable of a maximum air pressure of 100 PSI at 4.3 CFM.

PART 5 – FIELD INSTRUMENTATION

5.01 LEVEL TRANSMITTER: Provide a Detention Tank Pressure/Level Transmitter (LT-1), per Component Specifications.

5.02 WELL FLOWMETER: Provide a Well discharge Flowmeter (FM), per Component Specifications.

PART 6 – COMPONENT SPECIFICATIONS

6.01 TRANSIENT VOLTAGE SUPPRESSION SYSTEM (TVSS): The TVSS is mounted in the Switchboard section adjacent to the Main Service Switch. The TVSS is connected to the main bus in the Switchboard with conductors of size and of no greater length than indicated in the TVSS manufacturer's installation instructions.

A. TVSS provides transient voltage surge suppression and electrical high frequency noise filtering. Unit is designed for parallel connection to the switchboard system. TVSS unit uses selenium cells and metal oxide varistors to achieve its performance. Products using gas tubes, spark gaps, silicon avalanche diodes or other components, which under failed conditions would cause system failure, are not acceptable.

B. Manufacturer qualifications: The product of a manufacturer engaged in the commercial design and manufacture of the type of product described herein for a minimum five (5) years.

C. Standards: Product complies with the requirements of the following:

1. ANSI/IEEE C62.41.
2. ANSI/IEEE C62.1 and C62.11.
3. UL 489 and UL 198.
4. UL 1449 (Listed as a transient voltage surge suppressor).
5. UL 1283 (Listed as an electromagnetic interference filter).
6. NEMA LS 1 (maximum continuous operating voltage).

D. Operating Voltage: 480 volts, 3-phase, 3-wire + ground.

E. Maximum Continuous Operating Voltage (MCOV): greater than 115 percent of nominal voltage for all products. All suppression filter systems comply with NEMA LS 1.

F. Frequency: Operating frequency range of 47 – 63 Hertz.

G. Protection Modes: all phases – phase to ground; all phases – phase to neutral; all phases – phase to phase; and neutral to ground.

H. Rated Single Pulse Surge Current Capacity: at rated voltage, no less than:

160,000 A Line to Neutral
160,000 A Line to Ground
160,000 A Line to Line
160,000 A Neutral to Ground

I. Tested Single Pulse Surge Current Capacity: Filter system is designed to withstand a single pulse surge current up to 150 percent of the design rating and tested at an independent test laboratory. In the absence of testing facilities capable of such testing, testing of individual components or sub-assemblies within a mode is accepted by ANSI C62.41-1991; the testing includes a Category C1 surge test followed by a second Category C1 test. The test results demonstrate the unit does not degrade by more than 10 percent from the initial test.

J. Clamping Voltage: Suppression filter system clamping voltages are in compliance NEMA LS 1-1992.

K. High Frequency Filter: EMI-RFI noise rejection or attenuation values comply with test and evaluation procedures of NEMA LS 1-1992.

L. Overcurrent Protection: Unit includes coordinated UL 489 or UL 198 listed or recognized overcurrent protection devices; if fuses are used unit incorporates non-encapsulated, field replaceable fuses.

N. Documentation: Provide product data including equipment manual; electrical and mechanical drawings indicated dimensions weights, mounting provisions, connection details and layout diagram; certified tests of UL1449 Listing/Clamp Voltages and NEMA LS 1 compliance; certified single pulse surge current capacity testing; minimum repetitive surge current capacity testing; list of customer-replaceable spare parts; and diagnostic signature card for the unit shipped for installation.

O. Status Indicators: Unit has long-life, solid state, externally visible status indicators that monitor the on-line status of each phase of the unit.

P. Warranty: 30-year Unlimited Free Replacement

Q. TVSS system shall be equal to Joslyn TK-ST160-3D240 for service entrance.

TAG	SERVICE
TVSS	Transient Voltage Surge Suppressor

6.02 PHASE FAILURE/UNBALANCE/REVERSAL RELAY

A. Voltage monitor shall be designed to protect 3-phase motors regardless of size and for use with 190 – 480V AC, 50 to 60 Hz motors to prevent damage caused by single phasing, low voltage, phase reversal, or voltage unbalance. The unit shall use a microprocessor-based voltage and phase sensing circuit constantly monitors the three phase voltages to detect harmful power line conditions, caused by single phasing, low voltage, phase reversal and voltage unbalance. When a harmful condition is detected, an output relay is deactivated after a trip delay. The output relay shall reactivate after power line conditions return to an acceptable level for the specified Restart Delay. The trip delay shall prevent nuisance tripping due to rapidly fluctuating power line conditions. Phase monitor shall have the following features and functions.

1. 3-Phase Line Voltage: 190-480V AC 50/60 Hz
2. Bicolor LED indicator light; Green – normal conditions, Red – trip conditions
3. Transient protected to meet IEEE 587 Standards
4. Will detect single phase condition regardless of regenerated voltages
5. UL and cUL listed
6. 5 year Warranty
7. Low Voltage (% of set point): Trip – 90%, Reset – 93%
8. Voltage Unbalance (NEMA): Trip – 6%, Reset – 4.5%
9. Trip Delay Time: Low Voltage – 4 seconds, Unbalance & Phasing Faults – 2 seconds
10. Restart Delay Time: After a fault – 2 seconds, After a complete power loss – 2 seconds
11. Transient Protection (Internal): 2500V for 10 milliseconds
12. Power Consumption: 5 Watts (max.)

TAG	SERVICE
PM	Electrical System Power Monitor

6.03 SIMPLEX WELL CONTROLLER: Provide a Simplex Well Controller including the following features:

A. Manual-Off-Automatic selector switch, green “Well Running” pilot light, red “Well Failure” pilot light and a red “Low Level” pilot light.
B. Well control inputs shall be optically isolated and their power limited to 24 Vdc with a maximum current of 16 mAdc for intrinsic safety.
C. Provide a field adjustable time delay to start the well after well “Call For” signal is received. This time delay shall be field adjustable to occur each time the well is called to operate for backspin protection. The timing period shall be adjustable from 13 to 165 seconds.
D. Provide Common Alarm controls, which include a dry-contact output and flashing exterior alarm light output. The controls shall activate the dry-contact output and flash the alarm light output during well failure or low level conditions.
E. Provide a well failure dry-contact output and flashing alarm indicator. The failure controls shall energize the dry-contact output, flash the well failure alarm indicator and energize the common alarm circuitry if the well fails to run when called for while in the Automatic mode of operation.
F. The Manual-Off-Automatic switch shall bypass all of the controls and energize the well call-for dry-contact output when placed in the Manual position. In the Manual and Off positions the well failure alarm shall be disabled.
G. The Manual-Off-Automatic switch shall be used to reset a well failure alarm after the failure condition has been cleared, by manually switching the well to the Off position and back to Automatic.
H. Provide an input alarm to indicate low-level condition. Provide a red panel indicator and dry-contact output for the alarm. On alarm, flash the indicator, close the alarm dry-contact output, and energize the Common Alarm circuitry.
I. Provide a field adjustable time delay to prevent well failure signal from being activated until the controller has had time to receive a well “Running” signal. The timing range shall be adjustable from 5 seconds to 5.25 minutes. During well failure conditions, provide the following controls.

1. Red “Well Failure” pilot light on face of controller shall flash when activated.
2. Activate the Common Alarm relay and exterior flashing light output.
3. Provide a dry type contact closure for remote alarming that will activate during “Well Failure” condition.

J. The Simplex Well Controller shall be solid state and easily replaceable. Conventional relay and/or timer construction is not acceptable.

TAG	SERVICE
SWC-1	Irrigation Well Simplex Controller
SWC-2	Plant Well Simplex Controller

6.04 BACKSPIN TIMER: Backspin Timer shall be the adjustable quelling constant type and shall be adjustable in one-second increments from 1 to 1023 seconds. It shall have a repeat accuracy of +0.1% with no first shot effect. Setting accuracy shall be +2% with reset time of 50 milliseconds maximum. Recycle time shall be no more than 150 milliseconds during timing and 16 milliseconds after timing. The timer shall be provided with two LED indicators, indicating timing, and on. Timer output contacts shall be double pole double throw, rated at 10 amperes resistive at 120 VAC.

TAG	SERVICE
BST	Well Motor Backspin Timer

6.05 MOTOR MONITOR: Provide an electronic solid state Motor Monitor powered by 120 volt AC that will accept a zero (0) to five (5) amp input signal condition the signal to perform ON/OFF or OPEN/CLOSE discrete dry type setpoint contact conditions based on the input signal value. The

Motor Monitor shall have the following features.

A. Provide an LCD readout meter providing field adjustable scales of 0-25.0, 0-50.0, 0-100.0, 0-250, 0-500 and 0-1000 to accurately indicate the motor full load current using the 0-5 amp input signal.

B. The Monitor shall be capable of displaying motor total running time up to 99,999.9 hours and be provided with reset capability from the rear of the monitor. The display shall include a non-volatile EEPROM memory backup that does not require battery backup during power failure.

C. Provide two (2) separate field adjustable setpoints, each with discrete, isolated sealed SPDT relay output contacts. The setting of each setpoint shall be adjustable throughout the complete signal range from the front of the Monitor. Each set point shall be provided with a field adjustable "ON" and "OFF" time delay, adjustable from zero (0) to fifteen (15) seconds. The actual setting of each setpoint shall be able to be displayed on the LCD readout at any time. An LED indicator shall be provided for each setpoint and shall operate as follows:

1. Setpoint No. 1: When setpoint is timing, the indicator shall burn amber. After timing period and current is at or above setpoint, indicator shall burn green.

2. Setpoint No. 2: When set point is timing, the indicator shall burn amber. After set timing period and current is at or above setpoint, indicator shall burn red.

TAG	SERVICE
MM-1	Irrigation Well Motor Monitor
MM-2	Plant Well Motor Monitor
MM-3	Aerator Motor Monitor
MM-7	Service Pump Motor Monitor

6.06 CURRENT TRANSFORMER: Current transformers insulation class shall be 0.6 KV BIL, 10 KV Full Wave. They shall be manufactured to meet the requirements of UL1244 and have a minimum accuracy of 60Hz of 2%. Current transformers shall be provided with brass stud terminals and mounting bracket.

6.09 SIMPLEX PUMP CONTROLLER: Provide a Simplex Pump Controller including the following features.

A. Manual-Off-Automatic selector switch, green "Pump Running" pilot light, red "Pump Failure" pilot light, red "High Level" pilot light and a red "Seal Failure" pilot light.

B. Pump control inputs shall be optically isolated and their power limited to 24V DC with a maximum current of 16mA DC for intrinsic safety.

C. Provide a field adjustable time delay to start the pump after pump "Call For" signal is received. This time delay shall be field adjustable to occur each time the pump is called to operate for backspin protection. The timing period shall be adjustable from 13 to 165 seconds.

D. Provide Common Alarm controls, which include a dry-contact output and flashing exterior alarm light output. The controls shall activate the dry-contact output and flash the alarm light output during pump failure, pump seal failure or high-level conditions.

E. Provide a pump failure dry-contact output and flashing alarm indicator. The failure controls shall energize the dry-contact output, flash the pump failure alarm indicator and energize the common alarm circuitry if the pump fails to run when called for while in the Automatic mode of operation.

F. The Manual-Off-Automatic switch shall bypass all of the controls and energize the pump call-for dry-contact output when placed in the Manual position. In the Manual and Off positions the pump failure alarm shall be disabled.

G. The Manual-Off-Automatic switch shall be used to reset a pump failure alarm after the failure condition has been cleared, by manually switching the pump to the Off position and back to Automatic.

H. Provide a pump seal failure alarm and indicator that shall flash the indicator and common alarm light output and close the seal failure dry-contact output and common alarm dry-contact output during a seal failure condition. The seal failure controls shall have a 3 to 9 second field adjustable time delay before activation. The seal failure alarm shall automatically reset when the condition clears.

I. Provide an input alarm to indicate high-level condition. Provide a red panel indicator and dry-contact output for the alarm. On alarm, flash the indicator, close the alarm dry-contact output and energize the Common Alarm circuitry.

J. Provide a field adjustable time delay to prevent pump failure signal from being activated until the controller has had time to receive a pump “Running” signal. The timing range shall be adjustable from 5 seconds to 5.25 minutes. During pump failure conditions, provide the following controls.

1. Red “Pump Failure” pilot light on face of controller shall flash when activated.
2. Activate the Common Alarm relay and exterior flashing light output.
3. Provide a dry type contact closure for remote alarming that will activate during “Pump Failure” condition.

K. The Simplex Pump Controller shall be solid state and easily replaceable. Conventional relay and/or timer construction is not acceptable.

TAG	SERVICE
SC-3	Plant Aerator Simplex Controller
SC-4	Chlorine Metering Pump Simplex Controller
SC-5	Service Pump Simplex Controller

6.10 LEVEL METER/CONTROLLER: Provide an electronic, solid-state, proportional Level Meter/Controller that will accept a four (4) to twenty (20) mA or a one (1) to five (5) volt DC signal. In addition, condition the signal to provide a valid basis for control and then perform ON/OFF or OPEN/CLOSE discrete dry type set point contact conditions based on the input value of the analog input signal. The Level Meter/Controller shall have the following features.

A. Provided with a 3.5 digit LED (or LCD if required) readout meter in feet of water. The display shall be capable of being calibrated from the front of the unit and have a maximum display of 1999, with a decimal point that is user selectable.

B. The display zero indication shall be able to be offset anywhere within the range of the meter, with a minimum range of 60 counts.

C. Provide six (6) separate setpoints each with discrete, isolated sealed SPDT relay output contacts.

D. Provide excitation voltage to drive a transducer/transmitter and condition its output signal to provide a continuous display of level.

E. The setpoints shall be field adjustable to operate on rising above or falling below the setpoint.

F. An LED indicator shall be provided for each setpoint to indicate when it is activated.

G. The actual setting of each setpoint shall be able to be displayed on the digital readout at any time.

H. The setting of each setpoint shall be adjustable throughout the complete signal range from the front of the meter/controller.

I. Provide a means of manually ramping the meter/controller, up and down, throughout its complete signal range, to test the operation of the setpoints.

J. The meter/controller shall come complete with a four (4) to twenty (20) mA, or a one (1) to five (5) volt DC output signal for additional monitoring and control devices.

K. Provide a signal failure relay option with two relays, to energize when the input signal goes above 20 mA or below 4 mA. The relays can energize on both high/low conditions or one can energize on high failure and the other on low failure. In addition, either relay may be set to 'flash' on and off during the failure condition. This failure alarm shall also energize a front panel flashing LED alarm indicator.

L. Provide a Lamp Test feature to test the digital display and individual LED setpoint indicators.

TAG	SERVICE	SCALE
LMC-DT	Detention Tank Level Meter/Controller	0 – ___ Ft.

6.11 SUBMERSIBLE PRESSURE/LEVEL TRANSMITTER: Provide a solid-state direct submersible level transmitter with a stainless steel wetted parts and housing. The range of the transmitter shall be as required for the desired application with excitation voltage of 12-36Vdc. The transmitter shall incorporate a chemical vapor deposited semiconductor sensor protected by an integral stainless steel diaphragm and pressure port. The transmitter shall be mounted near the bottom of the vessel. The transmitter shall provide an analog output to drive a level meter controller. The output shall be 4 - 20mA or 1 - 5Vdc as required. The operating temperature shall be -40° to 215° Fahrenheit and the static error band shall be 0.2% span (including non-linearity, hysteresis, and repeatability). The transmitter shall have integral surge protection and RFI/EMI filtering as well as reverse polarity protection.

TAG	SERVICE	SCALE
LT-1	Detention Tank Level Transmitter	0-__ feet

6.12 SIGNAL LINE FILTER: Provide necessary analog signal line filters with a fast-acting design to protect data and communications equipment from transient voltage surges and induced voltages. The filter shall be a low-impedance, two-stage hybrid design with a first stage consisting of a heavy-duty energy handling gas discharge tube having a breakdown voltage rating between 200 and 350 volts. Impulse breakdown at 100 volts per microsecond shall equal 600 volts. A filter capacitor shall be connected across the lines, rated a 1kv. The second stage shall consist of two current limiting resistors, a fast-acting solid-state transient voltage surge absorber from each line to ground to protect each line up to a maximum continuous voltage of 30V AC or 38V DC with a 50 nanosecond response time. In addition, a separate bi-directional transient voltage surge absorber rated at 1500W @ 33V DC, which is connected across the two lines, for maximum protection. Integral wiring terminal blocks shall be included for both line and equipment sides of the filter. The filter shall be mountable directly on the panel backplate or be able to use track mounting if required.

TAG	SERVICE
LF-DT	Analog Signal Line Filter

6.13 ALARM LIGHT: Alarm Light shall be RAB catalog number VBR100/GL100PGR or equal. Alarm light enclosure shall be constructed of die cast aluminum with a sturdy mounting bracket. Alarm light shall be suitable for wet location and comply with UL standard 1598, for hazardous locations where the lamp, socket and wiring require protection from rain, corrosive fumes, non-combustible dusts, moisture, non-explosive vapors and gases. The alarm light shall burn dim and steady during normal conditions to indicate electrical power "ON" and lamp good. During any alarm condition, the alarm light shall flash brightly. Alarm light mounted on the side of the enclosure or

as directed by the project engineer.

TAG	SERVICE
AL	Common Alarm Light

6.14 PRESSURE SENSOR: Provide a non-submersible Pressure Sensor with the proper operating range for the project in question. Sensor shall meet the requirement for CE marking of EN50081-2 for emissions and EN50082-2 for susceptibility and shall have exceptional Proof Pressure and Stability along with Vacuum up to 6000 PSI (400 bar). Pressure sensor shall be able to survive most pressure spikes caused by pump ripple, solenoid valves, etc. In addition, pressure sensor shall have the following features and functions.

A. Pressure Range: Vacuum to 400 bar (6000 psi)
B. Proof Pressure: 4 x Full Scale (FS) (<1% FS Zero Shift)
C. Burst Pressure: >35 x FS <= 4 bar (60 psi);
>20 x FS <=40 bar (600 psi);
>5 x FS <=400 bar (6000 psi)
D. Fatigue Life: Designed for more than 100 million FS cycles
E. Supply Voltage Sensitivity: 0.01% FS/Volt
F. Long Term Drift: 0.2% FS/year (non-cumulative)
G. Accuracy: 0.5 % FS typical (optional 0.15% FS)
H. Thermal Error: 2.0% FS typical
I. Compensated Temperatures: -20°C to 80°C (-5°F to 180°F)
J. Operating Temperatures: -40°C to 125°C (-22°F to 260°F)
K. Zero Tolerance: 1% of span
L. Span Tolerance: 1% of span
M. Response Time: 0.5 ms
N. Pressure Port: 1/4-18 NPT External
O. Wetted Parts: 17-4 PH Stainless Steel
P. Enclosure: 316 SS, 17-4 PH SS
Q. Vibration: 70g, peak to peak sinusoidal, 5 to 2000 Hz; (Random Vibration: 20 to 200 Hz @ =20g Peak per MIL-STD.-810E Method 514.4)
R. Acceleration: 100g steady acceleration in any direction 0.032% FS/g for 1 bar (15 psi) range decreasing logarithmically to 0.0007% FS/g for 400 bar (6000 psi) range.
S. Shock: 20g, 11 ms, per MIL-STD.-810E; Method 516.4 Procedure I
T. Approvals: CE, UR (12 ET, 16 ET Intrinsically safe)
U. Voltage Output Units: Output: 4-20 mA; Supply Voltage (Vs): 1.5 Vdc above span to 35 Vdc; Min. Load Resistance: (FS output / 2) Kohms
V. Current Output Units: Output: 4-20 mA (2 wire); Supply Voltage (Vs): 24 Vdc, (7-35 Vdc); Max. Loop Resistance: (Vs-7) x 50 ohms

TAG	SERVICE
PT-1	Hydropneumatic Tank Pressure Sensor

6.15 PRESSURE METER/CONTROLLER: Provide an electronic solid state proportional Pressure Meter/Controller that will accept a four (4) to twenty (20) mA or a one (1) to five (5) Vdc signal, condition the signal to provide a valid basis for control and then perform ON/OFF or OPEN/CLOSE discrete dry type set point contact conditions based on the input value of the analog input signal. The Pressure Meter/Controller shall have the following features.

A. Provided with a 3.5-digit LED readout meter in PSI.
B. Provide six (6) separate setpoints each with discrete, isolated sealed SPDT relay output contacts.
C. Provide excitation voltage to drive a transducer/transmitter and condition its output signal to provide a continuous display of pressure.
D. The setpoints shall be field adjustable to operate on rising above or falling below the setpoint.
E. An LED indicator shall be provided for each setpoint to indicate when it is activated.

F. The actual setting of each setpoint shall be able to be displayed on the digital readout at any time.
G. The setting of each setpoint shall be adjustable throughout the complete signal range from the front of the meter/controller.
H. Provide a means of manually ramping the meter/controller, up and down, throughout its complete signal range, to test the operation of the setpoints.
I. The meter/controller shall come complete with a four (4) to twenty (20) mA or a one (1) to five (5) Vdc output signal for additional monitoring and control devices.

TAG	SERVICE
PMC-1	Hydropneumatic Tank Pressure Meter/Controller

6.16 PROPELLER FLOWMETER: Meter shall be a velocity propeller type, magnetic drive, sealed housing, flanged tube meter for 150-psi working pressure. It shall comply with the applicable provisions of AWWA C704-70. The meter shall come complete within a sealed indicator having a range as required, shall be equipped with a six digit totalizer, and shall be accurate within +2% of true flow. The meter assembly shall be constructed as follows:

A. Meter Tube shall be fabricated steel pipe and use 150 lb. AWWA Class “D” flat face steel flanges. The internal and external of the meter tube and meter head shall be blasted to near white metal and coated with 12-15 mils of fusion epoxy coating, applied by the fluidized bed method. Meter tubes shall have a constant nominal inside diameter to offer minimum obstruction to the flow and shall be furnished with four straightening vanes.

B. Meter Head shall be connected to the tube by means of a flanged, o-ring sealed connection with stainless steel bolts designed for easy removal for inspection or repair.

C. Gearbox shall be bronze, sealed, and filled with a high-grade lubricant. The drive mechanism shall be magnetically driven from the propeller, through a ceramic sleeve magnetic coupling and be isolated from the water flow by means of an o-ring sealed housing. A rigid stainless steel vertical shaft is required from the miter gear frame to the indicator-totalizer; flexible cables will not be accepted.

D. Propeller shall utilize a water lubricated ceramic sleeve bearing that rides on a ceramic-coated stainless steel spindle. The spindle on which the propeller is mounted shall be parallel to the direction of the water flow in the pipe. Dual ceramic thrust bearings shall be standard on all meters to handle flows in both the forward and reverse directions. Ball bearings or other types of sleeve bearings will not be accepted. The propeller shall be a conical shaped, three bladed propellers, injection molded of thermoplastic material, resistant to normal water corrosion and deformity due to high flow velocities. Propellers, which have been trimmed, shaved or require varying change gears for the same size meters, will not be accepted.

E. Transmitter shall be encased in a sealed housing conforming to NEMA standards. It shall provide a solid state, optically coupled pulse output and a loop powered current output to drive the associated instrument(s). Provide the transmitter with a 4-20 mAdc output at a maximum instrument scale as required. The enclosure shall be made from injection molded 20% glass filled engineered grade of thermoplastic. It shall attach directly to the propeller meter head with screws having holes for seal wires and be protected with a 0-ring seal.

F. Output shall be in direct proportion to the flow through the meter at the required pulse rate and current output. The signal shall be produced by a solid-state printed circuit card and optic switch. The P/C card shall be protected with a dip application of clear sealer and run through an ultra violet light procedure to verify no voids occurred in the coating. The unit shall be powered by an external 12-30 Vdc power supply wired in a loop with the current output. The 4-20 mAdc output shall not change or require any field adjustments with the varying voltage of the power supply.

G. The Transmitter must also meet the following requirements:

1. Accuracy: True two wire current output, +0.5% of full scale
2. Temperature: 30° to 140°F
3. External power supply: 12 - 30 VDC
4. Polarity protection: mA output non-polarized, current shall be rectified internally
5. Output load: Current output 900 Ω or less

H. Totalizer shall be a six digit, straight reading type with a 3" diameter, 100-division dial and center sweep test hand to permit timing for an accurate determination of flow rate. The totalizer shall read in units of gallons and shall be magnetically driven and equipped with change gears to facilitate easy change of registration without removing pressure from the line. The totalizer shall be encased by an o-ring sealed bonnet made from injection molded 20% glass filled engineered grade of thermoplastic. The bonnet shall be attached to the transmitter by screws with seal wire holes and have a hinged lid with a padlock hasp. The bonnet mounting screws shall have holes for seal wires. Instantaneous indicator-totalizer or LCD type totalizer is not desired and will not be accepted.

TAG	SERVICE	RANGE	SIZE
FM	Plant Well Flow	0-??? GPM	???"

END OF SECTION

SECTION 33 20 00 WATER WELL

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The Contractor shall furnish all labor, materials, and equipment necessary for the completion of a water well on the location designated by the Engineer. Drilling shall be the rotary and hydraulic process and the well shall be constructed in strict accordance with the specifications and the rules and regulations of the Mississippi State Department of Health (MSDH).

1.02. GUARANTEE OF PRODUCTION

A. The Contractor shall guarantee to the Owner to construct and install a well, as herein specified, which will at all times furnish water at the rate and pressure of not less than that shown on the Well Data Sheet, when continuously operated and shall further guarantee that said well will actually produce and deliver the said guaranteed quantity of water free of all visible sand and turbidity throughout a one year period from the date of Owner's acceptance. If at any time during the one year period, the Owner should test the well and find that the production is less than the guaranteed minimum or less than the quantity paid for, then the Owner shall send written notice to the Contractor. Upon receipt of such notice, the Contractor shall proceed promptly to do such things as will again bring the well capacity up to the guaranteed capacity. If the Contractor should fail in such an attempt, he shall be required to refund to the Owner the proportionate amount of the paid contract price that the well has diminished in capacity.

1.03 ABANDONMENT CLAUSE

A. It is understood and agreed that should the Contractor fail or be unable to complete the well in compliance with this contract, he shall be required to fill any abandoned hole he might leave, fill to be made with concrete or grout to the ground surface, and the hole to be disinfected in accordance with requirements of the Mississippi State Department of Health. After the fill has been made satisfactory to the Owner, the Contractor shall have the right to remove a drilling machinery, tools or materials, that he may own from the Owner's property within a reasonable length of time and neither party shall be liable to the other for any sum whatsoever, provided the Contractor submits paid bills and payrolls and any other cost items incurred on this job and said evidence has been submitted that all bills have been paid. This clause does not waive the Surety Bond from any obligation incurred prior to the abandonment of the well.

1.04 TEST HOLE DRILLING

A. A test hole shall be drilled in order to determine the depth and character of the water bearing formation. The test hole shall be to a depth of not less than that shown on the well data sheet, or to a stratum encountered in which the Contractor and Engineer feel that the guarantee can be met.

B. The bid price shall include the cost per linear foot of test hole and per each for water samples or aquifer test as directed by the Engineer. Additional depth beyond that specified herein shall be compensated at the price stated in the Bid Schedule per linear foot.

1.05 LABORATORY TEST

A. The Contractor shall run standard laboratory tests on the sand samples retained by him in order to determine the probable well yield and optimum well design. These tests shall include the sieve analysis and flow test. Copies of these analyses and tests shall be given to the Engineer.

1.06 LOGGING

A. The Contractor shall make necessary arrangements to have an electric and gamma log run on the hole, and the Contractor shall expedite the running of those logs as directed by the Engineer.

1.07 LOCATION

A. The well is to be located on properties specified by the Owner. Each bidder is required to investigate local conditions. The Owner shall furnish the best information and data available, but the furnishing of such information and data shall in no way operate to relieve the Contractor of any contract requirements or guarantees, or to modify the same, should conditions be different from those anticipated because of such information or data.

1.08 WELL DEPTH

A. The well shall be drilled to a depth necessary to penetrate the water bearing sand. This depth is thought to be as shown on the well data sheet but this statement concerning depth shall in no way be construed to impose any liability on the Owner or the Engineer.

PART 2 - PRODUCTS

2.01 SURFACE CASING

A. The Contractor may elect to use surface casing. If so, he may use whatever he wishes, but no payment by the Owner will be made. It will not be required to leave the surface casing in place but the Contractor may do so at his own option.

2.02 OUTER CASING

A. The outer casing shall extend from two feet (2') above the surface of the ground to the top of the water bearing strata. The casing shall not be of less diameter than shown on the well data sheet, and shall be of black steel material made to API Standard 5L, Grade A or 8, specifications or ASTM A 120 Structural Steel. The casing shall have either welded joints or screwed connections to insure against leakage from outside sources. It shall be installed sufficiently straight so as to permit the satisfactory operation of the reaming bits, graveling devices, and the permanent pump. The diameter of the hole drilled to receive the outer casing shall be large enough to leave annular space of not less than 2-1/2" (two and one- half inches) around the casing. The casing shall be installed with centering guides to center the casing in the drilled hole. The casing shall be cemented in place by using a pressure cementing process by starting the cement from the bottom of the hole in separate temporary pipe lines, or by the Halliburton Method or equal. After the mud around the casing has been flushed out with clear water, the annular space around the entire casing for its entire length shall be filled with a high-early strength marine cement grout weighing no less than 14 pounds per gallon. After cement is in place it shall be allowed to set and harden for at least 48 hours before drilling operations are continued. Each bidder shall supply with his bid a description of the method of cementing proposed to be used.

B. If coated casing is required the inside wall of the outer casing, both walls of the lap pipe, pump discharge column, and both inside and outside of the suction pipe shall be coated with (3) three coats of Tnemec Series 20 Pota-Pox to a total thickness of 15 mils (5 mils each coat). The coating shall be applied to sandblasted surfaces.

C. All PVC Well casing must meet the latest AWWA C900 Standard, meet or exceed the requirements of ASTM Specification F480, and meet NSF requirements. Casing pipe should be SDR 18, Cert A-Lok or approved equal.

2.03 UNDERREAMING

A. If a gravel wall well is specified in the bid schedule, the Contractor shall proceed to underream the sand strata. The size of the underreamed hole shall be 16" larger than the screen diameter. The underream shall extend through the entire depth of the water bearing sand.

2.04 LAP PIPE

A. The lap pipe shall extend from the top of the well screen up into the outer casing for the distance shown on the well data sheet. The lap pipe shall be Schedule 80 PVC or black steel material made to API Standard 5L, Grade A or B specifications or ASTM A 120 Structural Steel and be of the same size as the well screen.

2.05 WELL SCREEN

A. After the sand strata has been cut there shall be placed a screen, or strainer, equal in length to 90% of the thickness of the water bearing sand, but not less than the length shown on the well data sheet. It shall be placed in the center of the reamed hole using guides as necessary. The screen diameter shall not be less than that shown on the well data sheet, and be made of AIS, type 304, all 18-8 stainless steel wire wrap construction, and of sufficient strength to resist collapse from the in situ pressures at the depth installed and the forces exerted during normal pumping operations. Slot opening size shall be determined from analysis of the sand from the water bearing formation, but in no case shall the size used allow for the entrance velocity to exceed 0.1 ft. per second. The Contractor shall submit satisfactory evidence with his proposal that his proposed screen meets this requirement. To the bottom of the screen shall be fitted a back pressure valve constructed of a non-corrosive material, to permit washing and to prevent the inflow of sand. The screen shall be of all stainless steel construction.

2.06 GRAVEL ENVELOPE

A. If a gravel wall well is specified in the Bid Schedule the entire annular space between the strainer and the outside shall be completely filled with a graded and well rounded gravel of proper size as determined by the sand analysis to permit the free flow of water to and through the screen without well clogging or well sanding. The Contractor shall submit to the Engineer, before graveling, the gradation and type of gravel to be used. He shall also show the uniformity coefficient of the gravel in relation to the uniformity coefficient of the water bearing formation. The Owner shall have the right to accept the Contractor's recommendation or designate to the Contractor the gradation and type of gravel to be used.

B. The second sample shall be collected following at least two hours of continuous pumping after the first sample. The well shall not be re-disinfected prior to collecting the second sample.

2.07 DEEP WELL TURBINE PUMP

A. If a vertical turbine pump is specified in the Bid Schedule and after having been cleared of all sand and mud, the well shall be equipped with a deep well, turbine type pump, complete with pump column, oil tubing (if oil lubricated), line shafting, flanged discharge pipe connection, electric motor and all other accessories and appurtenances required for the proper and final operation of the equipment. The pump shall be designed to operate at a speed not greater than 1800 RPM and to deliver not less than the specified flow measured at the centerline of the above ground discharge outlet and at the specified pressure. The pump shall conform in all respects to the ASA Specifications for deep well vertical turbine pumps. The pump bowl assembly inlet shall be set so that a minimum submergence of 40 feet below the maximum drawdown will be maintained.

1. Oil Lubricated Type:

   a. Bowl Assembly: Pump bowls, suction and discharge cases shall be of close grained cast iron equivalent to ASTM A8, Class 30, without imperfections. For pump sizes 8" through 19" the bowl water passages shall be porcelain enamel coated to provide optimum performance and consistency of output. For pumps 8" and larger, the suction case and intermediate bowls shall be fitted with replaceable wear rings of bronze, ASTM B505 Alloy 836. Wear rings shall have the minimum practical clearance to the mating cylindrical surface of the impeller to provide adequate sealing independent of vertical positioning of the impellers. Bowls and cases shall have bronze sleeve type bushings to support and guide the shaft. Bushing material shall be bronze. ASTM B505 Alloy 836. The suction case bearing shall be grease packed with provision for grease circulation from a reservoir in the suction case hub. A sand collar of rubber or bronze ASTM B505 Alloy 836, shall be provided to protect the suction case bearing from abrasives in the liquid pumped. The discharge case shall have vanes to deliver the flow of water with minimum turbulence. A tube adaptor of extra heavy steel tubing with epoxy coating shall be located in the discharge case to provide a means of connecting the oil tubing to the bowl assembly by use of an ASTM B505 Alloy 836, adaptor bearing. Drain ports are to be provided with a sufficient area and shape to permit the escape of water that passes through the pump bowl bearings. The intermediate stages shall be selected to provide the maximum efficiency with least number of stages. The impellers shall be of the enclosed type, cast of bronze ASTM B584 Alloy 836, accurately cast, machined, balanced, and filed for optimum performance and minimum vibration. The design shall be non-overloading for the capacity of the motor selected. The impeller shall be securely fastened to the bowl shaft with taper collets of ASTM A582, Grade 416 stainless steel. Bowl shaft shall be of sufficient diameter to transmit the pump horsepower with a liberal safety factor and rigidly support the impellers between the bowl or case bearings. The bowl shaft material shall be high chrome stainless steel of ASTM A276, Grade 410.

   b. Column Assembly:

      1) Column Pipe: The discharge column to be furnished under these specifications shall be ASTM A53, steel Grade A electric weld prime line pipe.

      2) The discharge column shall be furnished in interchangeable sections of not more than 10 feet in length and shall be furnished with screwed couplings. Each section shall be equipped with a cast iron alignment spider. Spider shall be cast integral with coupling on threaded pipe. Each spider shall be faced parallel to permit the ends to butt against the machine faces on the column pipe. The pipe shall have the ends machined 8 threads per inch with a 1/8" taper and faced parallel to permit the ends to butt against the machined surfaces on the alignment spiders. Oil resistant synthetic rubber bushings shall be fitted in each alignment spider for stabilizing and supporting the oil tubing.

      3) The top column section shall be factory machined and fitted for connection to the pump head in a satisfactory manner so that no cutting or machine work in the field will be required to properly set the oil tubing.

      4) Shaft Enclosing Tubing: The shaft enclosing to be furnished under this specification shall be of sufficient diameter to provide adequate lubrication under any operating conditions. The enclosing tube shall be black, ASTM A120, extra heavyweight, continuous weld prime line pipe. Both ends of each tubing length shall be bored, faced, and inside threaded with a Class A thread. The ends of the tubing shall be square with the axis and shall butt to insure accurate alignment. The lengths

shall be interchangeable with the exception of the top section which shall be designed for applying proper tension to the tubing. The interchangeable tubing shall be of such overall assembled length to properly match the length of the discharge column.

c. Line Shaft Bearings: The line shaft bearings which serve as couplings for the shaft tubing shall be spaced at each tubing length, to maintain alignment of pump shafting and to prevent excessive vibration. They shall be cast of continuous cast bronze alloy, equivalent to ASTM B505 Alloy 836, machined, threaded and grooved for proper lubrication.

d. Line Shaft: The line shaft shall be of ASTM A 108 Grade 1045 steel ground and polished with a surface finish not to exceed 40 rms. It shall be of ample size to operate the pump without distortion or vibration and shall be capable of carrying the maximum horsepower that may be generated by the motor. The butting ends shall be machined, faced and recessed square to the axis of the shaft. To insure accurate alignment, the shaft shall be straight within 0.007 inches total indicator reading. The ends of the shaft shall be accurately machine threaded for connection. Shaft couplings shall be bored and threaded from solid ASTM A 108 Grade B 1112 or 12L 14 steel bars designed with a safety factor of 1-1/2 times that of the shaft. The threads shall be left hand to tighten during pump operation. The couplings shall be without vent holes. The length of the shaft shall be such as to match properly the length of the discharge column.

e. Lubrication Device: For oil lubrication, an automatic solenoid lubricating device with sight glass and feed adjustment shall be furnished. The lubricator shall have enough capacity to operate the pump continuously for 100 hours without any attention. A manual lubrication system is not acceptable. The lubricant reservoir shall be constructed so that the operator can visually tell, without opening the container or reservoir, the quantity of lubricant left in the reservoir.

f. Discharge Head: A suitable pump head of high grade cast iron ASTM A48, Class 30, shall be provided for mounting the motor and supporting the pump column, bowls, and suction pipe. The above ground outlet shall be flanged provided with a circular groove interfaced for square packing, and drilled to match ANSI Class 125 cast iron or 150 steel flange connections. The discharge nozzle shall be constructed with a vertical vane for reduction of turbulence. Also, the discharge flange shall have a *1/4"* NPT connection for a pressure gauge. The design shall permit the drive shaft to be coupled above the stuffing box to facilitate easy removal and replacement of the driver. A cast iron tension box designed to maintain proper tension in the shaft tubing at all times when locked into position with hex head cap screws, shall be provided with a grooved bronze tension bearing. The pump head shall be equipped with separate cast iron base plate with adequate recess to permit the extension of the well head casing up into the base plate at least 1 inch. The base plate will be grouted permanently into the concrete foundation.

2. Water Lubricated Type:

a. Bowl Assembly: Pump bowls, suction and discharge cases shall be of close grained cast iron equivalent to ASTM A48, Class 30, without imperfections. For pump sizes 8 inch through 19 inch, the bowl water passages shall be porcelain enamel coated to provide optimum performance and consistency of out-put. For pumps 8 inch and larger, the suction case and intermediate bowls shall be fitted with replacement wear rings of bronze, ASTM B505 Alloy 836. Wear rings shall

have the minimum practical clearance to the mating cylindrical surface of the impeller to provide adequate sealing independent of vertical positioning of the impellers. Bowls and cases shall have bronze sleeve type bushings to support and guide the shaft. Bushing material shall be bronze ASTM B505 Alloy 836. The suction case bearing shall be grease packed with provision for grease circulation from a reservoir in the suction case hub. A sand collar of rubber or bronze, ASTM B505 Alloy 836 shall be provided to protect the suction case bearing from abrasives in the liquid pumped. The discharge case shall have vanes to deliver the flow of water with minimum turbulence. The intermediate stages shall be selected to provide the maximum efficiency with least number of stages. Impeller shall be of the enclosed type, cast of bronze, ASTM B584 Alloy 836, accurately cast, machined, balanced, and filed for optimum performance and minimum vibration. The design shall be non-overloading for the capacity of the motor selected. The impeller shall be securely fastened to the bowl shaft with taper collets of ASTM A582, Grade 416 stainless steel. Bowl shaft shall be of sufficient diameter to transmit the pump horsepower with a liberal safety factor and rigidly support the impellers between the bowl or case bearings. The bowl shaft material shall be high chrome stainless steel of ASTM A276, Grade 410.

b Column Assembly:

1) Column Pipe: Column pipe shall be of ASTM A53, Grade A steel pipe. Ends shall be machined with 8 threads per inch with a 1/8 inch taper and faced parallel to butt against machined shoulders in the column couplings. Intermediate sections of column shall not exceed 10 feet for pump speeds up to 2200 RPM, or 5 feet for pumps over 2,200 RPM. Top and bottom sections of column pipe shall not exceed 5 feet. The upper end of bottom and intermediate column pipes shall be fitted with coupling of ASTM A48, Class 30 cast iron. The coupling shall have an integrally cast spider hub to hold and accurately align the line shaft bearing.
2) Line Shaft Bearings: The line shaft bearings shall be of synthetic rubber. The external shape of the bearing shall be such as to retain it in the coupling spider hub without use of auxiliary collars or rings. The internal shape of the bearing shall be a polygon to provide minimum friction contact to the shaft sleeves. Replacement bearings shall be capable of being installed by hand without special tools.
3) Line Shaft: Line shafts shall be of ASTM A 108, Grade 045, steel ground and polished with a surface finish not to exceed 40 rms. Shaft diameter selection shall be based on a combined shear stress of not more than 18% of the ultimate strength or not in excess of 30% of the elastic limit in tension. Intermediate shaft sections shall be interchangeable and shall not exceed 10 feet in length. The butting ends shall be machined square to axis of the shaft and faces shall be recessed to ensure proper contact. The shaft ends shall be threaded from solid ASTM A108, Grade B1112 or 12L 14 steel bars, and designed with a safety factor 1-1/2 times the shaft safety factor. Threads shall be left hand to tighten during pump operation. The couplings shall be without vent holes. The shaft shall be provided with an ASTM A296 type 304 stainless steel sleeve to act as a journal for each rubber line shaft bearing. The sleeve shall be placed on a suitable adhesive. Replacement sleeves shall permit field installation without special tools.
4) Pre-Lubrication: If required a 1/2" copper line with solenoid valve, gate valves, and proper insulation shall be provided to pre-lubricate the pump shaft.

B. Discharge Head: A suitable pump head of high grade cast iron ASTM A48, Class 30, shall be provided for mounting the motor and supporting the pump column, bowls, and suction pipe. The above ground outlet shall be flanged, provided with a circular groove interfaced for square packing, and drilled to match ANSI Class 125 cast iron or 150 steel flange connections. The discharge nozzle shall be constructed with a vertical vane for reduction of turbulence. Also, the discharge flange shall have a 1/4" NPT connection for a pressure gauge. The design shall permit the drive shaft to be coupled above the stuffing box to facilitate easy removal and replacement of the driver. The cast iron stuffing box shall be of the deep bore type with a minimum of six rings of packing and a seal cage. Connections for grease inlet and pressure relief shall be provided. The packing gland shall be the bronze split type and secured in place with ASTM A 193, Grade B8 stainless steel studs and silicon bronze nuts. The stuffing box bearing shall be ASTM B505, Alloy 836 bronze. The pump head shall be equipped with a separate cast iron base plate designed so as to permit the extension of the well head casing up into the base plate at least 1 inch. The base plate shall be grouted permanently into the concrete foundation.

C. Suction Pipe: The Contractor shall furnish with the pumping unit, a minimum twenty foot (20') section of black steel, ASTM A53 Grade B suction pipe threaded for attaching to the pump. A corrosion resistant cone type strainer designed for use with vertical turbine pumps shall be provided.

D. Pump Motor: The pump motor shall be a continuous duty poly-phase electric motor, suitable for operation on 460 volts, 3-phase, 60 cycle, alternating current. The motor shall conform to the requirements of Federal Specifications CC-M-641 and shall be rated for a 40 degree C ambient temperature of reference. The poly-phase motor shall be Class B, squirrel cage type, having normal starting torque and low starting current characteristics and shall be of sufficient size to operate the pump without overloading. The motor base shall have an opening in the side for easy access to bearing covers. A reverse phase relay or a non-reversible ratchet device shall be provided to prevent reverse rotation of the pump and impeller shaft. The motor shall be U. S. Electrical, Fairbanks-Morse, Allis-Chalmers or equal vertical hollow-shaft outdoor type, weather protected, 1750 RPM, squirrel cage induction motor with 1.15 service factor. The thrust bearing shall be oil lubricated double row ball located at the upper end of the motor shaft. The guide bearing is to be a grease lubricated ball bearing located at the lower end of the motor shaft.

E. Motor Starter: The starter shall be Allen-Bradley, Square 0, Furnace, or approved equal. The starter shall be mounted in NEMA-4 water tight enclosure and include a "hand off- auto" switch suitable for automatic operation from a remote control switch. The starter shall be of adequate size for con- trolling the above motor. The Contractor shall furnish and install a NEMA 3R-3Phase Circuit Breaker as the disconnect switch of proper size for the equipment installed. The fused disconnect switch may be built as a part of the starter. Power will be brought to within 20 feet of the installation. The Contractor will do all wiring from this point.

2.08 DEEP WELL SUBMERSIBLE PUMP

A. If submersible turbine type pumping equipment is specified, the Contractor shall furnish a new, first quality, deep well submersible, water lubricated pump with rated capacity as specified on the well data sheet.

1. Bowl Assembly: Pump bowls shall be of close grained ASTM A48, Class 30, cast iron. Sizes 8 inch through 10 inch shall have a porcelain enamel coating of the water passages. For pumps 8 inch and larger the suction adaptor and intermediate bowls shall be fitted with replaceable wear rings of bronze ASTM B505 Alloy 836. Wear rings shall have the minimum practical clearance to the mating cylindrical surface of the impeller to provide adequate sealing independent of vertical positioning of the impellers. Bowls and cases shall have bronze sleeve type bushings to support and guide the shaft. Bushing material shall be bronze, ASTM B505 Alloy 936. A sand collar of rubber or bronze, ASTM

B505 Alloy 836, shall be provided to protect the suction adapter bearing from abrasives in the liquid pumped. The intermediate stages shall be selected to provide the maximum efficiency with least number of stages. The stages shall rest together and be supported by means of the discharge column at a depth of 40 feet below maximum drawdown. Impeller shall be of the enclosed type, cast of bronze, ASTM B584 Alloy 836, accurately cast, machined, balanced and filed for optimum performance and minimum vibration. The design shall be non-overloading for the capacity of the motor selected. The impeller shall be securely fastened to the bowl shaft with taper collets of ASTM A582, Grade 416 stainless steel. Bowl shaft shall be of sufficient diameter to transmit the pump horsepower with a liberal safety factor and rigidly support the impellers between the bowl or case bearings. The bowl shaft material shall be high chrome stainless steel of ASTM A276, Grade 410.

2. Suction Adapter: Shall be a one piece casting of close grained cast iron designed to serve as the suction inlet, the lower bearing housing and the motor adaptor piece. The coupling housing portion shall be designed to prevent the entrance of abrasive material into the top end of the motor. The pump suction shall include a stainless steel strainer. The inlet area shall be equal to at least 5 times the impeller inlet area. The coupling connecting the motor to the pump bowl assembly shall be of sufficient size and strength to withstand maximum torque generated by the motor plus added safety factor. The coupling shall be of 416 stainless steel and keyed or splined to the pump shaft.
3. Submersible Motor: The motor shall be 3-phase, 60 cycle, (230) (460) volt, 3600 RPM vertical, submersible type designed with normal starting torque and low starting current for across-the-line starting. Overload, low voltage, and phase failure protection shall be provided. The starter shall be equipped with a "Quick Trip" heater coil or approved equal and a three minute delay switch. The motor shall have a 1.15 service factor. The motor shall not be loaded in excess of its nameplate rating at design and not be loaded in excess of 110% of its name plate rating at any condition from zero flow to maximum capacity of the pump. The motor shall be water-filled and shall incorporate a mechanical seal to restrict foreign matter from entering the motor. The thrust bearing shall be of ample capacity to carry the weight of all rotating parts plus the hydraulic thrust and shall be an integral part of the driver.
4. Performance Test: A standard running test shall be performed on the actual submersible pump with its motor prior to shipment to insure it is mechanically sound and will meet the required conditions.
5. Lightning Arrestors: Lightning arrestors of a type suitable for protecting submersible motors shall be provided and installed in accordance with manufacturers' recommendations. Arrestors shall be as manufactured by Franklin Electric, or approved equal.
6. The Submersible Cable: The motor cable shall be of the size recommended by the Pump Manufacturer and approved by the Engineer. The cable shall be supported at intervals not to exceed 20 feet with stainless steel clamps and neoprene grommets.
7. The Installation: Installation of the pump and motor shall be on a concrete foundation of the proper size and design. The Contractor shall construct this foundation in a workmanlike manner and shall install the pumping equipment there- to. Pump head shall be connected to the outside casing by a water tight threaded connection, or by the outside casing being carried to a point not less than one inch above the pump head foundation. Before setting the pump head casting, the Contractor shall pour cement grout over the pump head foundation to provide a seal between the foundation and pump head casting to prevent water entering the well under the pump head casting when a partial vacuum is created.
8. Vacuum Relief: A casing vacuum relief opening shall be provided with inverted ells and capped with fly screen. The opening shall be located as to also provide a clear opening for water level checking device.

2.09 WATER LEVEL TESTING DEVICE, GAUGE AND VALVE

A water level testing device, consisting of a copper tube inserted between the well casing and the pump column shall be provided. The pipe or tube shall extend from the top of the pump head to the bottom of the pump suction pipe and shall be tagged to show its exact length. The device shall be furnished with all necessary fittings, namely a pressure gauge calibrated in feet, a check valve, and a hand operated air pump with the necessary fittings. The testing device shall enable measurement of the water level under any conditions. A minimum 2" opening shall also be provided to facilitate the use of an electric water level measuring device. This opening should provide easy access for the device to be lowered between the well casing and pump column.

2.10 DISCHARGE PIPE

A. The Contractor shall install, at the discharge of the well, the fittings and accessories shown on the well data sheet or plan detail sheet and specified herein.

1. Gate Valves: Shall be AWWA, non-rising stem iron body, bronze mounted, tested to 350 psi. Valves shall open by turning counter clockwise, be equipped with "0" ring seals at the top of the stem, and a handwheel. The valves shall be Eddy-Iowa, Mueller, M&H, or approved equal.
2. Check Valves: Shall be 125 psi rated, non- slam, as manufactured by Clayton (No. 81), GA Industries (No. 250-0), or approved equal.
3. Pressure Gauge: Shall have an iron body and be calibrated in pounds per square inch in not more than 2-pound increments from zero to 50 pounds in excess of the discharge pressure. Gauge shall be equipped with a shut-off cock and be connected to the discharge pipe with a 1/2" galvanized pipe.
4. Air Release Valve: Shall be 2" Crispin Universal, with Protectop, or approved equal.
5. Master Meter: Shall be a velocity propeller type, magnetic drive, sealed housing, flanged tubed meter for 150 PSI working pressure. It shall comply with the applicable provisions of AWWA Standard C704-70. The meter shall be a WATER SPECIALITIES MODEL ML-04-5G with a six digit sealed totalizer reading in units of gallons and GPM's and shall be accurate within +2% of true flow within a range of 0 to 500 GPM or an approved equal. The meter tube assembly shall be guaranteed for a period of five years.

PART 3 - EXECUTION

3.01 WELL DEVELOPMENT

A. The well is to be surged and developed to ensure maximum capacity and long life. This developing is to continue until the water is clear and free of sand while it is being pumped at the guaranteed capacity. Turbidity due to the drilling process should not exceed 5 NTU's.

3.02 PROVISIONS FOR DISINFECTION

A. Upon approaching the water-bearing stratum the contractor shall, from then on until the completion of the well drilling operation, maintain no less than five parts per million of free chlorine in the drilling water and mud. No less than five parts per million of free chlorine shall be maintained in the water used for development. In the case of gravel wall wells, the Contractor shall disinfect the gravel as it is being placed in the well with a water solution containing no less than fifty parts per million of free chlorine.

B. Upon completion, the well and adjacent aquifer shall be disinfected using a 50 mg/l chlorine solution for a contact time of 24 hours.

3.03 TIGHT JOINT BETWEEN WELL CASING AND PUMP HEAD

A. Pump head shall be connected to the outside casing by a watertight threaded connection or by the outside casing being carried to a point not less than one inch above the pump head foundation. Before setting the pump head casting the Contractor shall pour cement grout over the pump head foundation to provide a seal between the foundation and pump head casting to prevent water entering the well under the pump head casting when a partial vacuum is created.

3.04 PUMP HEAD FOUNDATION

A. Pump head shall be mounted on a chamfered concrete foundation not smaller than 36" square at the top, extending not less than 18" above the finished grade.

3.05 PROVISION FOR PROTECTING PUMP HEAD BASE AIR RELIEF HOLES

A. If the pump head base is fitted with vacuum relief openings, these shall be protected by nipples and inverted ells, capped with fly screen.

3.06 PROVISION FOR SAMPLING DIRECTLY FROM WELL

A. Contractor shall furnish and install on the pump discharge pipe near the pump head 3/4" hose bib in a horizontal position.

3.07 PROVISION FOR PROTECTION OF CONSTRUCTION MATERIALS

A. All materials to be used in the construction of the well shall be stored above the ground in a manner that will minimize the possibility of contamination by surface runoff.

3.08 GUARANTEE OF WATER QUALITY

A. Upon completion of the well and prior to acceptance, the Contractor shall disinfect and re-disinfect the well as is necessary until two consecutive samples of chlorine-free water from the well are found to be free of coliform bacteria and not show confluent growth. Samples shall be collected by a representative of the Mississippi State Department of Health, the Registered Professional Engineer for the project or the Certified Operator for the system. Prior to collecting the initial sample, the well shall be pumped for a sufficient time to eliminate any chlorine used for disinfection and any water around the screen which may have been influenced by reaction with chlorine.

3.09 TESTING

When the Contractor has completed the installation of the permanent pumping equipment and has the installation ready for testing, he shall notify the Owner and Engineer. The test shall run continuously for a twenty-four (24) hour period. Reasonable stops for adjustment of equipment and measuring devices shall be allowed during this period. The well and pump shall be tested at the guaranteed capacity as measured at the centerline of the discharge flange at the specified pressure. Hourly readings shall be taken and recorded of the capacity and draw-down of the well during the entire test period. A step test run from open discharge to shut-off head shall be run in 10 pound increments as required by the Engineer. Signed copies of the test results shall be supplied to the Owner immediately after the completion of the test. The capacity of the well and pump shall be measured by the orifice method. The Contractors shall be required to furnish the necessary equipment to conduct this test.

END OF SECTION

WELL DATA SHEET

1.	Outer Casing Diameter:	6”	
	a. Coating Required	No	Galvanized
2.	Inner Casing Diameter:	4”	
	a. Coating Required:	No	
3.	Discharge Column and Suction Pipe		
	a. Coating Required:	No	PVC
4.	Lap Pipe Diameter:	4”	
	a. Coating Rrequired:	No	Galvanized
5.	Lap Pipe Length:	40’	
6.	Minimum Screen Diameter:	4”	
7.	Minimum Screen Length:	40’	
8.	Estimated Total Permanent Depth:	410’	
9.	Test Well Depth:	N / A	
10.	Required Discharge Flow:	85 GPM	
11.	Required discharge Head:	12 PSI	
12.	Type of Well Development:		
	a. Artificial Gravel Wall		
	b. Natural Straight Wall:	Yes	
13.	Type of Pumping Equipment		
	a. Verticle Turbine:	No	
	b. Type Lubrication (Oil or Water):	No	
	c. Submersible Turbine:	Yes	

14. Discharge Fittings and Accessories
    a. Dresser Coupling
    b. Standard Flanged Check Valve
    c. Standard Flanged Tee
    d. Standard Flanged Gate Valve
    e. Standard Flanged Cross
    f. Standard Flanged 90 Ell
    g. Standard Flanged Steel Pipe
    h. Air Release Valve
    i. Standard Non-threaded Sampling Faucet
    j. Standard Pressure Gauge
    k. Insulation
    l. Master Meter

Part 1 - GENERAL

1.01 SUMMARY

A. This section describes the installation and equipment furnished by the wastewater sludge grinder and the accompanying grinder controller to be installed as shown on the plans and drawings. Each of the two (2) units shall include a grinder, motor, speed reducer and grinder controller. In-lin installations only shall include flanged hoppers. Grinder shall be capable of processing sludge or solids (normally found in wastewater flow) continuously either wet or dry. Sewer chewer grinders for channel and wetwell installation shall be model no. Cc-18 or approved equal.

1.02 REFERENCE STANDARDS

A. Grinders and controllers shall be provided in accordance with the following industry standards:

1. GRINDER:
   ASTM a48-83 standard specifications for class 30 grey iron castings
   AISI 4140 heat treated hexagon steel bar
   AISI 4130 heat treated alloy steel
   43-48 rockwell c hardness rating
   ANSI b16.1.125 flanges
   AFBMA (anti friction bearing manufacturers assoc)
2. MOTOR:
   NEMA standards
   IEEE standards
3. SPEED REDUCER:
   AGMA (American Gear Manufacturers Assoc)
   SM-CYCLO service factor ratings
4. GRINDER CONTROLLER:
   NEMA (National Electrical Manufacturers Assoc)
   UL (Underwriter Laboratories)
   IEEE (Institute of Electrical and Electronics Engineers)
   NFPA (National Fire Protection Assoc)

1.03 QUALITY ASSURANCE

A. Grinder shall be designed and manufactured in the USA, and shall conform to “buy American” and “domestic steel procurement” requirements.

PART 2 - PRODUCTS

2.01 WASTEWATER / SLUDGE GRINDER

A. Operation: the grinder shall be a dual shafted, low speed, high torque wastewater /sludge grinder. The grinder shall utilize a cutter/spacer arrangement on each shaft that intermeshes with the cutters/spacers on the other counter rotating shaft in a helical pattern. The cutters shall be cam shaped with five (5) cutting teeth and shall have five additional cutting surfaces on the mating faces on each side of the cutter to provide maximum solids reduction. This cutter arrangement shall provide an efficient cutting, grinding, shearing, shredding and tearing action while allowing maximum flow of fluid and solids reduction. Cutters and spacers shall be positively locked to the hex shaped shaft through a hex shaped inner bore. The cutter/spacer stack will be secured through the use of locknuts that are threaded to the shaft. The cutter /spacer tolerance may be maintained by simply adjusting the locknut on the shaft. This solid waste reduction machine shall be designed to be used in

sludge/wastewater and will utilize bearings and seals that are appropriate for sludge / wastewater use.

B. Bearing housing covers: both top and bottom bearing housings and covers shall be cast of ASTM a48-83 class 30 grey iron. Top housing shall be dowelled positive alignment between the grinder and the reducer pedestal. Bottom cover shall allow easy access to shaft locknuts, which allow adjustment of the cutter stacks. Top and bottom housings shall be sealed with cloth inserted neoprene gasketing.

C. Side rails: side rails are cast of ASTM a48-83 class 30 grey iron. Side rails shall be concave in design that follows the radial arc of the cutter diameter. Side rails shall feature a deflection area that directs larger solids into the cutting zone of the grinder.

D. Cutters and spacers: cutters and spacers shall be made of AISI 4140 alloy steel. Cutters and spacers shall have a minimum hardness of 43-48 Rockwell c, and precision ground to size. Mating faces shall be ground to a minimum #63 micro inch root mean square (rms) finish to assure flatness across the face.

1. Cutters shall be of a 5 tooth design, and will have additional shearing surfaces on the cutter faces to provide efficient reduction of solids.
2. Cutters and spacers shall feature a cast hex bore to eliminate the need for secondary shaft fastening.
3. The cutter design shall feature sufficient overlap to ensure constant contact with the intermeshed cutters.
4. Cutters shall be a maximum of 4-3/4" in diameter and exert a minimum force of 1540 lbs at the deepest point on the cutting edge.

E. Shafts: grinder driving and driven shafts shall be manufactured of AISI 4140 heat treated hexagon steel with a minimum tensile strength rating of 149,000 psi to minimize shaft deflection.

F. Bearings: bearings shall be double sealed, oversize, grease lubricated, conrad-type ball bearings. Bearings shall be a permanently lubricated design that does not require any external lubrication. Bearings shall be commercially available, the use of proprietary bearings shall be considered unacceptable.

G. Seal assembly: the bearings shall be protected by mechanical seals, the seal face material shall be tungsten carbide. The mechanical seals shall be rated at 90 psi by the manufacturer. The use of external lubrication or flushing is not required and shall be considered unacceptable.

H. Nameplates: equipment shall be permanently affixed with a stainless steel nameplate that identifies the model number and sales order number of the grinder. Nameplate will clearly identify the name and address of the manufacturer.

I. Channel type sludge grinder: a channel frame assembly will be furnished that will mount directly in the channel and will hold the grinder(s) in place without fastening and allow the grinder to be easily removed for inspection and maintenance. The frame assembly shall be constructed of steel angel with environmentally-safe machinery enamel coating with a high solids content.

2.02 SUBMERSIBLE INTEGRATED GEAR MOTOR

A. hermetically sealed, TENV, submersible type motor, rated for continuous in-air operation. Features include class “f” insulation, 1.15 service factor at 40° c ambient temperature, high strength 416 stainless steel shaft, high pressure lip seal, automatic reset N.C. series connected thermal overload protection, pre-lubricated shaft bearings designed for B-10 life 30,000 hours minimum, ASTM a48-83 Cl 30 cast iron construction, epoxy sealed “non-wicking” cable entry system and 25' of multi-conductor power and control cables. The motor construction shall be of explosion proof, tenv-texp design and capable of being certified for use in class I, group I, division C & D hazardous locations by factory mutual (F.M.). Output shaft of the submersible motor shall also be the direct input shaft of the speed

reducer. The grease filled cycloidal speed reducer shall feature a reduction ratio of 29:1. The reducer unit will be rated for “heavy shock” loads and be capable of accepting 500% momentary, intermittent shock loads without damage or reduction of rated life. Reducer shall have a minimum full load efficiency of 90%. The reducer is coupled to the grinder with the use of standard commercially available couplings. The driven shaft rpm is further reduced by use of a 12 tooth gear on the driving shaft and 18 tooth gear on the driven shaft. This gear reduction allows the driving shaft to turn 60 rpm while the driven shaft turns at 40 rpm insuring a shredding action. Motor shall be manufactured by the grinder manufacturer.

B. Drive arrangement: a standard height sludge grinder shall be furnished with the gear motor directly connected to the grinder unit using a pedestal coupling.

2.03 GRINDER CONTROLLER

A. Normal operation of grinder controller is continuous forward rotation. When an impediment condition is detected, the controller shall instantaneously stop the rotation, pause and momentarily reverse the grinder rotation to clear the obstruction. When the jam is cleared, the controller will return to standard forward operation. If the obstruction persists, the controller shall repeat the reversal cycle for a total of three (3) times within a 30 second window. If the grinder attempts a fourth reversal, it will shut down , display grinder jam on the LCD screen and sound the horn once every 10 seconds until the alarm is reset.

B. Controller enclosure shall be of a NEMA 4x FRP (fiberglass reinforced polyester). Enclosure shall feature stainless steel hinges and latches for corrosion resistant operation. Latches shall be capable of being padlocked to assure safety and security.

C. Controller shall include an internally mounted circuit breaker that is operated with a pass through lever that will not allow the controller door to be opened when the lever is in the “on” position.

D. Controller shall include a door mounted digital interface. This interface shall provide messaging operating and programming functions.

E. An LCD display will provide text messages to communicate the operation of the grinder. Operation buttons will be directly incorporated in the keypad of the interface.

F. Digital interface controller (electric or hydraulic drive): System includes back lit LCD digital and keypad based plc controller in NEMA 4x FRP enclosure. The digital panel shall offer the following standard features:

1. Audible alarm
2. Forward and reverse interlocked motor starters
3. Reverse pushbutton
4. Main circuit breaker disconnect with external hand Operator and padlock feature
5. Fused control circuit transformer
6. Programmable logic controller w/text based (readable) prompts.
7. Adjustable current sending relay
8. Forward/start pushbutton
9. Local/remote selection by OID selection
10. Plc operator interface
11. Grinder jam/motor overload remote alarm (one form “C” contact)
12. Power fail recovery
13. Local emergency stop pushbutton
14. Terminals for remote start/stop signal
15. Maintenance reminder messages
16. Readable alarm messages
17. Reset/stop pushbutton

18. Tri voltage rated (208.230/460-3-60)

G. The system monitor shall have non-resettable registers which track and display total power on time, motor running time, total grinder jams and total motor overloads. A second set of resettable registers shall be provided to track activity between inspections or time periods.

H. Comptroller logic shall be managed with an eeprom based PLC (programmable logic controller). PLC shall be factory programmed.

I. Overload relay (electric drive only) shall be used to monitor phase status and motor FLA (full load amps). Relay will activate grinder reversal when amp load exceeds present limit. Amp load shall be dial adjustable so that operation may be optimized in the field.

J. Reversing motor starts shall be full voltage reversing type. Starts shall operate with 120 volt operating coil, interlock and captive terminal screws. The relay shall be appropriately sized to the motor's FLA rating.

K. Controllers shall be listed by Underwriters Laboratories, inc., under ul-508 standards for industrial control equipment and meets or exceeds the National Electric Code Requirements.

PART 3 - EXECUTION

3.01 Installation: the contractor shall install the grinder in accordance with the manufactures instructions and drawings. Anchor bolts, gaskets and other required hardware and supports shall be furnished by the contractor.

3.02 Painting: each grinder unit shall receive one (1) coat of an environmentally-safe machinery enamel coating with high solids content.

END OF SECTION

SECTION 33 32 12 VERTICAL TURBINE PUMPS

PART 1 - GENERAL

1.01 SUMMARY

A. This specification is to cover furnishing and delivery of one (1) vertical turbine pump. The pump shall be manufactured by Peerless Pump Co., Goulds Pumps, or American Marsh Pumps. The units shall be installed in a sump approximately 10 feet deep. The overall length from the mounting base to the bottom of the suction bell is to be 55".

B. The pump will be started and stopped with open discharge. All components shall be designed for a maximum operating head of 140 feet.

C. The pump shall be designed for 85 gpm at 140 feet tdh. The pump speed shall not exceed 3500 rpm. The efficiency of the pumping unit shall be 69.8%.

PART 2 - PRODUCTS

2.01 MOTORS

A. The motor thrust bearing shall have ample capacity to carry the weight of all the rotating parts plus the hydraulic thrust of the pump impellers, and have an ample safety factor. This factor should be based on an average life expectancy of five years operation at 24 hours per day. The motor shall be of the full voltage starting, vertical hollow shaft, squirrel cage induction type, non-reversing clutch and shall conform to the standard of the American Institute of Electrical Engineers.

B. The motor shall be a 7.5 hp, 230/460 volt, three phase, 60 cycle, not more than 1750 rpm at no load and shall be of proper size to drive the pump continuously under the total head specified with a temperature rise not exceeding 90 degrees C by resistance at service factor load above ambient temperature.

2.02 PUMP HEAD

A. A pump head of high grade cast iron shall be provided for mounting the motor, with a 3" 125# ANSI discharge flange. The top of the head shall have a machined register to fit the motor. It shall be of sufficient strength to carry the complete weight of the pump and motor and withstand the hydraulic loads normally imposed on it by the system. The stuffing box shall have the proper type and amount of packing to prevent excessive leakage in the head. The head shall include a tapped opening for draining away the normal leakage from the packing.

2.03 PUMP COLUMN ASSEMBLY

A. The column pipe shall be not less than 3 inches inside diameter. The pipe shall be furnished in interchangeable sections not over five feet in length, and shall be connected with threaded, sleeve type couplings. The joints are to be butted to insure perfect alignment after assembly.

B. The line shafting shall be turned, ground and polished precision shafting of ample size to operate the pump without distortion or vibration. The shaft shall be furnished in interchangeable sections not over five feet in length, and shall be coupled with strong steel couplings machined from solid bar steel.

A non-corrosive flame sprayed stainless steel journal shall be placed on each shaft at the bearing point. The stainless steel journal O.D. will be substantially flush with the shaft O.D. (recess not to be deeper than diameter corresponding to the root diameter of shaft threads).

C. The column assembly shall have bronze bearing retainers threaded into the pipe couplings and retained by the butted pipe ends. Each bearing retainer shall contain couplings and retained by the butted pipe ends. Each bearing retainer shall contain a water lubricated, cutlass rubber bearing designed for vertical turbine pump service.

2.04 PUMP BOWL ASSEMBLY

A. The bowl unit assembly shall be model 6 lb. with 3 stages. The pump bowls shall be of close grained cast iron having a minimum tensile strength of 30,000 pounds per square inch, free from blow holes, sand holes, and all other faults; accurately machined and fitted to close dimensions.

B. The impeller shaft shall be of stainless steel of not less than 12% chrome. The impeller shaft shall be supported by a combination of water lubricated, fluted rubber and bronze bearings.

C. The impeller shall be of bronze accurately machined and finished, and mechanically balanced. They shall be securely fastened to the impeller shaft with a tapered bushing.

D. Each bowl shall have an impeller seal ring to prevent slippage of water between bowl and impeller. The impellers shall be adjustable by means of a top shaft nut at the top of the motor.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install all components according to manufacturer's recommendations.

END OF SECTION

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-258-9 **CODE: (SP)**

DATE: 07/23/2009

SUBJECT: Miscellaneous Site Amenities

PROJECT: STP/IM-0055-01(094) / 105569301 & 302 – Pike County

Section 907-258, Miscellaneous Site Amenities, is hereby added to and made a part of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction.

SECTION 907-258 -- MISCELLANEOUS SITE AMENITIES

907-258.01--Description. This item shall consist of constructing and installing concrete picnic tables and benches, wooden picnic tables and benches, charcoal grills, drinking fountains, trash receptacles, water hydrants, sewage dump station, cast stone benches, sign (masonry and stone), metal benches, bollards, pavilions, survey monument, car stops, cigarette receptacles, and picnic shelters , each complete in place, in accordance with these Specifications and in reasonably close conformity with the locations, lines, grades, configurations, dimensions and other requirements shown on the Drawings or established.

907-258.02--Materials. Unless otherwise stipulated, the materials used in this construction, in addition to the general requirements of these Specifications and the plans shall conform to the provisions and requirements prescribed in the sections of the Standard Specifications for the several items which constitute the complete structure.

All items will require approval by the Engineer from the manufacturer. Contractor shall submit eight (8) copies of brochures or shop drawings for approval prior to ordering manufactured items. Other items may require testing as directed by the Engineer.

A. Charcoal Grill. Charcoal Grill shall be the Model No. 100001085 Rotating Grill with post as manufactured by Iron Mountain Forge, Dumor Site Furnishings – Model No. 22-00, PW Athletic Manufacturing Co. – Model No. 1140-00, or approved equal. Post shall be set within a Class C concrete footing, size as recommended by manufacturer.

B. Drinking Fountain.

1. Waste Pipe. Waste pipe shall be of the size and type as shown on the Drawings and shall be standard PVC drain waste and vent piping.

2. Drain Pipe. Drain pipe shall be the size shown on the Drawings and shall conform to or exceed Commercial Standard CS 272-65 or CS 272.65.

3. Drinking Fountain. The drinking fountain shall be designed similar to the details shown on the Drawings, freeze-proof, and conforming to approved Handicapped Standards by

the Engineer.

4. Concrete. Concrete, unless otherwise specified, shall be paid for as sidewalk, and have an approved exposed aggregate finish to match the finish on the adjacent sidewalk.

5. Valves (Stop and Drain). The cut-off valve shall be a standard brass stop and drain cut-off valve of the proper size and type as shown on the plans.

C. Concrete Picnic Table and Benches.

1. Concrete. Concrete for table top, seat top, and end supports shall be Class "A" Concrete. Concrete for table slabs will be paid for as concrete sidewalks - Pay Item No. 608-B.

2. Reinforcing Steel. Reinforcing steel shall conform to Section 711.

3. Paint for Table top and Seats. Paint or coating for table top and seats shall be an approved HP Acrylic Latex paint conforming to or exceeding Master Paint Institute (MPI) numbers, primer MPI # 3 and topcoat MPI #141.

D. Wooden Picnic Tables and Benches. ADA Accessible Wooden Picnic Tables shall be the model number No.100000186, eight feet long with galvanized pipe frame and treated wood top and seats, as manufactured by Iron Mountain Forge, Picnic Table Source – Model No. M115-1061, All Picnic Tables – Model No. UPB158H-PT8, or approved equal.

Picnic tables shall be secured to the concrete with lead shields, anchors, or other means as approved by the Engineer.

E. Trash Receptacle.

1. Trash Receptacle. The trash receptacle shall be Upbeat Site Furnishings Model No. WR32AGBCT, 32-gallon Essence Receptacle Outdoor Trash Can with curved top, rounded corners and stone panels with leveling devices, rigid plastic liner, and hardware to secure the receptacle to the sidewalk, stone panel color shall be Golden Glo. United Receptacle, Inc. – Model No. R-38HT-202, Barco Products – Earth-Tone Panel Commercial Trash Cans, Model No. 38SQSTDMA, or approved equal.

2. Concrete. Concrete, unless otherwise specified, shall be paid for as sidewalk, and have a finish to match the finish on the adjacent sidewalk.

F. Water Hydrant.

1. Water Hydrant. Steel body, self-closing, anti-freezing hydrant with heavy stainless operating springs, with 3/4-inch supply as the model M-175 hydrant as manufactured by Murdock-Super Secur, The Kupferle Foundry Company model Total Eclipse #1 Yard Hydrant, , or approved equal. Color shall be black.

2. Concrete. Concrete, unless otherwise specified, shall be paid for as sidewalk and have

same finish as finish on adjacent sidewalk.

3. Valves (Stop and Drain). The cut-off valve shall be standard brass stop and drain cut-off valve of the proper size and type as shown on the Drawings.

G. Travel Trailer Sewage Dump Station (Modifications).

1. Sewage Dump Station. The sewage dump station shall be constructed similar to the details shown on the Drawings, with Schedule 40 galvanized steel pipe and fittings complete with vacuum breaker, and hose, in accordance with the Drawing details, and State Health Department minimum standards.

2. Concrete. Concrete unless otherwise specified shall be Class "B" conforming to Section 804 of the Standard Specifications and have an approved trowel finish.

3. Stand Pipe. Water stand pipe shall be standard galvanized Schedule 40 of the size shown on the Drawings.

4. Vent Pipe. Vent pipe shall be standard galvanized Schedule 40 of the size shown on the Drawings.

5. Signs. The signs shall be designed as shown on the details on the Drawings, constructed of 0.080-inch aluminum or 14 Ga. galvanized steel. The signs shall be manufactured by an approved sign company. The Contractor shall submit shop drawings.

H. Cast Stone Bench. Cast stone benches shall be constructed from the same material or an approved equal material as concrete picnic tables and benches.

I. Sign (Masonry and Stone).

1. Brick and Mortar. Brick and mortar shall be produced by the same manufacturer(s), and be the same type and kind, including bullnose and watertable units, and shall match the existing brick used on the Welcome Center Building, or approved equal.

2. Concrete Masonry Units. The concrete masonry units shall be hollow non-load bearing, light-weight aggregate, concrete masonry units conforming to ASTM Designation: C331-64T. Units shall be normal modular size for typical 3/8-inch mortar joint.

3. Concrete. Concrete, unless otherwise specified, shall be Class "B" conforming to Section 804 of the Standard Specifications.

4. Reinforcing Steel. Reinforcing steel shall conform to Section 711.

5. Precast Architectural Panel.

a. General.

Cement: Portland Cement shall conform to ASTM Designation: C-150, Type I or III.

Fine and coarse aggregate: Fine and coarse aggregate shall conform to ASTM Designation: C-33. Variations from aggregate gradations are permissible for the facing mix.

Reinforcement shall conform to ASTM Designation: C-185 for welded wire fabric.

Hot-dip galvanizing shall conform to ASTM Designation: A-153

Anchoring devices, inserts, etc., shall be either galvanized or corrosion resistant types approved by the Architect and as detailed on the Drawings.

b. Textures and Finishes. Precast architectural concrete shall be honed finish, lightly textured, approximating finish of limestone, with color as selected by the Engineer.

c. Fabrication. Precast architectural concrete shall be sufficiently reinforced to withstand conditions on the sign, including handling and erection stresses. Deformed bars with one inch (1") or less clearance to an exterior face shall be galvanized.

Units shall be fabricated straight, smooth, and true to size and shape, with exposed edges and corners precise and square unless otherwise indicated.

Reglets, slots, holes, and other accessories shall be provided in units to receive cramps, dowels, reglets, waterstops, flashings, and other similar work as indicated.

Arises, inscriptions and details shall be faithfully executed to the Engineer's design.

Each precast item shall be marked to correspond to identification mark on shop drawings.

Location of anchors, inserts and blockouts shall be plus or minus 3/8 inch from center line of location shown on drawings.

Rust-inhibitive coating shall be applied on damaged areas at welded connections, same as shop-applied material. Galvanizing repair coating shall be used on galvanized surfaces.

d. Mixes. Standard 6-inch by 12-inch cylinder strength of precast concrete shall not be less than 5,000 psi at 28 days when tested in accordance with ASTM Designation: C-39.

Absorption shall not be less than three percent (3%) and not more than seven percent (7%) when tested in accordance with ASTM Designation: C-97.

Minimum thickness of facing mix shall be 1½ inches thick. Backup concrete may be made with grey cement and aggregates conforming to requirements for cast-in-place

concrete.

e. Joint Material. Joint material shall be as recommended by the precast architectural concrete manufacturer, and as approved by the Engineer.

6. Letters and Symbols. Letters, including custom letters, and symbols shall be brass, in the shapes and sizes noted on the drawings, as manufactured by Metal Arts, A. R. K. Ramos, Matthews, or approved equal.

The Engineer will provide camera ready art work of the symbols and custom letters to the Contractor for the manufacturer.

Method(s) of attaching letters and symbols to precast architectural concrete panel shall be approved by the Engineer.

J. Metal Bench. Garden – Style all – steel bench, six feet long, color – green, as Bench 118 series as manufactured by DuMor, Inc., Highland Products Group – 6-foot 'Sunshine' Thermoplastic-Coated expanded Metal Bench, Columbia Cascade Co. – Manor Bench No. 2824-6, or approved equal.

Metal Bench shall be secured to pavement. Method of securing shall be reviewed with and approved by the Engineer.

K. Bollard. Pipe shall be schedule 40 steel pipe, in the size as noted on the drawings. Finial shall be the Linn Park Ball Finial, as manufactured by Robinson Iron, Tennessee Fabricating Company, Reliance Foundry Co., Ltd., or approved equal. Pipe and finial shall be painted with 1 shop coat of a rust inhibitive primer and two (2) field coats of an oil base exterior paint, color selected by the Engineer. Class B concrete required for pipe infill.

L. Pavilion:

1. Masonry Components, Concrete, and Cast Stone. Masonry components, concrete, and cast stone shall conform to the specifications described in Sign (Masonry and Stone), above.

2. Steel. Steel shall be provided in the shapes, sizes, and fabricated as noted on the Drawings.

Steel shall receive the following paints/ coatings, all as manufactured by PPG, Sherwin Williams, Tnemec Company, Inc., or approved equal, and applied in strict accordance with the manufacturer's written instructions.

PPG Products		
First Shop Coat (primer)	UC65147 Zinc	3.0 – 4.0 Mils Dry Film Thickness
Field Spot Primer (if necessary)	UC65147 Zinc	3.0 – 4.0 Mils Dry Film Thickness
Second Field Coat	94-2800 pitthame*	3.0 – 6.0 Mils Dry Film Thickness

Third Field Coat	94-2800 pitthame*	3.0 – 6.0 Mils Dry Film Thickness
Sherwin Williams Products		
First Shop Coat (primer)	B65G10 Zinc	3.0 – 4.0 Mils Dry Film Thickness
Field Spot Primer (if necessary)	B65G10 Zinc	3.0 – 4.0 Mils Dry Film Thickness
Polyurethane finish		
Second Field Coat	B65-600 Series*	3.0 – 6.0 Mils Dry Film Thickness
Third Field Coat	B65-600 Series*	3.0 – 6.0 Mils Dry Film Thickness
Tnemec Products		
First Shop Coat (primer)	90-97 Tneme Zinc	2.5 – 3.5 Mils Dry Film Thickness
Field Spot Primer (if necessary)	90-97 Tneme Zinc	2.5 – 3.5 Mils Dry Film Thickness
Second Field Coat	74 Endura-Shield*	2.0 – 2.5 Mils Dry Film Thickness
Third Field Coat	74 Endura-Shield*	2.0 – 2.5 Mils Dry Film Thickness

*Color of second and third field coat shall be selected by the Engineer.

3. Metal Roof. Metal roof shall be copper roofing sheet, 16 ounce per square foot, with 1½ inch standing seam "S" lock located 16 inches on center. Contractor shall design fabrication and fastening of the system for an I-60 wind uplift rating, using the purlins as noted on the drawings.

   Product data for materials, and fastening devices as well as shop drawings noting assembly and finished product appearance shall be submitted for review and approval of the Engineer. A minimum of eight (8) copies of each is required.

   Roof panel system shall be guaranteed by the manufacturer for a period of five (5) years.

4. Display Panel. The display panel shall be an exterior rated panel, with a top hinged impact resistant acrylic cover, cylinder lock and gas cylinder cover supports; baked on enamel finish, metal back with magnetic back (interior); for wall mounting, in a 40-inch high by 60-inch wide size, as the Module x Wide Profile as manufactured by ASI Sign Systems, Matthews International Corp., Mohawk Sign Systems, Inc., or approved equal.

   Color of panel shall be selected by the Engineer.

   Mounting of panel to metal work shall be reviewed with and approved by the Engineer.

M. Survey Monument.

1. Masonry Components and Concrete. Masonry components and concrete shall conform to the specifications described in Sign (Masonry and Stone), above.

2. Granite. Polished (finish) granite veneer, in the thickness as noted on the drawings. Color shall be selected by the Project Engineer. Method of attachment to masonry and

devices for attachment shall be reviewed with and approved by the Engineer.

N. Car Stop. Car stops shall be six (6) foot long concrete curb (car) stops. Curb stops shall be secured to pavement with two (2) No. 3 reinforcing bars, 24 inches long.

O. Cigarette Receptacle. Cigarette Receptacles shall be Aladdin Smoker' Station – Model Number R1639E-HCHAR- steel smokers' station, 39 inches high by 16 inches diameter, color – Hammertone Charcoal, as manufactured by Gilmore-Kramer Company, Johnson Environmental Products –Smokers Outpost-black Model Number 710101 , Ashtrays And Urns – Smoker' Station Model Number LL144-1645 , or approved equal.

Cigarette Receptacle shall be secured to pavement with anchoring kit. Method of securing shall be reviewed with and approved by the Engineer.

P. Picnic Shelter:

1. Building Type. Building shall be Icon HIP 16 x 24T as manufactured by Icon Shelter Systems Inc., American Building Products "Navajo Shelters", Litchfield Industries "Pittsburg Hip End", or approved equal.

2. Concrete. Concrete shall conform to the specifications described in Sign (Masonry and Stone), above.

3. Description. Picnic shelter shall be 16 feet by 24 feet galvanized steel frame hipped rectangle shelter with standard 24 gage Multi-rib metal roof panels, overhead "Linear" ornaments and square stepped base columns.

4. Submittals. Product data for materials, color charts and fastening devices as well as shop drawings noting assembly and finished product appearance shall be submitted for review and approval of the Engineer.

5. Steel Framing and Finishes. Steel framing, columns, base covers and overhead ornaments shall receive hot-dipped zinc galvanizing prior to finish. A double coat of TGIC polyester powder coating shall be applied. Color shall be "Surrey Beige", unless another color is selected by the Engineer from manufacturer's standard 14 colors

6. Base Connection. Base connection shall be surfaced mounted with base covers.

7. Metal Roof Materials. Metal roof material shall be standard 24 gage Galvalume® Multi-rib roof panels with Kynar 500 finish. Color "Copper Penny", or other color selected by the Engineer. Design fabrication and fastening of system for an UL 90 wind uplift rating. Roof pitch shall be 4:12, unless noted otherwise on Drawings.

8. Warranty. Product shall carry a manufacturer's standard 10-year warranty

907-258.03--Construction Requirements. The method of construction, unless otherwise stipulated, shall conform to the provisions and requirements where applicable, prescribed in the

standard specifications with the additions shown hereafter. All work shall be performed in a good workmanlike manner, to the satisfaction of the Engineer.

A. Charcoal Grill. The charcoal grill with concrete footing shall be installed in accordance with the manufacturer's written instructions in the locations as noted on the Drawings.

B. Drinking Fountain. The drinking fountain shall be installed by skilled plumbers, concrete finishers, and workmen in an approved manner to the satisfaction of the Engineer, to the dimensions and details shown on the Drawings, or approved by the Engineer.

The fountain drain shall be located to drain to the existing drain field or an approved ditch as directed by the Engineer.

The concrete base shall be constructed as shown on the Drawings or as directed by the Engineer. The concrete will be paid for under separate pay item for that class of concrete.

C. Concrete Picnic Tables and Benches. Concrete picnic tables and benches shall be constructed to the detailed dimensions shown on the Drawings. The handling and placing of concrete shall conform to Subsection 804.10. The top and edge surfaces of the table and benches shall receive a slick smooth finish.

The concrete shall be free of honeycomb and air pockets and in no case have a slump greater than one and one-half inches.

The ground under the slab shall be graded or shaped and compacted when necessary to insure a smooth, firm foundation for the slab. The ground adjacent to the slab shall be sloped to drain away from the slab in a manner so as to preserve the natural shape of the terrain as close as possible.

The concrete slab shall be poured around the table and benches in place and correctly aligned. Care shall be taken to place the expansion joint material around the top and bench supports as shown on the plans in a neat, secure manner. The slab shall be sloped to drain and receive an approved exposed aggregate finish to match the finish on the sidewalk.

The placing and fastening of reinforcement shall conform to Subsection 805.05.

The table shall be located as shown on the Drawings and as directed by the Engineer.

D. Wooden Picnic Tables and Metal Benches. Wooden picnic tables and metal benches shall be located and secured in an approved manner as shown on the Drawings and as directed by the Engineer.

E. Trash Receptacle. The trash receptacle shall be installed on and secured to a square concrete pad four inches thick, with outside dimensions six inches greater than the width of the trash receptacle, in locations designated by the Engineer.

The excavation when required to place the trash receptacle into the ground shall be disposed

of as directed by the Engineer.

The concrete shall be placed and finished to match the adjacent sidewalk. On locations adjacent to existing sidewalks, top of concrete pad for the receptacle shall meet flush with existing walk. Slope elevation of pads no more than 1/8 inch per foot in order that water will not stand.

The method to secure the trash receptacle to the concrete pad shall be submitted to the Engineer for approval.

F. Water Hydrant. Install water hydrant in accordance with the manufacturer's written instructions and the Drawings.

G. Travel Trailer Sewage Dump Station. The travel trailer sewage dump station shall be constructed by skilled plumbers, concrete finishers, and workmen in an approved manner to the satisfaction of the Engineer, to the details and dimensions shown on the Drawings.

H. Cast Stone Bench. The cast stone benches shall be a similar design and size as shown on the Drawings. Brochures or shop drawings shall be submitted.

The benches shall be secured to the sidewalk or bench pad in an approved manner with epoxy cement or other approved cement, to the satisfaction of the Engineer.

I. Sign (Masonry and Stone), Pavilion, and Survey Monument. The excavation required to place the sign and survey monument into the ground shall be disposed of as directed by the Engineer.

The concrete base shall be constructed as shown on the Drawings or as directed by the Engineer. The placing and fastening of reinforcement shall conform to Subsection 805.05.

Concrete Masonry Unit and Brick construction shall be in accordance with Section 611, and to the satisfaction of the Engineer.

Precast architectural concrete panels shall be set straight, plumb, level, and square. Exposed facings shall be cleaned to remove dirt and stains which may be on the units after erection and completion of joint treatments. Panels shall be washed and rinsed in accordance with precast manufacturer's recommendations. Other work shall be protected from damage due to cleaning operations. Do not use cleaning materials or processes which could change the character of exposed concrete finishes.

Letters and symbols shall be attached in accordance with the Drawings, approved shop drawings, and to the satisfaction of the Engineer.

Pavilion and survey monument shall be constructed straight, plumb, level, and square, in accordance with the drawings and to the satisfaction of the Engineer. Welds shall be grinded smooth prior to painting/ coatings application.

J. Metal Bench. Metal bench shall be located where noted on the Drawings. Metal bench shall be secured to pavement as approved by the Engineer.

K. Bollard. Bollards shall be constructed plumb and in accordance with the drawings to the satisfaction of the Engineer. Welds shall be ground smooth prior to painting/ coatings application.

N. Car Stop. Drive reinforcing bars through holes in car stop and through new asphalt pavement. Top of reinforcing bar shall be driven to a point 1/4 inch below the top of the car stop.

O. Cigarette Receptacle. Cigarette receptacles shall be located where noted on the Drawings. Secure to pavement as approved by the Engineer.

P. Picnic Shelter. The excavation required to place the picnic shelter into the ground shall be disposed of as directed by the Engineer.

The concrete base shall be constructed as shown on the Drawings or as directed by the Engineer. The placing and fastening of reinforcement shall conform to Subsection 805.05

Picnic shelter shall be constructed straight, plumb, level, and square, in accordance with the drawings and to the satisfaction of the Engineer. Care shall be taken to protect paint finishes and touch up with matching paint and color to the satisfaction of the Engineer. Items that can not be successfully repaired in the field shall be replaced.

907-258.04--Method of Measurement. Miscellaneous Rest Area Facilities, constructed and complete in accordance with the requirements of the contract, and accepted, will be measured by the unit quantity per each unit.

A unit of concrete picnic tables and benches shall consist of one table, two benches, the concrete slab shall be as indicated on the Drawings.

A unit of wooden picnic tables shall consist of one table with benches, and the devices to secure the table when required.

A unit of charcoal grill shall consist of the grill complete with steel post and concrete footing.

A unit of drinking fountain shall consist of all concrete, steel, masonry elements, piping, plumbing elements, and drains as shown on the Drawings.

A unit of trash receptacle shall consist of the receptacle, complete, with leveling devices and approved devices to secure the trash receptacle to the pavement.

A unit of water hydrant shall consist of the hydrant complete with connection to water supply, piping, cut off valve, drain and drain line (where shown), and concrete footing, located where shown on the plans and installed in accordance with manufacturer's directions.

A unit of travel trailer sewage dump station shall consist of one tower, one drain, signs and concrete as shown in the plan details.

A unit of cast stone bench shall consist of one bench seat and three bench supports.

A unit of sign (masonry and stone) shall consist of all concrete, steel, masonry elements, letters, as symbols shown on the plans.

A unit of bollard shall consist of steel pipe with finial, and concrete for footing and infill, as shown on the plans.

A unit of metal benches shall consist of one bench, and the devices to secure the bench when required.

A unit of pavilion and survey monument shall consist of concrete (not including sidewalk), steel (painted), metal roof, masonry elements, granite, re-location of survey monument, and display panel as applicable and as shown on the Drawings.

A unit of cigarette receptacle shall consist of one receptacle, and the devices to secure the receptacle when required.

A unit of picnic shelter shall consist of concrete (not including sidewalk), steel framing, metal roof, steel columns, and overhead ornaments, as shown on the Drawings.

Separate measurement for excavation and other individual items will not be made, it being understood that the cost thereof is included in one contract price bid per complete items.

907-258.05--Basis of Payment. Charcoal grills, drinking fountains, concrete picnic tables and benches, wooden picnic tables and benches, trash receptacles, water hydrants, travel trailer sewage dump station, cast stone benches, sign (masonry and stone), metal benches, bollards, pavilion, survey monument, car stops, cigarette receptacles, and picnic shelters each unit shall be paid for at the contract unit price bid per each, which price shall be full compensation for furnishing all materials and supplies; for performing all work necessary for each completed unit; and for all equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

907-258-A:	Charcoal Grill	- per each
907-258-B:	Drinking Fountain	- per each
907-258-C:	Concrete Picnic Table and Benches	- per each
907-258-D:	Wooden Picnic Table and Benches	- per each
907-258-E:	Trash Receptacle	- per each

907-258-F: Water Hydrant - per each

907-258-G: Travel Trailer Sewage Dump Station - per each

907-258-H: Cast Stone Bench - per each

907-258-I: Sign, Masonry and Stone - per each

907-258-J: Metal Bench - per each

907-258-K: Bollard - per each

907-258-L: Pavilion - per each

907-258-M: Survey Monument - per each

907-258-N: Car Stop - per each

907-258-O: Cigarette Receptacle - per each

907-258-P: Picnic Shelter - per each

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-259-6 **CODE: (SP)**

DATE: 07/10/2009

SUBJECT: Miscellaneous Site Lighting

PROJECT: STP/IM-0055-01(094) / 105569301 & 302 – Pike County

Section 907-259, Miscellaneous Site Lighting, is hereby added to and made a part of the Standard Specifications for Road and Bridge Construction, 2004 Edition.

SECTION 907-259 – MISCELLANEOUS SITE LIGHTING

907-259.01--Description. This item shall consist of installing Unlighted and Lighted Bollards, Flag Pole Lights, Sign Lights, Vapor Tight Fluorescents, Column Up-lights, and Vandal Resistant Fluorescents, each complete in place with lamp, in accordance with these Specifications and in reasonably close conformity with the locations, lines, grades, configurations, dimensions and other requirements shown on the plans or established.

907-259.02--Materials. Unless otherwise stipulated, the materials used in this construction, in addition to the general requirements of these specifications and the plans, shall conform to the provisions and requirements prescribed in the sections of the Standard Specifications for the several items which constitute the complete structure.

All items will require approval by the Engineer from the manufacturer. The Contractor shall submit six (6) copies of brochures or shop drawings for approval prior to ordering manufactured items. Other items may require testing as directed by the Engineer.

A. Unlighted Bollards: Unlighted Bollards shall be Model Number BOL/CH44/12/DT-CA/BK as manufactured by Holophane, BLMV by Spring City or 7701B/BK by Sternberg. Bollards shall be fluted, cast aluminum with a decorative base and dome top. They shall match and be the same manufacturer as lighted bollard. Color shall be black, factory painted.

B. Lighted Bollards: Lighted Bollards shall be Model Number BOL/CH44/12/DTL-CA/BK-M70/xx, as manufactured by Holophane, BLMVL by Spring City or 7701LB/100MHxx by Sternberg. It shall be fluted, cast aluminum with decorative base and dome top. They shall match and be the same manufacturer as pole for area luminaire. It shall have Type V distribution with no louvers. The voltage and single fuse protection shall accommodate the available voltage on site. Color shall be black, factory painted.

C. Flag Pole Lights: Flag pole lights shall be Model Number VFS-K-175MP-xx-HS-BK as manufactured by Cooper, DF7-ST-HSP-175PSMH-xx-BLP by Gardco or AFL27-175PMHxx-BL by Kim. Fixture and knuckle shall be heavy-duty die-cast aluminum, mounted on stanchion in concrete base and have horizontal spot optics. The voltage and

single fuse protection shall accommodate the available voltage on site. Color shall be black, factory painted.

D. Sign Lights: Sign lights shall be Model Number PVT5HO-48-BLK-HB-(2)HBX, as manufactured by Architectural Area Lighting, SNSOC-1LFT5-1C120-K-CYI by Cooper or P1-SSW-148T5/HO-SCK1L/R/I-SGB by Winona. The light shall have 4-foot long extruded aluminum housing, with all required accessories for continuous 12'-0" row configuration. Ballasts shall be internal to the fixture housing or remote mount in single enclosure on rear of sign. The voltage and single fuse protection shall accommodate the available voltage on site. Color shall be black, factory painted.

E. Vapor Tight Fluorescents: Vapor tight fluorescents (4-foot long -1 lamp) shall be Model Number LWPE154HO-xxx-LT, as manufactured by Day-Brite, VT3-154T5-DR-xxx-EHT1 by Cooper or LUN4-154-EPU-PP by Columbia. Fixture shall be a non-metallic, wet location housing with prismatic lens and use low temperature ballast and T5HO lamp. The voltage shall accommodate the available voltage on site.

F. Weatherproof GFCI Receptacles: Weatherproof GFCI receptacle shall be commercial specification grade 20A 125V GFCI receptacle(s) as manufactured by Hubbell or other accepted models by Pass & Seymour, Leviton or approved equal. Color shall be black and verified with Project Engineer.

G. Column Up-lights: Column up-lights shall be Model Number LTV10-NF-100PMHxxx, as manufactured by KIM, G7100MH-RB-W-NF-xxx by Bronzelite or 6000N-MH100NFL-xxx-BZ by Lumiere (Cooper). Fixture shall be composite housing with cast bronze lens ring and narrow flood optics. The voltage shall accommodate the available voltage on site.

H. Vandal Resistant Fluorescents: Vandal resistant fluorescents (4-foot long -2 lamp) shall be Model Number SLW232-UNV-1/2LT, as manufactured by Day-Brite, FPS232-xxx-EB82 by Cooper or VL4-232-EU by Columbia. Fixture shall have clear prismatic, high impact, polycarbonate lens and use low temperature ballast. The voltage shall accommodate the available voltage on site.

907-259.03--Construction Requirements. The Contractor shall provide and install miscellaneous site lighting in accordance with the drawings, special provisions, and the standard specifications. All work shall be performed in a good workmanlike manner, to the satisfaction of the Engineer.

907-259.04--Method of Measurement. Miscellaneous site lighting of the type specified will be measured by the unit quantity per each.

907-259.05--Basis of Payment. Miscellaneous site lighting, measured as prescribed above, shall be paid for at the contract unit price bid per each, which price shall be full compensation for furnishing all materials and supplies; for performing all work necessary for each completed unit; and for all equipment, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

907-259-A:	Unlighted Bollards	- per each
907-259-B:	Lighting Assembly, Bollards	- per each
907-259-C:	Lighting Assembly, Flag Pole Lighting	- per each
907-259-D:	Lighting Assembly, Sign Lighting	- per each
907-259-E:	Lighting Assembly, Vapor Tight	- per each
907-259-F:	Weatherproof GFCI Receptacle	- per each
907-259-G:	Lighting Assembly, Column Uplights	- per each
907-259-H:	Lighting Assembly, Vandal Resistant	- per each

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-282-4 **CODE: (SP)**

DATE: 08/30/06

SUBJECT: Irrigation System

Section 907-282, Irrigation System, is hereby added to and made a part of the 2004 Edition of the Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-282 -- IRRIGATION SYSTEM

907-282.01--Description. Lawn and shrub bed irrigation systems shall be constructed to the grades and conforming to the areas and locations shown on the plans.

Irrigation lines shown on the plans are essentially diagrammatic. Specific locations of equipment shall be established by the Contractor at the time of construction. Exceed spacing of heads as shown on the plans only with the permission of the Engineer.

907-282.01.1--Irrigation Operations. Irrigation operations shall be performed by a firm having a minimum of two consecutive years experience in this area of work and having installed other jobs of similar size and scope. Contractor shall provide a minimum of three references and a list of similar projects with the Client's names, addresses, and telephone numbers, when requested by the Engineer.

907-282.01.2--Field Investigations: The Contractor shall visit the job site and become familiar with the nature and location of the work, existing conditions, and other conditions that will be obligated to operate in the performance of the work.

907-282.01.3--Substitutions and Submittals. Substitutions shall be made only with the written approval of the Engineer. Substitutions will not be considered prior to opening of bids. Substitution of an irrigation head shall be accompanied by a Contractor prepared piping diagram noting pipe sizes, pressure loss calculations, and head locations necessary to achieve the desired watering provided by the system as designed.

The Contractor shall submit seven copies of manufacturer’s product data of materials specified herein for review and approval by the Engineer.

907-282.01.4--Department's Instruction and Maintenance Data. General: The Contractor shall furnish the following instructions and maintenance data. Final Acceptance will not be made until the Work has been reviewed and approved by the Engineer.

1) As-built plans: Two sets, noting exact locations of elements and changes to the plans in red.

2) Operation Manual: Two copies, bound in 1-inch diameter three ring binders, indexed and tabbed for easy reference, and labeled on spine and cover. Manual to include:

   A. Approved submittals,
   B. Installation instructions, including mounting details for control valves.
   C. Operating Instructions, including winterization procedures, recommended operation sequence, frequency, and length of operation cycle, as per relationship to estimated absorption rate, evaporation rate and anticipated GPM.
   D Maintenance Instructions: Items requiring manufacturer's product data and installation instructions. Complete warranty information, mail to manufacturer, and provide copies to the Department.

3) Extra Stock: In addition to the installed system, provide one sprinkler head of each size and type, one valve key (per valve) for operating manual valves, one key per valve box, two wrenches for each type of head cover, and two wrenches for removing and installing each type of head.

907-282.02--Materials.

907-282.02.1--General: Materials shall be new and without flaws or defects, and of quality and performance as specified. Overages at completion are property of the Contractor, and are to be removed from the site.

Materials and equipment specified by "Proprietary Specification" as manufactured by a particular company, etc., shall be for the express purpose of establishing minimum acceptable performance requirements. Acceptable manufacturers shall include:

A. The Toro Company - Irrigation Division
B. Rain Bird Sales, Inc. - Turf Division
C. Hunter Irrigation

The provision of providing other acceptable manufacturer's as potential substitutions shall not disregard the requirements of paragraph Subsection 907-282.01.3.

907-282.02.2--Delivery and Storage. Damaged materials will not be accepted. Any packaged materials shall be delivered to the site in the original, unopened containers. Materials delivered to site prior to actual usage shall be stored in a place not to interfere with other trades or construction operations and protected from damage by weather or other elements as needed.

907-282.02.3--Pipe and Pipe Fittings.

907-282.02.3.1--Plastic Piping. Plastic pipe shall be Class 160 SDR 26 - ASTM D2241 Polyvinyl Chloride (PVC) pipe NSF approved. Pipe up to and including 2½ inches in diameter shall have bell and socket joints. Pipe greater that 2½ inches in diameter shall have snap connections with rubber gasket joints.

907-282.02.3.2--Sleeves. Sleeves shall be of the size noted on the plans, and shall be schedule 40 PVC pipe.

907-282.02.3.3--Plastic Fittings and Risers. Plastic fitting and risers shall be Schedule 40 or Schedule 80 PVC. Risers above finished grade shall receive two coats of black exterior semi-gloss enamel paint.

907-282.02.3.4--PVC Solvent Cement. PVC solvent cement shall meet the requirements of ASTM Designation: D 2564.

907-282.02.3.5--Polyethylene Pipe and Fittings. Polyethylene pipe and fittings shall be installed between supply lines and pressure regulators. Thick wall, flexible, polyethylene pipe, with fittings that have male barbs on one end and either male or female screw ends opposite shall be used. Glue fittings and female barb adapters shall not be allowed. Pipe and fittings shall be Toro Funny Pipe and Fittings as manufactured by Toro-Irrigation Division, Riverside, California, or approved equal. The pipe shall be smooth-walled and shall conform to Subsection 722.05.7.1.

907-282.02.4--Valves.

907-282.02.4.1--Electric Control Valves. Electric control valves shall be as delineated on the drawings, or approved equal.

Water-tight connectors shall be Scotch Lock connectors with sealant for wiring connections at electric valves as manufactured by 3M – Scotch Brand, Rain Bird Sales, Inc.- Turf Division, King Innovation Company, or approved equal.

Valve box for electric valves shall be the 12-inch Standard Box with snap lock cover as manufactured by Armor Access Boxes, Rain Bird Sales, Inc.- Turf Division, Carson Industries, or approved equal.

907-282.02.4.2--Quick Couplers. Quick couplers, each with Key and Hose Swivel, shall be the 44 Series Coupler and Coupler Key, and SH series swivel hose connector, as manufactured by Rain Bird Sprinkler Mfg. Corp., Glendora, CA., or approved equal.

Quick couplers shall be installed inside a valve box as noted on the plans.

907-282.02.4.3--Isolation Valves. Gate valves shall be manufactured in accordance with AWWA C500 and shall have a rated water working pressure of 200 PSI. Gate valves shall be iron body, bronze mounted, double disc, parallel seat, non-rising stem type. Each valve shall have "O" ring type stem seal, standard 2-inch AWWA square operating nut, and shall be opened by COUNTER-CLOCKWISE stem rotation. Except where otherwise specified, indicated, or required for the application involved, gate valves ends shall be AWWA Specification C111 mechanical joint type, with plain rubber gaskets. Gate valves shall be as manufactured by Waterous Company, Clow, Mueller, or approved equal.

One (1) key for every three valves installed shall be provided.

With each valve, install a valve box which shall be standard cast iron two-piece 5¼-inch inside shaft diameter screw adjustable type, consisting of a cover marked "WATER", and upper telescoping section, and a lower section. Where necessary to provide extra depth, provide cast iron extension pieces as required.

907-282.02.5--Sprinkler Heads. Sprinkler heads shall be as delineated on the drawings, or approved equal.

907-282.02.6--Control Wire. Control Wire and common wire shall be a minimum AWG 14 size, copper wire suitable for direct burial.

907-282.02.7--Low Point Drains. Low-point drains shall be an Automatic Valve model number 290-02 as manufactured by Toro-Irrigation Division, or approved equal. The Contractor shall provide two drains at the lowest points of each zone, with each atop an 8-inch by 8-inch by 8-inch area of coarse gravel.

907-282.02.8--Automatic Controller. Automatic controllers shall be as delineated on the drawings, or approved equal. With each controller, the Contractor shall provide one Automatic Rain/ Freeze Switch, the Rain/Freeze-Clik, as manufactured by Hunter Irrigation, or approved equal..

907-282.02.9--Backflow Preventer. The backflow preventer shall be as manufactured by Watts, Orbit Irrigation Products, Inc, Febco, or approved equal. With each backflow preventer, the Contractor shall provide one above ground enclosure as specified on the drawings, or an approved equal.

907-282.02.10--Pressure Regulator. The pressure regulator shall be as manufactured by Senninger, The Toro Company, Rain Bird Sales, Inc, or approved equal. Outlet water pressure shall not exceed 20 psi. Installation of pressure regulators shall be under-ground at the end of supply pipe nearest the point of irrigation.

907-282.03--Construction Requirements.

907-282.03.1--Pressure/ Flow Test. Immediately after installation of meters, and before installing pipe, the Contractor shall test and provide written results to the Engineer of the static pressure, dynamic pressure, and gallons per minute. Tests shall be performed at the beginning tap or meter and note as such on the written results.

The Contractor shall receive approval from the Engineer to proceed with construction along with proposed revisions (if required due to test results) prior to installation.

907-282.03.2--Execution and Trenching. Trenches shall be excavated to pipe grade depth. The width of trench shall be at least 3 1/2 inches. Any over-excavation shall be backfilled and hand tamped prior to installing piping. In soils containing rock or other hard material that may

damage the pipe, the trench shall be excavated deeper than required and backfilled to pipe grade with selected fine earth or sand. The trenches shall be kept free of obstructions and debris that would damage pipe.

More than one pipe may utilize the same trench, however, pipe arrangement in the trench shall remain continuous throughout the run of pipe/ trench and the amount of cover shall not be reduced to accommodate additional pipe.

Jacking, drilling, excavating, backfilling, and replacement of sod shall not be measured for separate payment, but shall be incidental to and included in the contract unit prices for Pipe, Jacked or Drilled, underground installations as applicable.

907-282.03.3--Piping System.

907-282.03.3.1--Cover. Pipe system cover shall be as follows:

Lawn and planting areas: .....14 inches below finish grade
Roadways:.....36 inches below finish grade
Parking areas:.....24 inches below finish grade

907-282.03.3.2--Clearances. A minimum 1-inch vertical clearance shall be maintained between lines crossing at an angle greater than 45 degrees.

907-282.03.4--Piping Erections.

907-282.03.4.1--Threaded Plastic Pipe. Do not use solvent cement on threaded joints. Threaded joints are to be wrapped with Teflon tape. When threaded pipe is used, material shall be Schedule 80 PVC.

907-282.03.4.2--Cemented Joints for PVC Bell End Pipe and PVC Pipe with Socket Fittings. These joints shall meet the requirements of ASTM Designation: D 2855.

907-282.03.5--Valves. Values shall be installed plumb to within 1/16 inch. Wire connectors shall be installed to wiring in accordance with the manufacturer's written instructions. A 2-foot section, beginning at the Wire connection, is to be wrapped around a minimum 1/2-inch diameter pipe to protect against electrical surges from lightning..

907-282.03.6--Sprinklers. Sprinklers shall be installed plumb to within 1/16 inch. Heads along walks and curbs shall be set flush to within 1/8 inch. Other heads shall be set as per details and plans.

907-282.03.7--Control Wire. Control wire shall be buried in the same pipe trench, and bundle and tape together at not more than 10-foot intervals.

907-282.03.8--Backfill: Do not backfill until system, or that portion thereof, has been tested and approved. Trench shall be filled to within three inches of top with excavated soil and water to

compact soil. Fill the top three inches of the trench with existing topsoil in planting areas and wheel roll until compaction of backfill is same as surrounding soil.

907-282.03.9--Electrical Connections. Electrical connections shall be in strict accordance with the latest edition of the National Electrical Code. Contractor shall provide the electrical connection to the system as designated on the plans and as specified herein. Splices to electrical wire between the controller to valves or power supply shall be made within watertight junction boxes.

907-282.03.10--Automatic Controller. Location and installation of the automatic controller shall be as per plans, and approved by Engineer prior to installation.

Rain–Freeze device shall be located where approved by the Engineer.

907-282.03.11--Flushing. Following installation of piping, risers and valves, but prior to installation of sprinkler heads, the piping system shall be thoroughly flushed under a full head of water. Flushing shall continue for three minutes through the furthermost valve. After flushing, the risers shall be capped.

907-282.03.12--Backflow Preventer. Backflow preventer shall be set in a level horizontal position twelve inches above grade inside of an insulated backflow preventer box, as noted on the plans.

907-282.03.13--Testing. The tests shall be performed in the presence of the Engineer.

907-282.03.13.1--Pressure Test. The Contractor shall hydrostatically test the main piping system between meter and regulators in place prior to backfilling. A minimum pressure of 50 PSI shall be maintained without pumping for period of one hour. The test shall be considered acceptable if no leakage or loss of pressure is evident during test period. Any leaks shall be repaired. Retests shall be performed until test pressure can be maintained for duration of test. It is assumed that a water supply with a 50-PSI pressure is available on site, wherein no mechanical pumping equipment is required.

907-282.03.13.2--Operation Test. At the conclusion of pressure test, sprinkler heads shall be installed and entire system tested for operation under normal operating pressure. Heads shall be adjusted as noted on plans. The entire system shall then be retested. Test is acceptable if the system operates in a satisfactory manner, with uniform coverage of areas to be irrigated.

907-282.03.14--Guarantee. The Work shall be guaranteed for one year from date of final acceptance against defects in material, equipment and workmanship. The Contractor shall repair damage to the premises resulting from leaks or other defects in material, equipment and workmanship to the satisfaction of the Department. Repairs, if required, shall be done promptly at no cost to the Department.

907-282.03.15--Final Acceptance. Final acceptance shall be in accordance with Section 105 of the Standard Specifications.

907-282.04--Method of Measurement.

907-282.04.1--Sprinkler Heads. Sprinkler heads, accepted in place, will be measured per each for the type of head specified, including nozzle.

Excavation, fittings to lateral pipe including risers, if necessary, adjustment of spray pattern, setting to proper grade, and backfilling, will not be measured for separate payment.

907-282.04.2--Piping. Piping, as noted on the plans and as adjusted by the Contractor in the field, will be measured per linear foot for each size specified.

Miscellaneous fittings, PVC cleaner and glue, and operations necessary to fit and contour pipe to the trench will not be measured for separate payment.

907-282.04.3--Sleeves. Sleeves, as noted on the plans and as adjusted by the Contractor in the field, will be measured per linear foot for each size specified.

Boring under existing pavement, miscellaneous fittings, PVC cleaner and glue, and operations necessary to install the sleeves will not be measured for separate payment.

907-282.04.4--Valve Control Wire. Valve control wire, as needed for power supply and control of the electric control valves from the electric controllers, shall be measured per linear foot.

Miscellaneous fittings, water–tight junction boxes, if necessary, and curling of wire at valves will not be measured for separate payment.

907-282.04.5--Trench Excavation and Backfill. Trench excavation and backfill, as needed for piping and wiring, will be measured per linear foot.

Depth or width of trench will not be considered for separate payment.

907-282.04.6--Meter with Meter Box. Meters with meter box, complete and in place, will be measured per each.

Tap or connection to existing tap, cut off valves, meter deposit, or backfilling will not be measured for separate payment.

907-282.04.7--Electric Controller. Electric controllers, complete and in place, will be measured per each.

Connection to power supply, installation of rain-freeze switch, rigid galvanized conduit above grade with straps, ground rod and ground wire will not be measured for separate payment.

907-282.04.8--Electric Control Valve, Isolation Valve, and Quick Coupler Valve. Electric control valves, isolation valves, and quick coupler valves, complete and in place, will be measured per each.

Excavation, installation of valve box, backfilling, scotch lock protectors, and connection to valve wiring will not be measured for separate payment.

907-282.04.9--Backflow Preventer. Where noted on the plans, backflow preventer, complete and in place, will be measured per each.

Installation of backflow preventer box, backfilling, miscellaneous fittings and piping, gravel, adjusting, and connection to piping will not be measured for separate payment.

907-282.04.10--Pressure Regulator. Where noted on the plans, pressure regulator, complete and in place, will be measured per each.

Backfilling, miscellaneous fittings and piping, gravel, adjusting, and connection to piping will not be measured for separate payment.

907-282.05--Basis of Payment.

907-282.05.1--Sprinkler Heads. Accepted quantities for each type of sprinkler head will be paid for at the contract unit price per each. Prices paid shall be full compensation for completing the work.

907-282.05.2--Piping and Sleeves. Accepted quantities for each size of piping will be paid for at the contract unit price per linear foot. Prices paid shall be full compensation for completing the work.

907-282.05.3--Valve Control Wire and Trench Excavation and Backfill. Accepted quantities for valve control wire and trench excavation and backfill will be paid for at the contract unit price per linear foot. Prices paid shall be full compensation for completing the work.

907-282.05.4--Meter with Meter Box, Electric Controller, Electric Control Valve, Isolation Valve, and Quick Coupler with Key and Hose Swivel, Backflow Preventer, and Pressure Regulator. Accepted quantities for meter with meter box, electric controller, electric control valve, isolation valve and quick coupler will be paid for at the contract unit price per each. Prices paid shall be full compensation for completing the work.

Payment will be made under:

907-282-A: Sprinkler Head, Type - per each

907-282-B: Piping, Size - per linear foot

907-282-C: Sleeves, Size - per linear foot

907-282-D:	Valve Control Wire	- per linear foot
907-282-E:	Trench Excavation and Backfill	- per linear foot
907-282-F:	Meter with Meter Box, Size	- per each
907-282-G:	Electric Controller, Type	- per each
907-282-H:	Electric Control Valve, Size	- per each
907-282-I:	Backflow Preventer (Size)	- per each
907-282-J:	Isolation Valve, Size	- per each
907-282-K:	Quick Coupler with Key and Hose Swivel	- per each
907-282-L:	Pressure Regulator	- per each

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-304-12 **CODE: (IS)**

DATE: 06/01/2009

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.

Crushed concrete meeting the requirements of Subsection 907-703.04.4 may be used in lieu of other crushed courses specificed in the contract.

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: **06/25/2009**

SUBJECT: **Hot Mix Asphalt (HMA)**

Add the following before 907-401.02.6.2 on page 1.

907-401.02.4--Substitution of Mixture. Delete the table in Subsection 401.02.4 on page 242, and substitute the following:

Mixture	Single Lift Laying Thickness Inches	
	Minimum	Maximum
25 mm	3	4
19 mm	2 ¼	3 ½
12.5 mm	1 ½	2 ½
9.5 mm	1	1 ½
4.75 mm	½	¾

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. 907-608-7 **CODE: (SP)**

DATE: 09/22/2009

SUBJECT: Stamped and Colored Concrete Sidewalk

Section 608, Concrete Sidewalks, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as amended by this special provision is applcable to Stamped And Colored Concrete Sidewalks Only.

907-608.01--Description. The work covered under this special provision consists of furnishing all labor, materials, tools, tests, royalties, services and other incidentals as may be required for the good and proper completion of the Stamped and/or Colored Concrete Sidewalk operations.

The extent of colored and imprinted sidewalk locations are shown on the drawings. These locations are generally limited to all proposed concrete traffic islands and concrete median end noses.

The Contractor is responsible for notes on the drawings which call attention to particular requirements or conditions. The fact that these requirements or conditions are not called out in the specifications does not relieve the Contractor of responsibility for these requirements or conditions.

907.608.01.1--Quality Assurance. Installation shall be performed by an installer with at least one year experience in the placement of stamped and colored concrete sidewalk paving systems.

907-608.02--Materials. After the last paragraph of Subsection 608.02 on page 608-1, add the following:

Colored concrete materials and imprinting tool release agents shall meet the following requirements.

A. Coloring Agents: Contractor may elect to color the concrete integrally with a mineral oxide color, or may apply dry-shake of a manufactured pre-blended mixture of mineral oxide pigment and Portland cement to the surface of the freshly poured concrete.

   Colors for Colored and Imprinted Concrete shall be selected by the Engineer from Standard or Designer color charts.

B. Curing and Finishing Material: Contractor a color–matched curing and finishing material. Curing materials or methods for uncolored concrete shall not be used with Colored and Imprinted Concrete.

C. Release Agent: Contractor shall utilize a dry-shake powder to facilitate the release of the concrete imprinting tools. The color of the release agent shall match the selected main coloring agent chosen by the Engineer for the concrete.

D. Imprinting Tools: Tools shall be of high quality and shall provide uniform control of joint depth.

E. Imprint Tool Pattern: The imprint pattern to be used for all concrete imprinting shall be a 4" x 8" brick running bond pattern, with a 4" x 8" matching soldier course border used along the perimeter of all proposed concrete traffic islands and median end noses. Refer to the drawings for pattern layout and orientation of the imprint patterns.

Once the color, method of coloring, and the imprinting tools have received approval from the Engineer, the Contractor shall provide a 4-foot square panel, separate from proposed traffic island and median end nose areas, to be reviewed and approved by the Engineer. Engineer will evaluate color as compared to color chart and texture of broom finish.

Subsequent panels may be required, if finish, imprint quality, or color are unacceptable to the Engineer. The Contractor shall remove unaccepted panels immediately from site. Accepted panel shall remain until all colored concrete traffic islands and median end noses have been completed by the Contractor, at which time the Contractor shall remove the panel from the site.

907-608.03.4--Handling, Measuring, Proportioning, and Mixing Materials. After the first paragraph of Subsection 608.03.4 on page 608-1, add the following:

Should an integral coloring method be selected by the Contractor, the Contractor shall mix coloring agent in strict accordance with the approved manufacturer's written instructions. Copies of the manufacturer's written instructions shall be furnished to the Engineer prior to manufacture and placement of colored concrete.

Should a dry-shake applied coloring method be selected by the Contractor, the Contractor shall measure and apply coloring agent in strict accordance with the approved manufacturer's written instructions. Copies of the manufacturer's written instructions shall be furnished to the Engineer prior to manufacture and placement of colored concrete.

907-608.03.4--Protection and Curing. After the second paragraph of Subsection 608.03.7 on page 608-2, add the following:

Protection and curing materials and methods of application for stamped and colored concrete sidewalk shall be in strict accordance with the approved manufacturer's written instructions. Copies of the manufacturer's written instructions shall be furnished to the Engineer prior to manufacture and placement of colored concrete.

907-608.04--Method of Measurement. After the last paragraph of Subsection 608.04 on page 608-3, add the following:

Colored Concrete Sidewalk, completed and accepted, will be measured by the square yard. Sample panels will not be measured for separate payment.

Stamped or Stamped and Colored Concrete Sidewalk, completed and accepted, will be measured by the square foot. Sample panels will not be measured for separate payment .

907-608.05--Basis of Payment. After the first paragraph of Subsection 608.05 on page 608-3, add the following:

Colored Concrete Sidewalk will be paid for at the contract unit price of square yard, which shall be full compensation for completing the work.

Stamped and/or Colored Concrete Sidewalk will be paid for at the contract unit price of square foot, which shall be full compensation for completing the work.

After the last pay item listed on page 608-3, add the following:

907-608-C: Colored Concrete Sidewalk - per square yard

907-608-D: __*__ Concrete Sidewalk - per square foot

* Sidewalk may be stamped, or stamped and colored

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-626-4 **CODE: (SP)**

DATE: 06/10/2004

SUBJECT: Thermoplastic 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:

907-626.02--Materials. After the first paragraph of Subsection 626.02.1 on page 443, add the following:

Blue-ADA thermoplastic marking material shall meet the requirements of Subsection 720.02 with the exception that the color shall be blue-ADA.

907-626.04--Method of Measurement. After the last paragraph of Subsection 626.04 on page 446, add the following:

Thermoplastic Legend, Handicap Symbol of the color specified will be measured per each as determined by actual count in place.

907-626.05--Basis of Payment. Delete the first sentence under Subsection 626.05 on page 446 and substitute the following:

Thermoplastic traffic markings will be paid for at the contract unit price per mile, linear foot, square foot or each, as applicable, which shall be full compensation for completing the work.

Add the following pay items after pay item 626-G on page 446.

907-626-G:	Thermoplastic Detail Stripe, Blue-ADA	- per linear foot
907-626-H:	Thermoplastic Legend, Blue-ADA	- per square foot
907-626-H:	Thermoplastic Legend, Handicap Symbol, Color	- per each

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

SPECIAL PROVISION NO. 907-681-2 **CODE: (IS)**

DATE: 12/02/2004

SUBJECT: Submittal Data

Section 681, Roadway Lighting System, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

Delete the first paragraph of Subsection 681.04.2 on page 568 and substitute the following:

907-681.04--Basic Materials and Methods. The Contractor shall submit to the Engineer eight (8) copies of submittal data for all electrical materials and equipment proposed for use not later than forty-five (45) days prior to beginning any lighting work.

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

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 l65°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_4) in soil, % by mass	Sulfate (SO_4)in water, ppm	Cementitious material required*
Moderate and Seawater	0.10 - 0.20	150 - 1,500	Type II **, ***, **** cement, or Type I cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, 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_3A) 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_3A) may be used in lieu of Type II cement as allowed in Subsection 907-701.02.1; this cement is given the designation "Type III(MS)".

*** Blended cement meeting the sulfate resistance requirements of Subsection 907-701.04 may be used in lieu of Type II as allowed in Subsection 907-701.04. 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. 907-703-8 **CODE: (IS)**

DATE: 06/01/2009

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, 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 (≤ 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. 907-711-4 **CODE: (IS)**

DATE: 06/26/2009

SUBJECT: Synthetic Structural Fiber Reinforcement

Section 711, Reinforcement and Wire Rope, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

After Subsection 711.03.4.3 on page 665, add the following:

907-711.04--Synthetic Structural Fiber. The synthetic structural fibers shall be approved for listing in the Department's "Approved Sources of Materials" prior to use. The synthetic structural fibers shall be added to the concrete and mixed in accordance with the manufacturer's recommended methods.

907-711.04.1--Material Properties. The fibers shall meet the requirements of ASTM Designation: C 1116, Section 4.1.3. The fibers shall be made of polypropylene, polypropylene/polyethylene blend, nylon, or polyvinyl alcohol (PVA).

907-711.04.2--Minimum Dosage Rate. The dosage rate shall be such that the average residual strength ratio ($R_{150,3.0}$) of fiber reinforced concrete beams is a minimum of 20.0 percent when the beams are tested in accordance with ASTM Designation: C 1609. The dosage rate for fibers shall be determined by the following.

The fiber manufacturer shall have the fibers tested by an acceptable, independent laboratory acceptable to the Department and regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology and approved to perform ASTM Designations: C 39, C 78, and C192.

The laboratory shall test the fibers following the requirements of ASTM Designation: C 1609 in a minimum of three (3) test specimens cast from the same batch of concrete, molded in 6 x 6 x 20-inch standard beam molds meeting the requirements of ASTM Designation: C 31. The beams shall be tested on an 18-inch span. The tests for $R_{150,3.0}$ shall be performed when the average compressive strength of concrete used to cast the beams is between 3500 and 4500 psi. The tests for compressive strength shall follow the requirements of ASTM Designation: C 39. The average compressive strength shall be determined from a minimum of two (2) compressive strength cylinders.

The value for $R_{150,3}$ shall be determined using the following equation:

$$R_{150,3.0} = \frac{f_{150,3.0}}{f_1} \times 100$$

The residual flexural strength ($f_{150,3.0}$) shall be determined using the following equation:

$$f_{150,3.0} = \frac{P_{150,3.0} \times L}{b \times d^2}$$

where:

$f_{150,3.0}$ is the residual flexural strength at the midspan deflection of $L/150$, (psi),

$P_{150,3.0}$ is the residual load capacity at the midspan deflection of $L/150$, (lbf),

L is the span, (in),

b is the width of the specimen at the fracture, (in), and

d is the depth of the specimen at the fracture, (in).

For a 6 x 6 x 20-inch beam, the $P_{150,3.0}$ shall be measured at a midspan deflection of 0.12 inch.

Additionally, $R_{150,3.0}$, $f_{150,3.0}$, and $P_{150,3.0}$ may also be referred to as R_{150}^{150}, f_{150}^{150}, and P_{150}^{150} respectively.

At the dosage rate required to achieve the minimum $R_{150,3}$, the mixture shall both be workable and the fibers shall not form clumps.

The manufacturer shall submit to the State Materials Engineer certified test reports from the independent laboratory showing the test results of each test specimen.

907-711.04.3--Job Control Requirements. The synthetic structural fibers shall be one from the Department's "Approved Sources of Materials."

At the required dosage rate, the mixture shall both be workable and the fibers shall not form clumps to the satisfaction of the Engineer. If the mixture is determined by the Engineer to not be workable or have clumps of fibers, the mixture may be rejected.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-713-1 **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 ±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 place 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 alkalies 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:

% RNV = CCE x (% passing #10 mesh + % 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
GRASSES			
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

Concrete Technician's Tasks	Test Method Required	Certification Required**
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±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

Structure Component	Quantity of Concrete	No. of Probes
Slabs, beams, walls, & miscellaneous items	0 - 30 yd^3	2
	> 30 to 60 yd^3	3
	> 60 to 90 yd^3	4
	> 90 yd^3	5
Footings, Columns & Caps	0 - 13 yd^3	2
	> 13 yd^3	3
Pavement, Pavement Overlays	1200 yd^2	2
Pavement Repairs	Per repair or 900 yd^2 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 that 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.

S E C T I O N 9 0 5 - P R O P O S A L

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.

Site Improvements to the Welcome Center on I-55, known as Federal Aid Project No. STP/IM-0055-01(094) / 105569301 & 302, in the County of 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
Roadway Items									
0010	201-A001		1	Lump Sum	Clearing and Grubbing	XXXXXXXX	XXX		
0020	202-B017		505	Linear Feet	Removal of Concrete Combination Curb & Gutter				
0030	202-B035		940	Square Yard	Removal of Concrete Sidewalk				
0040	202-B057		2	Each	Removal of Inlets, All Sizes				
0050	202-B064		337	Linear Feet	Removal of Pipe, 8" And Above				
0060	202-B076		1,271	Linear Feet	Removal of Traffic Stripe				
0070	202-B085		6	Each	Removal of Trees				
0080	202-B101		782	Linear Feet	Removal of Integral Curb				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0090	203-A003	(E)	563	Cubic Yard	Unclassified Excavation, FM, AH				
0100	203-EX018	(E)	20	Cubic Yard	Borrow Excavation, AH, LVM, Class B9				
0110	209-A004		20	Square Yard	Geotextile Stabilization, Type V, Non-Woven				
0120	211-D001	(E)	20	Cubic Yard	Topsoil for Plant Pits, Contractor Furnished				
0130	212-A001		180	Square Yard	Light Ground Preparation				
0140	212-B001		775	Square Yard	Standard Ground Preparation				
0150	213-B001		1	Ton	Combination Fertilizer, 13-13-13				
0160	214-B001		1	Acre	Seeding				
0170	216-B004		20	Square Yard	Solid Sodding, Bermuda				
0180	217-A001		775	Square Yard	Ditch Liner				
0190	220-A001		1	Acre	Insect Pest Control	30.	00	30.	00
0200	233-A001		65	Cubic Yard	Tree Bark Mulch, Type I				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0210	234-A001		1,400	Linear Feet	Temporary Silt Fence				
0220	235-A001		50	Bale	Temporary Erosion Checks				
0230	406-A001		3,967	Square Yard	Cold Milling of Bituminous Pavement, All Depths				
0240	408-A001	(A3)	1,984	Gallon	Asphalt for Prime Coat, Cut-Back MC-70				
0250	503-A003	(C)	1,352	Square Yard	8" and Variable Continuously Reinforced Concrete Pavement				
0260	503-C005		815	Linear Feet	Saw Cut, 8-inch				
0270	602-A001	(S)	420	Pounds	Reinforcing Steel				
0280	603-CA088	(S)	318	Linear Feet	18" Reinforced Concrete Pipe, Class III, Rubber Type Gaskets				
0290	603-CA129	(S)	20	Linear Feet	15" Reinforced Concrete Pipe, Class III, Rubber Type Gaskets				
0300	604-A001		237	Pounds	Castings				
0310	604-B001		200	Pounds	Gratings				
0320	608-B001	(S)	1,060	Square Yard	Concrete Sidewalk, With Reinforcement				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0330	609-C001	(S)	1,070	Linear Feet	Concrete Curb, Integral, Type 1				
0340	609-D006	(S)	20	Linear Feet	Combination Concrete Curb and Gutter Type 1 Modified				
0350	613-C001		1	Each	Adjustment of Grating				
0360	613-D003		3	Each	Adjustment of Existing Curb Inlet				
0370	613-D004		4	Each	Adjustment of Inlet				
0380	619-D3001		4	Each	Remove and Reset Signs, All Sizes				
0390	619-D4001		58	Square Feet	Directional Signs				
0400	620-A001		1	Lump Sum	Mobilization	XXXXXXXX	XXX		
0410	628-G001		1,851	Linear Feet	6" Cold Plastic Detail Stripe, White				
0420	630-A001		4	Square Feet	Standard Roadside Signs, Sheet Aluminum, 0.080" Thickness				
0430	630-A002		52	Square Feet	Standard Roadside Signs, Sheet Aluminum, 0.125" Thickness				
0440	630-C004		137	Linear Feet	Steel U-Section Posts, 3.0 to 3.5 lb/ft				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0450	682-A015		1,200	Linear Feet	Underground Branch Circuit, AWG 2, 3 Conductor				
0460	682-A031		4,140	Linear Feet	Underground Branch Circuit, AWG 6, 3 Conductor				
0470	682-B031		320	Linear Feet	Underground Branch Circuit, Jacked or Bored, AWG 6, 3 Conductor				
0480	682-E001		19	Each	Underground Junction Box				
0490	682-F001		1	Each	Secondary Power Controllers				
0500	683-B004		19	Each	Lighting Assembly, Low Mast, Type 30-1-12-400				
0510	683-B163		19	Each	Lighting Assembly, Low Mast, Type 16-1-0-150				
0520	684-A003		35	Cubic Yard	Pole Foundation, 24" Diameter				
0530	684-B003		150	Linear Feet	Slip Casing, 24" Diameter				
0540	699-A001		1	Lump Sum	Roadway Construction Stakes	XXXXXXXX	XXX		
0550	907-213-A001		1	Ton	Agricultural Limestone				
0560	907-225-A001		1	Acre	Grassing				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0570	907-230-A011		146	Each	Shrub Planting, Dwarf Yaupon Holly				
0580	907-230-A016		150	Each	Shrub Planting, Lantana New Gold				
0590	907-230-A023		270	Each	Shrub Planting, Stella De Oro Daylily				
0600	907-230-A033		6	Each	Shrub Planting, Japanese Cleyera				
0610	907-230-A044		572	Each	Shrub Planting, Parsons Juniper				
0620	907-230-A047		42	Each	Shrub Planting, Dwarf Palmetto				
0630	907-230-A068		850	Each	Shrub Planting, Evergreen Giant Liriope				
0640	907-230-A072		16	Each	Shrub Planting, Loropetalum 'Rubrum'				
0650	907-230-A076		175	Each	Shrub Planting, Muhly Grass				
0660	907-230-A117		43	Each	Shrub Planting, Knockout Rose				
0670	907-230-B081		3	Each	Tree Planting, Autumn Blaze Red Maple				
0680	907-242-A011		1	Lump Sum	Installation of Water Well and Sewer Items	XXXXXXXX	XXX		

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0690	907-258-B001		1	Each	Drinking Fountain				
0700	907-258-C001		3	Each	Concrete Picnic Table and Benches				
0710	907-258-D001		2	Each	Wooden Picnic Table and Benches				
0720	907-258-E001		8	Each	Trash Receptacle				
0730	907-258-G001		1	Each	Travel Trailer Sewage Dump Station				
0740	907-258-J001		16	Each	Metal Bench				
0750	907-258-K001		2	Each	Bollard				
0760	907-258-PP024		2	Each	Speed Hump				
0770	907-259-B001		6	Each	Lighting Assembly, Bollards				
0780	907-282-A007		79	Each	Sprinkler Head, 1804-PRS-15Q				
0790	907-282-B001		465	Linear Feet	Piping, 1/2" Diameter				
0800	907-282-B002		245	Linear Feet	Piping, 3/4" Diameter				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0810	907-282-B003		345	Linear Feet	Piping, 1" Diameter				
0820	907-282-C002		65	Linear Feet	Sleeves, 4"				
0830	907-282-D001		150	Linear Feet	Valve Control Wire				
0840	907-282-E001		1,005	Linear Feet	Trench Excavation and Backfill				
0850	907-282-G004		1	Each	Electric Controller, 8 Station				
0860	907-282-H001		4	Each	Electric Control Valve, 1"				
0870	907-282-I003		1	Each	Backflow Preventer, 1"				
0880	907-282-J005		1	Each	Isolation Valve, 1"				
0890	907-304-A004	(GY)	273	Cubic Yard	Granular Material, LVM, Class 6, Group C				
0900	907-403-A007	(BA1)	404	Ton	Hot Mix Asphalt, MT, 19-mm mixture				
0910	907-403-A010	(BA1)	364	Ton	Hot Mix Asphalt, MT, 9.5-mm mixture				
0920	907-601-B001	(S)	6	Cubic Yard	Class "B" Structural Concrete, Minor Structures, Per Plans				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0930	907-607-PP005		2	Each	Gate, Barrier Fence, Per Plans				
0940	907-608-C001	(S)	382	Square Yard	Colored Concrete Sidewalk				
0950	907-611-PP003	(S)	90	Square Feet	Detectable Warning, Per Plans				
0960	907-626-B003		1,176	Linear Feet	6" Thermoplastic Traffic Stripe, Continuous White				
0970	907-626-E003		56	Linear Feet	6" Thermoplastic Traffic Stripe, Continuous Yellow				
0980	907-626-G001		760	Linear Feet	Thermoplastic Detail Stripe, Blue-ADA				
0990	907-626-G002		85	Linear Feet	Thermoplastic Detail Stripe, White, 4" Equivalent Length				
1000	907-626-G004		458	Linear Feet	Thermoplastic Detail Stripe, White				
1010	907-626-H002		6	Each	Thermoplastic Legend, Blue-ADA Handicap Symbol				
1020	907-626-H005		40	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).

	Project No.	County		Project No.	County
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. _____	_____ _____	_____ _____	_____ _____	_____ _____	

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/IM-0055-01(094) / 105569301 & 302**,

in **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/IM-0055-01(094) / 105569301 & 302**,

in **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/IM-0055-01(094) / 105569301 & 302**

LOCATED IN THE COUNTY(IES) OF **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 _____
Executive Director

Signed and sealed in the presence of:
(names and addresses of witnesses)

_____ _____
Secretary to the Commission

Award authorized by the Mississippi Transportation Commission in session on the ____ day of _____, _____, Minute Book No. _____, Page No. _____.

Revised 8/06/2003

S E C T I O N 9 0 3

CONTRACT BOND FOR: **STP/IM-0055-01(094) / 105569301 & 302**

LOCATED IN THE COUNTY(IES) OF: **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 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 **Site Improvements to the Welcome Center on I-55, known as Federal Aid Project No. STP/IM-0055-01(094) / 105569301 & 302, in the County of 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)

_____ By: _____
(Witness) (Name) (Title)

_____
(Surety) (Seal)

_____ By: _____
(Witness) (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.

OCR-485
REV. 3/08

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/IM-0055-01(094) / 105569301 & 302**

County: **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.