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.

Bidder acknowledges receipt of and has added to and made a part of the proposal and contract documents the following addendum (addenda):

ADDENDUM NO.	**1**	DATED	**9/4/2012**	ADDENDUM NO.		DATED	
ADDENDUM NO	**2**	DATED	**09**/18/2012	ADDENDUM NO.		DATED	

Number	Description
1	Revised Table of Contents, replace same; Revised NTB 2382, replaces same; Add NTB Nos. 4077 & 4085; Amendment EBS Download Required.
2	Revised Table of Contents, replace same; Add NTB Nos. 4116, 4117, & 4118; SP 907-401-6, replaces SP 907-401-4 and SP 907-403-12, replaces SP 907-403-9; Revised SP 907-804-13 Supplement, replaces same; Bid Items, replace same; Revised or Added Plan Sheet Nos. 2, 7, 8, 27, 28, 31, 32, 33, 46, 49, 50, 51, 53, 58, 113, 130, 131, 132, 133, 134, 166, 168, 170, 171, 174, 176, 8001, 8024, 8029, 8057, 8081, 8108, 8135, 8166, & 8195; Amendment EBS Download Required.

TOTAL ADDENDA: **2**
(Must agree with total addenda issued prior to opening of bids)

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.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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PILE DRIVING FORM,
OCR-485.

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

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904- NOTICE TO BIDDERS NO. 4116 **CODE: (SP)**

DATE: **09/18/2012**

SUBJECT: **Geotechnical Investigation**

PROJECT: **STP-0029-02(016) / 102556313 & STP-0029-03(008) / 102556314 – Desoto & Marshall Counties**

The Contractor is hereby advised that "For Information Only" Geotechnical Investigations are provided on Mississippi Department of Transportation's FTP Website address (http://ftp.mdot.state.ms.us/ftp/Materials/Geotechnical/I-269%20Bridges%20A%20-%20M;%20Desoto%20and%20Marshall/) for this project and some adjacent related projects. The investigations are available to print and for reference in construction.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 4117 **CODE: (SP)**

DATE: 09/18/2012

SUBJECT: Disturbed Area

PROJECT: STP-0029-02(016) / 102556313 & STP-0029-03(008) / 102556314
-- Desoto & Marshall Counties

Bidders are advised of Notice to Bidders No. 3612 and Special Provision No. 907-107-10 that limit the maximum total acreage that can be disturbed at one time to 19 acres. However, if the Contractor provides a schedule for earthwork activity by means of haul-mass diagrams or similar methodology, the expansion of the 19-acre limit will be considered. A written request with supporting documentation shall be submitted to the Project Engineer who will review the request before submitting it to Construction Division for approval.

Time associated with the submittal, review, and approval/denial of this change will run concurrent with the 60 days set aside in Special Provision No. 907-107-10 for the approval of the Contractor's Erosion Control Plan.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904- NOTICE TO BIDDERS NO. 4118 **CODE: (SP)**

DATE: **09/18/2012**

SUBJECT: **Mulch Pay Item**

PROJECT: **STP-0029-02(016) / 102556313 & STP-0029-03(008) / 102556314 – Desoto & Marshall Counties**

Bidders are hereby advised that the Pay Item shown in the plan Summary of Quantities sheet SQ-2, as Pay Item 215-A001 Vegetative Materials for Mulch is incorrect. The correct Pay Item is 907-225-C001 Mulch, Vegetative Mulch. The Pay Item shown in the proposal bid sheets for the same quantities shown on the plans is correct.

Contractor is to revise the Pay Item on the plan Summary of Quantities sheet SQ-2.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-401-6 **CODE: (SP)**

DATE: 08/21/2012

SUBJECT: Warm Mix Asphalt (WMA)

Section 401, Hot Mix Asphalt (HMA) - General, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as amended by this special provision is applicable to Warm Mix Asphalt Only.

907-401.01--Description.
These specifications include general requirements that are applicable to Warm Mix Asphalt (WMA).

This work consists of the construction of one or more lifts of WMA in accordance with Section 401 for Hot Mix Asphalt, with the exceptions set forth in this special provision. The WMA shall meet the specific requirements for the mixture to be produced and placed in reasonably close conformity with the lines, grades, thicknesses and typical sections shown on the plans or established by the Engineer.

907-401.02--Materials.

907-401.02.2--WMA Products and Processes. The Department will maintain a list of qualified WMA products and processes. No product or process shall be used unless it appears on this list.

The Contractor may propose other products or processes for approval by the Product Evaluation Committee. Documentation shall be provided to demonstrate laboratory performance, field performance, and construction experience.

907-401.03--Construction Requirements.

907-401.03.1.1--Weather Limitations. The air and pavement temperature at the time of placement shall equal or exceed 40ºF, regardless of compacted lift thickness.

907-401.03.8--Preparation of Mixture. Warm mix asphalt is defined as a plant produced asphalt mixture that can be produced and constructed at lower temperatures than typical hot mix asphalt. Typical temperature ranges of non-polymer modified, WMA produced by foaming the asphalt binder at the plant are typically 270ºF to 295ºF at the point of discharge of the plant. Typical temperature ranges of polymer modified, WMA produced by foaming the asphalt binder at the plant are typically 280ºF to 305ºF at the point of discharge of the plant. WMA produced by addition of a terminal blended additive may allow the producer to reduce the temperatures below 270ºF as long as all mixture quality and field density requirements are met. Production temperatures at the plant may need to be increased or decreased due to factors such as material

characteristics, environmental conditions, and haul time to achieve mixture temperatures at the time of compaction in which uniform mat density can be achieved.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-403-12 **CODE: (SP)**

DATE: 08/21/2012

SUBJECT: Warm Mix Asphalt (WMA)

Section 403, Hot Bituminous Pavement, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as amended by this special provision is applicable to Warm Mix Asphalt Only.

907-403.01--Description. This work consists of constructing one or more lifts of Warm Mix Asphalt (WMA) pavement in accordance with the requirements of Section 403 for Hot Mix Asphalt, with the exceptions set forth in this special provision. The WMA shall meet the requirements of this section and placed in reasonably close conformity with the lines, grade, thicknesses, and typical cross sections shown on the plans or established by the Engineer.

907-403.04--Method of Measurement. Warm mix asphalt will be measured by the ton. The weight of the composite mixture shall be determined in accordance with the provisions of Subsection 401.03.2.1.11.

907-403.05--Basis of Payment. Subject to the adjustments set out in Subsections 401.02.6.3, 401.02.6.4, 401.02.6.5, 401.02.6.6 & 403.03.2, warm mix asphalt, measured as prescribed above, will be paid for at the contract unit price per ton for each lift of pavement specified in the bid schedule and shall be full compensation for completing the work.

907-403.05.2--Pay Items. After the last pay item listed on page 276, add the following:

907-403-M: Warm Mix Asphalt, (1) (Type), (2) (Mixture) - per ton

907-403-N: Warm Mix Asphalt, (1) (Type), (3) (Mixture), Leveling - per ton

907-403-O: Warm Mix Asphalt, (1) (Type), (4) (Mixture), Trench Widening - per ton

907-403-P: Warm Mix Asphalt, HT, (3) (Mixture), Polymer Modified - per ton

907-403-Q: Warm Mix Asphalt, HT, (3) (Mixture), Polymer Modified, Leveling - per ton

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO SPECIAL PROVISION NO. 907-804-13

DATE: **08/28/2012**

SUBJECT: **Concrete Bridges And Structures**

After the second paragraph of Subsection 907-804.02.10 on page 2, add the following.

After the first paragraph of Subsection 804.02.10 on page 850, add the following.

If the Contractor chooses to cure the concrete in accordance with the requirements listed under **Length of Time Defined by Development of Compressive Strength** in Subsection 907-804.03.17, the compressive strength/maturity relationship shall be developed for the mixture design for a minimum of 28 days following the requirements of Subsection 907-804.03.15. The compressive strength/maturity relationship information shall be submitted with the mixture design information.

In the ** Note of Subsection 907-804.02.10 on page 2, delete "metakaolin" from the list of other cementitious materials.

After the first sentence of the last paragraph of Subsection 907-804.02.10 on page 3, add the following.

Mixture designs containing accelerating admixtures will not be approved. Admixtures providing a specific performance characteristic other than those of water reduction or set retardation may be used in accordance with the manufacturer's recommended dosage range.

After Subsection 907-804.02.10.1.1 on page 3, add the following.

907-804.02.10.1.2--Proportioning on the Basis of Laboratory Trial Mixtures. Delete subparagraph d) of Subsection 804.02.10.1.2 on pages 852 & 853, and substitute the following.

d) For each proposed mixture, at least three compressive test cylinders shall be made and cured in accordance with AASHTO Designation: T 126. Each change of water-cementitious ratio shall be considered a new mixture. The cylinders shall be tested for strength in accordance with AASHTO Designation: T 22 and shall be tested at 28 days.

After Subsection 907-804.02.10.3 on page 4, add the following.

After Subsection 804.02.10.3 on page 853, add the following.

907-804.02.10.3.1--Slump Retention of Class DS Concrete Mixture Designs. Prior to concrete placement, the Contractor shall provide test results of a slump loss test using approved methods to demonstrate that the mixture meets the four hour requirement in Subsection 907-803.02.7.1. These tests shall be conducted successfully by an approved testing laboratory within

30 days prior to installation of the trial shaft, with personnel from the Department's Central Laboratory present. The slump loss test shall be conducted at temperatures and conditions similar to those expected at the job site at the time of the installation of the trial shaft. The sample for the slump loss test shall be from a minimum batch size of four cubic yards of concrete. If the time between the previous successful slump loss test and the installation of the trial shaft exceeds 30 days, another successful slump loss test shall be performed on the first truckload of concrete as part of the installation of the trial shaft. This requirement limiting the time between the previous slump loss test and an installation of the trial shaft also applies to Class DS concrete mixture designs being transferred from another project. During any shaft installation a slump loss test shall be conducted by the Contractor at the direction of the Engineer from the concrete at the site for verification of slump loss requirements using a sample from a minimum batch size of four cubic yards of concrete.

Before Subsection 907-804.02.12.3 on page 5, add the following.

907-804.02.12.1.1--Elements of Plan. After item 3) in Subsection 804.02.12.1.1 on page 855, add the following.

4) Job Site Batch Adjustments by Addition of Chemical Admixtures:

   The Plan shall address if the Contractor intends to adjust either the slump and/or total air content of a batch on the job site by adding chemical admixture(s) to a batch. The Contractor shall include the names of the personnel designated to perform this batch adjustment, the equipment used to add the chemical admixture(s), and the procedure by which the batch adjustment will be accomplished. Only the Contractor's designated personnel shall adjust a batch. Only calibrated dispensing equipment shall be used to add chemical admixture(s) to a batch. Only the procedure described in section of the Plan shall be utilized.

   If the maximum permitted slump or total air content is exceeded after the addition of admixtures at the job site, the concrete shall be rejected.

   If the Contractor elects to utilize Job Site Batch Adjustments by Addition of Chemical Admixture within Item 2, Procedures for Corrective Actions for Non Compliance of Specifications, to adjust batches which do not meet the minimum specification requirements for slump and/or total air content, no more than three batches on any one project shall be allowed to be adjusted.

5) Construction of Concrete Bridge Decks, including the following:

   - the description of the equipment used for placing concrete on the bridge deck in accordance with Subsection 907-804.03.6 and, as applicable, Subsections 907-804.03.7 and 907-804.03.8 including any accessories added to the pump to ensure the entrained air in the concrete mixture remains entrained during pumping and depositing of the concrete mixture,
   - the description of and the number of pieces of equipment used to consolidate the concrete in accordance with Subsection 907-804.03.6.2,

- the description of the equipment used to finish the bridge deck in accordance with Subsection 907-804.03.19.7,
- the plan for ensuring a continuous rate of finishing the bridge deck without delaying the application of curing materials within the time specified in Subsection 907-804.03.17, including ensuring a continuous supply of concrete throughout the placement with an adequate quantity of concrete to complete the deck and filling diaphragms and end walls in advance of deck placement,
- the plan for applying the curing materials within the time specified in Subsection 907-804.03.17,
- the description of the powered fogging equipment in accordance with Subsection 907-804.03.17,
- a sample of the documentation used as the daily inspection report for ensuring maintenance of the continuous wet curing in accordance with Subsection 907-804.03.17, as required,
- the description of the equipment used to apply the liquid membrane, including but not limited to, the nozzles, pumping/pressurization equipment, and liquid membrane tanks, in accordance with Subsection 907-804.03.17,
- the method for determining the rate of applied liquid membrane meets the application rate requirements in accordance with Subsection 907-804.03.17,
- a sample of the documentation used for the application rate verification of the liquid membrane in accordance with Subsection 907-804.03.17.

After Subsection 907-804.03.6.2 on page 7, add the following.

907-804.03.8--Pumping Concrete. Delete the second paragraph of Subsection 804.03.8 on page 866, and substitute the following.

Where concrete mixture is conveyed and placed by mechanically applied pressure (pumping), the equipment shall be suitable in kind and adequate in capacity for the work. The Contractor shall select concrete mixture proportions such that the concrete mixture is pumpable and placeable with the selected equipment.

The pumping equipment shall be thoroughly cleaned prior to concrete placement. Excess form release agent shall be removed from the concrete pump hopper. The Contractor shall prime the pump at no additional cost to the Department by pumping and discarding enough concrete mixture to produce a uniform mixture exiting the pump. At least 0.25 cubic yard of concrete mixture shall be pumped and discarded to prime the pump. This shall be accomplished by using the pump to fill a commercially-available six (6) cubic foot wheelbarrow to overflowing or filling a commercially-available eight (8) cubic foot wheel barrow to level. Only concrete mixture shall be added directly into the concrete pump hopper after placement has commenced. If anything other than concrete mixture is added to the concrete pump hopper, all concrete mixture in the concrete pump hopper and pump line shall be discarded and the pump re-primed at no additional cost to the Department.

The discharge end of the pump shall be of such a configuration that the concrete does not move in the pump line under its own weight. The intent of this requirement is to ensure that entrained air in the concrete mixture remains entrained during pumping and depositing the concrete mixture. This shall be accomplished with one or both of the following:

- a minimum 10-foot flexible hose attached to the discharge end of a steel reducer having a minimum length of three (3) feet and a minimum reduction in area of 20% which is attached to the discharge end of the pump line, or
- a flexible reducing hose to the discharge end of the pumpline with a minimum reduction in area of 20% over a minimum 10-foot hose length.

Regardless of the configuration chosen, the Contractor shall ensure that the concrete is pumped and does not free-fall more than five (5) feet within the entire length of pump line and after discharge from the end of pump line.

The Contractor shall not have any type of metal elbow, metal pipe, or other metal fitting within five (5) feet of any person during discharge of concrete mixture.

Boom pumps shall have a current Concrete Pump Manufacturers Association's ASME/ANSI B30.27 certification. Equipment added to the boom and pump line shall meet the pump manufacturer's specifications and shall not exceed the manufacturer's maximum recommended weight limit for equipment added to the boom and pump line.

The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced. When pumping is completed, the concrete remaining in the pipe line, if it is to be used, shall be ejected in such a manner that there will be no contamination of the concrete or separation of the ingredients. After this operation, the entire equipment shall be thoroughly cleaned.

Before Subsection 907-804.03.15 on page 7, add the following.

907-804.03.14.2--Stay-In-Place Metal Forms. Delete the sentence in Subsection 804.03.14.2 on page 871 and substitute the following.

Stay-in-place (SIP) metal forms are corrugated metal sheets permanently installed between the supporting superstructure members. After the concrete has cured, these forms shall remain in place as permanent, non-structural members of the bridge.

Pay quantities for bridge deck concrete will be computed from the dimensions shown in the Contract Plans with no allowance for changes in deflection and /or changes in dimensions necessary to accommodate the SIP metal forms.

There will be no direct payment for the cost of the forms and form supports, or any material, tools, equipment, or labor incidental thereto, but the cost shall be considered absorbed in the contract unit price for bridge deck concrete.

Before fabricating any material, three (3) complete sets of SIP metal form shop drawings and design calculations, bearing the Design Engineer's Seal, shall be submitted to the Director of Structures, State Bridge Engineer, through the Project Engineer, for review. The Contractor's SIP metal form Design Engineer shall be a MS Registered Professional Engineer who is knowledgeable in the field of structural design.

In no case shall additional dead load produced by the use of SIP metal forms overstress any bridge component. Design calculations shall indicate any additional dead load from SIP metal form self-weight, form support hangers, concrete in flutes, concrete due to form deflection, etc. not included in the Contract Plans. The additional dead loads shall be clearly labeled and tabulated on the shop drawings. Bridge Division will evaluate the additional load for overstress of the bridge components. In the event that the additional dead load produces an overstress in any bridge component, Bridge Division will reject the Contractor's design. Deflection and loads produced by deflection of the SIP metal forms shall be considered and indicated in the design calculations.

The cambers and deflections provided in the Contract Plans do not consider the effects of SIP metal forms. The Contractor's Engineer shall take into account the weight of the forms and any additional dead load when developing the "Bridge Superstructure Construction Plan".

For the purpose of reducing any additional dead load produced by the SIP metal forms, the flutes of SIP metal forms may be filled with polystyrene foam. When polystyrene foam is used to fill the forms, the form flutes shall be filled completely; no portion of the polystyrene foam shall extend beyond the limits of the flutes. The Contractor shall ensure that the polystyrene foam remains in its required position within flutes during the entire concrete placement process. The Contractor shall not use reinforcing steel supports or other accessories in such a manner as to cause damage to the polystyrene foam. All damaged polystyrene foam shall be replaced to the satisfaction of the Project Engineer. All welding of formwork shall be completed prior to placement of polystyrene foam.

For bridges not located in horizontal curves, the Contractor may reduce the additional dead load by matching the flute spacing with the transverse steel spacing of the bottom layer. The bottom longitudinal layer of steel shall have one (1) inch of minimum concrete cover measured from the bottom of the reinforcing to the top of the flute. The Contractor will not be allowed to vary the reinforcing steel spacing or size from the Contract Plans for the purpose of matching flute spacing.

907-804.03.14.2.1--Materials. SIP metal forms and supports shall meet the requirements of ASTM Designation: A653 having a coating designation G165. Form materials that are less than 0.03-inch uncoated thickness shall not be allowed.

907-804.03.14.2.2--Certification. The Contractor shall provide written certification from the manufacturer stating the product meets the requirements of this specification to the Project Engineer along with the delivery of the coated forms to the job site.

907-804.03.14.2.3--Polystyrene Foam. The polystyrene foam shall be comprised of expanded polystyrene manufactured from virgin resin of sufficient density to support the weight of concrete without deformation. The polystyrene foam shall be extruded to match the geometry of the flutes and provide a snug fit. The polystyrene foam shall have a density of not less than 0.8 pounds per cubic foot. The polystyrene foam shall have water absorption of less than 2.6% when tested according to ASTM Designation: C272. The Contractor shall provide written certification from the manufacturer stating the polystyrene foam product meets the requirements of this specification to the Project Engineer along with the delivery of the coated forms to the job site.

907-804.03.14.2.4--Design. The design of the SIP metal forms shall meet the following criteria.

1. The maximum self-weight of the stay in place metal forms, plus the weight of the concrete or expanded polystyrene required to fill the form flutes (where used), shall not exceed 20 psf.

2. The forms shall be designed on the basis of dead load of form, reinforcement, and plastic concrete plus 50 pounds per square foot for construction loads. The design shall use a unit working stress in the steel sheet of not more than 0.725 of the specified minimum yield strength of the material furnished, but not to exceed 36,000 psi.

3. Deflection under the weight of the forms, reinforcement, and plastic concrete shall not exceed 1/180 of the form span or 1/2 inch, whichever is less, for form spans of 10 feet or less, or 1/240 of the form span or 3/4 inch, whichever is less, for form spans greater than 10 feet.

4. The design span of the form shall equal the clear span of the form plus two (2) inches. The span shall be measure parallel to the form flutes.

5. Physical design properties shall be computed in accordance with requirements of the AISI Specifications for the Design of Cold Formed Steel Structural Members, latest published edition.

6. The design concrete cover required by the plans shall be maintained for all reinforcement.

7. The plan dimensions of both layers of primary deck reinforcement from the top surface of the concrete deck shall be maintained.

8. The SIP metal form shall not be considered as lateral bracing for compression flanges of supporting structural members.

9. SIP metal forms shall not be used under closure pours or in bays where longitudinal slab construction joints are located. SIP metal forms shall not be used under cantilevered slabs such as the overhang outside of fascia members.

10. Forms shall be secured to the supporting members by means other than welding directly to the member. Welding to the top flanges of steel stringers and/or girders shall not be allowed. Alternate installation procedures shall be submitted addressing this condition.

907-804.03.14.2.5--Construction. SIP metal form sheets shall not rest directly on the top of the stringer of floor beam flanges. Sheets shall be fastened securely to form supports, and maintain a minimum bearing length of one (1) inch at each end for metal forms. Form supports shall be placed in direct contact with the flange of the stringer or floor beam. All attachments for coated metal forms shall be made by bolts, clips, screws, or other approved means.

907-804.03.14.2.6--Form Galvanizing Repairs. Where forms or their installation are unsatisfactory in the opinion of the Project Engineer, either before or during placement of the concrete, the Contractor shall correct the defects before proceeding with the construction work. The

cost of such corrective work shall be at the sole expense of the Contractor. Minor heat discoloration in areas of welds shall not be touched up.

907-804.03.14.2.7--Placing of Concrete. The Contractor shall insure that concrete placement does not damage the SIP metal forms. The concrete shall be vibrated to avoid honeycomb and voids, especially at construction joints, expansion joints, valleys and ends of form sheets. Approved pouring sequences shall be used. Calcium chloride or any other admixture containing chloride salts shall not be used in the concrete. The completed SIP metal form system shall be sufficiently tight to prevent leakage of mortar or concrete.

907-804.03.14.2.8--Inspection. The Project Engineer will observe the Contractor's method of construction during all phases of the construction of the bridge deck slab, including the installation of the SIP metal form system; location and fastening of the reinforcement; composition of concrete items; mixing procedures, concrete placement, and vibration; and finishing of the bridge deck. Should the Project Engineer determine that the procedures used during the placement of the concrete warrant inspection of the underside of the deck, at least one section of the metal forms shall be removed in each span for this purpose. This shall be done as soon after placing the concrete as practical in order to provide visual evidence that the concrete mix and the procedures are obtaining the desired results. An additional section shall be removed in any span if the Project Engineer determines that there has been any change in the concrete mix or in the procedures warranting additional inspection.

If, in the Project Engineer's judgment, inspection is needed to check for defects in the bottom of the deck or to verify soundness, the SIP metal forms shall be sounded with a hammer after the deck concrete has been in place a minimum of two days. If sounding discloses areas of doubtful soundness to the Project Engineer, the SIP metal forms shall be removed from such areas for visual inspection after the concrete has attained adequate strength. The SIP metal bridge deck forms shall be removed at no expense to the State.

At locations where sections of the metal forms have been removed, the Project Engineer will not require the Contractor to replace the metal forms. The adjacent metal forms and supports shall be repaired to present a neat appearance and to ensure their satisfactory retention. As soon as the form is removed, the Project Engineer will examine the concrete surfaces for cavities, honeycombing, and other defects. If irregularities are found and the Project Engineer determines that these irregularities do not justify rejection of the work, the concrete shall be repaired as directed by the Project Engineer. If the Project Engineer determines that the concrete where the form is removed is unsatisfactory, additional metal forms as necessary shall be removed to inspect and repair the slab, and the Contractor's method of construction shall be modified as required to obtain satisfactory concrete in the slab. All unsatisfactory concrete shall be removed and replaced as directed at no expense to the State.

If the method of construction and the results of the inspections as outlined above indicate that sound concrete has been obtained throughout the slabs, the amount of sounding and form removal may be reduced when approved by the Project Engineer.

The Contractor shall provide a safe and convenient means of conducting of the inspection.

Delete Table 6 of Subsection 907-804.03.15 on page 8, 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
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

Forms for bridge deck slabs overhead and bridge deck slabs between beams shall be removed with the approval of the Engineer, between two weeks and four weeks after the removal of the wet burlap applied in accordance with Subsection 907-804.03.17.1, or application of liquid membrane applied in accordance with Subsection 907-804.03.17.2.

Delete the second paragraph of Subsection 907-804.03.16.1 on page 9, and substitute the following.

At the option of the Contractor with the approval of the Engineer, when concrete is placed during cold weather and there is a probability that the ambient temperatures will be lower than 40°F, an approved maturity meter may be used to determine concrete strengths by inserting probes into concrete placed in a structure. The minimum number of maturity meter probes required for each structural component shall be in accordance with Table 7. An approved insulating blanketing material shall be used to protect the work when ambient temperatures are less than 40°F and shall remain in place until the required concrete strength in Table 6 is achieved. Within 30 minutes of removal of the insulating blanketing material in any area, the Contractor shall have curing of the concrete established in accordance with the requirements in Subsection 907-804.03.17. 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.

Before Subsection 907-804.03.19 on page 9, add the following.

907-804.03.17--Curing Concrete. Delete Subsection 804.03.17 on pages 874 & 875, and substitute the following.

Curing is defined as all actions taken to ensure the moisture and temperature conditions of freshly placed concrete exist so the concrete may develop its potential properties. Curing shall take place from the time of placement until its potential properties have developed. The Contractor shall use the guidance in ACI 308R-01 to:

a) cure the concrete in such a manner as to prevent premature moisture loss from the concrete,
b) supply additional moisture to the concrete as required in order to ensure sufficient moisture within the concrete, and
c) maintain a concrete temperature beneficial to the concrete.

Curing in accordance with the requirements in either Subsection 907-804.03.17.1 or Subsection 907-804.03.17.2 shall be completely established within 20 minutes after finishing, except as noted for bridge decks. Finishing is complete when the pan drag, burlap drag, or other is complete.

The length of time for curing shall be maintained in accordance with either of the following:

1. **Prescribed Length of Time:**
   a) Curing following the requirements of Subsection 804.03.17.1 shall continue uninterrupted for at least 14 days.
   b) Curing following the requirements of Subsection 804.03.17.2 shall continue uninterrupted for at least 10 days.

OR

2. **Length of Time Defined by Development of Compressive Strength:**
   Curing following the application requirements of Subsection 907-804.03.17.1 or Subsection 907-804.03.17.2 shall continue uninterrupted for each day's production until the compressive strength of the concrete exceeds 75% of the 28-day compressive strength submitted as the Basis of Proportioning per Subsection 907-804.02.10.1. Therefore, if an area is being cured in accordance with Subsection 907-804.03.17.1, the curing by wet burlap shall continue until the concrete in that area has attained a minimum of 75% of the 28-day compressive strength submitted as the Basis of Proportioning per Subsection 907-804.02.10.1. Likewise, if an area is being cured in accordance with Subsection 907-804.03.17.2, the curing by liquid membrane shall continue until the concrete in that area has attained a minimum of 75% of the 28-day compressive strength submitted as the Basis of Proportioning per Subsection 907-804.02.10.1.

   The compressive strength of the concrete may be determined by the use of maturity meter in accordance with Subsection 907-804.03.15.

907-804.03.17.1--Water With Waterproof Cover. All burlap shall be completely saturated and wet prior to placing it on the concrete. The burlap shall have been fully soaked in water for a minimum of 12 hours prior to placement on the concrete.

For bridge decks, the Contractor shall apply one (1) layer of saturated burlap within 20 minutes of the initial strike-off for bridges without a skew and 25 minutes of the initial strike-off for bridges

with a skew. For all other concrete, the Contractor shall apply one (1) layer of saturated burlap within 20 minutes of completing finishing.

Following the first layer of burlap, the Contractor shall apply a second layer of saturated burlap within five (5) minutes of applying the first layer. The concrete surface shall not be allowed to dry after strike-off or at any time during the curing period.

The Contractor shall maintain the burlap in a fully wet condition using powered fogging equipment capable of producing a fog spray of atomized droplets of water until the concrete has gained sufficient strength to allow foot traffic without the foot traffic marring the surface of the concrete. Burlap shall not be maintained in the fully wet condition using equipment which does not produce a fog spray of atomized droplets of water or by use of manually pressurized sprayers. For bridge decks, once the concrete has gained sufficient strength to allow foot traffic which does not mar the surface of the concrete, soaker hoses shall be placed on the burlap. The soaker hoses shall then be supplied with running water continuously to maintain continuous saturation of all burlap and the entire concrete surface.

If there is a delay in the placement of the first layer of saturated burlap outside the time limit, the struck-off and finished concrete shall be kept wet by use of the powered fogging equipment used to keep the burlap wet.

White polyethylene sheets shall be placed on top of the wet burlap and, as applicable, soaker hoses covering the entire concrete surface as soon as practical and not more than 12 hours after the placement of the concrete. White polyethylene sheets of the widest practical width shall be used, overlapping adjacent sheets a minimum of six inches (6") and tightly sealed with an adhesive like pressure sensitive tape, mastic, glue, or other approved methods to form a complete waterproof cover of the entire concrete surface. White polyethylene sheets which overlap a minimum of two feet (2') may be held in place using means other than an adhesive. The white polyethylene sheets shall be secured so that wind will not displace them. The Contractor shall immediately repair the broken or damaged portions or replace sections that have lost their waterproof qualities.

If burlap and/or white polyethylene sheets are temporarily removed for any reason during the curing period, the Contractor shall keep the entire exposed area continuously wet. The saturated burlap and white polyethylene sheets shall be replaced, resuming the specified curing conditions, as soon as possible.

The Contractor shall inspect the concrete surface once every 8 hours for the entirety of the curing period, so that all areas remain wet for the entire curing period and all curing requirements are satisfied and document the inspection in accordance with Subsection 907-804.03.17.1.1.

At the end of the curing period, one coating of liquid membrane shall be applied following the requirements of Subsection 907-804.03.17.1.2. The purpose of the coating of liquid membrane is to allow for slow drying of the concrete. The application of liquid membrane to any area shall be complete within 30 minutes of the beginning of removal of the white polyethylene sheets, soaker hoses, and burlap from this area.

907-804.03.17.1.1--Documentation. The Contractor shall provide the Engineer with a daily inspection report that includes:

- documentation that identifies any deficiencies found (including location of deficiency);
- documentation of corrective measures taken;
- a statement of certification that all areas are wet and all curing material is in place on the entire bridge deck;
- documentation showing the time and date of all inspections and the inspector's signature;
- documentation of any temporary removal of curing materials including location, date and time, length of time curing was removed, and means taken to ensure exposed area was kept continuously wet.

907-804.03.17.1.2--Liquid Membrane. At the end of the 14-day wet curing period the wet burlap and polyethylene sheets shall be removed and within 30 minutes, the Contractor shall apply white liquid membrane to the deck. The liquid membrane shall be thoroughly mixed within the time recommended by the liquid membrane producer but no more than an hour before use. If the use of liquid membrane results in a streaked or blotched appearance, the method shall be stopped and water curing applied until the cause of defective appearance is corrected.

The liquid membrane shall be applied when no free water remains on the surface but while the surface is still wet. The liquid membrane shall be applied according to the manufacturer's instructions with a minimum spreading rate per coat of one (1) gallon per 200 square feet of concrete surface. If the concrete is dry or becomes dry, the Contractor shall thoroughly wet it with water applied as a fog spray by means of approved equipment.

The application of liquid membrane shall be accomplished by the use of power applied spray equipment using nozzles and other equipment recommended by the liquid membrane producer. Manually pressurized or manual pump-up type sprayers shall not be used to apply the first application of liquid membrane.

As a visual guide, the color of concrete covered with the required amount of liquid membrane should be indistinguishable from a sheet of commercially available standard "letter" size white copier paper placed on top of it when viewed from a distance of about five feet (5') away horizontally if standing on the same grade as the concrete. The appearance of the concrete does not supersede applying the minimum spreading rate.

The coating shall be protected against marring for at least seven (7) days after the application of the curing compound. The coating on bridge decks shall receive extra attention and may require additional protection as required by the Engineer. All membrane marred or otherwise disturbed shall be given an additional coating. Manually pressurized or manual pump-up type sprayers may be used for giving marred areas the required additional application of liquid membrane. Should the surface coating be subjected repeatedly to injury, the Engineer may require that the water curing method be applied at once.

The 7-day period during which the liquid membrane is applied and protected shall not be reduced even if the period of wet curing is extended past the required 14 days.

907-804.03.17.1.2.1--Liquid Membrane Documentation. The Contractor shall make available to the Engineer an application rate verification method and any information necessary during application of the liquid membrane to verify that the rate of application meets the prescribed rate

for the various surfaces of the concrete, including, but not limited to, the top surface of the bridge deck and exposed sides of the bridge deck after any forms are removed. The Contractor shall submit this application verification method to the Engineer in accordance with Subsection 907-804.02.12.1.1.

One method of verifying the rate of application is as follows:

1. Determine the volume of liquid membrane in the container. For a container with a uniform cross-sectional area, for example a 55-gallon drum, determine the area of the cross-section. Determine the height of the surface of the liquid membrane from the bottom of the container. This may be accomplished by inserting a sufficiently long, clean dip-stick parallel with the axis of the container into the liquid membrane until the inserted end of the dip-stick contacts the bottom of the container. On removing the dip-stick, measure the length from the end which was inserted to the point on the dip-stick where the liquid membrane ceases to coat the dip-stick. Multiply the area of the cross-section by the height of the level of liquid membrane, maintaining consistent units, to determine the volume.
2. Perform step 1 prior to beginning applying the liquid membrane to establish the initial volume.
3. During the period of application, perform step 1 each 100 square feet of bridge deck.
4. In order to meet the required application rate of one (1) gallon per 200 square feet, the amount in the container shall be at least 0.5 gallon less than the previous volume in the previous 100 square feet. Other changes in volume may apply depending on the manufacturer's recommended application rate.
5. Additional applications to an area shall be applied until the required rate is satisfied. Areas which are not visually satisfactory to the Engineer shall have additional liquid membrane applied as directed by the Engineer.

The amount of liquid membrane applied shall be determined each day using the application verification method. This information shall be submitted to the Engineer within 24 hours of applying the liquid membrane.

907-804.03.17.2--Liquid Membrane Method. Surfaces on which curing is to be by liquid membrane shall be given the required surface finish prior to the application of liquid membrane. Concrete surfaces cured by liquid membrane shall receive two applications of white liquid membrane. Neither application shall be made from a position supported by or in contact with the freshly placed concrete. Both applications shall be applied perpendicularly to the surface of the concrete.

When using liquid membrane, the liquid membrane shall be thoroughly mixed within the time recommended by the liquid membrane producer but no more than an hour before use. If the use of liquid membrane results in a streaked or blotched appearance, the method shall be stopped and water curing applied until the cause of defective appearance is corrected.

The application of liquid membrane shall accomplished by the use of power applied spray equipment using nozzles and other equipment recommended by the liquid membrane producer. Manually pressurized or manual pump-up type sprayers shall not be used to apply the first two applications of liquid membrane.

The liquid membrane shall be applied when no free water remains on the surface but while the surface is still wet. The liquid membrane shall be applied according to the manufacturer's instructions with a minimum spreading rate per coat of one (1) gallon per 200 square feet of concrete surface. If the concrete is dry or becomes dry, the Contractor shall thoroughly wet it with water applied as a fog spray by means of approved equipment.

The first application of the liquid membrane shall be made as the work progresses. For bridge decks, the first application shall be completed in each area of the deck within 20 minutes of initial strike-off for bridges with no skew and within 25 minutes of initial strike-off for bridges with skew. For all other concrete, the first application of the liquid membrane shall be completed within 20 minutes of finishing.

The second application shall be applied within 30 minutes after the first application. The liquid membrane shall be uniformly applied to all exposed concrete surfaces.

As a visual guide, the color of concrete covered with the required amount of liquid membrane should be indistinguishable from a sheet of commercially available standard "letter" size white copier paper placed on top of it when viewed from a distance of about five feet (5') away horizontally if standing on the same grade as the concrete. The appearance of the concrete does not supersede applying the minimum spreading rate.

The Contractor shall make available to the Engineer an application rate verification in accordance with Subsection 907-804.03.17.1.2.1.

The coating shall be protected against marring for at least 10 days after the application of the curing compound. The coating on bridge decks shall receive extra attention and may require additional protection as required by the Engineer. All membrane marred or otherwise disturbed shall be given an additional coating. Manually pressurized or manual pump-up type sprayers may be used for giving marred areas the required additional application of liquid membrane. Should the surface coating be subjected repeatedly to injury, the Engineer may require that the water curing method be applied at once.

Delete Subsection 907-804.19.7 on page 9, and substitute the following.

907-804.03.19.7--Finishing Bridge Decks.

907-804.03.19.7.1--General. Delete the third paragraph of Subsection 804.03.19.7.1 on page 884, and substitute the following.

Except when indicated otherwise on the plans, the finish of the bridge deck shall be either a belt finish, a broom finish, or one of the following drag methods: pan, double pan, burlap, or pan and burlap. Manual finishing of the bridge deck shall be performed only in areas inaccessible by the finishing equipment mounted to the strike-off screed, but shall not hinder the requirements for curing in accordance with Subsection 907-804.03.17.1. The surface texture specified and surface requirements shall be in accordance with the applicable requirements of Subsections 501.03.17 and 501.03.18 modified only as the Engineer deems necessary for bridge deck construction operations.

At no time shall water on the surface of the concrete from bleeding, fogging, curing, or other sources be worked into the concrete or used as an aid for finishing.

Regardless of the method of finishing selected, requirements for curing per Subsection 907-804.03.17 shall be completed within the specified time limits. If the requirements in Subsection 907-804.03.17 are not completed within the specific time limits, the Contractor shall cease operations, revise his operations up to and including acquiring new or additional equipment or additional personnel in order to satisfy the requirements in Subsection 907-804.03.17, and, on approval from the Engineer, resume operations

907-804.03.19.7.2--Longitudinal Method. Before the first paragraph of Subsection 804.03.19.7.2 on page 884, add the following.

The longitudinal method may be used for repairs to bridge decks or bridge widening projects. For bridge widening projects, the time for establishing curing in accordance with Subsections 907-804.03.17 shall be increased to within 30 minutes for bridges without skew and within 35 minutes for bridges with skew.

907-804.03.19.7.3--Transverse Method. Delete the first sentence of the second paragraph of Subsection 804.03.19.7.3 on page 885, and substitute the following.

The machine shall be so constructed and operated as to produce a bridge deck of uniform density with minimum manipulation of the fresh concrete and achieved in the shortest possible time.

Delete the fourth paragraph of Subsection 804.03.19.7.3 on page 885, and substitute the following.

At least one dry run shall be made the length of each pour with a "tell-tale" device attached to the screed carriage to assure the specified clearance to the reinforcing steel.

Delete the last sentence of the fifth paragraph of Subsection 804.03.19.7.3 on page 885, and substitute the following.

The screed shall be mechanically actuated to deliver the screeding action and for travel in a longitudinal direction at a uniform rate along the bridge deck.

Delete the last paragraph of Subsection 804.03.19.7.3 on page 886, and substitute the following.

Other finishing requirements shall be in accordance with the general requirements in Subsection 907-804.03.19.7.1 and as specified on the plans.

Regardless of the finish, the requirements for curing per Subsection 907-804.03.17 shall be completed within the specified time limits.

After Subsection 907-804.03.19.7.4 on page 9, add the following.

Delete the title of Subsection 804.03.19.7.4.1.3 on page 888, and substitute the following.

907-804.03.19.7.4.1.3--Final Surface Texture.

907-804.03.20--Opening Bridges.

907-804.03.20.2--Construction Traffic. Delete the paragraph in Subsection 804.03.20.2 on page 889, and substitute the following:

Unless otherwise specified, the concrete bridge decks shall be closed to construction traffic for the time required for curing in Subsection 907-804.03.17 and until the required compressive strength for the concrete is obtained.

Construction of SR 304/I-269 from Station 625+00 to Station 835+00, known as Federal Aid Project Nos. STP-0029-02(016) / 102556313 & STP-0029-03(008) / 102556314 in Desoto & Marshall Counties.

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
					Roadway Items
0010	201-A001		1	Lump Sum	Clearing and Grubbing
0020	201-B001		3	Acre	Clearing and Grubbing
0030	202-A001		1	Lump Sum	Removal of Obstructions
0040	202-B005		34,060	Square Yard	Removal of Asphalt Pavement, All Depths
0050	202-B018		1,563	Square Yard	Removal of Concrete Driveways, All Depths
0060	202-B019		2	Each	Removal of Concrete Headwall
0070	202-B025		816	Square Yard	Removal of Concrete Paved Ditch
0080	202-B036		550	Square Yard	Removal of Concrete Slope Paving
0090	202-B042		23	Each	Removal of Flared End Section, All Sizes
0100	202-B053		438	Linear Feet	Removal of Guard Rail Including Post, Blockouts & Hardware
0110	202-B064		734	Linear Feet	Removal of Pipe, 8" And Above (Do Not Include Abandoned Utilities)
0120	202-B076		12,000	Linear Feet	Removal of Traffic Stripe
0130	202-B142		1	Each	Removal of Junction Box
0140	202-B155		66	Each	Removal of Box Culvert Wings and Headwall, All Sizes
0150	202-B292		8	Each	Removal of Septic Tank, All Sizes
0160	203-A003	(E)	1,426,991	Cubic Yard	Unclassified Excavation, FM, AH
0170	203-EX017	(E)	1,553,859	Cubic Yard	Borrow Excavation, AH, FME, Class B9
0180	203-G003	(E)	589,872	Cubic Yard	Excess Excavation, FM, AH
0190	206-A001	(S)	13,764	Cubic Yard	Structure Excavation
0200	206-B001	(E)	615	Cubic Yard	Select Material for Undercuts, Contractor Furnished, FM
0210	209-A004 Changed 09/17/2012		85,572	Square Yard	Geotextile Stabilization, Type V, Non-Woven
0220	211-B001	(E)	15,000	Cubic Yard	Topsoil for Slope Treatment, Contractor Furnished , Lvm
0230	212-B001		7,331	Square Yard	Standard Ground Preparation
0240	213-B001		3	Ton	Combination Fertilizer, 13-13-13
0250	213-C001		171	Ton	Superphosphate
0260	215-A001		686	Ton	Vegetative Materials for Mulch
0270	216-A001		7,331	Square Yard	Solid Sodding
0280	217-A001		34,890	Square Yard	Ditch Liner
0290	219-A001		147	Thousand Gallon	Watering [$20.00]
0300	220-A001		171	Acre	Insect Pest Control [$30.00]
0310	221-A001	(S)	1,593	Cubic Yard	Portland Cement Concrete Paved Ditch

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
0320	223-A001		197	Acre	Mowing [$40.00]
0330	224-A001		15,278	Square Yard	Soil Reinforcing Mat
0340	234-A001		24,632	Linear Feet	Temporary Silt Fence
0350	235-A001		4,327	Bale	Temporary Erosion Checks
0360	236-A004		38	Each	Silt Basin, Type D
0370	236-B004		38	Each	Maintenance and Removal of Existing Silt Basins, Type D
0380	239-A001		9,450	Linear Feet	Temporary Slope Drains
0390	423-A001		8	Mile	Rumble Strips, Ground In
0400	501-E001		343	Linear Feet	Expansion Joints, Without Dowels
0410	501-K001		591	Square Yard	Transverse Grooving
0420	502-A001	(C)	816	Square Yard	Reinforced Cement Concrete Bridge End Pavement
0430	503-C007		48	Linear Feet	Saw Cut, Full Depth
0440	602-A001	(S)	621,433	Pounds	Reinforcing Steel
0450	603-CA002	(S)	3,872	Linear Feet	18" Reinforced Concrete Pipe, Class III
0460	603-CA003	(S)	912	Linear Feet	24" Reinforced Concrete Pipe, Class III
0470	603-CA004	(S)	628	Linear Feet	30" Reinforced Concrete Pipe, Class III
0480	603-CA005	(S)	1,844	Linear Feet	36" Reinforced Concrete Pipe, Class III
0490	603-CA006	(S)	544	Linear Feet	42" Reinforced Concrete Pipe, Class III
0500	603-CA007	(S)	452	Linear Feet	48" Reinforced Concrete Pipe, Class III
0510	603-CA008	(S)	1,136	Linear Feet	54" Reinforced Concrete Pipe, Class III
0520	603-CA009	(S)	428	Linear Feet	60" Reinforced Concrete Pipe, Class III
0530	603-CA010	(S)	336	Linear Feet	66" Reinforced Concrete Pipe, Class III
0540	603-CA011	(S)	744	Linear Feet	72" Reinforced Concrete Pipe, Class III
0550	603-CA015	(S)	164	Linear Feet	24" Reinforced Concrete Pipe, Class IV
0560	603-CA022	(S)	216	Linear Feet	66" Reinforced Concrete Pipe, Class IV
0570	603-CA023	(S)	36	Linear Feet	72" Reinforced Concrete Pipe, Class IV
0580	603-CA041	(S)	216	Linear Feet	36" Reinforced Concrete Pipe, Class IV, Class B Bedding
0590	603-CA045	(S)	264	Linear Feet	60" Reinforced Concrete Pipe, Class IV, Class B Bedding
0600	603-CA057	(S)	232	Linear Feet	60" Reinforced Concrete Pipe, Class V, Class B Bedding,
0610	603-CA065	(S)	764	Linear Feet	36" Reinforced Concrete Pipe, Class IV, Class B Bedding, Imperfect Trench
0620	603-CB001	(S)	36	Each	18" Reinforced Concrete End Section
0630	603-CB002	(S)	27	Each	24" Reinforced Concrete End Section
0640	603-CB003	(S)	7	Each	30" Reinforced Concrete End Section
0650	603-CB004	(S)	16	Each	36" Reinforced Concrete End Section
0660	603-CB005	(S)	5	Each	42" Reinforced Concrete End Section

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
0670	603-CB006	(S)	6	Each	48" Reinforced Concrete End Section
0680	603-CB007	(S)	10	Each	54" Reinforced Concrete End Section
0690	603-CB008	(S)	3	Each	60" Reinforced Concrete End Section
0700	603-CB009	(S)	6	Each	66" Reinforced Concrete End Section
0710	603-CB010	(S)	4	Each	72" Reinforced Concrete End Section
0720	603-CE001	(S)	112	Linear Feet	22" x 13" Concrete Arch Pipe, Class A III
0730	603-CF001	(S)	2	Each	22" x 13" Concrete Arch Pipe End Section
0740	603-SB003	(S)	2	Each	18" Branch Connections, Stub into Concrete Box Culvert
0750	603-SB011	(S)	1	Each	72" Branch Connections, Stub into Box Culvert
0760	603-SB039	(S)	1	Each	24" Branch Connections, Stub into Inlet
0770	604-B001		11,750	Pounds	Gratings
0780	605-AA003	(S)	350	Square Yard	Geotextile for Subsurface Drainage, Type III
0790	605-W001	(GY)	14	Cubic Yard	Filter Material for Combination Storm Drain and/or Underdrains,Type A, FM
0800	605-W002	(GY)	14	Cubic Yard	Filter Material for Combination Storm Drain and/or Underdrains,Type B, FM
0810	606-B005		1,250	Linear Feet	Guard Rail, Class A, Type 1, 'W' Beam
0820	606-D012		12	Each	Guard Rail, Bridge End Section, Type I
0830	606-E001		12	Each	Guard Rail, Terminal End Section
0840	607-A002		25,243	Linear Feet	60" Type "A" Woven Wire Fence, w/ Barbed Wire as Shown
0850	607-B006		37,894	Linear Feet	60" Type II Chain Link Fence, Class II
0860	607-E001		3,400	Linear Feet	Barbed Wire Fence, Single Strand
0870	607-G020		3	Each	Gate, 12' x 60" Galvanized Metal
0880	607-G107		3	Each	Gate, 12' x 5' Chain Link
0890	607-P1007		3,494	Each	Line Post, 7' x 1 1/2" Galvanized Steel
0900	607-P1013		1,410	Each	Line Post, 7' Tee Post Steel
0910	607-P1014		402	Each	Line Post, 9' Tee Post Steel
0920	607-P1015		201	Each	Line Post, 10' Tee Post Steel
0930	607-P1019		54	Each	Line Post, 14' x 2 1/2" Galvanized Steel
0940	607-P2001		109	Each	Brace Post, 8' x 6" Timber
0950	607-P2002		31	Each	Brace Post, 10' x 6" Timber
0960	607-P2003		16	Each	Brace Post, 12' x 6" Timber
0970	607-P2008		378	Each	Brace Post, 7 1/2' x 2" Galvanized Steel
0980	607-P3001		12	Each	Gate Post, 8' x 6" Timber
0990	607-Z001		745	Each	Concrete Anchors
1000	609-D002	(S)	280	Linear Feet	Combination Concrete Curb and Gutter Type 2
1010	614-A002	(S)	436	Square Yard	Concrete Driveway, Without Reinforcement, 6-inch Thickness

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
1020	615-A018	(S)	80	Linear Feet	Concrete Bridge End Barrier, 33.5"
1030	615-A019	(S)	40	Linear Feet	Concrete Bridge End Barrier, 43.5"
1040	618-A001		1	Lump Sum	Maintenance of Traffic
1050	619-A1004		9	Mile	Temporary Traffic Stripe, Continuous White, Paint
1060	619-A1007		3,566	Linear Feet	Temporary Traffic Stripe, Continuous White, Type 1 Tape
1070	619-A1008		2	Mile	Temporary Traffic Stripe, Continuous White, Type 1 Tape
1080	619-A2004		10	Mile	Temporary Traffic Stripe, Continuous Yellow, Paint
1090	619-A2007		4,207	Linear Feet	Temporary Traffic Stripe, Continuous Yellow, Type 1 Tape
1100	619-A2008		2	Mile	Temporary Traffic Stripe, Continuous Yellow, Type 1 Tape
1110	619-A3004		1,796	Linear Feet	Temporary Traffic Stripe, Skip White, Type 1 Tape
1120	619-A5002		907	Linear Feet	Temporary Traffic Stripe, Detail, Paint
1130	619-A5004		156	Linear Feet	Temporary Traffic Stripe, Detail, Type 1 Tape
1140	619-A6003		699	Linear Feet	Temporary Traffic Stripe, Legend, Paint
1150	619-A6007		48	Linear Feet	Temporary Traffic Stripe, Legend, Type 1 Tape
1160	619-D1001		150	Square Feet	Standard Roadside Construction Signs, Less than 10 Square Feet
Changed 09/17/2012					
1170	619-D2001		1,569	Square Feet	Standard Roadside Construction Signs, 10 Square Feet or More
1180	619-F1001		3,820	Linear Feet	Concrete Median Barrier, Precast
1190	619-F2001		540	Linear Feet	Remove and Reset Concrete Median Barrier, Precast
1195	619-G4001		48	Linear Feet	Barricades, Type III, Single Faced
Added 09/17/2012					
1200	619-G4004		120	Linear Feet	Barricades, Type III, Single Faced, Permanent, Red/White
1210	619-G4005		420	Linear Feet	Barricades, Type III, Double Faced
1220	619-G5001		347	Each	Free Standing Plastic Drums
1230	619-G7001		20	Each	Warning Lights, Type "B"
1240	619-J1003		8	Unit	Impact Attenuator, 60 MPH
1250	619-J2002		2	Unit	Impact Attenuator, 60 MPH, Replacement Package
1260	620-A001		1	Lump Sum	Mobilization
1270	621-A001		1	Each	Field Laboratory
1280	627-K001		89	Each	Red-Clear Reflective High Performance Raised Markers
1290	627-L001		926	Each	Two-Way Yellow Reflective High Performance Raised Markers
1300	628-O002		4,195	Linear Feet	High Performance Cold Plastic Detail Stripe, Yellow
1310	630-A001		133	Square Feet	Standard Roadside Signs, Sheet Aluminum, 0.080" Thickness
1320	630-A002		187	Square Feet	Standard Roadside Signs, Sheet Aluminum, 0.125" Thickness
1330	630-C004		1,017	Linear Feet	Steel U-Section Posts, 3.0 to 3.5 lb/ft

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
1340	630-F001		54	Each	Delineators, Guard Rail, White
1350	630-G001		6	Each	Type 3 Object Markers, OM-3R, Post Mounted
1360	630-G003		6	Each	Type 3 Object Markers, OM-3L, Post Mounted
1370	630-I001		1	Lump Sum	Metal Overhead Sign Supports, Assembly No. 1
1371	630-J001		1	Lump Sum	Overhead Sign Supported on Bridge, Assembly No 1
Added 09/17/2012					
1372	630-J012		1	Lump Sum	Overhead Sign Supported on Bridge, Assembly No 2
Added 09/17/2012					
1380	690-A001		2,093	Pounds	Grouting Abandoned Water Wells
1390	815-A006	(S)	1,340	Ton	Loose Riprap, Size 100
1400	815-A009	(S)	11,427	Ton	Loose Riprap, Size 300
1410	815-E001	(S)	15,667	Square Yard	Geotextile under Riprap
1420	815-F002	(S)	269	Ton	Sediment Control Stone
1430	907-225-A001		341	Acre	Grassing
1440	907-225-B001		1,099	Ton	Agricultural Limestone
1450	907-226-A001		341	Acre	Temporary Grassing
1460	907-234-C002		2,206	Linear Feet	Super Silt Fence
1470	907-234-F001		400	Linear Feet	Turbidity Barrier
1480	907-237-A002		5,000	Linear Feet	Wattles, 12"
1490	907-237-A003		2,680	Linear Feet	Wattles, 20"
1500	907-245-A001		12,130	Linear Feet	Triangular Silt Dike
1510	907-246-A001		2,680	Linear Feet	Sandbags
1520	907-247-A001		4	Each	Temporary Stream Diversion
1530	907-249-B001		400	Cubic Yard	Remove and Reset Riprap
1540	907-304-C009	(GY)	6,206	Cubic Yard	Granular Material, AEA, Class 3, Group D
1550	907-304-F002	(GT)	23,365	Ton	Size 610 Crushed Stone Base
Changed 09/17/2012					
1555	907-310-B002	(GT)	185	Cubic Yard	Size III Stabilizer Aggregate, Coarse
Added 09/17/2012					
1560	907-407-A001	(A2)	5,636	Gallon	Asphalt for Tack Coat
Changed 09/17/2012					
1570	907-601-A001	(S)	2,974	Cubic Yard	Class "B" Structural Concrete
1580	907-601-B003	(S)	90	Cubic Yard	Class "B" Structural Concrete, Minor Structures
1590	907-603-ALT01	(S)	884	Linear Feet	18" Type A Alternate Pipe
1600	907-603-ALT02	(S)	160	Linear Feet	24" Type A Alternate Pipe

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
1610	907-603-ALT08	(S)	216	Linear Feet	18" Type B Alternate Pipe
1620	907-603-ALT14	(S)	108	Linear Feet	22" x 13" Type A Alternate Pipe
1630	907-605-O002	(S)	1,250	Linear Feet	6" Perforated Sewer Pipe for Underdrains, SDR 35
1640	907-605-P002	(S)	250	Linear Feet	6" Non-perforated Sewer Pipe for Underdrains, SDR 35
1650	907-617-A001		341	Each	Right-of-Way Marker
1660	907-626-C004		9	Mile	6" Thermoplastic Edge Stripe, Continuous White
1670	907-626-C008		3,151	Linear Feet	6" Thermoplastic Edge Stripe, Continuous White
1680	907-626-D004		3,475	Linear Feet	6" Thermoplastic Traffic Stripe, Skip Yellow
1690	907-626-E003		1,320	Linear Feet	6" Thermoplastic Traffic Stripe, Continuous Yellow
1700	907-626-E004		6	Mile	6" Thermoplastic Traffic Stripe, Continuous Yellow
1710	907-626-G004		4,825	Linear Feet	Thermoplastic Detail Stripe, White
1720	907-626-G005		18,108	Linear Feet	Thermoplastic Detail Stripe, Yellow
1730	907-626-H004		802	Linear Feet	Thermoplastic Legend, White
1740	907-626-H005		116	Square Feet	Thermoplastic Legend, White
1750	907-631-A001		60	Cubic Yard	Flowable Fill, Excavatable
1760	907-699-A002		1	Lump Sum	Roadway Construction Stakes
1770	907-906001		2,080	Hours	Trainees [$5.00]
					ALTERNATE GROUP AA NUMBER 1
1780	907-403-A015	(BA1)	7,172	Ton	Hot Mix Asphalt, ST, 9.5-mm mixture
					ALTERNATE GROUP AA NUMBER 2
1790	907-403-M001	(BA1)	7,172	Ton	Warm Mix Asphalt, ST, 9.5-mm mixture
					ALTERNATE GROUP BB NUMBER 1
1800	907-403-A011	(BA1)	12,377	Ton	Hot Mix Asphalt, ST, 12.5-mm mixture
					ALTERNATE GROUP BB NUMBER 2
1810	907-403-M003	(BA1)	12,377	Ton	Warm Mix Asphalt, ST, 12.5-mm mixture
					ALTERNATE GROUP CC NUMBER 1
1820	907-626-J003		3,383	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White
1830	907-626-K003		698	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Skip Yellow
1840	907-626-L001		1,546	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow
					ALTERNATE GROUP CC NUMBER 2
1850	628-J002		3,383	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Continuous White
1860	628-L002		698	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Skip Yellow
1870	628-M002		1,546	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Continuous Yellow
					Bridge Items
1880	501-K001		19,290	Square Yard	Transverse Grooving

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
1890	801-A001	(S)	20,839	Cubic Yard	Foundation Excavation for Bridges
1900	803-B002	(S)	8	Each	Conventional Static Pile Load Test [$5,000.00]
1910	803-C002	(S)	8,500	Linear Feet	14" x 14" Prestressed Concrete Piling
1920	803-C003	(S)	3,740	Linear Feet	16" x 16" Prestressed Concrete Piling
1930	803-D006	(S)	43,980	Linear Feet	HP 14 x 117 Steel Piling
1940	803-F009	(S)	1,000	Linear Feet	20" Pre-Formed Pile Hole
Changed 09/17/2012					
1950	803-I001	(S)	30	Each	PDA Test Pile
1960	805-A001	(S)	2,728,951	Pounds	Reinforcement
1970	813-A002	(S)	5,433	Linear Feet	Concrete Railing, 32"
1980	813-A003	(S)	3,313	Linear Feet	Concrete Railing, 42"
1990	815-D001	(S)	1,240	Cubic Yard	Concrete Slope Paving
2000	907-804-A001	(S)	13,772	Cubic Yard	Bridge Concrete, Class AA
2010	907-804-C008	(S)	957	Linear Feet	120' Prestressed Concrete Beam, Type BT-72
2020	907-804-C010	(S)	1,297	Linear Feet	125' Prestressed Concrete Beam, Type BT-72
2030	907-804-C011	(S)	259	Linear Feet	130' Prestressed Concrete Beam, Type BT-72
2040	907-804-C025	(S)	627	Linear Feet	90' Prestressed Concrete Beam, Type BT-72
2050	907-804-C026	(S)	6,439	Linear Feet	90' Prestressed Concrete Beam, Type IV
2060	907-804-C148	(S)	447	Linear Feet	75' Prestressed Concrete Beam, Type IV
2070	907-804-C149	(S)	325	Linear Feet	109' Prestressed Concrete Beam, Type IV
2080	907-804-C158	(S)	4,520	Linear Feet	95' Prestressed Concrete Beam, Type IV
2090	907-804-C167	(S)	521	Linear Feet	105' Prestressed Concrete Beam, Type IV
2100	907-804-C172	(S)	1,014	Linear Feet	85' Prestressed Concrete Beam, Type IV
2110	907-804-C174	(S)	1,907	Linear Feet	80' Prestressed Concrete Beam, Type IV
2120	907-804-C176	(S)	358	Linear Feet	72' Prestressed Concrete Beam, Type IV
2130	907-804-C180	(S)	1,062	Linear Feet	89' Prestressed Concrete Beam, Type IV
2140	907-804-C189	(S)	327	Linear Feet	55' Prestressed Concrete Beam, Type IV
2150	907-804-C192	(S)	523	Linear Feet	105' Prestressed Concrete Beam, Type BT-72
2160	907-804-C193	(S)	103	Linear Feet	103' Prestressed Concrete Beam, Type IV
2170	907-804-C199	(S)	383	Linear Feet	77' Prestressed Concrete Beam, Type IV
2180	907-804-C200	(S)	585	Linear Feet	98' Prestressed Concrete Beam, Type IV
2190	907-804-C201	(S)	1,215	Linear Feet	102' Prestressed Concrete Beam, Type IV
2200	907-804-C202	(S)	324	Linear Feet	108' Prestressed Concrete Beam, Type IV
2210	907-804-C203	(S)	348	Linear Feet	70' Prestressed Concrete Beam, Type BT-72
2220	907-804-C206	(S)	86	Linear Feet	86' Prestressed Concrete Beam, Type IV

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
2230	907-804-C207	(S)	92	Linear Feet	92' Prestressed Concrete Beam, Type IV
2240	907-804-C208	(S)	178	Linear Feet	89' Prestressed Concrete Beam, Type BT-72
2250	907-804-C209	(S)	452	Linear Feet	91' Prestressed Concrete Beam, Type BT-72
2260	907-804-C210	(S)	238	Linear Feet	119' Prestressed Concrete Beam, Type BT-72
2270	907-804-C211	(S)	482	Linear Feet	121' Prestressed Concrete Beam, Type BT-72
2280	907-804-C212	(S)	258	Linear Feet	129' Prestressed Concrete Beam, Type BT-72
2290	907-804-C213	(S)	392	Linear Feet	131' Prestressed Concrete Beam, Type BT-72