CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF ENVIRONMENTAL SERVICES

June 19, 2025

ADDENDUM NO. 1

TO: ALL BIDDERS

SUBJECT: **EAST BOULEVARD/GOVERNMENT STREET AREA SEWER REHABILITATION PROJECT – PHASE 2 CITY-PARISH PROJECT NO. 12-AR-MS-041A**

BID DATE: Tuesday, June 24th, 2025 at 2:00 PM

The following revisions shall be incorporated in and take precedence over any conflicting part of the original contract document:

PART 1 – UNIFORM CONSTRUCTION BID FORMS:

1. For paper sealed bidders, with reference to page UCBF 1 of 4 of Part 1, Uniform Construction Bid Forms, the Bidder shall indicate the receipt of this addendum in the space provided. For online Central Bidding bidders, an acknowledgement of this addendum will be prompted by the electronic bidding program prior to formally submitting the bid. **Failure to indicate the receipt of this addendum shall be cause for the bid to be rejected.**

2. Replace the Unit Price Form with the attached Revised Unit Price Form (dated 06/18/25). This Revised Unit Price Form MUST be used by all Bidders for this project. The UCBF on the Central Bidding website has been updated to reflect the changes on the attached UCBF. **Failure to submit on the revised Unit Price Form shall be cause for the bid to be rejected.**

3. Delete existing Public Contract Affidavit per LA RS 38:2224 and replace with the revised copy attached to this Addendum.

PART 2 – SPECIAL PROVISIONS AND CONTRACT DOCUMENTS:

1. For paper sealed bidders, with reference to page UCBF 1 of 4 of Part 1, Uniform Construction Bid Forms, the Bidder shall indicate the receipt of this addendum in the space provided. For online Central Bidding bidders, an acknowledgement of this addendum will be prompted by the electronic bidding program prior to formally submitting the bid. **Failure to indicate the receipt of this addendum shall be cause for the bid to be rejected.**

2. Replace the Unit Price Form with the attached Revised Unit Price Form (dated 06/18/25). This Revised Unit Price Form MUST be used by all Bidders for this project. The UCBF on the Central Bidding website has been updated to reflect the changes on the attached UCBF. **Failure to submit on the revised Unit Price Form shall be cause for the bid to be rejected.**

3. Delete existing Public Contract Affidavit per LA RS 38:2224 and replace with the revised copy attached to this Addendum.

SPECIAL PROVISIONS

1. Remove Appendix A – Sanitary Sewer Cutsheets and Service Re-Instatement Plan and replace with the copy attached to this Addendum.

DRAWINGS

1. Remove C-1 Existing Conditions and Abandonment Plan and replace with C-1R attached to this Addendum.

2. Add attached Standard Plans 201 – 237 after Page C-3 Proposed Sewer Plan and Profile.

QUESTIONS

1. What is the intention for removal of asphalt. Is the intention only to remove pipe trench or remove and replace from edge of road to edge of road?

   The intention is to only remove and replace the asphalt within the pipe trench for the main line and the service lines. See City-Parish Standard Detail 801-01 Bedding and Backfill Details for Sanitary Sewer Pipe, Force mains and Service Lines. This Standard Detail has been added to the project drawings as sheet number 205 and has been attached to this Addendum.

2. Required MH 059-06335B does not show T.C. or Inv. Please advise.

   The intention is for the top elevation to match existing asphalt and for the invert of the pipe to match the existing invert at the specified distance from railroad tracks (50'). The manhole depth is expected to be 6.1' – 8.0' in this location. Contractor to field verify locations, elevations, and inverts of manholes prior to starting work.

3. How is contractor getting paid to remove existing manholes?

   MH 059-06335 is to be paid under Pay Item Number 8034000 Abandon Sewer Manhole.

   The removal and disposal of all other existing manholes within the project scope are covered under the Sanitary Sewer Manholes pay item.

4. Are we able to close the road and keep the road closed with a proper detour set up?

   See Section 7-5 within the special provisions, Note 19 and 20 on Sheet G-2 and Note 5 on Sheet C-1 within the project drawings. The contractor shall apply and receive a permit from the City-Parish Traffic Engineering division prior to performing any road closures. The contractor shall also provide the Engineer a copy of the Traffic Control plan to be approved by the Engineer and CPKC Railroad. It is the contractor's sole responsibility to provide for public safety and traffic control. All nearby business and residential homes shall always have access to their property

during the work.

5. Affidavit LA R.S. 38:2224 – Please clarify which Affidavit is to be submitted as there are (2) different affidavit templates for LA R.S. 38:2224. One affidavit is in Part 1A documents, and the other one is in Part 2. Both have different form revision dates.

   Both AF-1 and AF-2 are required. Delete existing Public Contract Affidavit per LA RS 38:2224 and replace with the revised copy attached to this Addendum.

6. Are Prevailing Wages required on this project? If so, please provide applicable rates?

   This project is not federally funded, prevailing wages are not required.

7. Is this project tax exempt?

   This project is not tax exempt.

8. Is this project Federally Funded? If so, please provide all Federal Terms & Conditions that are applicable contracts utilizing American Rescue Plant Act, State and Local Fiscal Recovery Funds.

   This project is not Federally Funded.

9. Can you include east baton parish standard plans 201-237 on advertisement link on central auction house?

   The referenced standard details have been added to this addendum.

10. Can a trench section detail be provided for asphalt thickness and bedding thickness required for new gravity sewer?

    See question 1.

11. Can a sewer mh detail be provided along with bedding details for sewer?

    Standard detail number 803-01 Sanitary Sewer Manholes has been added to the project drawings as sheet number 208-211 and attached to this addendum.

12. Please clarify the bid items 6" and 8" sewer rehab pay items.the specification description seems to overlap the 8"gravity sewer line items and just wanted clarity on what to include in this bid item.

    Pay Item Number 802200B and 802200C have been removed.

13. Will sections or blocks of convention street be able to be closed down since work is in middle of the street and at 12" water line offset location?

    See question 4.

14. Are the line items for 6" and 8" Rehab for CIPP rehab? If so, can you provide a specification section for that?

See question 12. CIPP rehab is not within the scope of this project.

15. Can you provide drawings that indicate where the CIPP is to be utilized?

    See question 14.

16. The specifications have literature on rehabilitating laterals to a cleanout at ROW, if the mainline is receiving a main line liner. If that is indeed inclusive of this project, could you please provide a line item and estimated quantity as well as diameters of services. (eg. 8" main x 4" lateral liner, 8" main x 6" lateral liner, etc)

    See question 14.

17. In looking at the Bid Items there are no items for the removal and replacement of the existing pavement and base for the pipe installation as described in the project advertisement. There are also no items for tie-ins of existing lateral lines.

    The removal of Asphalt Surfacing and Base will be paid under Item number 2020500 Removal of Asphalt Surfacing and Base. The replacement of Asphalt Concrete Pavement and Base will be paid under item number 5011100 Restore Asphalt Concrete Pavement and Base.

    Laterals will be paid under item number 8024100 Sewer Service Lateral. Service Lateral tie-ins are all-inclusive under the Sewer Service Lateral pay item.

18. The Plans are not clear about the required Manhole 059-06335B just East of the RR, such as top and invert, and the direction of the flow of sewer on the East side of the RR after you abandon a segment of the existing flowline.

    See question 2. The intent is to abandon the main line under the CPKC Railroad track, installing new manholes outside of the CPKC ROE. MH 059-06335B (west side of tracks) will flow to the west into existing MH 059-06330A. MH 059-06335 (required MH as shown on C-2) will flow towards the east into required MH 060-07012.

Koby J. Mancuso, P.E.

STATE OF LOUISIANA
KOBY J. MANCUSO
License No. 48806
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING

06-19-2025

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

REVISED 06/18/2025

TO: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
PURCHASING DIVISION, ROOM 826
222 SAINT LOUIS ST, CITY HALL
BATON ROUGE, LOUISIANA 70802

BID FOR: EAST BOULEVARD/GOVERNMENT STREET AREA SEWER REHABILITATION PROJECT - PHASE 2

CITY PARISH PROJECT NO.: 12-AR-MS-041A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	Removal of Asphalt Surfacing and Base		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
2020500	800	Square Yard		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	Removal of Concrete Walks and Drives		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
2020600	80	Square Yard		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	Saw Cutting Concrete or Asphalt		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
2020900	1900	Linear Foot		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	Restore Asphalt Concrete Pavement and Base		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
5011100	800	Square Yard		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	#610 Stone Backfill		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8013100	520	Cubic Yard		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	PVC Sewer Pipe (0 - 6 Feet) (8")		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
802100C	440	Linear Foot		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	PVC Sewer Pipe (6.1 - 8 Feet) (8")		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
802101C	260	Linear Foot		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____	Connections to Existing Manholes		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8023000	1	Each		

All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

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PURCHASING DIVISION, ROOM 826
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CITY PARISH PROJECT NO.: 12-AR-MS-041A

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DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Sewer Service Lateral			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8024100	180	Linear Foot		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Non-Shear Couplings (4")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
802500A	5	Each		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Non-Shear Couplings (6")			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
802500B	10	Each		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Sanitary Sewer Clean-out			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8026000	15	Each		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ 48" Sanitary Sewer Manhole (0 - 6 Feet)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8031480	2	Each		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ 48" Sanitary Sewer Manhole (6.1 - 8 Feet)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8031481	2	Each		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Abandon Sewer Manhole			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8034000	1	Each		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Miscellaneous Work and Cleanup			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
8211101	1	Lump Sum		

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BID FOR: EAST BOULEVARD/GOVERNMENT STREET AREA SEWER REHABILITATION PROJECT - PHASE 2

CITY PARISH PROJECT NO.: 12-AR-MS-041A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Seed			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9030800	50	Pound		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Fertilizer			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9030900	20	Pound		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Water			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9031000	0.25	M-Gallons		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Storm Water Pollution Prevention Plan			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9031600	1	Lump Sum		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Temporary Signs and Barricades			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9050100	1	Lump Sum		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ 4" Concrete Walks			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9070304	50	Square Yard		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ 6" Concrete Drives			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9070406	30	Square Yard		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Mobilization			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9090100	1	Lump Sum		

All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

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CITY PARISH PROJECT NO.: 12-AR-MS-041A

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Flowable Fill			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9110000	2	Cubic Yard		

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Utility Relocation Allocation (Fixed Amount of $25,000)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9999991	1	Lump Sum	25000	25000

DESCRIPTION:	_X_ Base Bid or ___Alt.# ____ Railroad Flagman and Construction Observation Allowance (Fixed Amount of $5,000)			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
9999992	1	Lump Sum	5000	5000

DESCRIPTION:	___ Base Bid or ___Alt.# ____ NOT USED			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

DESCRIPTION:	___ Base Bid or ___Alt.# ____ NOT USED			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

DESCRIPTION:	___ Base Bid or ___Alt.# ____ NOT USED			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

DESCRIPTION:	___ Base Bid or ___Alt.# ____ NOT USED			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

DESCRIPTION:	___ Base Bid or ___Alt.# ____ NOT USED			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*
NOT USED	NOT USED	NOT USED	NOT USED	NOT USED

All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

AFFIDAVIT

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared

_____

who, being duly sworn did depose and say: That he is a duly authorized representative of _____

_____

receiving value for services rendered in connection with:

EAST BOULEVARD/GOVERNMENT STREET AREA SEWER REHABILITATION

PROJECT – PHASE 2

(CITY PARISH PROJECT NO. 12-AR-MS-041A)

a public project of the City of Baton Rouge, Parish of East Baton Rouge, Louisiana; that he has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by him whose services in connection with the construction, alteration, or demolition of the public building or project or in securing the public contract were in the regular course of their duties for him; and that no part of the contract price received by him was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by him whose services in connection with the construction of the public building or project were in the regular course of their duties for him.

This affidavit is executed in compliance with the provisions of LA R.S. 38:2224.

_____
Affiant's Signature

SWORN TO AND SUBSCRIBED before me, on this_____ day of _____20__.

Baton Rouge, Louisiana

_____
NOTARY PUBLIC

Revised Aug, 2012

PACP Inspection Report

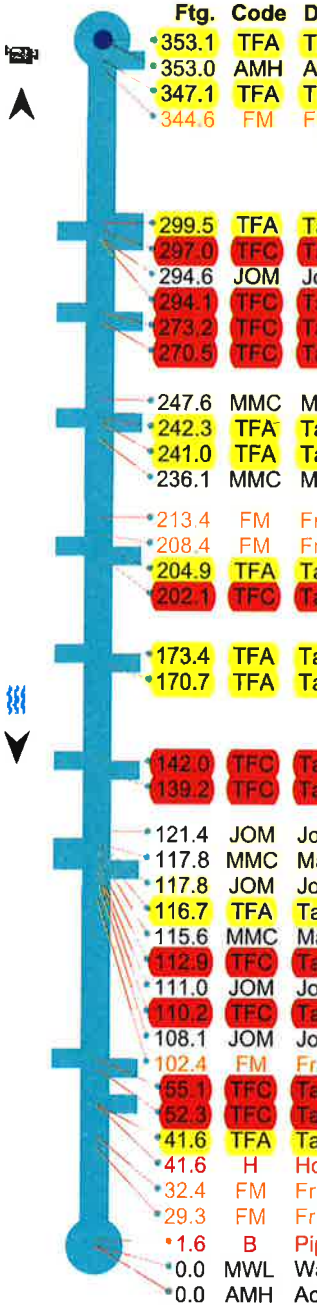
329 Chippewa Street
Baton Rouge, LA 70805
Phone: (225) 389-3154
Fax: (225) 389-7618

Upstream MH	Downstream MH	Size	Material	Total Length	City
059-06338	059-06336	8	Vitrified Clay Pipe	0	BATON ROUGE,LA

Surveyor's Name	Certificate Number	Street Address	Location Details
ROD QUINN	U-105-1818	1600 CONVENTION ST.	ROADWAY-PAVED

Direction	Purpose	Weather	Date	Time	Length Surveyed
Upstream	Pre-Rehabilitation Survey	Dry	11/05/2012	3:26 PM	353

Additional Information
MAP 330-706



Ftg.	Code	Description	Position	Comment
353.1	TFA	Tap, Factory Made: Active	12	
353.0	AMH	Access Point - Manhole		059-06338
347.1	TFA	Tap, Factory Made: Active	3	
344.6	FM	Fracture Multiple	6 to 10	
299.5	TFA	Tap, Factory Made: Active	3	
297.0	TFC	Tap, Factory Made: Capped	9	
294.6	JOM	Joint Offset (displaced): Medium		
294.1	TFC	Tap, Factory Made: Capped	3	
273.2	TFC	Tap, Factory Made: Capped	9	
270.5	TFC	Tap, Factory Made: Capped	3	
247.6	MMC	Material Change		VCP
242.3	TFA	Tap, Factory Made: Active	9	
241.0	TFA	Tap, Factory Made: Active	3	
236.1	MMC	Material Change		PVC
213.4	FM	Fracture Multiple	3 to 5	
208.4	FM	Fracture Multiple	6 to 11	
204.9	TFA	Tap, Factory Made: Active	9	
202.1	TFC	Tap, Factory Made: Capped	3	
173.4	TFA	Tap, Factory Made: Active	9	
170.7	TFA	Tap, Factory Made: Active	3	
142.0	TFC	Tap, Factory Made: Capped	9	
139.2	TFC	Tap, Factory Made: Capped	3	
121.4	JOM	Joint Offset (displaced): Medium		
117.8	MMC	Material Change		VCP
117.8	JOM	Joint Offset (displaced): Medium		
116.7	TFA	Tap, Factory Made: Active	9	
115.6	MMC	Material Change		PVC
112.9	TFC	Tap, Factory Made: Capped	9	
111.0	JOM	Joint Offset (displaced): Medium		
110.2	TFC	Tap, Factory Made: Capped	3	
108.1	JOM	Joint Offset (displaced): Medium		
102.4	FM	Fracture Multiple	4 to 7	
55.1	TFC	Tap, Factory Made: Capped	9	
52.3	TFC	Tap, Factory Made: Capped	3	
41.6	TFA	Tap, Factory Made: Active	3	
41.6	H	Hole in Pipe	9 to 2	
32.4	FM	Fracture Multiple	3 to 6	
29.3	FM	Fracture Multiple	4 to 11	
1.6	B	Pipe Broken	4 to 8	
0.0	MWL	Water Level		
0.0	AMH	Access Point - Manhole		059-06336

Install new service to property line and tie into new 8" Mainline.

Do not tie service into new 8" Mainline.

Generated on Tuesday, 11/6/2012 at 09:47 AM by the PipeTech® TV inspection system.

PACP Inspection Report

329 Chippewa Street
Baton Rouge, LA 70805
Phone: (225) 389-3154
Fax: (225) 389-7618

Upstream MH	Downstream MH	Size	Material	Total Length	City
059-06336	059-06335	8	Vitrified Clay Pipe		BATON ROUGE

Surveyor's Name	Certificate Number	Street Address	Location Details
KIRKLAND WILLIAMS	U-109-8124	CONVENTION ST.	ROADWAY-PAVED

Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Maintenance Related	Dry	11/15/2012	8:34 AM	371

Additional Information
MAP# 324-706

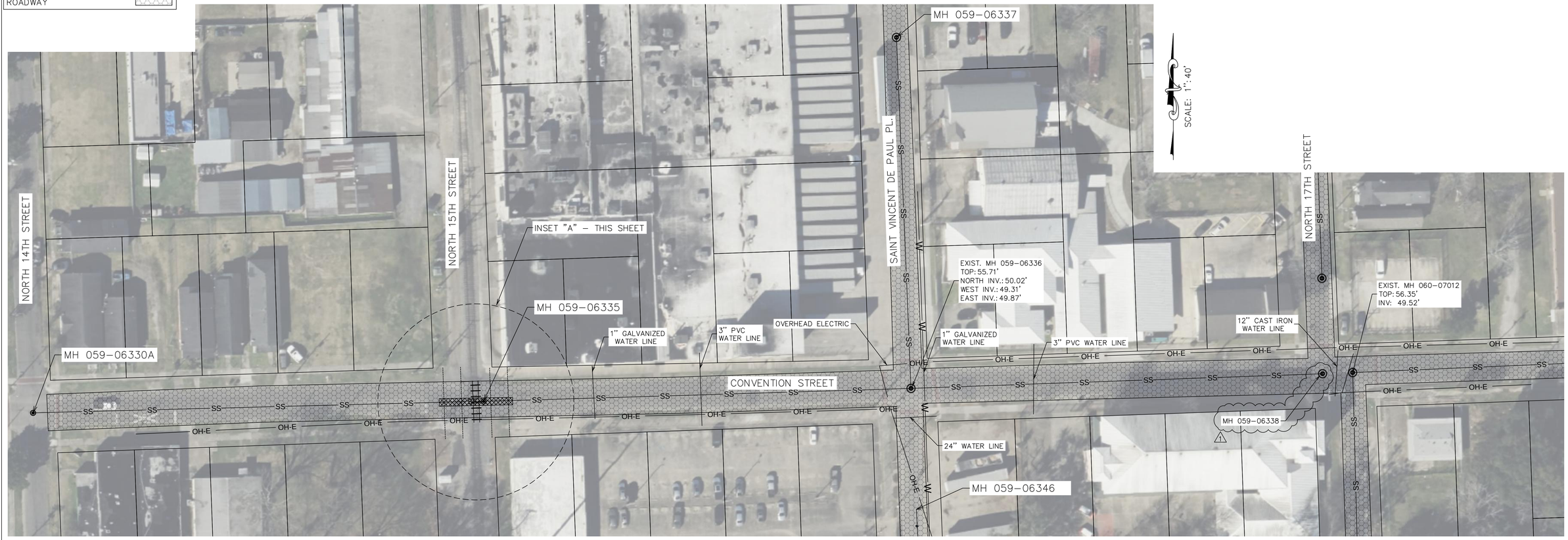
Ftg.	Code	Description	Position	Comment
0.0	AMH	Access Point - Manhole		Starting Manhole: 059-06336
0.0	MWL	Water Level		
1.0	FM	Fracture Multiple	4 to 9	
17.5	JOM	Joint Offset (displaced): Medium		
39.0	FM	Fracture Multiple	7 to 9	
53.0	TFC	Tap, Factory Made: Capped	3	
56.0	TFC	Tap, Factory Made: Capped	9	
76.3	CM	Crack Multiple	12 to 7	
97.2	MMC	Material Change		pvc
101.5	TFA	Tap, Factory Made: Active	3	
104.5	MMC	Material Change		VCP
106.9	TFA	Tap, Factory Made: Active	12	
110.2	JOM	Joint Offset (displaced): Medium		
135.7	TFC	Tap, Factory Made: Capped	3	
138.5	TFA	Tap, Factory Made: Active	9	
153.2	MMC	Material Change		PVC
159.5	TFA	Tap, Factory Made: Active	3	
161.8	MMC	Material Change		VCP
185.0	TFA	Tap, Factory Made: Active	3	
186.2	TFC	Tap, Factory Made: Capped	9	
199.8	TFA	Tap, Factory Made: Active	9	
200.8	JOM	Joint Offset (displaced): Medium		
228.9	TFC	Tap, Factory Made: Capped	3	
231.7	TFC	Tap, Factory Made: Capped	9	
235.4	FM	Fracture Multiple	2 to 11	
266.0	TFC	Tap, Factory Made: Capped	3	
268.9	TFA	Tap, Factory Made: Active	9	
273.3	FM	Fracture Multiple	3 to 5	
283.6	FM	Fracture Multiple	6 to 9	
305.9	TFA	Tap, Factory Made: Active	3	
308.7	TFC	Tap, Factory Made: Capped	9	
336.9	MMC	Material Change		PVC
340.5	TFA	Tap, Factory Made: Active	9	
341.5	MWLS	Water Level: Sag		
345.5	TFA	Tap, Factory Made: Active	9	
350.1	MMC	Material Change		VCP
362.7	FM	Fracture Multiple	1 to 7	
371.0	AMH	Access Point - Manhole		059-06335

Install new service to property line and tie into new 8" Mainline.

Do not tie service into new 8" Mainline.

LEGEND

WATER
OVERHEAD ELECTRIC
EXISTING SANITARY SEWER
EXISTING SEWER MANHOLE
ABANDONMENT LIMITS
RAILROAD TRACK
ROADWAY

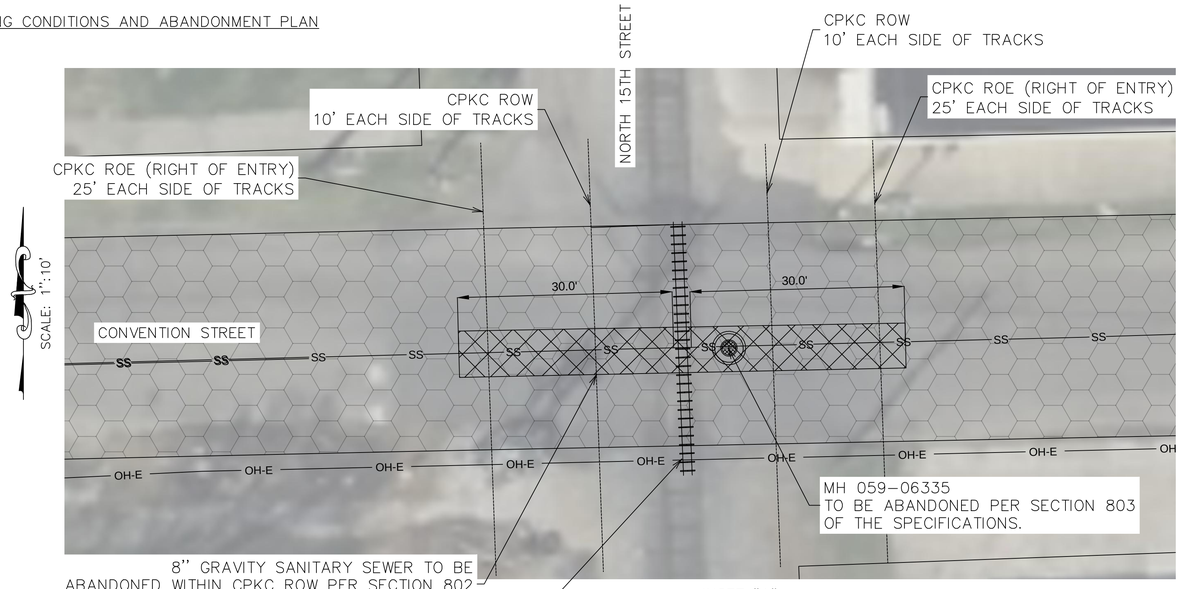


NOTES

1. THE 8" GRAVITY SEWER LINE UNDER THE CPKC RAILROAD AT NORTH 15TH STREET IS TO BE ABANDONED PER SECTION 802 AND 803 OF THE SPECIFICATIONS. ABANDONMENT PLAN TO BE APPROVED PER CPKC REPRESENTATIVE WITHIN RIGHT OF ENTRY AGREEMENT. ANY WORK DONE WITHIN CPKC RIGHT OF ENTRY (25' FROM EITHER SIDE OF TRACKS) WILL REQUIRE A FLAGGER ON–SITE. SEE SECTION 7–8 REGARDING WORK WITHIN RAILROAD RIGHT OF WAYS.
2. LOCATIONS AND DEPTHS OF UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ACTUAL LOCATIONS AND DEPTHS IN THE FIELD PRIOR TO STARTING CONSTRUCTION. ALL UTILITIES PRESENT ARE NOT SHOWN ON THE PROJECT DRAWINGS.
3. CONTRACTOR TO FIELD VERIFY LOCATIONS, ELEVATIONS, AND INVERTS OF MANHOLES PRIOR TO STARTING WORK.
4. CONTRACTOR SHALL CONDUCT THEMSELVES IN A WORKMANLIKE MANNER DURING THE DURATION OF CONSTRUCTION.
5. CONTRACTOR TO PROVIDE ENGINEER WITH A TRAFFIC CONTROL PLAN PRIOR TO CONSTRUCTION. TRAFFIC CONTROL PLAN TO BE APPROVED BY ENGINEER AND CPKC RAILROAD PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO MAINTAIN SANITARY SEWER SERVICE IN AFFECTED AREA THROUGHOUT THE PROJECT AT NO DIRECT COST TO THE OWNER.

STATE OF LOUISIANA
KOBY J. MANCUSO
License No. 48806
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
06/18/2025

EXISTING CONDITIONS AND ABANDONMENT PLAN



INSET "A"

SHEET NUMBER	C-1R
PARISH	EAST BATON ROUGE
CITY	BATON ROUGE
PROJECT	12-AR-MS-041A
DESIGNED / CHECKED	KJM / DEW
DETAILED / CHECKED	
DATE	05/08/2025
BY	KJM

ADDENDUM 1

NO.	DATE
1	06/18/2025

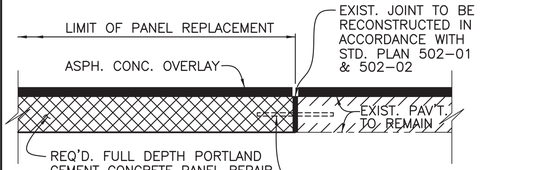
REVISION DESCRIPTION

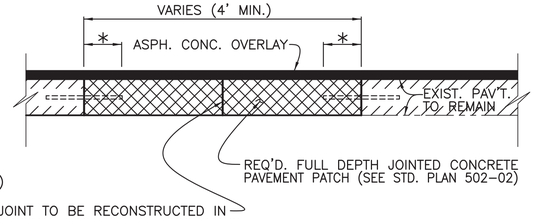
EAST BOULEVARD/GOVERNMENT STREET AREA SEWER REHABILITATION PROJECT - PHASE 2

EXISTING CONDITIONS AND ABANDONMENT PLAN

Jacobs

PROJECT NO.	SHEET
12-AR-MS-014A	201



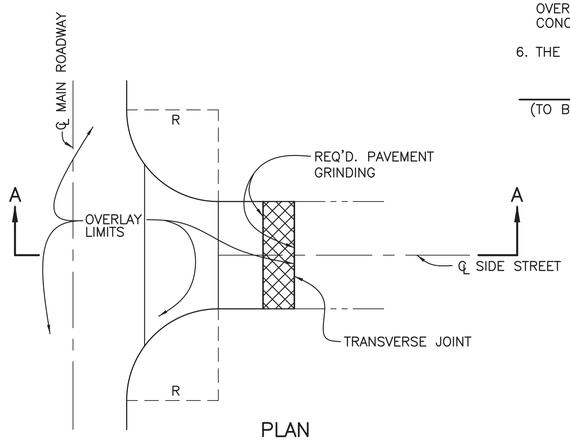


1. DURING CONCRETE REMOVAL, THE CONTRACTOR SHALL TAKE PRECAUTION TO PRESERVE THE INTEGRITY OF EXISTING LOAD TRANSFER DEVICES. (SEE LOAD TRANSFER DEVICE NOTES BELOW)
2. DETERIORATED BASE COURSE SHALL BE REMOVED AND REPLACED WITH CONCRETE. AN APPROVED BOND BREAKER SHALL BE PLACED BETWEEN THE REPAIRED BASE COURSE AND PORTLAND CEMENT CONCRETE PATCH.
3. JOINTS SHALL BE REESTABLISHED IN THE PORTLAND CEMENT CONCRETE PANEL REPLACEMENT AT THE ORIGINAL JOINT LOCATIONS. JOINTS SHALL BE SEALED. JOINTS SHALL BE SAWED AND SEALED IN THE ASPHALT CONCRETE OVERLAY. SEE DETAILS OF SAWING AND SEALING JOINTS IN ASPHALT CONCRETE OVERLAY.
4. THE PANEL REPAIR SURFACE SHALL BE A DRAG FINISH.

CONCRETE PAVEMENT PATCHING
(TO BE USED @ WHOLE PANEL REPLACEMENT LOCATIONS)

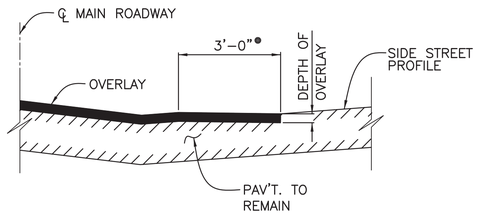
*1. AN 18" CLEARANCE BETWEEN THE SAWCUT AND THE NEAREST TRANSVERSE CRACK IS DESIRED. MINIMUM CLEARANCE SHALL BE 6".
2. DURING CONCRETE REMOVAL, THE CONTRACTOR SHALL TAKE PRECAUTION TO PRESERVE THE INTEGRITY OF EXISTING LOAD TRANSFER DEVICES. (SEE LOAD TRANSFER DEVICE NOTES BELOW).
3. DETERIORATED BASE COURSE SHALL BE REMOVED AND REPLACED WITH CONCRETE. AN APPROVED BOND BREAKER SHALL BE PLACED BETWEEN THE REPAIRED BASE COURSE AND THE PORTLAND CEMENT CONCRETE PATCH.
4. FACE OF EXISTING CONCRETE SHALL BE COATED WITH AN APPROVED EPOXY ADHESIVE (DOTD QPL 32) BEFORE PLACING CONCRETE
5. JOINTS SHALL BE REESTABLISHED IN THE PORTLAND CEMENT CONCRETE PATCH AT THE ORIGINAL JOINT LOCATION. JOINTS SHALL BE SEALED. JOINTS SHALL BE SAWED AND SEALED IN THE ASPHALT CONCRETE. OVERLAY. SEE DETAILS OF SAWING AND SEALING JOINTS IN ASPHALT CONCRETE OVERLAY BELOW.
6. THE PANEL REPAIR SURFACE SHALL BE A DRAG FINISH.

CONCRETE PAVEMENT PATCHING
(TO BE USED @ JOINT REPAIR AND PARTIAL PANEL REPLACEMENT LOCATIONS)



PLAN

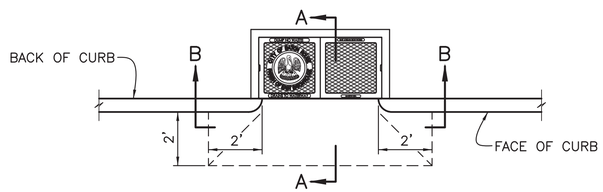
PAVEMENT GRINDING & ASPHALT CONCRETE OVERLAY @ TURNOUTS



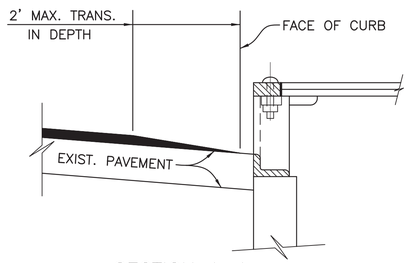
● LOCATION OF PAVEMENT GRINDING TO BE AT CURB RETURN OR NEXT TRANSVERSE JOINT AS DETERMINED BY THE ENGINEER.

SECTION A–A

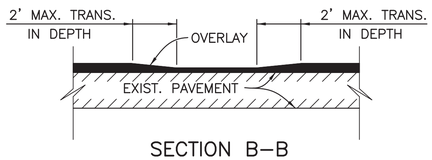
DETAILS OF TURNOUTS AND INTERSECTIONS
(FOR SIDE STREETS WITHOUT OPEN DITCHES)



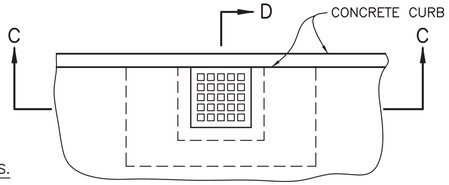
PLAN VIEW



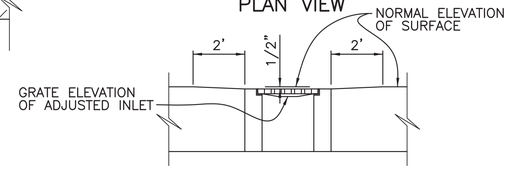
SECTION A–A



SECTION B–B

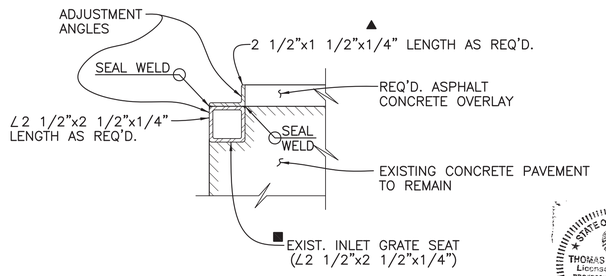


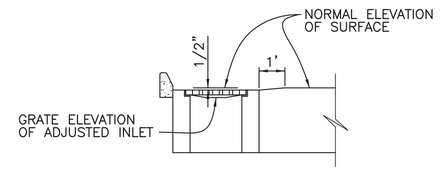
PLAN VIEW



SECTION C–C

DETAIL OF SUMP IN OVERLAY AT SIDE INLET





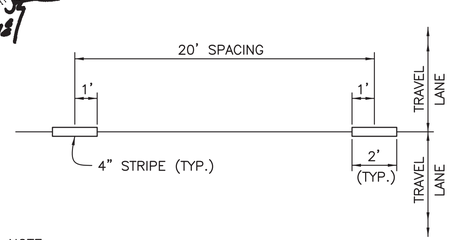
SECTION D–D

GRATE INLET SUMP DETAIL
(SHOWING TRANSITION IN SURFACE ELEVATION)

NOTES:

1. STRUCTURAL STEEL TO BE A–36 GALVANIZED.
2. ALL ∠s TO BE CUT TO FIT AND WELDED AT CORNERS.
3. ADJUSTMENT ANGLE DIMENSIONS BASED ON 2" ASPHALT CONCRETE OVERLAY THICKNESS.
■4. AT GRATE INLET LOCATIONS WHERE PANEL REPLACEMENT IS REQUIRED THE EXISTING INLET GRATE SEAT SHALL BE RESET TO ITS ORIGINAL ELEVATION AND ADJUSTED AS SHOWN FOR THE REQUIRED OVERLAY.
▲5. DIMENSION SHALL BE 1/2" LESS THAN ASPHALT OVERLAY THICKNESS.

GRATE INLET ADJUSTMENT DETAIL



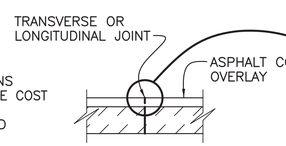
NOTE:

1. TEMPORARY PAVEMENT MARKINGS REQUIRED IN ALL OVERLAY AREAS.

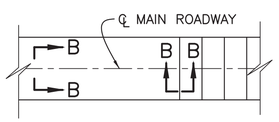
TEMPORARY PAVEMENT MARKING DETAIL

LOAD TRANSFER DEVICE NOTES

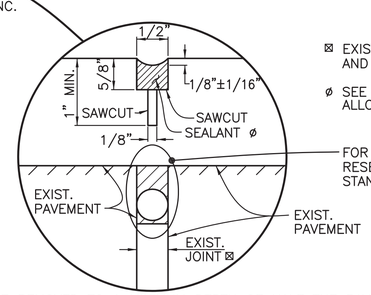
1. DOWEL BARS SHALL BE INSTALLED AT JOINT LOCATIONS WHERE EXIST. LOAD TRANSFER DEVICES HAVE FAILED. THE COST OF INSTALLATION, LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PORTLAND CEMENT CONCRETE PATCH ITEM.
2. 1 1/4"x18" PLASTIC COATED DOWEL BARS SHALL BE INSTALLED ON 12" CENTERS. THE BARS SHALL BE PLACED IN EXISTING PAVEMENT BY DRILLING 1 3/8" HOLES TO A DEPTH OF 9" AND FILLING WITH AN APPROVED EPOXY GROUT BEFORE INSERTION OF DOWEL BARS.
3. TIE BARS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD PLAN 502–01. LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE PORTLAND CEMENT CONCRETE PATCH ITEM.
4. DOWEL BARS AND TIE BARS SHALL BE INSTALLED AS OUTLINED ABOVE AT THE CONTRACTOR'S EXPENSE AT LOCATIONS WHERE THE CONTRACTOR DAMAGES EXIST. LOAD TRANSFER DEVICES OR TIE BARS.



SECTION B–B



PLAN VIEW



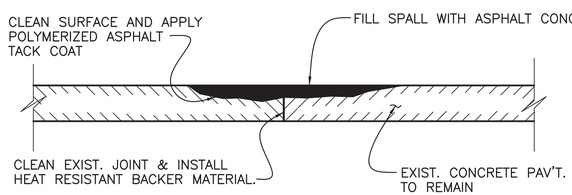
⊠ EXISTING JOINT TO BE CLEANED AND SEALED.

ø SEE SPECIAL PROVISIONS FOR ALLOWED TYPE OF SEALANT.

FOR DETAIL OF CLEANING AND RESEALING EXISTING JOINTS, SEE STANDARD PLAN 502–02.

1. INCOMPRESSIBLES SHALL BE REMOVED TO A MINIMUM DEPTH OF HALF THE PAVEMENT THICKNESS FOR JOINTS WIDTHS OF 1" AND LESS AND TO FULL PAVEMENT DEPTH WHERE JOINT WIDTHS ARE OVER 1".

DETAILS OF SAWING AND SEALING JOINTS IN ASPHALT CONCRETE OVERLAY



1. SURFACE PREPARATION, APPLICATION OF TACK COAT AND ASPHALT CONCRETE REQUIRED TO FILL SPALLED AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ASPHALT CONCRETE PAVEMENT ITEM.

SPALL REPAIR DETAIL

DATE	DESCRIPTION REVISIONS	BY

THOMAS A. STEPHENS, LICENSE NO. 19417, PROFESSIONAL ENGINEER IN CIVIL ENGINEERING, STATE OF LOUISIANA
2/12/2015

STANDARD PLAN NO.	DATED	SHEET NO.
501–01	AUGUST 6, 2008	1 OF 1

ASPHALT CONCRETE OVERLAY OF P.C. CONCRETE PAVEMENT

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
R.K. BANKS	G. VANNICE	R.E. ELLIS.	T. STEPHENS

ENGINEERING ADOBE14 STDJAY FORM C.V1

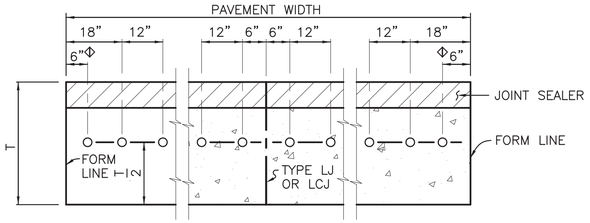
PROJECT NO.	SHEET
12-AR-MS-014A	202

TABLE 1
(ALL DIMENSIONS ARE IN INCHES)

PAVEMENT THICKNESS "T"	DOWEL BARS ⊗			MINIMUM DEPTH OF JOINT	
	SIZE	LENGTH	SPACING	■ C.J. & D.J.	◪ L.J.
6	1	18	12	2	2
8	1 1/4	18	12	3	3
9	1 1/4	18	12	3	3 1/2
10	1 1/4	18	12	3 1/2	4

NOTES:

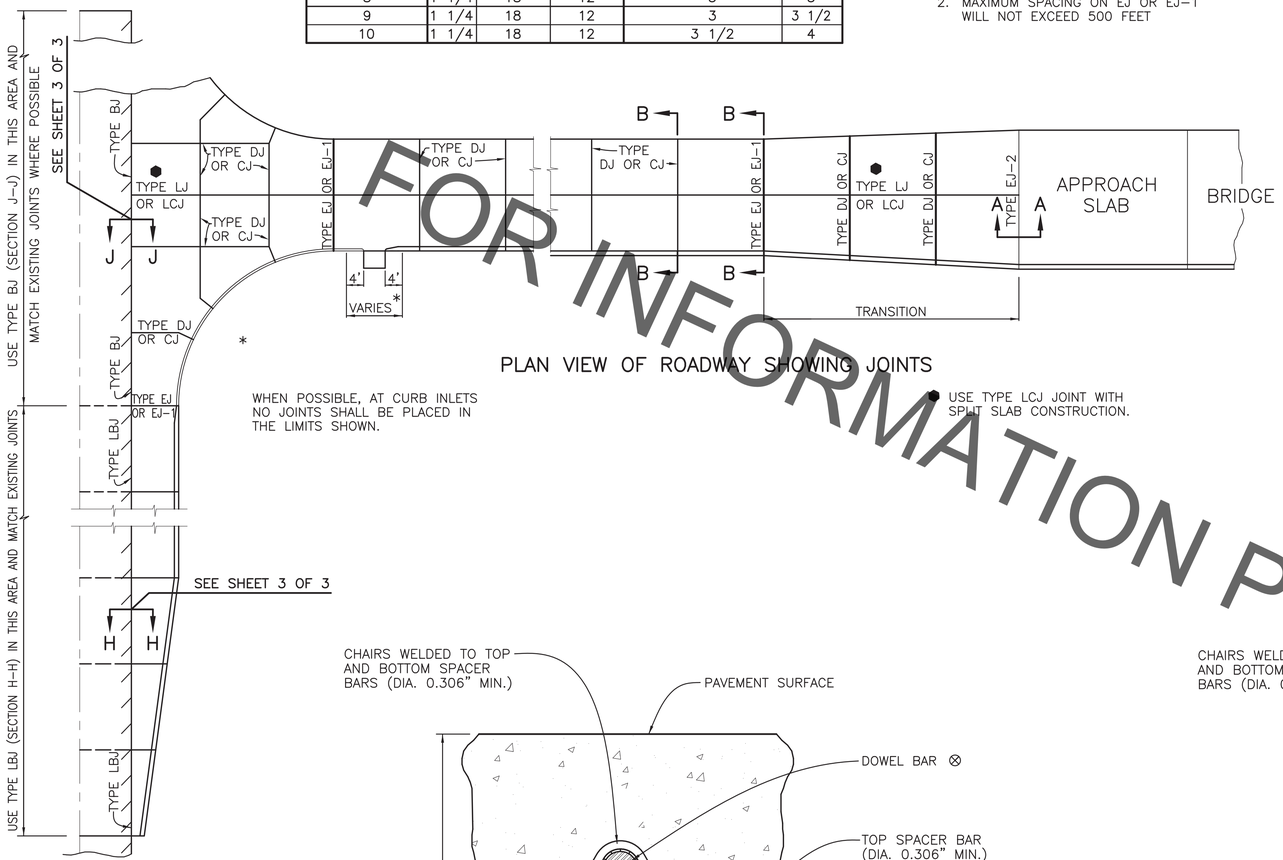
1. ALL JOINTS 10' MIN. SPACING 20' MAX. SPACING
2. MAXIMUM SPACING ON EJ OR EJ–1 WILL NOT EXCEED 500 FEET



SECTION B–B

DOWEL BAR SPACING FOR TYPE DJ,CJ AND EJ JOINTS

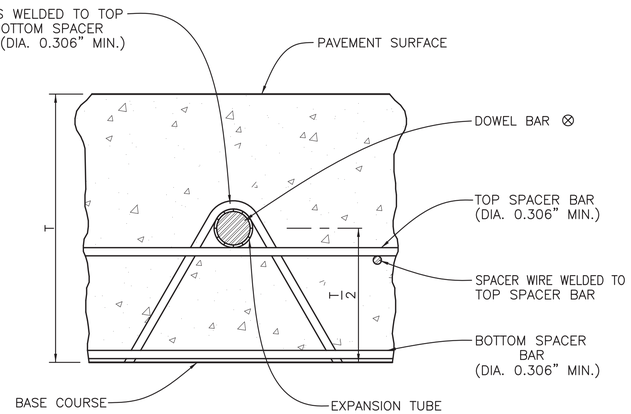
◈ 9"–WHEN MECHANICAL PLACEMENT OF DOWEL BARS IS USED.



PLAN VIEW OF ROADWAY SHOWING JOINTS

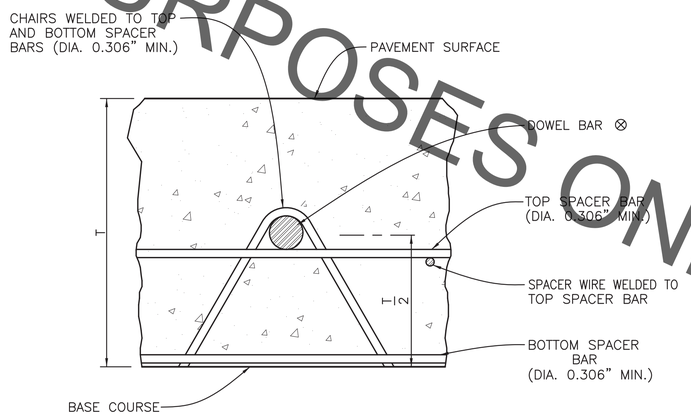
WHEN POSSIBLE, AT CURB INLETS NO JOINTS SHALL BE PLACED IN THE LIMITS SHOWN.

● USE TYPE LCJ JOINT WITH SPLIT SLAB CONSTRUCTION.



SECTION C–C

⊗ SEE TABLE 1



SECTION D–D

⊗ SEE TABLE 1

GENERAL NOTES

1. OUTSIDE PAVEMENT EDGES SHALL BE ROUNDED 1/4".
2. ON TYPE EJ JOINTS, EXPANSION TUBES AND STOPS SHALL BE PLACED ON ALTERNATE ENDS OF EACH DOWEL BARS. BARS SHALL BE SPOT WELDED ON ALTERNATE ENDS TO DOWEL BASKETS.
3. TYPE LJ JOINTS SHALL BE SAWED 1/8" WIDE AS SHOWN IN DETAIL "D" ON SHEET 2 TO THE DEPTH SHOWN IN TABLE 1. THEY SHALL BE CLEANED AND SEALED WITH A JOINT SEALER CONFORMING TO SUBSECTION 1007–2.
4. TYPE DJ AND CJ JOINTS SHALL BE TO THE DEPTH SHOWN IN TABLE 1. IF SAWED, THEY SHALL HAVE AN INITIAL CUT USING A 1/8" BLADE. OTHERWISE, JOINTS SHALL CONFORM TO DETAILS "B" AND "C" ON SHEET 2. THEY SHALL ALSO BE SAND BLASTED AND CLEANED PRIOR TO SEALING USING A JOINT SEALER CONFORMING TO SUBSECTION 1007–2.
5. TYPE DJ JOINTS MAY ALSO BE A COMBINATION JOINT FORMER/ SEALER AS SHOWN IN DETAIL "A" ON SHEET 2 CONFORMING TO SUBSECTION 1007–4.
6. TYPE EJ JOINTS SHALL BE FORMED FULL DEPTH, USING A WOOD FILLER, EXCEPT FOR THE TOP 1/2" WHICH SHALL BE A JOINT SEALER CONFORMING TO SUBSECTION 1007–2. THE WOOD FILLER SHALL CONFORM TO SUBSECTION 1007–1(b).
7. IN LIEU OF DOWEL BASKET, APPROVED VIBRATORY PLACEMENT OF DOWEL BARS AND TIE BARS WILL BE PERMITTED. DOWEL BASKETS SHALL BE SIMILAR TO ONES SHOWN, OR APPROVED EQUALS.
8. INSTALL GEOTEXTILE FABRIC UNDER CJ, DJ AND EJ TYPE JOINTS WHEN CONCRETE IS PLACED ON UNSTABILIZED OR UN–TREATED BASE COURSE WHEN DOWEL BARS ARE VIBRATED IN PLACE, THE GEOTEXTILE FABRIC SHALL BE ANCHORED TO BASE COURSE WITH PINS.
9. TRANSVERSE EXPANSION JOINTS SHALL NOT BE USED FOR CONSTRUCTION JOINTS.
10. TIE BARS SHALL NOT BE PLACED WITHIN 18" OF CONTRACTION (DUMMY) OR EXPANSION JOINTS.
11. TRANSVERSE EXPANSION JOINTS (TYPE EJ OR EJ–1) SHALL BE PLACED AT MAXIMUM 500–FOOT INTERVALS IN ADDITION TO BEING PLACED AT JUNCTIONS WITH OTHER CONCRETE PAVEMENTS.

STATE OF LOUISIANA
THOMAS A. STEPHENS
License No. 19417
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2/12/2018

DATE	DESCRIPTION REVISIONS	BY

STANDARD PLAN NO.	DATED	SHEET NO.
502–01	January 18, 2008	1 OF 3

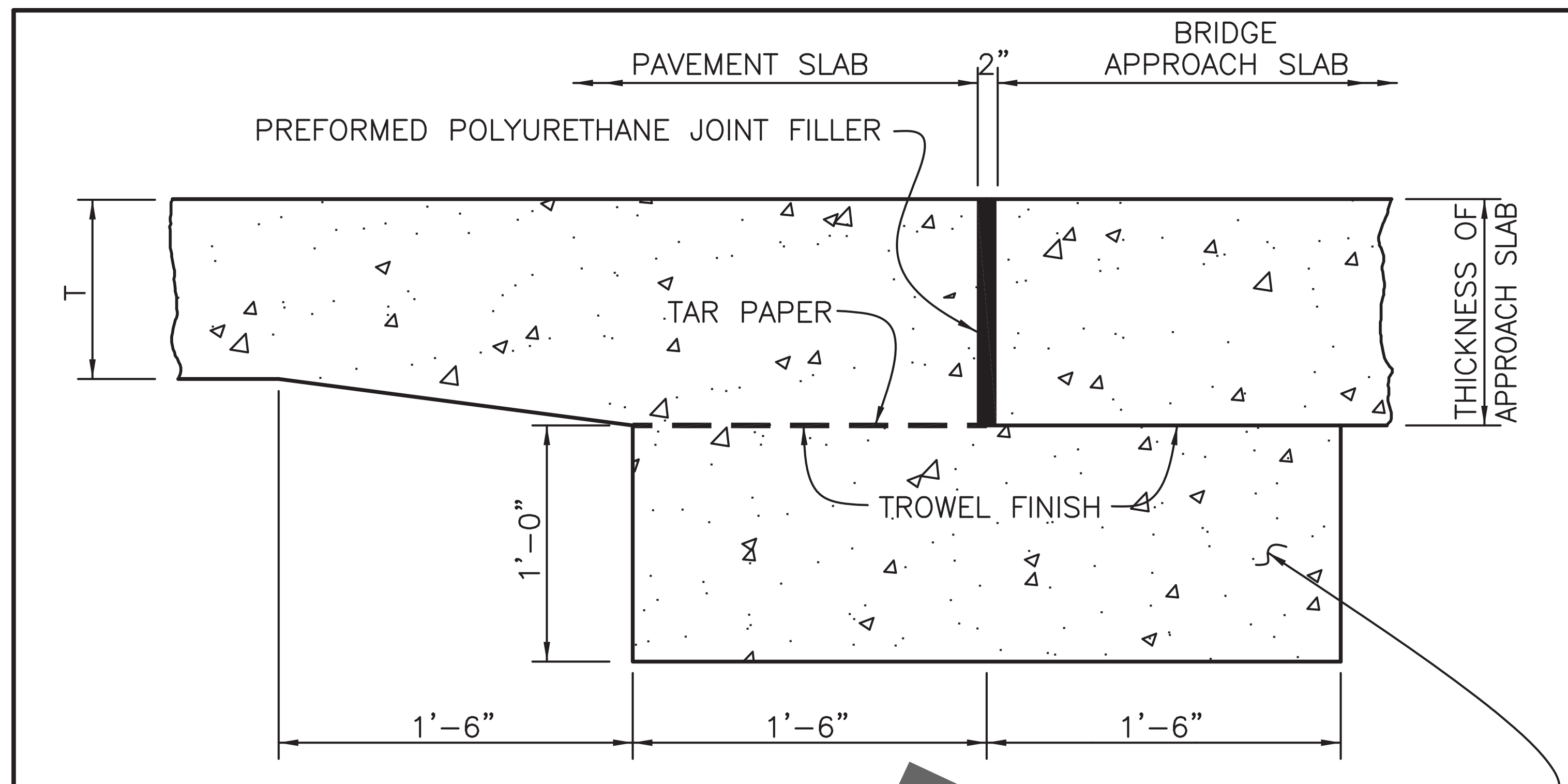
CONCRETE PAVEMENT

DETAILS

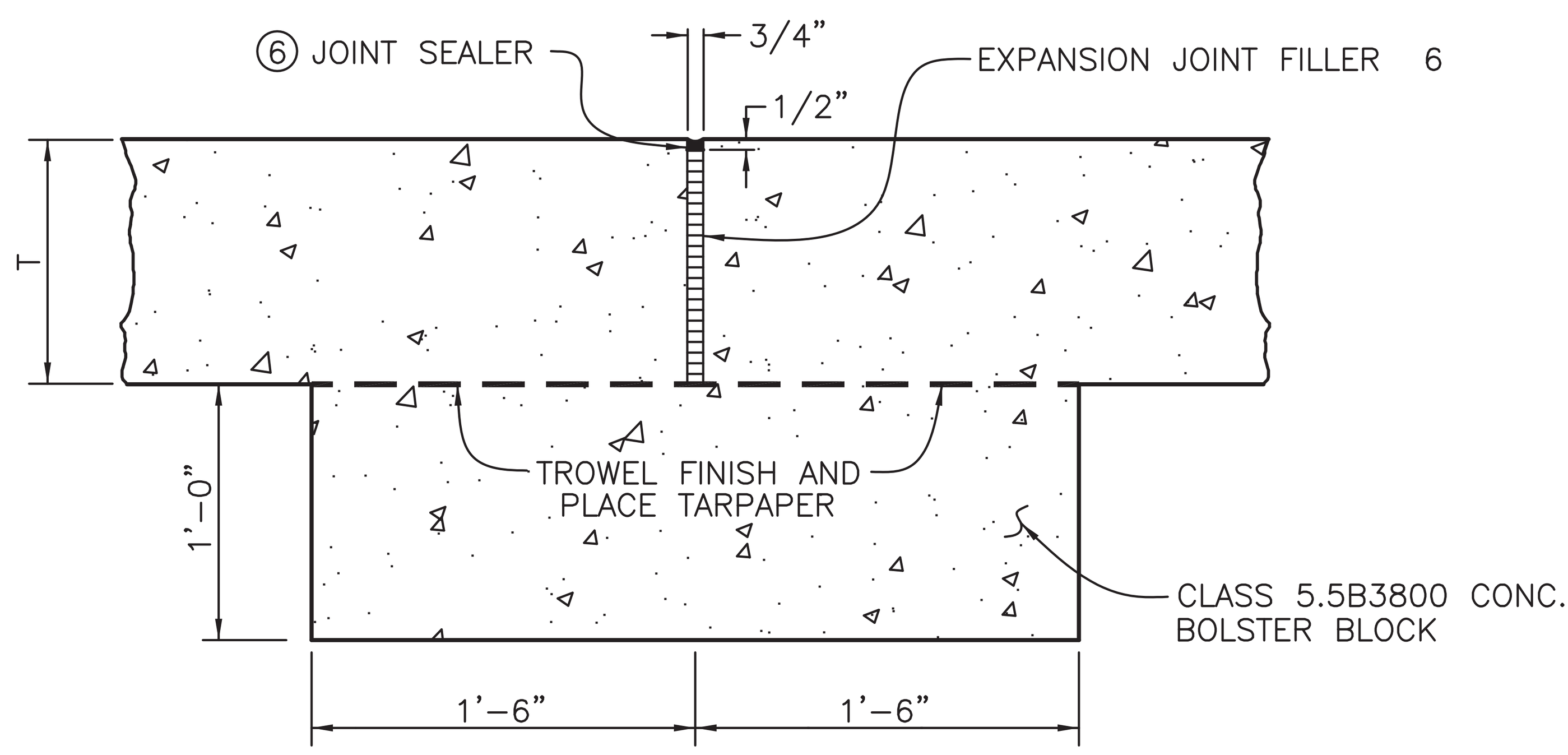
ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
R.E.E./N.A.R.	G. VANNICE	N.A.R./R.E.E.	T. STEPHENS

PROJECT NO.	SHEET
12-AR-MS-014A	203



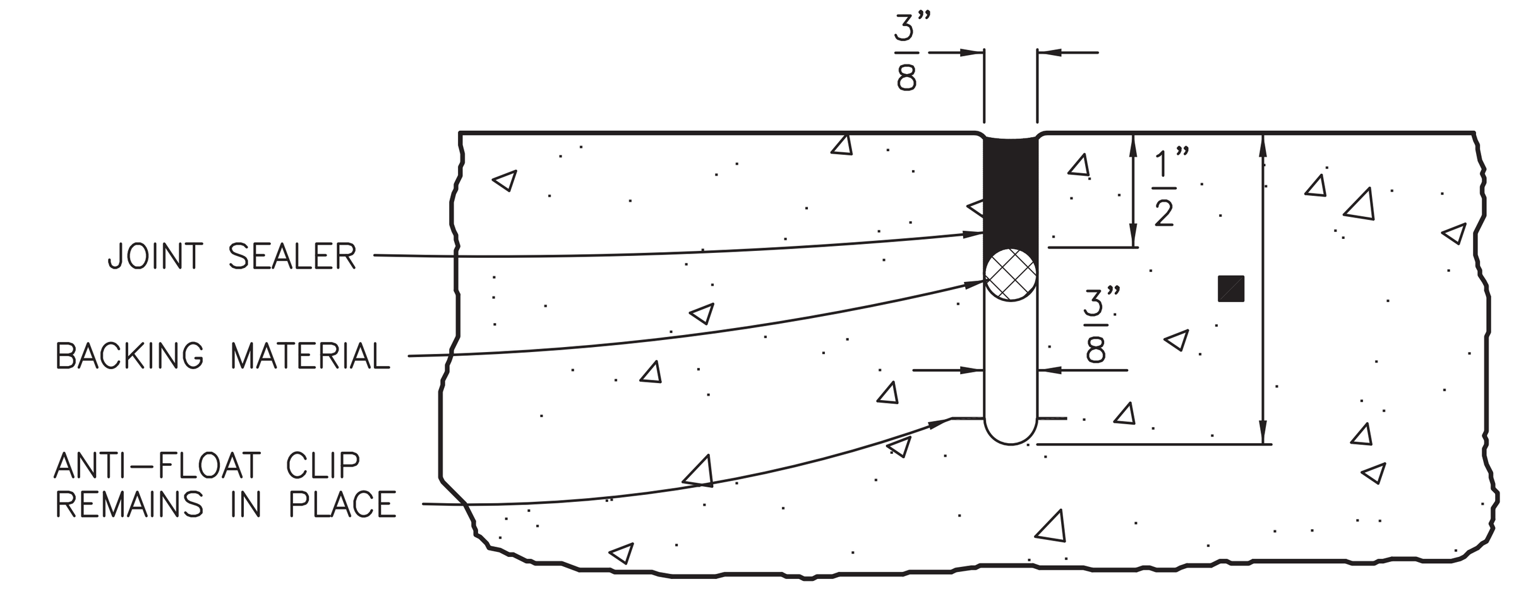
TYPE EJ-2
(TRANSVERSE EXPANSION JOINT)
SECTION A-A



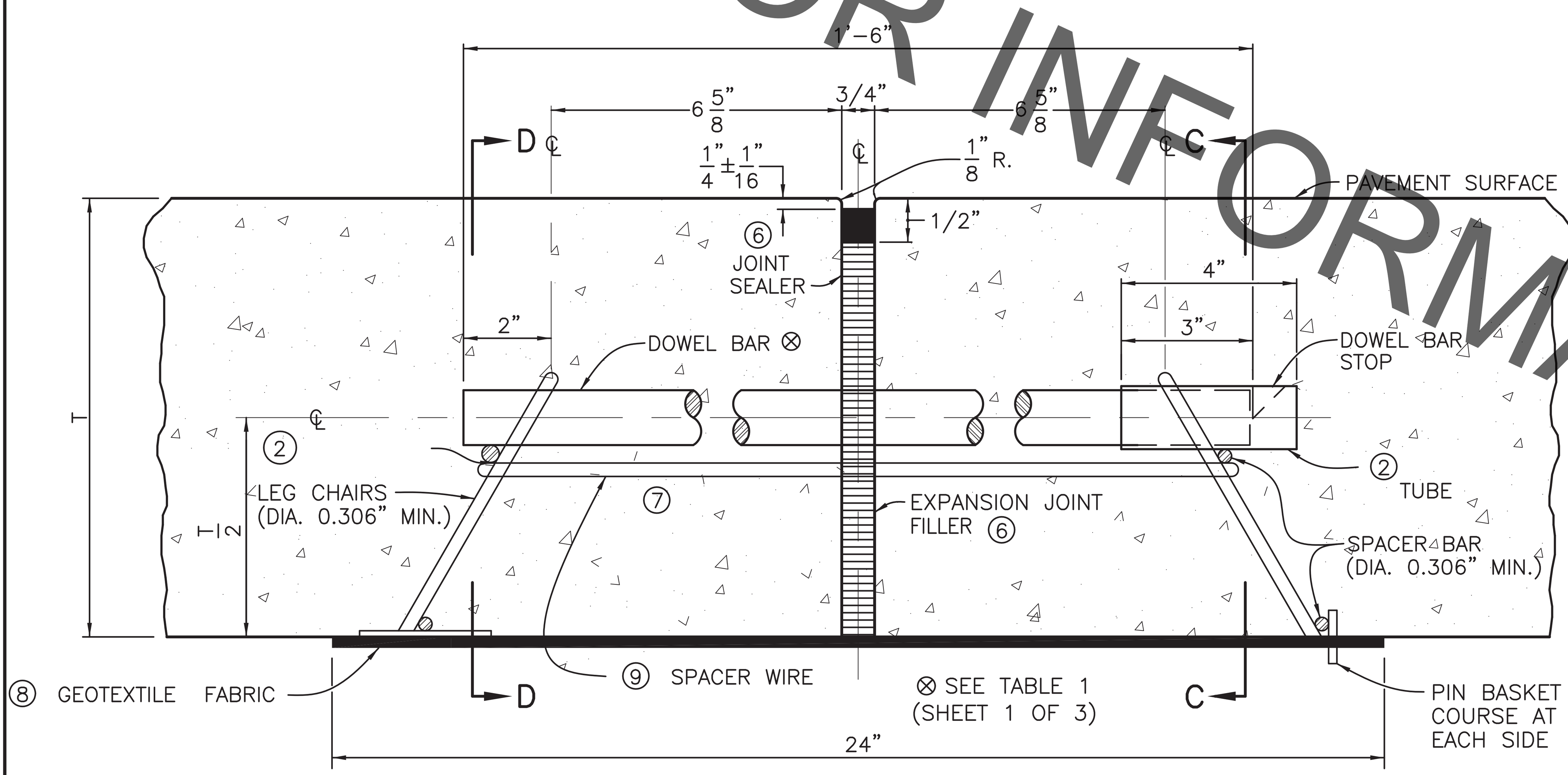
TYPE EJ-1
(TRANSVERSE EXPANSION JOINT)

COMBINATION JOINT FORMER / SEALER NOTES:

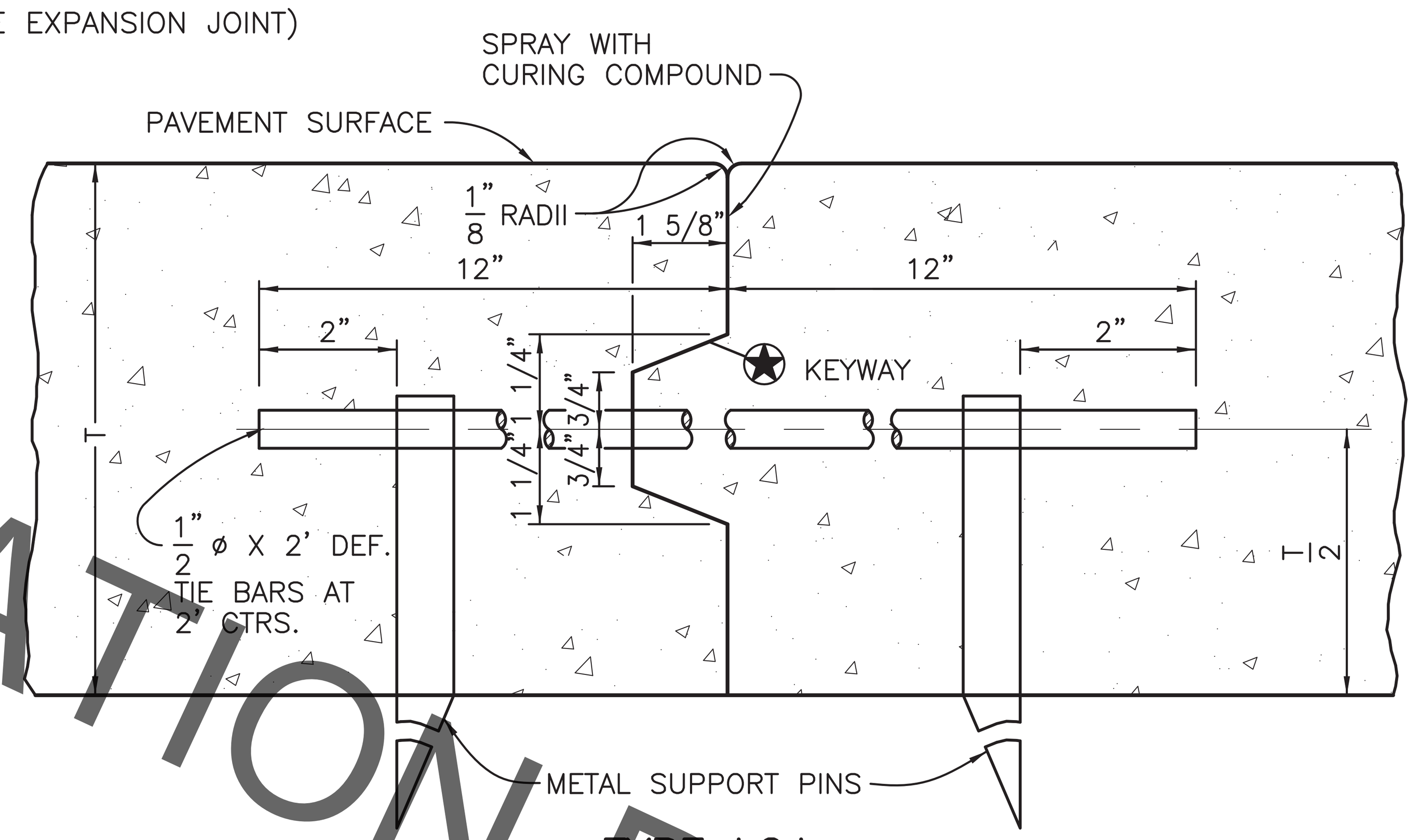
1. AFTER PAVEMENT HAS BEEN FINISHED AND WHILE CONCRETE IS STILL PLASTIC, GROOVES SHALL BE CUT INTO PAVEMENT AT PROPER LOCATION AND DEPTH. INSTALL SEALINSERT FLUSH WITH FINISHED SURFACE.
2. IMMEDIATELY CONSOLIDATE CONCRETE ON BOTH SIDES OF SEALINSERT WITH AN APPROVED MECHANICAL VIBRATOR.
3. AFTER FINAL FINISH BUT BEFORE CONCRETE HAS TAKEN ITS INITIAL SET, JOINT EDGES SHALL BE ROUNDED TO RADIUS SHOWN.
4. TOP CAP SHALL REMAIN IN PLACE UNTIL FINAL CLEAN-UP HAS BEEN COMPLETED.
5. SEALINSERTS SHALL BE CUT AND INSTALLED TO BE CONTINUOUS ACROSS THE FULL WIDTH OF SLAB, UNLESS FIELD SPLICING IS APPROVED BY THE ENGINEER. FIELD SPLICES SHALL BE SEALED WITH A POURED OR EXTRUDED JOINT SEALANT CONFORMING TO SUBSECTION 1007-2.
6. AT THE INTERSECTION OF TYPE LJ AND DJ JOINTS USING A COMBINATION JOINT FORMER / SEALER OR SPLIT SLAB CONSTRUCTION, THE GAP SHALL BE FILLED WITH A POURED OR EXTRUDED JOINT SEALANT CONFORMING TO SUBSECTION 1007-2.



DETAIL "B"
POURED JOINT (FORMED) TYPE DJ OR CJ
■ SEE TABLE 1 ON SHEET 1



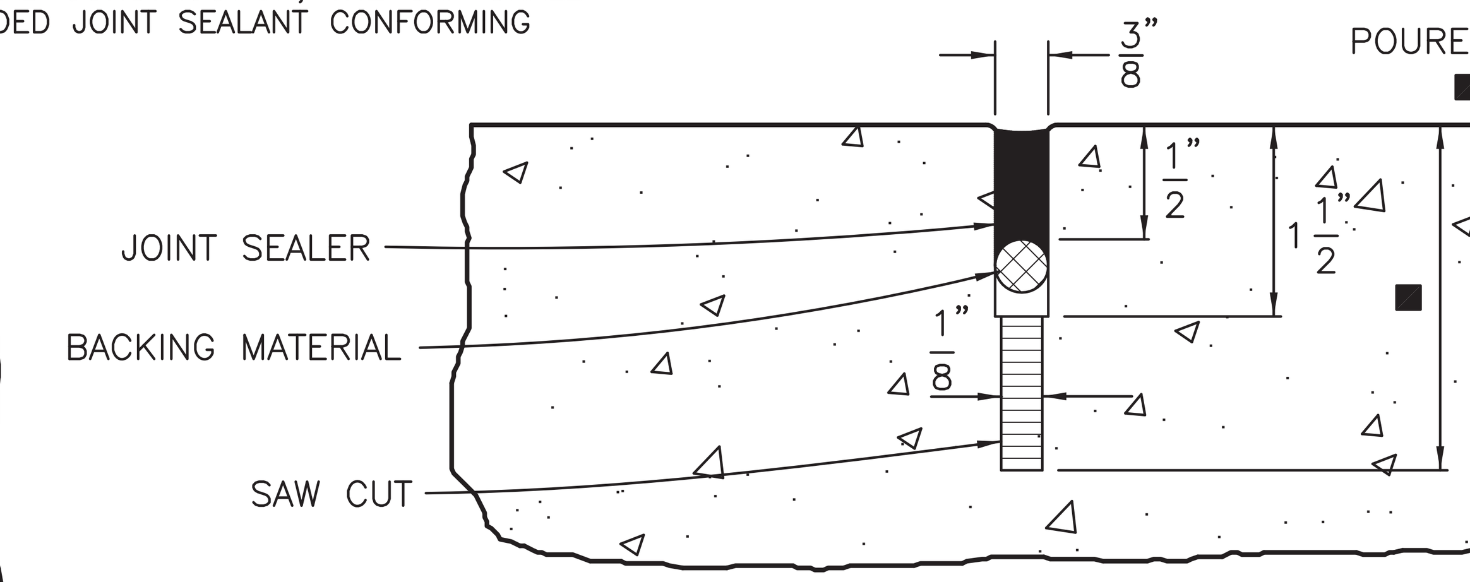
TYPE EJ
(TRANSVERSE EXPANSION JOINT)
AT CONTRACTOR'S OPTION, TYPE EJ-1 JOINT MAY BE USED IN LIEU OF TYPE EJ JOINT.



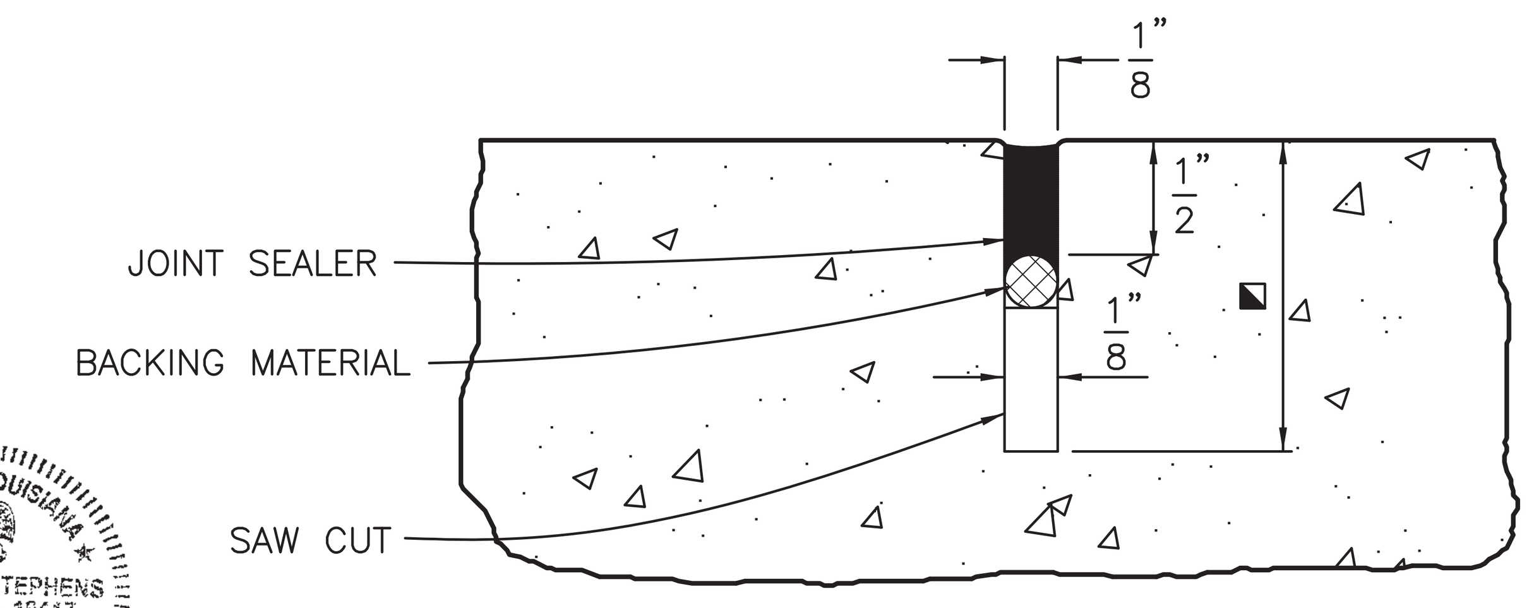
TYPE LCJ
(LONGITUDINAL CONSTRUCTION JOINT)
(SPLIT SLAB CONSTRUCTION)

★ IN LIEU OF KEYWAY, ONE OF THE FOLLOWING OPTIONS WILL BE ALLOWED:
a.) INSTALL TIE BARS OF THE SIZE SHOWN ABOVE AT 1/2 SPACING.
b.) INSTALL TIE BARS 1/4" LARGER THAN THE TIE BAR DIAMETER SHOWN ABOVE AT SAME SPACING.

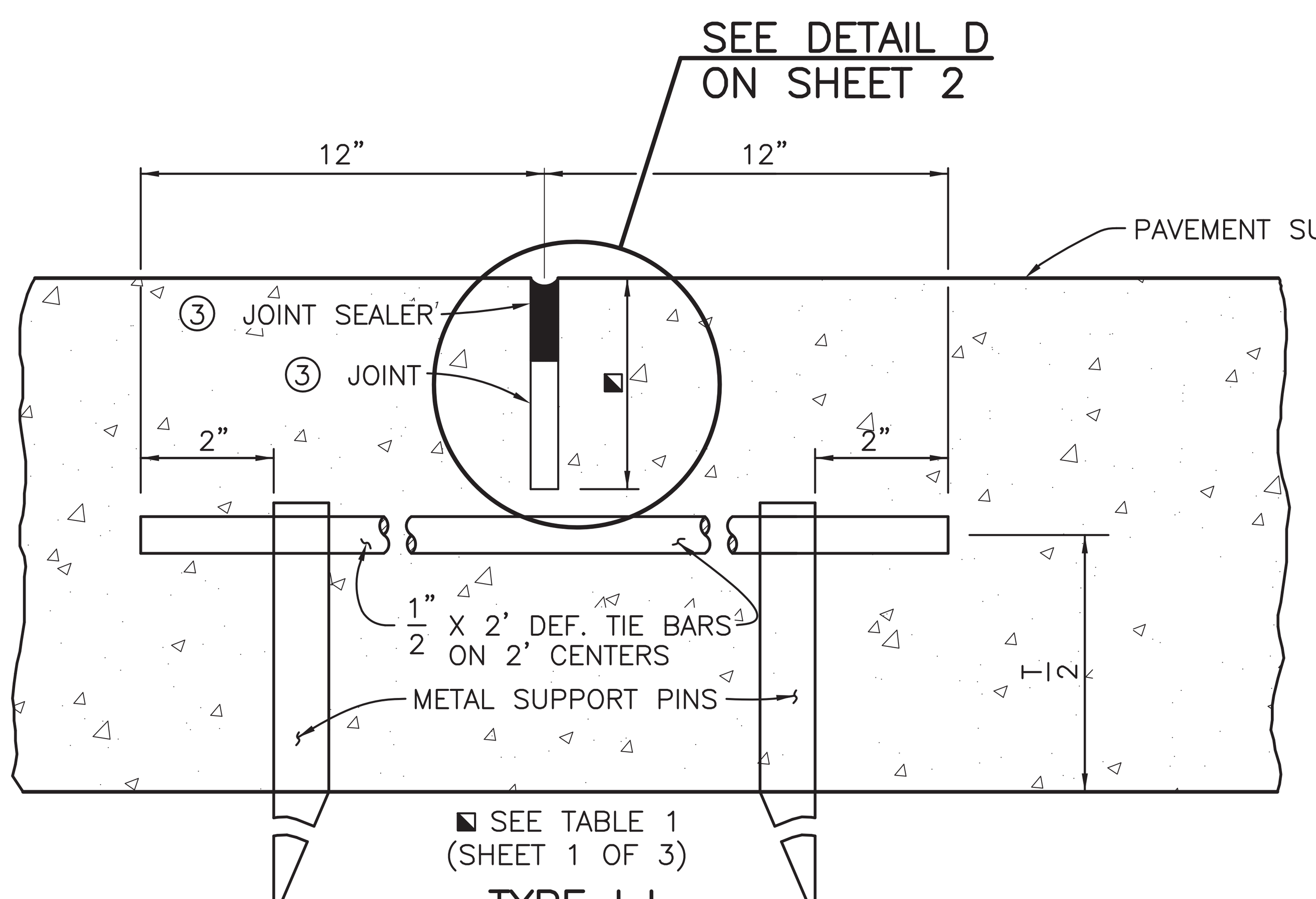
STATE OF LOUISIANA THOMAS A. STEPHENS License No. 19417 PROFESSIONAL ENGINEER IN CIVIL ENGINEERING



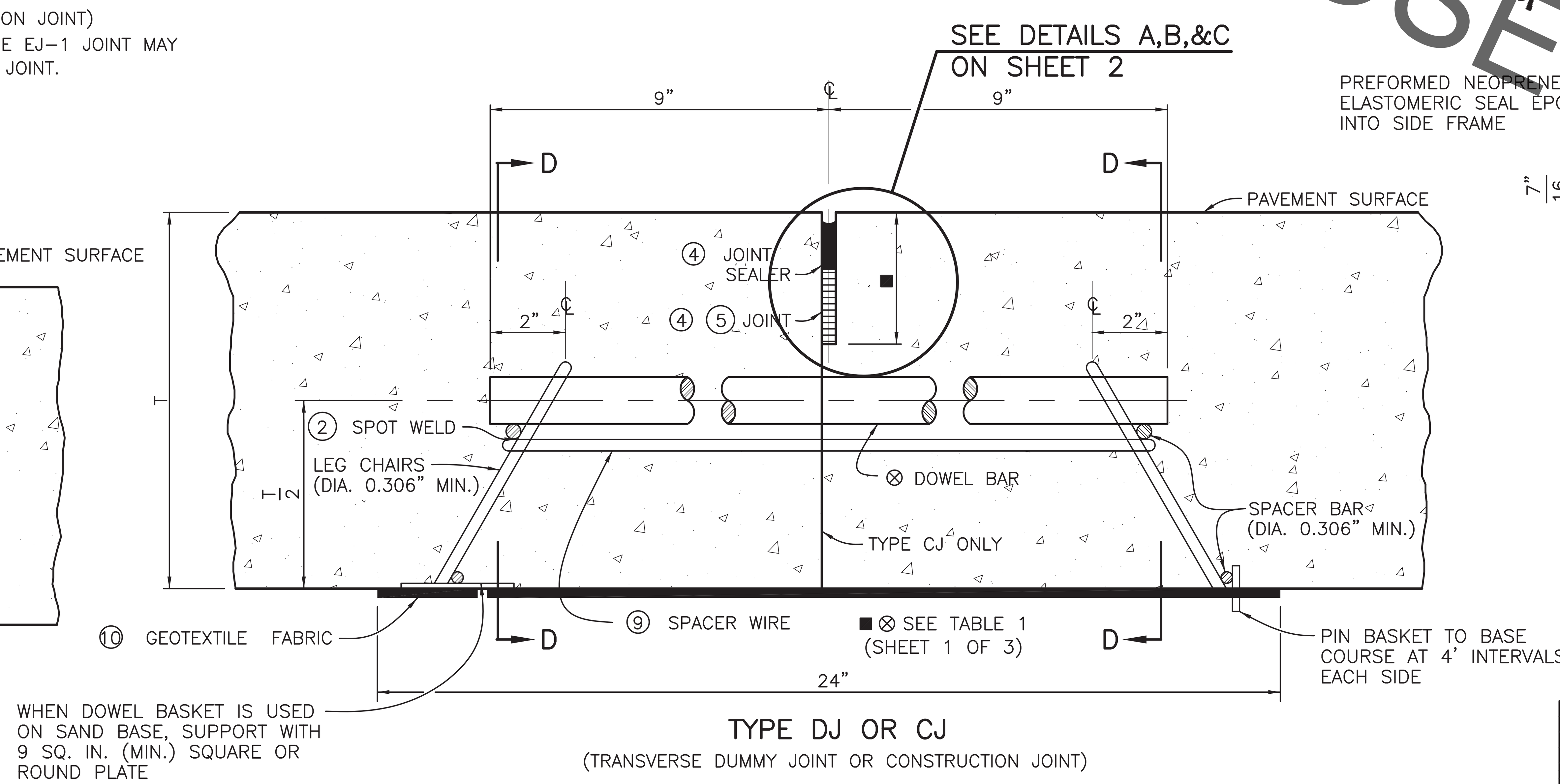
DETAIL "C"
POURED JOINT (SAWED) TYPE DJ OR CJ
■ SEE TABLE 1 ON SHEET 1



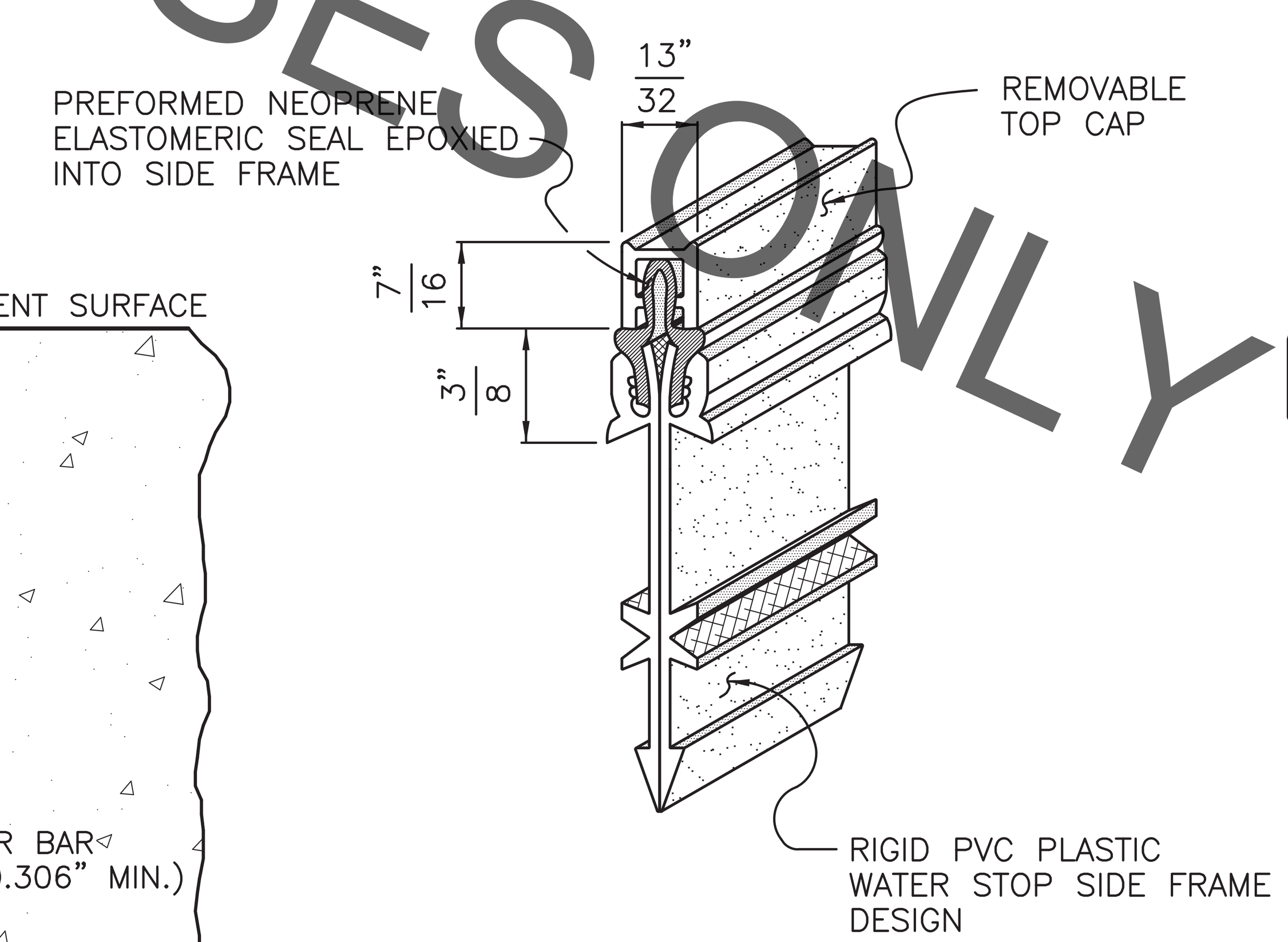
DETAIL "D"
POURED JOINT (SAWED)
TYPE LJ
SEE TABLE 1 ON SHEET 1.



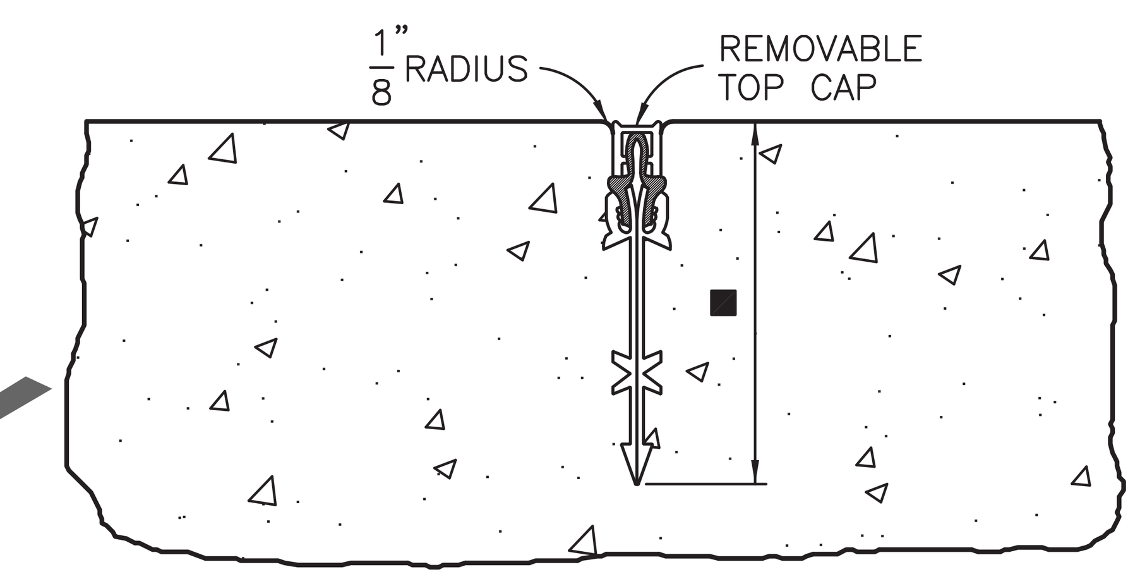
TYPE LJ
(LONGITUDINAL JOINT)
(REQUIRED WHEN PAVEMENT WIDTH EXCEEDS 15')



TYPE DJ OR CJ
(TRANSVERSE DUMMY JOINT OR CONSTRUCTION JOINT)



SEALINSERT DETAIL "A"



DETAIL "A"
COMBINATION JOINT FORMER / SEALER
■ SEE TABLE 1 ON SHEET 1

STANDARD PLAN NO.	DATED	SHEET NO.
502-01	January 18, 2008	2 OF 3

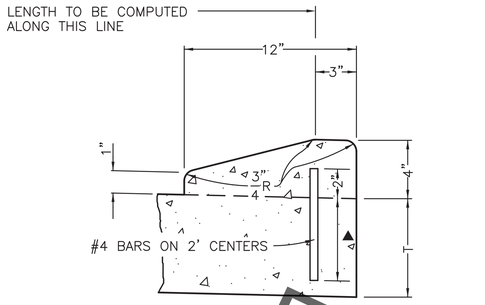
CONCRETE PAVEMENT DETAILS

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
R.E.E./N.A.R.	G. VANNICE	N.A.R./R.E.E.	T. STEPHENS

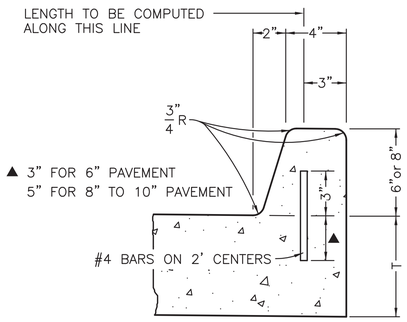
DATE	DESCRIPTION	BY
	REVISIONS	

PROJECT NO.	SHEET
12-AR-MS-014A	204



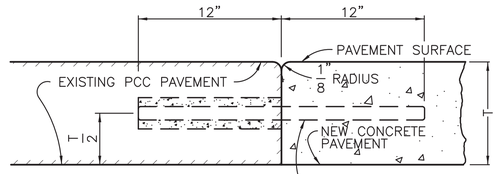
(MOUNTABLE TYPE) ▲ 4" FOR 6" PAVEMENT
6" FOR 8" TO 10" PAVEMENT

INTEGRAL CONCRETE CURB



(BARRIER TYPE)

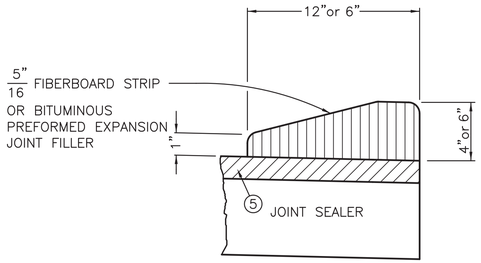
INTEGRAL CONCRETE CURB



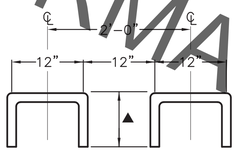
TYPE LBJ
(LONGITUDINAL BUTT JOINT)

SECTION H–H

1/2"x 2' DEF. TIE BARS ON 2' CENTERS SHALL BE INSTALLED IN THE EXISTING PAVEMENT BY DRILLING 5/8" DIA. HOLES TO A DEPTH OF 12". HOLES SHALL BE FILLED IN ACCORDANCE WITH SUBSECTION 502–5(c).



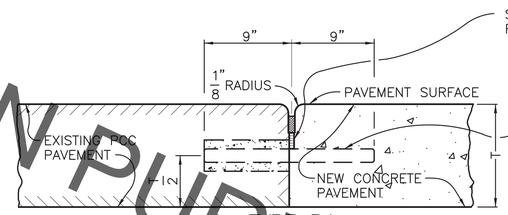
JOINT FILLER FOR INTEGRAL CONCRETE CURB



BAR DETAIL

SHOWING DIMENSIONS AND SPACING OF #4 DEF. REIN. STEEL BARS FOR CONC. CURB

▲ 6" FOR 6" PAVEMENT
8" FOR 8" TO 10" PAVEMENT



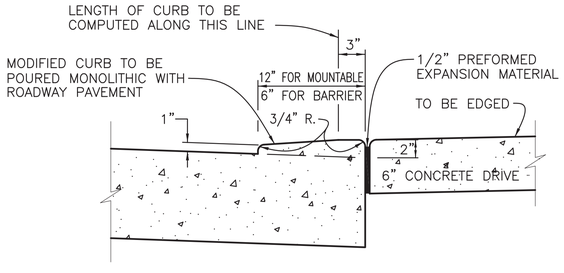
TYPE BJ
(TRANSVERSE BUTT JOINT)

SECTION J–J

⊗ SEE TABLE 1 ON SHEET 1

SEE DETAILS A,B, & C ON SHEET 2 FOR REQUIRED JOINT SEAL DETAIL.

⊗ DOWEL BARS OF THE SIZE, LENGTH AND SPACING SPECIFIED IN TABLE 1 (SHEET 1 OF 3) SHALL BE PLACED IN EXISTING PAVEMENT BY DRILLING HOLES 1/8" LARGER THAN THE BAR DIAMETER TO A DEPTH OF 1/2 THE BAR LENGTH AND FILLING HOLES IN ACCORDANCE WITH SUBSECTION 502–5(g).



CONSTRUCTION JOINT AT CONCRETE DRIVES

STATE OF LOUISIANA
THOMAS A. STEPHENS
License No. 19417
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/14/2012

STANDARD PLAN NO.	DATED	SHEET NO.
502–01	January 18, 2008	3 OF 3

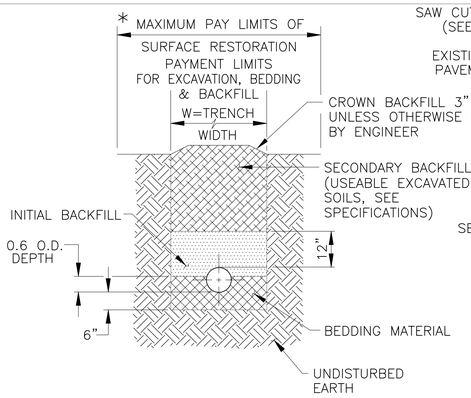
CONCRETE PAVEMENT

DETAILS

DATE	DESCRIPTION REVISIONS	BY

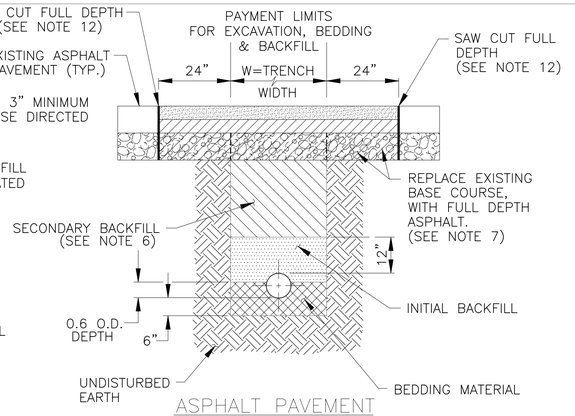
ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
R.E.E./N.A.R.	G. VANNICE	N.A.R./R.E.E.	T. STEPHENS



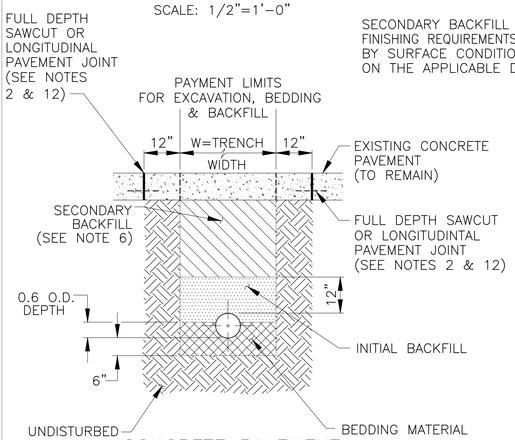
UNIMPROVED SURFACE

SCALE: 1/2"=1'-0"



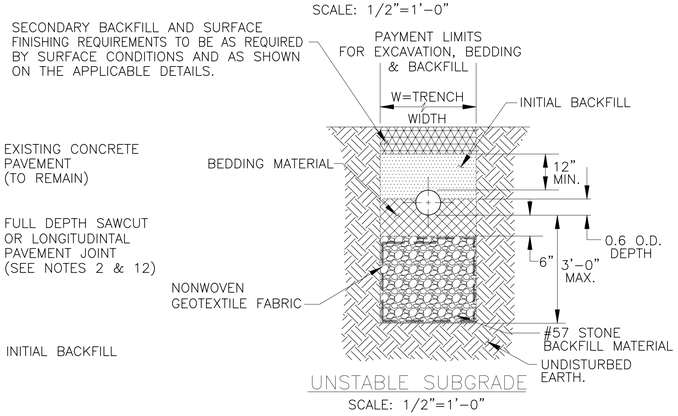
ASPHALT PAVEMENT

SCALE: 1/2"=1'-0"



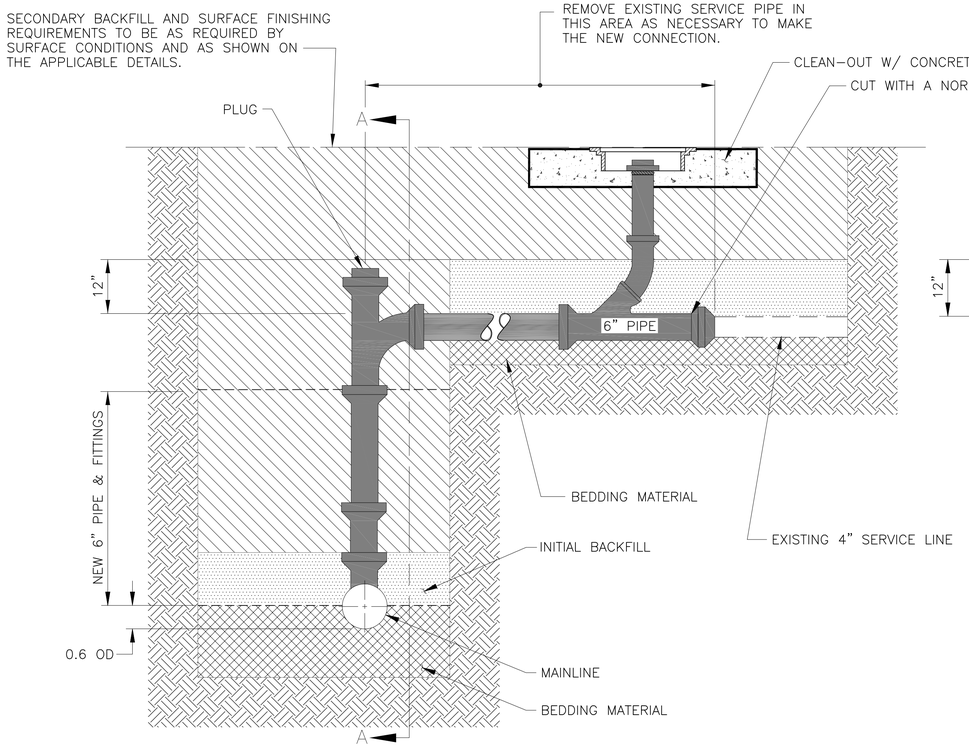
CONCRETE PAVEMENT

SCALE: 1/2"=1'-0"



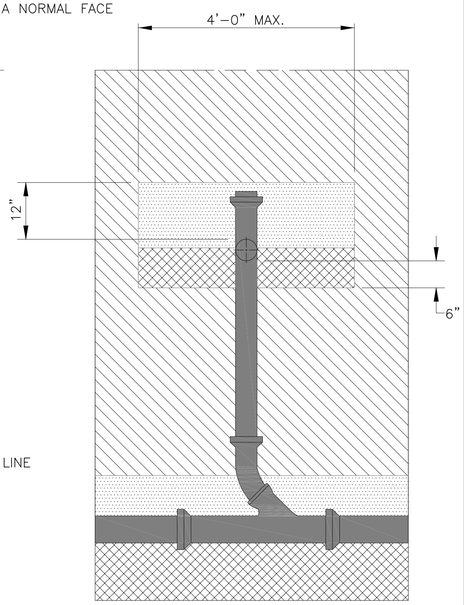
UNSTABLE SUBGRADE

SCALE: 1/2"=1'-0"



SEWER SERVICE LATERAL CONNECTION STACK

SCALE: 3/4"=1'-0"



SECTION "A-A"

SCALE: 3/4"=1'-0"

PROJECT NO.	SHEET
12-AR-MS-014A	205

NOTES:

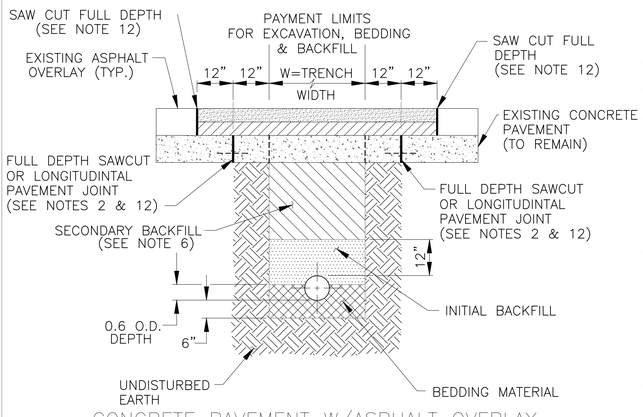
1. TRENCH WIDTH (W) SHALL BE AS SHOWN IN THE TABLE BELOW. PIPE SHALL BE CENTERED IN TRENCH.

NOMINAL PIPE SIZE	"W"
UP TO 36"	36" + O.D.
OVER 36"	48" + O.D.

2. CONTRACTOR TO REMOVE AND REPLACE CONCRETE PAVEMENT SLABS AS SHOWN. IF CONCRETE PAVEMENT JOINT (OR EDGE OF ROAD/BACK OF CURB) IS WITHIN 2', REMOVE PAVEMENT TO JOINT LINE. PAVEMENT TO CONFORM TO STANDARD CPS 502-01(STANDARD PAVEMENT DETAILS). REUSE EXISTING DOWELS IF NOT DAMAGED DURING PAVEMENT REMOVAL. REPLACE ALL DAMAGED DOWEL WITH ½" x 2'-0" DEFORMED BARS ON 2'-0" CENTERS WITH EPOXY.
3. WATER SHALL NOT BE PERMITTED IN TRENCH DURING CONSTRUCTION. DEWATER AS NECESSARY.
4. USE OF THE UNSTABLE SUBGRADE PIPE BEDDING DETAIL IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
5. GEOTEXTILE FABRIC SHALL BE OVERLAPPED 8" MINIMUM.
6. IF LIMITS OF THE PIPE TRENCH FALL UNDER EXISTING ASPHALTIC OR PCC ROADWAYS AND/OR EXISTING PARKING LOTS, THE SECONDARY BACKFILL SHALL BE #610 STONE OR AS SPECIFIED IN SECTION 801 OF THE SPECIFICATIONS.

   IF LIMITS OF THE PIPE TRENCH FALL OUTSIDE OF, BUT WITHIN 10 FT. OF THE EDGE OF AN EXISTING ROADWAY, OR UNDER THE LIMITS OF A FUTURE ROADWAY TO BE CONSTRUCTED SUBSEQUENT TO SANITARY SEWER INSTALLATION; THE SECONDARY BACKFILL SHALL BE THE SAND-AGGREGATE MIXTURE. REFER TO SECTION 801 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS.

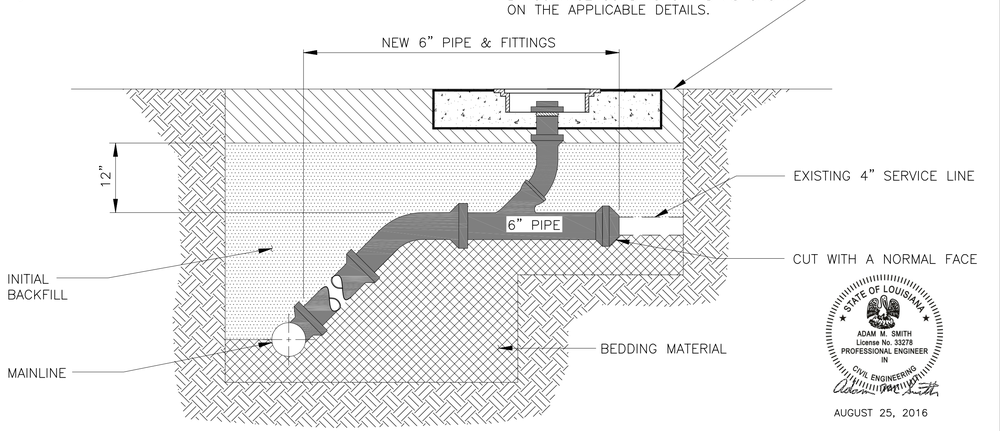
   IN AREAS OUTSIDE THOSE DESCRIBED ABOVE, SECONDARY BACKFILL MATERIAL SHALL CONSIST OF USABLE EXCAVATED SOILS.
7. ASPHALTIC CONCRETE PAVEMENT SHALL BE REPLACED WITH FULL DEPTH ASPHALT CONSISTING OF A MINIMUM 7" THICKNESS OF MIX TYPE B BASE COURSE AND 2" THICKNESS OF WEARING COURSE FOR CITY/PARISH STREETS IN ACCORDANCE WITH THE SPECIFICATIONS. MINIMUM 4" MIX TYPE B (PG64-22) FOR PARKING LOTS AND DRIVEWAYS.
8. ASPHALT OR CONCRETE PAVEMENT OR UNIMPROVED GRANULAR SURFACE REMOVED IN EXCESS OF LIMITS SHOWN SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
9. BEDDING AND BACKFILL NEEDED IN EXCESS OF LIMITS SHOWN SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
10. MAXIMUM PAYMENT LENGTHS FOR REMOVAL AND RESTORATION OF SURFACES SHALL BE THE SAME AS FOR THE EXCAVATION, BEDDING AND BACKFILL.
11. *PAY LIMITS OF SURFACE RESTORATION ON UNIMPROVED SURFACES SHALL BE LIMITED TO THE WIDTH OF THE SEWER SERVITUDE OR AS SPECIFIED ON THE DRAWINGS AND MUST BE APPROVED BY THE ENGINEER.
12. FINAL EDGES ALONG PAVEMENT REMOVAL LIMITS SHALL BE STRAIGHT, CLEAN, SOLID, VERTICAL FACES FREE FROM LOOSE MATERIAL PRIOR TO PAVEMENT RESTORATION. SAWCUTTING AT LIMITS SHOWN SHALL BE PAID ONLY ONCE PER TRENCH PATCH. ANY ADDITIONAL SAWCUTS FOR THE CONVENIENCE OF THE CONTRACTOR SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
13. IMPROVED GRANULAR SURFACE LIMITS SIMILAR TO CONCRETE PAVEMENT LIMITS.



CONCRETE PAVEMENT W/ASPHALT OVERLAY

SCALE: 1/2"=1'-0"

TYPICAL TRENCH EXCAVATION & FINAL PAVEMENT REPLACEMENT DETAILS



SEWER SERVICE LATERAL CONNECTION

SCALE: 3/4"=1'-0"

BACKFILL FOR SERVICE LINE RECONNECTION

STATE OF LOUISIANA
ADAM M. SMITH
License No. 33278
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

AUGUST 25, 2016

STANDARD PLAN NO.	DATED	SHEET NO.
801-01	APRIL 17, 2015	1 OF 1

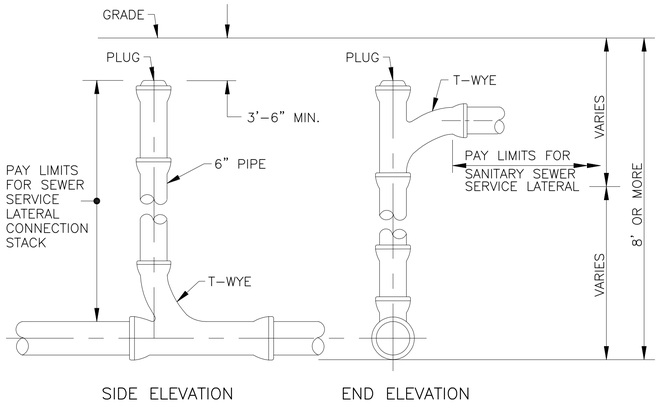
BEDDING AND BACKFILL DETAILS FOR SANITARY SEWER PIPE, FORCE MAINS AND SERVICE LINES

5/16	REVISED TITLE OF UNSTABLE SUBGRADE DETAIL	A.M.S.
4/15	DELETED GEOTEXTILE FABRIC EXCEPT FOR USE WITH #57 STONE AND REVISED GENERAL NOTES.	A.M.S.
4/13	REVISED STACK DETAILS AND REVISED GENERAL NOTES.	A.S.
10/12	ADDED GEOTEXTILE FABRIC ON SEC. BACKFILL	A.S.
DATE	DESCRIPTION REVISIONS	BY

SEWER ENGINEERING DIVISION
DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

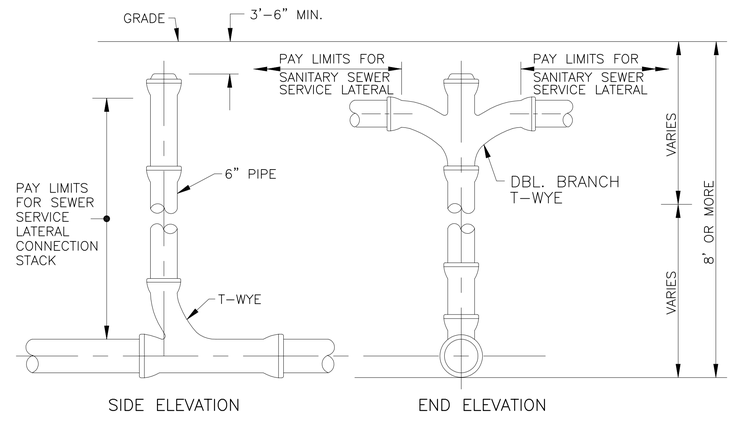
DESIGNED	DRAWN	CHECKED	APPROVED
A. SCHULZE	G. VANNICE	N. COBB	A. SMITH

PROJECT NO.	SHEET
12-AR-MS-014A	206



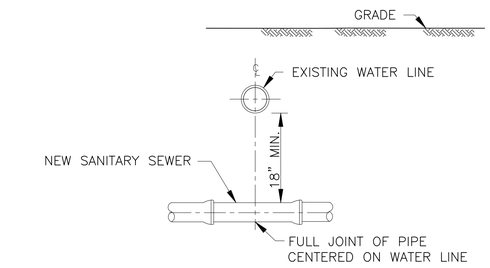
SEWER SERVICE LATERAL SINGLE CONNECTION STACK

SCALE: 3/4"=1'–0"



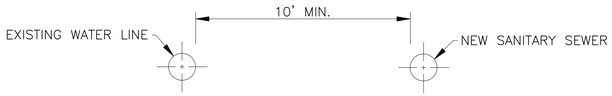
SEWER SERVICE LATERAL DOUBLE CONNECTION STACK

SCALE: 3/4"=1'–0"



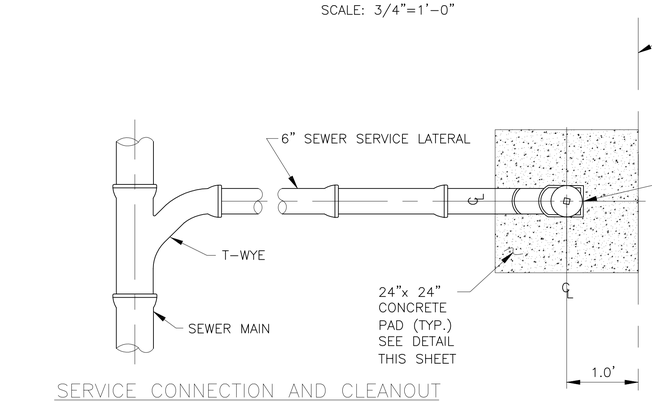
NEW SANITARY SEWER CROSSING EXISTING WATER LINE

SCALE: 3/4"=1'–0"



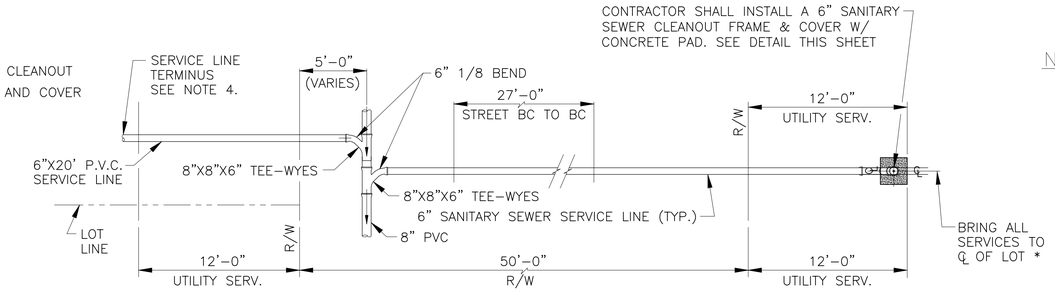
NEW SANITARY SEWER PARALLEL EXISTING WATER LINE

SCALE: 1/2"=1'–0"



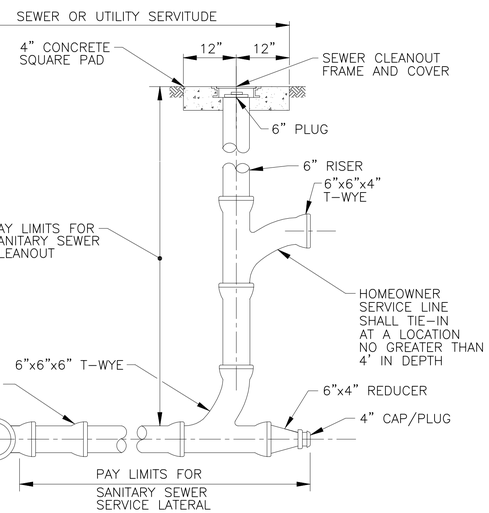
SERVICE CONNECTION AND CLEANOUT PLAN

SCALE: 1"=1'–0"



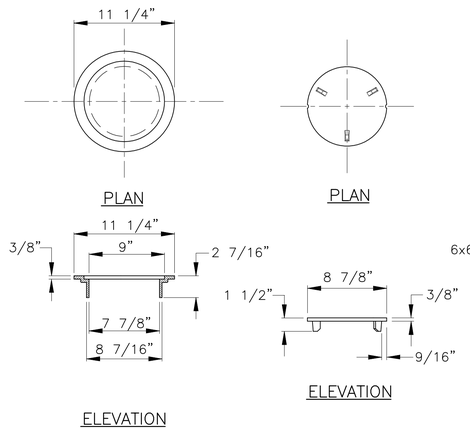
TYPICAL LOT SERVICE DETAIL

SCALE: 3/16"=1'–0"



SANITARY SEWER CLEANOUT (TO GRADE)

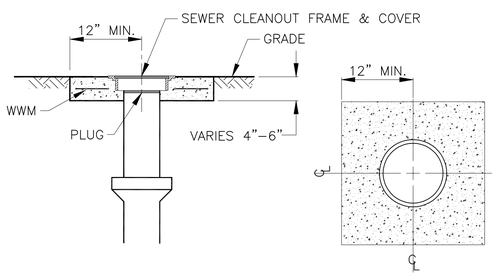
SCALE: 3/4"=1'–0"



SEWER CLEANOUT FRAME AND COVER

EJIW V–8503 OR APPROVED EQUAL

SCALE: 1 1/2"=1'–0"



24"X24" CONCRETE PAD

(PRECAST CONCRETE PAD ACCEPTABLE)

SCALE: 1"=1'–0"

NOTES:

1. DEPARTMENT OF HEALTH AND HOSPITALS MUST APPROVE INSTALLATION METHOD IF VERTICAL AND HORIZONTAL SEPARATIONS BETWEEN SEWER AND WATER LINES CANNOT BE MET.
2. SEPARATION REQUIREMENTS SHOWN HERE DO NOT APPLY TO SERVICE CONNECTIONS – REFER TO PLUMBING CODE FOR APPLICABLE REQUIREMENTS.
3. SEWER CLEANOUT FRAME AND COVER SHALL MEET THE LATEST EDITION OF AASHTO M306.
4. IN NEW SUBDIVISIONS OR IN NEW SEWER SERVICE AREAS WHERE NEW SERVICE LATERAL CONNECTIONS ARE REQUIRED, THE SEWER SERVICE LATERAL TERMINATION SHALL BE STUBBED ABOVE GROUND AT THE BACK EDGE OF ALL SERVITUDES. PRIOR TO FINAL PLUMBING INSPECTION AND ACCEPTANCE, THE PLUMBING CONTRACTOR FOR EACH LOT SHALL INSTALL THE CLEANOUT AS SHOWN.
5. DOUBLE WYES ARE ONLY ALLOWED ON LOTS 50' WIDE OR LESS AND SHALL ONLY BE ON THOSE SERVICES CROSSING THE STREET. SERVICES NOT CROSSING THE STREET AND ON LOTS GREATER THAN 50' WIDE SHALL HAVE SINGLE WYES TO THE CENTER OF THE LOTS AS SHOWN.

STATE OF LOUISIANA
ADAM M. SMITH
License No. 33278
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

AUGUST 25, 2016

DATE	DESCRIPTION REVISIONS	BY
5/16	REVISED LATERAL STACK DIMENSION & ADDED PAY LIMITS	A.M.S.

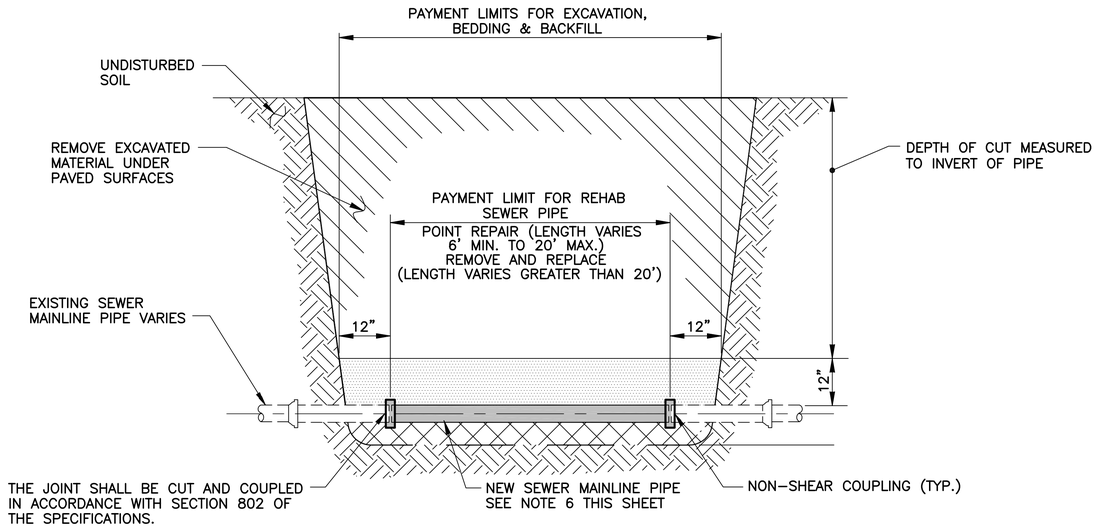
STANDARD PLAN NO.	DATED	SHEET NO.
802–01	AUGUST 1, 2011	1 OF 2

SANITARY SEWER PIPE AND CLEANOUT DETAILS

SEWER ENGINEERING DIVISION
DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

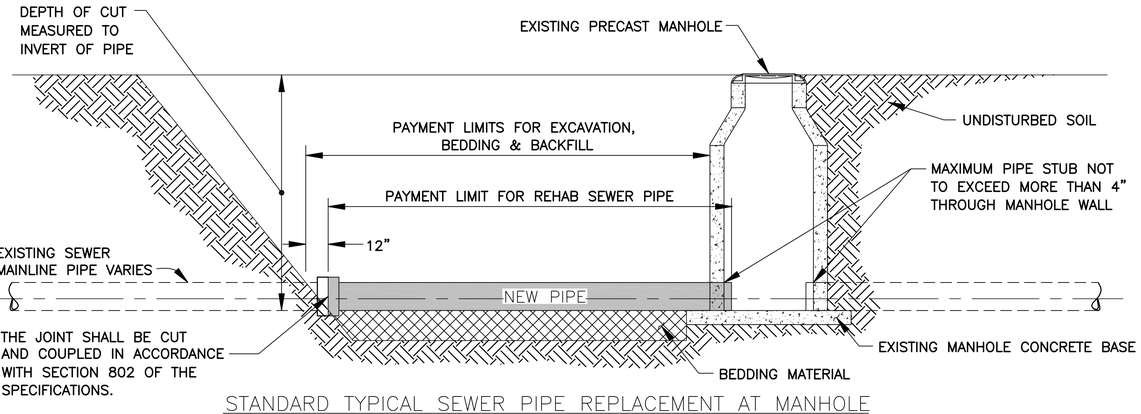
DESIGNED	DRAWN	CHECKED	APPROVED
A. SCHULZE	G. VANNICE	N. COBB	A. SMITH

PROJECT NO.	SHEET
12-AR-MS-014A	207



STANDARD TYPICAL SEWER PIPE REPLACEMENT AT MID SEGMENT

N.T.S.



STANDARD TYPICAL SEWER PIPE REPLACEMENT AT MANHOLE

N.T.S.

NOMINAL PIPE DIA. (INCHES)	MINIMUM GRADE (%)	MAX. ALLOWABLE SAG DEPTH (D)* IN INCHES OF WATER EQUAL OR LESS THAN MINIMUM GRADE	MAXIMUM SAG LENGTH (L)**	MIN. ALLOWABLE DIST. BETWEEN SAGS W/ 10% OR GREATER DEPTH (X)***
8	0.400	0.8"	6 FT	36 FT
10	0.280	1"	6 FT	36 FT
12	0.220	1.1"	9 FT	54 FT
15	0.150	1.5"	9 FT	54 FT
16	0.140	1.5"	9 FT	54 FT
18	0.120	1.5"	9 FT	72 FT
21	0.100	1.5"	9 FT	72 FT
24	0.080	1.5"	9 FT	72 FT
27	0.067	2"	9 FT	72 FT
30	0.058	2"	9 FT	72 FT
36	0.046	2"	9 FT	72 FT
42	0.037	2"	9 FT	72 FT

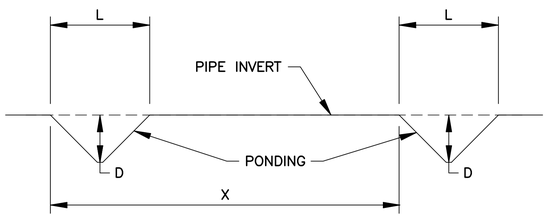
SANITARY SEWER GRADE TOLERANCE/ ACCEPTABLE SAG LIMITS

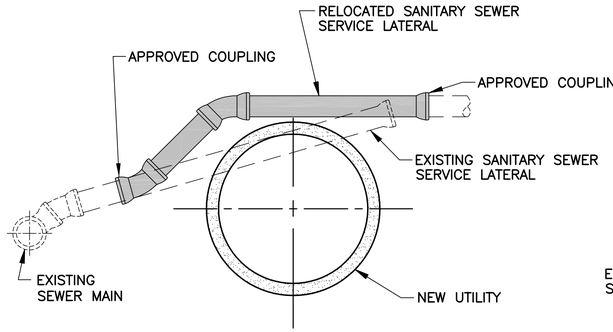
N.T.S.

*D = MAX. ALLOWABLE SAG DEPTH =ALLOWABLE DEPTH OF POOLED WATER AS MEASURED FROM WATER SURFACE TO INVERT OF PIPE BY USE OF SAG GAUGE.

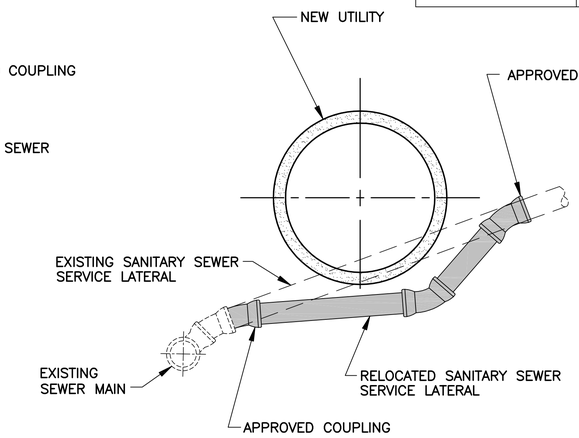
**L = SAG LENGTH = LENGTH OF POOLED WATER SURFACE AS MEASURED FROM UPSTREAM EDGE OF POOLED WATER SURFACE TO DOWNSTREAM EDGE OF POOLED WATER SURFACE.

***X = DISTANCE BETWEEN SAGS, AS MEASURED FROM UPSTREAM EDGE OF POOLED WATER SURFACES BETWEEN CONSECUTIVES SAGS.

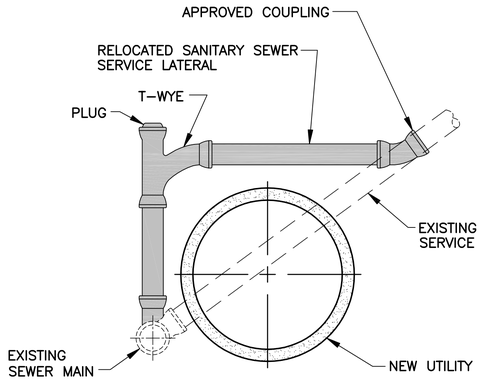




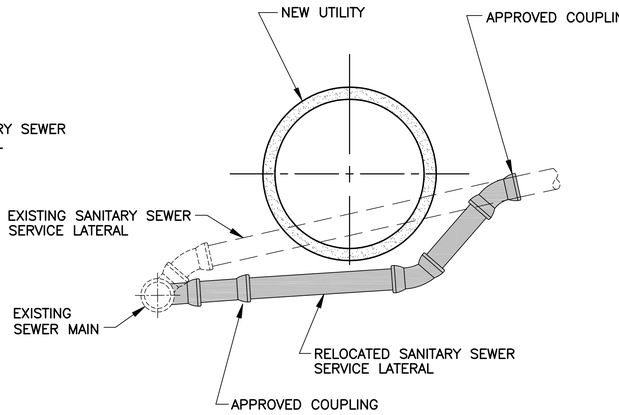
CASE "A"



CASE "C"



CASE "B"



CASE "D"

LEGEND

= RELOCATED SANITARY SEWER SERVICE LATERAL

= EXISTING SANITARY SEWER SERVICE LATERAL

ADJUSTED SANITARY SEWER SERVICE LATERAL CONNECTION DETAILS

N.T.S.

NOTES:

1. THE RELOCATED SANITARY SEWER SERVICE LATERAL SHALL BE CONSTRUCTED OF POLYVINYL CHLORIDE (PVC) PIPE EXCEPT WHERE THE SANITARY SEWER SERVICE LATERAL IS BELOW THE UTILITY OR HAS LESS THAN 3 FEET OF COVER TO FINISH GRADE. IN THESE CASES THE PIPE MATERIAL SHALL BE DUCTILE IRON.
2. THE RELOCATED SANITARY SEWER SERVICE LATERAL SHALL BE CONNECTED TO THE EXISTING PIPE WITH APPROVED NON-SHEAR COUPLINGS.
3. USE OF CASE "D" TYPE REROUTING DEPENDS ON THE LEVEL OF FLOW (PRESENT AND FUTURE) WITHIN MAINLINE SEWER – SUBJECT TO CASE APPROVAL BY ENGINEER.
4. MINIMUM SLOPE ON ANY REROUTED SEGMENT OF SANITARY SEWER SERVICE LATERAL TO BE 1.00%.
5. NEW SEWER PIPE LENGTH & TYPE TO BE DEFINED BY ENGINEER.
6. BEDDING, SECONDARY BACKFILL, INITIAL BACKFILL, AND SURFACE RESTORATION SHALL BE IN ACCORDANCE WITH SECTION 801 OF THE SPECIFICATION AND STANDARD PLAN 801-01.

DATE	DESCRIPTION	BY
6/17	ADDED SAG LIMIT DETAIL	AMS
7/16	REVISED NOTE 2 & DIMENSION	AMS
	REVISIONS	

STATE OF LOUISIANA
ADAM M. SMITH
License No. 33278
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

JUNE 28, 2017

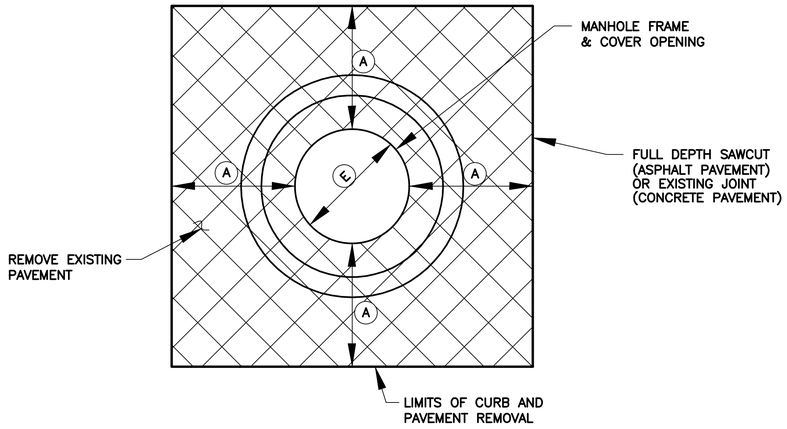
STANDARD PLAN NO.	DATED	SHEET NO.
802-01	AUGUST 1, 2011	2 OF 2

SANITARY SEWER PIPE AND CLEANOUT DETAILS

SEWER ENGINEERING DIVISION
DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
A. SCHULZE	G. VANNICE	N. COBB	A. SMITH

PROJECT NO.	SHEET
12-AR-MS-014A	208

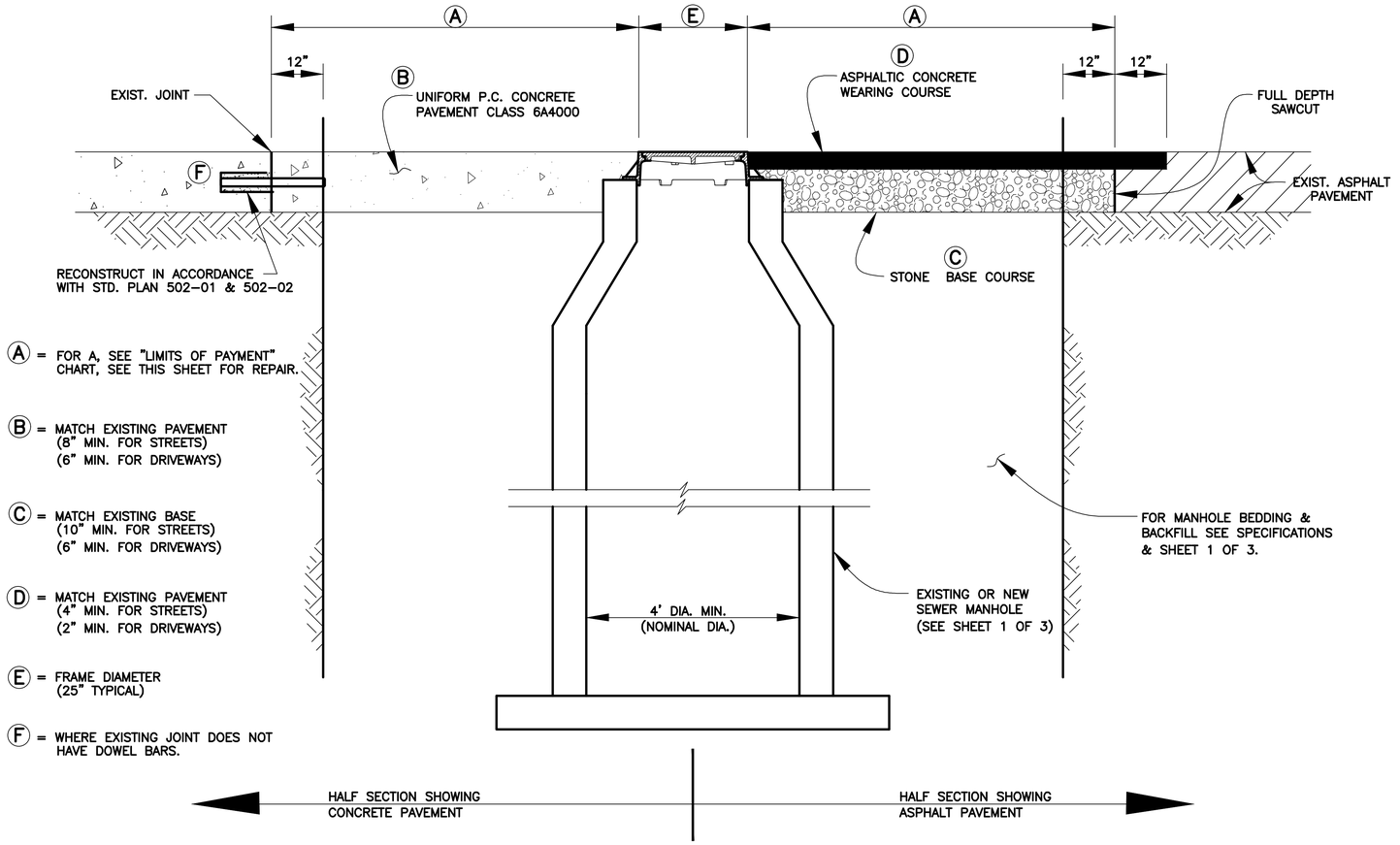


PAVEMENT REMOVAL (MANHOLE REPAIR)

NOT TO SCALE

LIMITS OF PAVEMENT	
MANHOLE REPAIR	A (FT.)
RESET MANHOLE FRAME	2
REPLACE MANHOLE FRAME AND COVER	2
REPLACE MANHOLE CONE	5
REPLACE MANHOLE	7

② CONTRACTOR TO REMOVE AND REPLACE CONCRETE PAVEMENT SLABS AS SHOWN. IF CONCRETE PAVEMENT JOINT (OR EDGE OF ROAD/BACK OF CURB) IS WITHIN 2', REMOVE PAVEMENT TO JOINT LINE. PAVEMENT TO CONFORM TO STANDARD CPS 502-01(STANDARD PAVEMENT DETAILS). REUSE EXISTING DOWELS IF NOT DAMAGE DDURING PAVEMENT REMOVAL. REPLACE ALL DAMAGED DOWEL WITH 1/2"x 2'-0" DEFORMED BARS ON 2'-0" CENTERS W/ EPOXY.



Ⓐ = FOR A, SEE "LIMITS OF PAYMENT" CHART, SEE THIS SHEET FOR REPAIR.

Ⓑ = MATCH EXISTING PAVEMENT
(8" MIN. FOR STREETS)
(6" MIN. FOR DRIVEWAYS)

Ⓒ = MATCH EXISTING BASE
(10" MIN. FOR STREETS)
(6" MIN. FOR DRIVEWAYS)

Ⓓ = MATCH EXISTING PAVEMENT
(4" MIN. FOR STREETS)
(2" MIN. FOR DRIVEWAYS)

Ⓔ = FRAME DIAMETER
(25" TYPICAL)

Ⓕ = WHERE EXISTING JOINT DOES NOT HAVE DOWEL BARS.

PAVEMENT REMOVAL (MANHOLE REPAIR)

NOT TO SCALE

STATE OF LOUISIANA
ADAM M. SMITH
License No. 33278
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

JANUARY 21, 2021

DATE	DESCRIPTION REVISIONS	BY
1-21	ADDED NEW SHEET TO SET	A.M.S.

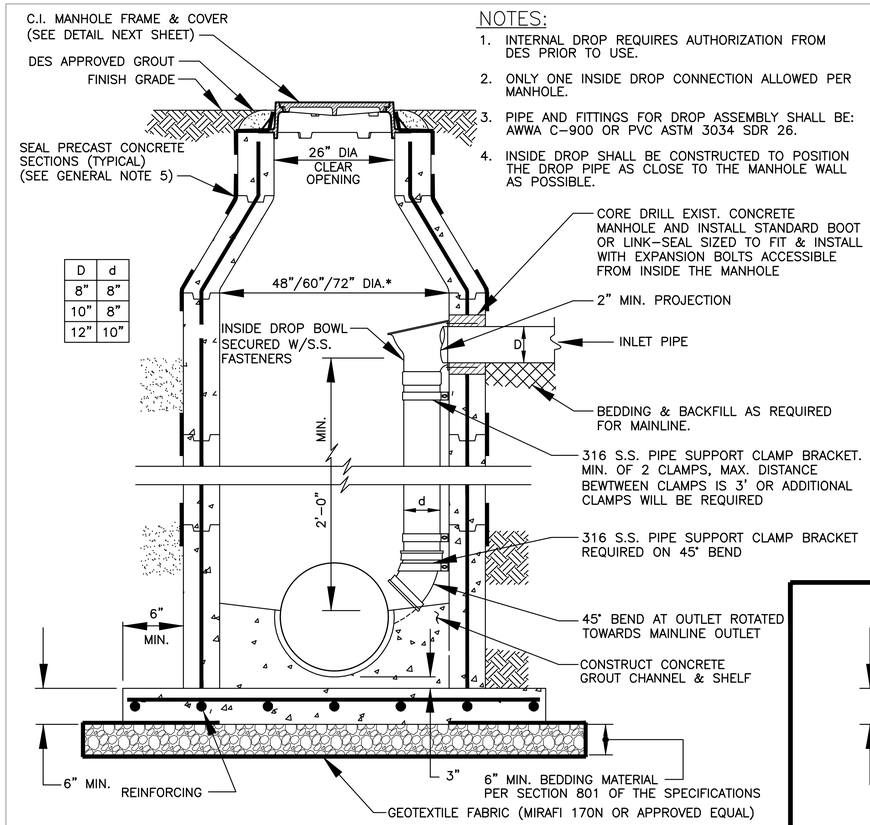
STANDARD PLAN NO. 803-01	DATED AUGUST 1, 2011	SHEET NO. 4 OF 4

SANITARY SEWER MANHOLES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
A. SCHULZE	G. VANNICE	R. WRIGHT	A. SMITH

803-01



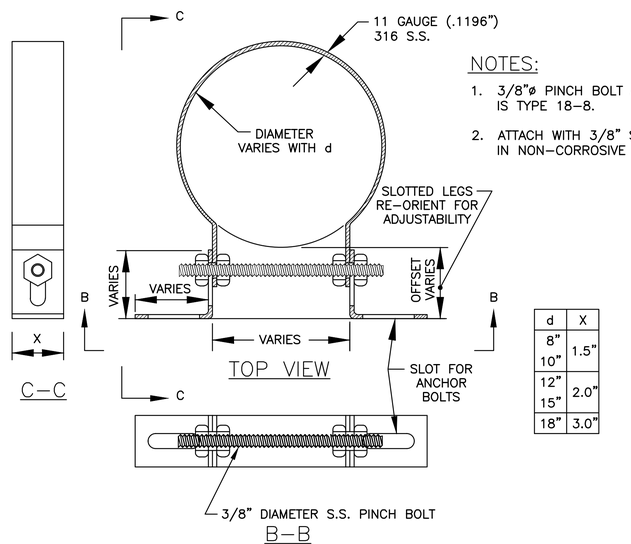
D	d
8"	8"
10"	8"
12"	10"

NOTES:

1. INTERNAL DROP REQUIRES AUTHORIZATION FROM DES PRIOR TO USE.
2. ONLY ONE INSIDE DROP CONNECTION ALLOWED PER MANHOLE.
3. PIPE AND FITTINGS FOR DROP ASSEMBLY SHALL BE: AWWA C-900 OR PVC ASTM 3034 SDR 26.
4. INSIDE DROP SHALL BE CONSTRUCTED TO POSITION THE DROP PIPE AS CLOSE TO THE MANHOLE WALL AS POSSIBLE.

STANDARD GRAVITY SEWER INTERNAL DROP MANHOLE

N.T.S.



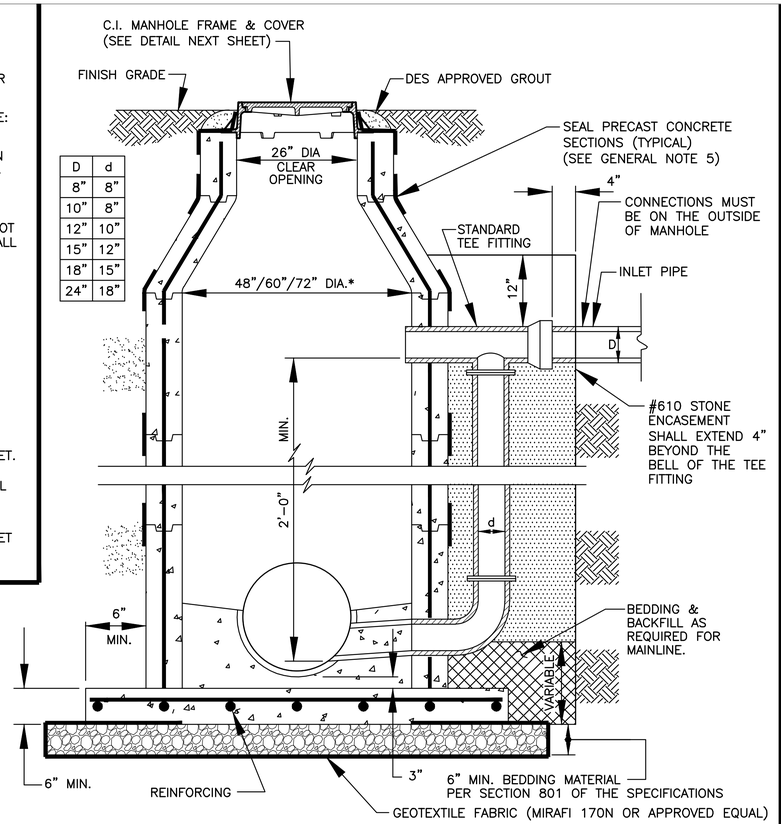
d	X
8" 10"	1.5"
12" 15"	2.0"
18"	3.0"

NOTES:

1. 3/8"ø PINCH BOLT AND NUTS IS TYPE 18-8.
2. ATTACH WITH 3/8" S.S. BOLTS IN NON-CORROSIVE SHIELDS.

CLAMP BRACKET DETAIL

N.T.S.



D	d
8"	8"
10"	8"
12"	10"
15"	12"
18"	15"
24"	18"

STANDARD GRAVITY SEWER DROP MANHOLE

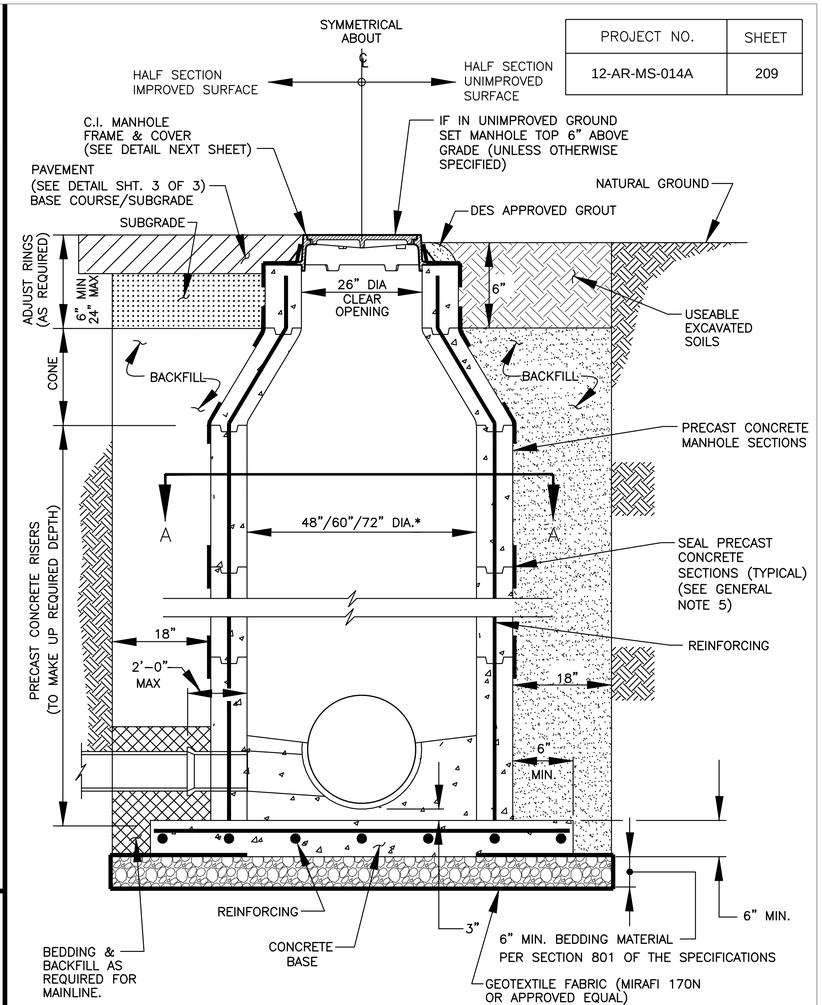
N.T.S.

MANHOLE GENERAL NOTES:

1. ALL STUBS FROM MANHOLES AND ENDS OF PIPE TO WHICH CONNECTIONS ARE TO BE MADE UNDER THIS CONTRACT SHALL BE PROVIDED WITH TEMPORARY WATER TIGHT PLUGS OR CAPS. ALL STUBS FOR CONNECTIONS TO OTHER CONTRACTS SHALL BE PROVIDED WITH WATER TIGHT PLUGS PLACED FROM INSIDE OF MANHOLE. SEWERS WHICH ARE TO BE CONNECTED TO MANHOLES WHICH WILL BE BUILT UNDER OTHER CONTRACTS SHALL BE PROVIDED WITH WATER TIGHT PLUGS AND CAPS. STUBS SHALL BE A MAXIMUM OF 2FT. INLENGTH. SUCH PLUGS LOCATED AT JUNCTIONS OF TWO CONTRACTS SHALL REMAIN IN PLACE SHALL BE REMOVED BY OTHERS.
2. THE BENCH SHALL SLOPE TOWARD THE INVERT CHANNEL AT THE RATE OF (1.5"/FT.), BUT MINIMUM OF 3" DIFFERENCE SHALL BE MAINTAINED FROM THE TOP OF CHANNEL TO THE WALL.
3. ALL CAST IRON FRAME COVERS SHALL BE TRAFFIC BEARING. FRAME AND COVERS SHALL MEET OR EXCEED ALL REQUIREMENTS OF THE LATEST AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS DESIGNATION: M308 STANDARD SPECIFICATION FOR DRAINAGE, SEWER, UTILITY, AND RELATED CASTINGS. THEY SHALL HAVE AN ENVIRONMENTALLY SAFE, WATER-BASE ASPHALTIC COATING WHICH IS NONTOXIC, NONFLAMMABLE, COLORLESS, AND DRIES TO A HARD BLACK FINISH.
4. THE DEPTH OF THE INVERT CHANNEL SHALL BE EQUAL TO HALF THE DIAMETER OF THE LARGEST DIAMETER SEWER PIPE IN THE MANHOLE.
5. MANHOLE SECTIONS SHALL BE JOINED TOGETHER WITH FLEXIBLE WATERTIGHT RUBBER GASKETS AND EXTERNALLY SEALED AT THE JOINTS IN ACCORDANCE WITH THE SPECIFICATIONS.
6. ALL MANHOLES ARE TO BE CONSTRUCTED OF PRECAST CONCRETE (BASE, RISERS AND CONE). NO BRICK MANHOLES WILL BE ACCEPTED UNLESS APPROVED IN WRITING.
7. BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS AND PLACEMENT AND COMPACTION OF PIPE BEDDING MATERIALS.
8. PIPE PENETRATIONS SHALL CONFORM TO THE SPECIFICATIONS.
9. REINFORCING FOR PRE-CAST MANHOLES AS PER ASTM C-478.

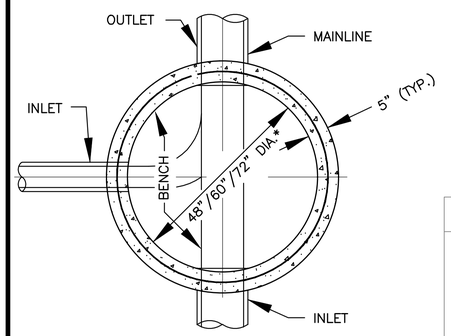
*10. FOR SEWERS 16" DIA. OR LESS CONSTRUCT 48" DIA. MANHOLE, FOR SEWERS LARGER THAN 16" UP TO 24" DIA. CONSTRUCT 60" DIA. MANHOLE, AND FOR SEWERS LARGER THAN 24" DIA. CONSTRUCT 72" DIA. MANHOLE. MANHOLE DIA. SIZING, HOWEVER IS CONTINGENT UPON THE LIMITATIONS OF THE MANUFACTURER DUE TO PIPE SIZE AND ORIENTATION AT THE MANHOLE. THE DESIGN ENGINEER MUST VERIFY THAT THE PROPER MANHOLE DIA. IS PROVIDED.

11. MANHOLE SHALL NOT INCLUDE STEPS.



STANDARD GRAVITY SEWER MANHOLE

N.T.S.



SECTIONAL A-A

N.T.S.

JANUARY 23, 2020

PROJECT NO.	SHEET
12-AR-MS-014A	209

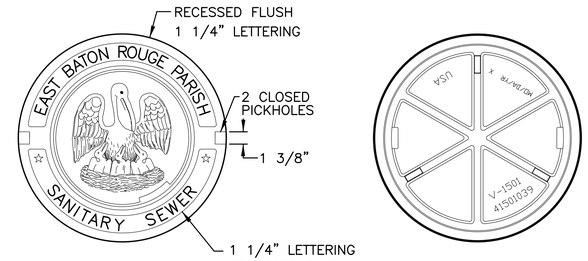
STANDARD PLAN NO.	DATED	SHEET NO.
803-01	AUGUST 1, 2011	1 OF 3

SANITARY SEWER MANHOLES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

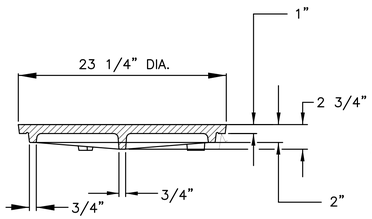
DESIGNED	DRAWN	CHECKED	APPROVED
A. SCHULZE	G. VANNICE	R. WRIGHT	B. HARMON

DATE	DESCRIPTION	BY
	REVISIONS	
1-20	ADDED INTERNAL DROP MANHOLE & CLAMP BRACKET DETAIL	A.M.S.
4-13	REVISED GENERAL NOTES, ADDED DIMENSIONS	A.S.

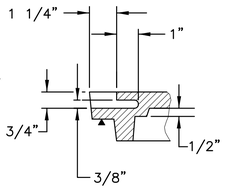


COVER FRONT

COVER BACK



COVER SECTION

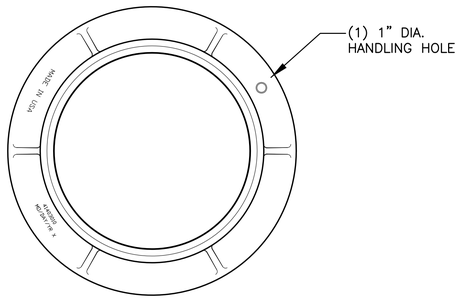


(2) TYPE TWO NON–PENETRATING PICKHOLES

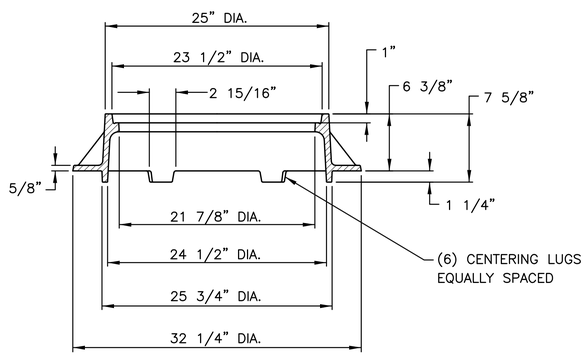
PICKHOLE DETAIL

STANDARD HEAVY DUTY MANHOLE COVER

EJIW MODEL V–1501 OR APPROVED EQUAL

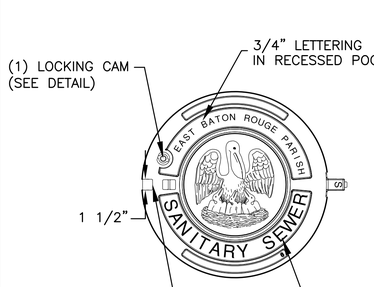


TOP

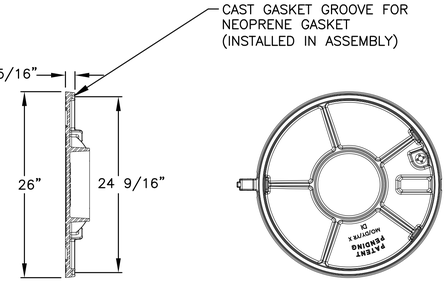


STANDARD MANHOLE FRAME WITH LUGS

EJIW MODEL V–1403 OR APPROVED EQUAL

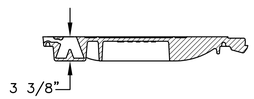


COVER FRONT

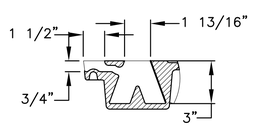


COVER SIDE VIEW

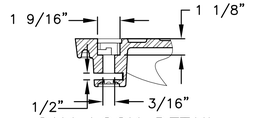
COVER BACK



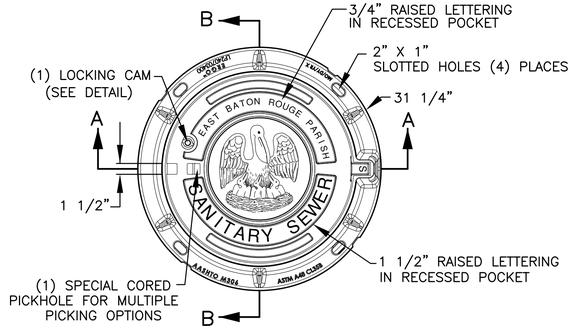
COVER SECTION



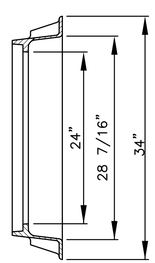
PICKHOLE DETAIL



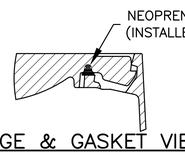
CAM LOCK DETAIL



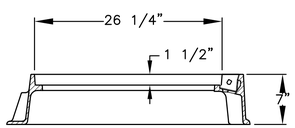
PLAN VIEW



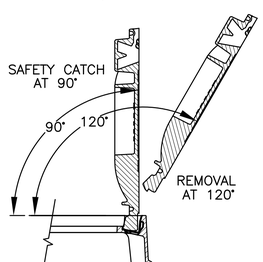
FRAME SECTION B–B



HINGE & GASKET VIEW



FRAME SECTION A–A

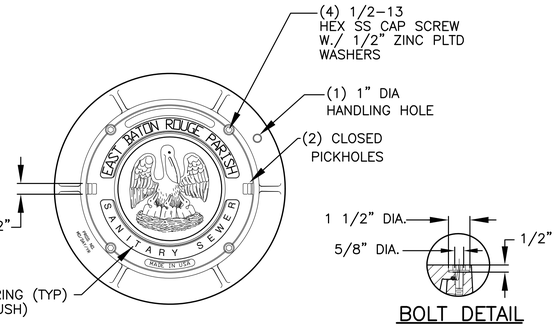


HINGE POSITONS

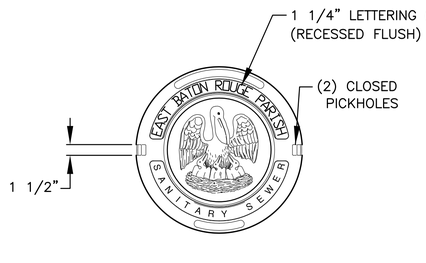
HINGED MANHOLE ASSEMBLY

EJIW MODEL 24" ERGO OR APPROVED EQUAL

PROJECT NO.	SHEET
12-AR-MS-014A	210

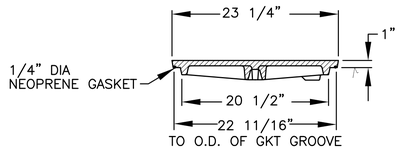


BOLT DETAIL

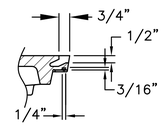


COVER FRONT

COVER BACK



COVER SECTION



GASKET GROOVE
& PICKHOLE DETAIL

BOLT DOWN WATERTIGHT MANHOLE ASSEMBLY

EJIW MODEL V–I501GS OR APPROVED EQUAL (COVER)
EJIW MODEL V–1403 OR APPROVED EQUAL (FRAME)

GENERAL NOTE:

1. TYPE OF FRAME AND COVER TO BE USED SHALL BE AS SHOWN ON PLANS OR AS DIRECTED BY PROJECT ENGINEER.

AUGUST 1, 2011

DATE	DESCRIPTION REVISIONS	BY

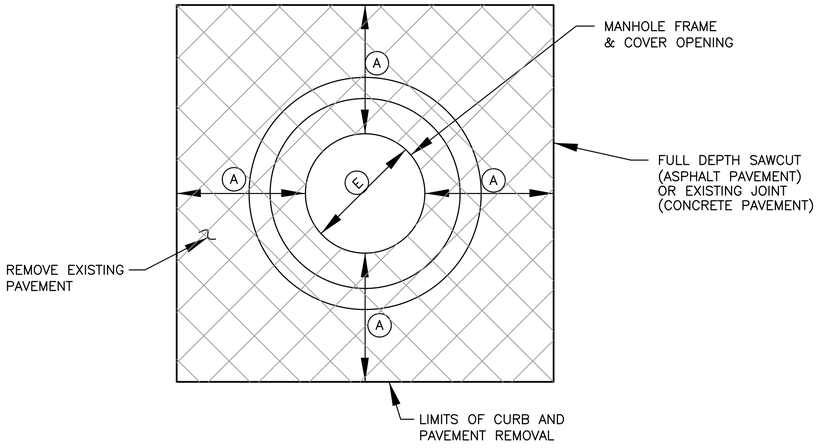
STANDARD PLAN NO.	DATED	SHEET NO.
803–01	AUGUST 1, 2011	2 OF 3

SANITARY SEWER MANHOLES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
A. SCHULZE	G. VANNICE	R. WRIGHT	B. HARMON

PROJECT NO.	SHEET
12-AR-MS-014A	211

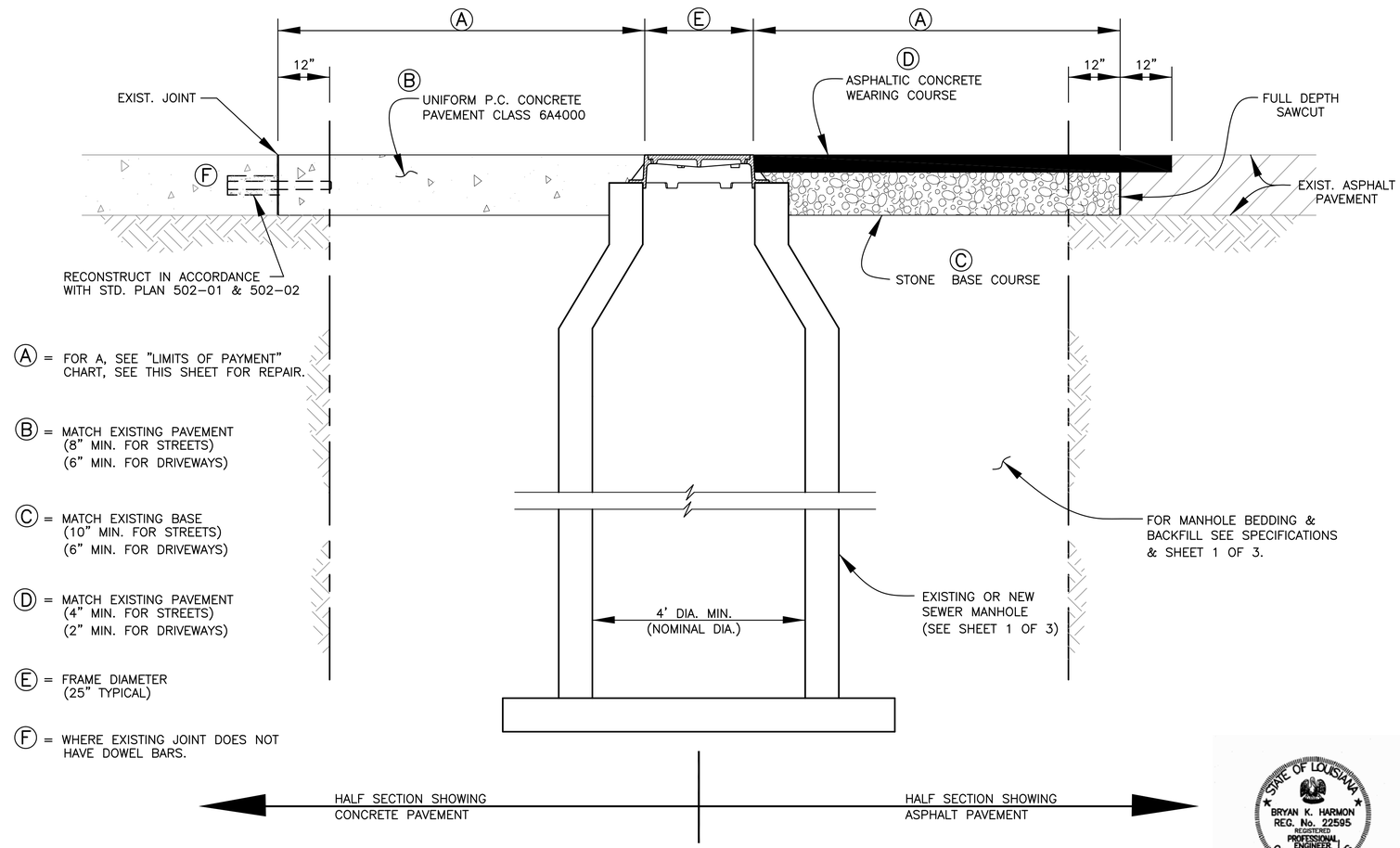


PAVEMENT REMOVAL (MANHOLE REPAIR)

NOT TO SCALE

LIMITS OF PAVEMENT	
MANHOLE REPAIR	A (FT.)
RESET MANHOLE FRAME	2
REPLACE MANHOLE FRAME AND COVER	2
REPLACE MANHOLE CONE	5
REPLACE MANHOLE	7

(2) CONTRACTOR TO REMOVE AND REPLACE CONCRETE PAVEMENT SLABS AS SHOWN. IF CONCRETE PAVEMENT JOINT (OR EDGE OF ROAD/BACK OF CURB) IS WITHIN 2', REMOVE PAVEMENT TO JOINT LINE. PAVEMENT TO CONFORM TO STANDARD CPS 502-01(STANDARD PAVEMENT DETAILS). REUSE EXISTING DOWELS IF NOT DAMAGE DDURING PAVEMENT REMOVAL. REPLACE ALL DAMAGED DOWEL WITH 1/2"x 2'-0" DEFORMED BARS ON 2'-0" CENTERS W/ EPOXY.



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(10" MIN. FOR STREETS)
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Ⓓ = MATCH EXISTING PAVEMENT
(4" MIN. FOR STREETS)
(2" MIN. FOR DRIVEWAYS)

Ⓔ = FRAME DIAMETER
(25" TYPICAL)

Ⓕ = WHERE EXISTING JOINT DOES NOT HAVE DOWEL BARS.

PAVEMENT REMOVAL (MANHOLE REPAIR)

NOT TO SCALE

STATE OF LOUISIANA
BRYAN K. HARMON
REG. No. 22595
REGISTERED
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING

AUGUST 1, 2011

STANDARD PLAN NO.	DATED	SHEET NO.
803-01	AUGUST 1, 2011	3 OF 3

SANITARY SEWER MANHOLES

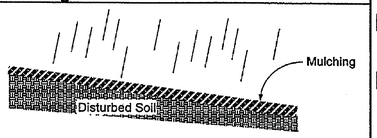
DATE	DESCRIPTION REVISIONS	BY

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
A. SCHULZE	G. VANNICE	R. WRIGHT	B. HARMON

PROJECT NO.	SHEET
12-AR-MS-014A	212

Mulching



DESCRIPTION
Mulching is the application of a layer of chopped straw, hay or other material which is spread uniformly over barren areas to reduce the effects of erosion from rainfall. Types of mulch include organic materials, straw, wood chips, bark or other fibers. Mulch also comes in prepackaged forms, using straw, hay or other material with organic and inorganic binding systems.

PRIMARY USE
Mulch is used to temporarily and/or permanently stabilize clear or freshly seeded areas. It protects the soil from erosion and moisture loss by lessening the effects of wind, water, and sunlight. It also decreases the velocity of sheet flow, thereby reducing the volume of sediment-laden water flow leaving the mulched area.

APPLICATIONS
Mulch may be used on any construction-related disturbed area for surface protection including:
- Freshly seeded or planted areas,
- Areas at risk due to the time period being unsuitable for growing vegetation,
- Areas that are not conducive to seeding or planting.

DESIGN CRITERIA
Mulch may be used by itself or in combination with netting or other anchors to promote soil stabilization.

Several manufacturers provide an organic mulch with an attached netting to simplify installation. Installation should adhere to manufacturer's specifications and requirements.

- Choice of mulch depends largely on slope, climate, and soil type in addition to availability of different materials. Straw and hay are the recommended choices due to their availability and biodegradability.
- Mulch should be applied in an even and uniform manner where concentrated water flow is negligible.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
● Sediment
○ Nutrients Toxic Materials
○ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
◒ Capital Costs
◒ Maintenance
○ Training
○ Suitability for Slopes >5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

BMP
1

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Mulching

- Application of straw or hay mulch should be approximately 2 tons dry per acre spread uniformly across the disturbed area. Other material should be applied such that 25% of the soil is visible through the mulch.
- For areas using straw mulch and the slope is greater than 3-5%, anchoring of the mulch with a Krimper Tool is required.

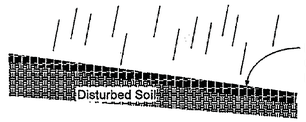
LIMITATIONS
Mulches are subject to removal by wind or water under severe climatic conditions. Mulches lower the soil temperature which may result in longer seed germination periods.

MAINTENANCE REQUIREMENTS
Mulched areas must be inspected on a weekly basis, and after significant (>0.5 inch) rainfall, for thin or bare spots caused by natural decomposition or weather related events. Mulch in high traffic areas should be replaced on a regular basis to maintain uniform protection.

BMP
1

Department of Public Works

Erosion Control Mats



DESCRIPTION
An erosion control mat (ECM) is a geomembrane or biodegradable fabric placed over disturbed areas to limit the effects of erosion due to rainfall impact and runoff across barren soil. Erosion control mats are manufactured by a wide variety of vendors addressing a wide variety of conditions such as vegetation establishment, protection from heavy rainfall, and high velocity flow. Types of matting include organic (jute, straw) and synthetic (plastic and glass fiber) materials.

PRIMARY USE
Mats can provide both temporary and/or permanent stabilization for disturbed soil or barren areas. It is used for difficult to stabilize areas such as steep slopes, temporary or permanent drainage swales, embankments or high traffic (pedestrian) areas. Some mats are reusable, reducing the initial cost of the installation.

APPLICATIONS
Mats can be used on any construction-related disturbed area, but are particularly effective for erosion control of fine grained soils, and on short, steep slopes (such as stream banks) where erosion is high and growth of vegetation is slow.

DESIGN CRITERIA
A mat may be used by itself or in combination with netting or other anchors to promote soil stabilization. Choice of matting depends largely on slope, climate, soil type, and durability. Mats are usually installed according to the manufacturer's recommended guidelines. After appropriate installation, the matting should be checked for: uniform contact with the soil; security of the lap joints; and flushness of the staples with the ground.

Manufacturers information will verify acceptable applications for a particular product.

LIMITATIONS
Although matting is highly effective in controlling erosion, it may be less cost-effective than other BMPs for erosion control and it may require a

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
◒ Sediment
○ Nutrients Toxic Materials
○ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
● Capital Costs
◒ Maintenance
◒ Training
◒ Suitability for Slopes >5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

BMP
2

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Erosion Control Mats

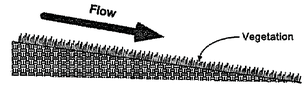
contractor with considerable mat installation experience for installation.

MAINTENANCE REQUIREMENTS
Matted areas must be inspected on a weekly basis, and after significant (>0.5 inch) rainfall, for bare spots caused by weather related events. Missing or loosened matting must be replaced or re-anchored.

BMP
2

Department of Public Works

Vegetation



DESCRIPTION
Vegetation, as a Best Management Practice, is the sowing of annual grasses, small grains or legumes to provide interim and permanent vegetative stabilization for disturbed areas. Unless otherwise specified, Bermuda Grass is to be used for permanent seeding. Temporary stabilization may be achieved during winter by seeding with Rye Grass.

PRIMARY USE
Vegetation is used as a temporary or permanent stabilization technique for areas disturbed by construction but not protected by pavement, building or other structures. As a temporary control, vegetation is used to stabilize stockpiles and barren areas which are inactive for long periods of time. As a permanent control, grasses and other vegetation provide good protection for the soil along with some filtering for overland runoff. Subjected to acceptable runoff velocities, vegetation can provide a good method of permanent storm water management as well as a visual amenity to the site.

Other BMPs may be required to assist in the establishment of vegetation. These other techniques include erosion control matting, swales and dikes to direct flow around newly seeded areas and proper grading to limit runoff velocities during construction.

APPLICATIONS
Vegetative techniques can and should apply to every construction project with few exceptions. Vegetation effectively reduces erosion in swales, stock piles, berms, mild to medium slopes and along roadways. Vegetative strips can provide some protection when used as a perimeter control for utility and site development construction.

In many cases, the initial cost of temporary seeding may be high compared to tarps or covers for stockpiles or other barren areas subject to erosion yet inactive. This initial cost should be weighed with the amount of time the area is to remain inactive, since maintenance cost for vegetated areas is much less than most structural controls.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
● Sediment
◒ Nutrients Toxic Materials
○ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
◒ Capital Costs
◒ Maintenance
○ Training
● Suitability for Slopes >5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

BMP
3

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Vegetation

DESIGN CRITERIA
Surface Preparation
- Interim or final grading must be completed prior to seeding, minimizing all steep slopes.
- Install all necessary erosion structures such as dikes, swales, diversions, etc., prior to seeding.
- Groove or furrow slopes steeper than 3:1 on the contour line before seeding.
- Provide 4-6 inches of topsoil over unsuitable soils.
- Seed-bed should be well pulverized, loose and uniform.

Plant Selection, Fertilization and Seeding
- Use only high quality, USDA certified seed.
- For permanent vegetative cover during the period from March to August (inclusive) use hulled Bermuda Grass applied at 10 - 12 pounds per acre.
- For permanent vegetative cover during the period from September to February (inclusive) use unhulled Bermuda Grass applied at 15 - 20 pounds per acre.
- For temporary stabilization on disturbed areas or stockpiles, use Rye Grass seed applied at 40 - 50 pounds per acre.
- Fertilizer shall be applied according to the manufacturer's recommendation with proper spreader equipment. Typical application rate for 10-10-10 grade fertilizer is 700-1000 pounds per acre. DO NOT OVER APPLY FERTILIZER.
- If hydro-seeding is used, do not mix seed and fertilizer more than 30 minutes before application.
- Evenly apply seed using cyclone seeder, seed drill, cultipacker or hydroseeder.
- Provide adequate water to aid in establishment of vegetation.
- Use appropriate mulching techniques where necessary.

LIMITATIONS
Vegetation is not appropriate for areas subjected to heavy pedestrian or vehicular traffic. As a temporary technique, vegetation may be costly when compared to other techniques.
Vegetation is not appropriate for rock, gravel or coarse grained soils unless 4 to 6 inches of topsoil is applied.

MAINTENANCE REQUIREMENTS
Protect newly seeded areas from excessive runoff and traffic until vegetation is established (mulching may be necessary). A watering and fertilizing schedule will be required as part of the SWPPP to assist in the establishment of the vegetation.

BMP
3

Department of Public Works

DATE	DESCRIPTION REVISIONS	BY

STATE OF LOUISIANA
THOMAS A. STEPHENS
License No. 19417
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2/14/2012

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	1 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

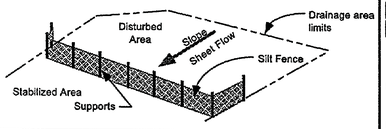
ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	213

Silt Fence



Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ● Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ● Maintenance
- ○ Training
- ◒ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

DESCRIPTION
A silt fence consists of geotextile fabric supported by poultry netting or other backing stretched between either wooden or metal posts with the lower edge of the fabric securely embedded in the soil. The fence is typically located downstream of disturbed areas to intercept runoff in the form of sheet flow. Silt fence provides both filtration and time for sedimentation to reduce sediment and it reduces the velocity of the runoff. Properly designed silt fence is economical since it can be re-located during construction and re-used on other projects.

PRIMARY USE
Silt fence is normally used as perimeter control located downstream of disturbed areas. It is only feasible for non-concentrated, sheet flow conditions.

APPLICATIONS
Silt fence is an economical means to treat overland, non-concentrated flows for all types of projects. Silt fences are used as perimeter control devices for both site developments and linear (roadway) type projects. They are most effective with coarse to silty soil types. Due to the potential of clogging, silt fence should not be used with clay soil types.

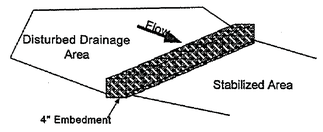
In order to reduce the length of silt fence, it should be placed adjacent to the down slope side of the construction activities.

DESIGN CRITERIA
- Fences are to be constructed along a line of constant elevation (along a contour line) where possible.
- Maximum slope adjacent to the fence is 1:1.
- Maximum distance of flow to silt fence should be 200 feet or less.
- Maximum concentrated flow to silt fence shall be 1 CFS per 20 feet of fence.
- If 50% or less of soil, by weight, passes the U.S. Standard sieve No. 200, select the equivalent opening size (E.O.S.) to retain 85% of the soil.
- Maximum equivalent opening size shall be 70 (#70 sieve).

BMP 4

City of Baton Rouge Parish of East Baton Rouge
Department of Public Works

Straw Bale Dike



Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ◒ Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ● Maintenance
- ○ Training
- ◒ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

DESCRIPTION
A straw bale dike is a temporary barrier constructed of straw bales anchored with wood posts, that is used to intercept sediment-laden runoff generated by small disturbed areas. The straw bales can serve as both a filtration device and a dam/dike device to treat and redirect flow. Bales can consist of hay or straw in which straw is defined as best quality straw from wheat, oats or barley, free of weed and grass seed and hay is defined as straw which includes weed and grass seed.

PRIMARY USE
A straw bale dike is used to trap sediment-laden storm runoff from small drainage areas with relatively level grades, allowing for reduction of velocity thereby causing sediment to settle out.

APPLICATIONS
Straw bale dikes are used to treat flow after it leaves a disturbed area on a relatively small (<1 acre) site. Due to the limited life of the straw bale, it is cost effective for small projects of a short duration. The limited weight and strength of the straw bale makes it suitable for small, flat (< 2 percent slope) contributing drainage areas. Due to the problems with straw degradation and the lack of uniform quality in straw bales, their use is discouraged except for small residential applications.

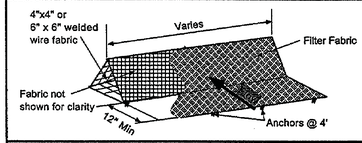
Straw bales can also be used as check dams (see Check Dam BMP S-7) for small watercourses such as interceptor swales and borrow ditches. Due to the problems in securely anchoring the bales, only small watercourses can effectively use straw bale check dams.

DESIGN CRITERIA
- Straw bale dikes are to be constructed along a line of constant elevation (along a contour line).
- Straw bale dikes are suitable only for treating sheet flows across grades of 2% or flatter.
- Maximum contributing drainage area shall be 0.25 acre per 100 linear feet of dike.
- Maximum distance of flow to dike should be 100 feet or less.

BMP 5

City of Baton Rouge Parish of East Baton Rouge
Department of Public Works

Triangular Sediment Filter Dike



Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ● Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ○ Training
- ◒ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

DESCRIPTION
A Triangular Sediment Filter Dike is a self contained silt fence consisting of filter fabric wrapped around welded wire fabric shaped into a triangular cross section. While similar in use to a silt fence, the dike is reusable, sturdier, transportable and can be used on paved areas or in situations where it is impractical to install embedded posts for support.

PRIMARY USE
Triangular filter dikes are used in place of silt fence, treating sediment flow at the perimeter of construction areas and at the perimeter of the site. Also, the dikes can serve as stream protection devices by preventing sediment from entering the streams or as check dams in small swales.

Triangular sediment filter dikes are especially useful for construction areas surrounded by pavement, such as roadways, taxiways, ramps, etc., where silt fence or hay bale installation is Since they can be anchored without penetration, pavement damage can be minimized.

APPLICATIONS
Triangular dikes are used to provide perimeter control by detaining sediment on a disturbed site with drainage that would otherwise flow onto adjacent areas. Triangular dikes also serve as sediment trapping devices when used in areas of sheet flow across disturbed areas or are placed along stream banks to prevent sediment-laden sheet flow from entering the stream. The dikes can be subjected to more concentrated flows and a higher flowrate than silt fence.

DESIGN CRITERIA
- Dikes are to be installed along a line of constant elevation (along a contour line).
- Maximum slope perpendicular to the dike is 1:1.
- Maximum drainage flow to the dike shall be 11 CFS per 100 linear feet of dike.
- Maximum distance of flow to dike should be 200 feet or less.
- Maximum concentrated flow to dike shall be 1 CFS.

BMP 6

City of Baton Rouge Parish of East Baton Rouge
Department of Public Works

Silt Fence

- Minimum equivalent opening size shall be 100 (#100 sieve).
- If 85% or more of soil, by weight, passes the U.S. Standard sieve No. 200, silt fences shall not be used due to potential clogging.
- Sufficient room for the operation of sediment removal equipment shall be provided between the silt fence and other obstructions in order to properly maintain the fence.
- The ends of the fence shall be turned upstream to prevent bypass of stormwater.

LIMITATIONS
Minor ponding will likely occur at the upstream side of the silt fence resulting in minor localized flooding.

Fences which are constructed in swales or low areas subject to concentrated flow may be overtopped resulting in failure of the filter fence. Silt fences subject to areas of concentrated flow (waterways with flows > 1 cfs) are not acceptable.

Silt fence can interfere with construction operations, therefore planning of access routes onto the site is critical.

Silt fence can fail structurally under heavy storm flows, creating maintenance problems and reducing the effectiveness of the system.

MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large storm events. If the fabric becomes clogged, it should be cleaned or if necessary, replaced.

Sediment should be removed when it reaches approximately one-half the height of the fence.

BMP 4

Department of Public Works

Straw Bale Dike

- Dimensions for individual bales shall be 30 inches minimum length, 18 inches minimum height, 24 inches minimum width and shall weigh no less than 50 pounds when dry.
- Each straw bale shall be placed into an excavated trench having a depth of 4 inches and a width just wide enough to accommodate the bales themselves.
- Straw bales shall be installed in such a way that there is no space between bales
- Individual bales shall be held in place by at least two wood stakes driven a minimum distance of 6 inches below the 4" excavated trench to undisturbed ground, with the first stake driven at an angle toward the previously installed bale.
- The ends of the dike shall be turned upgrade to prevent bypass of stormwater.
- Place bales on sides such that bindings are not buried.

LIMITATIONS
Due to a short effective life caused by biological decomposition, straw bales must be replaced after a period of no more than 3 months. During the wet and warm seasons, however, they must be replaced more frequently as is determined by periodic inspections for structural integrity.

Straw bale dikes are not recommended for use with concentrated flows of any kind except for small check flows in which they can serve as a check dam.

The effectiveness of straw bales in reducing sediment is very limited. Improperly maintained, straw bales can have a negative impact on the water quality of the runoff.

MAINTENANCE REQUIREMENTS
Straw bales shall be replaced if there are signs of degradation such as straw located downstream from the bales, structural deficiencies due to rotting straw in the bale or other signs of deterioration. Sediment should be removed from behind the bales when it reaches a depth of approximately 6 inches.

BMP 5

Department of Public Works

Triangular Sediment Filter Dike

- If 50% or less of soil, by weight, passes the U.S. Standard sieve No. 200, select the equivalent opening size (E.O.S.) to retain 85% of the soil.
- Maximum equivalent opening size shall be 70 (#70 sieve).
- Minimum equivalent opening size shall be 100 (#100 sieve).
- If 85% or more of soil, by weight, passes the U.S. Standard sieve No. 200, triangular sediment dike shall not be used due to clogging.
- Sufficient room for the operation of sediment removal equipment shall be provided between the dike and other obstructions in order to properly remove sediment.
- The ends of the dike shall be turned upgrade to prevent bypass of stormwater.

LIMITATIONS
Ponding will likely occur directly adjacent to the dike which may possibly cause flooding.

Triangular sediment filter dikes are not effective for conditions which include substantial concentrated flows or when they are not constructed along a contour line due to the potential for flow concentration and overtopping.

MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large (> 0.5 inches) storm events. If the fabric becomes clogged, it should be cleaned or if necessary, replaced.

Sediment should be removed when it reaches approximately 6 inches in depth. In addition, inspections should be made on a regular basis to check the structural integrity of the dike. If structural deficiencies are found, the dike should be immediately repaired or replaced.

As with silt fence, integrity of the filter fabric is important to the effectiveness of the dike. Overlap between dike sections must be checked on a regular basis and repaired if deficient.

BMP 6

Department of Public Works

DATE	DESCRIPTION REVISIONS	BY

STATE OF LOUISIANA
THOMAS A. STEPHENS
License No. 19417
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/14/2013

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	2 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

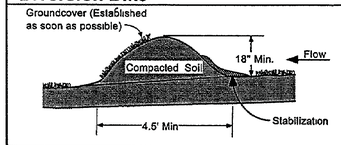
ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	214

Diversion Dike



DESCRIPTION
A diversion dike is a compacted soil mound which redirects runoff to a desired location The dike is typically stabilized with natural grass for low velocities or with stone or erosion control mats for higher velocities.

PRIMARY USE
The diversion dike is normally used to intercept offsite flow upstream of the construction area and direct the flow around the disturbed soils. It can also be used downstream of the construction area to direct flow into a sediment reduction device such as a sediment basin or protected inlet. The diversion dike serves the same purpose and, based on the topography of the site, can be used in combination with an interceptor swale.

APPLICATIONS
By intercepting runoff before it has the chance to cause erosion, diversion dikes are very effective in reducing erosion at a reasonable cost. They are applicable to a large variety of projects including site developments and linear projects such as roadways and pipeline construction. Diversion dikes are normally used as perimeter controls for construction sites with large amounts of offsite flow from neighboring properties. Used in combination with swales, the diversion dike can be quickly installed with a minimum of equipment and cost, using the swale excavation as the dike. No sediment removal technique is required if the dike is properly stabilized and the runoff is intercepted prior to crossing disturbed areas.

Significant savings in structural controls can be realized by using diversion dikes to direct sheet flow to a central area such as a sediment basin or other sediment reduction structure if the runoff crosses disturbed areas.

DESIGN CRITERIA
- The maximum contributing drainage area should be 10 acres or
- Maximum depth of flow at the dike shall be 1 foot for 2 year design storm.
- The maximum width of the flow at the dike shall be 20 feet.
- Side slopes of the diversion dike shall be 3:1 or flatter.

Applications
- Perimeter Control
- **Slope Protection**
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ● Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ◒ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ○ Training
- ● Suitability for Slopes >5%

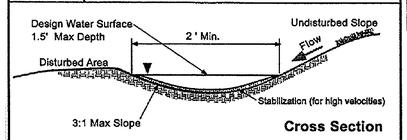
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP 7

City of Baton Rouge Parish of East Baton Rouge

Department of Public Works

Interceptor Swale



Cross Section

DESCRIPTION
An interceptor swale is a small v-shaped or parabolic channel which collects runoff and directs it to a desired location. It can either have a natural grass lining or depending on slope and design velocity, a protective lining of erosion matting, stone or concrete.

PRIMARY USE
The interceptor swale can either be used to direct sediment laden flow from disturbed areas into a controlled outlet or to direct 'clean' runoff around disturbed areas. Since the swale is easy to install during early grading operations, it can serve as the first line of defense in reducing runoff across disturbed areas. As a method of reducing runoff across the disturbed construction area, it reduces the requirements of structural measures to capture sediment from runoff since the flow is reduced. By intercepting sediment laden flow downstream of the disturbed area, runoff can be directed into a sediment basin or other BMP for sedimentation as opposed to long runs of silt fence, straw bales or other filtration method.

Based on site topography, swales can be effectively used in combination with diversion dikes.

APPLICATIONS
Common applications for interceptor swales include roadway projects, site development projects with substantial offsite flow impacting the site and sites with a large area(s) of disturbance. It can be used in conjunction with diversion dikes to intercept flows. Temporary swales can be used throughout the project to direct flows away from staging, storage and fueling areas along with specific areas of construction. Note that runoff which crosses disturbed areas or is directed into unstabilized swales must be routed into a treatment BMP such as a sediment basin.

Grass lined swales are an effective permanent stabilization technique. The grass effectively filters both sediment and other pollutants while reducing velocity.

Applications
- Perimeter Control
- **Slope Protection**
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ● Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ● Floatable Materials
- ◒ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ○ Training
- ● Suitability for Slopes >5%

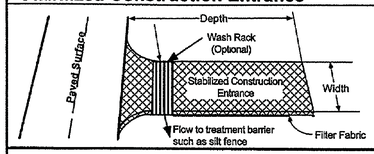
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP 8

City of Baton Rouge Parish of East Baton Rouge

Department of Public Works

Stabilized Construction Entrance



DESCRIPTION
A stabilized construction entrance consists of a pad consisting of gravel, crushed stone, recycled concrete or other rock like material on top of geotextile filter cloth to facilitate the wash down and removal of sediment and other debris from construction equipment prior to exiting the construction site. For added effectiveness, a wash rack area can be incorporated into the design to further reduce sediment tracking. For long term projects, cattle guards or other type of permanent rack system can be used in conjunction with a wash rack. This directly addresses the problem of silt and mud deposition in roadways used for construction site access.

PRIMARY USE
Stabilized construction entrances are used primarily for sites in which significant truck traffic occurs on a daily basis. It reduces the need to remove sediment from streets. If used properly, it also directs the majority of traffic to a single location, reducing the number and quantity of disturbed areas on the site and providing protection for other structural controls through traffic control.

APPLICATIONS
Stabilized construction entrances are a required part of the erosion control plan for all site developments larger than 5 acres and a recommended practice for all construction sites. It is not suitable for long, linear projects. If possible, small entrances should be incorporated into small lot construction due to the large percentage of disturbed area on the site and the high potential for offsite tracking of silt and mud.

DESIGN CRITERIA
- Stabilized construction entrances are to be constructed such that drainage across the entrance is directed to a controlled, stabilized outlet on site with provisions for storage
- The entrance must be properly graded so that storm water is not allowed to leave the site and enter roadways.
- Minimum width of entrance shall be 15 feet, but in no case shall the width be less than that of the entry way to be used.

Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- **Temporary Stabilization**
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ◒ Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ◒ Maintenance
- ○ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP 9

City of Baton Rouge Parish of East Baton Rouge

Department of Public Works

Diversion Dike

- Minimum width of the embankment at the top shall be 2 feet.
- Minimum embankment height shall be 18 inches as measured from the toe of slope on the upgrade side of the berm
- For velocities less than 6 feet per second, the minimum stabilization for the dike and adjacent flow areas is grass, erosion control mats or mulch. For velocities greater than 6 feet per second, stone stabilization or high velocity erosion control mats should be used. Velocities greater than 8 feet per second must be approved by the local jurisdiction.
- The dikes shall remain in place until all disturbed areas which are protected by the dike are permanently stabilized unless other controls are put into place to protect the disturbed area.
- Flow line at dike shall have a positive grade to drain to a controlled outlet.

LIMITATIONS
Compacted earth dikes require stabilization immediately upon placement so as not to contribute to the problem they are addressing.

The diversion dikes can be a hinderance to construction equipment moving on the site, therefore their locations must be carefully planned prior to installation.

MAINTENANCE REQUIREMENTS
Dikes must be inspected on a weekly basis and after each significant (>0.5 inch) rainfall to determine if silt is building up behind the dike, or if erosion is occurring on the face of the dike. Silt shall be removed in a timely manner. If erosion is occurring on the face of the dike, the slopes of the face shall either be stabilized through mulch or seeding or the slopes of the face shall be reduced.

BMP 7

Department of Public Works

Interceptor Swale

DESIGN CRITERIA
- Maximum depth of flow in the swale shall be 1.5 feet based on a 2 year design storm peak flow. Positive overflow must be provided to accommodate larger storms.
- Side slopes of the swale shall be 3:1 or flatter.
- Minimum design channel freeboard shall be 6 inches.
- The minimum required channel stabilization for grades less than 2 percent and velocities less than 6 feet per second may be grass, erosion control mats or mulching. For grades in excess of 2 percent, or velocities exceeding 6 feet per second, stabilization in the form of high velocity erosion mats, a three inch layer of crushed stone or rip rap is required. Velocities greater than 8 feet per second will require approval by the PROGRAM MANAGER.
- Check dams can be used to reduce velocities in steep swales. See check dam BMP fact sheet for design criteria.
- Interceptor swales must be designed for flow capacity based on Manning's Equation to ensure a proper channel section. Alternate channel sections may be used when properly designed and accepted.
- Consideration must be given to the possible impact that any swale may have on upstream or downstream conditions.
- Swales must maintain positive grade to an acceptable outlet.

LIMITATIONS
Interceptor swales must be stabilized quickly upon excavation so as not to contribute to the erosion problem they are addressing.

Swales may be unsuitable to the site conditions (too flat or steep).

Limited flow capacity for temporary swales. For permanent swales, the 1.5 feet maximum depth can be increased as long

MAINTENANCE REQUIREMENTS
Inspection must be made weekly and after each significant (0.5" or greater) rain event to locate and repair any damage to the channel or to clear debris or other obstructions so as not to diminish flow capacity. Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization shall be repaired as soon as practical.

BMP 8

Department of Public Works

Stabilized Construction Entrance

- Minimum depth of entrance shall be 8 inches for the entire length of the control.
- Minimum dimensions for the entrance shall be as follows:

Tract Area	Avg. Lot Depth	Min. Width of Entrance	Min. Depth of Entrance
< 1 Acre	100 feet	15 feet	20 feet
< 5 Acres	200 feet	20 feet	30 feet
< 10 Acres	> 200 feet	20 feet	40 feet
> 10 Acres	> 200 feet	25 feet	50 feet

LIMITATIONS
Selection of the construction entrance location is critical in that to be effective, it must be used exclusively.

Stabilized entrances are rather expensive considering that it must be installed in combination with one or more other sediment control techniques, but it may be cost effective compared to labor intensive street cleaning.

MAINTENANCE REQUIREMENTS
Inspections should be made on a regular basis and after large storm events in order to ascertain whether or not sediment and pollution are being effectively detained on site.

When sediment has substantially clogged the void area between the rocks, the aggregate mat must be washed down or replaced.

Periodic re-grading and top dressing with additional stone must be done to keep the efficiency of the entrance from diminishing.

BMP 9

Department of Public Works

STATE OF LOUISIANA
THOMAS A. STEPHENS
License No. 19417
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
3/12/2018

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	3 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

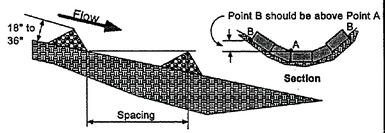
DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

DATE	DESCRIPTION REVISIONS	BY

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	215

Check Dams



DESCRIPTION
Check dams are small barriers consisting of straw bales, rock, or earth berms placed across a drainage swale or ditch. They reduce the velocity of small concentrated flows, provide a limited barrier for sediment and help disperse concentrated flows, reducing potential erosion.

PRIMARY USE
Check dams are used for long drainage swales or ditches in which permanent vegetation may not be established and erosive velocities are present. They are typically used in conjunction with other techniques such as inlet protection, rip rap or other sediment reduction techniques. Check dams provide limited treatment. They are more useful in reducing flow to acceptable levels for other techniques.

APPLICATIONS
Check dams are typically used early in construction in swales for long linear projects such as roadways. They can also be used in short swales with a steep slope to reduce unacceptable velocities.

DESIGN CRITERIA
- Check dams should be placed at a distance and height to allow small pools to form between each one. Typically, dam height should be between 18" and 36". Dams should be spaced such that the top of the downstream dam should be at the same elevation as the toe of the upstream dam.
- See design criteria for straw bales, sand bag berms, etc. for specific criteria. Maximum allowable flow shall be based on the specific technique utilized and the velocity of flow.
- Major flows (greater than 2 year design storm) must pass the check dam without causing excessive upstream flooding.
- Check dams should be used in conjunction with other sediment reduction techniques prior to releasing flow offsite.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ◒ Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ● Maintenance
- ○ Training
- ◒ Suitability for Slopes >5%

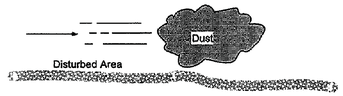
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
10

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Dust Control BMP



DESCRIPTION
Dust control measures are used to stabilize soil from wind erosion, and reduce dust generated by construction activities. Dust which settles on surfaces both on-site and off-site may be washed by storm water into waterways.

APPLICATIONS
- Clearing and grading activities
- Construction vehicles traffic on unpaved roads
- Drilling and blasting activities
- Sediment tracking onto paved roads
- Soil and debris storage piles
- Batch drop from front end loaders
- Areas with unstabilized soil

DESIGN CRITERIA
- Schedule construction activities to minimize the area where, and time period when soils are exposed.
- Quickly stabilize exposed soils using vegetation, mulching, spray-on adhesives, calcium chloride, sprinkling, and stone/gravel layering.
- Identify and stabilize key access points prior to commencement of construction.
- Minimizing the impact of dust by anticipating the direction of prevailing winds.
- Direct most construction traffic to stabilize roadways within the project site.

LIMITATIONS
- Watering prevents dust only for a short period and should be applied daily (or more often) to be effective. Overwatering may cause a contaminated erosion.
- Oils should not be used for dust control because it may migrate into drainageway and/or seep into the soil.
- Certain chemically-treated subgrades may make soil water repellent, increasing runoff.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ◒ Sediment
- ◒ Nutrients Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ◒ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ◒ Training
- Suitability for Slopes >5%

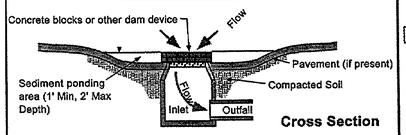
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
11

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Inlet Protection



DESCRIPTION
Inlet protection consists of a variety of methods of intercepting sediment at low point inlets through the use of stone, filter fabric and other materials. This is normally located at the inlet, providing either detention or filtration to reduce sediment and floatable materials in storm water.

PRIMARY USE
Inlet protection is normally used as a secondary defense in site erosion control . it is normally used in new developments that include new inlets or roads with new curb inlets or during major repairs to existing roadways. Inlet protection has limited use in developed areas due to the potential for flooding, traffic safety and pedestrian safety and maintenance problems. Inlet protection can reduce sediment in storm sewer system by serving as a back up system to onsite controls or by reducing sediment loads from controls with limited effectiveness such as straw bale dikes.

APPLICATIONS
Different variations are used for different conditions as follows:
- Filter barrier protection (similar to a silt fence barrier around the inlet) is appropriate when the drainage area is less than one acre and the basin slope is less than five (5) percent. This type of protection is not applicable in paved areas.
- Block and gravel (crushed stone, recycled concrete is also appropriate) protection is used when flows exceed 0.5 c.f.s. and it is necessary to allow for overtopping to prevent flooding
- Wire mesh and gravel protection (crushed stone, recycled concrete is also appropriate) is used when flows exceed 0.5 c.f.s. and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ◒ Sediment
- ○ Nutrients Toxic Materials
- ◒ Oil & Grease
- ◒ Floatable Materials
- ◒ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
12

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Check Dams

LIMITATIONS
Minor ponding will occur upstream of the check dams.

For heavy flows or high velocity flows, extensive maintenance or replacement of the dams will be required.

Check dams are not a total treatment technique.

MAINTENANCE REQUIREMENTS
Maintenance of the dams should adhere to the maintenance requirements of the management practice used for the dam.

BMP
10

Department of Public Works

Dust Control BMP

MAINTENANCE REQUIREMENTS
Most dust control measures require frequent, often daily, attention.

ADDITIONAL INFORMATION
Dust control BMP's generally stabilize expose
dust particles. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel or asphalt surfacing, temporary gravel construction entrances, equipment wash-out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching and fences can be employed for areas of occasional or no construction traffic. Preventive measures would include minimizing surface areas to be disturbed.

Many of the reasonably available control measures for controlling dust from construction sites can also be implemented as BMPs for storm water pollution prevention. Those BMPs include:

- Pave, vegetate, or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Provide covers for haul truck transporting materials that contribute to dust.
- Provide suppression or chemical stabilization of exposed soils.
- Provide for rapid clean-up of sediments deposited on paved roads. Furnish stabilized construction road entrances and vehicle wash down areas.
- Stabilize unpaved haul roads, parking and staging areas. Reduce speed and trips on unpaved roads.
- Implement dust control measures for material stockpiles.
- Prevent drainage of sediment laden storm water onto paved surfaces.
- Stabilize abandoned construction sites using vegetation or chemical stabilization methods.
- Limit the amount of areas disturbed by clearing and earth moving operations by scheduling these activities in phases.

For the chemical stabilization, there are many products available as dust palliatives for chemically stabilizing gravel roadways and stockpiles.

In addition, there are many other BMPs identified in this

- Seeding and Plantings
- Stabilized Construction Entrances
- Construction Road Stabilization
- Mulching

BMP
11

Department of Public Works

Inlet Protection

- Excavated impoundment protection around a drop inlet may be used for protection against sediment entering a storm drain system. With this method, it is necessary to install weep holes to allow the impoundment to drain completely. The impoundment shall be sized such that the volume of excavation shall be equal to 1800 to 3600 cubic feet per acre of contributing drainage area entering the inlet for full effectiveness. Smaller volumes can be used for reduced effectiveness.

DESIGN CRITERIA
- Filter fabric protection shall be designed and maintained in a manner similar to silt fence.
- Maximum depth of flow shall be eight (8) inches or less depending on vehicular and pedestrian traffic.
- Positive drainage is critical in the design of inlet protection. If overflow is not provided for at the inlet, flows which exceed the capacity of the inlet protection system shall be routed through established swales, streets or other watercourses to minimize damage due to ponding and to provide for public safety.

LIMITATIONS
Ponding will occur at the inlet with possible flooding as a result.

Inlet protection is only viable at low point inlets. Inlets which are on a slope cannot be effectively protected because stormwater will bypass the inlet and continue downstream, causing an overload condition at inlets beyond.

MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large (> 0.5 inches) storm events. When silt fence is used and the fabric becomes clogged, it should be cleaned or if necessary, replaced. Also, sediment should be removed when it reaches approximately one-half the height of the fence. If a sump is used, sediment should be removed when the volume of the basin is reduced by 60%.

For systems using stone filters, when the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill material and put new stone around the inlet.

BMP
12

Department of Public Works

STATE OF LOUISIANA
THOMAS A. STEPHENS
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PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2/12/2013

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	4 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

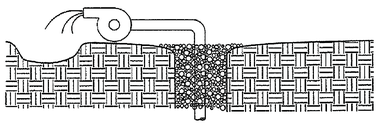
DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

DATE	DESCRIPTION REVISIONS	BY

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	216

Dewatering Operations



DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from dewatering operations by using sediment controls and by testing the water for contamination.

APPLICATIONS
There are two general classes or pollutants that may result from dewatering operations: sediment, and toxics and petroleum products. A high sediment content in dewatering discharges is common because of the nature of the operation. On the other hand, toxics and petroleum products are not commonly found in dewatering discharges unless, the site or surrounding area has been used for light or heavy industrial activities, or the area has a history of groundwater contamination.

DESIGN CRITERIA
- Use sediment controls to remove sediment from water generated from dewatering.
- Use filtration to remove sediment from a sediment trap or basin. Filtration can be achieved with:
  - Sump pit and a standpipe in the center with holes and wapped in filter fabric. The standpipe is surrounded by stones which filters the water as it collects in the pit before being pumped out;
  - Floating suction hose allowing cleaner surface water to be pumped out; or
  - Standpipe in the sediment basin with slits and wrapped in filter fabric to remove sediments.
- Toxics and Petroleum Products:
  - In areas suspected of having groundwater contamination, protect yourself early in the excavation process by sampling and having the water tested at a certified laboratory. Check with the Louisiana Department of Environmental Quality and the PROGRAM MANAGER for their requirements, including additional water quality tests and disposal options.

Applications
- Perimeter Control
- Slope Protection
- **Sediment Trapping**
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ○ Nutrients
- ○ Toxic Materials
- ◒ Oil & Grease
- ○ Floatable Materials
- ● Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ○ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

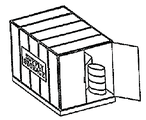
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
13

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Material Delivery And Storage



DESCRIPTION
Prevent or reduce the discharge or pollutants to storm water from material delivery and storage by minimizing the storage of hazardous materials on-site, storing materials in a designated area, installing secondary containment, conducting regular inspection, and training employees and subcontractors.

This best management practice covers only material delivery and storage. For information on wastes, see the waste management BMPs.

APPLICATIONS
The following materials are commonly stored on construction sites:
- Pesticides and herbicides.
- Fertilizers.
- Detergents.
- Petroleum products such as fuel, oil, and grease.
- Other hazardous chemicals such as acids, lime, glues, paints, solvents, and curing compounds.

Storage of these materials on-site can pose the following risks:
- Storm water contamination.
- Injury to workers or visitors.
- Groundwater contamination.
- Soil contamination.

DESIGN CRITERIA
- Designate an area of the construction site for material delivery and storage.
  - Place near the construction entrance, away from waterways
  - Avoid transport near drainage paths or waterways
  - Surround with earth berms

Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- **Housekeeping Practices**

Targeted Constituents
- ○ Sediment
- ○ Nutrients
- ○ Toxic Materials
- ◒ Oil & Grease
- ○ Floatable Materials
- ● Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ○ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

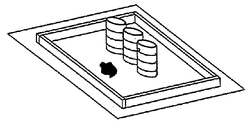
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
14

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Spill Prevention And Control



DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

This best management practice covers only spill prevention and control. However, Material Delivery and Storage and Material Use, also contain useful information, particularly on spill prevention. For information on wastes, see the waste management BMPs.

APPLICATIONS
The following steps will help reduce the storm water impacts of leaks and spills:

General Measures
- Hazardous materials and wastes should be stored in covered containers and protected from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.

Cleanup
- Clean up leaks and spills immediately.
- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to either a certified laundry (rags) or disposed of as hazardous waste.
- Never down or bury dry materials spills. Sweep up or excavate the material and dispose of properly. See the waste management BMPs

Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- **Housekeeping Practices**

Targeted Constituents
- ○ Sediment
- ○ Nutrients
- ○ Toxic Materials
- ◒ Oil & Grease
- ○ Floatable Materials
- ● Other Construction Wastes

Implementation Requirements
- ○ Capital Costs
- ○ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
15

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Dewatering Operations

- Contaminated water can be expensive to treat and/or dispose of properly. However, addressing the problem before construction is much less expensive than after the structures are in place.

LIMITATIONS
The presence of contaminated water may indicate contaminated soil as well. If contaminated water is discovered or suspected, the CONTRACTOR shall stop dewatering and immediately notify the PROGRAM MANAGER.

MAINTENANCE REQUIREMENTS
Maintain sediment controls and filters in good working order.

Inspect excavated areas daily for signs contaminated water as evidenced by discoloration, oily sheet, or odors.

BMP
13

Department of Public Works

Material Delivery And Storage

- Storage of reactive, ignitible, or flammable liquids must comply with the local fire codes and BTR Airport Rescue and Fire Fighting (ARFF) regulations. Contact ARFF, Captain Milton Thomas (504-355-2068), to review site materials, quantities, and proposed storage area to determine specific requirements. See the Flammable and Combustible Liquid Code NFPA30.
- Keep an accurate, up-to-date inventory in your SWPPP of the materials delivered and stored on-site.
- Keep your inventory down. Store only the amount you need, for only as long as you need it.
- Store as few hazardous materials on-site as possible.
- Handle hazardous materials as infrequently as possible.
- Designate a secure material storage area away from drainage courses and near the site entrance.
- Whenever possible, store materials in a covered area with secondary containment such as an earthen dike, horse trough, or even kid's wading pool for non-reactive materials such as detergents, oil, grease and paints. Small amounts of material may be secondarily contained in "busboy" trays or concrete mixing trays.
- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items in secondary containment.
- If drums must be kept uncovered, store them at a slight angle to reduce ponding or rainwater on the lids and to reduce corrosion.
- Try to keep chemicals in their original containers, and keep them well labeled.
- Train employees and subcontractors.
- Employees trained in emergency spill cleanup procedures should be present when dangerous materials or liquid chemicals are unloaded.

LIMITATIONS
Storage sheds often must meet building and fire code requirements.

MAINTENANCE REQUIREMENTS
Keep the designated storage area clean and well organized.
Conduct routine weekly inspections and check for external corrosion of material containers.
Keep an ample supply of spill cleanup materials near the storage area.

BMP
14

Department of Public Works

Spill Prevention And Control

Reporting
- Immediately report spills to the BTR Airport Rescue & Fire Fighting Unit (504-355-2068). Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response center (NRC) at 800-424-8802 (24 hour).

Vehicle and Equipment Maintenance
- If maintenance must occur on-site, use a designated area, located away from drainage courses, prevent the runon of storm water and the runoff of spills.
- Regularly inspect on-site vehicles and equipment for leaks, and repair immediately.
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site.
- Always use secondary containment, such as a drain pan or deep cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent materials under equipment when not in use.
- Use adsorbent materials on small spills rather than hosing down or burying the spill. Remove the adsorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trash cans or dumpsters can leak oil and contaminate storm water. Place the oil filter in a funnel over a water oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries ven if you think all the acid has drained out. If you drop a battery, treat it as if is cracked. Put in into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling
- If fueling must occur on-site, use designated areas, located away from drainage courses, to prevent the runon of storm water and the runoff of spills.
- Discourage "topping-off" of fuel tanks.
- Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.

LIMITATIONS
If necessary, use a private spill cleanup company.

MAINTENANCE REQUIREMENTS
Keep ample supplies or spill control and cleanup materials on-site, near storage, unloading, and maintenance areas.

Update your spill cleanup materials as changes occur in the types of chemicals on-site.

BMP
15

Department of Public Works

STATE OF LOUISIANA
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PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2/14/2012

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	5 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

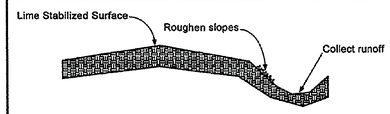
DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

DATE	DESCRIPTION REVISIONS	BY

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	217

Lime Stabilization BMP



DESCRIPTION
Lime stabilization is used extensively in some areas to stabilize pavement subbases for roadways, parking lots and other paved surfaces. Hydrated lime is applied to the soil and mixed through disking and other techniques, then allowed to cure. This practice will reduce the potential for runoff to carry lime offsite, where it may impact aquatic life through changing the pH balance of streams, ponds and other water bodies.

PRIMARY USE
This BMP consists of a series of techniques that should be implemented when lime is required for soil stabilization.

APPLICATIONS
Each of the techniques listed can be used under a variety of conditions. The engineer should determine the applicability of the technique based on site conditions such as available open space, quantity of area to be stabilized, proximity of nearby water courses and other BMPs employed at the site. The use of diversion dikes and interceptor swales (see appropriate

in conjunction with these techniques to reduce the impact of the lime.

DESIGN CRITERIA
- The contractor shall limit lime operations to that which can be thoroughly mixed and compacted by the end of each work day.
- No traffic other than water trucks and mixing equipment shall be allowed to pass over the spread lime until after completion of mixing.
- Areas adjacent and downstream of stabilized areas shall be roughened to intercept lime from runoff and reduce runoff velocity.
- Geotextile fabrics such as those used for silt fence should not be used to address lime since the grain size of lime is significantly smaller than the equivalent opening size of the fabric.
- For areas which phasing of lime operations is impractical, use of a curing seal such as Liquid Asphalt, Grade MC-250 or MC-800 applied at a rate of 0.15 gallons per square yard of surface can be used to protect the base.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ○ Nutrients
- ○ Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ○ Capital Costs
- ○ Maintenance
- ○ Training
- ○ Suitability for Slopes >5%

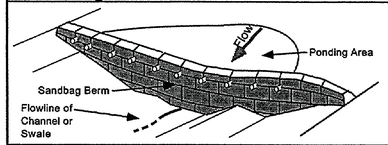
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
16

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Sand Bag Berm



DESCRIPTION
Sandbag berms consist of stacked sandbags installed across a watercourse to direct flow around construction or to allow sedimentation to occur for flows downstream of disturbed areas. There are overflow pipes located in the top of the berm to allow controlled outflow of water after sedimentation has occurred.

PRIMARY USE
A sandbag berm is a temporary sediment control method that addresses the problem of construction in creeks, channels and other watercourses which carry a constant flow and is subjected to high, concentrated flows. A sandbag berm can also be used to create a small sedimentation pond prior to the completion of a permanent detention basin.

Sandbag berms can be used as check dams in temporary swales or borrow ditches.

Sandbag berms are not recommended for typical perimeter controls where sheet flow is prevalent.

APPLICATIONS
During utility or any type of construction in channels or stream beds, sandbag berms can be used as check dams across channels, serve as a barrier for utility trenches or even provide a temporary channel crossing for construction equipment without seriously affecting stream conditions. Sandbag berms can also be installed parallel to a roadway, providing a corridor of sediment control similar to that provided by a silt fence or hay bales with the exception that a sand bag dike is capable of controlling much higher flows and is much more durable. For site construction sandbag berms can be used to divert or direct flow or create a temporary sediment basin with the added dimension of being able to be moved to accommodate changes in construction much more easily than compacted earth berms.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ○ Nutrients
- ○ Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ○ Maintenance
- ○ Training
- ● Suitability for Slopes >5%

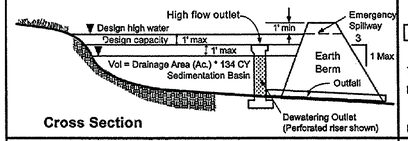
Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
17

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Sediment Basin



Cross Section

DESCRIPTION
A sediment basin is a pond area with a controlled outlet in which sediment-laden runoff is directed to allow settling of suspended sediment from the runoff. It provides treatment for the runoff as well as detention and controlled release of runoff, minimizing flood impacts downstream.

PRIMARY USE
Sediment basins should be used for all sites with adequate open space to site the basin and the ability to direct a majority of the site drainage into the basin. For sites with disturbed areas of 10 acres and larger that are part of a common drainage area, sediment basins are required as either temporary or permanent controls unless specific site conditions limit their use.

APPLICATIONS
Sediment basins serve as treatment devices which can be used on a variety of project types. It is normally used in site development projects in which large areas of land are available for the basin, a stream or drainage way crosses the site, or a specific water feature is planned for the site. Sediment basins are highly effective at reducing sediment and other pollutants for design storm conditions. It also reduces maintenance requirements due to the central location of the sediment and minimal structural requirements of the basin.

DESIGN CRITERIA
- Maximum drainage area contributing to the basin should be 10 acres or less. Larger sediment basins will require specific measures to address the potential for overtopping of the basin and possible failure of the berm.
- Minimum capacity of the basin shall be 3600 cubic feet per disturbed acre of contributing drainage area.
- Deposited sediment shall be removed when the storage capacity of the basin has been depleted by 20%.
- Minimum width of the embankment at the top shall be 8 feet.
- Minimum embankment slope shall be 3:1.
- Maximum embankment height shall be 6 feet as measured from

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ● Sediment
- ◒ Nutrients
- ○ Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ◒ Maintenance
- ○ Training
- ● Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP
18

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Lime Stabilization BMP

- Use of sediment basins with a significant (>36 hour) drawdown time is encouraged for large stabilized areas (see Sediment Basin BMP).

LIMITATIONS
These techniques are part of an overall plan to reduce pollutants from an active construction site. In the case of pollution due to lime, prevention of contamination is the only effective method to address this pollutant. Proper application and mixing along with avoiding applications when there is a significant probability of rain will reduce lime runoff.

MAINTENANCE REQUIREMENTS
None.

BMP
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Department of Public Works

Sand Bag Berm

DESIGN CRITERIA
- Berms are to be constructed along a line of constant elevation (a contour line) for use as perimeter control devices.
- Maximum flow through rate shall be 0.1 CFS per square foot of berm surface.
- Minimum height shall be 18 inches.
- Minimum width of the berm shall be 18 inches at the top and 54 inches measured at the bottom.
- Maximum side slopes shall be 2:1.
- Maximum design freeboard shall be 0.3 feet
- Sandbags shall be consist of jute, polypropylene, polyethylene or polyamide woven fabric. Jute shall be composed of a uniform weave of undyed and unbleached single jute jarn weighing an average of 1.2 pounds per linear ard of cloth with approximately 78 warp ends per width of cloth. Polypropylene, polyethylene or polyamide woven fabric shall have a minimum unit weight of 4 ounces per square yard, a mullen burst strength of 300 psi minimum and ultraviolet stability exceeding 70 percent, and shall be filled with coarse sand or pea gravel.
- 4" diameter Schedule 40 or greater PVC pipe segments approximately 24 inches in length shall be used immediately below the top layer of sandbags to allow for flow through the berm.
- For severe velocities or high flows, woven wire mesh can be used to maintain the integrity of the berm.
- Sufficient room for the operation of sediment removal equipment shall be provided between the berm and other obstructions in order to properly remove sediment.
- The ends of the berm shall be turned upgrade or shall tie into natural grades to prevent bypass of stormwater.
- In channel applications, the center of the berm must be lower than the outside ends to prevent bypass around the berm.

LIMITATIONS
Sandbag berms are a costly, labor intensive technique which is suitable only for areas subjected to high concentrated flows. The permeability of the berms makes it unsuitable for low flow, perimeter conditions.

Ponding will occur directly upstream from the berm creating the possibility of a flooding concern which should be considered prior to its placement.

For sandbag berms located in high flow areas such as creeks, the potential for berm damage during high flows increases the requirement for maintenance.

MAINTENANCE REQUIREMENTS
Inspections should be made on a daily basis and after each significant (>0.5 inches) rain event. The sandbags shall be reshaped or replaced as need during the inspection. Silt should be removed when it reaches a depth of six (6) inches. In addition, weekly inspections should be made on the PVC pipe segments to assure clear flow.

BMP
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Department of Public Works

Sediment Basin

the toe of slope on the downstream side.
- The basin outlet shall be designed to accommodate a 10 year design storm without causing damage to the containment structure.
- Minimum outlet capacity shall be 0.2 CFS per acre of contributing drainage area.
- The sediment basin shall have a minimum design dewatering time of 36 hours.
- The basin must be laid out such that the effective flow length of the basin should be at least twice the effective flow width.
- The outlet of the outfall pipe shall be stabilized with rip rap or other form of stabilization with design flows and velocities based on 25 year design storm peak flows. For velocities in excess of 5 feet per second, velocity dissipation measures should be used to reduce outfall velocities.

LIMITATIONS
Sediment basins can be rather large depending on site conditions, requiring the use of expensive development area and comprehensive planning for construction phasing prior to implementation.

Storm events which exceed the design storm event can cause damage to the spillway structure of the basin and may impact downstream concerns.

MAINTENANCE REQUIREMENTS
Sediment shall be removed and the basin shall be regraded to its original dimensions at such point that the capacity of the impoundment has been reduced to 20% of its original storage capacity. The removed sediment shall be stockpiled or redistributed in areas which are protected from erosion.

The basin outlet structure and emergency spillway (if present) should be checked frequently and after each major rain event to check for damage and to insure that obstructions are not diminishing the effectiveness of the structures.

BMP
18

Department of Public Works

STATE OF LOUISIANA
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2/12/2018

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	6 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

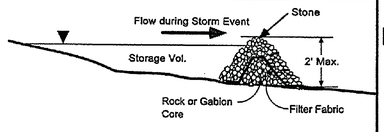
DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

DATE	DESCRIPTION REVISIONS	BY

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	218

Stone Outlet Sediment Trap



DESCRIPTION
A stone outlet sediment trap is a small ponding area formed by placing a stone embankment or gabion core with an integral stone filter outlet across a drainage swale for the purpose of detaining sediment-laden runoff generated by construction activities. The sediment trap detains runoff long enough to allow most of the suspended sediment to settle while still allowing for diffused flow of runoff.

PRIMARY USE
A sediment trap is used in situations where flows are concentrated in a drainage swale or channel. The sediment trap reduces velocities and allows for settling of sediment while allowing the area behind the trap to de-water. This is normally used for long term (18 months or less) applications in which a sediment basin is not feasible due to site or construction method restrictions. The use of a gabion core as opposed to a
dewatering the area as necessary.

APPLICATIONS
Temporary stone outlet sediment traps are installed at locations where concentrated flows require a protected outlet to contain sediment or spread flow prior to discharge.

DESIGN CRITERIA
- Maximum drainage area contributing to the trap shall be 3 acres. For larger drainage areas, a sediment basin should be used.
- The minimum length of the crest, in feet, of the stone outlet shall be equal to 6 times the size (acres) of the contributing drainage area.
- Deposited sediment shall be removed when the depth of sediment is equal to one-third of the height of the outlet structure as measured from the original toe of slope to the crest of the outlet, or has reached a depth of one foot, whichever is less.
- Minimum width of the embankment at the top shall be 3 feet.
- Minimum embankment slope shall be 3:1.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
● Sediment
○ Nutrients
Toxic Materials
○ Oil & Grease
◒ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
● Capital Costs
◒ Maintenance
○ Training
● Suitability for Slopes >5%

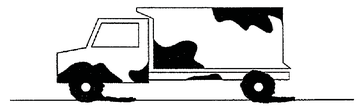
Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

BMP
19

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Vehicle And Equipment Cleaning



DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment cleaning by using off-site facilities, washing in designated areas only, discharges to the storm drain by infiltrating or recycling the wash water and training employees and subcontractors.

APPLICATIONS
Washing vehicles and equipment outdoors or in areas where wash water

DESIGN CRITERIA
- Use off-site commercial washing businesses as much as possible. For operations involving a large number of vehicles or pieces of equipment, consider conducting this work at an off-site commercial business equipped to handle and dispose of the wash waters properly. Performing this work off-site can also be economical by eliminating the need for a separate washing operation at your site.
- If washing must occur on-site, use designated, bermed wash areas to prevent wash water contact with storm water, creeks, rivers, and other water bodies.
for wash water collection and subsequent infiltration into the ground.
- Use as little water as possible to avoid having to install erosion and sediment controls for the wash area.
- Use phosphate-free, biodegradable soaps.
- Educate employees and subcontractors on pollution prevention measures.
- Do not permit steam cleaning on-site. Steam cleaning can generate significant pollutant concentrations leading to potential storm water and groundwater contamination.
- In construction areas where truck tires collect mud, provide a cleaning areas for removing soil before truck leaves site. Truck tires cleaning area should not be directly a jacent to drainage conveyances. A vegetated buffer area should be located downstream of the tire wash. For heavy use of tire wash area, silt fencing, or sediment trapping may be necessary.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
◒ Sediment
○ Nutrients
Toxic Materials
◒ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
○ Capital Costs
◒ Maintenance
◒ Training
○ Suitability for Slopes >5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

BMP
20

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Vehicle And Equipment Fueling

DESCRIPTION
Prevent fuel spills and leaks, and reduce their impacts to storm water by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors.

APPLICATIONS
Fueling vehicles and equipment outdoors or in areas where wash water flows onto the ground can pollute storm water.

DESIGN CRITERIA
- Use of off-site fueling stations as much as possible. If you fuel a large number of vehicles or pieces of equipment, consider using an off-site fueling station equipped to handle fuel and spills properly. Performing this work off-site can also be economical by eliminating the need for a separate fueling area at your site.
- If fueling must occur on-site, use designated areas, located away from drainage course to prevent the runon of storm water and the runoff of spills.
- Discourage "topping-off" of fuel tanks.
- Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Use adsorbent materials on small spills rather than hosing down or burying the spill. Remove the adsorbent materials promptly and dispose of properly.
- Carry out all Federal and State requirements regarding stationary above ground storage tanks.
- Do not use mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and perhaps small forklifts, most vehicles should be able to travel to a designated area with little lost time.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
○ Sediment
○ Nutrients
Toxic Materials
◒ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
◒ Capital Costs
○ Maintenance
◒ Training
○ Suitability for Slopes >5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

BMP
21

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Stone Outlet Sediment Trap

- Maximum embankment height shall be 2 feet as measured from the toe of slope to the crest of the stone outlet. The height of the compacted earth embankment shall be one foot higher than the crest of the outlet.
- The maximum allowable flow-through rate shall be 0.1 CFS per square foot of the frontal area of the outlet structure.
- The effective life of the stone outlet sediment trap is approximately 18 months.

LIMITATIONS
Limited applications due to cost of construction, availability of materials, and the amount of land required.

Can cause minor flooding upstream of dam, impacting construction operations.

This technique serves as a temporary measure during construction. It should not be used for more than 18 months due to reduced efficiency.

MAINTENANCE REQUIREMENTS
Sediment shall be removed and the area directly behind the berm shall be regraded to its original dimensions at such point when the capacity of the impoundment has been reduced to one-half of its original storage capacity. The removed sediment shall be stockpiled or redistributed in areas which are protected from erosion.

The stone outlet structure should be inspected frequently and after each major rain event to check for clogging of the void spaces between stones. If the aggregate appears to be silted in such that efficiency is diminished, the stone should be replaced.

BMP
19

Department of Public Works

Vehicle And Equipment Cleaning

LIMITATIONS
Even phosphate-free, biodegradable soaps have been shown degrades.
Sending vehicles/equipment off-site should be done in conjunction with Entrance).

MAINTENANCE REQUIREMENTS
Minimal.

BMP
20

Department of Public Works

Vehicle And Equipment Fueling

- Train employees and subcontractors in proper fueling and cleanup procedures.

LIMITATIONS
Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance BMP.

MAINTENANCE REQUIREMENTS
Keep ample supplies of spill cleanup materials on-site.
Inspect fueling areas and storage tanks on a regular schedule.

BMP
21

Department of Public Works

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	7 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

DATE	DESCRIPTION REVISIONS	BY

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

PROJECT NO.	SHEET
12-AR-MS-014A	219

Solid Waste Management

DESCRIPTION
Large volumes of solid waste are often generated at construction sites including: packaging, pallets, wood waste, concrete waste, soil, electrical wiring, cuttings, and a variety of other materials. The solid waste management practice lists techniques to minimize the potential of storm water contamination from solid waste through appropriate storage and disposal practices.

PRIMARY USE
These practices should be a part of all construction practices. By limiting the trash and debris on site, storm water quality is improved along with reduced clean up requirements at the completion of the project.

APPLICATIONS
The solid waste management practice for construction sites is based on proper storage and disposal practices by construction workers and supervisors. Key elements of the program are education and modification of improper disposal habits. Cooperation and vigilance is required on the part of supervisors and workers to ensure that the recommendations and procedures are followed. Following are lists describing the targeted materials and recommended procedures:

- Targeted Solid Waste Materials
  - Paper and cardboard containers
  - Plastic packaging
  - Styrofoam packing and forms
  - Insulation materials (non-hazardous)
  - Wood pallets
  - Wood cuttings
  - Pipe and electrical cuttings
  - Concrete, brick, and mortar waste
  - Shingle cuttings and waste
  - Roofing tar
  - Steel (cuttings, nails, rust residue)
  - Gypsum board cuttings and waste
  - Sheathing cuttings and waste
  - Miscellaneous cutting and waste
  - Food waste
  - Demolition waste

Storage Procedures
- Wherever possible, minimize production of solid waste materials.
- Designate a foreman or supervisor to oversee and enforce proper solid waste procedures.
- Instruct construction workers in proper solid waste procedures.
- Segregate potentially hazardous waste from non-hazardous construction site debris.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ● Nutrients Toxic Materials
- ○ Oil & Grease
- ● Floatable Materials
- ● Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP 22

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Hazardous Waste Management

DESCRIPTION
The hazardous waste management BMP addresses the problem of storm water polluted with hazardous waste through spills or other forms of contact. The objective of the Management Program is to minimize the potential of stormwater contamination from common construction site hazardous wastes through appropriate recognition, handling, storage and disposal practices.

It is not the intent of this Management Program to supersede or replace normal site assessment and remediation procedures. Significant spills and/or contamination warrant immediate response by trained professionals. Suspected job-site contamination should be immediately reported to regulatory authorities and protective actions taken. The General Permit requires reporting of significant spills to the National Response Center (NRC) at (800) 424-8802.

PRIMARY USE
These management practices along with applicable OSHA and EPA guidelines should be incorporated at all construction sites which use or generate hazardous wastes. Many wastes such as fuel, oil, grease, fertilizer and pesticide are present at most construction sites.

INSTALLATION, APPLICATION AND DISPOSAL CRITERIA
The hazardous waste management techniques presented here are based on proper recognition, handling, and disposal practices by construction workers and supervisors. Key elements of the management program are education, proper disposal practices, as well as provisions for safe storage and disposal. Following are lists describing the targeted materials and recommended procedures:

- Targeted Hazardous Waste Materials
  - Paints
  - Solvents
  - Stains
  - Wood preservatives
  - Cutting oils
  - Greases
  - Roofing tar
  - Pesticides
  - Fuels & lube oils
  - Lead based paints (Demolition)

Storage Procedures
- Wherever possible, minimize use of hazardous materials.
- Minimize generation of hazardous wastes on the job-site.
- Segregate potentially hazardous waste from non-hazardous construction site debris.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ● Nutrients Toxic Materials
- ● Oil & Grease
- ○ Floatable Materials
- ● Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP 23

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Concrete Waste Management

DESCRIPTION
Concrete waste at construction sites comes in two forms; 1) excess fresh concrete mix including truck and equipment washing, and 2) concrete dust and concrete debris resulting from demolition. Both forms have the potential to impact water quality through storm water runoff contact with the waste.

PRIMARY USE
Concrete waste is present at most construction sites. This BMP should be utilized at sites in which concrete waste is present.

APPLICATIONS
A number of water quality parameters can be affected by introduction of concrete - especially fresh concrete. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of both cement and aggregate dust are also generated from both fresh and demolished concrete waste.

Current Unacceptable Waste Concrete Disposal Practices
- Dumping in vacant areas on the job-site
- Illicit dumping off-jobsite
- Dumping into ditches or drainage facilities

Recommended Disposal Practices
- Avoid unacceptable disposal practices listed above.
- Develop pre-determined, safe concrete disposal areas.
- Provide a washout area with a minimum of 6 cubic feet of containment area volume for every 10 cubic yards of concrete poured.
- Never dump waste concrete illicitly or without property owners knowledge and consent.
- Treat runoff from storage areas through the use of structural controls as required.

Education
- Drivers and equipment operators should be instructed on proper disposal and equipment washing practices (see above).
- Supervisors must be made aware of the potential environmental consequences of improperly handled concrete waste.

Enforcement
- The construction site manager or foreman must ensure that employees and pre-mix companies follow proper procedures for concrete disposal and equipment washing.
- Employees violating disposal or equipment cleaning directives must be re-educated or disciplined if necessary.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ● Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

BMP 24

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Solid Waste Management

- Keep solid waste materials under cover in either a closed dumpster or other enclosed trash container that limits contact with rain and runoff.
- Store waste materials away from drainage ditches, swales and catch basins.
- Do not allow trash containers to overflow.
- Do not allow waste materials to accumulate on the ground.
- Prohibit littering by workers and visitors.
- Police site daily for litter and debris.
- Enforce solid waste handling and storage procedures.

Disposal Procedures
- If feasible, segregate recyclable wastes from non-recyclable waste materials and dispose of properly.
- General construction debris may be hauled to a licensed construction debris landfill (typically less expensive than a sanitary landfill).
- Use waste facilities approved by local jurisdiction.
- Runoff which comes into contact with unprotected waste shall be directed into structural treatment such as silt fence to remove debris.

Education
- Educate all workers on solid waste storage and disposal procedures.
- Instruct workers in identification of solid waste and hazardous waste.
- Have regular meetings to discuss and reinforce disposal procedures (incorporate in regular safety seminars).
- Clearly mark on all solid waste containers which materials are acceptable.

Quality Control
- Foreman and/or construction supervisor shall monitor on-site solid waste storage and disposal procedures.
- Discipline workers who repeatedly violate procedures.

Requirements
- Job-site waste handling and disposal education and awareness program.
- Commitment by management to implement and enforce Solid Waste Management Program.
- Compliance by workers.
- Sufficient and appropriate waste storage containers.
- Timely removal of stored solid waste materials.
- Possible modest cost impact for additional waste storage containers.
- Small cost impact for training and monitoring
- Minimal overall cost impact.

LIMITATIONS

Only addresses non-hazardous solid waste.
One part of a comprehensive construction site management program.

BMP 22

Department of Public Works

Hazardous Waste Management

- Designate a foreman or supervisor to oversee hazardous materials handling procedures.
- Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.
- Store waste materials away from drainage ditches, swales and catch basins.
- Use containment berms in fueling and maintenance areas and where the potential for spills is high.
- Ensure that adequate hazardous waste storage volume is available.
- Ensure that hazardous waste collection containers are conveniently located.
- Do not allow potentially hazardous waste materials to accumulate on the ground.
- Enforce hazardous waste handling and disposal procedures.
- Clearly mark on all hazardous waste containers which materials are acceptable for the container.

Disposal Procedures
- Regularly schedule hazardous waste removal to minimize on-site storage.
- Use only reputable, licensed hazardous waste haulers.

Education
- Instruct workers in identification of hazardous waste
- Educate workers of potential dangers to humans and the environment from hazardous wastes
- Instruct workers on safety procedures for common construction site hazardous wastes
- Educate all workers on hazardous waste storage and disposal procedures
- Have regular meetings to discuss and reinforce identification, handling and disposal procedures (incorporate in regular safety seminars)
- Establish a continuing education program to indoctrinate new employees.

Quality Assurance
- Foreman and/or construction supervisor shall monitor on-site hazardous waste storage and disposal procedures.
- Educate and if necessary, discipline workers who violate procedures.
- Ensure that the hazardous waste disposal contractor is reputable and licensed.

Requirements
- Job-site hazardous waste handling and disposal education and awareness program.
- Commitment by management to implement hazardous waste management practices.
- Compliance by workers.
- Sufficient and appropriate hazardous waste storage containers.
- Timely removal of stored hazardous waste materials.

Costs
- Possible modest cost impact for additional hazardous storage containers.
- Small cost impact for training and monitoring.
- Potential cost impact for hazardous waste collection and disposal by licensed hauler - actual cost depends on type of material and

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Department of Public Works

Concrete Waste Management

Demolition Practices
- Monitor weather and wind direction to ensure concrete dust is not entering drainage structures and surface waters.
- Where appropriate, construct sediment traps or other types of sediment detention devices downstream of demolition activities.

Requirements
- Use a pre-determined disposal site(s) approved by LADEQ for waste concrete (See BMP 22 Solid Waste Management). Inform PROGRAM MANAGER of selected disposal site(s).
- Prohibit dumping waste concrete anywhere but pre-determined areas.
- Assign pre-determined truck and equipment washing areas.
- Educate drivers and operators on proper disposal and equipment cleaning procedures.

Costs
- Minimal cost impact for training and monitoring.
- Concrete disposal cost depends on availability and distance to suitable disposal areas
- Additional costs involved in equipment washing could be significant.

LIMITATIONS
This concrete waste management program is one part of a comprehensive construction site waste management program.

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STATE OF LOUISIANA
THOMAS A. STEPHENS
License No. 19417
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2/14/2013

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	8 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

DATE	DESCRIPTION REVISIONS	BY

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

PROJECT NO.	SHEET
12-AR-MS-014A	220

Sandblasting Waste Management

DESCRIPTION

The objective of the this management program is to minimize the potential of storm water quality degradation from sandblasting activities at construction sites. The key issues in this program are prudent handling and storage of sandblast media, dust suppression, and proper collection and disposal of spent media. it is not the intent of this program to outline all of the worker safety issues pertinent to this practice. Safety issues should be addressed by construction safety programs as well as local, state, and federal regulations.

INSTALLATION/APPLICATION CRITERIA

Since the media consists of fine abrasive granules, it can be easily transported by air and running water. Sandblasting activities typically create a significant dust problem which must be contained and collected to prevent off-site migration of fines.

Operational Procedures
- Use only inert, non-degradable sandblast media.
- Use appropriate equipment for the job, do not over-blast.
- Wherever possible, blast in a downward direction.
- Install a wind sock or other wind direction instrument.
- Cease blasting activities in high winds or if wind direction could transport grit to drainage facilities.
- Install dust shielding around sandblasting areas.
- Collect and dispose of all spent sandblast grit, use dust containment fabrics and dust collection hoppers and barrels.
- Non-hazardous sandblast grit may be disposed in permitted construction debris landfills or permitted sanitary landfills.
- If sandblast media cannot be fully contained, construct sediment traps downstream from blasting area where appropriate.
- Use fencing where appropriate in areas where blast media - cannot be fully contained.
- If necessary, install misting equipment to remove sandblast grit from the air - prevent runoff from misting operations from entering drainage systems.
- Use vacuum grit collection systems where possible.
- Keep records of sandblasting materials, procedures, and weather conditions on a daily basis.
- Take all reasonable precautions to ensure that sandblasting grit is contained and kept away from drainage structures.

Educational Issues
- Educate all on-site employees of potential dangers to humans and the environment from sandblast grit.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ● Nutrients Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ● Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ● Maintenance
- ● Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

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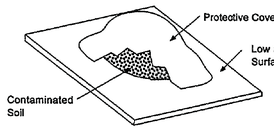
25

City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Contaminated Soil Management



DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly.

APPLICATIONS
Contaminated soils may occur on your site for several reasons including:
Past site uses and activities;
Detected or undetected spills and leaks; and

DESIGN CRITERIA
- Conduct thorough site planning including pre-construction geologic surveys.
- Look for contaminated soil as differences in soil properties.
- Seal bedrock fractures with grout or bentonite to reduce seepage from excavation.
- Prevent leaks and spills to the maximum extent practicable. Contaminated soil can be expensive to treat and/or dispose of properly. However, addressing the problem before building construction is much less expensive than after the buildings are in place.
- Test suspected soils at a certified laboratory.
- If the soil is contaminated, work with the local regulatory agencies to develop options for treatment and/or disposal.

LIMITATIONS
If necessary, use a private spill cleanup company.

MAINTENANCE REQUIREMENTS
Contaminated soils that cannot be treated on-site must be disposed of off-site by a licensed hazardous waste hauler.
The presence of contaminated soil may indicate contaminated water as well.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ◒ Nutrients Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ◒ Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ○ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

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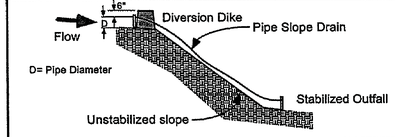
City of Baton Rouge
Parish of
East Baton Rouge

Department of Public Works

Pipe Slope Drain



DESCRIPTION
A pipe slope drain is a temporary pipe line typically utilizing flexible pipe that conveys runoff down unstabilized slopes. The drain is anchored on the upstream end with some form of headwall to limit erosion and secure the pipe.

PRIMARY USE
A pipe slope drain is used on sites with a long, unstabilized, steep slope area which is subject to erosion from overland flow. It is normally used in combination with interceptor swales or diversion dikes to direct the flow into the pipe area. The pipe slope drain can provide service for a relatively large area. It does not treat the runoff, therefore if the runoff contains sediment, treatment through a controlled outlet will be required before the flow is released offsite.

APPLICATIONS
Sites with large berms or grade changes such as roadway embankments are candidates for a pipe slope drain. Since provisions must be made to direct the flow into the pipe drain, some grading is normally required upstream of the pipe slope drain. Installed properly, slope erosion can be greatly reduced (but not entirely eliminated) through the use of the drain.

Pipe slope drains also require a stabilized outlet. This is critical since the velocities at the outfall are normally high. Velocity dissipators as well as stone or concrete rip rap are typically required to reduce the velocity and spread the flow, reducing erosion. Flow from a pipe slope drain should be routed to a sediment reduction practice through interceptor swales, diversion dikes or other suitable methods.

DESIGN CRITERIA
- The entrance to the pipe slope drain may be a standard corrugated metal pre-fabricated flared end section with an integral toe plate extending a minimum of 6 inches from the bottom of the end section. The grade of the entrance shall be 3 percent maximum.
- The berm at the entrance shall have a minimum height of the pipe diameter + 6" and a minimum width of 3 times the pipe diameter.
- All sections of the pipe slope drain shall be connected using watertight collars or gasketed watertight fittings.
- All sediment-laden runoff conveyed by the pipe slope drain shall be directed to a sediment trapping facility.
- Temporary pipe slope drains are to be sized to accommodate runoff flows equivalent to a 10 year storm as calculated using the Rational Method and

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ◒ Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ◒ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ● Maintenance
- ○ Training
- ● Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

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City of Baton Rouge
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Department of Public Works

Sandblasting Waste Management

- Instruct all on-site employees of the potential hazardous nature of sandblast grit and the possible symptoms of over-exposure to sandblast grit.
- Instruct operators of sandblasting equipment on safety procedures and personal protection equipment.
- Instruct operators on proper procedures regarding storage, handling and containment of sandblast grit.
- Instruct operators to recognize unfavorable weather conditions regarding sandblasting activities.
- Instruct operators and supervisors on current local, state and federal regulations regarding fugitive dust and hazardous waste from sandblast grit.
- Have weekly meetings with operators to discuss and reinforce proper operational procedures.
- Establish a continuing education program to indoctrinate new employees.

Materials Handling Recommendations
- Sandblast media should always be stored under cover away from drainage structures.
- Ensure that stored media or grit is not subject to transport by wind.
- Ensure that all sandblasting equipment as well as storage containers comply with current local, state and federal regulations.
- Refer to Hazardous Waste BMP for hazardous components.
- Capture and treat runoff which comes into contact with sandblasting material or waste.

Quality Assurance
- Foremen and/or construction supervisor should monitor all sandblasting activities and safety procedures.
- Educate and if necessary, discipline workers who violate procedures.
- Take all reasonable precautions to ensure that sandblast grit is not transported off-site or into drainage facilities.

Requirements
- Education and awareness program for all employees regarding control of sandblasting and potential dangers to humans and the environment.
- Operator and supervisor education program for those directly involved in sandblasting activities
- Instructions on material handling, proper equipment operation, personal protective equipment, fugitive dust control, record keeping and reporting.
- Proper sandblast equipment for the job.
- Site-specific fugitive dust control and containment equipment.
- Site-specific fugitive dust control procedures.
- Compliance by supervisors and workers.

Costs
- Minimal cost for training and monitoring.
- Potential for significant cost for containment procedures on large jobs.
- Potential for significant costs associated with cleanup, correction and remediation if contamination occurs.

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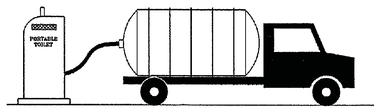
Department of Public Works

Sanitary/Septic Waste Management



DESCRIPTION
Prevent or reduce the discharge of pollutants to storm water from sanitary/septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

APPLICATIONS
This BMP is

DESIGN CRITERIA
- Sanitary or septic wastes should be treated or disposed of in accordance with State and local requirements.
- Locate sanitary facilities in a convenient location.
- Untreated raw sewage should never be discharged or buried.
- Temporary septic systems should treat wastes to appropriate levels before discharging.
- If using an on-site disposal system (OSDS), such as a septic system, contact the
- If discharging to the sanitary sewer, contact the local sewage treatment plant for their requirements.
- Sanitary/septic facilities should be maintained in good working order by a licensed service.
- Arrange for regular waste collection by a licensed hauler before facilities overflow.

LIMITATIONS
There are no major limitations to this best management practice.

MAINTENANCE REQUIREMENTS
Inspect facilities regularly. Arrange for regular waste collection.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
- ○ Sediment
- ● Nutrients Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ○ Capital Costs
- ◒ Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

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City of Baton Rouge
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Department of Public Works

Pipe Slope Drain

Manning's equation, but in no case shall pipes be sized smaller than is shown in the following table:

Minimum Pipe Size	Maximum Contributing Drainage Area
12"	0.5 Acres
18"	1.5 Acres
21"	2.5 Acres
24"	3.5 Acres
30"	5.0 Acres

- Maximum drainage area for individual pipe slope drains shall be 5 acres. For areas larger than 5 acres, additional drains shall be added.
- Both the entrance and outfall of the pipe slope drain should be properly stabilized. Grass can normally be used at the entrance, but armor type stabilization such as stone or concrete rip rap is normally required to address the high velocities of the outfall.
- An effectiveness rating is based on the ratio of storm water routed away from the slope and into the pipe drain versus the total area of the drainage basin. A minimum value of 0.40 and a maximum value of 0.85 is used for the rating.

LIMITATIONS
- Drains must be located away from construction areas since the drain can easily be damaged by construction traffic.
- Securing the pipe to the slope can be difficult and require significant maintenance during the life of the system.
- In situations where pipe slope drains convey sediment-laden runoff, pipes can become clogged during large rain events causing water to overtop the diversion dike thereby creating a serious erosion condition.
- Grading is normally required upstream of the pipe slope drain in order to direct flow into the system. This can cause additional cost and maintenance.
- A pipe slope drain reduces erosion but does not prevent it or reduce the amount of sediment in runoff. Additional measures should be used in conjunction with the pipe slope drain to treat the flow.

MAINTENANCE REQUIREMENTS
Inspection must be made of the pipe after each significant (>0.5 inch) rain event to locate and repair any damage to joints or clogging of the pipe. In cases where the diversion dike has deteriorated from around the entrance of the pipe, it may be necessary to reinforce the dike with sandbags or to install a concrete collar to prevent failure. Signs of erosion around the pipe drain should be addressed in a timely manner by stabilizing the area with erosion control mats, crushed stone, concrete or other acceptable method.

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STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	9 OF 11

STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

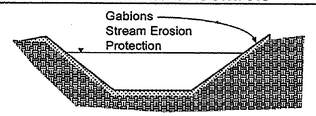
DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

DATE	DESCRIPTION REVISIONS	BY

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	221

Permanent Structural Controls



Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ● Sediment
- ○ Nutrients Toxic Materials
- ○ Oil & Grease
- ○ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ◒ Maintenance
- ○ Training
- ● Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

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DESCRIPTION
Permanent erosion techniques consist of a wide variety of erosion prevention methods including gabions, retaining walls, and rip rap. These are not included as individual BMPs since they go beyond construction phase measures and due to the fact that their use is widespread in the region and the variety of design factors influencing design.

PRIMARY USE
Permanent erosion control is required at the completion of the construction phase of the project. This includes permanent structural methods as well as non-structural methods such as vegetation.

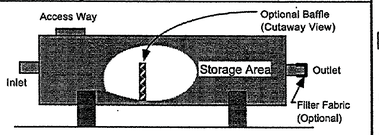
APPLICATIONS
Due to high installation cost and long term maintenance, permanent structural methods should be used only when necessary to address severe erosive conditions. In certain instances however, retaining walls are an effective method to reduce site slopes, reducing runoff velocity. Gabions and concrete rip-rap are effective in reducing stream bank erosion under severe concentrated flow conditions and at pipe outfalls.

DESIGN CRITERIA
Most structural controls such as gabions and rip-rap are designed based on the velocity of flow and the size of the stone used. Project plans will address this as part of standard details. Specifications for rip rap will be provided in design specifications for stone size based on the design velocity of flow across the structure. Manufacturers' information addresses stone size along with basket dimensions for gabions.

Design of retaining walls is based on a variety of structural conditions including soil compressive strength, wall height and water table influence. Tables of dimensions for retaining walls based on site conditions are available from a variety of sources including the Concrete Reinforcing Steel Institute (CRSI).

A critical aspect with regards to the design of many permanent controls is adequate anchoring of the structure to prevent undermining of the

Temporary Sediment Tank



Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ◒ Sediment
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- ○ Oil & Grease
- ○ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ● Capital Costs
- ● Maintenance
- ◒ Training
- ○ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

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Parish of
East Baton Rouge

Department of Public Works

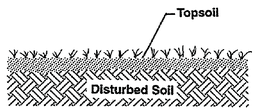
DESCRIPTION
A temporary sediment tank (TST) is a large truck mounted tank used to hold sediment laden water to provide for sedimentation and filtration. For smaller applications, 55 gallon drums or other water tight container can be used for storage. Water is pumped into the tank where it is detained. If desired an outlet with a geofabric filter can be provided to release the flow after a period of detention.

PRIMARY USE
A TST is typically used at construction sites in urban areas where conventional methods of sediment removal (e. g., sediment traps, sediment basins) are not practical.

APPLICATIONS
Applications for a TST include utility construction in confined areas (such as a business district or large developed area) or localized construction in which other BMPs are not required such as small, depressed construction (tank farms). This includes pumpage from excavation in heavily developed areas, such as a central business district, with flows due to groundwater or runoff entering the trench or excavated area.

DESIGN CRITERIA
- A TST can be used as either a sedimentation or filtration device. If an oil sheen is present in the runoff, additional treatment will be required before release of runoff.
- For use as a small scale sedimentation basin, de-watering discharge is directed into the TST to a level below the tank midpoint and held for a minimum of 2 hours to allow settlement of a majority of the suspended particles. The tank should be designed for a controlled release when the contents of the tank reach a level higher than the midpoint. When sediment occupies 1/3 the capacity of the TST, it should be removed from the tank.
- As a filtration device, a TST is used for collecting de-watering discharge and flowing it through a filtered opening at the outlet of

Topsoiling



Applications
- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents
- ◒ Sediment
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- ○ Floatable Materials
- ○ Other Construction Wastes

Implementation Requirements
- ◒ Capital Costs
- ◒ Maintenance
- ○ Training
- ◒ Suitability for Slopes >5%

Legend
- ● Significant Impact
- ◒ Medium Impact
- ○ Low Impact
- ? Unknown or Questionable Impact

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Parish of
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Department of Public Works

STANDARD FOR TOPSOILING[1]

TOPSOILING

Definitions: Topsoiling is the stripping, storing and spreading of fertile topsoil over disturbed areas.

Purpose: Topsoiling will provide a more suitable soil medium if the existing or constructed surface is unfavorable for plant growth. Topsoiling will greatly increase the success of establishing good vegetations, help reduce soil erosion, and enhance the beauty of the development.

Conditions Where Practices Applies:

Topsoiling is Used Where:

- The texture and quality of the exposed subsoil or parent material are not suitable for producing adequate vegetative growth.
- The soil material is so shallow that the rooting zone is not deep enough to support plants with continuing supplies of moisture and plant nutrients.
- The soil is extremely acidic or contains material toxic to plant growth.

Design Criteria

- **Topsoil Materials**
  The site should be explored to determine if there is sufficient surface soil of good quality to justify stripping. If

Permanent Structural Controls

foundation and washout of sediment at the edges of the structure. Where applicable, proper anchoring in the form of embedment or 'toe in' of the structure is required.

LIMITATIONS
The initial cost is an important consideration in selection of permanent structural controls.

Stream bank erosion protection such as rip rap provides limited protection unless used extensively due to the potential for erosion at the edges of the rip rap.

MAINTENANCE REQUIREMENTS
Most stone or concrete structures require little maintenance, but may be subject to vandalism. As mentioned above, erosion around the structure may undermine the integrity of the structure. When maintenance is required, it is typically very extensive and costly.

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Department of Public Works

Temporary Sediment Tank

the tank to reduce suspended sediment volume. The filter opening in the TST should have an EOS (see silt fence BMP) of 70 or smaller.

LIMITATIONS
This is a specialized technique for the situations listed. It is not cost effective for normal sediment removal conditions.

The use of a temporary sediment tank is limited by the capacity of the tank, the time required for settlement of suspended material, and disposal of the water and the sediment.

MAINTENANCE REQUIREMENTS
The temporary sediment tank should be inspected periodically during and after use. A tank should be cleaned out when it becomes 1/3 full of sediment.

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Department of Public Works

Topsoiling

additional off-site topsoil is needed, it should meet the following standards as well:

- Topsoil should be friable and loamy (loam, sandy loam, silt loam, sandy clay loam, clay loam).
- Topsoil should be free of debris, objectionable weeds and stones, and contain no toxic substances that may be harmful to plant growth.
- Organic matter content should not be less than 0.75 percent by weight; pH range should be from 5.0 - 7.5.

- **Stripping and Stockpiling**
  Stripping should be confined to the immediate construction area. A 4-6 inch stripping depth is common, but may vary depending on the particular soil.

  Topsoil should be stockpiled so that natural drainage is not obstructed and off-site sediment damage does not occur. stockpile sideslopes should not exceed 2:1. A perimeter dike with a outlet or straw bale barriers should surround the stockpiles. Temporary seeding should be completed within 15 days of stockpile formation.

- **Site Preparation**
  When topsoiling, maintain needed erosion control practices such as diversion dikes, sediment basins, waterways, etc.

  Grading - Grades on the areas to be topsoiled, which have been previously established, should be maintained.

  Liming - Where the pH of the subsoil is .0 or less or the soil is composed of heavy clays, agricultural lime be spread in accordance with the soil test on the vegetative establishment practice being used.

BMP
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Department of Public Works

DATE	DESCRIPTION REVISIONS	BY

STATE OF LOUISIANA
THOMAS A. STEPHENS
License No. 15417
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
2/14/2013

STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	10 OF 11

STORM WATER POLLUTION
PREVENTION PLAN
BEST MANAGEMENT PRACTICES

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

903–01

PROJECT NO.	SHEET
12-AR-MS-014A	222

Topsoiling

Bonding - After and immediately prior to dumping and spreading the topsoil, the subgrade should be loosened by disking and scarifying to a depth of at least two inches to insure bonding of the topsoil and subsoil.

- **Applying Topsoil**
  Topsoil should be handled when it is dry enough to work without damaging soil structure. A uniform application of 4 to 6 inches unsettled should be made.

  No sod or seed should be placed on soil which has been treated with soil sterilants until sufficient time has elapsed to permit dissipation of toxic materials.

General Notes

There are advantages and disadvantages in topsoiling:

- Stripping, stockpiling, reapplying or importing topsoil may not always be cost-effective. Topsoiling can delay seeding or sodding operations and increase the exposure time of denuded areas. Also, most topsoils contain weed seeds, and weeds may compete with desirable species.

- On the other hand, the advantages of topsoil include its high organic matter content, friable nature, water-holding capacity, and nutrient content, which makes it an excellent medium for growth and greatly reduces chances of failure.

Further, preparing a seedbed in subsoil may be considered instead of topsoiling, as some subsoils may provide a good growth medium which is generally free of weed seeds.

If topsoiling is to be done, it should be determined if an adequate volume of topsoil exists on the site. The stockpile should be located for proper non-erosive drainage and such that it does not interfere with work on the site. Sufficient time should be allowed for spreading and bonding topsoil

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Department of Public Works

Topsoiling

prior to seeding, sodding or planting; topsoil and subsoil should be properly bonded. Topsoil should not be applied to a subsoil with contrasting texture (as a clay) unless the surface of the subsoil is scarified to provide a good bond with the topsoil.

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Department of Public Works

STATE OF LOUISIANA
THOMAS A. STEPHENS
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STANDARD PLAN NO.	DATED	SHEET NO.
903–01	FEBRUARY 25, 2008	11 OF 11

STORM WATER POLLUTION PREVENTION PLAN
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ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. CHENG	G. VANNICE	G. CHENG	T. STEPHENS

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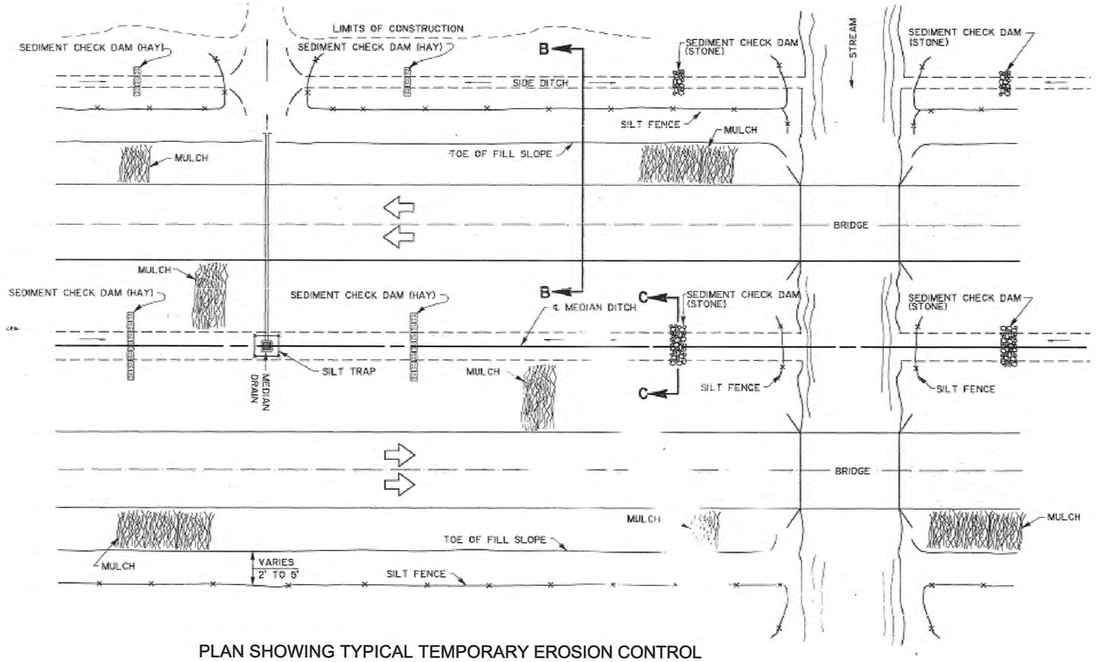
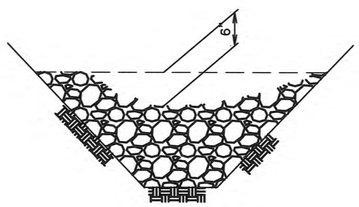


PLAN SHOWING TYPICAL TEMPORARY EROSION CONTROL

MULCHES:
Mulches are the application of mats of material placed on the soil surface to prevent erosion by protecting the soil surface from raindrop impact and to reduce the velocity of overland flow. Mulches can be organic or synthetic. Mulches shall be in accordance with the Standard Specifications for mulches. A few guidelines for the use of Mulches are:

1. Use on cut and embankment slopes which have not been completed to plan grade or where the weather or soil conditions will not permit completing them within a reasonable time;
2. Use on cleared, grubbed, and scalped areas where soil erosion is likely to occur;
3. Use with temporary seeding.

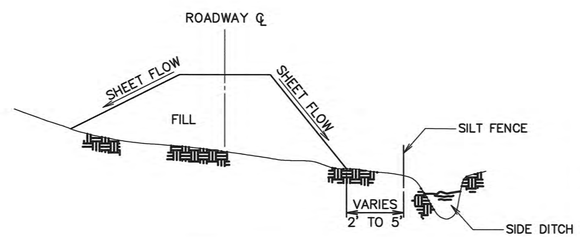


SECTION C–C

TEMPORARY SEDIMENT CHECK DAM (STONE)

NOTES:
A stone check dam is a small temporary dam constructed across a swale or drainage ditch. The purpose of this measure is to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the of the swale or ditch. The stone check dam will trap small amounts of sediments generated in the ditch itself, however it should not be used as a sediment trapping device. A few basic design guidelines for the use of Stone Check Darns are:

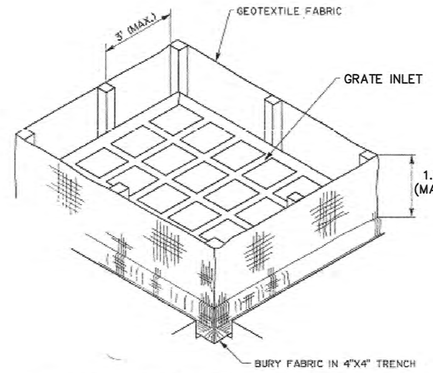
1. Use in small open channels which drain 10 acres or less;
2. Do not use in a live stream;
3. Use in a temporary ditch or swale which, because of their short length of service, cannot receive a non–erodible lining;
4. Use in permanent ditches or swales which will not receive a permanent lining for an extended period of time;
5. use in temporary or permanent ditches or swales which need protection during the establishment of grass linings.
6. For stone specifications, see Section 705, 2lb class.



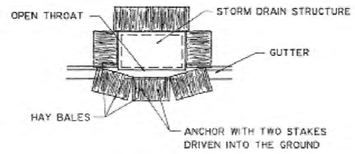
SECTION B–B

TEMPORARY SILT FENCE APPLICATION

(FOR CONSTRUCTION DETAILS AND SPECIFICATIONS SEE SHEET 2 OF 2)

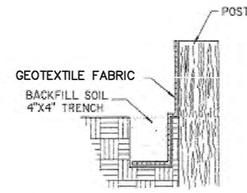


ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC
(BACKFILL SOIL NOT SHOWN)



PLAN SHOWING HAY BALES

PROJECT NO.	SHEET
12-AR-MS-014A	223

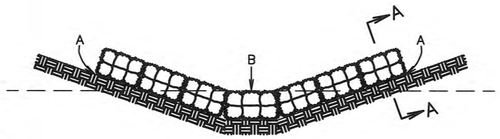


SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC

NOTES:
The temporary drop inlet silt trap is to be used for small drainage areas (less than 1 acre) where the storm drain is functional before the area is stabilized. The trap can be either geotextile fabric or hay bales.

1. Wooden stakes supporting the fabric shall be 2" X 2" or 2" X 4" with a minimum length of 3 feet. The stakes shall be spaced around the inlet at a maximum spacing of 3 feet;
2. The height of the fabric above the inlet shall be limited to 1.5' and the bottom of the fabric shall be buried in a trench approximately 4" wide by 4" deep. The fabric shall be stapled to the post with ½" staples;
3. The trap should be inspected regularly after each storm. The sediment should be removed and make sure each stake is firmly in the ground.
4. The geotextile fabric shall conform to Type F or G as per Standard Specifications.

TEMPORARY INLET SILT TRAP



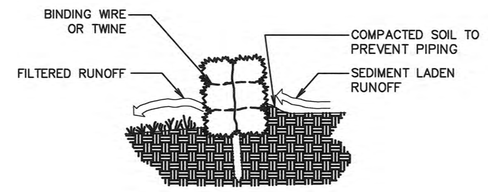
POINTS A SHOULD BE HIGHER THAN POINT B.

ELEVATION

TEMPORARY SEDIMENT CHECK DAM (HAY)

NOTES:
A hay bale barrier is a temporary sediment barrier consisting of a row of entrenched and anchored bales of straw or hay. The hay bale barrier is also used as a check dam to reduce the velocity in small ditches or swales. A few basic design guidelines for the use of a Hay Bale Barrier are:

1. Use where erosion would occur in the form of sheet and rill erosion;
2. Use in minor swales or ditches where the maximum drainage area is 2 acres;
3. Only use where the effectiveness is required for less than 3 months;
4. Do not use in live streams or in swales or ditches where there is a possibility of a washout.



SECTION A–A

LADOTD Standard Plan EC-01 has been adopted with modifications for use by the City/Parish as Standard Plan 903-02.

STATE OF LOUISIANA
BRYAN K. HARMON
REG. No. 22595
REGISTERED PROFESSIONAL ENGINEER IN LOUISIANA
CIVIL ENGINEERING

STANDARD PLAN NO.	DATED	SHEET NO.
903–02	November 28, 2009	1 OF 2

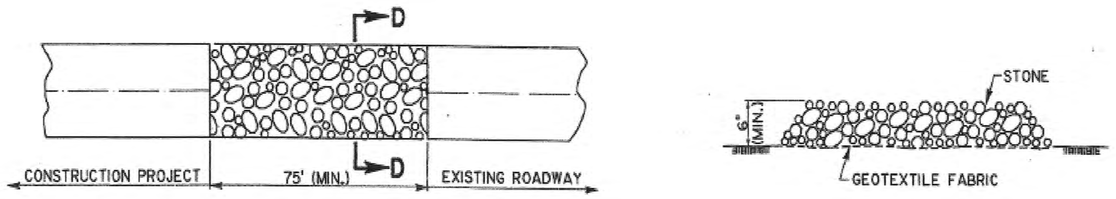
TEMPORARY EROSION CONTROL INSTALLATION DETAILS

DATE	DESCRIPTION REVISIONS	BY

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. L. P.	G. VANNICE	G. L. P.	B. HARMON

PROJECT NO.	SHEET
12-AR-MS-014A	224



PLAN

SECTION D–D

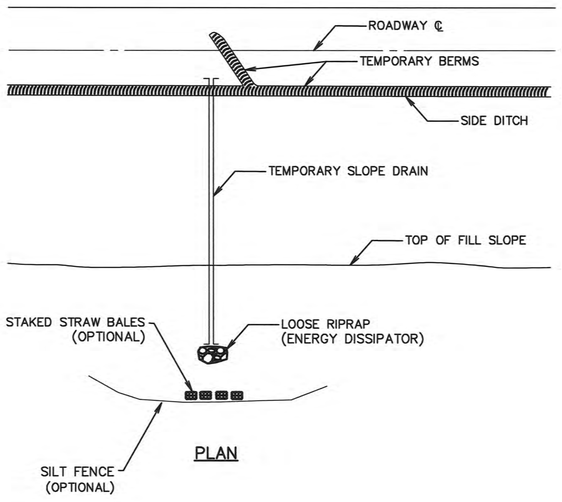
TEMPORARY STONE CONSTRUCTION ENTRANCE

PAY AS SPECIAL ITEM, TEMPORARY STONE CONSTRUCTION ENTRANCE

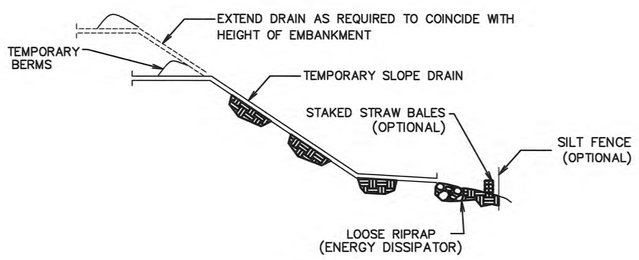
NOTES:
TEMPORARY STONE CONSTRUCTION ENTRANCE AND/OR WASH RACK

A stone stabilized pad located at points of vehicular ingress and egress on the construction site to reduce the amount of mud transported onto public roads. If the action of the vehicle traveling over the gravel pad is not sufficient to remove the majority of the mud, then the tires must be washed before the vehicle enters a public road. A few basic design guidelines for the use of a Stone Construction Entrance and/or Wash Racks are:

1. The stone layer must be a least 6 inches thick;
2. The length of the pad must be at least 75 feet and it must extend the Width of the vehicular ingress and egress;
3. A geotextile fabric underliner is required. The geotextile fabric shall be Type D or per the Standard Specifications;
4. If a wash rack is necessary, provisions must be made to intercept the wash Water and trap the sediment before it is carried off–site.
6. For stone specifications, see Section 705, 2lb class.



PLAN



ELEVATION

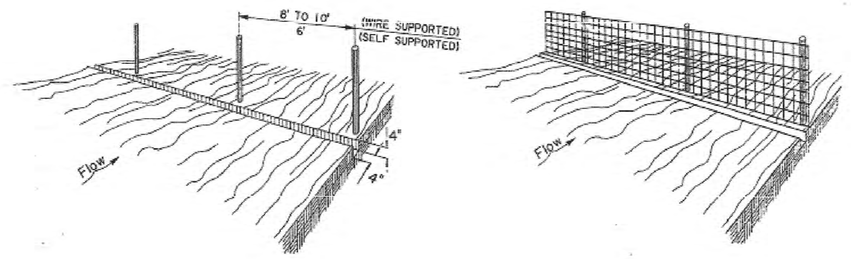
TEMPORARY SLOPE DRAIN

NOTES:
A temporary slope drain is a device used to carry water from the construction work area to a lower elevation. Slope drains may be plastic sheets, metal or plastic pipe, stone gutters, fiber mats, or concrete or asphalt ditches. A few basic design guidelines for the use of a Temporary Slope Drain are:

1. The spacing of the slope drains varies with the road grade.
   For Grades: 0.0% – 2.0% use 500' spacing
   2.1% – 5.0% use 200' spacing
   Greater than 5.0% use 100' spacing
2. Slope drain material: Smooth pipe – 8"minimum
   Corrugated pipe –12"minimum
   Plastic sheeting –4'wide minimum
   Plastic sheeting –3 mils thick minimum
3. Plastic sheeting can be staked down or weighted with rocks or Logs. The area under the sheeting should be shaped to provide an adequate channel.
4. The outlet end should be protected or have some means of dissipating energy. The flow should be directed through a sediment trap such as silt fence or hay bales.
5. To insure proper operation, temporary slope drains should be inspected regularly and after each storm, for clogging or displacement. Erosion at the outlet should be checked and the slit traps cleaned if necessary.

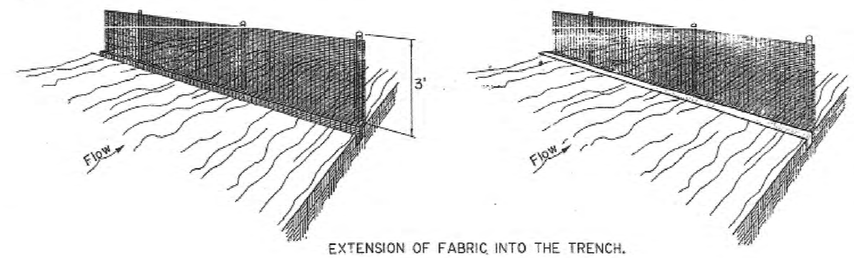
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.

2. STAPLE WIRE FENCING TO THE POSTS.

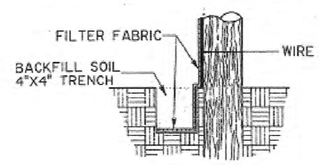


3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT EXCAVATED SOIL.



EXTENSION OF FABRIC INTO THE TRENCH.



CONSTRUCTION OF TEMPORARY SILT FENCING□

(WIRE SUPPORTED SILT FENCE IS SHOWN. SELF SUPPORTED SILT FENCE WILL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.)

NOTES:
Silt fencing is a temporary sediment barrier consisting of a filter fabric support by post and stretched across an area to intercept and detain small amounts of sediment. Silt fencing shall be in accordance with Section 903 of the Standard Specifications. A few basic guidelines for the use of Silt Fencing are:

1. Use where erosion would occur in the form of sheet and rill Erosion;
2. Use where the maximum drainage area behind the silt fence is ¼ acre per 100 feet of silt fence length;
3. Use where the maximum slope length behind the barrier is 100 feet;
4. Use where the maximum gradient behind the barrier is 2:1;
5. Do not use silt fences in live streams or in ditches or swales where flows exceed one cubic foot per second.

STATE OF LOUISIANA
BRYAN K. HARMON
REG. No. 22595
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING

DATE	DESCRIPTION REVISIONS	BY

STANDARD PLAN NO. 903–02	DATED November 28, 2009	SHEET NO. 2 OF 2

TEMPORARY EROSION CONTROL INSTALLATION DETAILS

ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
G. L. P.	G. VANNICE	G. L. P.	B. HARMON

PROJECT NO.	SHEET
12-AR-MS-014A	225

GENERAL PROVISIONS

- All Temporary Traffic Control (TTC) Devices used shall be in accordance with the City–Parish Standard Specifications for Public Works Construction, the current edition of the Manual on Uniform Traffic Control Devices (MUTCD), and the requirements of the National Cooperative Highways Research Program (NCHRP) 350 for Test Level 3. The MUTCD is available at http:mutcd.fhwa.dot.gov/
- The Contractor shall provide one or more authorized Traffic Control Supervisor (TCS) in accordance with the Standard Specifications.
- Materials used for Temporary Traffic Controls shall be in accordance with the City–Parish Standard Specifications for Public Works Construction and when applicable the City–Parish Qualified Products List (C–P QPL).
- No temporary traffic controls shall be erected without the approval of the City–Parish Traffic 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 City–Parish Traffic Engineer.
- Responsibility is hereby placed upon the contractor for the installation, maintance, 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 personal. All reflective devices such as signs, drums, barricades, vertical panels, delineators of any type, etc. shall be cleaned or washed periodically to maintain their effectiveness, as required by conditions or Project Engineer.
- 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 City–Parish Traffic Engineer shall serve as a technical advisor to the Project Engineer for all Traffic Control matters.
- "Road Work XX Miles" sign shall be required on all projects and located at beginning of the project unless otherwise noted. The sign shall be a minimum Thirty–Six (36) inch X Sixty (60) inch unless otherwise noted.
- Warning signs used for lane closures or lane shifts in which the roadway shall be returned to full public use within Fourteen (14) hours or less may be placed on NCHRP350 approved portable sign frames.
- The City–Parish will approve any detour route marking required to guide travelers around the construction area, but the contractor will be responsible for the required signage.

SPEED LIMITS

- Speed limits shall be lowered by Ten (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 Two (2) ft 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 City–Parish Traffic Engineer may authorize the reduction of the speed limit by more than Ten (10) mph.

PAVEMENT MARKINGS (see C–P QPL)

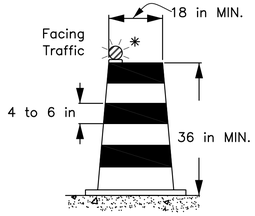
- All pavement markings within the limits of the project that are in conflict with the project signing or the required traffic movements shall be removed from the pavement by blast cleaning or grinding (Existing striping shall not be painted over with black paint or covered with tape).
- If special pavement 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 905 of the Standard Specifications. If no pay item exists, temporary markings will be considered incidental to traffic control.

SIGNS

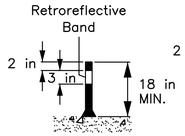
- All signs used for temporary traffic controls shall follow the Department's Standard Plans and the MUTCD. Signs shown in the Standard Plan illustrations are typical and may vary with each specific condition.
- More appropriate signing for a specific condition may be required or substituted with the approval of the Project Engineer and reviewed by the City–Parish Traffic 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 Ten (10) sq ft shall be mounted on two post and signs over Twenty (20) sq ft shall be mounted on at least three post.
- Signs shall have a minimum of Two (2) 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 Forty–Eight (48) ft X Forty–Eight (48) ft, (B) see the Departments Standard Specifications and the C–P QPL for sheeting information, (C) a minimum of a Two (2) lb U–Channel post may be used driven to a minimum depth of Three (3) ft, (D) sign height shall be a minimum of Five (5) ft above the roadway surface unless there is a concern for pedestrians or bicycle traffic in which it shall be a minimum of Seven (7) ft, (E) lateral distance of signs shall be a minimum of Six (6) ft from the edge of shoulder or edge of pavement if no shoulder exist and Two (2) ft from the back of curb in urban areas.
- Vinyl Roll Up signs will be allowed for short term (less than Twelve (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 signs damaged by work operations shall be replaced at the Contractor's expense.

CHANNELIZING DEVICES

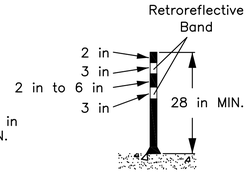
- The following devices may be used: Tubular Markers, Vertical panels, Cones, Drums, and Super Cones. Drums (at standard spacing) and Super Cones (at 1/2 Standard spacing) are the only devices allowed to be used in taper area on the interstate system during daylight hours. Only drums can be used in tapers during night operations.
- Retroreflective material pattern used on super cones shall match that used on drums and conform to Section 1020–1.2(C) of the Standard Specifications.
- Spacing of channelizing devices such as cones, panels, drums, and Type I or II barricades shall not exceed a distance in feet equal to the speed limit when used for taper channelization and a distance in feet of twice the speed limit when used for tangent channelization.
- Twenty–Eight (28) inch traffic cones are not allowed on: 1) interstates, 2) Highways with speeds greater than Forty (40) mph.
- During night time operations: 1) Twenty–Eight (28) inch and Thirty–Six (36) inch cones are not allowed, 2) drums are the only device allowed in the taper.



DRUM

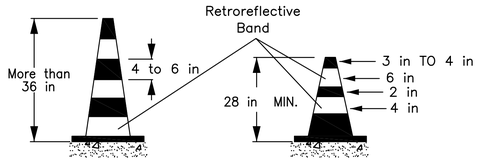


Day and Low–Speed Roadway ≤40 mph



Night and/or Freeway High–Speed Roadway ≥45 mph

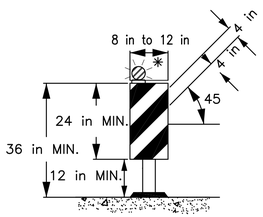
TUBULAR MARKERS



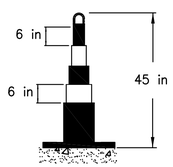
Night and/or Freeway Highway–Speed Roadway ≥45 mph

Day and Low–Speed Roadway ≤40 mph

CONES



VERTICAL PANEL

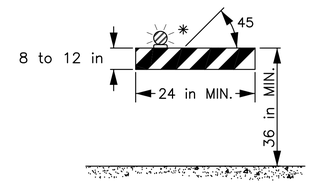


SUPER CONE

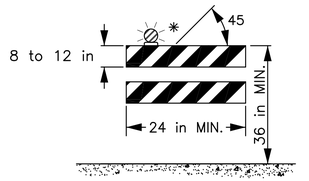
✳ Warning light (optional)

BARRICADES

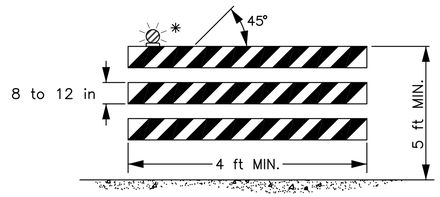
- Barricades shall be designed and applied in accordance with these Standard Plans and the current MUTCD guidance. Generally three types of barricades are used as below. Specific project applications shall be reviewed and approved by the City–Parish Traffic Engineer and shall not deployed without such approval.
- Steady burn lights shall be used when barricades are used in a series for chanelization.
- Type I barricades shall be used on low speed roads or urban streets.
- Type II barricades shall be used on high speed roads.
- Type III barricades shall be used to close a road section to traffic and shall extend completely across a roadway and its shoulders or from curb to curb.
- When signs and lights are to be mounted to a barricade, they must meet NCHRP 350 requirements.



TYPE I BARRICADE ✳✳



TYPE II BARRICADE ✳✳



TYPE III BARRICADE ✳✳

✳ Warning light (optional)

✳✳ Rail stripe widths shall be Six (6) inch, except that Four (4) inch wide stripes may be used if rail lengths are less than Thirty–Six (36) inch. The sides of barricades facing traffic shall have retroreflective rail faces.

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TEMPORARY TRAFFIC CONTROL

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DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
MUTCD	G. C.HENG	S. EDEL	I. PARTENHEIMER

STATE OF LOUISIANA
INGOLF A. PARTENHEIMER
REG. No. 28190
REGISTERED PROFESSIONAL ENGINEER IN ELECTRICAL ENGINEERING
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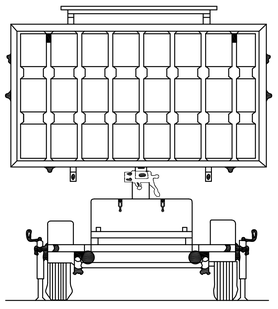
LIGHTING

- All temporary lighting shall be LED.
- Lighting shall supplement barricades that close one or more lanes or that extends across the roadway. A minimum of two lights will be used, but where a travel way ends immediately after a barricade, a minimum of Four (4) lights shall be used. Lighting shall be by approved electrical installations. Battery operated equipment shall conform to NCHRP 350.
- High intensity flashing lights shall be used to mark the first advance warning sign.
- 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 channelizations.
- Flashing units will be mounted as high as possible and battery compartments shall be mounted Six (6) inches from the ground.

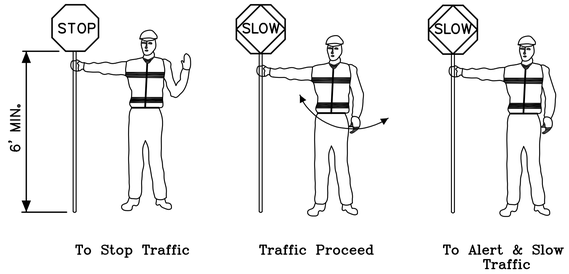
PORTABLE CHANGEABLE MESSAGE SIGNS

- 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 Twenty Thousand (20,000) and should be delineated with retroreflective TTC devices.
- 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 Two (2) miles in advance of the taper for Interstates and to be determined by the City–Parish Traffic Engineer on other roadways.
- CMS messages shall be approved by the City–Parish Traffic Engineer.
- 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 (2) 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 certificate indicating completion of a flagger training course shall be availabel to the engineer if requested. A Qualified Flagger is one that has attended courses such as those offered by the American Traffic Safety Services Association (ATSSA) or other courses approved by the City–Parish.
- When utilized, a flagger shall use a minimum Eighteen (18) inch sign on a minimum Six (6) ft stop/slow paddle and wear ANSI Class 2 vest during day time operations and ANSI Class 3 ensemble during night operations. In all flagging operations, the flagger must be visible from flagger advance warning sign.
- Flagger stations shall be in a highly visible location far enough in advance of the work site so that approaching traffic will have sufficient distance to reduce speed before entering the project. 200–300 feet is desirable. In urban areas, the advances distance may be decreased.

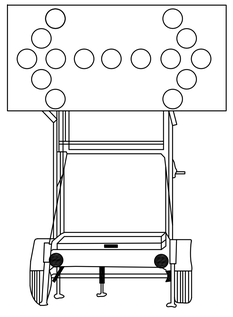


To Stop Traffic | Traffic Proceed | To Alert & Slow Traffic

USE OF HAND SIGN

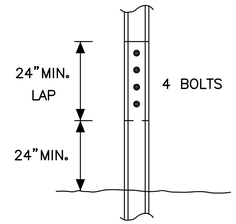
FLASHING ARROW PANELS

- Flashing Arrow Panels shall be used for lane closures on all facilities with Two (2) or more lanes in a single direction and a speed limit greater than Thirty–Five (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 shall be Four (4) ft x Eight (8) ft Type C with LED lighting.
- 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.



ALLOWABLE LAP SPLICE FOR U–CHANNELL POST

U–channel posts may be spliced where long length are required. The upper section shall overlap the lower section by at least Twenty–Four (24) inches. The bottom edge of the upper section of the splice shall be a minimum of Twenty–Four (24) inches above the ground. The spliced sections shall be secured with at least Four (4) 5/16 inch diameter hexhead bolts spaced equally along the splice.



Front View

HIGHWAY–RAIL GRADE CROSSING

1. When a highway–rail grade crossing exists within or upstream of the merging taper and it is anticipated that backups resulting from the lane closure might extend through the highway–rail grade crossing, the TTC zone should be extended so that the merging taper precedes the highway–rail grade crossing.
2. When a highway–rail grade crossing exists within the acitivity area, provisions should be made to provide road users operating on the left side of the normal centerline with comparable warning devices as supplied for road users operating on the right side of the normal centerline.
3. When a highway–rail grade crossing exists within the activity area, early coordination with the railroad company should occur before work starts.
4. When a highway–rail grade crossing exists within the activity area, a flagger may be used at the highway–rail grade crossing to minimize the probability that vehicles are stopped within Fifteen (15) ft of the highway–rail grade crossing, measured from both sides of the outside rails.
5. A truck–mounted attenuator may be used on the work vehicle and/or the shadow vehicle.

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ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

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Suggested Advance Warning Sign Spacing

Road Types	Distance Between Signs*		
	A	B	C
Urban (40 mph or less)	100	100	100
Urban (45 mph or more)	350	350	350
Rural	500	500	500

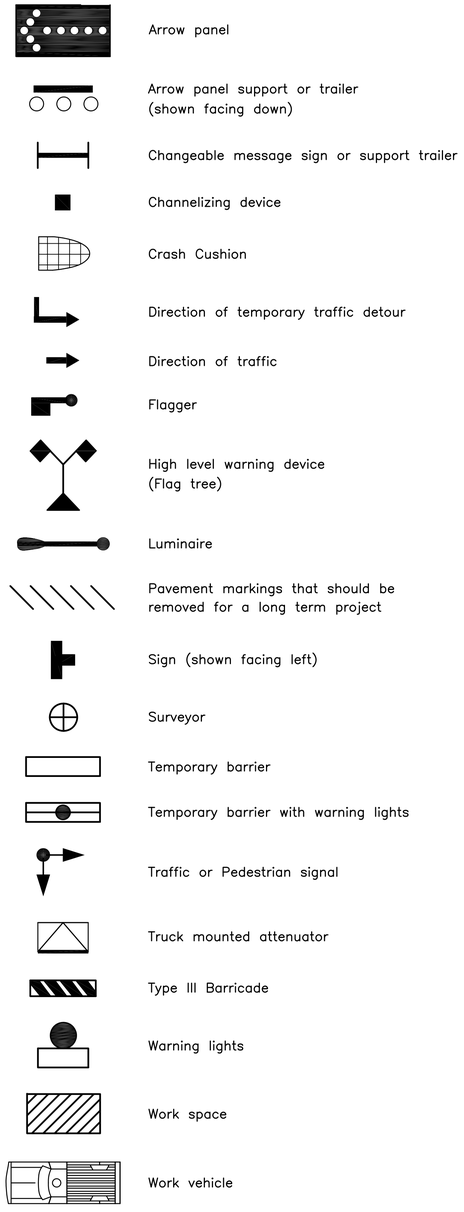
* Distances are shown in feet. The column headings A, B, and C are the dimensions shown in Typical Application Figures. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The third sign is the first one in a three–sign series encountered by a driver approaching a TTC zone.)

Formulas for Determining Taper Lengths

Speed Limit (S)	Taper Length (L) Feet
40 mph or less	$L \quad \frac{WS^2}{60}$
45 mph or more	$L \quad WS$

Where:
L = taper length in feet
W = width of offset in feet
S = posted speed limit in mph.

Meaning of Symbols on Typical Application Diagrams



Index to Typical Applications

Typical Application Description	Typical Application Number	Standard Plan Number
Work Outside of Shoulder		
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Work on the Shoulder		
Work on Shoulders	TA–3	905–03
Shoulder Work with Minor Encroachment	TA–6	905–04
Work Within the Traveled Way of Two-Lane Highways		
Road Closed with Diversion	TA–7	905–04
Road Closed with Off–Site Detour	TA–8	905–05
Lane Closure on Two–Lane Road Using Flaggers	TA–10	905–05
Lane Closure on Two–Lane Road with Low Traffic Volumes	TA–11	905–06
Temporary Road Closure	TA–13	905–06
Mobile Operations on Two–Lane Road	TA–17	905–07
Work Within the Traveled Way of Urban Streets		
Lane Closure on Minor Street	TA–18	905–07
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Work Within the Traveled Way at an Intersection and Sidewalks		
Multiple Lane Closures at Intersection	TA–25	905–09
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Work Within the Traveled Way of Multi-lane, Non-access Controlled Highways		
Interior Lane Closure on Multi–lane Street	TA–30	905–10
Half Road Closure on Multi–lane, High–Speed Highway	TA–32	905–10
Lane Closure on Divided Highway	TA–33	905–11
Work in the Vicinity of Highway-Rail Grade Crossings		
Work in Vicinity of Highway–Rail Grade Crossing	TA–46	905–11

Information contained herewith was taken directly from the MUTCD 2003 version.

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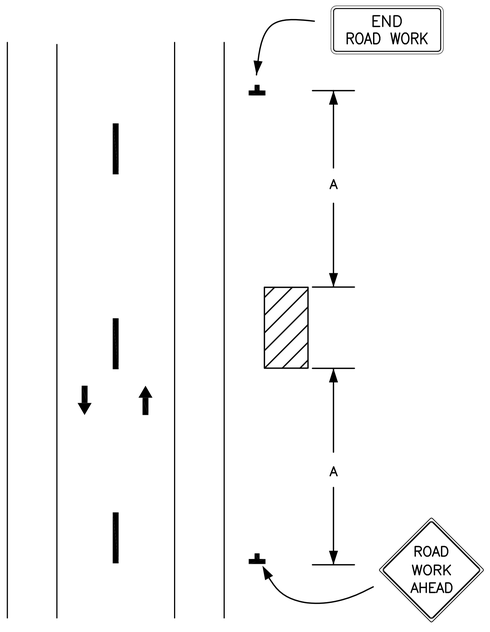

Figure TA–1
Work Beyond the Shoulder

NOTES:

1. If the work space is in the median of a divided highway, an advance warnig sign also be placed on the left side of the directional roadway.
2. The ROAD WORK AHEAD sign may be replaced with other appropriate signs such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.
3. For short–term, short–duration or mobile operation, all signs and channelizing devices may be eliminated if vehicle with activated high–intensity rotating, flashing, ocillating, or strobe lights is used.
4. Vehicle hazard warning signals may be used to supplement high–intensity rotating, flashing, oscillating, or strobe lights.
5. Vehicle hazard warning signals shall not be used instead of the vehicle's high–intensity rotating, flashing, oscillating, or strobe lights.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.

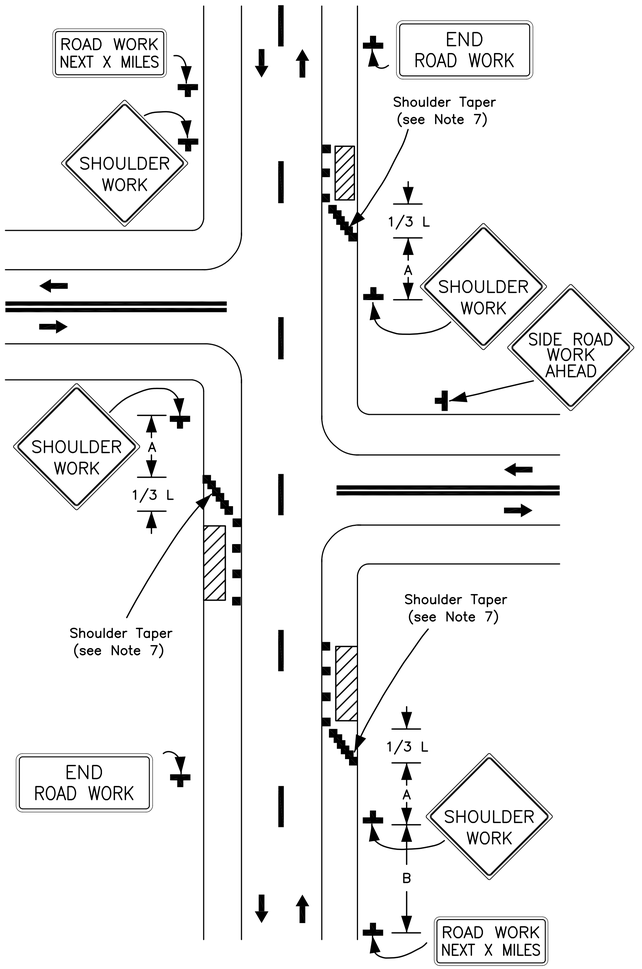

Figure TA–3
Work on Shoulders

NOTES:

1. A SHOULDER WORK sign should be placed on the left side of the roadway for a divided or one–way street only if the left shoulder is affected.
2. The Workers symbol signs may be used instead of SHOULDER WORK signs.
3. The SHOULDER WORK AHEAD sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
4. For short–duration operations of Sixty (60) minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high–intensity rotating, flashing, oscillating, or strobe lights is used.
5. Vehicle hazard warning signals may be used to supplement high–intensity rotating, flashing, oscillating, or strobe lights.
6. Vehicle hazard warning signals shall not be used instead of the vehicle's high–intensity rotating, flashing, oscillating, or strobe lights.
7. When paved shoulders having a width Eight (8) ft or more are closed, at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way.

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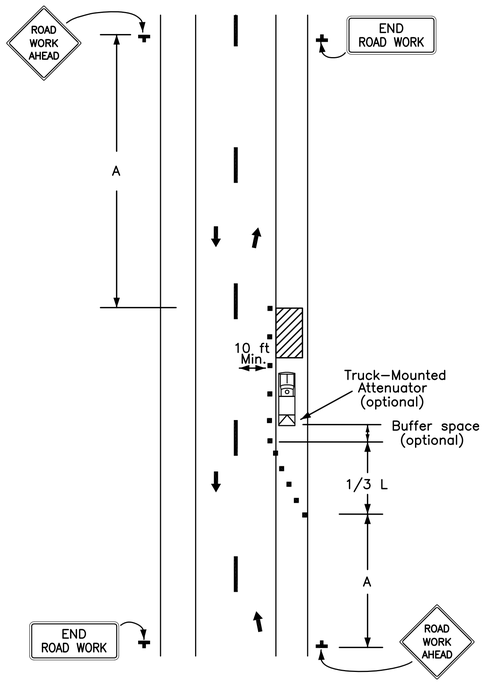

Figure TA–6
Shoulder Work with Minor Encroachment

NOTES:

1. All lanes should be a minimum of Ten (10) ft in width as measured to the near face of the channelizing devices.
2. The treatment shown should be used on a minor road having low speeds. For higher–speed traffic conditions, a lane closure should be used.
3. For short–term use on low–volume, low–speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of Nine (9) ft may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate witdth, lanes may be shifted by use of closely spaced channelizing devices, provided that the minimum lane width of Ten (10) ft is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck–mounted atenuator may be used on the shadow vehicle.
9. For short–duration work, the taper and channelizing devices may be omitted if a shadow vehicle with activated high–intensity rotating, flashing, oscillating, or strobe lights is used.
10. Vehicle hazard warning signals may be used to supplement high–intensity rotating, flashing, oscillating, or strobe lights.
11. Vehicle hazard warning signals shall not be used instead of the vehicle's high–intensity rotating, flashing, oscillating, or strobe lights.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.

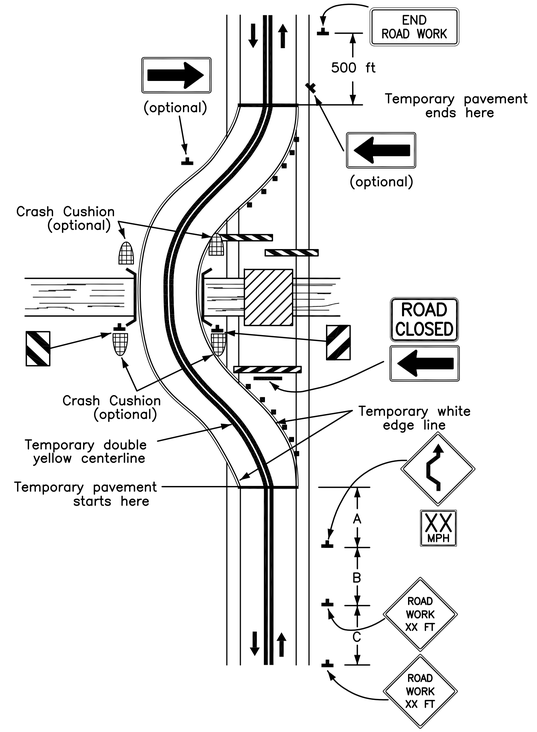

Figure TA–7
Road Closed with Diversion

NOTES:

1. Sign and object markers are shown for one direction of travel only.
2. Devices similar to those depicted shall be placed for the oposite direction of travel.
3. Pavement markings no longer applicable shall be removed or obliterated as soon as practicable.
4. Temporary barriers and end treatments shall be crashworthy.
5. If the tangent distance along the temporary diversion is more than Six Hundred (600) ft, a Reverse Curve sign, left first, should be used instead of the Double Reverse Curve sign, and a second Reverse Curve sign, right first, should be placed in advance of the second reverse curve back to the orginal alignment.
6. When the tangent section of the diversion is more than Six Hundred (600) ft, and the diversion has sharp curves with recommended speeds of Thirty (30) mph or less, Reverse Turn signs should be used.
7. Where the temporary pavement and old pavement are different colors, the temporary pavement should start on the tangent of the existing pavement and end on the tangent of the existing pavement.
8. Flashing warning lights and/or flags may be used to call attention to the warning signs.
9. On sharp curves, large arrow signs may be used in addition to other advance warning signs.
10. Delineators or channelizing devices may be used along the diversion.

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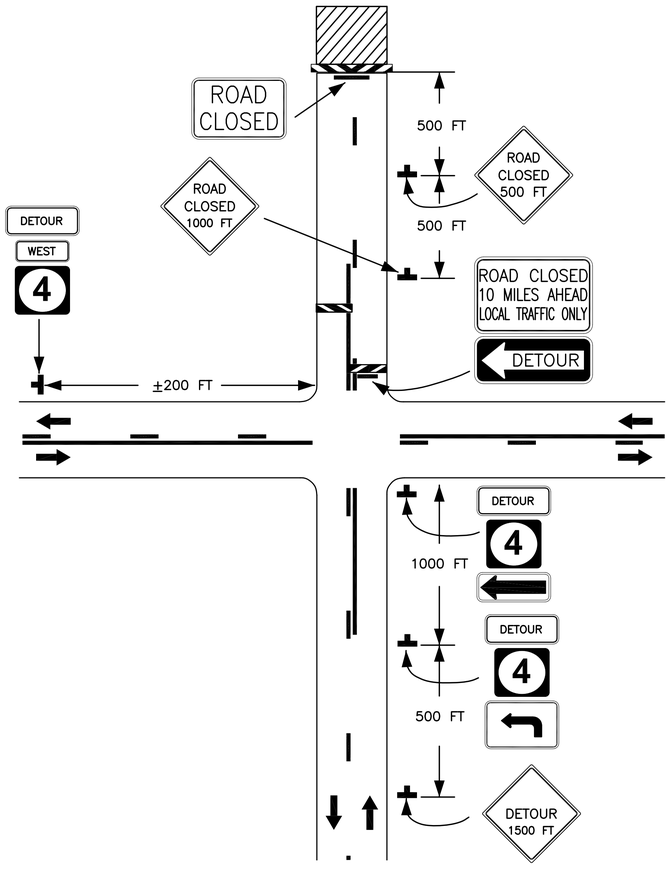
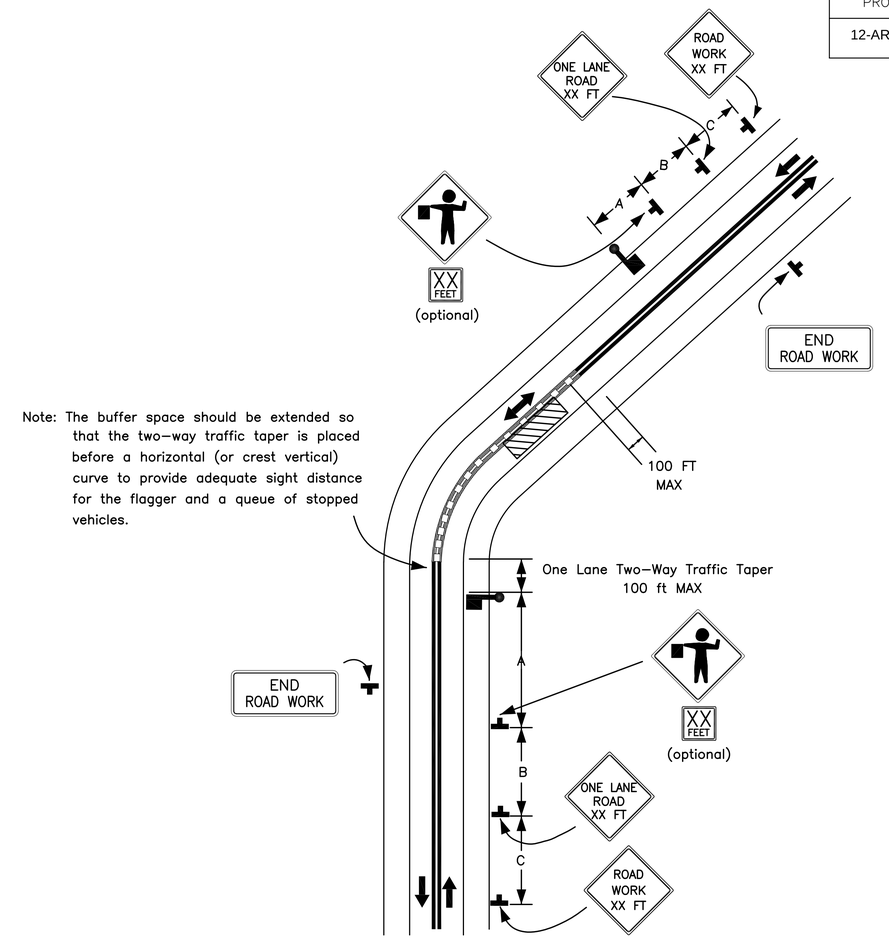


Figure TA–8
Roads Closed with Off–Site Detour

NOTES:

1. Regulatory traffic control devices should be modified as needed for the duration of the detour.
2. If the road is opened for some distance beyond the intersection and/or there are significant orgin/destination points beyond the intersection, the ROAD CLOSED and DETOUR signs on Type III Barricades may be located at the edge of the traveled way.
3. A Route Sign Directional assembly may be placed on the far left corner of the intersection to augment or replace the one shown on the near right corner.
4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. Cardinal direction plaques may be used with route signs.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.



Note: The buffer space should be extended so that the two–way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.

Figure TA–10
Lane Closure on Two–Lane Road Using Flaggers

NOTES:

1. For low–volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used.
2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short–duration operations.
3. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

a. A BEPREPARED TO STOP sign may be added to the sign series.

4. The buffer space should be extended so that the two–way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.
5. At night, flagger stations shall be illuminated, except in emergencies.
6. When used, the BE PREPARED TO STOP sign should be located between the Flagger sign and the ONE LANE ROAD sign.

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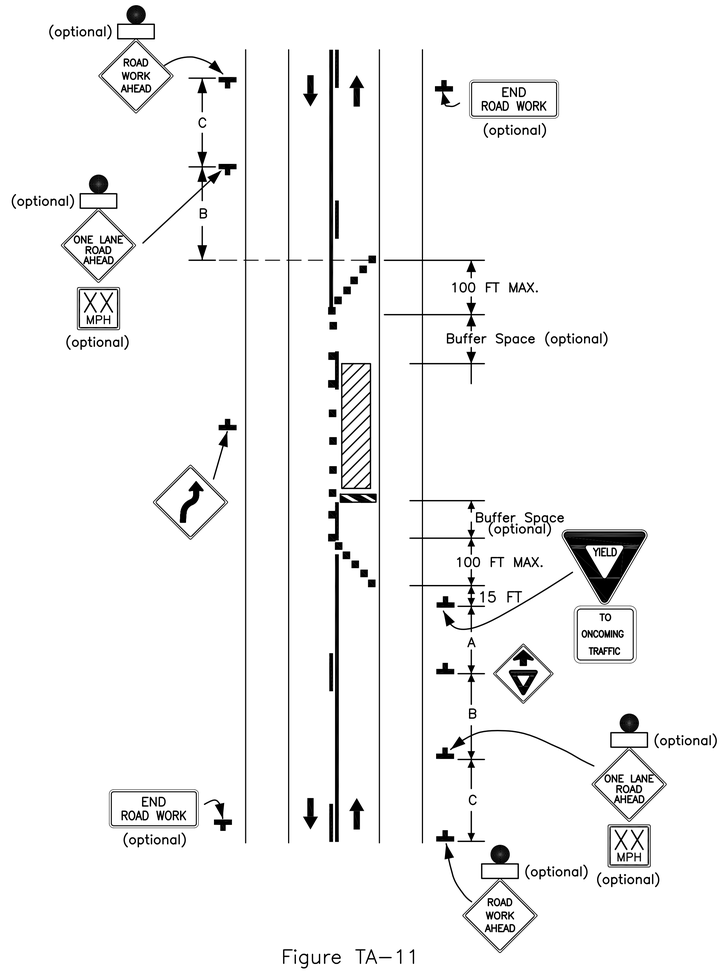

Figure TA–11
Lane Closure on Two–Lane Road with Low Traffic Volumes

NOTES:

1. This TTC zone application may be used as an alternate to the TTC application shown in TA–10 (using flaggers) when the following conditions exist:
   a. Vehicular traffic volume is such that sufficient gaps exist for vehicular traffic that must yield.
   b. Road users from both directions are able to see approaching vehicular traffic through and beyond the work site and have sufficient visibility of approaching vehicles.
2. The Type B flashing warning lights shall be placed on the ROAD WORK AHEAD and the ONE LANE ROAD AHEAD signs whenever a night lane closure is necessary.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.

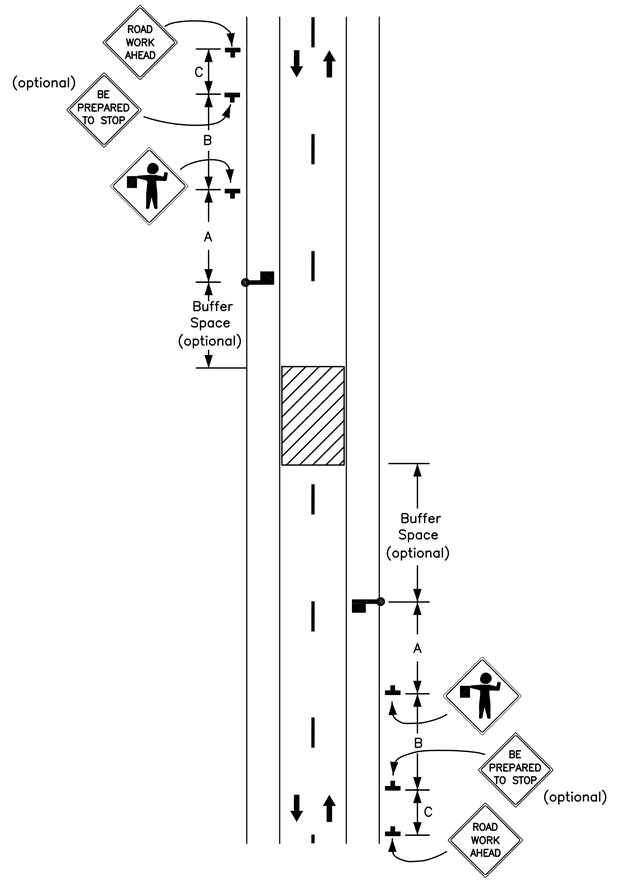

Figure TA–13
Temporary Road Closure

NOTES:

1. Conditions represented are a planned closure not exceeding 20 minutes during the daytime.
2. A flagger or uniformed law enforcement officer shall be used for this application.
3. A BE PREPARED TO STOP sign may be added to the sign series.
4. When used, the BE PREPARED TO STOP sign should be located before the Flagger symbol sign.

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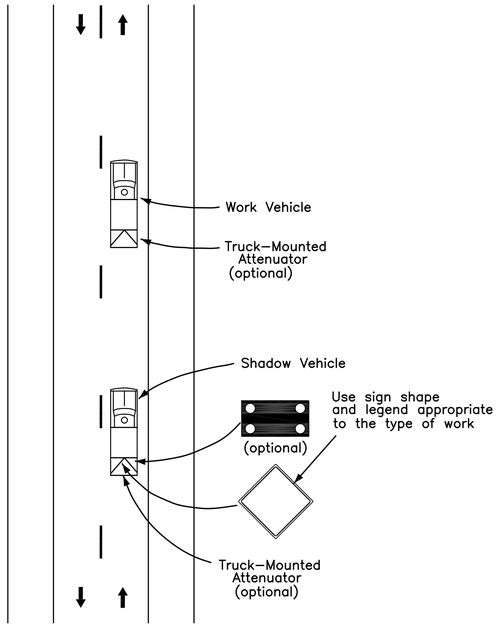

Figure TA–17
Mobile Operations on Two–Lane Road

NOTES:

1. Vehicle–mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle–mounted signs shall be covered or turned from view when work is not in progress.
2. Shadow and work vehicles shall display high–intensity rotating, flashing, oscillating, or strobe lights.
3. If an arrow panel is used, it shall be used in the caution mode.
4. Where practical and when needed, the work and shadow vehicles should pull over periodically to allow vehicular traffic to pass.
5. Whenever adequate stopping sight distance exists to the rear, the shadow vehicle should maintain the minmum distance from the work vehicle and proceed at the same speed. The shadow vehicle should slow down in advance of vertical or horzontal curves that restrict sight distance.
6. The shadow vehicles should also be equipped with two high–intensity flashing lights mounted on the rear, adjacent to the sign.
7. The distance between the work and shadow vehicles may vary according to terrain, paint drying time, and other factors.
8. Additional shadow vehicles to warn and reduce the speed of oncoming or opposing vehicular traffic may be used. Law enforcement vehicles may be used for this purpose.
9. A truck–mounted attenuator may be used on the shadow vehicle or on the work vehicle.
10. If the work and shadow vehicles cannot pull over to allow vehicular traffic to pass frequently, a DO NOT PASS sign may be placed on the rear of the vehicle blocking the lane.
11. Shadow vechicles are used to warn motor vehicle traffic of the operation ahead.
12. Vehicle hazard warning signals shall not be used instead of the vehicle's high–intensity rotating, flashing, oscillatng, or strobe lights.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.

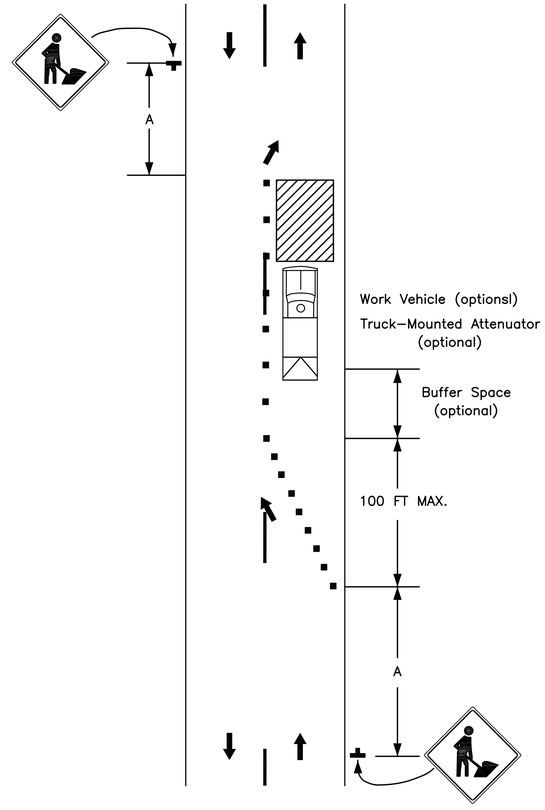

Figure TA–18
Lane Closure on Minor Street

NOTES:

1. This TTC shall be used only for low–speed facilities having low traffic volumes.
2. Where the work space is short, where road users can see the roadway beyond, and where volume is low, vehicular traffic maybe self–regulating.
3. Where vehicular traffic cannot effectively self–regulate, one or two flaggers shall be used as illustyrated in TA–10.
4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. A truck–mounted attenuator may be used on the work vehicle and the shadow vehicle.

STATE OF LOUISIANA
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September 10, 2020

DATE	DESCRIPTION REVISIONS	BY

STANDARD PLAN NO.	DATED	SHEET NO.
905–07	JULY 3, 2019	1 OF 1

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS

ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
MUTCD	G. CHENG	S. EDEL	I. PARTENHEIMER

PROJECT NO.	SHEET
12-AR-MS-014A	233

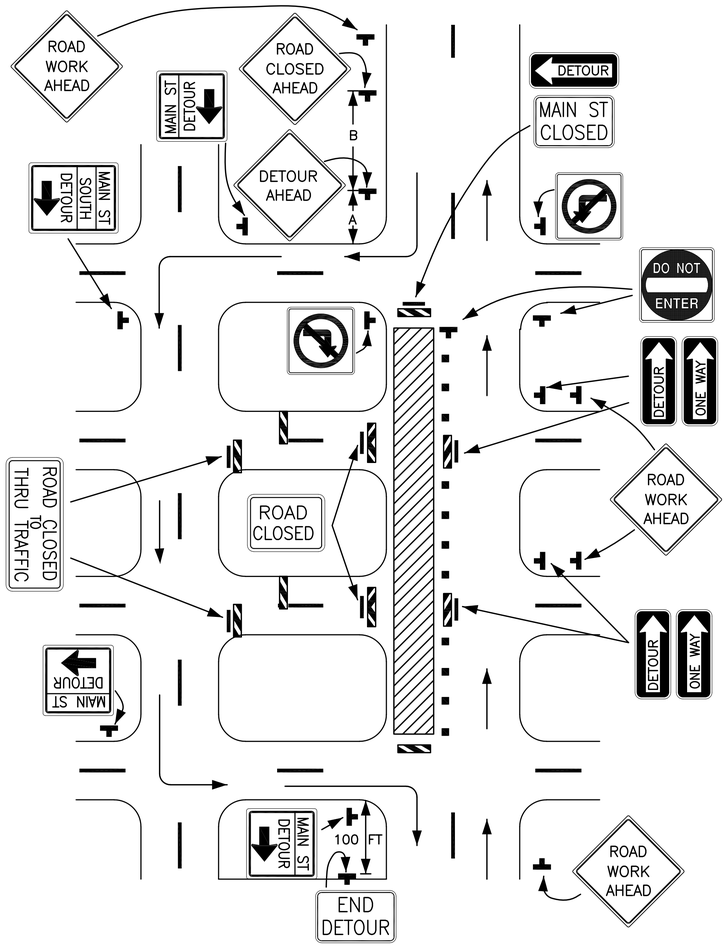

Figure TA–19
Detour for One Travel Direction

NOTES:

1. This plan should be used for streets without posted route numbers.
2. On multi–lane streets, Detour signs with an Advance Turn Arrow should be used in advance of a turn.
3. The STREET CLOSED legend may be used in place of ROAD CLOSED.
4. Additional DO NOT ENTER signs may be used at intersections with intervening streets.
5. Warning lights may be used on Type III Barricades.
6. Detour signs may be located on the far side of intersections.
7. A Street Name sign may be mounted with the Detour sign. The Street Name sign may be either white on green or black on orange.
8. When used, the Street Name sign shall be placed above the Detour sign.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.

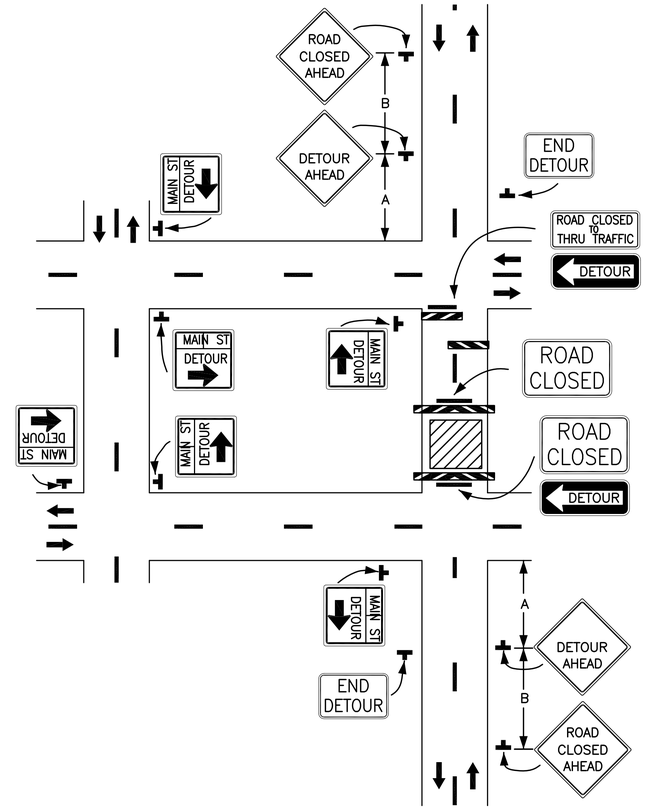

Figure TA–20
Detour for Closed Street

NOTES:

1. This plan should be used for streets without posted route numbers.
2. On multi–lane streets, Detour signs with an Advance Turn Arrow should be used in advance of a turn.
3. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
4. Flashing warning lights may be used on Type III Barricades.
5. Detour signs may be located on the far side of intersections. A Detour sign with an advance arrow may be used in advance of a turn.
6. A Street Name sign may be mounted with the Detour sign. The Street Name sign may be either white on green or black on orange.
7. When used, the Street Name sign shall be placed above the Detour sign.

STATE OF LOUISIANA
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September 10, 2020

DATE	DESCRIPTION REVISIONS	BY

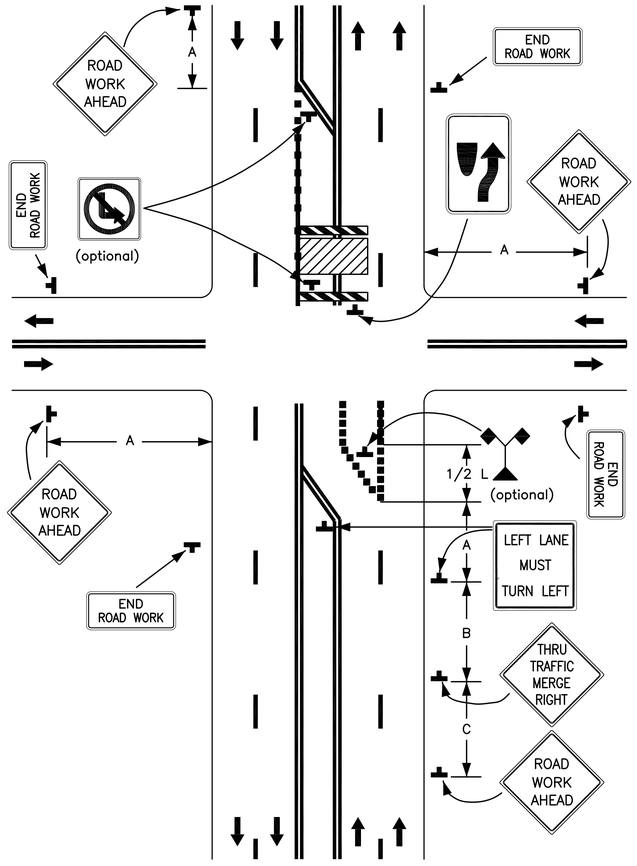
STANDARD PLAN NO.	DATED	SHEET NO.
905–08	JULY 3, 2019	1 OF 1

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS

ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
MUTCD	G. CHENG	S. EDEL	I. PARTENHEIMER

PROJECT NO.	SHEET
12-AR-MS-014A	234



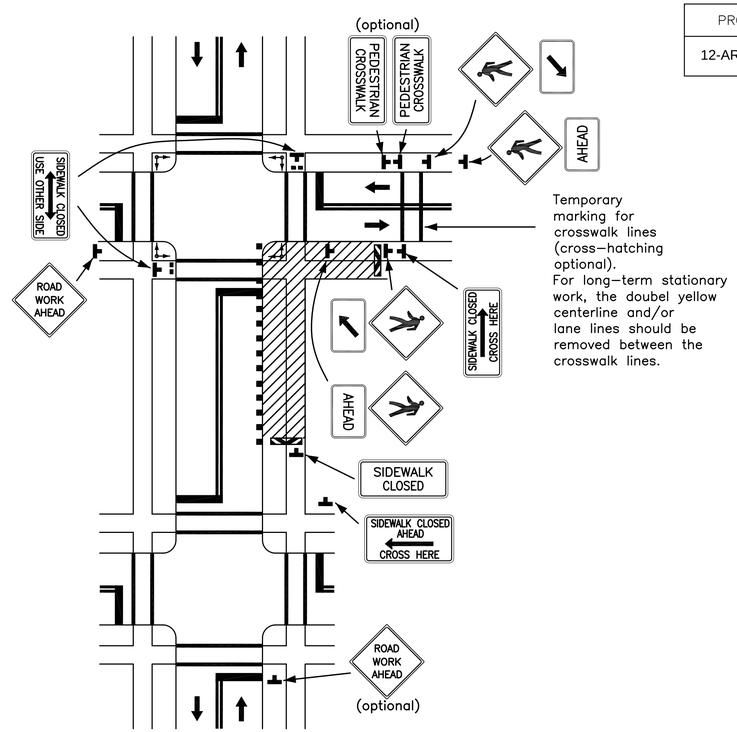
TA–25

Multiple Lane Closures at Intersection

NOTES:

1. If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure TA–14.
2. If the left through lane is closed on the near–side approach, the LEFT LANE MUST TURN LEFT sign should be placed in the median to discurage through vehicular traffic from entering the left–turn bay.
3. The normal procedure is to close on the near side of the intersection any lane that is not carried through the intersection. If the left–turning movement that normally uses the closed turn bay is small and/or the gaps in opposing vehicular traffic are frequent, left turns may be permitted on that approach.
4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.



TA–29

Crosswalk Closures and Pedestrian Detours

NOTES:

1. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.
2. Curb parking shall be prohibited for at least Fifety (50) ft in advance of the midblock crosswalk.
3. Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.
4. Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.
5. Street lighting may be considered.
6. Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS signs, may be used to control vehicular traffic. who have visual disabilities.
7. For nighttime closures, Type A Flashing warning lights may be used on barricades supporting signs and closing sidewalks.
8. Type C Steady–Burn warning lights may be used on channelizing devices separating the work space from vehicular traffic.
9. In order to maintain the systematic use of the fluorescent yellow–green background for pedestrian, bicycle, and school warning signs in a jurisdiction, the fluorescent yellow–green background for pedestrian, bicycle, and shcool warning signs may be used in TTC zones.

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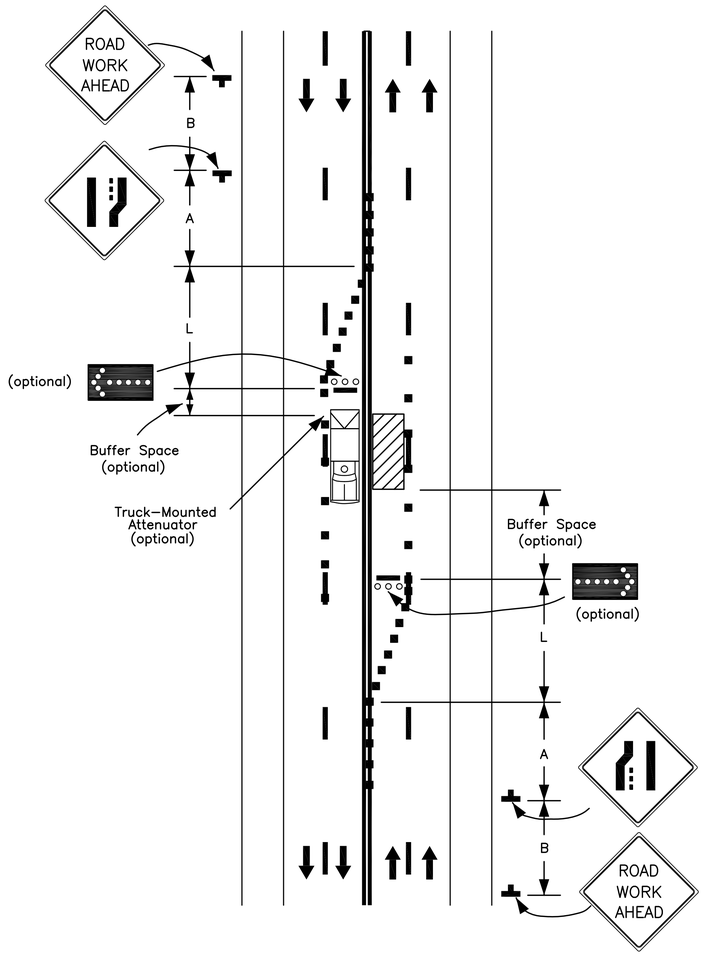
STANDARD PLAN NO.	DATED	SHEET NO.
905–09	JULY 3, 2019	1 OF 1

TEMPORARY TRAFFIC CONTROL
TYPICAL APPLICATIONS

ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
MUTCD	G. CHENG	S. EDEL	I. PARTENHEIMER



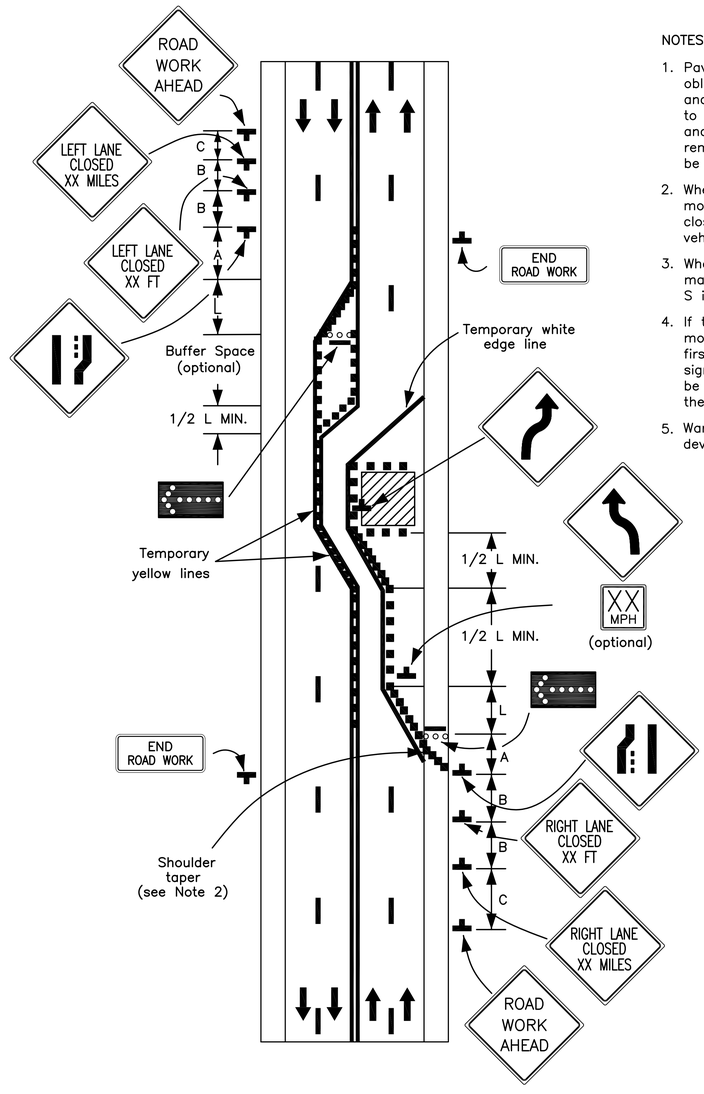
TA–30

Interior Lane Closure on Multi–lane Street

NOTES:

1. This information applies to low–speed, low–volume urban streets. Where speed or volume is higher, additional signing such as LEFT LANE CLOSED XX FT should be used between the signs shown.
2. The closure of the adjacent interior lane in the opposing direction may not be necessary, depending upon the activity being performed and the work space needed for the operation.
3. Shadow vehicles with a truck–mounted attenuator may be used.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.



TA–32

Half Road Closure on Multi–lane, High–Speed Highway

PROJECT NO.	SHEET
12-AR-MS-014A	235

NOTES:

1. Pavement markings no longer applicable shall be removed or obliterated as soon as practical. Except for intermediate–term and short–term situations, temporary markings shall be provided to clearly delineate the temporary travel path. For short–term and intermediate–term situations where it is not feasible to remove and restore pavement markings, channelization shall be made dominant by using a very close device spacing.
2. When paved shoulders having a width of Eight (8) ft or more are closed, channelizing devices should be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.
3. Where channelizing devices are used instead of pavement markings, the maximum spacing should be 0.5 S feet where S is the speed in mph.
4. If the tangent distance along the temporary diversion is more than Six Hundred (600) ft, a Reverse Curve sign, left first, should be used instead of the Double Reverse Curve sign, and a second Reverse Curve sign, right first, should be placed in advance of the second reverse curve back to the original alignment.
5. Warning lights may be used to supplement channelizing devices at night.

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DATE	DESCRIPTION REVISIONS	BY

STANDARD PLAN NO.	DATED	SHEET NO.
905–10	JULY 3, 2019	1 OF 1

TEMPORARY TRAFFIC CONTROL
TYPICAL APPLICATIONS

ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

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MUTCD	G. CHENG	S. EDEL	I. PARTENHEIMER

PROJECT NO.	SHEET
12-AR-MS-014A	236

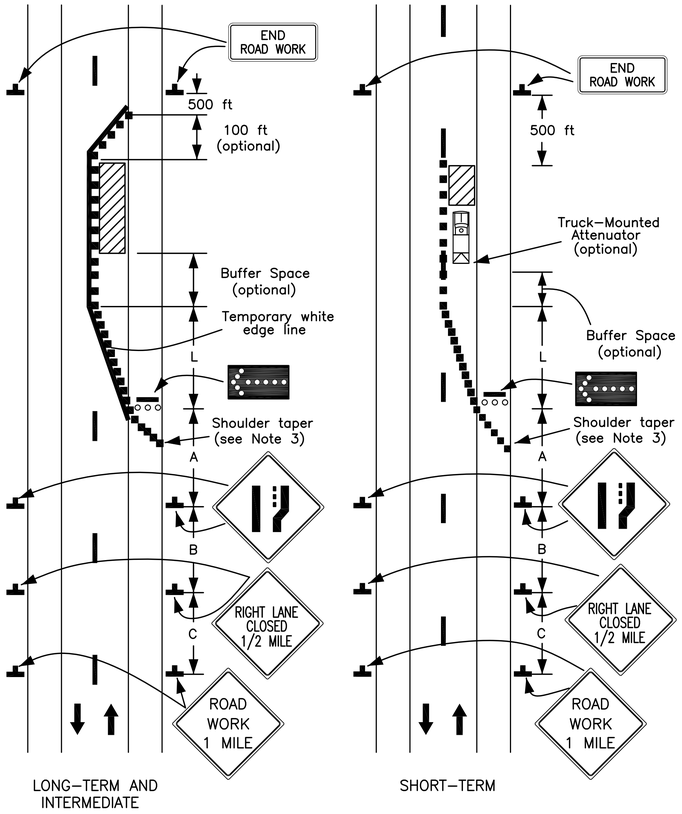

Figure TA–33
Lane Closure on Divided Highway

NOTES:

1. This information also shall be used when work is being performed in the lane adjacent to the median on a divided highway. In this case, the LEFT LANE CLOSED signs and the corresponding Lane Ends signs shall be substituted.
2. When a side road intersects the higway within the TTC zone, additional TTC devices shall be placed as needed.
3. When paved shoulders having a width of Eight (8) ft or more are closed, channelizing devices should be used to close the shoulder in advance of the merging taper to direct vechicular traffic to remain within the traveled way.
4. A truck–mounted attenuator may be used on the work vchicle and/or shadow vehicle.
5. Where conditions permit, restricting all vehicles, equipment, workers, and their activities to one side of the roadway might be advantageous.

This sheet shall be used with Standard Plan No. 905–01 and 905–02.

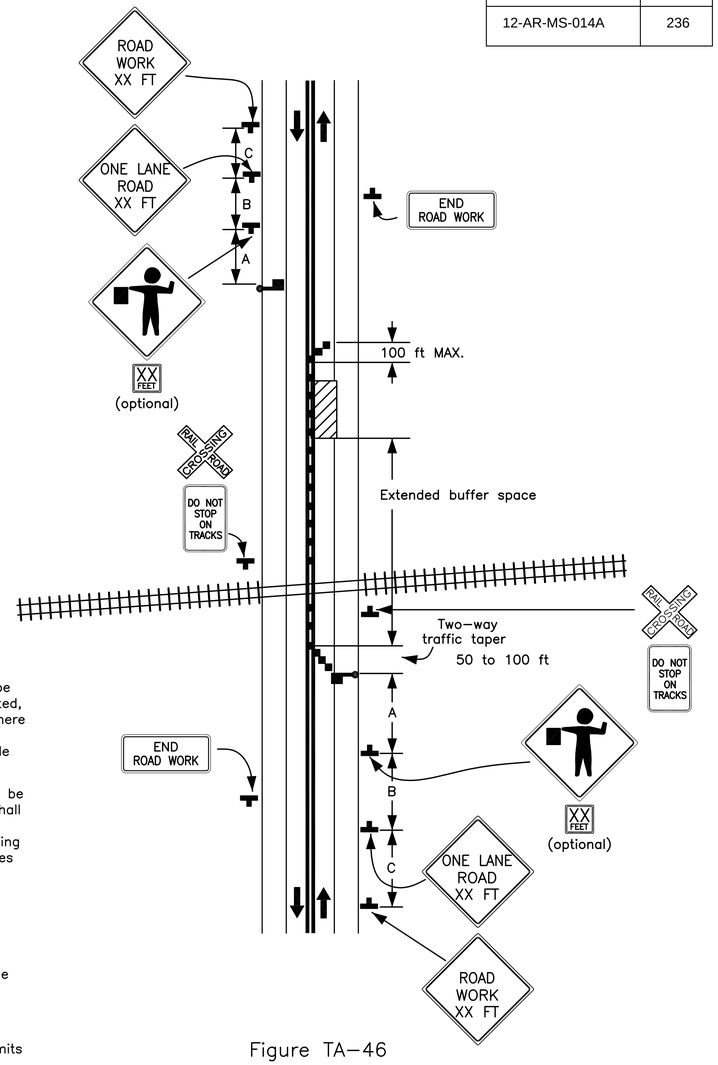

Figure TA–46
Work in Vicinity of Highway–Rail Grade Crossing

NOTES:

1. When highway–rail grade crossings exit either within or in the vicinity of roadway work activities, extra care should be taken to minimize the probability of conditions being created, either by lane restrictions, flagging or other operations, where vehicles might be stopped within the highway–rail grade crossing, considered as being Fifteen (15) ft on either side of the closest and farthest rail.
2. If the queuing of vehicles across active rail tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the highway–rail grade crossing to prevent vehicles from stopping within the highway–rail grade crossing (as described in Note 1), even if automatic warning devices are in place.
3. Early coordination with the railroad company should occur before work starts.
4. In the example depicted, the buffer space of the activity area should be extended up stream of the highway–rail grade crossing (as shown) so that a queue created by the flagging operation will not extend across the highway–rail grade crossing.
5. The DO NOT STOP ON TRACKS sign should be used on all approaches to a highway–rail grade crossing within the limits of a TTC zone.
6. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
7. A BE PREPARED TO STOP sign may be added to the sign series.
8. When used, the BE PREPARED TO STOP sign should be located before the Flagger symbol sign.
9. At night, flagger stations shall be illuminated, except emergencies.

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September 10, 2020

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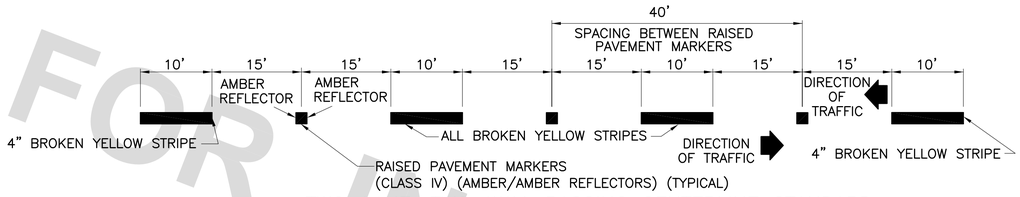
STANDARD PLAN NO.	DATED	SHEET NO.
905–11	JULY 3, 2019	1 OF 1

TEMPORARY TRAFFIC CONTROL
TYPICAL APPLICATIONS

ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

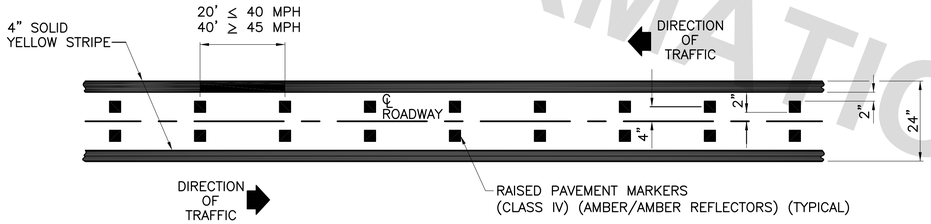
DESIGNED	DRAWN	CHECKED	APPROVED
MUTCD	G. CHENG	S. EDEL	I. PARTENHEIMER

PROJECT NO.	SHEET
12-AR-MS-014A	237



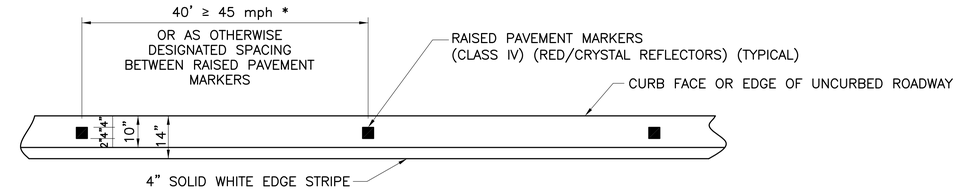
TWO–LANE, TWO–WAY, PASSING CENTERLINE STANDARD

TO BE USED ALONG ℄ OF TWO–LANE ROADWAY WITH TWO–WAY TRAFFIC



MULTILANE, TWO–WAY, NO PASSING, CENTERLINE STANDARD

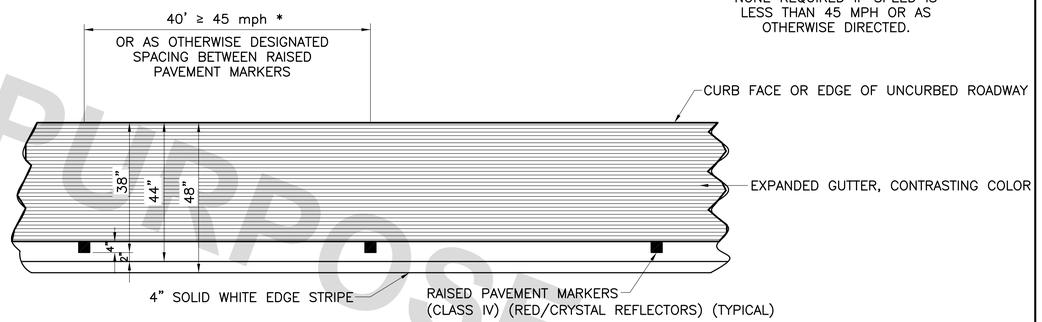
TO BE USED ALONG ℄ OF MULTI–LANE UNDIVIDED HIGHWAY



CURB EDGELINE STANDARD

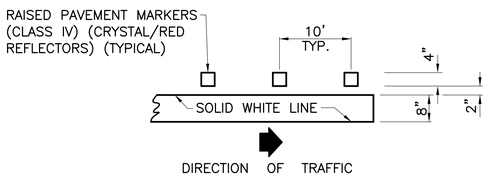
TYPICAL ROADWAY EDGE PAVEMENT MARKERS

*NONE REQUIRED IF SPEED IS LESS THAN 45 MPH OR AS OTHERWISE DIRECTED.

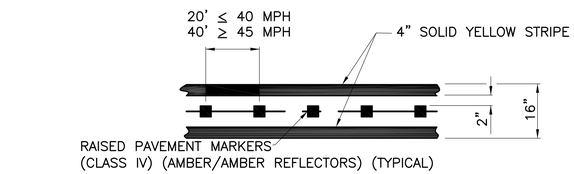


CURB EDGELINE STANDARD WITH EXPANDED GUTTER

TYPICAL ROADWAY EDGE PAVEMENT MARKERS

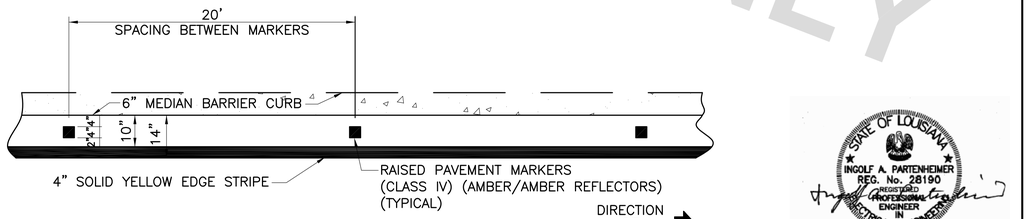


DETAIL OF RAISED PAVEMENT MARKER PLACEMENT

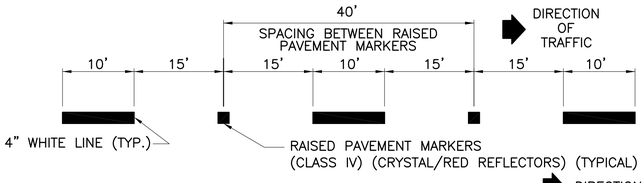


TWO–LANE, TWO–WAY, NO PASSING CENTERLINE STANDARD

TO BE USED ALONG ℄ OF TWO LANE, TWO–WAY ROADWAY WHERE NO PASSING IS ALLOWED

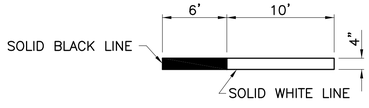


MEDIAN EDGELINE STANDARD



LANELINE STANDARD

TO BE USED ALONG LANE LINES FOR ONE–WAY TRAFFIC IN RURAL AREAS, AND ON URBAN SECTIONS OF MULTI–LANE ROADWAYS.



LANE LINE STRIPE DETAIL – LEADING SHADOW

TO BE USED ON PORTLAND CEMENT CONCRETE STREETS WITH POSTED SPEED 45 MPH OR GREATER AND ON ALL BRIDGES AND APPROACH SLABS REGARDLESS OF POSTED SPEED LIMIT.

DATE	DESCRIPTION REVISIONS	BY

STATE OF LOUISIANA
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REG. No. 28190
REGISTERED PROFESSIONAL ENGINEER IN ELECTRICAL ENGINEERING

JUNE 13, 2008

STANDARD PLAN NO.	DATED	SHEET NO.
905–50	JUNE 13, 2008	1 OF 8

ROADWAY MARKING AND TYPICAL DETAILS

ENGINEERING DIVISION
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE

DESIGNED	DRAWN	CHECKED	APPROVED
GLP	GLP	GLP	I. PARTENHEIMER

905–50