STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL

STATE PROJECT NO. 451-02-0051
INDUSTRIAL DRIVE to FIFI BAYOU
ROUTE I-20
BOSSIER PARISH

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

Edwin Lantzer

17 DECEMBER 2008

STATE PROJECT NO.451-02-0051
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NOTICE TO CONTRACTORS (10/08)

Electronic bids and electronic bid bonds for the following project will be downloaded by the Department of Transportation and Development (DOTD) on **Wednesday, January 28, 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.

STATE PROJECT NO. 451-02-0051
DESCRIPTION: INDUSTRIAL DRIVE to FIFI BAYOU
ROUTE: I-20
PARISH: BOSSIER
LENGTH: 3.698 MILES.
TYPE: GRADING, RUBBLIZING PCC PAVEMENT, COLD PLANING ASPHALTIC PAVEMENT, SUPERPAVE ASPHALTIC CONCRETE PAVEMENT AND RELATED WORK
LIMITS: State Project No. 451-02-0051: LOCATED ON ROUTE I-20 FROM ITS JCT WITH INDUSTRIAL DRIVE to ITS JCT WITH FIFI BAYOU.
ESTIMATED COST RANGE: $7,500,000 to $10,000,000
PROJECT ENGINEER: CHRISTNER, STEVE; 2010 Barksdale Blvd., Bossier City, LA 71112, (318) 747-5470.
PROJECT MANAGER: THOMAS, BEN.

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.

NOTICE TO CONTRACTORS (CONTINUED)

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 home page, select ***Doing Business with DOTD*** from the left-hand menu, then select the appropriate letting date found under the ***Construction Letting Information*** pop-up menu. All project specific notices are posted under ***Construction Proposal Documents*** for this project. **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. Paper copies of the plans are included in the proposal (no additional charge). 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.

INTENT OF CONTRACT (11/95): Subsection 104.01, Intent of Contract, is amended to include the following.

(a) Covenant of Good Faith and Fair Dealing.

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

The contractor and the Department agree from the beginning to focus on creative cooperation, to avoid adverse confrontation, and to foster mutual respect, along with a positive commitment to honesty and integrity, and agree to the following mutual duties.

(1) Each will function within the laws and statutes applicable to their duties and responsibilities.
(2) Each will communicate in an open and candid manner.
(3) Each will assist in the other's performance.
(4) Each will avoid hindering the other's performance.
(5) Each will proceed to fulfill its obligations diligently.
(6) Each will cooperate in the common endeavor of the contract.

(b) Voluntary Partnering.

The Louisiana Department of Transportation and Development intends to encourage the foundation of a cohesive partnership with the contractor and its principal subcontractors and suppliers. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objective is a cooperative approach to contract management that will reduce costs, litigation, and "stress" while completing the project in accordance with the plans and specifications.

This partnership will be bilateral in makeup, and participation in partnering will be totally voluntary and is not a requirement of the contract.

A partnering conference is to be implemented and held prior to beginning construction. The contractor's management personnel and the Project Engineer will initiate a partnering development conference. They, working with the assistance of the District Construction Engineer, will make arrangements to determine the facilitator, the attendees at the conference, agenda of the conference, duration, and location. Persons required to be in attendance will be the Project Engineer and key project personnel; the contractor's on-site project manager and key project supervision personnel of both the prime and principal subcontractors and suppliers. The project design engineers, FHWA, key company representatives, and key local government personnel will also be invited to attend as necessary. The contractor and DOTD will also be required to have Regional/District and Corporate/State level managers on the project team.

Any cost associated with effectuating this partnering will be agreed to by both parties and will be shared equally and will be paid for in accordance with Subsection 109.04. The contractor, DOTD, FHWA and all others invited to the partnering conference will be responsible for any expenses incurred by their respective employees which includes salaries, travel, and lodging.

Follow-up conferences may be held periodically throughout the duration of the contract as agreed by the contractor and the DOTD.

The establishment of a partnership charter on a project will not change the legal relationship of the parties to the contract nor relieve either party from any of the terms of the contract. This partnership charter is intended only to establish an environment of cooperation and communication between all parties involved with the completion of the project.

MAINTENANCE OF TRAFFIC (08/06): 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.

The contractor shall conduct his paving operations on one side of the roadway at a time. The side of the roadway, including shoulder, which is open to traffic shall be clear at all times.

When the plans show asphaltic concrete pavement layers to be placed in thicknesses of 2 inches (50 mm) or less, the contractor will be permitted to pave in one lane for a full day; the adjacent lane may be paved the following workday. When pavement layers are greater than 2 inches (50 mm) thickness, the contractor shall place approximately 1/2 of each day's production in one lane and the remainder in the adjacent lane.

At the end of each day's paving operations, temporary pavement markings shall be in place and proper signs and barricades displayed. During the period that all lanes are open to traffic, the contractor shall neither store material nor park equipment on roadway shoulders.

When asphaltic concrete pavement is cold planed to a depth of 2 inches (50 mm) or less, the contractor will be permitted to cold plane in one lane for a full day; the adjacent lane may be cold planed the following workday. When the depth of cold planing is greater than 2 inches (50 mm), the contractor shall cold plane approximately 1/2 of each day's production in one lane and the remainder in the adjacent lane.

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

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

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

The contractor shall direct special attention to the maintenance of traffic at entrance and exit ramps particularly when construction operations are being conducted on the adjacent travel lanes of interstate highways. Additional signs, barricades, channelizing devices, etc. shall be provided and maintained by the contractor as directed

by the engineer and their cost shall be included in the prices bid on the Temporary Signs and Barricades pay items.

The roadway and shoulders shall remain open to traffic as much as possible during nonwork periods as directed by the engineer. During the period that all lanes are open to traffic, the contractor shall neither store material nor park equipment on roadway shoulders.

PUBLIC CONVENIENCE AND SAFETY (09/05): Subsection 107.07 of the Standard Specifications is amended to include the following.

The procurement of police officers for public safety during construction shall be in accordance with the Department's Policy for Use of Police Officers in Construction/Maintenance Work Zones. The DOTD project engineer shall determine the need for police officers to assist in controlling traffic in a particular work zone. The number of officers needed, the tasks they will perform, and their location within the work zone will vary as a function of the zone type. Police officers shall be placed at strategic locations at times during construction as determined by the DOTD project engineer.

The three types of law enforcement services are Police Presence, Police Enforcement and Police Traffic Control. Police Presence is defined as the use of police officers at the beginning of the active work zone area utilizing their blue lights to gain the attention of drivers. Police Enforcement is utilized when enforcement is required to enhance the safe operation of the work zone. Police Traffic Control is to be used in detour / diversion situations.

The DOTD project engineer will extend an invitation to the appropriate Louisiana State Police (LSP) Troop Commander to attend the pre-construction conference.

Prior to commencing the work on the project, the contractor shall contact the LSP Troop Commander to obtain law enforcement services of police officers during construction. If the LSP Troop is unable to provide law enforcement services for the project work zone, the LSP Troop Commander or the contractor will extend the invitation to the appropriate local law enforcement authorities.

Police officers will report directly to the contractor. However, the contractor will not have the authority to direct the placement of the police officer or the patrol vehicle in situations that are contrary to established procedures and/or could endanger the police officer. The DOTD project engineer will make the final determination on all issues regarding police officer responsibility in work zones.

Prior to the beginning of the shift, the contractor shall provide a daily work zone briefing to the police officer. For major changes in traffic patterns, advanced notification shall be provided to the police agency working the detail. This information should also be provided to the motoring public through the DOTD district and / or the LSP Troop.

The contractor shall pay for law enforcement services provided by the police officers based on the hourly wage and vehicle rate fee schedule below. The Department will reimburse the contractor monthly for the incurred cost. The contractor shall furnish time record documentation with the request for reimbursement. The provisions of Subsection 109.04 shall not apply to this reimbursement.

The agreed upon fee schedule for police officers in the work zone is as follows:

$25 per vehicle per day - vehicle use fee

$40 per hour per officer (one officer per vehicle) (minimum 2 hours).

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

Item 703-01, Shoulder Underdrain Systems
Item 703-02, Shoulder Outlet Underdrains
Item 731-02, Reflectorized Raised Pavement Markers
Item 732-02-A, Plastic Pavement Striping (Solid Line) (4" Width)
Item 732-02-E, Plastic Pavement Striping (Solid Line) (24" Width)
Item 732-03-A, Plastic Pavement Striping (Broken Line) (4" Width)
Item 732-05, Removal of Existing Markings
Item S-008, Adjusting Guardrail

PAYMENT ADJUSTMENT (03/07): 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.

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.

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 designations are also eligible for fuel price adjustments; for example:

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

STATE PROJECT NO. 451-02-0051
SPECIAL PROVISIONS

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

ITEM NO.	PAY ITEM	UNITS	MIN. ORIGINAL CONTRACT QUANTITY FOR PAY ADJUSTMENT	FUEL USAGE FACTORS	
				Diesel[2]	Gasoline
203-01[1]	General Excavation	gal/cu yd	10,000 cu yd	0.29	0.15
203-02	Drainage Excavation	gal/cu yd	10,000 cu yd	0.29	0.15
203-03[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.

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

ITEM NO.	PAY ITEM	UNITS	MIN. ORIGINAL CONTRACT QUANTITY FOR PAY ADJUSTMENT	FUEL USAGE FACTORS	
				Diesel[2]	Gasoline
203-01[1]	General Excavation	l/m^3	7,600 m^3	1.44	0.74
203-02	Drainage Excavation	l/m^3	7,600 m^3	1.44	0.74
203-03[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.

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, and maintain "project signs" in accordance with the following requirements.

Project signs shall conform to the requirements of Section 713 and the project sign detail(s) 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 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.

Immediately following final project inspection and prior to final acceptance, the Contractor shall furnish and install an additional project sign, indicating project completion, over the initial "project signs" as described in the project sign detail(s) herein. Following project final acceptance, project signs shall remain for a minimum of sixty days. The Contractor will not be responsible for project signs after the project has been accepted by the Department.

Payment for all project signs within this subsection shall include all labor, materials, tools, and equipment required to complete the work and 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.

ITEM S-001, HAULING AND STOCKPILING P.C.C. PAVEMENT: This item consists of hauling and stockpiling as directed all broken p.c.c. pavement from ramp patching operations and main roadway bridge transition removal operations. The broken p.c.c. pavement shall be delivered to and stockpiled as directed at the Minden Maintenance Unit Storage Yard, 999 Hwy. 80, Minden, LA. The contractor shall break p.c.c. pavement to be delivered to DOTD into a maximum size of two (2) feet.

Payment for Hauling and Stockpiling P.C.C. Pavement will be made at the contract unit price per lump sum.

Payment will be made under:

Item S-001, Hauling and Stockpiling P.C.C. Pavement, per lump sum.

ITEM S-002, RUBBLIZATION PREP.: This item consists of removal of all existing reflectorized raised pavement markers and all existing asphaltic concrete skin patches from the roadway prior to commencing rubblizing operations.

Payment for Rubblization Prep. will be made at the contract unit price per Lump Sum.

Payment will be made under:

Item S-002, Rubblization Prep., per lump sum.

ITEM S-003, PCCP JOINT MEMBRANE: This item consists of furnishing and installing, in locations as shown on the plans and as directed by the project engineer, Cold-Flex 2000 SA self-adhesive paving membrane by Polyguard Products or approved equal.

The membrane shall be stored, transported and installed as per the manufacturer's instructions.

Removal and replacement of any material damaged after placement shall be the responsibility of the contractor.

Payment will be made under:

Item S-003, PCCP Joint Membrane, per linear foot.

ITEM S-004, PCCP SAWCUTTING: This item consists of saw cutting existing full-depth portland cement concrete pavement for the purpose of removing a portion of the pavement and leaving a desired edge for a butt joint.

The saw blade and machine shall be the equipment designed to accomplish the desired result by industry standards. The face of the cut shall be normal to the surface. The top edge shall be smooth and straight.

Payment will be made under:

Item S-004, PCCP Sawcutting, per linear foot.

ITEM S-005, DYNAMIC MESSAGE SIGN UNIT (12/04): This work consists of furnishing, operating and maintaining solar powered portable dynamic (changeable) message signs to be used at locations designated on the plans or as directed by the engineer.

The dynamic message sign shall be in good operational condition when delivered to the job site. The engineer will inspect the signs, and if they are found to be in good operational condition with all working parts functioning, the signs will be approved for use on the project.

The message sign shall consist of three separate lines. Each line shall consist of eight characters. Each character shall nominally be 18 inches (450 mm) in height. The width shall be adequate to meet the below legibility requirements. Each character shall be a 5 x 7 LED module or hybrid LED disk. Characters shall be separated at a distance such that the legibility requirements are maintained.

All internally illuminated portions of the sign shall be amber in color. All other illuminated surfaces meant for message display shall be fluorescent yellow. All other surfaces on the front panel shall be flat black in color.

The sign shall be clearly visible under all conditions and all lanes of travel from a distance of 1000 feet (300 m) perpendicular to the sign center. The sign shall maintain this legibility throughout the entire project. The contractor shall be responsible for

maintaining this minimum legibility. Determination of legibility distance shall rest solely with the engineer.

The portable dynamic message sign shall be used in conjunction with other traffic signs and devices in accordance with the plans, project specifications and as directed by the engineer.

The signs shall be stored in an approved secure storage area when not in use. The contractor shall be required to perform all maintenance operations recommended by the manufacturer and keep adequate records of such operations.

The signs shall be kept clean and in good repair at all times. This includes keeping unit clean.

Measurement of the dynamic message sign unit will be per each.

Payment for the dynamic message signs will be made at the contract unit price per each which will be full compensation for furnishing, operating, relocating and maintaining the unit during the life of the contract and includes all equipment, tools, labor and incidentals necessary for this item of work.

Payment will be made under:

Item S-005, Dynamic Message Sign Unit, per each.

ITEM S-006, RUMBLE STRIPS (GROUND-IN)(04/01): This item consists of cutting 1/2 inch (13 mm) deep depressions into asphaltic concrete shoulders in accordance with plan details, this special provision, and as directed.

The cutting tool shall be equipped with a rotary type cutting head and a power unit. The cutting head shall have the cutting tips arranged in a pattern to provide a relatively smooth cut (approximately 1/16 inch (1.5 mm) between peaks and valleys). The cutting head shall be suspended independently from the power unit to allow the cutting head to self-align with the slope of the shoulder and any irregularities in the shoulder surface. The cutting tool shall be equipped with guides to provide a consistent alignment of each cut in relation to the roadway and to provide uniformity and consistency throughout the project.

The rumble strips shall be cut into the finished shoulders after the final wearing course has been placed.

Solid residue resulting from cutting operations shall be removed from pavement and shoulder surfaces by the contractor before such residue is blown by traffic or wind.

The contractor shall demonstrate to the project engineer the ability to achieve the desired surface inside each depression without tearing or snagging the asphalt prior to beginning the work.

Acceptance measurements will be performed by the Department on a random basis to ensure conformance with the specifications.

Rumble strips (ground-in) will be measured by the mile (km), plan quantity, constructed and accepted in accordance with these specifications. The plan quantity is based on the roadway length minus bridge lengths for each shoulder on which ground-in rumble strips are constructed.

Payment for rumble strips (ground-in) will be made at the contract unit price in accordance with Subsection 109.02.

Payment will be made under:

Item S-006, Rumble Strips (Ground-in), per mile (km).

ITEM S-007, SOIL MIXING: This item consists of stabilizer mixing of the required borrow with the existing soil in accordance with the plan details and dimensions.

Soil mixing shall be done after the final application of borrow and prior to hydro-seeding.

Payment will be made under:

Item S-008, Soil Mixing, per lump sum.

ITEM S-008, ADJUSTING GUARDRAIL: This item consists of adjusting guardrail due to grade changes on the roadway. All removal and replacement costs as well as any costs associated with re-attaching guardrail to existing bridges shall be included in the item. Any guardrail component determined by the project engineer to be unsuitable for re-installation shall be replaced and the cost included in this item.

Payment for Adjusting Guardrail will be made at the contract unit price per Lump Sum.

Item S-008, Adjusting Guardrail, per lump sum.

ITEMS S-922, SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALTIC CONCRETE OVERLAY: This item consist of sawing and sealing transverse joints in asphaltic concrete overlay in accordance with plan details and the following requirements.

Sawcuts shall be made in the overlay at the locations of all transverse joints in the concrete pavement, the existing joint between concrete pavement and asphaltic concrete shoulder and the existing joint between the concrete pavement and concrete shoulder. Before the overlay operation is started, the contractor shall accurately mark the location of each transverse joint in the existing concrete pavement and shoulder to the satisfaction of the engineer by placing a hub with a tack even with the ground at each edge of shoulder or by other approved methods. Offsets shall be measured from these hubs and tacks to locate the longitudinal joints.

All asphaltic concrete lifts shall be saw cut a minimum of 1/8 inch (3 mm) wide by 1 inch (25 mm) deep over the existing transverse concrete pavement joints. These saw cuts shall be made after the overlay has thoroughly cooled and shall be completed within 3 calendar days after each lift is placed, before any reflective cracking has developed or other courses placed.

Transverse joint reservoirs in the final wearing course shall be sawed to the dimensions shown on the plans. Sawing shall not begin until the overlay has thoroughly cooled. Joint faces shall be blown free of sawing slurry, dirt and water by compressed air just prior to resealing. The air compressor shall be equipped with an approved oil and water trap. The joint shall be dry before sealing. Joints which have become contaminated or dirty before sealing shall be recleaned as directed by the engineer.

An approved backer material conforming to Subsection 1005.02(a) and consisting of a closed-cell, crossed linked polyethylene or polyolefin 3/16-inch (5 mm) foam rod shall be placed as shown on the plans. The transverse joint shall be sealed with a sealant conforming to Subsection 1005.02(a) in accordance with plan details and the manufacturer's recommendations. The sealing operation shall be done as soon as possible after the sawing and cleaning and before traffic, including construction traffic, is allowed on the overlay. The sealed joints shall remain closed to traffic until, in the engineer's opinion, the sealant has satisfactorily cured to tack free.

The hot poured sealant shall be sampled in accordance with the Materials Sampling Manual.

Measurement of sawing and sealing transverse joints in asphaltic concrete pavement will be made by the linear foot (lin m) along the sealant reservoirs in the final wearing course.

Payment for sawing and sealing transverse joints in asphaltic concrete overlay will be made at the contract unit price, which includes locating and marking the joints, sawing the sealant reservoirs in the final wearing course, cleaning the sawed sealant reservoirs, backer material in the transverse joints, joint sealant, and all labor, equipment and incidentals necessary to complete these items.

Payment will be made under:

Item S-922, Sawing and Sealing Transverse Joints in Asphaltic Concrete Overlay, per linear foot (lin m).

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 **one hundred fifty five (155) 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.

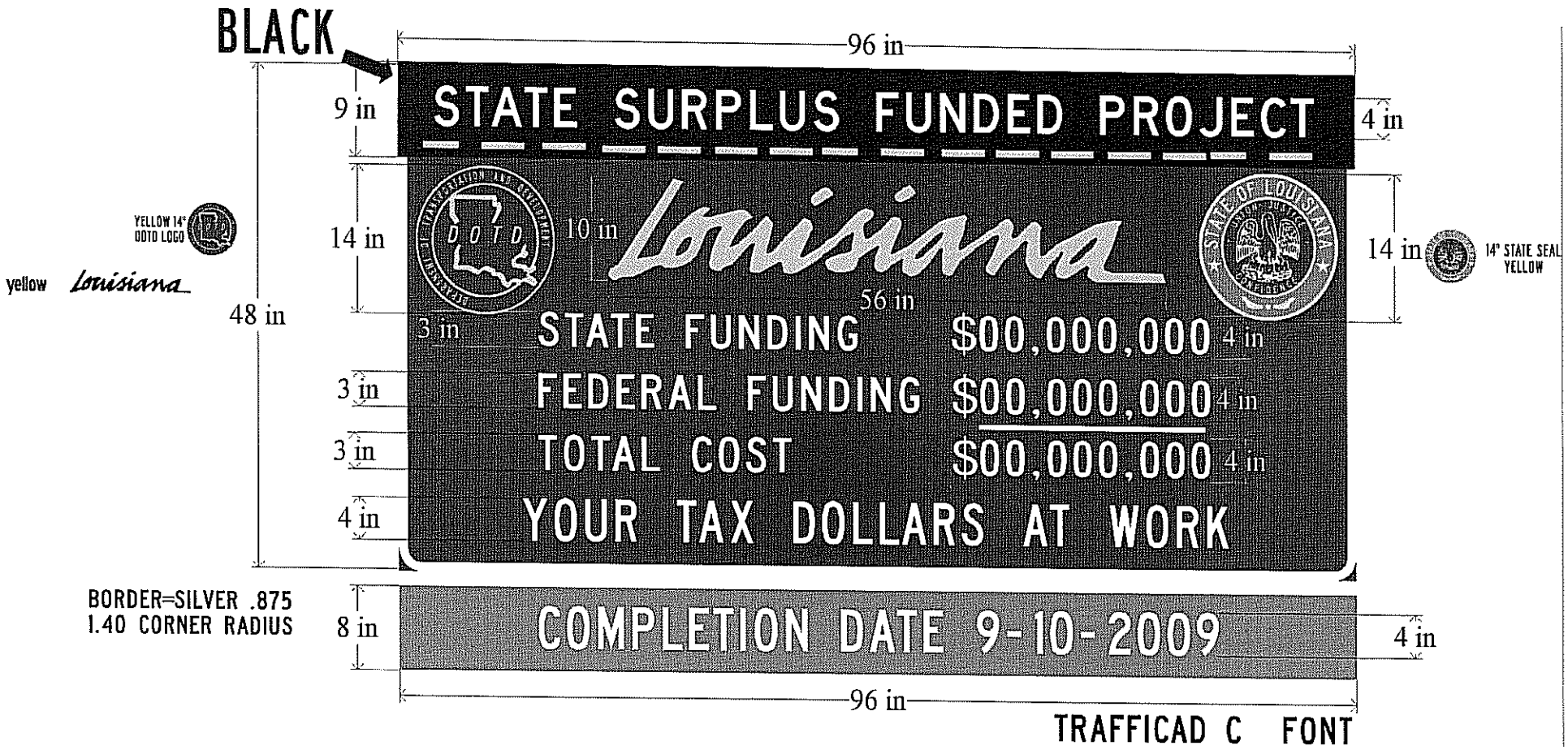
Delete the sixth paragraph of Heading (a), Pedestal Support Signal Poles, and substitute the following.

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.

PROJECT SIGN DETAIL - STATE SURPLUS FUNDED

(COLOR ARTWORK FURNISHED UPON REQUEST)

Background=Blue



COMPLETE

8 in

Additional "Complete" Sign

72 in

STANDARD PLANS TO BE USED ON THIS PROJECT

STANDARD PLAN	REV. DATE
CP-01	2/26/08
EC-01	1/14/94
PM-01	1/21/98

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

PLAN OF PROPOSED

STATE HIGHWAY

S.P. 451-02-0051
INDUSTRIAL DR. TO
FIFI BAYOU
BOSSIER PARISH
I-20

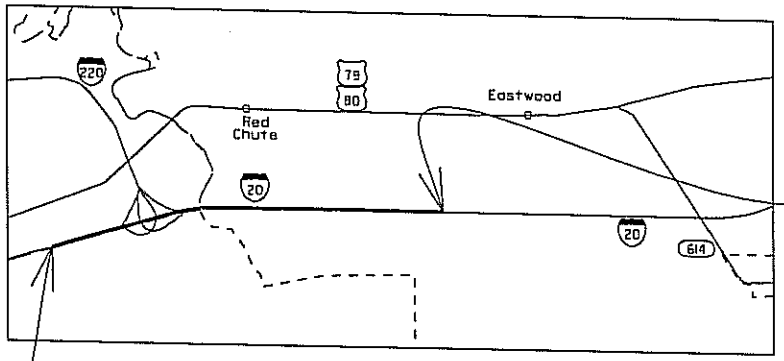
STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	1

LENGTH OF PROJECT

GROSS LENGTH = 19,527'
EXCEPTIONS = 5,346'
BRIDGES = 311'
RDWY LENGTH = 14,181'

C.S.L.M. 6.104
STA. 10+00 E.B. BASELINE
BEGIN S.P. 451-02-0051

C.S.L.M. 9.802
STA. 205+27 E.B. BASELINE
END S.P. 451-02-0051



TRAFFIC DATA

2009 ADT = 38,458
2029 ADT = 49,922
D = 55 %
K = 10 %
T = 21 %

SEE PAGES 2 - 2a FOR PROJECT BASELINES AND BRIDGE LOCATIONS

STATE OF LOUISIANA
DON RANDAL MADDOX
REG. No. 22510
REGISTERED
PROFESSIONAL ENGINEER
CIVIL ENGINEERING

TYPE OF CONSTRUCTION:
RUBBLIZING PCC PAVEMENT, COLD PLANING ASPHALT PAVEMENT, SHOULDER UNDERDRAINS, ASPHALTIC CONCRETE SURFACING AND RELATED WORK

Date	Revision	Date	Recommended	Date	Approved

The 2006 Louisiana DOTD Standard Specifications for Roads and Bridges, as amended by the project specifications, shall govern this project.

RECOMMENDED FOR APPROVAL:

John Lindsey 10-28-08
DISTRICT ADMINISTRATOR DATE

APPROVED:

Richard L Savoie 11.5.08
for CHIEF ENGINEER DATE

G-1

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	1a

INDEX TO SHEETS

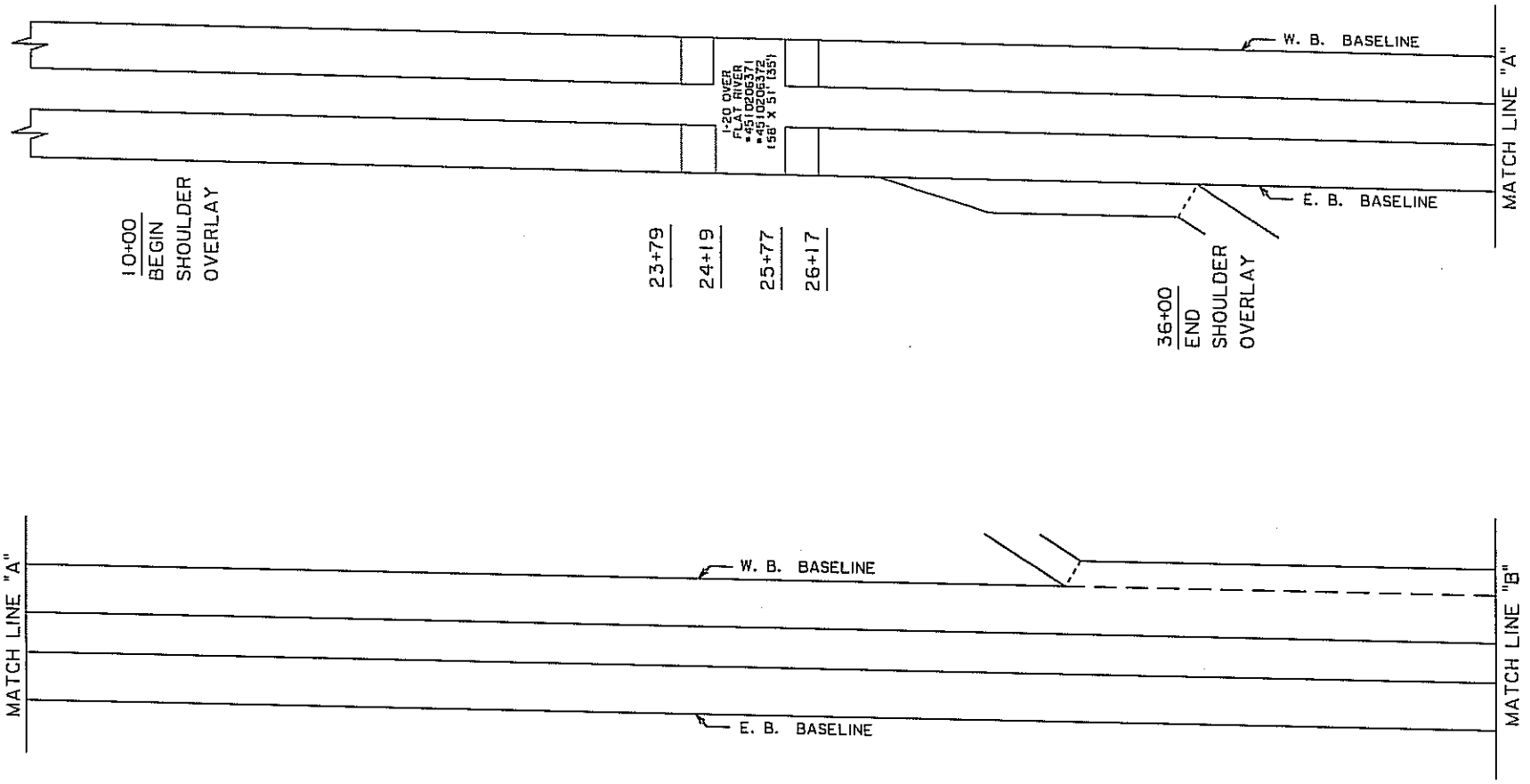
STATE OF LOUISIANA
DON RANDALL MADDOX
REG. NO. 22514
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

4/24/96

G-2

EXISTING BRIDGES AND GENERAL LAYOUT

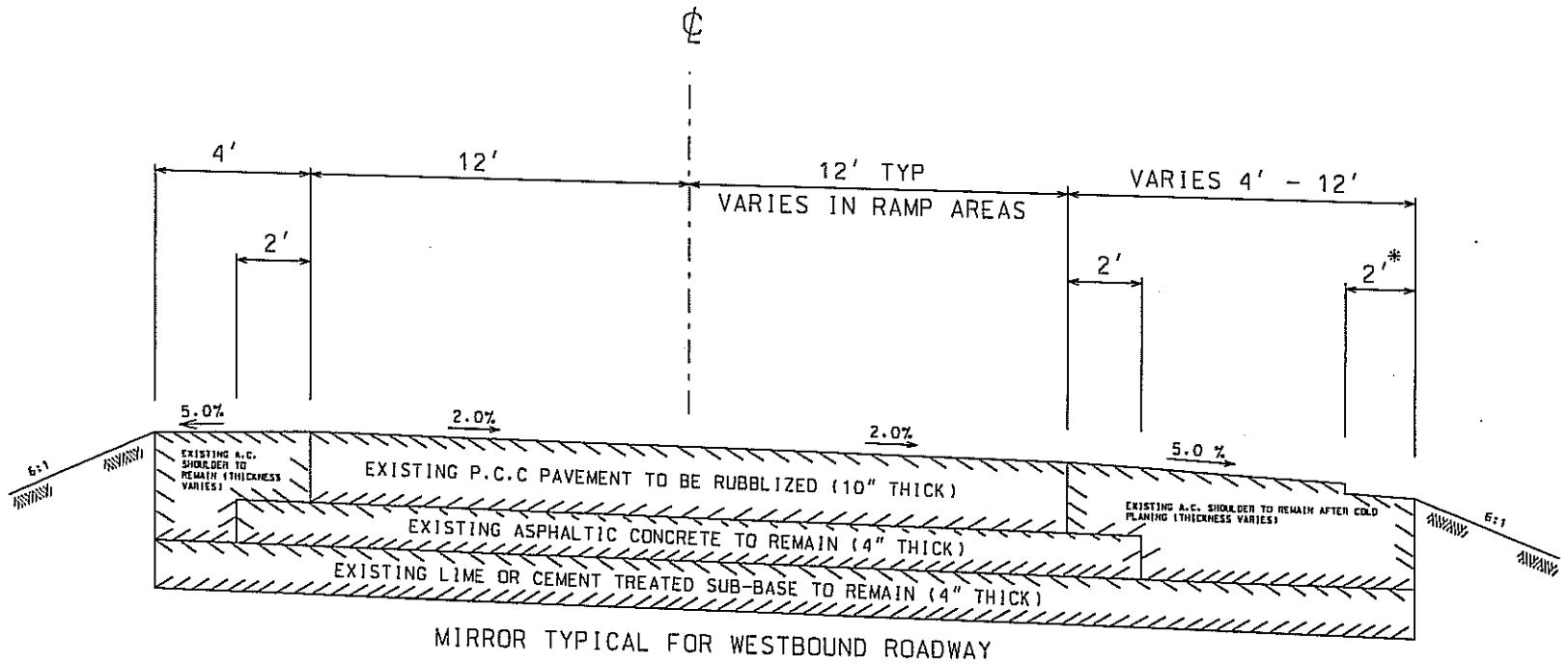
STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	2



STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	2a

EXISTING BRIDGES AND GENERAL LAYOUT

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	3



MIRROR TYPICAL FOR WESTBOUND ROADWAY

EXISTING TYPICAL SECTION

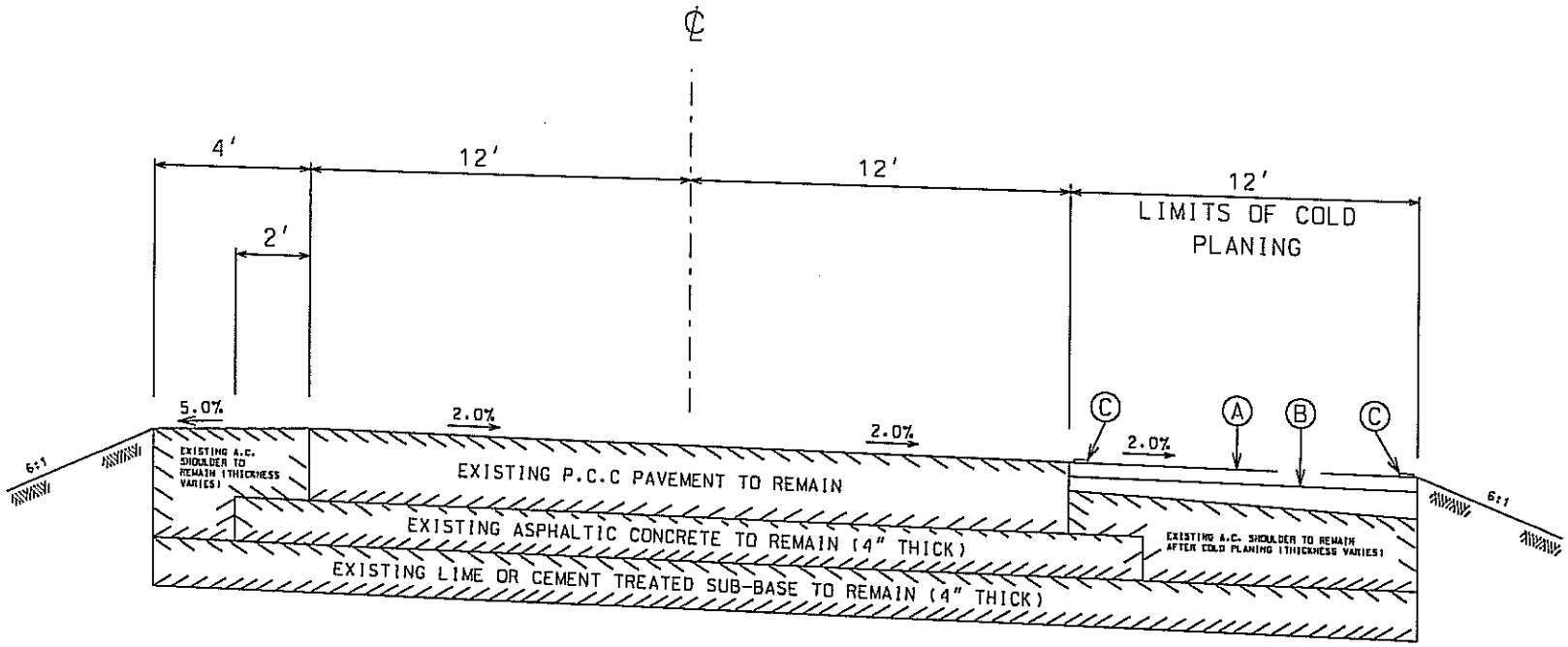
* LOCATED IN AREAS AS SHOWN IN THE SURFACING TABLES

REQUIRED TYPICAL SECTION

EASTBOUND ROADWAY ONLY

STA. 10+00 - STA. 36+00 E.B.

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	3a



Ⓐ REQUIRED SUPERPAVE WEARING COURSE, (2" THICKNESS) (LEVEL 2F). ½" NOM. MAX. SIZE AGGREGATE.
Ⓑ REQUIRED SUPERPAVE BINDER COURSE, (4.7" AVG. THICKNESS) (LEVEL 2). 1" NOM. MAX. SIZE AGGREGATE.
Ⓒ REQUIRED TEMPORARY STRIPING FOR AN 11' TEMPORARY OFF-RAMP.

NOTES:

1. OUTSIDE SHOULDER SHALL BE COLD-PLANED TO AN AVERAGE DEPTH OF 4"
2. BINDER COURSE SHALL BE USED TO ACHEIVE REQUIRED CROSS SLOPE. THICKNESS SHOWN IS FOR ESTIMATING PURPOSES ONLY.
3. THE WORK FROM E.B. STA. 10+00 TO STA. 36+00 SHALL BE COMPLETED IN PHASE ONE. THIS SECTION SHALL BE COMPLETED TO 100% PRIOR TO ANY OTHER WORK ON THE EAST BOUND ROADWAY THAT WOULD REQUIRE LANE CLOSURES.

REQUIRED TYPICAL SECTION

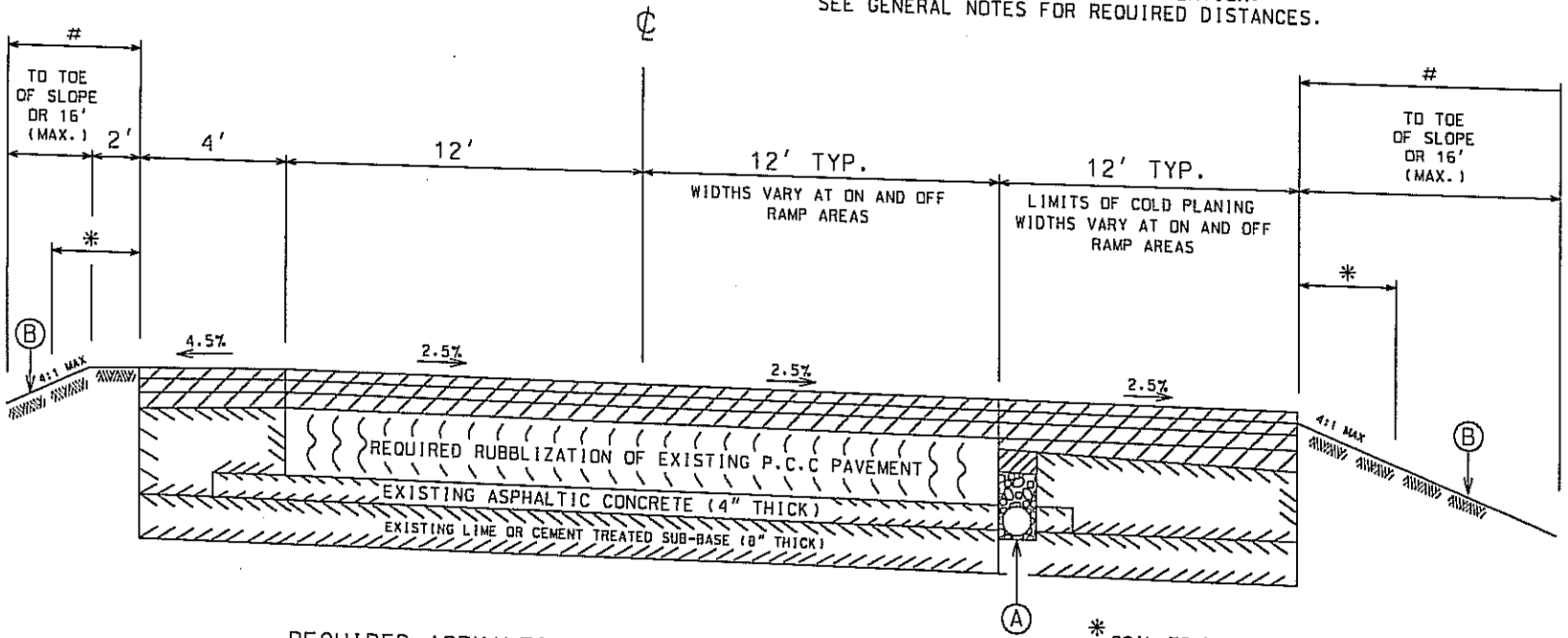
STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	4

MIRROR TYPICAL FOR WESTBOUND ROADWAY

STA. 91+51 - STA. 140+16 E.B.
STA. 144+16 - STA. 203+22 E.B.

STA. 91+51 - STA. 139+90 W.B.
STA. 143+90 - STA. 203+22 W.B.

- LIMITS OF SEEDING AND FERTILIZATION.
SEE GENERAL NOTES FOR REQUIRED DISTANCES.



REQUIRED ASPHALTIC CONCRETE (FOR LIFT THICKNESSES AND TYPES, SEE "SUGGESTED ASPHALTIC CONCRETE LIFT DIAGRAM" SHEET NO. 11). TOTAL CALCULATED CUMULATIVE ESALS =

* SOIL TO BE STABILIZER MIXED TO A DEPTH OF 13" AT OUTSIDE SHOULDER AND A DEPTH OF 15" AT INSIDE SHOULDER FOR A 6' MINIMUM WIDTH.

NOTES:

1. SEE 'DETAIL FOR SHOULDER UNDERDRAIN' FOR UNDERDRAIN INFORMATION.
2. SHOULDER UNDERDRAIN SYSTEM TO BE INSTALLED PRIOR TO RUBBLIZATION.
3. COLD PLANING AND OVERLAYING THE OUTSIDE SHOULDER IS TO BE DONE PRIOR TO RUBBLIZATION AND IN CONJUNCTION WITH THE SHOULDER UNDERDRAIN SYSTEM.
4. SEE 'DETAIL FOR VERTICAL TRANSITIONS AT BRIDGE ENDS' FOR TRANSITION INFORMATION.

(A) REQUIRED SHOULDER UNDERDRAIN SYSTEM

(B) REQUIRED BORROW (MINIMUM P.I. OF 12)

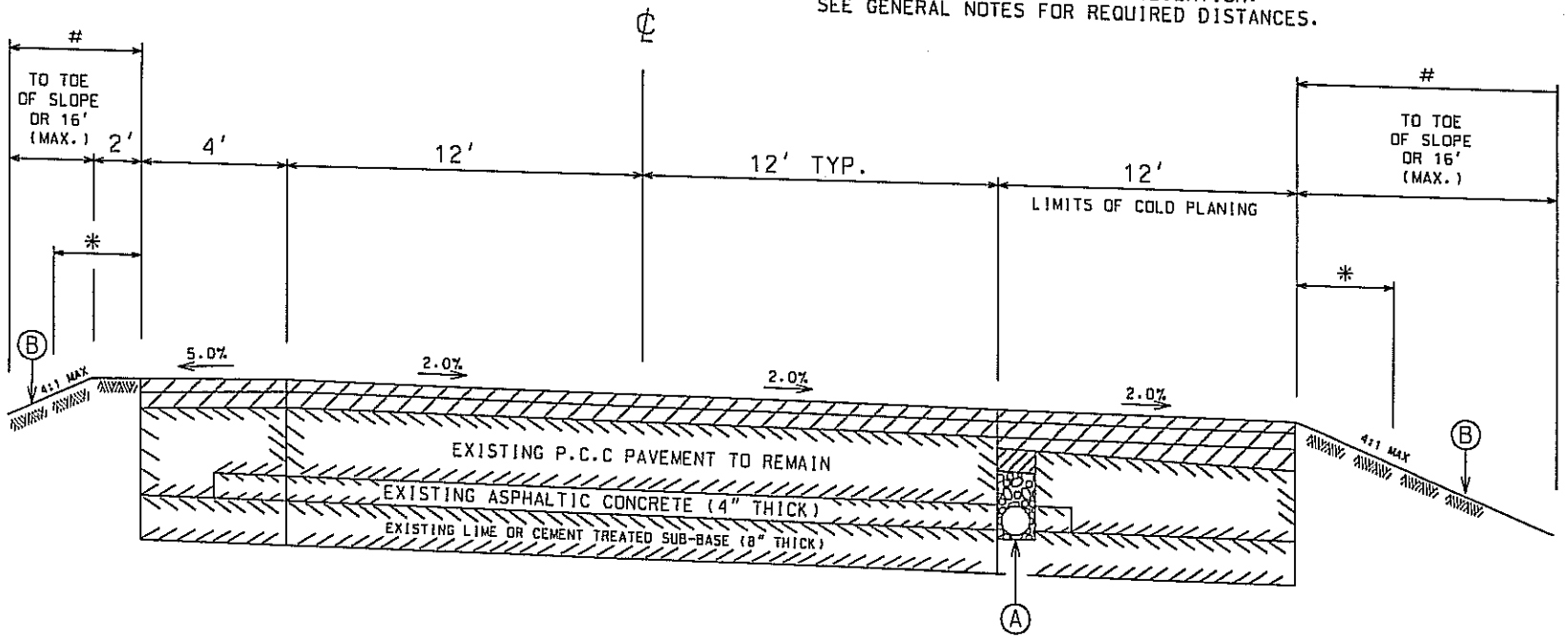
REQUIRED TYPICAL SECTION

MIRROR TYPICAL FOR WESTBOUND ROADWAY

STA. 140+16 - STA. 144+16 E.B.
STA. 139+90 - STA. 143+90 W.B.
(OVERPASS AREA)

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	5

- LIMITS OF SEEDING AND FERTILIZATION.
SEE GENERAL NOTES FOR REQUIRED DISTANCES.



REQUIRED ASPHALTIC CONCRETE (FOR LIFT THICKNESSES AND TYPES, SEE "SUGGESTED ASPHALTIC CONCRETE LIFT DIAGRAM" SHEET NO. 12). TOTAL CALCULATED CUMULATIVE ESALS =

* SOIL TO BE STABILIZER MIXED TO A DEPTH OF 13" AT OUTSIDE SHOULDER AND A DEPTH OF 15" AT INSIDE SHOULDER FOR A 6' MINIMUM WIDTH.

NOTES:

1. SEE 'DETAIL FOR SHOULDER UNDERDRAIN' FOR UNDERDRAIN INFORMATION.
2. COLD PLANING AND OVERLAYING THE OUTSIDE SHOULDER IS TO BE DONE IN CONJUNCTION WITH THE SHOULDER UNDERDRAIN SYSTEM.
3. NO RUBBLIZATION IN THIS AREA. ASPHALTIC CONCRETE OVERLAY SHALL BE SAWED AND SEALED AS DIRECTED IN THIS LOCATION.

(A) REQUIRED SHOULDER UNDERDRAIN SYSTEM

(B) REQUIRED BORROW (MINIMUM P.I. OF 12)

STATE PROJECT	PARISH	SHEET NO.
451-02-0051	BOSSIER	6

MAIN ROADWAY SURFACING
VERTICAL TRANSITION AREAS AT BRIDGE ENDS

STATION	STATION	DESCRIPTION	LENGTH	WIDTH	AREA	502-01 ASPH. CONC. WEARING COURSE (LEVEL 2F) (1/2" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (3/4" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (1" AGGREGATE)		502-01 ASPH. CONC. BASE COURSE (LEVEL 2) (1" AGGREGATE)		202-02-C REMOVAL OF P.C.C. PAVEMENT (10" THICK)	202-02-G REMOVAL OF SURFACING & STABILIZED BASE
					SQ. YD.	DEPTH	TON	DEPTH	TON	DEPTH	TON	DEPTH	TON	SQUARE YARD	SQUARE YARD
		EAST BOUND													
89+47	89+86	EAST BOUND ROADWAY APP. SLAB OVERLAY	39.0	51.0	221.0	1.75 •	21.3	—	—	—	—	—	—	—	—
89+86	91+51	EAST BOUND ROADWAY VERTICAL TRANSITION AREA (INCL. SHOULDERS)	165.0	50.0 •	916.7	2.0	100.8	2.5	126.0	3.2 •	161.3	7.5 •	378.1	651	256.7
203+22	204+87	EAST BOUND ROADWAY VERTICAL TRANSITION AREA (INCL. SHOULDERS)	165.0	38.0	696.7	2.0	76.6	2.5	95.8	3.2 •	122.6	7.5 •	287.4	440	293.3
204+87	205+26	EAST BOUND ROADWAY APP. SLAB OVERLAY	39.0	40.0	173.3	1.75 •	16.7	—	—	—	—	—	—	—	—
		WEST BOUND													
89+47	89+86	WEST BOUND ROADWAY APP. SLAB OVERLAY	39.0	51.0	221.0	1.75 •	21.3	—	—	—	—	—	—	—	—
89+86	91+51	WEST BOUND ROADWAY VERTICAL TRANSITION AREA (INCL. SHOULDERS)	165.0	52.0	953.3	2.0	104.9	2.5	131.1	3.2 •	167.8	7.5 •	393.2	660	293.3
203+22	204+87	WEST BOUND ROADWAY VERTICAL TRANSITION AREA (INCL. SHOULDERS)	165.0	38.0	696.7	2.0	76.6	2.5	95.8	3.2 •	122.6	7.5 •	287.4	440	293.3
204+87	205+26	WEST BOUND ROADWAY APP. SLAB OVERLAY	39.0	40.0	173.3	1.75 •	16.7	—	—	—	—	—	—	—	—
PAGE TOTAL:							434.9		448.7		574.3		1,346.1	2,191	1,136.6

• DENOTES AVERAGE VALUE

STATE PROJECT	PARISH	SHEET NO.
451-02-0051	BOSSIER	7

MAIN ROADWAY SURFACING

STATION	STATION	DESCRIPTION	LENGTH	WIDTH	AREA	502-01 ASPH. CONC. WEARING COURSE (LEVEL 2F) (1/2" AGGREGATE)		502-01 ASPH. CONC. WEARING COURSE (LEVEL 2F) (3/4" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (3/4" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (1" AGGREGATE)		734-01 RUBBLIZE P.C.C. PAVEMENT (10" THICK)
					SQ. YARD	DEPTH	TON	DEPTH	TON	DEPTH	TON	DEPTH	TON	SQUARE YARD
		EAST BOUND												
91+51	98+21	EAST BOUND ROADWAY	670.0	24.0	1,786.7	2.0	196.5	---	---	2.5	245.7	3.2 •	314.5	1,787
98+21	99+83	EAST BOUND ROADWAY (INCL. 10' PCC OUTSIDE SHLDR.)	162.0	34.0	612.0	2.0	67.3	---	---	2.5	84.2	3.2 •	107.7	612
99+83	140+16	EAST BOUND ROADWAY	4,033.0	24.0	10,754.7	2.0	1,183.0	---	---	2.5	1,478.8	3.2 •	1,892.8	10,755
140+16	144+16	EAST BOUND ROADWAY (BODCAU STA. RD OVERPASS AREA)	400.0	24.0	1,066.7	---	---	3.0	176.0	---	---	---	---	---
144+16	203+22	EAST BOUND ROADWAY	5,906.0	24.0	15,749.3	2.0	1,732.4	---	---	2.5	2,165.5	3.2 •	2,771.9	15,749
		WEST BOUND												
91+51	109+24	WEST BOUND ROADWAY	1,773.0	36.0	7,092.0	2.0	780.1	---	---	2.5	975.2	3.2 •	1,248.2	7,092
109+24	110+85	WEST BOUND ROADWAY (INCL. 10' PCC OUTSIDE SHLDR.)	161.0	34.0	200.0	2.0	22.0	---	---	2.5	27.5	3.2 •	35.2	200
110+85	139+90	WEST BOUND ROADWAY	2,905.0	41.5 •	13,395.3	2.0	1,473.5	---	---	2.5	1,841.9	3.2 •	2,357.6	13,395
139+90	143+90	WEST BOUND ROADWAY (BODCAU STA. RD OVERPASS AREA)	400.0	24.0	1,066.7	---	---	3.0	176.0	---	---	---	---	---
143+90	203+22	WEST BOUND ROADWAY	5,932.0	24.0	15,818.7	2.0	1,740.1	---	---	2.5	2,175.1	3.2 •	2,784.1	15,819
PAGE TOTAL:							7,194.9		352.0		8,993.9		11,512.0	65,409

• DENOTES AVERAGE VALUE
SEE "SUGGESTED ASPHALTIC CONCRETE LIFT DIAGRAM" SHEETS

PAVEMENT AND LIFT THICKNESS TRANSITIONS TO AND FROM OVERPASS AREAS SHALL BE AS DIRECTED BY THE PROJECT ENGINEER

G-10

STATE PROJECT	PARISH	SHEET NO.
451-02-0051	BOSSIER	8

MAIN ROADWAY SHOULDER SURFACING

SHEET 1 OF 2

STATION	STATION	DESCRIPTION	LENGTH	WIDTH	AREA	502-01 ASPH. CONC. WEARING COURSE (LEVEL 2F) (1/2" AGGREGATE)		502-01 ASPH. CONC. WEARING COURSE (LEVEL 2F) (3/4" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (3/4" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (1" AGGREGATE)		734-01 RUBBLIZE P.C.C. PAVEMENT (10" THICK)	509-01 COLD PLANING	
					SQ. YARD	DEPTH	TON	DEPTH	TON	DEPTH	TON	DEPTH	TON	SQUARE YARD	DEPTH	SQ. YARD
		EAST BOUND														
91+51	140+16	INSIDE SHOULDER	4,865.0	4.0	2,162.2	2.0	237.8	—	—	2.5 *	297.3	4.0 *	475.7	—	—	—
140+16	144+16	INSIDE SHOULDER (BODCAU STA. RD. OVERPASS AREA)	400.0	4.0	177.8	—	—	3.0	29.3	—	—	—	—	—	—	—
144+16	203+22	INSIDE SHOULDER	5,906.0	4.0	2,624.9	2.0	288.7	—	—	2.5 *	360.9	4.0 *	577.5	—	—	—
91+51	203+22	INSIDE SHOULDER QUANTITY ADJUSTMENT TO ACCOUNT FOR GRADE CHANGE ON MAIN ROADWAY DUE TO RUBBLIZATION	11,171.0	4.0	4,964.9	—	—	—	—	—	—	1.0	273.1	—	—	—
10+00	23+79	OUTSIDE SHOULDER	1,379.0	12.0	1,838.7	2.0	202.3	—	—	—	—	4.7 *	475.3	—	4.0	1,839
23+79	26+17	BRIDGE EXCEPTION	238.0	—	—	—	—	—	—	—	—	—	—	—	—	—
26+17	36+00	OUTSIDE SHOULDER	983.0	12.0	1,310.7	2.0	144.2	—	—	—	—	4.7 *	338.8	—	4.0	1,311
36+00	91+51	ROADWAY EXCEPTION	5,551.0	—	—	—	—	—	—	—	—	—	—	—	—	—
91+51	92+64	OUTSIDE SHOULDER	113.0	10.0	125.6	2.0	13.8	—	—	2.5	17.3	6.8 *	47.0	—	2.5	126
92+64	98+21	OUTSIDE SHOULDER (REST AREA REMOVAL LOCATION)	557.0	7.0 *	433.2	2.0	47.7	—	—	2.5	59.6	2.5	59.6	433	—	—
98+21	99+83	OUTSIDE SHOULDER	162.0	4.0	72.0	2.0	7.9	—	—	2.5	9.9	6.8 *	26.9	—	2.5	72
99+83	111+79	OUTSIDE SHOULDER	1,196.0	12.0	1,594.7	2.0	175.4	—	—	2.5	219.3	6.8 *	596.4	—	2.5	1,595
111+79	120+58	OUTSIDE SHOULDER (REST AREA REMOVAL LOCATION)	879.0	7.0 *	683.7	2.0	75.2	—	—	2.5	94.0	2.5	94.0	684	—	—
120+58	123+64	OUTSIDE SHOULDER	306.0	10.0	340.0	2.0	37.4	—	—	2.5	46.8	6.8 *	127.2	—	2.5	340
123+64	140+16	OUTSIDE SHOULDER	1,652.0	12.0	2,202.7	2.0	242.3	—	—	2.5	302.9	6.8 *	823.8	—	2.5	904
140+16	144+16	OUTSIDE SHOULDER (BODCAU STA. RD. OVERPASS AREA)	400.0	12.0	533.3	—	—	3.0	88.0	—	—	4.7 *	137.9	—	2.5	533
144+16	203+22	OUTSIDE SHOULDER	5,906.0	12.0	7,874.7	2.0	866.2	—	—	2.5	1,082.8	6.8 *	2,945.1	—	2.5	7,875
91+51	203+22	OUTSIDE SHOULDER QUANTITY ADJUSTMENT TO ACCOUNT FOR GRADE CHANGE ON MAIN ROADWAY DUE TO RUBBLIZATION	11,171.0	12.0	14,894.7	—	—	—	—	—	—	1.0	819.2	—	—	—
PAGE TOTAL							2,338.9		117.3		2,490.8		7,817.5	1,117		14,595

SEE "SUGGESTED ASPHALTIC CONCRETE LIFT DIAGRAM" SHEETS

* DENOTES AVERAGE VALUE

MAIN ROADWAY SHOULDER SURFACING

STATE PROJECT	PARISH	SHEET NO.
451-02-0051	BOSSIER	9

STATION	STATION	DESCRIPTION	LENGTH	WIDTH	AREA	502-01 ASPH. CONC. WEARING COURSE (LEVEL 2F) (1/2" AGGREGATE)		502-01 ASPH. CONC. WEARING COURSE (LEVEL 2F) (3/4" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (3/4" AGGREGATE)		502-01 ASPH. CONC. BINDER COURSE (LEVEL 2) (1" AGGREGATE)		734-01 RUBBLIZE P.C.C. PAVEMENT (10" THICK)	509-01 COLD PLANING	
					SQ. YARD	DEPTH	TON	DEPTH	TON	DEPTH	TON	DEPTH	TON	SQUARE YARD	DEPTH	SQ. YARD
		WEST BOUND														
91+51	139+90	INSIDE SHOULDER	4,839.0	4.0	2,150.7	2.0	236.6	—	—	2.5 •	295.7	4.0 •	473.2	—	—	—
139+90	143+90	INSIDE SHOULDER (BODCAU STA. RD. OVERPASS AREA)	400.0	4.0	177.8	—	—	3.0	29.3	—	—	—	—	—	—	—
143+90	203+22	INSIDE SHOULDER	5,932.0	4.0	2,636.4	2.0	290.0	—	—	2.5 •	362.5	4.0 •	580.0	—	—	—
91+51	203+22	INSIDE SHOULDER QUANTITY ADJUSTMENT TO ACCOUNT FOR GRADE CHANGE ON MAIN ROADWAY DUE TO RUBBLIZATION	11,171.0	4.0	4,964.9	—	—	—	—	—	—	1.0	273.1	—	—	—
91+51	95+92	OUTSIDE SHOULDER	441.0	12.0	588.0	2.0	64.7	—	—	2.5	80.9	6.8 •	219.9	—	2.5	588
95+92	97+38	OUTSIDE SHOULDER	146.0	10.0	162.2	2.0	17.8	—	—	2.5	22.3	6.8 •	60.7	—	2.5	162
97+36	109+24	OUTSIDE SHOULDER	1,186.0	12.0	1,581.3	2.0	173.9	—	—	2.5	217.4	6.8 •	591.4	—	2.5	1,581
109+24	110+85	OUTSIDE SHOULDER	161.0	4.0	71.6	2.0	7.9	—	—	2.5	9.8	6.8 •	26.8	—	2.5	72
110+85	117+37	OUTSIDE SHOULDER (REST AREA REMOVAL LOCATION)	652.0	7.0 •	507.1	2.0	55.8	—	—	2.5	69.7	2.5	69.7	507	—	—
117+37	139+90	OUTSIDE SHOULDER	2,253.0	12.0	3,004.0	2.0	330.4	—	—	2.5	413.1	6.8 •	1,123.5	—	2.5	3,004
139+90	143+90	OUTSIDE SHOULDER (BODCAU STA. RD. OVERPASS AREA)	400.0	12.0	533.3	—	—	3.0	88.0	—	—	4.7 •	137.9	—	2.5	533
143+90	203+22	OUTSIDE SHOULDER	5 932.0	12.0	7,909.3	2.0	870.0	—	—	2.5	1,087.5	6.8 •	2,958.1	—	2.5	7,909
91+51	203+22	OUTSIDE SHOULDER QUANTITY ADJUSTMENT TO ACCOUNT FOR GRADE CHANGE ON MAIN ROADWAY DUE TO RUBBLIZATION	11,171.0	12.0	14,894.7	—	—	—	—	—	—	1.0	819.2	—	—	—
PAGE TOTAL:							2,047.1		117.3		2,558.9		7,333.5	507		13,849

SEE "SUGGESTED ASPHALTIC CONCRETE LIFT DIAGRAM" SHEETS

• DENOTES AVERAGE VALUE

DATED 12/01/08 08:19:13

STATE PROJECT	PARISH	SHEET NO.
451-02-0051	BOSSIER	10

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY S.P. NO. 451-02-0051	TOTAL QUANTITY
202-02-C	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT	SQYD	8,314	
202-02-G	REMOVAL OF SURFACING & STABILIZED BASE	SQYD	6,102.6	
203-07	BORROW (VEHICULAR MEASUREMENT)	CUYD	18,458	
502-01	SUPERPAVE ASPHALTIC CONCRETE	TON	55,678.1	
502-01-A	SUPERPAVE ASPHALTIC CONCRETE, DRIVES, TURNOUTS AND MISCELLANEOUS	TON	2,983.2	
509-01	COLD PLANING ASPHALTIC PAVEMENT	SQYD	28,444	
509-02	CONTRACTOR RETAINED RECLAIMED ASPHALTIC PAVEMENT	CUYD	-2,118	
703-01	SHOULDER UNDERDRAIN SYSTEMS	LNFT	23,242	
703-02	SHOULDER OUTLET UNDERDRAINS	EACH	80	
706-03-C	INCIDENTAL CONCRETE PAVING (6" THICK)	SQYD	172.3	
713-01	TEMPORARY SIGNS & BARRICADES	LUMP	LUMP	
713-03-A	TEMPORARY PAVEMENT MARKINGS (BROKEN LINE)(4" WIDTH)(4' LENGTH)	MILE	4.449	
713-04-A	TEMPORARY PAVEMENT MARKINGS (SOLID LINE)(4" WIDTH)	MILE	36.588	
716-01-A	MULCH (VEGETATIVE)	TON	13.7	
727-01	MOBILIZATION	LUMP	LUMP	
731-02	REFLECTORIZED RAISED PAVEMENT MARKERS	EACH	600	
732-02-A	PLASTIC PAVEMENT STRIPING (SOLID LINE) (4" WIDTH)	MILE	18.839	
732-02-E	PLASTIC PAVEMENT STRIPING (SOLID LINE) (24" WIDTH)	MILE	0.011	
732-03-A	PLASTIC PAVEMENT STRIPING (BROKEN LINE)(4" WIDTH)	MILE	4.960	
732-05	REMOVAL OF EXISTING MARKINGS	MILE	4.952	
734-01	RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT	SQYD	67,033	
739-01	HYDRO-SEEDING	ACRE	9.14	
740-01	CONSTRUCTION LAYOUT	LUMP	LUMP	
S-001	HAULING AND STOCKPILING P.C.C. PAVEMENT	LUMP	LUMP	
S-002	RUBBLIZATION PREP.	LUMP	LUMP	
S-003	PCCP JOINT MEMBRANE	LNFT	3,248	
S-004	PCCP SAWCUTTING			
S-005	DYNAMIC MESSAGE SIGN UNIT	LNFT	1,257	
		EACH	6	

DATED 12/01/08 08:19:13

STATE PROJECT	PARISH	SHEET NO.
451-02-0051	BOSSIER	10a

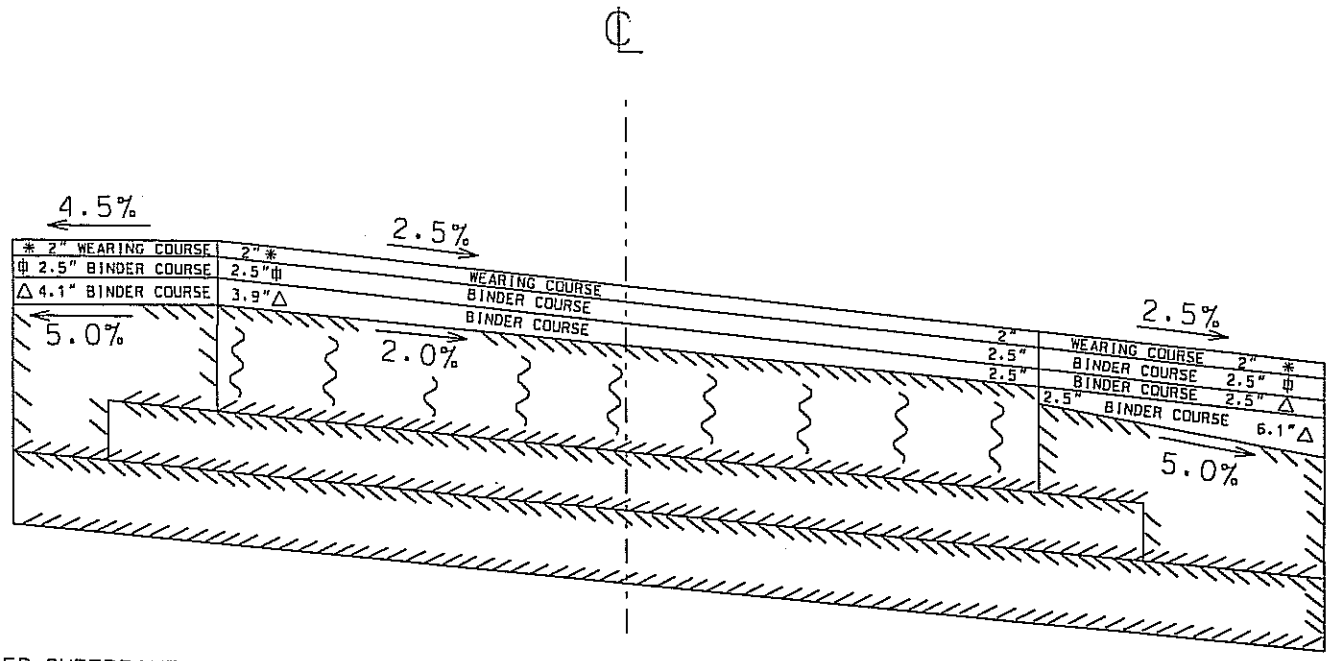
SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY S.P. NO. 451-02-0051	TOTAL QUANTITY
S-006	RUMBLE STRIPS (GROUND-IN)	MILE	8.8	
S-007	SOIL MIXING	LUMP	LUMP	
S-008	ADJUSTING GUARDRAIL	LUMP	LUMP	
S-922	SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALTIC CONCRETE OVERLAY	LNFT	48	

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	11

SUGGESTED ASPHALTIC CONCRETE LIFT DIAGRAM

(RUBBLIZE AND OVERLAY AREAS)



* REQUIRED SUPERPAVE WEARING COURSE, (LEVEL 2F). ½" NOM. MAX. SIZE AGGREGATE.

φ REQUIRED SUPERPAVE BINDER COURSE, (LEVEL 2). ¾" NOM. MAX. SIZE AGGREGATE.

△ REQUIRED SUPERPAVE BINDER COURSE, (LEVEL 2). 1" NOM. MAX. SIZE AGGREGATE. BOTTOM BINDER COURSES ON ROADWAY AND SHOULDERS SHALL BE USED TO ACHIEVE REQUIRED CROSS SLOPE. THICKNESSES SHOWN ON BOTTOM BINDER COURSES ARE FOR ESTIMATING PURPOSES ONLY. REQUIRED ASPHALT SHALL BE AS PER TABLE 502-2 IN THE 2006 LOUISIANA DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

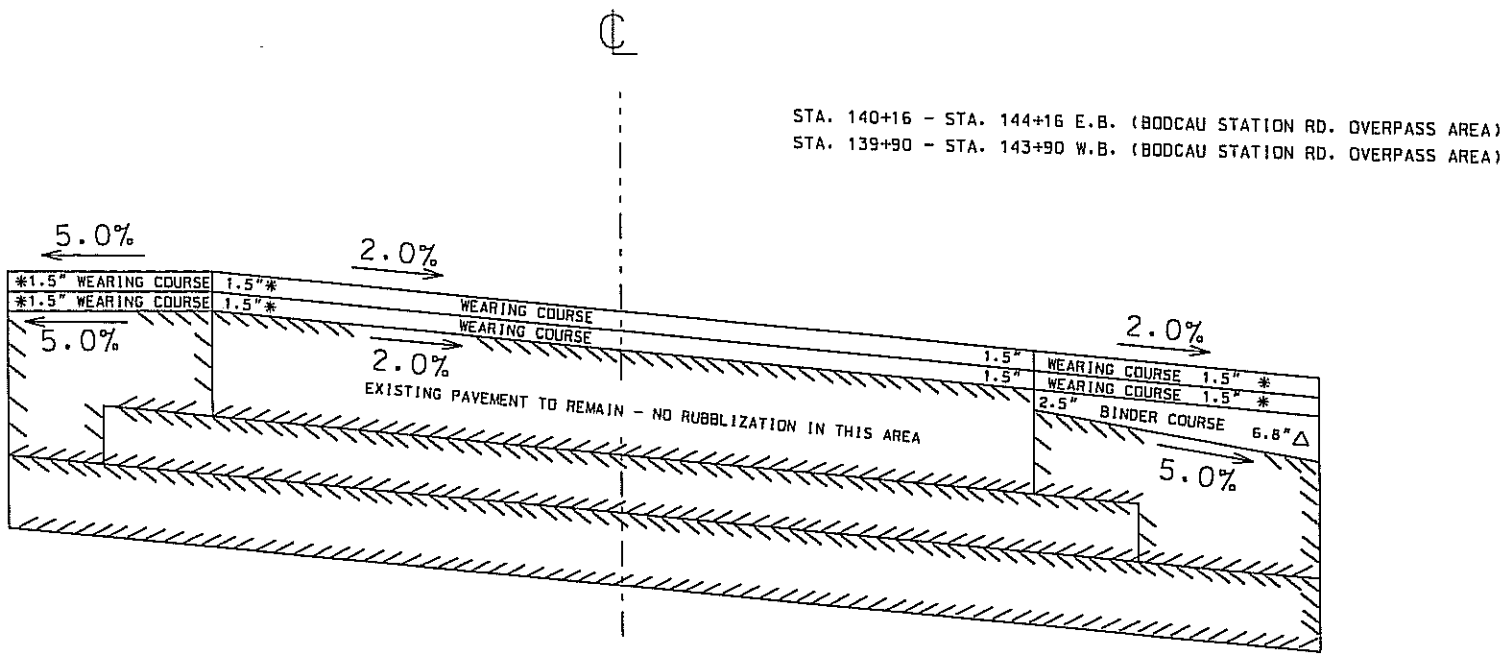
NOTE:

THE EXISTING CROSS-SLOPES SHOWN ON THIS TYPICAL ARE APPROXIMATIONS BASED ON PREVIOUS PLANS AND ARE NOT INTENDED TO BE CONSTRUED AS BEING EXACT.

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	12

SUGGESTED ASPHALTIC CONCRETE LIFT DIAGRAM

(OVERPASS AREA ONLY)



* REQUIRED SUPERPAVE WEARING COURSE, (LEVEL 2F). ¾" NOM. MAX. SIZE AGGREGATE.

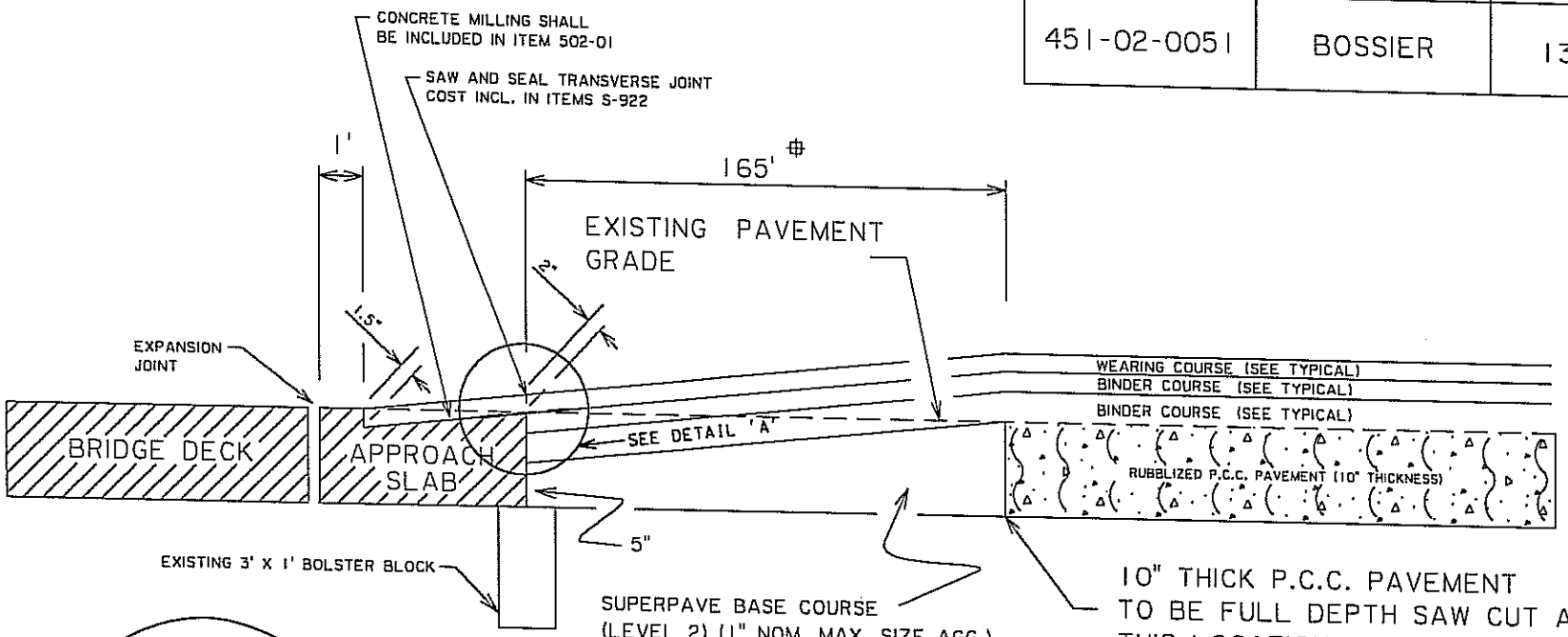
Δ REQUIRED SUPERPAVE BINDER COURSE, (LEVEL 2). 1" NOM. MAX. SIZE AGGREGATE. BOTTOM BINDER COURSE ON SHOULDER SHALL BE USED TO ACHIEVE REQUIRED CROSS SLOPE. THICKNESS SHOWN ON BOTTOM BINDER COURSE IS FOR ESTIMATING PURPOSES ONLY. REQUIRED ASPHALT SHALL BE AS PER TABLE 502-2 IN THE 2006 LOUISIANA DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

NOTES:

1. THE EXISTING CROSS-SLOPES SHOWN ON THIS TYPICAL ARE APPROXIMATIONS BASED ON PREVIOUS PLANS AND ARE NOT INTENDED TO BE CONSTRUED AS BEING EXACT.
2. PAVEMENT, LIFT THICKNESS AND CROSS-SLOPE TRANSITIONS TO AND FROM OVERPASS AREA SHALL BE AS DIRECTED BY THE PROJECT ENGINEER.

TRANSITION RATE = 1" : 33'

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	13



* COST INCLUDES ANY REQUIRED BASE COURSE REMOVAL AND EXCAVATION.

DETAIL FOR VERTICAL TRANSITIONS @ BRIDGE ENDS

(NOT TO SCALE)

TO APPLY:

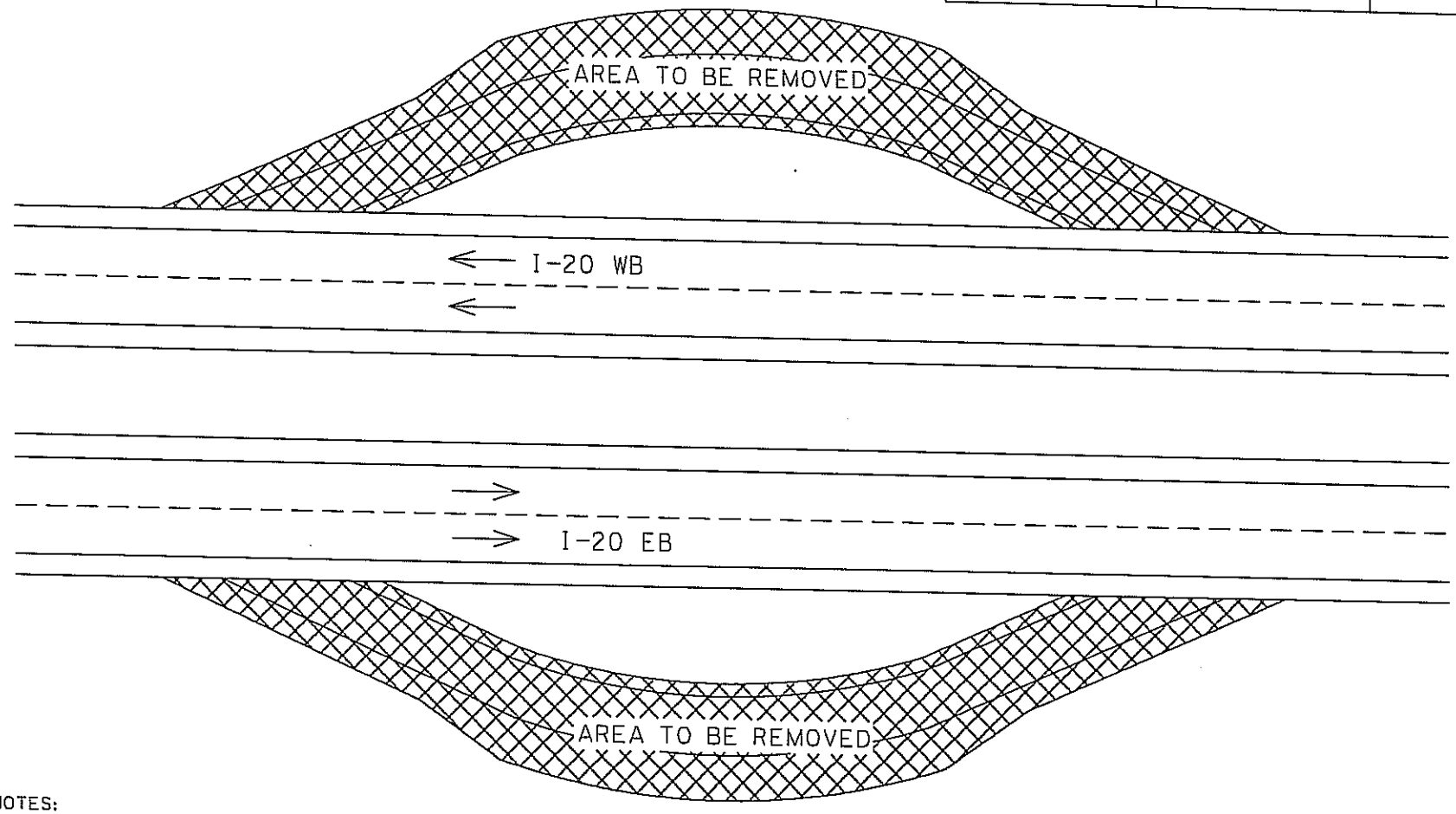
STA. 89+47 - 91+51 EB RED CHUTE BAYOU BRIDGE
STA. 89+47 - 91+51 WB RED CHUTE BAYOU BRIDGE

STA. 203+22 - 205+26 EB FIFI BAYOU BRIDGE
STA. 203+22 - 205+26 WB FIFI BAYOU BRIDGE

REST AREA REMOVAL

(NOT TO SCALE)

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	14

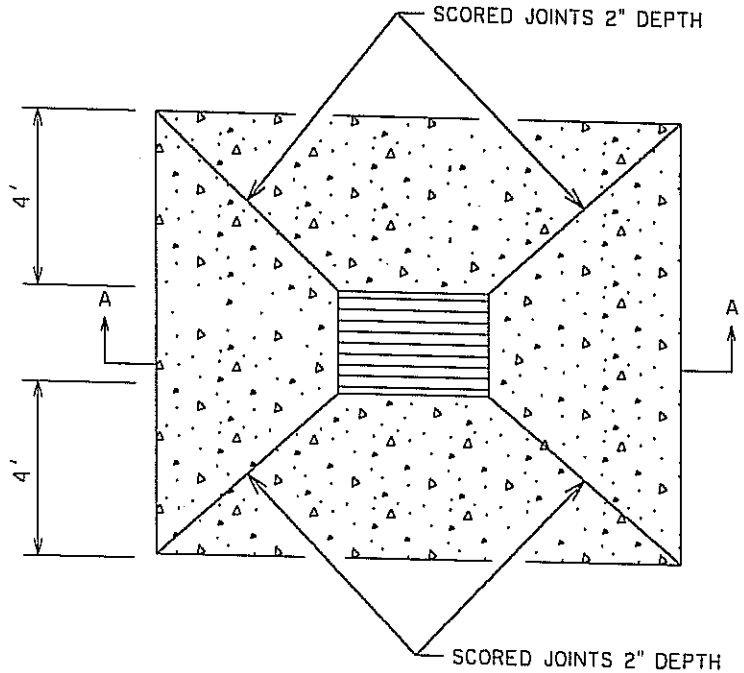


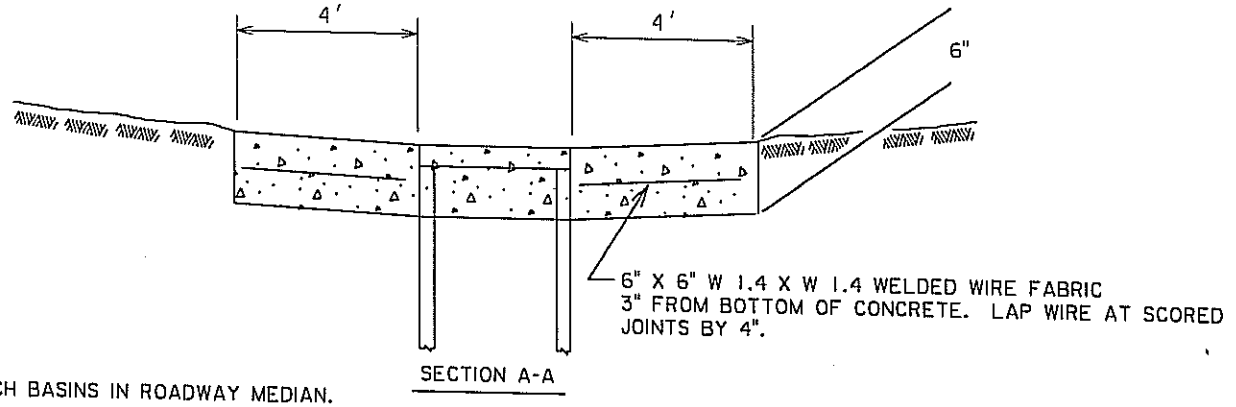
NOTES:

1. IN AREAS OF EXISTING ON AND OFF RAMPS, PCC PAVEMENT SHALL BE SAWCUT AND REMOVED AT THE POINT IT BECOMES 12' FROM THE EDGE OF TRAVEL LANE TO THE EXISTING SHOULDER AT RAMP GORE. EXISTING ASPHALTIC CONCRETE SHOULDERS SHALL BE REMOVED IN THESE AREAS AS WELL.
2. AFTER PAVEMENT REMOVAL, AREA SHALL BE GRADED AND SHAPED TO DRAIN. COST SHALL BE INCLUDED IN THE PCC PAVEMENT REMOVAL ITEM.
3. PAVED DITCHES IN THE REST AREA LOCATIONS SHALL BE REMOVED AS DIRECTED BY THE PROJECT ENGINEER. COST SHALL BE INCLUDED IN THE PCC PAVEMENT REMOVAL ITEM.
4. PCC PAVEMENT REMOVAL SHALL BE INCLUDED IN ITEM 202-02-C AND ASPHALTIC CONCRETE SHOULDER REMOVAL SHALL BE INCLUDED IN ITEM 202-02-G.

CATCH BASIN
"HOUSEKEEPING" PAD DETAIL

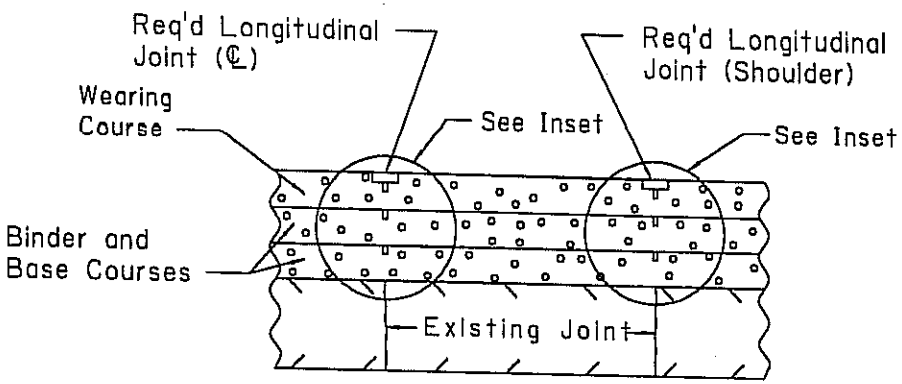
STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	15





SECTION A-A

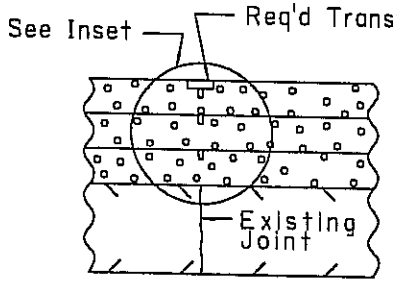
NOTES:
1. TO BE PLACED AT ALL CATCH BASINS IN ROADWAY MEDIAN.
2. PADS SHALL FOLLOW THE CONTOUR OF THE DITCH BOTTOM AND/OR FORESLOPE WHEN APPROPRIATE.
3. ALL COSTS SHALL BE INCLUDED IN ITEM 706-03-C.



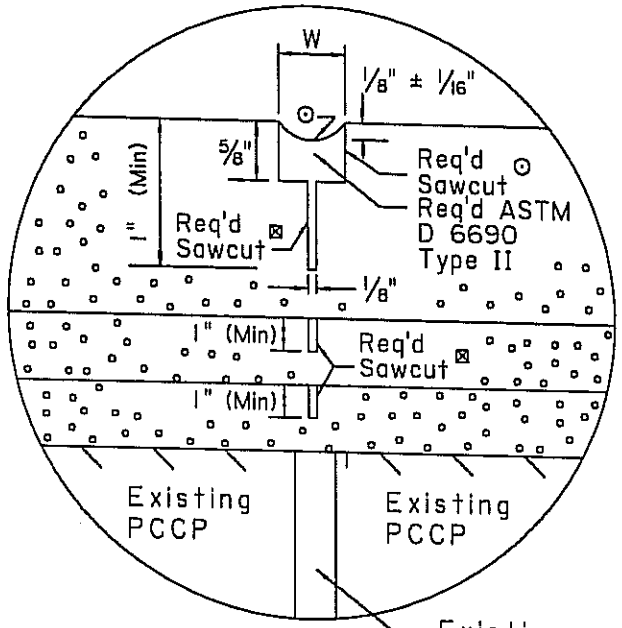
SECTION A-A

RESERVOIR DIMENSIONS

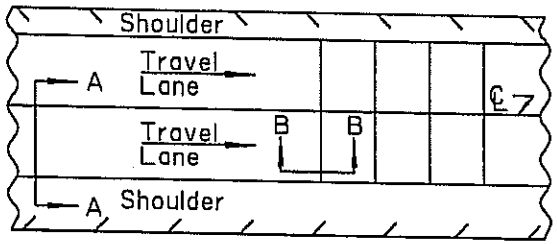
SLAB LENGTH	W
50' or less	1/2"
51' or greater	5/8"



SECTION B-B



INSET



PLAN VIEW

NOTES:
1. See CPR 01 and 02 for detail for sealing of existing PCCP joints.
2. Sawcuts in asphaltic concrete lifts (⊠) to be paid for under item S-927.
3. Sawing and sealing joints in asphaltic concrete overlay (⊙) to be paid for under item S-922 or S-923.
4. Detail not to scale.

ROAD DESIGN

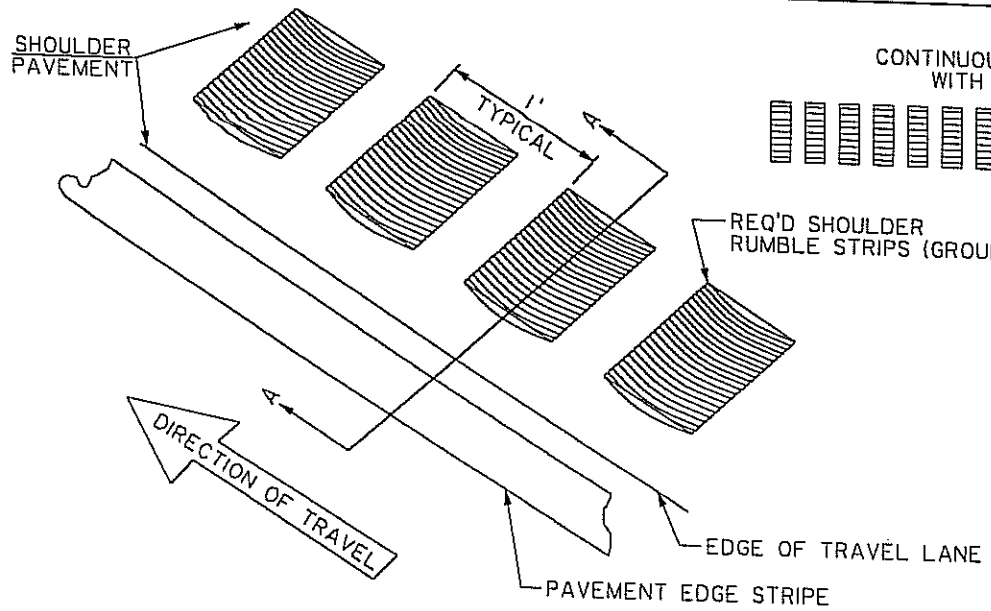
SAWING AND SEALING JOINTS IN ASPHALTIC CONCRETE OVERLAY

CPR-23

NO.	DATE	REVISION DESCRIPTION	BY

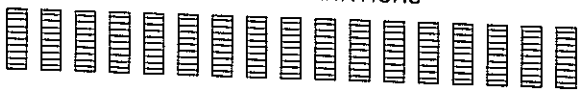
DESIGNED / CHECKED	ETS / JPW	PARISH	BOSSIER
DETAILED / CHECKED	ETS / JPW	FEDERAL PROJECT	
DATE SHEET	01/01/06 1 OF 1	STATE PROJECT	451-02-0051

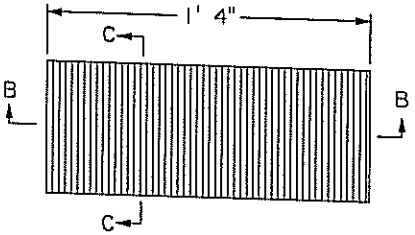
SHEET NO. 16



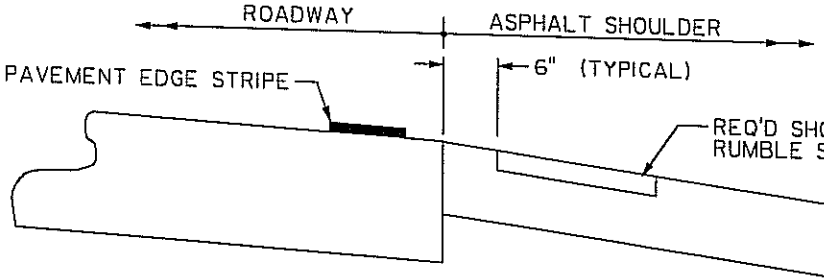
ISOMETRIC VIEW

CONTINUOUS 7" RUMBLE STRIPS WITH 5" SEPARATIONS

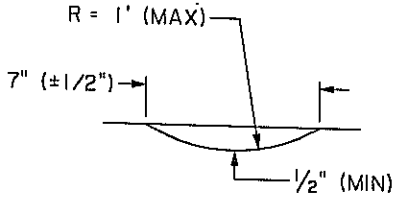




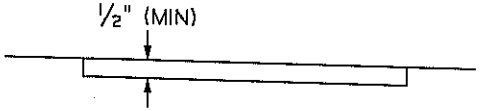
PLAN VIEW



SECTION "A-A"



SECTION "C-C"



SECTION "B-B"

NOTES:
1. SHOULDER RUMBLE STRIPS (GROUND-IN) SHALL BE GROUND INTO THE HMAC SHOULDER IN A MANNER APPROVED BY THE PROJECT ENGINEER.
2. SEE SUMMARY OF ESTIMATED QUANTITIES FOR PAY ITEM.
3. SEE TYPICAL SECTIONS AND DETAILS FOR INFORMATION ON PAVEMENT AND SHOULDER.
4. DETAIL NOT TO SCALE.

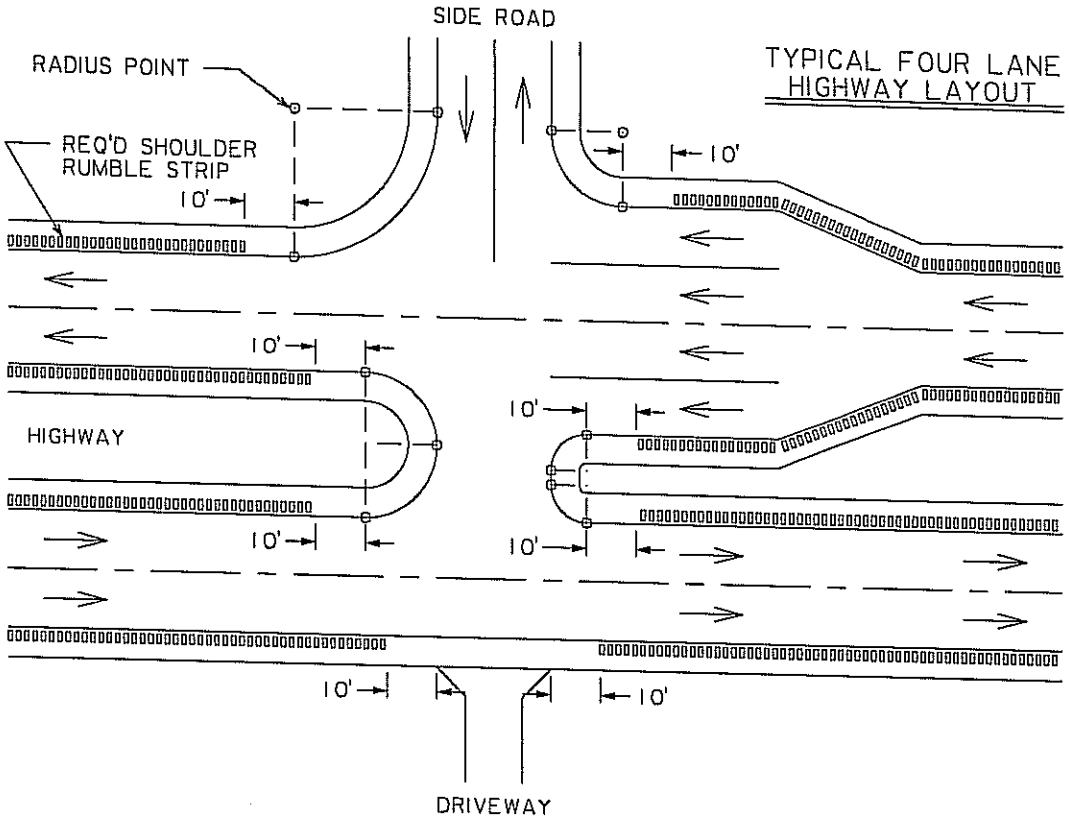
01-01-06
Not to scale

DETAIL FOR SHOULDER RUMBLE STRIPS (GROUND-IN) (SHEET 1 of 2)

SHEET NUMBER 17
PARISH: BOSSIER
FEDERAL PROJECT:
STATE PROJECT: 451-02-0051

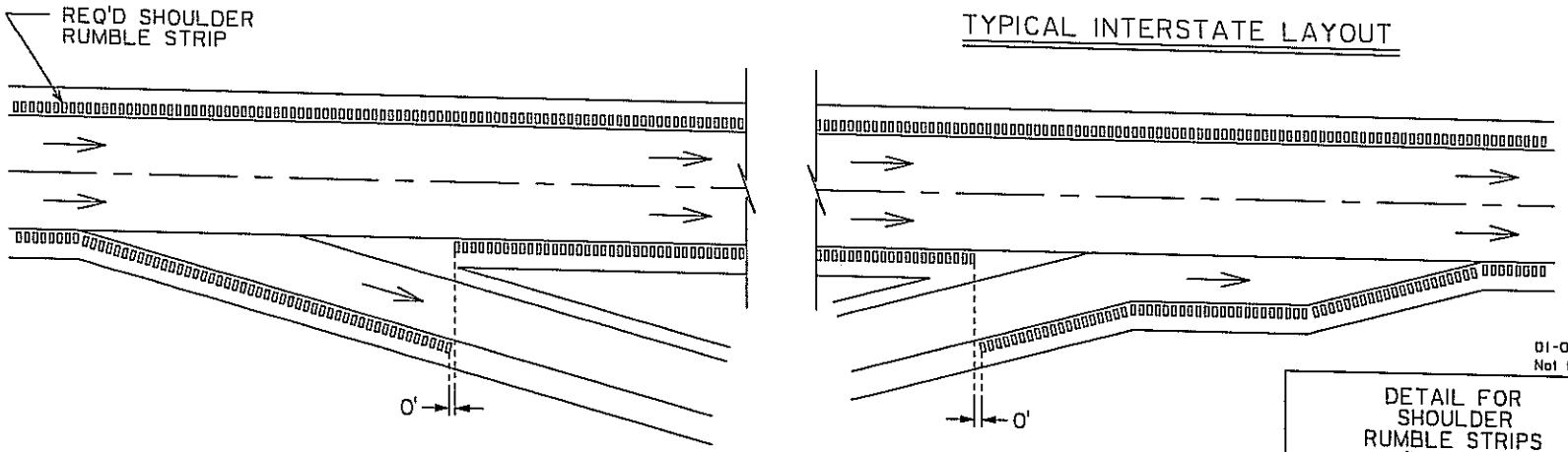
REVISION DESCRIPTION | DATE | NO. | BY

ROAD DESIGN



TYPICAL FOUR LANE HIGHWAY LAYOUT

NOTES:
1. SHOULDER RUMBLE STRIPS SHALL BE INSTALLED IN A MANNER APPROVED BY THE PROJECT ENGINEER.
2. SHOULDER RUMBLE STRIPS SHALL REMAIN PERPENDICULAR TO EDGE OF TRAVEL LANE AT ALL TIMES.
3. LOCATION AND LAYOUT OF SHOULDER RUMBLE STRIPS MAY BE ADJUSTED BY THE PROJECT ENGINEER.
4. DETAIL NOT TO SCALE.

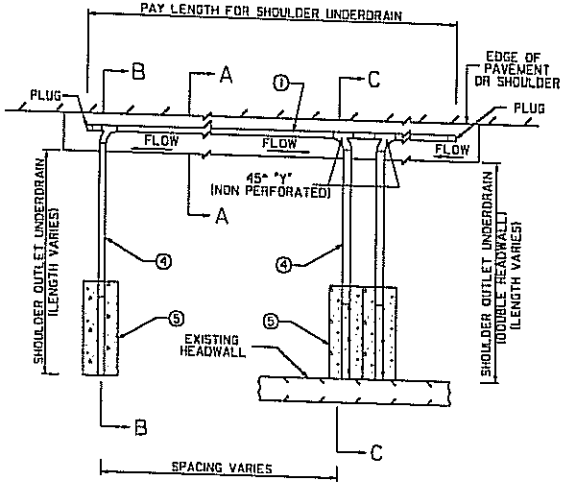


TYPICAL INTERSTATE LAYOUT

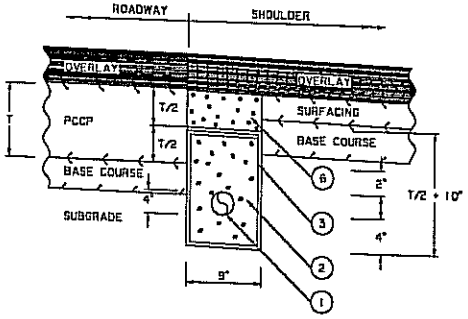
01-01-06
Not to scale

DETAIL FOR SHOULDER RUMBLE STRIPS (LAYOUT) (SHEET 2 of 2)

SHEET NUMBER 18
PARISH BOSSIER
FEDERAL PROJECT
STATE PROJECT 451-02-0051
STATE OF LOUISIANA
BY
REVISION DESCRIPTION
DATE
NO.
DOTD
ROAD DESIGN



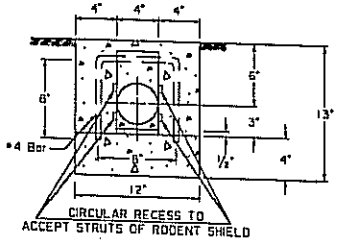
PLAN VIEW



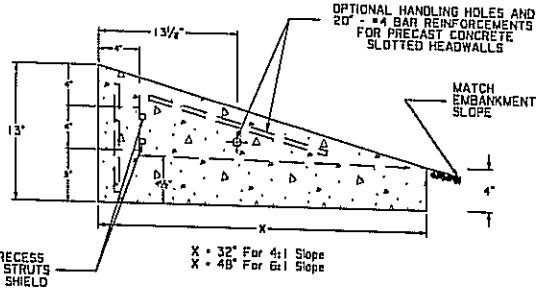
SECTION A-A

LEGEND

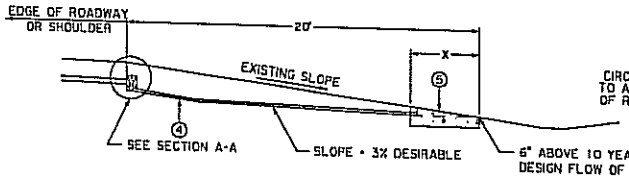
① REQ'D 4" PLASTIC UNDERDRAIN PIPE (PERFORATED)
② REQ'D AGGREGATE
③ REQ'D PLASTIC FILTER CLOTH
④ REQ'D 4" PLASTIC UNDERDRAIN PIPE (NON PERFORATED)
⑤ REQ'D CONCRETE SLOTTED HEADWALL
⑥ REQ'D ASPHALTIC CONCRETE CAP (COST TO BE INCLUDED IN THE SHOULDER UNDERDRAIN PAY ITEM)



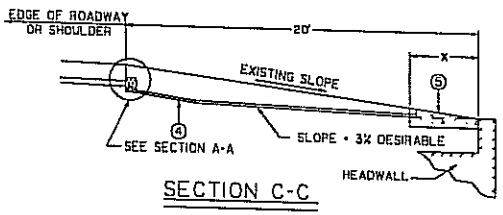
CONCRETE SLOTTED HEADWALL (FRONT VIEW)



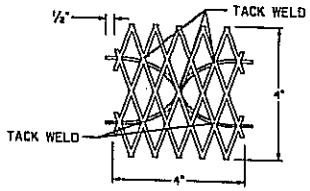
CONCRETE SLOTTED HEADWALL (SIDE VIEW)



SECTION B-B



SECTION C-C



EXPANDED METAL SHIELD WITH TWO 6 GAGE STEEL WIRE STRUTS. STRUTS SHALL BE CUT FOR SNUG FIT INTO THE RECESSES IN THE CONCRETE SLOTTED HEADWALL. STRUTS SHALL NOT BE CAST IN TO THE CONCRETE

RODENT SHIELD DETAIL

(1) THE SHOULDER UNDERDRAIN SYSTEMS PAY ITEM SHALL INCLUDE ALL REQUIRED TRENCHING, PLASTIC UNDERDRAIN PIPE (PERFORATED), "Y" S, FITTINGS, PLUGS, PLASTIC FILTER CLOTH, AGGREGATE, AND BACKFILL.

(2) THE SHOULDER OUTLET UNDERDRAINS PAY ITEM (SINGLE OR DOUBLE HEADWALL) SHALL INCLUDE ALL REQUIRED TRENCHING, PLASTIC UNDERDRAIN PIPE (NON PERFORATED), CONCRETE SLOTTED HEADWALLS, RODENT SHIELD, EXCAVATION, AND BACKFILLING WITH SUITABLE MATERIAL REMOVED FROM TRENCHES.

(3) TRENCH DIMENSIONS SHALL BE AS REQUIRED TO PLACE UNDERDRAIN OR AS REQUIRED BY THE PROJECT ENGINEER.

(4) FOR MORE INFORMATION ON PAVEMENT STRUCTURE REFER TO THE TYPICAL SECTIONS.

(5) THE LAYOUT SHOWN ON THIS SHEET IS GENERAL. ACTUAL LAYOUTS SHALL BE AS DIRECTED BY THE PROJECT ENGINEER.

(6) THERE SHALL BE NO EXCAVATION LEFT OPEN AT THE END OF EACH DAY.

(7) THE CONCRETE SLOTTED HEADWALL CAN BE EITHER PRECAST OR CAST IN PLACE. THE UPPERMOST POINT OF THE HEADWALL SHALL BE FLUSH WITH THE ROAD WAY SLOPE. THE EARTHEN SIDE SLOPES ADJACENT TO THE HEADWALL SHALL THEN BE SHAPED TO CONFORM TO THE SIDES AND TOE OF THE HEAD WALL. IF A PRECAST HEADWALL IS USED, THE UNDERDRAIN PIPE WILL BE GROUTED AND SEALED TO THE HEADWALL WITH CEMENT MORTAR.

(8) FOR PLASTIC UNDERDRAIN PIPE SEE SECTION 1006.08 AND OPL 73.

(9) ALL SHOULDER UNDERDRAIN OUTLET LOCATIONS SHALL BE MARKED BY PLACING A NONREFLECTORIZED RAISED PAVEMENT MARKER ON THE SHOULDER. COST TO BE INCLUDED IN THE SHOULDER OUTLET UNDERDRAINS PAY ITEM.

01-01-06
NOT TO SCALE

DETAIL FOR SHOULDER UNDERDRAIN (REHABILITATION)

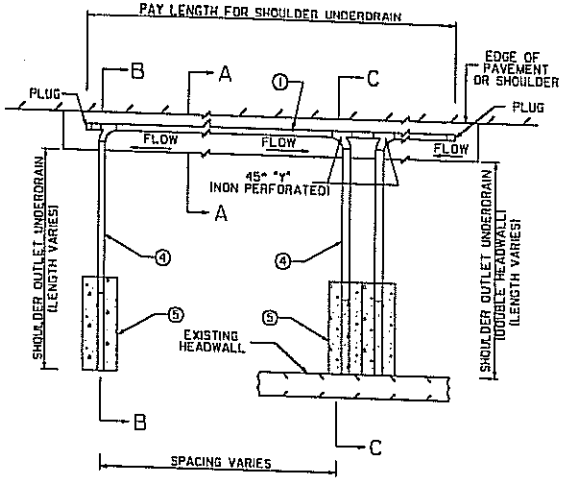
G-23

SHEET NUMBER 19

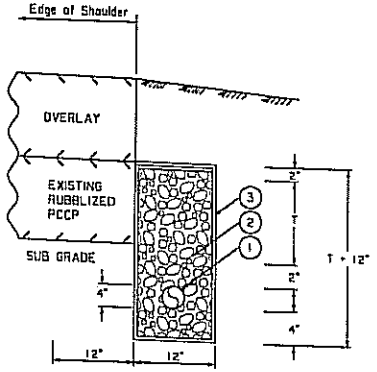
PARISH: BOSSIER
FEDERAL PROJECT:
STATE PROJECT: 451-02-0051

NO. | DATE | REVISION DESCRIPTION | BY

ROAD DESIGN



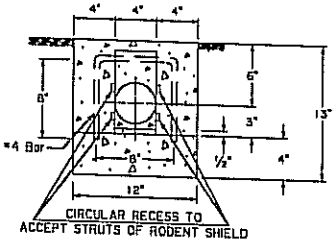
PLAN VIEW



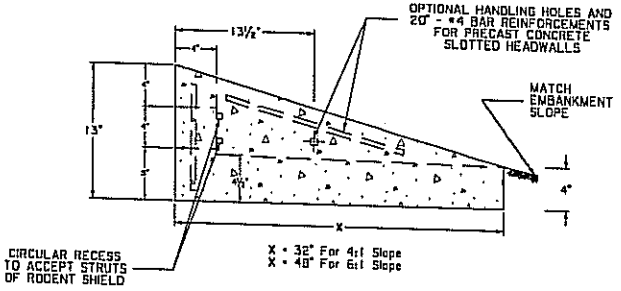
SECTION A-A

LEGEND

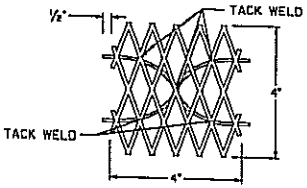
① REQ'D 4" PLASTIC UNDERDRAIN PIPE (PERFORATED)
② REQ'D AGGREGATE
③ REQ'D PLASTIC FILTER CLOTH
④ REQ'D 4" PLASTIC UNDERDRAIN PIPE (NON PERFORATED)
⑤ REQ'D CONCRETE SLOTTED HEADWALL



CONCRETE SLOTTED HEADWALL (FRONT VIEW)

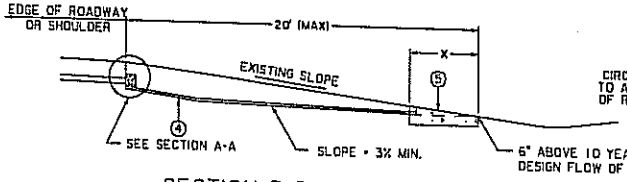


CONCRETE SLOTTED HEADWALL (SIDE VIEW)

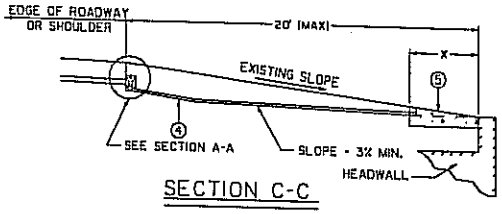


EXPANDED METAL SHIELD WITH TWO 6 GAGE STEEL WIRE STRUTS. STRUTS SHALL BE CUT FOR SNUG FIT INTO THE RECESSES IN THE CONCRETE SLOTTED HEADWALL. STRUTS SHALL NOT BE CAST IN TO THE CONCRETE

RODENT SHIELD DETAIL



SECTION B-B



SECTION C-C

(1) THE SHOULDER UNDERDRAIN SYSTEMS PAY ITEM SHALL INCLUDE ALL REQUIRED TRENCHING, PLASTIC UNDERDRAIN PIPE (PERFORATED), "Y" 'S, FITTINGS, PLUGS, PLASTIC FILTER CLOTH, AGGREGATE, AND BACKFILL.

(2) THE SHOULDER OUTLET UNDERDRAINS PAY ITEM (SINGLE OR DOUBLE HEADWALL) SHALL INCLUDE ALL REQUIRED TRENCHING, PLASTIC UNDERDRAIN PIPE (NON PERFORATED), CONCRETE SLOTTED HEADWALLS, RODENT SHIELD, EXCAVATION, AND BACKFILLING WITH SUITABLE MATERIAL REMOVED FROM TRENCHES.

(3) TRENCH DIMENSIONS SHALL BE AS REQUIRED TO PLACE UNDERDRAIN OR AS REQUIRED BY THE PROJECT ENGINEER.

(4) FOR MORE INFORMATION ON PAVEMENT STRUCTURE REFER TO THE TYPICAL SECTIONS.

(5) THE LAYOUT SHOWN ON THIS SHEET IS GENERAL. ACTUAL LAYOUTS SHALL BE AS DIRECTED BY THE PROJECT ENGINEER.

(6) THERE SHALL BE NO EXCAVATION LEFT OPEN AT THE END OF EACH DAY.

(7) THE CONCRETE SLOTTED HEADWALL CAN BE EITHER PRECAST OR CAST IN PLACE. THE UPPERMOST POINT OF THE HEADWALL SHALL BE FLUSH WITH THE ROAD WAY SLOPE. THE EARTHEN SIDE SLOPES ADJACENT TO THE HEADWALL SHALL THEN BE SHAPED TO CONFORM TO THE SIDES AND TOE OF THE HEAD WALL. IF A PRECAST HEADWALL IS USED, THE UNDERDRAIN PIPE WILL BE GROUTED AND SEALED TO THE HEADWALL WITH CEMENT MORTAR.

(8) FOR PLASTIC UNDERDRAIN PIPE SEE SECTION 1006.08 AND QPL 73.

(9) ALL SHOULDER UNDERDRAIN OUTLET LOCATIONS SHALL BE MARKED BY PLACING A NONREFLECTORIZED RAISED PAVEMENT MARKER ON THE SHOULDER. COST TO BE INCLUDED IN THE SHOULDER OUTLET UNDERDRAINS PAY ITEM.

01-01-06
NOT TO SCALE

DETAIL FOR SHOULDER UNDERDRAIN (STONE BASE)

G-24

SHEET NUMBER 20

PARISH BOSSIER | FEDERAL PROJECT | STATE PROJECT 451-02-0051

NO.	DATE	REVISION DESCRIPTION	BY

ROAD DESIGN

GENERAL NOTES

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	21

1. THE CONTRACTOR MAY CLOSE ONE LANE UNDER THE FOLLOWING CONDITIONS: 1) WORK IN THE ENTIRE LANE CLOSURE WILL BE PERFORMED WITHIN 24 HOURS OF THE CLOSURE OR THE WORK PREVIOUSLY PERFORMED IN THE LANE CLOSURE IS UNSUITABLE FOR TRAFFIC. 2) THE OPEN LANE WILL BE IN A CONDITION SO AS TO SAFELY HANDLE TRAFFIC AT A POSTED SPEED LIMIT OF 60 MPH. 3) NOTIFICATION OF THE LANE CLOSURE IS GIVEN TO THE PROJECT ENGINEER AT LEAST 72 HOURS PRIOR TO THE CLOSURE. 4) A SKETCH IS PROVIDED TO THE PROJECT ENGINEER AT LEAST 72 HOURS PRIOR TO THE LANE CLOSURE THAT INDICATES THE LOCATION AND TYPE OF TRAFFIC CONTROL DEVICES ANTICIPATED FOR THE LANE CLOSURE. (CONTRACTOR IS REFERRED TO NOTE #6 CONCERNING LANE CLOSURES DURING THE CONSTRUCTION OF THE FINAL LIFT OF WEARING COURSE)

2. ALL EXISTING RAISED PAVEMENT MARKERS AND ASPHALTIC CONCRETE SKIN-PATCHES SHALL BE REMOVED PRIOR TO BEGINNING RUBBLIZATION OPERATIONS. COST SHALL BE INCLUDED IN ITEM S-002, RUBBLIZATION PREP.

3. ANY AREAS DAMAGED ON THE MEDIAN OR SLOPES DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE PROJECT ENGINEER AT NO COST TO THE DEPARTMENT.

4. ON ASPHALTIC CONCRETE OVERLAY SECTIONS, EMBANKMENT SHALL BE BROUGHT UP TO TOP OF PREVIOUS LIFT PRIOR TO PLACING SUBSEQUENT LIFTS IF ADJACENT TRAFFIC IS PRESENT.

5. THE CONTRACTOR'S MATERIAL AND EQUIPMENT STORAGE SHALL BE PROHIBITED WITHIN THE 34' FROM THE EDGE OF THE TRAVEL LANES.

6. ON THE RUBBLIZE AND OVERLAY SECTIONS, ALL ASPHALTIC CONCRETE EXCEPT THE FINAL LIFT OF WEARING COURSE WILL BE COMPLETED PRIOR TO OPENING THE LANE TO TRAFFIC. DURING THE CONSTRUCTION OF THE FINAL LIFT OF WEARING COURSE, ALL AVAILABLE LANES WILL BE OPEN, TEMPORARY STRIPING WILL BE INSTALLED IMMEDIATELY BEHIND THE WEARING COURSE SO THAT ALL LANES WILL BE OPEN WHEN ACTUAL WORK ON THE WEARING COURSE IS NOT IN PROGRESS.

7. MATERIAL GENERATED FROM COLD PLANING RETAINED BY THE CONTRACTOR WILL BE CREDITED TO DOTD UNDER ITEM 509-02, CONTRACTOR RETAINED RECLAIMED ASPHALTIC PAVEMENT. RECLAIMED PAVEMENT MATERIAL NOT RETAINED BY THE CONTRACTOR SHALL BE HAULED TO THE DOTD DISTRICT 04 HEADQUARTERS STORAGE YARD, 3339 INDUSTRIAL DRIVE, BOSSIER CITY, AND STOCKPILED AS DIRECTED.

GENERAL NOTES

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	22

8. ALL SIGNS (EXISTING OR OTHERWISE) THAT CONFLICT DURING PHASES AND STAGES OF CONSTRUCTION SHALL BE COVERED AS DIRECTED BY THE PROJECT ENGINEER. TEMPORARY REFLECTORIZED DEVICES SHALL BE PLACED ON SIGNPOSTS THAT HAVE SIGNS COVERED OR REMOVED. COST SHALL BE INCLUDED IN ITEM 713-01.

9. ANY EXISTING PAVEMENT STRIPING WHICH CONFLICTS WITH TEMPORARY MARKINGS OR IN THE PROJECT ENGINEER'S OPINION, IS CONFUSING, SHALL BE REMOVED. COST SHALL BE INCLUDED IN ITEM 732-05, REMOVAL OF EXISTING MARKINGS.

10. LIMITS OF HYDROSEEDING SHALL BE LIMITED TO DISTURBED AREAS ONLY.

11. AN APPROVED ASPHALTIC EMULSION SHALL BE USED AS THE TACKING AGENT FOR THE VEGETATIVE MULCH APPLICATION. COST SHALL BE INCLUDED IN ITEM 716-01-A.

12. AREAS OF MAIN LINE SURFACING AND BASE THAT ARE TO BE REMOVED NEAR EXISTING APPROACH SLABS SHALL BE INCLUDED IN ITEM 202-02-C (SEE "DETAIL FOR VERTICAL TRANSITIONS @ BRIDGE ENDS" SHEET).

13. THE CONTRACTOR SHALL HAUL AND STOCKPILE AS DIRECTED ALL BROKEN P.C.C. PAVEMENT FROM MAIN ROADWAY BRIDGE TRANSITION REMOVAL OPERATIONS AND THE REST AREA REMOVAL OPERATIONS TO THE DOTD DISTRICT 04 HEADQUARTERS STORAGE YARD, 3339 INDUSTRIAL DRIVE, BOSSIER CITY. THE CONTRACTOR SHALL BREAK P.C.C. PAVEMENT TO BE DELIVERED TO DOTD INTO AN AVERAGE SIZE OF 2'. COST SHALL BE INCLUDED IN ITEM S-001, HAULING AND STOCKPILING P.C.C. PAVEMENT.

14. CONTRACTOR SHALL INSURE THAT A MINIMUM VERTICAL CLEARANCE OF 16' IS MAINTAINED AT THE OVERPASS LOCATIONS.

15. REQUIRED PAVEMENT CROSS-SLOPE TRANSITIONS AT BEGINNING AND END OF PROJECT AND AT THE OVERPASS LOCATIONS TO BE DETERMINED BY THE PROJECT ENGINEER.

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	23

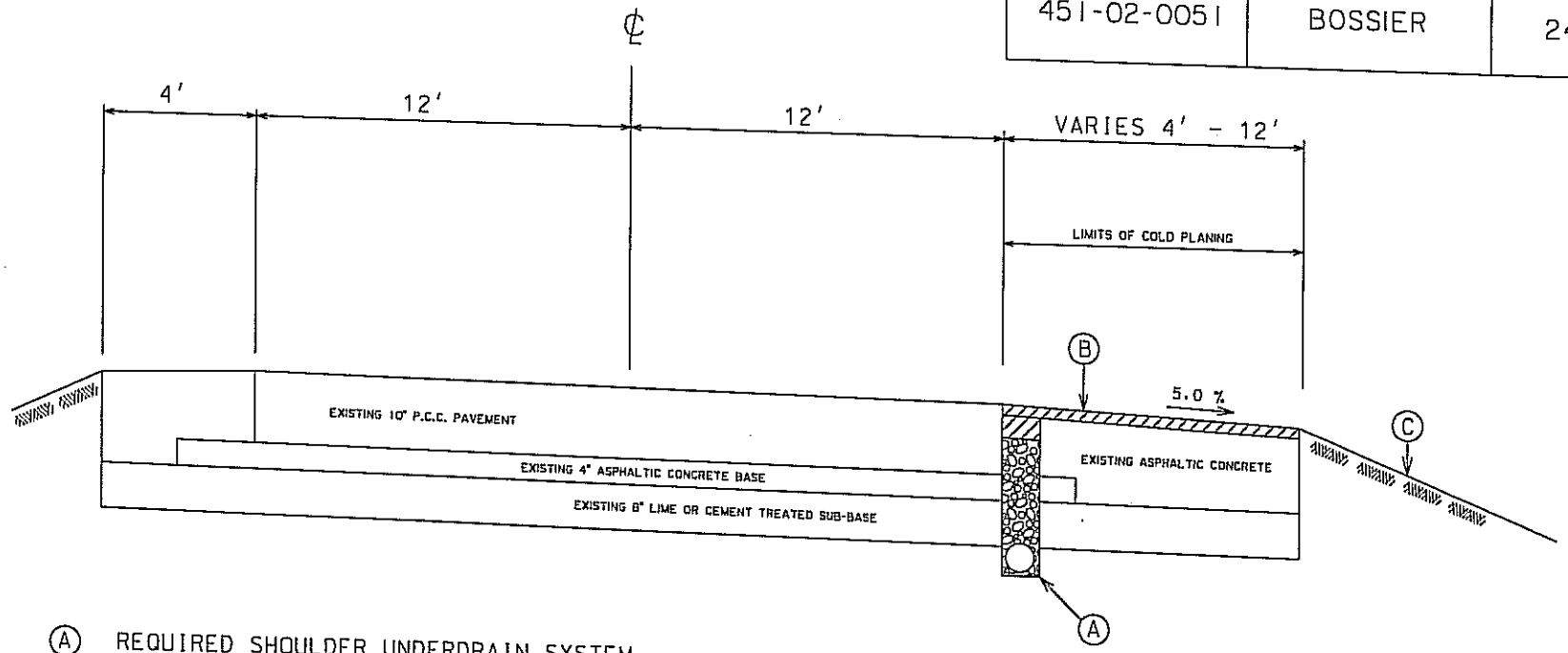
GENERAL NOTES

16. SHOULDER OVERLAY THICKNESS TRANSITIONS AT BRIDGE ENDS SHALL BE AS DIRECTED BY THE PROJECT ENGINEER.
17. REQUIRED PAVEMENT LIFT THICKNESS TRANSITIONS TO AND FROM OVERPASS AREAS SHALL BE AS DIRECTED BY THE PROJECT ENGINEER.
18. EXISTING TRANSVERSE AND LONGITUDINAL JOINTS IN THE PCC PAVEMENT AT THE OVERPASS AREAS SHALL BE COVERED BY JOINT MEMBRANE MATERIAL 12" WIDE AND CENTERED OVER JOINT OR AS DIRECTED BY THE PROJECT ENGINEER. COST SHALL BE INCLUDED IN ITEM S-003.
19. THE TRAFFIC CONTROL LAYOUT DEPICTED ON TC-14 (LOUISIANA LEFT) SHALL BE USED ON EACH END OF THE PROJECT OR AS DIRECTED BY THE PROJECT ENGINEER.
20. IF DIRECTED BY THE PROJECT ENGINEER, WHEN USING THE "LOUISIANA LEFT" TRAFFIC CONTROL LAYOUT (TC-14), THE CONTRACTOR SHALL INSERT A "DO NOT PASS" SIGN (R4-1) (48" X 60") EQUALLY SPACED BETWEEN THE "SPEED ZONE AHEAD" SIGN AND THE "RIGHT LANE CLOSED AHEAD" SIGN. COST SHALL BE INCLUDED IN ITEM 713-01.
21. CONTRACTOR SHALL MIX THE SOIL WITH A STABILIZER 15" MIN. DEPTH X 6' MIN. WIDTH AT THE INSIDE SHOULDER AREA AND 13" MIN. DEPTH X 6' MIN. WIDTH AT THE OUTSIDE SHOULDER AREA MEASURED FROM THE EDGE OF PAVEMENT ALONG THE MAINLINE ROADWAY ONLY. STABILIZER MIXING SHALL BE DONE AFTER THE FINAL APPLICATION OF BORROW AND PRIOR TO HYDRO-SEEDING. COST SHALL BE INCLUDED IN ITEM S-007, SOIL MIXING.
22. THE ACCELERATION LANE AT THE WB REST AREA ON RAMP SHALL BE LEFT FULL WIDTH AND PAVEMENT REMOVAL OPERATIONS SHALL NOT EXTEND PAST THE JOINT AT THE RAMP GORE AREA.
23. REST AREA SHOULDER REMOVAL SHALL BE INCLUDED IN ITEM 202-02-G.
24. THE COST OF REMOVAL AND HAULING OF EXISTING CONCRETE BARRIER RAILS AT REST AREAS SHALL BE INCLUDED IN ITEM 202-02-C. CONTRACTOR SHALL HAUL BARRIER RAILS TO THE DOTD DISTRICT 04 HEADQUARTERS STORAGE YARD, 3339 INDUSTRIAL DRIVE, BOSSIER CITY.
25. WHEN COMPLETED, THE EB SHOULDER OVERLAY SECTION FROM STA. 10+00 TO 36+00 SHALL BE TEMPORARILY STRIPED TO USE AS AN EXTENDED OFF-RAMP TO I-220. WHEN THE EB ROADWAY IS COMPLETED AND ALL LANES ARE OPEN TO TRAFFIC, THE TEMPORARY STRIPING SHALL BE REMOVED AND THE RAMP SHALL BE STRIPED BACK TO ITS PRIOR CONFIGURATION.

PHASE I

MIRROR TYPICAL FOR WESTBOUND ROADWAY

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	24



(A) REQUIRED SHOULDER UNDERDRAIN SYSTEM
(B) REQUIRED SHOULDER COLD PLANE AND OVERLAY
(C) REQUIRED BORROW

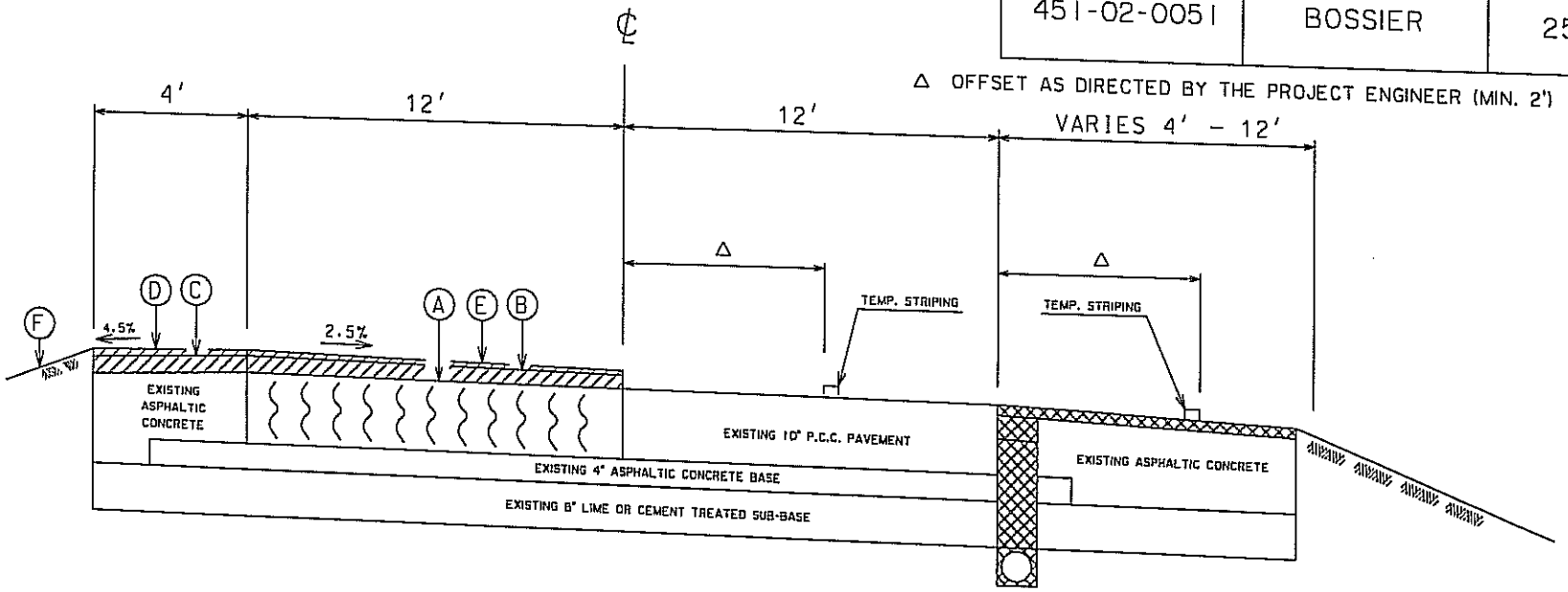
PHASE I

1. USE TEMPORARY TRAFFIC CONTROL DEVICES AND CLOSE THE OUTSIDE (RIGHT) LANE.
2. COLD PLANE (2" DEPTH) EXISTING RIGHT SHOULDER
3. PLACE REQUIRED SHOULDER UNDERDRAIN SYSTEM INCLUDING OUTLETS.
4. PLACE REQUIRED 2" ASPHALTIC CONCRETE BINDER COURSE
5. USING BORROW, BRING FORESLOPE UP TO MATCH OVERLAY.
6. STRIPE FOR ONE TEMPORARY TRAVEL LANE FOR NEXT PHASE (12' LANE WIDTH WITH MIN. 2' OFFSETS).

PHASE II

MIRROR TYPICAL FOR WESTBOUND ROADWAY

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	25



Ⓐ REQUIRED RUBBLIZATION OF 10" P.C.C. PAVEMENT
Ⓑ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓒ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓓ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓔ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓕ REQUIRED BORROW

PHASE II

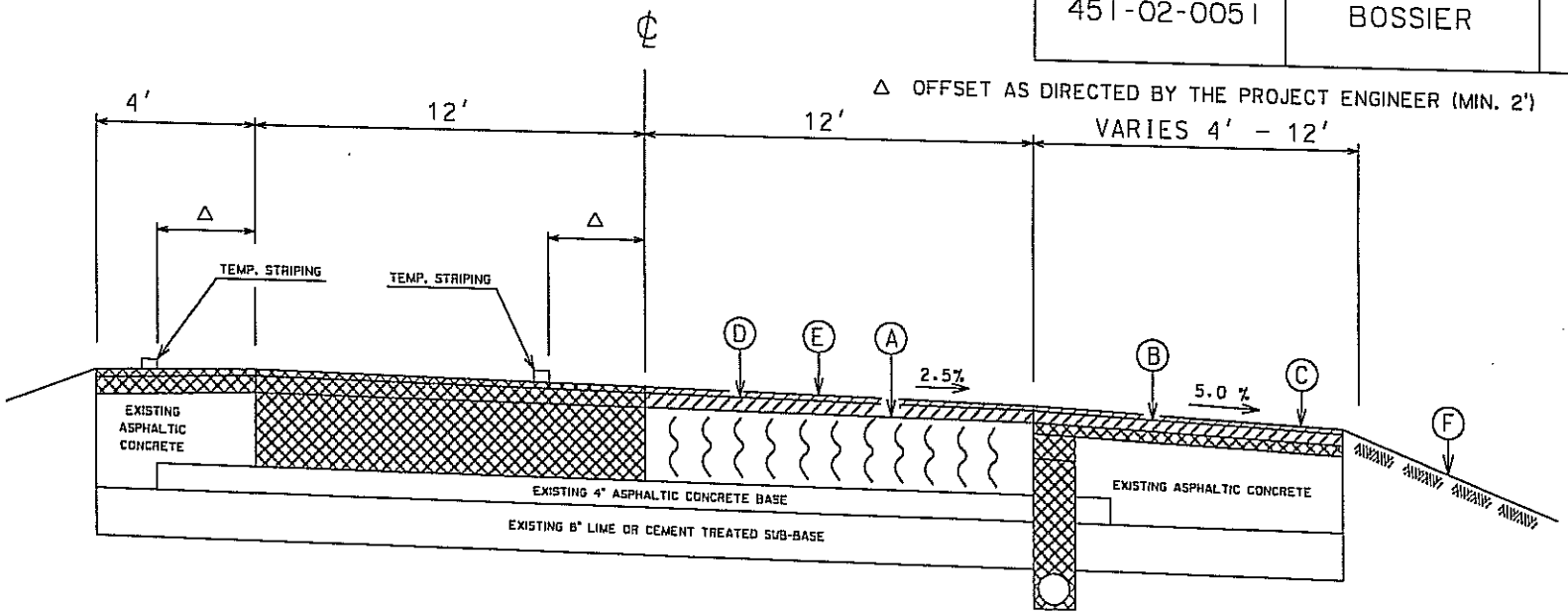
1. CHANNEL TRAFFIC ONTO TEMPORARY LANE.
2. RUBBLIZE REQUIRED 10" P.C.C. PAVEMENT FOR 12' WIDTH.
3. PLACE REQUIRED ASPHALTIC CONCRETE BINDER COURSES.
4. USING BORROW, BRING FORESLOPE UP TO MATCH OVERLAY.
5. STRIPE FOR ONE TEMPORARY TRAVEL LANE (12' WIDTH) FOR NEXT PHASE.

DENDTES WORK PERFORMED IN PREVIOUS PHASE.

PHASE III

MIRROR TYPICAL FOR WESTBOUND ROADWAY

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	26



Ⓐ REQUIRED RUBBLIZATION OF 10" P.C.C. PAVEMENT
Ⓑ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓒ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓓ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓔ REQUIRED ASPHALTIC CONCRETE BINDER COURSE
Ⓕ REQUIRED BORROW

PHASE III

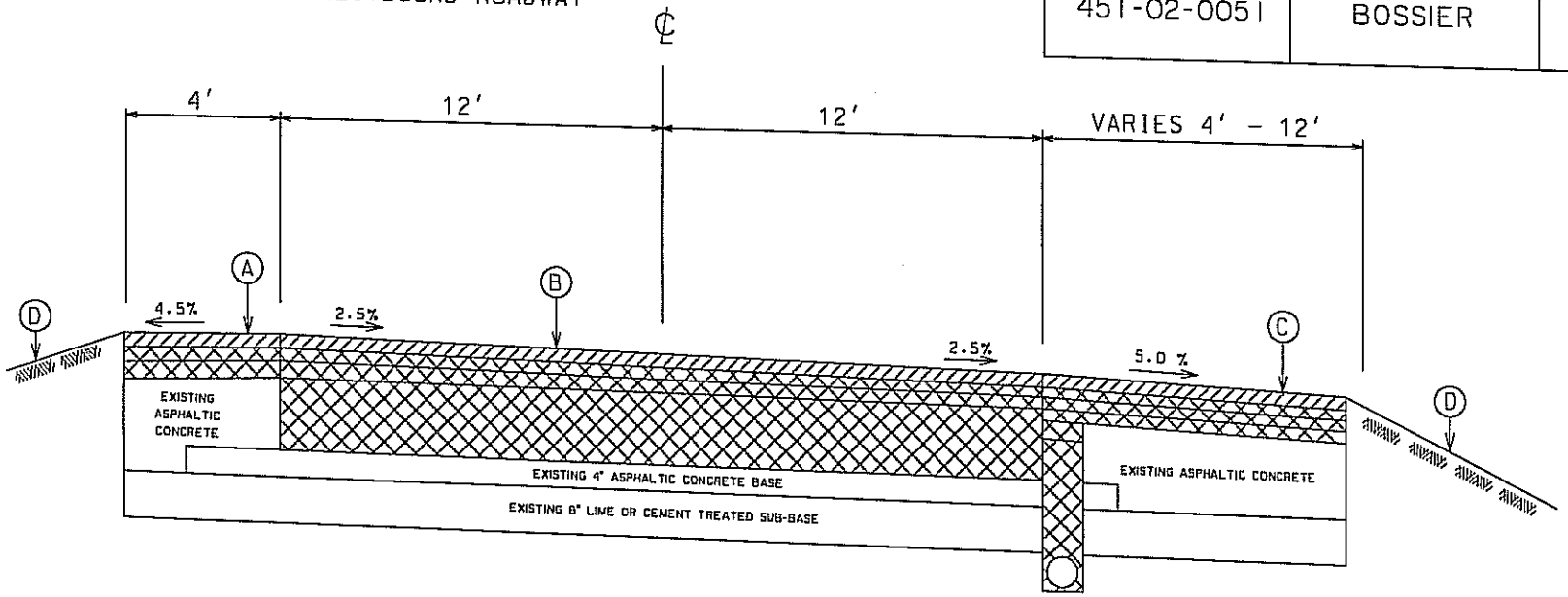
1. CHANNEL TRAFFIC ONTO TEMPORARY LANE.
2. RUBBLIZE REMAINING 10" P.C.C. PAVEMENT FOR 12' WIDTH.
3. PLACE REQUIRED ASPHALTIC CONCRETE BINDER COURSES.
4. USING BORROW, BRING FORESLOPE UP TO MATCH OVERLAY.
5. PLACE BROKEN AND SOLID TEMPORARY STRIPING ON RIGHT LANE.
6. CHANNEL TRAFFIC ON RIGHT LANE AND PLACE SOLID TEMPORARY STRIPING ON LEFT LANE.

DENOTES WORK PERFORMED IN PREVIOUS PHASE.

PHASE IV

STATE PROJECT	PARISH	SHEET NUMBER
451-02-0051	BOSSIER	27

MIRROR TYPICAL FOR WESTBOUND ROADWAY



Ⓐ REQUIRED 2" ASPHALTIC CONCRETE WEARING COURSE
Ⓑ REQUIRED 2" ASPHALTIC CONCRETE WEARING COURSE
Ⓒ REQUIRED 2" ASPHALTIC CONCRETE WEARING COURSE
Ⓓ REQUIRED BORROW

PHASE V

1. PLACE REQUIRED 2" ASPHALTIC CONCRETE WEARING COURSE ON ROADWAY AND SHOULDERS. ALL LANES SHALL REMAIN OPEN EXCEPT IN THE IMMEDIATE VICINITY OF THE PAVING OPERATIONS.
2. USING BORROW, BRING FORESLOPE UP TO MATCH OVERLAY. BORROW MUST BE ABLE TO SUPPORT VEGETATION GROWTH.
3. USING TEMPORARY TRAFFIC CONTROL DEVICES TO CHANNEL TRAFFIC AS NEEDED, APPLY EROSION CONTROL ITEMS, GRIND RUMBLE STRIPS, AND APPLY PERMANENT STRIPING, AND MARKINGS.

DENOTES WORK PERFORMED IN PREVIOUS PHASES.

GENERAL PROVISIONS

- All Temporary Traffic Control Devices used shall be in accordance with the LaDOTD Standard Specifications for Roads and Bridges, the Manual on Uniform Traffic Control Devices (MUTCD), and shall meet the National Cooperative Highway Research Program (NCHRP) 350 for Test Level 3 requirements.
- Materials used for Temporary Traffic Controls shall be in accordance with the LaDOTD Standard Specifications for Roads and Bridges and when applicable the LaDOTD Qualified Products List (QPL).
- No temporary traffic controls shall be erected without the approval of the Project Engineer and until work is about to begin, unless they are covered.
- No lane closures, lane shifts, diversions, or detours shall occur without the authorization of the Project Engineer.
- Responsibility is hereby placed upon the contractor for the installation, maintenance, and operation of all temporary traffic control devices called for in these plans or required by the Project Engineer for the protection of the traveling public as well as all Department and construction personnel.
- The contractor shall also be responsible for the maintenance of all permanent signs and pavement markings left in place as essential to the safe movement and guidance of traffic within the project limits.
- The District Traffic Operations Engineer (DTOE) shall serve as a technical advisor to the Project Engineer for all Traffic Control matters.
- "Road Work Next XX Miles" sign shall be required on all projects equal to or greater than 2 miles and located at the begining of the project unless otherwise noted. The distance on the sign shall be stated to the nearest whole mile. The sign shall be a minimum 36"X60" unless otherwise noted.
- Warning signs used for lane closures or lane shifts in which the roadway shall be returned to full public use within 12 hours or less may be placed on NCHRP350 approved portable sign frames.
- If the spacing on the plans need to be altered, the new spacings need to be approved by the Project Engineer.

SPEED LIMITS

- Speed limits shall be lowered by 10 mph for any construction, maintenance, or utility operation that requires one or more of the following:
  (A) the condition of the original highway is degraded due to milled surfaces or uneven pavements;
  (B) work is in progress in the immediate vicinity of the travel way requiring lane closures, lane width reductions, or low speed diversions; (C) workers present on the shoulder within 2' of the edge of traveled way without barrier protection.
- The reduced speed zone shall only apply to those portions of the project limits affected. The Project Engineer may allow SPEED LIMIT WHEN FLASHING signs to supplement reduced speed zones.
- At the end of the reduced speed zone, a speed limit sign displaying the original speed limit before construction shall be installed.
- If conditions warrant, the District Traffic Operations Engineer may authorize the reduction of the speed limit by more than 10 mph.

PAVEMENT MARKINGS (see QPL)

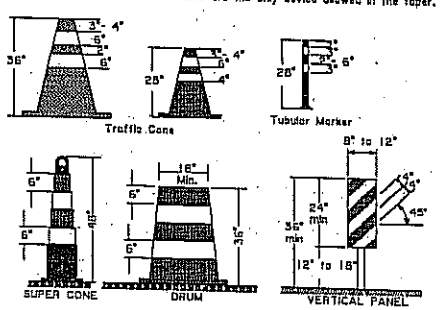
- All pavement markings within the limits of the project that are in conflict with the project signing or the required traffic movements shall be removed from the pavement by blast cleaning or grinding (Existing striping shall not be painted over with black paint or covered with tape).
- If special pavement markings are needed, they shall be reflectorized, removable, and accompanied by the proper signage.
- Temporary Raised Pavement Markers (RPMs) may be added to supplement temporary striping in areas of transition, in tapers, in detours, and in other areas of need as directed by the Project Engineer.
- Materials and placement of temporary pavement markings shall conform to section 713 of the Standard Specifications. If no pay item exists, temporary markings will be considered incidental to traffic control.

SIGNS

- All signs used for temporary traffic controls shall follow the Department's Traffic Control (TC) details and the MUTCD. Signs shown in the TC illustrations are typical and may vary with each specific condition.
- More appropriate signing for a specific condition may be required or substituted with the approval of the Project Engineer and reviewed by the District Traffic Operations Engineer.
- When projects are separated by less than one mile, they shall be signed as one project.
- At no time shall signs warning against a particular operation be left in place once the operation has been completed or where the obstacle has been removed.
- Signs over 10 sq ft shall be mounted on two post and signs over 20 sq ft shall be mounted on at least three post.
- Signs shall have a minimum of two bolts per post.
- Permanent signs no longer applicable or in conflict shall be removed or covered with a strong, lightweight, opaque material.
- Warning signs used for temporary traffic controls shall meet the following guidelines unless otherwise noted in the plans: (A) size shall be 48" x 48", (B) see the Departments Standard Specifications and the QPL for sheeting information, (C) a minimum of a 2 lb U-Channel post shall be used driven to a minimum depth of 3', (D) sign height shall be a minimum of 5' above the roadway surface unless there is a concern for pedestrians or bicycle traffic in which it shall be a minimum of 7', (E) lateral distance of signs shall be a minimum of 6' from the edge of shoulder or edge of pavement if no shoulder exist and 2' from the back of curb in urban areas.
- Vinyl Roll Up signs will be allowed for short term (less than 12 hours) daytime work provided that they meet all size, color, retroreflectivity requirements, and NCHRP 350.
- Mesh rollup signs shall not be allowed on any project.
- All signs shall be removed or covered when no longer applicable.
- Contractor shall use caution not to damage existing signs which remain in place. Any DOTD signs damaged by work operations shall be replaced.

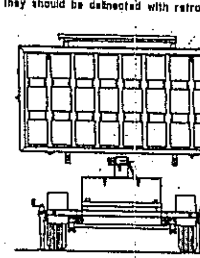
CHANNELIZING DEVICES

- The following devices may be used: Tubular Markers, Vertical Panels, Cones, Drums, and Super Cones. Drums (at standard spacing) and Super Cones (at ½ standard spacing) are the only devices allowed to be used in taper areas on the interstate system during daylight hours. Only drums can be used in tapers during night operations.
- The spacing of channelizing devices in a taper should not exceed a distance in feet equal to 1.0 times the posted speed limit in mph (with a maximum of 50 feet).
- The spacing of channelizing devices in a tangent should not exceed a distance in feet equal to 2.0 times the posted speed limit in mph (with a maximum of 100 feet) unless otherwise noted.
- Retroreflective material pattern used on super cones shall match that used on drums.
- 28" traffic cones are not allowed on: 1) Interstates, 2) Highways with speeds greater than 40 mph. During night time operations 1) 28" and 36" cones are not allowed, 2) drums are the only device allowed in the taper.



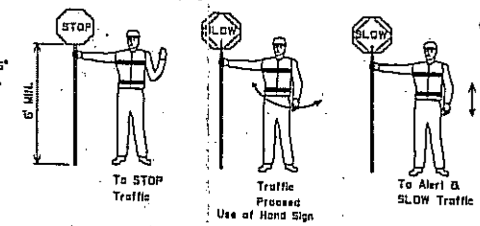
PORTABLE CHANGEABLE MESSAGE SIGNS

- When working within the traveled way, including shoulders and auxiliary lanes, Changeable Message Signs (CMS) shall be used on all Interstate Highways and on all other roadways (where space is available) with an ADT greater than 20,000 and should be delineated with retroreflective TTC devices. CMS will be paid for by each.
- When used in advance of a lane closure or a lane shift, the CMS should be placed on the right hand side of the road a minimum distance of 2 miles in advance of the taper for interstates and to be determined by the Engineer on other highways.
- If vehicles are queing beyond the 2 mile CMS, an additional CMS should be placed on the right hand side of the road approximately 5 miles in advance of the taper for interstates.
- CMS messages shall be approved by the District Traffic Operations Engineer (DTOE).
- When Portable Changeable Message signs are not being used, they should be removed; if not removed, they should be shielded by guardrail or barriers; or if the previous two options are not feasible, they should be delineated with retroreflective TTC devices.



FLAGGERS

- All flaggers must be qualified. The contractor shall be responsible for training or assuring that all flaggers are qualified to perform flagging duties. A Qualified Flagger is one that has completed courses such as those offered by the American Traffic Safety Services Association (ATSSA), The Associated General Contractors of America (AGC) or other courses approved by the Louisiana DOTD's Work Zone Task Force. The contractor shall be responsible for getting the flagger course approved.
- When utilized, a flagger shall use a minimum 18 inch octagonal shape sign on a minimum 6' stop/slow paddle and wear ANSI Class 2 Lime Green vest during day time operations and ANSI Class 3 Lime Green ensemble during night operations. In all flagging operations, the flagger must be visible from the flagger advance warning sign.



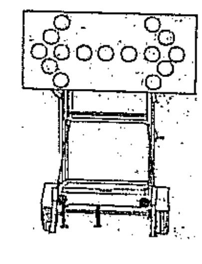
TYPE III BARRICADES

- All barricades shall use Type 3 High Intensity Sheeting on both sides of the barricade.
- All Type III Barricades shall be a minimum of 8 feet in length and must meet NCHRP 350 requirements.
- When signs and lights are to be mounted to a barricade, they must meet NCHRP 350 requirements.

MUTCD Website:
http://mutcd.fhwa.dot.gov/

FLASHING ARROW PANELS

- Flashing Arrow Panels shall be used for lane closures on all facilities with 2 or more lanes in a single direction and a speed limit greater than 35 mph.
- When used, flashing arrow panels should be located on the shoulder at the beginning of the taper.
- Where the shoulder width is limited, the flashing arrow panel should be placed within the closed lane as close to the beginning of the taper as practical.
- All Flashing Arrow Panels used on high speed roadways (45 mph and greater) shall be 4' x 8' Type C.
- When Flashing Arrow Panels signs are not being used, they should be removed; if not removed, they should be shielded by guardrail or barriers; or if the previous two options are not feasible, they should be delineated with retroreflective TTC devices.

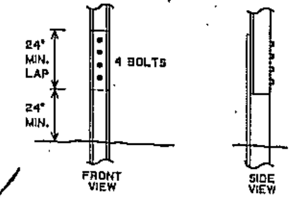


LIGHTING (see QPL)

- When used for overnight closures, lighting shall supplement all barricades that are placed in a closed lane or that extend across a highway. Two Type B High Intensity lights shall be used per lane closed in rural areas. In urban areas two Type A Low Intensity Lights may be used where adequate ambient lighting is available.
- One Type B High Intensity light shall be used to supplement the first sign (or pair of signs) that gives warning about a lane closure during night time operations.
- Type C steady burn lights shall be used on all channelizing devices in the taper as well as the first two devices in the tangent, for night use.

ALLOWABLE LAP SPLICE FOR U-CHANNEL POST

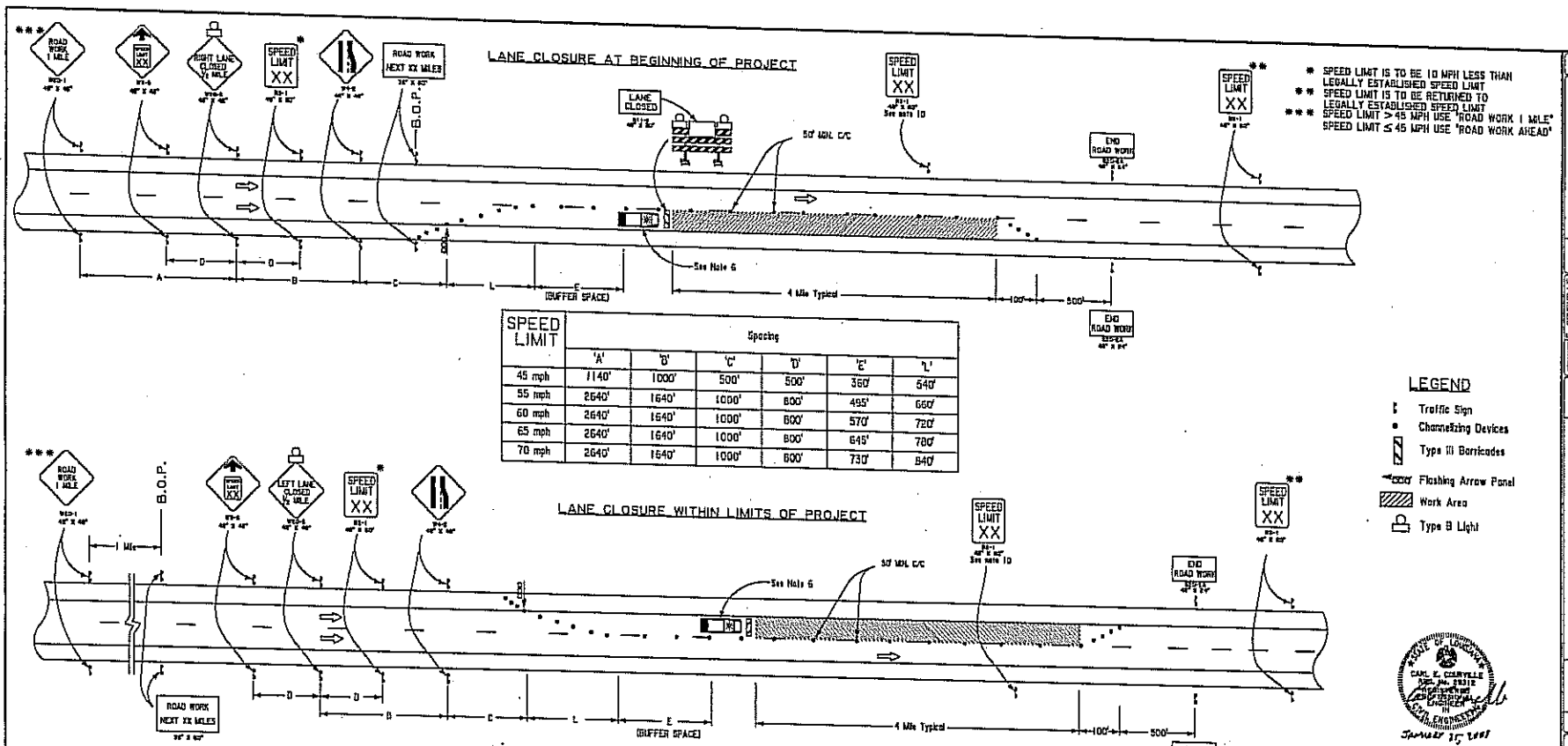
- U-Channel posts may be spliced where long lengths are required. The upper section shall overlap the lower section by at least 24 inches. The bottom edge of the upper section of the splice shall be a minimum of 24 inches above the ground. The spliced sections shall be secured with at least four ⁵⁄₁₆ inch diameter hex bolts spaced equally along the splice.



STATE OF LOUISIANA
CARL E. COURVILLE
REG. No. 24517
REGISTERED PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING

SHEET NUMBER	20		
PARISH	BOSSIER		
DESIGNED	E. COURVILLE		
CHECKED	T. COLVIN	FEDERAL PROJECT	
DETAILED	D. SONARDS		
CHECKED	T. COLVIN	STATE PROJECT	451-02-0051
DATE	01/25/2008		

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
TC-00
TRAFFIC ENGINEERING



SPEED LIMIT	Spacing					
	'A'	'B'	'C'	'D'	'E'	'L'
45 mph	1140'	1000'	500'	500'	360'	540'
55 mph	2640'	1640'	1000'	600'	495'	660'
60 mph	2640'	1640'	1000'	600'	570'	720'
65 mph	2640'	1640'	1000'	600'	645'	780'
70 mph	2640'	1640'	1000'	600'	730'	840'

NOTES

THIS SHEET SHALL BE USED WITH THE "TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET (TC-00)".

1. SPEED LIMIT REFERS TO THE LEGALLY ESTABLISHED SPEED LIMIT BEFORE CONSTRUCTION.
2. WHEN DOING ANY INTERSTATE WORK, A MINIMUM OF TWO DYNAMIC MESSAGE SIGNS PER DIRECTION SHALL BE PLACED IN ADVANCE OF THE LANE CLOSURE. GUIDANCE AS TO PLACEMENT IS SHOWN ON TC-00; HOWEVER, SPECIFIC DISTANCES TO BE SET BY THE PROJECT ENGINEER.
3. DOWNSTREAM TAPERS SHALL BE 100' PER LANE WITH CHANNELIZING DEVICES SPACED AT A SPACING OF 20'.
4. TYPE III BARRICADES SHALL BE PLACED IN THE CLOSED LANE AT A 1000' INTERVAL WHERE NO ACTIVE WORK IS ON GOING AND THE LANE MUST REMAIN CLOSED. TYPE III BARRICADES ARE ALSO REQUIRED BEFORE EACH OR GROUP OF UNFILLED HOLES OR HOLES FILLED WITH TEMPORARY MATERIAL, OR WHERE UNCURED CONCRETE EXISTS.
5. IF A RAMP ENTRANCE OR EXIT TAPER FALLS WITHIN THE WORK AREA, REFER TO STANDARD ROAD PLANS TC-08 AND TC-09 FOR TRAFFIC CONTROL DETAILS.
6. A VEHICLE WITH A FLASHING AMBER LIGHT AND A TRUCK MOUNTED ATTENUATOR SHALL BE USED IN ADVANCE OF AREAS WHERE WORKERS ARE PRESENT WITHOUT POSITIVE BARRIER PROTECTION.
7. CHANNELIZING DEVICES MAY ENCROACH UP TO 2 FEET FROM CENTERLINE INTO THE OPEN LANE ONLY AT SPECIFIC LOCATIONS WHERE ACTUAL WORK ACTIVITY IS TAKING PLACE. CHANNELIZING DEVICES SHALL BE RETURNED TO TO THE CLOSED LANE WHEN THE WORK ACTIVITY HAS PASSED. IN NO CASE SHALL THE MAINLINE WIDTH OF THE TRAVEL LANE BE LESS THAN 10'.
8. A FLAGGER SHALL BE USED TO ALERT MOTORISTS WHEN EQUIPMENT OR WORKERS ENCROACH WITHIN 2 FEET OF AN OPEN LANE. THE FLAGGER SHALL BE POSTED ADJACENT TO THE OPEN TRAVEL LANE AND IMMEDIATELY UPSTREAM OF EACH OPERATION. ENCROACHMENT SHALL BE HELD TO A MINIMUM.
9. WHEN THE LENGTH OF CLOSURE IS GREATER THAN 1 MILE, INSTALL SPEED LIMIT SIGNS AT 1 MILE INTERVALS.
10. IF CONDITIONS RESULT IN A DROPOFF OR RISE, BETWEEN LANE CLOSURE AND TRAVEL LANE, WHICH EXCEEDS 2 INCHES OVERNIGHT, THE CONTRACTOR SHALL PLACE A TEMPORARY EDGE LINE IN THE OPEN LANE, A MINIMUM OF 1 FOOT FROM THE DROPOFF OR RISE. IF THE CONTRACTOR CHOOSES TO USE DRUMS FOR THE CHANNELIZING DEVICES, THE TEMPORARY EDGE LINE MAY BE OMITTED AS LONG AS THE DEVICE SPACING IS 50' OR LESS. IN EITHER CASE, THE CHANNELIZING DEVICES SHALL BE PLACED IN THE CLOSED LANE DURING NONWORKING HOURS.
11. HIGH INTENSITY FLASHING LIGHTS SHALL BE USED TO MARK THE SECOND ADVANCE WARNING SIGN (_____LANE CLOSED ½ MILE). LOW INTENSITY FLASHING LIGHTS SHALL BE USED TO MARK ALL OTHER HAZARDS OFF THE TRAVEL WAY. STEADY BURNING LIGHTS SHALL BE USED ON ALL TRAFFIC CONTROL DEVICES USED FOR MERGING TAPER, INCLUDING THE FIRST TWO DEVICES AFTER THE TAPER ENDS. FIRST LIGHT IN A MERGING TAPER SHALL BE FLASHING.
12. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A MERGING TAPER AND SHIFTING TAPER SHALL NOT BE GREATER THAN 30'.
13. ANY SIGNS IN CONFLICT WITH CONSTRUCTION SIGNING SHALL BE REMOVED OR COVERED.
14. MINIMUM CONSTRUCTION SIGNING: ANY ADDITIONAL SIGNS SHOWN IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND REQUIRED BY THE PROJECT ENGINEER SHALL BE INSTALLED UNDER ITEM 713-01.
15. NEITHER WORK ACTIVITY NOR STORAGE OF EQUIPMENT, VEHICLES, OR MATERIALS SHALL OCCUR WITHIN THE BUFFER SPACE.

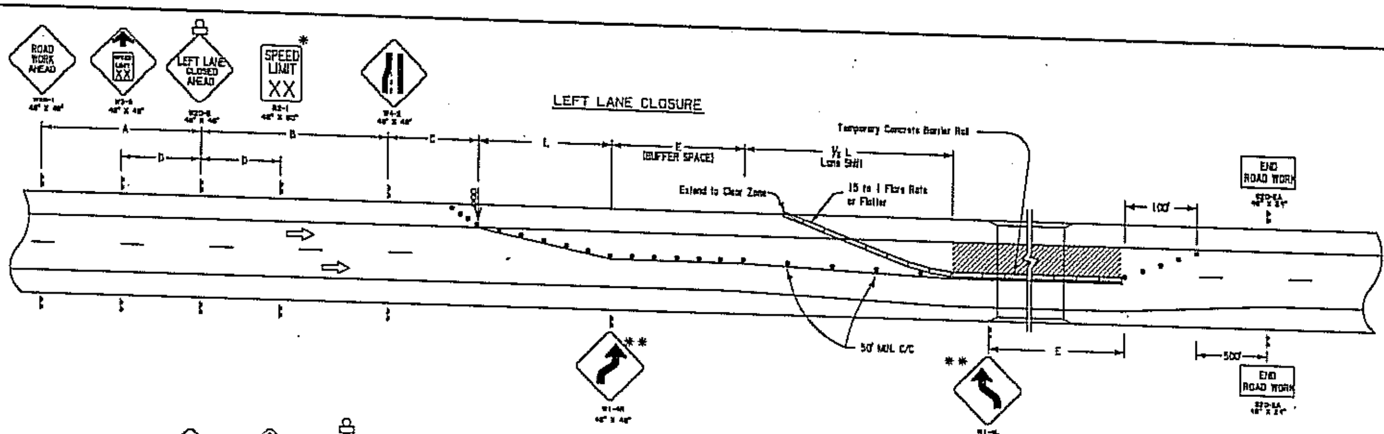
STATE OF LOUISIANA — CARL E. CRAWVILLE — No. 24018 — PROFESSIONAL ENGINEER — January 15, 2008

TRAFFIC CONTROL LAYOUT FOR LANE CLOSURES ON DIVIDED HIGHWAYS — TC-06

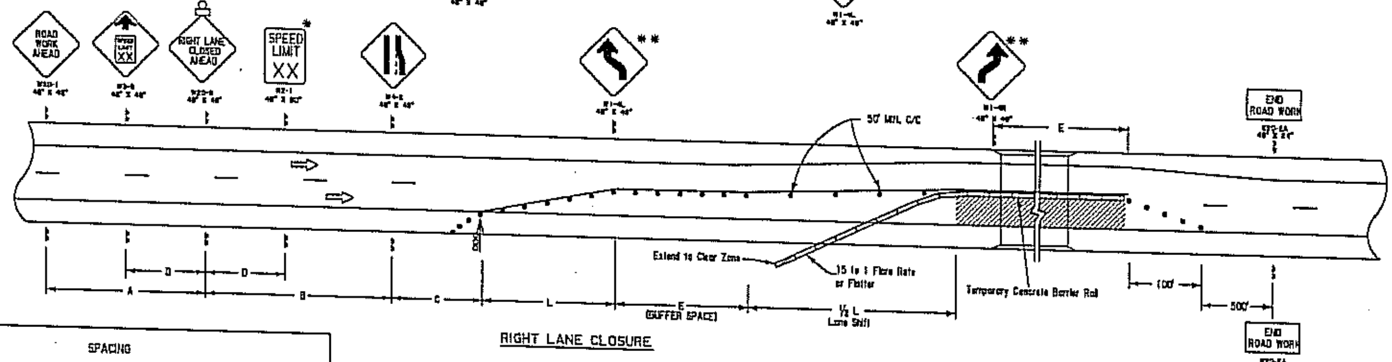
TRAFFIC ENGINEERING

SHEET NUMBER	29
PARISH	BOSSIER
FEDERAL PROJECT	
STATE PROJECT	451-02-0051
DESIGNED	E. CRAWVILLE
CHECKED	T. COLVIN
DETAILED	D. SCHARDIN
CHECKED	L. COLVIN
DATE	01/25/2008
SHEET	

LEFT LANE CLOSURE



RIGHT LANE CLOSURE



SPEED LIMIT	SPACING					
	'A'	'B'	'C'	'D'	'E'	'L'
45 mph	1140'	1000'	500'	500'	360'	540'
55 mph	2640'	1640'	1000'	800'	495'	660'
60 mph	2640'	1640'	1000'	800'	570'	720'
65 mph	2640'	1640'	1000'	800'	645'	780'
70 mph	2640'	1640'	1000'	800'	730'	840'

* SPEED LIMIT IS TO BE 10 MPH LESS THAN LEGALLY ESTABLISHED SPEED LIMIT

** TO BE USED ONLY WHEN A LANE SHIFT IS UTILIZED

LEGEND

- Traffic Sign
- Channelizing Devices
- Flashing Arrow Panel (Type 'C')
- Work Area
- Type B Light
- Concrete Barrier

NOTES

THIS SHEET SHALL BE USED WITH THE "TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET (TC-00)".

1. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A MERGING TAPER SHALL BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT.
2. CHANNELIZING DEVICES ON THE LANE LINE SHALL BE OF THE SAME TYPE. CHANNELIZING DEVICES IN EACH TAPER SHALL BE OF THE SAME TYPE.
3. IF A RAMP ENTRANCE OR EXIT TAPER FALLS WITHIN THE WORK AREA, REFER TO STANDARD ROAD PLAN TC-08 AND TC-09 FOR TRAFFIC CONTROL DETAILS.
4. DOWNSTREAM TAPERS SHALL CONTAIN A MINIMUM OF 4 CHANNELIZING DEVICES.
5. BROKEN LANE LINE SHALL BE REMOVED IN AREA OF TAPER.
6. PARKING OF VEHICLES OR UNATTENDED EQUIPMENT, OR STORAGE OF MATERIALS, WITHIN THE CLEAR ZONE SHALL NOT BE PERMITTED UNLESS PROTECTED BY FUNCTIONING BARRIER RAIL.
7. ANY SIGNS IN CONFLICT WITH CONSTRUCTION SIGNING SHALL BE REMOVED OR COVERED.
8. MINIMUM CONSTRUCTION SIGNING; ANY ADDITIONAL SIGNS SHOWN IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND REQUIRED BY THE PROJECT ENGINEER SHALL BE INSTALLED UNDER ITEM 713-01.
9. SPEED LIMIT REFERS TO THE LEGALLY ESTABLISHED SPEED LIMIT BEFORE CONSTRUCTION.
10. HIGH INTENSITY FLASHING LIGHTS SHALL BE USED TO MARK THE SECOND ADVANCE WARNING SIGN (____LANE CLOSED AHEAD). LOW INTENSITY FLASHING LIGHTS SHALL BE USED TO MARK ALL OTHER HAZARDS OFF THE TRAVEL WAY. STEADY BURNING LIGHTS SHALL BE USED ON ALL TRAFFIC CONTROL DEVICES USED FOR MERGING TAPER, INCLUDING THE FIRST TWO DEVICES AFTER THE TAPER ENDS. FIRST LIGHT IN A MERGING TAPER SHALL BE FLASHING.
11. NEITHER WORK ACTIVITY NOR STORAGE OF EQUIPMENT, VEHICLES, OR MATERIALS SHALL OCCUR WITHIN THE BUFFER SPACE.

CARL E. COURVILLE REG. No. 23312 PROFESSIONAL ENGINEER

January 25, 2008

TRAFFIC CONTROL LAYOUT FOR LANE CLOSURE USING TEMPORARY BARRIER RAIL DIVIDED HIGHWAYS

TC-11

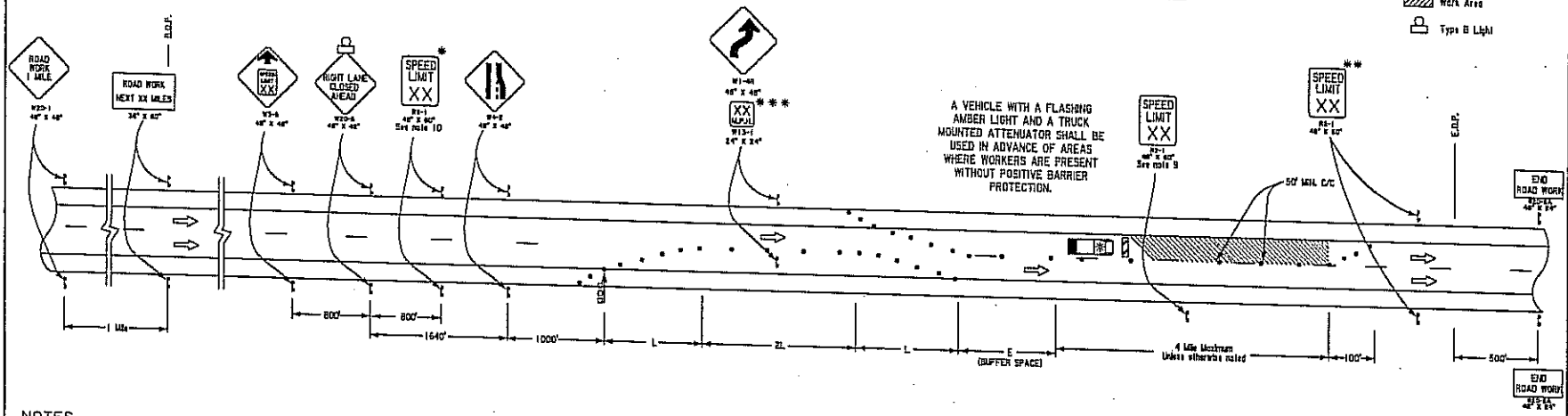
TRAFFIC ENGINEERING

SHEET NUMBER	30
PARISH	BOSSIER
STATE PROJECT	451-02-0051
DESIGNED	C. COURVILLE
CHECKED	J. COLVIN
DETAILED	D. SOWARDS
CHECKED	J. COLVIN
DATE	01/25/2008

* SPEED LIMIT IS TO BE 10 MPH LESS THAN THE LEGALLY ESTABLISHED SPEED LIMIT
** SPEED LIMIT IS TO BE RETURNED TO THE LEGALLY ESTABLISHED SPEED LIMIT
*** MAY USE AN ADVISORY SPEED PLAQUE (W13-1) IF DEEMED NECESSARY. ADVISORY SPEED TO BE DETERMINED BY THE DISTRICT TRAFFIC OPERATIONS ENGINEER.

SPEED LIMIT	Spacing	
	'E'	'L'
60 mph	570'	720'
65 mph	645'	780'
70 mph	730'	840'

LEGEND
- Traffic Sign
- Channelizing Devices
- Type III Barricades
- Flashing Arrow Panel
- Work Area
- Type B Light



NOTES

THIS SHEET SHALL BE USED WITH THE "TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET (TC-00)".

1. WHEN DOING ANY INTERSTATE WORK, OR THE AVERAGE DAILY TRAFFIC (ADT) EXCEEDS 20,000 VEHICLES PER DAY OR WHEN THE TRAFFIC QUEUES BEYOND THE ADVANCED SIGNING, A MINIMUM OF TWO CMS SIGNS PER DIRECTION SHALL BE PLACED IN ADVANCE OF THE LANE CLOSURE. GUIDANCE AS TO PLACEMENT IS SHOWN ON TC-00; HOWEVER, SPECIFIC DISTANCES TO BE SET BY THE PROJECT ENGINEER.

2. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A MERGING TAPER AND SHIFTING TAPER SHALL BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT BEFORE ROAD WORK.

3. TYPE III BARRICADES SHALL BE PLACED IN THE CLOSED LANE AT A 1000' INTERVAL WHERE NO ACTIVE WORK IS ON GOING AND THE LANE MUST REMAIN CLOSED. TYPE III BARRICADES ARE ALSO REQUIRED BEFORE EACH OR GROUP OF UNFILLED HOLES OR HOLES FILLED WITH TEMPORARY MATERIAL, OR WHERE UNCURED CONCRETE EXISTS.

4. IF A RAMP ENTRANCE OR EXIT TAPER FALLS WITHIN THE WORK AREA, REFER TO STANDARD ROAD PLANS TC-08 AND TC-09 FOR TRAFFIC CONTROL DETAILS.

5. A FLAGGER SHALL BE USED TO ALERT MOTORISTS WHEN EQUIPMENT OR WORKERS ENCROACH WITHIN 2 FEET OF AN OPEN LANE. THE FLAGGER SHALL BE POSTED ADJACENT TO THE OPEN TRAFFIC LANE AND IMMEDIATELY UPSTREAM OF EACH OPERATION. ENCROACHMENT SHALL BE HELD TO A MINIMUM.

6. A VEHICLE WITH A FLASHING AMBER LIGHT AND A TRUCK MOUNTED ATTENUATOR SHALL BE USED IN ADVANCE OF AREAS WHERE WORKERS ARE PRESENT WITHOUT POSITIVE BARRIER PROTECTION.

7. UNDER NORMAL CLOSURE CONDITIONS, DEVICES SHOULD BE PLACED 2' FROM CENTERLINE INTO THE CLOSED LANE. CHANNELIZING DEVICES MAY ENCROACH UP TO 2' FROM CENTERLINE INTO THE OPEN LANE ONLY AT SPECIFIC LOCATIONS WHERE ACTUAL WORK ACTIVITY IS TAKING PLACE. CHANNELIZING DEVICES SHALL BE RETURNED TO THE CLOSED LANE WHEN THE WORK ACTIVITY HAS PASSED. IN NO CASE SHALL THE MAINLINE WIDTH OF THE TRAVEL LANE BE LESS THAN 10'.

8. WHEN THE LENGTH OF CLOSURE IS GREATER THAN 1 MILE, INSTALL SPEED LIMIT SIGNS AT 1 MILE INTERVALS.

FOR LANE-LINE DROPOFF OR RISE:

9. IF CONDITIONS RESULT IN A DROPOFF OR RISE WHICH EXCEEDS 2" OVERNIGHT, THE CONTRACTOR SHALL PLACE A TEMPORARY EDGE LINE IN THE OPEN LANE. A MINIMUM OF 1' FROM THE DROPOFF OR RISE. IF THE CONTRACTOR CHOOSES TO USE DRUMS FOR THE CHANNELIZING DEVICES, THE TEMPORARY EDGE LINE MAY BE OMITTED AS LONG AS THE DRUM SPACING IS 50'. IN EITHER CASE, THE CHANNELIZING DEVICES SHALL BE PLACED IN THE CLOSED LANE DURING NONWORKING HOURS.

10. HIGH INTENSITY FLASHING LIGHTS SHALL BE USED TO MARK THE SECOND ADVANCE WARNING SIGN (RIGHT LANE CLOSED AHEAD). LOW INTENSITY FLASHING LIGHTS SHALL BE USED TO MARK ALL OTHER HAZARDS OFF THE TRAVEL WAY. STEADY BURNING LIGHTS SHALL BE USED ON ALL TRAFFIC CONTROL DEVICES USED FOR MERGING TAPER, INCLUDING THE FIRST TWO DEVICES AFTER THE TAPER ENDS. FIRST LIGHT IN A MERGING TAPER SHALL BE FLASHING.

11. ANY SIGNS IN CONFLICT WITH CONSTRUCTION SIGNING SHALL BE REMOVED OR COVERED.

12. MINIMUM CONSTRUCTION SIGNING: ANY ADDITIONAL SIGNS SHOWN IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND REQUIRED BY THE PROJECT ENGINEER SHALL BE INSTALLED UNDER ITEM 713-01.

13. NEITHER WORK ACTIVITY NOR STORAGE OF EQUIPMENT, VEHICLES, OR MATERIALS SHALL OCCUR WITHIN THE BUFFER SPACE.

STATE OF LOUISIANA — CARL E. CORYELLE — REG. No. 29512 — REGISTERED PROFESSIONAL ENGINEER — CIVIL — JANUARY 25, 2008

SHEET NUMBER	31
PARISH	BOSSIER
FEDERAL PROJECT	
STATE PROJECT	451-02-0051
DESIGNED	C. CORYELLE
DRAWN	C. EDWARDS
CHECKED	L. COLVIN
DATE	01/25/2008

TRAFFIC CONTROL LAYOUT FOR LOUISIANA LEFT ON INTERSTATE HIGHWAYS

TC-14

TRAFFIC ENGINEERING

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

CONSTRUCTION PROPOSAL INFORMATION FOR

STATE PROJECT NO. 451-02-0051
INDUSTRIAL DRIVE to FIFI BAYOU
ROUTE I-20
BOSSIER 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 the State of Louisiana, Department of Transportation and Development, (hereinafter called the Department) 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 Department on a contract for the construction of **STATE PROJECT NO. 451-02-0051, INDUSTRIAL DRIVE to FIFI BAYOU, located in BOSSIER PARISH, ROUTE I-20,** 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 Department 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, 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

07/07
Form CS-2A

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SCHEDULE OF ITEMS

LEAD PROJECT: 451-02-0051
OTHER PROJECTS:

DATE: 12/17/08 08:11 PAGE: 1

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
202-02-C	8,314	SQUARE YARD	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT _____ DOLLARS _____ CENTS
202-02-G	6,102.6	SQUARE YARD	REMOVAL OF SURFACING & STABILIZED BASE _____ DOLLARS _____ CENTS
203-07	18,458	CUBIC YARD	BORROW (VEHICULAR MEASUREMENT) _____ DOLLARS _____ CENTS
502-01	55,678.1	TON	SUPERPAVE ASPHALTIC CONCRETE _____ DOLLARS _____ CENTS
502-01-A	2,983.2	TON	SUPERPAVE ASPHALTIC CONCRETE, DRIVES, TURNOUTS AND MISCELLANEOUS _____ DOLLARS _____ CENTS
509-01	28,444	SQUARE YARD	COLD PLANING ASPHALTIC PAVEMENT _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
509-02	-2,118	CUBIC YARD	CONTRACTOR RETAINED RECLAIMED ASPHALTIC PAVEMENT _____ DOLLARS _____ CENTS
703-01	23,242	LINEAR FOOT	SHOULDER UNDERDRAIN SYSTEMS _____ DOLLARS _____ CENTS
703-02	80	EACH	SHOULDER OUTLET UNDERDRAINS _____ DOLLARS _____ CENTS
706-03-C	172.3	SQUARE YARD	INCIDENTAL CONCRETE PAVING (6" THICK) _____ DOLLARS _____ CENTS
713-01	LUMP	LUMP SUM	TEMPORARY SIGNS & BARRICADES _____ DOLLARS _____ CENTS
713-03-A	4.449	MILE	TEMPORARY PAVEMENT MARKINGS (BROKEN LINE) (4" WIDTH) (4' LENGTH) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
713-04-A	36.588	MILE	TEMPORARY PAVEMENT MARKINGS (SOLID LINE)(4" WIDTH) _____ DOLLARS _____ CENTS
716-01-A	13.7	TON	MULCH (VEGETATIVE) _____ DOLLARS _____ CENTS
727-01	LUMP	LUMP SUM	MOBILIZATION _____ DOLLARS _____ CENTS
731-02	600	EACH	REFLECTORIZED RAISED PAVEMENT MARKERS _____ DOLLARS _____ CENTS
732-02-A	18.839	MILE	PLASTIC PAVEMENT STRIPING (SOLID LINE) (4" WIDTH) _____ DOLLARS _____ CENTS
732-02-E	0.011	MILE	PLASTIC PAVEMENT STRIPING (SOLID LINE) (24" WIDTH) _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
732-03-A	4.960	MILE	PLASTIC PAVEMENT STRIPING (BROKEN LINE)(4" WIDTH) _____ DOLLARS _____ CENTS
732-05	4.952	MILE	REMOVAL OF EXISTING MARKINGS _____ DOLLARS _____ CENTS
734-01	67,033	SQUARE YARD	RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT _____ DOLLARS _____ CENTS
739-01	9.14	ACRE	HYDRO-SEEDING _____ DOLLARS _____ CENTS
740-01	LUMP	LUMP SUM	CONSTRUCTION LAYOUT _____ DOLLARS _____ CENTS
S-001	LUMP	LUMP SUM	HAULING AND STOCKPILING P.C.C. PAVEMENT _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-002	LUMP	LUMP SUM	RUBBLIZATION PREP. _____ DOLLARS _____ CENTS
S-003	3,248	LIN FOOT	PCCP JOINT MEMBRANE _____ DOLLARS _____ CENTS
S-004	1,257	LIN FOOT	PCCP SAWCUTTING _____ DOLLARS _____ CENTS
S-005	6	EACH	DYNAMIC MESSAGE SIGN UNIT _____ DOLLARS _____ CENTS
S-006	8.8	MILE	RUMBLE STRIPS (GROUND-IN) _____ DOLLARS _____ CENTS
S-007	LUMP	LUMP SUM	SOIL MIXING _____ DOLLARS _____ CENTS

ITEM NUMBER	APPROXIMATE QUANTITY	UNIT OF MEASURE	PAY ITEM UNIT PRICE (IN WORDS, INK OR TYPED)
S-008	LUMP	LUMP SUM	ADJUSTING GUARDRAIL _____ DOLLARS _____ CENTS
S-922	48	LINEAR FOOT	SAWING AND SEALING TRANSVERSE JOINTS IN ASPHALTIC CONCRETE OVERLAY _____ 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 NO. 451-02-0051

FEDERAL AID PROJECT NO. N/A

NAME OF PROJECT INDUSTRIAL DRIVE to FIFI BAYOU

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.

STATE PROJECT NO. **451-02-0051**

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