STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL

FOR
CITY OF RUSTON

FEDERAL AID PROJECT

STATE PROJECT NOS. 001-08-0036 and 744-31-0009
RUSTON DOWNTOWN DISTRICT REVITALIZATION
ROUTE US 167
LINCOLN PARISH

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

20 JANUARY 2009

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NOTICE TO CONTRACTORS (11/08)

Electronic bids and electronic bid bonds for the following project will be downloaded by the Department of Transportation and Development (DOTD) on **Wednesday, February 25, 2009**. **Paper bids and paper bid bonds will not be accepted.** Electronic bids and electronic bid bonds must be submitted through www.bidx.com prior to the electronic bidding deadline. Beginning at 10:00 a.m., all bids will be downloaded and posted online at http://www.dotd.la.gov/cgi-bin/construction.asp. No bids are accepted after 10:00 a.m.

DBE GOAL PROJECT
STATE PROJECT NOS. 001-08-0036 and 744-31-0009
FEDERAL AID PROJECT NO. 3104(509)
DESCRIPTION: RUSTON DOWNTOWN DISTRICT REVITALIZATION
ROUTE: US 167
PARISH: LINCOLN
LENGTH: 0.179 mile.
TYPE: CONCRETE SIDEWALKS, DECORATIVE STREET LIGHTING, NEW WATER MAIN INSTALLATION AND RELATED WORK.
LIMITS: State Project No. 001-08-0036: LOCATED ON ROUTE US 167 FROM PARK AVE to ALABAMA AVE.
LIMITS: State Project No. 744-31-0009: LOCATEDON ROUTE US 167 FROM PARK AVE TO ALABAMA AVE.
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT FOR: CITY OF RUSTON.
ESTIMATED COST RANGE: $1,000,000 to $2,500,000
PROJECT ENGINEER: HUNT, GUILLOT & ASSOCIATES, L.L.C.; P. O. Box 580, Ruston, LA 71273-0580, (318)255-6825.
DOTD COORDINATOR: TO BE DETERMINED
PROJECT MANAGER: HORTON, VALERIE.

Bids must be prepared and submitted in accordance with Section 102 of the 2006 Louisiana Standard Specifications for Roads and Bridges as amended by the project specifications, and must include all information required by the proposal.

Paper 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: sharonknight@dotd.la.gov, Phone (225) 379-1111, FAX: (225) 379-1714, or by written requests sent to the Louisiana Department of Transportation and Development, Project Control 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. All Addenda, Amendments, Letters of Clarification, and Withdrawal Notices will be posted online. **Paper notices will not be distributed.** Construction proposal information may be accessed via the Internet at www.dotd.la.gov. From the LA DOTD home page, select the following options: **Doing Business with DOTD**, then **Construction Letting Information**. Once the **Construction Letting Information** page appears, find the **Notice to Contractors** box. From the drop down menu, select the appropriate letting date and press the "Go To button to open the page, which provides a listing of all projects to be let and a **Construction Proposal Documents** link for each project. All project specific notices are found here. **It will be the responsibility of the bidder to check for updates.** If paper copies of the proposal are desired, the proposal cost is $25.00. If paper copies of the plans are desired, the cost of the plans is **$6.50** for complete plans. The purchase price for paper plans and proposals is non-refundable. Additionally, 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.

All questions concerning the plans shall be submitted via the Electronic Plans Distribution Center known as **Falcon**. Questions submitted within 96 hours of the bid deadline may not be answered prior to bidding. Falcon may be accessed via the Internet at www.dotd.la.gov. From the home page, select ***Doing Business with DOTD*** from the left-hand menu, then select ***Construction Letting Information*** on the pop-up menu. On the Construction Letting Information page, select the link, ***DOTD's Plan Room***. Login to Falcon (or request an ID if a first-time user). Once logged in, you will have access to view Project Information, submit a question concerning the project, and view the plans. All submitted questions will be forwarded by email to the Project Manager and the Project Engineer for a response.

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.

GENERAL BIDDING REQUIREMENTS (08/06): The specifications, contract and bonds governing the construction of the work are the 2006 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.

MANDATORY ELECTRONIC BIDS AND ELECTRONIC BID BONDS SUBMISSION (10/08): This project requires mandatory electronic bidding. All Specifications, whether Standard, Supplemental or Special Provisions, are hereby amended to delete any references regarding paper bids and the ability to submit paper bid forms.

The contractor shall register online to be placed on the Louisiana Department of Transportation and Development (LA DOTD) prospective bidders list or for information only list.

Modifications to proposal documents will be posted on the Department's website at the following URL address: www.dotd.la.gov/cgi-bin/construction.asp.

LA DOTD shall not be responsible if the bidder cannot complete and submit a bid due to failure or incomplete delivery of the files submitted via the internet.

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 **12** 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).

BUY AMERICA PROVISIONS (03/95): 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.

DEFINITIONS AND TERMS (07/07): Subsection 101.03 of the 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.

The definition for "Proposal/ Bid Guaranty" is deleted and following substituted.

Proposal/Bid Guaranty. The required security furnished with a bid. The only form of security acceptable is a Bid Bond.

MAINTENANCE OF TRAFFIC (11/13/08): Subsection 104.03 of the 2006 Standard Specifications is amended to include the following requirements.

The contractor shall provide for and maintain through and local traffic at all times and shall conduct his operations in such manner as to cause the least possible interference with traffic at junctions with roads, streets and driveways.

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. When the Shoulder Wedge is required, the contractor shall blade and shape existing shoulder material to form a uniform surface under the wedge prior to placement of the asphaltic concrete overlay.

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 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.

SUBLETTING OF CONTRACT (01/83): In accordance with Subsection 108.01 of the Standard Specifications, the following items are designated as "Specialty Items":

Item 729-01, Sign (Type A)
Item 729-08-A, Mounting (2 ½" Post)
Item 730-05, Light Pole (14" – 0" Mount Vernon W/ Fluted Shaft)
Item 730-07, Luminaire (Holophane GV175MH00XX8RN) (175 Watt Clear MH With Lunar Optics)
Item 732-04-F, Plastic Pavement Legends & Symbols (Handicap)
Item 732-05, Removal of Existing Markings
Item 737-03-A, Painted Traffic Striping (Solid Line) (4" Width)
Item 737-03-D, Painted Traffic Striping (Solid Line) (12" Width)

PROSECUTION OF WORK (12/08): Subsection 108.04, Prosecution of Work of the Standard Specifications as amended by the supplemental specifications thereto, is further amended as follows.

108.04 PROSECUTION OF WORK.

Subpart (a), General is deleted and the following substituted.

(a) General: The contractor shall provide sufficient materials, equipment and labor to complete the project in accordance with the plans and specifications within the contract time. If the completed work is behind the approved progress schedule, the contractor shall take immediate steps to restore satisfactory progress and shall not transfer equipment or forces from uncompleted work without prior notice to, and approval of, the engineer. Each item of work shall be prosecuted to completion without delay. If prosecution of the work is discontinued for an extended period of time, the contractor shall give the engineer written notice at least 24 hours before resuming operations. The contractor's progress will be determined monthly at the time of each partial estimate, and will be based on the total amount earned by the contractor as reflected by the partial estimate. If the contractor's progress is behind more than 20 percent behind the elapsed contract time, the contractor may be notified that he is not prosecuting the work in an acceptable manner. If requested by the Department the contractor must meet with and provide the project engineer with an acceptable written plan which details how the contractor will re-gain lost progress and prosecute remaining work. If the contractor's progress is more than 30 percent behind the elapsed contract time, the contractor and the surety will be notified that he is not prosecuting the work in an acceptable manner. The contractor must meet with and provide the project engineer with an acceptable written plan which details how the contractor will re-gain lost progress and prosecute remaining work.

Subpart (b), Disqualification is deleted and the following substituted.

(b) Disqualification: A contractor who is in default in accordance with Subsection 108.09(a)(1) of and progress is deficient by 10 percent or more shall be immediately disqualified. The contractor shall remain disqualified until the project has received a final inspection and has been recommended for final acceptance. 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.

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 not be considered and will be returned.

PAYMENT ADJUSTMENT (12/08): Section 109, Measurement and Payment of the 2006 Standard Specifications and the supplemental specifications thereto, is amended to add the following.

This project is designated for payment adjustment for asphalt cements and fuels in accordance with Subsection 109.09 as follows.

109.09 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 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 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. For Asphalt Cements not listed above, the following shall be considered equivalent for payment adjustments:

Pay Item Equivalents Eligible for Asphalt Pay Adjustment

Performance Graded Asphalt Cement	Equivalent PG Asphalt Cement for Payment Adjustment
PG 58-28	PG 64-22
PG 64-22	PG 64-22
PG 70-22m	PG 70-22m
PG 76-22m	PG 76-22m
PG 82-22rm	PG 64-22

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, 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.

All contract pay items using PG 58-28, PG 64-22, PG 70-22m, PG 76-22m, and PG 82-22rm shall be eligible for payment adjustments of asphalt materials; except no payment adjustment will be made for contract pay items under Subsection 510-01, "Pavement Patching", Section 507, "Asphaltic Surface Treatment", nor for any emulsions of cutbacks.

Item 510-02, Pavement Widening, and all contract pay items under Sections 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 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 or number designations are also eligible for fuel price adjustments; for example:

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

ELIGIBLE CONTRACT PAY ITEMS & FUEL USAGE FACTORS FOR FUEL PAYMENT ADJUSTMENT[7]

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[1]	Embankment	gal/cu yd	10,000 cu yd	0.29	0.15
203-04	Nonplastic Embankment	gal/cu yd	10,000 cu yd	0.29	0.15
203-07	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
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
510-02	Pavement Widening	gal/sq yd	3,000 sq yd	0.86	0.24
601-01	Portland Cement Concrete Pavement (" Thick)	gal/sq yd	15,000 sq yd	0.11	0.15

1 If project has both 203-01 & 203-03, 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.
7 No fuel adjustment will be allowed for waste oil.

ELIGIBLE CONTRACT PAY ITEMS & FUEL USAGE FACTORS FOR FUEL PAYMENT ADJUSTMENT (METRIC)[7]

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[1]	Embankment	l/m^3	7,600 m^3	1.44	0.74
203-04	Nonplastic Embankment	l/m^3	7,600 m^3	1.44	0.74
203-07	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
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
510-02	Pavement Widening	l/m^2	2,500 m^2	3.89	1.09
601-01	Portland Cement Concrete Pavement (mm Thick)	l/m^2	12,500 m^2	0.5	0.68

1 If project has both 203-01 & 203-03, 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.
7 No fuel adjustment will be allowed for waste oil.

BLENDED CALCIUM SULFATE (12/08): Section 302 of the 2006 Standard Specifications as amended by the supplemental specifications thereto, is further amended as follows.

Subsection 302.01 Description. The third paragraph is amended to include the following.
(6) Blended Calcium Sulfate.

Subsection 302.02 Materials. The first paragraph is amended to include the following.
Blended Calcium Sulfate 1003.01 & 1003.03 (e)

Subsection 302.04 General Construction Requirements. This subsection is amended to include the following.

Blended calcium sulfate will be allowed in areas of new alignment, fill areas, and cut areas less than one foot.

In cut areas greater than one foot (300 mm), an additional one foot (300 mm) of undercut will be required prior to placement of BCS. The additional undercut area shall be replaced with non-plastic sand embankment and encapsulated with a Class D geotextile fabric. The additional non-plastic material, geotextile fabric, and undercut shall be at no additional cost to the Department.

Blended calcium sulfate will not be allowed in areas needed to facilitate traffic control or when a soil cement base course is specified in the plans. Blended calcium sulfate shall not be placed within 10 feet (3.0 m) of metal drainage structures. The contractor will be allowed to substitute any untreated Class II base course material listed in Subsection 302.01. Flowable fill under Section 710, or other approved backfill material in Section 701 shall be used to backfill the drainage structure.

Subsection 302.05 Mixing. Heading (f) is added as follows.

(f) Blended Calcium Sulfate: Calcium sulfate shall be blended with an approved aggregate or lime prior to placement. The blended calcium sulfate material shall be uniformly mixed and sampled from dedicated stockpiles. Gradation sampling in accordance with Subsection 1003.03 shall be taken from the dedicated stockpiles at the point of material origin.

Subsection 302.06 Transporting and Placing on Subgrade. This subsection is amended to include the following.

Water shall be added or other suitable means taken to prevent dust during the transporting and placing of dry blended calcium sulfate.

Subsection 302.07 Compacting and Finishing. Heading (e) is added as follows.

(e) Blended Calcium Sulfate: Blended calcium sulfate shall be placed and spread on the subgrade and compacted to produce layers not exceeding 12 inches (300 mm) compacted thickness. During placement the material shall be thoroughly wetted by application of water to maintain 2 to 4 percent above optimum moisture. After application of water, allow the moisture to reach equilibrium in the base before applying rolling techniques. Rolling of BCS is required to the edge of the embankment or subgrade. Each layer shall be compacted to at least 95 percent of maximum dry density or compacted by an approved established rolling pattern determined by the project engineer before the next layer is placed. Optimum moisture and maximum density

shall be determined in accordance with DOTD TR 418 Method G modified to include a maximum drying temperature of 140°F (60°C).

Heading (f) is added as follows.

(f) Proof Rolling: Proof rolling shall be done by a load of 25 tons (25 Mg) in a 12 to 14 cubic yard (9 to 10.5 cubic meters) tandem dump truck with ten wheels or approved loaded truck determined by the project engineer. Proof rolling shall be a minimum of 5 passes in each direction at the same locations and at a maximum vehicle speed of 3 mph (4.8 km/h).

All BCS base will be tested by proof rolling prior to placement of surfacing material, including asphalt binder. Any irregularities or soft spots shall be corrected prior to placement of the surfacing material. Any rain event on the project site between the proof rolling and placement of the surfacing will require an additional proof rolling as noted above.

Subsection 302.09 Protection and Curing. Heading (c) is added as follows.

(c) Blended Calcium Sulfate: Protection and curing of blended calcium sulfate shall be in accordance with Subsection 302.09(b).

Subsection 302.12 Acceptance Requirements. Heading (a) is amended to include the following.

The acceptance requirements for blended calcium sulfate base course shall be the same as stone base course with the following modifications. Upon completion of compaction operations, the density will be determined in accordance with DOTD TR 401 except that all moisture content determinations for density calculations shall be conducted by oven drying the material for 24 hours at 140°F (60°C). A forced draft type oven capable of maintaining the temperature shall be provided by the contractor for field moisture content determination for density control.

SUPERPAVE ASPHALTIC CONCRETE MIXTURES (11/08): Section 502, Superpave Asphaltic Concrete Mixtures of the 2006 Standard Specifications as amended by the supplemental specifications thereto, is further amended as follows.

Subsection 502.04, Job Mix Formula Validation.

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

A JMF is considered validated if the following parameters are 71 percent within limits of the JMF and meet the specifications requirements.

Subsection 502.05, Plant Quality Control.

Delete the first paragraph and substitute the following.

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} at N_{max}. If unaged samples are used, report the estimated G_{mb} at 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 71 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 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.

Subsection 502.15, Measurement.
Subheading (c), Surface Tolerance Incentive Measurement.
Delete the first paragraph and substitute the following.

At the completion of construction of the project, an independent certified profiler such as that of a private company or the Materials and Testing Section, approved by the Department, shall be used to 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 502.16(e). Bridges and 300 feet (90 m) on each end of the bridge will be excluded from measurements for surface tolerance incentive pay.

Delete Table 502-7A, Payment Adjustment Schedule for Plant Acceptance and substitute the following.

Table 502-7A
Payment Adjustment Schedule for Plant Acceptance

Air Voids PWL (90 AQL)	Percent Payment
71-100	100
61-70	90
51-60	80
≤50	50 or Remove[1]

[1]At the option of the Department after investigation.

Delete Table 502-7B, Payment Adjustment Schedule for Roadway Density and substitute the following.

Table 502-7B
Payment Adjustment Schedule for Roadway Density

Roadway Density PWL (90 AQL)	Percent Payment
99-100	102
81-98	100
71-80	95
51-70	80
≤50	50 or Remove[1]

[1]At the option of the Department after investigation.

Delete Table 502-8A, Payment Adjustment Schedules for Longitudinal Surface Tolerance, Maximum International Roughness Index, inches per mile (mm per km) and substitute the following.

Table 502-8A
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]	102%[2]	100%	90%	80%	50% or Remove[3]
Category A All Interstates, Multi-Lift New Construction and Overlays of More than two Lifts	<45 (<710)	<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]	<55 (<870)	<75 (<1180)	75-89 (1180-1400)	NA	>89 (>1400)
Category C Single-Lift Overlays Over Existing Surfaces[4]	N/A	<85 (<1340)	85-95 (1340-1500)	>95-110 (>1500-1740)	>110 (>1740)
Longitudinal Surface Tolerance 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, unless the excluded area is a bridge end.
[3]At the option of the engineer.
[4] Existing surfaces include reconstructed bases without profile grade control.
[5]Only Category A projects are eligible for incentive. However, any grinding except within 300 feet (90 m) of a bridge end will cause the roadway to be ineligible for surface tolerance incentive pay. Measurements must be verified by an independent entity.

Delete Table 502-8B, Individual Wheelpath Deficient Area Limits, Maximum International Roughness Index, Inches per Mile (mm per km) and substitute the following.

Table 502-8B
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)	130 (2050)
Category B	99 (1560)	150 (2370)
Category C	N/A	N/A

TEMPORARY TRAFFIC CONTROL (09/08): Section 713 of the 2006 Standard Specifications and the Supplemental Specifications is amended as follows:

Subsection 713.04, Temporary Signs and Barricades, is amended to include the following:

(d) Project Signs: The contractor shall furnish, install, maintain, and upon completion of the project remove "project signs" in accordance with the following requirements.

Project signs shall conform to the requirements of Section 713 and the project sign detail contained elsewhere herein. Shop drawings will be furnished to the successful bidder by contacting the Department's Traffic Services Sign Shop at (225) 935-0121 or (225) 935-0142.

Project signs shall be required at the beginning and end of the project and shall follow sign G-20-1, "Road Work Next 'X' Miles", or as directed by the engineer.

Payment for project signs shall be included in the contract unit price for Item 713-01 Temporary Signs and Barricades.

PLASTIC PAVEMENT MARKINGS (09/07): Section 732 of the 2006 Standard Specifications and the supplemental specifications thereto, is amended as follows.

Subsection 732.03, Construction Requirements for Plastic Pavement Marking Material.

Heading (a) is amended as follows.

The first paragraph is deleted and the following substituted.

(a) Equipment for Standard (Flat) Thermoplastic Marking Material: The application equipment shall consist of an extrusion die or a ribbon gun that simultaneously deposits and shapes lines at a thickness of 90 mils (2.3 mm) or greater on the pavement surface. When restriping onto existing thermoplastic markings, only a ribbon gun shall be used. Finished markings shall be continuous and uniform in shape, and have clear and sharp dimensions. Applicators shall be capable of producing various widths of traffic markings. Applicators shall produce sharply defined lines and provide means for cleanly cutting off stripe ends and applying broken lines. The ribbon extrusion die or shaping die shall not be more than 2 inches (50 mm) above the roadway surface during application. A spray application will only be allowed when applying 40 mil (1.0 mm) thermoplastic.

Heading (e) is deleted and the following substituted.

(e) Application of Surface Primer: A single component surface primer will be required prior to placement of preformed plastic markings over an existing painted stripe, over oxidized asphalt, or when striping over existing thermoplastic on portland cement concrete surfaces unless otherwise directed by the engineer. A two component epoxy primer sealer will be required prior to placement of thermoplastic materials on portland cement concrete surfaces unless otherwise directed by the engineer.

ASPHALT MATERIALS AND ADDITIVES (04/08): Section 1002 of the 2006 Standard Specifications and the supplemental specifications thereto is amended as follows.

Subsection 1002.02, Asphalt Material Additives is amended as follows.

Table 1002-1, Performance Graded Asphalt Cements is deleted and the following substituted.

Table 1002-1
Performance Graded Asphalt Cements

Property	AASHTO Test Method	PG82-22rm[6]	PG76-22m	PG70-22m	PG64-22	PG58-28
		Spec.	Spec.	Spec.	Spec.	Spec.
Tests on Original Binder:						
Rotational Viscosity @ 135°C, Pa·s [1]	T 316	3.0	3.0	3.0	3.0	3.0
Dynamic Shear, 10 rad/s, G*/Sin Delta, kPa	T 315	1.00+ @ 82°C	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+	232+
Solubility, % [2]	T 44	N/A	99.0+	99.0+	99.0+	99.0+
Separation of Polymer, 163°C, 48 hours, degree 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)[3]	T 300	---	0.30+	---	---	---
Force Ductility, (4°C, 5 cm/min, 30 cm elongation, kg)[3]	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-	1.00-
Dynamic Shear, 10 rad/s, G*/Sin Delta, kPa	T 315	2.20+ @ 82°C	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+	60+	40+	---	---
Ductility, 25°C, 5 cm/min, cm	T 51	---	---	---	100+	---
Tests on Pressure Aging Vessel Residue:	R 28					
Dynamic Shear, @ 25°C, 10 rad/s, G* Sin Delta, kPa	T 315	5000-	5000-	5000-	5000-	5000- @ 19°C
Bending Beam Creep Stiffness, S, MPa @ -12°C.	T 313	300-	300-	300-	300-	300- @ -18°C
Bending Beam Creep Slope, m value,@ -12°C	T 313	0.300+	0.300+	0.300+	0.300+	0.300+ @ -18°C

[1]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.

[2]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.
[3]AASHTO T 300 except the second peak (f2) is defined as the stress at 30 cm elongation.
[4]AASHTO T 301 except elongation shall be 10 cm.
[5]Prepare samples per ASTM D 7173. Determine softening point of top and bottom per AASHTO T 53.
[6]The quality assurance plan for this product will require the contractors who use this material to submit written documentation of tank cleaning annually. Contractors must have tank mixers. Written certificates of analysis from the asphalt binder supplier confirming rubber source and size distribution of rubber used shall be furnished to the Materials Laboratory.

Add the following Table 1002-12, Anionic Trackless Tack Coat Grade NTSS-1HM.

Table 1002-12
Anionic Trackless Tack Coat Grade NTSS-1HM

Property	AASHTO Test Method	Specification Deviation	
		100% Pay	50% Pay or Remove[1]
Viscosity, Saybolt Furol @ 25°C, s	T 59	15 - 100	---
Storage Stability, 24 Hour, %	T 59	1.0-	---
Settlement, 5 Days, %	T 59	5.0-	---
Residue by Distillation, %	T 59	50+	49-
Oil Distillate, %	T 59	1.0-	---
Sieve Test[2], (Retained on the 850 µm), %	T 59	0.3-	---
Tests on Residue			
Penetration @ 25°C, 100g, 5s, dmm	T 49	20-	---
Softening Point, Ring and Ball, °C	T 53	65+	64-
Solubility, %	T 44	97.5+	---
DSR @ 25°C; G*Sin δ, 10 rad / s, kPa	T 315	1.0+	---

[1] At the option of Engineer.
[2] Sieve tests may be waived if no application problems are present in the field.

BASE COURSE AGGREGATES (07/08): Subsection 1003.03 of the 2006 Standard Specifications is amended to include the following.

(e) Blended Calcium Sulfate: When blended calcium sulfate base course material is allowed on the plans, it shall consist of calcium sulfate from a source approved by the Materials and Testing Section and be blended with an approved aggregate or lime. The source shall have a quality control program approved by the Materials and Testing Section. The source shall have been given environmental clearance by the Department of Environmental Quality for the intended use, and written evidence of such environmental clearance shall be on file at the Materials and Testing Section. DOTD monitoring for compliance with environmental regulations will be limited to the pH testing stated herein below. The blended material shall be

non-plastic and reasonably free from organic and foreign matter. The pH shall be a minimum of 5.0 when tested in accordance with DOTD TR 430. Re-evaluation will be required if the source of the aggregate or lime that is blended with the calcium sulfate changes.

Blended calcium sulfate material used as base course shall comply with the following gradation requirements when tested in accordance with DOTD TR 113, modified to include a maximum drying temperature of 140°F (60°C). Sampling shall be taken from an approved stockpile at the point of origin.

U.S. Sieve	Metric Sieve	Percent Passing
1-1/2 inch	37.5 mm	60 - 100
1 inch	25.0 mm	40 - 80
3/4 inch	19.0 mm	30 - 70
No. 4	4.75 mm	20 - 65
No. 200	75 µm	0 - 25

Blended calcium sulfate shall be sampled in accordance with the requirements for stone in Section 302 of the Materials Sampling Manual.

ITEM S-001, SAW CUTTING ASPHALTIC CONCRETE PAVEMENT:

S-001.01 DESCRIPTION. This work consists of saw cutting existing asphaltic concrete pavement as shown on the plans.

S-001.02 EQUIPMENT. The Contractor shall supply all equipment and labor necessary for a complete saw cut as directed by the plans and specifications

S-001.03 CONSTRUCTION REQUIREMENTS. The saw cutting shall be full depth of pavement and shall be performed prior to pavement removal. The saw cutting shall be performed by approved methods and saw cuts shall be made neat and along straight lines. Contractor shall exercise care in his saw cutting operations so as not to damage adjacent pavement designated to remain.

S-001.04 MEASUREMENT. Saw cutting shall be measured per linear foot along the saw cut per 1" depth. Measurement will include all materials, labor, equipment, and incidentals to complete a full depth saw cut as shown on the plans.

S-001.05 PAYMENT. Payment for saw cutting shall be made at the contract unit price per linear foot, which includes all materials, labor, equipment, and incidentals to complete the item. Payment shall be made under:

Item No.	Pay Item	Pay Unit
S-001	Saw Cutting Asphaltic Concrete Pavement per 1" Depth	linear foot

ITEM S-002, BRICK PAVERS:

S-002.01 DESCRIPTION. This work consists of furnishing and installing brick pavers, set in aggregate setting beds, in accordance with these specifications, plan details, the manufacturers recommended procedures and other requirements as directed by the Engineer.

S-002.02 SUBMITTALS

(a) Samples:

(1) Five individual samples of brick showing extreme variations in color and texture.

(2) Two bar samples of colored mortar.

(b) Test Samples: Five random bricks taken from the work site by the Engineer for testing, to verify brick meets ASTM C67 freeze thaw tests specified.

S-002.03 PRODUCT DELIVERY, STORAGE AND HANDLING.

(a) Deliver masonry materials in original sealed containers marked with name of manufacturer and identification of contents.

(b) Store masonry materials under waterproof covers on planking clear of ground, and protect from handling damage, dirt, stain, water and wind.

S-002.04 APPLICABLE PUBLICATIONS

(a) The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.

(b) American Society for Testing and Materials (ASTM):

C144-04.....Aggregate for Masonry Mortar
C150-05.....Portland Cement
C270-05.....Mortar for Unit Masonry
C902-05.....Pedestrian and Light Traffic Paving Brick

S-002.05 MATERIALS

(a) Brick Pavers: Light-traffic paving brick; ASTM C902, Class SX, Type I. Color to be selected by the Owner.

(b) Aggregate Setting-Bed:

(1) Graded Aggregate for Base: Sound, crushed stone or gravel complying with ASTM D 448.

(2) Sand for Leveling Course: Sound, sharp, washed, natural sand or crushed stone complying with gradation requirements in ASTM C 33 for fine aggregate.

(3) Sand for Joints. Fine, sharp, washed, natural sand or crushed stone with 100 percent passing the No. 16 sieve and no more than 10 percent passing the No. 200 sieve.

(c) Mortar Setting-Bed:

(1) Portland Cement: ASTM C 150, Type I or II.

(2) Hydrated Lime: ASTM C 207, Type S.

(3) Sand: ASTM C 144

(4) Latex Additive: Water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by manufacturer for use with field-mixed Portland cement mortar bed, and not containing retarder.

(5) Water: Potable

(d) Grout:

(1) Polymer-Modified Grout: ANSI A118.7, sanded grout; color to match brick pavers.

(e) Mortar and Grout Mixes:

(1) General: Comply with referenced standards and with manufacturer's written instructions. Discard mortars and grout if they have reached their initial set before being used.

(2) Mortar-Bed Bond Coat: Mix neat cement or cement and sand with latex additive to a creamy consistency.

(3) Latex-Modified, Portland Cement Setting-Bed Mortar: Comply with written instructions of latex-additive manufacturer to produce stiff mixture with a moist surface when bed is ready to receive pavers.

(4) Coloring Pigments: Pure mineral pigments, lime proof and non-fading; added to mortar by the manufacturer. Job colored mortar is not acceptable.

S-002.06 GENERAL CONSTRUCTION REQUIREMENTS

(a) Mix pavers from several pallets or cubes, as they are placed, to produce a uniform blend of colors and textures.

(b) Cut unit pavers with motor-driven masonry saw equipment to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible.

(c) Joint Pattern: Running Bond

(d) Allowable Tolerances: Do not exceed 1/8inch unit-to-unit offset from flush (lippage), nor 1/8 inch in 24 inches and ¼ inch in 10 feet from level, or indicated slope, for finished surface of paving.

(e) Aggregate Setting-Bed Applications:

(1) General: Do not use bricks with chips, cracks, discoloration, or other visible defects.

(2) Compact soil subgrade uniformly to at least 95 percent of maximum standard proctor density (ASTM D 698).

(3) Place aggregate base, compact by tamping with plate vibrator and screed to depth indicated.

(4) Place leveling course and screed to the thickness indicated, taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.

(5) Treat leveling course with herbicide to inhibit growth of grass and weeds.

(6) Set pavers with a minimum joint width of 1/16 inch and a maximum of 5/32 inch, being careful not to disturb leveling base. If pavers have spacer bars, place pavers hand tight against spacer bar.

(7) Vibrate pavers into leveling course with a low-amplitude plate vibrator capable of a 3,500- to 5,000-lbf compaction force at 80 to 80 Hz.

(8) Spread dry sand and fill joints immediately after vibrating pavers into leveling course. Vibrate pavers and add sand until joints are completely filled, then remove excess sand. Leave a slight surplus of sand on the surface for joint filling.

(f) Mortar Setting -Bed Applications:

(1) Saturate concrete subbase with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.

(2) Apply mortar-bed bond coat over surface of concrete subbase about 15 minutes before placing setting bed. Limit area of bond coat to avoid its drying out before placing setting bed. Do not exceed 1/16 inch thickness for bond coat.

(3) Apply mortar bed over bond coat immediately after applying bond coat. Spread and screed to subgrade elevations required for accurate setting of pavers to finished grades indicated.

(4) Mix and place only that amount of mortar that can be covered with pavers before initial set. Cut back and discard setting-bed material that has reached initial set before placing pavers.

(5) Wet brick pavers before laying if the initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

(6) Place pavers before initial set of cement occurs. Immediately before placing pavers, apply a uniform 1/16 inch thick, slurry bond coat to bed or to back of each paver.

(7) Tamp or beat pavers with a wooden block or rubber mallet to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances. Set each paver in a single operation before initial set of mortar; do not return to areas already set or disturb pavers for purposes of realigning finished surfaces or adjusting joints.

(8) Spaced Joint Widths: Provide 3/8 inch nominal joint width with variations not exceeding plus or minus 1/16 inch.

(9) Grout joints as soon as possible after initial set of setting bed.

(i) Force grout into joints, taking care not to smear grout on adjoining surfaces.

(ii) Tool exposed joints slightly concave when thumbprint hard.

(10) Cure grout by maintaining in a damp condition for seven days, unless otherwise recommended by the grout or liquid-latex manufacturer.

(11) Cleaning: Remove excess grout from exposed paver surfaces; wash and scrub clean.

S-002.07 MEASUREMENT. The work described in this section shall be measured and paid for per square foot of pavers installed and accepted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-006.05 PAYMENT. Payment for Brick Pavers shall be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
S-002	Brick Pavers	square foot

ITEM S-003, IRRIGATION SYSTEM:

S-003.01 DESCRIPTION. This work consists of furnishing and installing a landscape irrigation system in accordance with these plans, specifications, the manufacturer's recommended procedures and other requirements as directed by the Engineer.

S-003.02 MATERIALS

(a) General Piping:

(1) Pressure mainline from point of connection (P.O.C.) through backflow prevention unit: Type K copper or brass.

(2) Mainlines (pressurized) 1 1/2 inch and smaller downstream of backflow unit: Schedule 40 solvent-weld P.V.C. unless otherwise noted.

(3) Mainlines (pressurized) 2 inch through 2 1/2 inch downstream of backflow unit: Schedule 40 solvent-weld P.V.C. unless otherwise noted.

(4) Mainlines (pressurized) 3 inch and larger downstream of backflow unit: Class 315 bell and gasket P.V.C. unless otherwise noted.

(5) Lateral lines (pressurized) 1 1/2 inch and smaller: Schedule 40 solvent weld P.V.C. unless otherwise noted.

(6) Lateral lines (pressurized) 2 inch and larger: Class 315 solvent weld P.V.C. unless otherwise noted.

(b) Plastic Pipe and Fittings:

(1) Solvent weld pipe: Extruded of an improved P.V.C. virgin pipe compound featuring high impact strength. Conform to ASTM D- 1784 or D-2241 to meet the requirements of cell classification 12454B for pipe. Compound shall have a 2,000 P.S.I. hydrostatic design stress rating.

(2) Rubber gasket P.V.C. pipe: Conform to ASTM D-1784 Type I, Grade 1, 2,000 P.S.I. design stress. Standard dimensional ratio for pipe shall be SDR 21 (Class 200). All pipe shall conform to commercial standards CS-256-64 (pressure rated pipe), and National Sanitation Foundation (NSF) testing laboratories. Rubber gaskets shall conform to ASTM 1869.

(3) All pipe and fittings shall bear the following markings: Manufacturer's name, nominal pipe size, schedule or class, pressure rating P.S.1., NSF rating, and date of extrusion.

(4) Make solvent cement joints for plastic pipe and fittings as prescribed by the manufacturer. Including use of primer on all P.V.C. fittings regardless of size.

(5) All P.V.C. slip fittings shall be Schedule 40 P.V.C. All P.V.C. slip fittings shall be Schedule 80 P.V.C.

(6) All fittings: Injection molded of an approved P.V.C. fitting compound featuring high tensile strength, high chemical resistance, and high impact strength. Fittings shall conform to ASTM D-1784, and meet the requirements of cell classification 12454B. Where threads are required in plastic fittings, these shall be injection molded also. Type: Dura Plastic Products, Spears or approved equal.

(7) Rubber Gasket Fittings: Fittings shall be ductile iron deep bell type. Fittings shall be constructed of grade 65-45-12 ductile iron in accordance with ASTM A-536. Fitting gaskets shall be rubber in accordance with ASTM F-477. All ductile iron fittings shall be manufactured with exterior lugs and be fitted with a joint restraint system. Type: Harco Ductile Iron Fittings or approved equal. Leemco Joint Restraint System or approved equal.

(8) All threaded nipples: Standard weight Schedule 80, with molded threads.

(9) All threaded fittings: Use 3/4-inch size Teflon tape.

(10) Reclaimed water pipe: Pipe shall be extruded of an improved P.V.C. virgin pipe compound featuring high impact strength. Conform to ASTM D-1 784 or D-2241 to meet the requirements of cell classification 12454B for pipe. Compound shall have a 2,000 P.S.I. hydrostatic design stress rating. Reclaimed water pipe shall be color coded puqile with the words "CAUTION - RECLAIMED WATER" printed in black letters on two sides of the pipe. Reclaimed water pipe shall use standard white Sch. 40 P.V.C. fittings as described above. Type: Alertline, Water Warn or approved equal.

(11) Ultra-Violet Resistant (U.V.R.) pipe: Pipe shall be extruded of an improved P.V.C. virgin pipe compound featuring high impact strength. Conform to ASTM D- 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Compound shall have a 2,000 P.S.I. hydrostatic design stress rating. U.V.R. water pipe shall be manufactured using a process and/or ingredients proven to resist weakening or corrosion by ultra-violet radiation. Pipe shall be color-coded brown. U.V.R. water pipe shall use Sch. 40 P.V.C. fittings manufactured of

the same material or process as the U.V.R. pipe on which they are used. Type: Pipe: Sun Stop, Solar Guard or approved equal. Fittings: Dura or approved equal.

(c) Copper Pipe and Fittings:

(1) Copper Pipe shall be Type K, hard tempered, ASTM B88, with fittings of wrought solder joint type in accordance with ANSI B 16.22. Type: Fittings: Nibco or approved equal.

(2) Solder joints with silver solder: 45% silver, 15% copper, 16% zinc, 24% cadmium and solidus as 1125 degrees F. and liquidus at 1145 degrees F., conforming to ASTM B206 and FS QQB-655C.

(d) Brass Pipe and Fittings:

(1) Brass pipe shall be 85% red brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe.

(2) Fittings shall be medium brass, screwed, 125-pound class.

(e) Galvanized Steel Pipe and Fittings:

(1) Galvanized steel pipe shall be hot dip galvanized Schedule 40 screwed pipe.

(2) Fittings shall be hot dip galvanized Schedule 40, screwed.

(f) Backflow Prevention Units:

(1) Backflow prevention unit shall be of the brand, size and type indicated on the irrigation plans.

(2) Backflow prevention units shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

(3) Backflow prevention units shall be the reduced pressure principle (RIP) or pressure vacuum breaker (PVB) type. Type: RIP: Febco 825Y, 825YA, 880 Master Series, or approved equal. PVB: Febco 765, or approved equal.

(4) Backflow assemblies shall be installed using copper ells, unions and nipples.

(5) Backflow device enclosure shall be constructed of stainless steel #9 expanded metal with an angle iron frame. Enclosure shall be bolted to a concrete pad using galvanized steel hardware. Enclosure shall have a hinge on one end that allows for removal of the enclosure for backflow service. Type: V.I.T. Strong Box or approved equal.

(g) Pressure Reducing Valves:

(1) Pressure reducing valve shall be of the brand, size and type indicated on the irrigation plans.

(2) Pressure reducing valve shall be of bronze and stainless steel construction and be adjustable from 25 P.S.I. to 125 PSI. Type: Wilkins 500HLR or approved equal.

(h) Wye Strainers:

(1) Wye strainer shall be of the brand, size and type indicated on the irrigation plans.

(2) Wye strainer shall be of bronze construction with a stainless steel or Monel screen element. Wye strainer shall have a standard filtration size of 80 mesh. Type: Wilkins 1OOYSBR or approved equal.

(i) Shut off Valves:

(1) Ball Valve: Ball valves 2 inch and smaller shall be of the brand, size and type indicated on the irrigation plans. Ball valves shall have a one-piece body constructed of 600-lb. WOG Bronze material conforming with ASTM B-584 alloy 844. Ball valve shall have a vented ball with a blowout proof system. Ball valves shall have a working pressure of not less than 150

PSI. and shall conform to AWWA standards. Type: Hammond 867, Nibco 560, Wilkins 850 or approved equal.

(2) Butterfly Valve: Butterfly valves 2 1/2 inch and larger shall be of the brand, size and type indicated on the irrigation plans. Butterfly valves shall have a one-piece body constructed of cast iron and stainless steel stem. Butterfly valve shall have a ductile iron, porcelain enamel coated disc. Butterfly valves shall be equipped with Vanstone flange adapters and a 2-inch square operating nut. Butterfly valves shall have a working pressure of not less than 150 PSI. and shall conform to AWWA standards. Type: Centerline, Matco, Nibco or approved equal.

(3) Gate Valve: Gate valves shall be of the brand, size and type indicated on the irrigation drawings. Gate valves shall have a one-piece body, bonnet, gate and stem constructed of 600-Lb. WOG Bronze material conforming with ASTM B-584 alloy 844. Gate valves shall have a working pressure of not less than 150 PSI. and shall conform to AWWA standards. Type: Nibco or approved equal.

(4) Angle Valve (For Remote Control Valve Assemblies): Angle valves shall be of the brand, size and type indicated on the irrigation plans. Angle valves shall have a body constructed of cast bronze, stem and cross handle. Angle valves shall have a working pressure of not less than 150 PSI. and shall conform to AWWA standards. Type: Champion 200 or approved equal.

(5) Install valves in planting areas and according to the construction details. Only one valve per box will be allowed. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion. Valve boxes shall be installed with an eight (8) inch deep layer of 3/4 inch crushed gravel at the base of the box.

(6) When grouped together, allow a minimum of 12 inches between valves. The valves shall be installed in valve boxes which will have enough room on all sides of the valves to allow repair personnel to completely re-construct the valves without removing the valve box.

(j) Quick Coupling Valves:

(1) Quick coupler valves shall be of the brand, size and type indicated on the irrigation plans.

(2) Quick coupler valve shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage, with female threads opening at base. Quick coupler valve shall have a hinge cover constructed of red brass with a leather like vinyl cover bonded to it in such a manner that it becomes a permanent type of cover. Quick couplers used with potable water shall have vinyl covers yellow in color. Quick couplers used with reclaimed water shall have vinyl covers purple in color with the appropriate reclaimed water warnings in English and Spanish, as well as the international "Do Not Drink" symbol. Type: Potable Water: Rain Bird 44LRC or approved equal. Reclaimed Water: Rain Bird 44NP or approved equal.

(3) Quick coupler valve shall be operated only with a special connecting device known as a quick coupler key, designed for that purpose. Quick coupler key is inserted into the valve and a positive, watertight connection shall be made between coupler key and valve. Type: Rain Bird 44K or approved equal.

(4) Quick coupler assembly shall be a contractor assembled swing joint consisting of three (3) Marlex street ells and a 12 inch long schedule 80 nipple. A single street ell shall be used at the connection to the mainline fitting and two street ells shall be used at the quick coupler

end of the swing joint. Assembly shall be 1-inch size to match the inlet size of the quick coupler valve. A rebar stabilizing rod and two (2) stainless steel clamps shall be used to secure the quick coupler.

(5) Install valves in planting areas and according to the construction details. Only one valve per box will be allowed. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion. Valve boxes shall be installed with an eight (8) inch deep layer of 3/4 inch crushed gravel at the base of the box.

(6) Locate all quick coupling valves within 12 - 18 inches of walks, curbs, header boards, or paved areas where applicable. Locate quick coupler valves inside shrub and ground cover areas whenever possible. Quick coupling valves shall be installed such that valve top will be 3 inch below the lid of the valve box.

(k) Remote Control Valves:

(1) Remote control valves shall be of the brand, size and type indicated on the irrigation plans.

(2) The remote control valve shall be normally closed 24 VAC solenoid actuated globe pattern, spring-loaded diaphragm type. The valve shall be pressure rated up to 200 P.S.I. at 150 degrees F.

(3) The valve shall have a 600 pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.

(4) Remote Control Valve: The body and bonnet shall be brass and the valve shall have a stainless steel control / shut-off stem and manual operator. Type: RCV: Rain Bird GB series, Rain Bird EFB-CP series or approved equal.

(5) Drip Remote Control Valve: The body and bonnet shall be fiberglass reinforced nylon and the valve shall have a brass control I shut-off stem and manual operator. Type: Rain Bird DV-100 series or approved equal.

(6) All remote control valves shall have a bronze angle type shut off valve installed as part of the valve assembly immediately upstream of the control valve.

(7) The valve shall provide for all internal parts to be removable from the top without disturbing the valve installation.

(8) Solenoid shall be corrosion-proof and constructed of stainless steel molded in epoxy to form one integral unit, 24 volt AC watt maximum holding milliamp in-rush, current: 0.41 amp. (9.9 VA), holding current: 0.23 amp. (5.5 VA).

(9) Solenoids for solar powered controllers shall be latching type as manufactured by the same manufacturer as the solar powered controller. Latching solenoids shall be compatible with the approved remote control valves.

(10) Install valves in planting areas and according to the construction details. Only one valve per box will be allowed. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion. Valve boxes shall be installed with an eight (8) inch deep layer of 3/4 inch crushed gravel at the base of the box.

(11) When grouped together, allow a minimum of 12 inches between valves. The valves shall be installed in valve boxes which will have enough room on all sides of the valves to allow repair personnel to completely re-construct the valves without removing the valve box.

(l) Master Control Valves:

(1) Master control valves shall be of the brand, size and type indicated on the irrigation plans.

(2) The master control valve shall be a switchable normally closed or open 24 VAC solenoid actuated globe pattern, spring-loaded diaphragm type. The valve shall be pressure rated up to 200 PSI, at 150 degrees F.

(3) The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.

(4) The body and bonnet shall be brass or cast iron and the valve shall have a stainless steel control / shut-off stem and manual operator. Type: Griswold 2000 series or approved equal.

(5) The valve shall provide for all internal parts to be removable from the top without disturbing the valve installation.

(6) Solenoid shall be corrosion-proof and constructed of stainless steel molded in epoxy to form one integral unit, 24 volt AC watt maximum holding milliamp in-rush, current: 0.41 amp. (9.9 VA), holding current: 0.23 amp. (5.5 VA).

(7) Install valves in planting areas and according to the construction details. Only one valve per box will be allowed. Align valve boxes at right angles to adjacent hardscape whenever possible. Valve boxes shall be installed with an eight (8) inch deep layer of ¾ inch crushed gravel at the base of the box.

(8) When grouped together, allow a minimum of 12 inches between valves. The valves shall be installed in valve boxes which will have enough room on all sides of the valves to allow repair personnel to completely re-construct the valves without removing the valve box.

(m) Automatic Controller (Electric):

(1) Controller shall be programmable for various schedules with the following features: The irrigation system controller shall be a microprocessor based/micro electronics solid state type, capable of fully automatic or manual operation of the system. The controller shall operate on a minimum of 120 volts AC power input and be capable of operating up to four 5.5 VA 24 volt AC electric remote control valves at one time. The controller shall have a reset circuit breaker to protect it from power overload. The controller shall have independently programmable stations. The controller programming schedule shall be based on a variable 7-day cycle. Each station shall have the capability of being programmed to automatically start up to four (4) times per day. Station timing shall be variable from 1 to 99 minutes in 1-minute increments or for 0.1 to 9.9 hours in 0.1 -hour increments. Controller station operation shall be sequential to avoid overlapping operation. The controller shall have a water budgeting mode to allow simultaneous increasing or decreasing of watering time for all stations. During operation the controller shall provide a monitoring readout indicating station in operation and time remaining. The controller shall have a 12-hour AM/PM or 24 hour clock. The controller shall have a master valve/remote pump start circuit for use with a master valve to pressurize system when the irrigation cycle starts, or to activate a remote pump start relay, to run the pump during the irrigation cycle. The controller shall be capable of being operated manually at any time. A manual "single station" operation for programmed time or new time setting shall be possible without affecting the original program. The controller shall have a factory preset backup program for standby operation in the event of program loss and a rechargeable battery backup to maintain program during power loss. The controller shall have non-volatile memory or battery back-up with batteries that are continually charged by the controller.

(2) Irrigation controller shall be a satellite type controller compatible with either Rain Bird Maxicom or Rain Master Evolution central control systems. Type: Maxicom: ESP-SAT-LINK or approved equal.

(3) Outdoor Automatic Controller Enclosure: All automatic sprinkler controllers installed on the outside of a building shall be mounted within a stainless steel vandal resistant automatic controller enclosure. The outdoor automatic controller enclosure shall be of appropriate size to adequately house the specified controller and all required central control equipment. Lockable hinged doors shall be equipped with full a length stainless steel gasket hinges. Inside controller enclosure to have one circuit with full time 120 VAC GFCI type outlet and 120 VAC to the controller with on/off switch and a pigtail connection for remote control use. Controller shall be grounded per the uniform building codes and the controller installation detail. Type: Strong Box or approved equal.

(4) Indoor Automatic Controller Enclosure: All automatic sprinkler controllers installed on the inside of a building shall be mounted within a wall mounted cold rolled steel vandal resistant automatic controller enclosure. The indoor automatic controller enclosure shall be of appropriate size to adequately house the specified controller and all required central control equipment. Lockable hinged doors shall be equipped with full a length steel gasket hinges. Inside controller enclosure to have one circuit with full time 120 VAC GFCI type outlet and 120 VAC to the controller with on/off switch and a pigtail connection for remote control use. Control wires to be routed to control valves from controller through a 3-inch electrical conduit and sweep through the floor of the building. Controller shall be grounded per the uniform building codes and the controller installation detail. Type: Strong Box or approved equal.

(5) Controller Accessories: The electrical power for the irrigation controller shall be provided by the Electrical Contractor. Landscape contractor is responsible for final hook-up of the controller. The automatic controller shall be wired with a pigtail to allow for the use of a radio remote activation device. Pigtail is to be manufactured by the manufacturer of the radio remote device. If the irrigation drawings indicate that a radio remote is to be provided, the Landscape Contractor shall provide the radio transmitter and the receiver to the City. The radio remote device shall allow for the operation of all controller stations from a distance of up to one mile from the controller. The radio remote device shall be furnished inside a plastic carrying case with battery charger. Type: Rain Master or approved equal.

(n) Automatic Controller (Solar):

(1) The solar powered controller shall require no AC electrical power to function. The solar powered controller shall generate sustaining power using only ambient light without the use of external solar panels.

(2) The controller shall operate on minimum light requirements and shall be able to function properly even in shady conditions.

(3) All programming of the controller shall be performed using only four buttons and a self guided menu. Type: Solatrol Leit 4000 or approved equal.

(o) Low Voltage Control Wiring:

(1) Connections between the controller and remote control valves shall be made with direct burial AWG-UF type wire, installed in accordance with valve manufacturer's wire chart and specifications.

(2) Wiring shall be installed adjacent to the mainline whenever possible and shall never be installed above or below the pipe.

(3) Where more than one wire is placed in a trench, the wiring shall be taped together using black electrical tape at intervals of 10 feet.

(4) All splices shall be made using sealed waterproof connectors. Waterproof connectors shall have a two piece body, copper crimp sleeve, and water proof sealant. Type: Rain Bird Pen-Tite, Dri-SpLice, Snap-Tite or approved equal.

(5) An expansion curl shall be provided within three (3) feet of each wire connection and at all directional changes. Expansion curls shall be sufficient length at each splice connection at each electric control valve, so that in case of repair, the valve bonnet may be brought to the surface without disconnecting the control wires. Control wires shall be laid loosely in the trench without stress or stretching of control wire conductors. A two (2) foot expansion loop shall be located every 100 feet on continuous wire runs.

(6) Sizing of wire shall be in accordance with irrigation drawings and manufacturer's recommendations, in no case shall the diameter of the wire be less than #14 size.

(7) Use continuous wire between controller and remote control valves. Under no circumstances shall splices exist without prior approval. Any splices allowed shall be installed in a pull box.

(8) All control wires shall be black or red in color. When more than one controller is installed use a different color wire for each controller.

(9) All common wires and only common wires shall be white in color. When more than one controller is installed use white colored wire with a different color stripe for each controller. Color of the stripe shall match the color of the control wire.

(10) Flow sensor wires shall be #14 gauge as part of a two pair shielded cable. Cable shall be direct burial type.

(11) Two extra wires shall be provided for each valve in an isolated area, and for each group of five valves. In the group of five valves, the extra wire shall be extended to the farthest valve in the group. All extra wires and only extra wires shall be orange in color. The extra wires shall be looped up into each valve box, taped together, sealed at the ends and made visible for easy future reference.

(12) All wire sleeves shall have a pull rope remaining. Mark each sleeve for future use with a score mark on the adjacent concrete curb. All wire sleeves shall extend at least 24 inch past the edge of the paving. All wire sleeve ends shall be sealed using aerosol foam. All wire sleeves shall be Sch. 40 PVC sized at twice the diameter of the wire bundle carried or 2-inch minimum.

(p) Valve Boxes:

(1) Round valve boxes shall be 10 inch diameter x 10-1/4 inch high constructed of rigid polyolefin, chemically inert plastic, with 6 inch Cl. 160 P.V.C. extension sleeves where required. Valve boxes shall have locking plastic covers. Valve boxes and covers shall be green in turf areas and tan in granite/desert areas unless used with reclaimed water where they shall be color coded purple and embossed with the required reclaimed water warning statements. Heat brand box lid with the appropriate identification letters. Type: Ametek, Brooks or approved equal.

(2) Rectangular valve boxes shall be 9 1/2 inch wide x 16 inch long x 11 inch high constructed of rigid polyolefin, chemically inert plastic, with valve box extensions where required. Valve boxes shall have locking plastic covers. Valve boxes and covers shall be green in color unless used with reclaimed water where they shall be color coded purple and embossed

with the required reclaimed water warning statements. Heat brand box lid with the appropriate identification letters and/or numbers. Type: Ametek, Brooks or approved equal.

(3) Identification letters or numbers shall be 2 inch high and heat branded onto the box cover. Identification shall be as indicated on the detail drawings.

(4) Heat branding shall be accomplished using branding irons specifically designed for this purpose. Heat branding shall not weaken or in any way puncture the valve box cover.

(5) Valve box covers shall be green in color unless directed to be purple in color for use with reclaimed water. Reclaimed water Valve boxes shall have appropriate reclaimed water warnings embossed onto the cover in English and Spanish, as well as the international 'Do Not Drink" symbol. Type: Rectangular: Ametek, Brooks or approved equal. Round: Ametek, Brooks or approved equal.

(6) Valve box covers shall be locking type secured with a 3/8-inch stainless steel bolt, washer and nut.

(7) Valve boxes used for irrigation equipment shall be as follows: Round valve boxes shall be used for butterfly valves, quick coupler valves, drip system flush valves, and multiple outlet drip emitters. Rectangular valve boxes shall be used for remote control valves, master control valves, drip control valves, drip pressure regulator / wye filter assemblies, flow sensors, ball valves, basket strainers, and pull boxes.

(8) Install valve boxes in planting areas and according to the construction details. Only one valve per box will be allowed. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion. Valve boxes shall be installed with an eight (8) inch deep layer of 3/4 inch crushed gravel at the base of the box.

(9) When grouped together, allow a minimum of 12 inches between valve boxes.

(q) Sprinkler Heads

(1) Full circle, part circle and variable arc spray sprinkler heads with built-in check valve sprinkler heads: The sprinkler body, stem nozzle and screen shall be constructed of heavy-duty plastic. The sealing device shall create no more that one (1) PSI pressure drop at maximum rated pressure and flow. The sprinkler shall have a strong stainless steel retract spring for positive pop down. Pop-up height shall be as indicated on the irrigation drawings and no less than 4 inches. The sprinlder shaLl have a screen under the nozzle to protect it from clogging and for easy removal for cleaning and flushing system. Pop-up sprinklers shall be equipped with a built in anti-drain valve capable of holding water within the sprinkler head from up to 10 feet of elevation change. The check valve equipped pop-up sprinkler shall be identified on the cap as being so equipped. The sprinkler shall have a matched precipitation rate (MPR) plastic nozzle with an adjusting screw capable of regulating the radius and flow. MPR nozzles: The plastic nozzles shall have matched precipitation rates across sets (8 feet, 10 feet, 12 feet, and 15 feet). The spray nozzles shall have female thread configuration for use on the 1800 series sprinkler and the PA-8S plastic shrub adapter. Variable arc nozzle: The adjustable nozzle shall have a center collar which twists easily to increase or decrease arc setting. The flow shall adjust with the arc setting to maintain matched precipitation with other MPR nozzles and other arc settings. The adjustable range shall be 0 to 360 degrees. Stream Spray nozzles: The plastic nozzles shall have matched precipitation rates within sets (16 feet and 20 feet). The spray nozzles shall have female thread configuration for use on the 1800 series sprinkler and the PA-8S plastic shrub adapter. Type: Pop-up: Rain Bird 1800-SAM series or approved equal. Shrub Adapter: Rain Bird PA-8S series or approved equal.

(2) Full circle, part circle and variable arc pressure regulating spray heads and built-in check valve sprinkler heads: The sprinkler body, stem nozzle and screen shall be constructed of heavy-duty plastic. The sealing device shall create no more than one (1) PSI pressure drop at maximum rated pressure and flow. The sprinkler shall have a strong stainless steel retract spring for positive pop down. Pop-up height shall be as indicated on the irrigation drawings and no less than 4 inches. The sprinkler shall have a screen under the nozzle to protect it from clogging and for easy removal for cleaning and flushing system. The sprinkler shall be equipped with a built in pressure regulating device capable of regulating an inlet pressure of 35 - 70 PSI to 30 PSI for proper operation of the spray head. At inlet pressures of less than 35 PSI the pressure loss through the regulating device shall be no more than 6 PSI. The pressure regulating device shall be constructed of stainless steel springs and heavy duty plastic parts. Pop-up sprinklers shall be equipped with a built in anti-drain valve capable of holding water within the sprinkler head from up to 10 feet of elevation change. The check valve equipped pop-up sprinkler shall be identified on the cap as being so equipped. The sprinkler shall have a matched precipitation rate (MPR) plastic nozzle with an adjusting screw capable of regulating the radius and flow. MPR nozzles: The plastic nozzles shall have matched precipitation rates across sets (8 feet, 10 feet, 12 feet, and 15 feet). The spray nozzles shall have female thread configuration for use on the 1800 series sprinkler and the PA-8S plastic shrub adapter. Variable arc nozzle: The adjustable nozzle shall have a center collar which twists easiLy to increase or decrease arc setting. The flow shall adjust with the arc setting to maintain matched precipitation with other MPR nozzles and other arc settings. The adjustable range shall be 0 to 360 degrees. Stream Spray nozzles: The plastic nozzles shall have matched precipitation rates within sets (16 feet and 20 feet). The spray nozzles shall have female thread configuration for use on the 1800 series sprinkler and the PA-8S plastic shrub adapter. Type: Pop-up: Rain Bird I 800-PRS series or approved equal. Shrub Adapter: Rain Bird PA-8S-PRS series or approved equal.

(3) Full circle or adjustable arc pop-up medium range stream rotor sprinkler: The full circle or adjustable arc circle pop-up stream rotor sprinkler shall be a single nozzle gear drive, capable of covering 16-55 feet radius at 20-60 PSI with a discharge rate of 0.5-9.2 GPM. The adjustable arc sprinkler shall have an infinitely adjustable arc of coverage from I degree to 360 degrees. The sprinkler case and internal assembly, except for the bearing spring, wiper seal and bearing washers, shall be constructed of durable plastic. All pop-up heads installed in turf areas to have a rubber cover. The sprinkler shall have an adjustable diffuser pin for distance and distribution control. The sprinkler shall have a strong stainless steel retract spring for positive pop down. Pop-up height shall be as indicated on the imgation drawings and no less than 3 1/2 inches. The sprinkler shall have a minimum 3/4-inch bottom inlet with a plastic screen to protect nozzle from clogging. The case shall have a sturdy, reinforced rib design with flange. Types: Hunter Institutional series 1-20, 125 or approved equal.

(4) Full circle or adjustable arc pop-up large range stream rotor sprinkler: The full circle or adjustable arc circle pop-up stream rotor sprinkler shall be a single nozzle gear drive, capable of covering 40-74 feet radius at 40-90 PSI with a discharge rate of 3.8-27.5 GPM. The adjustable arc sprinkler shall have an infinitely adjustable arc of coverage from 1 degree to 360 degrees. The sprinkler case and internal assembly, except for the bearing spring, wiper seal and bearing washers, shall be constructed of durable plastic. Riser shall be constructed of plastic encased in a stainless steel sleeve. All pop-up heads installed in turf areas to have a rubber cover. The sprinkler shall have an adjustable diffuser pin for distance and distribution control. The sprinkler shall have a strong stainless steel retract spring for positive pop down. Pop-up height

shall be as indicated on the irrigation drawings and no less than 3 1/2 inches. The sprinkler shall have a minimum 1 inch bottom inlet with a plastic screen to protect nozzle from clogging. The case shall have a sturdy, reinforced rib design with flange. Types: Hunter Institutional series 1-25 Plus, 1-40, 142 or approved equal.

(5) Bubblers: Tree Bubblers: The bubbler heads shall be pressure compensating full circle units constructed out of heavy-duty plastic. The bubbler shall have a screen under the body to protect it from clogging. Bubblers shall have preset discharge rate of 0.25-1.0 GPM. Bubbler shall be pressure compensating between 20 - 90 PSI. Type: Rain Bird 1400 series or approved equal. Tree bubblers to be installed inside 4-inch diameter x 36-inch long perforated drain pipe. A rubber drain cap top shall be secured on the top of the 4-inch pipe with a stainless steel hose clamp. Shrub Stream Bubblers: The shrub stream bubblers shall be nozzles constructed out of heavy duty plastic, configured for use on the 1800 series sprinkler and he PA-SS plastic shrub adapter. Type: Rain Bird 5-B series or approved equal.

(r) Check Valves:

(1) Provide check valves and/or anti-drain valves as may be required by the Engineer to prevent drainage of irrigation water from sprinkler system due to changes in elevation.

(2) Swing Check Valve: Where water source is at the bottom of slope swing check valves are to be used. Swing check valves shall be constructed of heavy-duty plastic and stainless steel internal parts. Swing check valve shall permit water to flow up slope not down. Install swing check valves in-line as designated on the irrigation drawings. As all sizes may not be available from the manufacturer, use UVR-PVC Sch. 40 reducing bushings to adapt check valve to the line size as long as PVC swing check valve is larger than the line size. Types: Valcon, KBI, Flow Controls or approved equal.

(3) Spring Check Valve (adjustable): Where water source is at the top of slope adjustable spring check valves are to be used. Spring check valves shall be constructed of heavy duty plastic and stainless steel internal parts. Spring check valve shall be adjustable between 5 - 15 lbs. Install swing check valves in-line and/or on sprinkler heads designated on the irrigation drawings. As all sizes may not be available from the manufacturer, use UVR-PVC Sch. 40 reducing bushings to adapt check valve to the line size as long as PVC spring check valve is larger than the line size. Types: Valcon, KBI, Flow Controls or approved equal.

(s) Drip Irrigation:

(1) Drip Emitters: Multiple outlet drip emitters type constructed of heavy-duty plastic, with 1/2 inch FIPT inlets and outlets for 1/4 inch tubing. Drip emitters shall have a minimum of 8 outlets, be equipped with a plastic filter screen and have tubing outlets directed to the bottom of the unit. Multiple outlet drip emitters shall house 8 interchangeable pressure compensating drip modules. Drip modules shall have discharge rates between 0.5-2.0 GPH. Type: Rain Bird Xeri-bird or approved equal. Single outlet drip emitters, self flushing, pressure compensating type constructed of heavy-duty plastic, with 1/2 inch FIPT inlets and outlets for 1 /4 inch tubing. Drip modules shall have discharge rate between 0.5-2.0 GPH. Type: Bowsmith or approved equal. Drip tubing shall be 1/4 inch size constructed of flexible vinyl or PVC materials. Drip tubing shall be compatible with 1/4 inch barbed fittings and emitter outlets. Type: Rain Bird, Salco or approved equal. iv. Drip tubing ends shall be secured using 6-inch long plastic stakes specifically designed to hold ¼ inch vinyl tubing. Type: Rain Bird, Salco or approved equal. Drip tubing ends shall be covered with a plastic insect cap or diffuser cap specifically designed for use with 1/4 inch vinyl tubing. Type: Rain Bird, Salco or approved equal.

(2) Pressure Regulators: Drip system pressure regulators shall be constructed of heavy duty, heat resistant plastic and stainless steel internal parts. Pressure regulators shall reduce inlet water pressure in the range 3 5-70 PSI to a preset 30 PSI. Pressure regulators shall have FIPT inlet and outlet. Pressure regulator shall be sized equivalent to the drip control valve as indicated on the irrigation drawings. Type: Rain Bird, Salco or approved equal.

(3) Wye Filters: Drip system wye filters shall be constructed of heavy-duty, heat resistant plastic. Wye filters shall have a removable stainless steel or Monel screen or plastic disks filter. Drip system wye filters shall have an equivalent filtration level of 150 mesh. Wye filters shall have FIPT inlet and outlet. Wye filters shall be sized equivalent to the drip control valve as indicated on the irrigation drawings. Type: Rain Bird, Salco or approved equal.

(4) Manual Flush Valve: Drip system manual flush valves shall be ball type constructed of heavy-duty plastic. Flush valve shall be quarter turn type with FIPT inlet and outlet. Wye filters shall be 3/4 inch size. Drip system flush valve shall be installed with a brass threaded hose adapter, FIPT to MHT (male hose thread). Flush valve to be installed vertically in box to allow for easy attachment of flush hose to valve. Type: Flush Valve: KBI WLT-7500-T or approved equal. Adapter: Champion or approved equal.

(5) Automatic Flush Valve: Drip system automatic flush valve shall be constructed of heavy-duty plastic with a rubber diaphragm and a plastic drip emitter. The automatic flush valve shall allow approximately one gallon of water to exit the system before shutting.

(6) Air Release Valve: Drip system air release valve shall be gravity type constructed of heavy-duty plastic. Air release valve shall have an 0-ring sealing device that positively seals at 3 PSI. and releases air once the water pressure inside the tubing drops below one PSI. Drip system air release valve shall be installed in an adapter tee fitting with barbed insert ends using a 3/4 inch x 1/2 inch threaded reducer bushing. Air release valve shall be installed at the highest point of the drip system. Type: Netafim, Toro/Geoflow or approved equal.

(t) Sensors:

(1) Flow sensor: Flow sensor shall be a solid state unit constructed of a Sch. 80 PVC tee fitting, an 0-ring sealed epoxy fused sensor housing, and nylon impeller. Flow sensor shall be wired to a separate monitoring device wired to the controller. If using Maxicom system, wire the flow sensor to a pulse output transmitter and pulse decoder wired to the CCU. All separate monitoring devices shall be installed inside of the controller enclosure. Flow sensors shall be installed as per the manufacturer's specifications. Type: Flow sensor: Data Industrial 220 series or approved equal. Monitor: Data Industrial 800 LARC or approved equal. Transmitter: Data Industrial 600 or approved equal. Decoder: Rain Bird DEC-PUL or approved equal.

(2) Rain Sensor: Rain sensor shall be a container catchment type constructed of heavy duty plastic with epoxy sealed electronics. Sensor shall be installed within a 1/8 inch thick steel vandal resistant enclosure. Rain sensor shall be wired to the controller as per the manufacturer's recommendations. Mount rain sensor either on the side of the controller enclosure or on the building eave as directed by the Engineer. All exposed rain sensor wire shall be installed inside a 1/2 inch steel electrical conduit painted to match the building on which it is installed. Type: WCS Rain Guard RG/RG-VR or approved equal.

(3) Install flow sensor in planting areas and according to the construction details. Align valve boxes at right angles to adjacent hardscape whenever possible. Where several valve boxes are located in the same area, arrange them in a uniform and orderly fashion. Valve boxes shall be installed with an eight (8) inch deep layer of 3/4 inch crushed gravel at the base of the box.

(u) Basket Strainer:

(1) Basket strainer shall have a bronze body and cover with a stainless steel basket element with a filtration equivalent of 80 mesh. Type: Hayward Model 72 Simplex or approved equal.

(v) Booster Pump:

(1) Booster pumps shall be a pre-assembled unit provided by a pump supply company routinely building booster pump systems for use with irrigation systems.

(2) Booster pump shall deliver the system water pressure at the specified irrigation volume indicated on the irrigation drawings.

(3) Booster pump shall be a close coupled end suction centrifugal, cast iron bronze fitted back pull out design with a mechanical seal and an ODP motor.

(4) Booster pump assembly shall have a combination circuit breaker / magnetic starter control panel installed inside a NEMA 4 enclosure with a HOA switch and components to automatically control the booster system.

(5) Booster Pump assembly shall include brass quarter turn ball valves, brass and stainless steel fitted disc type check valves and brass unions. All piping in booster assembly shall be type L copper. Pressure gauges shall be 2 1/2 inch dial type with liquid filled stainless steel case, capable of reading to 150 PSI. Pipe and equipment shall be sized as indicated on the irrigation drawings.

(6) Booster pump enclosure shall be stainless steel with lockable doors and venting. Booster assembly shall be mounted on a epoxy coated channel steel base plate and secured to a 4 inch thick concrete base using galvanized steel hardware provided by the pump assembly manufacturer.

(7) Electrical requirements for the booster pump shall be as indicated on the irrigation drawings. Electrical power to be provided by the Electrical Contractor. Landscape contractor is responsible for final hook-up to booster assembly and connection to irrigation controller.

(8) Booster pump shall be grounded as per the manufacture's specifications.

(w) Miscellaneous Equipment:

(1) Hose Bibs: Hose Bibs for quick coupler assemblies shall be constructed of brass bodies, rubber gaskets and a malleable iron handle. Hose bibs shall have a 1-inch FIPT inlet and a 3/4 inch MHT outlet. Type: Champion B-402 or approved equal.

(2) Landscape Fabric: Landscape fabric for valve box assemblies shall be 5.0 oz. weight woven polypropylene weed barrier. Landscape fabric shall have a burst strength of 225 PSI, a puncture strength of 60 lbs. and capable of water flow of 12 gallons per minute per square foot. Type: DeWitt Pro 5 Weed Barrier or approved equal.

(3) Thrust Blocks: Thrust blocking shall be used on all irrigation mainlines 2 inch diameter and larger. Thrust blocks shall be minimum 1 cubic foot of 470-C-2000 concrete. All PVC pipe fittings shall be wrapped with black plastic tape prior to installation of thrust blocks. A pipe restraint system shall be used in lieu of thrust blocks for all bell and gasket pipe.

(4) Gravel: All gravel used in valve boxes shall be washed crushed gravel of approximately 3/4 inch size. No pea gravel shall be used.

(5) J-hooks: All pipe installed on grade shall be secured to the ground surface using #4 x 18 inch rebar J-hooks. All J-hooks shall be painted with black epoxy paint prior to installation. J-hooks are to be installed a minimum of 8 feet on center and as indicated on the irrigation drawings.

(6) Stabilizing Rods: All assemblies requiring stabilization shall be equipped with #4 x 30 inch rebar stabilizer rods. Quantity of stabilizing rods shall be as indicated on the detail drawings.

(7) Vandal-proof Clamps: All assemblies requiring stabilization shall be equipped with vandal-proof clamps constructed of stainless steel and be installed with a tool specifically for this purpose. Clamps shall be one time only use type and not be removable with screwdrivers or wrenches. Quantity of clamps shall be as indicated on the detail drawings.

(8) Identification tags with numbers are required on all valves. Type: Christy Tags (yellow background with black lettering) or approved equal. Christy Tags (Purple background with reclaimed water warnings) or approved equal.

(9) Swing joint assembly shall be a contractor assembled swing joint consisting of three (3) Marlex street ells and a 6 inch long schedule 80 nipple. A single street ell shall be used at the connection to the lateral line fitting and two street ells shall be used at the quick coupler end of the swing joint. Assembly shall be sized per the sprinkler or drip emitter inlet, with a 6 inch minimum lay length.

S-003.03 CONSTRUCTION REQUIREMENTS

(a) Permits: Contractor shall obtain all permits required for irrigation installation.

(b) As Built Drawings:

(1) Record accurately on one set of black and white prints (irrigation drawings), all changes in work constituting departures from the original contract drawings. Include changes in both pressure and non-pressure lines.

(2) Upon completion of each increment of work, transfer all such information and dimensions to the prints. Record changes and dimensions in a legible and professional manner. When the drawings are approved, transfer all information to a set of reproducible drawings.

(3) Dimension from two permanent points of reference (monuments, sidewalks, curbs, and pavement). Post information on as built drawings day-to-day as the work is installed. All dimensions noted on the drawings shall be 1/4 inch in size.

(4) Show dimensional locations and depths of the following: Point of connection (P.O.C.)., backflow prevention assembly, master valve and flow sensor, routing of irrigation pressure mainlines (dimension maximum 100 feet along routing and all directional changes), ball and butterfly shut-off valves, irrigation control valves, automatic controller, rain sensors and electrical conduits, Sleeves and pull boxes, other related equipment (as directed by the Engineer).

(5) Maintain as-built drawings on site at all times. These drawings are subject to inspection at any time.

(6) Make all changes to reproducible drawings in ink (no ballpoint pen). Make changes in a manner equal to the original drawings.

(7) Contractor must submit as-built drawings to the Engineer for approval.

(8) Controller Charts: As-built drawings shall be approved by the Engineer before charts are prepared. Provide two controller charts for each controller supplied, showing the area covered by the automatic controller. The chart shall be a reproduction of the as-built system drawing. If the controller sequence is not legible when the drawing is reduced, enlarge it to a size that will be readable when reduced. Charts shall be blackline print with a different transparent color used to how area of coverage for each station. When completed and approved, hermetically seal the chart between two pieces of plastic, each piece being a minimum of 10 mils

thick. Charts shall be completed and approved prior to final inspection of the irrigation system. The Engineer reserves the right to have complete access to the controller clocks for monitoring and controlling system failures. The contractor shall provide the Engineer with two sets of all keys necessary for access to the controller clocks within the design area. The keys will then become the property of the City.

(c) Operation and Maintenance Manuals:

(1) Prepare and deliver to the Engineer, prior to the start of maintenance, all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in four individually bound copies. Describe the material installed in sufficient detail to permit qualified operating personnel to understand, operate and maintain all equipment. Each manual shall include the following: index sheet stating contractor's address and telephone number, list of equipment with names and addresses of manufacturer's local representatives, complete operating and maintenance instructions on all major equipment.

(2) In addition to the maintenance manuals, provide the maintenance personnel with instructions for major equipment and show written evidence to the Engineer at the conclusion of the work that this service has been rendered.

(d) Spare Parts and Equipment: Prepare and deliver to the Owner all required spare parts, tools and equipment. Spare parts, tools and equipment shall include the following: two (2) wrenches for disassembly and adjustment of each type of sprinkler head used in the sprinkler system, two (2) screwdrivers for adjustment of each type of sprinkler head used in the sprinkler system, two quick coupler keys with 3/4-inch bronze hose bib, bent nose type with hand wheel and two coupler lid keys, one valve box cover key or wrench, one 5-foot tee wrench for operating butterfly valves (if used), six extra sprinkler heads of each size and type used on the project, six extra drip emitters of each size and type used on the project, radio remote operating devices for irrigation system (if specified).

(e) Water Supply

(1) Utilize water meter and provide connections to backflow prevention unit per the irrigation drawings and details.

(2) Connections to the existing water meter shall be at the approximate locations shown on the drawings. Minor changes caused by actual site conditions shall be made without additional cost to the City.

(3) The backflow prevention unit shall be tested by a certified backflow prevention technician and its operation certified in writing. Landscape Contractor is to arrange and pay for all testing and certification fees. The original written certification of the backflow prevention unit is to be submitted to the Engineer.

(f) Layout:

(1) Lay out irrigation heads and make any minor adjustments required due to differences between site and the drawings. Any such deviations in layout shall be within the intent of the original drawings and approved by the Engineer.

(2) Lay out all irrigation equipment using an approved staking method, and maintain the staking of approved layout.

(3) All layouts shall be approved by the Engineer prior to equipment installation.

(4) Before starting work on irrigation system, determine that work may proceed without disruption of activities of other trades.

(5) The contractor shall carefully check grades to ensure that the area is safe to begin work.

(6) Contractor is responsible for taking all reasonable investigative actions and precautions, when working around any utility system.

(7) Contractor shall be responsible for verification of site conditions and minor revisions as approved by the Engineer to insure 100% irrigation coverage in all areas.

(g) Assemblies:

(1) Routing of irrigation lines as indicated on drawings is diagrammatic. Install lines (and various assemblies) to conform to details on plans. Whenever possible, place all irrigation equipment in the planting areas. Irrigation elements drawn in hardscape areas on the plans is for graphic clarity only and are meant to be placed in planting areas.

(2) Do not install multiple assemblies on plastic lines. Provide each assembly with its own outlet.

(3) Install all assemblies specified herein according to the respective detail drawings or specifications, using the best standard practices with prior approval.

(4) Assemble brass pipe and fittings and plastic pipe and threaded fittings, using Teflon tape, or approved equal applied to the male threads only.

(5) Install concrete thrust blocking at all changes of direction 45 degrees or greater on all main line, 2 inch or larger. Install thrust blocks per details. Pipe restraint system shall be used in lieu of thrust blocks on bell and gasket pipe.

(h) Line Clearance:

(1) All lines shall have a minimum clearance of 4 inches from each other and 24 inches from lines of other trades.

(2) Do not install parallel lines directly over one another.

(i) Trenching:

(1) Dig trenches and support pipe continuously on bottom of trench. Lay pipe to an even grade. Pipe shall be snaked from side to side to allow for expansion and contraction. Trenching excavation shall follow layout indicated and as noted. Where lines occur under paved area, these dimensions shall be considered below sub-grade.

(2) Provide the following minimum covers: Pressure mainlines 3 inches size or greater: 24 inches; Pressure mainlines less than 3 inches: 18 inches; Non-pressure lines (lateral lines): 18 inches; Control wiring: 24 inches

(j) Backfilling.

(1) Initial backfill on all lines shall be of a fine granular material, not larger than 1/2 inch diameter.

(2) Compact backfill to dry density equal to the adjacent undisturbed soil, conforming to adjacent grades without dips, sunken areas, humps, or other irregularities.

(3) In appropriate types of soil, the Engineer may authorize the use of flooding in lieu of tamping.

(4) Under no circumstances shall vehicle wheels be used for compacting soil.

(5) Provide sand backfill a minimum of 4 inches over and under alL piping under paved areas, and a minimum of 2 inches on all other piping.

(6) If settlement occurs and subsequent adjustments in pipe, valves, irrigation heads, turf or other plantings, or other construction are necessary, the contractor shall make all required adjustments without cost to the City.

(k) Flushing the System.

(1) After all irrigation pipe lines and risers are in place and connected, and prior to installation of irrigation heads, the control valves shall be opened and full head of water used to flush out the system.

(2) Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Engineer.

(l) Under Existing and/or Proposed Pavement.

(1) Trenches located under areas where paving, asphaltic concrete or concrete will be installed shall be backfilled with sand and compacted in layers to 95% compaction, using manual or mechanical tamping devices. Trenches for piping shall be compacted to equal the compaction of the existing adjacent undisturbed soil and shall be left in flush with the adjoining grade. The irrigation contractor shall set in place, cap and pressure test all piping under paving prior to paving work.

(2) Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. However, no hydraulic driving will be permitted under asphalt paving.

(3) Provide a minimum cover of 24 inches between the top of the pipe and the bottom of aggregate base for non-pressure piping (laterals) installed under asphaltic concrete paving. Provide a minimum cover of 36 inches between the top of the pipe and the bottom of aggregate base for pressure mainline piping installed under asphaltic concrete paving.

(4) Sleeves shall be two times the diameter of lateral line, mainline, and wire bundle size, and a minimum of 2 inch size. Install separate sleeves for each use.

(5) Under public roads, all mainlines and lateral piping must have a minimum cover of 36 inches from the top of the pipe to the bottom of aggregate base.

(6) Secure permission from the Engineer before cutting or breaking existing pavement. All necessary repairs and replacements shall be approved by the Engineer at no additional cost to the City.

(m) Controller:

(1) The contractor shall install a new controller as specified on the irrigation drawings.

(2) Controller shall be installed in the locations indicated on the irrigation drawings and approved by the Engineer.

(3) Contractor shall install separate sleeves for the phone line, control wiring, ground wire and electrical power wires as required.

(4) Install one extra 1 1/4 inch size conduit into the enclosure for future use.

(n) Irrigation Heads:

(1) Install irrigation heads as indicated on the irrigation drawings.

(2) Spacing of heads shall not exceed the maximum indicated. In no case shall the spacing exceed the maximum recommended by the manufacturer.

(3) Sprinkler heads in lawn or turf areas shall be elevated to a minimum of 4 inches above grade during installation. Heads along curbs, walks, paving, etc., shall be placed at finish grade. Lower raised irrigation heads within ten days after notification by the Engineer.

(4) Final sprinkler head heights shall be as indicated on the City standard irrigation detail drawings. All sprinkler heads installed adjacent to hardscape features shall be located 6 inches off of the edge of the hardscape feature in ground cover areas and 4 inches from the edge of the hardscape feature in turf areas.

(5) All irrigation heads shall be set perpendicular to finish grades unless otherwise indicated on the plans.

(o) Adjusting the System:

(1) The contractor shall flush and adjust all irrigation heads and valves for optimum performance and to prevent over spray onto walks, roadways, buildings, walls and other structures as much as possible.

(2) If it is determined that adjustments in the irrigation equipment or nozzle changes will provide proper and more adequate coverage, make all such changes or make arrangements with the manufacturer to have adjustments made, prior to any planting.

(p) Coverage Test:

(1) When the irrigation system is completed, perform a coverage test in the presence of the Engineer to determine if the water coverage for lawn, planting and slope areas is complete and adequate. Coverage must be 100% head to head to be accepted by the Engineer. Furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the plans or where the system has been willfully installed as indicated in the drawings; when it is obviously inadequate or inappropriate, without bringing this to the attention of the Engineer. This test shall be accomplished before any plant material is planted (excluding trees).

(q) Tests.

(1) All piping under paved areas shall be tested under a hydrostatic pressure of 150 PSI, and approved watertight, prior to the paving operation. Make hydrostatic tests only in the presence of the Engineer. No pipe shall be backfilled until it has been inspected, tested, and approved in writing.

(2) Furnish necessary force pump and all other test equipment.

(3) Test all pressure mainlines under a hydrostatic pressure of 150 PSI for a period of two hours.

(4) All testing shall be approved prior to the installation of remote control valves, quick couplers, or other valve assemblies.

(5) Air pressure check all lines that could weaken or damage any major structures or hardscape, if water were used.

(r) Maintenance:

(1) The entire irrigation system shall be under full automatic operation for a period of seven days prior to any planting or hydroseeding (excluding trees).

(s) Completion Cleaning:

(1) Upon completion of the work, make ground surface-level, remove excess materials, rubbish, debris, etc., and remove construction and installation equipment from the premises.

S-003.04 MEASUREMENT. The work described in this section shall be measured and paid for per lump sum for the irrigation system, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-003.05 PAYMENT. Payment for the Irrigation System shall be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
S-003	Irrigation System	lump sum

ITEM S-004, HANDRAIL:

S-004.01 DESCRIPTION. This item shall consist of furnishing and installing handrails as shown on the plans.

S-004.02 SUBMITTALS. Contractor shall submit to the Engineer shop drawings showing fabrication details and material specifications for handrails for approval prior to ordering or fabricating handrails.

S-004.03 MEASUREMENT. The work described in this section shall be measured per each handrail installed and accepted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-004.04 PAYMENT. Payment for Handrails shall be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
S-004	Handrail	each

ITEM S-005, SITE AND STREET FURNISHINGS:

S-005.01 - GENERAL

1.1 DESCRIPTION

A. This item shall consist of furnishing and installing site and street furnishings as shown on the plans.

1.2 SUMMARY

A. Furnish all labor, materials, tools, equipment, necessary incidentals, and supervision required for the installation of site furnishings including benches, litter receptacles and planters as herein specified, and as shown on the construction drawings.

B. This Section includes the following site and street furnishings:

1. Bench es.
2. Litter receptacles
3. Planters.

C. Work included:

1. Excavate and plac e concrete footings and slabs as required.
2. Back fill, compact, and restore earthwork around concrete footings and slabs.
3. Remove and dispose of excess soil from excavated footings as specified under Earthwork.

D. Products furnished, but not installed under this Section, include pipe sleeves anchor bolts to be cast in concrete footings.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, field-assembly requirements, and installation details.

B. Samples for Initial Selection: For units with factory-applied color finishes.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.

1. Size: Not less than 6-inch-long linear components and 4-inch-square sheet components.

D. Product Schedule: For site and street furnishings. Use same designations indicated on Drawings.

E. Maintenance Data: For site and street furnishings to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain site and street furnishings through one source from a single manufacturer.

S-005.02 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide outdoor furniture specified below.

Name/model number	Manufacturer (or approved equal)
Bench Manchester Collection, MC108-72-MF (RAVEN), backless, 6' length, surface mount, color: Raven	BRP Enterprises Lincoln, Nebraska 1-888-438-5312
Litter Receptacle T Series, T-32, with standard tapered lid, surface mount, color: Black	Victor Stanley Dunkirk, Maryland 1-800-368-2573
Planter T Series, TP-36, surface mount, color: Black	Victor Stanley Dunkirk, Maryland

1-800-368-2573

2.2 MATERIALS

A. Concrete: ASTM C94 ready-mixed 4000 psi concrete, air-entrained.

S-005.03 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Complete field assembly of site and street furnishings, where required.

B. Unless otherwise indicated, install site and street furnishings after landscaping and paving have been completed.

C. Install site and street furnishings level, plumb, true, and securely anchored and positioned at locations indicated on Drawings.

D. Installation of site furnishings shall be done in accordance with manufacturer's written instructions, construction drawings and specifications as specified herein.

1. Where the manufacturer's instructions differ from the construction drawings and specifications, the construction drawings and specifications shall supersede the manufacturer's instructions unless otherwise approved.

E. The location of the site furnishings shall be in accordance with the lines and grades as shown on the construction drawings.

F. Excavations required to receive concrete footings shall be of the size and shape as shown on the construction drawings.

G. Contractor shall stake out location of all site furnishings and shall receive the Owner's Representative's approval prior to installation.

H. The backfill, compaction, and replacing of the earthwork around the concrete footings shall be done after the footings have cured for not less than two days.

I. The top of the concrete footings shall not show above the subgrade, unless otherwise shown on the construction drawings.

J. The top of the concrete slabs shall be flush with grade adjacent, unless otherwise shown on the construction drawings.

K. Site furnishing supports, braces and legs embedded in concrete footings shall be encased with concrete to include not less than 4" of concrete below the end of the embedded member, unless otherwise noted.

L. Site furnishings shall be braced firmly in place until the concrete has cured for not less than 2 days.

M. Any equipment not installed properly as determined by the Owner's Representative shall have the concrete footings removed and reinstalled at no cost to the Owner.

S-005.04 - CLEANING

A. After completing site and street furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

S-005.05 – MEASUREMENT

A. The work described in this section shall be measured and paid per each unit installed and accepted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-005.06 – PAYMENT

A. Payment for items in this section shall be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
S-005-A	Trash Receptacles	each
S-005-B	Benches	each
S-005-C	Planters	each

ITEM S-006, HANGING BASKETS:

S-006.01 DESCRIPTION. This item shall consist of furnishing and installing hanging baskets as shown on the plans.

S-006.02 SUBMITTALS. Contractor shall submit to the Engineer details and material specifications for hanging baskets for approval prior to ordering hanging baskets.

S-006.03 MEASUREMENT. The work described in this section shall be measured per each hanging basket installed and accepted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-006.04 PAYMENT. Payment for Hanging Baskets shall be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
S-006	Hanging Baskets	each

ITEM S-007, ROOF DRAIN DOWNSPOUTS:

S-007.01 DESCRIPTION. This item shall consist of furnishing and installing and connecting downspouts to existing roof drains.

S-007.02 MATERIALS. Downspouts shall consist only of connector piece to existing roof drains to direct water through the sidewalk corridor as shown on the plans or as directed by the Engineer.

S-007.03 SUBMITTALS. Contractor shall submit to the Engineer shop drawings showing connection details to existing roof drains along with material specifications for down spout for approval prior to ordering or fabricating downspouts.

S-007.04 MEASUREMENT. The work described in this section shall be measured per each roof drain down spout installed and accepted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-007.05 PAYMENT. Payment for Roof Drain Downspouts shall be made at the contract unit price under:

Item No.	Pay Item	Pay Unit
S-007	Roof Drain Downspouts	each

ITEM S-008, SIDEWALK DRAIN COVER:

S-008.01 DESCRIPTION. This item shall consist of furnishing and installing sidewalk drain cover and frame where indicated on the plans and as directed by the Engineer.

S-008.02 MATERIALS.

(a) Frame shall consist of angle steel fabricated to the dimensions shown on the plans, or as directed by the Engineer. Angle steel shall comply with Section 1013.05 Structural Steel in the *Louisiana Standard Specifications for Roads and Bridges, 2006 edition.* Frame shall be galvanized after fabrication. Galvanizing shall comply with ASTM A 123.

(b) Drain Cover shall consist of a steel deck plate with non-skid surface fabricated to the dimensions shown on the plans or as directed by the Engineer. Steel shall comply with Section 1013.05 Structural Steel in the *Louisiana Standard Specifications for Roads and Bridges, 2006 edition.* Drain Cover shall be galvanized after fabrication. Galvanizing shall comply with ASTM A 123.

S-008.03 CONSTRUCTION REQUIREMENTS. Contractor shall anchor frame into cast concrete as shown on plans. Drain Cover shall rest onto frame and be free to be removed for debris removal purposes.

S-008.04 METHOD OF MEASUREMENT. The work described in this section shall be measured per each sidewalk drain cover installed and accepted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-008.05 BASIS OF PAYMENT. Sidewalk Drain Covers will be paid for at the contract unit price under:

ITEM NO.	PAY ITEM	PAY UNIT
S-008	Sidewalk Drain Cover	each

ITEM S-009, ADJUSTING METAL LID:

S-009-1 DESCRIPTION. This item shall consist of making appropriate height adjustments to an existing metal lid on Vienna Street within the sidewalk corridor.

S-009-2 MATERIALS. Materials shall consist of that required to complete the adjustment and in accordance with any direction set forth by the City of Ruston.

S-009-3 CONSTRUCTION REQUIREMENTS. Contractor shall consult with the City of Ruston for any construction requirements necessary to complete adjustment.

S-009-4 METHOD OF MEASUREMENT. The work described in this section shall be measured by lump sum, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-009-5 BASIS OF PAYMENT. Adjusting Metal Lid will be paid for at the contract unit price under:

ITEM NO.	PAY ITEM	PAY UNIT
S-009	Adjusting Metal Lid	lump sum

ITEM S-010, ADJUSTING MONITORING WELL:

S-010.01 DESCRIPTION. This item shall consist of making appropriate height adjustments to existing monitoring wells within the sidewalk corridor.

S-010.02 MATERIALS. Materials shall consist of that required to complete the adjustment in accordance with these plans, specifications and any direction given by the City of Ruston.

S-010.03 CONSTRUCTION REQUIREMENTS. Contractor shall consult with the City of Ruston for any construction requirements necessary to complete the adjustment.

S-010.04 METHOD OF MEASUREMENT. The work described in this section shall be made per each monitoring well adjusted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-010-5 BASIS OF PAYMENT. Payment for Adjusting Monitoring Well will be made at the contract unit price under:

ITEM NO.	PAY ITEM	PAY UNIT
S-010	Adjusting Monitoring Well	each

ITEM S-011, RELOCATION OF STREET SIGNS WITH NEW POSTS:

S-011.01 DESCRIPTION. This work consists of removing existing signs and sign posts and re-installing the signs on new U-Channel posts as shown on the plans.

S-011.02 MATERIALS.

(a) U-Channel Posts: U-channel posts shall comply with Subsection 1015.02(a)(3) of the *Louisiana Standard Specifications for Roads and Bridged, 2006 edition.*

(b) Fittings: Structural bolts, nuts, washers and miscellaneous hardware shall comply with Subsection 1015.02 of the *Louisiana Standard Specifications for Roads and Bridged, 2006 edition.*

S-011.03 CONSTRUCTION REQUIREMENTS. The Contractor's sign removal and replacement operations shall be coordinated as directed to provide for adequate signing to be in place at all times.

(a) Sign Location: Sign support locations will be as shown on the plans or as directed. Sign locations, after initial staking by the contractor, must be approved by the engineer. Sign locations which are obviously improper because of topography, existing appurtenances or other conflicting conditions will be adjusted to the closest desirable location. The contractor shall ten determine elevations for post length determinations at the established sign support location. The contractor shall be responsible for orientation, elevation, offset and leveling of signs.

(b) Sign Positioning:

(1) Road Edge Signs: Road edge signs shall be constructed with sign faces vertical. Sign faces located less than 30 feet from the edge of the travel lane shall be placed at a 93 degree angle from the center of the travel lane. Sign faces located 30 feet or more from the

edge of the travel lane shall be placed at an 87 degree angle from the center of the travel lane. Where the lanes are on curves or grades, sign faces shall be oriented to be most effective both day and night and avoid specular reflection.

(2) Vertical and Horizontal Clearances: Vertical and horizontal clearances shall be in accordance with the MUTCD and/or shall be as shown on the plans.

S-011.04 MEASUREMENT. Removing existing signs and remounting on new U-channel posts will be measured per each unit completed and accepted in accordance with these plans and specifications.

S-011.05 PAYMENT. Payment for removing existing signs and remounting on new U-Channel posts will be made at the contract unit proce per each which shall include all labor, equipment, tools, materials and incidentals necessary to complete the work. Payment shall be made under:

Item No.	Pay Item	Pay Unit
S-011	Relocation of Street Signs with New Posts	each

ITEM S-012, ELECTRICAL CONDUIT:

S-012.01 DESCRIPTION: This work consists of furnishing and installing electrical conduit in accordance with these plans, specifications and Subsection 730 of the *Louisiana Standard Specifications for Roads and Bridges, 2006 edition.* The conduit installed will not include conductors. The conductors will be furnished and installed by the City of Ruston.

S-012.02 MATERIALS: Electrical Conduit shall be in accordance with these plans, specifications and Subsection 730 of the *Louisiana Standard Specifications for Roads and Bridges, 2006 edition,* inclusive of the following:

(a) Underground conduit not within the limits of paved areas shall be Schedule 40 PVC.

(b) Underground conduit within the limits of paved areas shall be HDPE and shall be installed by horizontal directional drilling.

S-012.03 CONSTRUCTION REQUIREMENTS: Electrical Conduit shall be installed in accordance with these plans, specifications and Subsection 730 of the *Louisiana Standard Specifications for Roads and Bridges, 2006 edition.* The installation will include full length pull tapes, Ideal Model No. 31-340 or approved equal. The installation will not include conductors. Upon installation of the conduit, the City of Ruston will install the conductors.

S-012.04 MEASUREMENT: Electrical conduit shall be measured per linear foot installed and accepted in accordance with these plans and specifications.

S-012.05 PAYMENT: Payment for electrical conduit will be made at the contract unit price per linear foot, which shall include all labor, equipment, tools, materials and incidentals necessary to complete the work. Payment shall be made under:

Item No.	Pay Item	Pay Unit
S-012-A	Conduit (1 1/4" Sch. 40 PVC, No Conductors, Include Pull Tape Full Length)	linear foot
S-012-B	Conduit (2 1/2" Sch. 40 PVC, No Conductors, Include Pull Tape Full Length)	linear foot

S-012-C	Conduit (1 1/2" HDPE by Horizontal Directional Drilling)	linear foot
S-012-D	Conduit (2 1/2" HDPE by Horizontal Directional Drilling)	linear foot

ITEM S-013, WATER LINES AND RELATED ITEMS:

S-013.01 GENERAL

1.1 Description

The work provided for herein consists of furnishing all plant, labor, material and equipment and performing all operations incidental to the completion of the water distribution mains as shown on the plans and as specified herein.

S-013.02 PRODUCTS

2.1 PVC PIPE (C900)

2.1.1 PVC pipe shall meet the requirements of AWWA C-900 "Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4" Through 12" For Water" and shall be furnished in iron pipe size outside diameters with integral bell and gasket.

2.1.2 All PVC piping shall be class 150 psi and shall be furnished in nominal 20 foot laying lengths.

2.1.3 Each joint of the PVC pipe shall pass a hydrostatic integrity test at the factory of 4 times the pressure class for the pipe for 5 seconds. In addition, each rubber gasketed coupling and repair coupling shall pass the same hydrostatic integrity test at the factory at the rate of 4 times the pressure class of the coupling for 5 seconds.

2.1.4 All pipe shall be factory tested as outlined in the above referenced AWWA Specification C-900 for the test contained therein and limited to a minimum of sustained pressure, burst pressure, flattening and excrustion quality. All PVC piping shall be installed with a locator wire as shown on the plans. No separate measurement or payment will be made for such wire or tape.

2.2 DUCTILE IRON PIPE AND FITTINGS

Ductile iron pipe shall meet the requirements of ANSI A21.51 (AWWA C151) and shall be equipped with push-on type joints. The pipe and joints shall come with a preformed bell at the end of each pipe to accept a rubberized gasket. The pipe shall be bituminous coated outside and cement lined inside in accordance with the above referenced specifications. The pipe shall be designed in accordance with ANSI A21.50 (AWWA H3) for 250 psi working pressure plus a surge allowance of 100 psi, for a type 2 laying condition, flat bottom with bell holes for couplings and tamp backfill to spring-line of pipe with a 2½ to 1 safety factor. Thickness shall be Class 50 for sizes through 12 inch.

Ductile iron fittings shall meet the requirements of ANSI A21.10 (AWWA C-110) and ANSI 21.11 (AWWA C11). All fittings shall be restrained mechanical joint type, with a standard gasket and a ductile iron, full circumference articulating wedge, "GripRing" by Romac Industries, Inc. or approved equal. All fittings shall be rated to the full working pressure of the pipe.

2.3 CASING PIPE

2.3.1 Steel Casing Pipe: Steel casing pipe shall be constructed of steel plate, butt welded; welds shall be wire brushed and entire pipe cleaned and given two (2) heavy coats of asphaltum. The pipe shall have the following wall thicknesses:

12" through 16"	1/4"
18"	5/16"
22" and 24"	3/8"
26"	7/16"
30"	1/2"

2.3.2 Asbestos-Bonded Corrugated Steel Pipe Casing: Asbestos-Bonded corrugated steel pipe casing shall conform in all respects to AASHTO Standard Specifications M-36.

Nominal Diameter	Gauge
12" through 24"	14
30"	12

2.3.3 All casing shall be installed in accordance with the requirements of the organization owning the utility under which the line is passing. Such requirements will be furnished to the Contractor upon request.

2.4 GATE VALVES

Gate valves shall be iron body, bronze stem, rubber disc, resilient wedge seat type and shall be AWWA standard and shall be similar and equal to the AWWA non-rising stem gate valves as manufactured by the U.S. Pipe Company. The Contractor shall furnish three (3) wrenches for each type of valve.

2.5 ADJUSTABLE VALVE BOXES

Valve boxes shall be of cast iron or other approved material and shall be of the heavy screw extension type with flared base. The cover shall have the word "water" cast into the metal. Boxes shall be similar and equal to those manufactured by Mueller Company.

2.6 FIRE HYDRANTS

2.6.1 Fire hydrants shall conform to AWWA specification C-502-54 and shall have a cast iron body and shall be fully bronze mounted. Hydrants shall be designed for 150 psi working pressure and shall be given a 300 psi hydrostatic test at the manufacturer's shop.

2.6.2 Hydrants shall have a 6-inch connection to the main and a minimum valve opening of 5¼ inches.

2.6.3 Hydrants shall be furnished with two (2) 2½ inch plus one (1) 4½ inch pumper nozzles as indicated on the plans. Threads shall conform to the City's standards and shall open by turning counterclockwise. Nozzled caps and threads shall be of a corrosion resistant material and the caps shall be linked to the hydrant with chains.

2.6.4 Drain valves shall be automatic and shall open when the main valve is closed to drain the hydrant rise. They shall close automatically when the main valve is opened.

2.6.5 Hydrants shall be so constructed to permit withdrawal of internal working parts without removal of the barrel. A "Safety Flange" shall be provided slightly above ground line to prevent damage to the hydrant in case of impact.

2.6.6 Hydrants shall come with one shop coat of paint or other approved primer which shall be repaired as to scratched or skinned places after installation and shall then receive two coats of an approved enamel. Color shall be an approved yellow with the first coat containing lamp black to distinguish it from the final coat.

2.6.7 Hydrants shall be manufactured by Mueller Company model A421, American Darling or approved equal.

2.6.8 The Contractor shall furnish the Sponsor three (3) wrenches of the type necessary to operate each type hydrant.

2.7 PIPE LOCATOR WIRE

2.7.1 PVC pipe locator wire shall be 10 gauge copper.

2.7.2 No separate pay item shall be provided for locator wire and shall be included in the per linear foot price bid for water lines and service lines.

S-013.03 EXECUTION

3.1 EXCAVATION, TRENCHING AND BACKFILL

3.1.1 All excavation, trenching and backfill required for the successful completion of this work as shown on the plans and as specified herein shall be in accordance with the applicable portions of Section I. However, excavation for all water mains shall be with vertical sides and flat bottom and the maximum trench width shall be the nominal diameter of the pipe plus 2 feet maximum. Bell holes will be required at each coupling or joint to allow complete support along the pipe and select material will be placed in layers not exceeding 6 inches and compacted by hand methods to the spring-line of the pipe. The remainder of the trench shall be randomly backfilled with the excavated material.

3.1.2 The above backfilling procedure is not applicable adjacent to structures or across roadways.

3.2 SURFACE OBSTRUCTIONS

All buildings, fences, bridges, railroads, trees, telephone lines, power lines, or other property or improvements encountered shall be carefully protected from all injury by whatever means are necessary. In the event such damage occurs or such obstructions are removed during the progress of the work, they shall be repaired or replaced in a satisfactory manner within a reasonable time; except that the Contractor is fully responsible for any ramification of any nature resulting from any such damage or removal.

3.3 SUBSURFACE OBSTRUCTIONS

3.3.1 The Contractor shall exercise extreme care during excavation, backfilling, laying or other operations not to disturb or injure any other pipes, conduits, cables, structures or other underground improvements

without the written approval of the Engineer. The Contractor will be required to sling, brace or otherwise maintain any of these facilities in operation at his own expense. He shall repair any damage done in a manner satisfactory to the Engineer within a reasonable time; except that the Contractor is fully responsible for any ramification of any nature resulting from any such damage.

3.3.2 The Contractor shall give sufficient notice to the affected utility should it be necessary to remove or disturb any of their facilities. He shall also abide fully by their regulations governing such work. The Contractor shall immediately notify the proper authorities or utility company should any damage to such facility occur during the prosecution of this work.

3.3.3 The Sponsor reserves the right to make any necessary repairs to damaged or disturbed facilities at the Contractor's expense or to allow the utility to make repairs for which the Contractor shall pay the Sponsor or utility the proper charges for such repairs.

3.3.4 The Sponsor or Engineer will not be liable for any claim arising based on underground obstructions being different than indicated on the plans or in the contract documents.

3.3.5 The Contractor shall be responsible for locating and uncovering underground obstructions sufficiently far enough in advance so that the method of avoiding may be determined before the pipe laying reaches the obstruction.

3.3.6 The Contractor will be governed by instructions of the Engineer regarding pipe to be laid along state highways and the Engineer along with the applicable Highway Department will determine whether pipe shall be laid over, under or along the end of various drainage structures or facilities encountered.

3.4 ROAD CROSSINGS

3.4.1 All crossings under paved roads shall be jacked and bored unless otherwise written approval is issued by the Engineer. All lines under paved roads with a nominal diameter greater than six inches (6") shall be encased as shown on the plans and as specified herein and smaller lines shall be encased only when shown on the plans. All casing material shall meet the requirements of Article 2.3. All lines crossing railroads shall be encased. All lines which are jacked and bored without casing shall not contain joints except at the edge of the right-of-way.

3.4.2 The Contractor shall not unreasonably block, obstruct or otherwise interfere with the normal operation of any canal, stream or other natural or artificial drainage facility and shall be fully responsible for any ramification resulting from any such damage or interference.

3.4.3 It should be noted that no additional compensation of any type will be paid in connection with any crossing except for extra work or materials. Pipe jacked and bored will be paid for at the unit price bid for either cased or uncased and will not be paid for again as water line.

3.5 LAYING AND JOINTING PIPE

3.5.1 The Contractor shall employ, for the laying and jointing of all pipe, only workmen who are skilled in laying and jointing such pipe.

3.5.2 All pipe and accessories shall be transported and handled in such a manner as to insure that they are delivered and installed in a sound and undamaged condition. Couplings and rubber gaskets shall be adequately stored to prevent damage and shall be kept clean of oil, grease or other deleterious substances and kept away from excessive heat.

3.5.3 All pipe bedding shall be Type II and bell holes shall be dug in the trench as specified in Section 3.1.1 to allow the entire barrel to be bedded. All pipe shall be installed in accordance with the manufacturer's instructions.

3.5.4 When work is suspended either for the night or for any other reasons, all open ends shall be securely and adequately plugged to prevent the entrance of foreign materials or trench water. While pipe laying is in progress and until sufficient cover is installed to anchor the pipe, the Contractor shall keep the trench free of water.

3.5.5 Any deflections from a straight line shall not exceed that recommended by the pipe manufacturer for the particular type of pipe and joints.

3.5.6 The Contractor shall use proper implements, tools and facilities as recommended by the manufacturer of the pipe for handling the pipe, fittings and accessories and for lowering the pipe into the trench and for joining the pipe together. Under no circumstances shall the pipe or accessories be dropped or dumped into the trench.

3.5.7 All pipe and accessories shall be inspected for defects prior to lowering into the trench. Any defective, damaged or unsound material shall be repaired or replaced as directed by the Engineer.

3.5.8 All foreign matter or dirt shall be removed from the interior of the pipe before lowering into position in the trench. The pipe shall be kept clean by means approved by the Engineer during and after the laying operation.

3.5.9 The sealing surface of the pipe, the bell to be joined, and the rubberized gasket shall be cleaned immediately before assembly as recommended by the manufacturer of the pipe.

3.5.10 All pipe shall be cut, when necessary, in a neat and workmanlike manner without damage to the pipe so as the cut end will be smooth and will be at right angles to the axis of the pipe and the cut end shall then have burrs removed and the pipe beveled as necessary to allow insertion into the joint.

3.5.11 All valves, hydrants, or other fittings shall be equipped with joints of similar design as the pipe; permitting such to be installed and jointed in the same manner as the water main piping.

3.6 INSTALLING VALVES AND FITTINGS

Valves, valve boxes and other fittings shall be installed when shown on the plans or as directed by the Engineer. Valves shall be set plumb and valve boxes shall be centered over the valves. Tops of valve boxes shall be set flush with the finished grade and the cover shall be level with the surface. Backfill shall be carefully compacted around all valve boxes.

3.7 INSTALLING FIRE HYDRANTS

3.7.1 Hydrants shall be installed where shown on the plans and as directed by the Engineer. Each hydrant shall be placed on a concrete base and secured against movement as shown on the plans. A minimum of 5 cubic feet of clean washed gravel shall be placed around each base in a location to facilitate drainage of the hydrant.

3.7.2 Hydrants shall be so installed that the center line of nozzle will be no closer than 18 inches to the finished ground surface.

3.7.3 Three-way hydrants will be installed with the center or pump nozzle facing the street and two-way hydrants shall be installed such that they will be concentric with respect to the street.

3.7.4 Backfill shall be carefully tamped around all hydrants, but care shall be taken to prevent the backfill from obstructing drainage into the gravel.

3.8 SERVICE ASSEMBLIES

3.8.1 General

a. The Contractor shall furnish all plant, labor, equipment and materials to install service assemblies as shown on the plans and as specified herein.

b. Service connections shall be made either by drilling and tapping with service clamps or by installing tapped collars.

c. If tapped collars are used they shall meet all requirements specified herein for the pipe and jointing and no additional joints will be allowed to install collars; i.e., collars must be installed at normal jointing locations.

d. Service assemblies shall consist of the service clamp, the corporation stop at the service clamp, the meter box, the meter and curb stop located upstream of the meter. The downstream end of the meter shall be provided with an approved meter coupling as shown on the plans.

3.8.2 Materials

a. Service Tubing: Service tubing shall conform to all applicable requirements of ASTM D-1248, Specification For Polyethylene molding and extrusion materials.

b. Polyethylene extrusion compound from which the polyethylene pipe is extruded shall comply with applicable requirements for PE-3406 ultra-high molecular weight polyethylene plastic material. Material shall be as described in ASTM D-1248 latest revision and shall comply with the following:

- Be of virgin quality approved for potable water service by the National Sanitation Foundation.
- Pipe resin shall have a minimum inherent viscosity of 2.5 when run according to ASTM D-1601.
- Exceed 1000 hours on ESC as determined by ASTM D-1693.
- Have a specific gravity of between 0.950 and 0.955.
- Contain a minimum of 2% and maximum of 3% of carbon black and shall produce a finished product that is uniformly black.
- Finished product shall satisfactorily flare to standard brass waterworks flare fittings when using the hot or cold flaring methods.
- The PE pipe or tubing shall be rated for use with water at 73.4° F at a hydrostatic design stress of 630 psi and a maximum working pressure of 160 psi.
- The Standard Dimension Ratio (SDR) shall be 7 for IPS and 9 for copper tube size. The average inside diameters, minimum wall thickness and respective tolerances for any cross section shall be as hereinafter specified, when measured in accordance with ASTM D-2122, latest revision.
- Unless otherwise indicated, all PE shall be of Copper Tube Size.
- COPPER TUBING SIZE: SDR 9 PIPE DIMENSIONS AND TOLERANCES SHALL BE AS SHOWN IN ASTM D-2239, LATEST REVISION AS FOLLOWS:

Nom. Tubing Size (in.)	Ave. Outside Diameter (in.)	Minimum Wall (in.)	Wall Tolerance (in.)
3/4	0.875 ± .004	0.097	+0.010
1	1.125 ± .005	0.125	+0.012
1-1/4	1.375 ± .005	0.153	+0.015
1-1/2	1.625 ± .006	0.181	+0.018
2	2.125 ± .006	0.236	+0.024

Minimum Burst Pressure: The minimum burst pressure at 73.4° F determined in accordance with ASTM D-1599, latest revision, shall be 630 psi. The time of testing of each specimen shall be between 60 and 70 seconds.

Sustained Pressure: The pipe or tubing with dimensions as stated in Section 3.8.2 of this specification shall not fail, balloon, burst or weep as defined in ASTM D-1598, latest revision, when tested in accordance with the sustained pressure test method of ASTM D-2239 and

ASTM D-2737 and under the test conditions hereinafter tabulated.

TEMPERATURE	TIME	PRESSURE
73.4° F	1000 hrs.	350 psi
150.0° F	1000 hrs.	200 psi
190.0° F	300 hrs.	125 psi

Environmental Stress Cracking: The PE pipe or tubing shall not show any loss of pressure in the six specimens tested for three hours in accordance with the requirements of ASTM D-2239 and ASTM D-2737 using the test pressure of 330 psi at 73.4° F.

Workmanship shall be of the highest level compatible with current commercial practice.

The PE pipe or tubing shall be homogenous throughout and free of visible cracks, holes, foreign inclusions or other injurious defects. It shall be uniform in color, opacity, density and other physical properties.

Marking on the pipe or tubing shall include the following at intervals of not more than five feet:

(1) Nominal pipe or tubing size.
(2) The type of plastic material, i.e., PE 3406.
(3) The standard thermoplastic pipe dimension ratio or the pressure rating in psi for water at 73.4° F (160 psi).
(4) The ASTM designation with which the pipe complies.
(5) Manufacturer's name or trade mark and code. It shall also include the seal of approval (NSF mark) of the National Sanitation Foundation.

All coils of PE pipe or tubing shall be spirally wrapped in heavy water resistant kraft paper or packaged in cardboard boxes.

Each coil shall be labeled clearly to show the size, coil length and pressure rating of the pipe.

c. Corporation Stops: Shall be 3/4-inch and similar and equal to Mueller Company's No. H-15006. Larger stops where required shall be of similar and equal construction.

d. Curb Stops: Shall be similar and equal to Mueller Company's No. H-14348 in 3/4-inch size.

e. Water Meters: Shall be 3/4-inch in size unless otherwise indicated on the plans or directed by the Engineer.

- All meters shall be bronze body, magnetically driven, hermetically sealed, piston type and shall be direct reading in U.S. Gallons and the register capacity shall be 10×10^6 gallons.
- The main case, measuring chamber and bottom plate shall be of bronze. The magnets shall be of Alnico and the Trim and Casing Bolts shall be of stainless steel.
- The meters shall be rated for a maximum continuous flow rate of 10 gal. per minute for the 3/4-inch size and have an intermittent flow rate of 30 gal. per minute.
- Accuracy shall be guaranteed to 100% ± 1.5% within a flow range of 2 to 30 gal. per minute and shall not be less than 95% at 1/2 gallon per minute.
- The maximum operating pressure shall be 150 psi and the 3/4-inch size shall not have a pressure loss exceeding 12 psi at 30 gallons per minute.
- The meter shall be Sensus or approved equal and shall be unconditionally guaranteed for ten (10) years.

f. Meter Boxes: Shall be of sufficient size to enclose the meter and appurtenances required and shall be either cast iron, precast concrete with a cast iron hinged lid or plastic, similar and equal to those manufactured by the Hollifield Waterworks Company, Shreveport, La.

3.8.3 Installation

a. All meters shall be installed as near the property line as practical and all boxes shall be set level with the tops on-inch (1") above flush with the ground, or flush with pavement.

b. The boxes and meters shall be so placed that the meter register is centered in the opening of the lid and that they can be easily read upon opening of the hinged lid.

3.9 TESTING OF WATER MAINS

3.9.1 At the conclusion of the work, thoroughly clean all of the new pipe lines to remove all dirt, stones, pieces of wood or other material which may have entered during the construction period. Flushing velocities shall be a minimum of 2.5 feet per second. All flushing shall be coordinated with the engineer. Debris cleaned from the lines shall be removed from the job site.

3.9.2 All water mains shall be subject to a hydrostatic test at a pressure of 150 psi for a period of not less than four hours. Test periods in excess of this may be required by the Engineer should any failure or excessive leaks occur in the piping.

3.9.3 Pipe shall be tested in individual sections as approved by the Engineer. All thrust restraint shall be in place and adequately covered prior to testing.

3.9.4 The pipe shall be slowly filled with clean, potable water and all air shall be expelled by opening hydrants, flush valves, corporation stops

or other approved methods. The hydrostatic pressure shall then be carefully brought up to the test level and maintained and the quantity of water required to maintain that the pressure level (leakage) shall be measured by a displacement meter or other approved methods. In no case shall the leakage exceed 10 gallons per 24 hours per inch of diameter per mile. Should the leakage for any section exceed this, the Contractor shall promptly locate the source of such leakage and repair such and repeat the test. This process shall continue until the leakage does not exceed the quantity above.

3.9.5 It should be noted that no separate payment will be made for testing. All cost incidental thereto shall be included in the applicable prices bid for other items of work.

3.10 STERILIZATION OF WATER MAINS

3.10.1 The Contractor shall furnish all plant, labor, materials and equipment needed to sterilize all water mains. This work is to be done following the approval of the hydrostatic test. Sterilization shall be in accordance with the procedure outlined in AWWA specification C-601-68 or latest revision thereof. Samples shall be taken as directed and submitted to applicable State Board of Health for examination. If any samples show a positive reaction, the section from which the samples come shall be re-disinfected and re-sampled. This procedure shall continue until all portions of the system have been completely disinfected.

3.10.2 It should be noted that no separate payment will be made for sterilization and all cost incidental thereto shall be included in the applicable prices bid for other items of work.

3.10.3 New water lines shall be thoroughly disinfected using chlorine or chlorine compounds before being placed in use. The rate of application of chlorine shall be at least 50 ppm. The chlorinated water shall be retained in the new water lines for at least three (3) hours, and preferably longer. After the chlorine treated water has been retained for the required time, the chlorine residual shall be at least 5 ppm. If the residual is less than 5 ppm, the disinfection procedure shall be repeated until a 5 ppm residual is obtained.

3.10.4 Water from these new water lines shall not be furnished for consumer's use until water samples collected and analyzed by the Health Department show the new facilities to be free from coliform bacteria contamination.

3.10.5 The Sponsor shall furnish water for all testing, sterilization, etc.

3.11 RELATION WITH SEWER MAINS

In the event that sewer mains are located within the project area, the Contractor shall maintain a minimum 6 feet horizontal clearance and a minimum of 18 inches vertical clearance between the water main and sewer main wherever sewer mains may be encountered.

S-013.04 MEASUREMENT

4.1 Water Lines – Water lines will be measured by the linear foot along the centerline of the pipe without deduction for valves or fittings, except that pipe jacked and bored will be excepted and measured separate. Pipe installed in casing will be included. Measurement will be from center to center of crosses, reducers, etc.

4.2 Water Lines – Jacked and Bored: All water pipe jacked and bored shall be measured by the linear foot installed along the centerline of the pipe from point of entry into the embankment at the springline of the pipe to point of exit from the embankment at the springline of the pipe.

4.3 Casing – Jacked and Bored: All casing jacked and bored shall be measured by the linear foot installed along the centerline of the casing from point of entry into the embankment at the springline of the casing to point of exit from the embankment at the springline of the casing.

4.4 Service Lines: Service lines will be measured by the linear foot installed along the center line of the pipe from the center line of the main to the center line of the meter stop. Measurement will be along the alignment that produces the shortest reasonable route from the main to the meter location.

4.5 Service Connections and Assemblies: Service Assemblies will be measured per each by actual count of those installed.

4.6 Iron Fittings: Cast iron fittings will be measured only when a separate pay item is given in the Bid Proposal Form and will then be measured by the pound for fittings installed, tested, sterilized and accepted based on the manufacturer's listed weights. Weights shall be exclusive of any gland bolts, gaskets, or other jointing materials. Ductile fittings shall be based on their equivalent weight as cast iron fittings; i.e., the weight of an equivalent cast iron fitting will be used as measurement.

4.7 Valves and Valve Boxes: Valves and valve boxes will be measured per each by actual count of each size installed, tested, sterilized and accepted.

4.8 Hydrants: Hydrants will be measured per each by actual count for each type and size as installed and accepted.

4.9 Tie-Ins: Tie-ins shall be located and sized as designated on the plans. Each tie-in shall include the necessary materials required and any cost associated with the tie-in procedure. This may include but not be limited to: labor, excavation, bedding material (as needed), backfilling, compaction, etc. Any item or procedure associated with the tie-in and not included in other bid items shall be included in the cost for each tie-in. The contractor shall verify the outside diameter and condition of the existing water main prior and have all materials and equipment available at the site prior to disrupting water service.

S-013.05 PAYMENT

5.1 Water Lines: Water lines will be paid for at the contract unit price bid per linear foot for pipe of the various sizes, types and classes, which price and payment shall constitute full compensation for furnishing all plant, labor, equipment, and materials and hauling, trenching, bed preparation, laying, jointing, backfilling, testing, sterilizing and other operations incidental to the satisfactory completion of the work as shown on the plans and specified herein.

5.2 Water Lines – Jacked and Bored: Payment will be made at the contract unit price bid for "water lines - jacked and bored" for the various sizes, which price and payment shall constitute full compensation for furnishing all plant, labor, equipment and materials and all hauling, jacking and boring, jointing, testing, sterilizing and other operations incidental to the satisfactory completion of the work as shown on the plans and specified herein.

5.3 Casing – Jacked and Bored: Payment will be made at the contract unit price bid for the various size casings, which price and payment shall constitute full compensation for furnishing all plant, labor, material and all excavation, backfilling, jacking and boring and other operations incidental to the satisfactory completion of the work as shown on the plans and specified herein.

5.4 Service Lines: Service lines will be paid for at the contract unit price bid for the various size lines, which price and payment shall constitute full compensation for furnishing all plant, labor, equipment and installing all service lines including any excavation, backfill, jacking and boring and other operations incidental to the satisfactory completion of the work as shown on the plans and specified herein.

5.5 Service Connections and Assemblies: Service assemblies will be paid for at the contract unit price bid for each of the various sizes which price and payment shall constitute full compensation for furnishing all plant, labor, materials, equipment and performing all work including furnishing and installing all tapping saddles or collars, corporation stops, meter stops, meters, meter boxes, regulators and performing all excavation, backfilling, testing, sterilizing and other operations incidental to the satisfactory completion of the work as shown on the plans and specified herein.

5.6 Iron Fittings: Cast iron or ductile fittings accepted will be paid for at the contract unit price per pound bid for cast iron fittings, which price and payment shall constitute full compensation for furnishing all plant, labor, equipment and materials and other incidental operations necessary for the satisfactory completion of the work as shown on the plans and specified herein.

5.7 Valves and Valve Boxes: Valves and valve boxes installed and accepted will be paid for at the contract unit price bid for each size, which price and payment shall constitute full compensation for all plant, labor, equipment, and materials including all jointing devices necessary for the satisfactory completion of the work as indicated on the plans and specified herein.

5.8 Hydrants: Hydrants will be paid for at the contract unit price bid for each type and size, which price and payment shall constitute full compensation for all plant, labor, equipment and materials including gravel pack and concreting necessary for the satisfactory completion of the work as shown on the plans and specified herein.

5.9 Tie-Ins: Connections of new water mains to existing water mains will be paid for at the contract unit price bid for each connection acceptably completed, which price and payment shall constitute full compensation for materials required and any cost associated with the tie-in procedure, including labor, excavation, bedding material (as needed), backfilling, compaction, etc. Any item or procedure

associated with the tie-in and not included in other bid items shall be included in the cost for each tie-in.

Item No.	Pay Item	Pay Unit
S-013-A	8" C-900 PVC Water Main	linear foot
S-013-B	12" C-900 PVC Water Main	linear foot
S-013-C	Iron Fittings	pound
S-013-D	6" Gate Valve with Valve Box	each
S-013-E	8" Gate Valve with Valve Box	each
S-013-F	12" Gate Valve with Valve Box	each
S-013-G	Fire Hydrant	each
S-013-H	Connect New Water Main to Existing Water Main	each
S-013-I	3/4" Water Service Assembly	each
S-013-J	3/4" Water Service Line	linear foot
S-013-K	3/4" Water Service Line by Jack & Bore	linear foot
S-013-L	2" Water Service Assembly	each
S-013-M	2" Water Service Line	linear foot
S-013-N	1" Water Service Assembly	each
S-013-O	1" Water Service Line	linear foot

ITEM S-014, HIGH DENSITY POLYETHYLENE (HDPE) PIPE:

S-014.01 - GENERAL

1.1 Description

This specification includes but is not limited to high-density polyethylene (PE 3408) (ductile iron pipe size O.D) pressure pipe primarily intended for the transportation of water and sewage either buried or above grade.

1.2 References

Reference: Title:

AWWAC901 Polyethylene (PE) pressure Pipe & Tubing, inch through 3 inch for water AWWAC906 Polyethylene (PE) pressure Pipe & Fittings, 4 inch through 63 inch for water ASTMD3035 Standard Spec for PE Pipe (DR-PR) Based on Controlled Outside Diameter ASTMD3261 Butt Heat Fusion PE Fittings for PE Pipe & Tubing

ASTMD3350 Standard Specification for PE Pipe & Fittings Materials

ASTMD1238 Melt Flow Index ASTMD1505 Density of Plastics

ASTMD2837 Hydrostatic Design Basis

NSF Std. #14 Plastic Piping Components & Related Materials

TR-33/2005 Generic Butt Fusion Joining Procedure for Field Joining of PE Pipe

S-014.02 - PRODUCTS

2.1 Use

High Density Polyethylene (HDPE) pipe shall be allowed for use as water, wastewater and reclaimed water pressure pipe where compatible with the specific

conditions of the project. All material used in the production of water main piping shall be approved by the National Sanitation Foundation (NSF).

2.2 Manufacturer

All HDPE pipe shall be from a single manufacturer, who is fully experienced, reputable and qualified in the manufacture of the HDPE pipe to be furnished. The pipe shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these Specifications. Qualified manufacturers shall be: PLEXCO Division of Chevron Chemical Company, DRISCOPIPE as manufactured by Phillips Products Co., Inc., SCLAIRPIPE as manufactured by Dupont of Canada or equal as approved by the Engineer.

2.3 Compatibility

2.3.1 Contractor is responsible for compatibility between pipe materials, fittings and appurtenances.

S-014.03 - MATERIALS

3.1 Materials for Pipe Sizes 4-inch Diameter and Larger

3.1.1 Materials used for the manufacture of polyethylene pipe and fittings shall be made from a PE 3408 high density polyethylene resin compound meeting cell classification 345434C per ASTM D3350; and meeting Type 111, Class C, Category 5, Grade P34 per ASTM D1238.

3.1.2 High Density Polyethylene (HDPE) pipe shall comply with AWWA Specifications C906.

3.1.3 HDPE pipe and accessories 4-inch diameter and larger, shall be 160 psi at 73.4°F meeting the requirements of Standard Dimension Ration (SDR) 17 as MINIMUM STRENGTH.

3.2 Materials for Pipe Sizes 2-inch Diameter and Less

3.2.1 Materials used for the manufacture of polyethylene pipe and fittings shall be made from a PE 3408 high density polyethylene resin compound meeting cell classification 345434C per ASTM D3350; and meeting Type 111, Class C, Category 5, Grade P34 per ASTM D1238.

3.2.2 High Density Polyethylene (HDPE) pipes shall comply with AWWA Specifications C901.

3.2.3 HDPE pipe and accessories 2" and less in diameter, shall be 160 psi at 73.4 degrees meeting the requirements of Standard Dimension Ration (SDR) 17 as MINIMUM STRENGTH.

3.4 Pipe Identification

3.4.1 The following shall be continuously indent printed on the pipe or spaced at intervals not exceeding 5-feet:

a. Name and/or trademark of the pipe manufacturer.
b. Nominal pipe size.
c. Dimension ratio.
d. The letters PE followed by the polyethylene grade in accordance with ASTM.
e. D1248 followed by the hydrostatic design basis in l60's of psi, e.g., PE 3408.
f. Manufacturing standard reference, e.g., ASTM F714 or D-3035, as required.

g. A production code from which the date and place of manufacture can be determined.
h. Color Identification, either stripped by co-extruding longitudinal identifiable color markings or shall be solid in color and as follows:
(1) BLUE -Potable Water
(2) GREEN -Sanitary Sewer

3.5 Pipe Locator Wire: Pipe locater wire shall be No. 10 AWG, Type THHN.

S-014.04 - EXECUTION

4.1 Joining Method

4.1.1 The pipe shall be joined with butt, heat fusion joints as outlined in ASTM D2657 and conform to the Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe, Technical Report TR-33/2005, published by the Plastic Pipe Institute (PPD. All joints shall be made in strict compliance with the manufacturer's recommendations, which shall be submitted to the engineer for review. This shall include fusion charts identifying recommended fusion temperature, interface pressure and cooling time. The contractor shall furnish evidence that fusion shall be conducted by personnel that have received proper training in the fusion of HDPE pipe.

4.1.2 All transition from HDPE pipe to ductile iron or PVC pipe shall be made with mechanical joint fittings. The HDPE pipe shall be restrained to all mechanical joint fittings to prevent pull out. This connection shall be by means of mechanical rings and bolts using a MJ (Harvey) adapter fused to the pipe.

4.1.3 Lengths of pipe shall be assembled into suitable installation lengths by the butt fusion process. All pipe so joined shall be made from the same class and type of raw material made by the same raw material supplier. Pipe shall be furnished in standard laying lengths not to exceed 50 feet and no shorter than 20 feet.

4.1.4 On days butt fusions are to be made, the first fusion shall be a trial fusion in the presence of the Engineer. The following shall apply:
a. Heating plates shall be inspected for cuts and scrapes. The plate temperature shall be measured at various locations to ensure proper heating/melting per manufacturer's recommendations and approval by the engineer.
b. The fusion or test section shall be cut out after cooling completely for inspection.
c. The test section shall be 12" or 30 times (minimum) the wall thickness in length.
d. The joint shall be visually inspected as to continuity of "beads" from the melted material, and for assurance of "cold joint" prevention (i.e. - joint shall have visible molded material between walls of pipe). Joint spacing between the walls of the two ends shall be a minimum of 1/16" to a maximum 3/16".

4.2 Installation

4.2.1 High Density Polyethylene (HDPE) Pipe shall be installed in accordance with the instruction of the manufacturer, as shown on the Drawings and as specified herein. A factory qualified joining technician as designated by the pipe manufacturer shall perform all heat fusion joints.

4.2.2 HDPE shall be installed either by Open Trench Construction or Directional Bore Method as required on the plans or as directed by the engineer.

4.2.3 Care shall be taken in loading, transporting and unloading to prevent injury to the pipe. Pipe or fitting shall not be dropped. All pipe or fitting shall be examined before installation, and no piece shall be installed which is found to be defective. Any damage to the pipe shall be repaired as directed by the Engineer. If any defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner by the contractor, at his own expense.

4.2.4 Under no circumstances shall the pipe or accessories be dropped into the trench or forced through a directional bore upon "pull-back".

4.2.5 Care shall be taken during transportation of the pipe such that it will not be cut, kinked or otherwise damaged.

4.2.6 Ropes, fabric or rubber protected slings and straps shall be used when handling pipes. Chains, cables or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe.

4.2.7 Pipes shall be stored on level ground, preferably turf or sand, free of sharp objects, which could damage the pipe. Stacking of the polyethylene pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.

4.2.8 Pipe shall be stored on clean level ground to prevent undue scratching or gouging. The handling of the pipe shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. The maximum allowable depth of cuts, scratches or gouges on the exterior of the pipe is 5 percent of wall thickness. The interior pipe surface shall be free of cuts, gouges or scratches.

4.2.9 Pipe shall be laid to lines and grade shown on the Drawings with bedding and backfill as shown on the Drawings.

4.2.10 When laying is not in progress, including lunchtime, the open ends of the pipe shall be closed by fabricated plugs, or by other approved means.

4.2.11 Sections of pipe with cuts, scratches or gouges exceeding 5 percent of the pipe wall thickness shall be removed completely and the ends of the pipeline rejoined.

4.2.12 I f a defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner at no additional cost to the Owner. All pipe and fittings shall be thoroughly

cleaned before installation, shall be kept clean until they are used in the work and when laid, shall conform to the lines and grades required.

4.3 Cleaning

4.3.1 At the conclusion of the work, thoroughly clean all of the new pipe lines to remove all dirt, stones, pieces of wood or other material which may have entered during the construction period. Flushing velocities shall be a minimum of 2.5 feet per second. All flushing shall be coordinated with the engineer. Debris cleaned from the lines shall be removed from the job site.

4.4 Testing

4.4.1 All water mains shall be subject to a hydrostatic test at a pressure of 150 psi for a period of not less than four hours. Test periods in excess of this may be required by the Engineer should any failure or excessive leaks occur in the piping.

4.4.2 Pipe shall be tested in individual sections as approved by the Engineer. All thrust restraint shall be in pace and adequately covered prior to testing.

4.4.3 The pipe shall be slowly filled with clean, potable water and all air shall be expelled by opening hydrants, flush valves, corporation stops or other approved methods. The hydrostatic pressure shall then be carefully brought up to the test level and maintained and the quantity of water required to maintain that the pressure level (leakage) shall be measured by a displacement meter or other approved methods. In no case shall the leakage exceed 10 gallons per 24 hours per inch of diameter per mile. Should the leakage for any section exceed this, the Contractor shall promptly locate the source of such leakage and repair such and repeat the test. This process shall continue until the leakage does not exceed the quantity above.

4.4.4 It should be noted that no separate payment will be made for testing. All cost incidental thereto shall be included in the applicable prices bid for other items of work.

4.5 Sterilization of Water Mains

4.5.1 The Contractor shall furnish all plant, labor, materials and equipment needed to sterilize all water mains. This work is to be done following the approval of the hydrostatic test. Sterilization shall be in accordance with the procedure outlined in AWWA specification C-601-68 or latest revision thereof. Samples shall be taken as directed and submitted to applicable State Board of Health for examination. If any samples show a positive reaction, the section from which the samples come shall be re-disinfected and re-sampled. This procedure shall continue until all portions of the system have been completely disinfected.

4.5.2 It should be noted that no separate payment will be made for sterilization and all cost incidental thereto shall be included in the applicable prices bid for other items of work.

4.5.3 New water lines shall be thoroughly disinfected using chlorine or chlorine compounds before being placed in use. The rate of application of chlorine shall be at least 50 ppm. The chlorinated water shall be retained in the new water lines for at least three (3) hours, and preferably longer. After

the chlorine treated water has been retained for the required time, the chlorine residual shall be at least 5 ppm. If the residual is less than 5 ppm, the disinfection procedure shall be repeated until a 5 ppm residual is obtained.

4.5.4 Water from these new water lines shall not be furnished for consumer's use until water samples collected and analyzed by the Health Department show the new facilities to be free from coliform bacteria contamination.

4.5.5 The Sponsor shall furnish all water for testing, sterilization, etc.

4.6 Relation with Sewer Main

4.6.1 In the event that sewer mains are located within the project area, the Contractor shall maintain a minimum 6 feet horizontal clearance and a minimum of 18 inches vertical clearance between the water main and sewer main wherever sewer mains may be encountered.

S-014.05 MEASUREMENT

5.1 Water lines will be measured by the linear foot along the centerline of the pipe without deduction for valves or fittings, except that pipe installed by horizontal directional drilling will be excepted and measured separate. Pipe installed in casing will be included. Measurement will be from center to center of crosses, reducers, etc.

4.2 Water Lines – Horizontal Directional Drilling: All water pipe installed by horizontal directional drilling shall be measured by the linear foot installed along the centerline of the pipe from point of entry into the embankment at the springline of the pipe to point of exit from the embankment at the springline of the pipe.

S-014.06 PAYMENT

6.1 Water Lines: Water lines will be paid for at the contract unit price bid per linear foot for pipe of the various sizes, types and classes, which price and payment shall constitute full compensation for furnishing all plant, labor, equipment, and materials and hauling, trenching, bed preparation, laying, jointing, backfilling, testing, sterilizing and other operations incidental to the satisfactory completion of the work as shown on the plans and specified herein.

5.9 Water Lines – Horizontal Directional Drilling: Payment will be made at the contract unit price bid for "water lines – horizontal directional drilling" for the various sizes, which price and payment shall constitute full compensation for furnishing all plant, labor, equipment and materials and all hauling, jacking and boring, jointing, testing, sterilizing and other operations incidental to the satisfactory completion of the work as shown on the plans and specified herein.

Item No.	Pay Item	Pay Unit
S-014-A	4" PE Water Main	linear foot
S-014-B	4" PE Water Main by Horizontal Directional Drilling	linear foot

S-014-C	8" PE Water Main by Horizontal Directional Drilling	linear foot
S-014-D	12" PE Water Main by Horizontal Directional Drilling	linear foot

ITEM S-015, ADJUSTING WATER VALVES, GAS VALVES, METER BOXES AND SEWER CLEANOUTS:

S-015.01 DESCRIPTION. This item shall consist of making appropriate height adjustments to existing water valves, gas valves, meter boxes and sewer cleanouts within the sidewalk corridor.

S-015-2 MATERIALS. Materials shall consist of that required to complete adjustments and in accordance with any specifications set forth by the City of Ruston.

S-015-3 CONSTRUCTION REQUIREMENTS. Contractor shall consult with the City of Ruston for any construction requirements necessary to complete adjustments.

S-015-4 METHOD OF MEASUREMENT. The work described in this section shall be made per each water valve, gas valve, meter box and sewer cleanout adjusted, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-015-5 BASIS OF PAYMENT. Payment for Adjusting Water Valves, Gas Valves, Meter Boxes and Sewer Cleanouts will be made at the contract unit price under:

ITEM NO.	PAY ITEM	PAY UNIT
S-015	Adjusting Water Valves, Gas Valves, Meter Boxes and Sewer Cleanouts	each

ITEM S-016, ABANDONING EXISTING WATER MAINS:

S-016-1 DESCRIPTION. This item shall consist of abandoning existing water mains in place by filling the lines with cement grout and removing existing valve boxes.

S-016-2 MATERIALS. Materials shall consist of that required to complete the abandonment. Material for cement grout shall conform to Section 710.02 of the *Louisiana Standard Specifications for Roads and Bridges, 2006 edition.*

S-016-3 CONSTRUCTION REQUIREMENTS. After the new water mains have been tested and disinfected, placed in service and all services have been transferred, the existing water mains shall be grout filled by pumping a grout mixture into the pipe. The pipe shall be completely filled, leaving no voids or air spaces. A pressure grout pump (of suitable size) shall be utilized in the grouting of existing water mains. Grout shall be pumped through the inlet end of the pipe until the grout is visible at the outlet end of the pipe.

Existing valve boxes on valves no longer required shall be removed and the resulting void shall be backfilled with selected soils compacted to 95% standard proctor density.

S-016-4 METHOD OF MEASUREMENT. The work described in this section shall be measured per lump sum for all water mains acceptably abandoned and shall include removal and backfilling of existing valve boxes. Such price and payment shall include all equipment, labor,

materials and incidentals necessary to complete the work as described in these plans and specifications.

S-016-5 BASIS OF PAYMENT. Payment for Abandoning Existing Water Mains will be made at the contract lump sum price under:

ITEM NO.	PAY ITEM	PAY UNIT
S-016	Abandoning Existing Water Mains	lump sum

ITEM S-017, TEMPORARY BUSINESS ENTRANCES:

S-017-1 DESCRIPTION. This item shall consist of providing temporary entrances to businesses in the construction areas that will provide safe access to the public and provide separation from construction activities.

S-017-2 CONSTRUCTION REQUIREMENTS. The temporary entrances shall be constructed to separate the construction area from pedestrian and vehicular traffic areas. Pathways through the entrances shall be well marked and maintained so as to provide complete safety to the public from construction activities. The entrances shall be constructed of semi-permanent materials and in a configuration that will allow the safest and most direct route possible to the entrances of businesses. The entrances shall remain in place until the newly constructed area can be safely used by the public. The entrances may consist of, but are not limited to, barricades, signs, board walks and hazard lighting.

S-017-3 METHOD OF MEASUREMENT. The work described in this section shall be measured per lump sum, which price and payment shall include all equipment, labor, materials and incidentals necessary to complete the work as described in these plans and specifications.

S-017-4 BASIS OF PAYMENT. Payment for Temporary Business Entrances will be made at the contract lump sum price under:

ITEM NO.	PAY ITEM	PAY UNIT
S-017	Temporary Business Entrances	lump sum

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 **seventy-five (75) 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.

(08/08)

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

(FOR 2006 STANDARD SPECIFICATIONS)

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LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

The 2006 Louisiana Standard Specifications for Roads and Bridges and supplemental specifications thereto are amended as follows.

PART I – GENERAL PROVISIONS

SECTION 101 – GENERAL INFORMATION, DEFINITIONS, AND TERMS:
Subsection 101.03 – Definitions (07/07), Pages 3 – 13).

Delete the definition for "Proposal/Bid Guaranty" and substitute the following.

Proposal / Bid Guaranty. The required security furnished with a bid. The only form of security acceptable is a Bid Bond.

SECTION 102 – BIDDING REQUIREMENTS:
Subsection 102.09 – Proposal / Bid Guaranty (07/07), Page 19.

Delete the contents of this subsection and substitute the following.

PROPOSAL/BID GUARANTY. 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 $50,000. No proposal/bid guaranty is required for projects when the bidder's total bid amount as calculated by the Department is $50,000 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 proposal/bid guaranty submitted by the bidder shall be a bid bond made payable to the contracting agency as specified on the bid bond form provided in the construction proposal. No other form of security will be accepted.

The bid 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 on 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.

The bid bond 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 bonds issued in conjunction with electronic bids must have written Departmental approval prior to use. The Department will make a listing of approved electronic sureties providers on the Bidx.com site.

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC:
Subsection 107.05 – Federal Aid Participation (04/08), Pages 57 and 58.

Delete the second paragraph.

SECTION 108 – PROSECUTION AND PROGRESS:
Subsection 108.04 – Prosecution of Work (03/05) Pages 74 and 75.

Add the following sentence to the third paragraph of Heading (b).

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.

PART II – EARTHWORK

SECTION 202 – REMOVING OR RELOCATING STRUCTURES AND OBSTRUCTIONS:
Subsection 202.06 – Plugging or Relocating Existing Water Wells (03/04), Page 105.

Delete the first sentence and substitute the following.

All abandoned wells shall be plugged and sealed at the locations shown on the plans, or as directed by the engineer, in accordance with the "Water Well Rules, Regulations, and Standards, State of Louisiana." This document is available at the Department of Transportation and Development, Water Resources Section, P. O. Box 94245, Baton Rouge, Louisiana 70804-9245. The Water Resource Section's telephone number is (225) 274-4172.

PART III – BASE COURSES

SECTION 302 – CLASS II BASE COURSE:
Subsection 302.05 – Mixing (08/06), Pages 152 and 153.

Delete the first sentence of Subheading (b)(1), In-Place Mixing, and substitute the following.

In-place mixing shall conform to Heading (a)(1) except that the percentage of Type I portland cement required will be 6 percent by volume.

SECTION 305 – SUBGRADE LAYER:
Subsection 305.06 – Payment (01/08), Page 184.

Delete the contents of this subsection and substitute the following.

305.06 Payment. Payment for subgrade layer will be made at the contract unit price which includes lime, lime treatment, cement, cement treatment, water, stone, recycled portland cement concrete, crushed slag, blended calcium sulfate, asphaltic concrete, and asphalt curing membrane or prime coat, subject to the payment adjustment provisions of Section 1002 for specification deviations of asphalt materials and Subsection 303.11(a) for density deficiencies of cement treated materials. Adjustments in pay for increase or decrease in the percent cement ordered by the engineer will be in accordance with Subsection 303.13. Adjustments in pay for

increase or decrease in the percent lime ordered by the engineer will be based on the price of lime shown on paid invoices (total of all charges). The Materials and Testing Section will provide the payment adjustment percentage for properties of asphalt materials.

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

Payment will be made under:

Item No.	Pay Item	Pay Unit
305-01	Subgrade Layer _____in (mm) Thick	Square Yard (Sq m)

SECTION 307 – PERMEABLE BASES:

Subsection 307.02 – Materials (09/07), Pages 187 and 188.

Delete the contents of Subheading (b), Asphalt, and substitute the following.

(b) Asphalt: The asphalt for asphalt treated permeable base shall be an approved polymer modified asphalt cement, PG 76-22m, or PG 82-22rm complying with Section 1002. The percentage of asphalt cement shall be 2.0 percent to 4.0 percent by weight (mass) of the total mixture. Asphalt cement content and mixing process shall be such that all aggregates are visibly coated. The mixture shall retain 90 percent coating when tested in accordance with DOTD TR 317.

A job mix formula shall be submitted and approved in accordance with Section 502.

SECTION 308 – IN-PLACE CEMENT TREATED BASE COURSE:

All Subsections within Section 308 – (07/07), Pages 191 – 198.

Whenever the reference to "DOTD TR-432, Method D" is used, it shall mean "DOTD TR-432".

PART V – ASPHALTIC PAVEMENTS

SECTION 502 – SUPERPAVE ASPHALTIC CONCRETE MIXTURES:

Subsection 502.02 – Materials (08/06) (11/07), Pages 210 – 213.

Delete Table 502-2, Superpave Asphalt Cement Usage under Subheading (a) and substitute the following.

Table 502-2
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	Wearing Course	PG 76-22m
	Binder Course	PG 76-22m
Level A	Incidental Paving	PG 70-22m

Note: A PG 82-22 rm, Waste Tire Rubber Modified Asphalt, may be substituted for any other grade of asphalt cement.

Delete Table 502-3, Aggregate Friction Rating under Subheading (c)(1) and substitute the following.

Table 502-3
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.

Subsection 502.14 – Lot Sizes (11/07), Pages 232 and 233.

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

A lot is a segment of continuous production of asphaltic concrete mixture from the same job mix formula produced for the Department at a specific plant, delivered to a specific DOTD project.

SECTION 508 – STONE MATRIX ASPHALT:

Subsection 508.01 – Description (09/07), Page 274.

Delete this subsection and substitute the following.

508.01 DESCRIPTION. This work consists of furnishing and constructing Stone Matrix Asphalt (SMA) which is a plant mixed asphalt concrete wearing course for high traffic applications. This mixture is a rut resistant hot mix design with stone on stone contact. The mixture shall be composed of a PG 76-22m, or PG 82-22rm asphalt cement and a gap graded coarse aggregate structure. Mineral filler and/or fibers shall be used to control draindown. This work shall be in accordance with these specifications, plan details, and as directed. All requirements of Section 502 apply to Stone Matrix Asphalt, except as modified herein. All plant and paving equipment and processes must meet the requirements of Section 503.

Mixture used for shoulder may be Stone Matrix Asphalt or any mixture type shown in Table 502-5.

Subsection 508.02 – Materials (09/07), Page 274.

Delete the contents of subheading (a), Asphalt Cement and substitute the following.

(a) Asphalt Cement: Asphalt cement shall be PG 76-22m, or PG 82-22rm as listed on QPL 41 and complying with Section 1002.

PART VI – RIGID PAVEMENT

SECTION 602 – PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION:

Subsection 602.17 – Payment (09/07), Pages 341 – 344.

Delete the last paragraph of Subheadings (d), Full Depth Corner Patching of Jointed Concrete Pavement, (e) Full Depth Patching of Jointed Concrete Pavement, and (g) Patching Continuously Reinforced Concrete Pavement, and substitute the following.

Payment for deteriorated base course removed as directed by the engineer and replaced with concrete will be made as follows: The value per inch (mm) thickness will be determined by dividing the contract unit price per square yard (sq m) by the plan thickness. Thickness of patches will be measured from the surface that exists at the time of patching. Payment for the additional thickness will be made at 50 percent of the value per inch (mm) thus determined.

PART VII – INCIDENTAL CONSTRUCTION

SECTION 701 – CULVERTS AND STORM DRAINS:

All Subsections within Section 701 (08/07), Pages 347 – 358.

Delete Section 701, Culverts and Storm Drains and substitute the following.

SECTION 701
CULVERTS AND STORM DRAINS

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
Reclaimed Asphaltic Pavement (RAP)	1003.01 & 1003.04(d)
Stone	1003.03(b)
Recycled Portland Cement Concrete	1003.03(c)
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.

(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 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 Subsection 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.

(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 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: For projects using A+B+C bidding method where rigid and flexible pavement alternates are considered, backfill application (2) below, "Cross Drains Under Flexible Pavements", shall apply for either rigid or flexible pavements.

(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.

(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 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.

(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.

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
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)

SECTION 704 – GUARD RAIL:

Subsection 704.03 – General Construction Requirements (01/05), Pages 368 and 369.

Add the following to Heading (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.

SECTION 706 – CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING:

All Subsections within Section 706 (04/08), Pages 375 – 377.

Delete Section 706, Concrete Walks, Drives and Incidental Paving and substitute the following.

SECTION 706
CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING

706.01 DESCRIPTION. 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.

706.02 MATERIALS. Materials shall comply with the following Section or Subsections.

Portland Cement Concrete (Class M)	901
Joint Filler	1005.01(c)
Reinforcing Steel	1009.01
Curing Materials	1011.01

706.03 CONSTRUCTION REQUIREMENTS.

(a) Excavation: Excavation shall be made to required depth and width. The top of the subgrade shall be shaped and compacted to a firm, even surface conforming to the section shown on the plans. Unsuitable material shall be removed and disposed of in accordance with Subsection 202.02 and replaced with approved material at no direct pay.

(b) Forms: Forms shall be of wood or metal and shall extend the full depth of concrete. Forms shall be straight, clean and of sufficient strength to resist the pressure of concrete. Bracing of forms shall be such that forms remain in horizontal and vertical alignment until their removal.

Concrete may be placed by slip-form methods. Slip-formed concrete shall be placed with an approved machine designed to spread, vibrate, consolidate and finish concrete in one pass of the machine in such manner that minimum hand finishing is necessary. Sliding forms shall be

rigidly held together to prevent spreading of forms. After the passing of the side forms there shall be no noticeable slumping of concrete.

(c) Subgrade: The subgrade shall be thoroughly moistened immediately prior to placing concrete.

(d) Placing and Finishing: Concrete shall be placed on the subgrade, struck off to required thickness and tamped sufficiently to bring the mortar to the surface. The surface shall be finished with a wood float or steel trowel followed by brushing to a slightly rough finish. Joints and edges shall be rounded with an edging tool having a 1/4-inch (6 mm) radius.

(e) Joints:

(1) Expansion Joints: Expansion joints shall be filled with 1/2 inch (13 mm) thick preformed expansion joint filler. Expansion joints shall be installed at maximum 100-foot (30 m) intervals, and between intersecting paving and any fixed structure such as a building, bridge or curbing, and between intersecting paving and the handicapped curb ramps. Expansion joint material shall extend for the full width and depth of paving.

(2) Weakened Plane: Weakened planes shall be formed by a jointing tool or other acceptable means. Weakened planes shall extend into concrete for at least 1/4 of the depth and shall be approximately 1/8 inch (3 mm) wide.

a. Walks: Spacing of weakened planes for walks shall be equal to the width of walk.

b. Drives: A longitudinal weakened plane shall be formed along the centerline of drives more than 16 feet (5 m) wide, and transverse weakened planes shall be formed at not more than 16-foot (5 m) intervals.

c. Incidental Paving: Weakened planes for incidental paving shall be formed at intervals not exceeding 30 times the thickness of the concrete in length or width. Incidental paving poured adjacent to jointed concrete shall be jointed to match existing joints, with intermediate joints formed as necessary not to exceed the maximum joint spacing.

(3) Construction Joints: Construction joints shall be formed around manholes, utility poles, etc., extending into paving and 1/4 inch (6 mm) thick preformed expansion joint filler shall be installed in these joints.

(4) Tie-ins: Tie-ins of existing concrete shall be made by full depth sawing at no direct pay.

(f) Curing: Concrete shall be cured in accordance with Subsection 601.10.

(g) Detectable Warning Surface for Handicap Ramps and At-Grade Sidewalk Intersections: Sidewalks, when intersecting with roadways, shall be equipped with a detectable warning surface 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.

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. Detectable warnings (truncated domes) shall also be installed on at-grade sidewalks intersecting with roadways for a distance of 36 inches (900 mm) in the direction of travel from the end of the sidewalk. Truncated domes shall be laid out on a square 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.

706.04 MEASUREMENT. Quantities of concrete walks, drives and incidental paving slabs for payment will be the design quantities as specified on the plans and adjustments thereto. Design quantities will be adjusted if the engineer makes changes to adjust to field conditions, if design errors are proven or if design changes are made. Design areas are based on the horizontal dimensions shown on the plans. Excavation, backfill, reinforcing steel and joint materials will not be measured for payment.

Handicapped curb ramps, including the detectable surface warning system, will be measured per each.

Detectable surface warning systems for at-grade sidewalk intersection will not be measured for payment.

706.05 PAYMENT. Payment for concrete walks, drives and incidental paving will be made on a lot basis at the contract unit price per square yard (sq m), adjusted in accordance with the following provisions. Payment for each lot will be made in accordance with Table 901-6. Size, sampling, and testing of each concrete lot shall be in accordance with the Materials Sampling Manual.

Payment for handicapped curb ramps, including the detectable surface warning system, will be made by each and shall include, but not limited to, curb transitions, detectable warning system, gutter, landing and base.

Payment will be made under:

Item No.	Pay Item	Pay Unit
706-01	Concrete Walk (inch (mm) Thick)	Square Yard (Sq m)
706-02	Concrete Drive (inch (mm) Thick)	Square Yard (Sq m)
706-03	Incidental Concrete Paving (inch (mm) Thick	Square Yard (Sq m)
706-04	Handicapped Curb Ramps	Each

SECTION 713 – TEMPORARY TRAFFIC CONTROL:

Subsection 713.06 – Pavement Markings (08/06), Pages 400 – 403.

Delete Table 713-1, Temporary Pavement Markings and substitute the following.

Table 713-1
Temporary Pavement Markings[1,2]

		Two-lane Highways	Undivided Multilane Highways	Divided Multilane Highways
SHORT TERM	ADT<1500; or ADT>1500 and time<3 days	Lane lines 4-foot (1.2 m) tape on 40-foot (12 m) centers; with "Do Not Pass" and "Pass With Care" signs as required		
	ADT>1500; Time>3 days and<2 weeks	Lane lines 4-foot (1.2-m) tape on 40-foot (12-m) centers with no passing zone markings		
	All ADT's with time <2 weeks		Lane lines 4-foot (1.2m) tape on 40-foot (12 m) centers; double yellow centerline	Lane lines 4-foot (1.2 m) tape on 40-foot (12 m) centers
LONG TERM	All ADT's with time >2 weeks	Standard lane lines, no-passing zone markings, legends and symbols and when pavement width is 22 feet (6.7 m) or greater, edge lines	Standard lane lines, centerlines, edge lines, and legends and symbols	Standard lane lines, centerlines, edge lines, and legends and symbols.

[1]No-passing zones shall be delineated as indicated whenever a project is open to traffic.
[2]On all Asphaltic Surface Treatments that are open to traffic and used as a final wearing course or as an interlayer, temporary pavement markings (tabs) on 20-foot (6 m) centers shall be used, in lieu of the 4-foot (1.2 m) tape, on 40-foot (12 m) centers.

SECTION 729 – TRAFFIC SIGNS AND DEVICES:

Subsection 729.02 – Materials (04/08), Pages 456 and 457.

Delete the contents of Heading (a), Sign and Marker Sheeting, and substitute the following.

(a) Sign and Marker Sheeting: Sheeting material for sign panels, delineators, barricades and other markers shall comply with Section 1015. All permanent signs shall meet the requirements of ASTM D 4956, Type X.

Subsection 729.04, Fabrication of Sign Panels and Markers (04/08), Pages 458 – 460.

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

ASTM D 4956 Type X 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 X 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 X reflective sheeting will also be allowed when the specified orientation will create excessive sheeting waste.

SECTION 804 – DRIVEN PILES:

Subsection 804.08 – Construction Requirements (04/07), Pages548 – 554.

Delete the first sentence of Heading (a), Preboring and substitute the following.

Preboring by augering, wet-rotary drilling, or other methods used to facilitate pile driving will not be permitted unless specified in the plans or allowed by the engineer.

Delete the first sentence of Heading (b), Jetting and substitute the following.

Jetting will not be permitted unless allowed in the plans or allowed by the engineer.

SECTION 901 – PORTLAND CEMENT CONCRETE:

Subsection 901.06 – Quality Control of Concrete (08/06), Pages 726 – 731.

Add the following to the contents of Heading (b), Quality Control Tests.

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.

Subsection 901.08 – Composition of Concrete (12/05), Pages 732 – 734.

Add the following to Heading (a).

The blended cement containing up to 50 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.

SECTION 1001 – HYDRAULIC CEMENT:

Subsection 1001.01 – Portland Cement (09/07). Page 749.

Delete the contents of this subsection and substitute the following.

1001.01 PORTLAND CEMENT. Portland cement shall be from an approved source listed in QPL 7 and shall comply with AASHTO M 85.

Alkali content calculated as sodium oxide equivalent shall not exceed 0.60 percent by weight for all types of cement.

SECTION 1003 – AGGREGATES:

Subsection 1003.02 – Aggregates for Portland Cement Concrete and Mortar (07/07), Pages 763 – 766.

Delete the contents of Heading (c), Aggregates for Types B and D Pavements, and substitute 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 12 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).

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 12 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).

SECTION 1005 – JOINT MATERIALS FOR PAVEMENTS AND STRUCTURES:
Subsection 1005.04 – Combination Joint Former/Sealer (11/05), Pages 782 and 783.

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.

(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 1006.09 – Plastic Yard Drain Pipe (06/07), Page 789.

Delete the contents of Subheading (a)(3), Ribbed Polyvinyl Chloride Pipe (RPVCP) and substitute the following.

Ribbed Polyvinyl Chloride Pipe (RPVCP): Ribbed Polyvinyl Chloride Pipe shall comply with ASTM F 794, Series 46 or ASTM F 949 (46 psi).

SECTION 1013 – METALS:

Subsection 1013.09 – Steel Piles (08/06) Page 822.

Delete the title and references to "Steel Piles" in this subsection and substitute "Steel H Piles".

SECTION 1015 – SIGNS AND PAVEMENT MARKINGS:

Subsection 1015.04 – Sign Panels (05/07), Pages 832 and 833.

Delete the contents of Heading (a), Permanent Sign Panels and substitute the following.

(a) Permanent Sign Panels: Flat panels shall be aluminum sheets or plates complying with ASTM B 209, Alloy 6061-T6 or Alloy 5052-H38. Extruded aluminum panels shall comply with ASTM B 221 (ASTM B 221M), Alloy 6063-T6 and after fabrication, have a flatness equal to or less than 0.031 inch per foot of length and 0.004 inch per inch of width.

Subsection 1015.05 - Reflective Sheeting (04/08), Pages 833 – 838.

Delete the contents of this subsection and substitute the following.

1015.05 REFLECTIVE SHEETING.

(a) Permanent and Temporary Standard Sheeting: Reflective sheeting shall be one of the following standard types as specified on the plans and complying with ASTM D 4956 except as modified herein. Permanent warning, regulatory, guide and supplemental guide sign sheeting shall meet the requirements of ASTM D 4956 Type X. Reflective sheeting for temporary signs and devices shall meet the requirements of ASTM D 4956 Type III except as noted in Subsection 1015.05(f). Reflective sheeting shall be an approved product listed in QPL 13.

Type III - A high-intensity retroreflective sheeting that is typically encapsulated glass-bead retroreflective material.

Type VI - An elastomeric high-intensity retroreflective sheeting without adhesive. This sheeting is typically a vinyl microprismatic retroreflective material.

Type X - A super high-intensity retroreflective sheeting having highest retroreflectivity characteristics at medium distances. This sheeting is typically an unmetalized microprismatic retroreflective element material.

(b) Fluorescent Pink Retroreflective Sheeting: Signs for temporary control of traffic through incident management areas shall be Type VI fluorescent pink retroreflective sheeting and shall comply with the MUTCD. Temporary traffic control signs for incident management shall be placed to notify motorists of upcoming incidents on the roadway, and shall be removed from public view once the incident has been managed. Physical properties shall comply with ASTM D 4956. Photometric properties shall be as follows.

(1) Retroreflectivity: Minimum Coefficients of Retroreflection shall be as specified in Table 1015-1.

Table 1015-1
Coefficients of Retroreflection for Fluorescent Pink Sheeting[1]

Observation Angle, degrees	Entrance Angle, degrees	Fluorescent Pink
0.2	-4	100
0.2	+30	40
0.5	-4	40
0.5	+30	15

[1]Minimum Coefficient of Retroreflection (R_A) (cd $lx^{-1}m^{-2}$)

(2) Color and Daytime Luminance: Color Chromaticity Coordinates and Daytime Luminance Factors shall be as specified in Table 1015-2.

Table 1015-2
Fluorescent Pink Color Specifications Limits (Daytime)

Chromaticity Coordinates (corner points) [1]								Luminance Factor, min.
1		2		3		4		Y%
x	y	x	y	x	y	x	y	25
0.450	0.270	0.590	0.350	0.644	0.290	0.536	0.230	

[1]The four pairs of chromaticity coordinates measured with CIE 2° Standard Observer and 45/0 (0/45) geometry and CIE D65 Standard Illuminant.

(c) Adhesive Classes: The adhesive required for retroreflective sheeting shall be Class 1 (pressure sensitive) as specified in ASTM D 4956.

(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.

Table 1015-3
Accelerated Weathering Standards[1]

Type	Retroreflectivity[2]				Colorfastness[3]	
	Orange/ Fluorescent Orange		All colors, except orange/Fluorescent Orange		Orange/ Fluorescent Orange	All colors, except orange/Fluorescent Orange
III	1 year	80[4]	3 years	80[4]	1 year	3 years
III (for drums)	1 year	80[4]	1 year	80[4]	1 year	1 year
VI	1/2 year	50[5]	1/2 year	50[5]	1/2 year	1/2 year
X	1 year	80[6]	3 years	80[6]	1 year	3 years

[1]At an angle of 45° from the horizontal and facing south in accordance with ASTM G 7 at an approved test facility in Louisiana or South Florida.
[2]Percent retained retroreflectivity of referenced table after the outdoor test exposure time specified.
[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 8.
[5]ASTM D 4956, Table 13.
[6]ASTM D 4956, Table 4.

(e) Expected Sign Life Data and Performance: The sheeting manufacturer shall supply expected retroreflectivity service life curves for each of the following sign sheeting colors: white, green, blue, brown, red, and yellow. The service life curves shall be plots of the 95 percent expected life plotted on an x-y graph with life years on the x-axis and retroreflectivity on the y-axis. The expected life shall account for worst case installations, equivalent to an installation in South Louisiana with the sign facing to the South. The sheeting manufacturer shall also supply a table of expected life values taken from the service life curves for Revision Number 2 to the 2003 Edition of the MUTCD minimum reflectivity requirements published in the Federal Register on December 21, 2007. 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.

Table 1015-4
Reflective Sheeting Performance Standards

Type	Retroreflectivity[1] -- Durability[2]				Colorfastness[3]
	Orange/ Fluorescent Orange		All colors, except orange/Fluorescent Orange		
III	3 years	80[4]	10 years	80[4]	3 years
X	3 years	80[5]	7years	80[5]	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 D4956, Table 8.
[5]ASTM D 4956, Table 4.

(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 temporary warning construction signs used on the mainline of freeways and expressways shall be fluorescent orange and meet the requirements of ASTM D 4956, Type X.

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 III or 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 comply with the performance requirements of this subsection, the sheeting manufacturer shall do 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/Fluorescent Orange	All colors, except orange/Fluorescent Orange	All colors, except orange/Fluorescent Orange
III	<3 years	<7 years	7-10 years
X	<3 years	<5 years	5-7 years

[1] From the date of sign installation.

Replacement sheeting for sign faces, material, and labor shall carry the unexpired guaranty of the sheeting for which it replaces.

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 1015.11 - Preformed Plastic Pavement Marking Tape (06/07), Pages 842 – 844.

Delete the contents of this subsection and substitute the following.

1015.11 PREFORMED PLASTIC PAVEMENT MARKING TAPE.

(a) General: Preformed plastic pavement marking tape shall be approved products listed on QPL 64 and shall comply with ASTM D4505 Retroreflectivity Level I or Level II, or DOTD Intersection Grade (as specified below), except as modified herein. The marking tape shall be Class 2 or 3. The type and color shall be in accordance with the plans and the MUTCD.

(b) Thickness: All preformed plastic pavement marking tape shall have a minimum overall thickness of 0.060 inches (1.5 mm) when tested without the adhesive.

(c) Friction Resistance: The surface of the Retroreflectivity Level II preformed plastic pavement marking tape shall provide a minimum frictional resistance value of 35 British Polish Number (BPN) when tested according to ASTM E303. The surface of the Retroreflectivity Level I and DOTD Intersection Grade preformed plastic pavement marking tape shall provide a minimum frictional resistance value of 45 BPN when tested according to ASTM E303. Values for the Retroreflectivity Level I material with a raised surface pattern as defined in ASTM D4505 are calculated by averaging values taken at downweb and at a 45 degrees angle from downweb.

(d) Retroreflective Requirements: The preformed plastic pavement marking tape shall have the minimum initial specific luminance values shown in Table 1015-7 when measured in accordance with ASTM D 4061.

Table 1015-7
Specific Luminance of Preformed Plastic Tape

Type	Observation Angle, degrees	Entrance Angle, degrees	Specific Luminance (mcd/sq m/lx)	
			White	Yellow
Retroreflectivity Level I	1.05	88.76	500	300
DOTD Intersection Grade	1.05	88.76	375	250
Retroreflectivity Level II	1.05	88.76	250	175

(e) Durability Requirements: The DOTD Intersection Grade preformed plastic pavement marking tape shall show no appreciable fading, lifting or shrinkage for a least 12 months after placement when placed in accordance with the manufacturer's recommended procedures on pavement surfaces having a daily traffic count not to exceed 15,000 ADT per lane.

The Retroreflectivity Level I preformed plastic pavement marking tape shall show no appreciable fading, lifting or shrinkage for a least 4 years after placement for longitudinal lines and at least 2 years after placement for symbols and legends.

The Retroreflectivity Level I preformed plastic pavement marking tape shall also retain the following reflectance values for the time period detailed in Table 1015-8.

Table 1015-8
Retained Specific Luminance for Retroreflectivity Level I
Preformed Plastic Pavement Marking Tape

Time	Observation Angle, degrees	Entrance Angle, degrees	Specific Luminance (mcd/sq m/lx)	
			White	Yellow
1 year	1.05	88.76	400	240
4 years (2 years for symbols and legend)	1.05	88.76	100	100

(f) Plastic Pavement Marking Tape Guaranty (DOTD Intersection Grade and Retroreflectivity Level I): If the plastic pavement marking tape fails to comply with the performance and durability requirements of this subsection within 12 months for DOTD Intersection Grade and 4 years for Retroreflectivity Level I, the manufacturer shall replace the plastic pavement marking material at no cost to the Department.

SECTION 1020 – TRAFFIC SIGNALS:

Subsection 1020.01 – Traffic Signal Heads (06/07), Pages 873 – 884.

Delete the contents of Heading (a), General Requirements and substitute the following.

(a) General Requirements: Traffic signal sections, beacon sections and pedestrian signal sections shall be of the adjustable type. Materials and construction of each section shall be the same.

Signals shall be constructed for either 8 or 12-inch (200 mm or 300 mm) lens in accordance with the plans. Signal sections shall have three to five sections per face and beacon sections have only one section per face. Signal sections and associated brackets shall be finished inside and out with two coats of high grade dark olive green enamel, color number 14056 according to Federal Standard No. 595b with each coat independently baked. Visors shall be coated green on the outside and black on the inside. Edges shall be deburred and smooth with no sharp edges.

Subsection 1020.04 – Poles for Traffic Signal Systems (06/07), Pages 890 – 894.

Delete the sixth paragraph of Heading (a), Pedestal Support Signal Poles, and substitute the following.

Pedestals shall be finished with at least one coat of rustproofing primer, applied to a clean surface and one coat of dark olive green enamel, color number 14056 according to Federal Standard No. 595b.

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

*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 non-federally 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

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

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.

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.

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 non-segregated 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 non-minority. 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).

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.

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUPPLEMENTAL SPECIFICATIONS

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES

1. General

a. Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Orders 11246 and 11375 are set forth in Required Contract Provisions (Form FHWA-1273) and these Supplemental Specifications which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal Aid Highway Act of 1968. The requirements set forth herein shall constitute the specific affirmative action requirements for project activities under this contract and supplement the EEO requirements set forth in the Required Contract Provisions.

b. The contractor shall work with the Department and the Federal Government in carrying out EEO obligations and in their review of his activities under the contract.

c. The contractor and all his subcontractors holding subcontracts not including material suppliers, of $10,000 or more, shall comply with the following minimum specific requirement activities of EEO. The EEO requirements of Executive Order 11246, as set forth in the Federal-Aid Policy Guide 23 CFR 230A, are applicable to material suppliers as well as contractors and subcontractors. The contractor shall include these requirements in every subcontract of $10,000 or more with such modification of language as necessary to make them binding on the subcontractor.

2. EEO Policy

The contractor shall accept as his operating policy the following statement which is designed to further the provision of EEO to all persons without regard to their race, color, religion, sex or national origin, and to promote the full realization of EEO through a positive continuing program:

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 or national origin. 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 on-the-job training.

3. EEO Officer

The contractor shall designate and make known to the Department an EEO Officer who shall have the responsibility for and must be capable of effectively administering and promoting an active contractor EEO program and who must be assigned adequate authority and responsibility to do so.

4. Dissemination of Policy

a. 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, shall be made fully cognizant of and shall 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 shall be taken as a minimum:

(1) Periodic meetings of supervisory and personnel office employees shall be conducted before the start of work and then at least once every 6 months, at which time the contractor's EEO policy and its implementation shall be reviewed and explained. The meetings shall be conducted by the EEO Officer or other knowledgeable company official.

(2) All new supervisory or personnel office employees shall be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the contractor's EEO obligations within 30 days after their reporting for duty with the contractor.

(3) All personnel who are engaged in direct recruitment for the project shall be instructed by the EEO Officer or appropriate company official in the contractor's procedures for locating and hiring minority group employees.

b. To make the contractor's EEO policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the contractor shall take the following actions:

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

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

5. Recruitment

a. When advertising for employees, the contractor shall include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements shall be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The contractor shall, 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, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the contractor shall, through his EEO Officer, 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.

If 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 equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements has 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 shall encourage his present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants shall be discussed with employees.

6. 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 or national origin. The following procedures shall be followed.

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

c. The contractor shall periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor shall 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 shall promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, shall attempt to resolve such complaints, and shall 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 shall inform every complainant of all of his avenues of appeal.

7. Training and Promotion

a. The contractor shall 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 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. If the Supplemental Specifications for Job Training are provided under this contract, this subparagraph will be superseded as indicated in Attachment 2.

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

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

8. Unions

If the contractor relies in whole or in part upon unions as a source of employees, the contractor shall use his 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 shall include the procedures set forth below:

a. The contractor shall use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor shall 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 or national origin.

c. The contractor shall 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 Department and shall set forth what efforts have been made to obtain such information.

d. If 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 shall, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex or national origin, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor 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.) If the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these specifications, such contractor shall immediately notify the Department.

9. Subcontracting

a. The contractor shall use his best efforts to solicit bids from and utilize minority group subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of minority-owned construction firms from the Department.

b. The contractor shall use his best efforts to ensure subcontractor compliance with their EEO obligations.

10. Records and Reports

a. The contractor shall keep such records as necessary to determine compliance with the contractor's EEO obligations. The records kept by the contractor shall indicate:

(1) the number of minority and nonminority group members and women employed in each work classification on the project,

(2) the progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to contractors who rely in whole or in part on unions as a source of their work force),

(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 minority group subcontractors with meaningful minority and female representation among their employees.

b. All such records must be retained for a period of 3 years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Department and the Federal Highway Administration.

c. The contractor shall submit an annual report to the Department each July for the duration of the project, indicating the number of minority, women and nonminority group employees currently engaged in each work classification required by the contract work. This information shall be reported on Form PR-1391. If job training is required, the contractor shall furnish Form DOTD 03-37-0014.

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

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

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

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

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

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

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

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

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

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

II. NONDISCRIMINATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

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

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

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

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

6. **Training and Promotion:**

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

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

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

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

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

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

III. NONSEGREGATED FACILITIES

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

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

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

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

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

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

1. **General:**

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any

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

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

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

2. **Classification:**

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

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

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

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

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

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

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

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

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

3. **Payment of Fringe Benefits:**

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

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

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

a. *Apprentices:*

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

apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

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

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

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

b. *Trainees:*

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

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

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

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

c. *Helpers*:

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

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

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 contrador.

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 contrad provisions.

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

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

VIII. SAFETY: ACCIDENT PREVENTION

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

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

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

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and

similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

Notice to all Personnel engaged on Federal-Aid Highway Projects

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

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

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

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

Shall be fined not more 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

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

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

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

* * * * *

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

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

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

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

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

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

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

* * * * *

2. **Instructions for Certification - Lower Tier Covered Transactions:** (Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more - 49 CFR 29)

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

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

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

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

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

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

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

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

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

* * * * *

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

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

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

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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.

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 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.

(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 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 original 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 focus only 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 DBE Oversight Committee 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 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 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 not be held by the contractor. Delay or postponement of payment to the subcontractor may be imposed by the contractor only 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 Deputy Chief Engineer,; 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.

(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 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 will not 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 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.

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#

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	

06/08

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 were paid 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

06/08

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 _____

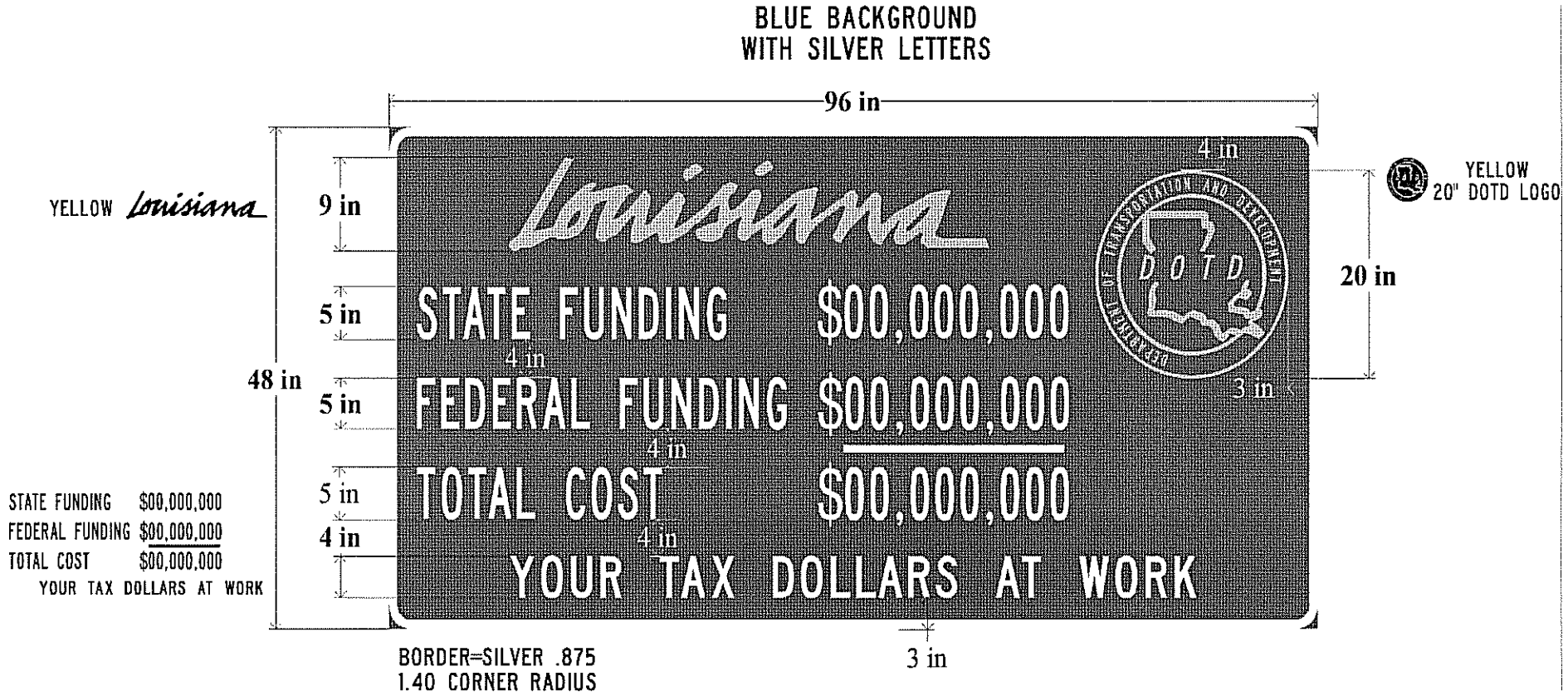
Subscribed and sworn to, before me, this _____ day of _____, A.D. 20_____

Notary Public _____

My commission expires: _____

PROJECT SIGN
LA TAX DOLLARS AT WORK
(COLOR ARTWORK FURNISHED UPON REQUEST)

Silver Font – TRAFFICAD C



GENERAL DECISION: LA20080012 02/08/2008 LA12

Date: February 8, 2008
General Decision Number: LA20080012 02/08/2008

Superseded General Decision Number: LA20070033

State: Louisiana

Construction Types: Highway

Counties: Allen, Assumption, Avoyelles, Beauregard, Bienville, Caldwell, Cameron, Catahoula, Claiborne, Concordia, De Soto, East Carroll, East Feliciana, Evangeline, Franklin, Grant, Iberia, Iberville, Jackson, Jefferson Davis, La Salle, Lincoln, Madison, Morehouse, Natchitoches, Pointe Coupee, Red River, Richland, Sabine, St Helena, St Mary, Tangipahoa, Tensas, Union, Vermilion, Vernon, Washington, West Carroll, West Feliciana and Winn Counties in Louisiana.

HIGHWAY CONSTRUCTION PROJECTS (does not include building structures in rest area projects)

Modification Number	Publication Date
0	02/08/2008

SULA2004-016 08/03/2004

	Rates	Fringes
Carpenter (including formbuilding/formsetting)	$ 11.55	1.85
Cement Mason/Concrete Finisher	$ 11.26	
Electrician (including traffic signal wiring and installation)	$ 12.00	
Ironworker, Reinforcing	$ 10.69	
Laborers		
Asphalt Raker	$ 8.12	
General including landscape/erosion	$ 8.07	
Guardrail	$ 8.22	
Mason Tender	$ 8.46	
Pipelayer	$ 8.19	
Striping/Pavement Marker including paint striping and attachment of reflector buttons	$ 7.91	
Traffic Control including flagger, sign placement, barricades, and cones	$ 7.95	
Piledriverman	$ 11.87	
Power Equipment Operators		
Asphalt Distributor	$ 8.84	
Asphalt Paving Machine	$ 12.23	
Asphalt Screed	$ 10.50	

Asphalt/Aggregate Spreader..$ 10.11
Backhoe/Excavator.....$ 10.96
Bobcat/Skid Loader.....$ 10.33
Broom Sweeper.....$ 8.70
Bulldozer.....$ 11.87
Concrete Saw.....$ 12.46
Crane.....$ 13.63
Front End Loader.....$ 9.62
Grade Checker.....$ 9.00
Mechanic.....$ 13.67
Milling/Cold Planing
Machine including rotomill
and CMI cutter.....$ 11.65
Motor Grader/Blade.....$ 11.23
MTV/Shuttlebuggy.....$ 10.14
Oiler.....$ 10.20
Post Driver including
guardrails.....$ 12.21
Roller.....$ 9.68
Scraper.....$ 10.93
Stabilizer.....$ 9.85
Trackhoe.....$ 11.92
Tractor.....$ 9.49
Truck drivers
Dump (all types).....$ 8.56
Flatbed.....$ 9.86
Lowboy.....$ 11.02
Pickup including paint truck$ 9.30
Tack.....$ 9.61
Trailer.....$ 10.00
Water.....$ 9.27

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 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

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL INFORMATION FOR

FEDERAL AID PROJECT

STATE PROJECT NOS. 001-08-00036 and 744-31-0009
RUSTON DOWNTOWN DISTRIC REVITALIZATION
ROUTE UA 167
LINCOLN PARISH

BID BOND

A Bid Bond is required when the bidder's total bid amount as calculated by the Department in accordance with Subsection 103.01 is greater than $50,000. *(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 NOS. 001-08-0036 and 744-31-0009, FEDERAL AID PROJECT NO. 3104(509), RUSTON DOWNTOWN DISTRICT REVITALIZATION, located in LINCOLN PARISH, ROUTE US 167** 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

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SCHEDULE OF ITEMS

LEAD PROJECT: 001-08-0036
OTHER PROJECTS: 001-08-0036, 744-31-0009

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
202-01	LUMP	LUMP SUM	REMOVAL OF STRUCTURES & OBSTRUCTIONS _____ DOLLARS _____ CENTS
202-02-D	1,760	SQUARE YARD	REMOVAL OF CONCRETE WALKS & DRIVES _____ DOLLARS _____ CENTS
202-02-E	1,544.0	LINEAR FOOT	REMOVAL OF CONCRETE CURBS _____ DOLLARS _____ CENTS
202-02-G	1,920.0	SQUARE YARD	REMOVAL OF SURFACING & STABILIZED BASE _____ DOLLARS _____ CENTS
202-03	2	EACH	RELOCATION OF SIGNS AND POSTS _____ DOLLARS _____ CENTS
203-01	250	CUBIC YARD	GENERAL EXCAVATION _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
203-07-A	500	CUBIC YARD	BORROW (VEHICULAR MEAS.)(SELECTED SOILS) _____ DOLLARS _____ CENTS
302-02-A	2,329.0	SQUARE YARD	CLASS II BASE COURSE (4" THICK) _____ DOLLARS _____ CENTS
302-02-C	1,360.0	SQUARE YARD	CLASS II BASE COURSE (8" THICK) _____ DOLLARS _____ CENTS
306-02	1,360	SQUARE YARD	SCARIFYING AND COMPACTING ROADBED (9" THICK) _____ DOLLARS _____ CENTS
502-03	1,360	SQUARE YARD	SUPERPAVE ASPHALTIC CONCRETE (3 1/2" THICK) _____ DOLLARS _____ CENTS
701-03-E-01	310	LINEAR FOOT	STORM DRAIN PIPE (12" PVCP) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
702-01	15	EACH	JUNCTION BOXES _____ DOLLARS _____ CENTS
702-03-G	10	EACH	CATCH BASINS (CB-09) _____ DOLLARS _____ CENTS
706-01-A	2,010.0	SQUARE YARD	CONCRETE WALK (4" THICK) _____ DOLLARS _____ CENTS
706-04	17.0	EACH	HANDICAPPED CURB RAMPS _____ DOLLARS _____ CENTS
707-03	1,910.0	LINEAR FOOT	COMBINATION CONCRETE CURB & GUTTER _____ DOLLARS _____ CENTS
713-01	LUMP	LUMP SUM	TEMPORARY SIGNS & BARRICADES _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
727-01	LUMP	LUMP SUM	MOBILIZATION _____ DOLLARS _____ CENTS
729-01	6.0	SQUARE FOOT	SIGN (TYPE A) _____ DOLLARS _____ CENTS
729-08-A	4	EACH	MOUNTING (2 1/2" POST) _____ DOLLARS _____ CENTS
730-05	18	EACH	LIGHT POLE (14'-0" MOUNT VERNON W/ FLUTED SHAFT) _____ DOLLARS _____ CENTS
730-07	18	EACH	LUMINAIRE (HOLOPHANE GV175MH00XX8RN)(175 WATT CLEAR MH WITH LUNAR OPTICS) _____ DOLLARS _____ CENTS
732-04-F	4	EACH	PLASTIC PAVEMENT LEGENDS & SYMBOLS (HANDICAP) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
732-05	0.363	MILE	REMOVAL OF EXISTING MARKINGS _____ DOLLARS _____ CENTS
737-03-A	1,650	LINEAR FOOT	PAINTED TRAFFIC STRIPING (SOLID LINE)(4" WIDTH) _____ DOLLARS _____ CENTS
737-03-D	1,350	LINEAR FOOT	PAINTED TRAFFIC STRIPING (SOLID LINE)(12" WIDTH) _____ DOLLARS _____ CENTS
740-01	LUMP	LUMP SUM	CONSTRUCTION LAYOUT _____ DOLLARS _____ CENTS
S-001	2,010	LINEAR FOOT	SAW CUTTING ASPHALTIC CONCRETE PAVEMENT PER 1" DEPTH _____ DOLLARS _____ CENTS
S-002	2,870	SQUARE FOOT	BRICK PAVERS _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-003	LUMP	LUMP	IRRIGATION SYSTEM _____ DOLLARS _____ CENTS
S-004	1	EACH	HANDRAIL _____ DOLLARS _____ CENTS
S-005-A	12	EACH	TRASH RECEPTACLES _____ DOLLARS _____ CENTS
S-005-B	12	EACH	BENCHES _____ DOLLARS _____ CENTS
S-005-C	46	EACH	PLANTERS _____ DOLLARS _____ CENTS
S-006	46	EACH	HANGING BASKETS _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-007	10	EACH	ROOF DRAIN DOWNSPOUTS _____ DOLLARS _____ CENTS
S-008	2	EACH	SIDEWALK DRAIN COVER _____ DOLLARS _____ CENTS
S-009	LUMP	LUMP SUM	ADJUSTING METAL LID _____ DOLLARS _____ CENTS
S-010	1	EACH	ADJUSTING MONITORING WELL _____ DOLLARS _____ CENTS
S-011	10	EACH	RELOCATION OF STREET SIGNS WITH NEW POSTS _____ DOLLARS _____ CENTS
S-012-A	1,181	LINEAR FOOT	CONDUIT (1 1/4" SCH 40 PVC, NO CONDUCTORS, INCLUDE PULL TAPE FULL LENGTH) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-012-B	1,798	LINEAR FOOT	CONDUIT (2 1/2" SCH 40 PVC, NO CONDUCTORS, INCLUDE PULL TAPE FULL LENGTH) _____ DOLLARS _____ CENTS
S-012-C	110	LINEAR FOOT	CONDUIT (1 1/2" HDPE BY HORIZONTAL DIRECTIONAL DRILLING) _____ DOLLARS _____ CENTS
S-012-D	600	LINEAR FOOT	CONDUIT (2 1/2" HDPE BY HORIZONTAL DIRECTIONAL DRILLING) _____ DOLLARS _____ CENTS
S-013-A	880	LINEAR FOOT	8" C-900 PVC WATER MAIN _____ DOLLARS _____ CENTS
S-013-B	60	LINEAR FOOT	12" C-900 PVC WATER MAIN _____ DOLLARS _____ CENTS
S-013-C	3,000	POUND	IRON FITTINGS _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-013-D	4	EACH	6" GATE VALVE WITH VALVE BOX _____ DOLLARS _____ CENTS
S-013-E	5	EACH	8" GATE VALVE WITH VALVE BOX _____ DOLLARS _____ CENTS
S-013-F	2	EACH	12" GATE VALVE WITH VALVE BOX _____ DOLLARS _____ CENTS
S-013-G	4	EACH	FIRE HYDRANT _____ DOLLARS _____ CENTS
S-013-H	6	EACH	CONNECT NEW WATER MAIN TO EXISTING WATER MAIN _____ DOLLARS _____ CENTS
S-013-I	9	EACH	3/4" WATER SERVICE ASSEMBLY _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-013-J	90	LINEAR FOOT	3/4" WATER SERVICE LINE _____ DOLLARS _____ CENTS
S-013-K	100	LINEAR FOOT	3/4" WATER SERVICE LINE BY JACK & BORE _____ DOLLARS _____ CENTS
S-013-L	1	EACH	2" WATER SERVICE ASSEMBLY _____ DOLLARS _____ CENTS
S-013-M	10	LINEAR FOOT	2" WATER SERVICE LINE _____ DOLLARS _____ CENTS
S-013-N	1	LINEAR FOOT	1" WATER SERVICE ASSEMBLY _____ DOLLARS _____ CENTS
S-013-O	10	EACH	1" WATER SERVICE LINE _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-014-A	30	LINEAR FOOT	4" PE WATER MAIN _____ DOLLARS _____ CENTS
S-014-B	26	LINEAR FOOT	4" PE WATER MAIN BY HORIZONTAL DIRECTIONAL DRILLING _____ DOLLARS _____ CENTS
S-014-C	40	LINEAR FOOT	8" PE WATER MAIN BY HORIZONTAL DIRECTIONAL DRILLING _____ DOLLARS _____ CENTS
S-014-D	25	LINEAR FOOT	12" PE WATER MAIN BY HORIZONTAL DIRECTIONAL DRILLING _____ DOLLARS _____ CENTS
S-015	5	EACH	ADJUSTING WATER VALVES, GAS VALVES, METER BOXES AND SEWER CLEANOUTS _____ DOLLARS _____ CENTS
S-016	LUMP	LUMP SUM	ABANDONING EXISTING WATER MAINS _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-017	LUMP	LUMP SUM	TEMPORARY BUSINESS ENTRANCES _____ DOLLARS _____ CENTS

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 NOS. **001-08-0036 and 744-31-0009**

FEDERAL AID PROJECT NO. **3104(509)**

NAME OF PROJECT **RUSTON DOWNTOWN DISTRICT REVITALIZATION**

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 (2006 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.

STAT E PROJECT NOS. **001-08-0036 and 744-31-0009**

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
08/06