STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL
FOR

TERREBONNE PARISH CONSOLIDATED GOVERNMENT

FEDERAL AID PROJECT

STATE PROJECT NO. 742-55-0004
WESTSIDE BLVD. EXTENSION
(MARIE DRIVE TO ST. LOUIS CANAL ROAD)
TERREBONNE PARISH

STATE OF LOUISIANA
EDWIN L. LANTZER
REG. No. 24733
REGISTERED PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING

17 MAY 2007

FOR INFORMATION ONLY

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NOTICE TO CONTRACTORS (01/06)

Sealed bids for the following project will be received by the Louisiana Department of Transportation and Development (DOTD), 1201 Capitol Access Road, Headquarters Administration Building, Room 405-L, Baton Rouge, Louisiana 70802 until 8:00 a.m. on **Wednesday, June 27, 2007**. After 8:00 a.m., bids will be received in the Headquarters Auditorium until 10:00 a.m., at which time and place bids will be publicly opened and read. No bids will be received after 10:00 a.m. Any person requiring special accommodations shall notify the Department of Transportation and Development (DOTD) at (225) 379-1111 not less than 3 business days before bid opening.

DBE GOAL PROJECT
STATE PROJECT NO. 742-55-0004
FEDERAL AID PROJECT NO. 3035(002)
DESCRIPTION: WESTSIDE BLVD. EXTENSION (MARIE DRIVE TO ST. LOUIS CANAL ROAD)
ROUTE: N/A
PARISH: TERREBONNE PARISH
LENGTH: 0.532 mile.
TYPE: GRADING, DRAINAGE STRUCTURES, LIME TREATMENT, CLASS II BASE COURSE, SUPERPAVE ASPHALTIC CONCRETE PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT AND RELATED WORK.
LIMITS: State Project No. 742-55-0004: LOCATED ON WESTSIDE BLVD. 0.071 MILE WEST OF ITS JCT. WITH MARIE DRIVE to ITS JCT. WITH ST. LOUIS CANAL ROAD.
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT FOR:
TERREBONNE PARISH CONSOLIDATED GOVERNMENT (Contracting Agency).
ESTIMATED COST RANGE: $2,500,000 to $5,000,000
PROJECT ENGINEER: TERREBONNE PARISH; (985) 873-6405
DOTD COORDINATOR: WEBER, ALAN; 115 Candy Lane, Thibodaux, LA 70301; (985) 447-0943.
PROJECT MANAGER: SHOLMIRE, DAWN; (225) 379-1398.
COST OF PROPOSAL FORMS: $25.00
COST OF PLANS: $9.50 for complete plans.

Bids must be submitted in accordance with Section 102 of the 2000 Louisiana Standard Specifications for Roads and Bridges as amended by the project specifications, and must include all information required by the proposal.

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Plans and/or proposals may be obtained in Room 101-A of the DOTD Headquarters Administration Building, 1201 Capitol Access Road in Baton Rouge, or by contacting the DOTD; Email: sknight@dotd.louisiana.gov, Phone (225) 379-1111, FAX: (225) 379-1714, or by written requests sent to the Louisiana Department of Transportation and Development, Contracts Management Section, P. O. Box 94245, Baton Rouge, LA 70804-9245. Proposals will not be issued later than 24 hours prior to the time set for opening bids. Purchase price for plans and proposals is non-refundable. Plans and specifications may be seen at the Project Engineer's office or in Room 101-A of the DOTD's Headquarters Administration Building in Baton Rouge. Upon request, the Project Engineer will show the work.

The U. S. Department of Transportation (DOT) operates a toll free "Hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should call 1-800-424-9071. All information will be treated confidentially and caller anonymity will be respected.

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GENERAL BIDDING REQUIREMENTS (01/06): The specifications, contract and bonds governing the construction of the work are the 2000 Edition of the Louisiana Standard Specifications for Roads and Bridges, together with any supplementary specifications and special provisions attached to this proposal.

Bids shall be prepared and submitted in accordance with Section 102 of the Standard Specifications.

The plans herein referred to are the plans approved and marked with the project number, route and Parish, together with all standard or special designs that may be included in such plans. The bidder declares that the only parties interested in this proposal as principals are those named herein; that this proposal is made without collusion or combination of any kind with any other person, firm, association, or corporation, or any member or officer thereof; that careful examination has been made of the site of the proposed work, the plans, Standard Specifications, supplementary specifications and special provisions above mentioned, and the form of contract and payment, performance, and retainage bond; that the bidder agrees, if this proposal is accepted, to provide all necessary machinery, tools, apparatus and other means of construction and will do all work and furnish all material specified in the contract, in the manner and time therein prescribed and in accordance with the requirements therein set forth; and agrees to accept as full compensation therefore, the amount of the summation of the products of the quantities of work and material incorporated in the completed project, as determined by the engineer, multiplied by the respective unit prices herein bid.

It is understood by the bidder that the quantities given in this proposal are a fair approximation of the amount of work to be done and that the sum of the products of the approximate quantities multiplied by the respective unit prices bid shall constitute gross sum bid, which sum shall be used in comparison of bids and awarding of the contract.

The bidder further agrees to perform all extra and force account work that may be required on the basis provided in the specifications.

The bidder further agrees that within 15 calendar days after the contract has been transmitted to him, he will execute the contract and furnish the Department satisfactory surety bonds.

If this proposal is accepted and the bidder fails to execute the contract and furnish bonds as above provided, the proposal guaranty shall become the property of the Department; otherwise, said proposal guaranty will be returned to the bidder; all in accordance with Subsection 103.04.

DBE PARTICIPATION IN FEDERAL AID CONSTRUCTION CONTRACTS (02/07): This project is a DBE goal project. In accordance with the Required Contract Provisions for DBE Participation in Federal Aid Construction Contracts elsewhere herein, the DBE goal for approved subcontracting work on this project is six (6) percent of the total contract bid price. The contractor shall submit DOTD Form OMF-1A (Request to Sublet) and have it approved by the Department before any subcontract work is done on the project. Only those businesses certified by the Department as Disadvantaged Business Enterprises (DBEs) may be utilized in fulfillment of the DBE goal requirement. Such businesses are those certified by the Louisiana Unified Certification Program on the basis of ownership and control by persons found to be socially and economically disadvantaged in accordance with Section 8(a) of the Small Business Act, as amended and Title 49, Code of Federal Regulations, Part 26 (49 CFR 26).

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BUY AMERICA PROVISIONS (3/95): Pursuant to the "Buy America Provisions" of the Surface Transportation Assistance Act (STAA) of 1982 as promulgated by current FHWA regulation 23 CFR 635.410 and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) amendment to (STAA), all steel and iron materials permanently installed on this project shall be manufactured, including application of a coating, in the United States, unless a waiver of these provisions is granted. Coating includes all processes which protect or enhance the value of the material to which the coating is applied. The request for waiver must be presented in writing to the Department by the contractor. Such waiver may be granted if it is determined that:

(1) The application of Buy America Provisions would be inconsistent with the public interest or

(2) Such materials are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.

Minimal use of foreign steel and iron materials will be allowed without waiver provided the cost of these materials does not exceed 0.1 percent of the total contract cost or $2,500, whichever is greater; however, the contractor shall make written request to the DOTD Construction Engineering Administrator for permission to use such foreign materials and shall furnish a listing of the materials, their monetary value, and their origin and place of production.

The burden of proof for the origin and place of production and any request for waiver is the responsibility of the contractor.

Prior to the use of steel and iron materials in the project, the contractor shall furnish Mill Test Reports to the engineer for such steel and iron materials, accompanied by a notarized certification stating that the Mill Test Reports represent the steel and iron materials to be furnished and that such materials were produced and fabricated in the United States.

Pig iron and processed, pelletized, and reduced iron ore are exempt from the Buy America Provisions.

ELECTRONIC BIDDING (04/06). The 2000 Louisiana Standard Specifications for Roads and Bridges and supplemental specifications thereto are amended as follows.

SECTION 101 - GENERAL INFORMATION, DEFINITIONS AND TERMS:

Subsection 101.03 - Definitions.

Revise the following definitions.

Bid. The binding offer of a responsible bidder that was submitted to the Department on the bid forms or via approved electronic media, in accordance with the bidding documents.

Bid Forms. The portion of the bidding documents, either paper or electronic, required to be submitted, in accordance with the bidding documents, in order to constitute a bid.

Add the following definitions.

Bid Express. An on-line service provided by Bidx.com, an Info Tech company, which is under contract to DOTD to facilitate two-way Internet electronic bidding.

Bidx.com. The subsidiary company owned by Info Tech that provides the Bid Express service.

Electronic Bidding. The process by which the Department and the bidder can utilize the Internet to facilitate the bidding process.

Electronic Bid Bond. An instrument by which a contractor and surety can submit a bid guarantee with a bid electronically in lieu of a written, signed paper.

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Electronic Signature. A secure and verifiable alpha-numeric code assigned to an individual, replacing or acting instead of a traditional signature.

Expedite. Software developed for AASHTO by Info Tech that enables and facilitates electronic bidding.

SECTION 102 – BIDDING REQUIREMENTS.

Subsection 102.02 - Contractor's Licensing Laws.

Delete the first sentence of the third paragraph and substitute the following.

When the estimated project cost is greater than $50,000 and no FHWA funds are involved, the contractor shall show his license number on the bid envelope unless the contractor submits the bid via the DOTD approved electronic bidding process.

Subsection 102.03 - Contents of Bidding Documents.

Amend the first paragraph to include the following.

The prospective bidder may use the Bid Express services through Bidx.com. The use of these services will require payment by the contractor of additional fees to the service provider.

Delete the first sentence of the third paragraph and substitute the following.

Unless the contractor properly submits the bid forms electronically, the bid forms bound with or attached to the construction proposal should be detached, completed, and returned by the bidder.

Subsection 102.04 - Issuance of Bid Documents.

Delete the first sentence of the first paragraph and substitute the following.

The Department may refuse to issue bid documents to a bidder or allow a bidder access to Bid Express for bidding purposes, for any of the following reasons:

Subparagraphs (b), (c), (f), and (g) are reinstated.

Subsection 102.06 - Examination of Bid Documents and Site of Work.

Amend this subsection to include the following.

Written instructions necessary to use the electronic bidding service and prepare and submit a bid electronically are provided on the Bidx.com Internet site. Fees payable to Bidx.com are required of the contractor to use the service and to establish electronic signatures. The contractor is advised to timely make all necessary arrangements with Bidx.com and to familiarize himself with system and process requirements prior to using the service to submit a bid.

Subsection 102.07 - Preparation of Bid.

Delete the first sentence of the first paragraph and substitute the following.

For paper bids, bids shall be submitted on bid forms provided by the Department or obtained through Bidx.com.

Delete the first sentence of the second paragraph and substitute the following.

A unit bid price, in English and U.S. dollars, shall be specified in the Schedule of Items in words or numerals, either typed or printed in ink, or computer printed in the spaces provided for each pay item or alternate pay item.

Delete the first sentence of the third paragraph and substitute the following.

The Construction Proposal Signature and Execution Form shall be signed either with an authorized electronic signature or with ink by the individual; or a member of the partnership; or an officer of one of the firms representing a joint venture; or an officer of a corporation; or an agent of the contractor legally qualified and acceptable to the state.

Add the following paragraph.

Bid bonds may be furnished and completed by a DOTD approved electronic bond verification service if the contractor elects to prepare and submit an electronic bid.

Subsection 102.08 - Irregular Bids.

Delete Subparagraph (a) and substitute the following.

(a) If the bid, except for legible facsimiles, is on a form other than that furnished by the Department or Bidx.com, or if the bid forms are materially altered.

Delete Subparagraph (j) and substitute the following.

(j) If the portion of the construction proposal form designated as Bid Forms is not properly executed either by hand or electronically and submitted with the bid.

Subsection 102.09 - Proposal/Bid Guaranty.

Delete the fourth paragraph and substitute the following.

All signatures required on the bid bond may be original, mechanical reproductions, facsimiles or electronic. Electronic bonds issued in conjunction with electronic bids must have Departmental approval prior to use. The Department will make a listing of approved electronic sureties providers on the Bidx.com site.

Subsection 102.10 - Delivery of Bids.

Delete this subsection and substitute the following.

Unless delivered electronically through the approved electronic bid submission service, each bid should be submitted in the envelope furnished by the Department. The blank spaces on the envelope shall be filled in correctly to clearly indicate its content. When an envelope other than the one furnished by the Department is used, it shall be the same general size and shape and be similarly marked to indicate its contents. Bids shall be received no later than the time and at the place specified in the Notice to Contractors. Paper bids received after the time set for opening bids will be returned to bidders unopened. Electronic bids shall be submitted via the Internet in accordance with Subsection 102.07. Electronic bids transmitted by the bidder, after the time set for bid opening will not be accepted.

A proposal guarantee and all other required returnables not submitted electronically with an electronic bid must be delivered by the contractor to the Department in a sealed envelope as specified above prior to the date and time of the bid opening.

Subsection 102.11 - Withdrawal or Revision of Bids.

Delete this subsection and substitute the following.

A bidder may withdraw or revise a bid after it has been deposited with the Department, provided the request for such withdrawal or revision is received by the Department in person or in writing before the time set for opening bids and at the location set forth in

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the Notice to Contractors. Electronic bids submitted to Bid Express may be withdrawn prior to the specified bid opening time by the authorized bidder.

Subsection 102.12 - Public Opening of Bids.
Delete this subsection and substitute the following.

Paper or electronic bids will be publicly opened and read or presented at the time and place indicated in the Notice to Contractors.

SECTION 103 – AWARD AND EXECUTION OF CONTRACT
Subsection 103.01 - Consideration of Bids.
Delete the first paragraph and substitute the following.

After paper or electronic bids are opened and read, they will be compared on the basis of summation of the products of the quantities and the unit bid prices in the Schedule of Items. Results of such comparisons will be available to the public.

Subsection 103.04 - Return of Proposal/Bid Guaranty.
Amend this subsection to include the following.

Electronic bid bonds of unsuccessful bidders will not be returned but will be deemed by the Department to have no force or effect after sixty days.

DEFINITIONS AND TERMS (04/01): Subsection 101.03 of the 2000 Standard Specifications is amended to include the following.

Contracting Agency. A city, levee board, police jury or other governing authority of a parish, state office, agency, board, commission, public corporation or other political subdivision of the State, in whose name the contract will be executed. Whenever the term "Department" is used as Owner, it shall mean the Contracting Agency. Whenever the term "Department" is used as Engineer, it shall mean the Engineer.

Technical Specifications. Requirements pertaining to a specific method of performing the work and to quantities and qualities of materials to be furnished.

MAINTENANCE OF TRAFFIC (04/06): Subsection 104.03 of the Standard Specifications is amended to include the following requirements.

The contractor shall provide for and maintain local traffic at all times and shall also conduct his operations in such manner as to cause the least possible interference with traffic at junctions with roads, streets and driveways. The contractor will not be required to provide for or maintain through traffic.

All asphaltic concrete pavement new construction, overlays, and shoulder surfacing operations open to traffic shall be conducted in accordance with the following requirements.

1. Shoulder Subgrade Preparation: Any required embankment widening shall be completed before placement of the asphaltic concrete overlay. All vegetation shall be removed from existing shoulders before beginning temporary or final shoulder construction.

2. Temporary Shoulder Construction: Temporary shoulder construction described herein shall be completed at the end of each day's operations for all asphaltic concrete courses except the final wearing course. There shall be no drop-off from the pavement edge to the shoulder. The contractor shall blade and shape existing shoulder material against, and approximately level with, the top of the pavement surfacing to form a temporary shoulder with a uniform slope from

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the pavement edge to the existing shoulder line, or to a point 10 feet (3 m) from the pavement edge. If existing shoulder materials are insufficient, the contractor shall furnish, place and shape additional shoulder surfacing materials to form the temporary shoulder. Existing and/or additional materials for temporary shoulders shall be to the satisfaction of the engineer. Compaction shall be by approved methods.

No direct payment will be made for constructing and subsequently reshaping temporary shoulders, except payment for additional materials under appropriate pay items.

All lane closures, including ramps, shall be authorized by the engineer. Unless otherwise authorized, lane closures will only be allowed while work is being performed. The contractor shall provide the engineer a five calendar day notice, prior to any lane closure unless a shorter notification period is allowed by the engineer. A late lane opening rental will be charged to the contractor for any lane closure on any roadway or ramp that extends beyond the allowed closure times. The rental shall be computed in hourly increments only, with fractions of an hour rounded up to the next whole hour. The rental will also apply to any unauthorized lane closures by the contractor, whether short term or long term. Any monies assessed as a late lane opening rental or for an unauthorized lane closure will be deducted from payments due the contractor. The late lane opening rental or unauthorized lane closure rental will be in accordance with the following table for a maximum of four continuous hours.

Unauthorized Lane Closure or Late Lane Opening Rental	
Current Average Daily Traffic (Vehicles per Day)	**Hourly Rate ($/Hour)**
<10,000	250
10,000 - 20,000	1,250
20,000 - 35,000	5,000
35,000 - 50,000	11,500
>50,000	15,000

NIGHTTIME CONSTRUCTION OPERATIONS (02/06): Section 105, Control of Work, of the 2000 Standard Specifications is amended to add the following.

105.20 NIGHTTIME CONSTRUCTION OPERATIONS.

(a) Description: This work consists of furnishing, installing, operating, maintaining, moving, and removing portable light towers and equipment-mounted fixtures for nighttime construction operations. Nighttime construction operations are defined as work performed after sunset and before sunrise.

(b) Equipment Requirements: Materials and equipment shall be in good operating condition and in compliance with applicable OSHA, NEC, and NEMA codes.

The contractor shall furnish, to the engineer, two light meters capable of measuring the level of illuminance. These light meters will be used by the engineer to check the adequacy of illumination throughout the nighttime construction operations. The light meters will become the property of the contractor after final acceptance.

Suitable brackets and hardware shall be provided to mount lighting fixtures on equipment and machinery. Mountings shall be designed so that light fixtures can be positioned as necessary

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to reduce glare and provide the required illumination. Mounting brackets and fixtures shall not interfere with the equipment operator or any overhead structures and shall be securely connected to the fixtures to insure minimum vibration.

Equipment-mounted systems shall be attached to construction equipment to provide Level II and Level III illuminance. Equipment mounted lighting shall be designed and positioned to be operated independently of general illumination.

Portable systems may consist of ground-mounted, trailer-mounted, or equipment mounted light towers. Portable light towers shall be sturdy and free-standing without the aid of guy wires or bracing. Towers shall be capable of being moved as necessary to keep pace with the construction operation. Extreme caution shall be used when moving portable light towers in the vicinity of overhead utilities. Portable lighting systems shall be positioned to minimize the risk of being impacted by traffic on the roadway or by construction equipment.

Conventional vehicle headlights shall not be permitted as the sole means of illumination while working. All motorized vehicles shall be equipped with conventional vehicle headlights to permit safe movement in non-illuminated areas. Use of strobe lights on vehicles and equipment is prohibited. Use of flashing lights shall be kept to a minimum to prevent motorist distraction. Flashing lights shall not be used behind barrier protection systems.

Switches shall be provided to adequately control the various lights. All wiring shall be weatherproof and installed according to local, state, federal, and OSHA requirements. Ground fault circuit interrupters shall be provided for electrical outlets used for electrical tools and extension cords. The contractor shall provide sufficient fuel, spare lamps, generators and qualified personnel to ensure that all required lights operate continuously during nighttime construction operations. In the event of any failure of the lighting system, the construction operation shall be discontinued until the required level of illumination is restored. In residential areas, generator systems shall be selected to comply with local noise ordinances. A supply of emergency flares shall be maintained by the contractor for use in the event of emergency or unanticipated situations.

(c) Illumination Requirements: All operations that are performed during nighttime hours shall be properly illuminated to allow for the safe performance and inspection of the work.

Work area is defined as a minimum of 50 feet (15 m) ahead and behind the employee, where work is to be performed. A minimum of 5 foot-candles (54 lux) shall be maintained throughout the work area during nighttime construction operations, and during the setup and removal of lane or roadway closures.

Lighting shall be adequate to meet the required level of illuminance and uniformity over the work area as follows:

(1) Level I (5 foot-candles, 54 lux): This level of illuminance shall be provided for all work areas of general construction operations, such as excavation and embankment; cleaning and sweeping; landscaping; planting and seeding. Stockpiles shall also be illuminated to Level I to enhance safety and improve work efficiency.

(2) Level II (10 foot-candles, 108 lux): This level of illuminance is required for areas on or around construction equipment such as that used for drainage installations, striping, base course construction, milling, asphalt paving operations, and concrete placement and removal. This level is necessary for safe operation of equipment and for obtaining an acceptable level of accuracy.

(3) Level III (20 foot-candles, 215 lux): This level of illuminance is required for tasks requiring a higher level of visual performance or for tasks with a higher level of difficulty.

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Such tasks include, pavement or structural crack filling, joint repair, joint cleaning, joint sealing, pavement patching and repairs, saw-cutting, installation of signal equipment or other electrical/mechanical equipment, and other tasks involving fine details or intricate parts and equipment.

(d) Glare Control: All lighting provided under this item shall be designed, installed, and operated to avoid glare interference with roadway traffic or discomfort for residences adjoining the roadway. The contractor shall locate, aim, and adjust the lights to provide the required level of illuminance and uniformity in the work area without the creation of objectionable glare. The engineer shall determine when glare exceeds acceptable levels, either for traffic or adjoining residences. The contractor shall provide shields, visors, or louvers on luminaries as necessary to reduce objectionable levels of glare.

At a minimum, the following requirements shall be met to avoid objectionable glare to oncoming traffic:

(1) Tower-mounted luminaries shall generally be aimed either parallel or perpendicular to the roadway.

(2) All luminaries shall be aimed such that the center of the beam axis is no greater than 60 degrees from the vertical.

(3) Luminous intensity of any luminary shall not exceed 20,000 candelas at an angle of 72 degrees from the vertical.

(e) Operational Requirements: Thirty days prior to the start of night time operations, the contractor shall submit a lighting plan to the engineer for approval. The contractor shall select appropriate lighting systems and design a lighting plan to achieve the required illuminance levels.

The lighting plan shall include location of lights necessary for every aspect of work; description of light equipment to be used; description of power source; attachment and mounting details for lights to be attached to equipment; technical details pertaining to the lighting fixtures; details on hoods, louvers, shields, or other glare control methods; and lighting calculations confirming that the illumination requirements will be met by the layout plan.

Lighting inspection will include (1) light meter measurements to determine illumination levels, (2) subjective observation of the lighting setup to evaluate glare potential for drivers and workers, and (3) a physical check of the lighting equipment to ensure that it complies with the specification requirements included in the contractor's lighting plan.

Prior to the first night of operation, the engineer will check the adequacy of the installed lighting using a light meter. A summary of these measurements will be noted in the inspection records to provide a basis for comparing subsequent measurements. If the required illuminance levels are not met, the contractor shall make the necessary adjustments before any work proceeds.

Operational checks shall be made when construction phasing changes and lighting plan changes are required to accommodate different phases of construction. Periodic checks will be made throughout the duration of nighttime operations. If the required illuminance levels are not met, the contractor shall make the necessary adjustments to the lighting plan before work continues.

During construction operations, in the event of any failure of the lighting system, the operations shall be discontinued until the required level of illumination is restored.

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PERMITS, LICENSES, TAXES AND INSURANCE (04/01). Section 107 of the Standard Specifications is amended as follows.

Subsection 107.02, Permits, Licenses, Taxes and Insurance. This subsection is deleted and the following substituted.

107.02 PERMITS, LICENSES, TAXES AND INSURANCE. Contractors shall procure temporary permits and licenses for the work, pay charges, fees, and taxes, and give notices necessary to due and lawful prosecution of the work.

The contractor shall maintain, at a minimum, the following insurance coverages:

(a) Workers Compensation in compliance with state law, with the exception that the contractor's Employer liability is to be at least $1,000,000 when work is to be over water and involves maritime exposures. For the coverage provided in this subpart the contractor's Insurer will have no right of recovery or subrogation against the State of Louisiana, the Louisiana Department of Transportation and Development, or ***Terrebonne Parish Consolidated Government***.

(b) Commercial General Liability Insurance with a combined single limit per occurrence for bodily injury and property damage. The aggregate loss limit must be on a per project basis. This insurance shall include coverage for bodily injury and property damage, and include coverage for Premises-Operation; Broad form Contractual Liability; Products and Completed Operation; Use of Contractors and Subcontractors; Personal Injury; Broad form Property Damage; explosion, collapse and underground (XCU) coverage. The required combined single limit amount of insurance shall be as provided in Table 107-1.

(c) A separate Owner's and Contractor's Protective (OCP) Liability Policy shall be supplied by the contractor naming the Louisiana Department of Transportation and Development and ***Terrebonne Parish Consolidated Government*** as the named insured. The required combined single OCP limit amount shall be as provided in Table 107-1.

(d) Business Automobile Liability Insurance with a combined single limit per occurrence for bodily injury and property damage. This insurance shall include bodily injury and property damage coverage for owned automobiles, hired automobiles and non-owned automobiles. The required combined single limit amount of insurance shall be as provided in Table 107-1 below.

TABLE 107-1
Insurance Requirements

INITIAL CONTRACT AMOUNT	MINIMUM INSURANCE
Up to $1,000,000	$ 1,000,000
From $1,000,001 to $2,000,000	$ 2,000,000
Over $2,000,000	$ 5,000,000

The following shall be included as provisions in each policy:

(a) The insurance company (ies) issuing the policy (ies) shall have no recourse against the State of Louisiana, the Department of Transportation and Development, or ***Terrebonne Parish Consolidated Government*** for payment of any premiums or for assessments under any form of the policy.

(b) Any and all deductibles in the above described insurance policy (ies) shall be assumed by and be at the sole risk of the contractor.

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Insurance is to be placed with insurance companies authorized in the State of Louisiana with an A. M. Best's rating of A-: VI or higher. This rating requirement may be waived for Workers Compensation coverage only.

Should any policies be canceled, the contractor shall immediately notify the Department of Transportation and Development and ***Terrebonne Parish Consolidated Government.***

Upon failure of the contractor to furnish, deliver and maintain such insurance as required, this contract, at the election of ***Terrebonne Parish Consolidated Government***, may be immediately declared suspended, discontinued or terminated. Failure of the contractor to maintain any required insurance shall not relieve the contractor from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the contractor concerning indemnification under Subsection 107.17.

The contractor is responsible for requiring and verifying that all subcontractors working on the project maintain appropriate types and levels of insurance coverage.

NAVIGABLE WATERS AND WETLANDS (07/05): Subsection 107.09 of the Standard Specifications is amended to include the following.

In accordance with the provisions of this Subsection, the Department has obtained the required U.S. Army Corps of Engineers and Floodplain permits.

The Department has obtained a Coastal Use Permit or other approval from the Louisiana Department of Natural Resources, Coastal Management Division, for all work within the Louisiana Coastal Zone.

Bidders shall comply with the permit requirements. Bidders may obtain a copy of these permits by contacting the Department's Environmental Section at (225) 379-1317.

ENVIRONMENTAL PROTECTION (01/04): Subsection 107.14 of the 2000 Standard Specifications is amended to include the following paragraphs at the end of this subsection.

The contractor, by signing this contract, certifies under penalty of law that he understands and will abide by the terms and conditions of the Storm Water Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit that requires the discharges from construction sites be managed to prevent pollutants from entering waters of the United States in accordance with the Environmental Protection Agency's (EPA) regulations for storm water discharges with respect to 33 U.S.C. § 1342 (Sections 402 (p) and 405 of Public Law 100-4).

The Notice of Intent (NOI) will be submitted by the Department to the Louisiana Department of Environmental Quality (LADEQ) prior to the project letting. The project engineer will complete and submit the Notice of Termination (NOT) to the LADEQ after final stabilization of the site, in accordance with the terms of the permit.

The use of erosion control features or methods other than those in the contract shall be as directed.

The Storm Water Pollution Prevention Plan shall be comprised of Section 204 of the standard specifications along with applicable supplemental specifications and special provisions, and Standard Plan EC-01, "Temporary Erosion Control Details."

SUBLETTING OF CONTRACT (1/83): In accordance with Subsection 108.01 of the Standard Specifications, the following items are designated as "Specialty Items":

Item 728-01, Jacked or Bored Pipe (16" Dia., Steel, 3/8" Wall)

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Item 729-01, Sign (Type A)
Item 729-21, U-Channel Post
Item 731-02, Reflectorized Raised Pavement Markers
Item 732-01-A, Plastic Pavement Striping (4" width)
Item 732-01-C, Plastic Pavement Striping (8" width)
Item 732-01-A, Plastic Pavement Striping (24" width)
Item 732-03-A-01, Plastic Pvmt Striping (Broken Line) (4" width)
Item 732-04-A, Plastic Pavement Legends & Symbols (Arrow)
Item 732-04-C, Plastic Pavement Legends & Symbols (Only)
Item 741-11, Adusting Water Valve and Meter Box
Item S-002, Adjusting Waterlines
Item S-003, Install 8" P.E. Sewer Force Main

COMPENSATION FOR ALTERATIONS OF THE CONTRACT (07/06): Subsection 109.04 of the 2000 Standard Specifications and the supplemental specifications thereto is amended as follows. Delete this subsection and substitute the following.

109.04 COMPENSATION FOR ALTERATIONS OF THE CONTRACT.

Payment for work performed in accordance with Subsections 104.02 and 105.19 will first be made at the contract's established unit prices. If unit prices are not applicable, the second basis of payment will be negotiated prices agreed to by change order prior to the start of the work. If an acceptable negotiated price cannot be established prior to the work being performed, the Department may require the contractor to perform the work on a "force account" basis.

(1) Unit Prices – When payments are made at the contract's established unit prices, and the work requires a material change in construction method or sequence, adjustment to the unit prices for or against the contractor shall be made in accordance with Subsections 104.02 and 109.03.

(2) Negotiated Prices – The Department's objective is to compensate the contractor using the same pricing formulas established in determining the original bid contract prices. Therefore, reasonable rates for labor burden, company owned equipment internal cost recovery rates, jobsite overhead items and rates, home office overhead and profit mark-upon direct costs, and other subjective pricing components established by the contractor at the time the original contract bid prices were determined will also be used in determining the negotiated prices for the change order work. The change order authorizing the work shall include a detail cost breakdown showing direct labor, materials, equipment, and subcontractor costs, as well as each of the subjective pricing components listed above.

(3) Force Account -When "force account" is the method of payment, the contractor shall be paid the direct cost of the work as determined and documented in Headings (a) through (g) below. Jobsite and home office overhead indirect expenses, and profit for all parties shall be considered fully compensated by a 15 percent mark-up on allowable direct cost items described in the Headings (a) through (d) below, and the mark-up on direct cost for the subcontractor and contractor described in Heading (e) below. The Department may consider additional reimbursement to the contractor for indirect fixed jobsite overhead costs for delays that are not the contractor's fault or responsibility, but are the Department's fault or responsibility or determined by judicial proceeding to be the Department's sole responsibility or are the fault and responsibility of a local government when the change order results in extension

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of the project's critical work path and the 15 percent mark-up on direct costs is deemed by the Department to be insufficient.

(a) Direct Labor: For labor and working foremen in direct charge of operations, the contractor shall receive the wage rates agreed on in writing before beginning work for each hour that said labor and foremen are engaged in such work. Jobsite and home office supervisory personnel shall not be included as direct labor.

The contractor shall receive the actual costs paid to, or in behalf of, workers for subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits when such amounts are required by collective bargaining agreement or other employment contract applicable to the classes of labor employed on the work, but limited to a maximum daily rate for subsistence and travel allowances. This maximum shall be agreed upon prior to the contractor incurring such charges.

(b) Direct Materials: For materials accepted by the engineer and used, the contractor shall receive the actual cost of such materials delivered to the work, including transportation charges and sales taxes if applicable.

(c) Equipment: For authorized machinery or special equipment the contractor shall receive the rental rates agreed on in writing before such work is begun. For equipment rented from independent outside sources, the contractor will be reimbursed the reasonable actual cost as shown on paid rental invoices. For company owned equipment, the contractor will be reimbursed his internal cost recovery equipment charge rate consistent with his original bid cost estimates. The Department's Engineering Directives and Standards Manual, EDSM III.1.1.27, entitled Equipment Rental Rates, provides additional guidance concerning allowable equipment rental rates and their application. If the contractor chooses to use a rental rate guide book instead of his internal cost recovery rates to establish rental rates for company owned equipment, adjustments to the allowable type of equipment and hours per day must be made as described in the EDSM. In addition, no 15 percent mark up on equipment direct cost for jobsite and home office overhead expenses and profit will be allowed if the contractor chooses to use rental rate guide book prices instead of his internal cost recovery rates.

(d) Bond, Insurance and Tax: For property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, social security taxes, and bond costs on force account work, the contractor shall receive the actual cost thereof. The contractor shall furnish satisfactory evidence of the rates paid for such bond, insurance and tax.

(e) Subcontractor Costs: For change order work performed by an approved subcontractor, the subcontractor shall receive the subcontractor's actual and reasonable allowable direct cost of such work as described in Headings (a) through (d) above plus a 15 percent mark-up for the subcontractor's indirect jobsite and home office overhead expenses and profit. In addition, the contractor will be paid a 10 percent mark-up on the subcontractor's total direct and indirect costs, and profit for general supervision and sequencing of the change order work.

(f) Non-allowable Costs: No additional contractor cost reimbursement will be made for general superintendence, small tools or craft specific tool allowances, or other direct or indirect costs not specifically included in Headings (a) through (e) above.

(g) Statements: No payment will be made for force account work until the contractor has furnished the engineer with duplicate itemized statements of the cost of such work detailed as follows:

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(1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.
(2) Designations, dates, daily hours, total hours, rental rate and extension for each unit of machinery and equipment.
(3) Quantities of materials, prices and extensions.
(4) Transportation of materials.
(5) Cost of property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, social security taxes, and bond costs.

The contractor's representative and the engineer shall compare records of the cost of work done as ordered on a force account basis. Such comparison shall be made daily. Statements shall be accompanied by invoices for materials used and transportation charges. If materials used on force account work are not purchased for such work, but are taken from the contractor's stock, in lieu of invoices, the contractor shall furnish an itemized list of such materials showing that the quantity claimed was actually used, and that the price and transportation costs claimed represent the actual cost to the contractor. Invoices shall be accompanied by the contractor's notarized statement that payment in full has been made for the materials.

PAYMENT ADJUSTMENT (03/07): Section 109, Measurement and Payment of the 2000 Standard Specifications and the supplemental specification thereto, is amended to add the following.

This project is designated for payment adjustment for asphalt cements and fuels in accordance with Subsection 109.10 as follows.

109.10 PAYMENT ADJUSTMENT (ASPHALT CEMENTS AND FUELS).

(a) General: Payment for contract items indicated herein will be adjusted to compensate for cost differentials of Performance Graded (PG) asphalt cements, gasoline, and diesel fuel when such costs increase or decrease more than 5 percent from the Department's established base prices for these items. The base price indices for asphalt cements and fuels will be the monthly price indices in effect at the time bids are opened for the project. The base price indices for asphalt cements will be as stated in paragraph (b) below. The base price index for fuels will be as stated in paragraph (c) below.

Payment adjustments will be made each monthly estimate period when a price index for this period varies more than 5 percent from its respective base price index. The monthly price indices to be used with each monthly estimate will be the price indices for the month in which the estimate period begins.

If the project is placed in default, payment adjustments will be based on the monthly price indices used for the last monthly estimate period prior to the project being placed in default, unless a monthly price index decreases in which case the lower monthly price index will be used.

If it is determined after completion of work on any eligible item that the total quantity paid to date must be adjusted to reflect more accurate quantity determinations, the Department will prorate the additional quantity to be added or subtracted over all previous estimate periods in which the item of work was performed in order to determine additional payment adjustments. If payment adjustments were made during any of these partial estimate periods, this added or

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subtracted quantity that has been prorated will likewise have payment adjustments calculated and included.

(b) Performance Graded (PG) Asphalt Cements: The base price index will be the monthly price index in effect at the time of bid opening as shown elsewhere herein. The monthly price indices will be the average, excluding the extreme outliers, of the unit prices for PG 64-22, the average, excluding the extreme outliers, of the unit prices for PG 70-22m, and the average, excluding the extreme outliers, of the unit prices for PG 76-22m. The monthly prices for each of these asphalt materials will be F.O.B. refinery or terminal as determined from the quoted prices effective on the first calendar day of each month from major suppliers of these materials. Suppliers considered are those who have requested to participate in the liquid asphalt index determination and have supplied materials on DOTD projects within the past twelve months. These suppliers and materials shall be listed on the Department's Qualified Products List (QPL 41) and must be marketed in Louisiana.

Payment adjustments will be made in accordance with the following formulas:

If Monthly Price Index exceeds Base Price Index,

$$P_a = (A - 1.05B) \times C \times D \times (1.00 + T)$$

If Base Price Index exceeds Monthly Price Index,

$$P_a = (0.95B - A) \times C \times D \times (1.00 + T)$$

Where:

P_a	=	Price adjustment (increase or decrease) for asphalt cement.
A	=	Monthly Price Index for respective PG 64-22, PG 70-22m, or PG 76-22m in dollars per ton/megagram.
B	=	Base Price Index for respective PG 64-22, PG 70-22m, or PG 76-22m in dollars per ton/megagram.
C	=	Tons/megagrams of asphaltic concrete.
D	=	Percent of respective asphalt cement, per job mix formula, in decimals.
T	=	Louisiana sales tax percentage and local sales tax percentage, in decimals. (Note: Local tax is not considered)

The engineer will furnish the weights (mass) of asphaltic concrete placed during the monthly estimate period with the respective asphalt cement content, excluding the asphalt content in reclaimed asphaltic pavement (RAP) as per job mix formula. If the asphalt cement content changes during the estimate period, the respective weight (mass) of asphaltic concrete produced at each cement content will be reported.

Item 724-02, Pavement Widening, and all contract pay items under Sections 501, 502, and 508, will be eligible for payment adjustments of asphalt materials. No payment adjustment will be made for other asphalt materials, including emulsions and cutbacks.

The base price indices for asphalt cements and fuels will be posted on the DOTD internet website before the 10th calendar day of each month at the following URL:
www.dotd.louisiana.gov/lettings/lac_price_index/priceindices.asp

(c) Fuels: The base price index for this project will be the monthly price index in effect when bids are opened for the project. The monthly price index will be the minimum price

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quotations for unleaded gasoline and No. 2 diesel fuel listed for the New Orleans area in *Platt's Oilgram and Price Report* effective on the first calendar day of each month.

Payment adjustment will be made in accordance with the following formulas:

If Monthly Price Index exceeds Base Price Index,

$$P_a = (A - 1.05B) \times Q \times F$$

If Base Price Index exceeds Monthly Price Index,

$$P_a = (0.95B - A) \times Q \times F)$$

Where:

P_a	=	Price adjustment
A	=	Monthly Price Index in dollars per gallon/liter.
B	=	Base Price Index in dollars per gallon/liter.
Q	=	Pay Item Quantity (Pay Units)
F	=	Fuel Usage Factor Gal(L)/Pay Unit

The following is a listing of contract pay items that are eligible for payment adjustment and the fuel usage factors that will be used in making such adjustment. Contract items that expand the items listed herein by use of letter designations are also eligible for fuel price adjustments; for example:

Item 601-01-G, Portland Cement Concrete Pavement 8 inches (200 mm) thick.

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ELIGIBLE CONTRACT PAY ITEMS & FUEL USAGE FACTORS FOR FUEL PAYMENT ADJUSTMENT

ITEM NO.	PAY ITEM	UNITS	MIN. ORIGINAL CONTRACT QUANTITY FOR PAY ADJUSTMENT	FUEL USAGE FACTORS	
				Diesel[2]	Gasoline
203-01[1]	General Excavation	gal/cu yd	10,000 cu yd	0.29	0.15
203-02	Drainage Excavation	gal/cu yd	10,000 cu yd	0.29	0.15
203-03	Muck Excavation	gal/cu yd	10,000 cu yd	0.29	0.15
203-04[1]	Embankment	gal/cu yd	10,000 cu yd	0.29	0.15
203-05	Nonplastic Embankment	gal/cu yd	10,000 cu yd	0.29	0.15
203-08	Borrow (Vehicular Measurement)	gal/cu yd	10,000 cu yd	0.29	0.15
301-01	Class I Base Course	gal/cu yd	3,000 cu yd	0.88	0.57
301-02	Class I Base Course (" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
302-01	Class II Base Course	gal/cu yd	3,000 cu yd	0.88	0.57
302-02	Class II Base Course (" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
303-01	In-Place Cement Stabilized Base Course	gal/sq yd	50,000 sq yd	0.04	0.03
304-02	Lime Treatment (Type B)	gal/sq yd	50,000 sq yd	0.04	0.03
304-03	Lime Treatment (Type C)	gal/sq yd	50,000 sq yd	0.04	0.03
304-04	Lime Treatment (Type D)	gal/sq yd	50,000 sq yd	0.04	0.03
305-01	Subgrade Layer (" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
308-01	In-Place Cement Treated Base Course	gal/sq yd	50,000 sq yd	0.04	0.03
401-01	Aggregate Surface Course (Net Section)	gal/cu yd	3,000 cu yd	0.88	0.57
401-02	Aggregate Surface Course (Adjusted Vehicular Measurement)	gal/cu yd	3,000 cu yd	0.88	0.57
501-01	Asphaltic Concrete	gal/ton	1,000 ton	2.40[3]	0.2
501-02	Asphaltic Concrete	gal/cu yd	500 cu yd	4.80[4]	0.4
501-03	Asphaltic Concrete (" Thick)	gal/sq yd	10,000 sq yd	0.13[5,6]	0.01[6]
502-01	Superpave Asphaltic Concrete	gal/ton	1000 ton	2.40[3]	0.2
502-02	Superpave Asphaltic Concrete	gal/cu yd	500 cu yd	4.80[4]	0.4
502-03	Superpave Asphaltic Concrete (" Thick)	gal/sq yd	10,000 sq yd	0.13[5,6]	0.01[6]
508-01	Asphaltic Concrete (SMA)	gal/ton	1000 ton	2.40[3]	0.2
601-01	Portland Cement Concrete Pavement (" Thick)	gal/sq yd	15,000 sq yd	0.11	0.15
724-02	Pavement Widening	gal/sq yd	3,000 sq yd	0.86	0.24

1 If project has both 203-01 & 203-04, only the item with larger quantity is eligible.
2 For fuel adjustment purposes, the term "diesel" shall represent No. 2 or No. 4 fuel oils or any of the liquified petroleum gases, such as propane or butane.
3 If natural gas or coal is used instead of diesel for aggregate drying and heating the fuel usage factor shall be 1.67 gal/ton.
4 If natural gas or coal is used instead of diesel for aggregate drying and heating the fuel usage factor shall be 13.34 gal/cu yd.
5 If natural gas or coal is used instead of diesel for aggregate drying and heating the fuel usage factor shall be 0.09 gal/sq yd.
6 Per inch of thickness.

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ELIGIBLE CONTRACT PAY ITEMS & FUEL USAGE FACTORS FOR FUEL PAYMENT ADJUSTMENT (METRIC)

ITEM NO.	PAY ITEM	UNITS	MIN. ORIGINAL CONTRACT QUANTITY FOR PAY ADJUSTMENT	FUEL USAGE FACTORS	
				Diesel[2]	Gasoline
203-01[1]	General Excavation	l/m^3	7,600 m^3	1.44	0.74
203-02	Drainage Excavation	l/m^3	7,600 m^3	1.44	0.74
203-03	Muck Excavation	l/m^3	7,600 m^3	1.44	0.74
203-04[1]	Embankment	l/m^3	7,600 m^3	1.44	0.74
203-05	Nonplastic Embankment	l/m^3	7,600 m^3	1.44	0.74
203-08	Borrow (Vehicular Measurement)	l/m^3	7,600 m^3	1.44	0.74
301-01	Class I Base Course	l/m^3	2,300 m^3	4.36	2.82
301-02	Class I Base Course (mm Thick)	l/m^2	41,800 m^2	0.18	0.14
302-01	Class II Base Course	l/m^3	2,300 m^3	4.36	2.82
302-02	Class II Base Course (mm Thick)	l/m^2	41,800 m^2	0.18	0.14
303-01	In-Place Cement Stabilized Base Course	l/m^2	41,800 m^2	0.18	0.14
304-02	Lime Treatment (Type B)	l/m^2	41,800 m^2	0.18	0.14
304-03	Lime Treatment (Type C)	l/m^2	41,800 m^2	0.18	0.14
304-04	Lime Treatment (Type D)	l/m^2	41,800 m^2	0.18	0.14
305-01	Subgrade Layer (mm Thick)	l/m^2	41,800 m^2	0.18	0.14
308-01	In-Place Cement Stabilized Base Course	l/m^2	41,800 m^2	0.18	0.14
401-01	Aggregate Surface Course (Net Section)	l/m^3	2,300 m^3	4.36	2.82
401-02	Aggregate Surface Course (Adjusted Vehicular Measurement)	l/m^3	2,300 m^3	4.36	2.82
501-01	Asphaltic Concrete	l/Mg	900 Mg	10.01[3]	0.83
501-02	Asphaltic Concrete	l/m^3	400 m^3	23.77[4]	1.98
501-03	Asphaltic Concrete (mm Thick)	l/m^2	8,400 m^2	0.59[5,6]	0.45[6]
502-01	Superpave Asphaltic Concrete	l/Mg	900 Mg	10.01[3]	0.83
502-02	Superpave Asphaltic Concrete	l/m^3	400 m^3	23.77[4]	1.98
502-03	Superpave Asphaltic Concrete (mm Thick)	l/m^2	8,400 m^2	0.59[5,6]	0.45[6]
508-01	Asphaltic Concrete (SMA)	l/Mg	900 Mg	10.01[3]	0.83
601-01	Portland Cement Concrete Pavement (mm Thick)	l/m^2	12,500 m^2	0.5	0.68
724-02	Pavement Widening	l/m^2	2,500 m^2	3.89	1.09

1 If project has both 203-01 & 203-04, only the item with larger quantity is eligible.
2 For fuel adjustment purposes, the term "diesel" shall represent No. 2 or No. 4 fuel oils or any of the liquified petroleum gases, such as propane or butane.
3 If natural gas or coal is used instead of diesel for aggregate drying and heating the fuel usage factor shall be 6.97 l/mg.
4 If natural gas or coal is used instead of diesel for aggregate drying and heating the fuel usage factor shall be 16.53 l/m^3.
5 If natural gas or coal is used instead of diesel for aggregate drying and heating the fuel usage factor shall be 0.41 l/m^2.
6 Per mm of thickness.

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SUPERPAVE ASPHALTIC CONCRETE MIXTURES (01/05): Section 502 of the 2000 Standard Specifications and the supplemental specifications thereto is amended as follows.

Subsection 502.01, Description.

The fourth paragraph is amended to include the following. A mixture of any design level, including Level A, may be used on the shoulders at the contractor's option.

Subsection 502.12, Quality Control and Acceptance.

The third and fourth paragraphs of Heading (b) are deleted and the following substituted.

Pavement density and surface tolerance requirements will not be applied for short irregular sections, such as drives, aprons and turnouts; however, hot mix shall be placed to provide a neat, uniform appearance and shall be compacted by satisfactory methods. Any mixtures used for shoulders, curbs, driveways, turnouts, crossovers, joint repair, leveling, guardrail widening, islands, bike paths, patching, widening, and miscellaneous handwork will be paid separately in 1000 ton sublots, or portions thereof, in accordance with Section 502.12(c) and Table 502-8.

The first paragraph of Heading (f)(2) is deleted and the following substituted.

Acceptance testing for pavement density will be conducted by the Department. Three pavement samples for each mix use shall be obtained from each sublot within 24 hours after placement. When this falls on a day the contractor is not working, sampling shall be done within 3 calendar days. Sampling shall be performed using the random number tables shown in DOTD S605. If there are different mix uses within the same sublot, i.e. shoulder and roadway, then an additional core may be taken to ensure that there is at least one core per mix use. The density requirement for each lot will be as shown in Table 502-3 determined in accordance with DOTD TR 304. Payment will be made in accordance with Table 502-6 using the total number of cores for the lot in accordance with Subsection 502.12(g). Payment for small quantity lots will be made in accordance with Table 502-8.

Subsection 502.13, Measurement.

The first sentence of the second paragraph of Heading (a) is deleted and the following substituted. Estimated quantities of asphaltic concrete shown on the plans are based on 110 lb/sq yd/inch (2.35 kg/sq m/mm) thickness.

ASPHALTIC CONCRETE EQUIPMENT AND PROCESSES (11/04): Section 503 of the 2000 standard specifications is amended as follows.

Subsection 503.02 Plant Equipment.

Heading (c) Anti-Strip Additive Equipment is amended to include the following. The anti-strip delivery system shall ensure that the proper amount of material is delivered continuously. This system may be a paddle-type no-flow indicator, which triggers a light or alarm in the control room and an alarm in the plant lab when the anti-strip material is not flowing. Other similar systems may be allowed with approval by the District Laboratory Engineer. In either system, if the anti-strip flow is not restored within 15 minutes, production shall be discontinued until the system is repaired.

CULVERTS AND STORM DRAINS (12/06): Section 701, Culverts and Storm Drains, of the 2000 Standard Specifications, and the supplemental specifications thereto, is deleted and the following substituted.

SECTION 701
CULVERTS AND STORM DRAINS

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701.01 DESCRIPTION. This work consists of furnishing, installing, and cleaning pipe, pipe arch, storm drains and sewers, also referred to as culverts or conduit, in accordance with these specifications and in conformity with lines and grades shown on the plans or established.

701.02 MATERIALS. Materials shall comply with the following sections and subsections:

Usable Soil	203.06(a)
Selected Soil	203.06(b)
Plastic Soil Blanket	203.10
Mortar	702.02
Flowable Fill	710
Portland Cement Concrete	901
Recycled Asphaltic Pavement (RAP)	1003.01
Stone	1003.03(d)
Recycled Portland Cement Concrete	1003.03(e)
Granular Material	1003.07
Bedding Material	1003.08
Concrete Sewer Pipe	1006.02
Reinforced Concrete Pipe	1006.03
Reinforced Concrete Pipe Arch	1006.04
Gasket Materials	1006.06
Plastic Pipe	1006.07
Split Plastic Coupling Bands	1006.07(d)(4)
Plastic Yard Drain Pipe	1006.09
Bituminous Coated Corrugated Steel Pipe and Pipe Arch	1007.02
Structural Plate for Pipe, Pipe Arch and Arch	1007.04
Corrugated Aluminum Pipe and Pipe Arch	1007.05
Coupling Bands	1007.09
Reinforcing Steel	1009
Geotextile Fabric	1019

(a) Side Drain Pipe or Side Drain Pipe Arch: When the item for Side Drain Pipe or Side Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, corrugated metal pipe or corrugated metal pipe arch, or plastic pipe, as allowed by EDSM II.2.1.1 or unless otherwise specified.

(b) Cross Drain Pipe or Cross Drain Pipe Arch: When the item for Cross Drain Pipe or Cross Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, corrugated metal pipe or corrugated metal pipe arch, or plastic pipe, as allowed by EDSM II.2.1.1 or unless otherwise specified.

(c) Storm Drain Pipe or Storm Drain Pipe Arch: When the item for Storm Drain Pipe or Storm Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, or plastic pipe, as allowed by EDSM II.2.1.1 or unless otherwise specified.

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(d) Yard Drain Pipe: When the item for Yard Drain Pipe is included in the contract, the contractor has the option of furnishing concrete sewer pipe, plastic yard drain pipe or plastic pipe in accordance with Section 1006 unless otherwise specified.

(e) Material Type Abbreviations:

(1) Reinforced Concrete Pipe:

RCP	Reinforced Concrete Pipe
RCPA	Reinforced Concrete Pipe Arch

(2) Corrugated Metal Pipe:

CAP	Corrugated Aluminum Pipe
CAPA	Corrugated Aluminum Pipe Arch
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
CSPA	Corrugated Steel Pipe Arch
BCCSP	Bituminous Coated Corrugated Steel Pipe
BCCSPA	Bituminous Coated Corrugated Steel Pipe Arch

(3) Plastic Pipe:

PP	Plastic Pipe
PVCP	Polyvinyl Chloride Pipe
RPVCP	Ribbed Polyvinyl Chloride Pipe
CPEPDW	Corrugated Polyethylene Pipe Double Wall

(f) Joint Type Abbreviations:

T1	Type 1 Joint
T2	Type 2 Joint
T3	Type 3 Joint

(g) Quality Assurance for Pipe: Manufacturing plants will be periodically inspected for compliance with specified manufacturing methods, and material samples will be randomly obtained for laboratory testing for verification of manufacturing lots. Materials approved at the manufacturing plant will be subject to visual acceptance inspections at the jobsite or point of delivery.

701.03 EXCAVATION. For all pipe, when the sides of the trench are stable as evidenced by the sides of the trench being able to maintain a vertical cut face, the minimum trench width at the bottom of the excavation will be 18 inches (460mm) on either side of the outside diameter of the pipe. If the sides of the trench are unstable, the width of the trench at the bottom of the excavation, for plastic or metal pipe, shall be a minimum width of at least 18 inches (460mm) or one pipe diameter on each side of the outside diameter of the pipe, which ever is greater. Surplus material or excavated material that does not conform to the requirements of Subsection 203.06(a) shall be satisfactorily disposed of in accordance with Subsection 202.02. Moisture controls including backfill materials selection and dewatering using sumps, wells, well points or other approved processes may be necessary to control excess moisture during excavation, installation of bedding, over-excavated trench backfilling, pipe placement and pipe backfill.

(a) Over-excavation: When unsuitable soils as defined in Subsection 203.04 or a stable, non-yielding foundation cannot be obtained at the established pipe grade, or at the grade established for placement of the bedding, unstable or unsuitable soils below this grade shall be removed and replaced with granular material meeting the requirements of Subsection 1003.07, bedding materials meeting the requirements of Subsection 1003.08 or Type A backfill. All

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granular, backfill materials placed below the established pipe or bedding grade shall be placed in lifts not exceeding 8 inches (200 mm) thick and sufficiently compacted by hand or a dynamic mechanical hand compaction device over the surface of each lift to form a stable, non-yielding foundation at the surface of the established bedding or pipe grade.

When rock is encountered, it shall be removed below grade and replaced with material complying with Subsection 1003.07, bedding materials meeting the requirements of Subsection 1003.08 or Type A backfill. The compacted earth cushion shall have a thickness under the pipe of at least 1/2 inch per foot (40 mm/m) of fill height over the top of the pipe with a minimum thickness of 8 inches (200 mm). All granular, backfill materials placed below the established pipe or bedding grade shall be placed in lifts not exceeding 8 inches (200 mm) thick and sufficiently compacted by hand or a dynamic mechanical hand operated compaction device over the surface of each lift to form a stable, non-yielding foundation at the surface of the established bedding or pipe grade.

Materials used to backfill in an over-excavated portion of a trench do not require encasement in a Geotextile Fabric.

Density of approved materials placed in over-excavated trenches will not be measured or determined.

701.04 FORMING PIPE BED. Bedding material, when specified, shall be constructed in accordance with Section 726. Materials allowed for bedding shall be as specified in Section 1003.08 or may be Type A backfill materials. When bedding materials are specified, additional excavation shall be performed below established pipe grade and the bedding material placed in lifts not exceeding 8 inches (200 mm) thick and lightly compacted by hand or a dynamic hand compaction device over the surface of each lift.

When the bottom of the pipe is not laid in a trench but is constructed above natural soils, a uniform bed shall be constructed as specified for the bottom of a trench.

Density of approved bedding materials will not be measured or determined.

701.05 LAYING PIPE. Pipe laying shall begin at the downstream end of the line. The pipe shall be in contact with the foundation throughout its length. Bell or groove ends of pipe and outside circumferential laps of riveted metal pipe shall be placed facing upstream. Riveted seam metal pipe shall be placed with longitudinal laps at sides. Pipes in each continuous line shall have the same wall thickness. Metal pipes provided with lifting lugs shall be handled only by these lugs.

After pipe has been laid and before backfill is placed, the engineer will inspect the pipe for alignment, grade, integrity of joints, and coating damage.

701.06 JOINING PIPE.

(a) Joint Usage:

(1) Type 1 (T1) joints shall be used for side drains under drives and similar installations.

(2) Type 2 (T2) joints shall be used for cross drains under roadways, including turnouts.

(3) Type 3 (T3) joints shall be used for closed storm drain systems, flumes and siphons.

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(b) Concrete Pipe: Concrete pipe may be either bell and spigot, or tongue and groove. The method of joining pipe sections shall be such that ends are fully entered and inner surfaces are flush and even.

An approved mechanical pipe puller shall be used for joining pipes over 36 inches (900 mm) in diameter. For pipe 36 inches (900 mm) or less in diameter, any approved method for joining pipe may be used which does not damage the pipe.

Joints shall comply with Subsection 1006.05, and shall be sealed with gasket material installed in accordance with the manufacturer's recommendations.

(c) Metal Pipe: Metal pipe shall be firmly joined by coupling bands. Bands shall be centered over the joint.

For Type 1 joints, approved gasket material shall be placed in one corrugation recess on each side of the joint at the coupling band and on each band connection in such manner to prevent leakage.

When Type 2 or 3 joints are specified, joining of metal pipe sections shall conform to the following provisions:

(1) General: Band joints shall be sealed with gasket material. Gasket material shall be placed in accordance with the plan details.

(2) Circular Section: Connecting bands shall be of an approved design and shall be installed in accordance with plan details.

(3) Arch Section: Connecting bands shall be a minimum of 12 inches (300 mm) wide for pipe arch less than 36 inches (900 mm) round equivalent diameter, and a minimum of 21 inches (525 mm) wide for 36 inches (900 mm) round equivalent diameter pipe arch and greater. Bands shall be connected at the ends by approved angle or strap connections. Connecting bands used for 36 inches (900 mm) round equivalent diameter pipe arch and above shall be 2-piece bands.

(d) Plastic Pipe: Joints for plastic pipe shall be either bell and spigot or split coupling bands.

(1) Bell and Spigot Type Joint System: The method of joining pipe sections shall be such that ends are fully entered and inner surfaces are flush and even.

Any approved method for joining pipe may be used which does not damage the pipe.

Joints shall be approved and shall be sealed with a gasket system utilizing gasket material complying with Subsection 1006.06(a).

(2) Split Coupling Type Joint System: Split coupling bands shall comply with all dimensional and material requirements of Subsection 1006.07. The bands shall be centered over the joint. The split coupling band shall be secured to the pipe with a minimum of five stainless steel or other approved corrosion resistant bands.

Joints shall be approved and shall be sealed with gasket material. Gasket material shall be placed in the first two corrugation recesses on each side of the pipe connections. Gasket material shall also be placed on each band connection to prevent leakage. When flexible plastic gasket material is used it shall be a minimum of 1/2 inch (13 mm) in size. The bands shall be tightened to create overlap of the band and shall adequately compress the gasket material.

(e) Connections: Approved connections shall be used when joining new pipes to existing pipes. When concrete collars are required in order to extend the ends of existing pipes that have been damaged or to join different types or sizes of pipes, the concrete collars shall be constructed in accordance with plan details, the applicable requirements of Section 901, and as directed.

(f) Geotextile Fabric, Pipe Joints: For concrete, metal and plastic pipes, Types 2 and 3 joints shall be wrapped with geotextile fabric for a minimum of 12 inches (300 mm) on each side

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of joint for pipe 36 inches (900 mm) or less in diameter and a minimum of 18 inches (450 mm) on each side of the joint for pipe greater than 36 inches (900 mm) in diameter. Ends of the fabric shall be lapped at least 10 inches (250 mm). The edges and ends of fabric shall be suitably secured for the entire circumference of the pipe.

701.07 RELAYING PIPE. If specified or directed, existing pipes shall be removed and suitable sections relaid as specified for new pipes.

701.08 BACKFILLING.

(a) General: Prior to backfilling, pipes found to be damaged or out of alignment or grade shall be removed and reinstalled, or replaced.

Type A backfill material shall be stone, recycled portland cement concrete, flowable fill, or RAP.

Type B backfill materials are selected soils. Where Type B backfill materials are called for, Type A backfill materials may be substituted.

When corrugated metal pipe is used, the backfill material shall be tested and shall have a resistivity greater than 1500 ohm-cm and a pH greater than 5 when tested in accordance with DOTD TR 429 and DOTD TR 430 respectively.

When Type A backfill material is used, geotextile fabric surrounding this backfill shall be placed in accordance with Subsection 726.03 between the aggregate backfill material and all other natural or placed soils in the trench or embankment. Care shall be taken to prevent damage to geotextile fabric during placement of backfill material. For concrete pipe, the fabric shall enclose not only the initial backfill but shall be wrapped over the top of the pipe with at least 12 inches (300 mm) of overlap.

When a trench box or trench sheeting is used in unstable soils and/or for worker safety, and when moved during backfilling operations, filling and additional compaction of the disturbed zone of backfill must take place immediately and in a manner acceptable to the engineer.

Initial backfill is a structural backfill encasing the pipe from the bottom of the pipe to the springline for concrete pipe and to a point one foot (0.3 m) above the top of the pipe for both metal and plastic pipe. Final backfill is not a structural backfill and shall extend from the top of the initial backfill to the top of the natural ground or subgrade in cut areas or to the top of existing ground in fill areas. Any fill required above the final backfill is considered and treated as embankment.

(b) Backfill Applications:

(1) Under Concrete Pavements: Type B backfill may be used as initial and final backfill for all pipes, culverts or drains under concrete pavements. Placement and compaction shall be as specified in Heading (d) below.

(2) Cross Drains Under Flexible Pavements: All reaches, exclusive of those portions of the pipe which are under shoulders, of cross drains and all other culverts, pipes or drains that cross the centerlines of the new roadway or centerlines of existing roadways, such as intersections and are under flexible pavements shall receive an initial backfill of Type A material. Type B backfill materials may be used as final backfill for all pipes. Placement and compaction shall be as specified in Heading (c) and (d) below. Where the subgrade is above existing ground, embankment material as specified for the remainder of the project shall be used from the top of the final backfill to the top of the established embankment grade.

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(3) Other Drains Under Flexible Pavements: All reaches of all culverts, pipes or drains under flexible pavements that do not cross the centerlines of new roadway or centerlines of existing roadways, and exclusive of those portions of the pipe which are totally under shoulders, shall receive an initial and final backfill of Type B material. Placement and compaction shall be as specified in Heading (d) below. Where the subgrade is above existing ground, embankment material as specified for the remainder of the project shall be used from the top of the final backfill to the top of the established embankment grade.

(4) Other Areas: All culverts, pipes or drains in nonpaved areas or paved areas that serve as driveways or shoulders shall receive an initial and final backfill of Type B material. Placement and compaction shall be as specified in Heading (d) below.

(5) Pipes Subject to Construction Traffic; The embankment or pipe backfill shall be constructed to a minimum of 24 inches (600 mm) over the pipe before heavy construction equipment is allowed to cross the installation. Where practical, installations with less than 24 inches (600 mm) of cover over the top of the pipe shall be constructed after heavy hauling is completed over the pipe location. After completion of hauling operations, the contractor shall remove excess cover material. Pipe damaged by hauling and backfilling operations shall be removed and reinstalled, or replaced, at no direct pay.

(c) Placement and Compaction; Type A Backfill: For all pipes, culverts and conduits under paved and nonpaved areas, where Type A backfill material is used, the Type A backfill shall be thoroughly hand compacted under the pipe haunches and then dynamically compacted in layers not exceeding 8 inches (200 mm) compacted thickness. Compaction under the haunches of the pipe shall initially be by hand tamping or other acceptable means, until a level is reached that the dynamic tamping can commence. Each lift shall be compacted by applying at least eight passes of a hand operated, dynamic mechanical compaction device over the surface of each lift. With approval of the engineer, layer thickness may be increased to 12 inches (300 mm) with verification of satisfactory installation and performance. If flowable fill is used it shall be furnished, placed and consolidated in accordance with Section 710. The contractor shall control placement operations during initial backfill operations so as not to damage protective coatings on metal pipes. The contractor shall repair damaged coatings at no additional pay.

(d) Placement and Compaction; Type B Backfill: For all pipes, culverts and conduits, where Type B backfill is allowed, the Type B material shall be placed in layers not exceeding 8 inches (200 mm) compacted thickness. Compaction shall be with suitable mechanical equipment. With approval of the engineer, layer thickness may be increased to 12 inches (300 mm) with verification of satisfactory installation and performance.

(e) Placement and Compaction; Trenchless or Partial Trench Condition: All pipes, culverts, drains and conduits placed with any portion of the pipe above existing ground must also comply with Subsections (a),(b) (c) and (d) above for the portion of the pipe within a trench and that portion of the pipe not constructed in a trench. The width of initial and final backfill of that portion above existing ground and not within a trench will be constructed to such a width that the requirements for placement, compaction and density are met.

(f) Density Requirements: The in place density of Type A backfill materials and bedding materials, will not be measured or determined. Type A backfill, exclusive of RAP and flowable fill, shall be placed at or near optimum moisture content determined in accordance with DOTD TR 415 or 418. RAP materials shall be placed and compacted in a slightly moist condition.

The maximum dry density of initial or final Type B backfill under all paved areas which are to be under traffic will be determined in accordance with DOTD TR 415 or TR 418 and in-place density determined in accordance with DOTD TR 401. Initial and final Type B backfill

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under all paved areas, under traffic, shall be placed at or near optimum moisture content determined in accordance with DOTD TR 415 or TR 418. Each layer shall be compacted by approved methods prior to the placement of a subsequent layer. The engineer will approve the compaction method based upon validation that such method, including moisture control, will achieve at least 95 percent of maximum dry density as determined in accordance with DOTD TR 401. With approval of the engineer, density testing may be waived on subsequent layers with backfill installation in accordance with approved compaction methods and continued satisfactory performance.

Initial and final backfill in unpaved areas or paved areas such as shoulders or driveways, shall be placed evenly and compacted along the length of the culvert, pipe or drain from the top of the initial backfill to the top of the subgrade. Layered backfill shall be compacted at least to the density of the adjoining existing soils or the compaction required of the laterally adjoining layers of soil immediately outside the trench for embankment elevations. Initial and final backfill shall be placed and compacted at or near optimum moisture content determined in accordance with DOTD TR 415 or TR 418.

701.09 INSPECTION OF PIPES. After completion of embankment and prior to roadway surfacing, the engineer shall inspect pipes for proper alignment and integrity of joints. Any misaligned pipe or defective joints shall be corrected by the contractor at no direct pay.

(a) Plastic Pipe: Installed plastic pipe shall be tested to ensure that vertical deflections do not exceed 5.0 percent. Maximum allowable deflections shall be governed by the mandrel requirements stated herein.

Deflection tests shall be performed no sooner than 30 calendar days after installation and compaction of backfill. The pipe shall be cleaned and inspected for offsets and obstructions prior to testing.

For pipe 36 inches (900 mm) and less in diameter, a mandrel shall be pulled through the pipe by hand to ensure that maximum allowable deflections have not been exceeded. The mandrel shall be approved by the engineer prior to use. Use of an unapproved mandrel or a mandrel altered or modified after approval will invalidate the test. If the mandrel fails to pass, the pipe is overdeflected.

Unless otherwise permitted, overdeflected pipe shall be uncovered and, if not damaged, reinstalled. Damaged pipe shall not be reinstalled, but shall be removed and replaced with new pipe. Any pipe subjected to any method or process other than removal, which attempts, even successfully, to reduce or cure any overdeflection, shall be removed and replaced with new pipe.

The mandrel shall be a rigid, nonadjustable, odd-numbered legged (minimum 9 legs) mandrel having a length not less than its nominal diameter or 24 inches (600 mm), whichever is less. The minimum diameter at any point shall be 5.0 percent less than the base inside diameter of the pipe being tested. The mandrel shall be fabricated of steel, aluminum or other approved material fitted with pulling rings at each end. The nominal pipe size and outside diameter of the mandrel shall be stamped or engraved on some segment other than a runner. A suitable carrying case shall be furnished.

For pipe larger than 36 inches (900 mm) in diameter, deflection shall be determined by a method approved by the engineer. If a mandrel is selected, the minimum diameter, length, and other requirements shall conform to the above requirements.

Mandrel testing shall be conducted by the contractor in the presence of the engineer. Mandrel testing shall be at no direct pay.

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(b) Metal Pipe: If the inside diameter of metal pipe or rise dimension of metal pipe arch deflects more than 5.0 percent from original dimensions, they shall be removed and reinstalled, unless they do not rebound or are damaged. Pipe or pipe arch which are damaged or do not rebound shall be removed and replaced at no direct pay. Measurement of deflection will be made by the engineer away from rerolled ends.

701.10 CLEANING PIPES.

(a) Existing Pipes: Pipes designated to be cleaned shall be cleaned of soil, debris and other materials to the invert of the pipe. Designated pipes shall be cleaned by approved methods that will not damage the pipes. Any damage caused by the contractor's operations shall be satisfactorily repaired at no direct pay.

Removed soil, debris and other materials shall be disposed of in accordance with Subsection 202.02 or as otherwise approved in writing.

(b) Contractor Installed Pipes: Prior to final acceptance, pipes shall be cleaned of all debris and soil to the invert of the pipe at no direct pay.

Removed soil, debris and other materials shall be disposed of in accordance with Subsection 202.02 or as otherwise approved in writing.

701.11 STUBBING AND PLUGGING PIPES. When it is required that pipes be plugged, such plugs shall be constructed of Class R concrete complying with Section 901. Thickness of plug and method of construction shall be as directed.

When new pipes are to be stubbed into new or existing pipes or other structures, the connection shall be made with approved mortar complying with Subsection 702.02.

701.12 MEASUREMENT. Pipe, both new and relaid, will be measured in linear feet (lin m) as follows unless stated otherwise.

(a) Pipe not confined by fixed structures will be measured by the number of joints at the nominal length of each joint.

(b) Pipe confined by fixed structures will be measured along the pipe between the termini of pipe in structure walls.

(c) Pipe confined by a fixed structure on one end and unconfined at the other end will be measured along the pipe from the terminus of pipe in the structure wall to the unconfined end of pipe.

(d) Fabricating of pipe tees, elbows and other fittings will be measured per each fitting. The length of pipe in such fittings will be included in the pay length measurement of pipes of which they form a part.

(e) Excavation required for installation of pipes will not be measured for payment, except as otherwise specified in Subsection 203.14.

(f) Furnishing and placing backfill material below existing ground level for pipes will not be measured for payment. Backfill material needed to complete backfill above natural ground and around pipes that extend above natural ground will be measured and payment will be made under applicable earthwork items. When specified, flowable fill will be measured and paid for in accordance with Section 710.

(g) Plugging and stubbing of pipes will not be measured for payment.

(h) Cleaning existing pipes will be measured by the length of pipe cleaned and accepted.

(i) Concrete collars will be measured per each.

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701.13 PAYMENT.

(a) Payment for pipe will be made at the contract unit price per linear foot (lin m) of the types and sizes specified.

When plastic pipe is specified on the plans or elected to be used by the contractor, payment will be made at the contract unit price per linear foot (lin m) of the types and sizes specified in accordance with the payment schedule of Table 701-1.

Table 701-1
Payment Schedule for Plastic Pipe

Percent Payment	Stage of Completeness
75	After placement and backfill has been completed
25	After the pipe has met vertical deflection requirements in accordance with Subsection 701.09(a)

(b) Payment for fabricating pipe tees, elbows and other fittings will be made at the contract unit price per each fitting.

(c) When unstable conditions are encountered, the additional excavation will not be measured for payment; however, the additional materials furnished and placed for the pipe foundation will be measured and paid for as follows:

(1) Granular Materials: Payment will be made under the embankment item. The net section volume of the materials will be multiplied by 3 to determine the pay volume. When the contract does not include a pay item for embankment, payment will be made in accordance with Subsection 104.02.

(2) Bedding Material: Measurement and payment will be made in accordance with Section 726. When the contract does not include a pay item for bedding material, payment will be made in accordance with Subsection 104.02.

(d) Payment for cleaning existing pipes will be made at the contract unit price per linear foot (lin m).

(e) Payment for concrete collars will be made at the contract unit price per each.

Payment will be made under:

Item No.	Pay Item	Pay Unit
701-01	Cross Drain Pipe (Size & Type)	Linear Foot (Lin m)
701-02	Cross Drain Pipe Arch (Size & Type)	Linear Foot (Lin m)
701-03	Storm Drain Pipe (Size & Type)	Linear Foot (Lin m)
701-04	Storm Drain Pipe Arch (Size & Type)	Linear Foot (Lin m)
701-05	Side Drain Pipe (Size)	Linear Foot (Lin m)
701-06	Side Drain Pipe Arch (Size)	Linear Foot (Lin m)
701-07	Yard Drain Pipe (Size)	Linear Foot (Lin m)
701-08	Relaying Pipe	Linear Foot (Lin m)
701-09	Fabricating Pipe Fittings	Each

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701-10	Reinforced Concrete Pipe (Extension)	Linear Foot (Lin m)
701-11	Reinforced Concrete Pipe Arch (Extension)	Linear Foot (Lin m)
701-12	Corrugated Metal Pipe (Extension)	Linear Foot (Lin m)
701-13	Corrugated Metal Pipe Arch (Extension)	Linear Foot (Lin m)
701-14	Cleaning Existing Pipes	Linear Foot (Lin m)
701-15	Concrete Collar	Each
701-16	Plastic Pipe (Extension)	Linear Foot (Lin m)

TEMPORARY SIGNS, BARRICADES, BARRIERS AND PAVEMENT MARKINGS (01/06): Section 713 of the 2000 Standard Specifications and the Supplemental Specifications is amended as follows:

Subsection 713.02, Materials is amended as follows. Heading (b)(1) is deleted and the following substituted.

(1) Temporary Signs and Barricades: On the mainline of freeways and expressways, the initial sequence of advanced warning construction signs shall be fabricated using ASTM D 4956 Type X fluorescent orange reflective sheeting. Reflective sheeting for all other temporary signs and barricades shall comply with the requirements of ASTM D 4956, Type III.

Subsection 713.07 Measurement is renumbered to 713.08.

Subsection 713.07 is added as follows.

713.07 Portable Work Zone Traffic Control Devices. All Category I, II, and III portable work zone traffic control devices, as described below, shall be crashworthy as determined by evaluations through the National Cooperative Highway Research Program (NCHRP) 350 for Test Level 3 (TL-3).

(1) Category I devices are low-mass, single-piece traffic cones, tubular markers, single-piece drums and flexible delineators and are, by definition, considered crashworthy devices meeting NCHRP Report 350 TL-3 criteria. Drum and light combinations with Type A or C warning lights and fastener hardware consisting of vandal resistant 1/2 inch (13 mm) diameter cadmium plated steel bolts and nuts used with 1 1/2 inch (38 mm) diameter by 3/4 inch (19 mm) cup washers are included as Category I devices. In lieu of testing for crashworthiness, acceptance of Category I devices for compliance with NCHRP 350 will be allowed based on self-certification by the supplier. The supplier shall certify that the product is crashworthy in accordance with the evaluation criteria of NCHRP 350. This certification may be a one-page affidavit signed by the supplier, with supporting documentation kept on file to be furnished if requested.

(2) Category II devices include other low mass traffic control devices such as portable barricades either with or without lights and or signs, portable sign stands, portable vertical panel assemblies, and drums with lights not meeting the drum and light combination requirements for Category I. Individual crash testing is required for Category II devices. FHWA letters of approval shall serve as verification that these devices comply with the crash testing requirements of NCHRP Report 350 TL-3. The contractor shall provide the engineer a listing of all the Category II devices to be used on the project prior to installation including a reference to the FHWA Work Zone letter number for each device. The contractor shall also certify that each device has been crash tested and meets the NCHRP 350 requirements.

(3) Category III devices include massive devices such as concrete barriers, water filled barriers and portable attenuators. Individual crash testing is required for Category III devices. FHWA letters of approval shall serve as verification that these devices comply with the crash

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testing requirements of NCHRP Report 350 TL-3. The contractor shall provide the engineer a listing of all the Category III devices to be used on the project prior to installation including a reference to the FHWA Work Zone letter number for each device. The contractor shall also certify that each device has been crash tested and meets the NCHRP 350 requirements.

Subsection 713.08 Payment is renumbered to 713.09, and amended as follows.

Table 713-2 Payment Schedule is deleted and the following substituted.

Table 713-2
Payment Schedule
Temporary Signs, Barricades and Related Devices

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Temporary Signs and Barricades
Initial Erection	20
25	40
50	60
75	80
100	100

The third sentence of the second paragraph is deleted and the following substituted. The concrete in temporary precast barriers furnished by the contractor will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-3 and Note 1 therein.

A pay item is added as follows.

Pay Item	
713-10	Temporary Portable Barrier (Type), Each

PORTLAND CEMENT CONCRETE (06/20/06): Section 901 of the 2000 Standard Specifications and the supplemental specifications thereto is amended as follows.

Subsection 901.06 is amended as follows.

Heading (b) is deleted and the following substituted.

(b) Quality Control Tests: The contractor shall be responsible for determining gradation and moisture content of fine and coarse aggregates used in the concrete mixture and for testing the mixture at the job site for slump, unit weight (mass), temperature, and air content (when used). The contractor shall conduct operations to produce a mix complying with the reviewed and accepted mix design, except that variations will be permitted within specified control limits for individual samples. The contractor shall be responsible for monitoring the components (cement, mineral and chemical admixtures, aggregates) in their mix to protect against any changes due to component variations. As component shipments arrive, the contractor shall verify slump, air content and set time by testing at ambient temperatures. The contractor shall make adjustments to the mix design to rectify any changes which would adversely affect constructability, concrete placement or the specifications. The contractor shall submit test results to the Department for review each day of paving. Testing to validate component consistency will be documented on the control logs. Conformance or variation in mix parameters (workability, set times, air content, etc.) shall be noted on the control logs. The contractor shall provide a copy of the proposed testing plan to the engineer for record. Acceptance of the plan does not relieve the contractor's responsibility for consistency. Test

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results for gradation, slump, unit weight (mass), and air content shall be plotted on control charts for individual samples. These control charts shall be submitted to the engineer.

Times at which to obtain control test samples shall be set by the contractor using random number tables in accordance with DOTD S 605 or by random selection. Gradation control limits of aggregates shall be as shown in Subsection 1003.02. When required, additional test samples shall be taken as directed for slump, concrete temperature, and air content.

The minimum number of quality control tests to be performed by the contractor for structural and pavement concrete shall be in accordance with the Materials Sampling Manual.

For minor structure concrete only, the contractor will not be required to have a Certified Concrete Technician or Authorized Concrete Field Tester, but shall implement a quality control testing program to ensure that the concrete meets the requirements of these specifications.

When producing concrete for Type B and D pavements, gradations shall be determined daily on each stockpile of aggregate to be used. All gradation calculations shall be based on percent of dry weight (mass). Upon determination of the gradation of each stockpile, the percent of the total aggregates retained shall be determined mathematically based on the proportions of the combined aggregate blend, and checked for conformance with Table 1003-1A.

Subsection 901.08 is amended as follows.

The second paragraph of Heading (a) is deleted and the following substituted.

For concrete placements having a least dimension of 48 inches (1200 mm) or greater, or if designated on the plans or the project specifications as being mass concrete, the allowable cement type shall be Type II portland cement, Type IP portland-pozzolan cement, or Type IS portland blast furnace slag cement. The cement or combination of cement and fly ash or ground granulated blast furnace slag, shall be certified to generate a heat of hydration of not more than 70 calories/gram (290 kJ/kg) at 7 days.

Table 901-02, Master Proportion Table for Portland Cement Concrete, is deleted and the following substituted.

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Table 901-2
Master Proportion Table for Portland Cement Concrete

	Average Compressive Strength, psi (MPa) at 28 days	Grade of Coarse Aggregate	Min. Cement, lb/yd^3 (kg/m^3) of Concrete [9]	Maximum Water/Cement ratio, lb/lb(kg/kg) [1,9]	Total Air Content (Percent by volume) [4]	Slump Range [10], inches (mm)		
						Non-Vibrated	Vibrated	Slip Form Paving [2]
Structural Class [11]								
AA(M)	4400 (30.4)	A, P	560 (332)	0.44	5±1	2-5 (50-125)	2-4 (50-100)	N.A.
AA	4200 (29.0)	A, P	560 (332)	0.44	5±1	2-5 (50-125)	2-4 (50-100)	N.A.
A(M)	4400 (30.4)	A, P	510 (302)	0.53	5±2	2-5 (50-125)	2-4 (50-100)	N.A.
A	3800 (26.2)	A, F [8], P	510 (302)	0.53	5±2	2-5 (50-125)	2-4 (50-100)	1-2.5 (25-65)
D	3300 (22.8)	A, B, D, P	420 (249)	0.58	5±2	2-5 (50-125)	1-3 (25-75)	N.A.
F	3400 (23.5)[5]	A,P	460 (273)	0.44	5±1	2-5 (50-125)	2-4 (50-100)	N.A.
P(X)	7500 (51.7)[5]	A, F [8], P	700 (415)	0.40	5±2	N.A.	2-10 (50-250)	N.A.
P(M)	6000 (41.4)[5]	A, F [8], P	600 (356)	0.44	5±2	N.A.	2-6 (50-150)[7]	N.A.
P	5000 (34.5)[5]	A, F [8], P	560 (332)	0.44	5±2	N.A.	2-6 (50-150)[7]	N.A.
S	3800 (26.2)	A,P	650 (385)	0.53	5±2	6-8 (150-200)	N.A.	N.A.
Minor Structure Class [11]								
M	3000 (20.7)	A, B, P	470 (279)	0.56	5±2	2-5 (50-125)	2-4 (50-100)	1-2.5 (25-65)
R	1800 (12.4)	A, B, D, P	370 (219)	0.70	5±2	2-5 (50-125)	2-4 (50-100)	N.A.
Y	3000 (20.7)	Y	560 (332)	-[3]	6-9	N.A.	1-3 (25-75)	N.A.
Pavement Type [11]								
B	4000 (27.6)[6]	N/A [13]	475 (282)	0.53	5±2	N.A.	2-4 (50-100)	1-2.5 (25-65)
D	4000 (27.6)[6]	N/A [13]	450 (267)	0.53	5±2	N.A.	2-4 (50-100)	1-2.5 (25-65)
E	4000 (27.6)[6]	A, F[12], P	600 (356)	0.40	5±2	N.A.	2-4 (50-100)	1-2.5 (25-65)

N.A. – Not Applicable

[1] Except for Class AA, AA(M), or F concrete, the maximum volume of water; gal. (L), shall be reduced 5 percent when a water-reducing admixture is used, and 10 percent when an air-entraining admixture, or air-entraining and water-reducing admixtures, is used. When the coarse aggregate portion of the mix is 100 percent crushed aggregate, the water may be increased by 5 percent provided the maximum water listed in Table 901-2 is not exceeded.

[2] Also slump range for other concrete placed by extrusion methods.

[3] Refer to Subsection 901.08(c).

[4] Total air content ranges when air-entrainment is allowed or specified. Air content shall be designed at midrange.

[5] Values shown represent the minimum compressive strengths allowed.

[6] Average compressive strengths for Pavement Type concrete shall be 3600 psi (24.8 MPa) when air-entrainment is used.

[7] No more than a 2 inch (50 mm) slump differential for any design pour.

[8] Grade F coarse aggregate shall be used only when specified or permitted. The minimum cement content shall be increased when this aggregate is used.

[9] For mixes including partial replacement of cement with fly ash or ground granulated blast furnace slag, the minimum cement and maximum water contents shown apply to the total cement and fly ash or ground granulated blast furnace slag content of the mix. Additional cement may be required to achieve minimum compressive strength.

[10] When a slump range is specified in other sections, that range shall govern.

[11] See Subsection 901.08(a) for allowable types of cement.

[12] For use in partial depth patching.

[13] Aggregate grading shall comply with the requirements of Subsection 1003.02(c).

COOPERATION WITH UTILITIES (06/04): Subsection 105.06 of the Standard Specifications is amended to include the following.

Utility facilities will be removed, relocated, adjusted or abandoned in accordance with agreements between the Department and utility owners listed below. Starting dates for such work will be determined by the engineer and may be different for each utility and may not be underway concurrently with the contractor's work or with other utility relocations. Utility relocations can be within the construction limits covered by this contract. The furnishing of the following estimated completion times for utility work is for information purposes only and will not relieve the contractor of any requirements of this subsection nor will it preclude the granting of contract time credits in accordance with the provisions of this subsection. A utility company working day shall be the same as defined in Subsection 101.03 of the standard specifications.

UTILITY OWNER	Estimated Working Days After Right-Of-Way Is Clear
Entergy, Inc. Attention: Mr. Roland Lafont, Jr. Post Office Box 6036 Houma, Louisiana 70361	90

ITEM S-001, SAW CUT EXISTING CONCRETE: This item consists of sawing existing concrete driveways and roadway pavement at locations shown on the plans or as directed by the Engineer.

Existing pavement designated to be removed shall be sawed true and straight to a minimum depth of 1". Pavement shall then be removed by conventional methods. Any damage by contractor to adjacent pavement designated to remain shall be removed and replaced at no additional cost to the Department.

Measurement of sawing existing concrete pavement will be made by the linear foot per inch depth. Any additional depth of saw cutting directed by engineer will be paid inch depth per linear foot of cut.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-001	Saw Cut Existing Concrete	Per inch/ft.

ITEM S-002, ADJUSTING WATERLINES: This item consists of adjusting water lines in accordance with plan details and the following:

Alignment and elevations of adjusted water lines shall be as directed. The contractor shall conduct operations in such manner as to cause the least possible interruption to water service.

The contractor shall furnish any new pipe, fittings and other materials required in adjusting water lines. The contractor shall replace, at no direct pay, pipe, fittings and other materials in existing installations which are damaged due to the contractor's operations. Pipe, fittings and other material furnished by the contractor shall be as specified on plans or at least equal in quality to those of the existing installation and of an acceptable type.

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Adjusting water lines will be measured by the lump sum per adjustment.

Payment for adjusted water lines will be made at the contract price per each, which includes furnishing material as provided herein, and excavation and backfilling.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-002	Adjusting Waterlines	Per Each

ITEM S-003, INSTALL 8" P.E. SEWER FORCE MAIN: This item consists of force main specials and installation of force main in accordance with plan details and the following:

1.0 GENERAL:

1.1 High density, high molecular weight polyethylene pipe shall be used for force main unless otherwise stated on the drawings.

1.2 Cost of adapters shall be included in the price of the force main and will not be paid for as a separate item.

1.3 The CONTRACTOR shall at all times handle, transport and install all material with the degree of care required to assure that these materials are in first class condition when installed. All material found defective shall be immediately removed from the work.

2.0 MATERIALS:

2.1 Polyethylene Pipe And Fittings

2.1.1 The pipe under this specification shall be high performance, high molecular weight, high density polyethylene pipe and shall conform to ASTM D1248 (Type III, Class C, Category 5, P34). Minimum cell classification values shall be 345434C as referenced in ASTM D3350 - 1981A. The fittings supplied under this specification shall be molded or fabricated from a polyethylene compound having a cell classification equal to or exceeding the compound used in the pipe or shall be manufactured using a polyethylene compound having a cell classification equal to or exceeding the cell classification of the pipe supplied under this specification. To insure compatibility of polyethylene resins, all fittings supplied under this specification shall be of the same manufacture as the pipe being supplied. Where polyethylene pipe is connected to ductile iron, joints shall have flanged ends.

2.1.2 All polyethylene fittings shall be pressure rated at the same pressure SDR design pressure of the pipe.

2.1.3 **Physical Properties of Pipe Compounds**

a. Density - The density shall be no less than 0.941 - 0.957 gms/cm^3 as referenced in ASTM D1505.

b. Melt Flow - Melt flow shall be no greater than 4.0 gms/10 min. when tested in accordance with ASTM D1238 - Condition F.

c. Flex Modulus - Flexural modulus shall be 100,000 to less than 160,000 psi as referenced in ASTM D790.

d. Tensile Strength at Yield - Tensile strength shall be 3,200 to less than 3,500 psi as referenced in ASTM D638.

e. ESCR - Environmental Stress Crack Resistance shall be in excess of 5,000 hours with zero failures when tested in accordance with ASTM D1693 - Condition C.

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f. Hydrostatic Design Basis shall be 1,600 psi at 23°C when tested in accordance with ASTM D2837.

g. Certified lab data to verify the physical properties of the materials supplied under this specification shall be furnished.

h. Polyethylene pipe and fittings may be rejected for failure to meet any of the requirements of this specification.

2.1.4 **Pipe Dimensions:** Pipe supplied under this specification shall have a minimum wall OD unless otherwise specified. The SDR (standard dimension ratio) of the pipe supplied shall be SDR 17, rated for 80 psi.

2.1.5 **Fittings:** All polyethylene fittings supplied under this specification shall be SDR 17, rated for 110 psi.

2.2 Ductile Iron Pipe And Fittings

2.2.1 Pipe material shall be ductile iron mechanical joint pipe. Ductile iron pipe material shall be centrifugally cast of 60-42-10 iron and shall conform to ANSI A21.51 or AWWA C151.

2.2.2 All cast iron and ductile iron pipe shall be protected by means of an 8 mil thickness polyethylene tube. Tubing shall be furnished and installed with the recommendation of the Cast Iron Pipe Research Association. All ductile iron fittings shall be wrapped with 6 or 8 mil polyethylene film, lapped so as to have two layers of film in each wrapping.

2.2.3 The minimum wall thickness subject to tolerance allowance given in C-151, shall be as shown in the following table.

Size	Thickness	Class
4	.29"	2
6	.31"	2
8	.33"	2
10	.35"	2
12	.37"	2

2.2.4 All ductile iron pipe and fittings shall have an inside cement mortar lining and be seal coated in accordance with ANSI A21.4-64. Outside coating shall conform to ANSI A21.51 specifications for petroleum asphaltic coating.

2.2.5 Joints for ductile iron mechanical joint pipe and fittings shall conform to ANSI A21.11 and be joined with corten bolts and nuts.

2.2.6 Fittings shall conform to ANSI/AWWA C110. Mechanical joint fittings shall be used for all applications unless otherwise called for on the drawings. Flanged fittings are to be used only where necessary to tie into existing flanges.

2.2.7 Joint restraints shall be used where fittings are installed.

2.3 Tracing Tape

2.3.1 A non-corrosive metallic wire or tape, shall be placed directly on the top center of the force main and shall be fastened thereto with a plastic tape. Bond shall be

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sufficiently strong to retain wire or tape in place during installation and backfilling operations.

2.4 Valves And Valve Boxes

2.4.1 All shut-off valves shall be of the eccentric plug type designed for 150 psi working pressure and meeting the following specifications.

a. Valves shall be of the non-lubricated, eccentric type with resilient faced plugs capable of resisting pressure from both sides. The valves shall have joints specified in Section 5.6 and port areas at least 80% of full pipe area.

b. Bodies shall be cast iron with raised seats having a welded-in overlay of high nickel content on all surfaces contacting the plug face. Valves shall have permanently lubricated, stainless steel bearings in the upper and lower plug stem journals and shall be designed so that they can be re-packed without effecting the installation.

c. Resilient plug facings shall be suitable for use with domestic and industrial sewerage.

2.4.2 All valves shall be equipped with gear actuators enclosed in a cast iron housing. The actuator shaft and gear box shall be supported on permanently lubricated bronze bearings.

2.4.3 Valve and gear actuators for buried service shall have seals on all shafts and gaskets on the valve and actuator covers to prevent the entry of water. Actuator mounting brackets for buried service shall be totally enclosed and shall have gasket seals. All exposed nuts, bolts, springs and washers shall be stainless steel. Valves shall be opened by turning counter-clockwise.

2.4.4 Valves shall be furnished with cast iron valve boxes. Covers for valve boxes shall be round drop covers. All valve boxes shall have a 2-foot by 2-foot or 2-foot circular by 4-inch plain concrete pad poured around the valve box flush with the level of the ground.

3.0 EXECUTION:

3.1 Polyethylene Pipe

3.1.1 **Handling of Pipe:** Pipe shall be stored on clean, level ground to prevent undue scratching or gouging of the pipe. If the pipe must be stacked for storage, such stacking should be done in accordance with the pipe manufacturer's recommendation. The handling of the pipe should be done in such a manner that it is not damaged by drafting over sharp objects or cut by chokers or lifting equipment.

3.1.2 **Repair of Damage Sections:** Segments of pipe having cuts or gouges in excess of 10% of the wall thickness of the pipe should be cut out and removed. The undamaged portions of the pipe shall be rejoined using the butt fusion joining method.

3.1.3 **Pipe Joining:** Sections of polyethylene pipe should be joined into continuous lengths on the job site above ground. The joining method shall be the butt fusion method and shall be performed in strict accordance with the

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pipe manufacturer's recommendations. The butt fusion equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements, alignment and fusion pressures.

3.1.4 **Handling of Fused Pipe:** Fused segments of pipe shall be handled so as to avoid damage to the pipe. When lifting fused sections of pipe, chains or cable type chokers should be avoided. Nylon slings are preferred. Spreaders should be used when lifting long fused sections. Care should be exercised to avoid cutting or gouging the pipe.

3.2 Alignment And Grade

3.2.1 The force main shall be laid and maintained to the required lines and grades with fittings and valves, at the required location.

3.2.2 A grade maintaining an average cover of 3' with a minimum cover of 2½' shall be maintained unless otherwise called for in the plans and specifications.

3.3 Trenching And Backfill – Polyethylene Pipe

3.3.1 The trench and trench bottom should be constructed. Trenching should be in accordance with ASTM D2321.

3.3.2. Bedding of the pipe should be performed in accordance with ASTM D2321. Compaction rates should be as specified in ASTM D2321.

3.3.3 Haunching and initial backfill should be as specified in ASTM D2321 using Class I, Class II or Class III materials.

3.4 Trenching and Backfill – Ductile Iron Pipe

3.4.1 All ductile iron pipe and fittings shall be installed in accordance with ANSI/AWWA C600.

3.5 Backfilling

3.5.1 The CONTRACTOR may backfill the trench unless otherwise specified with the excavated material, provided such material is free of cinder, ashes, refuse, vegetable or organic materials, boulders, rocks or stones or other material. All trenches shall be backfilled in layers of 6" and compacted by tamping. Backfilling materials shall be deposited in the trench for its full width on each side of the pipe, fittings and appurtenances simultaneously.

3.6 Testing

3.6.1 All pipe and fittings shall be inspected and tested at manufacturer's plant during manufacture in accordance with manufacturer's standard test procedures at the manufacturer's expense.

3.6.2 For ductile iron pipe and fittings, chemical analysis shall be furnished indicating the use of 80-60-03 metal in accordance with ASTM Specification A339-55.

3.6.3 All pipelines carrying pressure shall be tested for tightness after installation. Where pipelines are laid under a concrete surface that is to be poured, testing shall be done prior to placing of concrete covering. The line shall be filled slowly to avoid unnecessary surges.

3.6.4 All tools, material (including water), apparatus, tanks and appliances (including bulkheads and plugs required for making these tests) shall be supplied by the CONTRACTOR at his own expense and paid for

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under the price bid for force main. Gauges shall be calibrated and leakage of water measured.

3.6.5 All lines carrying sewage under pressure shall be tested by filling the line with water under a hydrostatic pressure of 120 pounds per square inch for a minimum period of 4 hours. If in 4 hours pressure drop to 110 psi, leave test on over night to determine what pressure the line will hold. If pressure does not drop below 100 psi after 24 hours, test is acceptable. If the pressure drops below 100 psi, the test is not acceptable, and the line will be inspected for leaks and re-tested. Any defective work revealed by the test must be repaired by the CONTRACTOR at his expense. Test pressure shall not be exerted against a valve. All test sections shall be sealed with plugs or caps.

3.6.6 There shall be a minimum of leakage in the lines under the stated pressure. Volume of leakage shall be determined from the quantity of water required to bring up the pressure and from direct meter readings on complete lines. The maximum allowable leakage is thirty gallons per inch of diameter per mile of pipe.

3.6.7 Potable water shall be used for testing and shall be obtained and paid for by the CONTRACTOR.

3.6.8 CONTRACTOR shall submit a schedule of pressure tests which shall be revised as conditions require. OWNER shall be notified at least 24 hours in advance of the beginning of any test. It is imperative that testing be done immediately upon completion of each portion of the line. Failure to properly schedule and conduct tests will be sufficient cause to prohibit the opening up of additional trench until all previously installed pipe and specials have been tested and all backfilling completed and work cleaned up. Work shall proceed in an orderly and expeditiously manner with all parts of the operation completion and cleaned up as the CONTRACTOR proceeds along the line.

3.7 Restoration And Clean-Up

3.7.1 All surplus force main material furnished by the CONTRACTOR and all tools and temporary structures shall be removed from the site by the CONTRACTOR. All dirt, rubbish, and excess earth from the excavation shall be hauled to a dump site and the construction site left clean to the satisfaction of the OWNER. The site will be returned as near as possible to original condition within a reasonable time. All backfilled areas and other areas disturbed by construction shall be dressed and graded to a reasonably smooth and neat appearance.

Payment will be made under:

Item No.	Pay Item	Pay Unit
S-003	Install 8" P.E. Sewer Force Main	Per Lump Sum

ITEM S-004, GEOGRID: This item consists of furnishing and placing geogrid reinforcement in the areas shown on the plans prior to placement of base course.

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Materials:

(1) General Requirements: The geogrid shall be a biaxially oriented polymer grid structure composed of polypropylene or high density polyethylene with apertures designed to interlock with the surrounding fill material. The joints at the cross over points of mesh shall be welded or interwoven in such a manner that the elements will not separate under handling and construction activities or under dynamic loads anticipated over the life of the structure. The geogrid shall be resistant to damage during construction, including ultraviolet fight degradation, and it shall have long-term resistance to chemical and biological degradation caused by the fill materials being reinforced.

(2) Detailed Requirements:

Property	Test Method	Requirements
Aperture Size	I.D. Calipered	1.0 - 1.5 in.
Open Area, min.	COE Method	70%
Flexural Rigidity, min.	ASTM D1388-64	18 lb-ft
Tensile Modulus, min.	GRI GGI-87	14,000 lb/ft
Junction Efficiency, min.	GRI GG2-87	90%

NOTES:

1. All numerical values represent minimum average roll values required in the designated direction.

2. The contractor shall submit a Certificate of Compliance that the geogrid meets the physical properties outlined above. The Department reserves the right to randomly sample and test geogrid material.

Construction Methods

The geogrid shall be placed in continuous sheets parallel to the centerline. Adjacent sheets of geogrid shall be overlapped a minimum of 18 inches. Care shall be taken to ensure that geogrid sections do not separate during construction.

The geogrid shall be cut to conform to curved sections so as to maintain placement parallel to the centerline. Care shall be taken to ensure that excessive buckling of the grid material does not occur. Excessive material quantity, if any, required for making curves shall be at no direct pay.

Tracked equipment will not be allowed to operate directly on the geogrid. Damaged geogrid shall be either removed and replaced with new geogrid or covered with a second layer of geogrid extending 3 feet in each direction from the damaged area.

Each geogrid roll shall be labeled or tagged to provide product identification sufficient for field inventory and quality control purposes. Rolls shall be stored in a manner that protects them from the elements. If stored outdoors, they shall be elevated and protected from ultraviolet light.

Measurement and Payment

Geogrid reinforcement will be paid by the square yard of covered area at the contract unit price.

Payment will be made under:

Item No.	**Pay Item**	**Pay Unit**
S-004	Geogrid	per square yard

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CONTRACT TIME (03/05): The entire contract shall be completed in all details and ready for final acceptance in accordance with Subsection 105.17(b) within **two hundred (200) working days.**

Prior to assessment of contract time, the contractor will be allowed 30 calendar days from the date stipulated in the Notice to Proceed to commence with portions of the contract work including but not limited to assembly periods, preparatory work for materials fabrications such as test piles, or other activities which hinder progress in the beginning stages of construction. Prior to issuance of the Notice to Proceed, the Department will consider extending the assembly period upon written request from the contractor justifying the need for additional time.

The contractor shall be responsible for maintenance of traffic from the beginning of the assembly period. During the assembly period, the contractor will be allowed to do patching and other maintenance work necessary to maintain the roadway with no time charges when approved by the engineer.

If the contractor begins regular construction operations prior to expiration of the assembly period, the assessment of contract time will commence at the time construction operations are begun.

FOR INFORMATION ONLY

(04/06)

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS
(FOR 2000 STANDARD SPECIFICATIONS)

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LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

The 2000 Louisiana Standard Specifications for Roads and Bridges and supplemental specifications thereto are amended as follows.

SECTION 101 – GENERAL INFORMATION, DEFINITIONS AND TERMS

Subsection 101.03 – Definitions (11/04), Pages 3 – 12.

Delete the third paragraph and substitute the following.

Assembly Period. Time the contractor is given to acquire approvals of required drawings, brochures, and other submittals, assemble or relocate asphaltic concrete plants or portland cement concrete plants, begin the purchase and assembly of materials, perform maintenance patching only, perform selective clearing or structural removal if utility relocations are involved, perform construction layout, perform pile tests, erect or install a project site laboratory, conduct preexisting site survey, install erosion control items, install fencing if existing fencing is removed during clearing, and perform bleeder ditching to prevent water table rise during winter months. The contractor will not be charged contract time during an assembly period.

SECTION 102 – BIDDING REQUIREMENTS:

Subsection 102.03 – Contents of Bidding Documents (05/02), Pages 14 and 15.

Delete the second sentence of the second paragraph and substitute the following.

The construction proposal will state the time in which the work must be completed, and the date, time and place of opening bids.

Subsection 102.08 – Irregular Bids (02/04), Pages 17 and 18.

Add the following subparagraphs.

(m) If the bidder is disqualified in accordance with Subsection 108.04.

(n) If the bidder is debarred in accordance with Part XIII-B of Chapter I of LRS 48.

(o) If the bidder is disqualified for Proposal/Bid Guaranty forfeiture or non-payment in accordance with Subsection 103.07.

Subsection 102.09 – Proposal/Bid Guaranty (05/02), Pages 18 and 19.

Delete the text of this subsection and substitute the following:

Each bid shall be accompanied by a proposal/bid guaranty in an amount not less than five percent of the total bid amount when the bidder's total bid amount as calculated by the Department in accordance with Subsection 103.01 is greater than $250,000. No proposal/bid guaranty is required for projects when the bidder's total bid amount as calculated by the Department is $250,000 or less. The official total bid amount for projects that include alternates is the total of the bidder's base bid and all alternates bid on and accepted by the Department. The

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proposal/bid guaranty submitted by the bidder shall either be a certified check, cashier's check, bidder's company check, postal money order, bank money order or bid bond made payable to the Louisiana Department of Transportation and Development or as specified.

When the proposal/bid guaranty submitted by the bidder is a bid bond, this bond shall be on the "Bid Bond" form provided in the construction proposal; on a form that is materially the same in all respects to the "Bid Bond" form provided, or an electronic form that has received Department approval prior to submission. The bid bond shall be filled in completely, shall be signed by an authorized officer, owner or partner of the bidding entity, or each entity representing a joint venture; shall be signed by the surety's agent or attorney-in-fact; and shall be accompanied by a notarized document granting general power of attorney to the surety's signer. The bid bond shall not contain any provisions that limit the face amount of the bond.

When a bid bond is used it will be written by a surety or insurance company that is in good standing and currently licensed to write surety bonds in the State of Louisiana by the Louisiana Department of Insurance and also conform to the requirements of LSA-R.S. 48:253.

All signatures required on the bid bond may be original, mechanical reproductions, facsimiles or electronic. Electronic signatures must have written Departmental approval prior to use.

Subsection 102.13 – Withdrawal of Bids Due to Mistake (05/02), Pages 19 – 21.

Delete Heading (a) and substitute the following:

(a) Criteria:

(1) Withdrawal of Bid: The Department may allow a bidder to withdraw a bid after the scheduled time of bid opening in accordance with state law upon a determination that:

a. A mistake was in fact made in preparation of the bid; and,

b. The mistake in the bid is of a mechanical, clerical or mathematical nature and not one of bad judgment, careless inspection of the work site, or in reading the plans and specifications; and,

c. The mistake is found to be in good faith and was not deliberate or by reason of gross negligence; and,

d. The mistake is patently obvious on the face of the bid; and,

e. The notice of the mistake, request for withdrawal of the bid by reason of the mistake, and written evidence of the mistake, is delivered to the DOTD Chief Engineer within 72 hours after the bid opening, excluding Saturdays, Sundays, and legal holidays. The written evidence of the mistake supplied to the DOTD Chief Engineer shall be duly sworn before a Notary Public as original, unaltered documents used in the preparation of the bid or any other facts relevant to the bidder's request to withdraw the bid as evidence of the existence of a mistake; and,

f. The sworn, written evidence furnished to the DOTD Chief Engineer within 72 hours of the bid opening, excluding Saturdays, Sundays, and legal holidays, constitutes clear and convincing evidence of the bidder's mistake.

(2) Other bid protests: The Department may also allow a bidder to protest any matter regarding the bidding or award of a contract after the scheduled time of bid opening in accordance with the following provisions:

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a. The protest of a bidder must be submitted in writing and, specifically set forth the grounds and/or reasons for the protest; and,

b. The written protest must be delivered to the DOTD Chief Engineer within 72 hours after notice of bid rejection, irregularity or any other action regarding the bidding of the contract, excluding Saturdays, Sundays, and legal holidays.

SECTION 103 – AWARD AND EXECUTION OF CONTRACT:

Subsection 103.05 – Payment, Performance, and Retainage Bonds (01/02), Pages 23 and 24.

Delete the text of this subsection and substitute the following:

At the time of execution of the contract, the successful bidder shall furnish the following bonds on the forms provided by the Department.

(a) Payment bond in a sum equal to one hundred percent (100%) of the contract amount.

(b) Performance bond in a sum equal to one hundred percent (100%) of the contract amount.

(c) Retainage bond in a sum equal to five percent (5%) of the contract amount for contract amounts greater than $500,000 unless an election is made to have the Department withhold five percent (5%) of the contract amount; and, retainage bond in a sum equal to ten percent (10 %) of the contract amount for contract amounts equal to or less than $500,000 unless an election is made to have the Department withhold ten percent (10 %) of the contract amount.

The bonds shall be written by a surety or insurance company that is in good standing and currently licensed to write surety bonds in the State of Louisiana by the Louisiana Department of Insurance and also conform to the requirements of LSA-R.S. 48:255.

All signatures required on the "Bond Form" shall be original signatures, in ink, and are not to be mechanical reproductions or facsimiles.

Subsection 103.07 – Failure to Execute Contract (01/02), Pages 24 and 25.

Delete the text of this subsection and substitute the following:

Failure by the bidder to comply with Subsection 103.06 will be cause for cancellation of the award and forfeiture of the proposal/bid guarantee. For those projects wherein a proposal/bid guarantee was not provided with the bid, failure to comply with Subsection 103.06 will be cause for cancellation of the award and bidder to be disqualified from bidding or subcontracting for a period of one year from the award date. Awards, which were cancelled, may then be made to the next lowest responsible bidder or the work may be readvertised for bids, at the Department's discretion.

Should a proposal/bid guaranty be required to be forfeited by the bidder to the Department or other named obligee, and if for any reason the full amount of the proposal/bid guaranty is not collected or collectable by the Department upon demand, the bidder will be disqualified from bidding or subcontracting for a period of one year from the date of non-payment.

SECTION 104 – SCOPE OF WORK:

Subsection 104.03 – Maintenance of Traffic (06/01), Page 27.

Delete the third sentence of the third paragraph and substitute the following:

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The contractor shall maintain existing drainage and also provide and maintain in a safe condition all temporary approaches or crossings, intersections with roads, streets, businesses, parking lots, residences, garages and farms, at no direct pay.

SECTION 105 – CONTROL OF WORK:

Subsection 105.05 – Cooperation by Contractor (04/01), Page 33.

Delete the third paragraph and substitute the following:

The contractor shall have on the work site at all times, as the contractor's agent, a competent representative capable of reading and understanding the plans and project specifications and experienced in the type of work being performed, who shall receive and execute directions from the engineer. At the preconstruction conference or upon request, the contractor shall furnish the engineer written notice of the name and home telephone number of the representative. The representative shall have authority to execute orders or directions of the engineer without delay and to promptly supply such materials, equipment, tools, labor and incidentals as required. The representative shall be furnished regardless of the amount of work sublet.

Subsection 105.15 – Maintenance During Construction (05/02), Page 38.

Add the following:

The contractor shall maintain the roadway in a satisfactory condition to allow traffic to safely travel through the work zone at the posted speed limit.

Subsection 105.16 – Failure to Maintain Roadway or Structure (05/02), Page 39.

Delete the text of this subsection and substitute the following.

If the contractor fails to comply with Subsections 104.03 and 105.15, the engineer will immediately notify the contractor in writing of such noncompliance. If the contractor fails to remedy the condition within 24 hours after receipt of the written notice, the Department will have the option to immediately remedy the condition with its own in-house forces or by another contractor, and the cost thereof will be deducted from payments for the work.

When the condition requires more immediate remedy due to hazard to life, health and property, the engineer will immediately remedy the condition as above and the costs thereof will be deducted from payments for the work.

Subsection 105.19 – Value Engineering Proposals (03/05), Pages 40 - 44.

Delete the fifth sentence of the seventh paragraph and substitute the following.

Proposed changes in basic configuration and design of a bridge, hydraulic capacity of drainage facilities, typical roadway section, type or minimum thickness of pavements, or changes in grade or alignment which do not meet the geometric standards of the project as conceived, will not be considered as acceptable VE Proposals. Typically, changes in materials for roadway sections will not be considered as acceptable VE proposals.

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SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC:

Subsection 107.07 – Public Convenience and Safety (02/06), Page 53.

Delete the third paragraph and substitute the following:

When the contractor works at night, adequate artificial lighting shall be provided in accordance with Subsection 105.20. Signs, flaggers or other traffic controls shall also be provided to protect workers, the work and the traveling public. When such work affects traffic safety, the contractor shall submit to the engineer for approval a plan of lighting, signing, flagmen or other traffic controls. If the approved plan proves inadequate after work begins, the contractor shall make such changes as directed. If the engineer finds that the night work is so hazardous as to preclude the beginning or require the discontinuing of such work, the contractor shall immediately cease all such operations.

SECTION 108 – PROSECUTION AND PROGRESS:

Subsection 108.04 – Prosecution of Work (03/05). Pages 69 and 70.

Delete the third paragraph of Heading (b) and substitute the following.

During the period of disqualification, the contractor will not be permitted to bid on contracts nor be approved as a subcontractor on contracts. Any bid submitted by the contractor during the period of disqualification will be considered irregular under Subsection 102.08. The period of disqualification shall continue until the contractor completes the work on the contract within the foregoing percentages or until all work on the contract has been satisfactorily completed. Should the surety or the Department take over prosecution of the work, the contractor shall remain disqualified for a period of one year from the completion of the project, unless debarment proceedings are instituted.

When the Department of Transportation and Development is not the contracting agency on the project, the second paragraph under Heading (c) is deleted.

Subsection 108.09 – Default and Termination of Contract (09/04), Pages 73 – 75.

Delete the second sentence of subparagraph (c) and substitute the following.

Within thirty days of receipt of such notification, the surety shall present to the Department either a plan to assume performance of the contract and procure completion of the project, or provide the Department in writing with a reasonable response for the contractor's default.

SECTION 109 – MEASUREMENT AND PAYMENT:

Subsection 109.04 – Compensation for Alterations of the Contract (11/02), Pages 80 – 82.

Delete Heading (f) and substitute the following.

When the Department authorizes the work to be performed by an approved subcontractor(s), the contractor will be paid the actual and reasonable cost of such subcontracted work computed as outlined above, plus an additional allowance of 10 percent of the first $50,000 of the total cost of all subcontracted work and 5 percent of the total cost of all subcontracted work that exceeds $50,000. Reimbursement for bond costs will be in accordance with Heading (b).

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SECTION 201 – CLEARING AND GRUBBING:

Subsection 201.02 General Construction Requirements (06/02), Page 88.

Delete the fifth sentence and substitute the following.

The contractor shall, at no direct pay, use a licensed landscape arborist to repair damage to bark, trunks, limbs or roots of vegetation marked to remain using horticultural and tree surgery practices published by the American Association of Nurserymen (AAN).

SECTION 202 – REMOVING OR RELOCATING STRUCTURES AND OBSTRUCTIONS:

Subsection 202.02 – General Construction Requirements (07/05), Pages 91 – 95.

Add the following.

The contractor shall provide a DEQ accredited asbestos inspector to inspect any structure that is to be removed or relocated for the existence of asbestos and the condition thereof. Copies of the inspection report for each structure shall be provided to the project engineer.

Add the following to Heading (c).

When underground storage tanks (UST) have been filled with concrete, sand, or other such material and are designated on the plans for removal, the contractor or certified UST subcontractor shall remove, transport and dispose of such tanks in accordance with the recommendations of the American Petroleum Institute (API) and the requirements of the Louisiana Department of Environmental Quality (DEQ) or other regulatory agency of jurisdiction. When such UST are discovered during construction and removal is necessary to achieve soil compaction or to meet other construction requirements, the contractor shall stop construction activity in the immediate vicinity of the UST and notify the project engineer in accordance with this subsection elsewhere in the standard specifications. The DOTD Materials and Testing Section will verify the closure status of such filled UST discovered during construction prior to any UST site activity by the contractor or certified UST subcontractor.

The contractor or certified UST subcontractor shall collect and submit for laboratory analysis, a representative sample of the storage tank fill material for landfill acceptance. The results of the laboratory analysis shall be used to determine the disposition of the UST fill material. The contractor or certified UST subcontractor shall provide a copy of all laboratory analyses to the Department's Materials and Testing Section for verification prior to profiling materials for landfill acceptance.

Delete the second paragraph of Heading (f) and substitute the following.

Unless otherwise directed or shown on the plans, substructures shall be removed to natural stream bottom and those parts outside the stream shall be removed to 1 foot (0.3 m) below natural ground surface. Existing structures within the limits of a new structure shall be removed as necessary to accommodate construction of the new structure.

Add the following to Heading (h).

When the existing shoulder underdrain at the pavement edge is to remain in place and in service and removal of the shoulder surfacing and base is required, the work shall be done in such manner as to avoid damaging the existing shoulder underdrains. Damaged shoulder underdrains shall be satisfactorily repaired at no direct pay.

Add the following headings.

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(i) Paint Containing Lead or Other Hazardous Materials on Metal Surfaces: Steel members of structures protected by paint containing lead or other hazardous materials as shown on the plans or as discovered in the field shall be removed and prepared for transport by methods approved by the Department.

Such steel members shall be delivered to a licensed recycling center capable of processing steel members coated with paint identified by the Resource Conservation and Recovery Act (RCRA) as hazardous.

Prior to removal, transport, treatment or disposal of any steel members, the contractor shall submit the following to the engineer.

(1) Plan of removal of steel members.
(2) Plan for transport of steel members.
(3) Name and address of the licensed recycling center.

All steel members shall be transported in accordance with all federal, state and local laws. Certificates of Disposal, Chain of Custody forms, or other applicable documents shall be provided within 21 days following each shipment.

(j) Treated Timber: Creosoted and other treated timber or lumber shown on the plans or discovered in the field shall be removed and prepared for transport by methods approved by the Department. All materials that are not designated to be salvaged by the Department or salvaged by the contractor are to be disposed of in an appropriate landfill. Certificates of Disposal, Chain of Custody Forms, or other applicable documents shall be provided within 21 days following each shipment.

(k) Universal Wastes. Universal wastes are hazardous wastes defined in LAC Title 33, Part V, Chapter 38, Section 3813 to include batteries, pesticides, thermostats, lamps and antifreeze. Universal wastes shall be removed by the contractor in accordance with the plans and shall be stored and prepared for transport as specified in LAC Title 33, Part V, Chapter 38 and herein.

A lamp is the bulb or tube portion of an electric lighting device. Universal waste lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metallic halide. Such lamps shall be removed and stored in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers shall remain closed and lack evidence of leakage, spillage or damage that could cause releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions. The containers shall be clearly labeled or marked with the words "Universal Waste – Lamps" and with the earliest date that any lamp in the container was discarded as waste. If a container develops a leak, it shall be placed into an over-pack container. The contractor shall immediately clean up any leakage and place in a container any lamp that shows evidence of breakage, leakage, or damage.

Universal waste lamps will not be allowed to accumulate for a period longer than one year from the date the lamps were discarded. The waste lamps shall be delivered to a universal waste disposal site or destination facility by a Universal Waste Transporter in accordance with the applicable U.S. Department of Transportation Regulations, 49 CFR, Parts 172-180.

The contractor shall be responsible for informing all employees who handle universal wastes of the proper handling and emergency procedures appropriate to the type of waste.

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Subsection 202.05 – Measurement (07/05), Page 97.

Delete the fourth paragraph and substitute the following.

When an item is included for the removal of bridges, the removal of the approach slabs, superstructure, and substructure will be considered part of the work unless otherwise shown on the plans.

Add the following.

Removing steel members of structures protected by paint containing lead or other hazardous materials, or creosoted timbers or lumber, and transporting them to the designated recycling center or landfill will be considered part of the work when shown on the plans and will not be measured for payment.

When a structure to be removed or relocated is shown on the plans to contain universal wastes, the removal, storage and transport of the universal waste to an approved disposal site or destination facility will not be measured for payment but will be included in the structure to be removed or relocated.

Subsection 202.06 – Payment (07/05), Pages 97 – 99.

Add the following to the second paragraph.

Payment for removal of bridges will include removal of the approach slabs, superstructure and substructure.

Delete the last sentence of the third paragraph and substitute the following.

When a structure is found to contain friable or non-friable asbestos and it has not been identified on the plans as containing asbestos, payment for the removal and disposal of the asbestos will be made in accordance with Subsection 109.04, including the cost of all testing.

Payment for inspection to determine the presence and condition of asbestos by DEQ certified asbestos abatement contractors or subcontractors will be included in the appropriate pay items for the removal or relocation of structures.

Add the following:

Payment for removing steel members of a structure identified on the plans as being protected by paint containing lead or other hazardous materials, or creosoted timbers or lumber, and transporting them to the designated recycling center or landfill, will be included in the bid price for removal or relocation of the structure. When a structure is found to have steel members protected by paint containing lead or other hazardous materials, or creosoted timber or lumber, and it has not been identified on the plans as such, payment for removal and transport of the members to a licensed recycling center or landfill will be made in accordance with Subsection 109.04.

When the plans show that a structure to be removed or relocated contains a universal waste, payment for the removal of the universal waste will be included in the contract unit price for the removal or relocation of the structure which will also include all equipment, labor, and, materials required for the removal, storage, and transport of the universal waste in accordance with LAC Title 33, Part V, Chapter 38. When a structure to be removed or relocated is found to contain a universal waste and it is not identified as such on the plans, payment for the removal, storage and transport of such universal waste in accordance with LAC Title 33, Part V, Chapter 38 will be made in accordance with Subsection 109.04.

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SECTION 203 – EXCAVATION AND EMBANKMENT:

Subsection 203.04 – Muck Excavation (06/01), Page 101.

Delete the text of this subsection and substitute the following:

Muck excavation consists of the removal of saturated or unsaturated mixtures of soils, organic matter, and debris that are unsuitable for foundation material. Materials, which will decay or produce subsidence in the embankment, or materials containing decaying stumps, roots, logs, humus or other material are not satisfactory for use in the embankment. The engineer will determine the material to be classified as muck and to be removed. Material, which cannot be used, shall be removed and disposed of in accordance with Subsection 202.02.

Subsection 203.05 – Borrow (12/04), Pages 101 and 102.

Add the following.

Soils contaminated with hazardous or toxic materials shall not be used for borrow material.

Subsection 203.06 – Soil Usage (11/02) Pages 102 – 104.

Delete Headings (a) and (b) and substitute the following:

(a) Usable Soils: Usable soils shall have a maximum PI of 25 and a maximum organic content of 5 percent. Soils with a silt content of 50 percent or greater and also a PI of 10 or less will not be allowed.

(b) Selected Soils: Selected soils are natural soils with a maximum PI of 20, maximum Liquid Limit of 35, and a maximum organic content of 5 percent. Soils with a silt content of 50 percent or greater and also a PI of 10 or less will not be allowed. Soils to be used for in-place cement stabilization shall be in accordance with Subsection 302.02(a).

Subsection 203.07 – General Requirements (12/04), Pages 104 – 107.

Delete the term "maximum dry weight density" and substitute "maximum dry density".

Delete the fifth sentence of the third paragraph and substitute the following:

The moisture content at the time of compaction, tested in accordance with DOTD TR 403, shall be within a range of ±2.0 percent of optimum established in accordance with DOTD TR 418 or the lifts shall be reprocessed and recompacted until these requirements are met.

Subsection 203.09 – Nonplastic Embankment (05/01), Pages 108 and 109.

Delete the term "maximum dry weight density" from Heading (d) and substitute "maximum dry density".

Subsection 203.14 – Measurement (03/02), Pages 111 – 113.

Delete the first and second paragraphs of Heading (b) and substitute the following.

The measurement of quantities will be computed by the average end area method and will be that area bound by (1) the original ground line established by location (plan) cross sections (if accurate) or new original cross sections obtained by the contractor, and (2) the final theoretical pay line as shown on the plans, or established by the engineer, adjusted for field changes.

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After clearing and grubbing operations, the contractor will take original cross sections for the entire length of the project. All original cross section shall be taken in the presence of a designated DOTD employee. Cross sections shall be taken at sufficient intervals to accurately determine earthwork quantities, not to exceed 100 linear feet (30 lin m). The cross sections shall be taken in accordance with DOTD procedures, and results must be furnished to the Department in a format satisfactory to the engineer. The Department reserves the right to take additional cross sections as needed to verify the contractor's cross sections. In the event the cross sections do not verify, the contractor will investigate and reconcile any differences.

The original cross sections will be used to determine the accuracy of the location cross sections by using random sections not farther apart than 1000 linear feet (300 lin m) and centerline elevations at intervals of 100 linear feet (30 lin m). The location cross sections will be considered to be usable if the average of the differentials do not exceed ±0.3 foot (±0.1m). For significant portions of the project with obvious errors between location and original cross sections, the contractor's original field cross sections will be used, and will not be part of the verification process. In all cases where location sections are unavailable, new originals are to be taken and used.

Add the following to Heading (b)(1):

No payment will be made to the contractor to recompute new plan quantities.

SECTION 301 – CLASS I BASE COURSE:

Subsection 301.06 – Mixing of Soil Cement, Cement Stabilized Sand Shell, and Cement Stabilized Sand Clay Gravel (04/02), Page 130.

Delete the first sentence of the fourth paragraph and substitute the following:

Optimum moisture of the mixture will be determined in accordance with DOTD TR 415 or TR 418.

Subsection 301.16 – Acceptance Requirements (11/02), Pages 136 – 140.

Delete the third sentence of the second paragraph and substitute the following:

The percent cement being incorporated into the mixture shall not be more than 0.1 percent by weight (mass) of the total material below the approved percent cement, or operations shall be discontinued until corrections have been made.

Delete the sentence in Heading (a)(3) and substitute the following.

When any test value is less than that required in Table 301-1, compaction shall continue until the specified density is obtained.

SECTION 302 – CLASS II BASE COURSE:

Subsection 302.02 – Materials (01/03), Page 143.

Add the following to the first paragraph:

Geotextile Fabric	203.11 & 1019

Delete the seventh sentence of Heading (a) and substitute the following:

Soils may be blended to adjust the percentages of sand or silt to meet specification requirements; however, in-place blending will not be allowed. The District Laboratory Engineer

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will approve materials prior to blending and the final product. Soils that do not meet PI requirements shall not be blended or treated to reduce PI.

Subsection 302.04 – General Construction Requirements (12/04), Page 144.

Add the following:

If an aggregate base course is to be placed on untreated or lime-treated soils, a Class D geotextile separator fabric will be required.

Subsection 302.05 – Mixing (04/02), Pages 144 – 146.

Delete the term "maximum dry weight density" from Heading (a)(1) and substitute "maximum dry density".

Subsection 302.13 – Measurement (09/02), Pages 153 and 154.

Add the following:

Geotextile fabric used beneath the base course will not be measured for payment.

Subsection 302.14, - Payment (09/02), Page154.

Add the following:

Payment for geotextile fabric will be included in the contract unit price for base course.

SECTION 303 – IN-PLACE CEMENT STABILIZED BASE COURSE:

Subsection 303.02 – Materials (05/01), Page 155.

Delete the third paragraph and substitute the following:

Soils or soil-aggregate combinations furnished by the contractor for stabilization in accordance with this section shall comply with the requirements of Subsection 302.02(a).

Subsection 303.04 – Preparation of Roadbed (05/01), Pages 156 and 157.

Delete the term "maximum dry weight density" and substitute "maximum dry density".

Subsection 303.05 – Mixing (05/01), Pages 157 and 158.

Delete the first sentence of the fourth paragraph and substitute the following:

Optimum moisture of the mixture will be determined in accordance with DOTD TR 415 or TR 418.

SECTION 304 – LIME TREATMENT:

Subsection 304.07 – Compacting and Finishing (05/01), Pages 167 and 168.

Delete the term "maximum dry weight density" from Heading (a) and substitute "maximum dry density".

SECTION 305 –SUBGRADE LAYER:

Subsection 305.02 – Materials (09/02), Pages 173 and 174.

Add the following to the first paragraph:

Geotextile Fabric	203.11 & 1019

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Subsection 305.04 – Construction Requirements (12/04), Pages 174 and 175.

Add the following sentence to Heading (a)(2):

The bid price for pay item 305-01, Subgrade Layer, will be adjusted for the actual percentage of cement required.

Add the following to Heading (b):

If an aggregate subgrade layer is used, a Class D geotextile fabric will be required to separate the aggregate subgrade layer from untreated soil.

Delete the term "maximum dry weight density" from Heading (d) and substitute "maximum dry density".

Subsection 305.05 – Measurement (12/02), Page 175.

Add the following:

Geotextile fabric used beneath the subgrade layer will not be measured for payment.

Subsection 305.06 – Payment (12/02), Pages 175 and 176.

Add the following:

Payment for geotextile fabric will be included in the contract unit price for subgrade layer.

SECTION 306 – SCARIFYING AND COMPACTING ROADBED:

Subsection 306.02 – Construction Requirements (05/01), Page 177.

Delete the term "maximum dry weight density" and substitute "maximum dry density".

SECTION 401 – AGGREGATE SURFACE COURSE:

Subsection 401.04 – Shoulder Construction (05/01), Pages 184 and 185.

Delete the term "maximum dry weight density" from Headings (b) and (c) and substitute "maximum dry density".

SECTION 402 – TRAFFIC MAINTENANCE AGGREGATE:

Subsection 402.02 – Materials (05/02), Page188.

Delete the text of this subsection and substitute the following.

Aggregate for maintenance of traffic shall be stone, wash gravel, recycled portland cement concrete, reclaimed asphaltic pavement (RAP), or shell satisfactory to the engineer.

SECTION 507 – ASPHALTIC SURFACE TREATMENT:

Subsection 507.02 – Materials (07/02), Pages 278 and 279.

Delete the last paragraph and substitute the following.

Hot asphalt shall be smooth and homogeneous and shall comply with the specifications for gelled asphalt or PAC-15 as shown in Table 1002-11.

Delete Tables 507-1 and 507-2 and substitute with Tables 507-1 and 507-2 contained elsewhere herein.

Delete Table 507-3.

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Table 507-1
Asphaltic Surface Treatment (AST) Requirements
(Emulsion)

TYPE AST	Course No.	TYPE A[1]		TYPE B[1]		TYPE C[1]	TYPE D			TYPE E[2] (Interlayer)
Agg. Friction Rating		I, II		I, II, III		I, II, III	I, II, III, IV			I, II, III, IV
Asphalt Emulsion		CRS-2P		CRS-2P		CRS-2P	CRS-2P			CRS-2P
Application Temp. Minimum Maximum		160°F (70°C) 175°F (80°C)		160°F (70°C) 175°F (80°C)		160°F (70°C) 175°F (80°C)	160°F (70°C) 175°F (80°C)			160°F (70°C) 175°F (80°C)
Number of Applications		2	1	2	1	1	3	2	1	2
Asphalt Emulsion[3] Application Rates Per Course	1	0.39 (1.77)	0.41 (1.86)	0.39 (1.77)	0.31 (1.40)	0.41 (1.86)	0.46 (2.08)	0.39 (1.77)	0.31 (1.40)	0.39 (1.77)
	2	0.29 (1.31)	---	0.29 (1.31)	---	---	0.36 (1.63)	0.29 (1.31)	---	0.29 (1.31)
	3	---	---	---	---	---	0.26 (1.18)	---	---	---
Aggregate[4] Application Rates Per Course	1	S2-0.0111 (S2-0.010)	S2-0.0111 (S2-0.010)	S2-0.0111 (S2-0.010)	S3-0.0075 (S3-0.007)	S2-0.0111 (S2-0.010)	S1-0.0200 (S1-0.018)	S2-0.0111 (S2-0.010)	S3-0.0075 (S3-0.007)	S2-0.0111 (S2-0.010)
	2	S3-0.0075 (S3-0.007)	---	S3-0.0075 (S3-0.007)	---	---	S2-0.0111 (S2-0.010)	S3-0.0075 (S3-0.007)	---	S3-0.0075 (S3-0.007)
	3	---	---	---	---	---	S3-0.0075 (S3-0.007)	---	---	---

[1] Only lightweight aggregate, crushed slag or crushed stone shall be used for Types A, B or C Asphaltic Surface Treatment.
[2] Lightweight aggregate will not be allowed.
[3] Application rates are in gallons of asphalt emulsion per square yard (liters of asphalt emulsion per sq m) of AST.
[4] Size aggregate and application rates. For example, S2 is Size 2 aggregate and 0.0111 is the application rate in cubic yards of aggregate per square yard (0.010 cu m of aggregate per sq m) of AST.

FOR INFORMATION ONLY

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Table 507-2
Asphaltic Surface Treatment (AST) Requirements
(Hot Application)

TYPE AST	Course No.	TYPE A[1]		TYPE B[1]		TYPE C[1]	TYPE D			TYPE E[2] (Interlayer)
Agg. Friction Rating		I, II		I, II, III		I, II, III	I, II, III, IV			I, II, III, IV
Asphalt Cement[3]		Gelled Asphalt or PAC-15		Gelled Asphalt or PAC-15		Gelled Asphalt or PAC-15	Gelled Asphalt or PAC-15			Gelled Asphalt or PAC-15
Application Temp. Minimum Maximum		300°F (149°C) 360°F (182°C)		300°F (149°C) 360°F (182°C)		300°F (149°C) 360°F (182°C)	300°F (149°C) 360°F (182°C)			300°F (149°C) 360°F (182°C)
Number of Applications		2	1	2	1	1	3	2	1	2
Asphalt Cement[4] Application Rates Per Course	1	0.30 (1.36)	0.31 (1.40)	0.30 (1.36)	0.24 (1.09)	0.31 (1.40)	0.36 (1.63)	0.30 (1.36)	0.24 (1.09)	0.30 (1.36)
	2	0.23 (1.04)	---	0.23 (1.04)	---	---	0.28 (1.27)	0.23 (1.04)	---	0.23 (1.04)
	3	---	---	---	---	---	0.20 (0.91)	---	---	---
Aggregate[5] Application Rates Per Course	1	S2-0.0111 (S2-0.010)	S2-0.0111 (S2-0.010)	S2-0.0111 (S2-0.010)	S3-0.0075 (S3-0.007)	S2-0.0111 (S2-0.010)	S1-0.0200 (S1-0.018)	S2-0.0111 (S2-0.010)	S3-0.0075 (S3-0.007)	S2-0.0111 (S2-0.0010)
	2	S3-0.0075 (S3-0.007)	---	S3-0.0075 (S3-0.007)	---	---	S2-0.0111 (S2-0.010)	S3-0.0075 (S3-0.007)	---	S3-0.0075 (S3-0.007)
	3	---	---	---	---	---	S3-0.0075 (S3-0.007)	---	---	---

[1] Only lightweight aggregate, crushed slag or crushed stone shall be used for Types A, B or C Asphaltic Surface Treatment.
[2] Lightweight aggregate will not be allowed.
[3] See Table 1002-11.
[4] Application rates are in gallons of asphalt cement per square yard (liters of asphalt cement per sq m) of AST.
[5] Size aggregate and application rates. For example, S2 is Size 2 aggregate and 0.0111 is the application rate in cubic yards of aggregate per square yard (0.010 cu m of aggregate per sq m) of AST.

SECTION 508 – STONE MATRIX ASPHALT:

Subsection 508.01, Description (03/03). Page 288.

Delete the fourth sentence and substitute the following.

Mineral filler and/or fibers shall be used to control draindown.

Subsection 508.02, Materials (03/03), Pages 288 and 289.

Delete the sentence in Heading (a), Asphaltic Cement, and substitute the following.

Asphalt cement shall be PG76-22m as listed on QPL 41 and complying with Section 1002.

Delete the first sentence of Heading (c), Additives, and substitute the following.

Additives shall meet the requirements of Subsection 502.02(b) except mineral filler and/or fibers will be required.

Delete the sentence in Heading (c)(2), Mineral Filler, and substitute the following.

Mineral filler shall comply with Subsection 1003.06(a)(6).

Delete the first sentence of Heading (c)(3), Fibers, and substitute the following.

A cellulose or mineral fiber, pre-approved by the Department, shall be used to prevent draindown or to serve as a filler.

Subsection 508.03, Job Mix Formula (JMF)(03/03), Page 289.

Delete the fifth sentence of the first paragraph and substitute the following.

An anti-strip additive shall be included in accordance with Section 502.

Delete Heading (a), Marshall Design.

Subsection 508.04, Validation (03/03), Page290.

Delete the second sentence and substitute the following.

Validation will be on the first sublot and will include the QC and QA results on mixture gradation, percent asphalt cement, volumetrics, asphalt draindown, percent anti-strip additive, and moisture susceptibility testing.

Subsection 508.05, Quality Control (03/03), Page290.

Delete the first sentence of the first paragraph and substitute the following.

Percent asphalt cement, gradation, G_{mm}, and volumetrics shall be measured in accordance with Section 502. A lot size shall be 5000 tons (5000 Mg) and a sublot size shall be 1000 tons (1000 Mg).

Delete Heading (b), Marshall Design.

Subsection 508.06, Acceptance Testing (03/03), Pages 290 and 291.

Delete the fifth sentence of the first paragraph and substitute the following.

Plant acceptance tests will include, percent anti-strip, air voids, VMA and gradation [No. 4 and No. 200 (4.75 mm and 75 μm) sieves].

Delete Heading (b), Marshall Design.

Delete the sentence in Heading (f), Surface Tolerance and substitute the following.

Surface tolerance will be measured in accordance with Section 502.

FOR INFORMATION ONLY

Subsection 508.07, Acceptance for Pay (03/03), Pages 291-293.

Delete the second sentence of the first paragraph and substitute the following.

Acceptance is based on Plant Acceptance Tests and Roadway Acceptance Tests as follows:

Delete Heading (a), Asphalt Cement Properties.

Delete the first sentence of Heading (c)(2), Surface Tolerance, and substitute the following.

The percent payment reported for surface tolerance will be for the entire lot in accordance with Section 502.

Delete the second sentence of Heading (d), Total Percent Payment.

Subsection 508.10, Compaction (03/03), Page293.

Add the following.

Excessive rippling of the mat surface will not be accepted. Ripples are small bumps in the pavement surface, which usually appear in groups in a frequent and regular manner. Specifically, a ripple is visible on the profilograph trace, but does not necessarily appear above or below the 0.2 inch (5 mm) blanking band required by DOTD TR 641. There shall be no more than 12 ripples or peaks in any 100-foot (30 m) section. Rippling indicates a problem with the paving operation or mix that requires immediate corrective action by the contractor; otherwise operations shall cease. Unacceptable areas shall be corrected at no direct pay.

Subsection 508.11, Measurement (03/03), Page 293.

Delete the first sentence and substitute the following.

SMA will be measured by the ton (Mg) lot in accordance with Subsection 502.13(a) and as amended herein.

Subsection 508.12, Payment (03/03), Pages 293 and 294.

Delete the second sentence and substitute the following.

Payment will be made at an adjusted contract unit price per lot in accordance with Table 508 -2.

Delete Tables 508-1 and 508-2 and substitute with Tables 508-1 and 508-2 contained herein.

FOR INFORMATION ONLY

Table 508-1
Stone Matrix Asphalt (SMA) Mix Properties

A. MIXTURE REQUIREMENTS

GRADATION			VOLUMETRICS		
US Sieve (Metric Sieve)	Percent Passing	JMF Tolerance, %	Properties	Requirements	Tolerance
3/4 inch (19 mm)	100	±4	Air Voids, %		
1/2 inch (12.5 mm)	90 - 100	±4	Superpave Gyratory Compactor (@ 100 revolutions)	4.0	±1.0
3/8 inch (9.5 mm)	75 Max.	±4			
No.4 (4.75 mm)	24 - 34	±4	VMA, %	16.0 minimum	
No.8 (2.36 mm)	16 - 28	±4	VFA, %	For Info. Only	
No. 30 (600 μm)	12 - 25	±3	G_{mb} (Control Only)	Per JMF	±0.022
No. 50 (300 μm)	11 - 22	±3	G_{mm} (Control Only)	Per JMF	±0.020
No. 200 (75 μm)	7 - 13	±1			

B. PAVEMENT DENSITY REQUIREMENTS

Density, Minimum 94.0 % (Percent of Theoretical Maximum Specific Gravity, AASHTO T 209) Travel Lanes
Density, Minimum 92.0 % (Percent of Theoretical Maximum Specific Gravity, AASHTO T 209) Shoulders

C. SURFACE TOLERANCE REQUIREMENTS

Surface Tolerance Variation - Refer to Section 502, Table 502-3

FOR INFORMATION ONLY

Table 508-2
Payment Adjustment Schedules

Values shall be based on average of sublots unless otherwise noted:	Percent of Contract Unit Price Per Lot			
	100	95	80	50 or Remove[1]
A. Asphalt Properties, % (Reference Table 1002-1)	---	---	---	---
B. Plant Acceptance:				
Anti-Strip Additive, % Below JMF per Sublot	---	0.2 or More Below	---	---
% Air Voids, Average Sublot % Deviation from JMF Limits/Lot	0.0 - 0.1	0.2 - 0.3	0.4 - 0.5	0.6 and Greater
% VMA, Average Sublot % Deviation from JMF Below the Minimum Limit/Lot	0.0 - 0.2	0.3 - 0.5	0.6 - 0.8	0.9 and Greater
Aggregate Gradation, Average Sublot % Deviation from JMF Limits/Lot				
No. 4 (4.75 mm)	0.0 - 1.0	1.1 - 2.0	2.1 - 3.0	3.1 and Greater
No. 200 (75 μm)	0.0 - 0.5	0.6 - 1.0	1.1 - 2.0	2.1 and Greater
C. Roadway Acceptance:				
Roadway Density, Average Individual Sublot % Deviation from Minimum	0.0	0.1 - 1.0	1.1 - 2.5	2.6 and Greater
Surface Tolerance, Profilograph Reading in inches/mile (mm/km) (Reference Table 502-7)	---	---	---	---

[1] At the option of the engineer.

FOR INFORMATION ONLY

SECTION 509 – COLD PLANING ASPHALTIC PAVEMENT

Subsection 509.03, Construction Requirements (03/02), Pages 297-299.

Delete the eighth paragraph of Heading (a), General, and substitute the following.

The DOTD encourages reclamation and recycling of all materials obtained within the project limits. All reclaimed asphaltic pavement (RAP) material to be retained by the DOTD for its recycling program, or by other government entities, shall be hauled by the contractor to the storage facility indicated on the plans and stockpiled as directed. The contractor may also be required to retain a specified percentage or quantity of the RAP generated by the project. When so specified, the bidder shall indicate in his bid the value of the retained material that he used in calculating his bid.

Delete Heading (b) and substitute the following.

(b) The surface tolerance requirements of the cold planed surface for single lift overlays shall meet the requirements for binder course in Sections 501 and 502.

Subsection 509.04, Measurement (03/02), Page 299.

Delete this subsection and substitute the following.

Measurement of cold planing will be made by the square yard (sq m) of asphaltic concrete surfacing satisfactorily removed. The quantity of asphaltic concrete surfacing to be removed from a project and retained by the contractor will be measured by the cubic yard (cu m), theoretical in-place plan quantity, and will be credited to the Department by treating it as a negative quantity in the Schedule of Pay Items.

Subsection 509.05, Payment (03/02), Page 299.

Delete this subsection and substitute the following.

Payment for cold planing of asphaltic pavement will be made at the contract unit price per square yard (sq m), which includes the costs for removing, hauling and stockpiling of RAP material retained by either the Department or the contractor. The value of the RAP material retained by the contractor will be credited to the Department at the contract unit price for the retained material.

Payment for temporary pavement markings will be included under appropriate pay items.

Payment will be made under:

Item No	Pay Item	Pay Unit
509-01	Cold Planing Asphaltic Pavement	Square Yard (Sq m)
509-02	Contractor Retained Reclaimed Asphaltic Pavement	Cubic Yard (Cu m)

SECTION 601 – PORTLAND CEMENT CONCRETE PAVEMENT:

Subsection 601.02 - Materials (06/05), Page 302.

Add the following to the first paragraph.

Aggregates 1003.

Delete the second paragraph and substitute the following.

The contractor shall furnish either Type B or D concrete. The same type of concrete shall be used throughout the project, unless otherwise authorized in writing.

FOR INFORMATION ONLY

Subsection 601.09 – Joints (06/05), Pages 310 – 317.

Delete the fourth paragraph of Heading (i) and substitute the following.

Dowel bars with slightly damaged coatings may be used with the approval of the engineer provided the bars are lightly oiled or greased prior to placement.

Delete the first sentence of the fourth paragraph of Heading (k) and substitute the following.

The concrete used for full depth pavement patching repair shall be the same type used throughout the project. If approved by the engineer, full depth patching can be substituted with Type E concrete.

Add the following paragraph to Heading (k).

Concrete used for panel replacement repair shall be the same type used throughout the project. If approved by the engineer, Class A concrete can be substituted for panel replacement pavement repair.

Subsection 601.17 - Opening to Traffic (09/02), Page 331.

Delete the text of this subsection and substitute the following.

The pavement shall not be opened to traffic until standard test specimens complying with Subsection 601.07 have attained a compressive strength of 3,000 psi (21.0 MPa) when tested in accordance with DOTD TR 230. For regular portland cement concrete, if the compressive strength tests are not conducted, the pavement shall not be opened to traffic until 14 days after concrete has been placed. For concrete containing fly ash or ground granulated blast-furnace slag, the pavement shall be closed to all traffic, including vehicles of the contractor, until the test specimens have attained a compressive strength of 3,000 psi (21.0 MPa). The pavement shall be cleaned and joints sealed in accordance with Subsection 601.13 prior to opening to traffic.

SECTION 602 – PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION:

Subsection 602.07 - Full Depth Corner Patching of Jointed Concrete Pavement (06/05), Pages 339 – 341.

Delete the first sentence of the seventh paragraph and substitute the following.

Concrete for pavement patching shall be Type E complying with Section 901.

Subsection 602.08, Full Depth Patching of Jointed Concrete Pavement (06/05), Pages 341 and 342.

Delete the first sentence of the eighth paragraph and substitute the following.

Concrete for pavement patching shall be Type E complying with Section 901.

Subsection 602.09, Partial Depth Patching of Jointed Concrete Pavement (06/05), Pages 343 – 345.

Delete the first sentence of the first paragraph of Heading (b)(1) and substitute the following.

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Portland cement concrete for pavement patching shall be Type E complying with Section 901, except that a Grade F aggregate shall be used.

Subsection 602.10, Patching Continuously Reinforced Concrete Pavement (06/05), Pages 345 – 347.

Delete the first sentence of the eighth paragraph and substitute the following.

Concrete for pavement patching shall be Type E complying with Section 901.

Subsection 602.18, Payment (06/01), Page 358.

Delete Pay Item No. 602-15, Cross-Stitching Longitudinal Joints.

Delete Pay Item No. 602.16, Cross-Stitching Random Longitudinal Joints and substitute the following.

Item No. 602-16 Cross-Stitching Random Longitudinal Cracks Linear Foot (lin m)

SECTION 701 – CULVERTS AND STORM DRAINS:

Subsection 701.02 – Materials (08/04), Pages 361 – 363.

Delete the text of this subsection and substitute the following.

701.02 Materials. Materials shall comply with the following:

FOR INFORMATION ONLY

Usable Soil	203.06(a)
Selected Soil	203.06(b)
Plastic Soil Blanket	203.10
Flowable Fill	710
Mortar	702.02
Portland Cement Concrete	901
Granular Material	1003.07
Bedding Material	1003.08
Concrete Sewer Pipe	1006.02
Reinforced Concrete Pipe	1006.03
Reinforced Concrete Pipe Arch	1006.04
Gasket Materials	1006.06
Plastic Pipe	1006.07
Sewer Pipe	1006.07
Split Plastic Coupling Bands	1006.07(d)(4)
Plastic Yard Drain Pipe	1006.09
Bituminous Coated Corrugated Steel Pipe and Pipe Arch	1007.02
Structural Plate for Pipe and Pipe Arch	1007.04
Corrugated Aluminum Pipe and Pipe Arch	1007.05
Coupling Bands	1007.09
Reinforcing Steel	1009
Geotextile Fabric	1019

(a) Quality Assurance: Manufacturing plants will be periodically inspected for compliance with specified manufacturing methods, and material samples will be randomly obtained for laboratory testing for verification of manufacturing lots. Materials approved at the manufacturing plant will be subject to visual acceptance inspections at the jobsite or point of delivery.

(b) Side Drain Pipe or Side Drain Pipe Arch: When the item for Side Drain Pipe or Side Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, corrugated metal pipe or corrugated metal pipe arch, or plastic pipe, unless otherwise specified.

(c) Cross Drain Pipe or Cross Drain Pipe Arch: When the item for Cross Drain Pipe or Cross Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, corrugated metal pipe or corrugated metal pipe arch, or plastic pipe, unless otherwise specified.

(d) Storm Drain Pipe or Storm Drain Pipe Arch: When the item for Storm Drain Pipe or Storm Drain Pipe Arch is included in the contract, the contractor has the option of furnishing reinforced concrete pipe or reinforced concrete pipe arch, or plastic pipe, unless otherwise specified.

FOR INFORMATION ONLY

(e) Material Type Abbreviations:

(1) Reinforced Concrete Pipe:

RCP	Reinforced Concrete Pipe
RCPA	Reinforced Concrete Pipe Arch

(2) Corrugated Metal Pipe:

CAP	Corrugated Aluminum Pipe
CAPA	Corrugated Aluminum Pipe Arch
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
CSPA	Corrugated Steel Pipe Arch
BCCSP	Bituminous Coated Corrugated Steel Pipe
BCCSPA	Bituminous Coated Corrugated Steel Pipe Arch

(3) Plastic Pipe:

PP (or PCP)	Plastic Pipe
PVCP (or PVC)	Polyvinyl Chloride Pipe
RPVCP (or RPVCCP)	Ribbed Polyvinyl Chloride Pipe
CPEPDW (or CPECP)	Corrugated Polyethylene Pipe (Double Wall)

(f) Joint Type Abbreviations:

T1	Type 1 Joint
T2	Type 2 Joint
T3	Type 3 Joint

(g) Yard Drain Pipe: When the item for Yard Drain Pipe is included in the contract, the contractor has the option of furnishing concrete sewer pipe, plastic yard drain pipe or plastic pipe in accordance with Section 1006 unless otherwise specified.

Subsection 701.06 – Joining Pipe, (07/02), Pages 364 – 366.

Delete the second sentence of the second paragraph in Heading (b) and substitute the following.

For pipe equal to or less than 36 inches (900 mm) in diameter, any approved method for joining pipe may be used which does not damage the pipe.

Subsection 701.08 – Backfilling (09/05), Pages 366 and 367.

Delete this subsection and substitute the following.

701.08 BACKFILLING.

(a) General: Prior to backfilling, pipes found to be damaged or out of alignment or grade shall be removed and reinstalled, or replaced.

Type A backfill material shall be stone, recycled portland cement concrete, or flowable fill.

Type B backfill material shall be stone, recycled portland cement concrete, flowable fill, selected soils, or granular material.

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When Type A backfill material is used, geotextile fabric shall be placed in accordance with plan details prior to placing backfill material. Care shall be taken to prevent damage to geotextile fabric during placement of backfill material.

Adjacent rolls of fabric shall be overlapped or sewn. When rolls are overlapped, the overlap shall be a minimum of 18 inches (450 mm), including the ends of the rolls. The top layer of the fabric shall be parallel with adjacent rolls and in the direction of backfill materials placement. When rolls are sewn, the contractor shall join adjacent rolls by sewing with polyester, or Kevlar thread. Field sewing shall employ the "J" seam or "Butterfly" seam with the two pieces of geotextile fabric mated together, turned in order to sew through 4 layers of fabric and sewn with 2 rows of Type 401, two-threaded locking chain stitch. Factory seams other than specified shall be submitted to the Materials and Testing Section for approval.

Damaged fabric shall be either removed and replaced with new fabric or covered with a second layer of fabric extending 2 feet (0.6 m) in each direction from the damaged area.

(b) Backfill Applications:

(1) Paved Areas: Cross drains and side drains in paved areas subject to traffic loads such as roadway travel lanes, shoulders, and turnouts shall be backfilled with Type A material. Type B backfill material shall be used in all other paved areas including driveways, detour roads and similar installations. Selected soils will not be allowed as backfill material. Placement and compaction shall be as specified in Heading (c) below.

(2) Nonpaved Areas: Pipe backfill material, except for plastic pipe, shall be Type B backfill material placed by approved methods and compacted to the density of surrounding soil. Plastic pipe shall be backfilled with granular material or Type A backfill Material.

(c) Placement and Compaction: When corrugated metal pipe is used, the backfill material shall be tested and shall have a resistivity greater than 1500 ohm-cm and a pH greater than 5 when tested in accordance with DOTD TR 429 and DOTD TR 430 respectively.

If the top of pipe is even with or below the top of the trench, backfill material shall be brought up evenly on both sides of pipe for its full length to an elevation of 12 inches (300 mm) above the top of pipe [or to subgrade if less than 12 inches (300 mm)] or to natural ground elevation, whichever is greater.

When the top of the pipe is above the top of the trench, backfill material shall be brought up evenly on both sides of pipe for its full length to 12 inches (300 mm) above the top of pipe or to subgrade if less than 12 inches (300 mm). Material in the trench and above the top of the trench for a distance on each side of the pipe equal to the horizontal outside diameter for corrugated metal or plastic pipe and 18 inches (450 mm) for concrete pipe, and to 12 inches (300 mm) above the top of pipe or to subgrade if less than 12 inches (300 mm) shall be backfill material.

The embankment shall be constructed to a minimum of 24 inches (600 mm) over the pipe before heavy construction equipment is allowed to cross the installation. Where practical, installations with less than 24 inches (600 mm) of cover over the top of the pipe shall be constructed after heavy hauling is completed over the pipe location. After completion of hauling operations, the contractor shall remove excess cover material. Pipe damaged by hauling and backfilling operations shall be removed and reinstalled, or replaced, at no direct pay.

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(1) Backfill Methods:

a. General: Compaction by flooding will not be allowed.

b. Selected Soils: Backfill shall be placed at or near optimum moisture content determined in accordance with DOTD TR 415 or TR 418 in layers not exceeding 8 inches (200 mm) compacted thickness. Backfill material shall be thoroughly compacted under the haunches of the pipe. Each layer shall be compacted by approved methods to at least 95 percent of maximum dry density prior to placement of a subsequent layer.

c. Granular Material: Backfill shall be placed at or near optimum moisture content determined in accordance with DOTD TR 415 or TR 418. Backfill material shall be thoroughly compacted under the haunches of the pipe and then compacted in layers not exceeding 12 inches (300 mm) compacted thickness. Each layer shall be compacted by approved methods to at least 95 percent of maximum dry density prior to placement of a subsequent layer. Exposed slopes at the pipe ends shall be covered by at least 12 inches (300 mm) compacted thickness of plastic soil blanket.

d. Flowable Fill: Flowable fill shall be in accordance with Section 710.

e. Stone or Recycled Portland Cement Concrete: Backfill shall be placed at or near optimum moisture content determined in accordance with DOTD TR 415 or TR 418. Backfill material shall be thoroughly compacted under the pipe haunches and then compacted in layers not exceeding 8 inches (200 mm) compacted thickness. With approval of the engineer, layer thickness may be increased to 12 inches (300 mm) with verification of satisfactory installation and performance. Each layer shall be compacted by approved methods to at least 95 percent of maximum dry density prior to placement of a subsequent layer. The contractor shall control placement operations so as not to damage protective coatings on metal pipes. The contractor shall repair damaged coatings at no additional pay.

(2) Density Requirements: Maximum dry density will be determined in accordance with DOTD TR 415 or TR 418 and in-place density determined in accordance with DOTD TR 401.

Subsection 701.09 – Inspection of Pipe (07/02), Pages 367 and 368.

Delete the fifth paragraph of Heading (a) and substitute the following.

The mandrel shall be a rigid, nonadjustable, odd-numbered legged (minimum 9 legs) mandrel having a length not less than its nominal diameter or 24 inches (600 mm), whichever is less. The minimum diameter at any point shall be 5.0 percent less than the base inside diameter of the pipe being tested. The mandrel shall be fabricated of steel, aluminum or other approved material fitted with pulling rings at each end. The nominal pipe size and outside diameter of the mandrel shall be stamped or engraved on some segment other than a runner. A suitable carrying case shall be furnished.

Subsection 701.13 – Payment (08/04), Page 370.

Add the following to Heading (a), Payment.

When plastic pipe is specified on the plans or elected to be used by the contractor, payment will be made at the contract unit price per linear foot (lin m) of the types and sizes specified in accordance with the payment schedule of Table 701-1.

FOR INFORMATION ONLY

Table 701-1
Payment Schedule for Plastic Pipe

Percent Payment	Stage of Completeness
75	After placement and backfill has been completed
25	After the pipe has met vertical deflection requirements in accordance with Subsection 701.09(a)

Add the following pay item to the second paragraph of Heading (e).

Item No.	**Pay Item**	**Pay Unit**
701-16	Plastic Pipe (Extension)	Linear Foot (Lin m)

SECTION 702 – MANHOLES, JUNCTION BOXES, CATCH BASINS, AND END TREATMENTS:

Subsection 702.02 – Materials (06/02), Page371.

Delete "Manholes, Frames, Grates and Covers" from the first paragraph and substitute the following.

Frames, Grates and Covers for Manholes, Catch Basins and Junction Boxes 1018.04.

Delete the second sentence of the second paragraph.

Subsection 702.03 – Quality Assurance (06/02), Page 371.

Delete the second sentence of the first paragraph and substitute the following.

Material samples will be randomly obtained for laboratory testing for verification of manufacturing lots.

Subsection 702.07 – Payment (06/01), Page 374.

Delete the first sentence of the second paragraph and substitute the following:

The concrete in cast-in-place manholes, junction boxes, catch basins, and culvert end treatments and safety ends will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-4 and Note 1 therein.

SECTION 704 – GUARD RAIL

Subsection 704.03 – General Construction Requirements (01/05), Pages 380 and 381.

Add the following to subparagraph (d), Guard Rail End Treatments.

All end treatments shall bear a label indicating the manufacturer and exact product name of the end treatment along with its assigned NCHRP 350 test level. This label shall resist weathering and shall be permanently affixed to the railing in such a way as to be readily visible.

FOR INFORMATION ONLY

SECTION 705 – FENCES:

Subsection 705.06 - Chain Link Fence and Gates (06/01), Pages 384 and 385.

Delete the second sentence of the first paragraph of Heading (a) and substitute the following:

Portable mixing of concrete in accordance with Subsection 901.10(g) will be permitted for small quantities of concrete.

SECTION 706 – CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING:

Subsection 706.01 – Description (12/03), Page 387.

Delete this subsection and substitute the following.

This work consists of furnishing and constructing portland cement concrete walks, handicapped curb ramps, drives and incidental paving slabs in accordance with these specifications and in conformity with lines, grades and dimensions shown on the plans or established.

Subsection 706.03 – Construction Requirements (12/03), Pages 387 and 388.

Add the following.

(g) Detectable Warning Surface for Handicap Ramps: Handicapped curb ramps installed shall be equipped with a detectable surface warning system consisting of raised truncated domes as a transition between the sidewalk and the street as required by the Americans with Disabilities Act, 28 CFR Part 36, ADA Standards for Accessible Design. These standards are further described in the Americans with Disabilities Act Accessibility Guidelines (ADAAG), Section 4.29.2.

Detectable warnings (truncated domes) shall be installed on the ramp surface over the full width of the ramp throat for a distance of 24 inches (600 mm) in the direction of travel from the back of the curb. Truncated domes shall be laid out on a square or triangular grid in order to allow enough space for wheelchairs to roll between the domes.

Light reflectance of the truncated domes and the underlying surface must meet the 70 percent contrast requirement of ADAAG.

Subsection 706.04 – Measurement (12/03), Page 388.

Add the following.

Handicapped curb ramps included in the construction of a concrete walk, including the detectable surface warning system, will not be measured for payment.

SECTION 707 – CURBS AND GUTTERS:

Subsection 707.12 – Payment (06/01), Pages 392 and 393.

Delete the first sentence of Heading (b) and substitute the following:

The concrete in the curbs and/or gutters will be identified by lots and shall be subject to pay adjustments per linear foot (lin m) in accordance with Table 901-4.

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SECTION 709 – STEEL CATTLE GUARDS:

Subsection 709.05 – Payment (06/01), Page 397.

Delete the second sentence and substitute the following:

The concrete placed in cattle guards will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-4 and Note 1 therein.

SECTION 713 – TEMPORARY SIGNS, BARRICADES, BARRIERS AND PAVEMENT MARKINGS:

Subsection 713.08 – Payment (06/01), Pages 414 and 415.

Delete the third sentence of the second paragraph and substitute the following:

The concrete in temporary precast barriers furnished by the contractor will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-3 and Note 1 therein.

SECTION 714 – SLAB SODDING

Subsection 714.08 – Measurement (07/03), Page 417.

Delete Heading (b), Water.

Subsection 714.09 – Payment (07/03), Page 417.

Delete the first sentence of the first paragraph and substitute the following.

Payment for slab sodding will be made at the contract unit price.

Delete Pay Item No. 714-02, Water.

SECTION 717 – SEEDING:

Subsection 717.06 – Temporary Seeding (06/01), Page 423.

Add the following to Table 717-1, Temporary Seeding. Type G, Seed Mixtures, is amended to add Unhulled Bermuda.

Subsection 717.08 – Measurement (07/03). Page 424.

Delete the second sentence and substitute the following.

Topsoil, fertilizer, and agricultural lime will be measured in accordance with Sections 715 and 718.

Subsection 717.09 – Payment (07/03), Page 424.

Delete the second sentence of the first paragraph and substitute the following.

Payment for topsoil, fertilizer, and agricultural lime will be made in accordance with Sections 715 and 718.

SECTION 719 – LANDSCAPING:

Subsection 719.07 – Period of Establishment and Replacement (05/05), Pages 433 – 435.

Delete the first paragraph of Heading (a) and substitute the following.

The contractor shall care for planted and mulched areas for a period of establishment, which shall be one full growing season, after provisional acceptance is made. A growing season

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shall begin April 16 and extend one full year until April 16 of the next year. The contractor can complete planting any time during the planting season specified in Subsection 719.06(a) prior to April 16. If the contractor completes planting prior to April 16, the growing season shall begin at provisional acceptance and extend to April 16 of the following year. Any extension of the planting season past April 15 shall result in an extension of the period of establishment to October 31 of the following year. During the period of establishment, the contractor shall preserve plants in a healthy, growing condition. Such plant establishment work shall include cultivation, weeding, watering, pruning, controlling insects, pests and disease and other work determined necessary by the engineer to ensure healthy plant growth.

Subsection 719.08 – Measurement (07/03), Page 435.

Delete the second paragraph.

SECTION 723 – GRANULAR MATERIAL:

Subsection 723.03 – Construction Requirements (06/01), Page 442.

Delete the text of this subsection and substitute the following:

Materials shall be placed, properly shaped and uniformly compacted by approved methods to a minimum of 95 percent of maximum dry density. Maximum dry density will be determined in accordance with DOTD TR 415 or TR 418 and in-place density will be determined in accordance with DOTD TR 401. Granular materials shall not be displaced during subsequent operations.

SECTION 724 – PAVEMENT PATCHING, WIDENING AND JOINT REPAIR:

Subsection 724.02 – Materials (09/02), Page 444.

Delete the second paragraph and substitute the following.

Asphaltic concrete for patching and widening may be any type mixtures listed in Section 501 or 502, except that the 1/2-inch (12.5 mm) nominal size mixture shall not be used. Asphaltic concrete for joint repair shall be incidental paving wearing course complying with Section 501 or 502. Asphalt tack coat shall comply with Section 504.

SECTION 729 – TRAFFIC SIGNS AND DEVICES:

Subsection 729.02 – Materials (01/06). Pages 457 & 458.

Delete the second paragraph and Table 729-1 and substitute the following.

Reflective sheeting for the permanent signs of Table 729-1 shall meet the requirements of ASTM D 4956 Type IX.

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Table 729-1
Permanent Signs for Use with ASTM D 4956
Type IX Reflective Sheeting

Sign	MUTCD Number
Stop	R1-1
Yield	R1-2
4-Way	R1-3
All Way	R1-4
Do Not Enter	R5-1
Wrong Way	R5-1a
Chevrons	W1-8
No Passing Zone Pennants	W14-3
Type 3 Object Marker	OM-3 (Right & Left)
Type 2 Object Marker	-------
Guardrail End Decals	-------

Subsection 729.03 – General Requirements (08/02), Pages 458 and 459.

Delete Heading (c) and substitute the following.

(c) Material Sampling and Certification: Material sampling and certification for sign faces, sign mountings and U-channel posts shall be in accordance with the Materials Sampling Manual.

Subsection 729.04 – Fabrication of Sign Panels and Markers (01/06), Pages 459 – 462.

Delete the third paragraph of Heading (c) and substitute the following.

ASTM D 4956 Type IX reflective sheeting shall be applied with an orientation determined by the engineer to obtain the optimum entrance angle performance. Fabricated vertical splices in ASTM D 4956 Type IX reflective sheeting will be allowed only when the horizontal dimension of the sign face or attached shield is in excess of the maximum manufactured width of the sheeting. Fabricated vertical splices in ASTM D 4956 Type IX reflective sheeting will also be allowed when the specified orientation will create excessive sheeting waste.

Subsection 729.09 – Payment (06/01), Pages 465 – 467.

Delete the second sentence of Heading (f) and substitute the following:

The concrete in footings will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-4 and Note 1 therein.

SECTION 730 – ELECTRICAL SYSTEMS:

Subsection 730.02 – Equipment and Materials (05/04), Pages 468 and 469.

Delete the third line of the seventh paragraph and substitute the following.

Portland Cement Concrete (Classes M and S) 901

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Subsection 730.09 – Payment (06/01), Page 474.

Delete the second sentence and substitute the following:

The concrete in foundations for light poles, high mast poles, and other electrical equipment will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-4 and Note 1 therein.

SECTION 732 – PLASTIC PAVEMENT MARKINGS:

Subsection 732.02 – Materials, (05/02), Page 478.

Delete the fourth sentence of the second paragraph in Heading (a) and substitute the following.

Glass beads used on drop-on application to molten plastic shall be shipped in moisture resistant sacks (packages).

Subsection 732.03 – Construction Requirements (05/02), Pages 478 – 484.

Delete the eighth sentence of the first paragraph of Heading (a) and substitute the following.

Glass beads shall be applied to the molten surface of completed stripes by either a single drop or a double drop application depending on the thickness of the thermoplastic striping as shown in Table 1015-15. The first bead drop shall be applied by a gravity bead dispenser attached to the striping machine in such a manner that beads are dispensed simultaneously with the thermoplastic material at a controlled rate of flow on installed lines. The second bead drop shall be applied immediately after the first bead drop by a gravity bead dispenser attached to the striping machine.

Delete the second sentence of the second paragraph of Heading (d)(1) and substitute the following.

Immediately after application of the markings, glass beads for a single drop application shall be applied at a minimum rate of 300 pounds per mile (85 kg/km) for a 4-inch (100 mm) solid line stripe. Glass beads for a double drop application shall be applied at a rate of 211 pounds per mile (60 kg/km) for the first drop on a 4-inch (100 mm) solid line and 211 pounds per mile (60 kg/km) for the second drop.

Subsection 732.04 – Measurement (05/02), Pages 484 and 485.

Delete Heading (c) and substitute the following.

Removal of existing pavement markings for undivided highways will be measured by the linear mile (km) of full roadway width including shoulders. For divided highways, the full roadway width including shoulders and ramps will be measured separately for each direction of travel. Removal of pavement markings will include removal of lane lines, edge lines, gore markings, symbols, and raised pavement markings.

SECTION 733 – CONCRETE ROADWAY BARRIERS:

Subsection 733.05 – Payment (06/01), Page 487.

Delete the second and third sentences of the first paragraph and substitute the following:

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The concrete in cast-in-place roadway barriers will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-4 and Note 1 therein. The concrete in precast roadway barriers will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-3 and Note 1 therein.

SECTION 736 – TRAFFIC SIGNALS:

Subsection 736.13 – Vehicle and Pedestrian Signal Heads (04/04), Page 498.

Add the following.

A 12-inch (300 mm) light emitting diode (LED) traffic signal lamp unit shall be provided as part of a new traffic signal head or as a retrofitted replacement into a new or existing signal housing in accordance with Section 1020, the plans and these specifications including all materials, tools, equipment, labor and incidentals necessary to complete the work.

Installation of a retrofitted replacement LED traffic signal lamp unit into a new or existing signal housing shall only require removal of the existing lens and incandescent lamp, fitting of the new unit securely in the housing door, and connecting the new unit to existing electrical wiring or terminal block by means of simple connectors. The LED retrofit shall not require the removal of the reflector. The existing wiring for the incandescent socket shall remain in place, but shall be disconnected from the terminal block, and neatly coiled adjacent to the terminal block with connectors taped with electrical tape to prevent accidental short circuits.

If proper orientation of the LED traffic signal lamp unit is required for optimum performance, prominent and permanent directional marking(s), such as an "UP arrow", for correct indexing and orientation shall exist on the unit.

The contractor shall neatly inscribe the installation date on the back of each LED traffic signal lamp unit.

Each LED traffic signal lamp unit shall be provided with the following documentation:

1. Complete and accurate installation wiring guide.
2. Contact name, address, and telephone number for the representative, manufacturer, or distributor for warranty replacement.

Each LED traffic signal lamp unit shall be individually packaged, and delivered securely bound on pallets. Each package shall be labeled with the manufacturer's name, individual serial number, manufactured date, model, and batch or lot number.

Subsection 736.21 – Measurement (04/04), Pages 502 and 503.

Delete Heading (c), Jacking or Boring Conduit, and substitute the following.

(c) Jacked or Bored Conduit: Jacked or bored conduit will be measured by the linear foot (lin m) of conduit furnished and installed. Measurement will include the conduit, fittings, excavation, backfilling and duct markers.

Delete Heading (e), Signal Heads, and substitute the following.

Signal heads will be measured per each head installed and/or retrofitted, and accepted. Measurement will include disconnect hangers, traffic signal wiring attached to overhead span, closure caps, mounting hardware, LED traffic signal lamp units, head programming, mounting connections and hardware.

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Subsection 736.22 – Payment (07/03), Pages 503 and 504.

Delete the first sentence of the second paragraph and substitute the following:

The concrete in foundations for signal supports, signal controllers, and other signal equipment will be identified by lots and shall be subject to pay adjustments in accordance with Table 901-4 and Note 1 therein.

Delete Pay Item No. 736-03, Jacking or Boring Conduit (Size & Type), and substitute the following.

736-03	Jacked or Bored Conduit (Size & Type)	Linear Foot (lin. m)

SECTION 737 – PAINTED TRAFFIC STRIPING:

Subsection 737.03 – Equipment (03/02), Page 505.

Delete Heading (d) and substitute the following.

(d) Equipment shall provide a gravity bead dispenser for drop-on application of glass beads.

Subsection 737.06 – Application (03/02), Page 506.

Delete the first sentence of the second paragraph of Heading (b) and substitute the following.

Glass beads shall be applied at the same time, but in a separate operation, at the rate of 12 pounds of beads per gallon of paint (1.44 kg/L). Beads shall be applied at a rate of 10 miles per hour (16 km/h) or less.

SECTION 738 – MULCH SODDING

Subsection 738.06 – Payment (07/03), Page 509.

Delete the second sentence of the first paragraph.

SECTION 739 – HYDRO-SEEDING

Subsection 739.03 – Hydro-Seeding General (12/04), Pages 510 and 511.

Delete the first paragraph and substitute the following.

Hydro-seeding shall consist of mixing and applying seed, commercial fertilizer, water management gel, polyacrylamide tackifier, and mycorrhizal inoculum with paper or wood fiber and water. Seed and commercial fertilizer shall be uniformly spread over the area at the rates specified in Table 717-1 and Table 718-1. Paper or wood fiber shall be mixed and applied with the seed in accordance with the manufacturer's recommendations and as approved by the engineer. The contractor will be permitted to include fertilizer and lime in the seeding slurry for application during hydro-seeding operations.

SECTION 740 – CONSTRUCTION LAYOUT:

Subsection 740.01 – Description (07/04), Page 512.

Delete the second sentence and substitute the following.

The work consists of establishing lines and grades, taking all cross sections, and staking out the construction work in accordance with these specifications, plan details, and as directed.

Add the following.

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This work also includes assistance in the coordination of utility relocation activities to ensure that the placement of relocated facilities will not conflict with required construction.

Subsection 740.02 – Construction Requirements (07/04), Pages 512 and 513.

Add the following.

The contractor shall provide sufficient qualified staff, of at least one employee, on site during relocation periods. The contractor shall provide any necessary survey work to ensure there are no utility conflicts with required construction. The contractor shall provide daily documentation of utility relocation activities for incorporation into the project diaries.

Subsection 740.03 – Measurement (07/04), Page 513.

Add the following.

Utility Oversight and Coordination will be measured as a lump sum which will include all labor, materials, and incidentals required to complete the work.

Subsection 740.04 – Payment (07/04), Page 513.

Add the following.

Payment for Utility Oversight and Coordination will be made at the contract lump sum price.

Payment will be made under:

Item No.	Pay Item	Pay Unit
740-02	Utility Oversight and Coordination	Lump Sum

SECTION 801 – GENERAL REQUIREMENTS FOR STRUCTURES:

Subsection 801.04 – Temporary Bridge Works (04/02), Page 522.

Delete the text of this subsection and substitute the following:

Guidance on the design and construction of all temporary bridge works is contained in two AASHTO publications: "Guide Design Specifications for Bridge Temporary Works" 1995 and "Construction Handbook for Bridge Temporary Works" 1995. These specifications should be followed to ensure the safe design and construction of temporary bridge works.

All field welding of temporary works shall be done by certified welders.

SECTION 805 – STRUCTURAL CONCRETE:

Subsection 805.02 – Materials (12/02), Pages 559 and 560.

Delete Table 805-1, Classes and Uses of Concrete and substitute the following:

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Table 805-1
Classes and Uses of Concrete

Concrete Class	Use
A or A(M)	Concrete exposed to sea water, and all other concrete except as listed herein.
AA or AA(M)	Cast-in-place bridge superstructure
D	Pier footings
F	Dams and flood control structures
P or P(M)	Precast bridge members
P(X)	Precast-prestressed bridge girders
R	Nonreinforced sections
S	Underwater sections

Subsection 805.03 – Handling and Placing Concrete and Precast Units (12/02), Pages 560 – 564.

Add the following to the second paragraph of Heading (a):

For concrete containing fly ash or ground granulated blast-furnace slag, the deck shall be closed to all traffic, including vehicles of the contractor, until the test specimens have attained a compressive strength of 3,200 psi (22.0 MPa).

Subsection 805.11 – Removal of Falsework and Forms (12/02), Pages 569 and 570.

Add the following to the second paragraph:

For concrete containing fly ash or ground granulated blast-furnace slag, only Method 1 shall be used.

Subsection 805.14 – Prestressed Concrete (12/02), Pages 576 – 585.

Add the following to the fourth paragraph of Heading (a):

This office shall also contain two separate telephone lines, one dedicated to the telephone and the other dedicated to a computer.

Subsection 805.18 – Payment (06/01), Pages 588 and 589.

Add the following to Heading (d):

Acceptance and payment for bridge superstructure and substructure will be made on a lot basis at the contract unit price per span, adjusted in accordance with the following provisions. A lot will be considered an identifiable pour as described in Heading (a) of this subsection. Acceptance and payment for each cast-in-place bridge superstructure and substructure lot will be in accordance with Table 901-3 and Note 1 therein. Acceptance for each precast bridge superstructure and substructure lot will be in accordance with Table 901-2.

Add the following to Heading (e):

Acceptance and payment for reinforced concrete box culverts will be made on a lot basis at the contract unit price per linear foot (linear meter), adjusted in accordance with the following provisions. A lot will be considered an identifiable pour as described in Heading (a) of this subsection. Acceptance and payment for each cast-in-place reinforced concrete box culvert lot

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will be in accordance with Table 901-3 and Note 1 therein. Acceptance for each precast reinforced concrete box culvert will be in accordance with ASTM C 1433 (C 1433M).

SECTION 807 – STRUCTURAL METALS:

Subsection 807.04 – Minimum Shop Requirements for Fabrication of Major Bridge Members (04/02), Pages 597 and 598.

Delete the heading and text of this subsection and substitute the following:

MINIMUM SHOP REQUIREMENTS FOR FABRICATION OF STEEL STRUCTURES.

The contractor (fabricator) shall provide sufficient lifting capacity, physical plant and equipment for the fabrication of structural steel. The cranes in each working area shall have a combined rated capacity equal to the lifting weight of the heaviest assembly fabricated for shipment unless alternate lifting and turning facilities are approved.

Lifting chains shall be provided with adequate softeners to prevent damage to the corners of material during lifting and turning. When hooks are used for lifting, they shall have sufficient width of jaw and throat to prevent damage to the flanges or to the web-to-flange welds.

Spreader beams, or multiple cranes, shall be provided for lifting plates and long slender members to prevent overstress and distortion from handling.

Shops shall have sufficient enclosed floor spaces to allow oxygen cutting, air carbon arc gouging, assembly and welding to be performed inside, except that shop assembly of field connections for trusses, girders and arches may be performed outside the shop buildings. The fabrication of major steel bridge components (includes all bridge structures other than unspliced rolled beam bridges) shall only be by fabrication shops having a current AISC Certification for Major Steel Bridges. Current AISC Certification for Simple Steel Bridges will be required for fabrication of highway sign structures, secondary members of bridges (such as cross frames), and unspliced rolled beam bridges. Structures that have fracture critical members shall require an AISC Fracture Critical Endorsement to the fabricator's Simple or Major Steel Bridge Certification. The contractor will be required to provide the engineer with documentation of the certification prior to beginning fabrication.

The engineer may approve limited fabrication and welding outside the shop, provided the fabricator has made provisions to ensure that the quality of the work produced outside the shop buildings will not be adversely affected by weather or other conditions.

All cutting, fitting and welding shall be done in areas that are kept dry. Areas for automatic and semiautomatic welding shall be kept at a temperature not lower than 40°F (5°C) for at least 1 hour before work begins and at all times when work is being performed.

Subsection 807.05 – Inspection (04/02), Pages 598 and 599.

Add the following to the sixth paragraph of Heading (a).

This office shall also contain two separate telephone lines, one dedicated to the telephone and the other dedicated to a computer. The contractor or fabricator shall be responsible for paying all utility bills.

Subsection 807.08 – Straightening Material and Curving Rolled Beams and Welded Girders (05/05), Page 600.

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Delete the third sentence of the paragraph of Heading (a) and substitute the following.

Heat straightening of ASTM A 709, Grade 100 (A 709M, Grade 690), and A 709, Grade 100W (A 709M, Grade 690W) steel shall be done only under rigidly controlled procedures, each application subject to approval of the engineer.

Subsection 807.21 – Connections Using High Strength Bolts (05/05), Pages 607 – 623.

Delete the paragraph of Heading (e)(2) and substitute the following.

When the plans specify the steel as unpainted ASTM A 709, Grade 50W (A 709M, Grade 345W), A 709, Grade HPS 50W (A 709M, Grade HPS 345W), A 709, Grade HPS 70W (A 709M, Grade HPS 485W), or A 709, Grade 100W (A 709M, Grade 690W) contact surfaces within joints shall be thoroughly cleaned by Commercial Blast Cleaning in accordance with Subsection 811.06(c) or other approved methods that will remove all dirt, oil, grease, rust scale, loose mill scale, weld slag and other foreign matter, and shall remain unpainted.

Subsection 807.30 – Bent Plates (05/05), Pages 625 & 626.

Delete the fourth and fifth paragraphs and substitute the following.

Allowance for springback of ASTM A 709, Grade 100 (A 709M, Grade 690), and A 709, Grade 100W (A 709M, Grade 690W) steel should be about three times that for structural carbon steel. For brake press forming, the lower die span should be at least 16 times the plate thickness. Multiple hits are advisable.

If shorter radii are essential, plates shall be bent hot at a temperature not greater than 1150°F (620°C), except for ASTM A 709, Grade 100 (A 709M, Grade 690), and A 709, Grade 100W (A 709M, Grade 690W) steel. If ASTM A 709, Grade 100 (A 709M, Grade 690), and A 709, Grade 100W (A 709M, Grade 690W) steel plates to be bent are heated to a temperature greater than 1125°F (610°C), they must be requenched and tempered in accordance with the producing mill's practice. Hot-bent plates shall conform to the requirements herein for cold-bent plates.

Subsection 807.47 – Straightening Bent Material and Cambering (05/05), Page 632.

Delete the first paragraph of Heading (a) and substitute the following.

Straightening of plates, angles, other shapes and built-up members, when permitted, shall be done by methods that will not produce fracture or other damage. Distorted members shall be straightened by mechanical means or, if approved, by supervised application of a limited amount of localized heat, except that heat straightening of ASTM A 709, Grade 100 (A 709M, Grade 690), and A 709, Grade 100W (A 709M, Grade 690W) steel shall be done only under rigidly controlled procedures, each application subject to approval of the engineer. In no case shall the maximum temperature of ASTM A 709, Grade 100 (A 709M, Grade 690), and A 709, Grade 100W (A 709M, Grade 690W) steel exceed 1125°F (610°C), nor shall the temperature exceed 950°F (510°C) at weld metal or within 6 inches (150 mm) of weld metal. Heat shall not be applied directly on weld metal. In all other steels, the temperature of the heated area shall not exceed 1150°F (620°C) (a dull red) as controlled by temperature indicating crayons, liquids or bi-metal thermometers.

Delete the paragraph of Heading (b) and substitute the following.

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Correction of errors in camber in welded beams and girders of ASTM A 709, Grade 100 (A 709M, Grade 690), and A 709, Grade 100W (A 709M, Grade 690W) steel shall be done only under rigidly controlled procedures, each application subject to approval.

Subsection 807.52 – Weathering Steel (05/05), Pages 633 & 634.

Delete the first paragraph and substitute the following.

When ASTM A 709, Grade 50W (A 709M, Grade 345W), A 709, Grade HPS 50W (A 709M, Grade HPS 345W), A 709, Grade HPS 70W (A 709M, Grade HPS 485W), or A 709, Grade 100W (A 709M, Grade 690W) weathering steel is specified to be left unpainted, the following modifications in the requirements of this subsection shall apply.

Subsection 807.53 – Measurement (05/05), Pages 634 & 635.

Delete the eighth paragraph of Heading (a) and substitute the following.

ASTM A 709, Grade 36 (A 709M, Grade 250), A 709, Grade 50 (A 709M, Grade 345), A 709, Grade 50W (A 709M, Grade 345W), A 709, Grade HPS 50W (A 709M, Grade HPS 345W), A 709, Grade HPS 70W (A 709M, Grade HPS 485W), A 709, Grade 100 (A 709M, Grade 690), or A 709, Grade 100W (A 709M, Grade 690W) steel shall include all steel classified as such in the plans or specifications.

Subsection 807.54 – Payment (05/05), Page 636.

Delete Pay Item 807-04 Steel (ASTM A 709, Grade 70W) (A 709M, Grade 485W).

Add the following Pay Items.

Item No.	Pay Item	Pay Unit
807-07	Steel (ASTM A 709, Grade HPS 50W) (A 709M, Grade HPS 345W)	Pound (kg)
807-08	Steel (ASTM A 709, Grade HPS 70W) (A 709M, Grade HPS 485W)	Pound (kg)
807-09	Steel (ASTM A 709, Grade 100W) (A 709M, Grade 690W)	Pound (kg)

SECTION 810 – BRIDGE RAILINGS AND BARRIERS:

Subsection 810.09 – Payment (06/01), Pages 659 and 660.

Delete the fourth sentence and substitute the following:

Payment for each lot will be subject to adjustments in accordance with Table 901-3 and Note 1.

SECTION 811 – PAINTING AND PROTECTIVE COATINGS:

Subsection 811.01 – Description (08/05), Page 661.

Delete the second paragraph and substitute the following.

Unless otherwise specified, an approved zinc paint system shall be used for coating metal surfaces requiring painting.

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Subsection 811.03 – Materials (08/05), Page 661.

Add the following:

(d) Corrosion Inhibiting Alkyd Paint shall comply with Subsection 1008.06.

(e) Zinc Paint Systems for New Steel and 100 Percent Bare Existing Steel: The zinc paint system shall be an approved system listed on QPL 78. Each system shall be tested in accordance with AASHTO R 31 and meet the requirements of Subsection 1008.07.

The contractor has the option of using any one of these systems; however, no modifications or combinations of the systems will be permitted and the same system shall be used throughout the project.

Subsection 811.04 – Painting Metal (08/05), Pages 661 and 662.

Add the following:

(c) Corrosion Inhibiting Alkyd Paint System: Corrosion Inhibiting Alkyd Paint shall be a non-polluting pigmented alkyd paint to be used in a three-coat paint system on properly prepared structural steel surfaces to be permanently exposed. The contractor has the option of using either System A or System B, however, whichever system is selected shall be used on the entire project. The primer and intermediate coats shall be tinted for color contrast.

The minimum dry film thickness of the coatings shall be as follows:

Prime Coat	-	2.0 mils (50 μm)
Intermediate Coat	-	2.0 mils (50 μm)
Aluminum Topcoat	-	2.0 mils (50 μm) - AASHTO M69, Type I

(d) Zinc Paint Systems for New Steel and 100 Percent Bare Existing Steel: The specified dry film thickness of coatings shall be as published in QPL 78.

Subsection 811.08 – Application (08/05), Pages 664 & 665.

Add the following:

(c) Zinc Paint Systems for New Steel and 100 Percent Bare Existing Steel: Each coat of paint shall be applied with airless or conventional spray equipment. The spray equipment shall apply paint in a fine, even spray. If thinning of paint is allowed, it shall be done in accordance with the paint manufacturer's recommendations, but in no case shall exceed 10 percent. An approved oil/moisture trap shall be placed between air supply and pressure pot. Fluid pressure shall be regulated to deliver a uniform and wet coat of material from the spray gun.

On surfaces inaccessible to spray equipment, paint shall be applied with brush or approved daubers to ensure coverage.

(1) Primer (Shop Primer): Primer for new steel shall be applied after fabrication with one coat of the inorganic zinc paint applied at the shop. The dry-to-handle curing time shall be based on the temperature and relative humidity requirements of the manufacturer's product data sheet curing schedule. A 72 hour curing time will be required for steel painted at the shop before it can be shipped.

(2) Field Painting: Primer for existing steel and damaged areas of newly erected steel with a shop primer coat of inorganic zinc paint shall be applied after the steel is blast cleaned in accordance with Subsection 811.06(b) or power tool cleaned to bare metal in accordance with SSPC SP11 with an approved organic zinc paint system listed on QPL 78. Each coat of paint

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shall be applied in accordance with the dry film thickness requirements listed on QPL 78 and allowed to cure in accordance with temperature and relative humidity requirements of the manufacturer's product data sheet curing schedule.

(3) Intermediate Coat and Topcoat: Unless otherwise specified, intermediate coat and topcoat paint for new steel shall be applied after field erection, field spot painting and cleaning of primer surfacing. Dust film, dry spray, overspray or other residue shall be removed prior to painting. The use of sand paper for cleaning is acceptable, provided the minimum dry film thickness of primer remains.

SECTION 813 – CONCRETE APPROACH SLABS:

Subsection 813.10 – Payment (06/01), Page 677.

Delete the last sentence of the second paragraph and substitute the following:

Acceptance and payment for each lot will be made in accordance with Table 901-3 and Note 1.

SECTION 814 – DRILLED SHAFT FOUNDATIONS:

Subsection 814.23 – Payment (06/01), Pages 703 and 704.

Delete the fifth sentence of the second paragraph of Heading (a) and substitute the following:

Acceptance and payment for each lot will be made in accordance with Table 901-3 and Note 1.

SECTION 901 – PORTLAND CEMENT CONCRETE:

The term "Ground Iron Blast-Furnace Slag is deleted and replaced by the term "Ground Granulated Blast Furnace Slag" throughout Section 901.

Subsection 901.06 – Quality Control of Concrete (03/04), Pages 713 - 715

Add the following to Heading (a).

In developing mix designs for portland cement concrete pavement Types B and D, the proportions of the aggregate sizes to be used shall meet the requirements of Subsection 1003.02(c). All gradation calculations shall be based on percent of dry weight (mass). The percent of the total aggregates retained on each sieve shall be determined mathematically based on the proportions of the combined aggregate blend, and checked for conformance with Table 1003-1A.

Add the following to Heading (b).

When producing concrete for Types B and D pavements, gradations shall be determined daily on each stockpile of aggregate to be used. All gradation calculations shall be based on percent of dry weight (mass). Upon determination of the gradation of each stockpile, the percent of the total aggregates retained shall be determined mathematically based on the proportions of the combined aggregate blend, and checked for conformance with Table 1003-1A.

Delete the first paragraph of Heading (c) and substitute the following.

The contractor may vary the proportions of the aggregate sizes as reviewed and accepted, but in no case shall they be varied so as to materially affect the volume of concrete. If the

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proportions of the aggregate sizes used do not satisfy the gradation requirements of Subsection 1003.02(c) due to changes in the gradation of one or more stockpiles, the proportions shall be adjusted to bring the combined aggregates back within specification limits. These minor adjustments for gradation will not require a new mix design. The mix produced shall be uniform and within the specification limits of Table 901-2. When plant operations do not produce a uniform mix, plant operations will be discontinued.

Delete the first sentence in the third paragraph of Heading (c) and substitute the following.

Adjustments to the proportions of the sizes of aggregates shall not cause the minimum cement factor to deviate from that accepted on the mix design.

Add the following Heading (d).

(d) Acceptance and Verification for Types B and D Pavements: Sampling and testing for acceptance and verification for concrete for Types B and D pavements shall be in accordance with the provisions of the Materials Sampling Manual, except as follows:

(1) Gradation testing for acceptance will not be required.

(2) Verification tests will be performed by the District Laboratory to assure conformance to the gradation of the total combined aggregates shown in Table 1003-1A at the frequency of one sample per aggregate size per lot, with a maximum of one sample per aggregate size per day. Samples are to be obtained from the aggregate feed (conveyor) belt as described in the Materials Sampling Manual, DOTD Designation S101, Aggregates and Aggregate Mixtures.

(3) Upon determination of the gradation of each aggregate size sampled, the percent retained based on the dry weight (mass) of the total combined aggregates will be determined mathematically based on the proportions of the combined aggregate blend, and checked for conformance with Table 1003-1A.

(4) If the results of the verification sample indicate that the combination of aggregates being used does not meet the requirements of Subsection 1003.02(c), the aggregates shall be re-sampled and tested again. If the results of the second verification sample indicate that the combination of aggregates being used does not meet the requirements of Subsection 1003.02(c), the contractor will be notified and required to make adjustments to his operations to produce a mix meeting these specifications. No concrete from this plant shall be placed on DOTD projects until the adjustments are made and approved by the District Laboratory Engineer. An additional verification sample may be required prior to resuming operations.

<u>Subsection 901.07 – Substitutions (06/05), Pages 715 and 716.</u>

Delete this subsection and substitute the following.

901.07 SUBSTITUTIONS. Mixtures may be substituted with approval in accordance with Table 901-1.

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Table 901-1
Portland Cement Concrete Mixture Substitutions

Structural Class[1]	Substitute
AA(M)	No Substitutions
AA	AA(M)
A(M)	AA(M), AA
A	AA(M), AA, A(M)
D	No Substitutions
F	No Substitutions
P(X)	No Substitutions
P(M)	No Substitutions
P	P(M)
S	No Substitutions
Minor Structure Class[1]	
M	AA(M), AA, A(M), A, B
R	AA(M), AA, A(M), A, B, M
Y	No Substitutions
Pavement Type[1,2]	
B	D
D	B
E	No Substitutions

[1]The mixture being substituted shall meet the requirements of Table 901-2 and the mix design for its class or type. The compressive strength of the substituted mix shall meet the strength requirements of the original mixture specified.

[2]When justified in writing and approved by the engineer, small irregular areas of paving projects using Types B or D concrete may be substituted with Class A concrete.

Subsection 901.08 – Composition of Concrete (12/05), Pages 716 – 719.

Delete the second paragraph of Heading (a) and substitute the following.

For concrete placements having a least dimension of 48 inches (1200 mm) or greater, or if designated on the plans or the project specifications as being mass concrete, the allowable cement type shall be Type II portland cement, Type IP portland-pozzolan cement, or Type IS portland blast furnace slag cement. The cement or combination of cement and fly ash or ground granulated blast furnace slag, shall be certified to generate a heat of hydration of not more than 70 calories/gram (290 kJ/kg) at 7 days.

Delete the fourth paragraph of Heading (a) and substitute the following:

The contractor will be permitted partial substitution on a pound (kilogram) for pound (kilogram) basis of fly ash, grade 100 or grade 120 ground granulated blast-furnace slag for portland cement in concrete mixes only when using Type I, I(B) or II portland cement. The contractor may use a maximum of 25 percent fly ash by weight (mass) of cement for concrete pipe, up to 20 percent fly ash by weight (mass) of cement for other minor structures and concrete pavement, and up to 15 percent fly ash by weight (mass) of cement for structural concrete. When substituted at the ready-mix plant, the contractor may use the substitution rate of grade

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100 or grade 120 ground granulated blast-furnace slag conforming to Subsection 1018.28 up to 45 percent by weight (mass) of cement for minor structures (including concrete pipe), structures, and pavement. If the producer wants to increase the substitution rate of grade 100 or grade 120 ground granulated blast-furnace slag above 45 percent up to a maximum of 50 percent, the cement and slag must be blended at the cement plant or terminal. The blended cement containing over 45 percent of grade 100 or grade 120 ground granulated blast-furnace slag must be in compliance with Subsection 1001.04 for portland blast-furnace slag cement.

Delete the third sentence of the fifth paragraph of Heading (b) and substitute the following:

When the ambient air temperature is 85°F (30°C) or above, the water-reducing admixture shall be the set-retarding type, except for concrete containing fly ash or ground granulated blast furnace slag where this choice is optional.

Delete the first sentence of the second paragraph of Heading (c) and substitute the following:

Because of the absorptive nature of lightweight aggregate and the inability to obtain a true saturated surface dry condition for determining free moisture, a maximum amount of water cannot be specified for Class Y concrete.

Delete Heading (d) and substitute the following.

(d) Aggregate: All aggregates for use in portland cement concrete shall meet the requirements of Subsection 1003.01.

(1) Coarse Aggregate: Coarse aggregate, except for gradations for Types B and D pavements, shall be the grade specified in Table 901-2 and shall comply with the requirements of Subsection 1003.02(b).

(2) Fine Aggregate: Fine aggregate, except for gradations for Types B and D pavements, shall comply with the requirements of Subsection 1003.02(a).

(3) Aggregates for Types B and D Pavements: Aggregates shall comply with the requirements of Subsection 1003.02(c).

Subsection 901.11 – Temperature Limitations, (12/02), Pages 726 and 727.

Delete Heading (c) and substitute the following:

(c) Cold Weather Limitations: Mixing and concreting operations for concrete mixes not containing ground granulated blast-furnace slag or Type IS cement shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40°F (5°C), and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35°F (2°C) provided the high temperature forecasted by the U.S. Weather Service is above 40°F (5°C). For concrete mixes containing ground granulated blast-furnace slag or Type IS cement, operations shall be discontinued at a descending air temperature in the shade and away from artificial heat of 55°F (13°C) and can resume at a temperature of 50°F (10°C) and rising provided the high temperature forecasted by the U.S. Weather Service is above 55°F (13°C). Production shall not begin until the temperature at the point of placement is within the above limitations. Concrete shall not be placed if the temperature is forecasted by the U.S. Weather Service to be less than 35°F (2°C) within the 24 hour period following placement.

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When concrete placement at lower air temperatures is authorized in writing, aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be arranged to prevent occurrence of overheated areas. If the air temperature is less than 35°F (2°C) at the time of placing concrete, the engineer may require water or aggregates to be heated to not less than 70°F (20°C) nor more than 150°F (65°C). After placement the concrete shall be protected by additional covering, insulating materials, or other methods approved by the engineer.

Table 901-2, Master Proportion Table for Portland Cement Concrete (06/05), Page 728.

Delete this table and substitute the following.

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Table 901-2
Master Proportion Table for Portland Cement Concrete

	Average Compressive Strength, psi (MPa) at 28 days	Grade of Coarse Aggregate	Min. Cement, lb/yd^3 (kg/m^3) of Concrete [9]	Maximum Water/Cement ratio, lb/lb(kg/kg) [1,9]	Total Air Content (Percent by volume) [4]	Slump Range [10], inches (mm)		
						Non-Vibrated	Vibrated	Slip Form Paving [2]
Structural Class [11]								
AA(M)	4400 (30.4)	A, P	560 (332)	0.44	5±1	2-5 (50-125)	2-4 (50-100)	N.A.
AA	4200 (29.0)	A, P	560 (332)	0.44	5±1	2-5 (50-125)	2-4 (50-100)	N.A.
A(M)	4400 (30.4)	A, P	510 (302)	0.53	5±2	2-5 (50-125)	2-4 (50-100)	N.A.
A	3800 (26.2)	A, F [8], P	510 (302)	0.53	5±2	2-5 (50-125)	2-4 (50-100)	1-2.5 (25-65)
D	3300 (22.8)	A, B, D, P	420 (249)	0.58	5±2	2-5 (50-125)	1-3 (25-75)	N.A.
F	3400 (23.5)[5]	A,P	460 (273)	0.44	5±1	2-5 (50-125)	2-4 (50-100)	N.A.
P(X)	7500 (51.7)[5]	A, F [8], P	700 (415)	0.40	5±2	N.A.	2-10 (50-250)	N.A.
P(M)	6000 (41.4)[5]	A, F [8], P	600 (356)	0.44	5±2	N.A.	2-6 (50-150)[7]	N.A.
P	5000 (34.5)[5]	A, F [8], P	560 (332)	0.44	5±2	N.A.	2-6 (50-150)[7]	N.A.
S	3800 (26.2)	A,P	650 (385)	0.53	5±2	6-8 (150-200)	N.A.	N.A.
Minor Structure Class [11]								
M	3000 (20.7)	A, B, P	470 (279)	0.53	5±2	2-5 (50-125)	2-4 (50-100)	1-2.5 (25-65)
R	1800 (12.4)	A, B, D, P	370 (219)	0.70	5±2	2-5 (50-125)	2-4 (50-100)	N.A.
Y	3000 (20.7)	Y	560 (332)	-[3]	6-9	N.A.	1-3 (25-75)	N.A.
Pavement Type [11]								
B	4000 (27.6)[6]	N/A [13]	475 (282)	0.53	5±2	N.A.	2-4 (50-100)	1-2.5 (25-65)
D	4000 (27.6)[6]	N/A [13]	450 (267)	0.53	5±2	N.A.	2-4 (50-100)	1-2.5 (25-65)
E	4000 (27.6)[6]	A, F[12], P	600 (356)	0.40	5±2	N.A.	2-4 (50-100)	1-2.5 (25-65)

N.A. – Not Applicable

[1] Except for Class AA, AA(M), or F concrete, the maximum volume of water; gal. (L), shall be reduced 5 percent when a water-reducing admixture is used, and 10 percent when an air-entraining admixture, or air-entraining and water-reducing admixtures, is used. When the coarse aggregate portion of the mix is 100 percent crushed aggregate, the water may be increased by 5 percent provided the maximum water listed in Table 901-2 is not exceeded.

[2] Also slump range for other concrete placed by extrusion methods.

[3] Refer to Subsection 901.08(c).

[4] Total air content ranges when air-entrainment is allowed or specified. Air content shall be designed at midrange.

[5] Values shown represent the minimum compressive strengths allowed.

[6] Average compressive strengths for Pavement Type concrete shall be 3600 psi (24.8 MPa) when air-entrainment is used.

[7] No more than a 2 inch (50 mm) slump differential for any design pour.

[8] Grade F coarse aggregate shall be used only when specified or permitted. The minimum cement content shall be increased when this aggregate is used.

[9] For mixes including partial replacement of cement with fly ash or ground granulated blast furnace slag, the minimum cement and maximum water contents shown apply to the total cement and fly ash or ground granulated blast furnace slag content of the mix. Additional cement may be required to achieve minimum compressive strength.

[10] When a slump range is specified in other sections, that range shall govern.

[11] See Subsection 901.08(a) for allowable types of cement.

[12] For use in partial depth patching.

[13] Aggregate grading shall comply with the requirements of Subsection 1003.02(c).

FOR INFORMATION ONLY

Tables 901-3E and 901-3M, Acceptance and Payment Schedules for Cast-In-Place Structural Concrete (03/04), Pages 729 and 730.

Delete these tables and substitute the following.

FOR INFORMATION ONLY

Table 901-3E
Acceptance and Payment Schedules
Cast-In-Place Structural Concrete

Average Compressive Strength per Lot, psi (28 to 31 days)					
Class A or S	Class AA	Class A(M) or AA(M)	Class D	Class F	Percent of Contract Price[1]
3800 & above	4200 & above	4400 & above	3300 & above	3400 & above	100
3400-3799	3800-4199	4200-4399	3000-3299	---	98
3000-3399	3500-3799	4000-4199	2500-2999	---	90
below 3000	below 3500	below 4000	below 2500	below 3400	50 or remove and replace[2]

Table 901-3M
Acceptance and Payment Schedules
Cast-In-Place Structural Concrete

Average Compressive Strength per Lot, MPa (28 to 31 days)					
Class A or S	Class AA	Class A(M) or AA(M)	Class D	Class F	Percent of Contract Price[1]
26.2 & above	29.0 & above	30.4 & above	22.8 & above	23.5 & above	100
23.5-26.1	26.2-28.9	29.0-30.3	20.7-22.7	---	98
20.7-23.4	24.1-26.1	27.6-28.9	17.2-20.6	---	90
below 20.7	below 24.1	below 27.6	below 17.2	below 23.5	50 or remove and replace[2]

[1]When concrete is part of an item or not a direct pay item, lot sizes, sampling and acceptance testing for the required quantities will be in accordance with Subsection 805.18. The value for each cubic yard (cu m) required will be assessed at $250 ($330) for the purpose of applying payment adjustment percentages. The amount of payment adjustment for the quantity of concrete involved will be deducted from payment.

Acceptance and payment schedules shall apply to the contract item itself for cast-in-place piling.

[2]When the average compressive strength of any batch in a lot is less than 4000 psi (27.6 MPa) for Class A(M) or AA(M), less than 3500 psi (24.1 MPa) for Class AA, less than 3000 psi (20.7 MPa) for Class A or S , less than 2500 psi (17.2 MPa) for Class D, or less than 3400 psi (23.5 MPa) for Class F, an investigation will be made. If concrete is allowed to remain in place, payment will be based on the average compressive strength for the lot. If concrete is not allowed to remain in place, the identifiable deficient areas shall be removed and replaced at no direct pay.

When the average compressive strength for a lot is less than 4000 psi (27.6 MPa) for Class A(M) or AA(M), less than 3500 psi (24.1 MPa) for Class AA, less than 3000 psi (20.7 MPa) for Class A or S , less than 2500 psi (17.2 MPa) for Class D, or less than 3400 psi (23.5 MPa) for Class F, an investigation will be made. If concrete is allowed to remain in place, payment for the lot will be based on 50 percent of the contract price.

Any cores obtained in these investigations will be used for evaluation purposes only and payment will be based on original acceptance samples.

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Tables 901-4E and 901-4M, Acceptance and Payment Schedules for Cast-In-Place Minor Structure Concrete (06/05), Pages 729 and 730.

Delete these tables and substitute the following.

Table 901-4E

Acceptance and Payment Schedules
Cast-In-Place Minor Structure Concrete

Average Compressive Strength, psi (28 to 31 days)		
Class M or Y	Class R	Percent of Contract Price [1]
3000 & Above Below 3000	1800 & Above Below 1800	100 50 or Remove [2]

Table 901-4M
Acceptance and Payment Schedules
Cast-In-Place Minor Structure Concrete

Average Compressive Strength, MPa (28 to 31 days)		
Class M or Y	Class R	Percent of Contract Price [1]
20.7 & Above Below 20.7	12.4 & Above Below 12.4	100 50 or Remove [2]

[1]When concrete is part of an item or not a direct pay item, sampling and acceptance testing for the required quantities shall be in accordance with this section. The value for each cubic yard (cu m) of concrete required will be assessed at $250 ($330) for the purpose of applying payment adjustment percentages. The amount of payment adjustment for the quantity of concrete involved will be deducted from payment.

[2]When the average compressive strength is less than 3,000 psi (20.7 MPa) for Class M or Y, and 1,800 psi (12.4 MPa) for Class R, an investigation will be made. If concrete is allowed to remain in place, payment will be based on 50 percent of the contract price.

Any cores obtained in these investigations will be used for evaluation purposes only. Payment will be based on original acceptance samples.

SECTION 1001 – HYDRAULIC CEMENT:

Subsection 1001.01 – Portland Cement (11/04), Page 733.

Add the following subheading.

(c) Process Additions: Process additions may be used in amounts not to exceed 3 percent by weight (mass) of portland cement clinker provided it meets the requirements for the cement portion of ASTM C 465 and the test results are submitted to the Department for review and approval.

Subsection 1001.04 – Portland Blast-Furnace Slag Cement (09/02), Page 734.

Delete the fourth sentence and substitute the following:

FOR INFORMATION ONLY

Grade 100 and grade 120 ground granulated blast-furnace slag for use in Type IS cement shall comply with AASHTO M 302.

SECTION 1002 – ASPHALT MATERIALS AND ADDITIVES:

Subsection 1002.01 – Asphalt (03/03), Page 735.

Delete the second sentence of the third paragraph.

Delete the fifth paragraph and substitute the following.

When asphalt materials sampled at the point of delivery do not comply with specification requirements, and in the opinion of the engineer have resulted in an unsatisfactory product based on an investigation, the materials shall be removed and replaced or otherwise corrected at no direct pay.

Subsection 1002.02 – Asphalt Material Additives (03/03). Pages 735-744.

Delete Tables 1002-01, 1002-02, 1002-05, and 1002-11 and substitute the following.

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Table 1002-1 (03/03)
Performance Graded Asphalt Cements

Property	AASHTO Test Method	PG76-22m[1]	PG70-22m[1]	PG64-22[1]	PG58-28[1]
Test on Original Binder					
Rotational Viscosity @ 135°C, Pa·s [2]	T 316	3.0	3.0	3.0	3.0
Dynamic Shear, 10 rad/s, G*/Sin Delta, kPa	T 315	1.00+ @ 76°C	1.00+ @ 70°C	1.30+ @ 64°C	1.00+ @ 58°C
Flash Point, °C	T 48	232+	232+	232+	232+
Solubility, % [3]	T 44	99.0+	99.0+	99.0+	99.0+
Separation of Polymer, 163°C, 48 hours, °C difference in R & B from top to bottom [5]	ASTM D 7173 AASHTO T 53	2-	2-	---	---
Force Ductility Ratio (f_2/f_1, 4°C, 5 cm/min., f_2 @ 30 cm elongation)	T 300	0.30+	---	---	---
Force Ductility, 4°C, 5 cm/min, 30 cm elongation, kg	T 300	---	0.23+	---	---
Tests on Rolling Thin Film Oven Residue	T 240				
Mass loss, %	T 240	1.00-	1.00-	1.00-	1.00-
Dynamic Shear, 10 rad/s, G*/Sin Delta, kPa	T 315	2.20+ @76°C	2.20+ @ 70°C	2.20+ @ 64°C	2.20+ @ 58°C
Elastic Recovery, 25°C, 10 cm elongation, % [4]	T 301	60+	40+	---	---
Ductility, 25°C, 5 cm/min, cm	T 51	---	---	100+	---
Test on Pressure Aging Vessel Residue	R 28				
Dynamic Shear, @ 25°C, 10 rad/s, G* Sin Delta, kPa	T 315	5000-	5000-	5000-	5000- @ 19°C
Bending Beam Creep Stiffness, S, MPa @ -12°C.	T 313	300-	300-	300-	300- @ -18°C
Bending Beam Creep Slope, m value,@ -12°C	T 313	0.300+	0.300+	0.300+	0.300+ @ -18°C

[1] PG76-22m or PG70-22m shall be required in the top two lifts of all hot mix asphalt construction for roadways; PG64-22 may be used in base course and incidentals; When 20-30% RAP is used in the base course PG 58-28 is required.

[2] The rotational viscosity will be measured to determine product uniformity. The rotational viscosity measured by the supplier shall be noted on the Certificate of Delivery. A binder having a rotational viscosity of 3.0 Pa·s or less will typically have adequate mixing and pumping capabilities. Binders with rotational viscosity values higher than 3.0 Pa·s should be used with caution and only after consulting with the supplier as to any special handling procedures and guarantees of mixing and pumping capabilities.

[3] Not all polymers are soluble in the specified solvents. If the polymer modified asphalt digested in the solvent will not pass the filter media, a sample of the base asphalt used in making the polymer modified asphalt should be tested for solubility. If the solubility of the base asphalt is at least 99.0%, the material will be considered as passing.

[4] AASHTO T 301 except the standard v-shaped sides for the specimen mold shall be replaced by straight-sided inserts of the same length, so that the specimen will contain a section 1 cm x 1 cm x 3 cm.

[5] Prepare samples per ASTM D 7173. Determine softening point of top and bottom per AASHTO T 53.

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Table 1002-2 (03/03)
PG 70-22m Alternate[1]

Property	AASHTO Test Method	PG 70-22m Alternate[2] Specification
Test on Original Binder:		
Rotational Viscosity @ 135°C, Pa·s[3]	T 316	3.0-
Dynamic Shear, @ 70°C and 10 rad/s, G*/Sin Delta, kPa	T 315	1.50+
Flash Point, °C	T 48	232+
Solubility, %[4]	T 44	99.0+
Softening Point, Ring & Ball, °C	T 53	70.0+
Tests on Rolling Thin Film Oven Residue:	T 240	
Mass Loss, %	T 240	1.00-
Dynamic Shear, @ 70°C and 10 rad/s, G*/Sin Delta, kPa	T 315	2.20+
Tests on Pressure Aging Vessel Residue:	R 28	
Dynamic Shear, @ 25°C and 10 rad/s, G*Sin Delta, kPa	T 315	5000-
Bending Beam Creep Stiffness, S, @ -12°C, MPa	T 313	300-
Bending Beam Creep Slope, @ -12°C, m value	T 313	0.300+

[1] Use only with Superpave asphaltic concrete Level 1 and Level A mixes with less than 2500 ADT.
[2] Handling of all samples for testing shall be in accordance with ASTM D 4957, Section 7.2, which requires heating the sample in an oven maintained at 190° ± 2°C. Stir the sample occasionally until homogenous and pour in suitable container for testing. Pouring temperatures shall be 180° ± 2°C for all tests.
[3] The rotational viscosity will be measured to determine product uniformity. The rotational viscosity measured by the supplier shall be noted on the Certificate of Delivery. A binder having a rotational viscosity of 3.0 Pa·s or less will typically have adequate mixing and pumping capabilities. Binders with rotational viscosity values higher than 3.0 Pa·s should be used with caution and only after consulting with the supplier as to any special handling procedures and guarantees of mixing and pumping capabilities.
[4] Not all polymers are soluble in the specified solvents. If the polymer modified asphalt digested in the solvent will not pass the filter media, a sample of the base asphalt used in making the polymer modified asphalt should be tested for solubility. If the solubility of the base asphalt is at least 99.0%, the material shall be considered as passing.

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Table 1002-5 (10/01)
Emulsified Polymerized Asphalt (CRS-2P)1

	Test Method	Percent of Contract Unit Price/Liter or Shipment[2]		
		Specifications	Deviatons	
		100	80	50 or Remove[3]
Viscosity, Saybolt Furol @ 50°C	AASHTO T 59	100-400	56-99 401-444	55- 445+
Storage Stability Test, 24 h, %	AASHTO T 59	1.0-	---	---
Settlement, 5 Day, %	AASHTO T 59	5.0-	---	---
Classification Test	AASHTO T 59	Pass	---	Fail
Particle Charge Test	AASHTO T 59	Pos.	---	Neg.
Sieve Test (Retained on 850 μm), %	AASHTO T 59	0.1-	---	---
Distillation:	AASHTO T 59			
Oil Distillate by Vol. of Emulsion, %		3.0-	---	---
Residue from Distillation, %		65+	61-64	60-
Tests on Residue by Distillation:				
Penetration, 25°C, 100 g, 5 s, dmm	AASHTO T 49	100-200	80-99 201-225	79- 226+
Softening Point (Ring & Ball), °C	AASHTO T 53	38.0-52.0	32.1-37.9 52.1-58.9	32.0- 59.0+
Solubility, %	AASHTO T 44	97.5+	---	---
Tests on Residue by Evaporation[4]:				
Force Ductility Ratio (f_2/f_1, 4°C, 5 cm/min, f_2 at second peak)	AASHTO T 300	0.30+	0.21-0.29	0.20-
Elastic Recovery, 10°C, 20 cm elongation, %	AASHTO T 301[5]	58+	51-57	50-

[1] The addition of latex, rubber or other additives to emulsified polymerized asphalt will not be allowed.
[2] When the unit of pay is not based on the liter, the deduction will be applied to the contract unit price.
[3] At the Department's option.
[4] The residue asphalt for running ductility tests, tensile stress test and elastic recovery test shall be obtained by means of residue by evaporation (Oven) rather than residue by distillation (Aluminum-alloy Still). The material supplier shall certify by independent testing that the Tensile Stress requirements have been attained.
[5] AASHTO T 301 except the standard v-shaped sides for the specimen mold shall be replaced by straight-sided inserts of the same length, so that the specimen will contain a section 1 cm x 1 cm x 3 cm.

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Table 1002-11 (03/03)
Hot Applied Modified Asphalt Cements for Asphalt Surface Treatment[1]

Property	AASHTO Test Method	Gelled Asphalt		PAC 15	
		Spec.	Deviation	Spec.	Deviation
		100	90 or Remove	100	90 or Remove
Tire Rubber Content, %	---	---	---	5+	---
Penetration @ 25°C, 100 g., 5 s, dmm	T 49	55-100	54- 101+	75-125	74- 126+
Viscosity, @ 60°C, Pa·s	T 202	100+	99-	150+	149-
Rotational Viscosity @ 135°C, Pa·s[2]	T 316	0.7-3.0	0.6- 3.1+	3.0-	3.1+
Force Ductility Ratio, f_2/f_1, 4°C, 5cm/min, f_2 @ 30 cm elongation	T 300	---	---	0.30+	0.29-
Softening Point, °C	T 53	53+	52-	45+	44-
Flash Point, °C	T 48	230+	228-	230+	228-
Solubility, %	T 44	99.0+	---	---	---
Separation of Rubber, 163°C, 48 hours difference in R & B from top to bottom sample, °C	DOTD TR 326	---	---	2-	---
Tests on Residue from Rolling Thin Film Oven Test:	T 240				
Elastic Recovery, 25°C, 10 cm elongation, %	T 301[3]	---	---	55+	54-
Penetration Retention 25°C, RTFO/Original	T 49	---	---	0.60+ 1.00-	0.59- 1.01+
Viscosity Ratio, 60°C, RTFO/ Original	T 202	2.5-	2.6+	---	---

[1]Handling of all samples for testing shall be in accordance with ASTM D 4957, Section 7.2, which requires heating the sample in an oven maintained at 195° ± 2°C. Stir the sample occasionally until homogenous and pour in suitable container for testing. Pouring temperatures shall be 180° ± 2°C for all tests.

[2]The rotational viscosity will be measured to determine product uniformity. The rotational viscosity measured by the supplier shall be noted on the Certificate of Delivery. A binder having a rotational viscosity of 3.0 Pa·s or less will typically have adequate mixing and pumping capabilities. Binders with rotational viscosity values higher than 3.0 Pa·s should be used with caution and only after consulting with the supplier as to any special handling procedures and guarantees of mixing and pumping capabilities.

[3]AASHTO T 301 except the standard v-shaped sides for the specimen mold shall be replaced by straight-sided inserts of the same length, so that the specimen will contain a section 1 cm x 1 cm x 3 cm.

FOR INFORMATION ONLY

SECTION 1003 – AGGREGATES:

Subsection 1003.02 – Aggregates for Portland Cement Concrete and Mortar (06/05), Pages 746-749.

Delete the first paragraph and substitute the following.

All aggregates for use in portland cement concrete shall comply with the requirements of Subsection 1003.01. Aggregates for use in Types B and D pavement concrete shall also conform to the requirements of Subsection 1003.02(c).

Delete the first sentence of Heading (a) and substitute the following.

Sand shall be a natural silica sand from a source listed in QPL 2.

Delete the second paragraph of Heading (a) and substitute the following.

Fine aggregate for all portland cement concrete except Types B and D pavements shall conform to the following gradations:

Concrete Sand

U.S. Sieve	Metric Sieve	Percent Passing
3/8 inch	9.5 mm	100
No. 4	4.75 mm	95-100
No. 16	1.18 mm	45-90
No. 50	300 µm	7-30
No. 100	150 µm	0-7
No. 200	75 µm	0-3

Mortar Sand

U.S. Sieve	Metric Sieve	Percent Passing
No. 4	4.75 mm	100
No. 8	2.36 mm	95-100
No. 100	150 µm	0-25
No. 200	75 µm	0-10

Delete Heading (b)(1) and substitute the following.

(1) Uncrushed Coarse Aggregate: Uncrushed coarse aggregate for all portland cement concrete except Types B and D pavements shall comply with Table 1003-1.

Delete Table 1003-1, Portland Cement Concrete Aggregates and substitute the following:

FOR INFORMATION ONLY

Table 1003-1
Portland Cement Concrete Aggregates

Percent Passing						
U.S. Sieve	Metric Sieve	Grade A (Size 57)	Grade B (Size 467)	Grade D (Size 357)	Grade F ---	Grade P (Size 67)
2 1/2 inch	63 mm	---	---	100	---	---
2 inch	50 mm	---	100	90-100	---	---
1 1/2 inch	37.5 mm	100	85-100	---	---	---
1 inch	25.0 mm	90-100	---	35-70	---	100
3/4 inch	19.0 mm	---	35-70	---	100	80-100
1/2 inch	12.5 mm	25-60	---	10-30	90-100	---
3/8 inch	9.5 mm	---	10-30	---	---	20-55
No. 4	4.75 mm	0-10	0-5	0-5	15-60	0-10
No. 8	2.36 mm	0-5	---	---	0-15	0-5
No. 16	1.18 mm	---	---	---	0-5	---
No. 200	75 μm	0-1	0-1	0-1	0-1	0-1

Delete the first sentence of Heading (b)(2) and substitute the following.

Crushed coarse aggregate for all portland cement concrete except Types B and D pavements shall comply with the uncrushed coarse aggregate gradations, except that when the material finer than the No. 200 (75 μm) sieve consists of the dust fraction from crushing, essentially free of clay or shell, this percentage shall be 0-2 percent.

Add the following.

(c) Aggregates for Types B and D Pavements:

For the combined aggregates for the proposed portland cement concrete pavement mix, the percent retained based on the dry weight (mass) of the total aggregates shall meet the requirements of Table 1003-1A for the type of pavement specified in the plans. Additionally, the sum of the percents retained on any two adjacent sieves so designated in the table shall be at least 13 percent of the total combined aggregates. The maximum amounts by weight (mass) of deleterious materials for the total aggregate shall be the same as shown in Subsection 1003.02(b).

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Table 1003-1A
Aggregates for Types B and D Pavements

U.S. Sieve	Metric Sieve	Percent Retained of Total Combined Aggregates	
		Pavement Type	
		Type B	Type D
2 1/2 inch	63 mm	0	0
2 inch	50 mm	0	0-20
1 1/2 inch	37.5 mm	0-20	0-20
1 inch	25.0 mm	0-20	5-20
3/4 inch	19.0 mm	5-20	5-20
1/2 inch	12.5 mm	5-20	5-20
3/8 inch	9.5 mm	5-20	5-20
No. 4	4.75 mm	5-20	5-20
No. 8	2.36 mm	5-20	5-20
No. 16	1.18 mm	5-20	5-20
No. 30	600 µm	5-20	5-20
No. 50	300 µm	0-20	0-20
No. 100	150 µm	0-20	0-20
No. 200	75 µm	0-5	0-5
Note: For the sieves in the shaded areas, the sum of any two adjacent sieves shall be a minimum of 13 percent of the total combined aggregates.			

Each type of aggregate to be used in the proposed mixture shall be sampled and tested individually. The percent of total combined aggregates retained shall be determined mathematically based on the proportions of the combined aggregate blend. All gradation calculations shall be based on percent of dry weight (mass).

Subsection 1003.03 – Base Course Aggregates (05/01), Pages 749 – 751.

Delete the second paragraph of Heading (d) and substitute the following:

To facilitate meeting these gradation requirements, a calcium carbonate additive approved by the Materials and Testing Section may be added to the stone. The additive shall be thoroughly blended with the stone by approved methods prior to placement on the project. When tested according to DOTD TR 428, the fraction passing the No. 40 (425 µm) sieve, including any additive, shall have a liquid limit no greater than 25, and a plasticity index of no greater than 4.

Delete Heading (e) and substitute the following:

(e) Recycled Portland Cement Concrete: Recycled portland cement concrete shall be crushed portland cement concrete. After being crushed, recycled portland cement concrete may contain a minimal amount of other base course materials resulting from normal construction methods and shall conform with the following gradation.

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U.S. Sieve	Metric Sieve	Percent Passing
1 1/2 inch	37.5 mm	100
1 inch	25.0 mm	90-100
3/4 inch	19.0 mm	70-100
No. 4	4.75 mm	35-65
No. 40	425 μm	12-32
No. 200	75 μm	0-8

The fraction of recycled portland cement concrete passing the No. 40 (425 μm) sieve shall be non-plastic.

Delete the last sentence of Heading (f)

Subsection 1003.06, Aggregates for Asphaltic Mixtures (02/02), Pages 754 – 757.

Delete the first word of the second sentence of Heading (a) and substitute "Coarse".

Delete the first sentence of Heading (a)(2) and substitute the following:

Fine aggregates shall comply with the requirements of Sections 501, 502, or 508 as applicable. Fine aggregates for Superpave mixtures shall also comply with the specification requirements for angularity and sand equivalent as shown in Section 502, Table 502-4.

Delete the first sentence of Heading (a)(2)b and substitute the following:

Sand equivalent shall be determined in accordance with DOTD TR120.

Add the following to Heading (a)(3):

For non-Superpave mixtures, the sand equivalent of the portion of the natural sand in the mixture passing the No. 4 (4.75mm) sieve shall not be less than 35 when tested in accordance with DOTD TR120. For Superpave mixtures, the sand equivalent of the portion of the natural sand in the mixture passing the No. 4 (4.75mm) sieve shall be as shown in Section 502, Table 502-4 when tested in accordance with DOTD TR120.

SECTION 1005 – JOINT MATERIALS FOR PAVEMENTS AND STRUCTURES:

Subsection 1005.02 – Poured and Extruded Joint Sealant (6/02), Pages 763 and 764.

Delete Heading (a) and substitute the following.

(a) Hot Poured Rubberized Asphaltic Type: This material shall comply with ASTM D6690, Type II. The sealant and backer materials shall be approved products listed in QPL 67. Backer materials of the appropriate size shall comply with ASTM D5249, Type I.

Subsection 1005.04 – Combination Joint Former/Sealer (11/05), Pages 765 and 766.

Delete Heading (a) and substitute the following.

(a) Description: This joint former/sealer is intended for use in simultaneously forming and sealing a weakened plane in portland cement concrete pavements.

The material shall consist of an elastomeric strip permanently bonded either mechanically or chemically at the top of each of two rigid plastic side frames and covered with a removable plastic top cap. Side frames shall be of such configuration that when the sealer is inserted into plastic concrete and vibrated, a permanent bond forms between side frames and concrete.

Delete Heading (b)(1) and substitute the following.

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(1) Elastomer: The elastomer strip portion of the material shall be manufactured from vulcanized elastomeric compound using polymerized chloroprene or thermoplastic vulcanizate as the base polymer, and shall comply with the following requirements:

Property	ASTM Test Method	Requirements	
		Polymerized Chloroprene	Thermoplastic Vulcanizate
Tensile Strength, kPa, Min.	D 412	12,400	7,400
Elongation at Break, % Min.	D 412	200	400
Hardness, Shore A	D 2240	65 ± 10	65 ± 10
Properties after Aging, 70 h @ 100°C	D 573		
Tensile Strength, % Loss, Max.		20	20
Elongation, % loss, Max.		25	25
Hardness, pts. increase, Max.		10	10
Ozone Resistance, 20% strain or bentloop, 300 pphm in air, 70 h @ 40°C	D 1149	no cracks	no cracks
Oil Swell, IRM 903, 70 h @ 100°C, wt change, % Max.	D 471	45	75

Delete Headings (b)(2) and (b)(3) and substitute the following:

(2) Bond of Elastomer to Plastic: The force required to shear the elastomer from the plastic shall be a minimum of 5.0 pounds per linear inch (90 g/mm) of sealer when tested in accordance with DOTD TR 636.

(3) Bond of Plastic to Cement Mortar: This bond will be evaluated and shall meet the following requirements:

The force required to separate the cement mortar from the plastic shall be a minimum of 5.0 pounds per linear inch (90 g/mm) of sealer when tested in accordance with DOTD TR 636.

SECTION 1006 – CONCRETE AND PLASTIC PIPE:

Subsection 1006.01 – General (09/02), Page 768.

Delete Heading (a)(4) and substitute the following:

(4) Portland cement with ground granulated blast-furnace slag 1018.28.

Delete the second paragraph of Heading (a) and substitute the following:

The concrete pipe manufacturer may use up to 45 or 50 percent grade 120 ground iron blast-furnace slag as a substitution for portland cement on a pound-for-pound (kilogram for kilogram) basis in accordance with Subsection 901.08. Fly ash may be substituted up to 25 percent.

Delete Heading (h) and substitute the following.

Regardless of the ASTM specifications utilized, if concrete pipe is to be accepted based upon cored samples, all samples shall meet the minimum concrete strengths specified. No more than three (3) joints of pipe shall be tested per maximum of 300 joints or three (3) days

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consecutive production, whichever is less, unless approved by the engineer. All coring shall be performed by the manufacturer as directed by the engineer.

Subsection 1006.03 – Reinforced Concrete Pipe (07/02), Page 769.

Delete the first sentence and substitute the following.

Reinforced concrete pipe shall be from an approved product source listed in QPL 77, and shall comply with ASTM C 76, amended as follows:

Subsection 1006.04 Reinforced Concrete Pipe Arch (07/02), Page 769.

Delete the first sentence and substitute the following.

Reinforced concrete pipe arch shall be from an approved product source listed in QPL 77, and shall comply with ASTM C 506, amended as follows:

Subsection 1006.06 Gasket Materials (07/02), Pages 770 – 772.

Delete Heading (b) and substitute the following.

(b) Flexible Plastic Gaskets: Flexible plastic gaskets for pipe joints shall comply with AASHTO M 198. The hydrostatic test shall be performed using AASHTO M 315. Flexible plastic gasket material and primer shall be approved products listed in QPL 4.

Subsection 1006.07 – Plastic Culvert Pipe (08/04), Pages 770 – 772.

Delete this subsection and substitute the following.

1006.07 Plastic Pipe: Plastic pipe and joint systems shall be approved products listed in QPL 66.

(a) Storm Drains: Plastic pipe for storm drains shall be Ribbed Polyvinyl Chloride Pipe (RPVCP). Ribbed Polyvinyl Chloride Pipe shall comply with ASTM F 794 or ASTM F 949, Series 46 with UV inhibitors. The resin shall have a minimum cell classification of 12454-C in accordance with ASTM D 1784.

(b) Cross Drains: Plastic pipe for cross drains shall be Ribbed Polyvinyl Chloride Pipe (RPVCP). Ribbed Polyvinyl Chloride Pipe shall comply with ASTM F 794 or ASTM F 949, Series 46 with UV inhibitors. The resin shall have a minimum cell classification of 12454-C in accordance with ASTM D 1784.

(c) Side Drains: Plastic pipe for side drains shall be one of the following:

(1) Ribbed Polyvinyl Chloride Pipe (RPVCP): Ribbed Polyvinyl Chloride Pipe shall comply with ASTM F 794 or ASTM F 949, Series 46 with UV inhibitors. The resin shall have a minimum cell classification of 12454-C in accordance with ASTM D 1784.

(2) Corrugated Polyethylene Pipe (Double Wall) (CPEPDW): Corrugated Polyethylene Pipe (Double Wall) shall comply with AASHTO M 294, Type S. The minimum cell classification shall be 335400C in accordance with ASTM D 3350.

(d) Joints for Plastic Pipe: Joints shall be approved by the DOTD Materials Engineer Administrator and listed on the QPL. Joint gasket materials shall comply with Subsection 1006.06. Joint requirements are as follows:

(1) Type 1 Joints (T1): These joints shall provide a soil tight joint.

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(2) Type 2 Joints (T2): These joints shall pass a 5 psi (35 kPa) hydrostatic pressure test.

(3) Type 3 Joints (T3): These joints shall pass a 10 psi (70 kPa) hydrostatic pressure test.

(4) Joints With Split Coupling Bands: Split coupling bands shall be one piece and composed of the same material as the pipe. The bands shall be the same thickness as the base pipe. The width of the band shall be equal to one-half the diameter of the pipe but shall be a minimum of 12 inches (300 mm) wide. The band shall be secured to the pipe with a minimum of five stainless steel or other approved corrosion resistant circumferential bands.

Subsection 1006.08 – Plastic Underdrain Pipe (08/04), Page 772

Delete this subsection and substitute the following.

1006.08 Plastic Underdrain Pipe: Plastic pipe for underdrains shall be perforated or nonperforated, as specified, and shall be an approved product listed on QPL 73 and one of the following.

(a) Corrugated Polyethylene Pipe (Single Wall) (CPEPSW): Corrugated Polyethylene Pipe (Single Wall) shall be perforated and shall comply with AASHTO M 252, Type C. Perforations shall comply with AASHTO M 252. Corrugated Polyethylene Pipe (Single Wall) shall not be used as shoulder outlet underdrain pipe.

(b) Polyvinyl Chloride Pipe (PVCP): Polyvinyl Chloride Pipe shall comply with AASHTO M 278 or ASTM D 3034, SDR 35. Perforations, if specified, shall comply with AASHTO M 252.

(c) Corrugated Polyethylene Pipe (Double Wall) (CPEPDW): Corrugated Polyethylene Pipe shall comply with AASHTO M 252, Type S. Perforations, if specified, shall comply with AASHTO M 252.

Subsection 1006.09 – Plastic Yard Drain Pipe (08/04), Page 773.

Delete this subsection and substitute the following.

1006.09 Plastic Yard Drain Pipe:

(a) Pipe: Plastic pipe for yard drains shall be an approved product listed on QPL 73 and one of the following:

(1) Polyvinyl Chloride Pipe (PVCP): Polyvinyl Chloride Pipe shall comply with AASHTO M 278 or ASTM D 3034, SDR 35.

(2) Corrugated Polyethylene Pipe (Double Wall) (CPEPDW): Corrugated Polyethylene Pipe (Double Wall) shall comply with AASHTO M 252, Type S, with a resin of minimum cell classification of 324420C in accordance with ASTM D 3350 or AASHTO M 294, Type S, with a resin of minimum cell classification of 335400C in accordance with ASTM D 3350.

(3) Ribbed Polyvinyl Chloride Pipe (RPVCP): Ribbed Polyvinyl Chloride Pipe shall comply with ASTM F 794 or ASTM F 949.

(b) Joints: Gaskets for joining plastic yard drain pipe shall comply with the requirements of Subsection 1006.06.

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SECTION 1007 – METAL PIPE:

Subsection 1007.07 – Polymer Coated Corrugated Steel or Aluminum Pipe and Pipe Arch (05/04), Page 776.

Delete this subsection.

SECTION 1008 – PAINTS:

Subsection 1008.02 – Three-Coat Waterborne Paint System (Two Primers And One Topcoat) (04/02), Pages 780 – 782.

Delete the text of this subsection and substitute the following:

The Three-Coat Waterborne Paint System (Two Primers and One Topcoat), shall be an approved system listed on QPL 68. Each system shall be tested for a minimum of 1500 hours in a salt spray (fog) apparatus and fluorescent UV-Condensation Exposure Apparatus in accordance with ASTM B 117 and G 53. The paint system shall show no rusting, checking, cracking, delamination or undercutting. There shall be only slight chalking or discoloration and there shall be no blisters larger than number 8 when rated in accordance with ASTM D 714.

Standard X-ray and infrared curves will be made of all approved coatings in accordance with ASTM D 5380 and DOTD TR 610. When the project sample deviates from these curves, the material represented by the sample will be rejected.

The following specification is not a formula. The manufacturer assumes all responsibility in formulating products which meet these specification requirements in laboratory testing, field application, and performance.

Each paint system shall comply with the following requirements.

(a) Primer:

(1) System A

a. Pigment: The pigment shall be composed of the following materials:

	Percent By Weight (mass)
Zinc Phosphate Dihydrate, Min.	22
Red Iron Oxide (ASTM D 3722), Min.	10
Barium Sulfate (ASTM D 602), Min.	50

The balance of the pigment shall include any application aids, thixotropes, tinting pigments, etc. which may enhance the performance of the material.

b. Vehicle: The vehicle shall be composed of a minimum of 80 percent resin solution with the balance being water, surfactants, antifoam additives, stabilizers, pH adjusters, etc. The resin shall be of vinyl acrylic copolymer latex having a pH between 1 and 2 and a chlorine content of 64 percent based on latex solids.

c. Mixed Paint: The mixed paint shall have the following properties:

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PROPERTY	TEST METHOD	REQUIREMENT
Pigment, % by wt., Min.	ASTM D 3723	23
Weight/gallon, pounds, Min.	ASTM D 1475	12
Solids, % by wt. Min.	ASTM D 3723	60
Non-volatile in Vehicle, % by wt., Min.	ASTM D 3723	49
Viscosity, Ku	ASTM D 562	70 - 90
Fineness of Grind, Hegman Scale, Min.	ASTM D 1210	5
Dry to Touch, Minutes, Max.	ASTM D 1640	30
Dry Through, Hours, Max.	ASTM D 1640	1
PH	ASTM E 70	4.5 - 5.5
Sag, Lenetta, Mils, Min.	ASTM D 4400	12

(2) System B (Color Contrasting Primers)

a. First Coat Primer: See heading 1008.02(a)(1)a.

b. Second Coat Primer: The second coat primer shall meet the vehicle requirements of the first coat primer. The second coat primer pigmentation shall be changed to allow for color contrast between the first coat red primer, second coat primer and gray topcoat.

(b) Topcoat:

(1) Pigment: The pigment shall be composed of 95 percent by weight of Titanium Dioxide ($Ti0_2$) in accordance with ASTM D 476. The balance of the pigments shall include any application aids, thixotropes, tinting pigments, etc., which may enhance the performance of the material.

(2) Vehicle: The vehicle shall be composed of a minimum of 87 percent solution with the balance being water, dispersant, rheological modifiers, stabilizers, etc. The resin shall be a 41.5 percent solids small particle size aqueous dispersion copolymer consisting of acrylic, acrylonitrile and styrene monomers. The resin shall have a personal modulus between 38°C and 42°C and a pH between 7.2 and 7.8.

(3) The topcoat shall be tinted to match the standard "Louisiana Gray" topcoat available from the Materials and Testing Section. The paint shall have the following properties:

PROPERTY	TEST METHOD	REQUIREMENT
Pigment, % by wt., Min.	ASTM D 3723	13
Weight/gallon, pounds, Min.	ASTM D 1475	9.2
Solids, % by wt. Min.	ASTM D 3723	46
Non-volatile in Vehicle, % by wt., Min.	ASTM D 3723	39
Viscosity, Ku	ASTM D 562	90 - 110
Fineness of Grind, Hegman Scale, Min.	ASTM D 1210	5
Dry to Touch, Minutes, Max.	ASTM D 1640	30
Dry Through, Hours, Max.	ASTM D 1640	2
Sag, Resistance, Lenetta, Mils, Min.	ASTM D 4400	12

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Subsection 1008.06 – Corrosion Inhibiting Alkyd Paint System (04/02), Page 783.

Add the following:

1008.06 CORROSION INHIBITING ALKYD PAINT SYSTEM. The Corrosion Inhibiting Alkyd Paint System shall be a three-coat paint system applied to properly prepared structural steel surfaces that are permanently exposed to weather. The paint shall be compatible with basic lead silico chromate paint. Either System A or System B can be used, however, whichever system is selected shall be used on the entire project. The corrosion inhibiting pigment in System A shall be zinc hydroxy phosphite and the corrosion inhibiting pigment in System B shall be calcium borosilicate. The primer and the intermediate coats shall be tinted for color contrast. An aluminum topcoat in accordance with AASHTO M69, Type I shall be applied in both systems.

SPECIFIC REQUIREMENTS: Test methods shall be the latest in effect. The manufacturer assumes all responsibility in formulating products which meet these specifications requirements.

Systems A and B shall comply with the following requirements.

PROPERTY	TEST METHOD	REQUIREMENT SYSTEM A MIN	SYSTEM A MAX	SYSTEM B MIN	SYSTEM B MAX
PRIMER					
Pigment, % by wt	ASTM D 2371	50	--	53	--
Vehicle, % by wt	ASTM D 2371	--	50	--	47
Weight/gallon, pounds @ 77°F	ASTM D 1475	12.3	--	11.4	--
Water, %		--	0.5	--	0.25
Coarse Particle and Skins (Total Residue Retained on No. 325 Sieve Based on Paint), %	ASTM D 185	--	1.0	--	1.0
Fineness of Grind (North Std)	ASTM D 1210	5	--	5	--
Viscosity (Stormer-Krebs Units) @ 77°F	ASTM D 562	70	80	75	85
Dry Through, Hours	ASTM D 1640	18	--	18	--
Non-volatile in Vehicle, % by wt	ASTM D 2369 & ASTM D 2372	66	--	57	--

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PROPERTY	TEST METHOD	REQUIREMENT SYSTEM A MIN	SYSTEM A MAX	SYSTEM B MIN	SYSTEM B MAX
INTERMEDIATE COAT					
Pigment, % by wt	ASTM D 2371	50	--	44	--
Vehicle, % by wt	ASTM D 2371	--	50	--	56
Weight/gallon, pounds @ 77°F	ASTM D 1475	12.3	--	10.2	--
Water, %		--	0.25	--	0.25
Coarse Particle and Skins (Total Residue Retained on No. 325 Sieve Based on Paint), %	ASTM D 185	--	1.0	--	1.0
Fineness of Grind (North Std)	ASTM D 1210	5	--	5	--
Viscosity (Stormer-Krebs Units) @ 77°F	ASTM D 562	70	80	75	85
Dry Through, Hours	ASTM D 1640	--	18	--	10
Non-volatile in Vehicle, % by wt	ASTM D 2369 & ASTM D 2372	66	--	45	--

SYSTEM A

Vehicle: The vehicle shall consist of not less than 66.0 percent non-volatile vehicle. The balance shall be combined drier and thinner.

The non-volatile vehicle shall be composed of raw linseed oil and alkyd resin combined in the approximate proportions of 1:1 respectively by weight. The alkyd resin furnished as a solution shall meet the requirements of Federal Specifications TT-R-266C Type I, Class A. The raw linseed oil shall meet the requirements of ASTM D234.

The volatile vehicle shall be mineral spirits meeting the requirements of Rule 66.

PRIMER PIGMENT	PERCENT BY WEIGHT MIN	MAX
Zinc hydroxy phosphite, ASTM D 4462	73.0	75.0
Red Iron Oxide (98% Fe203)	24.0	26.0
Organo Montmorillonite	0.75	--

INTERMEDIATE PIGMENT	PERCENT BY WEIGHT MIN	MAX
Zinc hydroxy phosphite, ASTM D 4462	75.0	77.0
Titanium Dioxide, Rutile Non Chalking, ASTM D476	19.0	21.0
Organo Montmorillonite	0.75	--
Tinting Pigments*	--	--
Yellow Oxide	--	--
Red Oxide	3.0	3.5
Lampblack	--	--

*Tinting pigment may be added as predispersion pigment.

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SYSTEM B

PRIMER

PIGMENT	MIN	MAX
Calcium Boro-Silicate, ASTM D 4288	80.0%	--
Synthetic Iron Oxide, ASTM D 84, Class I	16.0%	18.0%
Organo Montmorillonite	1.0%	2.0%
VEHICLE		
Alkyd Resin Solution, Fed. Spec TT-R-266, Type I, Class A	43.0%	50.0%
Linseed Oil, ASTM D 234	20.0%	27.0%
Mineral Spirits, Fed. Spec TT-T-291E, Type II*	--	28.0%
Driers	1.0%	2.0%

* Small quantities of alcohols or alcohol/water mixtures may replace some mineral spirits where such materials are used as polar additives for the suspending aid.

INTERMEDIATE COAT

PIGMENT	MIN	MAX
Calcium Boro-Silicate, ASTM D 4288	80.0%	--
Synthetic Iron Oxide, ASTM D 84, Class I	17.5%	18.5%
Organo Montmorillonite	1.5%	2.5%
Lampblack	--	2.0%
VEHICLE		
Alkyd Resin Solution, Fed. Spec TT-R-266, Type I, Class A	65.0%	--
Mineral Spirits, Fed. Spec TT-T-291E, Type II*	--	34.0%
Driers	1.0%	1.5%

*Small quantities of alcohols or alcohol/water mixtures may replace some mineral spirits where such materials are used as polar additives for the suspending aid.

Section 1008, Paints (09/05), Page 780.

Add the following subsection.

1008.07 ZINC PAINT SYSTEMS FOR NEW STEEL AND 100 PERCENT BARE EXISTING STEEL FOR BRIDGES. The zinc paint system shall be an approved system listed on QPL 78. Each system shall be tested in accordance with AASHTO R 31 and meet the following requirements.

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Performance Requirements	Zinc Paint Systems	
	Inorganic Zinc Primer	Organic Zinc Primer
Rust Criteria after 5000 hrs exposure to Salt Fog Resistance Test in accordance with ASTM B 117.		
Maximum Creep, mm - Evaluated in accordance with AASHTO R 31, Subsection 8.2.2.2.	4	4
Maximum Average Creep, mm - Evaluated in accordance with AASHTO R 31, Subsection 8.2.2.2.	2	2
Maximum length, mm - Evaluated in accordance with AASHTO R 31, Subsection 8.2.2.3.	3	15
Blister Criteria after 4000 hrs exposure to Salt Fog Resistance Test in accordance with ASTM B 117.		
Minimum Conversion # - Blistering evaluated in accordance with ASTM D 714. Blister size and frequency converted using blister value conversion table.	8	7
Rust Criteria after 5040 hrs exposure to Cyclic Weathering Resistance Test in accordance with ASTM D 5894.		
Maximum Creep, mm - Evaluated in accordance with AASHTO R-31, Subsection 8.2.2.2.	4	12
Maximum Average Creep, (mm) - Evaluated in accordance with AASHTO R 31, Subsection 8.2.2.2.	2	5
Blister Criteria after 4032 hrs exposure to Cyclic Weathering Resistance Test in accordance with ASTM D 5894.		
Minimum Conversion # - Blistering evaluated in accordance with ASTM D 714. Blister size and frequency converted using blister value conversion table.	9	8
Adhesion Criteria - Minimum pull-off strength shall be tested in accordance with ASTM D 4541.		
Minimum for both primer and PIT (Primer, Intermediate, Topcoat) panels.	(2.4 MPa) 350 psi	(4.1 MPa) 600 psi
Freeze Thaw Criteria – After 30 freeze/thaw cycles as defined in AASHTO R 31, Subsection 8.6.1 there shall be no loss of adhesion when compared with above adhesion results.		

Blister Value Conversion Table

Blister Size	Blister Frequency			
	Few	Medium	Medium Dense	Dense
#8	9	8	7	6
#6	8	7	6	5
#4	7	6	5	4
#2	6	5	4	3
#1	5	4	3	2

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Products to be used on projects will be sampled and tested and shall comply with the following requirements:

PROPERTY	TEST METHOD	Specification Acceptance[1]
Pigment Content.	ASTM D 2698	Target Value ±2.0%
Density	ASTM D 1475	Target Value ±0.25 lbs/gal (±0.03 kg/l)
Solids Content	ASTM D 2369	Target Value ±2.0%
Non-volatile in Vehicle Content	ASTM D 2698	Target Value ±2.0%
Viscosity, Ku	ASTM D 562	Target Value ±5KU
Dry to Touch	ASTM D 1640	Target Value ±10%
Dry Through	ASTM D 1640	Target Value ±10%
Sag, Lenetta	ASTM D 4400	Target Value ±10%
Infrared Spectrum	ASTM D 2621	[2]
X-Ray Diffraction	ASTM D 2321	[2]

[1]Target Values shall be established by the Materials Section upon qualification of the paint system.
[2] Standards for infrared spectrum and x-ray diffraction shall be kept on file and compared to project samples for acceptance purposes.

The topcoat shall be tinted to match the standard "Louisiana Gray" topcoat available from the Materials and Testing Section. When weathering steel is used for structural members, such as bridge girders, the ends of the members shall be painted with the zinc paint system for a distance of 1.5 times the member depth, not to exceed 10 feet (3m). The topcoat color shall match the color of the weathered steel.

SECTION 1009 – REINFORCING STEEL AND WIRE ROPE:

Subsection 1009.01 – Reinforcing Steel (07/05), Page 784.

Delete Headings (b) and substitute the following.

(b) Rail-Steel and Axle-Steel Deformed and Plain Bars shall comply with ASTM A 996 (A 996M).

Delete Heading (c).

SECTION 1010 – FENCE AND GUARD RAIL:

Subsection 1010.06 – Gates for Field and Line Type Fence (01/02), Page 792.

Delete Heading (a) and substitute the following.

(a) Gates: Steel used in fabricating gates shall be galvanized in accordance with ASTM A 653 Coating Designation G60 (A653M Coating Designation Z180).

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SECTION 1013 – METALS

Subsection 1013.01 – Structural Steel (05/05), Page 800.

Delete the second and third paragraphs and substitute the following.

Structural steel shall comply with ASTM A709 (A709M) specifications.

Longitudinal Charpy V-Notch Testing: When specified, the main load-carrying structural member components that are subject to tensile stress shall meet the longitudinal Charpy V-Notch requirements contained in the ASTM A709 (A709M) Supplemental Requirements in Table S1.2 for Non-Fracture Critical Impact Test Requirements and Table S1.3 for Fracture Critical Impact Test Requirements. Sampling and testing procedures shall be in accordance with ASTM A 673 (ASTM A 673M) and ASTM A 370 and the following requirements: the (H) frequency of heat testing shall be used for all steels except that for ASTM A 709, Grade 100 (ASTM A 709M, Grade 690) steel the (P) frequency of piece testing shall be used.

Tables 1013-1 through 1013-4 are deleted.

SECTION 1014 – TIMBER AND TIMBER PRESERVATIVES

Subsection 1014.06 – Quality Assurance (08/03), Page 811.

Delete Table 1014-2 and substitute the following.

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Table 1014-2
Minimum Retention of Preservative
(Pounds Per Cubic Foot (kg/cu m) of Wood)

Material and Usage	Creosote	Creosote-Solutions	Pentachloro-phenol	CCA[1]
Timber & Lumber				
Above Ground:				
Southern Pine or Douglas Fir	12.0 (192)	12.0 (192)	0.60 (9.6)	0.60 (9.6)
Land and Fresh Water:				
Southern Pine or Douglas Fir	16.0 (256)	16.0 (256)	N/A	0.80 (12.8)
Coastal Water:				
Southern Pine or Douglas Fir	20.0 (320)	20.0 (320)	N/A	2.50 (40.0)
Piles[3]				
Non-Foundation				
Land & Fresh Water:				
Southern Pine	16.0 (256)	16.0 (256)	N/A	0.80 (12.8)
Douglas Fir	17.0 (272)	17.0 (272)	N/A	1.00 (16.0)
Coastal Water:				
Southern Pine or Douglas Fir	20.0 (320)	20.0 (320)	N/A	2.50 (40.0)
Foundation				
Land & Fresh Water:				
Southern Pine	12.0 (192)	12.0 (192)	0.60 (9.6)	0.80 (12.8)
Douglas Fir	17.0 (272)	17.0 (272)	0.85 (13.6)	N/A
Coastal Water:				
Southern Pine or Douglas Fir	20.0 (320)	20.0 (320)	N/A	2.50 (40.0)
Poles				
Southern Pine	12.0 (192)	N/A	0.60 (9.6)	0.60 (9.6)
Douglas Fir	15.0 (240)	N/A	0.80 (12.8)	0.80 (12.8)
Fence				
Gate Posts/Braces	8.0 (128)	8.0 (128)	0.40 (6.4)	0.40 (6.4)
Guard Rail Posts/Spacer Blocks, Bridge Rails & Dead End Road Installations	12.0[2] (192)	N/A	0.60 (9.6)	0.60 (9.6)

[1] Material treated with Chromated Copper Arsenate (CCA) shall be conditioned by kiln drying prior to treatment.
[2] Timber guard rail posts, spacer blocks, bridge rails, poles and dead end road installations treated with creosote shall be steam flushed for a minimum of 1 hour at 240°F (116°C) after treatment.
[3] A foundation pile is one which is embedded in the ground and capped with concrete. Pile supported approach slab piles are classified as non-foundation.

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SECTION 1015 – SIGNS AND PAVEMENT MARKINGS:

Subsection 1015.04 – Sign Panels, (05/02), Pages 813 and 814.

Delete the first sentence of Heading (b) and substitute the following.

Substrate for barricade panels shall be either wood or rigid thermoplastic. Substrate for portable signs shall be aluminum, wood or plastic. Substrate for post mounted signs shall be aluminum, wood, rigid thermoplastic or aluminum clad low density polyethylene plastic.

Delete Heading (b)(2).

Delete Heading (b)(4) and substitute the following.

(4) Plastic: Plastic substrate for barricade panels and signs shall be as follows.

a. Fiber Reinforced Vinyl (PVC): The substrate shall have a nominal composite thickness of 0.04 inches (1 mm) and be bonded to an approved retroreflective material by the manufacturer.

b. Rigid Thermoplastic: Rigid thermoplastic substrate shall consist of either High Density Polyethylene (HDPE) or High Density Polycarbonate (HDPC). The rigid thermoplastic for barricade panels shall be hollow core HDPE or HDPC with a minimum thickness of 0.625 inch (16 mm). The thermoplastic for sign panels shall be either 0.40 inch (10 mm) thick thin wall, fluted substrate or 0.625 inch (16 mm) thick blow molded substrate. Substrates shall be sufficiently rigid to maintain a flat face and shall be capable of attachment to the sign mounting in such a manner as not to crush or otherwise deform the substrate. Reflectorized sheeting applied to rigid thermoplastic shall have its manufacturer's approval for use on the substrate.

c. Aluminum Clad Low Density Polyethylene (AL/LDPE) Plastic: The aluminum clad low density polyethylene plastic substrate shall be 0.080 inch (2 mm) thick. The substrates shall be sufficiently rigid to maintain a flat face and shall be capable of attachment to the sign mounting in such a manner as not to crush or otherwise deform the substrate. Reflectorized sheeting applied to aluminum clad low density polyethylene shall have its manufacturer's approval for use on this substrate.

Subsection 1015.05 – Reflective Sheeting (01/06), Pages 814-819.

Delete this subsection and substitute the following.

1015.05 REFLECTIVE SHEETING. Reflective sheeting shall be one of the following types as specified on the plans and complying with ASTM D 4956 except as modified herein. The sheeting shall be an approved product listed in QPL 13.

Type I - A medium-intensity retroreflective sheeting referred to as "engineering grade" and typically enclosed lens glass-bead sheeting.

Type II - A medium-high-intensity retroreflective sheeting sometimes referred to as "super engineering grade" and typically enclosed lens glass-bead sheeting.

Type III A high-intensity retroreflective sheeting, that is typically encapsulated glass-bead retroreflective material.

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Type VI - An elastomeric-high-intensity retroreflective sheeting without adhesive. This sheeting is typically a vinyl microprismatic retroreflective material.

Type IX - A very high-intensity retroreflective sheeting having highest retroreflectivity at short distances as determined by the R_A values at 1° observation angle. This sheeting is typically an unmetalized microprismatic retroreflective element material.

Delete DOTD Type VII (Fluorescent Orange).

Add the following.

Type-X (Fluorescent Orange) - A super high-intensity retroreflective sheeting having highest retroreflectivity characteristics at medium distances. This sheeting is typically an unmetalized microprismatic retroreflective element material.

(a) Adhesive Classes: The adhesive required for retroreflective sheeting shall be Class 1 (pressure sensitive) or Class 2 (heat activated) as specified in ASTM D 4956.

(b) Identification Marks: Type II sheeting shall be distinguished by integral identification marks that cannot be removed or affected by physical or chemical methods without causing damage to the sheeting. The markings shall be inconspicuously placed on 12-inch (300-mm) centers and shall be visible from a distance of not more than 3 feet (1.0 m).

Delete Heading (c), Alternate Sheeting Type.

Delete Tables 1015-1 and 1015-2.

(d) Accelerated Weathering: Reflective sheeting, when processed, applied and cleaned in accordance with the manufacturer's recommendations shall perform in accordance with the accelerated weathering standards in Table 1015-3.

Delete Table 1015-3 and substitute the following.

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Table 1015-3
Accelerated Weathering Standards[2]

Type	Retroreflectivity[1]				Colorfastness[3]	
	Orange		All colors, except orange		Orange	All colors, except orange
I	Not used		2 years	50[4]	Not used	2 years
II	1 year	65[5]	Not used		1 year	3 years
III	1 year	80[6]	3 years	80[6]	1 year	3 years
III (for drums)	1 year	80[6]	1 year	80[6]	1 year	1 year
VI	1/2 year	50[7]	1/2 year	50[7]	1/2 year	1/2 year
IX	Not used		3 years	80[8]	Not used	3 years
X (Fluorescent Orange)	1 year	80[9]	Not used		1 year	Not used

[1]Percent retained retroreflectivity of referenced table after the outdoor test exposure time specified.
[2]At an angle of 45° from the horizontal and facing south in accordance with ASTM G7.
[3]Colors shall conform to the color specification limits of ASTM D 4956 after the outdoor test exposure time specified.
[4]ASTM D 4956, Table 5.
[5]ASTM D 4956, Table 7.
[6]ASTM D 4956, Table 8.
[7]ASTM D 4956, Table 13.
[8]ASTM D 4956, Table 3.
[9]ASTM D 4956, Table 4.

(e) Performance: Reflective sheeting for signs, when processed, applied and cleaned in accordance with the manufacturer's recommendations shall perform outdoors in accordance with the performance standards in Table 1015-4.

Delete Table 1015-4 and substitute the following.

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Table 1015-4
Reflective Sheeting Performance Standards

Type	Retroreflectivity[1] -- Durability[2]				Colorfastness[3]
	Orange		All colors, except orange		
I	Not used		7 years	50[4]	3 years
II	3 years	65[5]	Not used		3 years
III	3 years	80[6]	10 years	80[6]	3 years
IX	Not used		7years	80[7]	3 years
X (Fluorescent Orange)	3 years	80[8]	Not used		3 years

[1]Percent retained retroreflectivity of referenced table after installation and the field exposure time specified.
[2]All sheeting shall maintain its structural integrity, adhesion and functionality after installation and the field exposure time specified.
[3]All colors shall conform to the color specification limits of ASTM D 4956 after installation and the field exposure time specified.
[4]ASTM D 4956, Table 5.
[5]ASTM D 4956, Table 7.
[6]ASTM D 4956, Table 8.
[7]ASTM D 4956, Table 3.
[8]ASTM D 4956, Table 4.

Delete Heading (f) and substitute the following.

(f) Temporary Signs, Barricades, Channelizing Devices, Drums and Cones: Reflective sheeting for temporary signs, barricades and channelizing devices, shall meet the requirements of ASTM D 4956, Type III except that the initial sequence of temporary advanced warning construction signs used on the mainline of freeways and expressways shall meet the requirements of ASTM D 4956 Type X (Fluorescent Orange).

Reflective sheeting for vertical panels shall meet the requirements of ASTM D 4956, Type III.

Reflective sheeting for drums shall be a minimum of 6 inches (150 mm) wide and shall meet the requirements of ASTM D 4956, Type III, and the Supplementary Requirement S2 for Reboundable Sheeting as specified in ASTM D 4956. Reflective sheeting for traffic cone collars shall meet the requirements of ASTM D 4956, Type VI.

(g) Sheeting Guaranty. The contractor shall provide the Department with a guaranty from the sheeting manufacturer stating that if the retroreflective sheeting fails to

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comply with the performance requirements of this subsection, the sheeting manufacturer shall do the following:

Delete Table 1015-5 and substitute the following.

Table 1015-5
Manufacturer's Guaranty-Reflective Sheeting

Type	Manufacturer shall restore the sign face in its field location to its original effectiveness at no cost to the Department if failure occurs during the time period[1] as specified below		Manufacturer shall replace the sheeting required to restore the sign face to its original effectiveness at no cost to the Department if failure occurs during the time period[1] as specified below
	Orange	All colors, except orange	All colors, except orange
I	Not used	<5 years	5-7 years
II	<3 years	<5 years	5-10 years
III	<3 years	<7 years	7-10 years
IX	Not used	<5 years	5-10 years
X (Fluorescent Orange)	<3 years	Not used	Not used

[1]From the date of sign installation.

(1) Replacement sheeting for sign faces, material, and labor shall carry the unexpired guaranty of the sheeting for which it replaces.

(2) The sign fabricator shall be responsible for dating all signs with the month and year of fabrication at the time of sign fabrication. This date shall constitute the start of the guaranty obligation period.

Subsection 1015.09 - Raised Pavement Markers (10/03), Pages 821 and 822.

Delete Heading (b) and substitute the following.

(b) Reflectorized Markers: Reflectorized markers shall comply with ASTM D 4280, Designation H and Designation F. The type and color shall be in accordance with the plans and the MUTCD. The markers shall be either standard having approximate base dimensions of 4-by-4-inches (100-by-100-mm) and a maximum height of 0.80 inches (20 mm) or low profile having approximate base dimensions of 4-by-2-inches (100-by-50-mm) and a maximum height of 0.60 inches (15 mm).

Subsection 1015.13 – Glass Beads for Drop-on Application (05/02), Pages 829 and 830.

Delete this subsection and substitute the following.

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1015.13 Large Embedment Coated Glass Beads for Pavement Markings. Large embedment coated glass beads for use with painted traffic striping and flat thermoplastic striping shall be transparent, clean, colorless glass, smooth and spherically shaped, free from milkiness, pits, or excessive air bubbles and conform to the specific requirements for the class designated. The beads shall be non-flotation, embedment coated and conform to the following specific requirements.

(a) Gradation: The testing for gradation of the beads shall be in accordance with ASTM D 1214 and shall meet the gradation requirements specified below.

(1) Painted Traffic Striping: Glass beads for painted traffic striping shall meet the gradation requirements of Table 1015-14.

TABLE 1015-14
Gradation of Large Embedment Coated Glass Beads for
Painted Traffic Striping

U.S. SIEVE (METRIC SIEVE)	PERCENT RETAINED
No. 12 (1.7 mm)	0
No. 14 (1.4 mm)	0-5
No. 16 (1.18 mm)	5-20
No. 18 (1.00 mm)	40-80
No. 20 (850 μm)	10-40
No. 25 (710 μm)	0-5
PAN	0-2

(2) Flat Profile Thermoplastic Striping: Drop-on beads for flat profile thermoplastic striping shall meet the gradation requirements of Table 1015-15 as determined by the thickness of the striping.

TABLE 1015-15
Gradation of Embedment Coated Glass Beads for
Flat Profile Thermoplastic Striping

THICKNESS	NUMBER OF BEAD DROPS	APPLICATION #1	APPLICATION #2
40 mils	Single Drop	See Table 1015-14	N/A
90 mils or greater	Double Drop	See Table 1015-16	AASHTO M 247 Type I

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TABLE 1015-16
Gradation of Large Embedment Coated Glass Beads for
First Drop on Flat Thermoplastic Striping

U.S. SIEVE (METRIC SIEVE)	PERCENT RETAINED
No. 10 (2.0 mm)	0
No. 12 (1.7 mm)	0-5
No. 14 (1.4 mm)	5-20
No. 16 (1.18 mm)	40-80
No. 18 (1.00 mm)	10-40
No. 20 (850 μm)	0-5
PAN	0-2

(b) Roundness: The beads shall have a minimum of 80 percent rounds per screen for the two (2) highest sieve quantities. The remaining sieve fractions shall have no less than 75 percent rounds as determined by microscopic examination.

(c) Angular Particles: The beads shall have no more than three (3) percent angular particles per screen.

(d) Refractive Index: The beads shall have a refractive index of 1.50 to 1.52 when tested by the liquid immersion method.

(e) Embedment Coating: The large beads for thermoplastic striping shall be coated with an adhesion assuring coating. The smaller AASHTO M247 Type I beads shall be coated to provide free flowing characteristics when tested in accordance with AASHTO M247 Section 4.4.1. and assure adhesion. Glass beads shall be properly coated and conform to the requirements when tested as described in DOTD TR 530 Determination of Embedment Coating on Large Embedment Coated Glass Beads for Pavement Markings.

(f) Packaging and Marking: The beads shall be packaged in moisture proofed containers. Each container shall be stamped with the following information: Name and address of manufacturer, shipping point, trademark or name, the wording "Large Embedment Coated Glass Beads", class, weight, lot number and the month and year of manufacture. The container for the AASHTO M 247 Type I beads shall be similarly stamped except that the wording shall be "Glass Beads".

SECTION 1016 – PRECAST REINFORCED CONCRETE DRAINAGE UNITS:
Subsection 1016.01 – General (09/05), Page 831.

Delete Heading (a) and substitute the following.

(a) Portland Cement and Portland-Pozzolan Cement: Portland cement shall comply with Subsection 1001.01. Portland-pozzolan cement shall comply with Subsection 1001.02.

Delete Heading (e) and substitute the following.

The name or trademark of the manufacturer, the date of casting, the structure number or the station number as shown on the plans, and the lot number shall be indented into the concrete

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or painted thereon with waterproof paint on each unit on the inside and outside of the unit in such a manner as to be legible at time of delivery.

Subsection 1016.02 – Precast Reinforced Concrete Box Culverts (09/05), Pages 831 and 832.

Delete the first sentence and substitute the following.

Precast reinforced concrete box culverts shall be approved products listed on QPL 77. The compressive strengths of the box culverts shall comply with ASTM C 76 (ASTM C 76M). Precast reinforced concrete box culverts shall comply with ASTM C 1433 (ASTM C 1433M) amended as follows:

Delete the first sentence of Heading (f) and substitute the following.

Culvert units shall be cured by one of the methods listed in ASTM C 1433.

Subsection 1016.03 – Precast Reinforced Concrete Manhole Sections (06/02), Page 832.

Delete the text of this subsection and substitute the following.

See Subsection 1016.04.

Subsection 1016.04 Precast Reinforced Concrete Catch Basins and Junction Boxes (06/02), Pages 832 and 833.

Delete this subsection and heading and substitute the following.

Precast Reinforced Concrete Manholes, Catch Basins, Junction Boxes, and Safety Ends. Precast reinforced concrete manholes, catch basins, junction boxes, and safety ends shall comply with the dimensions shown on the plans, and shall meet the following requirements:

(a) Materials:

(1) Precast reinforced concrete manholes, catch basins and junction boxes shall comply with the following Sections and Subsections:

Portland Cement Concrete, Class M	901
Reinforcing Steel	1009
Frames, Grates and Covers	1018.04

Portland cement concrete shall attain a minimum compressive strength of 4000 psi (27.5 MPa) before shipping of the units.

(2) Precast safety ends shall comply with Subsection 702.04(c).

(b) Casting Concrete: When multiple castings are to be made using the same forms, the engineer may require the use of metal forms. Concrete in each sectional unit shall be placed without interruption and shall be consolidated by the use of an approved vibrator, supplemented by hand-tamping as necessary, to force the concrete into the corners of forms and prevent formation of stone pockets or cleavage planes.

(c) Reinforcement: Reinforcement shall be as shown on the plans, and shall not vary more than 1/4 inch (6 mm) from the positions shown, except at pipe connections. At pipe connections no variance from the positions shown is allowed. Cover on reinforcement shall not be less than that shown on the plans.

(d) Curing: Units shall be cured in accordance with Subsection 805.10 or Subsection 805.14(e).

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(e) Form Removal: Forms shall remain in place for 1 curing day in accordance with Subsection 805.11, Method 2.

(f) Joints and gasket material shall comply with Subsection 1006.06(b).

(g) Workmanship: Units shall be true to shape, and surfaces shall be smooth, dense and uniform in appearance. Units will be rejected for defeats in workmanship for any of the following:

(1) Fractures or cracks passing through the wall, except for a single end crack that does not exceed the depth of the joint.

(2) Surface defects indicating honeycombed or open texture that would adversely affect the function of the unit.

(3) Damaged or cracked ends, where such damage would prevent making a satisfactory joint.

(4) Any continuous crack having a surface width of 0.01 inch (0.25 mm) or more and extending for a length of 12 inches (300 mm) or more, regardless of position.

When approved, minor surface cavities or irregularities which do not impair the service value of the unit and which can be corrected without marring its appearance shall be pointed with approved patching material listed in QPL 49 as soon as forms are removed.

(h) Quality Assurance: Acceptability of units will be determined by results of compression tests on concrete cylinders and by inspection during manufacture to determine their compliance with the design and workmanship prescribed in these specifications and on the plans. Units will be rejected for defects in workmanship in accordance with Subsection 1016.04(g).

A minimum of four cylinders for source approval and verification shall be made and cured in accordance with DOTD TR 226 or DOTD TR 227 and tested in accordance with DOTD TR 230 for each pour. Additional cylinders shall be made in pairs and used to determine the strength for moving within the plant.

SECTION 1018 – MISCELLANEOUS MATERIALS:

Subsection 1018.04 – Manhole Frames, Grates and Covers (09/02), Page 838.

Delete the Heading name and substitute the following.

Frames, Grates and Covers for Manholes, Catch Basins, and Junction Boxes.

Subsection 1018.13 – Roofing Pitch (05/01), Page 843.

Delete the first sentence and substitute the following:

Roofing pitch shall comply with ASTM D 4586.

Subsection 1018.20 – Fiber Glass Roving (05/01), Pages 847 and 848.

Delete this subsection.

Subsection 1018.22 – Hardware Cloth (06/02), Page 848.

Delete the text of this subsection and substitute the following.

Hardware cloth shall comply with the requirements of ASTM A 740, have a minimum wire diameter of 0.041 inch (1.04 mm), and be constructed of 1/2 inch x 1/2 inch (12.5 mm x 12.5 mm) mesh galvanized in accordance with ASTM A 153.

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Subsection 1018.28 – Grade 120 Ground Iron Blast-Furnace Slag (09/02), Page 850.

Delete this subsection and substitute the following.

Ground Granulated Blast-Furnace Slag: Grade 100 and grade 120 ground granulated blast-furnace slag shall be from an approved source listed on QPL 70 and shall comply with AASHTO M 302, except alkali content calculated as sodium oxide equivalent shall not exceed 0.60 percent by weight.

SECTION 1019 – GEOTEXTILE FABRIC AND GEOCOMPOSITE SYSTEMS:

Subsection 1019.01 – Geotextile Fabric (09/02), Pages 851 and 852.

Add the following the Heading (b)(2).

Use	Classes
Base Course	D
Subgrade Layer	D

SECTION 1020 – TRAFFIC SIGNALS:

Subsection 1020.01 – Traffic Signal Heads (04/04), Pages 854 – 861.

Delete sub-heading (c)(1).

Delete sub-heading (c)(3) and substitute the following.

(3) 12-Inch (300 mm) LED Traffic Signal Lamp Unit (Mast Arm and Span Wire Mount):

a. General: The 12–inch (300 mm) LED traffic signal lamp unit shall be used in new traffic signal heads or as a retrofited replacement for existing incandescent signal lamps. No special tools will be required for installation. When used as a retrofitted replacement for existing incandescent signal lamps, the 12-inch (300 mm) LED traffic signal lamp unit shall fit into existing traffic signal housings without modifications.

If proper orientation of the LED traffic signal lamp unit is required for optimum performance, prominent and permanent directional marking(s), such as an "UP arrow", for correct indexing and orientation shall exist on the unit.

The manufacturer's name, individual serial number, manufactured date, model number, and batch number shall be permanently marked on the backside of the LED traffic signal lamp unit. A label shall be placed on the unit certifying compliance to ITE standards.

b. Physical and Mechanical Requirements: The LED traffic signal lamp unit shall be a single, self-contained device, not requiring on-site assembly for installation into a new or existing traffic signal housing.

The assembly and manufacturing process for the LED traffic signal lamp unit assembly shall be such as to assure all internal LED and electronic components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

Each LED traffic signal lamp unit shall be comprised of a UV stabilized polymeric outer shell, multiple LED light source, and a regulated power supply. LEDs are to be mounted on a polycarbonate positioning plate or conformally coated printed circuit (PC) board.

The external lens shall be smooth on the outside to prevent excessive dirt/dust buildup. The optical lens/appearance of the lamp shall reflect a light distribution look similar to that of an incandescent lamp.

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c. Optical and Light Output Requirements: The LEDs shall be manufactured using AlInGaP (Aluminum-Indium-Gallium-Phosphide) technology or other LEDs with lower susceptibility to temperature degradation than AlGaAs (Aluminum-Gallium-Arsenide). AlGaAs LEDs will not be allowed.

Each LED traffic signal lamp shall meet minimum laboratory light intensity values, color (chromaticity), and light output distribution as described in ITE VTCSH (Vehicle Traffic Control Signal Head Standard) part 2 of the specifications 6.4.2.1, 6.4.4.1, 6.4.4.2, 6.4.4.3, 6.4.5 and 6.4.6 as a minimum. The LED traffic signal lamp units shall be certified by the laboratory to meet initial luminous values that are at least 115 percent of the required minimum values in the tables below. The tables below replace the values in Table 1 of Section 4.1.1 of the ITE VTCSH. The 6.4.2.1 test shall include an expanded view with the following minimums:

Grid Specification for 12–Inch (300 mm) Red
(Minimum Luminous Intensity Values (candelas))
(Shaded area is ITE requirements for light intensity)

Degrees	27.5	22.5	17.5	12.5	7.5	2.5	-2.5	-7.5	-12.5	-17.5	-22.5	-27.5
22.5U												
17.5U			3			10	10			3		
12.5U			14			20	20			14		
7.5U			20			54	54			20		
2.5U			58			220	220			58		
2.5D			77	141	251	339	339	251	141	77		
7.5D	16	38	89	145	202	226	226	202	145	89	38	16
12.5D	16	22	34	44	48	50	50	48	44	34	22	16
17.5D	16	20	22	22	22	22	22	22	22	22	20	16
22.5D			7			10	10			7		
27.5D												

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Grid Specification for 12–Inch (300 mm) Green and Yellow
(Minimum Luminous Intensity Values (candelas))
(Shaded area is ITE requirements for light intensity)

Degrees	27.5	22.5	17.5	12.5	7.5	2.5	-2.5	-7.5	-12.5	-17.5	-22.5	-27.5
22.5U												
17.5U			7			20	20			7		
12.5U			27			41	41			27		
7.5U			41			108	108			41		
2.5U			115			441	441			115		
2.5D			154	283	501	678	678	501	283	154		
7.5D	32	77	178	291	404	452	452	404	291	178	77	32
12.5D	32	44	69	89	97	101	101	97	89	69	44	32
17.5D	32	41	44	44	44	44	44	44	44	44	41	32
22.5D			14			20	20			14		
27.5D												

Arrow Indications (candelas/m²)

	Red	Yellow	Green
Arrow Indication	5 500	11 000	11 000

LEDs for arrow indications shall be spread evenly across the illuminated portion of the arrow area. Arrow LED traffic signal lamp units shall be tested in conformance with California Test 3001.

Measured chromaticity coordinates of LED traffic signal lamp units shall conform to the chromaticity requirements of the following table, for a minimum period of 60 months, over an operating temperature range of -40°F (-40°C) to 165°F (74°C). Each LED traffic signal lamp unit shall meet the minimum requirements for light output for the entire range from 80 to 135 volts.

Chromaticity Standards

Red	Y: not greater than 0.308, or less than 0.998x
Yellow	Y: not less than 0.411, nor less than 0.995 – x, nor greater than 0.452
Green	Y: not less than 0.506 – 0.519x, nor less than 0.150 + 1.068x, nor greater than 0.730 – x

LED traffic signal lamp units tested shall be representative of typical production units. Optical testing shall be performed with LED traffic signal lamp units mounted in standard traffic signal section without visors or hood attached to the signal sections.

After burn-in, LED traffic signal lamp units shall be tested for rated initial luminous intensity in conformance with the provisions contained herein above. Before measurement, LED traffic signal lamp units shall be energized at rated voltage, with 100 percent on-time duty cycle,

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for a time period of 30 minutes. Test results for this testing shall record the current, voltage, total harmonic distortion (THD) and power factor (PF) associated with each measurement.

Photometric, luminous intensity and color measurements for yellow LED traffic signal lamp units shall be taken immediately after the units are energized. The ambient temperature for these measurements shall be 77°F (25°C). Test results for this testing shall record the current, voltage, total harmonic distortion (THD) and power factor (PF) associated with each measurement.

d. Electrical: Each LED traffic signal lamp unit shall incorporate a regulated power supply designed to electrically protect the LEDs and maintain a safe and reliable operation. The power supply shall provide capacitor filtered DC regulated current to the LEDs in accordance with the LED manufacturer's specification. Design of the power supply shall be such that the failure of an individual component or any combination of components cannot cause the LED traffic signal lamp unit to be illuminated after AC power is removed. The power supply must be current regulated.

The LED traffic signal lamp unit shall operate on a 60Hz AC line voltage ranging from 80 volts RMS to 135 volts RMS. The circuitry shall prevent flickering over this voltage range. Nominal rated voltage for all measurements shall be 117 volts RMS.

The LED traffic signal lamp unit shall be operationally compatible with all TS1, TS2, and 2070 controllers, conflict monitors with plus features, and malfunction management units. In the case of conflicts between specifications, the latest LADOTD specifications will control.

A circuitry shall be provided that will shutdown the LED traffic signal lamp unit and power supply when 85 percent ITE light intensity specifications as amended herein are not satisfied. The manufacturer may be required to effectively demonstrate this feature.

Each shipment shall be accompanied with a certified test report from an independent testing lab. Random testing of average production units shall be conducted to ensure compliance with specifications.

Two, color coded, 36 in. long, 600 V, 18 AWG minimum jacketed wires, properly terminated to the LED traffic signal lamp unit to prevent moisture, dust, and other environmental substances from entering the unit, conforming to the National Electric Code, and rated for service at 221°F (105°C), shall be provided for an electrical connection.

Individual LED's shall be wired so that a catastrophic failure of one LED light source will result in the loss of only one LED light source.

The LED traffic signal lamp unit shall operate with a minimum 0.90 power factor.

Total harmonic distortion (current and voltage) induced into an AC power line by an LED traffic signal lamp unit shall not exceed 20 percent.

LED traffic signal lamp units and associated on-board circuitry shall conform to the requirements in Federal Communications Commission (FCC) Title 47, SubPart B, Section 15 regulations concerning the emission of electronic noise.

e. Environmental Requirements: The LED traffic signal lamp unit shall be rated for use in the ambient operating temperature range of -40°F (-40°C) to 165°F (74°C). The unit shall consist of a housing that is a sealed watertight enclosure that eliminates dirt contamination and allows for safe handling in all weather conditions. Moisture resistance testing shall be

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performed on LED traffic signal lamp units in conformance with the requirements in NEMA Standard 250-1991 for Type 4 enclosures. Evidence of internal moisture after testing shall be cause for rejection.

f. Production Testing Requirements: Each new LED traffic signal lamp unit shall be energized for a minimum of 24 hours at an operating temperature of 140°F (60°C) in order to cause any electronic infant mortality to occur, and to ensure electronic component reliability prior to shipment. After the burn-in procedure is completed, each LED traffic signal lamp unit shall be tested by the manufacturer for rated initial intensity at rated operating voltage.

g. Certifications: The contractor shall submit a test report certified by an independent laboratory that is certified to test in accordance with ITE standards that the LED traffic signal lamp unit model to be furnished meets ITE Standards for light distribution as amended herein, chromaticity, and power (consumption, power factor and harmonic distortion).

h. Warranty: The manufacturer shall provide a written warranty against defects in material, workmanship, or intensity for LED traffic signal lamp units for a period of 60 months after their installation. The traffic signal lamp units shall be warranted to maintain, throughout the warranty period, minimum luminous intensity values that are shown in the tables in paragraph c above. During the warranty period the manufacturer may be required to test any LED traffic signal lamp unit that is suspected to not meet the minimum intensity requirements at no cost to the Department. Any LED traffic signal lamp unit that fails during the warranty period shall be replaced. Replacement LED traffic signal lamp units shall be provided within 5 days after receipt of failed LED traffic signal lamp units at no cost to the Department.

The measured chromaticity coordinates of light emitting diode traffic signal lamp units shall conform to the requirements for chromaticity in Section 8.04 and Figure 1 of the ITE VTCSH over the temperature range of -40°F (-40°C) to 165°F (74°C).

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LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

SECTION 502
SUPERPAVE ASPHALTIC CONCRETE MIXTURES

Section 502 of the 2000 Standard Specifications is deleted and substituted with the following.

502.01 DESCRIPTION. These specifications are applicable to Superpave asphaltic concrete wearing, binder and base course mixtures of the plant mix type.

This work consists of furnishing and constructing one or more courses of asphaltic concrete mixture applied hot in conformance with these specifications and in conformity with the lines, grades, thicknesses and typical sections shown on the plans or established. The mixture shall consist of aggregates and asphalt with additives combined in proportions which meet the requirements of this section including Tables 502-2, 502-3 and 502-4. Equipment and processes shall conform to Section 503.

Changes in design level will not be allowed, however, substitutions will be allowed for mixes within the same design level without requiring a plan change as follows. Wearing course [0.75 inch (19 mm)] may be substituted for binder course. Binder course [1 inch (25 mm)] may be substituted for base course. Wearing course shall not be substituted for base course.

When any substitution is made, all specification requirements for the mixture used shall apply with the following exceptions. When wearing course is substituted for binder course, RAP will be allowed in accordance with binder course requirements in Table 502-4. The lift thickness placed shall be as specified in Subsection 502.07 and Table 502-4 for the mix type used.

Quality assurance requirements and design procedures shall be as specified herein elsewhere and in the latest edition of the Department's publication entitled "Application of Quality Assurance Specifications for Asphaltic Concrete Mixtures" which is hereby made a part of this contract by reference.

502.02 MATERIALS. The contractor shall keep accurate records, including proof of deliveries of materials for use in asphaltic concrete mixtures. Copies of these records shall be furnished to the engineer upon request. Materials shall comply with the following Subsections:

Asphalt	1002.01
Silicone and Anti-Strip Additives	1002.02
Aggregates	1003.01 & 1003.06
Reclaimed Asphaltic Pavement (RAP)	1003.01 & 1003.06
Hydrated Lime	1018.03(a)
Mix Release Agent	1018.26

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(a) Asphalt: The asphalt cement grades used shall be as specified in Table 502-1 using the design traffic load levels shown on the plans.

Asphalt cement shall be sampled in accordance with the Materials Sampling Manual and shall meet the requirements of Section 1002. If the asphalt cement does not comply with the requirements of Section 1002, mix production shall cease until proper asphalt material is supplied.

Table 502-1
Superpave Asphalt Cement Usage

Current Traffic Load Level	Mixture Type	Grade of Asphalt Cement
Level 1	Wearing Course	PG 70-22m
	Binder Course	PG 70-22m
	Base Course	PG 64-22
Level 2 and 3	Wearing Course	PG 76-22m
	Binder Course	PG 76-22m
	Base Course	PG 64-22
Level A	Incidental Paving	PG 70-22m

Base course mixtures containing 20 to 30 percent RAP shall use PG 58-28 asphalt cement.

When mixtures are specified for pavement patching, pavement widening, pavement joint repair, driveways, curbs, guardrail widening, islands, bike paths, parking lots, or temporary detour roads, PG 64-22 asphalt cement may be used in lieu of the modified asphalts.

Leveling courses shall use the same grade of asphalt cement as in the layer immediately above except when blade leveling is directed by the engineer, a PG 64-22 will be allowed.

PG 76-22m asphalt cement may be substituted for PG 70-22m or PG 64-22 asphalt cements at no increase in price. PG 70-22m asphalt cement may be substituted for PG 64-22 at no increase in price. When average daily traffic (ADT) is less than 2500, PG 70-22m Alternate asphalt cement may be substituted for PG 70-22m asphalt cement for Level 1 and Level A mixes at no increase in price.

If a wearing course is substituted for a binder course, or if a binder course is substituted for a base, the grade of asphalt cement required will be in accordance with the original mixture type shown in the plans and as specified in Table 502-1.

(b) Additives:

(1) Silicone: Silicone additives, when needed, shall be dispersed into the asphalt by methods and in concentrations given in QPL 22.

(2) Anti-Strip (AS): An anti-strip additive shall be added at the minimum rate of 0.5 percent by weight (mass) of asphalt and thoroughly mixed in-line with the asphalt cement at the plant. Additional anti-strip shall be added up to 1.2 percent by weight (mass) of asphalt in accordance with Subsection 502.03(b).

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When the amount of anti-strip additive is not in accordance with the approved job mix formula, production shall be discontinued until satisfactory adjustments are made.

(3) Hydrated Lime: Hydrated lime additive may be incorporated into all asphaltic concrete mixtures at the rate specified in the approved job mix formula. The minimum rate shall not be less than 1.5 percent by weight (mass) of the total mixture. Hydrated lime additive shall be added to and thoroughly mixed with aggregates in conformance with Subsection 503.02(e). Hydrated lime may be added as a mineral filler in accordance with Heading (c)(3).

(c) Aggregates: Aggregates shall meet the requirements of Table 502-4 and Section 1003.

(1) Friction Ratings: Friction ratings for coarse aggregates shall be determined in accordance with Subsection 1003.06. The friction ratings and allowable usage of aggregates shall be as shown in Table 502-2. Friction rating requirements shall apply only to the final lift of the travel lane wearing course.

Table 502-2
Aggregate Friction Rating

Friction Rating	Allowable Usage
I	All mixtures
II	All mixtures
III	All mixtures, except travel lane wearing courses with plan ADT greater than 7000[1]
IV	All mixtures, except travel lane wearing courses[2]

[1] When plan current average daily traffic (ADT) is greater than 7000, blending of Friction Rating III aggregates and Friction Rating I and/or II aggregates will be allowed for travel lane wearing courses at the following percentages. At least 30 percent by weight (mass) of the total aggregates shall have a Friction Rating of I, or at least 50 percent by weight (mass) of the total aggregate shall have a Friction Rating of II. The frictional aggregates used to obtain the required percentages shall not have more than 10 percent passing the No. 8 (2.36 mm) sieve.

[2] When the average daily traffic (ADT) is less than 2500, blending of Friction Rating IV aggregates with Friction Rating I and/or II aggregates will be allowed for travel lane wearing courses at the following percentages. At least 50 percent by weight (mass) of the total aggregate in the mixture shall have a Friction Rating of I or II. The frictional aggregates used to obtain the required percentages shall not have more than 10 percent passing the No. 8 (2.36 mm) sieve.

(2) Reclaimed Asphaltic Pavement (RAP): Reclaimed asphaltic pavement shall be stockpiled separate from other materials at the plant and will be subject to approval prior to use. Such stockpiles shall be uniform and free of soil, debris, foreign matter and other contaminants. Reclaimed materials that cannot be broken down during mixing or that adversely affect paving operations shall be screened or crushed to pass a 2 inch (50 mm) sieve prior to use.

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(3) Mineral Filler: Mineral filler complying with the requirements of Subsection 1003.06(a)(6) may be used in all mixtures.

(4) Natural Sand: Natural sand shall meet the requirements of Table 502-4 and Subsection 1003.06(a)(3).

502.03 DESIGN AND VALIDATION OF MIXTURES.

(a) General: It is the intent of these specifications that the mixtures produced and placed meet the requirements for 100 percent payment. The contractor shall be responsible for design, production, transportation and laydown of mixtures. Work shall meet the requirements of this section and be subject to acceptance by the Department.

The contractor shall exercise quality control over materials and their assembly, design, processing, production, hauling, laydown and associated equipment. Quality control is defined as the constant monitoring of equipment, materials and processes to ensure that mixtures produced and placed are uniform, within control limits, and meet specification requirements. When these specifications are not being met and satisfactory control adjustments are not being made, operations shall be discontinued until proper adjustments and uniform operations are established. Control shall be accomplished by a program independent of the Department's testing and shall ensure that the requirements of the job mix are being achieved and that necessary adjustments provide the specified results.

The contractor shall conduct such tests as necessary, in addition to the required tests, to design, control and place mixtures within specifications.

The quality of mixtures will be evaluated during two phases, mixture produced at the plant, and mixture hauled, placed and compacted. Quality of both phases will be evaluated continuously as stated herein elsewhere. A lot is a segment of continuous production of asphaltic concrete mixture from the same job mix formula produced for the Department at an individual plant. Plant quality control testing shall be conducted continuously throughout production independent of delivery points. Project site quality control testing shall be conducted on each project for the mix placed on that project.

When the plant is in operation, the contractor shall have a Certified Asphaltic Concrete Plant Technician at the plant or jobsite who is capable of designing asphaltic concrete mixes, conducting any test or analysis necessary to put the plant into operation and producing a mixture meeting specifications. Daily plant operations shall not begin unless the Certified Asphaltic Concrete Plant Technician is at the plant. The Asphaltic Concrete Technician certification will be awarded by the Department upon satisfactory completion of the Department's requirements.

(b) Job Mix Formula: The contractor shall design the mixtures for optimum asphalt content and comply with requirements of the Superpave Mix Design for the level of mixture in Table 502-4 in accordance with AASHTO PP 28. The job mix formula shall include the recommended formula, extracted gradation, and supporting design data. The recommended formula shall be submitted for approval to the District Laboratory Engineer on a properly completed Superpave Asphaltic Concrete Job Formula form with all supporting design data. No mixture shall be produced until the proposed job mix formula has been approved.

The contractor's proposed job mix formula shall indicate a single anti-strip additive rate which is 0.1 percent greater than the percentage which will yield a minimum Tensile Strength

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Ratio (TSR) of 80 percent up to a maximum of 1.2 percent anti-strip additive when tested in accordance with DOTD TR 322.

Permeability shall be tested by the contractor and reported on the job mix formula. Permeability tests shall be performed on 6 inch diameter by 4 inch tall (150 mm by 100 mm) specimens compacted to 93% ±1% of theoretical maximum specific gravity (G_{mm}). The maximum coefficient of permeability shall be 3.5 ft./day (125 x 10-5 cm/second) as measured in accordance with ASTM PS 129. These same specimens may be used in moisture sensitivity testing.

The job mix formula shall indicate a single rate of hydrated lime additive when used. The job mix formula rate of hydrated lime additive shall not be less than 1.5 percent by weight (mass) of total mixture.

The job mix formula shall indicate the optimum mixing temperature. The job mix formula limits for mix temperature will be ±25°F (±14°C) from the optimum mixing temperature.

The job mix formula is to be inside the control points as detailed in Table 502-3. Blending of aggregates, i.e., gravel and stone, will be allowed provided the final composite mixture and final product meets or exceeds all specifications requirements.

The plant shall be operated to produce, on a continuing basis, a mixture uniformly conforming to the approved job mix formula. When this is not the case, the contractor shall make satisfactory adjustments or cease operations. The District Laboratory Engineer may permit the contractor to submit a new Asphaltic Concrete Job Mix Formula form for approval. The contractor shall submit a new job mix formula whenever a plant begins initial operations for the Department in a specific location or whenever a plant experiences a change in materials or source of materials. A new job mix formula will also be required whenever there are significant changes in equipment, such as the introduction of a new crusher, drum mixer, burner, etc.

When reclaimed asphaltic pavement (RAP) is used in a roadway mix, the quantity of RAP shall be designated in the job mix formula and meet the requirements of Table 502-4. The engineer may require the contractor to reduce the percentage of RAP to meet acceptance requirements.

When the contractor changes a source of RAP, the new mix design shall be submitted, validated and approved if the type of aggregate changes (e.g. gravel to limestone) or the source change causes a change in acceptance tolerances. If the contractor determines that the source change will not cause a change in acceptance tolerances, the contractor may elect to integrate the new RAP source into the existing approved mix design provided the contractor submits a revised job mix formula cover sheet which shows the new source of RAP and other changes. A new validation will not be required. If subsequent acceptance tests indicate that the mix is out of tolerance, a new design will be required and appropriate payment adjustments will apply.

(c) Job Mix Formula (JMF) Validation: The first day's production or a maximum of 2000 tons (2000 Mg) of mix shall be used to validate a new JMF. The contractor and the Department, using the stratified random sampling approach, shall jointly take five (5) samples, one per sublot, during the first day's production or a maximum of 2000 tons (2000 Mg) of mix. The contractor may elect to exclude test results representing the first 250 tons (250 Mg) from the

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validation analysis in order to make slight adjustments to the mix. The remaining validation lot, up to 1750 tons (1750 Mg), shall be divided into five (5) equal sublots and tested for validation analysis. If excluded from validation, the 250 tons (250 Mg) will be paid in accordance with Table 502-8. Minimum testing shall include one theoretical maximum specific gravity (G_{mm}), one gyratory specimen compacted to N_{design}, one gyratory specimen compacted to N_{max}, and one oven extraction. As approved by the district laboratory engineer, the contractor and the Department shall jointly analyze the test results for the following parameters:

(1) Extracted Gradation
(2) Percent Extracted Asphalt Cement
(3) Percent Crushed Aggregate, (from cold feed blends)
(4) Theoretical Maximum Specific Gravity (Gmm) (aged for one hour)

The following parameters apply to samples aged for one hour in an oven at gyratory compaction temperature and compacted to N_{design}.

(5) Bulk Specific Gravity (G_{mb}) at N_{design}
(6) Percent G_{mm} at $N_{initial}$
(7) Percent Air Voids, VMA and VFA

The following parameters apply to samples aged for one hour in an oven at gyratory compaction temperature and compacted to N_{max}

(8) Bulk Specific Gravity (G_{mb}) at N_{max} measured and estimated
(9) Percent G_{mm} at N_{max} and Corrected percent G_{mm} at N_{design}
(10) Slope of the Gyratory Compaction Curve

The mean, standard deviation, Quality Index and percent within limits (PWL) of the test results shall be calculated in accordance with Subsection 502.12(g), Quality Level Analysis. The test data will be used to validate the JMF.

A JMF is considered validated if the following parameters are 90 percent within limits of the JMF and meet the specifications requirements.

(1) Extracted Gradations for the No. 8 and No. 200 (2.36 mm and 75 μm) sieves
(2) Theoretical Maximum Specific Gravity (G_{mm})
(3) Percent G_{mm} at $N_{initial}$ and N_{max}
(4) Percent Air Voids at N_{design}

Also for validation, all other parameters shall be within the specifications limits.

Should the JMF validate on all but one parameter, the contractor may make adjustments to the production and repeat the validation testing using the next day's production or a maximum of 2000 tons (2000 Mg). Should the JMF fail to validate on more than one parameter, the JMF will be considered non-valid, and the contractor will be required to submit a new JMF for approval. A previously approved JMF may be produced in lieu of the disapproved JMF. Upon validation of the JMF, the validation averages will be used for JMF target values. Payment for

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validation lots will be in accordance with acceptance pay parameters, except that five cores shall be obtained to determine density pay. After validating the JMF for mix properties, the contractor, witnessed by the Department, shall sample the next day's production and perform validation testing at the plant for DOTD TR 322 and AASHTO TP 4 specimens. When the validation results are less than 80 percent, no further production for that job mix formula or any proposed job mix formula substituted for that mix type will be accepted on any DOTD project having DOTD TR 322 requirements until a passing plant-produced Tensile Strength Ratio (TSR) value is verified by the Department. A previously validated and approved JMF may be produced in lieu of the disapproved JMF.

Validation is not required for mixture designs used solely for curbs, driveways, turnouts, crossovers, joint repair, leveling, guardrail widening, islands, bike paths, patching, widening, shoulders less than 10 feet (3.0 m) wide, and miscellaneous handwork, but the mixture must meet specifications requirements.

502.04 WEATHER LIMITATIONS. Asphaltic concrete mixtures shall not be applied on a wet surface or when the ambient temperature is below 50°F (10°C) for wearing courses and 40°F (5°C) for base and binder courses, except that material in transit, or a maximum of 50 tons (45 Mg) in a surge bin or silo used as a surge bin at the time plant operation is discontinued may be placed; however, mixture placed shall perform satisfactorily and meet specification requirements. Inclement weather will be sufficient reason to terminate or not begin production.

When base course materials are placed in plan thicknesses of 2 3/4 inches (70 mm) or greater, these temperature limitations shall not apply provided all other specification requirements are met. When a wearing course is substituted for a binder course mixture the temperature limitation for binder course shall apply.

502.05 SURFACE PREPARATION. The surface to be covered shall be approved prior to placing mixtures. The contractor shall maintain the surface until it is covered.

(a) Cleaning: The surface to be covered shall be swept clean of dust, dirt, caked clay, caked material and loose material by revolving brooms or other mechanical sweepers supplemented with hand equipment as directed. When mixtures are to be placed on portland cement concrete pavement or overlaid portland cement concrete, the contractor shall remove excess joint filler from the surface by an approved burning method. The contractor shall remove any existing raised pavement markers prior to asphaltic concrete overlay operations.

When brooming does not adequately clean the surface, the contractor shall wash the surface with water in addition to brooming to clean the surface.

When liquid asphalt is exposed to traffic for more than 2 calendar days, becomes contaminated, or degrades due to inclement weather, the liquid asphalt shall be reapplied at the initial recommended rate at no direct pay.

(b) Applying Liquid Asphalt Materials:

(1) Existing Pavement Surfaces: Before constructing each course, an approved asphalt tack coat shall be applied in accordance with Section 504. The contractor shall protect the tack coat and spot patch as required.

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(2) Raw Aggregate Base Course and Raw Embankment Surfaces: The contractor shall apply an approved asphalt prime coat to unprimed surfaces, or protect in place prime coat and spot patch as required with asphalt prime coat, in accordance with Section 505.

(3) Cement and Lime Stabilized or Treated Embankment and Base Course Surfaces: The contractor shall apply an approved asphalt curing membrane when none is in place, or protect the in place curing membrane and spot patch, as required, with asphalt material in accordance with Section 506.

(4) Other Surfaces: Contact surfaces of curbs, gutters, manholes, edges of longitudinal and transverse joints, and other structures shall be covered with a uniform coating of an approved asphalt tack coat complying with Section 504 before placing asphaltic mixtures.

502.06 JOINT CONSTRUCTION.

(a) Longitudinal Joints: Longitudinal joints shall be constructed by setting the screed to allow approximately 25 percent fluff and also overlapping the paver approximately 2 inches (50 mm) onto the adjacent pass. Prior to rolling, the overlapped mix shall be pushed back to the uncompacted side, without scattering loose material over the uncompacted mat, to form a vertical edge above the joint. The vertical edge shall then be compacted by rolling to form a smooth, sealed joint. Longitudinal joints in one layer shall offset those in the layer below by a minimum of 3 inches (75 mm); however, the joint in the top layer shall be offset 3 inches (75 mm) to 6 inches (150 mm) from the centerline of pavement when the roadway comprises two lanes of width, or offset 3 inches (75 mm) to 6 inches (150 mm) from lane lines when the roadway is more than two lanes. The narrow strip shall be constructed first.

Where adjacent paving strips are to be placed, the longitudinal edge joint of the existing strip shall be tacked.

(b) Transverse Joints: Transverse joints shall be butt joints formed by cutting back on the previously placed mixture to expose the full depth of the lift. An approved 10 foot (3.0 m) static straightedge shall be used to identify the location at which the previously placed mixture is to be cut back to maintain no greater than a 1/8 inch (3 mm) deviation in grade. The cut face of the previously placed mat shall be lightly tacked before fresh material is placed. The screed shall rest on shims that are approximately 25 percent of plan thickness placed on the compacted mat. Transverse joints shall be formed by an adequate crew. Transverse joints shall be checked by the engineer for surface tolerance using a stringline extended from a point 10 feet (3 m) before the joint to a point approximately 40 feet (12 m) beyond the joint. Any deviation in grade from the stringline in excess of 3/16 inch (5 mm) for roadway wearing courses and 1/4 inch (6 mm) for other courses shall be immediately corrected prior to the paving operation continuing beyond 100 feet (30 m) of the transverse joint. Additionally, the transverse joint shall meet the surface tolerance requirements of Table 502-3. The contractor shall make necessary corrections to the joint before continuing placement operations.

Transverse joints in succeeding lifts shall be offset at least 3 feet (1.0 m).

502.07 HAULING, PAVING AND FINISHING. Mixtures shall be transported from the plant and delivered to the paver at a temperature no cooler than 25°F (14°C) below the lower limit of

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the approved job mix formula. The temperature of the mix going through the paver shall not be cooler than 250°F (120°C).

No loads shall be sent out so late in the day that completion of spreading and compaction of the mixture cannot be completed during daylight, unless artificial lighting has been approved.

When segregation occurs, haul trucks shall be loaded with a minimum of three drops of mix, the last of which shall be in the middle.

Each course of asphaltic mixture shall be placed in accordance with the specified lift thickness. When no lift thickness is specified, or when substitute mixtures are utilized as specified in Subsection 502.01, mixtures shall be placed in accordance with Table 502-4.

With the engineer's approval, motor patrols may be used to fill isolated depressions in the initial layer, provided this construction does not result in unsatisfactory subsequent lifts.

(a) Coordination of Production: The contractor shall coordinate and manage plant production, transportation of mix and placement operations to achieve a high quality pavement and shall have sufficient hauling vehicles to ensure continuous plant and roadway operations. The engineer will order a halt to operations when sufficient hauling vehicles are not available.

On final wearing course construction under traffic with pavement layers of 2 inches (50 mm) compacted thickness or less, the contractor will be permitted to pave one travel lane for a full day. The contractor shall pave the adjacent travel lane the next work day. When the adjacent travel lane is not paved the next calendar day and the longitudinal joint is exposed to traffic for more than 3 calendar days, and it has been determined that the subsequent roadway edge is not true to line and grade as previously constructed, the entire length of exposed longitudinal joint shall be cut back to plan thickness to a vertical edge and heavily tacked. When pavement layers are greater than 2 inches (50 mm) compacted thickness, the contractor shall place approximately 1/2 of each day's production in one lane and the remainder in the adjacent lane.

Pavement shall be protected from traffic until it has sufficiently hardened to the extent the surface is not damaged.

(b) Paving Operations: When placing the final two lifts of asphaltic concrete on the roadway travel lanes, a material transfer vehicle (MTV), as described in Subsection 503.10, will be required to deliver mixtures from the hauling equipment to the paving equipment, and to prevent segregation of the asphaltic concrete hot mix. The MTV is required regardless of ADT. All mixtures shall flow through the paver hopper. Mixtures dropped in front of the paver shall be either lifted into the hopper or rejected and cast aside. Delivery of material to the paver shall be at a uniform rate and in an amount within the capacity of paving and compacting equipment. The paver speed and number of trucks shall be adjusted to have one truck waiting in addition to the one at the paver in order to maintain continuous paving operations. The height of material in front of the screed shall remain uniform.

During mixture transfer, the paver shall not be jarred or moved out of alignment. The level of mix in the paver hopper shall not drop so low as to expose the hopper feed slats.

Pavers shall be designed and operated to place mixtures to required line, grade and surface tolerance without resorting to hand finishing.

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Longitudinal joints and edges shall be constructed along lines established. Stringlines or other forms of longitudinal control shall be placed by the contractor for the paver to follow. The paver shall be positioned and operated to closely follow the established line. Irregularities in alignment shall be corrected by trimming or filling directly behind the paver.

After each load of material has been placed, the texture of the unrolled surface shall be checked to determine its uniformity. The adjustment of screed, tamping bars, feed screws, hopper feed, etc., shall be checked frequently and adjusted as required to assure uniform spreading of the mix to proper line and grade and adequate compaction. When segregation of materials or other deficiencies occur, paving operations shall be suspended until the cause is determined and corrected.

Surface irregularities shall be corrected directly behind the paver. Excess material forming high spots shall be removed. Indented areas shall be filled and finished smooth. Hand placement in accordance with Heading (c) for surface repair will be permitted. Material shall not be cast over the surface.

When paving and finishing operations are interrupted so that the mixture remaining in trucks, paver, paver hopper or on the pavement cools to such extent that it cannot be placed, finished or compacted to the same degree of smoothness and with the same texture and density as the uncooled mixture, the cooled mixture shall be removed and replaced at no direct pay.

When additional mix is required to increase superelevation in curves, the use of automatic slope control will be optional with the contractor.

The traveling reference plane method of construction will be required for airport runways unless designated otherwise on the plans. Pavers for roadway travel lanes shall be equipped with automatic screed and slope control devices used with an erected stringline, unless the contractor elects to use an approved automated base course grading machine. If the automated base course grading machine is used with an erected stringline, an approved traveling reference plane shall be used with the paver.

The following requirements shall apply for mechanical pavers:

(1) Traveling Reference Plane: An approved traveling reference plane shall be used. After the initial paving strip of each lift is finished and compacted, adjacent paving strips shall be placed to the grade of the initial paving strip using the traveling reference plane or shoe device to control grade and a slope control device to control cross slope.

On multilane pavements, the initial paving strip and the sequence of lane construction will be subject to approval.

When both outside edges of the paving strip being placed are flush with previously placed material, the slope control device shall not be used. A grade sensor is required for each side of the paver.

In superelevated curves, the cross slope shall be changed from that specified for tangents to that specified for superelevation in gradual increments while the paver is in motion so a smooth transition in grade is obtained. This change in cross slope shall be accomplished within the transition distance specified.

This is the minimum acceptable method and the contractor must meet or exceed current surface tolerance specifications.

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(2) Erected Stringline: An erected stringline shall consist of a piano wire or approved equal stretched between stakes set at no greater than 25 foot (7.5 m) intervals tensioned between supports so that there is less than 1/8 inch (3 mm) variance between supports when the sensor is in place. The stringline elevation will be verified by the Department using standard surveying practices.

The initial paving strip of the first lift shall be constructed using an erected stringline referenced to established grade. When permitted, mixtures required to level isolated depressions may be placed without automatic screed control. Subsequent lifts may be constructed by use of the traveling reference plane, provided surface and grade tolerances are met on the previous lift.

Only one grade sensor and the slope control device are necessary for roadways with a normal crown on tangent alignment. Superelevated curves will require the use of two grade sensors and two erected stringlines to obtain proper grade and slope; however, when the automatic screed control device is equipped with a dial or other device which can be conveniently used to change the cross slope in small increments, superelevated curves may be constructed using this device and one erected stringline.

After the initial paving strip of the first lift is finished and compacted, adjacent paving strips shall be laid using an approved traveling reference plane.

(3) Without Automatic Screed Control: When permitted, pavers without automatic screed control may be used for pavement patching, pavement widening, paved drives and turnouts.

(c) Hand Placement: When the use of mechanical finishing equipment is not practical, the mix may be placed and finished by hand to the satisfaction of the engineer. No casting will be allowed including casting the mixture from the truck to the grade. During paving operations material shall be thoroughly loosened and uniformly distributed. Material that has formed into lumps and does not break down readily will be rejected. The surface shall be checked before rolling and irregularities corrected.

502.08 COMPACTION.

(a) General: After placement, mixtures shall be uniformly compacted, by rolling while still hot, to at least the density specified in Table 502-3. If continuous roller operation is discontinued, rollers shall be removed to cooler areas of the mat, where they will not leave surface indentations. The use of steel wheel rollers which result in excessive crushing of aggregate will not be permitted.

The rolling pattern established by the contractor shall be conducted by experienced operators in consistent sequences and by uniform methods that will obtain specified density and smoothness. Individual roller passes shall uniformly overlap preceding passes to ensure complete coverage of the paving area. The speed and operation of rollers shall not displace, tear or crack the mat. Nonvibrating steel wheel rollers shall be operated with drive wheels toward the paver. Any operations causing displacement, tearing or cracking of the mat shall be immediately corrected.

Equipment which leaves tracks or indented areas which cannot be corrected in normal operations or fails to produce a satisfactory surface shall not be used. Operation of equipment

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resulting in accumulation of material and subsequent shedding of accumulated material into the mixture or onto the mat will not be permitted.

To prevent adhesion of mixture, wheels of steel wheel rollers shall be kept properly moistened, but excess water will not be permitted.

Pneumatic tire rollers shall be operated so that tires will retain adequate heat to prevent mix from adhering to tires. The pneumatic tire roller shall be operated at a contact pressure which will result in a uniform, tightly knit surface. The pneumatic tire roller shall be kept approximately 6 inches (150 mm) from unsupported edges of the paving strip; however, when an adjacent paving strip is down, the roller shall overlap the adjacent paving strip approximately 6 inches (150 mm).

Vibratory rollers may be used provided they do not impair the stability of the pavement structure or underlying layers. Vibratory rollers shall not be used on the first lift of asphaltic concrete placed over the asphalt treated drainage blanket. When mix is placed on newly constructed cement or lime stabilized or treated layers, vibratory rollers shall not be used for at least 7 days after such stabilization or treatment.

It is the responsibility of the contractor to determine the number, size, and type of rollers to sufficiently compact the mixture to the specified density and surface smoothness. The rolling equipment shall be capable of maintaining the pace of the paver and shall conform to Subsection 503.06.

The surface of mixtures after compaction shall be smooth and true to cross slope and grade within the tolerances specified. Mixtures that become loose, broken, contaminated or otherwise defective shall be removed and replaced with fresh hot mixture compacted to conform with the surrounding mixture.

Excessive rippling of the mat surface will not be accepted. Ripples are small bumps in the pavement surface which usually appear in groups in a frequent and regular manner. There shall be no more than 12 ripples or peaks in any 100-foot (30 m) section. Rippling indicates a problem with the paving operation or mix that requires immediate corrective action by the contractor; otherwise operations shall cease. Unacceptable areas shall be corrected at no direct pay.

(b) Rolling: After rolling, newly finished pavements shall have a uniform, tightly knit surface free of cracks, tears, roller marks or other deficiencies. Deficiencies shall be corrected at no direct pay and the contractor shall adjust operations to correct the problem. This may require the contractor to adjust the mix or furnish additional or different equipment.

(c) Hand Compaction: Along forms, curbs, headers, walls and at other places inaccessible to rollers, mixture shall be uniformly compacted to the satisfaction of the engineer with approved hand tampers or mechanical tampers, conforming to Subsection 503.07.

502.09 PAVEMENT SAMPLES. Samples shall be cores approximately 4 inches (100 mm) or 6 inches (150 mm) in diameter taken by an approved core drill. The contractor shall furnish samples cut from the completed work. The removed pavement shall be replaced with hot or cold mixture and refinished during the work day coring is performed. No additional compensation will be allowed for furnishing test samples and replacing the areas with new pavement. Samples shall be taken by the contractor in the presence of the engineer's representative from areas

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selected by the Department in accordance with Subsection 502.12(c)(3). When the design thickness is greater than 1.75 inches (45 mm), cores less than 1 3/8 inches (35 mm) thick shall not be used as pavement samples for payment determination.

Cores shall be transported to the plant in approved styrofoam transport containers or one gallon (4 L) friction top cans. Regardless of transport container used, the container will be sealed, signed, and dated by the inspector using an approved method. The individually wrapped core will also be sealed, signed, and dated by the inspector using an approved method. Any evidence of tampering with the core wrappings, sticker, or of opening the container or friction top can will result in the cores being rejected. Additional pavement samples will be required.

502.10 SURFACE TOLERANCE REQUIREMENTS.

(a) General: This subsection outlines the method of measuring surface tolerance and the acceptance limits for quality control and assurance, including corrective actions and/or payment adjustments for asphaltic concrete surface tolerance. Longitudinal surface profile shall be measured in inches per mile (mm per km) in accordance with DOTD TR 644 and reported as the International Roughness Index (IRI), as defined in the National Cooperative Highway Research Program (NCHRP) Report No. 228 and World Bank Technical Paper No. 46.

Control of transverse, cross slope and grade shall be measured in inches (millimeters) using an approved 10-foot (3.0 m) metal static straightedge. For shoulders, turnouts, crossovers, detour roads, parking areas and roadway sections less than 500 feet (150 mm) in length, the wearing course shall be tested and the surface deviations shall not exceed 1/2 inch (15 mm). Areas with surface deviations in excess of 1/2 inch (15 mm) shall be isolated and corrected by the contractor in accordance with Heading (e).

The contractor shall furnish an inertial profiler to measure both wheelpaths simultaneously with laser or infrared height sensing equipment. The contractor shall also furnish an approved 10 foot (3.0 m) metal static straightedge for transverse acceptance testing.

Surface tolerance testing will be required on wearing and binder courses for roadway travel lanes. It will be required on the wearing course only for shoulders, parking areas and airport runways and taxiways. For surface tolerance purposes, the wearing course is defined as the final lift placed. The binder course is defined as the last lift placed prior to the final lift.

Other lifts on which additional asphaltic concrete is to be placed shall be finished so that succeeding courses will meet the requirements of this subsection. Base courses on which portland cement concrete pavement is to be placed shall be finished so that the portland cement concrete pavement will meet the requirements of Section 601.

(b) Equipment: Inertial profilers shall be capable of testing the finished surface in the longitudinal direction for conformance to the surface tolerance requirements listed in this subsection.

The Department will evaluate and verify the accuracy of the inertial profiler annually using static and dynamic tests in accordance with DOTD TR 644. Approved profilers will have a DOTD decal indicating the date of profiler verification and profiler system parameter settings. These settings shall be verified by the inspector before the first day of binder course paving and randomly thereafter.

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For each project, a Department representative will observe the daily set up procedure and pre-operation tests which are performed by the contractor in accordance with the manufacturer's procedures and DOTD TR 644. A copy of the manufacturer's setup procedure, pre-operation procedures, and operating procedure for measuring surface tolerance shall be available at all times during measurement.

(c) Transverse, Cross Slope and Grade:

(1) Transverse Surface Tolerance: The contractor shall control the transverse surface finish. The Department will test the surface of the binder and wearing courses at selected locations in the transverse direction for conformance to the surface tolerance requirements of Table 502-3, which shall not be exceeded. The contractor shall make corrections as directed in accordance with Heading (e) "Correction of Deficient Areas."

(2) Cross Slope: When the plans require the section to be constructed to a specified cross slope, the contractor shall take measurements at selected locations, using a stringline, slope board or other comparable method. The contractor shall control the cross slope so that the values shown in Table 502-3 are not exceeded. Cross slope variations allowed in Table 502-3 shall apply to each lane constructed.

(3) Grade: When the plans require the pavement to be constructed to a grade, the contractor shall perform tests for conformance at selected locations, using a stringline or other comparable method. The contractor shall control grade variations so that the tolerances shown in Table 502-3 are not exceeded. Grade tolerances shall apply to only one longitudinal line, such as the centerline or outside edge of pavement. The contractor shall make corrections in accordance with Heading (e) of this subsection.

(d) Longitudinal Surface Tolerance:

(1) Quality Assurance:

a. Contractor Responsibilities: The contractor shall report an average IRI number in inches per mile (mm per km) and shall measure and report the average IRI value for each wheelpath on every 0.05-mile (0.08 km) segment of highway. The IRI values for the inside and outside wheelpaths shall be averaged and reported as the segment average and the mean of each segment average shall be reported as the sublot average. The contractor shall measure the top two lifts of the roadway travel lanes. Final acceptance will be based on the last measurement taken on the final wearing course of the travel lanes (the top or last lift placed). Measurement of the center two lanes will be required for airports.

b. Reporting: The average sublot values and individual IRI values shall conform to the requirements listed in Tables 502-7A and 502-7B. The contractor shall provide the engineer a copy of the IRI report. The contractor shall test the pavement during the first work day following placement, but in no case any later than 7 calendar days. The measurement of "short"segments, less than 264 feet (80 m) in length, shall be included in adjacent sublots. Isolated rough areas will not be allowed. Any 0.05-mile (0.08 km) segment and all individual wheelpath measurements of the binder and wearing courses shall meet the requirements of Table 502-7B. The contractor shall make corrections in accordance with Subsection 502.10(e). A DOTD inspector will be present for the final test run and will immediately receive a copy of the results.

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(2) Acceptance: The Department will review each sublot report provided by the contractor. Acceptance of each sublot will be in accordance with Tables 502-7A and 502-7B, based on the IRI profile report provided by the contractor. The Department may elect to perform and utilize independent ride quality test results for acceptance at any time.

(e) Correction of Deficient Areas: The contractor shall correct areas not meeting Table 502-7B requirements for individual wheelpath measurements in a 0.05-mile (0.08 km) segment.

(1) Deficiencies in Wearing Course: The contractor shall correct deficiencies in the final wearing course by diamond grinding and applying a light tack coat, removing and replacing, or furnishing and placing a supplemental layer of wearing course mixture at least 1 1/2 inches (40 mm) compacted thickness for the full width of the roadway meeting specification requirements at no direct pay. If the supplemental layer does not meet specification requirements to the satisfaction of the engineer, the contractor shall remove and replace or correct it by other methods approved by the engineer.

(2) Deficiencies in Binder Courses: The contractor shall correct deficiencies in binder course, transverse, cross slope, and grade measurements to meet specification requirements at no direct pay. Corrections shall be made before subsequent courses are constructed.

(3) Deficiencies in Shoulder Transverse, Cross Slope and Grade: The contractor shall correct deficiencies in these areas by grinding at the project engineer's direction.

(f) Exceptions and Exclusions:

(1) Excluded Areas: The Department will review the profile report obtained for each binder and wearing course on a sublot basis. In special cases or extenuating circumstances, the engineer may isolate or exclude sections of the profile. These special cases or extenuating circumstances may be curb and gutter sections that require the adjustment of cross-slope in order to maintain adequate drainage, manholes, catch basins, valve and junction boxes, street intersections, or other structures located in the roadway which cause abrupt deviations in the profile. This specification exclusion will not be used to simply isolate sections of road that are in poor condition when the project is let.

(2) Areas Outside Travel Lanes: Ramps less than 1500 feet (460 m), tapers, shoulders and medians, or sections of pavement surfaces as directed by the engineer such as 300 feet (90 m) from bridge ends, will not be included in the ride quality index for payment purposes, but shall have a maximum IRI average of 110 or less in a sublot.

502.11 DIMENSIONAL REQUIREMENTS. Mixtures that are specified for payment on a cubic yard (cu m) or square yard (sq m) basis shall conform to the following dimensional requirements. Overthickness and overwidth will be waived at no direct pay.

(a) Thickness: Thickness of mixtures will be determined in accordance with DOTD TR 602. Underthickness shall not exceed 1/4 inch (6 mm).

When grade adjustments are permitted for all mixtures except the final wearing course, areas with underthickness in excess of 1/4 inch (6 mm) shall be corrected to plan thickness at no direct pay by furnishing and placing additional mixture in accordance with Subsection 502.10(e). For the final wearing course, areas with underthickness in excess of the 1/4 inch (6 mm) shall be

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corrected to plan thickness at no direct pay by furnishing and placing a supplemental layer of wearing course mixture meeting specification requirements in accordance with Subsection 502.10(e) over the entire area for the full width of the roadway when grade adjustments are permitted.

When grade adjustments do not permit, the deficient underthickness area shall be removed and replaced at no direct pay.

(b) Width: The width of completed courses will be determined in accordance with DOTD TR 602. Underwidths shall be corrected by furnishing and placing additional mixture to a minimum width of 1 foot (0.3 m) and plan thickness at no direct pay.

502.12 QUALITY CONTROL AND ACCEPTANCE.

(a) Quality Control Requirements: For quality control purposes, the contractor shall obtain a minimum of two (2) samples of mixture from each sublot using a stratified random sampling approach. Test results for theoretical maximum specific gravity (G_{mm}) and measured bulk specific gravity (G_{mb}) at N_{max} and percent G_{mm} at $N_{initial}$, on samples of each sublot shall be reported. Control charts may be requested by the engineer if mixture problems develop. Quality control gyratory samples may be aged or unaged at the contractor's option, but the method chosen shall be used consistently throughout the project. If aged samples are used, report the measured G_{mb} @ N_{max}. If unaged samples are used, report the estimated G_{mb} @ N_{max}. One loose mix sample shall be taken from each sublot after placement of the mix in the truck. The mix shall be tested by the contractor at the plant for aggregate gradation, asphalt content and percent crushed aggregate. The mix shall be tested in accordance with DOTD TR 309, TR 323 and TR 306. The lot average and standard deviation shall be determined for aggregate gradation and asphalt content. The percent within limits (PWL) shall be determined on the Nos. 8 and 200 (2.36 mm and 75 μm) sieves and for G_{mm}. Corrective action shall be taken if these parameters fall below 90 PWL. For each lot, the contractor shall report all quality control data to the DOTD Certified Plant Technician. The full range of gradation mix tolerances will be allowed even if they fall outside the control points. The percent moisture in loose mix shall be reported once per lot. The District Laboratory Engineer may require re-validation of the mix when the average of the Quality Control data indicates non-compliance with the specified limits or tolerances.

(b) Acceptance Requirements: All Department inspection procedures, including sampling and testing, form the basis for acceptance of the asphaltic concrete. Any section of pavement that is obviously deficient shall be satisfactorily corrected or replaced. Sampling and testing shall be accomplished following a stratified sampling plan in accordance with the Materials Sampling Manual and specified test procedures. Times and locations shall be established by the engineer.

Acceptance testing for air voids will be conducted on the total lot quantity. Acceptance testing for pavement density, surface tolerance and dimensional tolerances will be conducted on that portion of the lot placed on each contract.

Pavement density and surface tolerance requirements will not be applied for short irregular sections, such as drives, aprons and turnouts; however, hot mix shall be placed to provide a neat, uniform appearance and shall be compacted by satisfactory methods. If placed in a separate lot, mixtures used for shoulders which are less than 10 feet (3.0 m) wide, curbs,

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driveways, turnouts, crossovers, joint repair, leveling, guardrail widening, islands, bike paths, patching, widening, and miscellaneous handwork will be paid in accordance with Section 502.12(c) and Table 502-8 as a small quantity lot. If placed at the same time and in the same lot as roadway travel lanes, then these items will be considered incidental to the roadway work and will be included in the roadway pay.

Shoulders that are 10 feet (3.0 m) wide or greater shall be placed in a lot separate from the roadway travel lanes and will be paid in accordance with Tables 502-4 and 502-6.

A standard lot is 5,000 tons (5000 Mg), of consecutive production of asphaltic concrete mix from the same job mix formula produced for the Department at an individual plant. A standard sublot is 1,000 tons (1000 Mg). Additional adjustments may be made to the standard lot size as specified in this subsection. The final sublot, at the end of a project lot, may be increased up to 150 percent to accommodate hauling unit capacity.

With good historical performance, and when agreed upon by the engineer and contractor, the sublot size may be increased to 2000 tons (2000 Mg). Twenty-four hour per day plant production usually necessitates such an increase.

(c) Small Quantity Lots: The engineer or contractor may decrease the size of an individual lot for any of the following conditions:

(1) The interval between continuous production exceeds 2 days.
(2) A new job mix formula is accepted.
(3) The final lot is less than 5,000 tons (5000 Mg).
(4) The total project quantity is less than 5000 tons (5000 Mg).

Only standard 1000 ton (1000 Mg) sublots will be allowed when determining pay for small quantity lots. For lots with less than 3000 tons (3000 Mg) of mix, each sublot will be paid individually in accordance with Table 502-8. For lots with 3 or 4 sublots, PWL calculations will be required in accordance with Table 502-6.

For projects, or separate locations within a project, requiring less than 250 tons (250 Mg), the job mix formula, materials, and plant and paving operations shall be satisfactory to the engineer. Sampling and testing requirements may be modified by the engineer and the payment adjustment for deviations waived.

(d) Inspection: Hot mix exhibiting deficiencies before placement such as segregation, contamination, lumps, nonuniform coating, excessive temperature variations or other deficiencies, apparent on visual inspection, shall not be placed.

Hot mix exhibiting deficiencies during placement, such as segregation, contamination, alignment deviations, variations in surface texture and appearance or other deficiencies, apparent on visual inspection, will not be accepted. Poor construction practices such as handwork, improper truck exchanges, improper joint construction, or other deficiencies, apparent on visual inspection, will not be accepted.

Deficiencies revealed by visual inspection after placement and before final acceptance shall be corrected at no direct pay.

(e) Sampling and Testing for Acceptance: The Department will take samples or perform tests as outlined in these specifications, to ensure that the asphaltic concrete conforms to Department standards, which include job mix limits, typical sections, material properties, and

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surface deviations. Plant acceptance tests will be performed for VFA and air voids in the specimen compacted to N_{design} to determine the acceptability of the asphaltic concrete at the plant unless directed otherwise by the engineer. If the average VFA for 5 samples is outside the specifications limits, satisfactory adjustments must be made or production shall be discontinued. The plant acceptance tests for air voids shall be subject to payment adjustments and sampling and testing in accordance with the requirements of Heading (f) below.

(f) Payment Adjustments: When the mix does not meet requirements in the areas listed in this section, the Payment Adjustment Schedule shown in Tables 502-6, 502-7 or 502-8 will be applied. Production of mix that is not eligible for 100 percent payment will not be allowed on a continuous basis. When test results demonstrate that payment adjustments are necessary, satisfactory adjustments shall be made, or production shall be discontinued.

The Department will pay the contractor at an adjusted rate as specified in Tables 502-6 or 502-8 for tests conducted by the Department on samples obtained from each lot of material, in accordance with the following Headings.

(1) Volumetric Properties: Testing for percent air voids will be conducted by the Department. Test results of mixture specimens compacted to N_{design} shall comply with Table 502-4 when tested in accordance with AASHTO TP 4 and DOTD TR 304. One sample will be taken from each of five (5) sublots. The data will be used to determine if the lot is outside acceptance limits shown in Table 502-4. If the lot is outside the acceptance limits, an adjustment in unit price for the lot will be made in accordance with Tables 502-6 or 502-8.

(2) Pavement Density: Acceptance testing for pavement density will be conducted by the Department. Three pavement samples for each mix use shall be obtained from each sublot within 24 hours after placement. Sampling shall be performed using the random number tables shown in DOTD S605. When this falls on a day the contractor is not working, sampling shall be done within 3 calendar days. The density requirement for each lot will be as shown in Table 502-3 determined in accordance with DOTD TR 304. Payment will be made in accordance with Table 502-6 using the total number of cores for the lot in accordance with Subsection 502.12(g). Payment for small quantity lots will be made in accordance with Table 502-8.

When the sampling location determined by random sampling falls within areas that are to be replaced or within 1 foot (0.3 m) of the unsupported pavement edge, another random sampling location will be used.

(g) Quality Level Analysis: The Quality Level Analysis is a statistical quality control/quality acceptance (QC/QA) method for validating Job Mix Formulas (JMF), contractors quality control, project acceptance and payment for all Superpave asphaltic concrete.

The mean $(\overline{X})$ is the average of a set of numbers. To determine the mean add the numbers (X_i) in the set and divide by the number of numbers (n) in the set.

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$$\text{Mean} = \overline{X} = \frac{X_1 + X_2 + X_3 + \ldots + X_n}{n} = \frac{\sum_{i=1}^{n} X_i}{n}$$

The standard deviation of a set of numbers measures the spread of the numbers in the set or the deviation from the mean. Calculate the standard deviation according to the following formula:

$$\text{Standard Deviation} = s = \sqrt{\frac{(X_1 - \overline{X})^2 + (X_2 - \overline{X})^2 + \ldots + (X_i - \overline{X})^2}{n-1}}$$

$$= \sqrt{\frac{\sum_{i=1}^{n} (X_i - \overline{X})^2}{n-1}}$$

A Quality Index is calculated using both the upper and lower specification limits (if applicable). The Quality Index calculated using the upper or higher specification limit is called the Upper Quality Index (Q_U). The Quality Index calculated using the lower specification limit is called the Lower Quality Index (Q_L).

To determine each Quality Index, the specification limits are added or subtracted from the mean of the test results and the result is divided by the standard deviation as shown below.

$$\text{Upper Quality Index} = Q_U = \frac{USL - \overline{X}}{s} \qquad \text{Lower Quality Index} = Q_L = \frac{\overline{X} - LSL}{s}$$

Where: USL = upper specification limit
LSL = lower specification limit

Table 502-5 is used to convert the Quality Index into the PWL value. A PWL is calculated for each Quality Index (upper and lower) and combined for a total PWL calculated in accordance with the formula:

$$PWL = PWL_L + PWL_U - 100$$

where: PWL_L = lower percent within limits
PWL_U = upper percent within limits

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In using Table 502-5, the appropriate columns corresponding to the number of test results must be used.

If a specification requirement does not have both an upper and lower limit only one Quality Index and PWL, upper or lower as appropriate, is calculated and the other PWL is equal to 100 in the total PWL calculation.

502.13 MEASUREMENT. Asphalt tack coat, prime coat or curing membrane will not be measured for payment.

(a) Weight Measurement: Asphaltic concrete will be measured by the ton of 2,000 pounds (Mg (1000 kg)) from printed weights as provided in Section 503. Stamped printer tickets will be issued for each truckload of material delivered. Material lost, wasted, rejected or applied contrary to specifications will not be measured for payment.

Estimated quantities of asphaltic concrete shown on the plans are based on 115 lb/sq yd/inch (2.46 kg/sq m/mm) thickness. The measured quantity of asphaltic mixtures will be multiplied by the following adjustment factor to obtain the pay quantity.

Theoretical Maximum Specific Gravity, (G_{mm}) (DOTD TR 327)	Adjustment Factor
2.340 - 2.360	1.02
2.361 - 2.399	1.01
2.400 - 2.540	1.00
2.541 - 2.570	0.99
2.571 - 2.590	0.98

The adjustment factor for mixtures with theoretical maximum specific gravities less than 2.340 or more than 2.590 will be determined by the following formulas:

Theoretical maximum specific gravity less than 2.340:

$$F = \frac{2.400}{S}$$

Theoretical maximum specific gravity more than 2.590:

$$F = \frac{2.540}{S}$$

where,

F = quantity adjustment factor

S = theoretical maximum specific gravity of mixture from approved job mix formula

(b) Volume or Area Measurement: The quantities for payment will be the design quantities specified in the plans and adjustments thereto. Design quantities will be adjusted when the engineer makes changes to adjust to field conditions or when design changes are

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necessary. Design quantities are based on the horizontal dimensions and compacted thickness of the completed course shown on the plans.

(c) Surface Tolerance Incentive Measurement: At the completion of construction of the wearing course travel lanes, the contractor, in the presence of a DOTD representative, shall measure a continuous profile from the start station to the end station of the construction project for the purpose of determining qualification for incentive pay under Subsection 502.14(e). Bridges and 300 feet (90 m) on each end of the bridge will be excluded from measurements for surface tolerance incentive pay.

502.14 PAYMENT. Payment for asphaltic concrete will be made at the contract unit price on a lot basis. When the mix does not conform to acceptance requirements, payment will be made at an adjusted price per unit of measurement in accordance with Subsection 502.12(f) and Tables 502-6 and 502-8 for both plant and roadway acceptance.

(a) General: Payment for asphaltic concrete will include furnishing all required materials, producing the mixtures, preparing the surfaces on which the mixtures are placed, hauling the mixtures to the work site, and placing and compacting the mixtures.

(b) Wearing Course Mixes: For wearing course travel lanes, adjustments in contract price for plant and roadway deficiencies or incentives will be based on the average of the percent payments for plant air voids, roadway density, and surface tolerance. For all other wearing course applications, payment adjustment will be based on the average of the percent payments for plant air voids and roadway density.

(c) Base, Binder and Shoulder Mixes: For base and binder courses for travel lanes and all shoulder mixes, adjustments in contract price for plant and roadway deficiencies or incentives will be based on the average of the percent payments for plant air voids and roadway density.

Final adjustments in unit price will be as described in Tables 502-6 and 502-8.

(d) Erected Stringline: When the use of an erected stringline is not specified, but directed by the engineer, an additional payment of $500 per contract plus $0.25 per linear foot ($0.75 per lin m) will be made for mixtures placed by the erected stringline method. When the use of an erected stringline is specified, no additional payment will be made.

(e) Incentive Pay: A surface tolerance incentive payment equal to 5 percent of the contract unit price for the theoretical travel lane quantity of the wearing course item will be paid if the contractor achieves a project average IRI of 45 or less as measured at the completion of the project. No lot of wearing course on the project shall be less than 100 percent for surface tolerance. Only projects that have no areas of grinding are eligible for incentive pay.

Payment will be made under:

Item No.	Pay Item	Pay Unit
502-01	Superpave Asphaltic Concrete	Ton (Mg)
502-02	Superpave Asphaltic Concrete	Cubic Yard (Cu m)
502-03	Superpave Asphaltic Concrete, (in (mm) Thick)	Square Yard (Sq m)

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Table 502-3
Superpave Requirements

A. REQUIREMENTS FOR EXTRACTED ASPHALT CEMENT AND AGGREGATE GRADATION					
U.S. (Metric) Sieve % Passing	1/2 inch (12.5 mm) Nominal	3/4 inch (19 mm) Nominal	1 inch (25 mm) Nominal	1.5 inch (37.5 mm) Nominal	Mix Tolerance[1]
2 inch (50 mm)	---	---	---	100	±4
1 1/2 inch (37.5 mm)	---	---	100	90-100	±4
1 inch (25 mm)	---	100	90-100	89 Max.	±4
3/4 inch (19 mm)	100	90-100	89 Max	---	±4
1/2 inch (12.5 mm)	90-100	89 Max	---	---	±4
3/8 inch (9.5 mm)	89 Max.	---	---	---	±4
No. 4 (4.75 mm)	---	---	---	---	±4
No. 8 (2.36 mm)	34-58	29-49	23-45	19-41	±3
No. 16 (1.18 mm)	---	---	---	---	±2
No. 30 (600 μm)	---	---	---	---	±2
No. 50 (300 μm)	---	---	---	---	±2
No 100 (150 μm)	---	---	---	---	±2
No. 200 (75 μm)	4.0-10.0	3.0-8.0	2.0-7.0	1.0-6.0	±0.7
Extracted Asphalt, %	---	---	---	---	±0.2
Mix Temperature	---	---	---	---	±25°F (±14°C)

B. PAVEMENT REQUIREMENTS			
Density, Min. 92.0 (% of Theoretical Maximum Specific Gravity, DOTD TR 327) Travel Lane Wearing, Binder and Base Courses			
Density, Min. 89.0 (% of Theoretical Maximum Specific Gravity, DOTD TR 327) Shoulders			
Surface Tolerance Variation, inches (mm)[2]	Transverse[3]	Cross Slope[3]	Grade[4]
Roadway Travel Lane Wearing Courses	1/8 (3)	3/8 (10)	1/2 (15)
Binder Courses	1/4 (6)	1/2 (15)	1/2 (15)
Shoulder Wearing Course	3/16 (5)	3/4 (20)	3/4 (20)

[1] Job Mix Formula based on validated mix design.
[2] For longitudinal surface tolerance requirements, see Subsection 502.10(d).
[3] Based on 10 feet (3.0 mm).
[4] Applicable only when grade is specified.

Table 502-4
Superpave Design, Control and Acceptance Limits

Nominal Max., Size Agg.	0.5 inch[1] (12.5 mm)	0.5 inch (12.5 mm)			0.75 inch (19 mm)			1.0 inch (25 mm)			1.5 inch (37.5 mm)		
Type of Mix	Incidental Paving	Wearing Course			Wearing or Binder Course			Binder or Base Course			Base Course		
Level[2,3] (10^6 ESAL)	A <0.3	1[4] <3	2 3-30	3 >30	1[4] <3	2 3-30	3 >30	1 <3	2 3-30	3 >30	1 <3	2 3-30	3 >30
Asphalt Binder	Table 502-1												
Coarse Agg. Friction Rating[2]	I,II,III	I,II,III			I,II,III			I,II,III,IV			I,II,III,IV		
Coarse Agg. Angularity, % Crushed, (Double Faced) + No. 4 (4.75 mm)	55	75	95	98	75	95	98	75	95	98	60	75	98
Fine Agg. Angularity, Min. % - No. 8 (2.36 mm)	40	40	45	45	40	45	45	40	45	45	40	40	45
Flat and Elongated Particles, % Max. (5:1)	10	10			10			10			10		
Sand Equivalent, Min. % (Fine Agg.) - No. 4 (4.75 mm)	40	40	45	50	40	45	50	40	45	50	40	45	50
Natural Sand - Max. %	NA	15			15			15			25		
RAP, Max. %[5,9]	15	15			15			20,30			30		
Compacted Mix Design													
VMA, Min. %[6]	13	13			12			11			10		
Air Voids, %[6,10]	2.5-4.5	2.5-4.5			2.5-4.5			2.5-4.5			2.5-4.5		
VFA, %[6]	68-78	68-78			68-78			68-78			68-78		
$N_{initial}$ 89 % max.[7] (Gyrations)	7	7	8[8]	9	7	8[8]	9	7	8[8]	9	7	8[8]	9
N_{design} 96±1 % (Gyrations)	75	75	100[8]	125	75	100[8]	125	75	100[8]	125	75	100[8]	125
N_{max} 98 % max. (Gyrations)	115	115	160[8]	205	115	160[8]	205	115	160[8]	205	115	160[8]	205
Moisture Sensitivity, TSR Min.	80	80			80			80			80		
Dust/Effective Asphalt Ratio, %	0.6 - 1.6	0.6 - 1.6			0.6 - 1.6			0.6 - 1.6			0.6 - 1.6		
Lift Thickness, inch (mm)	1.0-2.0 (25-50)	1.5-2.0 (40-50)			1.5-2.0 (40-50)			2.0-4.0[11] (50-100)			4.0+ (100+)		

[1]May be used for airports, joint repair, leveling, driveways, shoulders, curbs, guardrail widening, islands, bike paths, parking lots, turnouts, crossovers, detour roads, and other incidental items approved by the engineer.
[2]Mixtures designated as Level 1F, 2F, and 3F must meet the requirements for Level 1, 2, and 3 respectively. Additionally, Level 1F, 2F, and 3F must meet the friction rating requirements in Table 502-2 for travel lane wearing courses with ADT > 7000.
[3]Design ESALs are the anticipated project traffic level expected on the design lane over a 20 year design period. Regardless of the actual design life of the roadway, determine the design ESALs for 20 years and choose the appropriate N_{design} level.
[4]When Level 1 wearing course is specified, 1/2 inch (12.5 mm) nominal maximum size aggregate shall be used.
[5]Maximum 20 % Rap shall be allowed in all shoulder wearing course mixtures. RAP shall not be allowed for airports.
[6]Air voids, VMA and VFA are determined on samples compacted to N_{design}.
[7]For Level 1 mixtures, $N_{initial}$ will be 90.5 % max. For Level A mixes, $N_{initial}$ will be 91.5 % max.
[8]For 20 year ESAL counts from 3 to 10 million use 7, 75 and 115 gyrations for $N_{initial}$, N_{design} and $N_{maximum}$ respectively.
[9]For 1.0 inch (25 mm) nominal maximum size aggregate the maximum percent RAP for binder course is 20 percent and the maximum percent RAP for base course is 30 percent.
[10]Air voids design target is 3.5%.
[11] For 1.0 inch (25 mm) nominal maximum size aggregate the maximum lift thickness for base course is 4+ inches (100+ mm).

FOR INFORMATION ONLY

Table 502-5
Quality Index Values for Estimating Percent Within Limits

PWL	n = 3	n = 4	n = 5 - 6	n = 7 - 9	n = 10 - 12	n = 13 - 15
99	1.16	1.47	1.68	1.89	2.04	2.14
98	1.15	1.44	1.61	1.77	1.86	1.93
97	1.15	1.41	1.55	1.67	1.74	1.80
96	1.15	1.38	1.49	1.59	1.64	1.69
95	1.14	1.35	1.45	1.52	1.56	1.59
94	1.13	1.32	1.40	1.46	1.49	1.51
93	1.12	1.29	1.36	1.40	1.43	1.44
92	1.11	1.26	1.31	1.35	1.37	1.38
91	1.10	1.23	1.27	1.30	1.32	1.32
90	1.09	1.20	1.23	1.25	1.26	1.27
89	1.08	1.17	1.20	1.21	1.21	1.22
88	1.07	1.14	1.16	1.17	1.17	1.17
87	1.06	1.11	1.12	1.12	1.13	1.13
86	1.05	1.08	1.08	1.08	1.08	1.08
85	1.03	1.05	1.05	1.05	1.04	1.04
84	1.02	1.02	1.02	1.01	1.00	1.00
83	1.00	0.99	0.98	0.97	0.96	0.96
82	0.98	0.96	0.95	0.94	0.93	0.92
81	0.96	0.93	0.92	0.90	0.89	0.89
80	0.94	0.90	0.88	0.87	0.85	0.85
79	0.92	0.87	0.85	0.83	0.82	0.82
78	0.89	0.84	0.82	0.80	0.79	0.78
77	0.87	0.81	0.79	0.77	0.76	0.75
76	0.84	0.78	0.76	0.74	0.72	0.72
75	0.82	0.75	0.73	0.71	0.69	0.69
74	0.79	0.72	0.70	0.67	0.66	0.66
73	0.77	0.69	0.67	0.64	0.63	0.62
72	0.74	0.66	0.64	0.61	0.60	0.59
71	0.71	0.63	0.60	0.58	0.57	0.56
70	0.68	0.60	0.58	0.55	0.54	0.54
69	0.65	0.57	0.55	0.53	0.51	0.51
68	0.62	0.54	0.52	0.50	0.48	0.48
67	0.59	0.51	0.49	0.47	0.46	0.45
66	0.56	0.48	0.46	0.44	0.43	0.42
65	0.53	0.45	0.43	0.41	0.40	0.40
64	0.49	0.42	0.40	0.38	0.37	0.37
63	0.46	0.39	0.37	0.35	0.35	0.34
62	0.43	0.36	0.34	0.33	0.32	0.31
61	0.39	0.33	0.31	0.30	0.30	0.29
60	0.36	0.30	0.28	0.27	0.26	0.26
59	0.32	0.27	0.25	0.24	0.24	0.23
58	0.29	0.24	0.23	0.21	0.21	0.21
57	0.25	0.21	0.20	0.19	0.18	0.18
56	0.22	0.18	0.17	0.16	0.16	0.15
55	0.18	0.15	0.14	0.13	0.13	0.13
54	0.14	0.12	0.11	0.11	0.10	0.10
53	0.11	0.09	0.08	0.08	0.08	0.08
52	0.07	0.06	0.06	0.05	0.05	0.05
51	0.03	0.03	0.03	0.03	0.03	0.03
50	0.00	0.00	0.00	0.00	0.00	0.00

Note 1: For negative values of Q_u or Q_L. PWL_U or PWL_L is equal to 100 minus the tabular PWL_U or PWL_L.
Note 2: If the value of Q_U or Q_L does not correspond exactly to a value in the table, use the next higher value.

FOR INFORMATION ONLY

Table 502-6
Payment Adjustments for Superpave

Payment adjustments will be based on specification limits.

A) PLANT ACCEPTANCE

Air Voids: The percent within limits (PWL) will be calculated for air voids for each lot and reported to the nearest whole number. Payment for plant acceptance will be in accordance with Table 502-6A.

Table 502-6A
Payment Adjustment Schedule for Plant Acceptance

Air Voids PWL	Percent Payment
100	103
88-99	100
71-87	98
51-70	90
21-50	80
≤20	50 or Remove[1]

[1]At the option of the Department after investigation.

B) ROADWAY DENSITY

The percent within limits (PWL) will be calculated for pavement density for each lot and reported to the nearest whole number. Payment for roadway density will be in accordance with Table 502-6B.

Table 502-6B
Payment Adjustment Schedule for Roadway Density

Roadway Density PWL	Percent Payment
98-100	105
89-97	100
79-88	98
61-78	90
31-60	80
≤30	50 or Remove[1]

[1]At the option of the Department after investigation.

C) SURFACE TOLERANCE (Final Wearing Course Travel Lanes Only)

Payment adjustments for surface tolerance for the final wearing course travel lanes will be based on the International Roughness Index (IRI) in accordance with Table 502-7 and Subsections 502.13 and 502.14. Percent payments will be determined for each sublot and averaged to determine payment for the lot.

D) TOTAL PAYMENT

The percent payment for the wearing course travel lanes will be the average of the percent payments for plant acceptance, roadway density, and surface tolerance for each lot. Incentive payment for surface tolerance will be in accordance with Subsection 502.14(e) and paid separately.

The percent payment for all other mix types will be the average percent payments for plant acceptance and roadway density for each lot.

All calculations for percent payment will be rounded to the nearest 1 percent.

FOR INFORMATION ONLY

Table 502-7A
Payment Adjustment Schedules for Longitudinal
Surface Tolerance, Maximum International Roughness Index,
inches per mile (mm per km)

Percent of Contract Unit Price (by Sublot)[1]	103%[2]	100%	90%	80%	50% or Remove[3]
Category A Multi-Lift New Construction and Overlays of More than two Lifts and all Interstates	<55 (<870)	<65 (<1030)	65-75 (1030-1180)	NA	>75 (>1180)
Category B One or Two Lift Overlays Over Cold Planed Surfaces, and Two-Lift Overlays Over Existing Surfaces[4]	<65 (1030)	<75 (<1180)	75-89 (1180-1400)	NA	>89 (>1400)
Category C Single-Lift Overlays Over Existing Surfaces	<75 (<1180)	<85 (<1340)	85-95 (1340-1500)	>95-110 (>1500-1740)	>110 (>1740)
Incentive Pay, Final Completion, Average of All Travel Lanes[5]	≤45 (≤710)				

[1]or portion of sublot placed on the project.
[2]Maximum payment for sublots with exception areas, exclusions or grinding is 100 percent.
[3]At the option of the engineer.
[4]Also applies to two-lift overlays on reconstructed bases without profile grade control.
[5]Only Category A projects with no grinding are eligible for incentive.

Table 502-7B
Individual Wheelpath Deficient Area Limits
Maximum International Roughness Index, inches per mile (mm per km)

Any 0.05 Mile (0.08 km) Segment	Wearing Course	Binder Course
Category A	89 (1400)	105 (1660)
Category B	99 (1560)	110 (1740)
Category C	110 (1740)	N/A

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Table 502-8
Payment Adjustment Schedule for Small Quantities of Superpave[1]

Parameter[2]	Percent of Contract Unit Price/Sublot		
	100	95	50 or Remove[3]
% Air Voids	2.5-4.5	1.5-2.4 or 4.6-5.5	<1.5 or >5.5
Average Roadway Density, % G_{mm}	≥ Lower limit	-0.1 to -0.9 below lower limit	-1.0 below Lower limit

[1]See Subsection 502.12(c), Small Quantity Lots.
[2]For plant acceptance, use one sample for percent air voids to determine pay. For roadway acceptance, use the average of three cores to determine density and pay. Determine surface tolerance in accordance with Table 502-7. The total percent payment for small quantities of Superpave mixtures will be the average of the percent payments for plant acceptance (air voids), roadway acceptance (density) and surface tolerance.
[3]At the option of the engineer.

FOR INFORMATION ONLY

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

SECTION 741
WATER DISTRIBUTION SYSTEM

The 2000 Standard Specifications are amended to include this Section 741.

741.01 DESCRIPTION: This work consists of furnishing the necessary materials and installing, relocating and adjusting water distribution systems in accordance with these specifications and in conformity with the lines and grades shown on the plans or established by the engineer.

741.02 MATERIALS: A certificate of compliance from the manufacturer showing the chemical and physical properties of the materials used and conformance with the specifications will be required for each item.

(a) Cast Iron and Ductile Iron Pipe:

(1) Cast Iron Pipe: Cast iron pipe shall be made of grey cast iron and shall conform to ANSI A 21.6 (centrifugally cast in metal molds) or A 21.8 (centrifugally cast in sand lined molds). Iron in the pipe shall have a bursting tensile strength of at least 21,000 psi (145 MPa) and the pipe shall have a ring modulus of rupture of at least 45,000 psi (310 MPa).

(2) Ductile Iron Pipe: Ductile iron pipe shall consist of ductile cast iron and shall conform to ANSI A 21.51 (centrifugally cast in metal or sand lined molds).

(3) Fittings: Fittings for cast iron or ductile iron pipe shall conform to ANSI A 21.10.

(4) Coating and Lining of Pipe: Cast iron and ductile iron pipe and fittings shall be asphalt or vinyl coated outside, as specified, and cement lined and seal coated inside in accordance with ANSI A 21.4.

(5) Joints: Pipe joints shall conform to ANSI A 21.11 with the following criteria used for joint selection.

a. Mechanical Joint (Type III) with alloy steel bolts and nuts.
b. Boltless single gasket push-on joint.
c. Submarine, flexible, ball and socket joint.
d. Flanged joint.

Pipe shall be installed with joint types (a) or (b) for mains under normal service conditions, joint type (c) for stream or canal crossings and when specified, joint type (d) for above ground installations such as pumps.

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(b) Gate Valves and Valve Boxes:

(1) Valves shall be non-rising stem, iron body, bronze mounted, double-disk gate valves conforming to AWWA C 500. Valves shall have mechanical joint ends except that valves used with 2 inches (50 mm) or less diameter pipe, or galvanized iron pipe, shall have threaded ends. Valves shall open counterclockwise and shall be operated by nut method. Operating nuts shall conform to that used by the utility system.

(2) Valve boxes shall be approved cast iron, 2-piece, heavy roadway type. Valve boxes for 12 inches (300 mm) or larger valves shall be of the 3-piece type with oval base. The term "water" shall be cast on each valve box cover.

(c) Tapping Sleeves and Valves: Tapping sleeves shall be the split- sleeve, mechanical joint type. Gate valve connections shall be mechanical joint. Sleeves shall meet the requirements for cast iron fittings except the cement lining will not be required. Minimum working pressure shall be that specified for the system.

(d) Fire Hydrants: Fire hydrants shall conform to AWWA Designation: C 502 for 3-way type hydrants with working pressure of 150 psi (1.0 MPa). Hydrants shall be compression type and inlet connections shall be mechanical joint bell. Two 2 1/2 inches (65 mm) hose nozzles and one 4 1/2 inches (115 mm) pumper nozzle shall be provided; hose connections shall have National Standard threads. Hydrants shall have bronze seal rings, automatic drain openings and 0-ring seals. Minimum valve openings of 4 inches shall be provided. Hydrants shall contain a breakaway feature at ground level consisting of breakaway bolts or flange and breakaway coupling on the rod. Main valve and valve seat shall be replaceable without digging up the hydrant. The hydrant exterior shall be painted with approved enamel and shall be repainted after installation (color: yellow).

(e) Plastic Pipe: Plastic pipe and tubing shall be polyvinyl chloride or polyethlene pipe and tubing.

(1) Polyvinyl chloride (PVC) pipe shall conform to ASTM D 2241 and be pressure rated at 200 psi (1.3 MPa) minimum. The pipe shall be made from polyvinyl chloride compounds conforming to Class 12454B (Type 1, Grade 1), ASTM D 1784.

(2) Polyethylene (PE) pipe and tubing shall conform to ASTM D 2239 (pipe) and D 2737 (tubing). Pipe or tubing shall be rated for use with water at 73.4°F (23°C) at a hydrostatic design stress of 630 psi (4.3 MPa). Pipe or tubing shall be made from polyethylene plastics conforming to Type III, Grade 3, ASTM D 1248.

(3) When specified, Schedule 40 PVC shall be in accordance with ASTM D 1785, Schedule 40, PVC 1120.

(4) Plastic pipe and fittings must bear the seal or "NSF" mark of the National Sanitation Foundation or other approved marking indicating approval for use in transporting potable water.

(5) Welding Solvent and Solvent Thinner shall conform to ASTM D 2564.

(f) Galvanized Steel Pipe: These pipes and fittings shall be galvanized steel seamless pipe conforming to ASTM A 53 (A 53M), standard weight. Fittings shall be malleable iron conforming to ANSI B 16.3 except the nipples and couplings shall be the same material as the pipe. Fittings shall be galvanized in accordance with ASTM A 53 (A 53M).

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(g) Copper Pipe or Tubing: This pipe shall conform to ASTM B 88, Type K. Copper fittings shall be of the cast pattern or wrought pattern. Fittings for rigid copper pipe shall be of the solder joint type. Fittings for conceded soft draw pipe may be the flared mechanical type. Unions shall be the ground joint type.

(h) Detection Wire for Plastic Pipe: An approved electrically conductive insulated wire or tape shall be installed directly over and on the center of the plastic pipe for its entire length within highway right-of-way to facilitate locating of line with an electronic pipe locator. Wire or tape must be connected to all fixtures and appurtenances.

741.03 CONSTRUCTION REQUIREMENTS:

(a) General:

(1) Handling: Pipe, fittings and other materials shall be carefully handled to prevent breakage or damage, especially to the cement mortar lining in pipe and fittings.

(2) Existing Underground Utilities and Obstructions: All water lines, gas lines, telephone conduits, drainage structures, etc. shall be located and protected by the contractor during construction.

(b) Trench Excavation:

(1) Excavation: Excavation shall conform to Subsections 701.03 and 701.04, and the following requirements.

a. Protection of Excavation: Sheeting, shoring and hand excavation shall be used as necessary for protection of the work. Sheeting shall be withdrawn as backfilling is being done, except where the engineer directs that the sheeting and shoring be left in place, or where the engineer permits the sheeting to be left in place. The contractor shall cut off any sheeting left in place at least 18 inches (450 mm) below finished grade. Sheeting and bracing will not be paid for directly.

b. Trench Depth: Minimum bury (depth from grade to top of pipe) under pavement or surfacing shall be 4 feet (1.2 m). Minimum bury under ditches and in other non-paved areas shall be 2 feet (0.6 m).

c. Bell Holes: Bell holes of ample depth and width shall be excavated in pipe trenches at each joint location to permit the joint to be properly made and the pipe barrel to rest firmly on the trench bottom.

(2) Under Pavement:

a. Removing Pavement: The contractor shall remove existing pavement as necessary for trench excavation. Pavement shall be cut back from the top edges of trenches at least 24 inches (0.6 m) on each side of the trench. The requirements of Section 724 shall be followed for removing and replacing pavement except that no separate payment will be made for this work.

b. Jacking and Boring: The contractor may elect to jack or bore pipe under existing pavement where practical; however, separate payment for jacked or bored pipe will only be made when jacking or boring of pipe is specified. Jacked or bored pipe shall be installed in accordance with Section 728.

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(c) Connection to Existing Mains: Connection to existing mains shall be made with appropriate fittings as shown on the plans or as directed. When it is necessary to make such connections under pressure (i.e., when normal water service must be maintained) a tapping sleeve and valve shall be used. The contractor shall furnish the valve tapping machine and other equipment required.

(1) Location: The contractor shall, before opening pipe line trenches, locate the points where connections are to be made to existing pipe lines and shall uncover as necessary for the engineer to prescribe the types of connections and fittings to be installed.

(2) Interruption of Service: Connections to existing pipe lines shall be made at such times and in such manner as will meet operating requirements. No cut shall be made in existing lines until permission has been obtained as to time and manner of making cuts and connections.

(d) Laying Water Mains and Appurtenances:

(1) Sequence of Work: Excavation, cleaning, laying, jointing and backfilling shall be kept up as closely as possible. Pipe shall not be left in the trench overnight without completely jointing and capping. The contractor shall backfill and compact the trench as soon as possible after laying, jointing and testing is complete. Each day at the close of work, and when laying is not in progress, the exposed end of the pipe line in the trench shall be closed with an approved barrier of wood or metal. If it is necessary to cover the end of an uncompleted pipe line with backfill, the end of the pipe shall be closed using a satisfactory cap or plug.

(2) Alignment and Gradient: Pipe line alignment and gradient shall be straight, or shall be deflected to follow true curves as nearly as practical. Deflection of pipe lines shall be within the allowable laying deflection angle, both horizontal and vertical.

(3) Installation:

a. Connections: Connections which are made inside roadway shoulders, or curbs and gutters, shall be made with flexible joints.

b. Cutting: Where pipe or special castings are required to be cut, cutting shall be done using pipe cutters.

c. Gate Valves: Gate valves shall be installed and jointed as specified above for water mains. Installation of gate valves shall include valve boxes, where required.

d. Fire hydrants: Hydrants shall be installed and jointed as specified above for water mains. Installation of hydrants shall include vertical extension sections if required, pipe straps, concrete blocking, aggregate drain and backfill.

e. Concrete Blocking: Concrete blocking shall be Class R concrete conforming to Section 901 and shall be formed and poured at the backs of fittings, including elbows, tees, pipe plugs, fire hydrants and other locations shown on the plans or directed by the engineer.

f. Backfilling: Backfilling shall conform to Subsection 701.08 and these requirements.

When testing for leaks in open trenches, backfilling shall not be done until testing has been completed and leaks eliminated.

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Where adjacent pavements are to be retained, pavement removed for pipe line trenches shall be replaced in kind or when approved, with equal or better material. After backfilling, the contractor shall maintain a satisfactory riding surface until repaving is completed. No separate payment will be made for replaced pavement.

g. Testing and Disinfection:

1. Testing: When a section of pipe is approved for testing, the contractor shall furnish all materials, equipment and labor to properly carry out this operation. This shall include a test pump and means of accurate measurement of water necessary to maintain required pressure during testing. The contractor shall furnish, install and remove any temporary bulkheads, flanges, plugs and corporation stops at high points in pipe lines and at the test pump, as necessary.

A. Sequence of Testing: When conditions permit, pipe lines shall be tested before the trench is backfilled and before service lines are installed; however, if high pressure testing must be done after service lines are in place, they shall be shut off at the corporation stops.

After necessary joints, bulkheads, etc. have been installed, corporation stops, if no other means can be provided, shall be placed in the high points of the pipe line and at the pump as required, and the pipe blown free from air according to accepted procedure.

B. Test Pressure: Test pressure shall be 50 psi (0.3 MPa) higher than the designated class pressure of pipe and fittings. Leakage shall not exceed 15 gallons per inch (1.4 L/mm) of pipe diameter per mile (km) per 24 hours. The minimum test period shall be 2 hours. However, if additional testing is required the contractor shall perform the procedure at his expense. When service lines cannot be isolated (i.e., shut off from the section to be tested), or other conditions exist where pressure testing as described above may cause damage, the line may be tested under normal operating pressure when approved. This work shall be done in open trenches, where possible, and testing repeated until leaks are eliminated.

C. Leaks and Defective Materials or Workmanship: Joints which leak shall be remade. Cracked, broken or defective materials shall be replaced. Defective workmanship shall be corrected. After the above conditions have been corrected, the line shall be retested as described above until the line passes the requirements. The contractor shall receive no additional compensation for the corrections or retesting.

2. Disinfection: Pipe lines and appurtenances, both existing and new which are the responsibility of the contractor, shall be disinfected before being placed in service. The disinfection process may be done in conjunction with the pressure test and shall be in accordance with AWWA C 601 and these requirements.

A solution of calcium hypochlorite or sodium hypochlorite (such as HTH, Perchloron, Chlorox, etc.) liquid chlorine or other approved disinfectant shall be used to obtain a solution of at least 50 ppm of available chlorine throughout the pipe system. No chlorine shall be applied to pipe as lines are being laid.

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For this work, the contractor shall furnish suitable corporation stops, plugs or caps for the pipe, injection pumps, pipe connections and other equipment, and all labor required, at no additional cost to the Department.

While disinfectant is being applied to any section of the system, the water shall be allowed to escape at all extremities of this section until an orthotolidine test shows a deep orange color. The disinfectant shall be allowed to remain in the pipe at least 6 hours and tests shall be made to determine that a chlorine residual of at least 5 ppm remains. If there is not sufficient residual chlorine, disinfection shall be repeated. After disinfection, lines shall be thoroughly flushed to remove the chlorine. If bacteriological tests indicate that the lines are not free of coliform organisms, the disinfection procedure shall be repeated on that part of the system until proven to be free of contamination.

Disinfection shall be made in the presence of the engineer. The contractor shall notify the engineer at least 48 hours prior to the time lines are to be disinfected. The contractor shall furnish taps, corporation stops, tubing and faucets, and furnish labor to obtain samples of water from disinfected lines. These shall be collected and submitted to a biological laboratory of the State Board of Health. Copies of laboratory reports shall be submitted to the engineer. Disinfection shall be considered acceptable when reports indicate lines to be free of contamination. Lines shall be disinfected as soon after completion of testing as possible.

When tests are completed, test risers shall be removed and corporation stops plugged with an approved brass plug.

(e) Laying Service Lines and Appurtenances: Except as modified below, construction and installation of service lines shall conform to the requirements for laying water mains. Service lines shall include complete installation of the new pipe from the water main to the final location of the meter, or to such points as directed to connect with existing or future service lines and abutting property. Installation of service line pipe shall include necessary connections, including unions, valves, fittings, corporation stops, goosenecks where permitted, and curb stops.

(1) Excavation and Backfill:

a. Excavation: Excavation shall be done as specified elsewhere herein.

b. Backfill: Backfilling shall be done as specified herein after leakage test has been made under normal operation pressure in open trenches and leaks eliminated.

(2) Laying and Jointing: Jointing of copper pipe, galvanized steel pipe and plastic pipe shall be in accordance with standard practice for jointing water pipe and approved installation methods. Plastic pipe shall be placed in the trench to allow at least 1 percent additional length of pipe for thermal connection, and selected backfill material shall be placed and compacted to 6 inches above pipe before proceeding with normal backfill operations.

(f) Relocations, Adjustments and Removals:

(1) Water Valves, including valve boxes and fire hydrants, shall be relocated, adjusted to grade or removed as shown on the plans or as designated. The contractor shall protect all parts during the removing and relocating operation and shall replace all items lost or damaged at his expense. All lead or composition joints shall be melted out and each joint disconnected before being removed from the trench.

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Relocated gate valves or fire hydrants shall be installed as specified for new gate valves or fire hydrants. Concrete blocking will be required for fire hydrants. Leakage tests shall be performed as specified above. Backfilling shall be done as specified herein. Concrete blocking and any additional pipe required in resetting the gate valve or fire hydrant at its new location will be paid for separately. Valve boxes, when they exist, shall be considered to be a part of the valve assembly and shall be removed with the valve.

(2) Existing water meters and boxes shall be relocated as shown on the plans or as designated. Relocation shall include removing the existing meter, meter box, all required pipe, unions and appurtenances, storage, protection where necessary, and reinstalling the meter, meter box and curb stop in the existing service line as directed. The contractor, with the engineer, shall inspect each meter before its removal to determine its condition. If a meter is defective, the contractor will be furnished a replacement meter for the installation.

(3) Existing water service lines shall be adjusted to grade, by excavating for, and lowering or raising the existing service lines and backfilling at the same location, as shown on the plans or directed. Any new materials or fittings required for the adjustment shall be furnished by the contractor without additional compensation. He shall also make any required changes in the connection at the main which are the result of this work. All leaks and damage caused by the contractor's operations shall be repaired at his expense. If a water meter is to be retained at the same location in an existing service line that is to be adjusted, the meter and box shall also be adjusted to proper grade. No additional compensation will be allowed for this adjustment.

(4) Existing water meter and water valve boxes shall be lowered or raised to the grade established on the plans or by the engineer.

(5) Existing house connections shall be adjusted as required. New pipe and fittings required to adjust house connections shall be equal in quality to that of the existing installation and meet requirements of the utility and code.

741.04 MEASUREMENT:

(a) Water Mains: Water mains will be measured by the linear foot (lin m) along the center, parallel to the slope of the pipe, from end to end of each installation through all fittings.

(b) Fittings: Pipe fittings will be considered subsidiary to the water line in which they are used.

(c) Gate valves, including boxes when required, will be measured by the number of each size installed.

(d) Tapping sleeve and valve assembly will be measured by the number of each size installed.

(e) Fire hydrants will be measured by the number of each installed.

(f) Service Lines: Service lines will be measured by the linear foot (lin m) from end to end, and from center of lines to ends of branches, including valves and fittings.

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(g) Relocating Fire Hydrants, Water Valves and Water Meters: Existing fire hydrants, water valves and water meters will be measured by the number of each relocated, including relocation of boxes for such valves and meters.

(h) Adjusting Meter Boxes and Valve Boxes: Existing meter boxes and valve boxes adjusted to grade in their original locations will be measured by the number adjusted.

(i) Removal of Water Valves and Fire Hydrants: Existing water valves, including boxes when necessary, and fire hydrants will be measured by the number of each removed.

(j) Excavation and Backfill: Excavation and backfill will not be measured for payment.

(k) Concrete Blocking: Concrete blocking will be measured by the cubic yard (cu m) of concrete used.

(l) Adjusting Water House Connections: This item will be measured by the number of house connections adjusted.

(m) Adjusting Service Lines to Grade: This item will be measured in linear feet (lin m) of service line pipe lowered or raised, including valves, fittings, meters, boxes and other appurtenances. Measurement will be made from end to end of adjusted service line.

(n) Incidentals: Pavement removed and replaced, including sawing, testing, disinfection and detection wire for plastic pipe, will not be measured for payment.

(o) Casing will be measured by the linear foot (lin m) along the center, parallel to the slope of the casing.

(p) Butterfly valves, including boxes when required, will be measured by the number of each installed.

(q) Double strap saddles will be measured by the number of each installed.

741.05 PAYMENT:

(a) Water main pipe will be paid for per linear foot (lin m) for each size of pipe installed, which includes fittings, excavation, backfilling, removal and replacement of pavement, testing, sterilizing, and laying pipe in casing when required.

(b) Gate valves will be paid for per each, which includes box if required, and joint connections.

(c) Tapping sleeve and valve assemblies will be paid for per each, which includes joint connections.

(d) Fire hydrants will be paid for per each, which includes vertical extensions, joint connections, pipe straps and stone drain.

(e) Service line pipe will be paid for per linear foot (lin m), which includes excavation, backfilling, removal and replacement of pavement, testing, sterilizing, corporation and curb stops, goosenecks where required, fittings, jointing, connecting to the main, and laying pipe in casing when required.

(f) Relocating fire hydrant will be paid for per each, which includes crushed stone drain.

(g) Relocating water valve including box will be paid for per each, which includes excavation and backfill.

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(h) Relocating water meter including box will be paid for per each set, which includes excavation and backfill.

(i) Adjusting water house connections will be paid for per each, which includes necessary adjustment of service lines not exceeding 20 linear feet (6.1 lin m) per house connection, and required new pipe and fittings.

(j) Adjusting water service lines in excess of 20 linear feet (6.1 lin m) per house connection will be paid for per linear foot (lin m) of adjusted service line, which includes required new pipe and fittings.

(k) Adjusting meter boxes and valve boxes to grade will be paid for per each.

(l) Removal of water valves will be paid for per each, which includes valve box.

(m) Removal of fire hydrants will be paid for per each.

(n) Concrete blocking will be paid for per cubic yard (cu m).

(o) Casing will be paid for per linear foot (lin m), which includes excavation, backfilling, and removal and replacement of pavement.

(p) Butterfly valves will be paid for per each size, which includes box if required, and joint connections.

(q) Double strap saddles will be paid for per each, which includes joint connections.

(r) Payment will be made at the contract unit prices under:

Item No.	Pay Item	Pay Unit
741-01	Water Main (Size & Type)	Linear Foot (Lin m)
741-02	Gate Valve (Size)	Each
741-03	Tapping Sleeve and Valve Assembly (Size)	Each
741-04	Fire Hydrant	Each
741-05	Water Service Line (Size & Type)	Linear Foot (Lin m)
741-06	Relocating Fire Hydrant	Each
741-07	Relocating Water Valve	Each
741-08	Relocating Water Meter	Each
741-09	Adjusting Water House Connections	Each
741-10	Adjusting Water Service Lines	Linear Foot (Lin m)
741-11	Adjusting Water Valve and Meter Box	Each
741-12	Removing Water Valve Including Box	Each
741-13	Removing Fire Hydrant	Each
741-14	Concrete Blocking	Cubic Yard (Cu m)
741-15	Casing (Size & Type)	Linear Foot (Lin m)
741-16	Butterfly Valve (Size)	Each
741-17	Double Strap Saddle (Size)	Each

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DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

SECTION 742
SANITARY SEWER SYSTEMS

The 2000 Standard Specifications are amended to include this Section.

742.01 DESCRIPTION. This work consists of furnishing the necessary materials and installing, relocating and adjusting sanitary sewers and appurtenances in accordance with these specifications and in conformity with the lines and grades shown on the plans or established by the engineer.

Sewer manholes and junction boxes shall be constructed or reconstructed in accordance with the plans and Section 702.

The contractor shall coordinate his work activities with utility owners in accordance with Subsections 105.06 and 107.20 and shall observe all laws in accordance with Subsection 107.01.

742.02 MATERIALS. A certificate of compliance from the manufacturer showing the chemical and physical properties of the materials used and conformance with the specifications will be required in accordance with Subsection 106.04.

When the item "Sanitary Sewer Pipe" is included in the contract, the contractor has the option of furnishing any of the following materials unless otherwise specified.

(a) Cast Iron and Ductile Iron Pipe:

(1) Cast Iron Pipe: Cast iron pipe shall be made of gray cast iron and shall conform to ANSI A 21.6 (centrifugally cast in metal molds) or A 21.8 (centrifugally cast in sand lined molds). The iron in the pipe shall have a bursting tensile strength of at least 21,000 psi (145 MPa) and shall have a ring modulus of rupture of at least 45,000 psi (310 MPa). Pipe shall have thickness corresponding to Class 25 of A 21.6 or A 21.80.

(2) Ductile Iron Pipe: Ductile iron pipe shall consist of ductile cast iron and shall conform to ANSI A 21.51 (centrifugally cast in metal or sand lined molds). Pipe shall have thickness corresponding to Class 5 of A 21.51.

(3) Fittings: Fittings for cast iron or ductile iron pipe shall conform to ANSI A 21.10.

(4) Coating: The exterior and interior of pipe and fittings shall be covered with an approved bituminous coating in accordance with the above specifications.

(5) Joints: Pipe joints shall conform to ANSI A 21.11 and shall be the following types, as specified.

a. Mechanical Joint (Type III) with alloy steel bolts and nuts.
b. Boltless single gasket and push-on joint.
c. Submarine, flexible, ball and socket joint.
d. Flanged joint.

Flange bolts in contact with sewage or sludge shall be stainless steel or bronze.

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(b) Clay Pipe: Vitrified clay sewer pipe and fittings shall conform to ASTM C 700 and shall have compression joints conforming to ASTM C 425. Pipe 6 inches (150 mm) and under shall be "Standard Strength Clay Pipe", and above 6 inches (150 mm) shall be "Extra Strength Clay Pipe".

(c) Plastic Pipe:

(1) Acrylonitrile-Butadiene-Styrene (ABS): Pipe and fittings shall conform to ASTM D 2680 for composite-wall pipe, and ASTM D 2751 (SDR 35) for solid-wall pipe.

(2) Polyvinyl Chloride (PVC): Pipe and fittings shall conform to ASTM D 3034, Type PSM (SDR 35).

(3) Detection Wire for Plastic Pipe: An approved electrically conductive insulated wire or tape shall be installed on the center of the plastic pipe for its entire length within highway right-of-way to facilitate location of line with an electronic pipe locator. Wire or tape must be connected to all fixtures and appurtenances.

(d) Concrete Sewer Pipe: Nonreinforced concrete sewer pipe shall conform to ASTM C 14 (C 14M), Class 2. Joints shall be Type 3 in accordance with Subsection 1006.05.

(e) Reinforced Concrete Sewer Pipe: Reinforced Concrete Sewer Pipe shall conform to Subsection 1006.03. Joints shall be Type 3 in accordance with Subsection 1006.05.

742.03 MAINTENANCE OF SEWAGE FLOW. The contractor shall maintain continuous flow of sewage during relocation operations. No diversion of sewage flow into open trenches or streams will be permitted.

742.04 CONSTRUCTION REQUIREMENTS.

(a) General: Underground water lines, gas lines, telephone conduits, drainage structures, etc. shall be located and protected by the contractor during construction.

(b) Trench Excavation:

(1) Excavation: The requirements of Subsections 701.03 and 701.04 and these additional requirements shall be met.

a. Protection of Excavation: Sheeting, shoring and hand excavation shall be used as necessary for protection of the work. Sheeting in excavation shall be withdrawn as backfilling is being done, except where the engineer directs that sheeting and shoring be left in place, or where the engineer permits sheeting to be left in place at the contractor's expense. The contractor shall cut off sheeting left in place at least 18 inches (450 mm) below finished grade. Sheeting and bracing will not be paid for directly unless there is a contract item for this work or unless sheeting and bracing were left in place by order of the engineer. The pipe grade and line shall not be disturbed.

b. Minimum Trench Depth (Bury): Minimum bury under pavement or surfacing shall be 4 feet (1.2 m). Minimum bury under ditches shall be 24 inches (0.6 m). Minimum bury for installations parallel to roadway shall be 24 inches (0.6 m).

c. Joints and Bell Holes: Bell holes of ample depth and width shall be excavated in pipe trenches at each joint location to permit the joint to be properly made and

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the pipe barrel to rest firmly on the ditch bottom. The trench shall be dry when jointing and laying pipe.

(2) Under Pavement:

a. Removing Pavement: The contractor shall remove existing pavement as necessary for trench excavation. Pavement shall be cut back from top edges of trenches at least 24 inches (0.6 m) on each side of the trench. The requirements of Section 724 shall be followed for removing and replacing pavement except that no separate payment will be made for this work unless a pay item for pavement patching is provided.

b. Jacking and Boring: The contractor may jack or bore pipe under existing pavement where practical, but payment in these instances will be made under the item for installation in an open trench. Separate payment for jacked or bored pipe will be made when the plans or specifications require that the pipe be installed in that manner and an item is included in the contract. Pipe that is jacked or bored shall be installed in accordance with Section 728.

(c) Connections: No pipe shall be cut for connections except as indicated on the plans or directed. The cost for making connections, including connections to existing facilities, shall be included in the contract price for sewer pipe.

(1) Manhole Connections: The contractor shall use care in connecting new sewer lines to existing manholes and connecting existing sewer lines to new manholes to avoid infiltration of foreign substances. Manholes shall be cleaned of fallen masonry or debris.

(2) Connections for Future Use: Connections for future use shall be capped and sealed in accordance with the requirements for sealing joints.

(3) House Connections: Wyes and tees installed in a common sewer for house connections shall be installed as shown on the plans or as directed.

(d) Adjusting Sanitary Sewer House Connections and Service Lines: New pipe and fittings required to adjust house connections shall be equal in quality to that of the existing installation and meet the requirements of the utility and code.

742.05 TESTS. Completed sewer lines shall be tested with reflected light and shall show an unobstructed view between manholes. Infiltration shall not exceed 10 gallons per day per inch (1.5 L/mm per day) diameter per 100 feet (30 m) of pipe. On lines where flow indicates infiltration in excess of this amount, a leakage test shall be conducted at the contractor's expense by a method satisfactory to the engineer. Sewer lines showing excessive leakage or undue deviation from line or grade shall be repaired or replaced by the contractor at his expense.

742.06 MEASUREMENT.

(a) Excavation and Backfill: Excavation, foundation preparation material and backfill will not be measured for payment, with the following exception. If an item for Bedding Material is included in the contract, this item will be paid for within the limits specified and in accordance with Section 726.

(b) Sanitary Sewer Pipe: Pipe will be measured in linear feet (lin m) along the centerline of the pipe.

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(c) Wyes, Tees and Other Fittings: These items will not be measured separately but will be included in the overall measurement as indicated above.04/01

(d) Manholes: Sanitary or combination sewer manholes will be measured in accordance with Section 702.

(e) Adjustment of Existing Manholes: Adjustment of existing sanitary or combination sewer manholes will be measured in accordance with Section 702.

(f) Concrete Blocking: Concrete blocking will not be measured for payment.

(g) Adjusting Sanitary Sewer House Connections and Service Lines: Adjusting sanitary sewer house connections will be measured per each connection. Adjusting sanitary sewer service lines will be measured by the linear foot (lin m) of adjusted line.

(h) Casings: Casings will be measured by the linear foot (lin m) along the centerline of casing.

(i) Incidentals: Pavement removed and replaced, including sawing, connections, testing and detection wire for plastic pipe, will not be measured for payment.

742.07 PAYMENT:

(a) Sewer pipe installations, sanitary or combination, will be paid for at the contract price per linear foot (lin m), which includes furnishing and hauling all materials; excavation and backfill; connections; capping and sealing connections for future use; and the maintenance of continuous flow of sewage in existing sewers during relocating operations.
When a pay item for Bedding Material is included in the contract, payment will be in accordance with Section 726.

(b) Manholes and manhole adjustments will be paid for in accordance with Section 702.

(c) Payment for adjusting house connections will include adjustment of service lines not exceeding 20 linear feet (6.1 lin m) per house connection. Payment for service line adjustments in excess of 20 linear feet (6.1 lin m) per house connection will be made by the linear foot (lin m) of adjusted service line. Payment for these items includes required new pipe and fittings, and excavation and backfill.

(d) Casings will be paid for at the contract unit price per linear foot (lin m).

(e) Payment will be made under:

Item No.	Pay Item	Pay Unit
742-01	Sanitary Sewer Pipe (Size)	Linear Foot (Lin m)
742-02	Adjusting Sanitary Sewer House Connections	Each
742-03	Adjusting Sanitary Sewer Service Lines	Linear Foot (Lin m)
742-04	Casing (Size & Type)	Linear Foot (Lin m)

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LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

SECTION 744
TRAFFIC CONTROL MANAGEMENT

The 2000 Standard Specifications are amended to include this Section 744.

744.01 DESCRIPTION: This work consists of providing traffic control management in compliance with the contract documents and the Manual on Uniform Traffic Control Devices (MUTCD), including the installation, inspection, maintenance, and removal of all traffic control devices on the project.

744.02 REQUIREMENTS: The contractor shall assign one or more authorized Traffic Control Supervisors (TCS) to provide traffic control management for the project. If the contractor assigns more than one TCS to provide traffic control management, then a weekly schedule identifying who will be in charge of providing traffic control management on a daily basis shall be submitted to the engineer by the contractor. The TCS shall have a set of all contract documents relating to traffic control or traffic staging and a current copy of the MUTCD and a current copy of Louisiana Work Zone Traffic Control Details readily available at all times.

Should the contractor utilize a subcontractor to provide traffic control management, the subcontractor's TCS shall meet all the requirements set forth herein.

The contractor may assign one or more Traffic Control Technicians (TCT) to assist the TCS in inspection and maintenance of Traffic Control Devices.

744.03 AUTHORIZATION: Prior to commencing work requiring traffic control management, the contractor shall submit to the engineer a copy of the TCS's and TCT's current authorization.

The Department will accept the TCS authorization of other approved agencies or firms only if all of the following minimum TCS requirements are met:

(a) Successful completion of a work zone traffic control supervisor course approved by the Department.

(b) Passing a written examination on the work zone traffic control supervisor course.

(c) After October 1, 2004, a minimum of one year full-time field experience, verified by the agency or firm, in work zone traffic control. This experience may be verified by the Department, at its discretion.

The Department will accept the TCT authorization of other approved agencies or firms only if all or the following minimum requirements are met.

(a) Successful completion of a work zone traffic control technician course approved by the Department.

(b) Passing a written examination on the work zone traffic control technician course.

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744.04 DUTIES: The TCS's responsibility shall be traffic control management, and the TCS shall be available to the engineer to address traffic control management issues as needed. The following is a listing of the TCS's primary duties:

(a) The TCS shall personally provide traffic control management and supervision services at the project site. The TCS may have other assigned duties, but must be readily available at all times to perform TCS duties as required in the contract. A minimum of one TCT shall be required on site during working hours.

(b) The TCS shall be responsible for observing and evaluating both the day and night time performance of all traffic control devices installed on the project, in accordance with the Traffic Control Plan (TCP), to ensure that the devices are performing effectively as planned for both safety and traffic operations. This shall be done at the initial installation of the devices and when any modifications and/or changes are made, in addition to the inspection of traffic control required in Subsection 744.06.

(c) The TCS shall be responsible for revisions requested by the contractor to the traffic control plan established in the contract and shall submit the new traffic control plan as follows:

Requests for revision in the traffic control plan must be made in writing to the engineer a minimum of 14 calendar days in advance of the needed revision. If in the opinion of the engineer, the requested revision falls within the scope of the existing contract drawings, the engineer may approve the revision. If the engineer determines that the requested revision is outside the scope of the existing contract drawings, the contractor will be required to submit plan change drawings to incorporate into the contract drawings. The plan change drawings must conform to the DOTD standards described below.

(1) Letter size original contract drawings --The plan change drawings must be submitted on high quality white 8 1/2 x 11 inch letter size paper. The drawings may be hand drafted or computer drafted and arranged in landscape format on the page. The text and drawings must be legible after reproduction on standard reproduction equipment. Left, bottom and right hand margins shall be at least 1/2 inch and the top margin shall be 1 inch.

(2) Full size original contract drawings -- The plan change drawings must be submitted on high-quality, 4-mil, double-matte film using a plotting or reproduction process that fuses the graphics to ensure durability. Repeated handling and friction due to stacking of plans shall not smear, flake or rub off the graphics. Improper plotter settings and plotter wear may cause inconsistent durability of the drawings. The contractor shall test samples of the submitted drawings for durability. Advance samples of matte films may be submitted for approval; however, the contract plans will be tested separately. Failures will result in rejection of the submittal. Drawing sizes shall be in accordance with Subsection 801.03(a).

Lettering on plan change drawings shall be of adequate size to facilitate a 50 percent reduction of plans. Additions or changes shall be made with a permanent type of waterproof ink made for this purpose. If revised cross sections are required, the cross-sections shall be plotted on standard plate cross-section sheets. The ground line, centerline elevation, and station numbers, as a minimum, shall be drawn in ink; the remaining information may be in pencil.

Regardless of size, all plan change drawings and documents required shall be identified with the DOTD project title and project number. All plans and calculations shall be signed and sealed by a professional civil engineer currently registered to practice in Louisiana.

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All plans submitted by the contractor shall conform to the quality standards adopted by DOTD, and the DOTD Chief Engineer may reject any plans not conforming to these standards.

Revisions to the TCP that are determined to be outside the scope of the original contract drawings must be approved by the DOTD District Traffic Engineering Division prior to implementation of the requested revision. In some cases on high traffic routes or high priority projects, the revisions must be approved by the HQ Traffic Operations Engineer.

(d) The TCS shall be responsible for the training of flagging personnel. This training will ensure that all flagging done on the project is in compliance with the MUTCD Part VI and Louisiana Work Zone Traffic Control Details.

(e) The TCS shall coordinate all traffic control operations for the duration of the contract, including those of subcontractors, utility companies, and suppliers, to ensure that all traffic control is in place and fully operational prior to the commencement of any work. The Department recognizes that the contractor does not have direct control over the traffic control operations of the utility companies. The coordination provided by the TCS when dealing with utility companies is specifically for the purpose of coordinating concurrent utility traffic control with any other construction traffic control to avoid conflicts.

(f)The TCS shall coordinate, in writing, all project activities with the appropriate law enforcement, fire control agencies, and other appropriate public agencies as determined at the pre-construction conference by the engineer. The TCS shall also invite the above agencies to the pre-construction conference.

(g) The TCS shall prepare and submit statements concerning road closures, delays, and other project activities to the news media on a weekly basis or more often as needed. News releases shall be submitted to the engineer for review and approval prior to the contractor's submittal to the news media.

(h) The TCS shall be responsible for notifying the engineer, or designee, immediately of all vehicular accidents and/or incidents related to the project traffic control. The time and date of notification shall be documented in the traffic control diary. The TCS shall also monitor and document queues that occur as necessary.

(i) The TCS assigned to the project shall attend the pre-construction conference and all project meetings.

(j) The TCS shall be responsible for the maintenance, cleanliness, replacement and removal of traffic control devices of the existing traffic control plan during working and non-working hours.

744.05 TRAFFIC CONTROL DIARY: The TCS shall maintain a project traffic control diary in a bound book. The contractor shall obtain a sufficient number of the diaries from the Louisiana Associated General Contractors (LAGC). The TCS shall keep the traffic control diary current on a daily basis, and shall sign each daily entry. Entries shall be made in ink in a standard format furnished by the engineer, and there shall be no erasures or white-outs. Incorrect entries shall be struck out and then replaced with the correct entry. Photographs and videotapes may be used to supplement the written text.

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The traffic control diary shall be available at all times for inspection by the engineer; and the diary shall be reviewed with the engineer on a weekly basis and a copy submitted to the engineer on a monthly basis. Failure to submit the monthly copy of the diary to the engineer shall result in the withholding of the next partial payment until the past due copies of the diary are submitted. The traffic control diary shall become the property of the Department at the completion of the project.

744.06 INSPECTION OF TRAFFIC CONTROL: The TCS shall be responsible for the inspection of all traffic control devices every calendar day that traffic control devices are in use. This inspection may be delegated to the TCT. The "Quality Guidelines for Work Zone Traffic Control Devices" standard by the American Traffic Safety Services Association (ATSSA) shall be used to evaluate the condition of the traffic control devices to determine if acceptable for use. The TCS shall provide for the immediate repair, cleaning, or replacement of any traffic control devices not functioning as required to ensure the safety of the motorist and construction personnel and/or not meeting the ATSSA standard.

Inspection of the traffic control devices shall be conducted by the TCS at the beginning and end of each workday, and as scheduled or directed by the engineer during the workday. The traffic control devices shall be inspected by the TCS on weekends, holidays, or other non-work days at least once per day. Traffic control devices shall be inspected by the TCS at least once a week during nighttime periods and the same night after any modifications or changes have been made in the traffic control devices.

744.07 FAILURE TO COMPLY: The engineer may suspend all or part of the contractor's operation(s) for failure to comply with the approved "Traffic Control Plan" or failure to correct unsafe traffic conditions within a reasonable period of time after such notification is given to the contractor in writing.

In the event that the contractor does not take appropriate action to bring the deficient traffic control into compliance with the approved traffic control plan or to correct the unsafe traffic conditions, the Department may proceed with the corrective action using its own forces, and such costs will be deducted from payments owed to the contractor.

If the contractor's operations are suspended, the normal assessment of contract time will not cease for the period required to correct these unsafe conditions and traffic control deficiencies. The contractor shall not be relieved of the responsibility to provide traffic control safety to the traveling public when a project is under full or partial project suspension. When a project is under suspension due to the contractor's failure to comply with this section, or when the contract is under stipulated damages, the contractor shall continue to provide traffic control management and no additional measurement or payment will be made. If suspensions or partial suspensions are requested by the contractor, the additional traffic control management costs will be at the contractor's expense.

744.08 ENGINEER MODIFICATIONS: The provisions included in the plans and specifications for handling and controlling traffic during construction may be changed by the

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engineer, with the approval of the DOTD District Traffic Operations Engineer, due to actual field conditions encountered. Such changes will be made by written instruction to the contractor and shall be considered an amendment to the plans and specifications as of the date of change.

744.09 MEASUREMENT: Traffic control management will be measured by the lump sum.

744.10 PAYMENT: Payment for traffic control management will be made at the lump sum contract price in accordance with the payment schedule of Table 744-1.

Table 744-1
Payment Schedule for Traffic Control Management

Percent of Total Contract Amount Earned	Allowable Percent of Lump Sum Price for Traffic Control Management
Initial Installation	20
25	40
50	60
75	80
100	100

Traffic control diaries will be incidental to traffic control management, and no separate measurement or payment will be made therefore.

Payment will be made under:

Item No.	Pay Item	Pay Unit
744-01	Traffic Control Management	Lump Sum

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LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

FEMALE AND MINORITY PARTICIPATION IN CONSTRUCTION

The following notice shall be included in, and shall be a part of, all solicitations for offers and bids on all federal and federally assisted construction contracts or subcontracts in excess of $10,000 to be performed in geographical areas designated by the director of OFCCP. Execution of the contract by the successful bidder and any subsequent subcontracts will be considered the contractor's and subcontractor's commitment to the EEO provisions contained in this notice.

NOTICE OF REQUIREMENT 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 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:

AREA	PARISH OR COUNTY	GOAL (%)
	FEMALE PARTICIPATION	
-	All Covered Areas	6.9
	MINORITY PARTICIPATION (UNDER NEW ORLEANS PLAN)	
-	* See Note Below	20 to 23
	MINORITY PARTICIPATION (NOT UNDER NEW ORLEANS PLAN)	
1	Jefferson LA, Orleans LA, St. Bernard LA, St. Tammany LA	31.0
2	Assumption LA, Lafourche LA, Plaquemines LA, St. Charles LA, St. James LA, St. John the Baptist LA, Tangipahoa LA, Terrebonne LA, Washington LA, Forrest MS, Lamar MS, Marion MS, Pearl River MS, Perry MS, Pike MS, Walthall MS	27.7
3	Ascension LA, East Baton Rouge LA, Livingston LA, West Baton Rouge, LA	26.1
4	Concordia LA, East Feliciana LA, Iberville, LA, Pointe Coupee LA, St. Helena LA, West Feliciana LA, Adams MS, Amite MS, Wilkinson, MS	30.4
5	Lafayette LA	20.6
6	Acadia LA, Evangeline LA, Iberia LA, St. Landry LA, St. Martin LA, St. Mary LA, Vermillion LA	24.1
7	Calcasieu LA	19.3
8	Allen LA, Beauregard LA, Cameron LA, Jefferson Davis LA, Vernon LA	17.8
9	Grant LA, Rapides LA	25.7
10	Avoyelles LA, Bienville LA, Bossier LA, Caddo LA, Claiborne LA, DeSoto LA, Natchitoches LA, Red River LA, Sabine LA, Webster LA, Winn LA	29.3
11	Ouachita LA	22.8
12	Caldwell LA, Catahoula LA, East Carroll LA, Franklin LA, Jackson LA, LaSalle LA, Lincoln LA, Madison LA, Morehouse LA, Richland LA, Tensas LA, Union LA, West Carroll LA,	27.9

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*These goals apply only to those contractors signatory to the New Orleans Plan and only with respect to those trades which have unions participating in said Plan. The New Orleans Plan Covered Area is as follows: The parishes of Orleans, Jefferson, St. Bernard, St. Tammany, St. Charles, St. John the Baptist, Plaquemines, Washington, Terrebonne, Tangipahoa (that area east of the Illinois Central Railroad), Livingston (that area southeast of the line from a point off the Livingston and Tangipahoa Parish line adjacent from New Orleans and Baton Rouge), St. James (that area southeast of a line drawn from the Town of Gramercy to the point of intersection of St. James, Lafourche and Assumption Parishes), and Lafourche.

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 is also 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 41 CFR 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 established for the geographical area where the contract resulting from this solicitation is to be performed. 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 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 purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Regional Administrator of the Office of Federal Contract Compliance Programs (555 Griffin Square Building, Dallas, TX 75202) within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and geographical area in which the contract is to be performed.

4. As used in this Notice and in the contract, the "covered area" is that area shown in the foregoing table in which the project is located.

The following Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) shall be included in, and shall be a part of, all solicitations for offers and bids on all federal and federally assisted construction contracts or subcontracts in excess of $10,000. Execution of the contract by the successful bidder and any

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subsequent subcontracts will be considered the contractor's and subcontractor's commitment to the EEO provisions contained in these Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941.
d. "Minority" includes:
(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. If the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, he shall include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved Plan is required to comply with his obligations under the EEO clause, and to make good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractor or subcontractors toward a goal in an

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approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any OFCCP office or from federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer either minorities or women, shall excuse the contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications will be based on his effort to achieve maximum results from its actions. The contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign 2 or more women to each construction project. The contractor shall ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

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c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the contractor has taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or woman set by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting his EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as superintendent, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in ny advertising in the news media, including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than 1 month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations such as the above describing the openings, screening procedures and tests to be used in the selection process.

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j. Encourage present minority and female employees to recruit other minority persons and women, and where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.
k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR 60-3.
l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.
n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet his goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A goal for minorities and a separate goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the contractor may be in violation of the Executive Order if a group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Executive Order if a minority group of women in underutilized).

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10. The contractor shall not use the goals or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.
11. The contractor shall not enter into a subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246. 12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling his obligations under these specifications, shall implement specific affirmative actions steps, at least as extensive as the standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors will not be required to maintain separate records.

15. Nothing herein shall be construed as a limitation on the application of other laws which establish different standards of compliance or on the application of requirements for hiring of local or other area residents (e.g., those under the Pubic Works Employment Act of 1977 and the Community Development Block Grant Program).

16. In addition to the reporting requirements set forth elsewhere in this contract, the contractor and subcontractors holding subcontracts (not including material suppliers) in excess of $10,000 shall submit for every month of July during which work is performed, employment data as contained under Form FHWA-1391 in accordance with instructions included thereon.

FOR INFORMATION ONLY

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

NEW ORLEANS PLAN

Each bidder, contractor or subcontractor (hereinafter called the contractor) must fully comply with these bid conditions as to each construction trade intended to be used on this construction contract and all other construction work (both federal and nonfederal) in New Orleans Plan Area during the performance of this contract or subcontract. The contractor commits to the minority and female employment utilization goals set forth herein and all other requirements, terms and conditions expressed herein by submitting a properly signed bid.

The contractor shall appoint a company executive to assume the responsibility for implementation of the requirements, terms and conditions of these bid conditions.

These specifications implementing the New Orleans Plan for employment of minorities and females have been imposed by the U. S. Department of Labor by order on September 8, 1971, as amended, for all nonexempt federal and federally assisted construction contracts to be awarded in the area of jurisdiction of the Southeast Louisiana Building and Construction Trades Council in the City of New Orleans and Southeast Louisiana. This area consists of the parishes of Orleans, Jefferson, St. Bernard, St. Tammany, St. Charles, St. John the Baptist, Plaquemines, Washington, Terrebonne, Tangipahoa (that area east of the Illinois Central Railroad), Livingston (that area southeast of the line from a point off the Livingston and Tangipahoa Parish line adjacent from New Orleans and Baton Rouge), St. James (that area southeast of a line drawn from the Town of Gramercy to the point of intersection of St. James, Lafourche and Assumption Parishes), and Lafourche.

The provisions of these bid conditions apply to contractors which are party to collective bargaining agreements with labor organizations which together have agreed to the New Orleans Area Construction Program (hereinafter called the New Orleans Plan) for equal opportunity and have jointly made a commitment to goals of minority and female utilization. The New Orleans Plan is a voluntary agreement between (1) Southeast Louisiana Building and Construction Trades Council; (2) contractors and subcontractors who are signatory to the New Orleans Plan; (3) the Urban League of Greater New Orleans and representatives of the minority community; and (4) the City of New Orleans. The New Orleans Plan, together with all implementing agreements that have been and may hereafter be developed pursuant thereto, are incorporated herein by reference.

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The requirements set forth herein shall constitute the specific affirmative action requirements for activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

The contractor and all subcontractors holding contracts in excess of $10,000 shall comply with the following minimum requirement activities of equal employment opportunity. The contractor shall include these requirements in every subcontract in excess of $10,000 with such modification of language as necessary to make them binding on the subcontractor.

Each contractor and subcontractor shall submit a monthly employment utilization report, Standard Form 257, covering the contractor's entire work force employed on all contracts (both federal and nonfederal) held in the New Orleans Area. In addition, a list of the federal and nonfederal contracts which are covered by the report shall be furnished. The report shall be submitted to the engineer no later than the 10th day following the end of the month being reported. The report shall end on the next to the last Saturday in the month being reported and shall reflect all hours worked between this date and the close out date in the preceding month. Copies of all payrolls and personnel data shall be retained for 3 years after final acceptance of the project. These records and documents, or copies thereof, shall be made available at reasonable times and places for inspection by an authorized representative of the State or Federal Government and shall be submitted upon request with any other compliance information which such representative may require.

In addition to the reporting requirements set forth above, the contractor and the subcontractors holding subcontracts, not including material suppliers, in excess of $10,000 shall submit for every month of July during which work is performed, employment data as contained under Form FHWA-1391, and in accordance with the instructions included thereon.

A contractor may be in compliance with these bid conditions by its participation in the New Orleans Plan and applicable provisions contained in the "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)" and Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

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LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

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ATTACHMENTS

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

I. GENERAL

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

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

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

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

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

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

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

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

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

II. NONDISCRIMINATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

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

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

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

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

6. **Training and Promotion:**

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

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

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

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

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

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

III. NONSEGREGATED FACILITIES

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

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

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

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

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

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

1. **General:**

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any

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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.

(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

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apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

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

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

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

b. *Trainees:*

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

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

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

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

c. *Helpers*:

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

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

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

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. **Overtime Requirements:**

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

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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 shall set out accurately and completely all of the information 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 apprentice, trainee, and helper) 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

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may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

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

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

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

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

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

VII. SUBLETTING OR ASSIGNING THE CONTRACT

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

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

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

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

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

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

VIII. SAFETY: ACCIDENT PREVENTION

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

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

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

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and

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similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

Notice to all Personnel engaged on Federal-Aid Highway Projects

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

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

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

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

Shall be fined not more 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. 92-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

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

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

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

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

1. **Instructions for Certification - Primary Covered Transactions:** (Applicable to all Federal-aid contracts - 49 CFR 29)

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

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

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

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

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

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

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

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered

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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.

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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.

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LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

REQUIRED CONTRACT PROVISIONS FOR DBE PARTICIPATION IN FEDERAL AID CONSTRUCTION CONTRACTS (DBE GOAL PROJECT)

A. AUTHORITY AND DIRECTIVE: The Code of Federal Regulations, Title 49, Part 26 (49 CFR Part 26) as amended and the Louisiana Department of Transportation and Development's (DOTD) Disadvantaged Business Enterprise (DBE) Program are hereby made a part of and incorporated by this reference into this contract. Copies of these documents are available, upon request, from DOTD Compliance Programs Office, P. O. Box 94245, Baton Rouge, LA 70804-9245.

B. POLICY: It is the policy of the DOTD that it shall not discriminate on the basis of race, color, national origin, or sex in the award of any United States Department of Transportation (US DOT) financially assisted contracts or in the administration of its DBE program or the requirements of 49 CFR Part 26. The DOTD shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of US DOT assisted contracts. The DBE program, as required by 49 CFR Part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification of failure to carry out the approved DBE program, the US DOT may impose sanctions as provided for under 49 CFR Part 26 and may in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C.3801 et seq.).

C. DBE OBLIGATION: 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 Part 26 in the award and administration of US DOT 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 the DOTD deems appropriate.

The preceding policy and DBE obligation shall apply to this contract and shall be included in the requirements of any subcontract. Failure to carry out the requirements set forth therein shall constitute a breach of contract and, after notification by DOTD, may result in termination of the contract, a deduction from the contract funds due or to become due the contractor or other such remedy as DOTD deems appropriate. The contractor is encouraged to use the services offered by banks in the community which are owned and controlled by minorities or women when feasible and beneficial. The term DBE is inclusive of women business enterprises (WBE) and all obligations applicable to DBE shall apply to firms certified and listed as WBE.

D. FAILURE TO COMPLY WITH DBE REQUIREMENTS: All contractors and subcontractors are hereby advised that failure to carry out the requirements set forth above shall constitute a breach of contract and, after notification by DOTD may result in rejection of the bid; termination of the contract; a deduction from the contract funds due or to become due the contractor; or other such remedy as DOTD deems appropriate. Failure to comply with the DBE requirements shall include but not be limited to failure to meet the established goal and/or failure to submit documentation of good faith efforts; failure to exert a reasonable good faith effort (as determined by DOTD) to meet established goals; and failure to realize the DBE participation set forth on approved Form CS-6AAA and attachments. Failure to submit Form CS-6AAA and attachments and/or reasonable good faith efforts' documentation within the specified time requirements will result in the Department taking the actions specified in Heading G(6) below. The utilization of DBE is in addition to all other equal opportunity requirements of the contract. The contractor shall include the provisions in Sections B, C and D of these provisions in subcontracts so that such provisions will be binding upon each subcontractor, regular dealer, manufacturer, consultant, or service agency.

E. ELIGIBILITY OF DBE: The DOTD has included as part of the solicitation of bids a current list containing the names of firms that have been certified as eligible to participate as DBE on US DOT assisted contracts. This list is

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not an endorsement of the quality of performance of the firm but is simply an acknowledgment of the firm's eligibility as a DBE. This list indicates the project numbers and letting date for which this list is effective. Only DBE listed on this list may be utilized to meet the established DBE goal for these projects.

F. COUNTING DBE PARTICIPATION TOWARD DBE GOALS: DBE participation toward attainment of the goal will be credited on the basis of total subcontract prices agreed to between the contractor and subcontractors for the contract items or portions of items being sublet as reflected on Form CS-6AAA and attachments, in accordance with the DOTD DBE Program, and the following criteria.

(1) Credit will only be given for use of DBE that are certified by the Louisiana Unified Certification Program. Certification of DBE by other agencies is not recognized.

(2) The total value of subcontracts awarded for construction and services to an eligible DBE is counted toward the DBE goal provided the DBE performs a commercially useful function. The contractor is responsible for ensuring that the goal is met using DBE that perform a commercially useful function.

The contractor shall operate in a manner consistent with the guidelines set forth in the DOTD DBE Program. A commercially useful function is performed when a DBE is responsible for the execution of a distinct element of work by actually managing, supervising, and performing the work in accordance with standard industry practices except when such practices are inconsistent with 49 CFR Part 26 as amended, and the DOTD DBE Program, and when the DBE receives due compensation as agreed upon for the work performed. To determine whether a DBE is performing a commercially useful function, the DOTD shall evaluate the work subcontracted in accordance with the DOTD DBE Program, industry practices and other relevant factors. When an arrangement between the contractor and the DBE represents standard industry practice, if such arrangement erodes the ownership, control or independence of the DBE, or fails to meet the commercially useful function requirement, the contractor will not receive credit toward the goal.

(3) A DBE prime contractor may count only the contract amount toward DBE participation for work he/she actually performs and for which he/she is paid. Any subcontract amounts awarded to certified DBE by a DBE prime will also be credited toward DBE participation provided the DBE subcontractor performs a commercially useful function.

(4) A contractor may count toward the DBE goal 100 percent of verified delivery fees paid to a DBE trucker. The DBE trucker must manage and supervise the trucking operations with its own employees and use equipment owned by the DBE trucker. No credit will be counted for the purchase or sale of material hauled unless the DBE trucker is also a DOTD certified DBE supplier. No credit will be counted unless the DBE trucker is an approved subcontractor.

(5) A contractor may count toward the DBE goal that portion of the dollar value with a joint venture equal to the percentage of the ownership and control of the DBE partner in the joint venture. Such crediting is subject to a favorable DOTD review of the joint venture agreement to be furnished by the apparent low bidder before award of the contract. The joint venture agreement shall include a detailed breakdown of the following:

a. Contract responsibility of the DBE for specific items of work.

b. Capital participation by the DBE.

c. Specific equipment to be provided to the joint venture by the DBE.

d. Specific responsibilities of the DBE in the control of the joint venture.

e. Specific manpower and skills to be provided to the joint venture by the DBE.

f. Percentage distribution to the DBE of the projected profit or loss incurred by the joint venture.

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(6) A contractor may count toward the DBE goal only expenditures for materials and supplies obtained from DBE suppliers and manufacturers in accordance with the following:

a. The DBE supplier assumes actual and contractual responsibility for the provision of materials and supplies.

b. The contractor may count 100 percent of expenditures made to a DBE manufacturer provided the DBE manufacturer operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the contractor.

c. The contractor may count 60 percent of the expenditures to DBE suppliers who are regular dealers but not manufacturers, provided the DBE supplier performs a commercially useful function in the supply process including buying the materials or supplies, maintaining an inventory, and selling materials regularly to the public. Dealers in bulk items such as steel, cement, aggregates and petroleum products are not required to maintain items in stock, but they must own or operate distribution equipment. The DBE supplier shall be certified as such by DOTD.

d. A DBE may not assign or lease portions of its supply, manufactured product, or service agreement without the written approval of the DOTD.

(7) A contractor may count toward the DBE goal reasonable expenditures to DBE firms including fees and commissions charged for providing a bona fide service; fees charged for hauling materials unless the delivery service is provided by the manufacturer or regular dealer as defined above; and fees and commissions for providing any bonds or insurance specifically required for the performance of the contract.

(8) The contractor will not receive credit if the contractor makes direct payment to the material supplier. However, it may be permissible for a material supplier to invoice the contractor and DBE jointly and be paid by the contractor making remittance to the DBE firm and material supplier jointly. Prior approval by DOTD is required.

(9) The contractor will not receive credit toward the DBE goal for any subcontracting arrangement contrived to artificially inflate the DBE participation.

G. AWARD DOCUMENTATION AND PROCEDURE: This project has specific DBE goal requirements set forth in the Special Provision for DBE Participation in Federal Aid Construction Contracts. The bidder by signing this bid certifies that:

(1) The goal for DBE participation prescribed in the special provisions shall be met or exceeded and arrangements have been made with certified DBE or good faith efforts made to meet the goal will be demonstrated.

(2) Affirmative actions have been taken to seek out and consider DBE as potential subcontractors. Bidders shall contact DBE to solicit their interest, capability, and prices in sufficient time to allow them to respond effectively, and shall retain, on file, proper documentation to substantiate their good faith efforts.

(3) Form CS-6AAA and "Attachment to Form CS-6AAA" and, if necessary, documentation of good faith efforts shall be submitted within 10 business days following the opening of bids to the DOTD Compliance Programs Office. Submittals shall be personally delivered and date and time stamped into the DOTD Compliance Programs Office by the close of business, 10 business days after opening of bids; or mailed to the DOTD Compliance Programs Office by certified mail, return receipt requested and post marked by the 10th business day after the opening of bids. A business day is defined as a normal working day of DOTD.

Should a bidder protest or appeal any matter regarding the bidding or award of a contract in accordance with Subsection 102.13 of the 2006 Standard Specifications (Subsection 102.13 of the 2000 Louisiana Standard Specifications) after the scheduled time of bid opening, the Compliance Programs Section will

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immediately suspend the ten day requirement for submission of the CS-6AAA and Attachments until further notice and will notify all parties involved of the suspension. Once the protest has been resolved the Compliance Programs Section will notify the low bidder and issue a date for submission of the CS-6AAA and Attachments.

All attachments to Form CS-6AAA shall include:

a. The names of DBE subcontractors that will actually participate in meeting the contract goal; and

b. A complete description of the work to be performed by the DBE including the specific items or portions of items of work, quantities, and unit price(s) of each item; and

c. The total dollar value of each item that can be credited toward the contract goal; and

d. Any assistance to be provided to the DBE; and

e. The signature of each DBE and the contractor attesting that negotiations are in progress and that it is the intention of the parties to enter into a subcontract within 60 calendar days from the time the contract is finalized between the contractor and DOTD.

It shall be the bidder's responsibility to ascertain the certification status of designated DBEs. An extension of time for submittal of Form CS-6AAA and attachments will not be granted beyond the stated time. Questionable technical points will be cleared with the DOTD Compliance Programs Office within the time period allowed. If the documentation required is not provided in the time and manner specified, DOTD will take the actions specified in Heading (6) below.

(4) If the apparent low bidder is not able to meet the DBE goal, the DBE firms that can meet a portion of the goal shall be listed on the form CS-6AAA. Form CS-6AAA and attachments shall be completed and submitted in accordance with Heading (3) above 10 business days after opening of bids. Form CS-6AAA shall indicate the DBE participation which has been secured along with documentation of good faith efforts. The apparent low bidder shall document and submit justification stating why the goal could not be met and demonstrate the good faith efforts as shown in Section J.

The DOTD's evaluation of good faith efforts in the pre-award stage will only focus on efforts made prior to submittal of the bid. For consideration, good faith efforts shall include the requirements listed in these provisions as well as other data the contractor feels is relevant.

(5) Form CS-6AAA and attachments, and documentation of good faith efforts, when appropriate, will be evaluated by DOTD in the selection of the lowest responsible bidder. The information provided shall be accurate and complete. The apparent low bidder's proposed attainment of the DBE goal and/or demonstration of good faith efforts will be considered in the award of the contract.

(6) An apparent low bidder's failure, neglect, or refusal to submit Form CS-6AAA and attachments committing to meet or exceed the DBE goal and/or documentation of good faith efforts, shall constitute just cause for forfeiture of the proposal guarantee and the DOTD rejecting the bid, pursuing award to the next lowest bidder, or re-advertising the project. The original apparent low bidder will not be allowed to bid on the project should readvertisement occur.

The apparent low bidder shall forfeit the proposal guarantee unless the bidder can show that the reason for not meeting the requirements given in these DBE Provisions was beyond the bidder's control. The DOTD Chief Engineer will review the bidder's reasons for not meeting these DBE Provisions and will decide if the reasons are sufficient to allow return of the proposal guarantee.

(7) The bidder has the right to appeal the DOTD's findings and rulings to the DOTD Chief Engineer. The bidder may present information to clarify the previously submitted documentation. The decision rendered by the DOTD Chief Engineer will be administratively final. There shall be no appeal to the US DOT. If

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the DOTD Chief Engineer does not rule in favor of the original apparent low bidder, the new apparent low bidder shall submit, in detail, its subsequent proposed DBE participation within 14 calendar days after notification.

(8) Agreements between the bidder and the DBE, whereby the DBE agrees not to provide subcontracting quotations to other bidders, are prohibited.

H. POST AWARD COMPLIANCE

(1) If the contract is awarded on less than full DBE goal participation, such award will not relieve the contractor of the responsibility to continue exerting good faith efforts. The contractor shall submit documentation of good faith efforts with requests to sublet prior to approval of subcontracting work being performed on the project.

(2) The contractor shall establish a program which will effectively promote increased participation by DBE in the performance of contracts and subcontracts. The contractor shall also designate and make known to the DOTD a liaison officer who will be responsible for the administration of the contractor's DBE program.

(3) The contractor shall enter into subcontracts or written agreements with the DBE identified on Form CS-6AAA and attachments for the kind and amount of work specified. The subcontracting requirements of the contract will apply. The contractor shall submit copies of subcontracts or agreements with DBE to DOTD upon request.

(4) The contractor shall keep each DBE informed of the construction progress schedule and allow each DBE adequate time to schedule work, stockpile materials, and otherwise prepare for the subcontract work.

(5) At any point during the project when it appears that the scheduled amount of DBE participation may not be achieved, the contractor shall provide evidence demonstrating how the goal will be met.

(6) If the contractor is unable to demonstrate to the DOTD's satisfaction that it failed to achieve the scheduled DBE participation due to reasons other than quantitative underruns or elimination of items contracted to DBE and that good faith efforts have been used to obtain the scheduled contract participation, the DOTD may withhold an amount equal to the difference between the DBE goal and the actual DBE participation achieved as damages.

(7) When the DOTD has reason to believe the contractor, subcontractor, or DBE may not be operating in compliance with the terms of these DBE provisions, to include, but not be limited to the encouragement of fronting, brokering, or not providing a commercially useful function, the DOTD will conduct an investigation of such activities with the cooperation of the parties involved. If the DOTD finds that any person or entity is not in compliance, the DOTD will notify such person or entity in writing as to the specific instances or matters found to be in noncompliance.

At the option of the DOTD, the person or entity may be allowed a specified time to correct the deficiencies noted and to achieve compliance. In the event that the person or entity cannot achieve compliance, or fails or refuses to do so, the DOTD reserves the right to initiate administrative action against the contractor which may include but not be limited to terminating the contract; withholding a percentage of the contractor's next partial payment equal to the shortfall amount until corrective action is taken; or other action the DOTD deems appropriate. The contractor has the right to appeal the DOTD's finding and rulings to the DOTD Chief Engineer.

The contractor may present additional information to clarify that previously submitted. Any new information not included in the original submittal will not be used in the final determination. The decision rendered by the DOTD Chief Engineer will be administratively final.

(8) To ensure that the obligations under subcontracts awarded to subcontractors are met, the DOTD will review the contractor's efforts to promptly pay subcontractors for work performed in accordance with the

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executed subcontracts. The contractor shall promptly pay subcontractors and suppliers, including DBE, their respective subcontract amount within 14 calendar days after the contractor receives payment from DOTD for the items satisfactorily performed by the subcontractors in accordance with Louisiana Revised Statute 9:2784. The contractor shall provide the DBE with a full accounting to include quantities paid and deductions made from the DBE's partial payment at the time the check is delivered. Retainage may be held by the contractor pending completion of a subcontractor's work in accordance with the terms of the subcontract, but must be released by the contractor within 30 calendar days after satisfactory completion of the subcontractor's work and payment for the completed work by the DOTD. Acceptance of the subcontracted work by the Project Engineer shall constitute satisfactory completion of subcontracted work. Delay or postponement of payment to the subcontractor may be imposed by the contractor when there is evidence that the subcontractor has failed to pay its labor force and suppliers for materials received and used on the project. Delay or postponement of payment must have written approval by the Project Engineer. Failure to promptly pay subcontractors or to release subcontractors' retainage shall constitute a breach of contract and after notification by the DOTD may result in (1) a deduction from the contract funds due or to become due the contractor, (2) disqualification of a contractor as non-responsive, or (3) any other such remedy under the contract as DOTD deems appropriate. All subcontracting agreements made by the contractor shall include the current payment to subcontractors provisions as incorporate in the contract. All disputes between contractors and subcontractors relating to payment of completed work or retainage shall be referred to the DBE Oversight Committee. Members of the DBE Oversight Committee are: the Chief, Construction Division; the DOTD Compliance Programs Director; and a FHWA Division Representative.

(9) The contractor shall meet the requirements of Subsection 108.01 Subletting of Contract, and shall submit DOTD Forms OMF-1A, Request to Sublet and OMF-2A, Subcontractor's EEO Certification. These forms shall be approved by DOTD before any subcontract work is performed.

(10) DOTD reserves the right to withhold any partial payment from the contractor when it is determined that a DBE is not performing a commercially useful function or that achievement of the goal is in jeopardy. Payment may be withheld in the amount of the DBE goal that is in jeopardy until either the contractor submits to DOTD a revised plan for achieving the contract goal and the plan is approved, or the DBE goal amount in question has been met.

(11) The DOTD will monitor the contractor's DBE involvement during the contract, the level of effort by the contractor in meeting or exceeding the goal requirements in the contract, the contractor's attempts to do so, and the efforts in soliciting such involvement. If, at the completion of the project, the contractor has failed to meet the DBE goal and has not demonstrated good faith efforts or obtained a waiver or reduction of the goal, DOTD will withhold an amount equal to the difference between the DBE goal and the actual DBE participation achieved as damages.

I. SUBSTITUTIONS OF DBE FIRMS AFTER AWARD

(1) The contractor shall conform to the scheduled amount of DBE participation.

(2) Contract items designated to be performed by the DBE on Form CS-6AAA and attachments shall be performed by the designated DBE or DOTD approved substitute. Substitutions of named DBE shall be approved in writing by the DOTD Compliance Programs Section. Substituted DBE shall not commence work until the contractor is able to demonstrate that the listed DBE is unable to perform because of default, overextension on other jobs, or other acceptable justification. It is not intended that a contractor's ability to negotiate a more advantageous contract with another subcontractor be considered a valid basis for change. Substitution of DBE will be allowed only when the DBE is unable to perform due to default, overextension on other jobs, or other similar justification. Evidence of good faith efforts exerted by the contractor shall be submitted to DOTD for approval. Pay items of work eliminated from the project will not diminish the contractor's DBE participation.

(3) Under no circumstances will a contractor perform work originally designated to be performed by a DBE without prior written approval from the DOTD Compliance Programs Section.

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(4) When a listed DBE is unwilling or unable to perform the items of work specified in the Form CS-6AAA and attachments, the contractor shall immediately notify the DOTD Compliance Programs Section.

When a contractor's request to be relieved of the obligation to use the named DBE results in a DBE Goal shortfall, the contractor shall immediately take steps to obtain another certified DBE to perform an equal amount of allowable credit work or make documented good faith efforts to do so. The new DBE's name and designated work shall be submitted to the DOTD for approval using Form OMF-1A, Request to Sublet, prior to proceeding with the work.

If the contractor is unable to replace a defaulting DBE with another DBE for the applicable item, a good faith effort shall be made to subcontract other items to DBE for the purpose of meeting the goal. The DOTD Compliance Programs Section will determine if the contractor made an acceptable good faith effort in awarding work to DBE firms. Any disputes concerning good faith efforts will be referred to the DBE Oversight Committee. The DOTD Compliance Programs Section may allow a waiver or adjustment of the goal as may be appropriate, depending on individual project circumstances.

J. GOOD FAITH EFFORTS: Good faith efforts are required by the contractor when the DBE goals established for a contract are not met, or at anytime during the contract when achievement of the DBE goal is in jeopardy. It is the contractor's responsibility to provide sufficient evidence for DOTD to ascertain the efforts made. The contractor shall demonstrate good faith efforts to maximize participation by DBE prior to award and during the life of the contract. Good faith efforts include personal contacts, follow-ups and earnest negotiations with DBE. DOTD will consider, at a minimum, the following efforts as relevant, although this listing is not exclusive or exhaustive and other factors and types of efforts may be relevant:

(1) Efforts made to select portions of the work to be performed by DBE in order to increase the likelihood of achieving the stated goal. It is the contractor's responsibility to make a sufficient portion of the work available to subcontractors and suppliers and to select those portions of work or materials consistent with the availability of DBE subcontractors and suppliers to assure meeting the goal for DBE participation. Selection of portions of work are required to at least equal the DBE goal in the contract.

(2) Written notification at least 14 calendar days prior to bid opening which solicits a reasonable number of DBE interested in participation in the contract as a subcontractor, regular dealer, manufacturer, or consultant for specific items of work. The contractor shall provide notice to a reasonable number of DBE that their interest in the contract is being solicited, with sufficient time to allow the DBE to participate effectively. The contractor shall seek DBE in the same geographic area from which it generally seeks subcontractors for a given project. If the contractor cannot meet the goal using DBE from the normal area, the contractor shall expand its search to a wider geographic area.

(3) Demonstrated efforts made to negotiate in good faith with interested DBE for specific items of work include:

a. The names, addresses and telephone numbers of DBE contacted. The dates of initial contact and whether initial solicitations of interest were followed-up personally, by mail, or by phone to determine the DBE interest.

b. A description of the information provided to DBE regarding the nature of the work, the plans and specifications and estimated quantities for portions of the work to be performed.

c. A statement of why additional agreements with DBE were not reached.

d. Documentation of each DBE contacted but rejected and the reasons for rejection. All bids and quotations received from DBE subcontractors whether verbal or written, and the contractor's efforts to negotiate a reasonable price shall be submitted. Rejecting a DBE's bid because it was not the lowest quotation received will not be satisfactory reason without an acceptable explanation

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of how it was determined to be unreasonable. A statement that the DBE's quotation was more than the contractor's bid price for an item or items will not be acceptable.

e. Copies of all bids and quotations received from DBE subcontractors and an explanation of why they were not used.

f. Scheduling meetings to discuss proposed work or to walk the job-site with DBE.

g. Informing DBE of any pre-bid conferences scheduled by the DOTD.

h. Assisting DBE in obtaining bonding, insurance, or lines of credit required by the contractor.

i. Evidence of DBE contacted but rejected as unqualified, accompanied by reason for rejection based on a thorough investigation of the DBEs capabilities.

j. Any additional information not included above which would aid the DOTD in evaluation of the contractor's good faith efforts.

(4) The following are examples of actions that <u>will not</u> be accepted as justification by the contractor for failure to meet DBE contract goals:

a. Failure to contract with a DBE solely because the DBE was unable to provide performance and/or payment bonds.

b. Rejection of a DBE bid or quotation based on price alone.

c. Failure to contract with a DBE because the DBE will not agree to perform items of work at the unit price bid.

d. Failure to contract with a DBE because the contractor normally would perform all or most of the work in the contract.

e. Rejection of a DBE as unqualified without sound reasons based on a thorough investigation of their capabilities.

f. Failure to make more than mail solicitations.

K. RECORD KEEPING REQUIREMENTS: The contractor shall keep such records as are necessary for the DOTD to determine compliance with the DBE contract obligations. These records shall include the names of subcontractors, including DBE; copies of subcontracts; the type of work being performed; documentation such as canceled checks and paid invoices verifying payment for work, services, and procurement; and documentation of correspondence, verbal contacts, telephone calls, and other efforts to obtain services of DBE. When requested, the contractor shall submit all subcontracts and other financial transactions executed with DBE in such form, manner and content as prescribed by DOTD. The DOTD reserves the right to investigate, monitor and/or review actions, statements, and documents submitted by any contractor, subcontractor, or DBE.

L. REPORTING REQUIREMENTS: The contractor shall submit monthly reports on DBE involvement. At the conclusion of each estimate period the contractor shall submit the Form CP-1A, CONTRACTORS MONTHLY DBE PARTICIPATION, to the project engineer to verify actual payments to DBE for the previous month's reporting period. These reports will be required until all DBE subcontracting activity is complete or the DBE Goal has been achieved. Reports are required regardless of whether or not DBE activity has occurred in the monthly reporting period.

Upon completion of all DBE participation, the contractor shall submit the Form CP-2A, DBE FINAL REPORT, to the DOTD Compliance Programs Section with a copy to the project engineer detailing all DBE subcontract payments. When the actual amount paid to DBE is less than the award amount, a complete explanation of the

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difference is required. If the DBE goal is not met, documentation supporting good faith efforts shall be submitted. Failure to submit the required reports will result in the withholding of partial payments to the contractor until the reports are submitted. All payments due subcontractors which affect DBE goal attainment, including retainage, shall be paid by the contractor before the DOTD releases the payment/performance/retainage bond.

The DOTD reserves the right to conduct an audit of DBE participation prior to processing the final estimate and at any time during the work.

M. APPLICABILITY OF PROVISIONS TO DBE BIDDERS: These provisions are applicable to all bidders including DBE bidders. The DBE bidder is required to perform at least 50 percent of the work of the contract with its own work force in accordance with the terms of the contract, normal industry practices, and the DOTD DBE Program. If the DBE bidder sublets any portion of the contract, the DBE bidder shall comply with provisions regarding contractor and subcontractor relationships. A DBE prime contractor may count only the contract amount toward DBE participation for work that he/she actually performs and any amounts awarded to other certified DBE subcontractors that perform a commercially useful function.

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FORM CS-6AAA
BIDDERS ASSURANCE OF DBE PARTICIPATION

S.P.#	**Contract Amount: $**
F.A.P.#	**DBE Goal Percentage**
Letting Date:	**DBE Goal Dollar Value: $**

By its signature affixed hereto, the contractor assures the DOTD that one of the following situations exists (check only one box):

☐ The project goal will be met or exceeded.
☐ A portion of the project goal can be met, as indicated below. Good faith effort documentation is attached. DBE Goal Participation Amount_____ % $_____.

The contractor certifies that each firm listed is currently on the DBE list as maintained by DOTD and is certified for the items of work shown on the attachment(s). The contractor having assured that the goal for DBE participation prescribed in the special provisions will be met or exceeded, or that the portion of the DBE goal will be met or exceeded, attests that negotiations are in progress or complete and that a subcontract(s) will be executed with the firm(s) listed below within 60 calendar days after award of contract.

NAME OF DBE FIRM(S)	INTENDED SUBCONTRACT PRICE[1]

[1]For supplier list only the value of the subcontract that can be credited toward the DBE goal. This amount shall be equal to the amount shown for the supplier on the Attachment to Form CS-6AAA. Details are listed on the attachment(s) to Form CS-6AAA.

The contractor assessed the capability and availability of named firm(s) and sees no impediment to prevent award of subcontract(s) as described on the attachments.

The contractor shall evaluate the subcontract work or services actually performed by the DBE to ensure that a commercially useful function is being served in accordance with the Required Contract Provisions for DBE Participation in Federal Aid Construction Contracts. The contractor understands that no credit toward the DBE goal will be allowed for DBE that do not perform a commercially useful function. The contractor has a current copy of the DOTD DBE Program Implementation Guide which details the methods of operation that are acceptable on projects containing DBE goals. Copies of this guide may be obtained by calling the DOTD Compliance Programs Section at (225) 379-1382.

NAME OF CONTRACTOR	
AUTHORIZED SIGNATURE	
TYPED OR PRINTED NAME	
TITLE	
CONTRACTOR'S DBE LIAISON OFFICER (typed or printed name)	
PHONE NUMBER	
DATE	TAX ID#

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ATTACHMENT TO FORM CS-6AAA

Contractor shall submit a separate attachment for each DBE listed on Form CS-6AAA.

S.P.#	F.A.P.#
NAME OF DBE	
PHONE #	CONTACT PERSON:

Fully describe the work to be performed (furnish materials and install, labor only, supply only, manufacture, hauling, etc.), quantity, unit price, and dollar value for each item to be subcontracted to the DBE listed below.

ITEM NO.	QUANTITY/UNIT PRICE/DESCRIPTION OF WORK TO BE PERFORMED	$ VALUE

Describe the types of assistance, if any, the contractor will provide to any DBE on this project.

The contractor and DBE subcontractor attest that a subcontract will be executed for the items of work listed above. The contractor acknowledges that it will only receive credit toward the DB goal if the subcontractor performs a commercially useful function. The DBE understands that it is responsible for performing a commercially useful function.

DBE CONTRACTOR'S SIGNATURE	
TYPED OR PRINTED NAME	
TITLE	
DATE	TAX ID#
PRIME CONTRACTOR'S SIGNATURE	
TYPED OR PRINTED NAME	
TITLE	
DATE	

02/07

FOR INFORMATION ONLY

FORM CP-1A
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
CONTRACTOR'S MONTHLY DBE PARTICIPATION

STATE PROJECT NO.	CONTRACTOR:
FEDERAL AID PROJECT NO.	
ESTIMATE NO.	REPORT PERIOD: _____ TO_____

DOTD CERTIFIED DBE SUBCONTRACTOR OR SUPPLIER	ITEMS PERFORMED AND PAID THIS ESTIMATE PERIOD	AMOUNT PAID THIS MONTH[1]	TOTAL PAID TO DATE[1]

[1]For suppliers, list total amount paid and the 60 percent value counted toward the goal.

This report covers the previous estimate period and shall be submitted to the Project Engineer with the current month's pay estimate. Estimates will be withheld until required form is submitted. Questions should be directed to the DOTD Compliance Programs Section at (225) 379-1382.

The Contractor certifies that the above amounts <u>were paid</u> to the listed DBEs and that documentation of these payments is available for inspection.

Project Engineer has reviewed this form. _____ (Signature of Project Engineer).

Authorized Signature	
Typed or Printed Name	
Title	
Phone No.	
Date	

02/07

FOR INFORMATION ONLY

FORM CP-2A
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DBE FINAL REPORT

STATE PROJECT NO.	DBE GOAL AMOUNT: $	CONTRACTOR:
FEDERAL PROJECT NO.	CONTRACT AMOUNT: $	
PARISH(ES)	LETTING DATE:	

DOTD CERTIFIED DBE SUBCONTRACTOR OR SUPPLIER	ITEMS PERFORMED AND PAID	TOTAL DOLLAR AMOUNT PAID TO SUB OR SUPPLIER (60%)

This is to certify that $_____ has been paid to Disadvantaged Business Enterprise Subcontractors/Suppliers listed above.

Authorized Signature	
Typed or Printed Name	
Title	
Date	

Parish or County _____ State of _____

Subscribed and sworn to, before me, this _____ day of _____, A.D. 20_____

Notary Public _____

My commission expires: _____

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02/07

GENERAL DECISION: **LA20070011** 02/09/2007 LA11

Date: February 9, 2007
General Decision Number: **LA20070011** 02/09/2007

Superseded General Decision Number: LA20030011

State: Louisiana

Construction Types: Highway

Counties: Acadia, Ascension, Calcasieu, East Baton Rouge, Lafayette, Lafourche, Livingston, St Landry, St Martin, Terrebonne and West Baton Rouge Counties in Louisiana.

HIGHWAY CONSTRUCTION PROJECTS (does not include building structures in rest area projects)

Modification Number	Publication Date
0	02/09/2007

* SULA2004-015 08/03/2004

	Rates	Fringes
Carpenter (including formbuilding/formsetting)	$ 11.88	
Cement Mason/Concrete Finisher	$ 12.58	
Electrician (including traffic signal wiring and installation)	$ 12.36	
Ironworker, Reinforcing	$ 12.33	
Laborers		
Asphalt Raker	$ 8.95	
General including landscape/erosion	$ 8.48	
Guardrail	$ 8.21	1.80
Jack Hammer/Vibrator	$ 8.92	
Mason Tender	$ 8.63	
Pipelayer	$ 9.71	1.12
Striping/Pavement Marker including paint striping and attachment of reflector buttons	$ 7.93	
Traffic Control including flagger, sign placement, barricades, and cones	$ 8.15	
Painter, Brush, Spray and Roller	$ 13.40	2.55
Piledriverman	$ 13.97	
Power Equipment Operators		
Air Compressor	$ 9.04	
Asphalt Distributor	$ 9.11	
Asphalt Paving Machine	$ 13.30	0.18
Asphalt Screed	$ 11.86	
Asphalt/Aggregate Spreader	$ 10.49	
Backhoe/Excavator	$ 11.31	

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Bobcat/Skid Loader.....$ 10.00
Broom/Sweeper.....$ 9.30
Bulldozer.....$ 12.00
Concrete Saw.....$ 9.00
Crane.....$ 14.82
Front End Loader.....$ 9.60
Mechanic.....$ 11.97
Milling/Cold Planing Machine$ 13.08
Motor Grade/Blade.....$ 11.68
MTV/Shuttlebuggy.....$ 10.43
Post Drive including
guardrails.....$ 10.96
Roller.....$ 9.97
Stabilizer.....$ 9.44
Trackhoe.....$ 12.59
Tractor.....$ 11.90
Trenching/Boring Machine....$ 8.50
Truck drivers
Dump (all types).....$ 10.19
Flatbed.....$ 9.46
Lowboy.....$ 12.48
Pickup including paint truck$ 9.90
Tack.....$ 9.28
Water.....$ 10.60

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests

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for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

FOR INFORMATION ONLY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL RETURNABLES FOR

FEDERAL AID PROJECT

STATE PROJECT NO. 742-55-0004
WESTSIDE BLVD. EXTENSION
(MARIE DRIVE TO ST. LOUIS CANAL ROAD)
TERREBONNE PARISH

FOR INFORMATION ONLY

BID BOND

A Proposal/Bid Guaranty is only required when the bidder's total bid amount as calculated by the Department in accordance with Subsection 103.01 is greater than $250,000. *(See Section 102 of the Project Specifications)*

_____, as Principal (Bidder) and _____, as Surety, are bound unto, _____, (hereinafter called the Contracting Agency) in the sum of five percent (5 %) of the bidder's total bid amount as calculated by the Department for payment, of which the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, as solidary obligors.

Signed and sealed this _____ day of _____, 20_____.

The condition of this obligation is such that, whereas the Principal has submitted a bid to the Contracting Agency on a contract for the construction of **STATE PROJECT NO. 742-55-0004, FEDERAL AID PROJECT NO. 3035(002), WESTSIDE BLVD. EXTENSION (MARIE DRIVE TO ST. LOUIS CANAL ROAD), located in TERREBONNE PARISH,** if the bid is accepted and the Principal, within the specified time, enters into the contract in writing and gives bond with Surety acceptable to the Contracting Agency for payment and performance of said contract, this obligation shall be void; otherwise to remain in effect.

_____	_____
Principal (Bidder or First Partner to Joint Venture)	If a Joint Venture, Second Partner
By _____	By _____
Authorized Officer-Owner-Partner	Authorized Officer-Owner-Partner
_____	_____
Typed or Printed Name	Typed or Printed Name

_____
Surety

By _____ (Seal)
Agent or Attorney-in-Fact

_____
Typed or Printed Name

To receive a copy of the contract and subsequent correspondence / communication from LA DOTD or the contracting agency, with respect to the bid bonds, the following information must be provided:

_____	_____
Bonding Agency or Company Name	Address
_____	_____
Agent or Representative	Phone Number / Fax Number

FOR INFORMATION ONLY

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SCHEDULE OF ITEMS

LEAD PROJECT: 742-55-0004
OTHER PROJECTS:

DATE: 05/16/07 09:57 PAGE: 1

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
201-01	LUMP	LUMP SUM	CLEARING & GRUBBING _____ DOLLARS _____ CENTS
202-01	LUMP	LUMP SUM	REMOVAL OF STRUCTURES & OBSTRUCTIONS _____ DOLLARS _____ CENTS
202-02-C	1,276	SQUARE YARD	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT _____ DOLLARS _____ CENTS
202-02-E	314.0	LINEAR FOOT	REMOVAL OF CONCRETE CURBS _____ DOLLARS _____ CENTS
203-01	13,299	CUBIC YARD	GENERAL EXCAVATION _____ DOLLARS _____ CENTS
203-02	30	CUBIC YARD	DRAINAGE EXCAVATION _____ DOLLARS _____ CENTS

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LEAD PROJECT: 742-55-0004
OTHER PROJECTS:

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
203-03	76	CUBIC YARD	MUCK EXCAVATION _____ DOLLARS _____ CENTS
203-04	9,835	CUBIC YARD	EMBANKMENT _____ DOLLARS _____ CENTS
203-05	1,104	CUBIC YARD	NONPLASTIC EMBANKMENT _____ DOLLARS _____ CENTS
203-08-A	2,000	CUBIC YARD	BORROW (VEHICULAR MEAS.)(SELECTED SOILS) _____ DOLLARS _____ CENTS
204-01	100.0	CUBIC YARD	TEMPORARY SANDBAGGING _____ DOLLARS _____ CENTS
204-02	20	EACH	TEMPORARY HAY OR STRAW BALES _____ DOLLARS _____ CENTS

FOR INFORMATION ONLY

LEAD PROJECT: 742-55-0004
OTHER PROJECTS:

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
204-05-B	4	EACH	TEMPORARY SEDIMENT CHECK DAMS (STONE) _____ DOLLARS _____ CENTS
204-06	5,600	LINEAR FOOT	TEMPORARY SILT FENCING _____ DOLLARS _____ CENTS
302-02-C-01	4,598.4	SQUARE YARD	CLASS II BASE COURSE (AVG 5" THICK) (CRUSHED STONE OR RECYCLED PCCP) _____ DOLLARS _____ CENTS
302-02-C-02	20,111.9	SQUARE YARD	CLASS II BASE COURSE (10" THICK) (CRUSHED STONE OR RECYCLED PCCP) _____ DOLLARS _____ CENTS
304-01	397.52	TON	LIME _____ DOLLARS _____ CENTS
304-04-D	25,240	SQUARE YARD	LIME TREATMENT (TYPE D) (12" THICK) _____ DOLLARS _____ CENTS

FOR INFORMATION ONLY

LEAD PROJECT: 742-55-0004
OTHER PROJECTS:

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
401-02	20	CUBIC YARD	AGGREGATE SURFACE COURSE (ADJUSTED VEHICULAR MEASUREMENT) _____ DOLLARS _____ CENTS
502-01	961.7	TON	SUPERPAVE ASPHALTIC CONCRETE _____ DOLLARS _____ CENTS
601-01-I	13,734.1	SQUARE YARD	PORTLAND CEMENT CONCRETE PAVEMENT (8" THICK) _____ DOLLARS _____ CENTS
601-02-I	5,113.1	SQUARE YARD	PORTLAND CEMENT CONCRETE PAVEMENT (8" THICK)(CROSSOVERS & TURNOUTS) _____ DOLLARS _____ CENTS
601-04	25	EACH	PORTLAND CEMENT CONCRETE PAVEMENT CORING _____ DOLLARS _____ CENTS
701-04-E	274	LINEAR FOOT	STORM DRAIN PIPE ARCH (30" EQUIV. RCPA) _____ DOLLARS _____ CENTS

FOR INFORMATION ONLY

LEAD PROJECT: 742-55-0004
OTHER PROJECTS:

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
701-04-F	328	LINEAR FOOT	STORM DRAIN PIPE ARCH (36" EQUIV. RCPA) _____ DOLLARS _____ CENTS
701-04-G	48	LINEAR FOOT	STORM DRAIN PIPE ARCH (42" EQUIV. RCPA) _____ DOLLARS _____ CENTS
702-02-C	6	EACH	MANHOLES (R-CB-11 MOD) _____ DOLLARS _____ CENTS
702-04-A	2	EACH	ADJUSTING MANHOLES _____ DOLLARS _____ CENTS
702-08-E	5	EACH	SIDE DRAIN SAFETY END (TYPE 2)(30" EQUIV.) _____ DOLLARS _____ CENTS
702-08-F	6	EACH	SIDE DRAIN SAFETY END (TYPE 2)(36" EQUIV.) _____ DOLLARS _____ CENTS

FOR INFORMATION ONLY

LEAD PROJECT: 742-55-0004
OTHER PROJECTS:

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
702-08-G	1	EACH	SIDE DRAIN SAFETY END (TYPE 2)(42" EQUIV.) _____ DOLLARS _____ CENTS
706-02	38.7	SQUARE YARD	CONCRETE DRIVE (8" THICK) _____ DOLLARS _____ CENTS
707-01	5,116.8	LINEAR FOOT	CONCRETE CURB _____ DOLLARS _____ CENTS
708-01	8	EACH	RIGHT-OF-WAY MONUMENT _____ DOLLARS _____ CENTS
713-01	LUMP	LUMP SUM	TEMPORARY SIGNS & BARRICADES _____ DOLLARS _____ CENTS
717-01	382	POUND	SEEDING _____ DOLLARS _____ CENTS

FOR INFORMATION ONLY

LEAD PROJECT: 742-55-0004
OTHER PROJECTS:

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
718-01	6,341	POUND	FERTILIZER _____ DOLLARS _____ CENTS
722-01	1	EACH	PROJECT SITE LABORATORY _____ DOLLARS _____ CENTS
726-01	382.0	CUBIC YARD	BEDDING MATERIAL _____ DOLLARS _____ CENTS
727-01	LUMP	LUMP SUM	MOBILIZATION _____ DOLLARS _____ CENTS
728-01	80.0	LINEAR FOOT	JACKED OR BORED PIPE (16" DIA., STEEL, 3/8" WALL) _____ DOLLARS _____ CENTS
729-01	154.8	SQUARE FOOT	SIGN (TYPE A) _____ DOLLARS _____ CENTS

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ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
729-21	25	EACH	U-CHANNEL POST _____ DOLLARS _____ CENTS
731-02	195	EACH	REFLECTORIZED RAISED PAVEMENT MARKERS _____ DOLLARS _____ CENTS
732-01-A	10,540	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (4" WIDTH) _____ DOLLARS _____ CENTS
732-01-C	295	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (8" WIDTH) _____ DOLLARS _____ CENTS
732-01-E	120	LINEAR FOOT	PLASTIC PAVEMENT STRIPING (24" WIDTH) _____ DOLLARS _____ CENTS
732-03-A-01	1.064	MILE	PLASTIC PVMT STRIPING (BROKEN LINE)(4"WIDTH) _____ DOLLARS _____ CENTS

FOR INFORMATION ONLY

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
732-04-A	8	EACH	PLASTIC PAVEMENT LEGENDS & SYMBOLS (ARROW) _____ DOLLARS _____ CENTS
732-04-C	8	EACH	PLASTIC PAVEMENT LEGENDS & SYMBOLS (ONLY) _____ DOLLARS _____ CENTS
740-01	LUMP	LUMP SUM	CONSTRUCTION LAYOUT _____ DOLLARS _____ CENTS
741-01	3	EACH	ADJUSTING WATER VALVE AND METER BOX _____ DOLLARS _____ CENTS
744-01	LUMP	LUMP SUM	TRAFFIC CONTROL MANAGEMENT _____ DOLLARS _____ CENTS
S-001	390	INCH/FOOT	SAW CUT EXISTING CONCRETE _____ DOLLARS _____ CENTS

FOR INFORMATION ONLY

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-002	3	EACH	ADJUSTING WATERLINES _____ DOLLARS _____ CENTS
S-003	LUMP	LUMP SUM	INSTALL 8" P.E. SEWER FORCE MAIN _____ DOLLARS _____ CENTS
S-004	6,000	SQ. YD.	GEOGRID _____ DOLLARS _____ CENTS

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CONSTRUCTION PROPOSAL SIGNATURE AND EXECUTION FORM

THIS FORM, THE SCHEDULE OF ITEMS, AND THE PROPOSAL GUARANTY MUST BE COMPLETED AS INDICATED AND SUBMITTED TO THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (DOTD) TO CONSTITUTE A VALID BID

STATE PROJECT NO. **742-55-0004**

FEDERAL AID PROJECT NO. **3035(002)**

NAME OF PROJECT **WESTSIDE BLVD. EXTENSION (MARIE DRIVE TO ST. LOUIS CANAL ROAD)**

I (WE) HEREBY CERTIFY THAT I (WE) HAVE CAREFULLY EXAMINED THE PROPOSAL, PLANS AND SPECIFICATIONS, INCLUDING ANY AND ALL ADDENDA, AND THE SITE OF THE ABOVE PROJECT AND AM (ARE) FULLY COGNIZANT OF ALL PROPOSAL DOCUMENTS, THE MASTER COPY OF WHICH IS ON FILE AT DOTD HEADQUARTERS IN BATON ROUGE, LA., AND ALL WORK, MATERIALS AND LABOR REQUIRED THEREIN, AND AGREE TO PERFORM ALL WORK, AND SUPPLY ALL NECESSARY MATERIALS AND LABOR REQUIRED FOR SUCCESSFUL AND TIMELY COMPLETION OF THE ABOVE PROJECT AND TO ACCEPT THE SUMMATION OF THE PRODUCTS OF THE UNIT PRICES BID ON THE SCHEDULE OF ITEMS ATTACHED HERETO AND MADE A PART HEREOF MULTIPLIED BY THE ACTUAL QUANTITY OF UNIT OF MEASURE PERFORMED FOR EACH ITEM, AS AUDITED BY DOTD, AS FULL AND FINAL PAYMENT FOR ALL WORK, LABOR AND MATERIALS NECESSARY TO COMPLETE THE ABOVE PROJECT, SUBJECT TO INCREASE ONLY FOR PLAN CHANGES (CHANGE ORDERS) APPROVED BY THE DOTD CHIEF ENGINEER OR HIS DESIGNEE. THIS BID IS SUBMITTED IN ACCORDANCE WITH THE GENERAL BIDDING REQUIREMENTS IN THE CONSTRUCTION PROPOSAL AND ALL SPECIAL PROVISIONS, PLANS, SUPPLEMENTAL SPECIFICATIONS, AND THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2000 EDITION). I (WE) UNDERSTAND THAT THE SUMMATION OF THE PRODUCTS OF THE UNIT PRICES BID ON THE SCHEDULE OF ITEMS MULTIPLIED BY THE ESTIMATED QUANTITY OF UNIT OF MEASURE FOR EACH ITEM, ALONG WITH ANY OTHER FACTORS SPECIFIED TO BE APPLICABLE SUCH AS CONSTRUCTION TIME AND/OR LANE RENTAL, SHALL BE THE BASIS FOR THE COMPARISON OF BIDS. I (WE) UNDERSTAND THAT THE SCHEDULE OF ITEMS MUST CONTAIN UNIT PRICES WRITTEN OUT IN WORDS AND THAT THE SCHEDULE OF ITEMS SUBMITTED AS PART OF THIS BID IS ON THE FORM SUPPLIED BY DOTD IN THE BID PROPOSAL. MY (OUR) PROPOSAL GUARANTY IN THE AMOUNT SPECIFIED FOR THE PROJECT IS ATTACHED HERETO AS EVIDENCE OF MY (OUR) GOOD FAITH TO BE FORFEITED IF THIS BID IS ACCEPTED BY DOTD AND I (WE) FAIL TO COMPLY WITH ANY REQUIREMENT NECESSARY FOR AWARD AND EXECUTION OF THE CONTRACT, AS WELL AS, SIGN AND DELIVER THE CONTRACT AND PAYMENT/PERFORMANCE/RETAINAGE BOND AS REQUIRED IN THE SPECIFICATIONS.

NONCOLLUSION DECLARATION (APPLICABLE TO FEDERAL-AID PROJECTS)

I (WE) DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND THE STATE OF LOUISIANA THAT I (WE) HAVE NOT DIRECTLY OR INDIRECTLY, ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THE CONTRACT FOR THIS PROJECT NOR VIOLATED LA. R.S. 48:254.

BIDDER'S DBE GOAL STATEMENT (APPLICABLE TO DBE GOAL PROJECTS)

IF THIS PROJECT IS DESIGNATED BY SPECIAL PROVISION AS A DISADVANTAGED BUSINESS ENTERPRISE (DBE) GOAL PROJECT IN ACCORDANCE WITH THE DBE PROVISIONS OF THIS CONTRACT, THE BIDDER ASSURES DOTD THAT HE/SHE WILL MEET OR EXCEED THE DBE CONTRACT GOAL, OR IF THE BIDDER CANNOT MEET THE REQUIRED DBE GOAL, THE BIDDER ASSURES DOTD THAT HE/SHE HAS MADE AND CAN DOCUMENT GOOD FAITH EFFORTS MADE TOWARDS MEETING THE GOAL REQUIREMENT IN ACCORDANCE WITH THE CONTRACT AND DBE PROGRAM MANUAL INCORPORATED HEREIN BY REFERENCE.

THE APPARENT LOW BIDDER SHALL COMPLETE AND SUBMIT TO THE DOTD COMPLIANCE PROGRAMS OFFICE, FORM CS-6AAA AND ATTACHMENT(S) AND, IF NECESSARY, DOCUMENTATION OF GOOD FAITH EFFORTS MADE BY THE BIDDER TOWARD MEETING THE GOAL, WITHIN TEN BUSINESS DAYS AFTER THE OPENING OF BIDS FOR THIS PROJECT. RESPONSIVENESS OF INFORMATION SUPPLIED IN THIS SECTION OF THIS CONSTRUCTION PROPOSAL SIGNATURE AND EXECUTION FORM IS GOVERNED BY THE DBE REQUIREMENTS INCLUDED WITHIN THE SPECIFICATIONS AND DBE PROGRAM MANUAL.

CERTIFICATION OF EMPLOYMENT OF LOUISIANA RESIDENTS TRANSPORTATION INFRASTRUCTURE MODEL FOR ECONOMIC DEVELOPMENT (TIME) PROJECTS (APPLICABLE TO TIME PROJECTS)

IF THIS PROJECT IS DESIGNATED BY SPECIAL PROVISION AS A TRANSPORTATION INFRASTRUCTURE MODEL FOR ECONOMIC DEVELOPMENT (TIME) PROJECT AS DEFINED IN ACT NO. 16 OF THE 1989 FIRST EXTRAORDINARY SESSION OF THE LEGISLATURE WHICH ENACTED PART V OF CHAPTER 7 OF SUBTITLE II OF TITLE 47 OF THE LOUISIANA REVISED STATUTES OF 1950, COMPRISED OF R.S. 47:820.1 THROUGH 820.6.

THE BIDDER CERTIFIES THAT AT LEAST 80 PERCENT OF THE EMPLOYEES EMPLOYED ON THIS TIME PROJECT WILL BE LOUISIANA RESIDENTS IN ACCORDANCE WITH LOUISIANA R.S. 47:820.3.

NON PARTICIPATION IN PAYMENT ADJUSTMENT (ASPHALT CEMENT AND FUELS) STATEMENT

IF THIS PROJECT IS DESIGNATED BY SPECIAL PROVISION AS BEING SUBJECT TO PAYMENT ADJUSTMENT FOR ASPHALT CEMENT AND/OR FUELS, THE BIDDER HAS THE OPTION OF REQUESTING EXCLUSION FROM SAID PAYMENT ADJUSTMENT PROVISIONS THAT ARE ESTABLISHED BY SPECIAL PROVISION ELSEWHERE HEREIN.

IF THE BIDDER DESIRES TO BE EXCLUDED FROM THESE PAYMENT ADJUSTMENT PROVISIONS,

THE BIDDER IS REQUIRED TO MARK HERE ☐

FAILURE TO MARK THIS BOX PRIOR TO BID OPENING WILL CONSTITUTE FORFEITURE OF THE BIDDER'S OPTION TO REQUEST EXCLUSION.

FOR INFORMATION ONLY

STATE PROJECT NO. **742-55-0004**

BIDDER SIGNATURE REQUIREMENTS (APPLICABLE TO ALL PROJECTS)

THIS BID FOR THE CAPTIONED PROJECT IS SUBMITTED BY:

Name of Principal (Individual, Firm, Corporation, or Joint Venture)

If Joint Venture, Name of First Partner

(Louisiana Contractor's License Number of Bidder or First Partner to Joint Venture)

(Business Street Address)

(Business Mailing Address, if different)

(Area Code and Telephone Number of Business)

(Telephone Number and Name of Contact Person)

(Telecopier Number, if any)

If Joint Venture, Name of Second Partner

(Louisiana Contractor's License Number of Second Partner to Joint Venture)

(Business Street Address)

(Business Mailing Address, if different)

(Area Code and Telephone Number of Business)

(Telephone Number and Name of Contact Person)

(Telecopier Number, if any)

ACTING ON BEHALF OF THE BIDDER, THIS IS TO ATTEST THAT THE UNDERSIGNED DULY AUTHORIZED REPRESENTATIVE OF THE ABOVE CAPTIONED FIRM, CORPORATION OR BUSINESS, BY SUBMISSION OF THIS BID, AGREES AND CERTIFIES THE TRUTH AND ACCURACY OF ALL PROVISIONS OF THIS PROPOSAL, INCLUSIVE OF THE REQUIREMENTS, STATEMENTS, DECLARATIONS AND CERTIFICATIONS ABOVE AND IN THE SCHEDULE OF ITEMS AND PROPOSAL GUARANTY. EXECUTION AND SIGNATURE OF THIS FORM AND SUBMISSION OF THE SCHEDULE OF ITEMS AND PROPOSAL GUARANTY SHALL CONSTITUTE AN IRREVOCABLE AND LEGALLY BINDING OFFER BY THE BIDDER.

(Signature)

(Printed Name)

(Title)

(Date of Signature)

(Signature)

(Printed Name)

(Title)

(Date of Signature)

CONTRACTOR'S TOTAL BASE BID $ _____

IT IS AGREED THAT THIS TOTAL, DETERMINED BY THE BIDDER, IS FOR PURPOSES OF OPENING AND READING BIDS ONLY, AND THAT THE LOW BID FOR THIS PROJECT WILL BE DETERMINED FROM THE EXTENSION AND TOTAL OF THE BID ITEMS BY DOTD.

CS-14AA
04/01

FOR INFORMATION ONLY