DESIGN	FED.RD. DIV.NO.	PROJECT NO.			
MS	6	C-47-6-174;ETC.			
GRAPHICS	STATE	CONT	SECT	JOB	HIGHWAY NO.
MS	TEXAS	0047	06	174, ETC.	US75
CHECK	CHECK	DIST	COUNTY		SHEET NO.
JRV	JRV	DAL	COLLIN		1

FINAL PLANS

NAME OF CONTRACTOR: ______________________

DATE OF LETTING: ______________________

DATE WORK BEGAN: ______________________

DATE WORK COMPLETED: ______________________

DATE WORK ACCEPTED: ______________________

SUMMARY OF CHANGE ORDERS:

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE AID PROJECT

C-47-6-174, ETC.

CCSJ: 0047-06-174, ETC.

US 75

COLLIN COUNTY

DESIGN SPEEDS = MEET EXISTING

ADT = 226,775 (2021)

ROADWAY CLASSIFICATION: URBAN FREEWAY

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000-008)

(CSJ 0047-06-174)

LIMITS: FROM DALLAS COUNTY LINE TO VALLEY CREEK TRAIL

ROADWAY	= 77,035.20 FT.	=	14.59 MI.
BRIDGE	= 0.00 FT.	=	0.000 MI.
TOTAL	= 77,035.20 FT.	=	14.59 MI.

(CSJ 0047-14-088)

LIMITS: FROM VALLEY CREEK TRAIL TO GRAYSON COUNTY LINE

ROADWAY	= 83,339.52 FT.	=	15.784 MI.
BRIDGE	= 0.00 FT.	=	0.000 MI.
TOTAL	= 83,339.52 FT.	=	15.784 MI.

FOR THE CONSTRUCTION OF RESTORATION

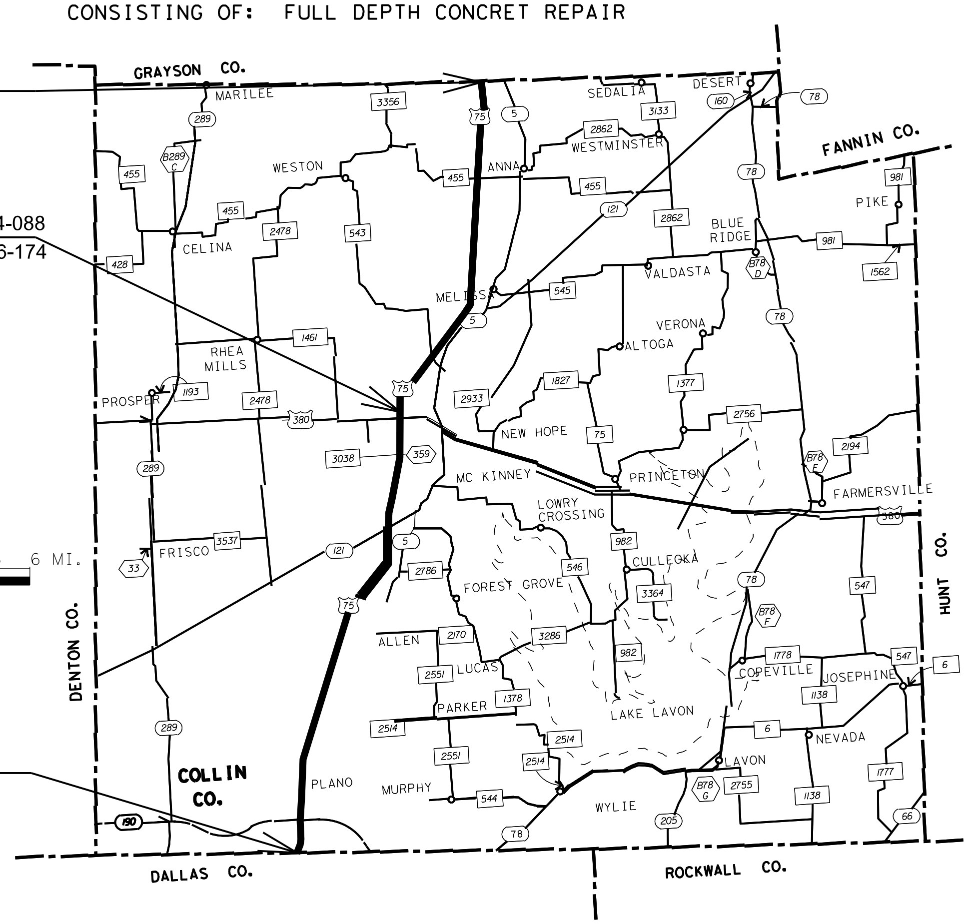
CONSISTING OF: FULL DEPTH CONCRET REPAIR

END PROJECT
CSJ 0047-14-088
TRM 222+1.542

BEGIN CSJ 0047-14-088
END CSJ 0047-06-174
TRM 238+1.794

BEGIN PROJECT
CSJ 0047-06-174
TRM 254+0.405

COLLIN COUNTY
SCALE 0 1 2 3 4 5 6 MI.
DALLAS DISTRICT



EQUATIONS: NONE
EXCEPTIONS: NONE
RAILROAD CROSSINGS: KCS, DART

TEXAS DEPARTMENT OF TRANSPORTATION

SUBMITTED FOR LETTING 4/26/2023
[signature], P.E.
DESIGN ENGINEER

RECOMMENDED FOR LETTING 4/27/2023
DocuSigned by: [signature], P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

RECOMMENDED FOR LETTING 4/27/2023
DocuSigned by: Jennifer Vorster, P.E.
4DB68ED93... AREA ENGINEER

APPROVED FOR LETTING 4/27/2023
DocuSigned by: Ceason Clemens, P.E.
A879E0D... DISTRICT ENGINEER

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

______________________, P.E.
Signature of Registrant & Date

DATE: __________

INDEX OF SHEETS

* THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

Madhu Sastry , P.E. 4/26/2023

Signature of Registrant & Date

STATE OF TEXAS
MADHU SASTRY
82864
LICENSED PROFESSIONAL ENGINEER

Madhu Sastry
4/26/2023

Texas Department of Transportation

INDEX OF SHEETS

SHEET 1 OF 1

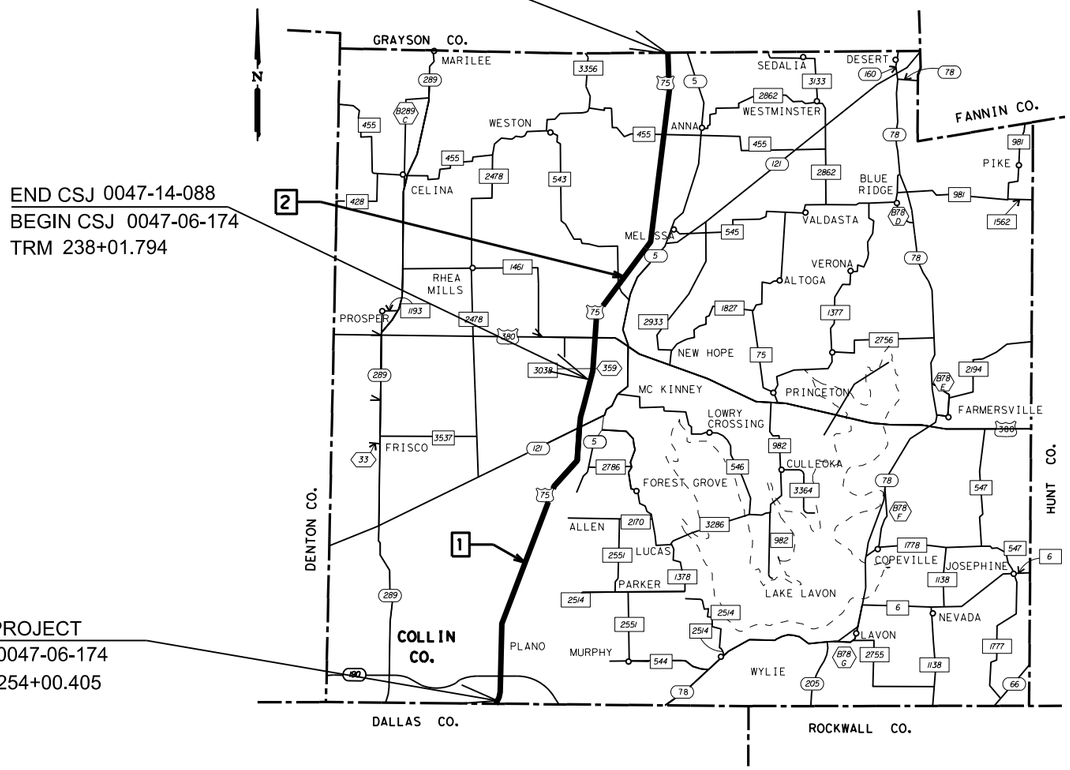
DESIGN	FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
MS	6	SEE TITLE SHEET		US75
GRAPHICS: MS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: JV	TEXAS	DALLAS	COLLIN	2
CHECK: JV	CONTROL	SECTION	JOB	
	0047	06	174, ETC.	

ID NO.	CSJ NO.	HIGHWAY NO.	FUNCTIONAL CLASSIFICATION	LIMITS		ADT	TRM NO.		PROJECT LENGTH
				FROM	TO	(2021)	FROM	TO	(MI)
1	0047-06-174	US 75	URBAN FREEWAY	DALLAS COUNTY LINE	VALLEY CREEK TRAIL	226,775	238+1.794	254+0.405	14.595
2	0047-14-088	US 75	URBAN FREEWAY	VALLEY CREEK TRAIL	GRAYSON COUNTY LINE	149,186	222+1.54	238+1.794	15.784
							TOTAL PROJECT LENGTH		30.379

BEGIN PROJECT
CSJ 0047-14-088
TRM 222+01.54

END CSJ 0047-14-088
BEGIN CSJ 0047-06-174
TRM 238+01.794

END PROJECT
CSJ 0047-06-174
TRM 254+00.405

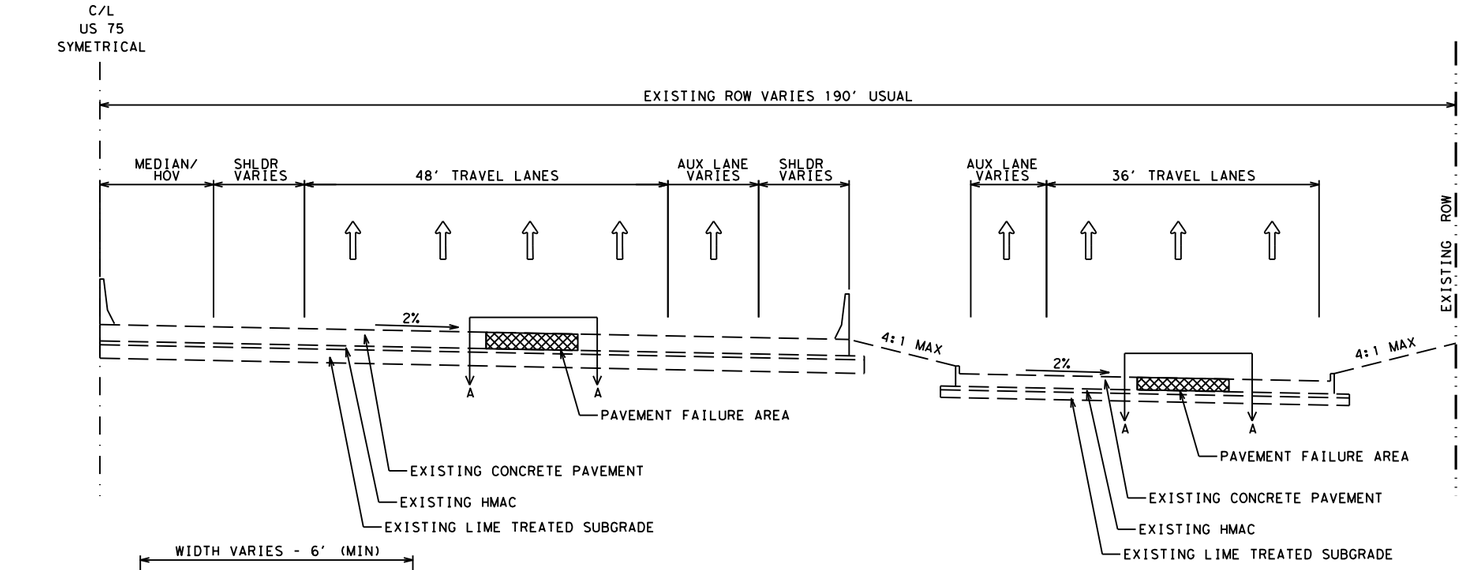


STATE OF TEXAS
MADHU SASTRY
82864
LICENSED PROFESSIONAL ENGINEER
4/26/2023

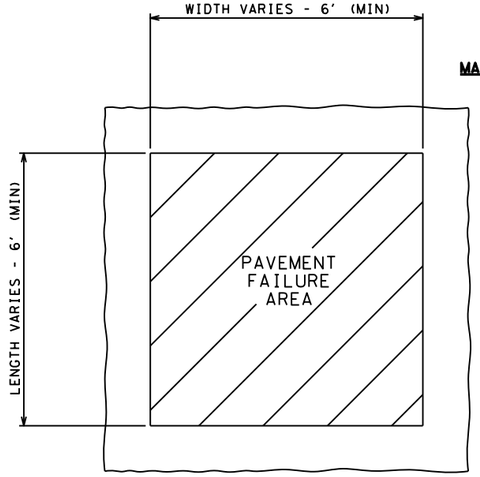
Texas Department of Transportation

US 75 ETC.
LOCATION MAP

DESIGN	FED. RD. DIV. NO.	PROJECT NO.		HIGHWAY NO.
MS	6	SEE TITLE SHEET		US75
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MS	TEXAS	DALLAS	COLLIN	3
CHECK	CONTROL	SECTION	JOB	
JV	0047	06	174, ETC.	
CHECK				
JV				



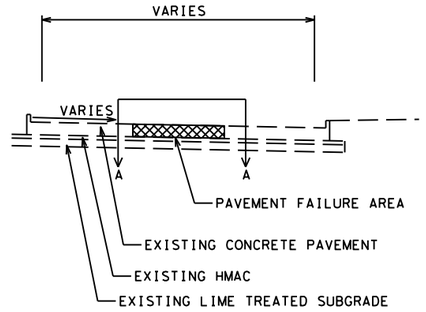
MAINLANES **FRONTAGE ROAD**



TOP VIEW A - A

TYPICAL SECTION (US 75)

SCALE: NOT TO SCALE



RAMP

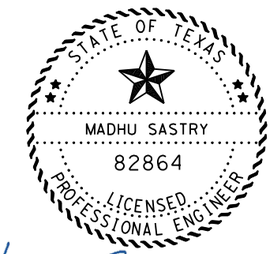
NOTE: EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

HIGHWAY	CSJ	PHYSICAL LIMITS		CONCRETE PAVEMENT THICKNESS	
		FROM	TO	MAIN LANE & RAMPS	MAIN LANE & FRONTAGE ROADS
US 75	0047-06-174	DALLAS COUNTY LINE	VALLEY CREEK TRAIL	CRCP 9" - 13"	CRCP (10"-13") CPCD (12")
US 75	0047-14-088	VALLEY CREEK TRAIL	GREYSON COUNTY LINE	CRCP 13"	CRCP 10"-13"

✳

✳ FULL DEPTH REPAIR LOCATIONS ARE TO BE LOCATED AND VERIFIED BY THE ENGINEER. THE ENGINEER WILL ASSESS THE CONDITION OF BASE MATERIAL IN THE FIELD TO DETERMINE DEPTH OF THE REPAIR. IF ADDITIONAL REPAIR IS REQUIRED, THE BASE SHALL BE REPAIRED IN ACCORDANCE WITH ITEM 361 AND THE COST OF REPAIR WILL BE SUBSIDIARY TO THIS ITEM

ALL AREAS TO BE REPAIRED WILL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE ENGINEER BEFORE ANY REPAIR IS PERFORMED.



4/18/2023

Texas Department of Transportation

US 75
TYPICAL SECTIONS

SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
MS	6	SEE TITLE SHEET		US 75, Etc.
GRAPHICS: MS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: JV	TEXAS	18	COLLIN	4
CHECK: JV	CONTROL	SECTION	JOB	
	0047	06	174, ETC.	

GENERAL

The construction, operation and maintenance of the proposed project will be consistent with the state implementation plan as prepared by the Texas Commission on Environmental Quality.

The disturbed area for this project, as shown on the plans is 0.00 acres. However, the Total Disturbed Area (TDA) will establish the required authorization for storm water discharges. The TDA of this project will be determined by the sum of the disturbed area in all project locations in the contract, and all disturbed area on all Project-Specific Locations (PSL) located in the project limits and/or within 1 mile of the project limits. The department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction site as shown on the plans, according to the TDA of the project. The contractor will obtain any required authorization from the TCEQ for the discharge of storm water from any PSL for construction support activities on or off of the project row according to the TDA of the project. When the TDA for the project exceeds 1 acre, provide a copy of the appropriate application of permit (NOI, or Construction Site Notice) to the engineer, for any PSL located in the project limits or within 1 mile of the project limits. Follow the directives and adhere to all requirements set forth in the TCEQ, Texas Pollution Discharge Elimination System, Construction General Permit (TPDES, CGP).

Questions may be submitted via the Letting Pre-Bid Q&A web page. This webpage can be accessed from the Notice to Contractors dashboard located at the following Address: https://tableau.txdot.gov/views/ProjectInformationDashboard/NoticetoContractors

or Contractor questions on this project are to be addressed to the following individual(s):

Jennifer Vorster : Jennifer.Vorster@txdot.gov
Gerald Waltman : Gerald.Waltman@txdot.gov

Contractor questions will be accepted through email, phone, and in person by the above individuals.

All contractor questions will be reviewed by the Engineer. All questions and any corresponding responses that are generated will be posted through the same Letting Pre-Bid Q&A web page.

The Letting Pre-Bid Q&A web page for each project can be accessed by using the dashboard to navigate to the project you are interested in by scrolling or filtering the dashboard using the controls on the left. Hover over the blue hyperlink for the project you want to view the Q&A for and click on the link in the window that pops up.

Item 5:
For the project to be deemed complete, permanently stabilize all unpaved disturbed areas of the project with a vegetative cover at a minimum of 70% density for the control of erosion.

Item 7:
Repair or replace any structures and utilities that might have been damaged by negligence or a failure to have utility locates performed.

CSJ: 0047-06-174, ETC **Sheet 5**

County: Collin

Highway: US 75

Perform all electrical work in accordance with the National Electrical Code and Texas Department of Transportation Specifications.

Consult with appropriate electric company representatives according to their respective area to coordinate electrical services installations.

Holiday restrictions – The Engineer may decide that no lane closures or construction operations shall be allowed during the restricted periods listed in the following holiday schedule. TxDOT has the right to lengthen, shorten, or otherwise modify these restricted periods as actual, or expected, traffic conditions may warrant. Working days will not be charged for these restricted periods. No additional compensation will be allowed for these closures (i.e., overhead, delays, stand-by, barricades or any other associated cost impacts).

- New Year's Eve and Day (5 am on December 31 thru 10:00 pm January 1)
- Easter Holiday weekend (5 am on Friday thru 10:00 pm Sunday)
- Memorial Day weekend (5 am on Friday thru 10:00pm Monday)
- Independence Day (5 am on July 3 thru 10:00 pm on July 5)
- Labor Day weekend (5 am on Friday thru 10:00 pm Monday)
- Thanksgiving Holiday (5 am on Wednesday thru 10:00 pm Sunday)
- Christmas Holiday (5 am on December 23 thru 10:00 pm December 26)

Holiday restrictions for Independence Day, Thanksgiving Holiday, and the Christmas Holiday may be extended for the "week of" due to the nature of work being performed and the work location at the discretion of the Engineer for safety of the traveling public.

This is a list the dates and/or events lane and ramp closures will be prohibited:

1. The University of Texas vs. University of Oklahoma football game (no lane closures beginning 4 hr. prior to the event and ending 3 hr. following event completion).

Item 8:
This Project will be a Standard Workweek.

Nighttime work is required in accordance with Article 8.3.3.2.1.

Work during Lowest Volume Times as described in table under Item 502 General Notes.

Submit baseline schedule and obtain approval prior to beginning construction. The Estimate will be held if monthly schedule update is not submitted.

Item 361:
Upon removal of the existing concrete slab, Contractor will excavate base material when necessary and repair base to match original grade before asphalt base and concrete are replaced. Concrete may not be used to repair existing base or replace asphalt base.

Provide Class HES concrete designed to attain a minimum average flexural strength of 255 psi or a minimum average compressive strength of 1,800 psi within the allowed lane closure times.

For joint pavement, provide dowel support assemblies in concrete pavement constructed of 0.306 in. diameter wire in the main vertical members. Rigidly support the dowels in parallel positions and weld them on one end to the support frame. Provide weld attachments alternately on opposite ends of successive dowels. The support assembly is subject to approval.

Provide grooved joints at 10 ft. intervals and 3/4 in. expansion joint material for doweled curb at the same locations as on the existing pavement.

For full depth repair, the amount of pavement removed will be only that amount which can be replaced during the daily allowable work schedule.

Prior to the installation of tiebars, the hole will be thoroughly cleaned of all loose materials and blown clean with compressed air. An injection nozzle will be used to apply the epoxy the full length of the embedment depth to minimize all voids within the hole.

For joint pavement, provide tie bars in longitudinal joints but do not place them within 15 in. of transverse joints.

Provide chairs for multiple piece tiebars, threaded connectors or other adequate devices, used in concrete paving, or tie them to the pavement reinforcing steel. Instead of multiple piece tiebars, drill holes into the pavement and grout straight tiebars in place with epoxy. Do not use impact drills for drilling holes for tiebars. A rotary, core type, bit is required to prevent damage to pavement that will remain in place. Do not bend the tiebars or insert them into plastic concrete without the approval of the Engineer.

All permanent pavement markings which are removed during the removal of the existing concrete pavement are to be replaced as directed by the Engineer. These pavement markings will not be paid for directly, but will be considered subsidiary to this bid item.

Tining will be required as described in Item 360.4.8.3 unless otherwise directed by the Engineer. Surface Test Type A utilizing a 10’ straight edge as described under Item 585 will be required unless otherwise directed by the Engineer.

The concrete material removed from the roadway will not be stockpiled on right of way. All material must be disposed of off right of way daily and not visible to the traveling public from a State maintained roadway unless otherwise approved.

Item 421:
Furnish mix designs to the Engineer in a format compatible to the latest version of the Department’s Construction Management System (Site Manager). Mix Design templates will be provided by the Engineer.

Strength evaluation using maturity testing, Tex-426-A, may be used for all concrete elements except drilled shafts and mass concrete pours.

Supply the Engineer with a list of certified personnel and copies of their current ACI certificates before beginning production and when personnel changes are made. Supply hard copies of calibration reports for testing equipment when required by the Engineer.

Item 500:
Material On Hand (MOH) will not be used in calculating partial payments for Mobilization.

Item 502:
The Contractor Force Account “Safety Contingency” that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor’s Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Access will be provided to all business and residences at all times. Where turning radii are limited during phased construction at intersections, provide all weather surfaces such as RAP or base in turning movements to accommodate and to protect the traffic from edge drop-offs. Materials, labor, maintenance and removal for these temporary accesses and radii will not be paid for directly but will be considered subsidiary to the various bid items.

Provide written proposed lane closure information by 1:00 pm on the business day prior to the proposed closures. Do not close lanes when this requirement is not met.

When excavation is required next to a pavement lane carrying traffic and the widening is not completed by the end of the work day, backfill against the edge of the pavement with at least a 3:1 slope using an acceptable material to support vehicular traffic. Carefully remove and dispose of this material when work resumes. Backfilling pavement edges, and the materials required for the work will be subsidiary to this item.

Place barricades and signs in locations that do not obstruct the sight distance of drivers entering the highway from driveways or side streets.

Provide rectangular shape (CW12-2P) Temporary Clearance Signs on all bridges where the existing vertical clearance has changed. Install Signs to the satisfaction of the Engineer prior to opening to traffic. Plywood sign blanks will have minimum dimensions of 84" X 12". Work performed and materials are subsidiary to this item.

Do not operate or park any equipment/machinery closer than 30 feet from the traveled roadway after sunset unless authorized by the engineer.

When moving unlicensed equipment on or across any pavement or public highways, protect the pavement from all damage using an acceptable method.

As approved by the Engineer, provide uniformed off duty police officers and squad cars during lane or ramp closures, night time work or other situations that indicate a need for additional

traffic control to protect the traveling public or the construction workforce. Provide documentation such as payroll, log sheets with signatures and badge number, or invoices from the government entity providing the officers for reimbursement. Complete the weekly tracking form provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided. Reimbursement will not be made for coordination fees charged by any party.

The Contractor may begin closing 1 Lane of the *NBML at 8:30PM, SBML* at *8:30* PM. All the *NBML* open by *5:30AM and SBML open by 5:00AM. Two or more Mainlane Closure times are 9:00PM TO 5:00AM.* Full Freeway closures are not allowed unless otherwise approved in writing by the Engineer.

Item 506:
Take all practicable precautions to prevent debris from being discharged into the Waters of Texas or a designated wetland. Install Best Management Practices before demolition begins and maintain them during the demolition. Remove any debris or construction material that escapes containment devices and are discharged into the restricted areas, before the next rain event or within 24 hours of the discharge.

If temporary construction stream crossings are allowed under a Nationwide Permit, submit in writing for approval the type and location of each temporary stream crossing. Use temporary bridges, timber mats, or other structurally sound and non-eroding material for temporary stream crossings. A temporary culvert crossing will consist of storm sewer pipes and 4- to 8-inch nominal size rock. Temporary stream crossings must not cause more than minimal changes to the hydraulic flow characteristics of the stream, increase flooding, or cause more than minimal degradation of water quality. Remove the temporary stream crossings in their entirety and return the affected areas to their pre-existing elevation. All work and materials use for temporary construction stream crossings will not be paid for directly but are subsidiary to pertinent Items.

Concrete Washouts are required per the CGP. The Concrete Washout Area(s) structural controls must consist of temporary berms, temporary shallow pits, and/or temporary storage tanks to prevent contaminated runoff and must be lined as to prevent contamination of underlying soil. Ensure pits properly maintained including removal of concrete as not to allow over flow. The location(s) of washout area will be approved by the Engineer. When washout pits are no longer needed, they will be removed and area will be restored to original condition. This work, materials and labor will not be measured or paid for directly but will be subsidiary to Item 506, “Temporary Erosion, Sedimentation, and Environmental Controls.”

Item 6185:
The total number of truck mounted attenuators (TMAs) or trailer attenuators (TAs) required when utilizing the traffic control standards are shown in the tables below.

TCP 1 Series	Scenario		Required TMA/TA	
(1-1)-18 / (1-2)-18			1	
(1-3)-18	A	B	1	2
(1-4)-18 / (1-5)-18 / (1-6)-18			1	

TCP 3 Series	Scenario			Required TMA/TA
(3-1)-13	All			2
(3-2)-13	All			3
(3-3)-14	A	B	D	2
	C			3
(3-4)-13	All			1, unless working inside a twltl, then 2.

TCP 5 Series	Scenario		Required TMA/TA
(5-1)-18	A	B	1

TCP 6 Series	Scenario		Required TMA/TA	
(6-1)-12	A	B	1	2
(6-2)-12 / (6-3)-12	All		1	
(6-4)-12	A	B	1	2
(6-5)-12	A	B	1	2

The contractor will be responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMAs/TAs needed for the project. Additional TMAs/TAs used that are not specified in the plans in which the contractor expects compensation will require prior approval from the Engineer.

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0047-06-174 **DISTRICT** Dallas **COUNTY** Collin
HIGHWAY US 75

									TOTAL EST.	TOTAL FINAL
			CONTROL SECTION JOB		**0047-06-174**		**0047-14-088**			
			PROJECT ID		**A00187784**		**A00190751**			
			COUNTY		**Collin**		**Collin**			
			HIGHWAY		**US 75**		**US 75**			
ALT	**BID CODE**	**DESCRIPTION**		**UNIT**	EST.	FINAL	EST.	FINAL		
	361-6065	FULL-DEPTH REPAIR CRCP (8"-10")		SY	1,264.000		208.000		1,472.000	
	361-6067	FULL-DEPTH REPAIR CRCP (13"-15")		SY	1,363.000		125.000		1,488.000	
	361-6069	FULL-DEPTH REPAIR CPCD (11"-13")		SY	456.000				456.000	
	361-6084	FULL DEPTH REPAIR CPCD (8"-10"		SY	150.000				150.000	
	429-6004	CONC STR REPAIR(RAPID DECK REP(PRT DPT)		SF	100.000				100.000	
	429-6006	CONC STR REPR(RAPID DECK REP(FULL DPT))		SF	100.000				100.000	
	500-6001	MOBILIZATION		LS	0.700		0.300		1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING		MO	3.000		3.000		6.000	
	506-6041	BIODEG EROSN CONT LOGS (INSTL) (12")		LF	325.000		325.000		650.000	
	506-6043	BIODEG EROSN CONT LOGS (REMOVE)		LF	325.000		325.000		650.000	
	713-6006	CRACK CLEANING AND SEALING (CRCP)		LF	184.000		184.000		368.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN		EA	2.000				2.000	
	6185-6002	TMA (STATIONARY)		DAY	50.000		20.000		70.000	
	6185-6003	TMA (MOBILE OPERATION)		HR	50.000		20.000		70.000	
	08	CONTRACTOR FORCE ACCOUNT EROSION CONTROL MAINTENANCE (NON-PARTICIPATING)		LS	1.000				1.000	
		CONTRACTOR FORCE ACCOUNT SAFETY CONTINGENCY (NON-PARTICIPATING)		LS	1.000				1.000	
		CONTRACTOR FORCE ACCOUNT WORK (NON-PARTICIPATING)		LS	1.000				1.000	

SUMMARY OF ROADWAY ITEMS FOR CSJ: 0047-06-174,ETC.

LOCATION		361 6065	361 6067	361 6069	361 6084	429 6004	429 6006	713 6006
		FULL - DEPTH REPAIR CRCP (8"-10")	FULL - DEPTH REPAIR CRCP (13"-15")	FULL - DEPTH REPAIR CRCP (11"-13")	FULL - DEPTH REPAIR CPCD (8"-10")	CONC STR REPAIR (RAPID DECK REPAIR) (PRT DPT)	CONC STR REPAIR (RAPID DECK REPAIR) (FULL DPT)	CRACK CLEANING AND SEALING (CRCP)
		SY	SY	SY	SY	SF	SF	LF
CSJ:0047-06-174	US 75 from Dallas County Line To Valley Creerk Trail	1264	1363.00	456.00	150.00	100	100	184
CSJ:0047-14-088	US 75 from Valley Creerk Trail To Greyson County Line	208	125.00					184
PROJECT TOTAL		1472	1488.00	456.00	150	100	100	368

SUMMARY OF EROSION CONTROL ITEMS FOR CSJ: 0047-06-174,ETC.

LOCATION	506 6041	506 6043
	BIODEG EROSN CONT LOGS (INSTALL) (12")	BIODEG EROSN CONT LOGS (Remove) (12")
	LF	LF
CSJ 0047-06-174 US 75 from Dallas County Line To Valley Creerk Trail	325.0	325.0
0047-14-088 US 75 from Valley Creerk Trail To Greyson County Line	325.0	325.0
PROJECT TOTAL	650	650

US 75
ROADWAY QUANTITY & SW3P SUMMARY

SHEET 11 OF 1

DESIGN	FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
MS	6	SEE TITLE SHEET		US 75
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
MS	TEXAS	DALLAS	COLLIN	
CHECK JRV	CONTROL	SECTION	JOB	7
CHECK JRV	0047	06	174, ETC.	

TCP GENERAL NOTES

1.)REFER TO THE BC STANDARDS, TCP STANDARDS, AND THE CURRENT EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) FOR DETAILS REGARDING TRAFFIC CONTROL DEVICES USED IN CONSTRUCTION.

SEQUENCE OF WORK

1.)ERECT ALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES ACCORDING TO THE BC STANDARDS, TCP STANDARDS AND AS DIRECTED BYTHE ENGINEER.

2.)INSTALL SW3P DEVICES AS REQUIRED, MAINTAIN AND MODIFY THE SW3P AS NEEDED AND AS DIRECTED BY THE ENGINEER.

3.)CONSTRUCT FULL DEPTH CONCRETE REPAIR AS DIRECTED IN THE PLANS AND BY THE ENGINEER.

4.)PLACE PAVEMENT MARKINGS AND RPMS AS DIRECTED IN THE PLANS AND BY THE ENGINEER.

6.)REMOVE ALL ADVANCE WARNING SIGNS, PROJECT LIMITS SIGNS,TEMPORARY SW3P CONTROL DEVICES AND TRAFFIC CONTROL DEVICES.

STATE OF TEXAS
MADHU SASTRY
82864
LICENSED PROFESSIONAL ENGINEER
4/18/2023

Texas Department of Transportation

US 75, ETC.
TRAFFIC CONTROL NARRATIVE

SHEET 1 OF 1

DESIGN	FED.RD. DIV.NO.	STATE AID PROJECT NO.		HIGHWAY NO.
MS	6	SEE TITLE SHEET		US 75,ETC.
GRAPHICS MS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK JV	TEXAS	18	COLLIN	8
CHECK JV	CONTROL	SECTION	JOB	
	0047	06	174, ETC.	

DATE:
FILE:

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.

2. Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

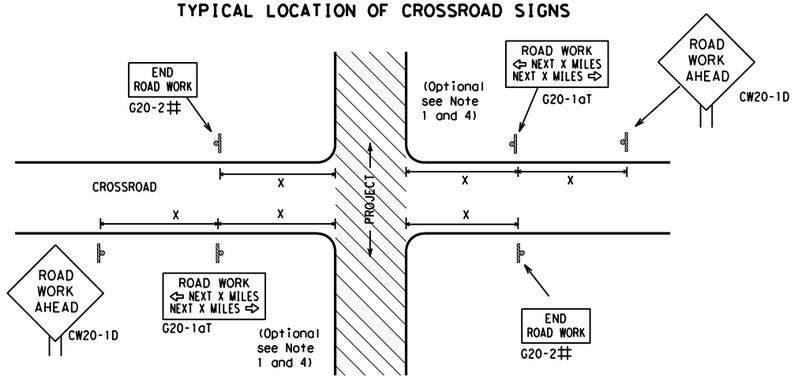
BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
4-03 7-13	DIST	COUNTY		SHEET NO.
9-07 8-14	DAL	COLLIN		9
5-10 5-21				

DATE:
FILE:

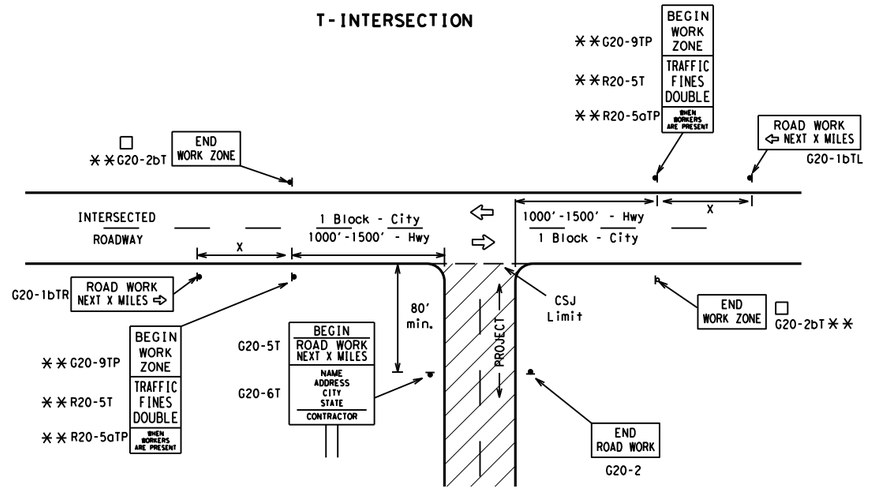
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign △ Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
*	*[3]

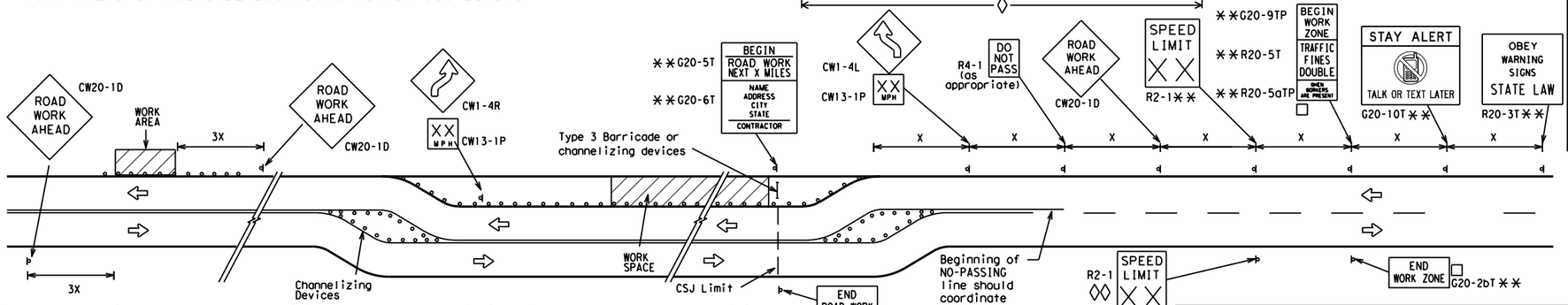
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

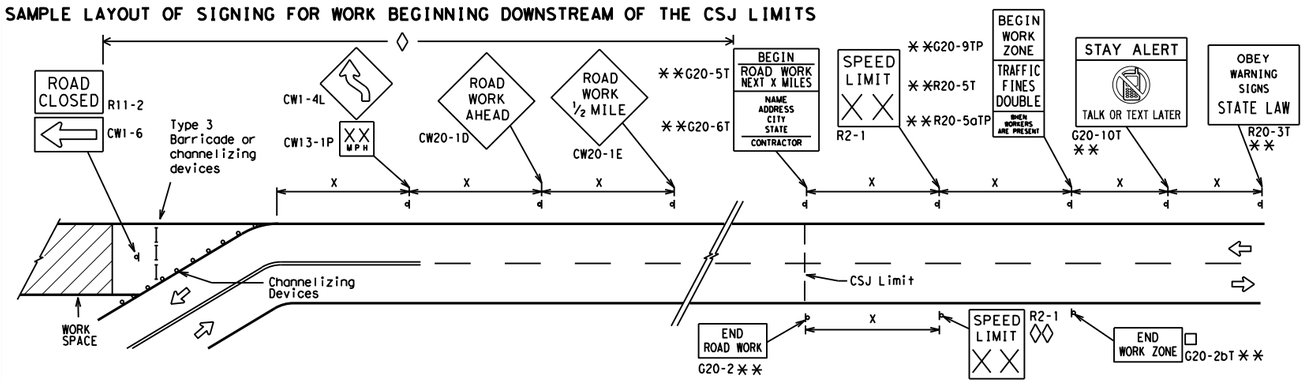
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

□ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

** CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.

◊ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

◊◊ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

⟼	Type 3 Barricade
○ ○ ○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		10

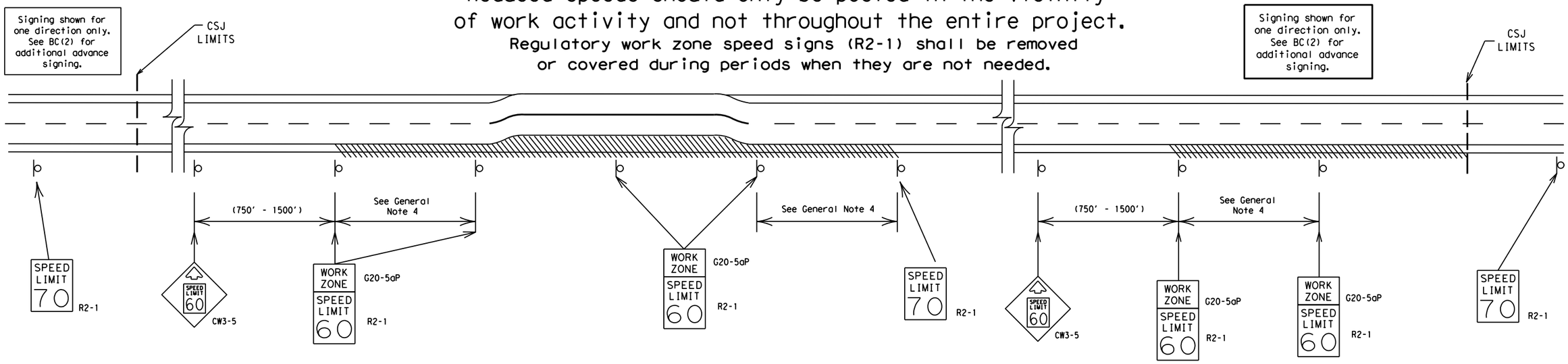
DATE:
FILE:

TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

Texas Department of Transportation

Traffic Safety Division Standard

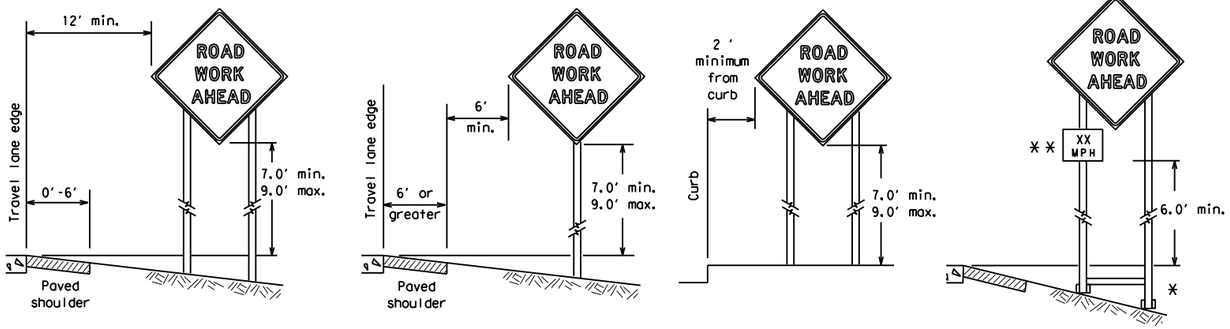
BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		11

DATE:
FILE:

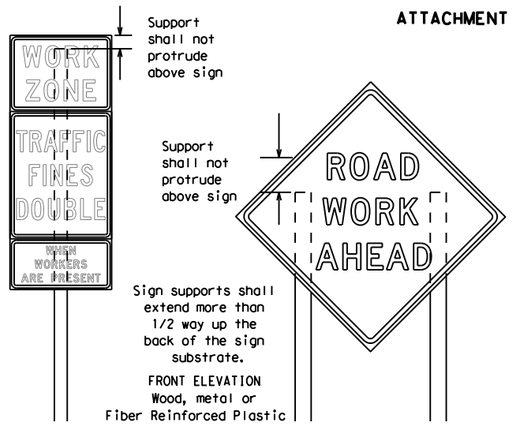
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

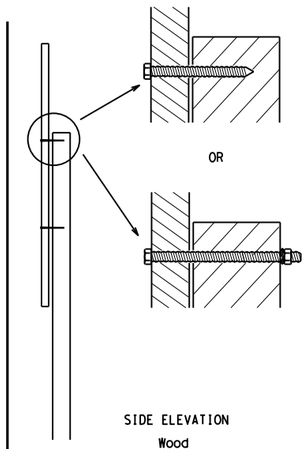


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





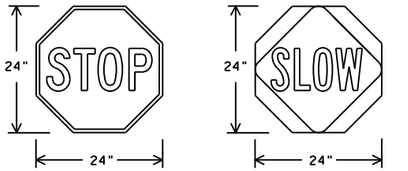
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

SHEETING REQUIREMENTS (WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

Texas Department of Transportation

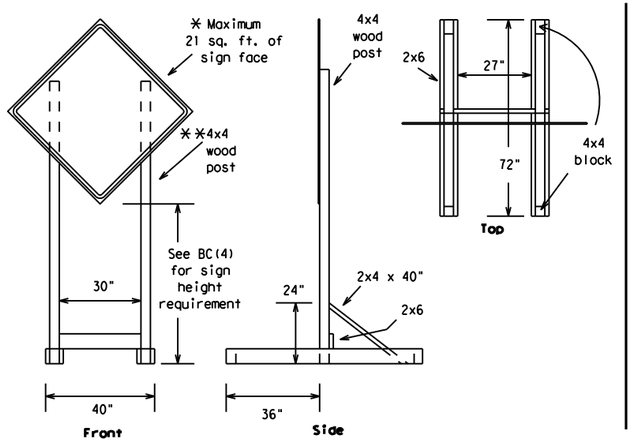
Traffic Safety Division Standard

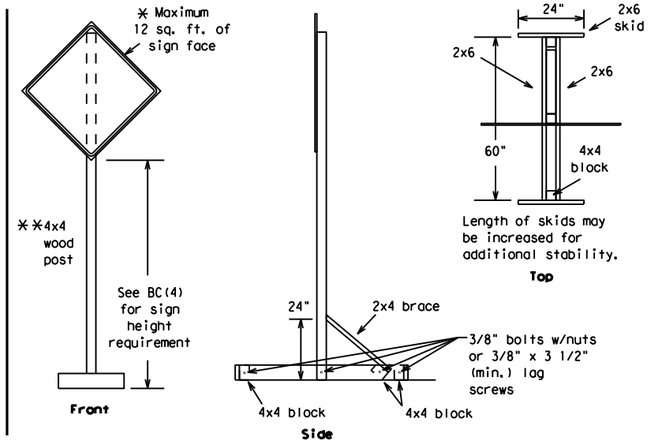
BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		12

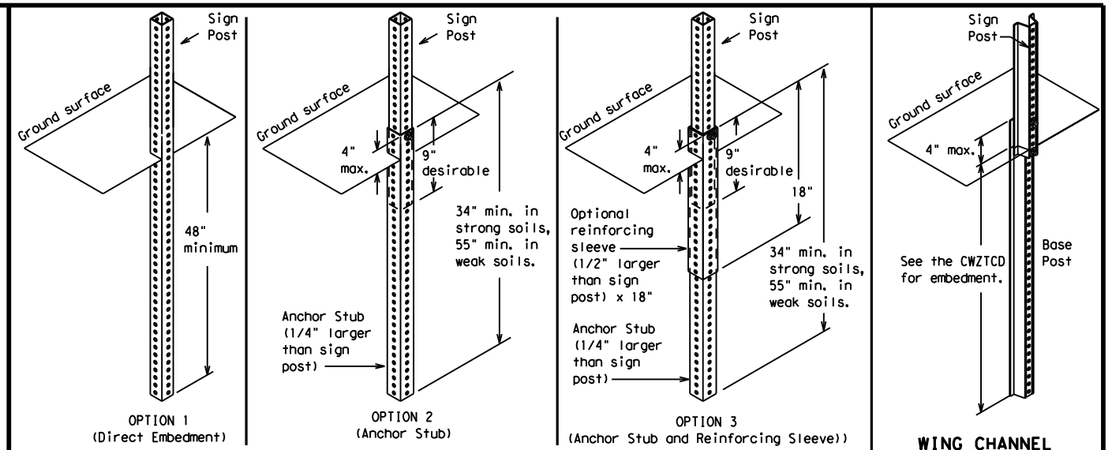
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.





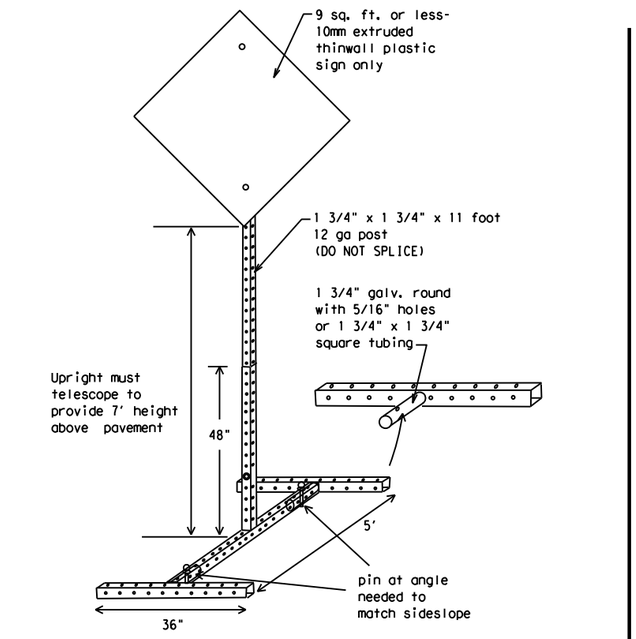
SKID MOUNTED WOOD SIGN SUPPORTS

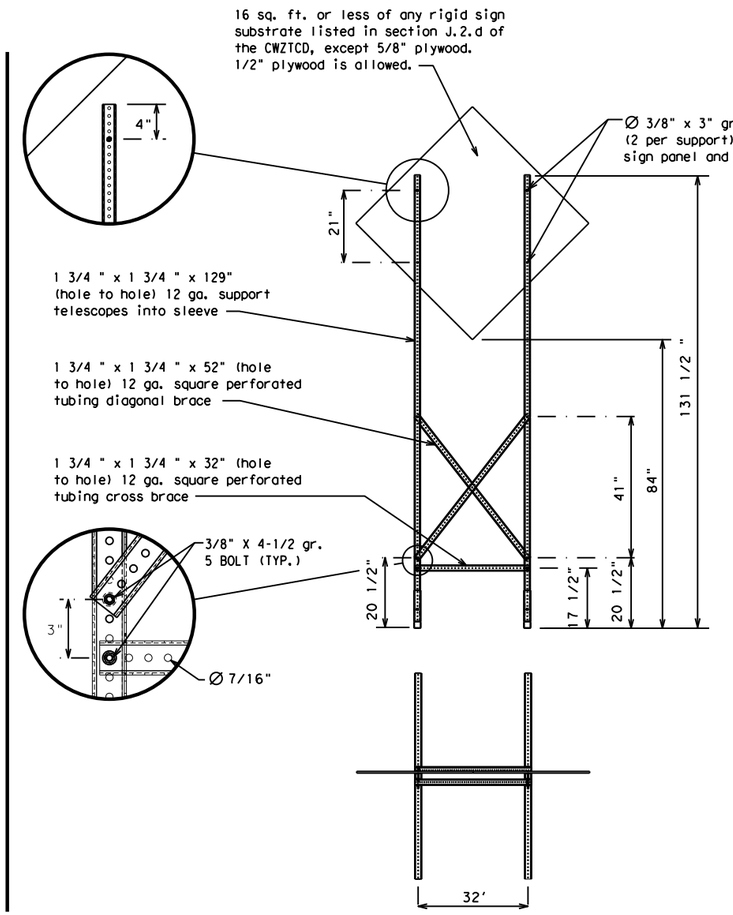
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

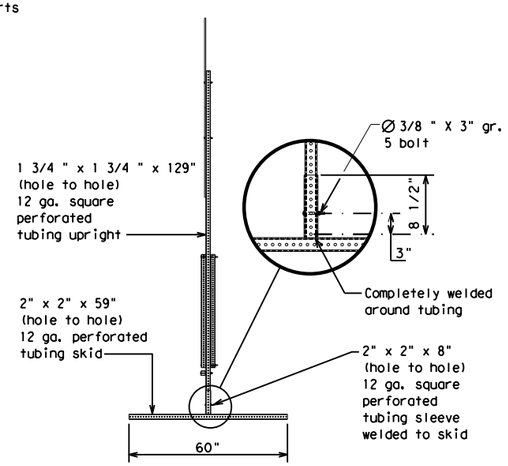


GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.







SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

* See BC(4) for definition of "Work Duration."

** Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

☐ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		13

DATE:
FILE:

DATE:
FILE:

WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT

WORD OR PHRASE	ABBREVIATION
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation * IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

- FREEWAY CLOSED X MILE
- FRONTAGE ROAD CLOSED
- ROAD CLOSED AT SH XXX
- SHOULDER CLOSED XXX FT
- ROAD CLSD AT FM XXXX
- RIGHT LN CLOSED XXX FT
- RIGHT X LANES CLOSED
- RIGHT X LANES OPEN
- CENTER LANE CLOSED
- DAYTIME LANE CLOSURES
- NIGHT LANE CLOSURES
- I-XX SOUTH EXIT CLOSED
- VARIOUS LANES CLOSED
- EXIT XXX CLOSED X MILE
- EXIT CLOSED
- RIGHT LN TO BE CLOSED
- MALL DRIVEWAY CLOSED
- X LANES CLOSED TUE - FRI
- XXXXXXXX BLVD CLOSED

Other Condition List

- ROADWORK XXX FT
- ROAD REPAIRS XXXX FT
- FLAGGER XXXX FT
- LANE NARROWS XXXX FT
- RIGHT LN NARROWS XXXX FT
- TWO-WAY TRAFFIC XX MILE
- MERGING TRAFFIC XXXX FT
- CONST TRAFFIC XXX FT
- LOOSE GRAVEL XXXX FT
- UNEVEN LANES XXXX FT
- DETOUR X MILE
- ROUGH ROAD XXXX FT
- ROADWORK PAST SH XXXX
- ROADWORK NEXT FRI-SUN
- BUMP XXXX FT
- US XXX EXIT X MILES
- TRAFFIC SIGNAL XXXX FT
- LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

- MERGE RIGHT
- FORM X LINES RIGHT
- DETOUR NEXT X EXITS
- USE XXXXX RD EXIT
- USE EXIT XXX
- USE EXIT I-XX NORTH
- STAY ON US XXX SOUTH
- USE I-XX E TO I-XX N
- TRUCKS USE US XXX N
- WATCH FOR TRUCKS
- WATCH FOR TRUCKS
- EXPECT DELAYS
- EXPECT DELAYS
- PREPARE TO STOP
- REDUCE SPEED XXX FT
- END SHOULDER USE
- USE OTHER ROUTES
- WATCH FOR WORKERS
- STAY IN LANE *

Location List

- AT FM XXXX
- BEFORE RAILROAD CROSSING
- NEXT X MILES
- PAST US XXX EXIT
- XXXXXXX TO XXXXXXX
- US XXX TO FM XXXX

Warning List

- SPEED LIMIT XX MPH
- MAXIMUM SPEED XX MPH
- MINIMUM SPEED XX MPH
- ADVISORY SPEED XX MPH
- RIGHT LANE EXIT
- USE CAUTION
- DRIVE SAFELY
- DRIVE WITH CARE

** Advance Notice List

- TUE-FRI XX AM- X PM
- APR XX-XX X PM-X AM
- BEGINS MONDAY
- BEGINS MAY XX
- MAY X-X XX PM - XX AM
- NEXT FRI-SUN
- XX AM TO XX PM
- NEXT TUE AUG XX
- TONIGHT XX PM- XX AM

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

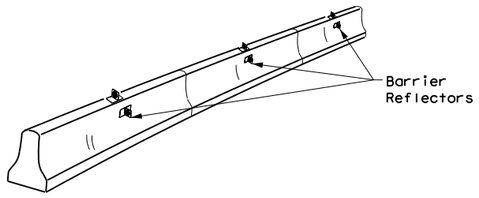
BC(6)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		14

100

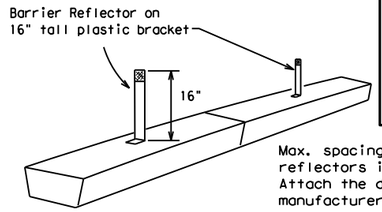
DATE:
FILE:

1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

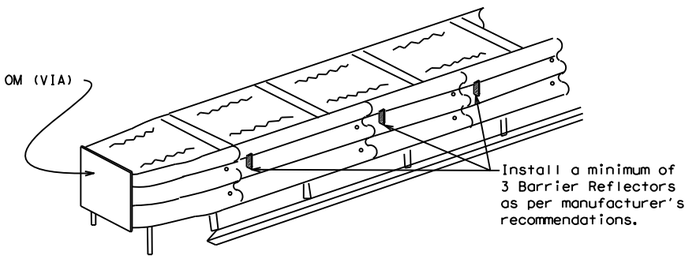


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

LOW PROFILE CONCRETE BARRIER (LPCB)

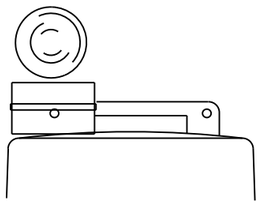


DELINEATION OF END TREATMENTS

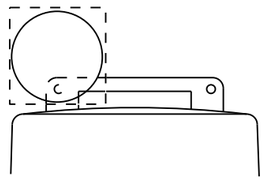
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the apppropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

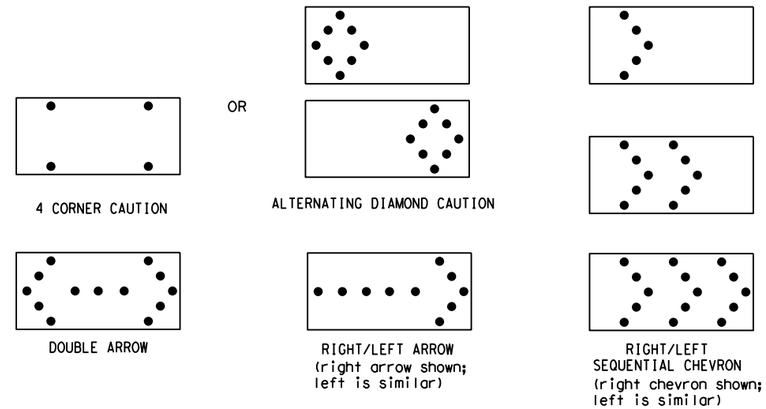
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		15

101

DATE:
FILE:

GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

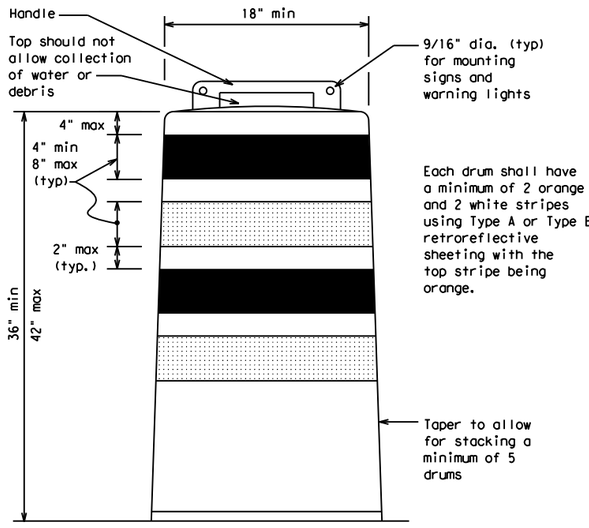
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

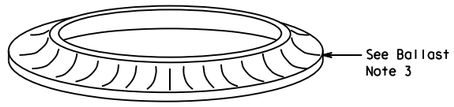
RETROREFLECTIVE SHEETING

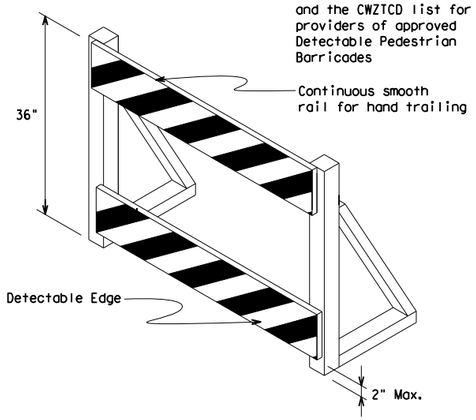
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

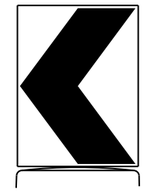




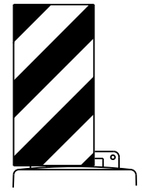


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation | Traffic Safety Division Standard

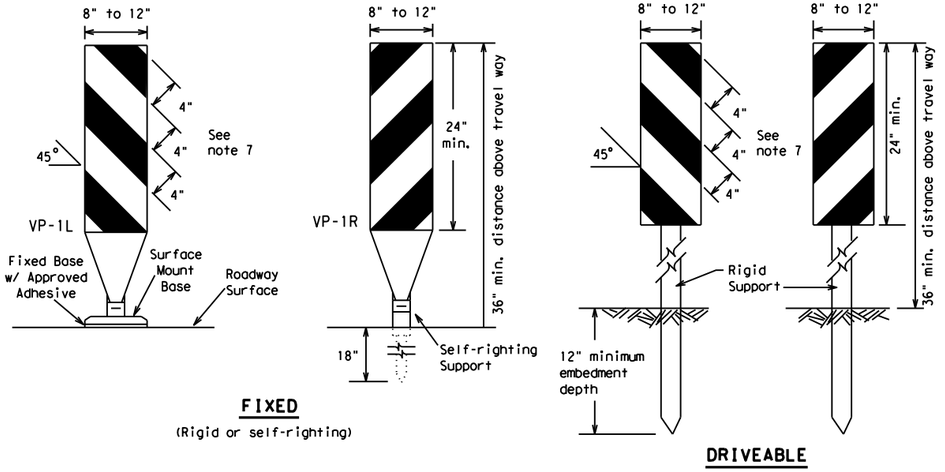
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
4-03 8-14	DIST	COUNTY		SHEET NO.
9-07 5-21	DAL	COLLIN		16
7-13				

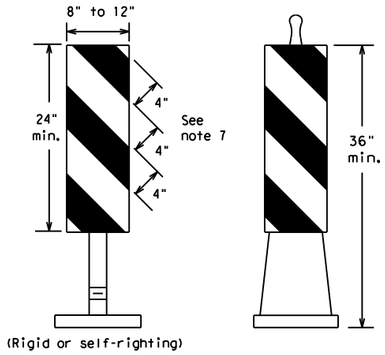
102

DATE:
FILE:



FIXED
(Rigid or self-righting)

DRIVEABLE

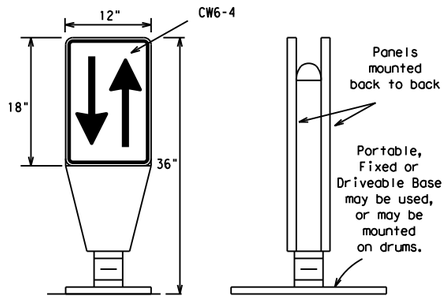


(Rigid or self-righting)

PORTABLE

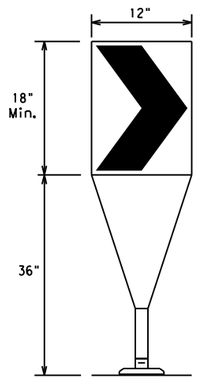
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



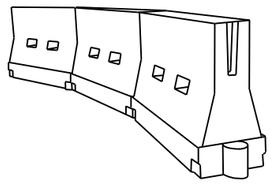
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L = WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

SHEET 9 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

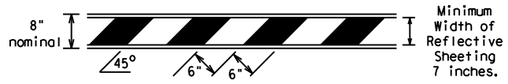
BC(9)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		17

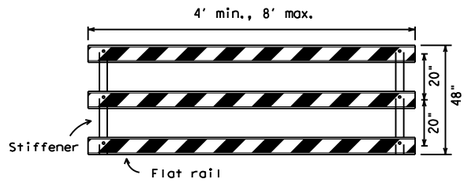
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



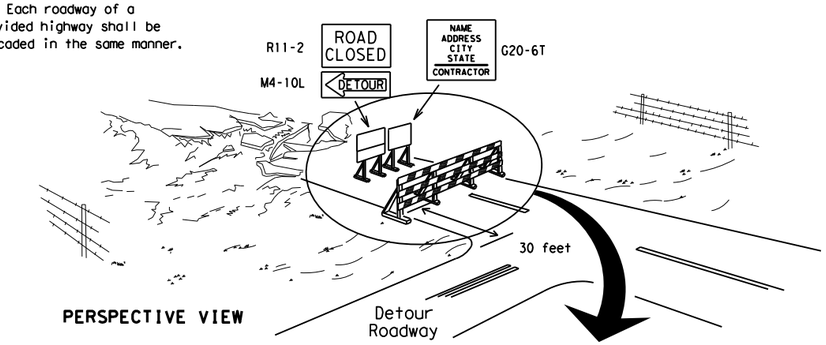
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

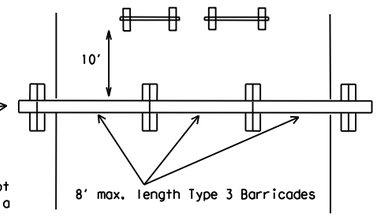
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

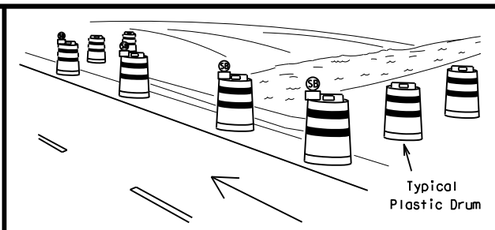
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

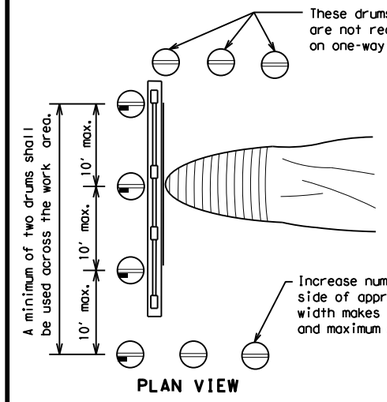
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

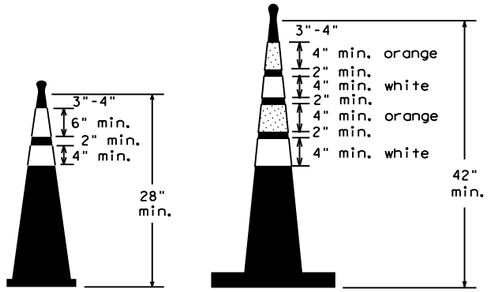
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



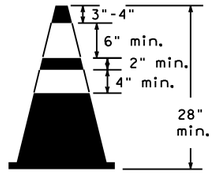
LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

PLAN VIEW

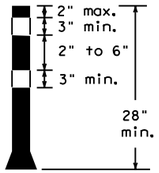
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

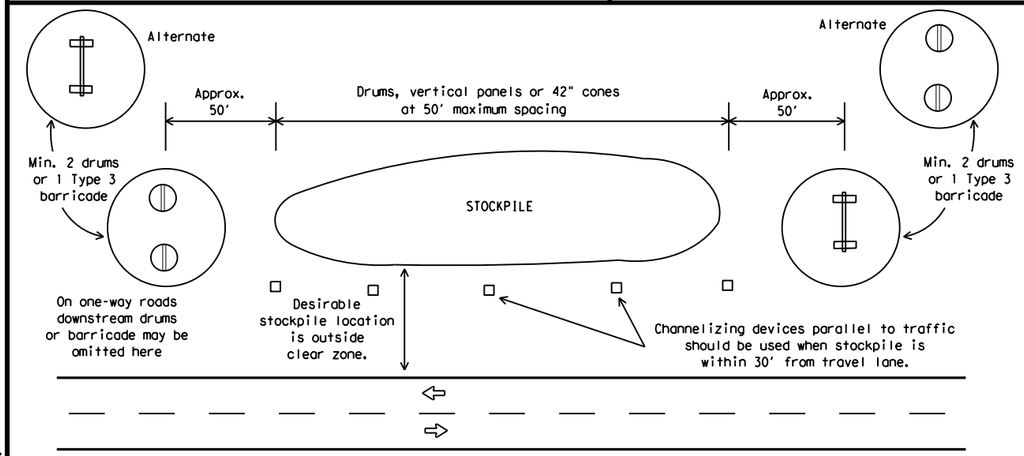


Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

DATE:
FILE:

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	DAL	COLLIN		18

104

DATE:
FILE:

WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

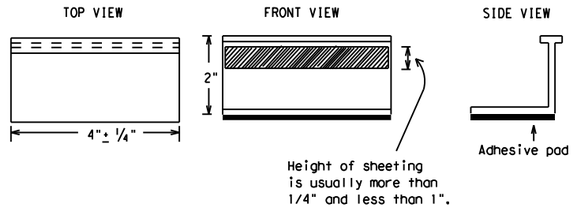
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

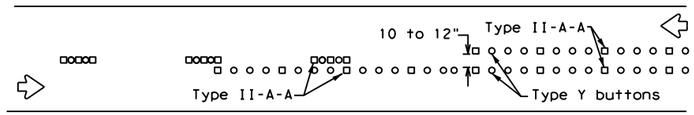
FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
2-98 9-07 5-21	DIST	COUNTY		SHEET NO.
1-02 7-13	DAL	COLLIN		19
11-02 8-14				

105

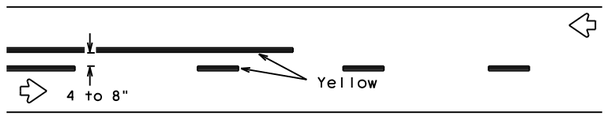
DATE:
FILE:

PAVEMENT MARKING PATTERNS

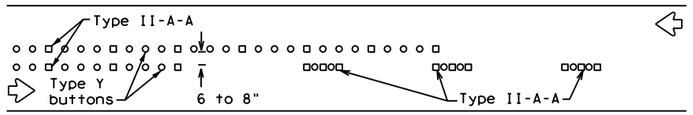
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



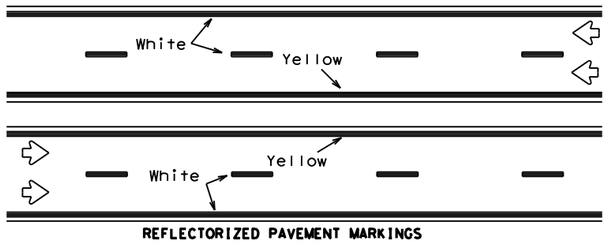
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



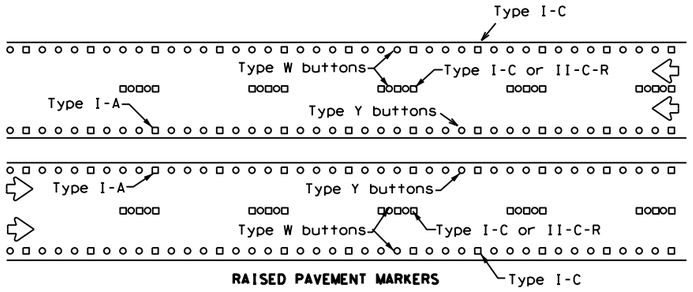
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



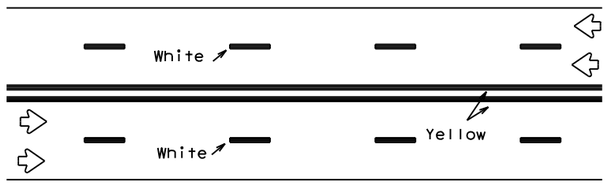
REFLECTORIZED PAVEMENT MARKINGS



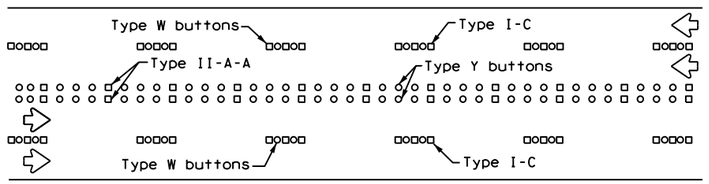
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



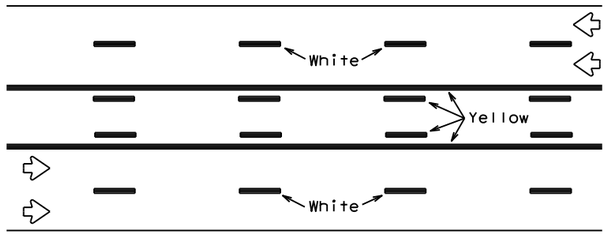
REFLECTORIZED PAVEMENT MARKINGS



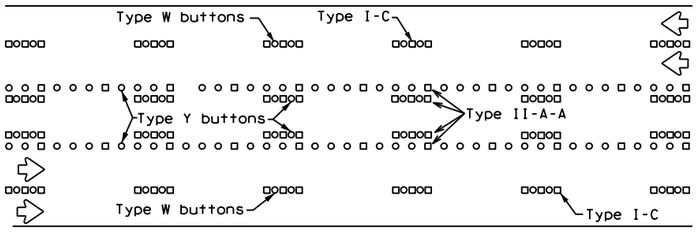
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

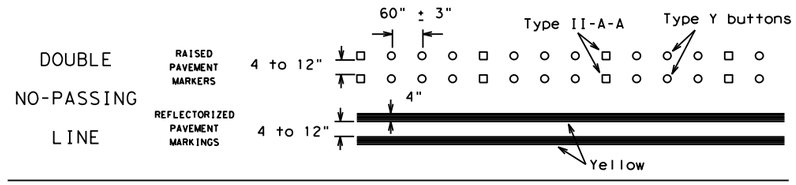
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

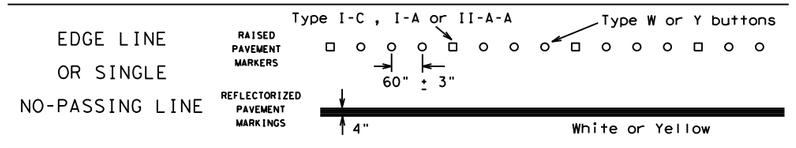
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

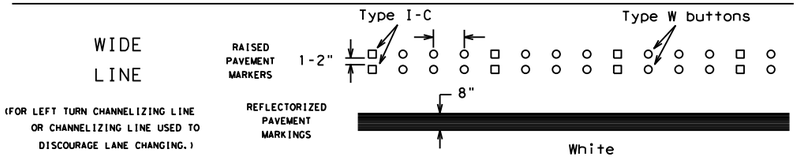


EDGE LINE OR SINGLE NO-PASSING LINE



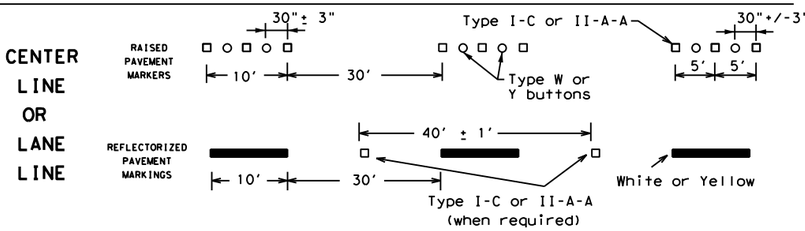
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

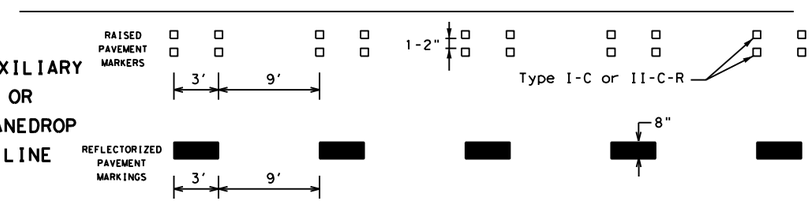


BROKEN LINES

CENTER LINE OR LANE LINE

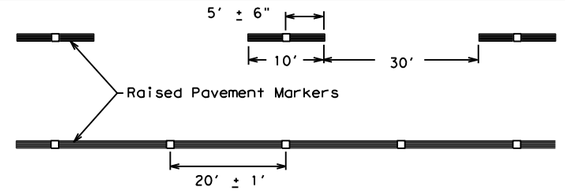


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

Texas Department of Transportation

Traffic Safety Division Standard

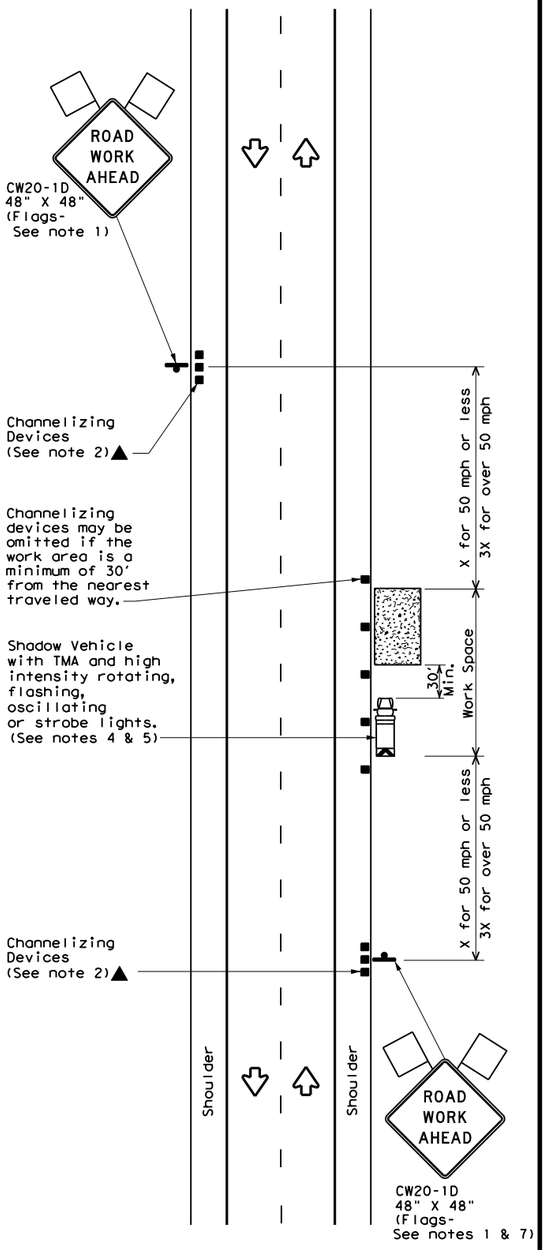
BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 1-97 9-07 5-21 2-98 7-13 11-02 8-14	0047	06	174,ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		20

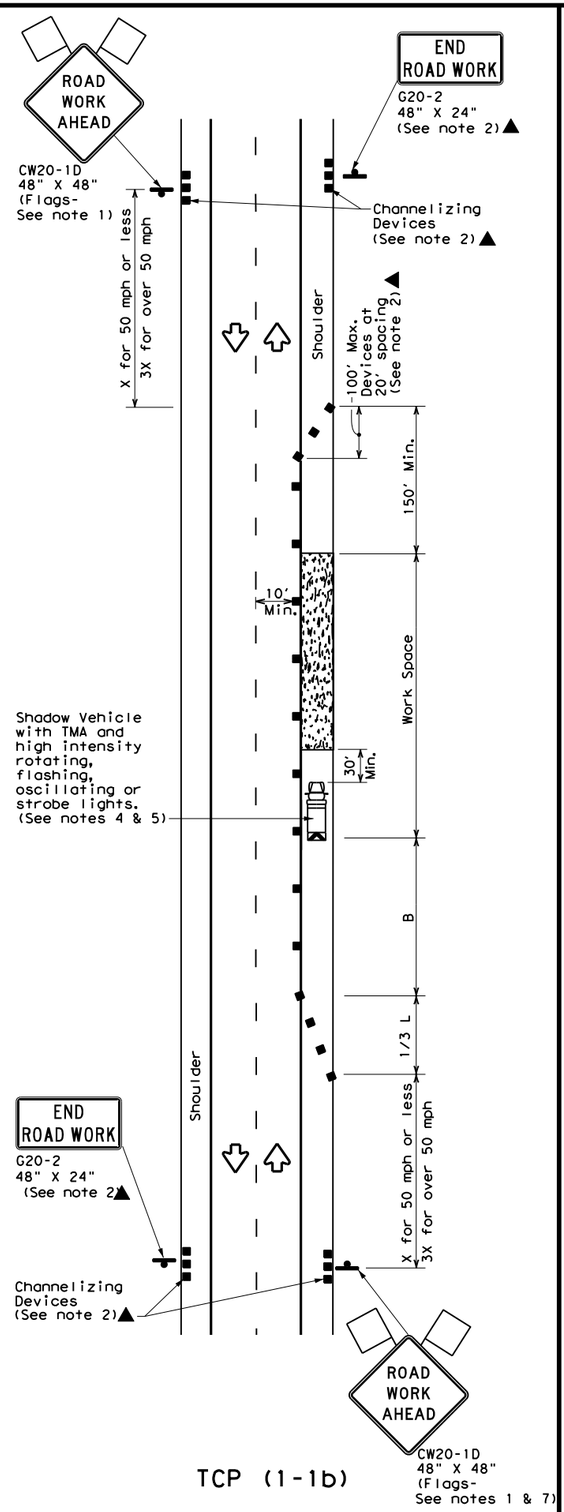
106

DATE:
FILE:



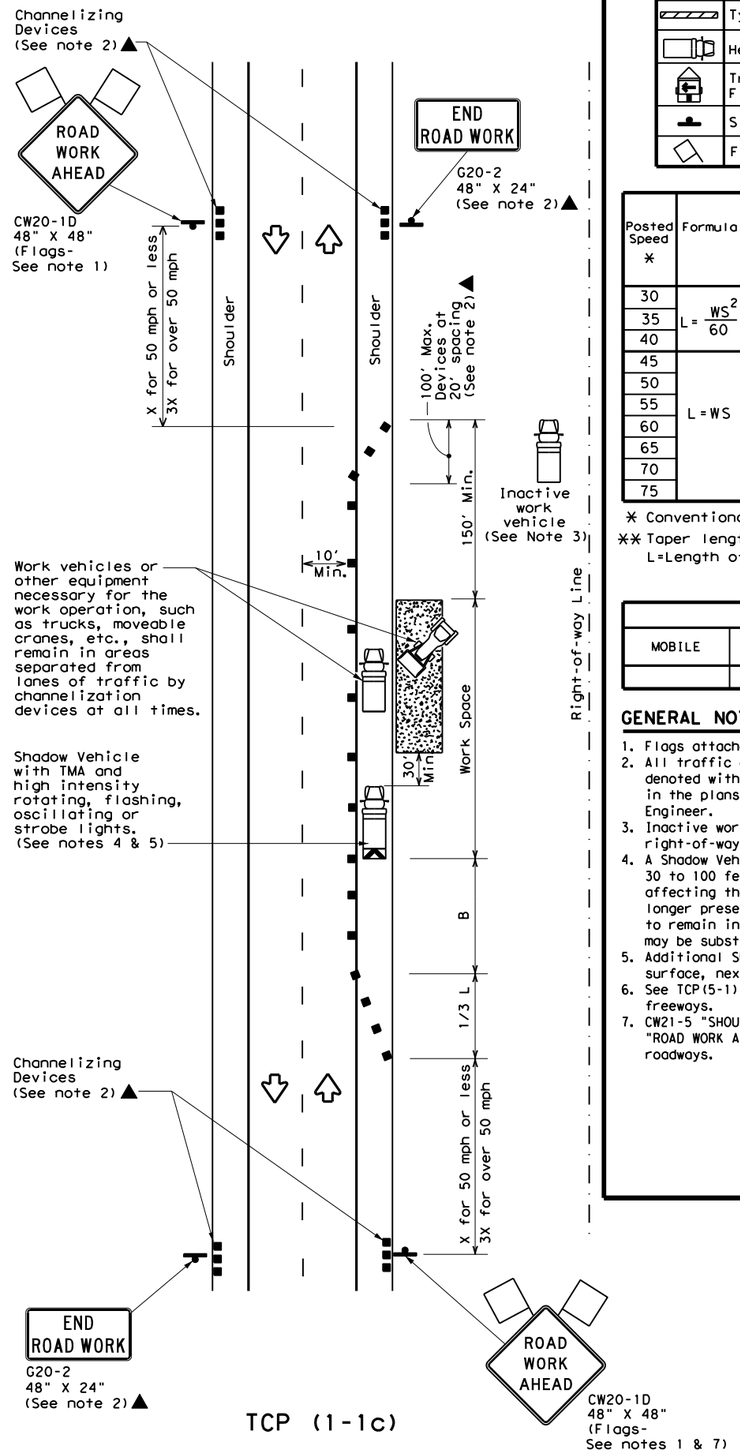
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

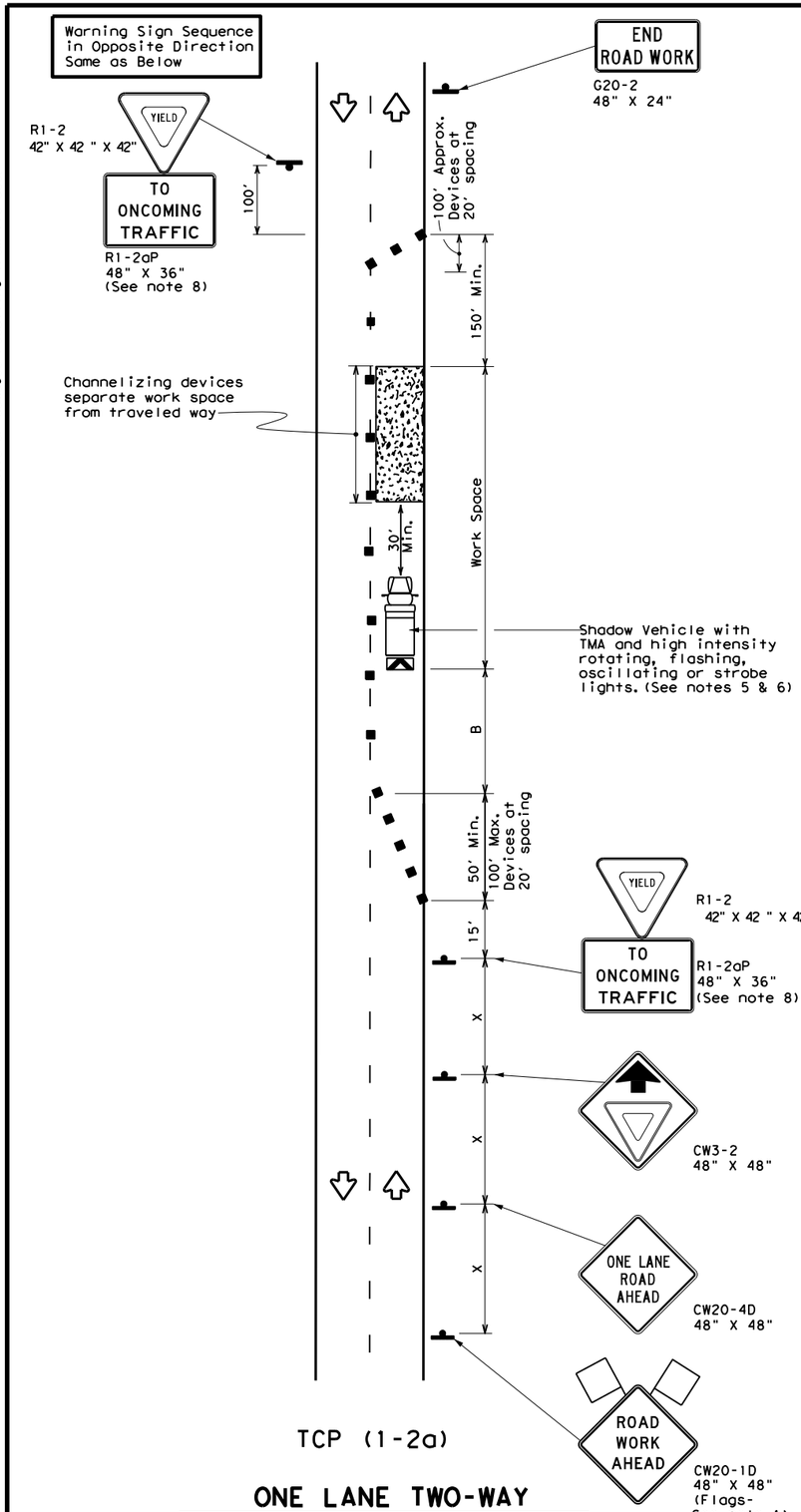
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(1-1)-18

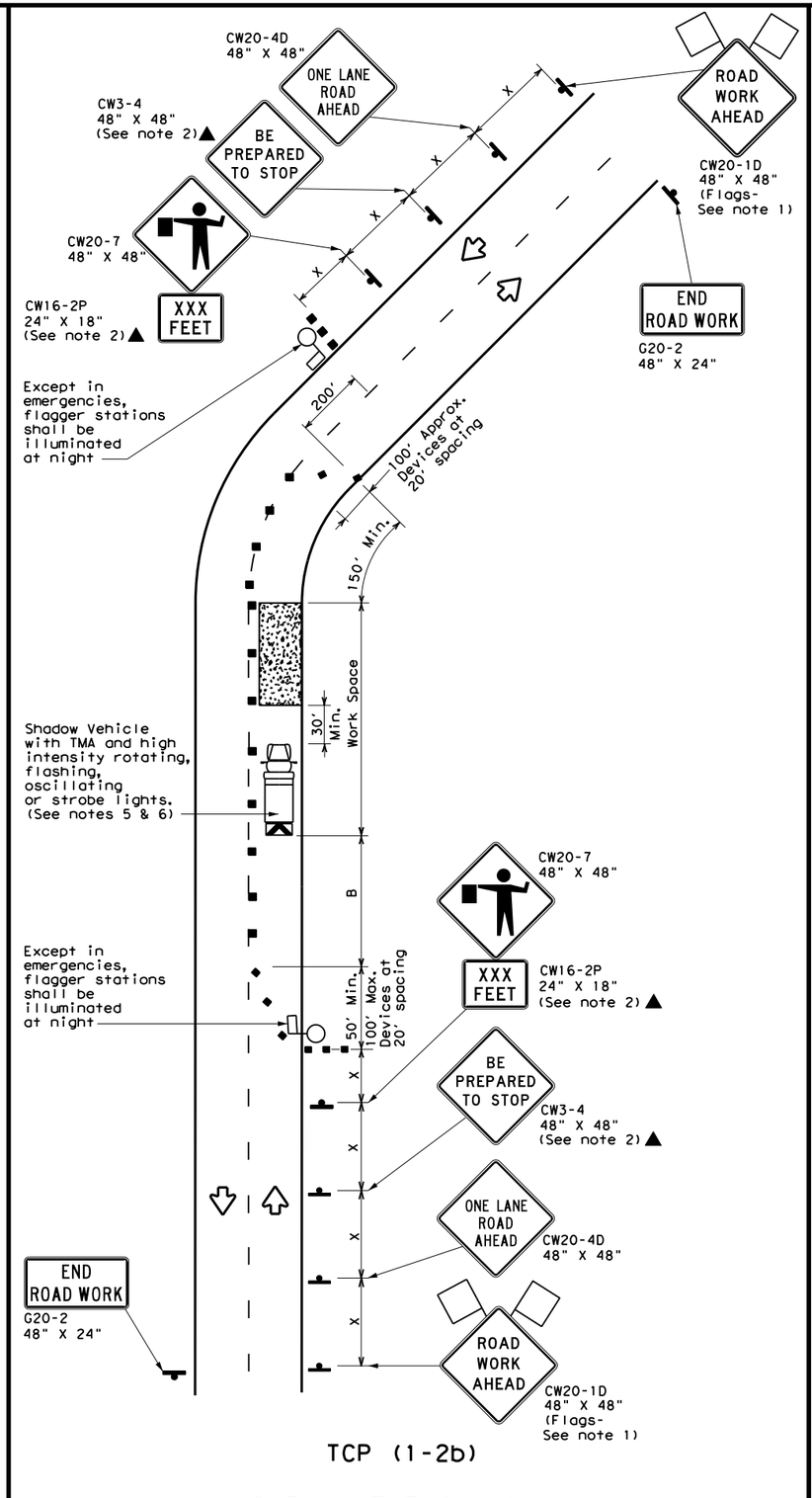
FILE: tcp1-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	0047	06	174,ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		21

DATE:
FILE:



TCP (1-2a)

ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

LEGEND

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation

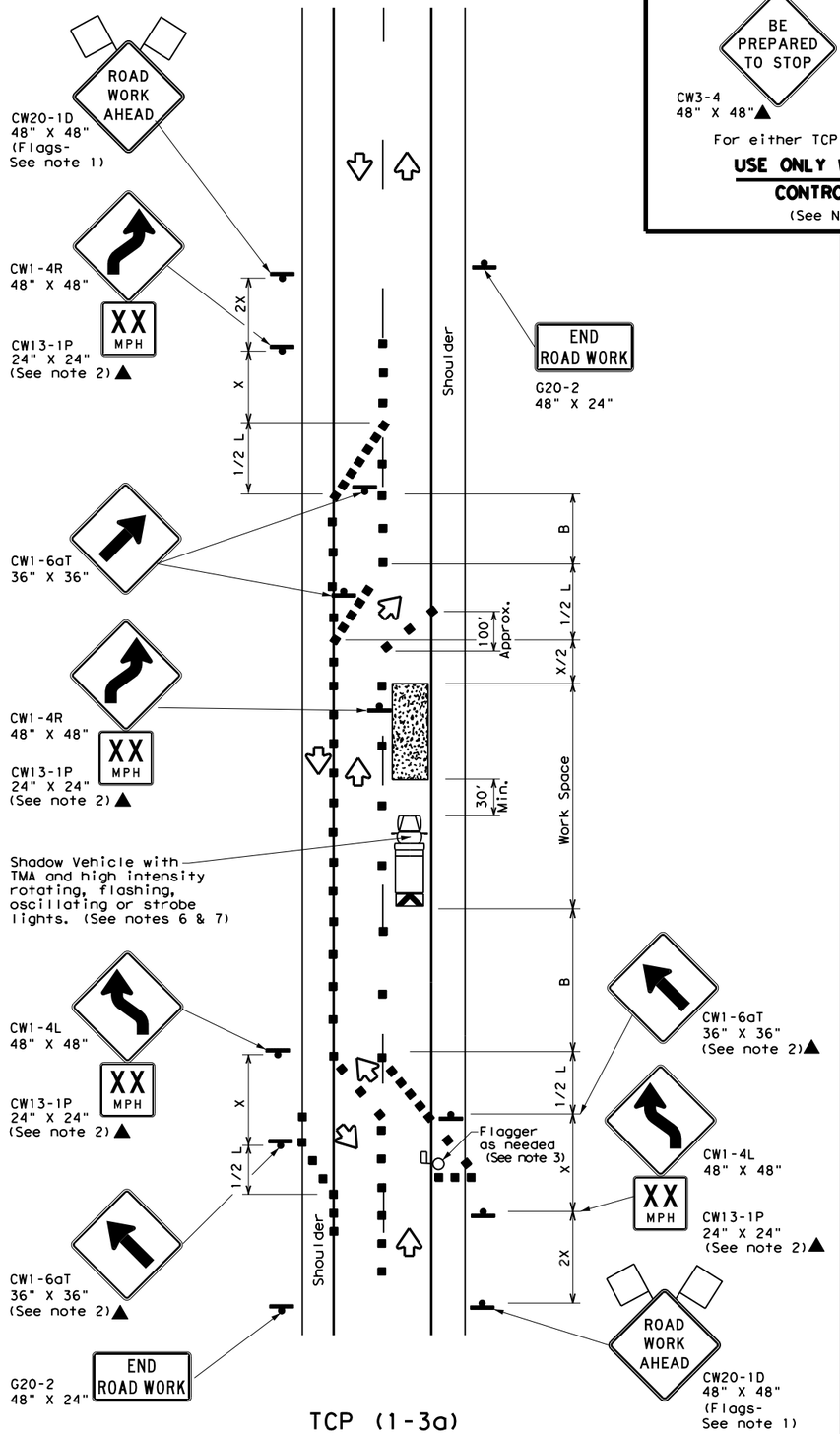
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(1-2)-18

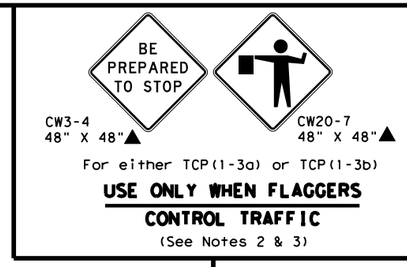
FILE: tcp1-2-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-90 4-98 2-94 2-12 1-97 2-18	0047	06	174,ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		022

DATE:
FILE:



TCP (1-3a)
2-LANE ROADWAY WITH PAVED SHOULDERS

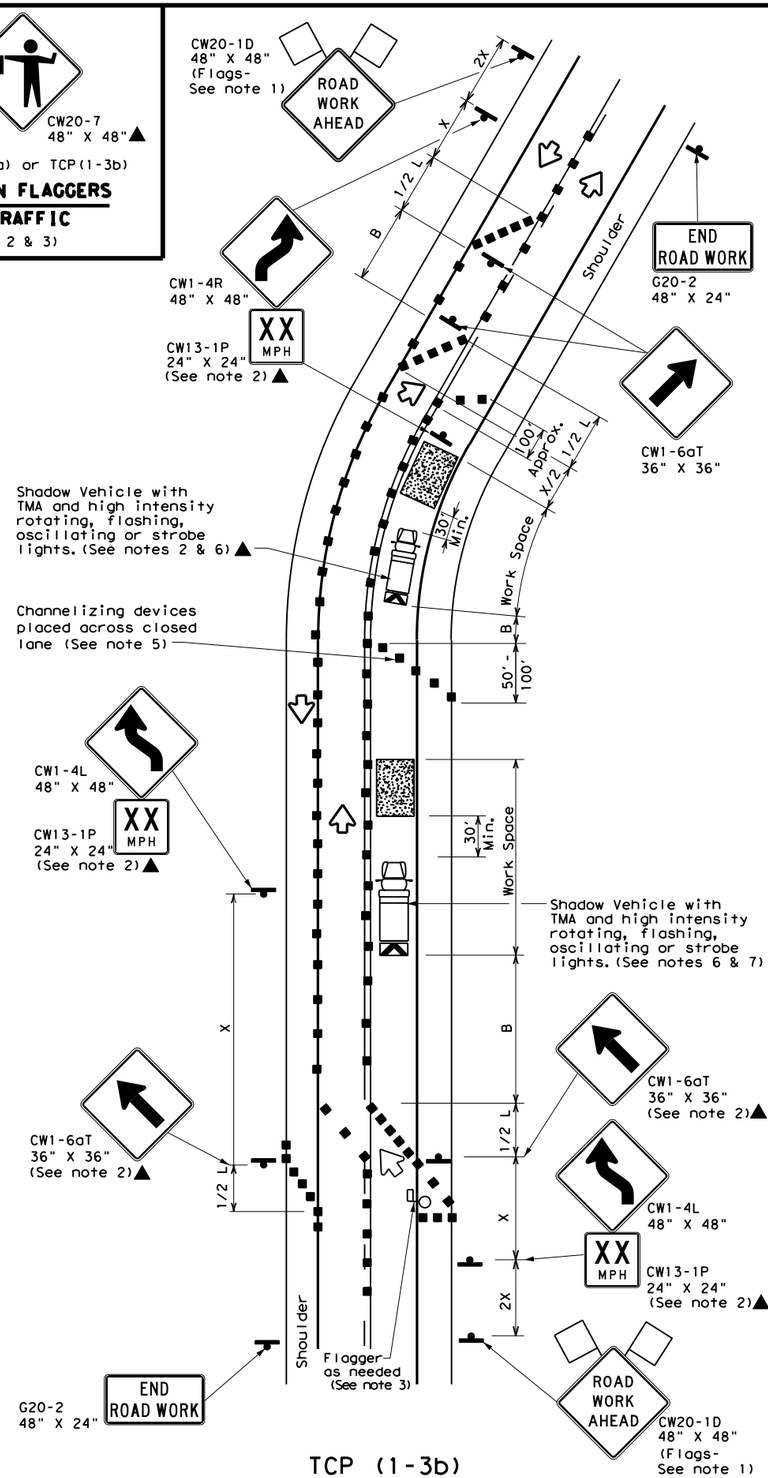
ONE LANE CLOSED
ADEQUATE FIELD OF VIEW



For either TCP(1-3a) or TCP(1-3b)

USE ONLY WHEN FLAGGERS CONTROL TRAFFIC

(See Notes 2 & 3)



TCP (1-3b)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
INADEQUATE FIELD OF VIEW

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Additional flaggers may be positioned in advance of traffic queues to alert traffic to reduce speed.
4. DO NOT PASS, PASS WITH CARE and construction regulatory speed zone signs may be installed downstream of the ROAD WORK AHEAD signs.
5. When the work zone is made up of several work spaces, channelizing devices should be placed laterally across the closed lane to re-emphasize closure. Laterally placed channelizing devices should be repeated every 500 to 1000 feet in urban areas and every 1/4 to 1/2 mile in rural areas.
6. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
7. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
8. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20', or 15' if posted speed are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the area of conflicting markings not the entire work zone.

Texas Department of Transportation

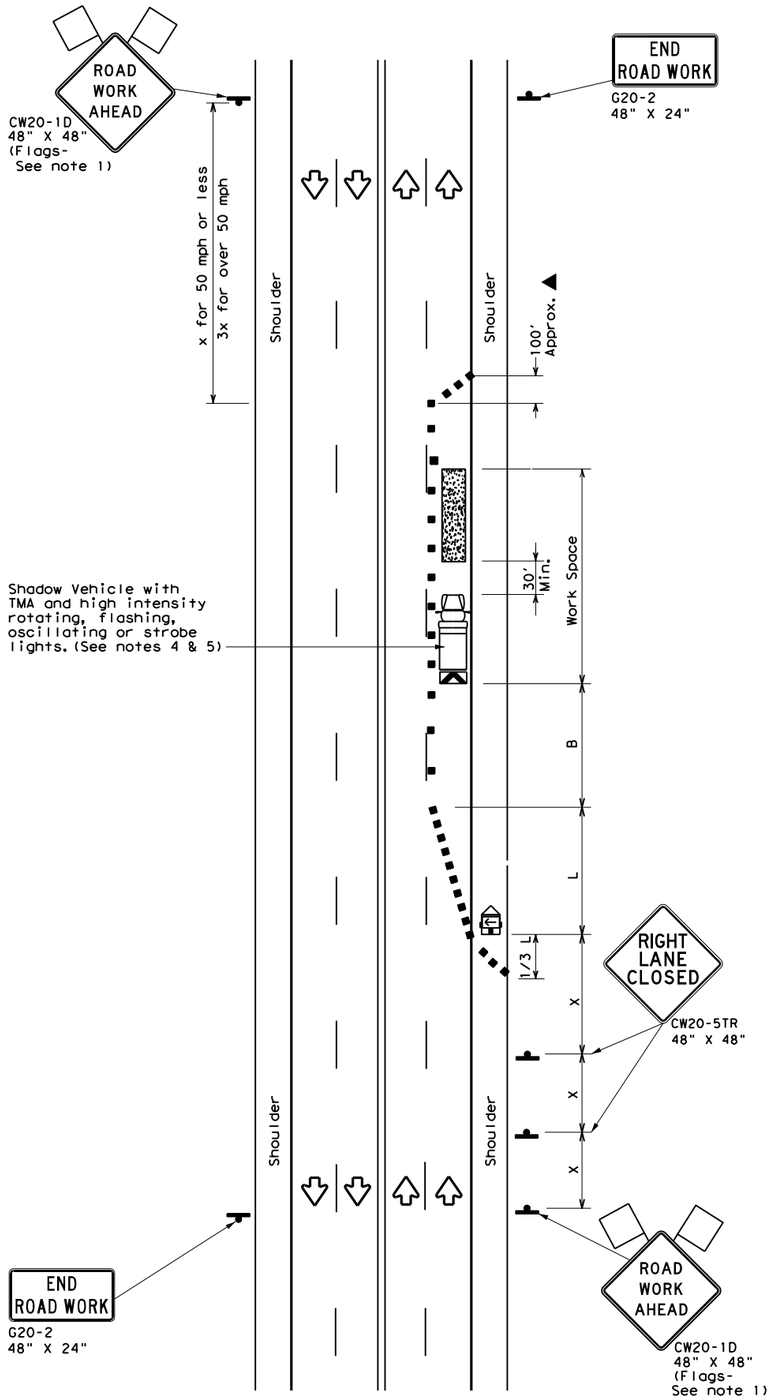
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
TRAFFIC SHIFTS ON TWO LANE ROADS

TCP(1-3)-18

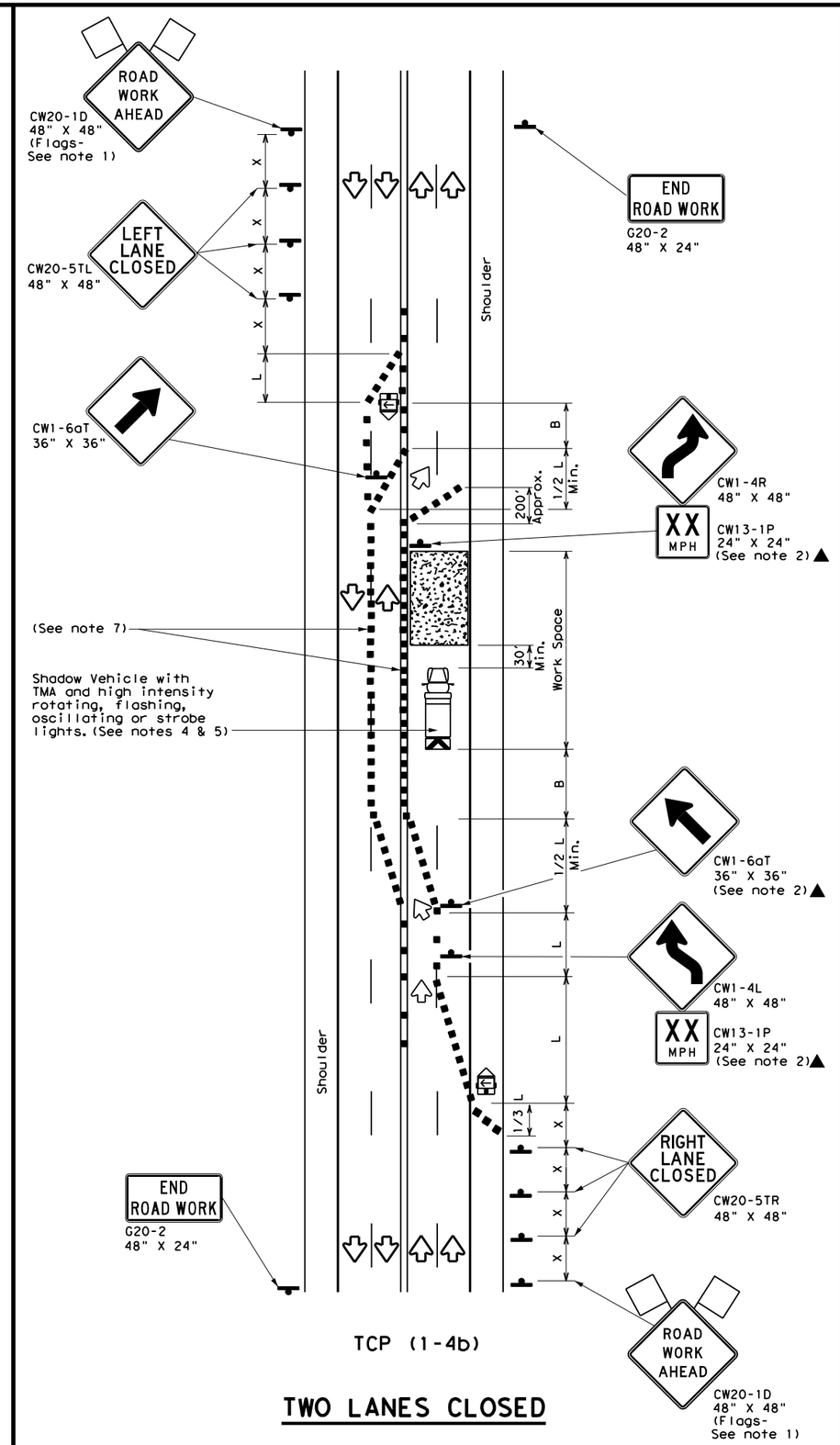
FILE: tcp1-3-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12	DAL	COLLIN		23
1-97 2-18				

DATE:
FILE:



TCP (1-4a)

ONE LANE CLOSED



TCP (1-4b)

TWO LANES CLOSED

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-4a)

6. If this TCP is used for a left lane closure , CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.

TCP (1-4b)

7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

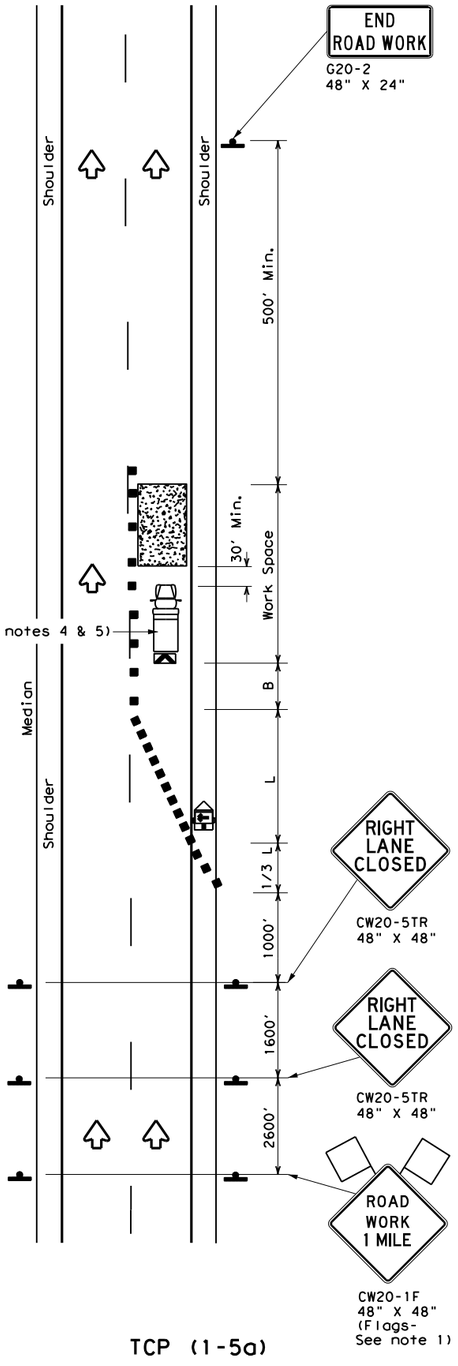
Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(1-4)-18

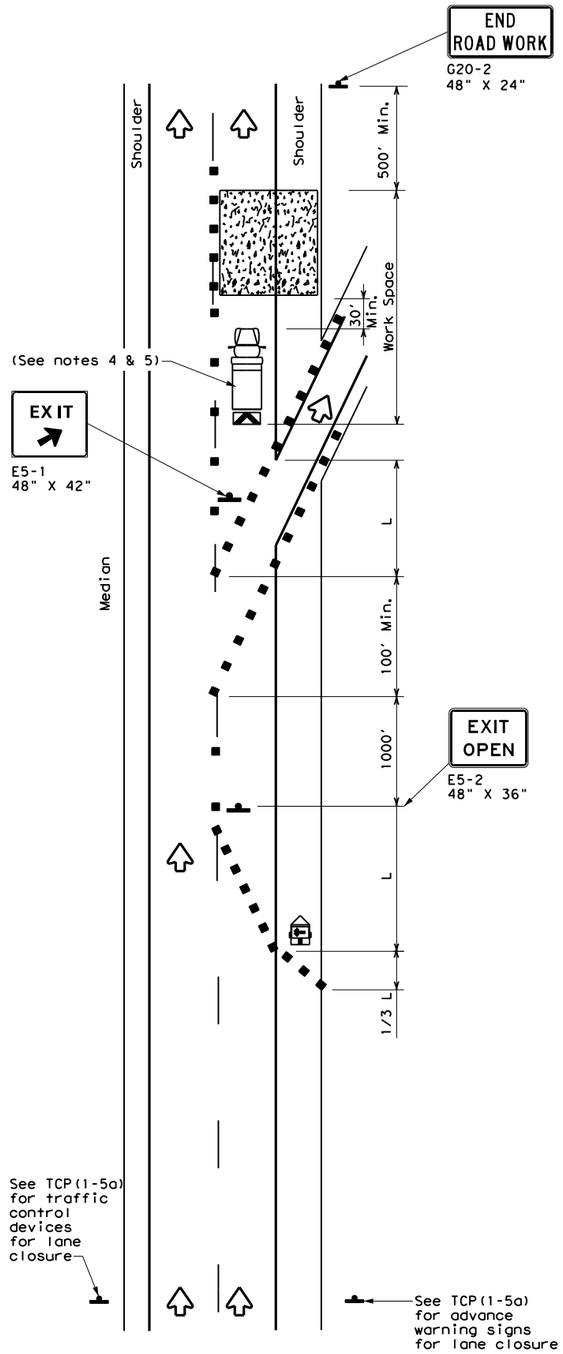
FILE: tcp1-4-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12	DAL	COLLIN		023A
1-97 2-18				

DATE:
FILE:



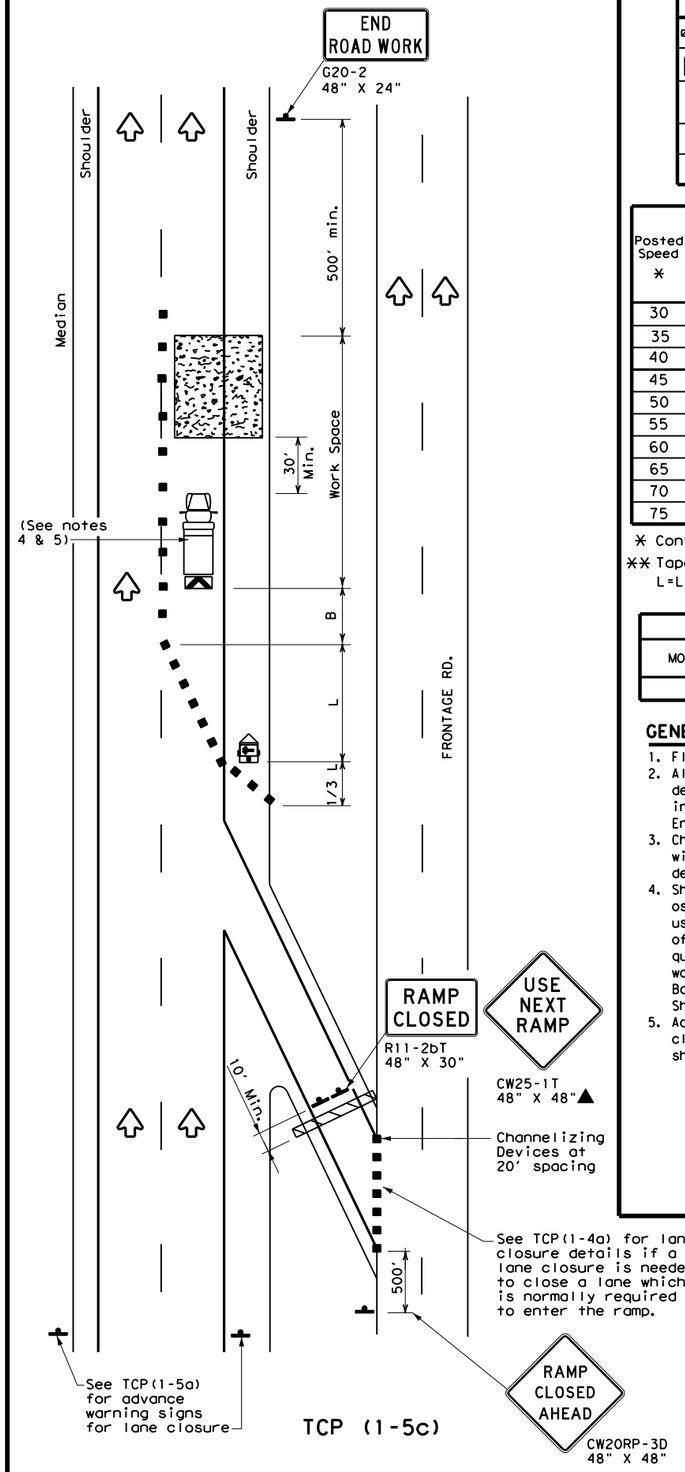
TCP (1-5a)

ONE LANE CLOSURE



TCP (1-5b)

LANE CLOSURE NEAR EXIT RAMPS



TCP (1-5c)

LANE CLOSURE NEAR ENTRANCE RAMPS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
		✓		

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

Texas Department of Transportation

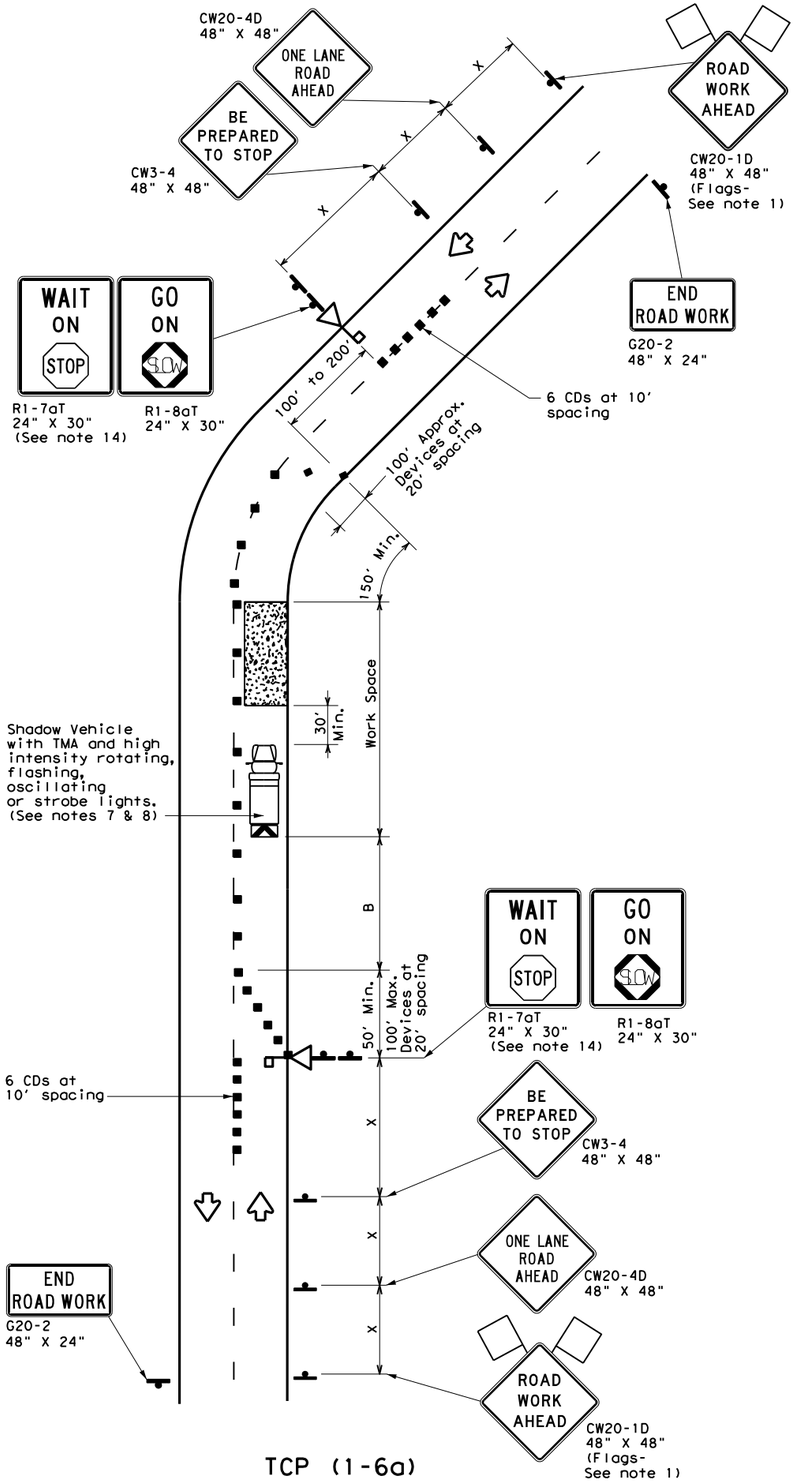
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES FOR DIVIDED HIGHWAYS

TCP(1-5)-18

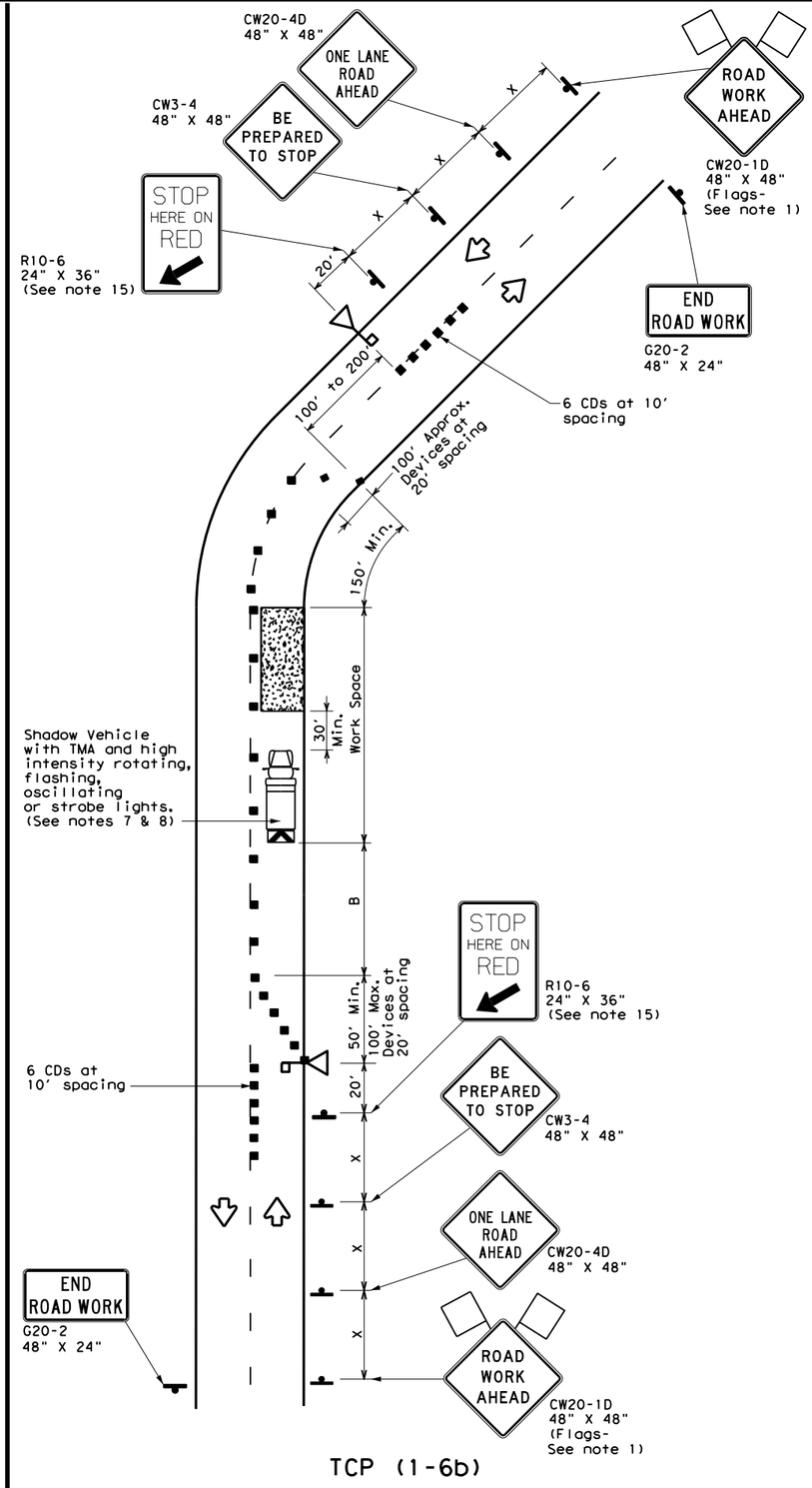
FILE: tcp1-5-18.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-18	0047	06	174,ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		023B

DATE:
FILE:



TCP (1-6a)

ONE LANE TWO-WAY CONTROL WITH STOP/SLOW AFADs



TCP (1-6b)

ONE LANE TWO-WAY CONTROL WITH RED/YELLOW LENS AFADs

LEGEND			
	Type 3 Barricade		Channelizing Devices (CDs)
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Automated Flagger Assistance Device (AFAD)	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. AFADs shall only be used in situations where there is one lane of approaching traffic in the direction to be controlled.
3. Adequate stopping sight distance must be provided to each AFAD location for approaching traffic. (See table above).
4. Each AFAD shall be operated by a qualified/certified flagger. Flaggers operating AFADs shall not leave them unattended while they are in use.
5. One flagger may operate two AFADs only when the flagger has an unobstructed view of both AFADs and of the approaching traffic in both directions.
6. When pilot cars are used, a flagger controlling traffic shall be located on each approach. AFADs shall not be operated by the pilot car operator.
7. All AFADs shall be equipped with gate arms with an orange or fluorescent red-orange flag attached to the end of the gate arm. The flag shall be a minimum of 16" square.
8. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
9. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
10. Flaggers should use two-way radios or other methods of communication to control traffic.
11. Length of work space should be based on the ability of flaggers to communicate.
12. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the AFAD.
13. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
14. The R1-7aT "WAIT ON STOP" sign and the R1-8aT "GO ON SLOW" sign shall be installed at the AFAD location on separate supports or they may be fabricated as one 48" x 30" sign. They shall not obscure the face of the STOP/SLOW AFAD.
15. The R10-6 "STOP HERE ON RED" arrow sign shall be offset so as not to obscure the lenses of the AFAD.

Texas Department of Transportation

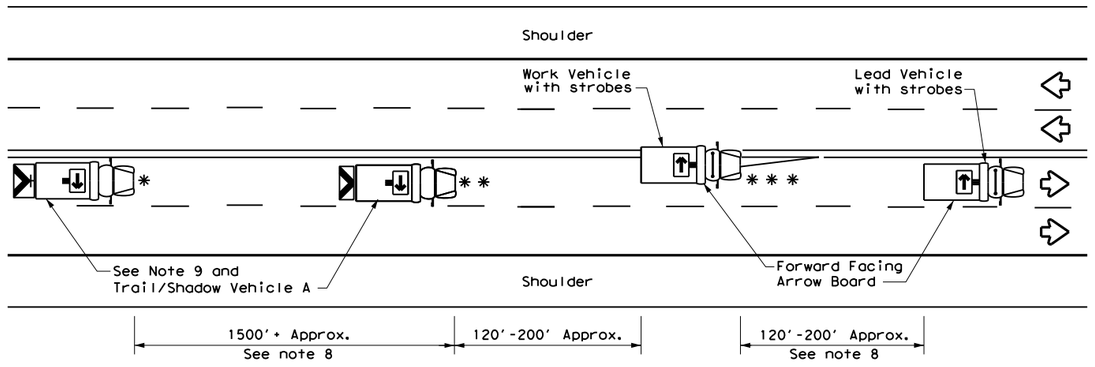
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADS)

TCP(1-6)-18

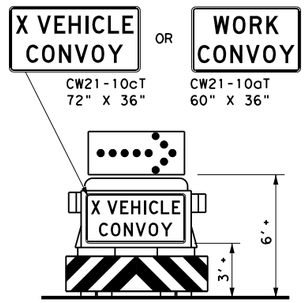
FILE: tcp1-6-18.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-18	0047	06	174,ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		023C

DATE:
FILE:



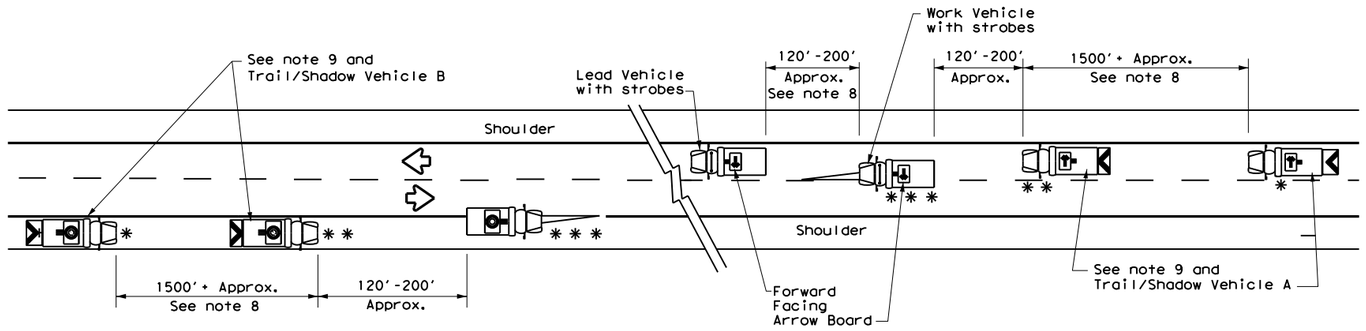
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

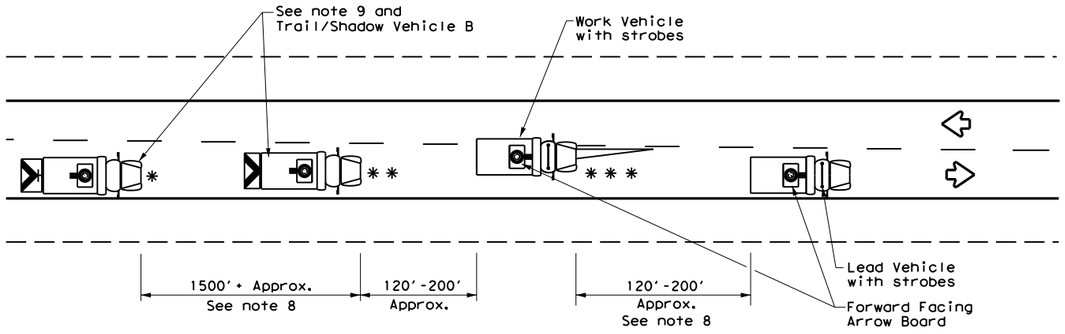


WORK ON SHOULDER

WORK ON TRAVEL LANE

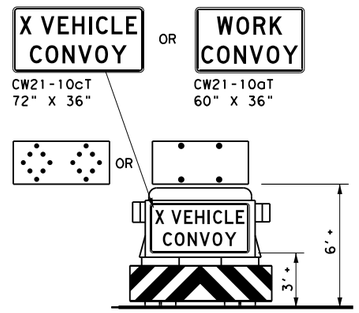
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

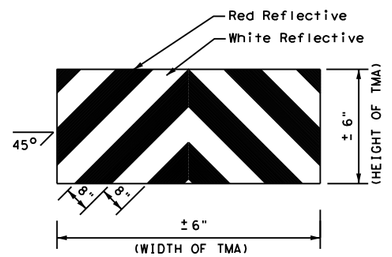
with Flashing Arrow Board in CAUTION display

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
* *	Shadow Vehicle		
* * *	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used the WORK vehicle must be equipped with an arrow board. The Engineer will determine if the LEAD VEHICLE and/or TRAIL VEHICLE are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
2. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
3. The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE and TRAIL VEHICLE are required.
4. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
5. Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
9. "X VEHICLE CONVOY" (CW21-10cT) or "WORK CONVOY" (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" X 48" diamond shaped "WORK CONVOY"(CW21-10T) or "X VEHICLE CONVOY" (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The "X VEHICLE CONVOY" sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
10. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a "DO NOT PASS" (R4-1) sign should be placed on the back of the rearmost protection vehicle.



STRIPING FOR TMA

Texas Department of Transportation

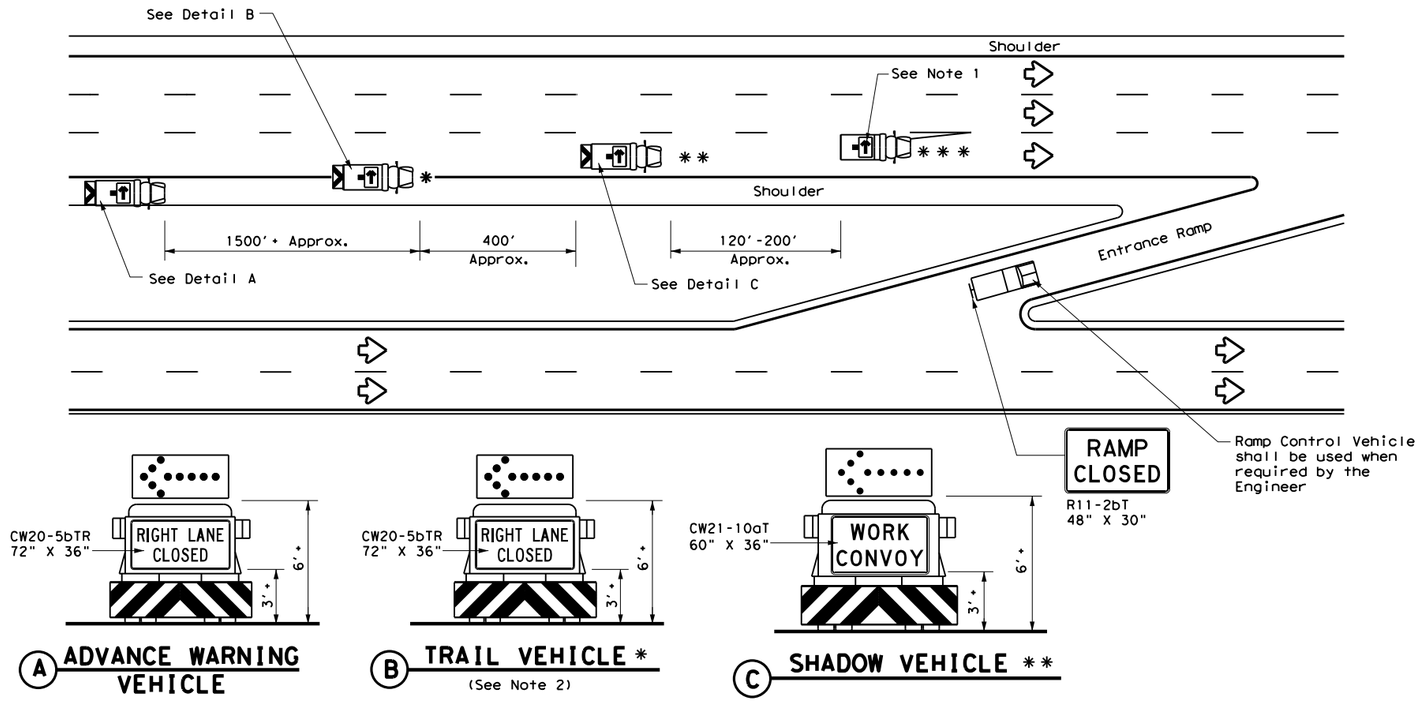
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS UNDIVIDED HIGHWAYS

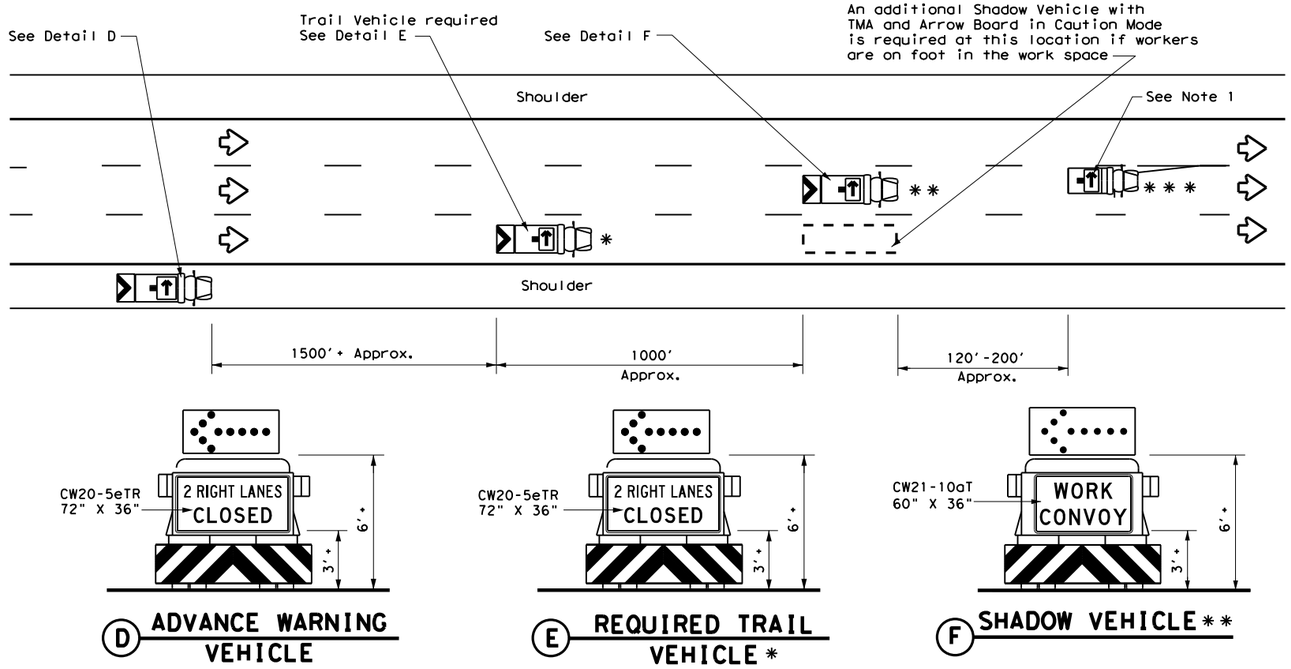
TCP(3-1)-13

FILE: tcp3-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0047	06	174,ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		24

DATE:
FILE:



RIGHT LANE CLOSURE ON DIVIDED HIGHWAY - TCP(3-2a)



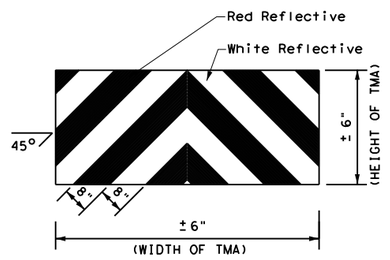
INTERIOR LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY - TCP(3-2b)

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. ADVANCE WARNING, TRAIL and SHADOW vehicles shall be equipped with Type B or Type C flashing arrow boards as per the Barricade and Construction (BC) standards. Arrow boards on WORK vehicles will be optional based on the type of work being performed. The arrow boards shall be operated from inside the vehicle.
2. For TCP(3-2a) the Engineer will determine if the TRAIL VEHICLE is required based on prevailing roadway conditions, traffic volume, and sight distance restrictions. All other vehicles shown for both TCP(3-2a) and TCP(3-2b) are required.
3. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
4. The use of truck mounted attenuators (TMA) on the ADVANCE WARNING, SHADOW, and TRAIL vehicles are required.
5. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DMS 8300, Type A.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE may vary according to terrain, work activity and other factors.
9. Standard 48" X 48" diamond shaped warning signs with the same message as those shown may be used where adequate mounting space exists.
10. The signs shown should be used on the Advance Warning Vehicle. As an option, a portable changeable message sign (PCMS) or a truck mounted changeable message sign (TMCMS) with a minimum character height of 12", and displaying the same legend may be substituted for these signs. An appropriate directional arrow display, simulating the size and legibility of the flashing arrow board, must be used in the second phase of the PCMS/TMCMS message. When this is done, the arrow board will not be required on the Advance Warning Vehicle.
11. Standard diamond shape versions of the CW20-5 series signs may be used as an option if the rectangular signs shown are not available.
12. The principles on this sheet may be used to close lanes from the left side of the roadway considering the number of lanes, shoulder width, sight distance, and ramp frequency.
13. Signs and flashing arrow board modes shall be appropriately altered when implementing left lane closures or interior closures which close the left lanes.
14. The Advance Warning Vehicle may straddle the edgeline when shoulder width makes it necessary.



STRIPING FOR TMA

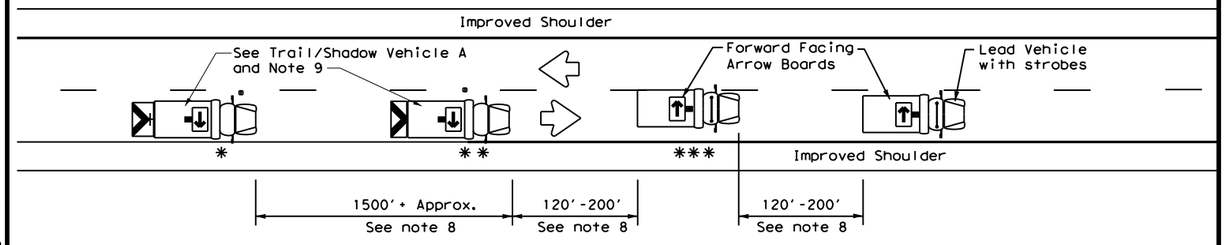
Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS DIVIDED HIGHWAYS

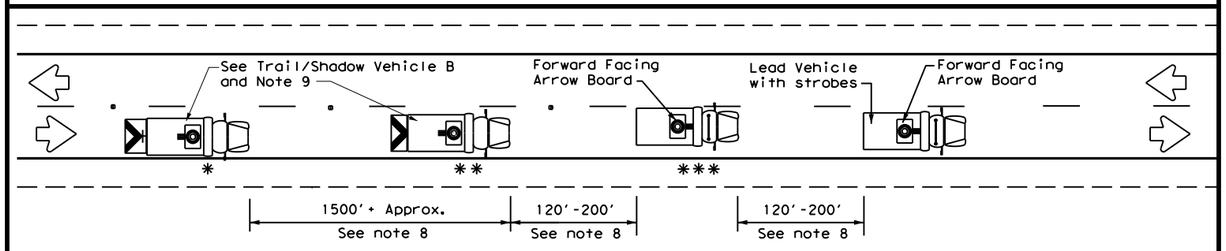
TCP(3-2)-13

FILE: tcp3-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 7-13	DAL	COLLIN		25
1-97				



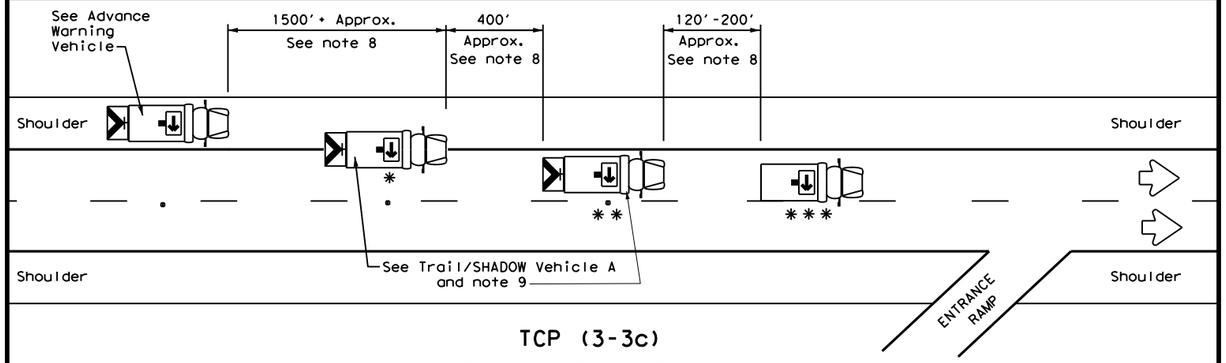
TCP (3-3a)

TWO LANE HIGHWAY WITH PAVED SHOULDERS
(WORK ON TRAVEL LANE)



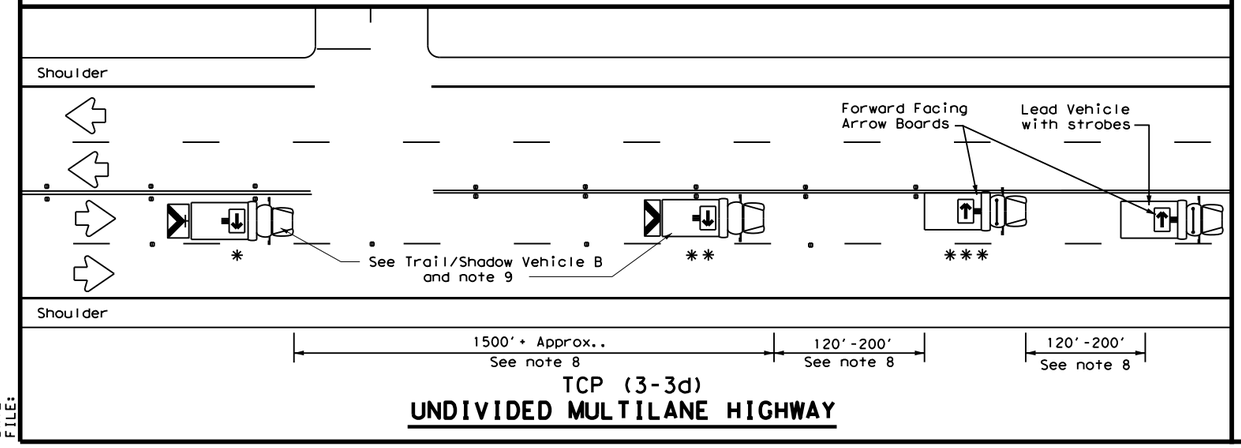
TCP (3-3b)

TWO LANE HIGHWAY WITHOUT PAVED SHOULDERS
(WORK ON TRAVEL LANE)



TCP (3-3c)

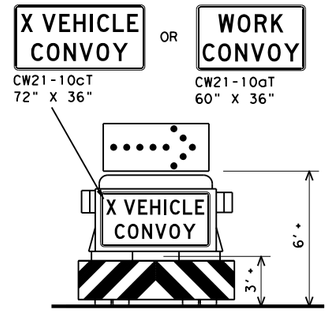
DIVIDED MULTILANE HIGHWAY



TCP (3-3d)

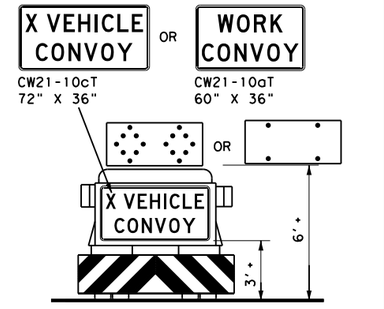
UNDIVIDED MULTILANE HIGHWAY

DATE:
FILE:



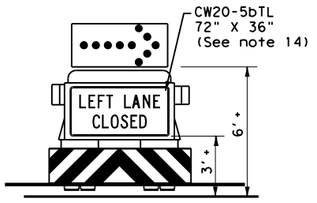
TRAIL/SHADOW VEHICLE A

with RIGHT Directional display
Flashing Arrow Board

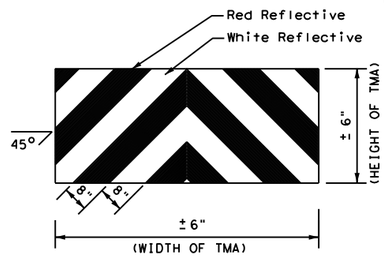


TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board
in Caution Mode



ADVANCE WARNING VEHICLE



STRIPING FOR TMA

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

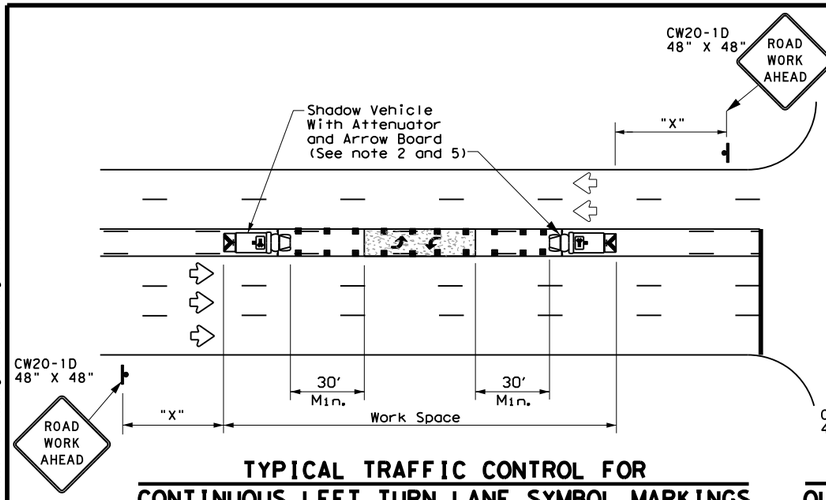
1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used on two way roads the WORK vehicle must have an arrow board. For divided roadways, the arrow board on the WORK vehicle is optional based on the type of work being performed. The Engineer will determine if the LEAD vehicle and/or TRAIL vehicle are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
2. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating, or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
3. The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE, ADVANCE WARNING and TRAIL VEHICLE are required.
4. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
5. Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
9. X VEHICLE CONVOY (CW21-10cT) or WORK CONVOY (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" x 48" diamond shaped WORK CONVOY (CW21-10T) or X VEHICLE CONVOY (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The X VEHICLE CONVOY sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
10. For divided highways with two or three lanes in one direction, the appropriate LEFT LANE CLOSED (CW20-5bTL), RIGHT LANE CLOSED (CW20-5bTR), or CENTER LANE CLOSED (CW20-5dT) sign should be used on the Advance Warning Vehicle. As an option, a portable changeable message sign (PCMS) or truck mounted changeable message sign (TMCMS) with a minimum character height of 12", and displaying the same legend may be substituted for these signs. An appropriate directional arrow display, simulating the size and legibility of the flashing arrow board may be used in the second phase of the PCMS/TMCMS message. When this is done, the arrow board will not be required on the Advance Warning Vehicle.
11. A double arrow shall not be displayed on the arrow board on the Advance Warning Vehicle.
12. For divided highways with three or four lanes in each direction, use TCP(3-2).
13. Standard diamond shape versions of the CW20-5 series signs may be used as an option if the rectangular signs shown are not available.
14. The Advance Warning Vehicle may straddle the edgeline when Shoulder width makes it necessary.
15. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a DO NOT PASS (R4-1) sign should be placed on the back of the rearmost protection vehicle.

Texas Department of Transportation

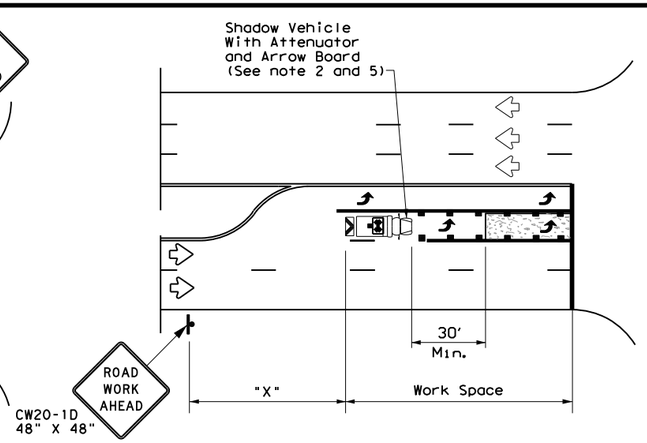
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
MOBILE OPERATIONS
RAISED PAVEMENT MARKER INSTALLATION/ REMOVAL
TCP(3-3)-14

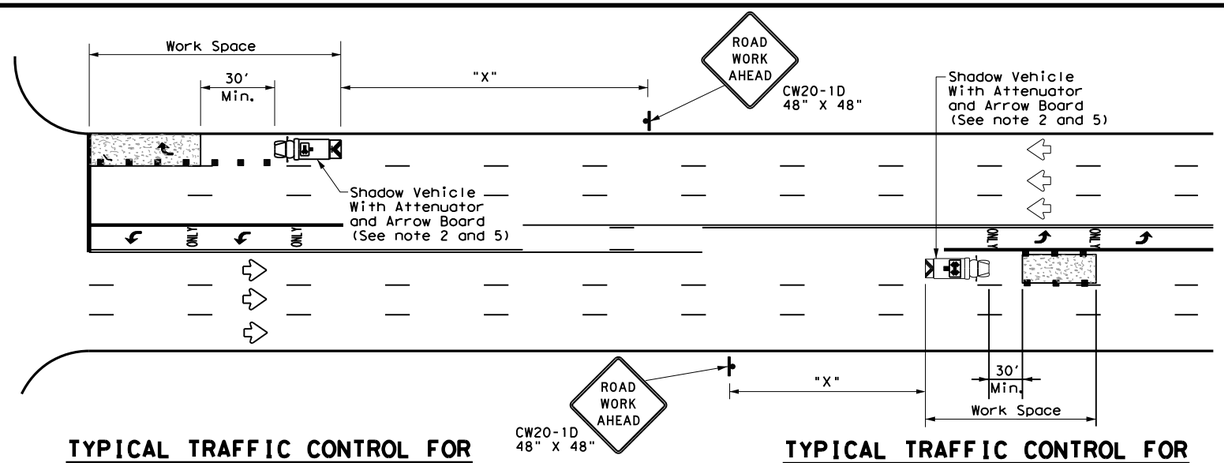
FILE: tcp3-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174,ETC.	US 75
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 7-13				
1-97 7-14	DAL	COLLIN		26



TYPICAL TRAFFIC CONTROL FOR CONTINUOUS LEFT TURN LANE SYMBOL MARKINGS

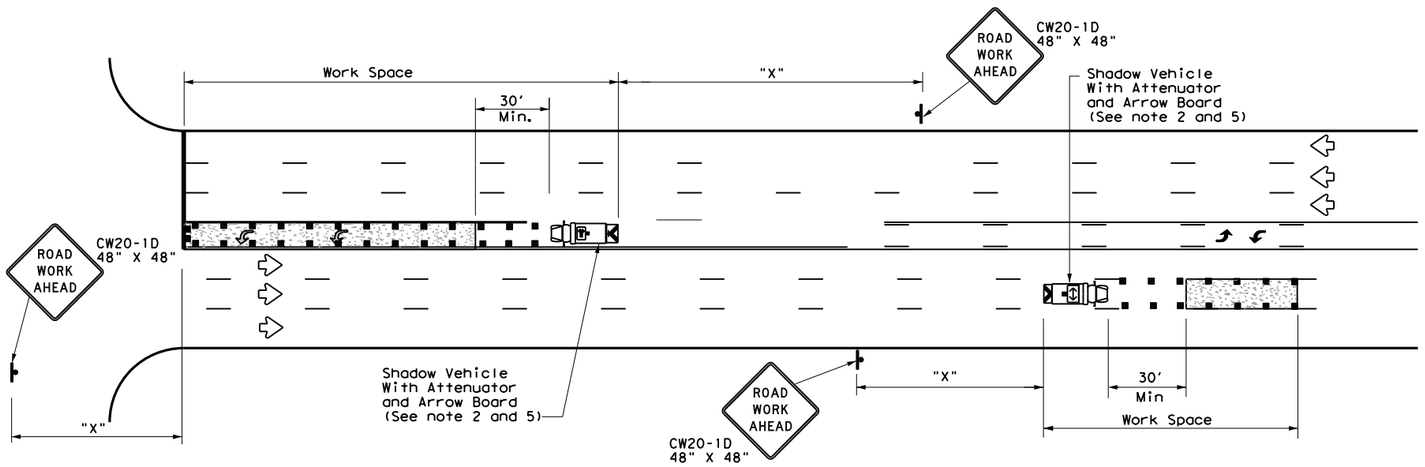


TYPICAL TRAFFIC CONTROL FOR OUTSIDE DUAL LEFT TURN LANE SYMBOL MARKINGS



TYPICAL TRAFFIC CONTROL FOR OUTSIDE LANE MARKINGS

TYPICAL TRAFFIC CONTROL FOR INSIDE LANE MARKINGS



TYPICAL TRAFFIC CONTROL FOR LEFT TURN LANE MARKINGS

TYPICAL TRAFFIC CONTROL FOR CENTER LANE MARKINGS

DATE:
FILE:

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow	■ ■ ■	Channelizing Devices

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

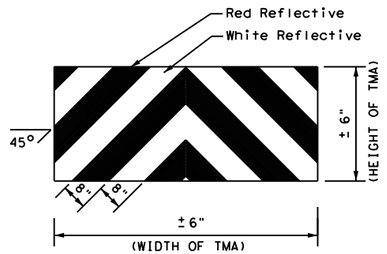
* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. This traffic control plan is for use on conventional roads posted at 45 mph or less and is intended for mobile operations that move continuously or intermittently (stopping up to approximately 15 minutes) such as short-line striping and in-lane rumble strips. When activities are anticipated to take longer amounts of time or traffic conditions warrant, a short duration or short-term stationary traffic control plan should be used.
2. A Truck Mounted Attenuator shall be used on Shadow Vehicle. Striping on the back panel of all truck mounted attenuators shall be 8" red and white reflective sheeting placed in an inverted "V" design. Reflective sheeting shall meet or exceed the reflectivity and color requirements of departmental material specification DMS-8300, Type A.
3. All traffic control devices shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD), latest edition.
4. The use of yellow rotating beacons or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the drivers side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
5. Flashing arrow board shall be used on Shadow Vehicle. Flashing arrow board shall be Type B or Type C as per BC Standards. The arrow board operation shall be controlled from inside the truck.



STRIPING FOR TMA

Texas Department of Transportation

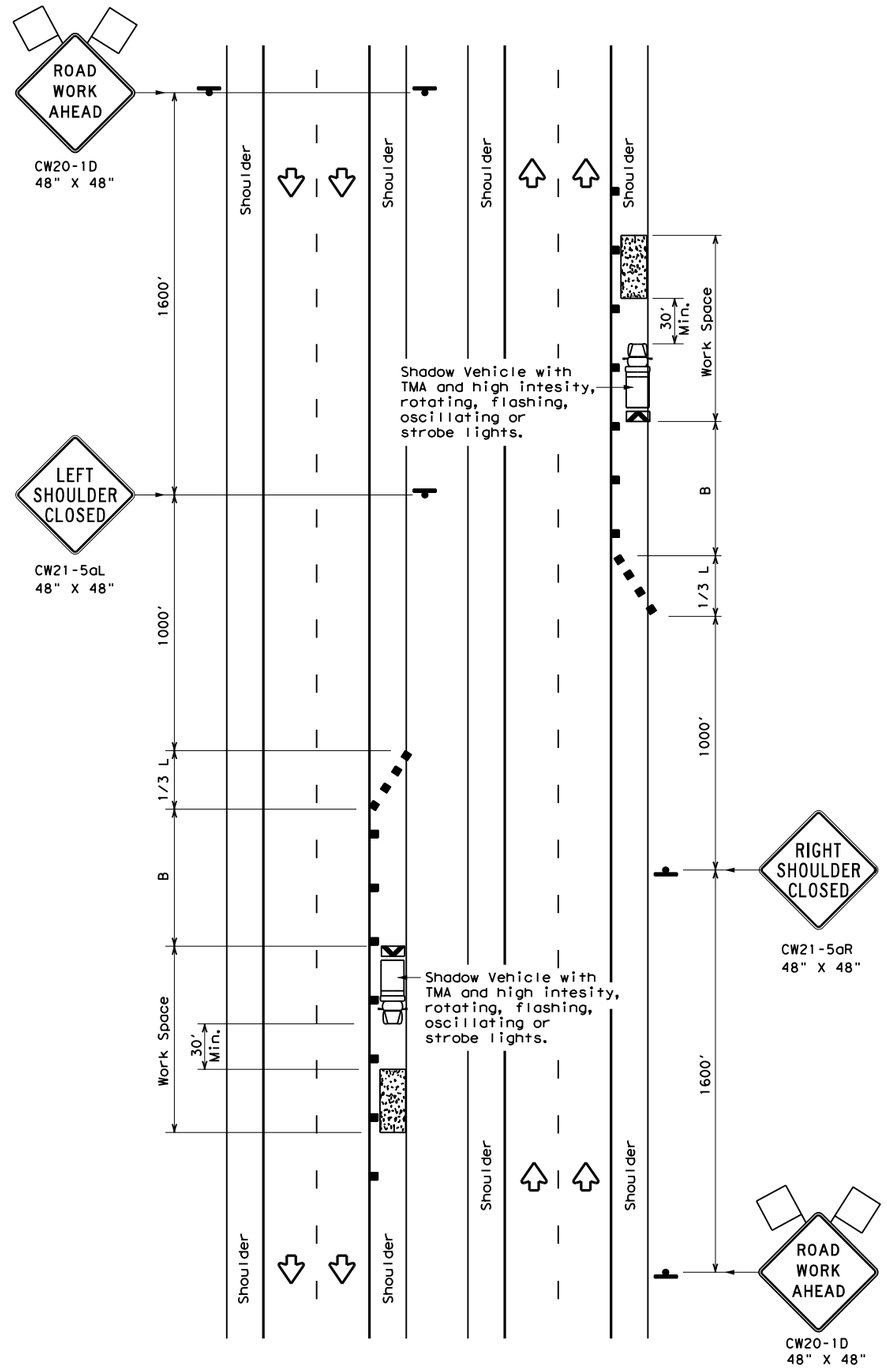
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS FOR ISOLATED WORK AREAS UNDIVIDED HIGHWAYS

TCP(3-4)-13

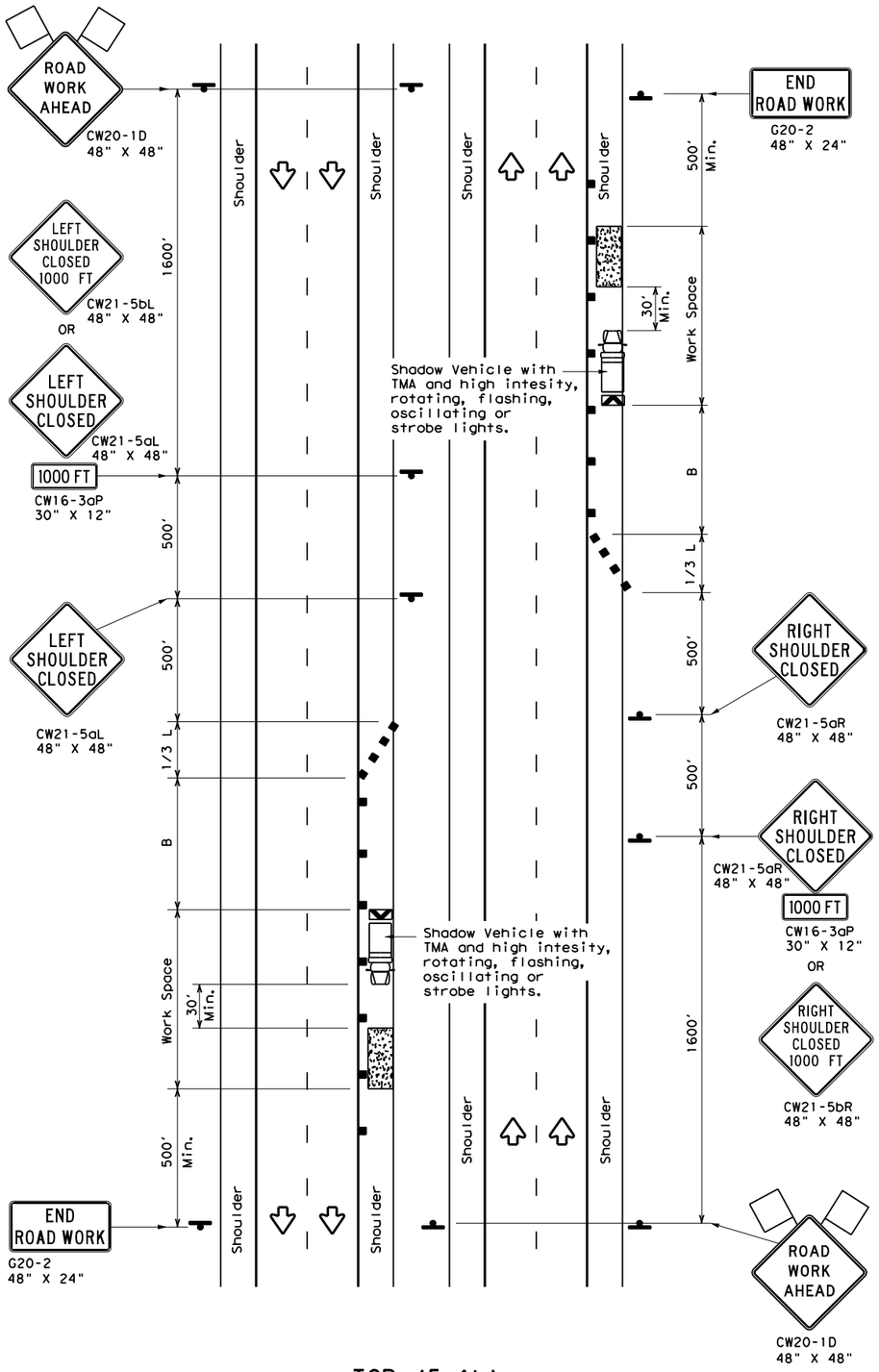
FILE: tcp3-4.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT July, 2013	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		27

DATE:
FILE:



TCP (5-1a)

WORK AREA ON SHOULDER



TCP (5-1b)

WORK AREA ON SHOULDER

LEGEND

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	90'
35		205'	225'	245'	35'	70'	120'
40		265'	295'	320'	40'	80'	155'
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	TCP(5-1a)	TCP(5-1b)	TCP(5-1b)	

GENERAL NOTES

1. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30' to 100' in advance of the area of crew exposure without adversely effecting the performance or quality of the work. Type 3 barricades or drums may be substituted when workers on foot are no longer present when approved by the Engineer.
2. 28" tall or taller one-piece cones will be allowed only for Short Duration or Short Term stationary operations when workers are present to maintain the devices upright and in proper location. Intermediate Term stationary work areas should use Drums, Vertical Panels or 42" tall two-piece cones.

Texas Department of Transportation

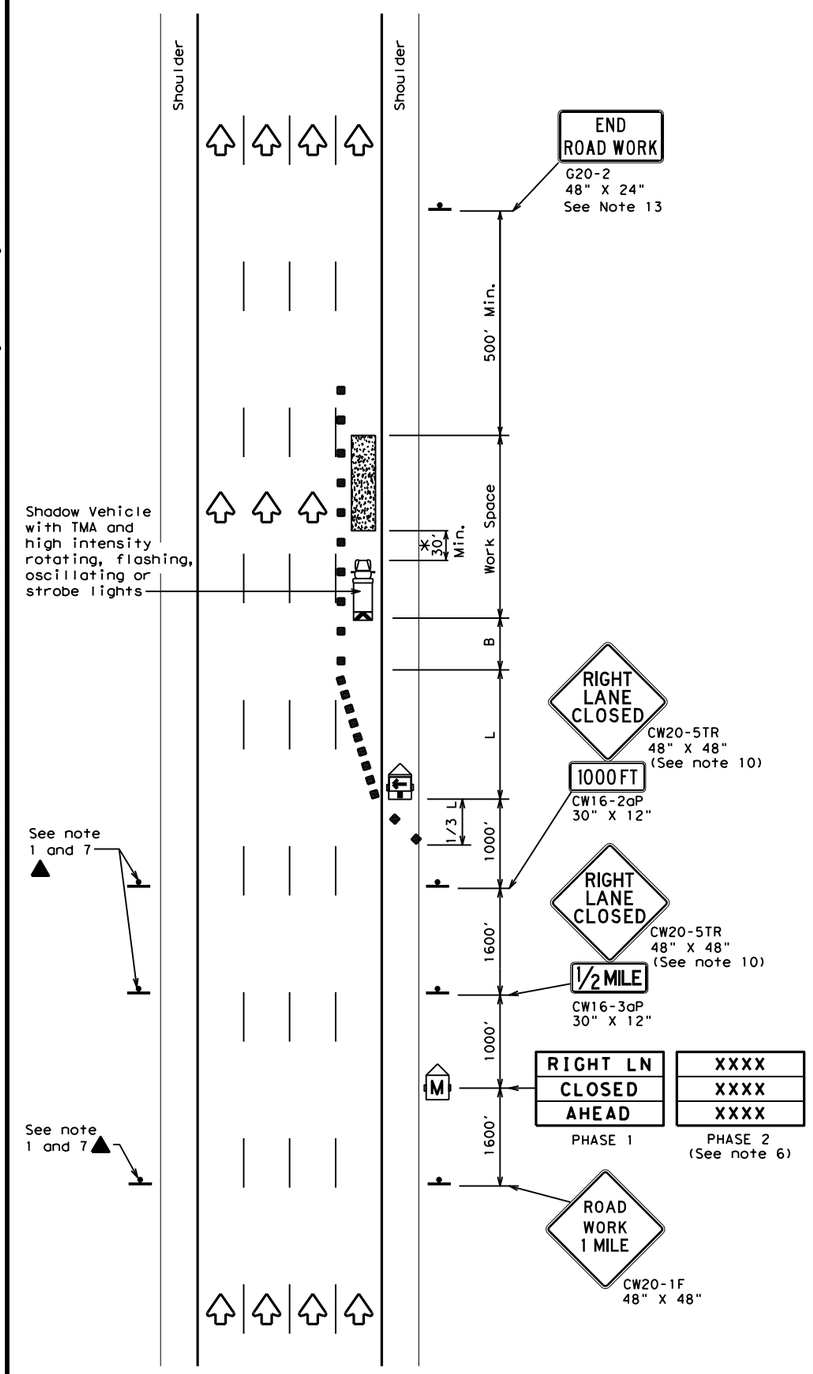
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN SHOULDER WORK FOR FREEWAYS / EXPRESSWAYS

TCP(5-1)-18

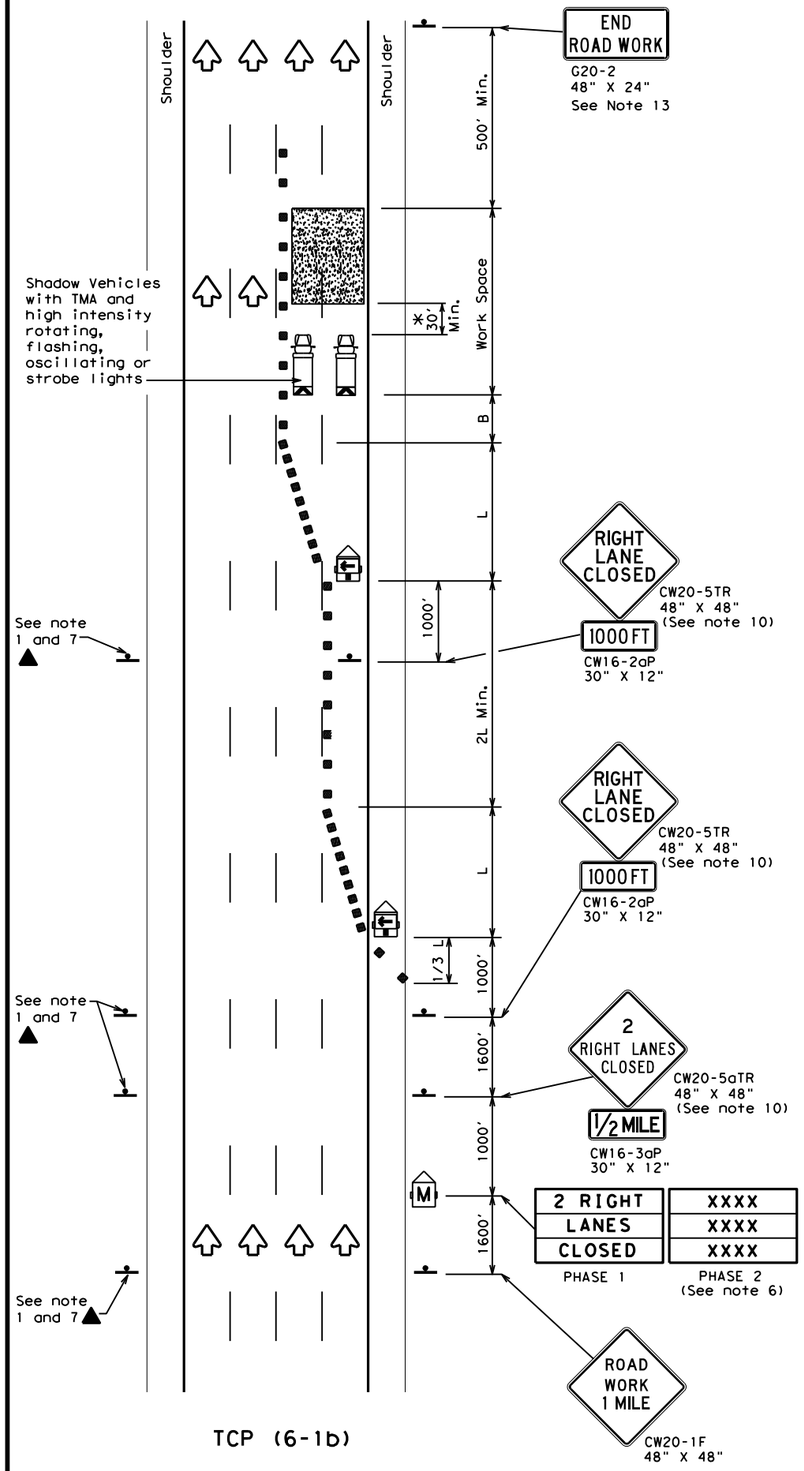
FILE: tcp5-1-18.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC.	US 75
2-18	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		28

DATE:
FILE:



TCP (6-1a)

TYPICAL FREEWAY ONE LANE CLOSURE



TCP (6-1b)

TYPICAL FREEWAY TWO LANE CLOSURE

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. Drums or 42"cones are the typical channelizing devices. For Intermediate Term Stationary work, drums shall be used on tapers with drums or 42" cones used on tangent sections. Other channelizing devices may be used as directed by the Engineer.
3. All construction signs and barricades placed during any phase of work shall remain in place until removal is approved by the Engineer.
4. The Engineer may direct the Contractor to furnish additional signs and barricades as required to maintain traffic flow, detours and motorist safety during construction.
5. Static message boards or changeable message signs stating the date and duration of ramp or freeway lane closures shall be placed a minimum of seven (7) calendar days in advance of the actual closure.
6. Phase 2 of the PCMS message should include appropriate information formatted as shown on BC(6), such as "MERGE LEFT," recommended advisory speed, delay information, or other specific warnings.
7. Duplicate construction warning signs should be erected on the medians side of freeways where median width will permit and traffic volume justifies the signing.
8. The number of closed lanes may be increased provided the spacing of traffic control devices, taper lengths and tangent lengths meet the requirements of the TMUTCD.
9. Warning signs for intermediate term stationary work should be mounted at 7' to the bottom of the sign.
10. Warning signs shown shall be appropriately altered for left lane closures. When signs are mounted at 1' height for short term stationary or short duration work, sign versions shown in the SHSD for Texas with distances on the sign face rather than mounted on a plaque below the sign may be used.
11. When possible, PCMS units should be located in advance of the last available exit ramp prior to the lane closure to allow motorists an alternate route. They may also be relocated to improve advance warning in case of unanticipated queuing or congestion.
12. For Intermediate Term Stationary work at night, floodlights should be used to illuminate the work area and equipment crossings. Floodlights shall not produce a disabling glare condition for road users or workers.
13. The END ROAD WORK (G20-2) sign may be omitted when it conflicts with G20-2 signs already in place on the project.

* A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Texas Department of Transportation
Traffic Operations Division Standard

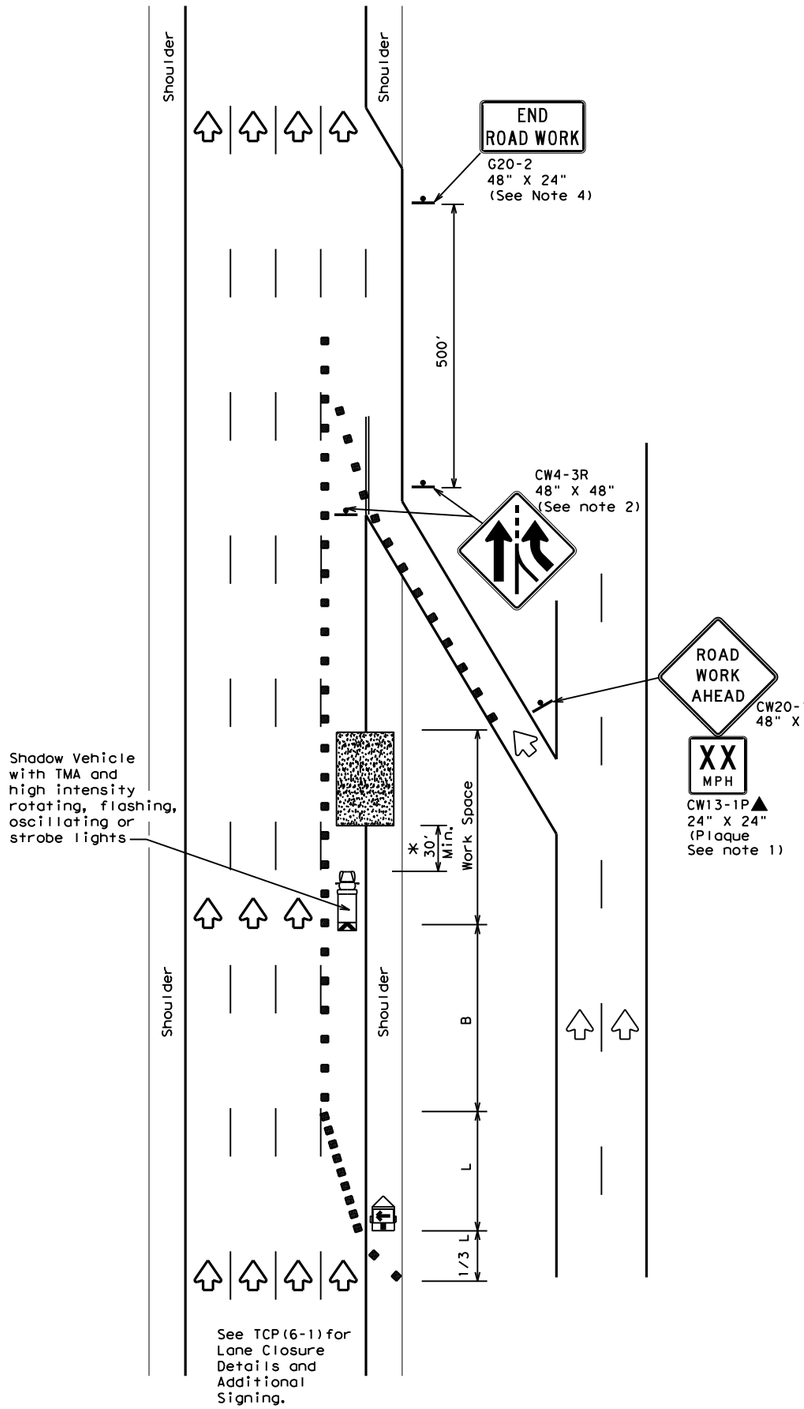
TRAFFIC CONTROL PLAN FREEWAY LANE CLOSURES

TCP(6-1)-12

FILE: tcp6-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-12	0047	06	174 ETC.	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		29

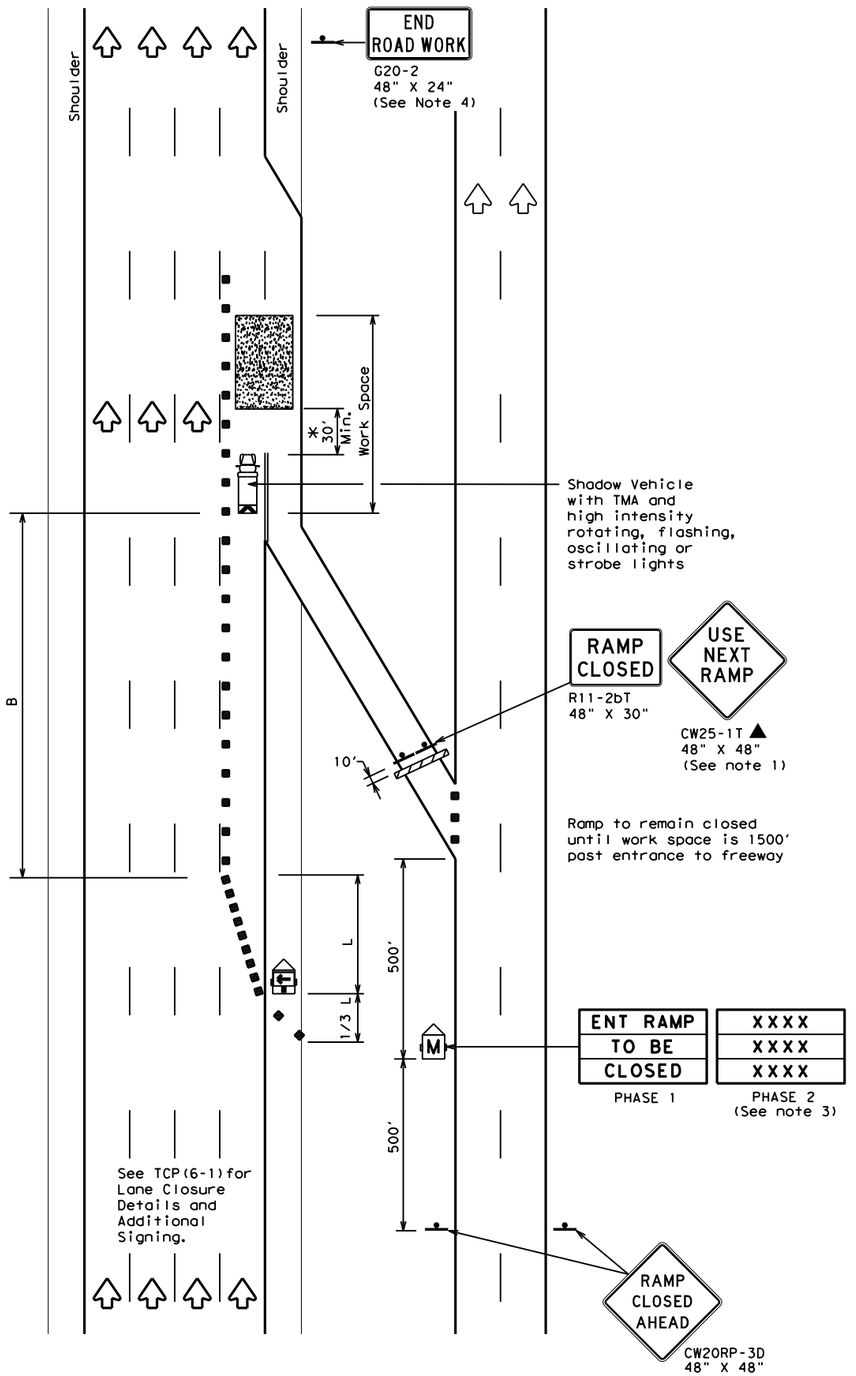
201

DATE:
FILE:



TCP (6-2a)

ENTRANCE RAMP OPEN
WORK WITHIN 500' OF RAMP



TCP (6-2b)

ENTRANCE RAMP CLOSED

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. ADDED LANE Symbol (CW4-3) sign may be omitted when sign between ramp and mainlane can be seen from both roadways.
3. See "Advance Notice List" on BC(6) for recommended date and time formatting options for PCMS Phase 2 message.
4. The END ROAD WORK (G20-2) sign may be omitted when it conflicts with G20-2 signs already in place on the project.

*A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

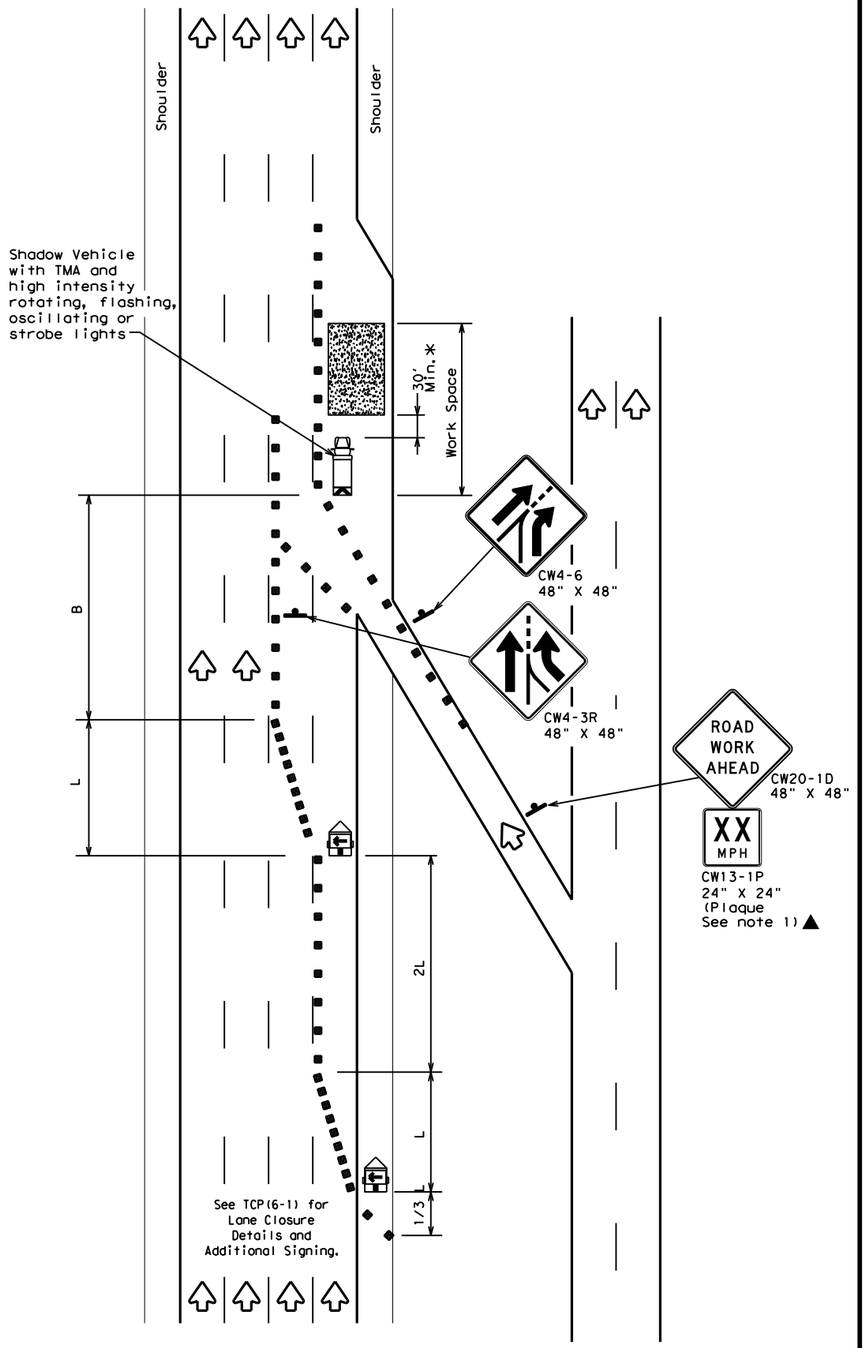
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA NEAR RAMP

TCP(6-2)-12

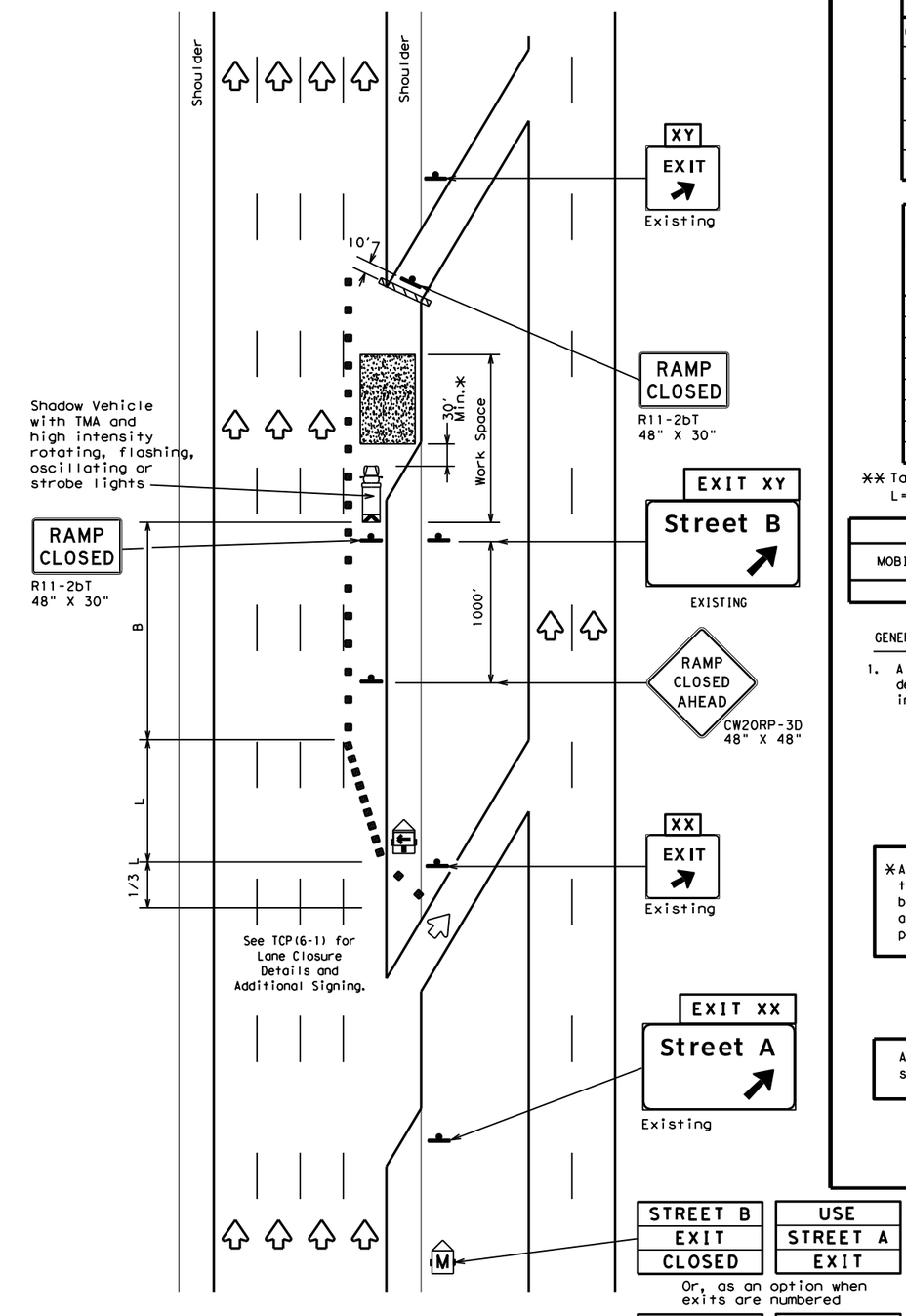
FILE: tcp6-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC.	US 75
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	DAL	COLLIN		30

202



TCP (6-3a)

ENTRANCE RAMP OPEN



STREET B EXIT CLOSED	USE STREET A EXIT

Or, as an option when exits are numbered

EXIT XY CLOSED	USE EXIT XX

Place 1 mile (approx.) in advance of Street A exit.

TCP (6-3b)

EXIT RAMP CLOSED
TRAFFIC EXITS PRIOR TO CLOSED RAMP

LEGEND			
	Type 3 Barricade	■ ■	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES:

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.

*A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

Texas Department of Transportation
Traffic Operations Division Standard

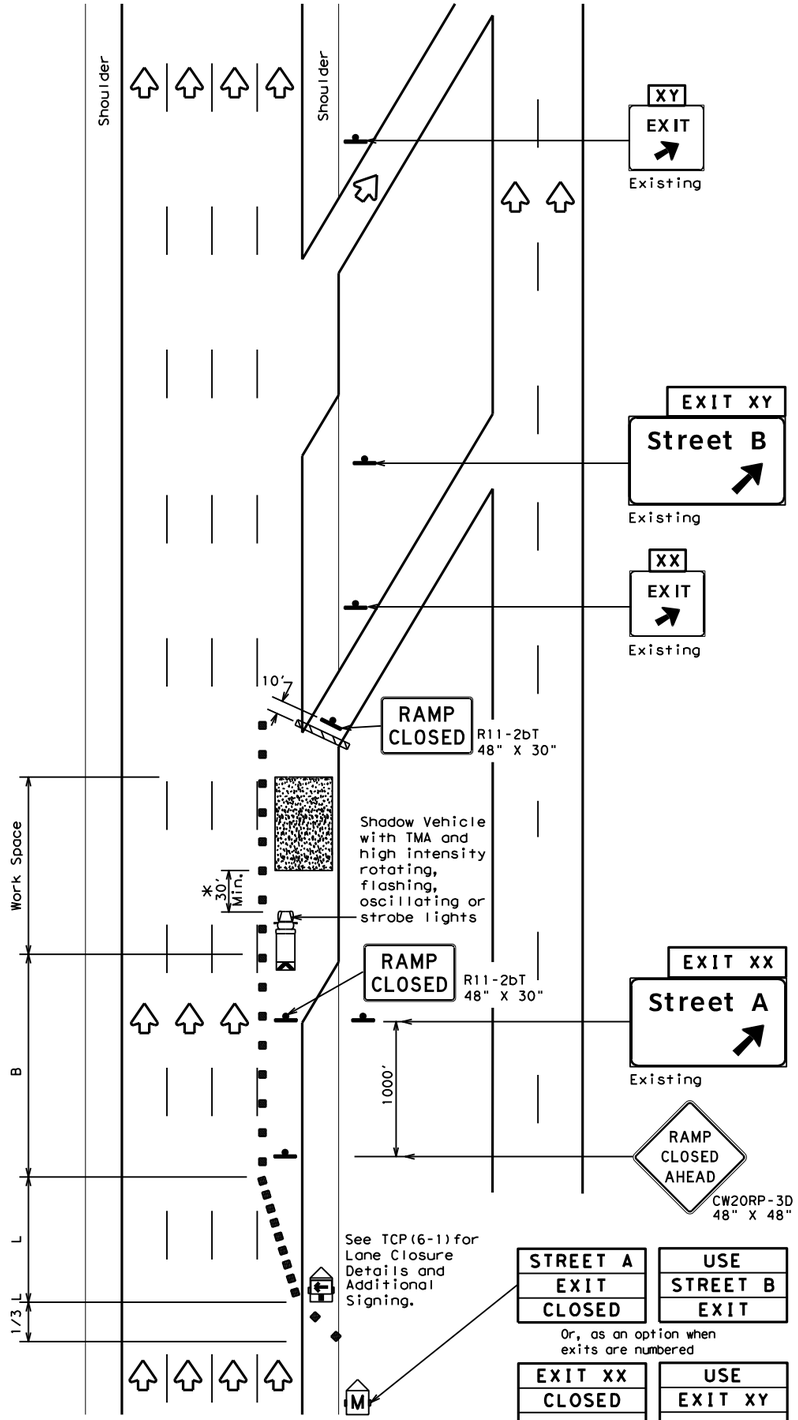
TRAFFIC CONTROL PLAN
WORK AREA BEYOND RAMP

TCP(6-3)-12

FILE: tcp6-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC.	US 75
1-97 8-98 4-98 8-12	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		31

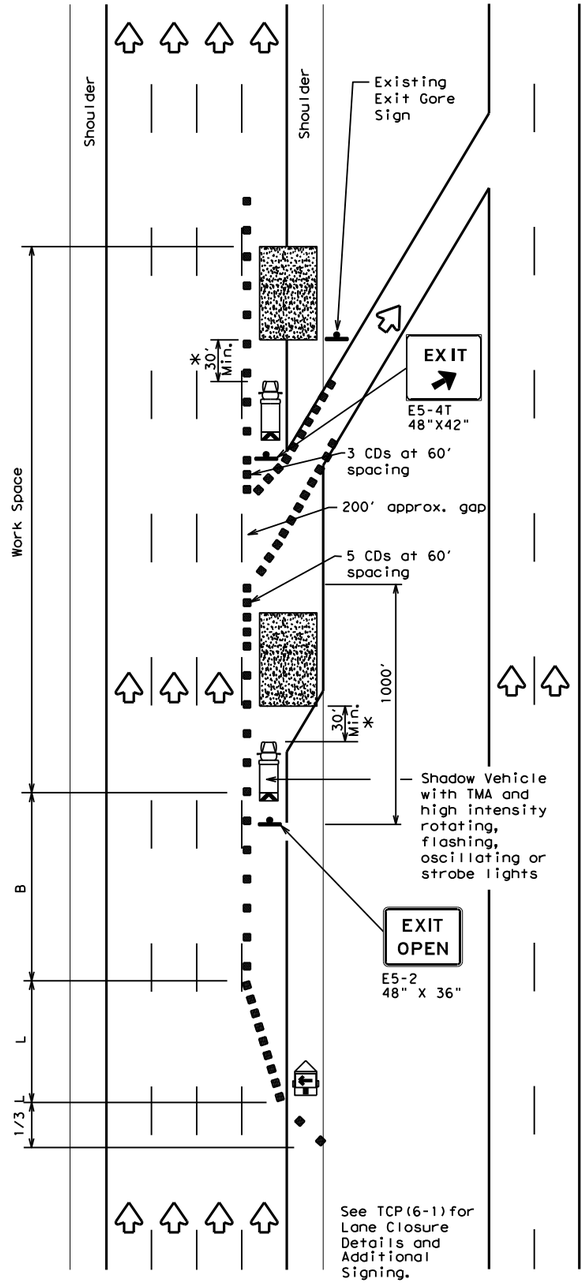
DATE:
FILE:

DATE:
FILE:



TCP (6-4a)

EXIT RAMP CLOSED
TRAFFIC EXITS PAST CLOSED RAMP



TCP (6-4b)

EXIT RAMP OPEN

LEGEND

	Type 3 Barricade		Channelizing Devices (CDs)
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. See BC Standards for sign details.

*A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

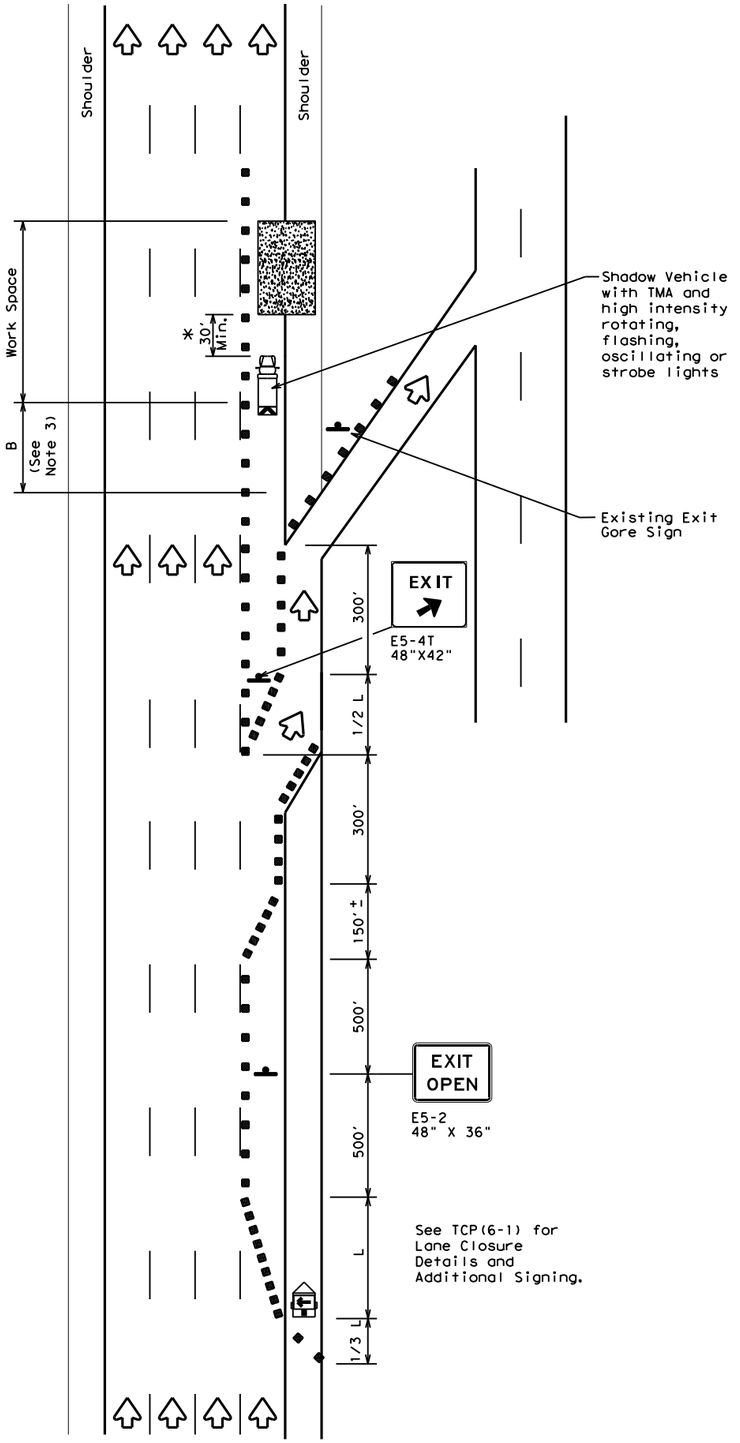
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA AT EXIT RAMP

TCP(6-4)-12

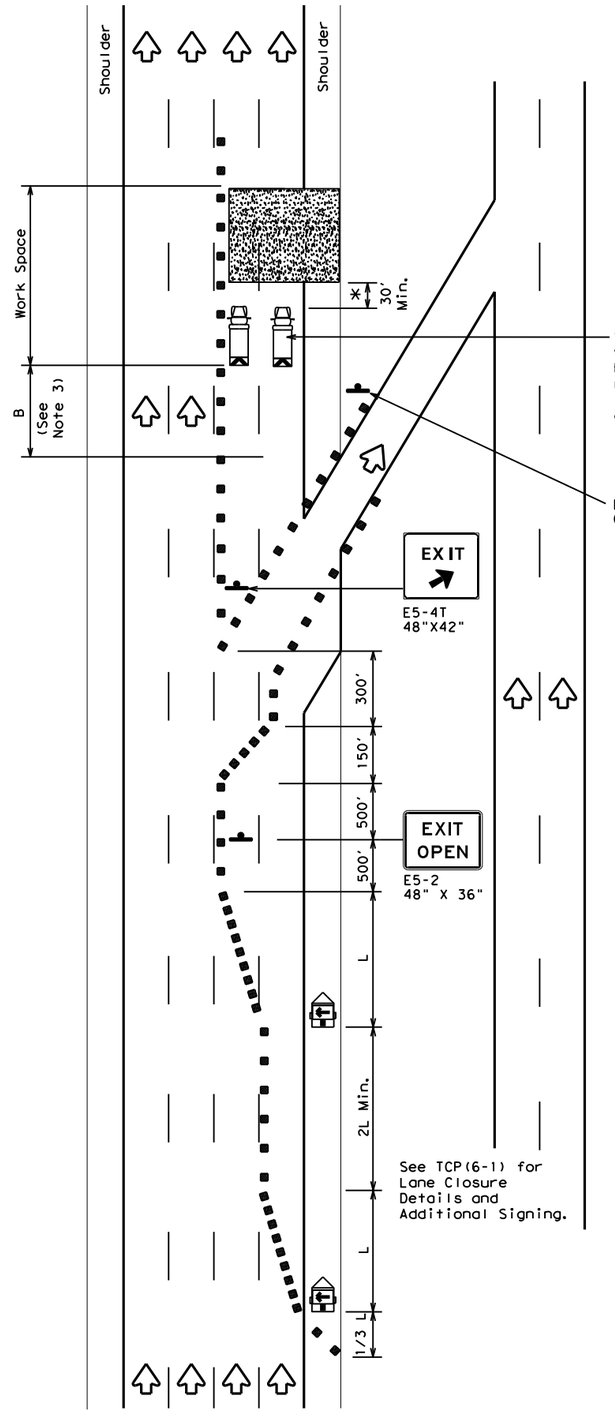
FILE: tcp6-4.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT Feburary 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC.	US 75
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	DAL	COLLIN		32

DATE:
FILE:



TCP (6-5a)

EXIT RAMP OPEN



TCP (6-5b)

EXIT RAMP OPEN
TWO LANE CLOSURE WITHIN 1500' PAST EXIT RAMP

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. See BC standards for sign details.
3. If adequate longitudinal buffer length "B" does not exist between the work space and the exit ramp, consideration should be given to closing the ramp.

* A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA BEYOND EXIT RAMP

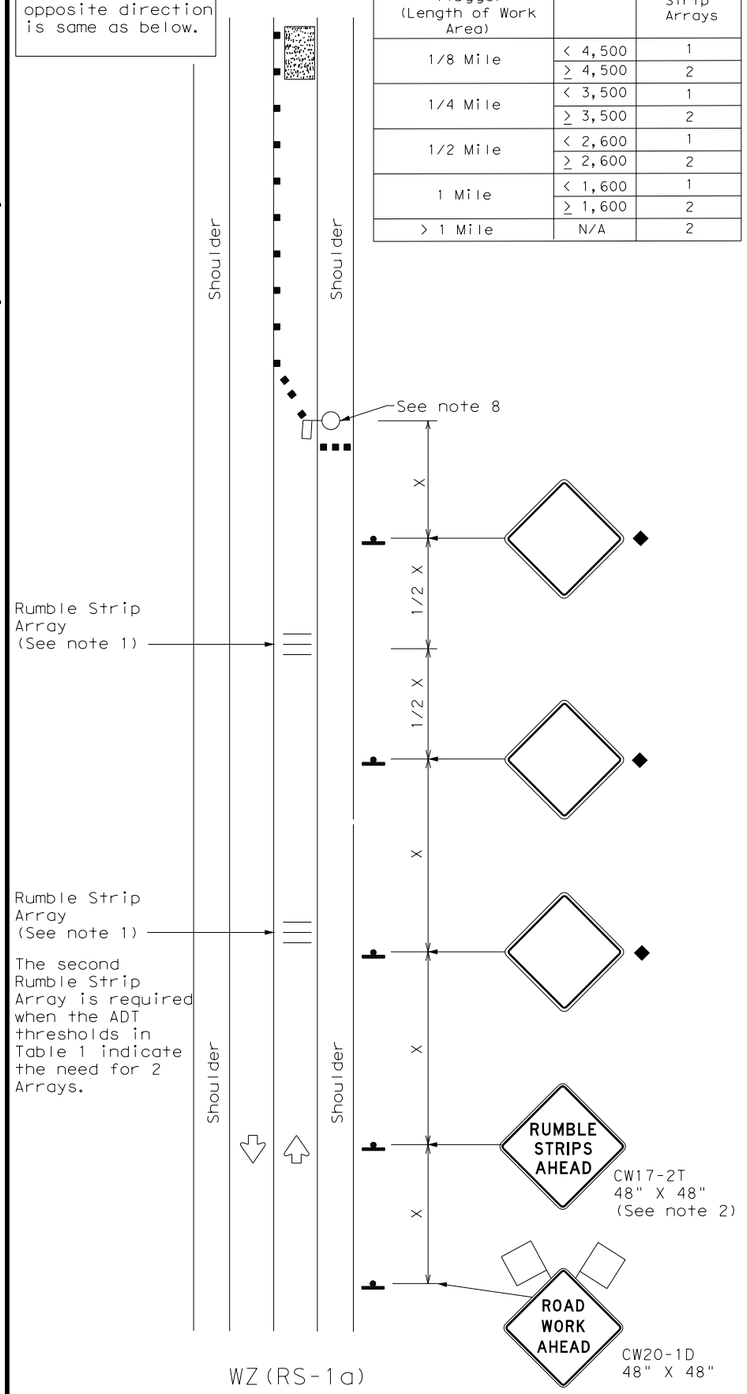
TCP(6-5)-12

FILE: tcp6-5.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT Feburary 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC.	US 75
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	DAL	COLLIN		33

DATE:
FILE:

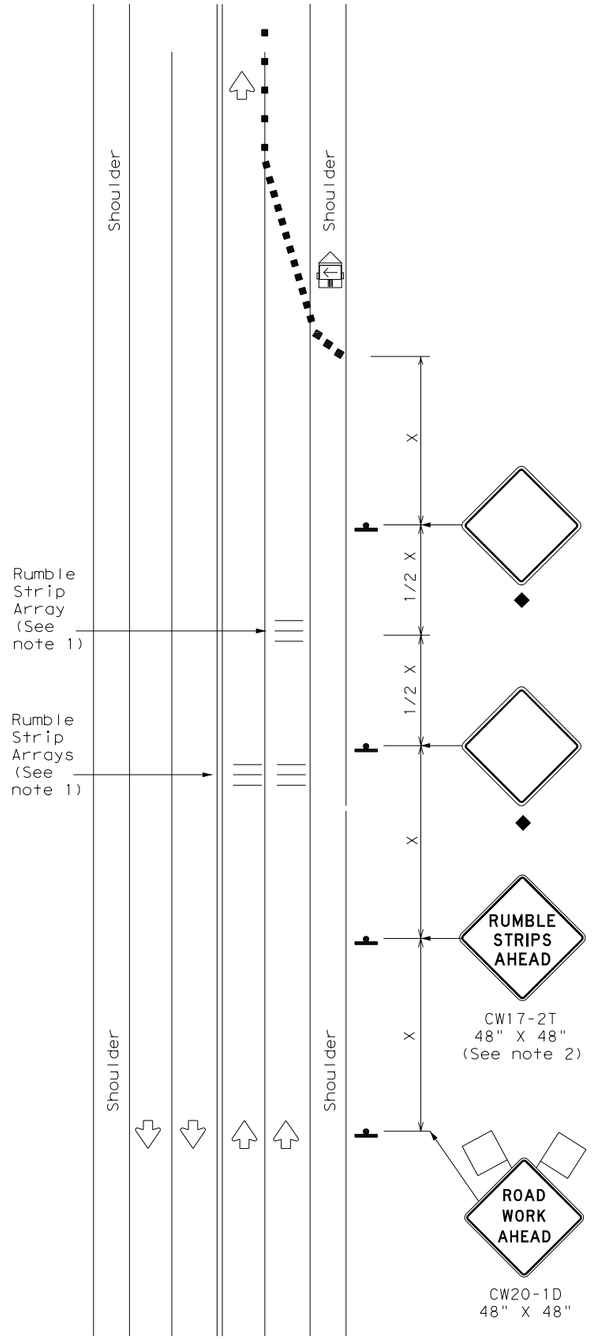
Warning sign and rumble strip sequence in opposite direction is same as below.

TABLE 1		
Flagger to Flagger (Length of Work Area)	ADT	# of Rumble Strip Arrays
1/8 Mile	< 4,500	1
	≥ 4,500	2
1/4 Mile	< 3,500	1
	≥ 3,500	2
1/2 Mile	< 2,600	1
	≥ 2,600	2
1 Mile	< 1,600	1
	≥ 1,600	2
> 1 Mile	N/A	2



WZ(RS-1a)

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



WZ(RS-1b)

RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

GENERAL NOTES

1. Each Rumble Strip Array should consist of three rumble strips spaced center to center at the spacing shown in Table 2, placed transverse across the lane at locations shown.
2. The CW17-2T "RUMBLE STRIPS AHEAD" sign should be located after the CW20-1D "ROAD WORK AHEAD sign and spaced as shown. If traffic is observed to be queuing, or is expected to queue beyond the Rumble Strips, the CW17-2T sign and the first Rumble Strip Array may be located upstream of the CW20-1D sign as necessary to provide needed warning.
3. Temporary Rumble Strips will be considered subsidiary to Item 502, and shall be a product listed on the Compliant Work Zone Traffic Control Devices.
4. Remove Temporary Rumble Strips before removing the advanced warning signs.
5. Temporary Rumble Strips should not be used on horizontal curves, loose gravel, soft or bleeding asphalt, heavily rutted pavements or unpaved surfaces.
6. Temporary Rumble Strips shall be installed and maintained as per manufacturer's recommendations.
7. This standard sheet shall be used in conjunction with other appropriate TCP standard, TMUTCD typical application or project specific detail for the project.
8. The one-lane two-way application may utilize a flagger, an Automated Flagger Assistance Device (AFAD) or a Portable Traffic Signal (PTS).
9. Replace defective Temporary Rumble Strips as directed by the Engineer.
10. Temporary Rumble Strips may be used on freeways or expressways based on engineering judgment and written direction from the Engineer.

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Panel	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT)
S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

◆ Signs are for illustrative purposes only. Signs required may vary depending on the TCP, TMUTCD Typical Application, or project specific details for the project.

* For posted speeds in excess of 65 MPH, it is recommended that spacing is increased as speed limits increase. Increasing space between rumble strips will improve effectiveness.

TABLE 2	
Speed	Approximate distance between strips in an array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
= 60 MPH	20'
≥ 65 MPH	* 35' +

Texas Department of Transportation

Traffic Safety Division Standard

TEMPORARY RUMBLE STRIPS

WZ(RS)-22

FILE: wzrs22.dgn	DN: TxDOT	CK:TxDOT	DW: TxDOT	CK:TxDOT
©TxDOT November 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-14 1-22 4-16	0047	06	174, ETC.	US0075
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		34

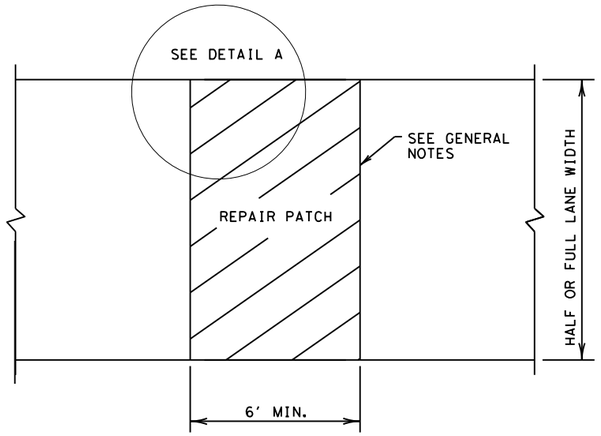
DATE:
FILE:

TABLE NO.1 STEEL BAR SIZE AND SPACING						
TYPE PAVEMENT	SLAB THICKNESS AND BAR SIZE		LONGITUDINAL*		TRANSVERSE*	
			REGULAR BARS	TIEBARS	BARS	TIEBARS
	T (IN.)	BAR SIZE	SPACING (IN.)	SPACING (IN.)	SPACING (IN.)	SPACING (IN.)
CRCP	6.0	#5	7.5	7.5	24	24
	6.5		7.0	7.0		
	7.0		6.5	6.5		
	7.5		6.0	6.0		
	8.0	#6	9.0	9.0	24	24
	8.5		8.5	8.5		
	9.0		8.0	8.0		
	9.5		7.5	7.5		
	10.0		7.0	7.0		
	10.5		6.75	6.75		
	11.0		6.5	6.5		
	11.5		6.25	6.25		
	≥12.0		6.0	6.0		
JRCP	<8.0	#5	24.0	12.0	24	24
	≥8.0	#6	24.0	12.0	24	24
CPCD	<8.0	#5	NONE	12.0	NONE	24
	≥8.0	#6	NONE	12.0	NONE	24

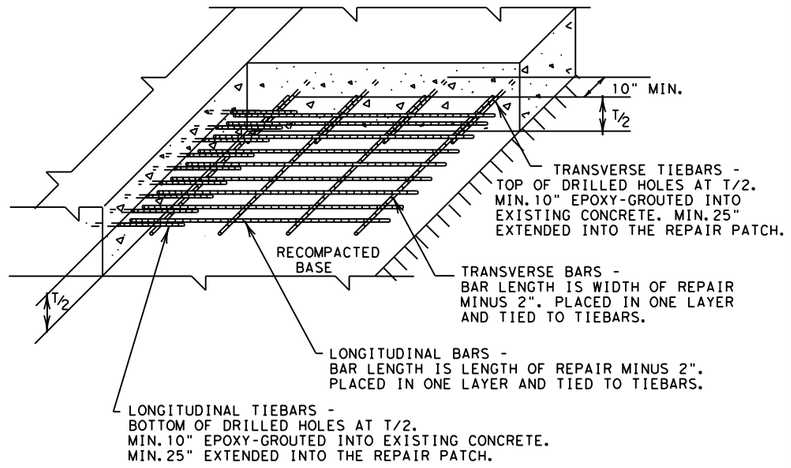
* USE 12" SPACING AS FIRST AND LAST SPACING AT END OR SIDE FOR ALL BARS.

GENERAL NOTES

1. ITEM 361, "REPAIR OF CONCRETE PAVEMENT" SHALL GOVERN FOR THIS WORK.
2. MULTIPLE PIECE TIEBARS SHALL BE USED WHEN THE REPAIR AREA MUST BE PLACED IN TWO STAGES DUE TO SEQUENCE OF CONSTRUCTION.
3. FULL DEPTH SAW CUTS SHALL BE MADE AROUND THE PERIMETER OF THE AREA TO BE REPAIRED. THE CUT SHALL BE MADE AT A RIGHT ANGLE TO THE PAVEMENT EDGE AND TO THE CENTER LINE OF THE PAVEMENT.
4. AT LEAST ONE LONGITUDINAL FULL DEPTH SAW CUT SHALL BE AT AN EXISTING LONGITUDINAL JOINT.
5. ADDITIONAL SAW CUTS MAY BE REQUIRED WITHIN THE AREA OF THE REPAIR TO FACILITATE REMOVAL OF THE CONCRETE OR TO ALLEVIATE BINDING OF THE FULL DEPTH SAW CUT AT THE REPAIR EDGE.
6. THE SAW CUTS WHICH EXTEND OUTSIDE THE AREA OF THE REPAIR WILL BE CLEANED AND FILLED WITH A CEMENTITIOUS GROUT APPROVED BY THE ENGINEER.
7. EXISTING LONGITUDINAL AND TRANSVERSE JOINTS REMOVED DUE TO REPAIR OPERATION SHOULD BE RESTORED IN ACCORDANCE WITH STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."



PLAN VIEW

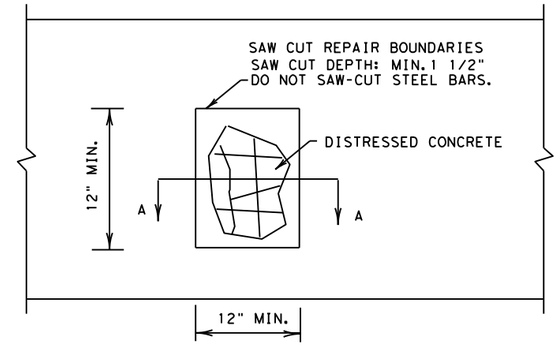


DETAIL A
GROUTED TIEBARS & REINFORCEMENT

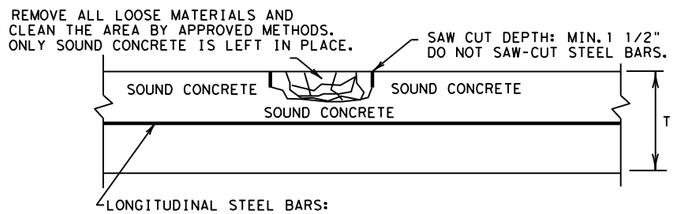
FULL-DEPTH REPAIR OF CRCP, JRCP, AND CPCD

GENERAL NOTES

1. ITEM 361, "REPAIR OF CONCRETE PAVEMENT" SHALL GOVERN FOR THIS WORK.
2. THE SAW CUTS WHICH EXTEND OUTSIDE THE AREA OF THE REPAIR WILL BE CLEANED AND FILLED WITH A CEMENTITIOUS GROUT APPROVED BY THE ENGINEER.
3. EXISTING LONGITUDINAL AND TRANSVERSE JOINTS REMOVED DUE TO REPAIR OPERATION SHOULD BE RESTORED IN ACCORDANCE WITH STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."



PLAN VIEW



LONGITUDINAL STEEL BARS:

*REPAIR AREAS MAY BE ADJUSTED AFTER REMOVING DISTRESSED CONCRETE. SWITCH THE HALF-DEPTH REPAIR TO FULL-DEPTH REPAIR IF EXPOSED EXISTING LONGITUDINAL BARS ARE DEFICIENT, AS APPROVED. COMPENSATION WILL BE MADE FOR UNEXPECTED VOLUMES OF REPAIR AREAS OR CHANGES IN SCOPE OF WORK.

*INCREASE THE REPAIR AREA AND PERFORM A FULL-DEPTH REPAIR AS DIRECTED IF LONGITUDINAL STEEL BARS WERE DAMAGED BY THE REMOVAL OPERATIONS. NO ADDITIONAL COMPENSATION WILL BE MADE.

SECTION A-A

HALF-DEPTH REPAIR

Texas Department of Transportation

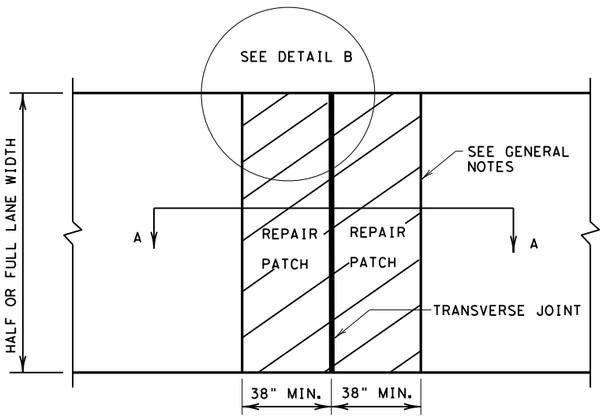
Design Division Standard

REPAIR OF CONCRETE PAVEMENT

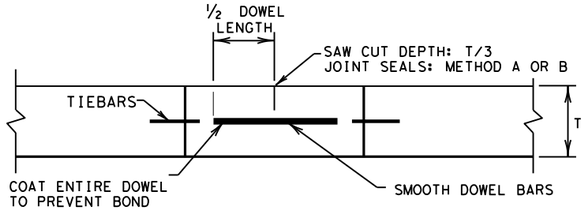
REPCP-14

FILE: repcp14.dgn	DN: TxDOT	DN: HC	DW: HC	CK: AN
©TxDOT: DECEMBER 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		35

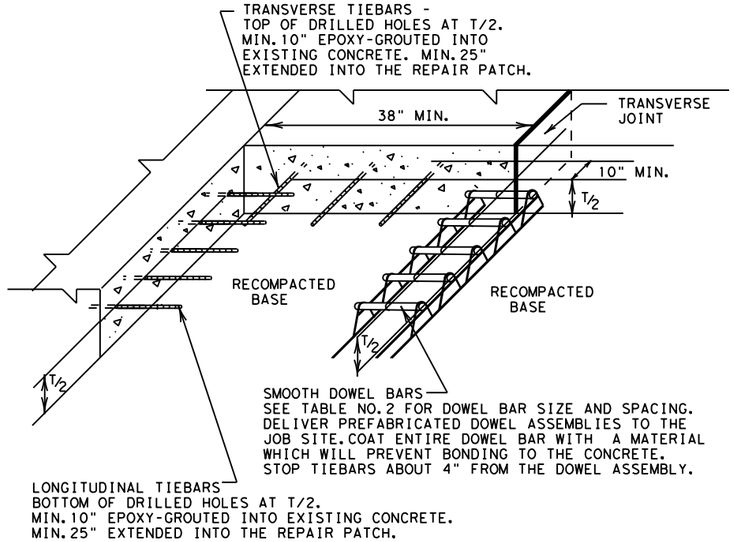
DATE:
FILE:



PLAN VIEW



SECTION A-A



DETAIL B
GROUTED TIEBARS & DOWELS

GENERAL NOTES

1. ITEM 361, "REPAIR OF CONCRETE PAVEMENT" SHALL GOVERN FOR THIS WORK.
2. MULTIPLE PIECE TIEBARS SHALL BE USED WHEN THE REPAIR AREA MUST BE PLACED IN TWO STAGES DUE TO SEQUENCE OF CONSTRUCTION.
3. FULL DEPTH SAW CUTS SHALL BE MADE AROUND THE PERIMETER OF THE AREA TO BE REPAIRED. THE CUT SHALL BE MADE AT A RIGHT ANGLE TO THE PAVEMENT EDGE AND TO THE CENTER LINE OF THE PAVEMENT.
4. AT LEAST ONE LONGITUDINAL FULL DEPTH SAW CUT SHALL BE AT AN EXISTING LONGITUDINAL JOINT.
5. ADDITIONAL SAW CUTS MAY BE REQUIRED WITHIN THE AREA OF THE REPAIR TO FACILITATE REMOVAL OF THE CONCRETE OR TO ALLEVIATE BINDING OF THE FULL DEPTH SAW CUT AT THE REPAIR EDGE.
6. THE SAW CUTS WHICH EXTEND OUTSIDE THE AREA OF THE REPAIR WILL BE CLEANED AND FILLED WITH A CEMENTITIOUS GROUT APPROVED BY THE ENGINEER.
7. EXISTING LONGITUDINAL AND TRANSVERSE JOINTS REMOVED DUE TO REPAIR OPERATION SHOULD BE RESTORED IN ACCORDANCE WITH STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."
8. DOWEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1/4 IN. HORIZONTALLY AND VERTICALLY UNLESS OTHERWISE SPECIFIED. WHERE DOWEL BAR BASKETS ARE USED, REMOVE THE SHIPPING WIRES.

TABLE NO. 2 DOWELS (SMOOTH BARS)

PAVEMENT THICKNESS (INCHES)	SIZE AND DIA.	LENGTH (IN.)	SPACING (IN.)
<10	#8 (1 IN.)	18.0	12.0
≥10	#10 (1 1/4 IN.)		

REPAIR OF TRANSVERSE JOINT OF CPCD

Texas Department of Transportation

Design Division Standard

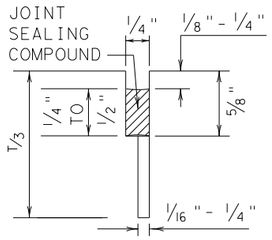
REPAIR OF CONCRETE PAVEMENT

REPCP-14

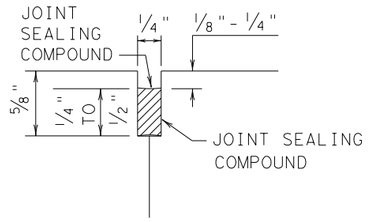
FILE: repcp14.dgn	DN: TxDOT	DN: HC	DW: HC	CK: AN
© TxDOT: DECEMBER 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		36

DATE:
FILE:

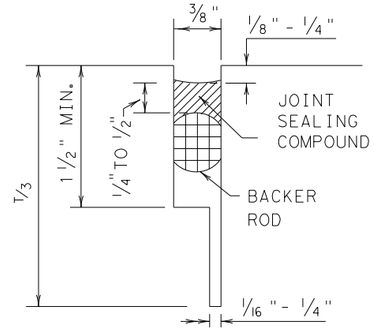
METHOD B: JOINT SEALING COMPOUND



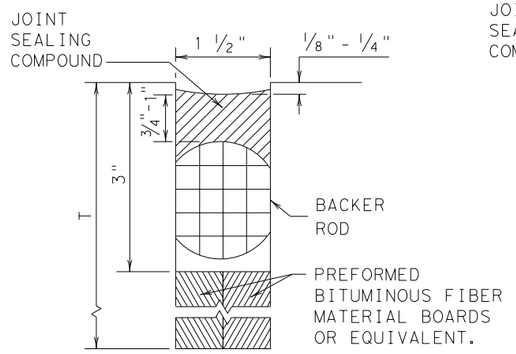
LONGITUDINAL SAWED CONTRACTION JOINT



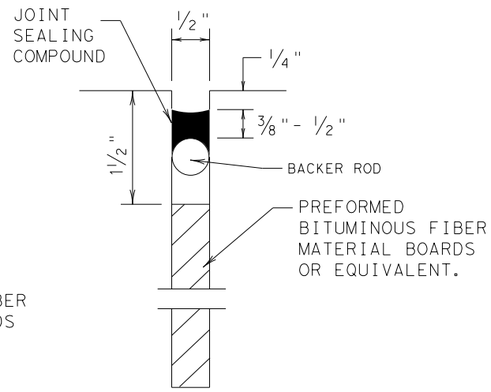
LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT



TRANSVERSE SAWED CONTRACTION JOINT

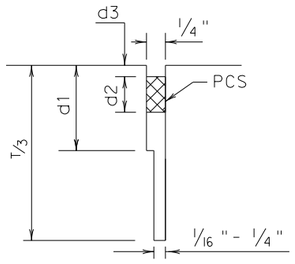


TRANSVERSE FORMED EXPANSION JOINT

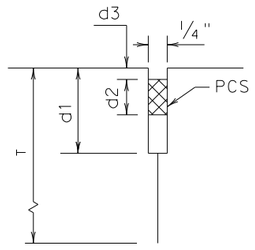


FORMED ISOLATION JOINT

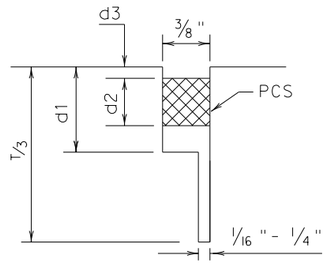
METHOD A: PREFORMED COMPRESSION SEALS (PCS)(DMS-6310 CLASS 6)



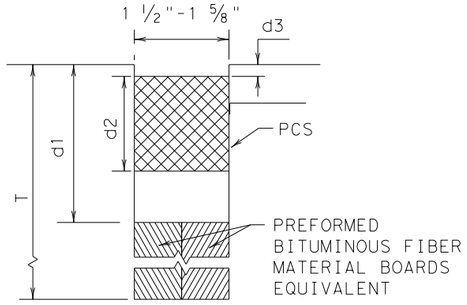
LONGITUDINAL SAWED CONTRACTION JOINT



LONGITUDINAL CONSTRUCTION JOINT



TRANSVERSE SAWED CONTRACTION JOINT



TRANSVERSE FORMED EXPANSION JOINT

GENERAL NOTES

1. UNLESS OTHERWISE SHOWN IN THE PLANS, EITHER METHOD "A" OR METHOD "B" MAY BE USED.
2. THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
3. THE JOINT RESERVOIR FOR SEALANT OR PCS SHALL BE SAWED UNLESS OTHERWISE SHOWN ON THE PLANS FOR THE LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS AND THE SAWED JOINTS.
4. DIMENSIONS d1, d2, AND d3 SHOWN IN METHOD A SHALL BE IN ACCORDANCE WITH THE PREFORMED COMPRESSION SEAL MANUFACTURER'S RECOMMENDATION.
5. REFER TO DMS-6310 "JOINT SEALANTS AND FILLERS" FOR THE CLASSIFICATIONS.
6. FOR SAWED LONGITUDINAL JOINT, LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT, USE JOINT SEALANT CLASS 5 OR 8 UNLESS OTHERWISE SHOWN ON THE PLAN OR APPROVED.
7. FOR TRANSVERSE SAWED CONTRACTION, TRANSVERSE FORMED EXPANSION JOINT, AND ISOLATION JOINT USE JOINT SEALANT CLASS 5 OR 8 AT NEW JOINTS. USE JOINT SEALANT CLASS 4,5,7,OR 8 FOR MAINTAINING EXISTING JOINTS.
8. THE JOINTS SHALL BE CLEANED IN ACCORDANCE WITH THE ITEM 438 "CLEANING AND SEALING JOINTS" OR ITEM 713 "CLEANING AND SEALING JOINTS AND CRACKS (CONCRETE PAVEMENT)".
9. ISOLATION JOINTS ACCOMMODATE HORIZONTAL AND VERTICAL MOVEMENTS THAT OCCUR BETWEEN A PAVEMENT AND A STRUCTURE. ISOLATION JOINTS MAY BE USED FOR BRIDGE ABUTMENTS, INTERSECTIONS, CURB AND GUTTER, OLD AND NEW PAVEMENTS, OR AROUND DRAINAGE INLETS, MANHOLES, FOOTINGS AND LIGHTING STRUCTURES.

Texas Department of Transportation

Design Division Standard

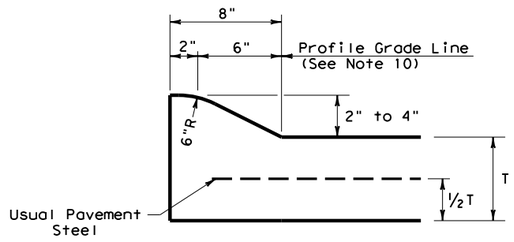
CONCRETE PAVING DETAILS

JOINT SEALS

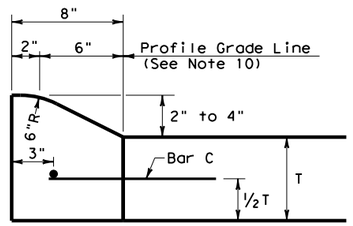
JS-14

FILE: js14.dgn	DN: TxDOT	DN: HC	DW: HC	CK: AN
©TxDOT: DECEMBER 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174 ETC	US 75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		37

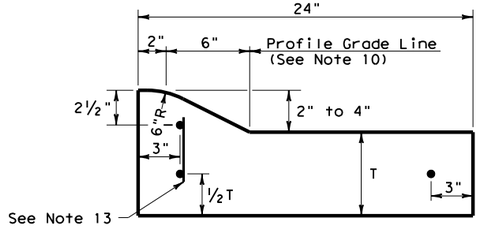
DATE:
FILE:



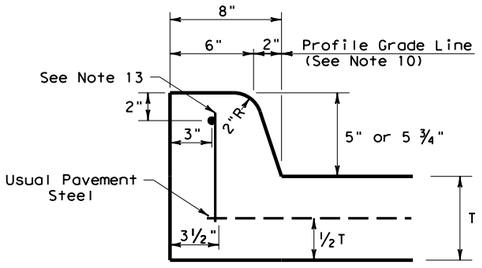
TYPE I CURB (MONOLITHIC)
2" - 4" HEIGHT



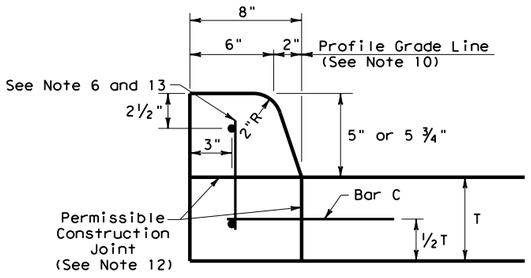
TYPE I CURB
2" - 4" HEIGHT



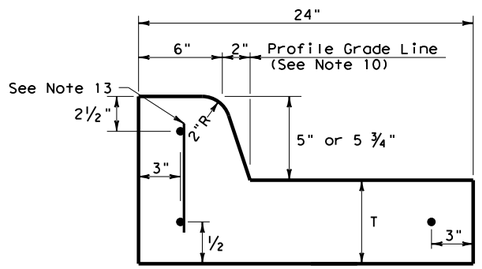
TYPE I CURB AND GUTTER
2" - 4" HEIGHT



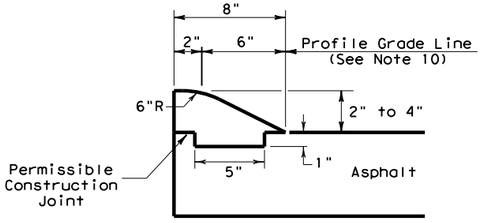
TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT



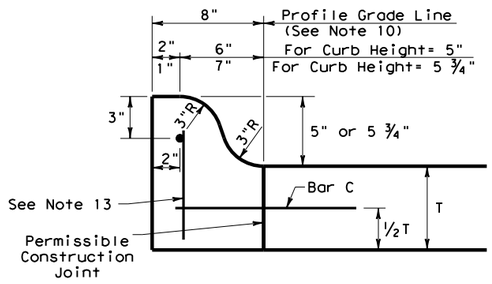
TYPE II CURB
5" - 5 ¾" HEIGHT



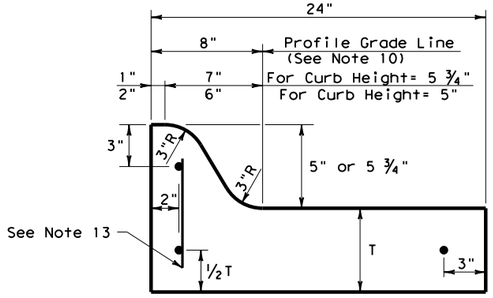
TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT



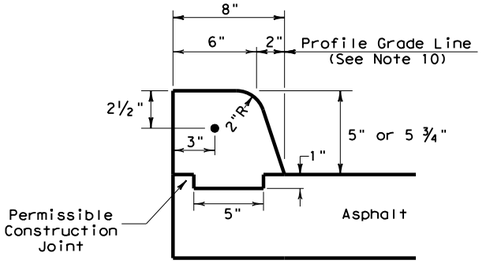
TYPE III CURB (KEYED)
2" - 4" HEIGHT



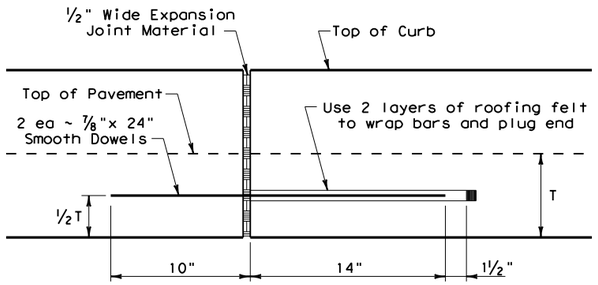
TYPE IIa CURB
5" - 5 ¾" HEIGHT



TYPE IIa CURB AND GUTTER
5" - 5 ¾" HEIGHT

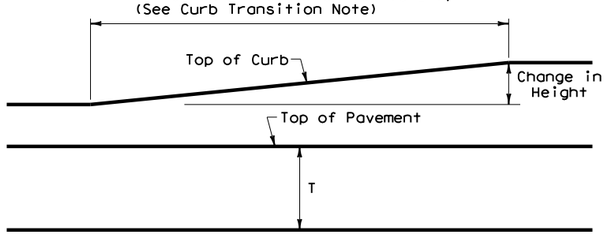


TYPE IV CURB (KEYED)
5" - 5 ¾" HEIGHT



EXPANSION JOINT DETAIL

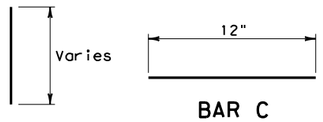
CURB TRANSITION NOTE:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.



CURB TRANSITION
Note: To be paid for as Highest Curb

GENERAL NOTES

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of fiber reinforced concrete in lieu of reinforcing steel is acceptable. Use fibers meeting the requirements of DMS 4550, "Fibers for Concrete," and dose fibers in accordance with Material Producers List (MPL) "Fibers for Class A and B Concrete Applications."
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ¼ inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is to be placed on existing concrete pavement, Bar B may be drilled and grouted in place, or may be inserted into fresh concrete.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C~C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When horizontal permissible construction joints are used, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans. Reinforcing steel for curb section shall then conform to that required for concrete curb.
13. Bar B placement as needed (typically at four ft. C-C) to support curb reinforcing steel during concrete placement.



BAR B

BAR C

Texas Department of Transportation

Design Division Standard

CONCRETE CURB AND CURB AND GUTTER

CCCG-22

FILE: cccg21.dgn	DN: TXDOT	CK: AN	DW: CS	CK: KM
© TxDOT: JUNE 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174, ETC.	US75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		38

0047-06-129 Collin

TEMPLATE REVISED: 10-23-02

DESIGN SFI	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS QTJ	6	STP 2006(015)MM		US 75
CHECK GKL	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	DALLAS	COLLIN	[redacted]
CHECK SFI	CONTROL	SECTION	JOB	
	0047	06	129	

39

FINAL PLANS

NAME OF CONTRACTOR: Tiseo Paving Co.

DATE OF LETTING: 11-03-2005

DATE WORK BEGAN: 2-26-2006

DATE WORK COMPLETED: 4-10-2008

DATE WORK ACCEPTED: 4-10-2008

SUMMARY OF CHANGE ORDERS:

C.O. #1 OFF-DUTY POLICE OFFICERS
C.O. #2 Inlet Protection
C.O. #3 Repair Crash Cushion (REACT) + Additional Signage
C.O. #4 Adding Exit Gore Numbers
C.O. #5 INLET/DRAINAGE MODIFICATIONS
C.O. #6 Hot mix Asphalt Substitution (PG 64-22)
C.O. #7 Combining Traffic Control Phases
C.O. #8 Traffic Control Plan Revisions
C.O. #9 Large Sign Relocation
C.O. #10 Full-Depth Repair of Concrete Paving
C.O. #11 Add Cl A Conc (Misc) + Refl Pav Mrks
C.O. #12 Add Required Delineators + Object Markers
C.O. #13 Portable Changeable Message Signs
C.O. #14 Illumination Repair
C.O. #15 ADD DAYS TO JOB

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT

PROJECT: STP 2006(015)MM

CSJ: 0047-06-129

US 75

COLLIN

LIMITS: FROM PRESIDENT GEORGE BUSH TOLLWAY
TO SPRING CREEK PARKWAY

TOTAL LENGTH OF PROJECT =

ROADWAY	= 18,800 FT.	=	3.561 MI.
BRIDGE	= 0.00 FT.	=	0.00 MI.
TOTAL	= 18,800 FT.	=	3.561 MI.

TYPE: FOR THE CONSTRUCTION OF BOTTLENECK & RAMP IMPROVEMENTS.
CONSISTING OF: GRADING, DRAINAGE, RETAINING WALLS, BASE, CONCRETE PAVEMENT, SIGNING, PAVEMENT MARKINGS, LIGHTING, ETC.

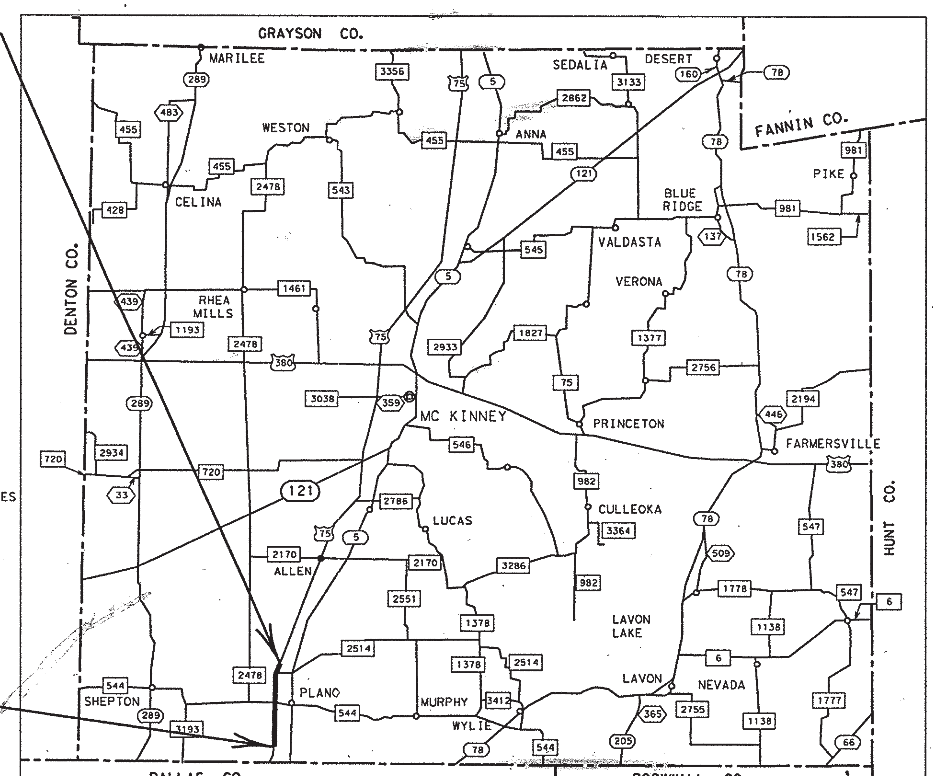
DESIGN SPEED = 60 MPH MAINLANE
40 MPH FRONTAGE ROADS
40 MPH RAMPS
ADT (YR 2005) = 122,570
ADT (YR 2025) = 174,290

NOTE:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, DECEMBER, 1993)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

END PROJECT
CSJ 0047-06-129
STA 777+00.00
TRM 248+1.280

COLLIN COUNTY
SCALE 0 1 2 3 4 5 6 MILES
DALLAS DISTRICT



BEGIN PROJECT
CSJ 0047-06-129
STA 589+00.00
TRM 252+0.680

JACOBS

TEXAS DEPARTMENT OF TRANSPORTATION

CONCURRENCE: 8/8 2005
Alan L. [signature]
CITY OF PLANO

SUBMITTED FOR LETTING 8/8/ 2005
G. A. White, P.E.
PROJECT MANAGER, TxDOT

SUBMITTED FOR LETTING 08/08/ 2005
Spenta F. Irani P.E.
DESIGN ENGINEER, JACOBS

STATE OF TEXAS
SPENTA F. IRANI
81977
REGISTERED PROFESSIONAL ENGINEER

RECOMMENDED FOR LETTING 8/8 2005
James K. S[signature], P.E.
AREA ENGINEER

RECOMMENDED FOR LETTING 8-10 2005
[signature] K. Banks, P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

APPROVED FOR LETTING 20
, P.E.
DIRECTOR, TRAFFIC OPERATIONS DIVISION

RECOMMENDED FOR LETTING: 8/10 2005
William [signature], P.E.
DISTRICT ENGINEER

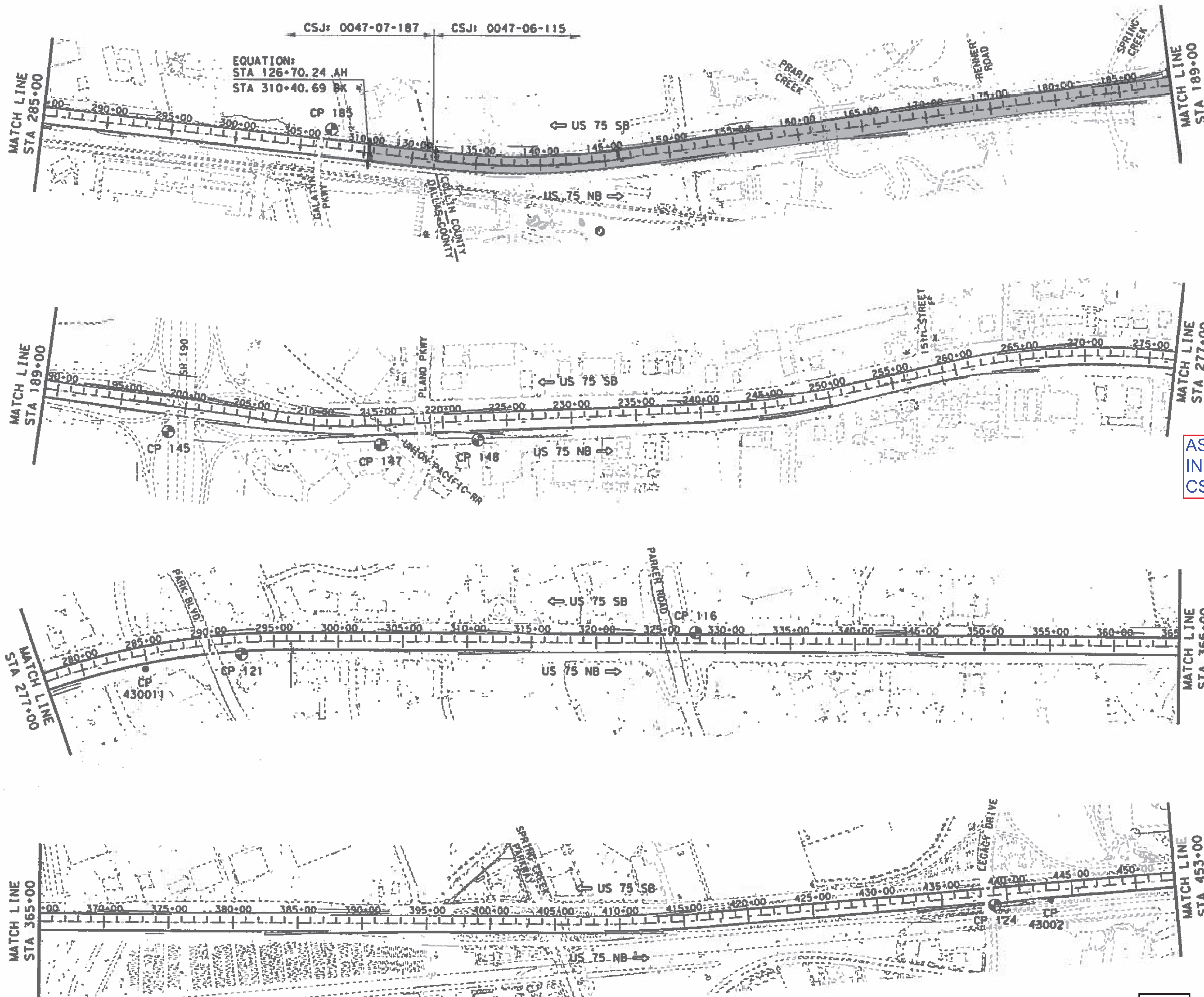
APPROVED FOR LETTING 09-30 2005
Maria [signature] For, P.E.
DIRECTOR, DESIGN DIVISION

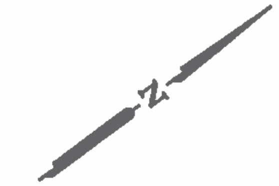
NO EQUATIONS
NO EXCEPTIONS
NO RAILROADS

STATE OF TEXAS
RONALD L. JOHNSTON
81985
REGISTERED PROFESSIONAL ENGINEER

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

[signature], P.E. 6/6/08
Signature of Registrant & Date





LEGEND

● PRIMARY TxDOT CONTROL POINT

⊕ SECONDARY PBS&J CONTROL POINT

NOTES:

1. SEE ALIGNMENT DATA FOR HORIZONTAL GEOMETRY AND CONTROL POINTS.

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
KOREN H. SPRINKLE
89480
REGISTERED PROFESSIONAL ENGINEER

2/9/06
Koren Sprinkle, P.E.

PBSJ

Texas Department of Transportation
© 2006

PROJECT LAYOUT

STA 285+00 TO STA 453+00

SCALE: 1" = 800'

SHEET 2 OF 3

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KHS	6	SEE TITLE SHEET		US75
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
PME	TEXAS	DALLAS	DALLAS/COLLIN	[redacted]
CHECK	CONTROL	SECTION	JOB	
IZB	0047	06	115 ETC	
CHECK IZB				

2/9/2006 4:28:25 PM tcho
pl\5205420l\cadd\160-ryy\75pr[02.dgn

LEGEND

- ● PRIMARY TxDOT CONTROL POINT
- SECONDARY PBS&J CONTROL POINT

NOTES:

1. SEE ALIGNMENT DATA FOR HORIZONTAL GEOMETRY AND CONTROL POINTS.

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
KOREN H. SPRINKLE
89480
REGISTERED PROFESSIONAL ENGINEER

2/9/06
Koren Sprinkle, P.E.

PBSJ

Texas Department of Transportation

PROJECT LAYOUT

STA 453+00 TO END PROJECT

SCALE: 1" = 800'

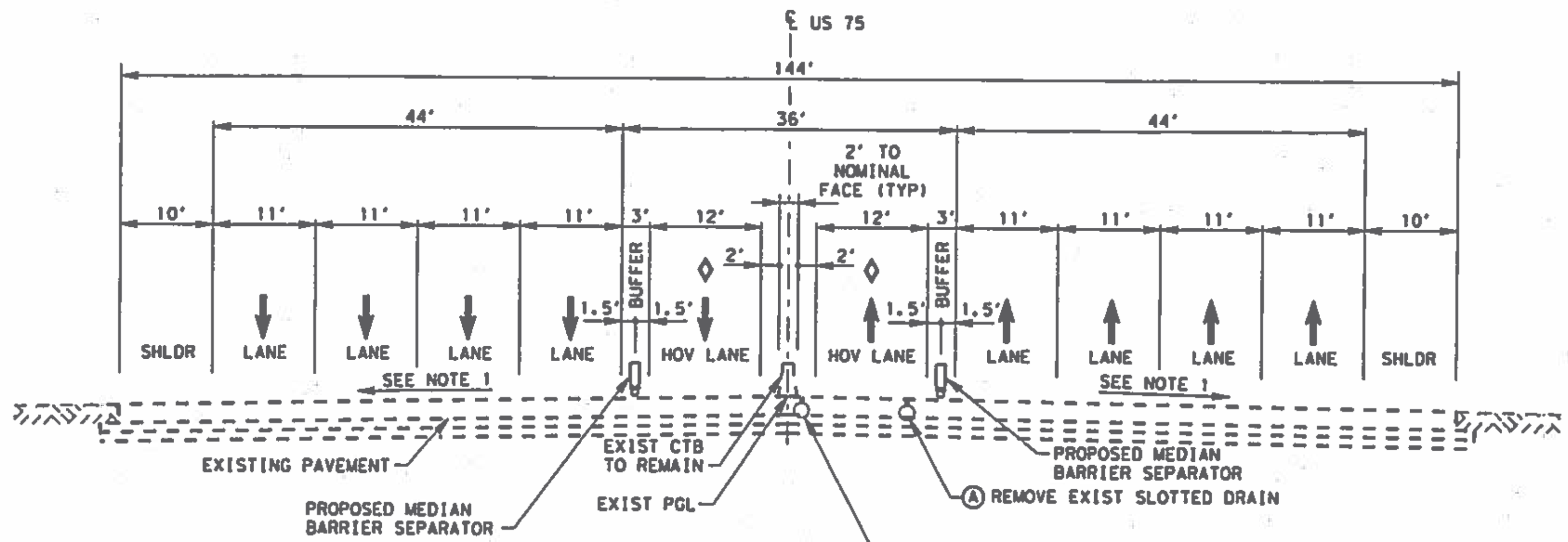
SHEET 3 OF 3

DESIGN KHS	FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. SEE TITLE SHEET		HIGHWAY NO. US75
GRAPHICS PME	STATE TEXAS	DISTRICT DALLAS	COUNTY DALLAS/COLLIN	SHEET NO.
CHECK IZB	CONTROL 0047	SECTION 06	JOB 115 ETC	
CHECK IZB				

41

2/9/2006 4:28:28 PM tcho
p:\52034201\cadd\160rvy\75pr103.dgn

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED TYPICAL SECTION

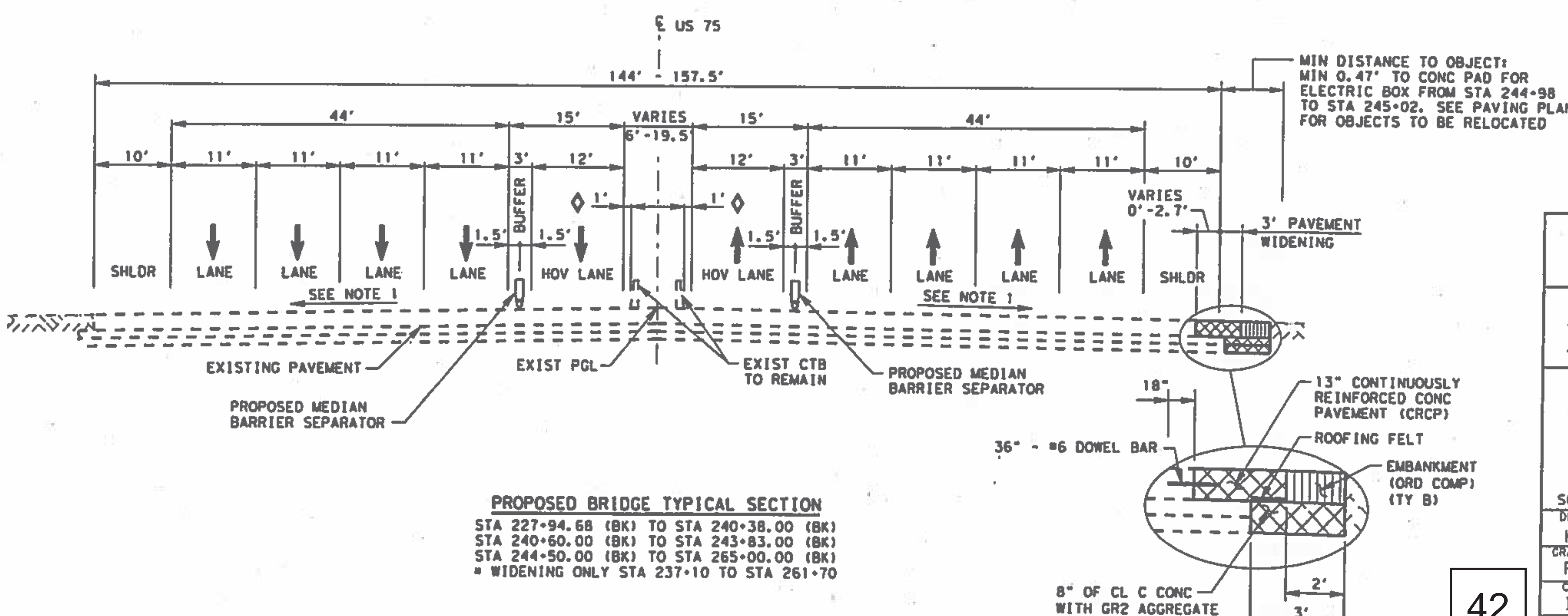
STA 95+00.00 TO STA 227+94.68 (BK)
STA 265+00.00 (BK) TO STA 306+20.00 (BK)
STA 306+73.00 (BK) TO STA 198+00.00 (AH)
STA 201+80.00 (AH) TO STA 214+11.40 (AH)
STA 216+48.00 (AH) TO STA 217+80.00 (AH)
STA 219+33.00 (AH) TO STA 289+40.00 (AH)
STA 290+40.00 (AH) TO STA 325+28.00
STA 326+28.00 TO STA 416+00.00

SLOTTED DRAIN LOCATIONS

STA 131+78.00 (AH) TO STA 147+26.00 (AH) Ⓐ,Ⓑ,Ⓒ
STA 205+08.00 (AH) TO STA 217+73.00 (AH) Ⓐ,Ⓒ

NOTES:

1. EXISTING PAVEMENT CROSS SLOPE TO REMAIN.
2. PROPOSED TYPICAL SECTIONS MAY INCLUDE 12' AUXILIARY LANES AT CERTAIN LOCATIONS.
3. PROPOSED PAVEMENT WIDENING SHALL MATCH EXISTING SHOULDER CROSS SLOPE.
4. EXISTING CTB DIMENSIONS ARE TO NOMINAL FACE.
5. FOR ALL AREAS OF ADJACENT CONCRETE, THE CONTRACTOR SHALL SEPARATE THOSE SURFACES WITH 15 POUND ROOFING FELT, WHICH SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS ITEMS.
6. REMOVE ALL EXISTING SLOTTED DRAINS AT THE STATIONS SHOWN. PLACE TRENCH DRAIN ADJACENT TO EXISTING CONCRETE TRAFFIC BARRIER. SEE MISCELLANEOUS DRAINAGE DETAILS FOR ADDITIONAL INFORMATION.
7. CONTRACTOR SHALL USE A NON-IMPACT, ROTARY DRILL WHEN ADDING TRANSVERSE REINFORCEMENT.
8. REINFORCING FOR CL C CONCRETE (MISC) SHALL BE A #5 BAR MATTING ON 12" C-C SPACING.



PROPOSED BRIDGE TYPICAL SECTION

STA 227+94.68 (BK) TO STA 240+38.00 (BK)
STA 240+60.00 (BK) TO STA 243+83.00 (BK)
STA 244+50.00 (BK) TO STA 265+00.00 (BK)
* WIDENING ONLY STA 237+10 TO STA 261+70

STATE OF TEXAS
KOREN H. SPRINKLE
89480
REGISTERED PROFESSIONAL ENGINEER
2/17/06
Koren Sprinkle, P.E.

PBSJ

Texas Department of Transportation
© 2006

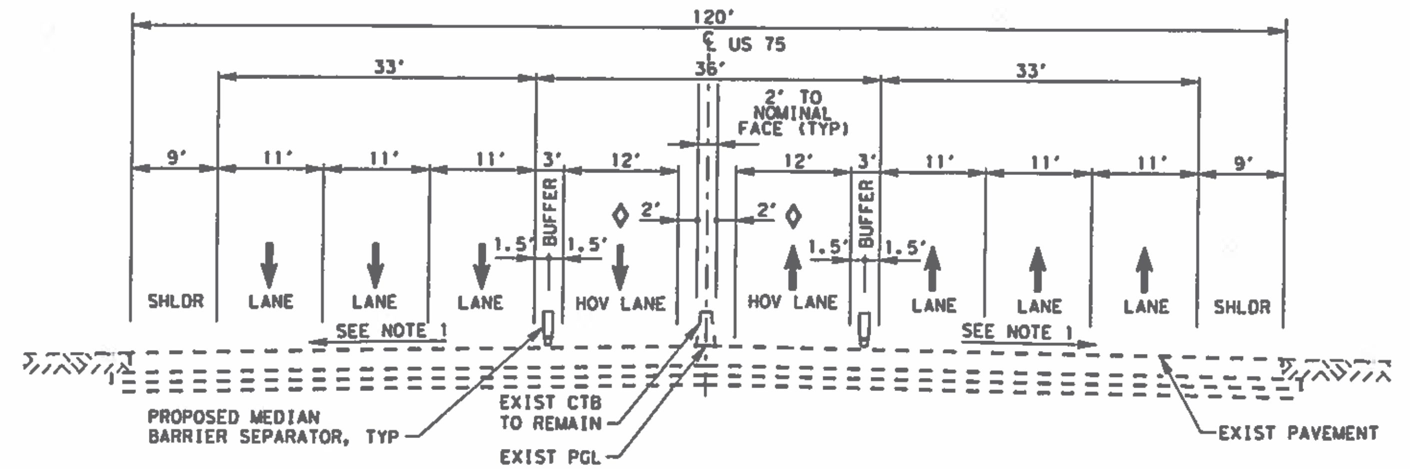
PROPOSED
TYPICAL SECTIONS

SCALE: NTS — SHEET 1 OF 6

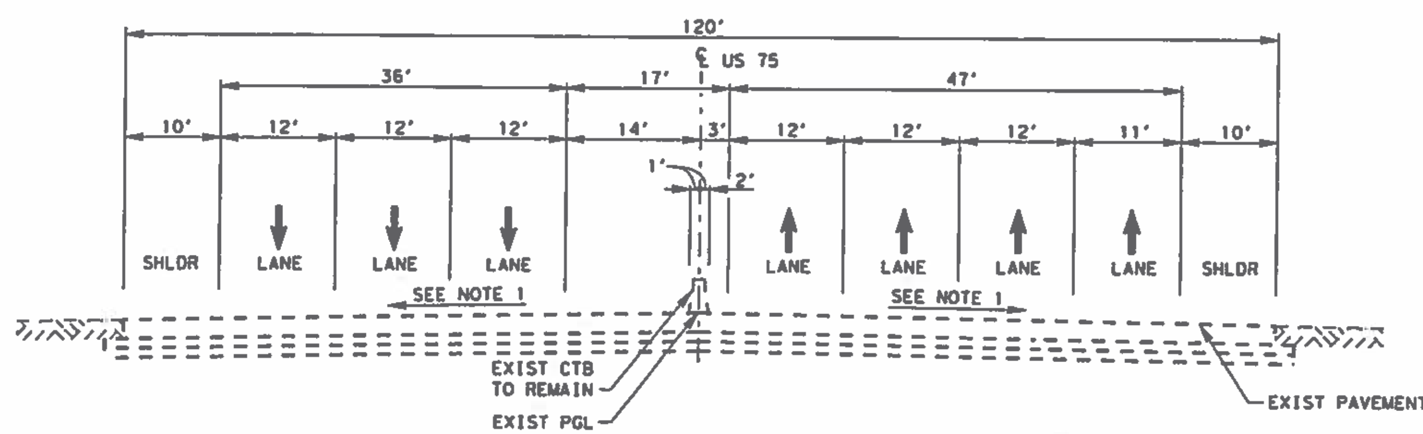
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KHS	6	SEE TITLE SHEET		US75
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
PME	TEXAS	DALLAS	DALLAS/COLLIN	
CHECK	CONTROL	SECTION	JOB	
IZB	0047	06	115 ETC	
CHECK				
IZB				

42

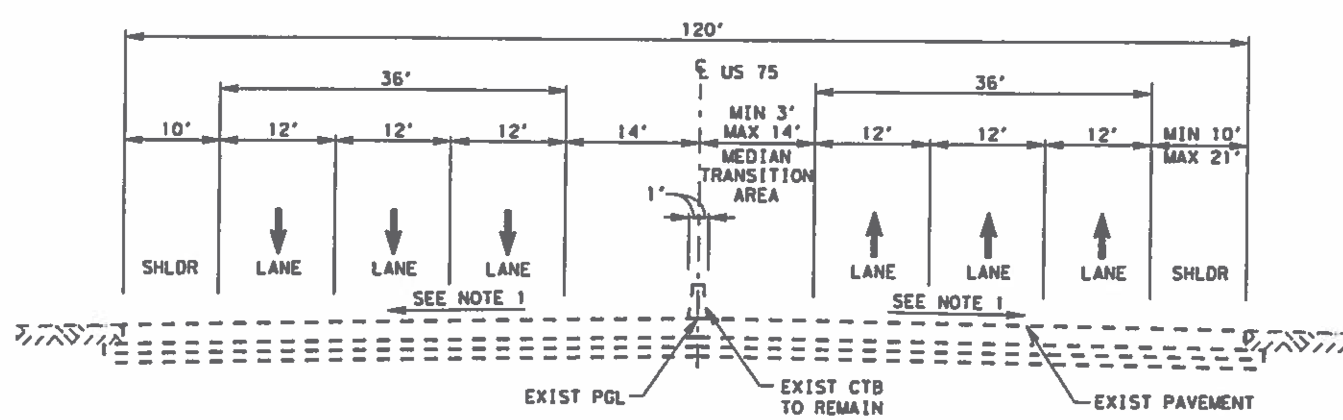
2/17/06 12:31:55 PM Monica Trans
P:\52054201\CADD\160-ny\typsect2.dgn



PROPOSED TYPICAL SECTION
STA 416+00.00 TO STA 438+00.00
STA 439+00.00 TO STA 540+00.00



PROPOSED TYPICAL SECTION
STA 540+00.00 TO STA 622+00.00



PROPOSED TYPICAL SECTION
STA 622+00.00 TO STA 632+00.00

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTES:

1. EXISTING PAVEMENT CROSS SLOPE TO REMAIN.
2. PROPOSED TYPICAL SECTIONS MAY INCLUDE 12' AUXILIARY LANES AT CERTAIN LOCATIONS.
3. EXISTING CTB DIMENSIONS ARE TO NOMINAL FACE.

STATE OF TEXAS
KOREN H. SPRINKLE
89480
REGISTERED PROFESSIONAL ENGINEER

2/6/06
Koren Sprinkle, P.E.

PBSJ

Texas Department of Transportation

PROPOSED
TYPICAL SECTIONS

SCALE: NTS
SHEET 2 OF 6

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KHS	6	SEE TITLE SHEET		US75
GRAPHICS PME	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK IZB	TEXAS	DALLAS	DALLAS/COLLIN	[redacted]
CHECK IZB	CONTROL 0047	SECTION 06	JOB 115 ETC	

43

2/9/2006 3:53:56 PM icno
P:\52054201\CADD\160vey\typsect3.dgn

FINAL PLANS

NAME OF CONTRACTOR: MCM

DATE OF LETTING: 12-03-2013

DATE WORK BEGAN: 04-24-2014

DATE WORK COMPLETED: 11-30-2018

DATE WORK ACCEPTED: 12-03-2018

SUMMARY OF CHANGE ORDERS:
SEE PLAN SHEETS
1A, 1B, 1C, 1D, 1E, 1F, 1G

9/19/2013
2:50:11 PM

PDF=V8=B&W.PLT
TxDOT-PEN.TBL

VOLUME 1 OF 5

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT
C47-6-139
CSJ: 0047-06-139

HWY: US75

COLLIN COUNTY

DESIGN	FED. RD. DIV. NO.	FEDERAL AID or STATE PROJECT NO.		HIGHWAY NO.
DSGN	6	C47-6-139		US75
GRAPHICS / CHKR	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CAD	TEXAS	DALLAS	COLLIN	B
CHECK CHKR	CONTROL 0047	SECTION 06	JOB 139	

DESIGN SPEEDS = 55 MPH (MAINLANES)
40 MPH (RAMPS)
20 MPH (LOOP RAMPS)
40 MPH (FRONTAGE ROADS)

ADT 168,000 (2015)
279,000 (2035)

FUNCTIONAL CLASSIFICATION = URBAN FREEWAY

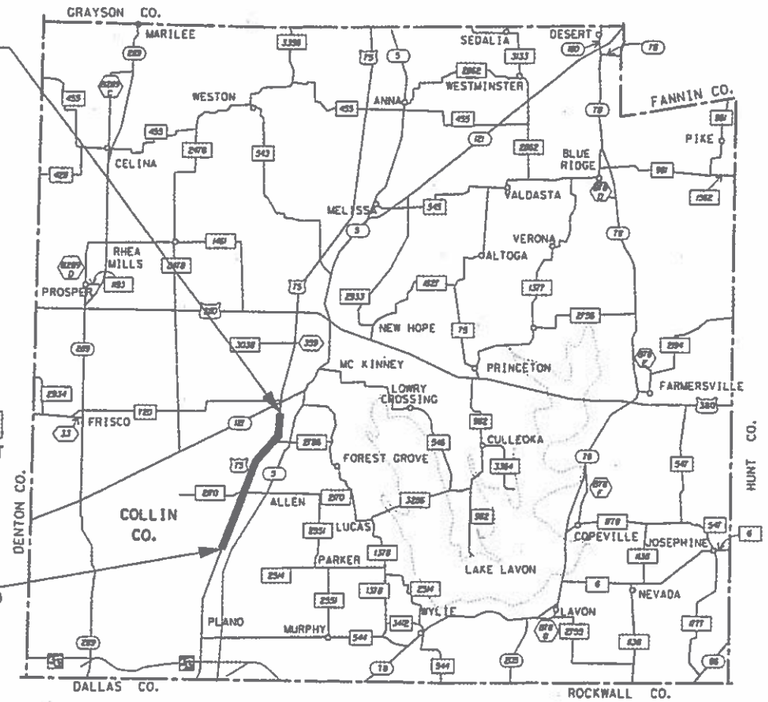
LIMITS: FROM SPRING CREEK PARKWAY
TO SH 121 (SAM RAYBURN TOLLWAY)

TOTAL LENGTH OF PROJECT =

ROADWAY	= 33,136.86 FT.	= 6.276 MI.
BRIDGE	= 1,232.00 FT.	= 0.233 MI.
TOTAL	= 34,368.86 FT.	= 6.509 MI.

TYPE OF WORK: FOR THE CONSTRUCTION OF WIDEN 6 LN FWY TO 8 LN; IMPROVE FRONTAGE ROADS & RAMPS CONSISTING OF: EARTHWORK, GRADING, DRAINAGE, STRUCTURES, PAVEMENT, TRAFFIC SIGNAL, ILLUMINATION, ITS, SIGNING, PAVEMENT MARKINGS AND LANDSCAPE.

END PROJECT
CSJ 0047-06-139
STA 1117+04.35
TRM 242+0.749



N

COLLIN COUNTY
NOT TO SCALE
DALLAS DISTRICT

BEGIN PROJECT
CSJ 0047-06-139
STA 773+35.49
TRM 248+1.264

EQUATIONS: NONE
EXCEPTIONS: NONE
RAILROAD CROSSINGS: NONE

NOTE:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000-007)

TDLR No. EABPRJ: Registered Accessibility Specialist (RAS) Inspection Required

JACOBS
1999 BRYAN STREET, SUITE 1200
DALLAS, TX 75201-3136
Phone 214.638.0145
Firm Registration F-2966

SUBMITTED FOR LETTING 09/20/2013
Sperta F. Prani, P.E.
PROJECT MANAGER

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
BRENAN D. HONEY
98351
LICENSED
PROFESSIONAL ENGINEER

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

Brenan D. Honey, P.E. 12/18/18
Signature of Registrant & Date

44

TEXAS DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR LETTING 10-7-2013
P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

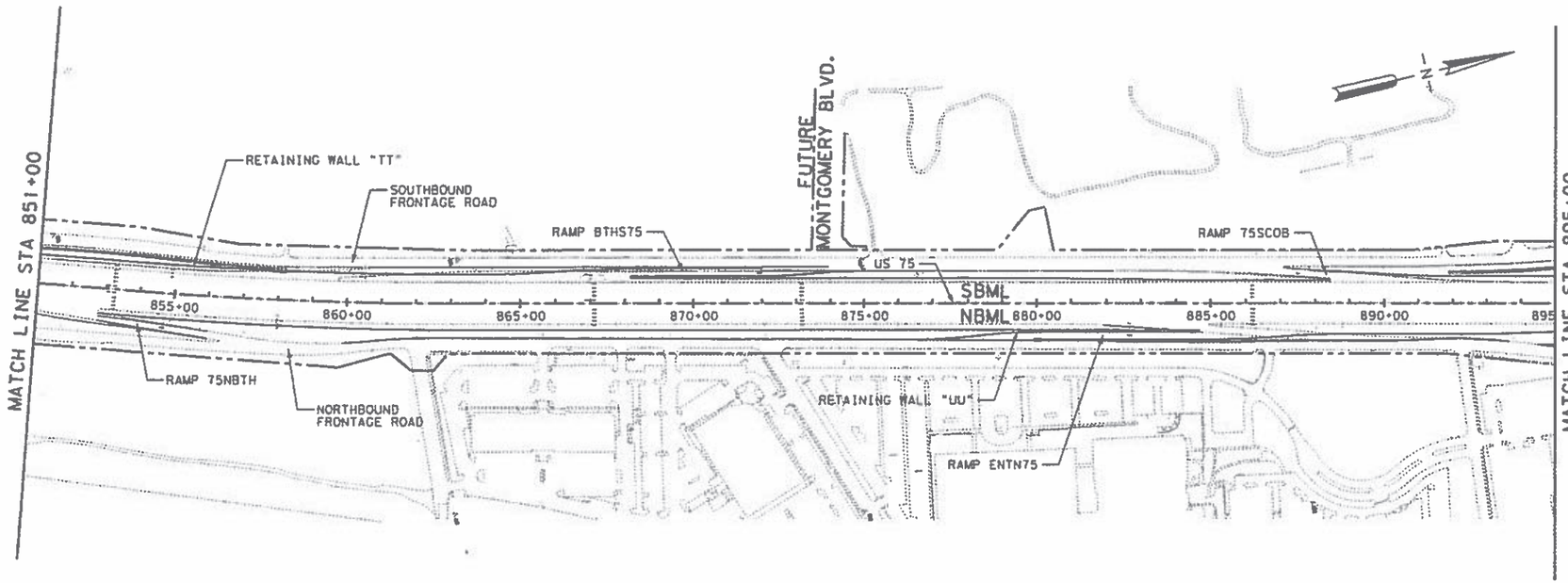
RECOMMENDED FOR LETTING 9-20 2013
Barry Heard, P.E.
AREA ENGINEER

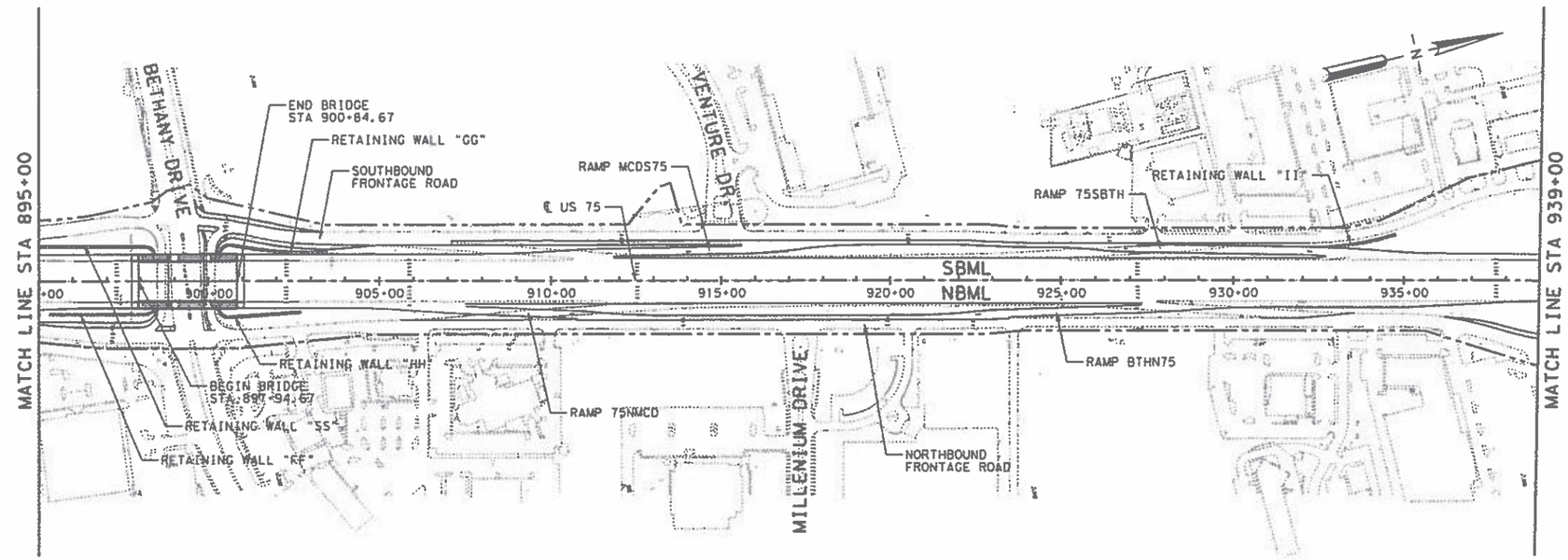
APPROVED FOR LETTING: 10-8 2013
Jane K. Suh, P.E.
DISTRICT ENGINEER

c:\pwworking\nal\ghalynw\dms61285\US75TTLS01.dgn

7/30/2013
9:58:49 AM

/PDF=V8=BW.PLT
TxDOT-PEN.TBL





0 200 400
SCALE IN FEET

LEGEND

EXIST RIGHT OF WAY

CITY LIMITS

NOTES:

1. SEE "HORIZONTAL CONTROL DATA" SHEETS FOR ADDITIONAL INFORMATION REGARDING HORIZONTAL ALIGNMENTS.
2. SEE "CONTROL POINT LAYOUT" SHEETS FOR ADDITIONAL INFORMATION REGARDING SURVEY CONTROLS.

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

Maged Ghaly 09/19/13

Jacobs Engineering Group
STATE OF TEXAS
MAGED W. GHALY
90388
LICENSED
PROFESSIONAL ENGINEER
F-2966

JACOBS
7950 ELMBROOK DRIVE
DALLAS, TX 75247-4925
Phone 214.638.0145
Firm Registration F-2966

Texas Department of Transportation
© 2013

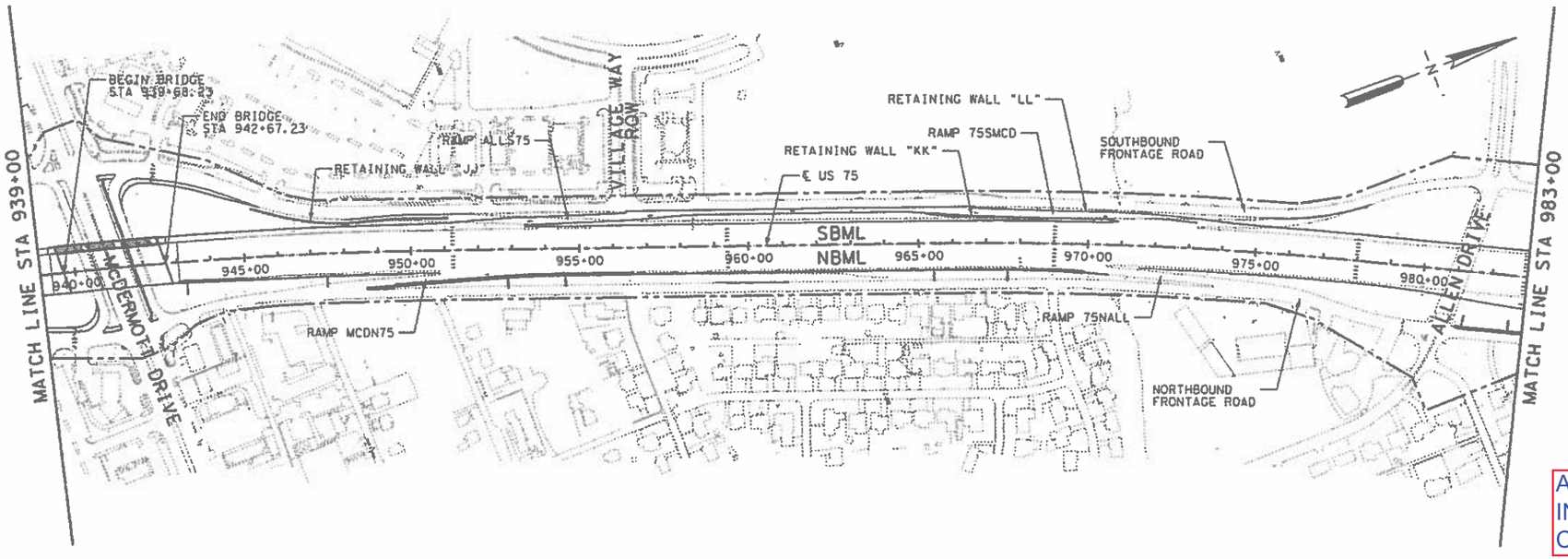
US75

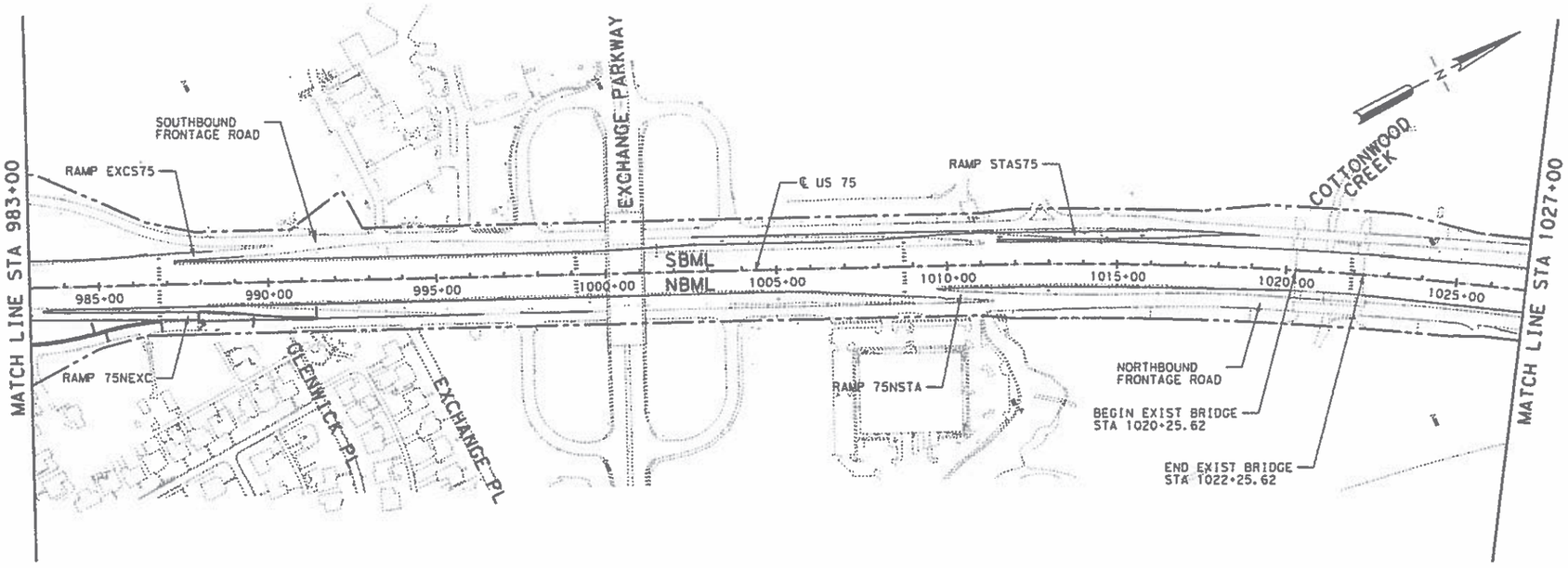
PROJECT LAYOUT
STA 851+00 TO STA 939+00

SCALE: 1"=400' SHEET 2 OF 4

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
DSGN	6	SEE TITLE SHEET		US75
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
CHKR	TEXAS	DALLAS	COLLIN	
GRAPHICS	CONTROL	SECTION	JOB	
CAD	0047	06	139	
CHECK				
CHKR				

...\ghalymw\dms61282\US75PL02.dgn





0 200 400
SCALE IN FEET

LEGEND

EXIST RIGHT OF WAY

CITY LIMITS

NOTES:

1. SEE "HORIZONTAL CONTROL DATA" SHEETS FOR ADDITIONAL INFORMATION REGARDING HORIZONTAL ALIGNMENTS.
2. SEE "CONTROL POINT LAYOUT" SHEETS FOR ADDITIONAL INFORMATION REGARDING SURVEY CONTROLS.

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

Maged Ghaly
09/19/13

Jacobs Engineering Group
STATE OF TEXAS
MAGED W. GHALY
90368
LICENSED
PROFESSIONAL ENGINEER
F-2966

JACOBS
7950 ELMBROOK DRIVE
DALLAS, TX 75247-4925
Phone 214.638.0145
Firm Registration F-2966

US75

PROJECT LAYOUT
STA 939+00 TO STA 1027+00

SCALE: 1"=400'

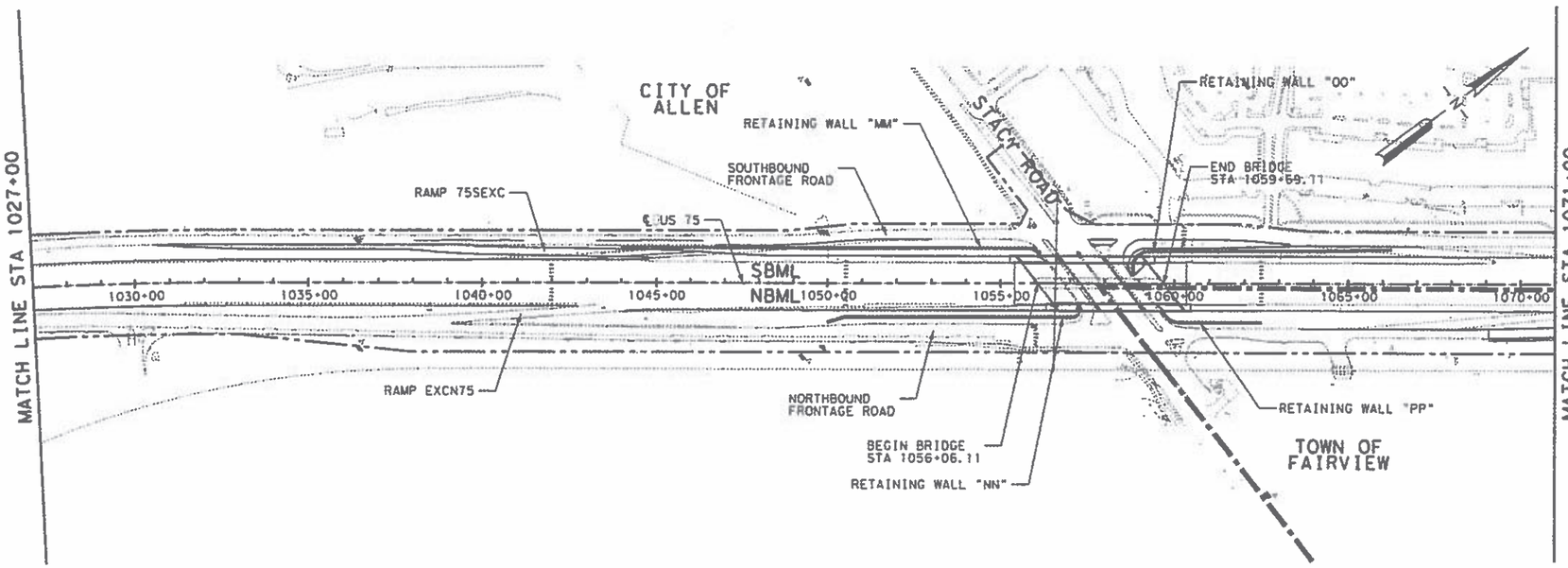
SHEET 3 OF 4

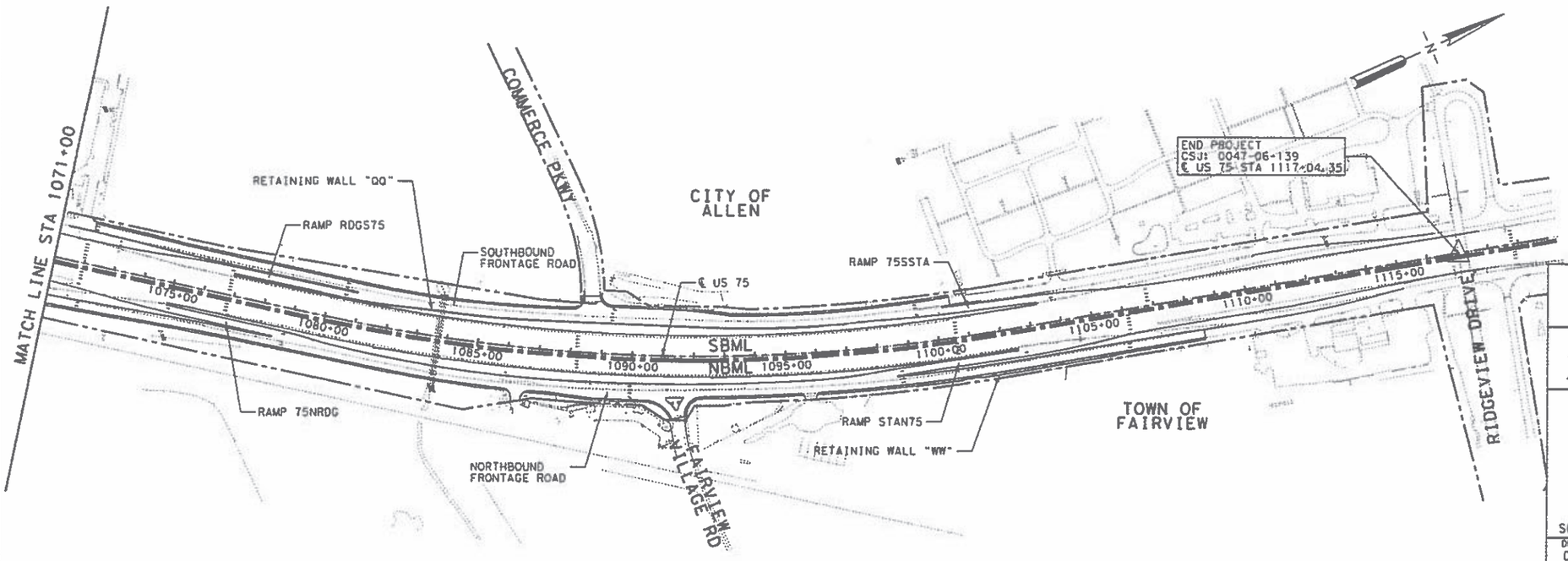
DESIGN DSGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
	6	SEE TITLE SHEET		US75
CHECK CHKR	STATE	DISTRICT	COUNTY	SHEET NO.
GRAPHICS CAD	TEXAS	DALLAS	COLLIN	
CHECK CHKR	CONTROL	SECTION	JOB	
	0047	06	139	

7/30/2013
9:59:51 AM

/PDF-V8-8.W.PLT
TxDOT-PEN.TBL

...\ghalymw\dms61282\US75PL04.dgn





0 200 400
SCALE IN FEET

LEGEND

EXIST RIGHT OF WAY

CITY LIMITS

NOTES:

1. SEE "HORIZONTAL CONTROL DATA" SHEETS FOR ADDITIONAL INFORMATION REGARDING HORIZONTAL ALIGNMENTS.
2. SEE "CONTROL POINT LAYOUT" SHEETS FOR ADDITIONAL INFORMATION REGARDING SURVEY CONTROLS.

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

Maged Ghaly 09/19/13

Engineering Group
STATE OF TEXAS
MAGED W. GHALY
90368
LICENSED
PROFESSIONAL ENGINEER
F-2966

JACOBS
7950 ELMBROOK DRIVE
DALLAS, TX 75247-4925
Phone 214.638.0145
Firm Registration F-2966

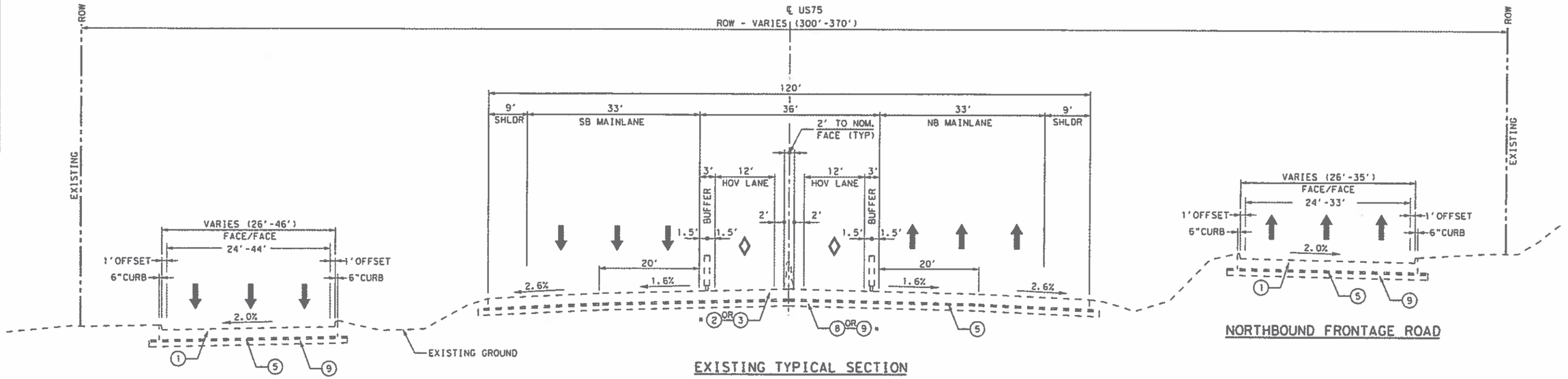
Texas Department of Transportation

US75

PROJECT LAYOUT
STA 1027+00 TO END PROJECT

SCALE: 1"=400' SHEET 4 OF 4

DESIGN OSGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
	6	SEE TITLE SHEET		US75
CHECK CHKR	STATE	DISTRICT	COUNTY	SHEET NO.
GRAPHICS CAD	TEXAS	DALLAS	COLLIN	
CHECK CHKR	CONTROL	SECTION	JOB	[redacted]
	0047	06	139	



EXISTING TYPICAL SECTION

SOUTHBOUND FRONTAGE ROAD

NORTHBOUND FRONTAGE ROAD

SB BEGIN PROJECT TO STA 889+00

NB BEGIN PROJECT TO STA 887+00

*(2)(8) BEGIN PROJECT TO STA 793+00
STA 826+00 TO STA 889+00

(3)(9) STA 793+00 TO STA 826+00

NOTES:

1. ALL STATIONING IS ℄ US75 UNLESS OTHERWISE NOTED.

LEGEND (EXIST)

(1) EXIST 8" CPCD
(2) EXIST 10" CPCD
(3) EXIST 12" CPCD
(4) EXIST 13" CRCP
(5) EXIST 2" ASPH. STAB. BASE
(6) EXIST 4" TY B HMAC
(7) EXIST 10" TY B HMAC
(8) EXIST CONC PAV (CL C CONC) 8"
(9) EXIST 6" LIME TREAT SUBGRADE
(10) EXIST 8" LIME TREAT SUBGRADE
(11) EXIST 1-1/2" TY C SURFACE
(12) EXIST 1-1/2" TY B LEVEL-UP
(13) EXIST 8"-10" HMAC

Maged Ghaly 09/19/13

Jacobs Engineering Group
STATE OF TEXAS
MAGED W. GHALY
90368
LICENSED
PROFESSIONAL ENGINEER
F-2966

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

48

JACOBS
7950 ELMBROOK DRIVE
DALLAS, TX 75247-4925
Phone 214.638.0145
Firm Registration F-2966

Texas Department of Transportation

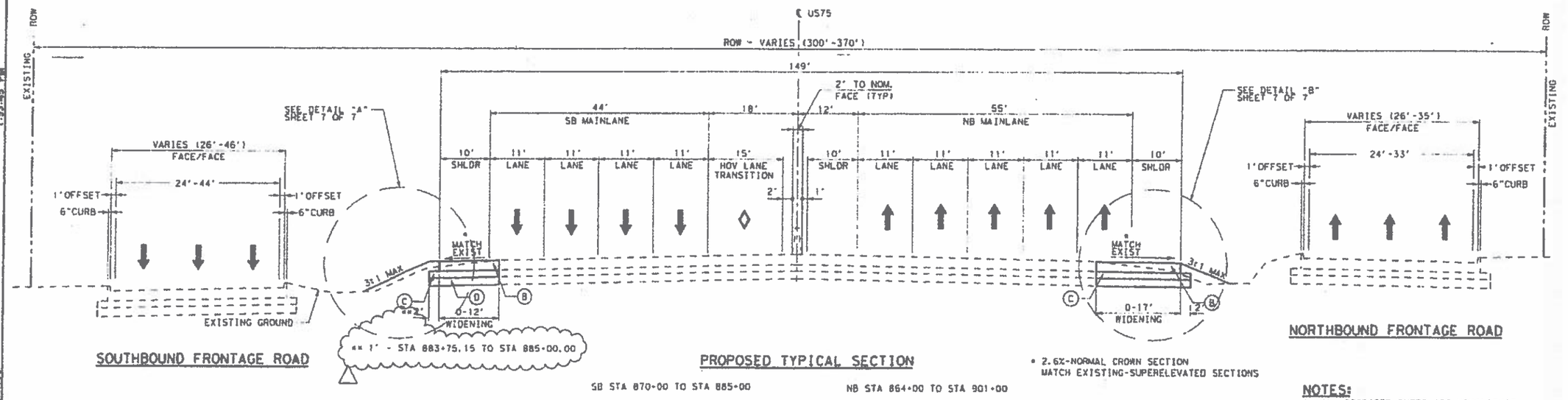
US75

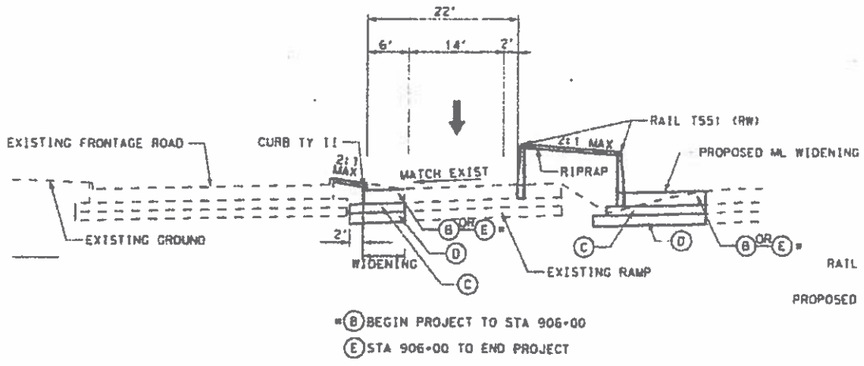
EXISTING TYPICAL SECTIONS

N. T. S.

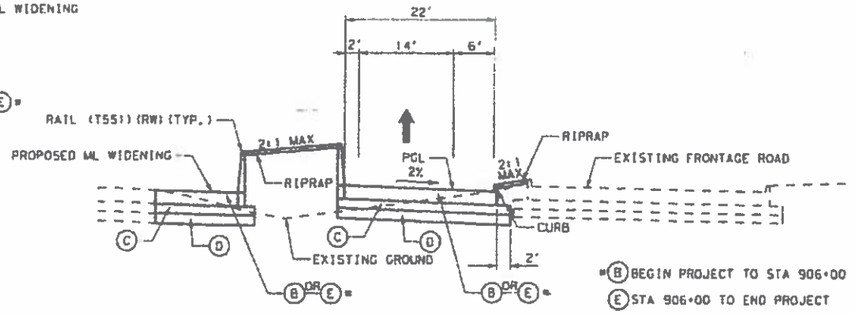
SHEET 1 OF 7

DESIGN MWG	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
CHECK SFI	6	SEE TITLE SHEET		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
GRAPHICS ET	TEXAS	DALLAS	COLLIN	8
CHECK JPP	CONTROL	SECTION	JOB	
	0047	06	139	





MODIFIED RAMP TYPICAL SECTION



PROPOSED RAMP TYPICAL SECTION

LEGEND (PROP)

- (A) PROP 10" CPCD
- (B) PROP 13" CPCD
- (C) PROP 4" ASPHALT CONCRETE PAV.
- (D) PROP 8" LIME TREAT SUBGRADE (5% BY WT)
- (E) PROP 13" CRCP

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTES:
1. ALL PROPOSED CURBS ARE MONOLITHIC UNLESS SHOWN OTHERWISE.
2. ALL STATIONING IS ℄ US75 UNLESS OTHERWISE NOTED.
3. SEE RETAINING WALL SHEETS FOR EXACT LIMITS AND ADDITIONAL DETAILS.

Maged W. Ghaly 2-17-2016

Jacobs Engineering Group
STATE OF TEXAS
MAGED W. GHALY
90358
LICENSED
PROFESSIONAL ENGINEER
F-2966

NO.	REVISION	DATE
	ADDT'L PVMT WIDTH	02/08/2016

JACOBS
1999 BRYAN STREET SUITE 1200 DALLAS, TX 75201-3136 Phone 214.638.0145 Firm Registration F-2966

US75

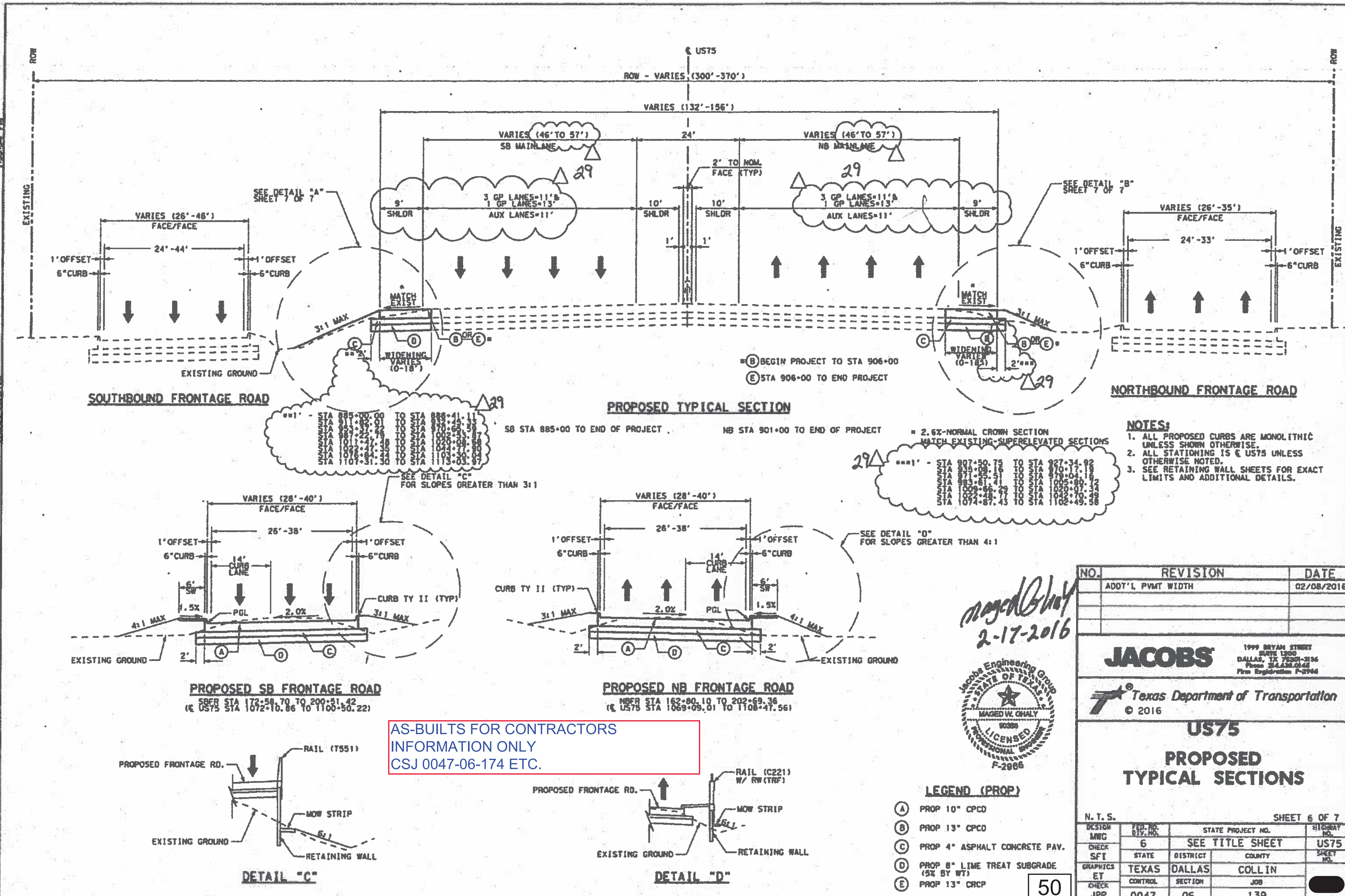
PROPOSED TYPICAL SECTIONS

N. T. S.

SHEET 5 OF 7

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
MWG	6	SEE TITLE SHEET		US75
CHECK SFI	STATE	DISTRICT	COUNTY	"HCEB" NO.
GRAPHICS ET	TEXAS	DALLAS	COLLIN	
CHECK JPP	CONTROL	SECTION	JOB	
	0047	06	139	

2/17/2016 1:51:45 PM
...\Typical Sections\US75P505.dgn



℄ US75
ROW - VARIES (300'-370')
VARIES (132'-156')
VARIES (46' TO 57') SB MAINLANE
24'
VARIES (46' TO 57') NB MAINLANE
2' TO NOM. FACE (TYP)
3 GP LANES=11' & 1 GP LANES=13' AUX LANES=11'
9' SHLDR
10' SHLDR
SEE DETAIL "A" SHEET 7 OF 7
SEE DETAIL "B" SHEET 7 OF 7
VARIES (26'-46') FACE/FACE
24'-44'
VARIES (26'-35') FACE/FACE
24'-33'
1' OFFSET
6" CURB
MATCH EXIST
3:1 MAX
WIDENING VARIES (0-18')
EXISTING GROUND
EXISTING
ROW
SOUTHBOUND FRONTAGE ROAD
PROPOSED TYPICAL SECTION
NORTHBOUND FRONTAGE ROAD
*(B) BEGIN PROJECT TO STA 906+00
(E) STA 906+00 TO END PROJECT
SB STA 885+00 TO END OF PROJECT
NB STA 901+00 TO END OF PROJECT
* 2.6%-NORMAL CROWN SECTION MATCH EXISTING-SUPERELEVATED SECTIONS
SEE DETAIL "C" FOR SLOPES GREATER THAN 3:1
SEE DETAIL "D" FOR SLOPES GREATER THAN 4:1
VARIES (28'-40') FACE/FACE
26'-38'
14' CURB LANE
6' SW
1.5%
2.0%
PGL
4:1 MAX
CURB TY II (TYP)
PROPOSED SB FRONTAGE ROAD
SBFR STA 172+58.70 TO 200+51.42 (℄ US75 STA 1072+10.86 TO 1100+50.22)
PROPOSED NB FRONTAGE ROAD
NBFR STA 162+80.10 TO 202+69.36 (℄ US75 STA 1069+09.01 TO 1108+47.56)
PROPOSED FRONTAGE RD.
RAIL (T551)
RAIL (C221) W/ RW (TRF)
MOW STRIP
6:1
RETAINING WALL
DETAIL "C"
DETAIL "D"
NOTES:
1. ALL PROPOSED CURBS ARE MONOLITHIC UNLESS SHOWN OTHERWISE.
2. ALL STATIONING IS ℄ US75 UNLESS OTHERWISE NOTED.
3. SEE RETAINING WALL SHEETS FOR EXACT LIMITS AND ADDITIONAL DETAILS.
LEGEND (PROP)
(A) PROP 10" CPCD
(B) PROP 13" CPCD
(C) PROP 4" ASPHALT CONCRETE PAV.
(D) PROP 8" LIME TREAT SUBGRADE (5% BY WT)
(E) PROP 13" CRCP
NO. | REVISION | DATE
ADDT'L PVMT WIDTH 02/08/2016
2-17-2016
MAGED W. OHALY
JACOBS
Texas Department of Transportation © 2016
US75
PROPOSED TYPICAL SECTIONS
N.T.S.
SHEET 6 OF 7
DESIGN MWG
CHECK SFI
GRAPHICS ET
CHECK JPP
6
SEE TITLE SHEET
US75
TEXAS DALLAS COLLIN
0047 06 139

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

FINAL PLANS

C.47.6.108, etc.
Collin
Vol I
Part 1

FINAL PLANS

NAME OF CONTRACTOR: WEBBER, LLC

DATE OF LETTING: 03-08-2011

DATE WORK BEGAN: 01-30-2012

DATE WORK COMPLETED: 06-13-2016

DATE WORK ACCEPTED: 06-13-2016

SUMMARY OF CHANGE ORDERS:
SEE PLAN SHEETS
1-A, 1-B, 1-C, 1-D, 1-E, 1-F, 1-G, 1-H

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT
C 47-6-108
CSJ: 0047-06-108, ETC.

US 75

COLLIN COUNTY

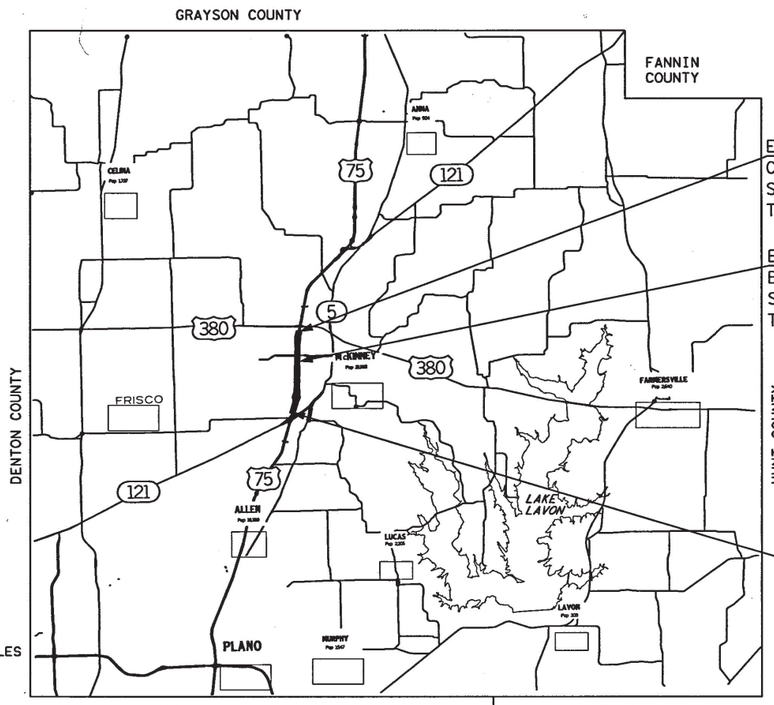
LIMITS: FROM SPUR 399 (SH 121 SOUTH)
TO SOUTH OF US 380

TOTAL LENGTH OF PROJECT=

CSJ: 0047-06-108			
ROADWAY	7,680	FT =	1.454 MI
BRIDGES	165	FT =	0.031 MI
CSJ SUBTOTAL	7,845	FT =	1.485 MI
CSJ: 0047-14-046			
ROADWAY	9,457	FT =	1.791 MI
BRIDGES	860	FT =	0.162 MI
INCIDENTAL	1,216	FT =	0.230 MI
CSJ SUBTOTAL	11,533	FT =	2.184 MI
TOTAL	19,378	FT =	3.669 MI

TYPE OF WORK: FOR THE CONSTRUCTION OF RECONSTRUCT AND WIDEN FROM 4 TO 8 LANES AND 3 LANE FRONTAGE ROADS

CONSISTING OF: EARTHWORK, GRADING, DRAINAGE, STRUCTURES, PAVEMENT, ILLUMINATION, SIGNING, MARKINGS AND SIGNALS.



END PROJECT
CSJ 0047-14-046
STA 874+62.27
TRM = 236+1.864

END CSJ 0047-06-108
BEGIN CSJ 0047-14-046
STA 771+45.00
TRM = 238+1.822

BEGIN PROJECT
CSJ 0047-06-108
STA 693+00.00
TRM = 240+1.312

EXCEPTIONS: NONE
EQUATIONS: NONE
RR XINGS: NONE

FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
6	C 47-6-108		US 75
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	DAL	COLLIN	[redacted]
CONTROL	SECTION	JOB	
0047	06	108, ETC	

51

DESIGN SPEED :
MAINLANES = 70 MPH
RAMPS = 45 MPH
FRONTAGE ROADS = 40 MPH
MAJOR CROSS STREETS = 40 MPH
MINOR STREETS = 30 MPH
SPUI CONNECTORS = 20 MPH
ADT:
41,800 (2008)
79,300 (2028)
FUNCTIONAL CLASSIFICATION = URBAN FREEWAY

NOTE:

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL STATE PROJECTS (000-007)

TDLR INSPECTION REQUIRED

VOLUME I
FINAL PLANS

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER

HDR Engineering, Inc.
17111 Preston Road, Suite 200
Dallas, Texas 75248-1229
FIRM REGISTRATION No. F-754

Texas Department of Transportation

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

SUBMITTED FOR LETTING 12/3/10
[redacted], P.E.
PROJECT MANAGER
HDR ENGINEERING, INC.

RECOMMENDED FOR LETTING 12/3/10
[redacted], P.E.
AREA ENGINEER

RECOMMENDED FOR LETTING 12/13/10
[redacted], P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

APPROVED FOR LETTING [redacted]
, P.E.
DIRECTOR, TRAFFIC OPERATIONS DIVISION

RECOMMENDED FOR LETTING: 12/15/10
[redacted], P.E.
DISTRICT ENGINEER

APPROVED FOR LETTING 02.01.11
[redacted], P.E.
DIRECTOR, DESIGN DIVISION

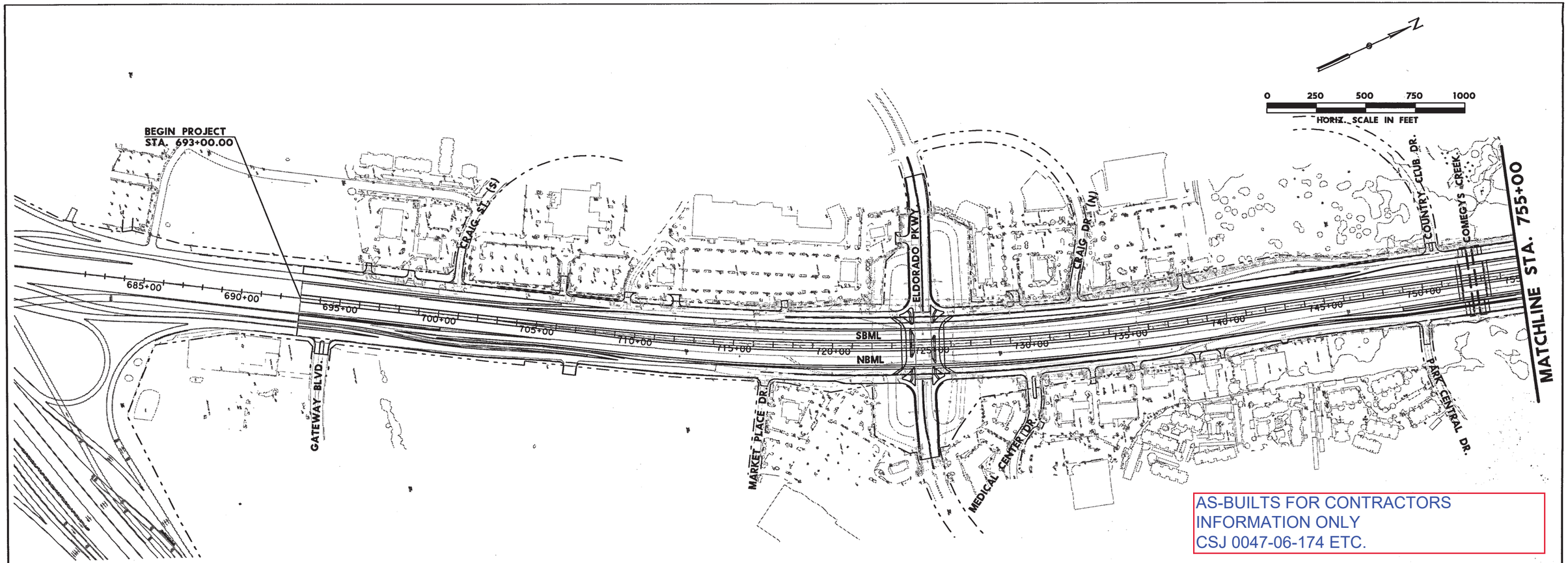
STATE OF TEXAS
BURMAN D. HONEY
86851
LICENSED
PROFESSIONAL ENGINEER

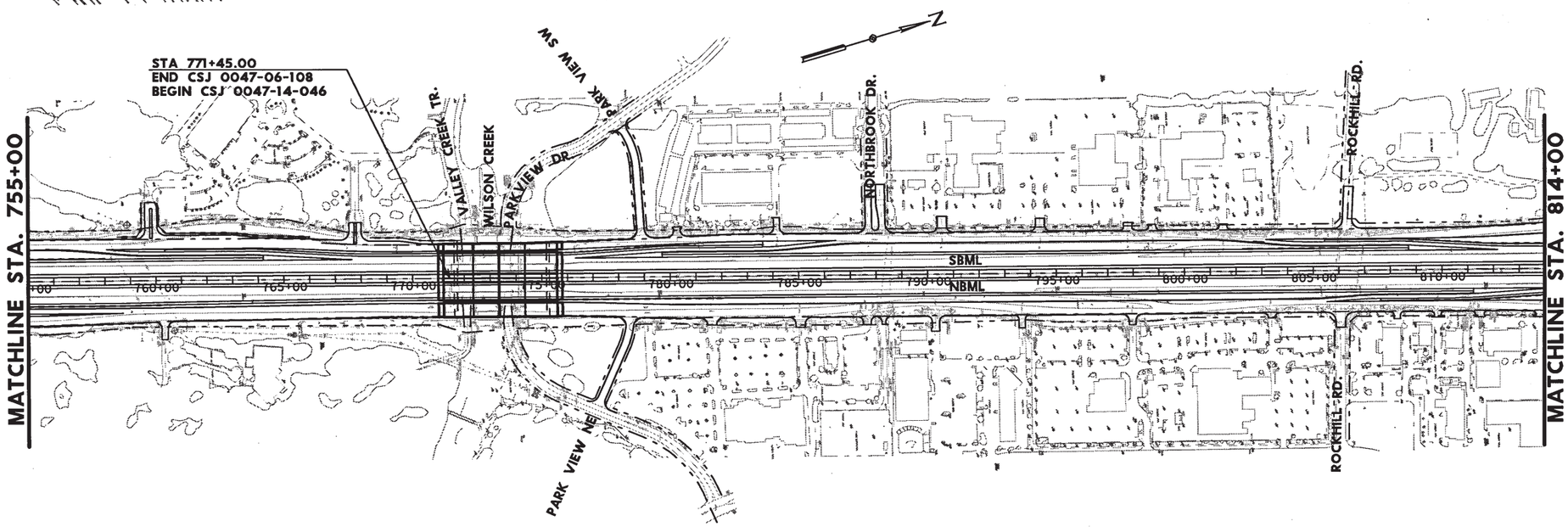
WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

Burman D. Honey, P.E. 12/19/2016
Signature of Registrant & Date

PLOT DRIVER: TxDOT_LASER.plt PENTABLE: 000000000070218.tbl
USER: mdeeley TIME: 11:43:43 AM SCALE: 1:1
FILE: TxDOT_Dallas_Distr\ctNVS75_FC160_RoadwayN3.00_CADGeneralNHDR_DallasVS75PU01.DGN
$FILE$

FINAL PLANS





AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
12-5-10

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

US 75
PROJECT LAYOUT
BEGIN PROJECT TO STA. 814+00

SCALE: 1"=500'

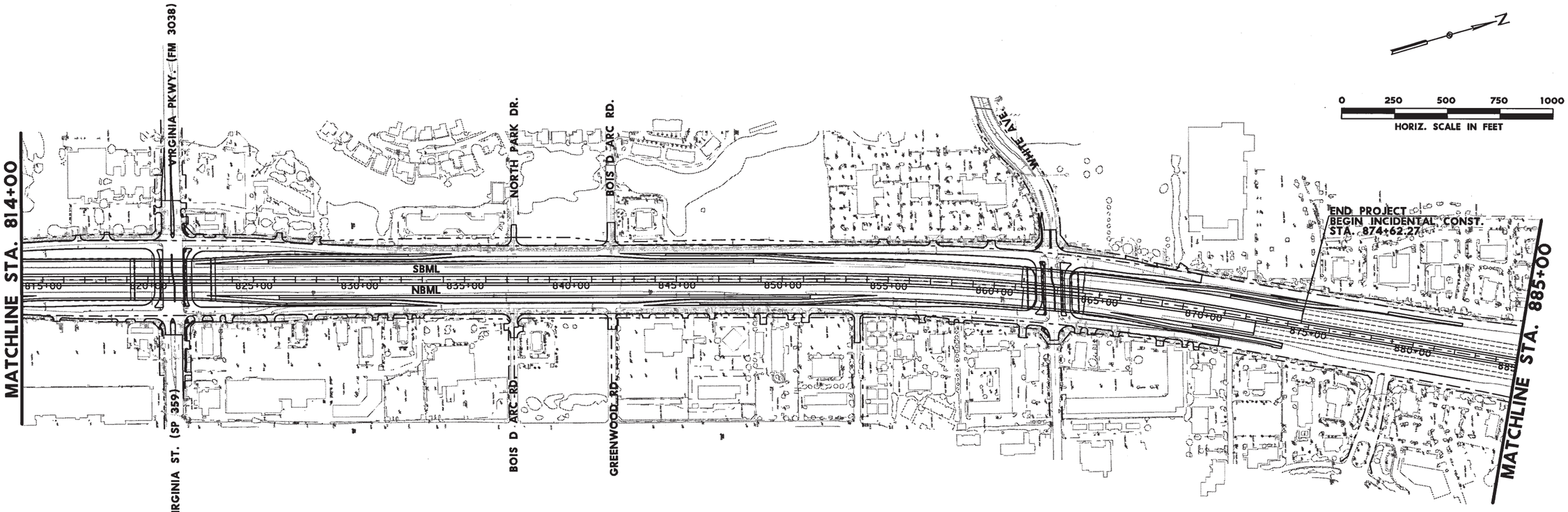
SHEET 1 OF 2

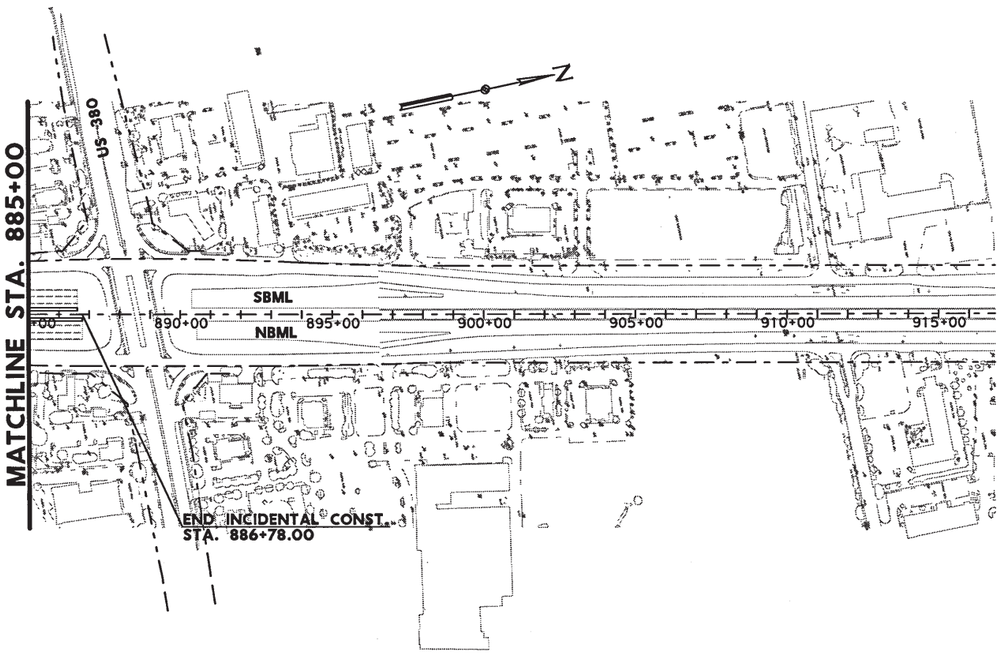
DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

52

PLOT DRIVER: TxDOT_WIN_LASER.plt PENTABLE: 000000000702l8.tbl
USER: mdelley DATE: 12/5/2010 TIME: 8:39:21 AM SCALE: 1:500
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\3.00_CAD\General\HDR_Dallas\US75PL01.DGN

FINAL PLANS





AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
12-5-16

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

US 75
PROJECT LAYOUT
STA. 814+00 TO END PROJECT

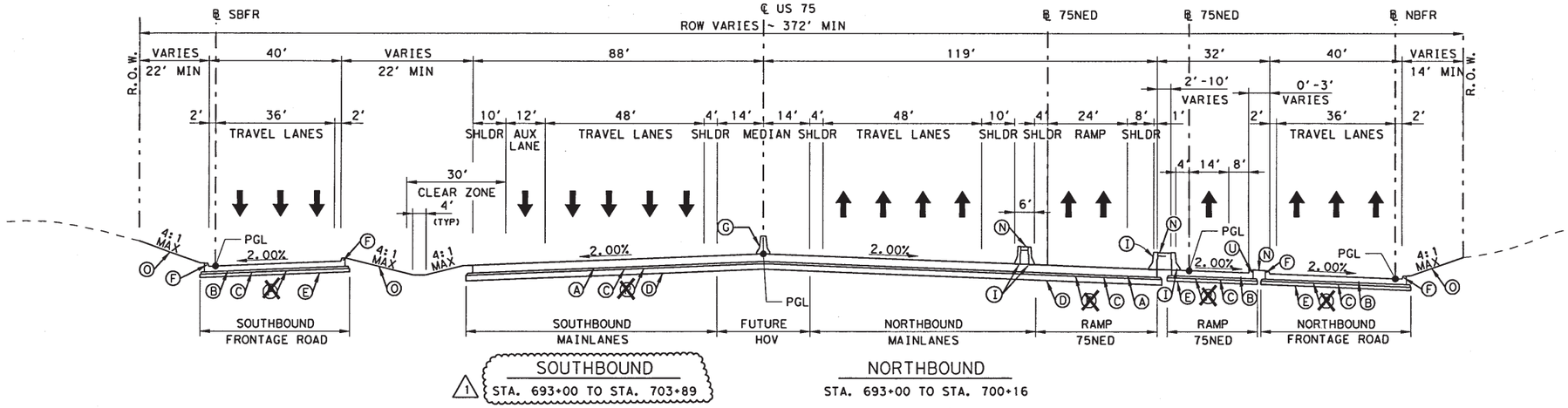
SCALE: 1"=500' SHEET 2 OF 2

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL 0047	SECTION 06	JOB 108, ETC.	

53

PLOT DRIVER: Tx..._WIN_LASER.plt PENTABLE: 000000000702I8.tbl
USER: mdeeley DATE: 12/5/2010 TIME: 8:40:51 AM SCALE: 1:500
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V13.00_CADGeneral\HDR_Dallas\US75PL02.DGN

FINAL PLANS



1 SOUTHBOUND
STA. 693+00 TO STA. 703+89

NORTHBOUND
STA. 693+00 TO STA. 700+16

PROPOSED US75 SECTION

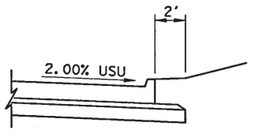
AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

LEGEND (PROP.)

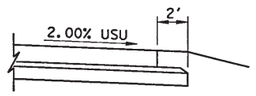
- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- ~~(P) PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

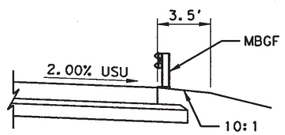
1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.



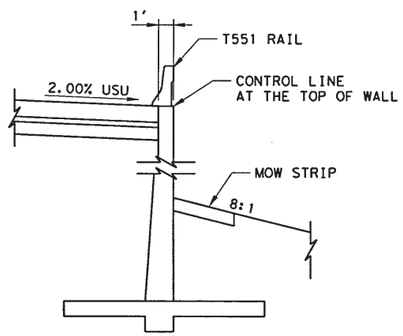
PVMT EDGE SECTION DETAIL
(MONOLITHIC CURB)
N. T. S.



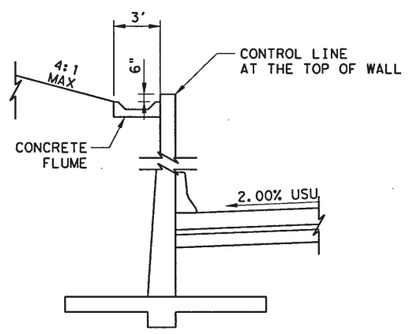
PVMT EDGE SECTION DETAIL
(NO CURB)
N. T. S.



MBGF DETAIL
N. T. S.
SEE NOTE 3



RETAINING WALL DETAIL
(FILL CONDITION)
N. T. S.
SEE NOTE 2



RETAINING WALL DETAIL
(CUT CONDITION)
N. T. S.
SEE NOTE 2

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER

3-7-2012

54

CHANGE ORDER 13

NO.	DATE	REVISION	APPROVED
1	2/15/12	REVISE LIMITS	PRRN

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

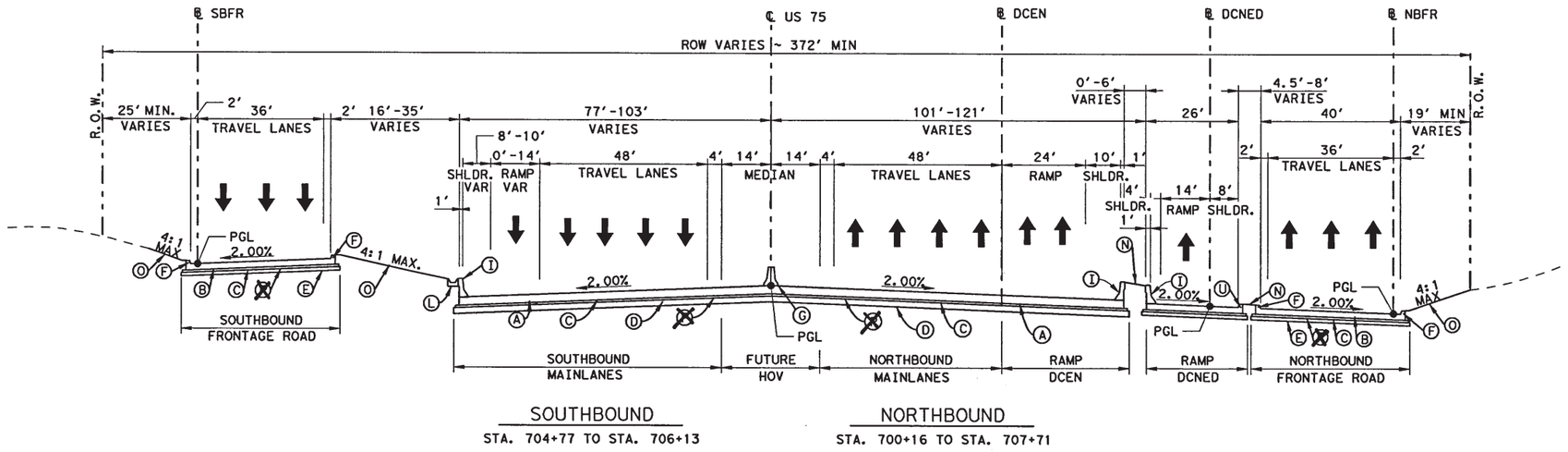
Texas Department of Transportation
© 2012

US 75
TYPICAL SECTIONS
PROPOSED
MAINLANES

SCALE: N. T. S. SHEET 1 OF 14

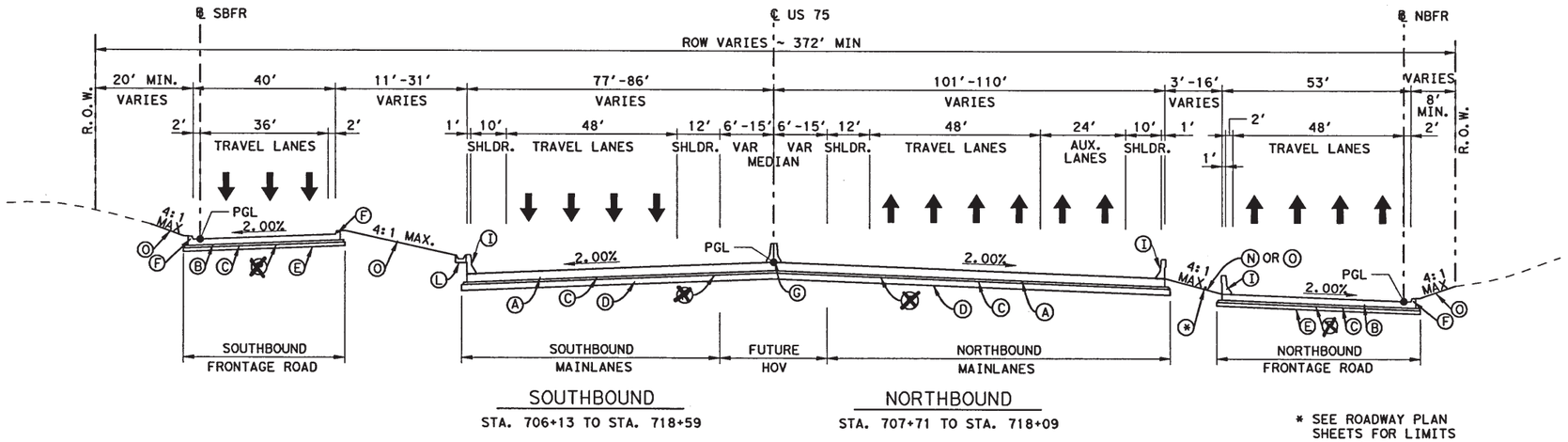
DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

PLOT DRIVER: TXDOT_LAscR_BW_PDF.plt PENTABLE: 000000000702l8.tbl
USER: pnugent DATE: 3/7/2012 TIME: 8:33:02 AM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2001.DGN



PROPOSED US75 SECTION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



* SEE ROADWAY PLAN SHEETS FOR LIMITS OF RIPRAP

PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

NO.	DATE	REVISION	APPROVED

1 **Replaced 03/01/2011 JB**

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
1-24-2011

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

55

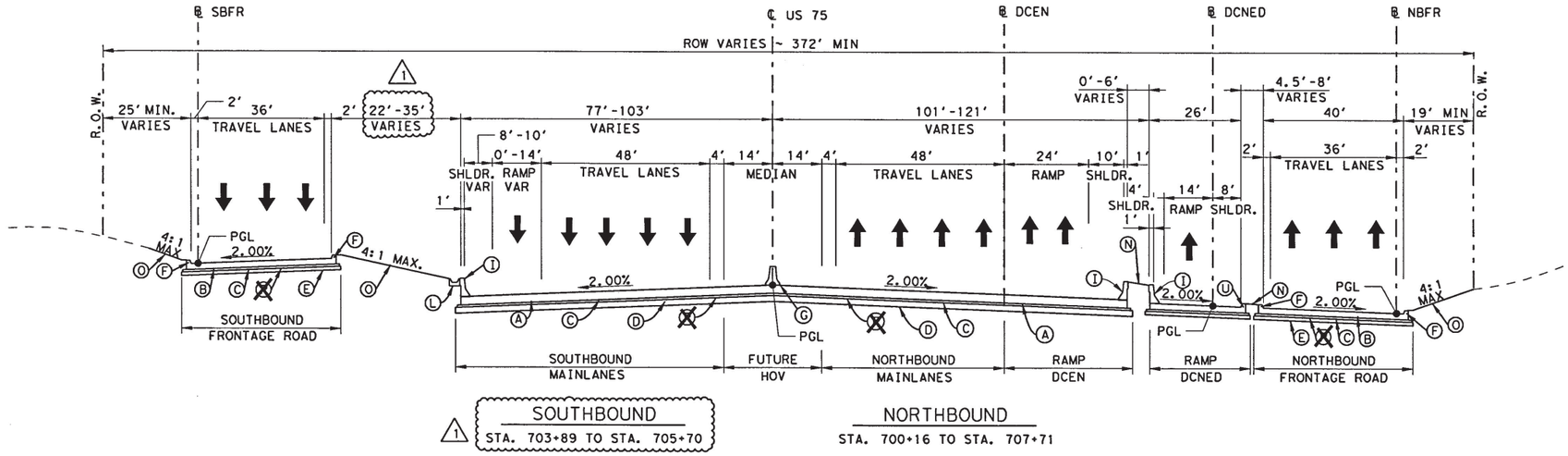
US 75
TYPICAL SECTIONS PROPOSED MAINLANES

SCALE: N.T.S. SHEET 2 OF 14

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

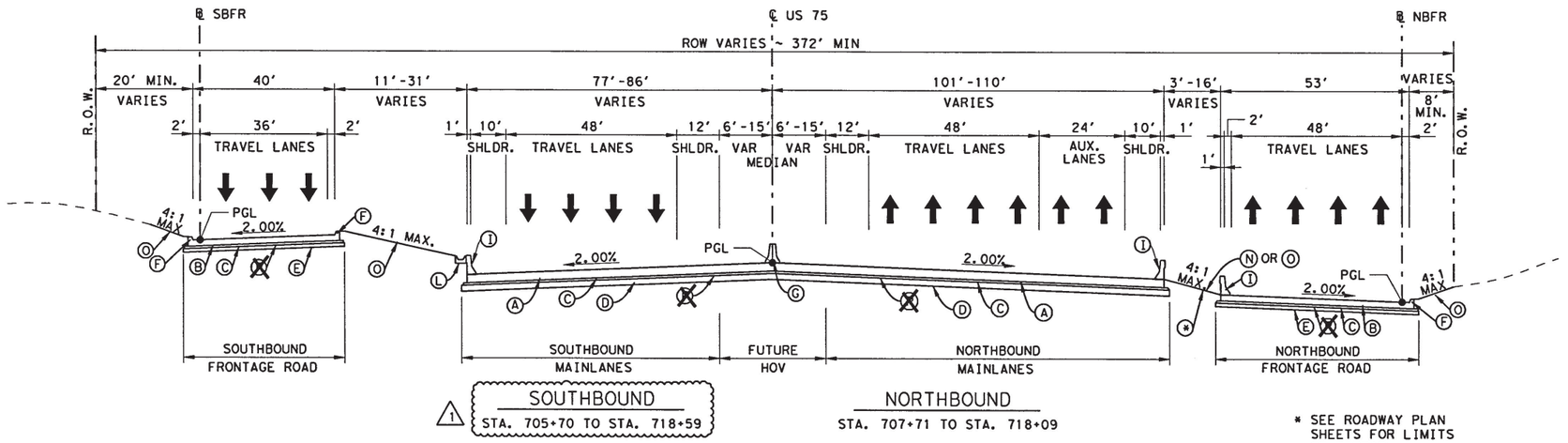
PLOT DRIVER: TXDOT_ER_BW_PDF.plt PENTABLE: 000000000702IB.tbl
USER: vmcculla DATE: 1/23/2011 TIME: 9:16:30 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2002.DGN

FINAL PLANS



PROPOSED US75 SECTION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- ~~(P) PRIME COAT (MC 30) (SUBSIDIARY TO LIME TREATMENT)~~
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- ↑ PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

CHANGE ORDER 13

NO.	DATE	REVISION	APPROVED
1	2/15/12	REVISE LIMITS	PRN

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

SCALE: N.T.S. SHEET 2 OF 14

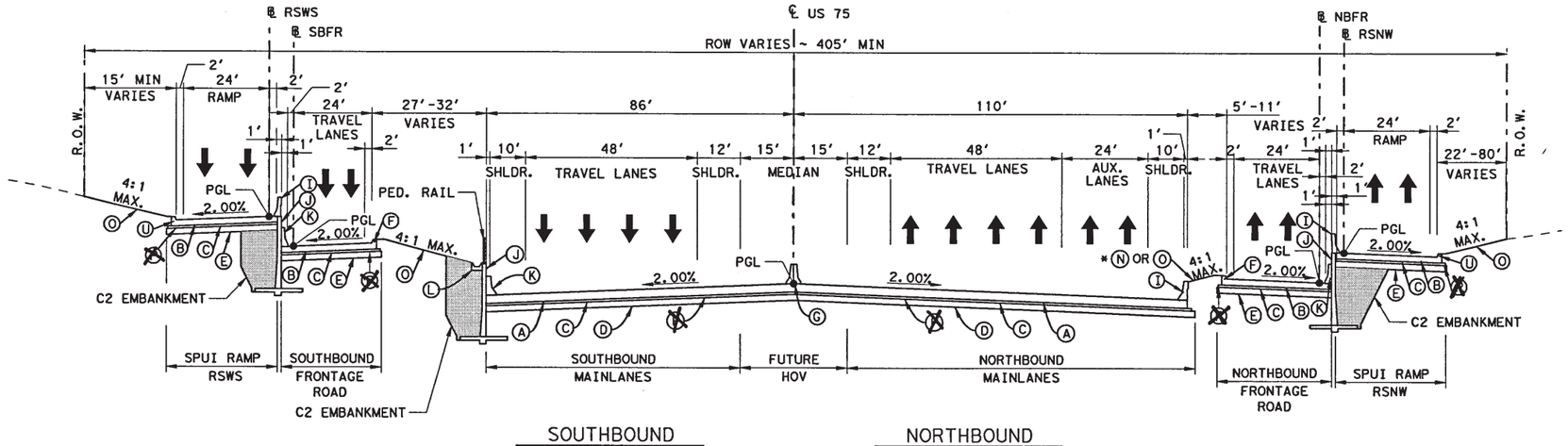
DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

56

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
3-7-2012

PLOT DRIVER: TXDOT_LASER_BW_PDF.pit PENTABLE: 000000000702l8.tbl
USER: pnugent DATE: 3/7/2012 TIME: 8:32:57 AM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\3.00_CAD\General\HDR_Dallas\US75PS2002.DGN

FINAL PLANS



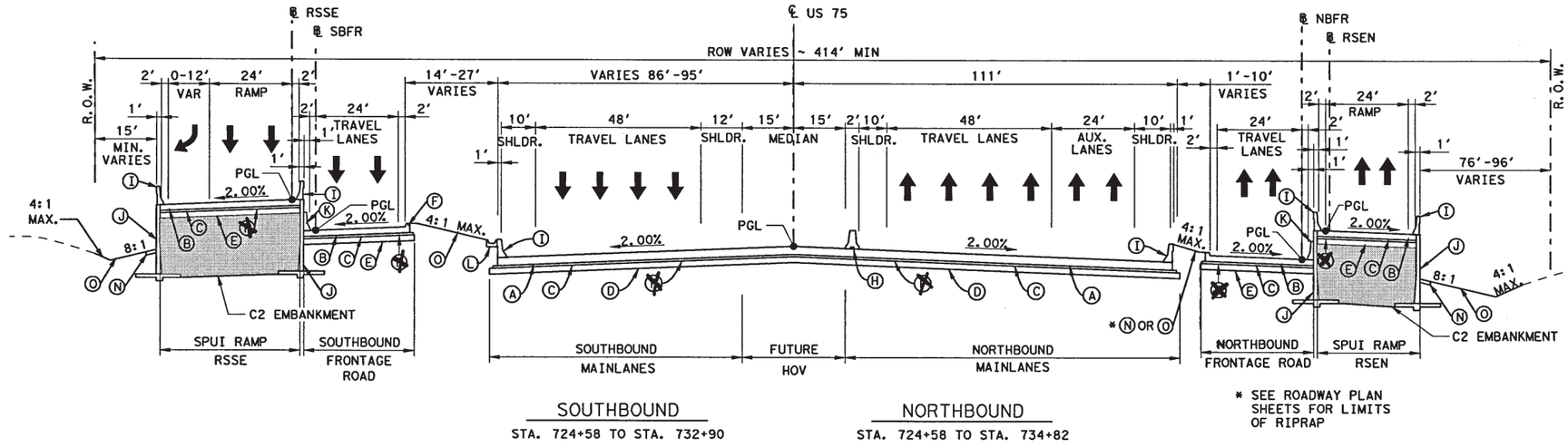
SOUTHBOUND
STA. 718+59 TO STA. 724+58

NORTHBOUND
STA. 718+09 TO STA. 724+58

* SEE ROADWAY PLAN SHEETS FOR LIMITS OF RIPRAP

PROPOSED US75 SECTION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



SOUTHBOUND
STA. 724+58 TO STA. 732+90

NORTHBOUND
STA. 724+58 TO STA. 734+82

* SEE ROADWAY PLAN SHEETS FOR LIMITS OF RIPRAP

PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- ~~(P) PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

SCALE: N.T.S. SHEET 3 OF 14

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL 0047	SECTION 06	JOB 108, ETC.	

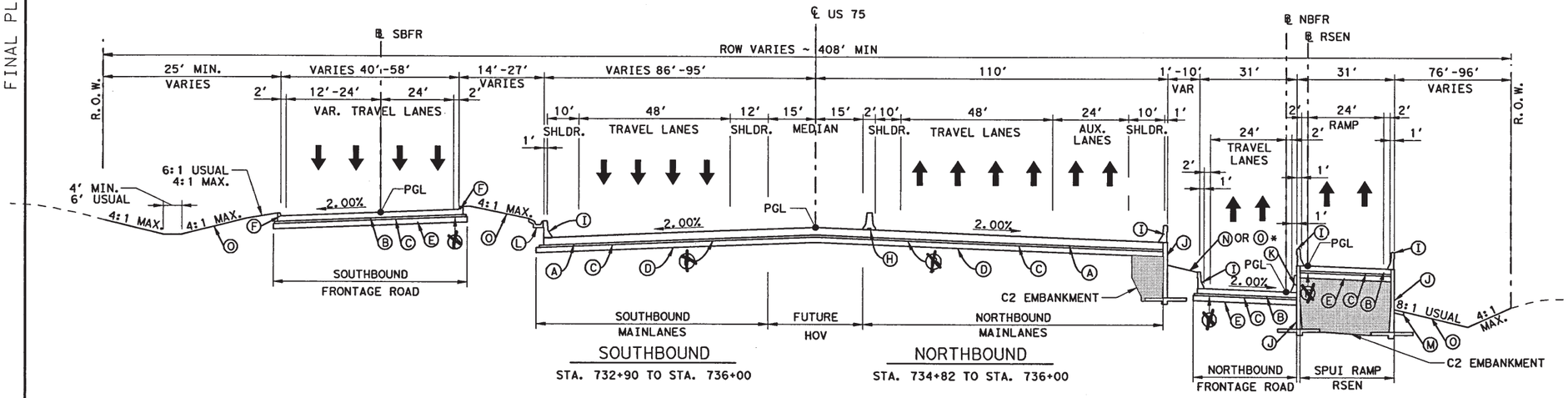
57

1 Replaced 03/01/2011 JB

PATRICK R. R. NUGENT 87846 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
1-24-2011

PLOT DRIVER: TXDO, JER_BW_PDF.plt PENTABLE: 000000000070218.tbl
USER: vmcullo DATE: 1/23/2011 TIME: 9:6:36 PM SCALE: 1:40
FILE: T:\DOT_Dallas_District\US75_FC160_Roadway\3.00_CAD\General\HDR_Dallas\US75PS2003.DGN

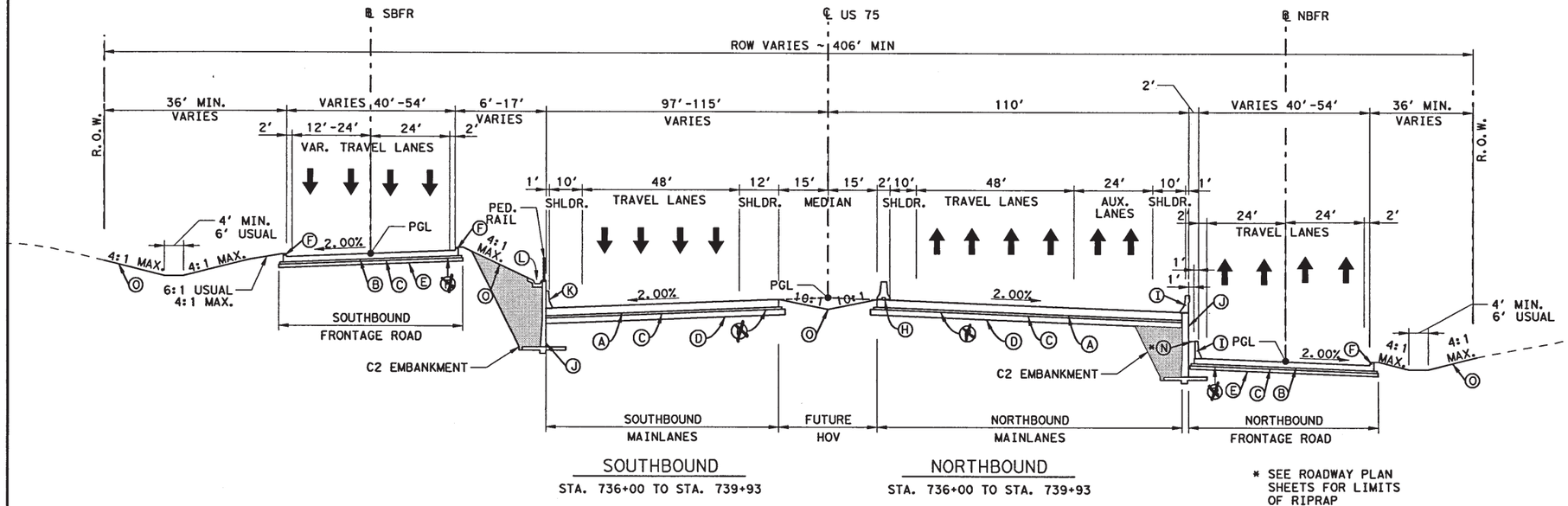
FINAL PLANS



PROPOSED US75 SECTION

* SEE ROADWAY PLAN SHEETS FOR LIMITS OF RIPRAP

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US75 SECTION

* SEE ROADWAY PLAN SHEETS FOR LIMITS OF RIPRAP

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- ↑ PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY I) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

NO.	DATE	REVISION	APPROVED
1	03/01/2011	Replaced 03/01/2011 JB	

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation

58

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

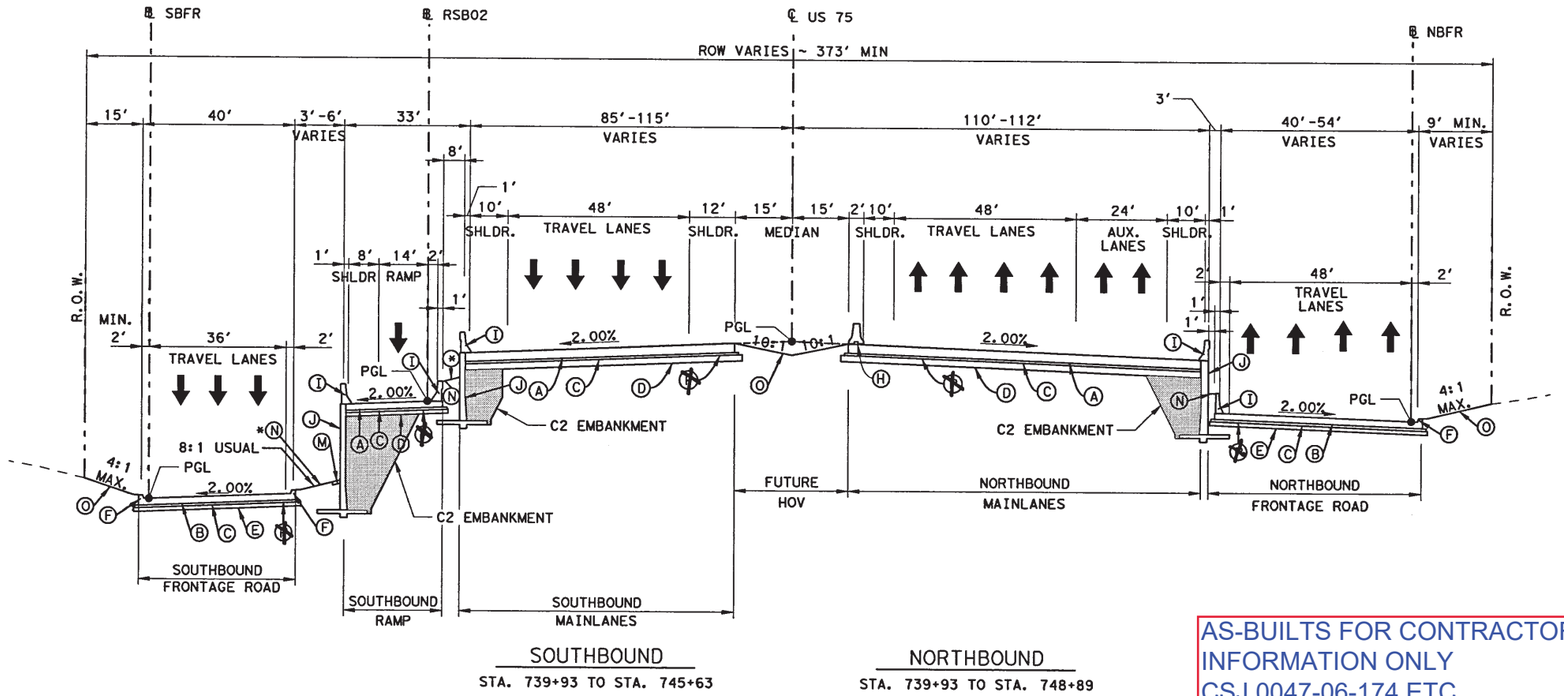
SCALE: N.T.S. SHEET 4 OF 14

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

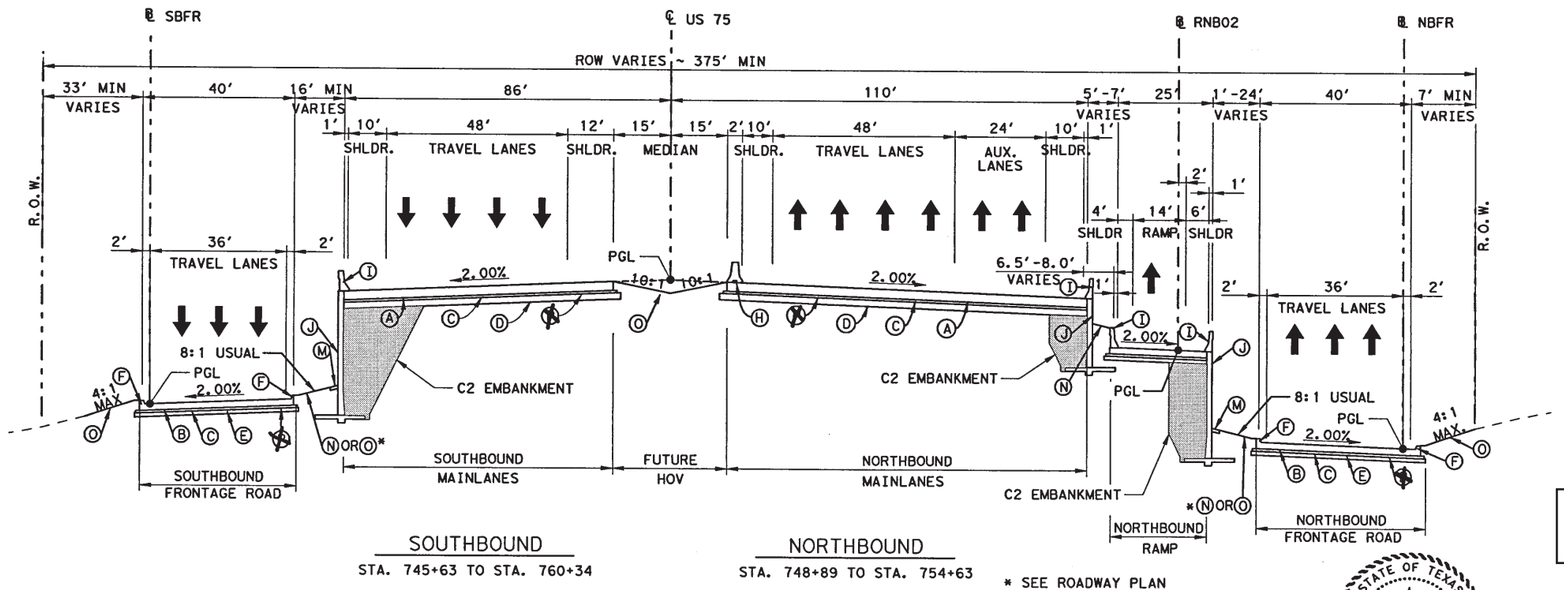
STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED PROFESSIONAL ENGINEER
1-24-11

PLOT DRIVER: TX00, JER_BW_PDF.plt PENTABLE: 000000000070218.tbl
USER: vmcullo DATE: 1/23/2011 TIME: 9:16:41 PM SCALE: 1:40
FILE: T:\DOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2004.DGN

FINAL PLANS



PROPOSED US75 SECTION



PROPOSED US75 SECTION

(BRIDGE STRUCTURE STA. 752+00 TO STA. 753+20)

* SEE ROADWAY PLAN SHEETS FOR LIMITS OF RIPRAP

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- ↑ PROPOSED TRAVEL LANE

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

1 Replaced 03/01/2011 JB

PATRICK R. R. NUGENT 87846 LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
1-24-2011

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

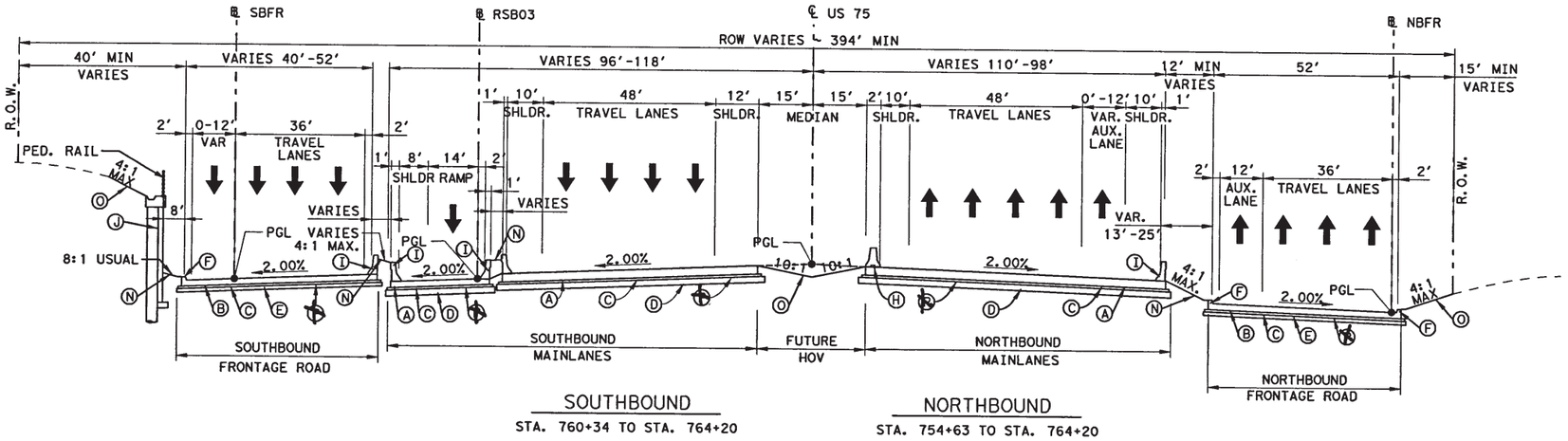
SCALE: N.T.S. SHEET 5 OF 14

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

59

PLOT DRIVER: TXDO..ER_BW_PDF.plt PENTABLE: 000000000T0218.tbl
USER: vmcallo DATE: 1/23/2011 TIME: 9:16:46 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FG160_RoadwayV3.00_CAD\General\HDR_Dallas\US75PS2005.DGN

FINAL PLANS

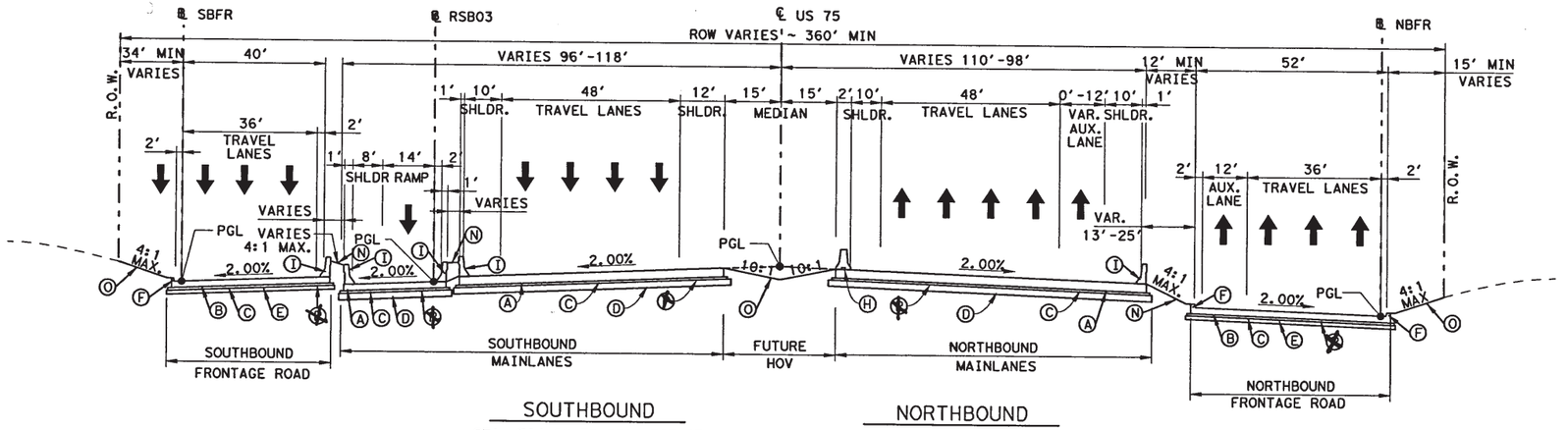


SOUTHBOUND
STA. 760+34 TO STA. 764+20

NORTHBOUND
STA. 754+63 TO STA. 764+20

PROPOSED US75 SECTION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



SOUTHBOUND
STA. 764+20 TO STA. 767+67

NORTHBOUND
STA. 754+63 TO STA. 769+00

PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- ~~(P) PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY I) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

NO.	DATE	REVISION	APPROVED

1 Replaced 03/01/2011 JB

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
1-24-2011

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

60

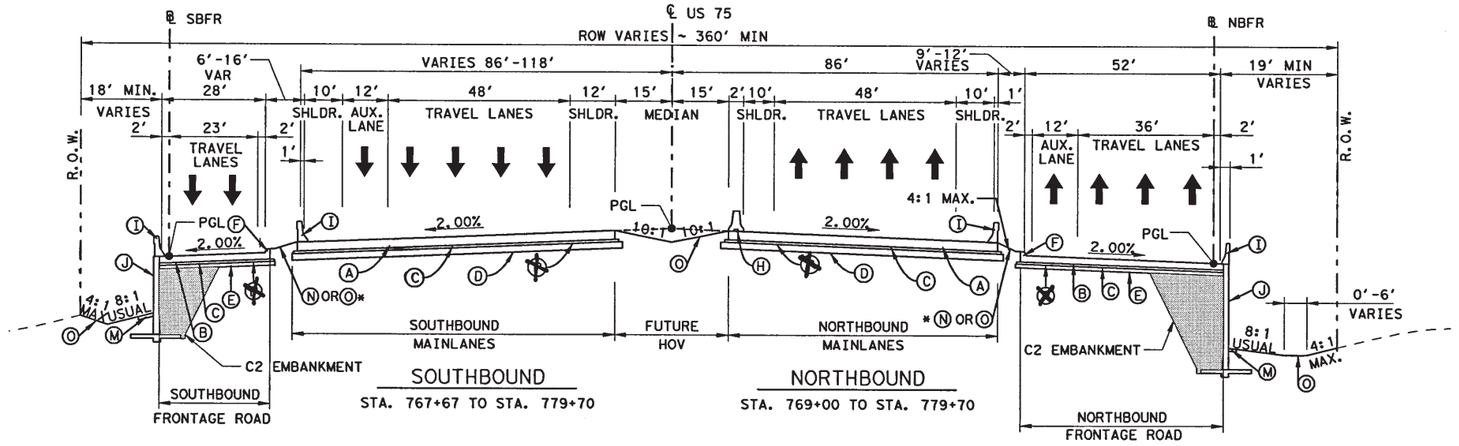
US 75
TYPICAL SECTIONS
PROPOSED
MAINLANES

SCALE: N.T.S. SHEET 6 OF 14

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

PLOT DRIVER: TXDO... JER_BW_PDF.pit PENTABLE: 0000000007028.tbl
USER: vmcculllo DATE: 1/23/2011 TIME: 9:6:52 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2006.DGN

FINAL PLANS

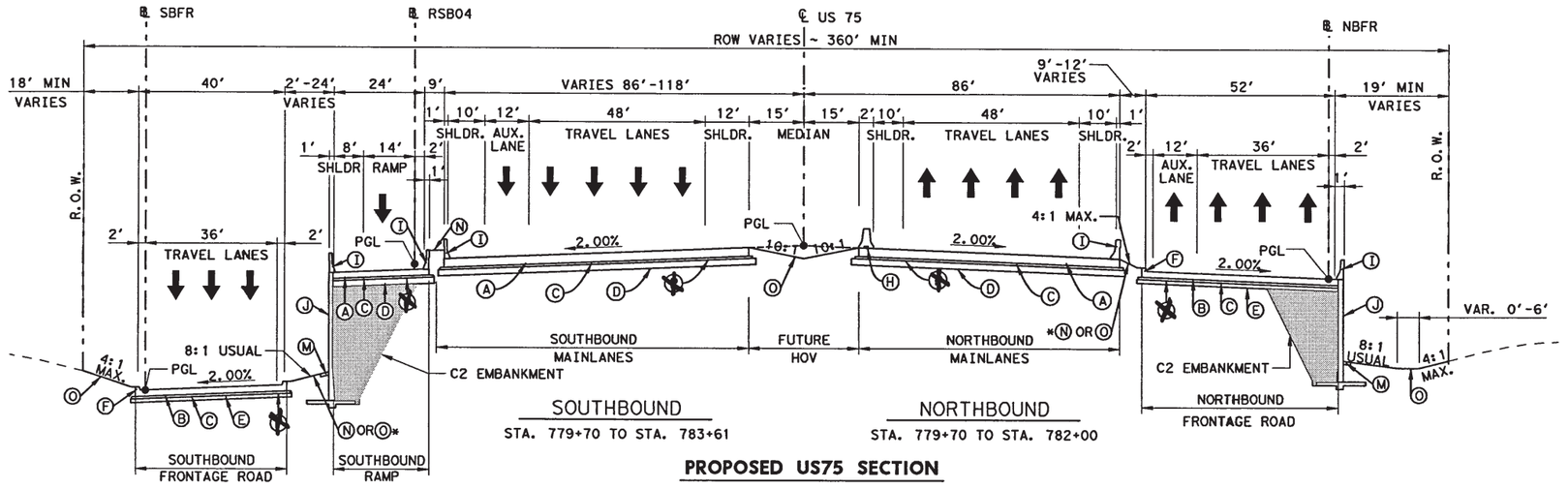


* SEE ROADWAY PLANS FOR LIMITS OF RIPRAP AND BLOCK SODDING

PROPOSED US75 SECTION

(BRIDGE STRUCTURE STA. 771+20.00 TO STA. 775+60.00)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US75 SECTION

* SEE ROADWAY PLANS FOR LIMITS OF RIPRAP AND BLOCK SODDING

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

NO.	DATE	REVISION	APPROVED

1 Replaced 03/01/2011 JB

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
1-24-2014

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

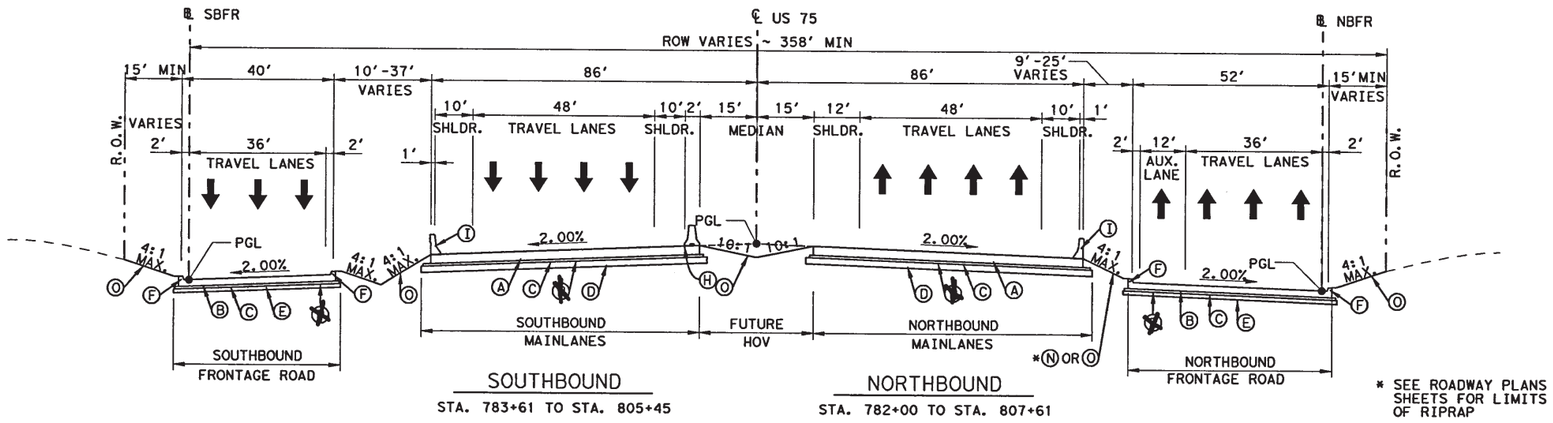
61

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

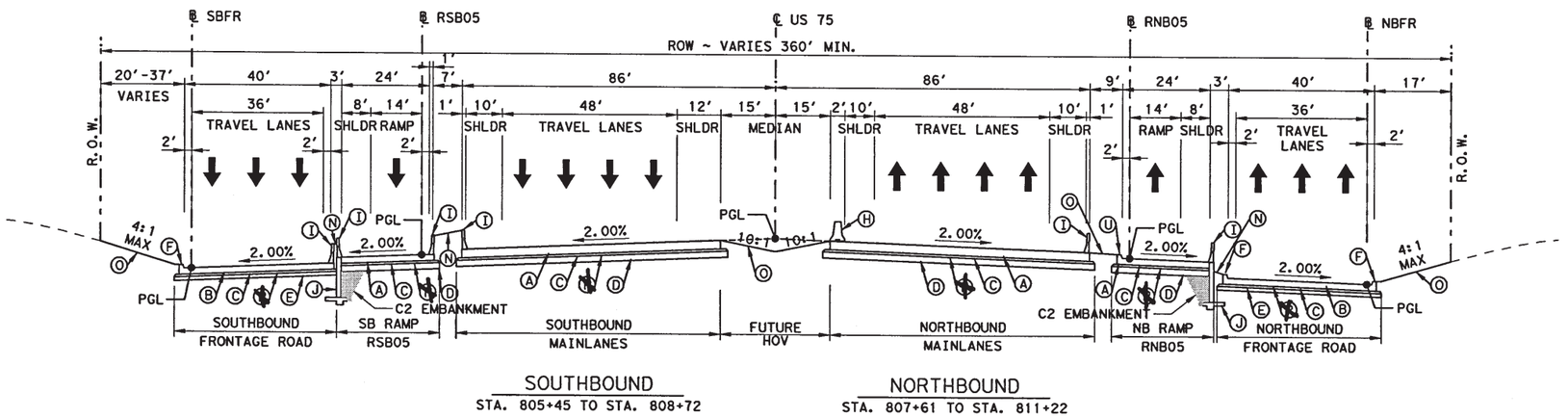
SCALE: N.T.S. SHEET 7 OF 14

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

PLOT DRIVER: TX001__SER_BW_PDF.plt PENTABLE: 000000000702IB.tbl
USER: vmcculllo DATE: 1/23/2011 TIME: 9:16:57 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\3.00_CAD\General\HDR_Dallas\US75PS2007.DGN



PROPOSED US75 SECTION



PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY I) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

1 Replaced 03/01/2011 JB

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
1-24-2011

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

62

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

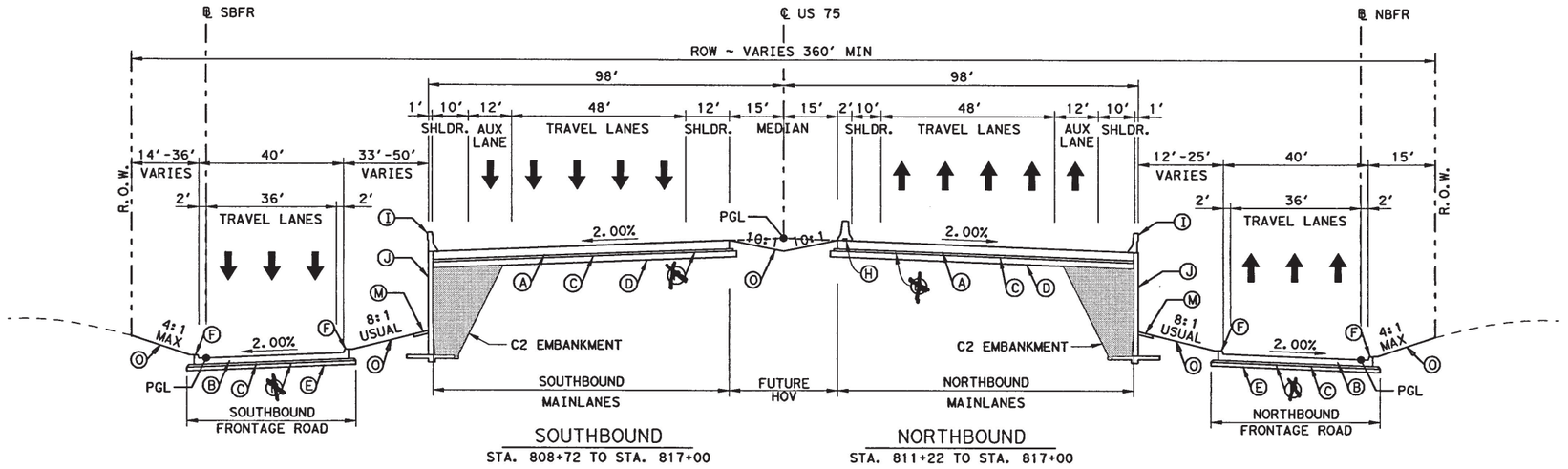
SCALE: N.T.S. SHEET 8 OF 14

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

FINAL PLANS

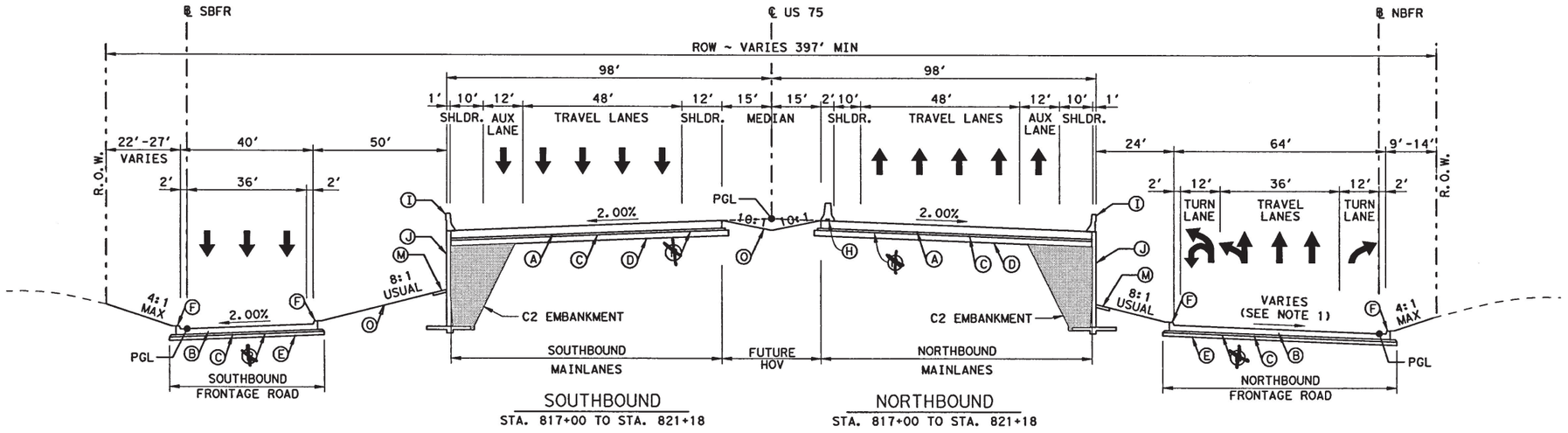
PLOT DRIVER: TXDOT_ER_BW_PDF.plt PENTABLE: 000000000070218.tbl
USER: vmcculla DATE: 1/23/2011 TIME: 9:17:02 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CADD\General\HDR_Dallas\UST5PS2008.DGN

FINAL PLANS



PROPOSED US75 SECTION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US75 SECTION

(BRIDGE STRUCTURE STA. 819+37.72 TO STA. 822+99.72)

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- ~~(P) PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY I) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

NO.	DATE	REVISION	APPROVED
1	03/01/2011	Replaced 03/01/2011 JB	

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

63

US 75
TYPICAL SECTIONS
PROPOSED
MAINLANES

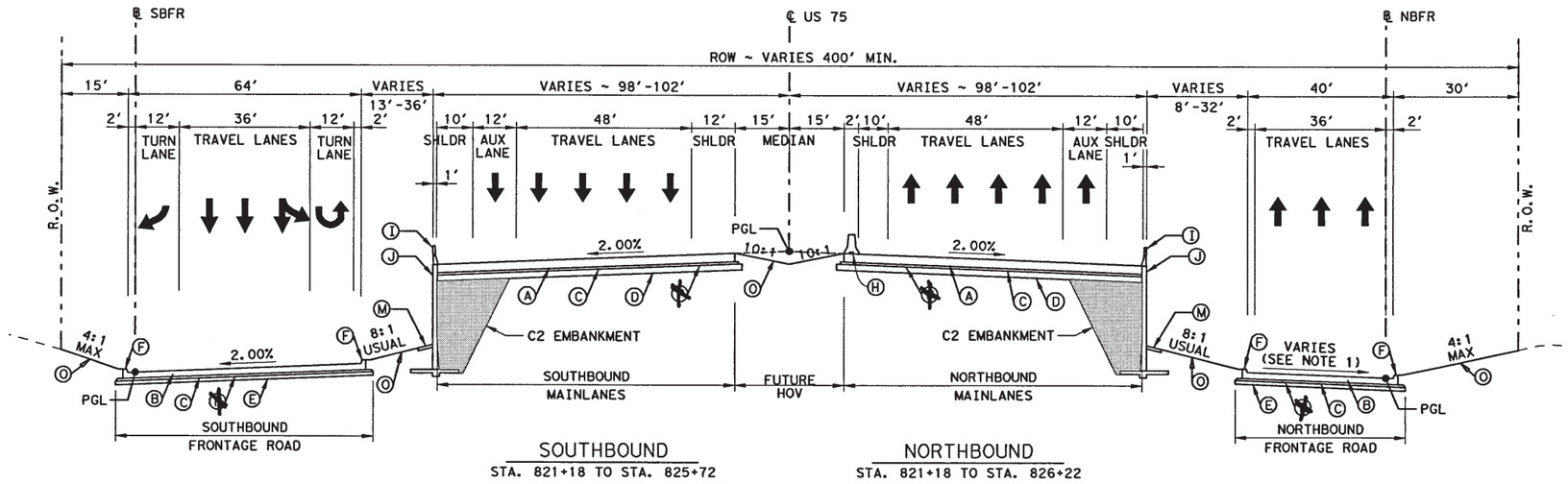
SCALE: N.T.S. SHEET 9 OF 14

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	[redacted]
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
1-24-2011

PLOT DRIVER: TXDC ...ER_BW_PDF.pit PENTABLE: 000000000070218.tbl
USER: vmacullo DATE: 1/23/2011 TIME: 9:17:07 PM SCALE: 1:40
FILE: T:\DOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2009.DGN

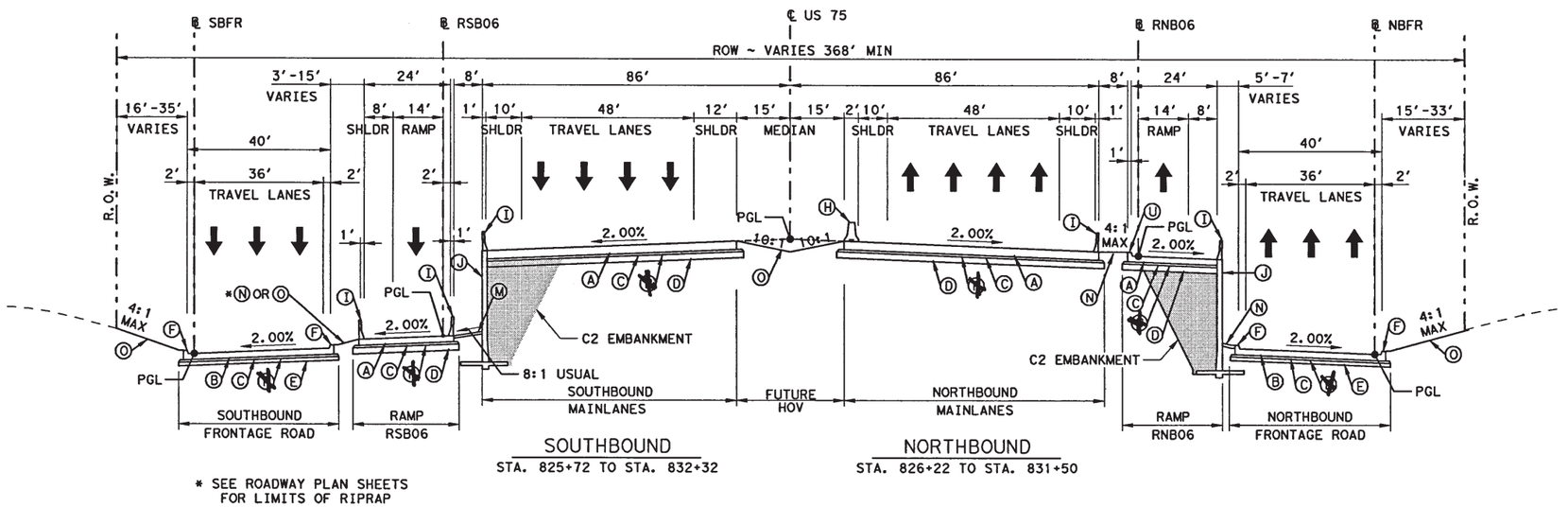
FINAL PLANS



PROPOSED US75 SECTION

(BRIDGE STRUCTURE STA. 819+37.72 TO STA. 822+99.72)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



* SEE ROADWAY PLAN SHEETS FOR LIMITS OF RIPRAP

PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (AC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

1 **Replaced 03/01/2011 JB**

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
1-24-2011

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation

64

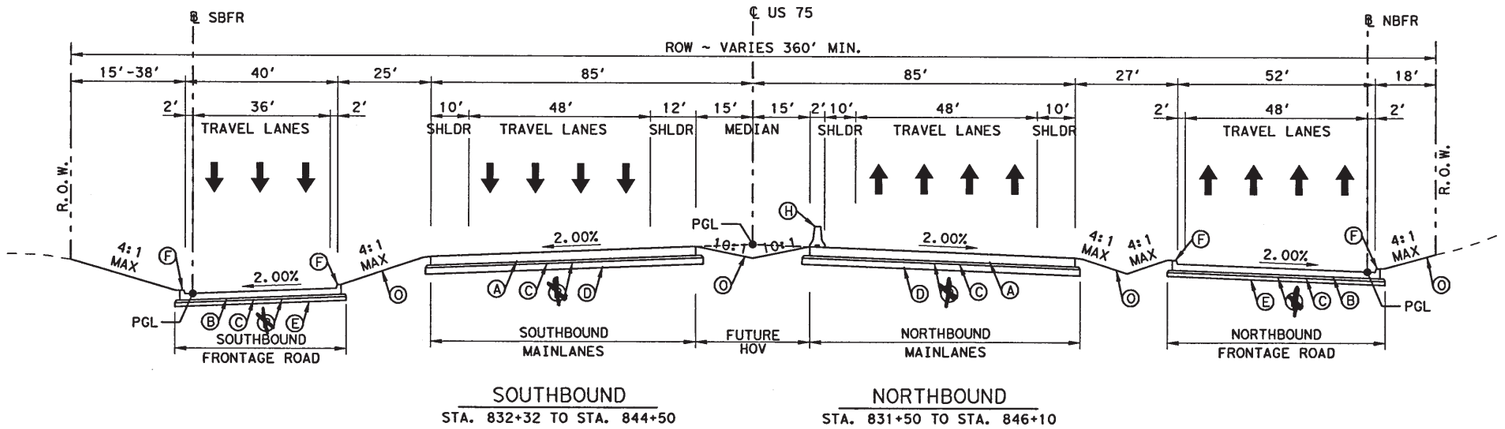
US 75
TYPICAL SECTIONS PROPOSED MAINLANES

SCALE: N.T.S. SHEET 10 OF 14

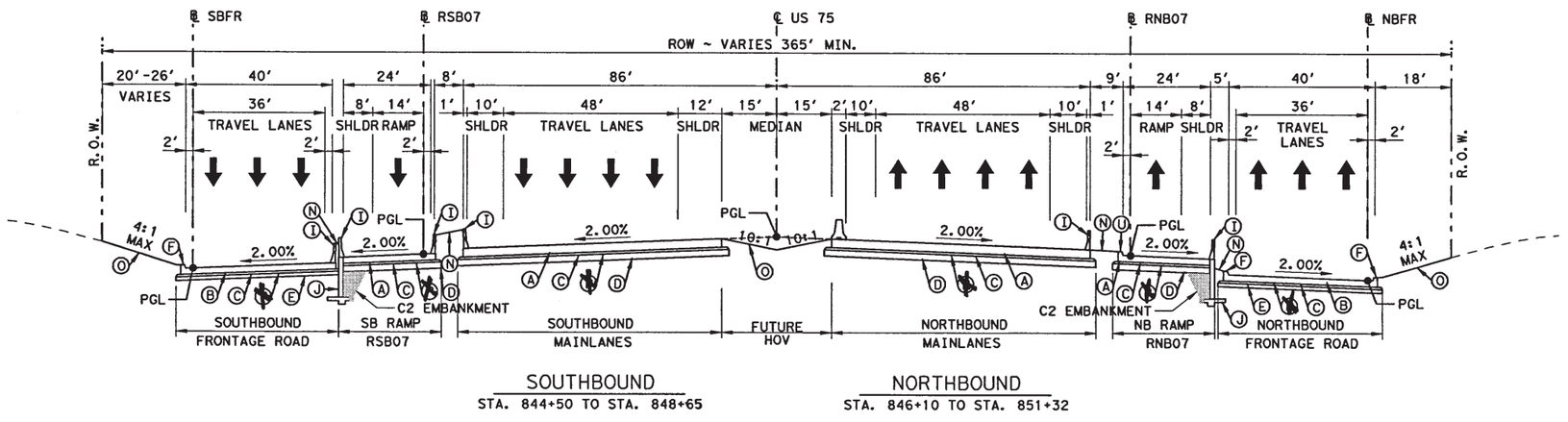
DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

PLOT DRIVER: TxDOT_USER_BW_PDF.plt PENTABLE: 000000000702\8.tbl
USER: vmcoullo DATE: 1/23/2011 TIME: 9:17:12 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CADD\General\HDR_Dallas\US75PS2010.DGN

FINAL PLANS



PROPOSED US75 SECTION



PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (MC-30)~~ ~~(SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

1 Replaced 03/01/2011 JB

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
Patrick R. R. Nugent
1-24-2011

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

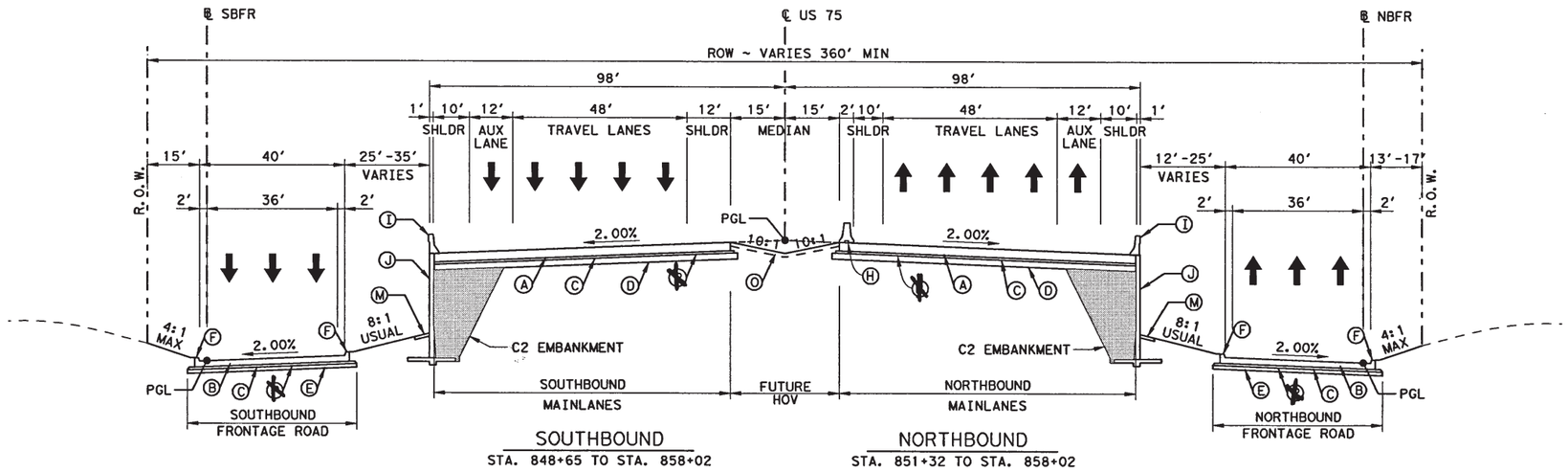
SCALE: N.T.S. SHEET 11 OF 14

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

65

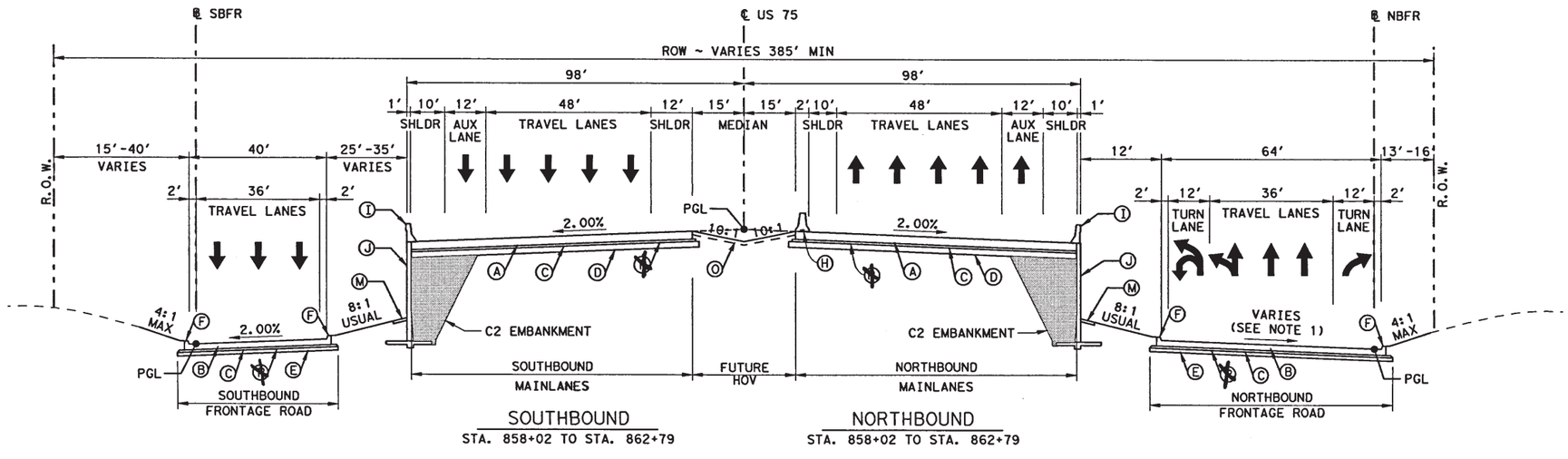
PLOT DRIVER: TXDOT__SER_BW_PDF.pltPENTABLE: 000000000070218.tbl
USER: vmcullo DATE: 1/23/2011 TIME: 9:17:18 PM SCALE: 1:40
FILE: TxDOT_Dallas_DistrictUS75_FC160_RoadwayV3.00_CAD\General\HDR_DallasUS75PS2011.DGN

FINAL PLANS



PROPOSED US75 SECTION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US75 SECTION

(BRIDGE STRUCTURE STA. 861+58.74 TO STA. 863+81.09)

1 **Replaced 03/01/2011 JB**

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- ~~(P) PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY I) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

SCALE: N.T.S. SHEET 12 OF 14

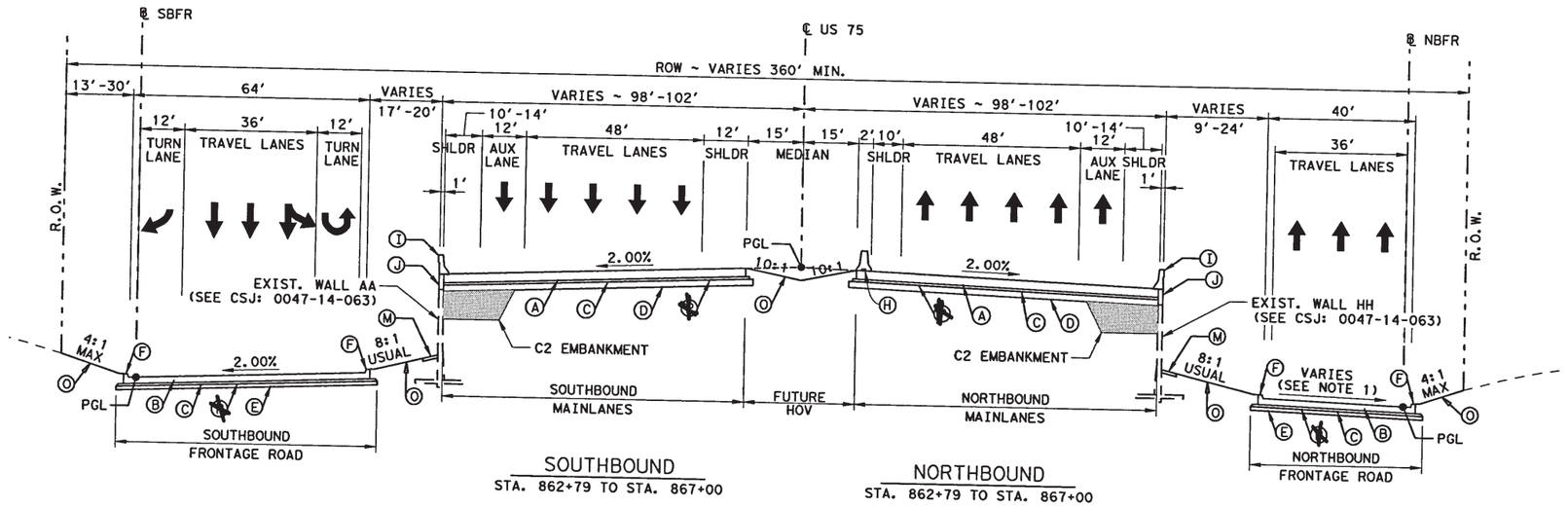
DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

66

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
1-24-2011

PLOT DRIVER: TXDOT_--SER_BW_PDF.pltPENTABLE: 000000000T0218.tbl
USER: vmcullo DATE: 1/23/2011 TIME: 9:17:23 PM SCALE:1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2012.DGN

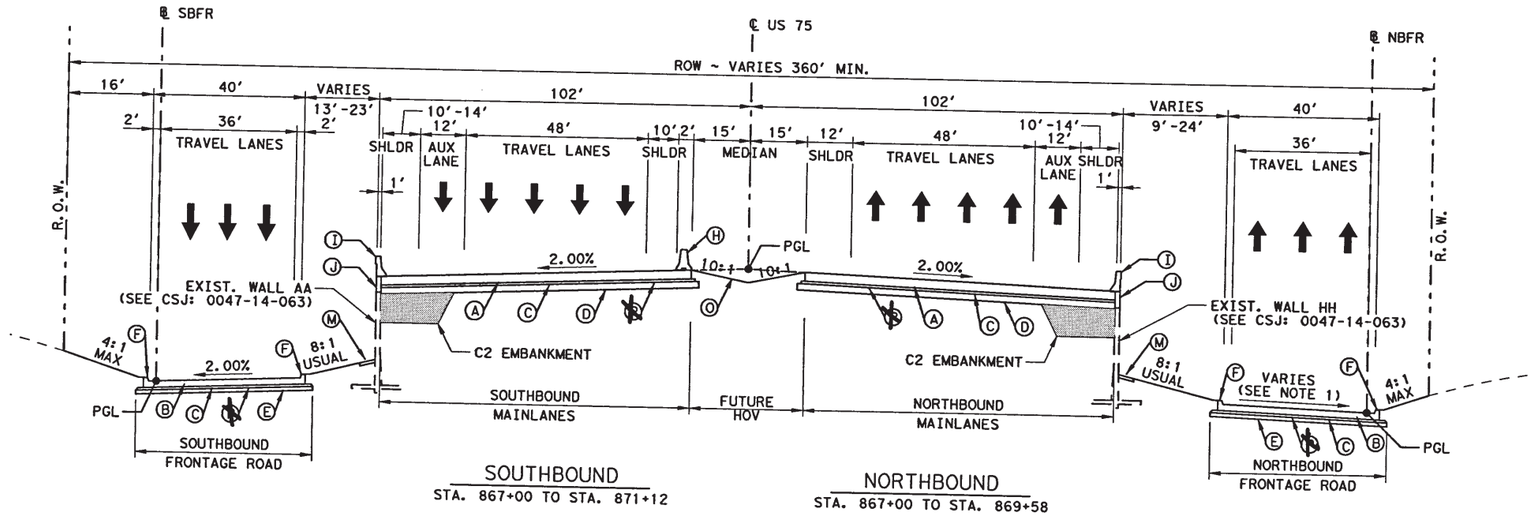
FINAL PLANS



PROPOSED US75 SECTION

(BRIDGE STRUCTURE STA. 861+58.74 TO STA. 863+99.41)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US75 SECTION

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- (P) ~~PRIME COAT (MC 30) (SUBSIDIARY TO LIME TREATMENT)~~ 1
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

1 **Replaced 03/01/2011 JB**

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
Patrick R. R. Nugent
1-24-2011

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

67

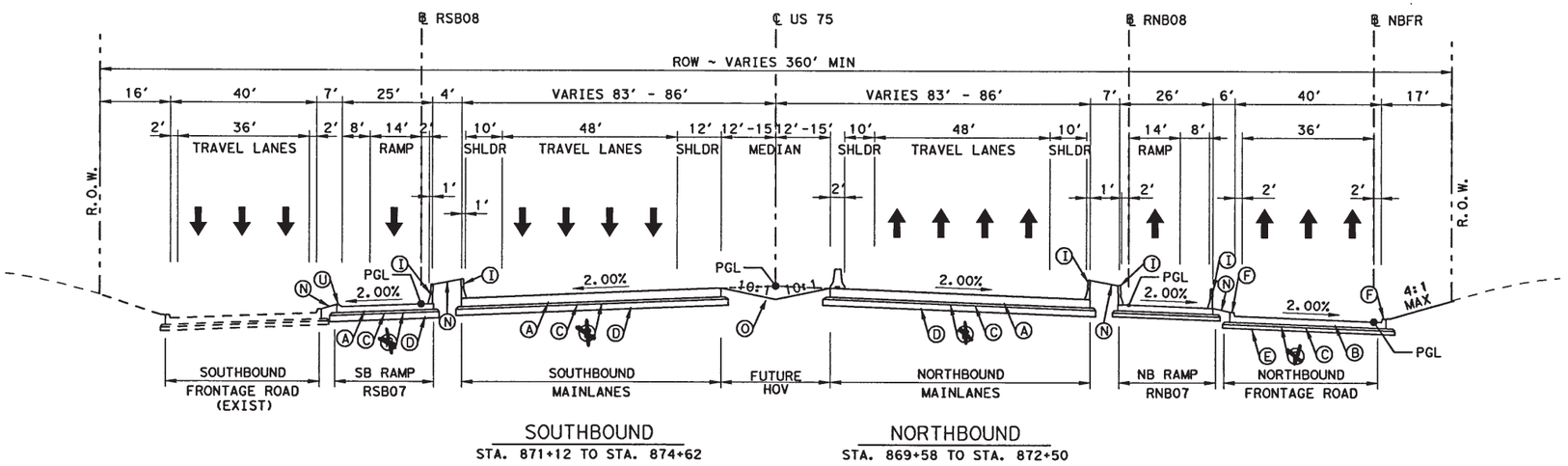
US 75
TYPICAL SECTIONS PROPOSED MAINLANES

SCALE: N.T.S. SHEET 13 OF 14

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

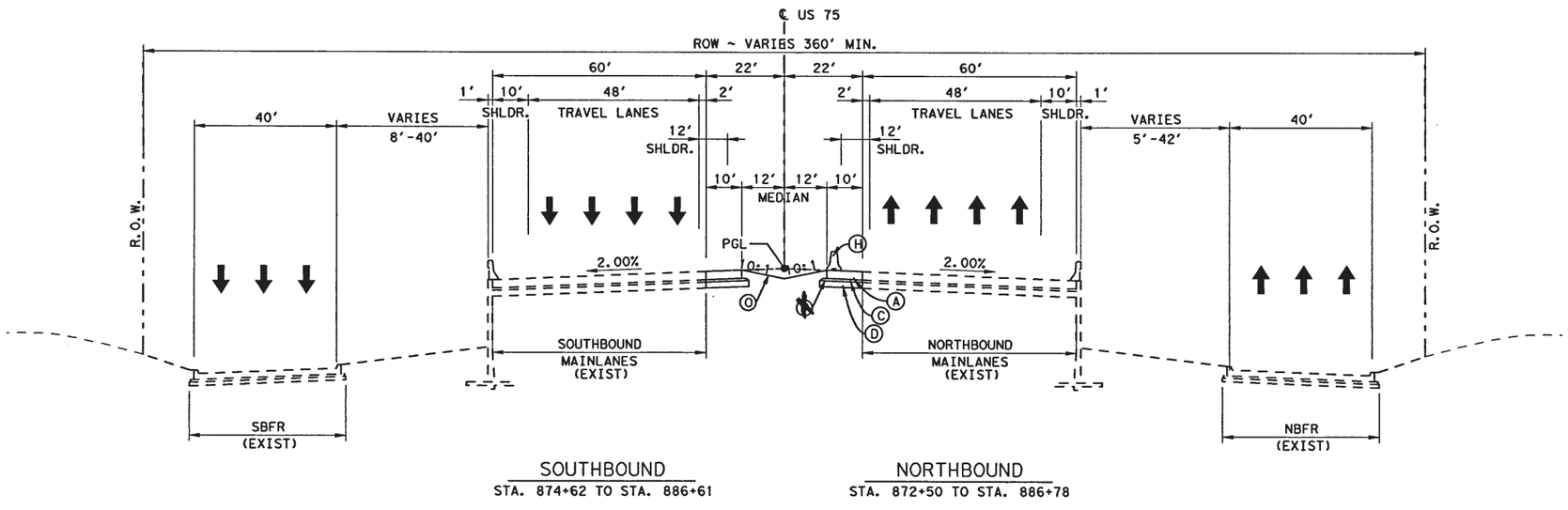
PLOT DRIVER: TXDOT_SER_BW_PDF.plt PENTABLE: 000000000070218.tbl
USER: vmcallo DATE: 1/23/2011 TIME: 9:17:29 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2013.DGN

FINAL PLANS



PROPOSED US75 SECTION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US75 SECTION

1 **Replaced 03/01/2011 JB**

LEGEND (PROP.)

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 10" CONCRETE PAVEMENT (CRCP)
- (C) 4" HMAC (TY B) (BASE) (PG 64-22) (APPROX. 440 LB/SY)
- (D) 11" LIME TREATED SUBGRADE (5%)
- (E) 6" LIME TREATED SUBGRADE (5%)
- (F) CONCRETE CURB (TY II)
- (G) PERM. CSB (TY 1)
- (H) PORT. CSB (TY 1)
- (I) RAIL (TY T551)
- (J) RETAINING WALL
- (K) RAIL (TY T551) (RW) (DAL)
- (L) CONC. FLUME
- (M) MOW STRIP
- (N) CONCRETE RIPRAP
- (O) SEEDING
- ~~(P) PRIME COAT (MC-30) (SUBSIDIARY TO LIME TREATMENT)~~
- (Q) MBGF
- (R) 8" CONCRETE PAVEMENT (CRCP)
- (S) SUBGRADE COMPACTED TO 95% STANDARD PROCTOR
- (T) CONCRETE MEDIAN
- (U) CONCRETE CURB (TY I)
- (V) CONCRETE SIDEWALK
- (W) 8" CONCRETE PAVEMENT (CPCD)
- ⬆ PROPOSED TRAVEL LANE

GENERAL NOTES:

1. REFER TO ROADWAY PLAN SHEETS FOR CROSS SLOPE INFORMATION. SUPERELEVATION TRANSITIONS ARE LINEAR.
2. FOR RETAINING WALL LOCATIONS AND DETAILS SEE RETAINING WALL SHEETS.
3. FOR LOCATION OF MBGF SEE ROADWAY PLANS.
4. PORT. CSB (TY 1) AND JOINT CONNECTION SYSTEMS WILL BE TAKEN FROM CSB (TY 1) USED FOR TRAFFIC CONTROL PLANS. THE ENGINEEER SHALL APPROVE BARRIER SECTIONS AND CONNECTIONS PRIOR TO PLACEMENT.

STATE OF TEXAS
PATRICK R. R. NUGENT
87846
LICENSED
PROFESSIONAL ENGINEER
Patrick R. R. Nugent
1-24-2011

NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
FIRM REGISTRATION No. F-754

Texas Department of Transportation
© 2011

68

US 75
TYPICAL SECTIONS PROPOSED MAINLANES

SCALE: N.T.S. SHEET 14 OF 14

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
PRN	6	SEE TITLE SHEET		US 75
GRAPHICS JMD	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK REL	TEXAS	DAL	COLLIN	
CHECK PRN	CONTROL	SECTION	JOB	
	0047	06	108, ETC.	

PLOT DRIVER: TXDOT_ER_BW_PDF.plt PENTABLE: 0000000000T0218.tbl
USER: vmcculloch DATE: 1/23/2011 TIME: 9:17:34 PM SCALE: 1:40
FILE: TxDOT_Dallas_District\US75_FC160_Roadway\V3.00_CAD\General\HDR_Dallas\US75PS2014.DGN

COLLIN 0047-14-065

12/23/2009

DESIGN	FED. RD. DIV. NO.	PROJECT NO.			HIGHWAY NO.
JRV	6	C 47-14-65			US 75
GRAPHICS	STATE	DISTRICT	COUNTY		SHEET NO.
JRV	TEXAS	DALLAS	COLLIN		[redacted]
CHECK	CONTROL	SECTION	JOB		
BKB	0047	14	065		
CHECK					

FINAL PLANS

NAME OF CONTRACTOR: ____

DATE OF LETTING: ____

DATE WORK BEGAN: ____

DATE WORK COMPLETED: ____

DATE WORK ACCEPTED: ____

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
SEE SHEET 2 FOR INDEX OF SHEETS	

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT
C 47-14-65
CSJ: 0047-14-065

US 75

COLLIN COUNTY

LIMITS: FROM NORTH OF US 380
TO SOUTH OF BLOOMDALE IN MCKINNEY

TOTAL LENGTH OF PROJECT = ROADWAY = 6,329.79 FT. = 1.198 MI.
BRIDGE = 312.00 FT. = 0.059 MI.
TOTAL = 6,641.79 FT. = 1.257 MI.

TYPE: FOR THE CONSTRUCTION OF THE WIDENING OF A FREEWAY
CONSISTING OF: GRADING, BASE, PAVEMENT, STRUCTURES, SIGNS, SIGNALS, ILLUMINATION, MARKINGS

DESIGN SPEED:
MAINLANES = 70 MPH
RAMPS = 50 MPH
FRONTAGE ROADS = 40 MPH
CROSS STREETS = 30 MPH

ADT:
57,170 (2007)
83,100 (2025)
FUNCTIONAL CLASSIFICATION = URBAN FREEWAY

NOTE:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000-007)

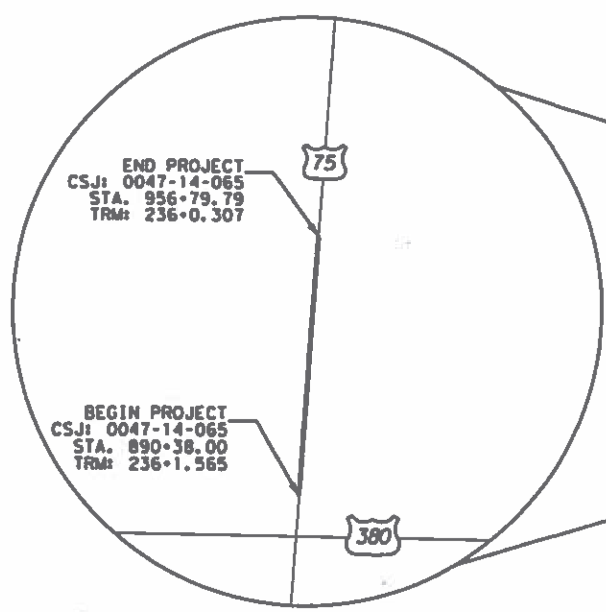
TDLR INSPECTION REQUIRED

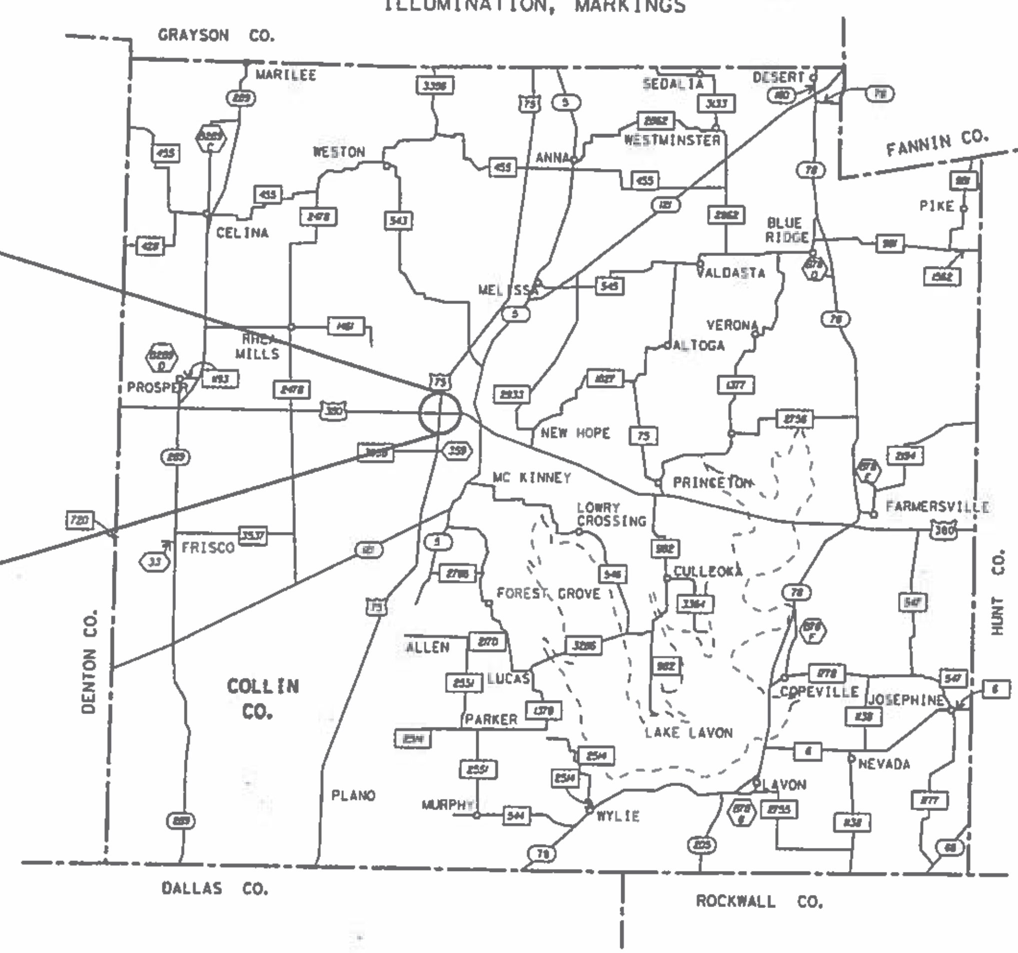
AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

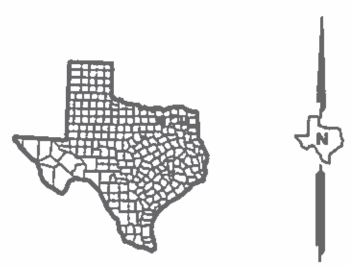
Attachment No. ____ to special AGREEMENT FOR CONSTRUCTION, MAINTENANCE AND OPERATION OF CONTINUOUS HIGHWAY ILLUMINATION SYSTEM WITHIN MUNICIPALITIES, dated: ____

The City-State construction, maintenance and operation responsibilities shall be as heretofore agreed to, accepted and specified in the Agreement to which these Plans are made a part.

Jack Carr Director of Engineering 2-22-10
SIGNATURE CITY OF McKINNEY — TITLE — DATE







Texas Department of Transportation

CONCURRENCE: 2-22 2010
Jack Carr
CITY ENGINEER, CITY OF McKINNEY

CONCURRENCE: Dec. 29 2009
Ruben E. Delgado
COUNTY ENGINEER, COLLIN COUNTY

SUBMITTED FOR LETTING: DECEMBER 23 2009
____, P.E.
DESIGN ENGINEER

SUBMITTED FOR LETTING: 12/23 2009
____, P.E.
AREA ENGINEER

RECOMMENDED FOR LETTING: 12/23 2009
James K. S____, P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

RECOMMENDED FOR LETTING: ____ 20
____, P.E.
DIRECTOR, TRAFFIC OPERATIONS DIVISION

RECOMMENDED FOR LETTING: 12/23 2009
William Hale, P.E.
DISTRICT ENGINEER

APPROVED FOR LETTING: 02.24 2010
For ____, P.E.
DIRECTOR, DESIGN DIVISION

69

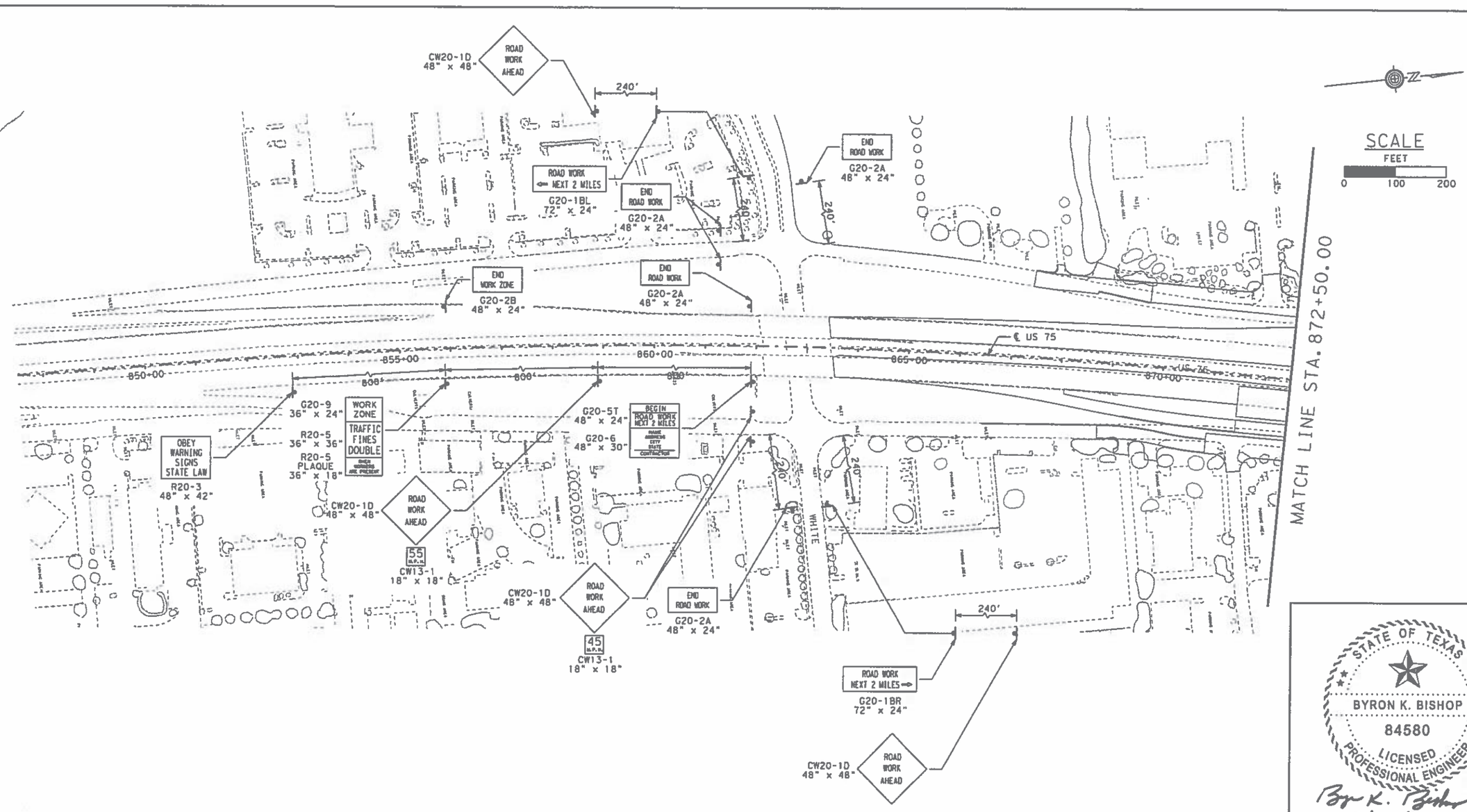
WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

____, P.E. ____
Signature of Registrant & Date

COLLIN COUNTY
SCALE 0 1 2 3 4 5 6 MI.
DALLAS DISTRICT

NO EQUATIONS
NO EXCEPTIONS
NO RAILROADS

T:\MCKDES\Projects\US 75\Plans\Sheets\...\Title Sheet.dgn



DATE: 2/19/2010 FILE NAME: T:\WCRDES\Projects\US 75\Wilmeth Intersection\PS&E\Plans\Roadway\US 75 Project Layout1.dgn

STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED
PROFESSIONAL ENGINEER
Byron K. Bishop
2/20/10

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

70

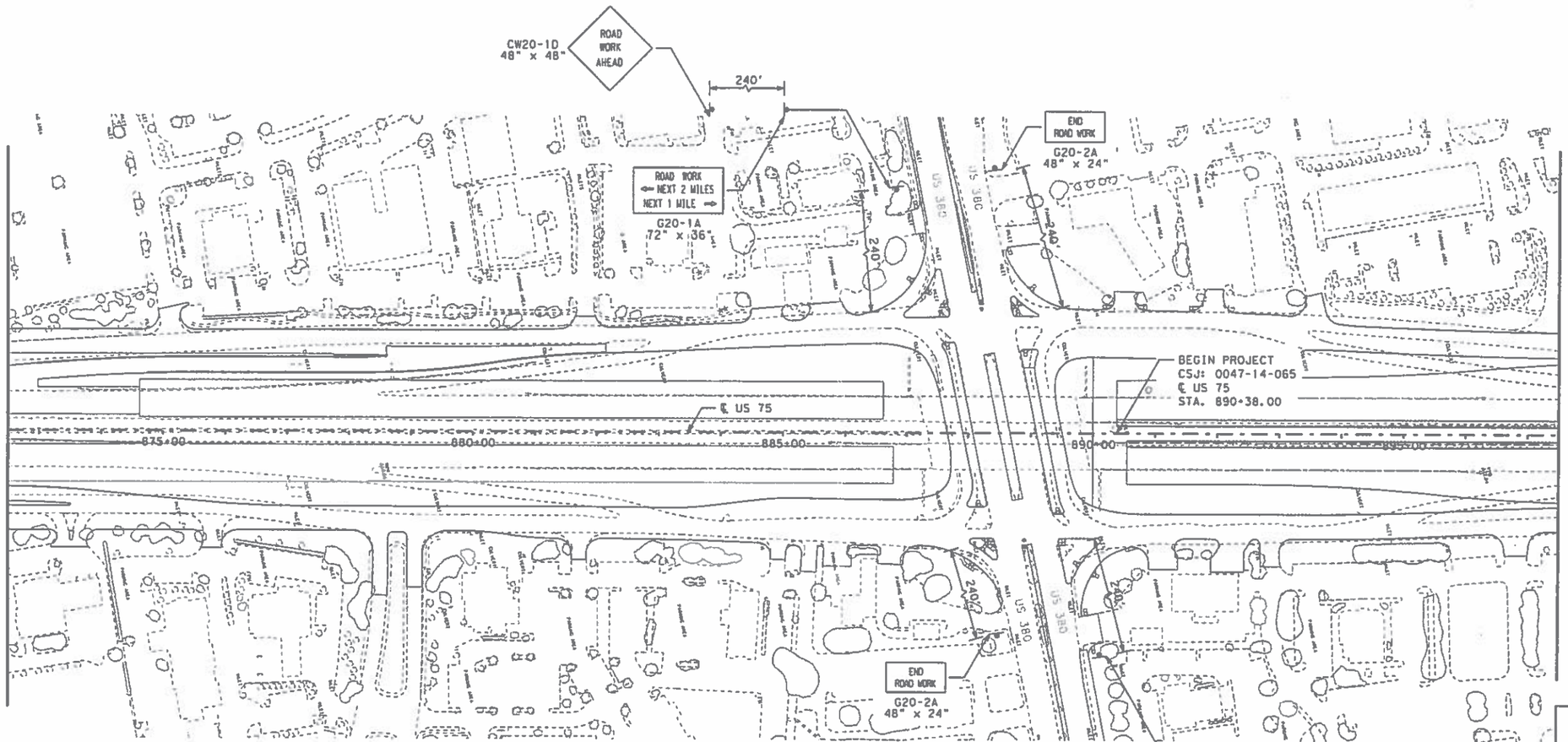
NOTE:
COORDINATE WITH
CONSTRUCTION PROJECT 0047-1-063
(US 75 @ US 380)

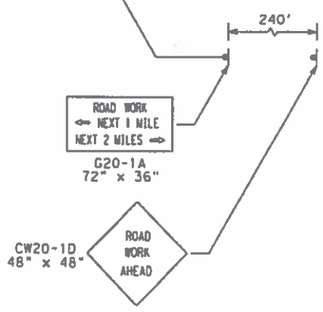
Texas Department of Transportation

US 75
PROJECT LAYOUT
& ADVANCED WARNING SIGNS
BEGIN PROJECT TO STA. 872+50.00

SHEET 1 OF 6

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BKB	TEXAS	DALLAS	COLLIN	[redacted]
CHECK TLH	CONTROL	SECTION	JOB	
	0047	14	065	





AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTE:
COORDINATE WITH
CONSTRUCTION PROJECT 0047-1-063
(US 75 @ US 380)

71

STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED
PROFESSIONAL ENGINEER
Byron K. Bishop
2/20/10

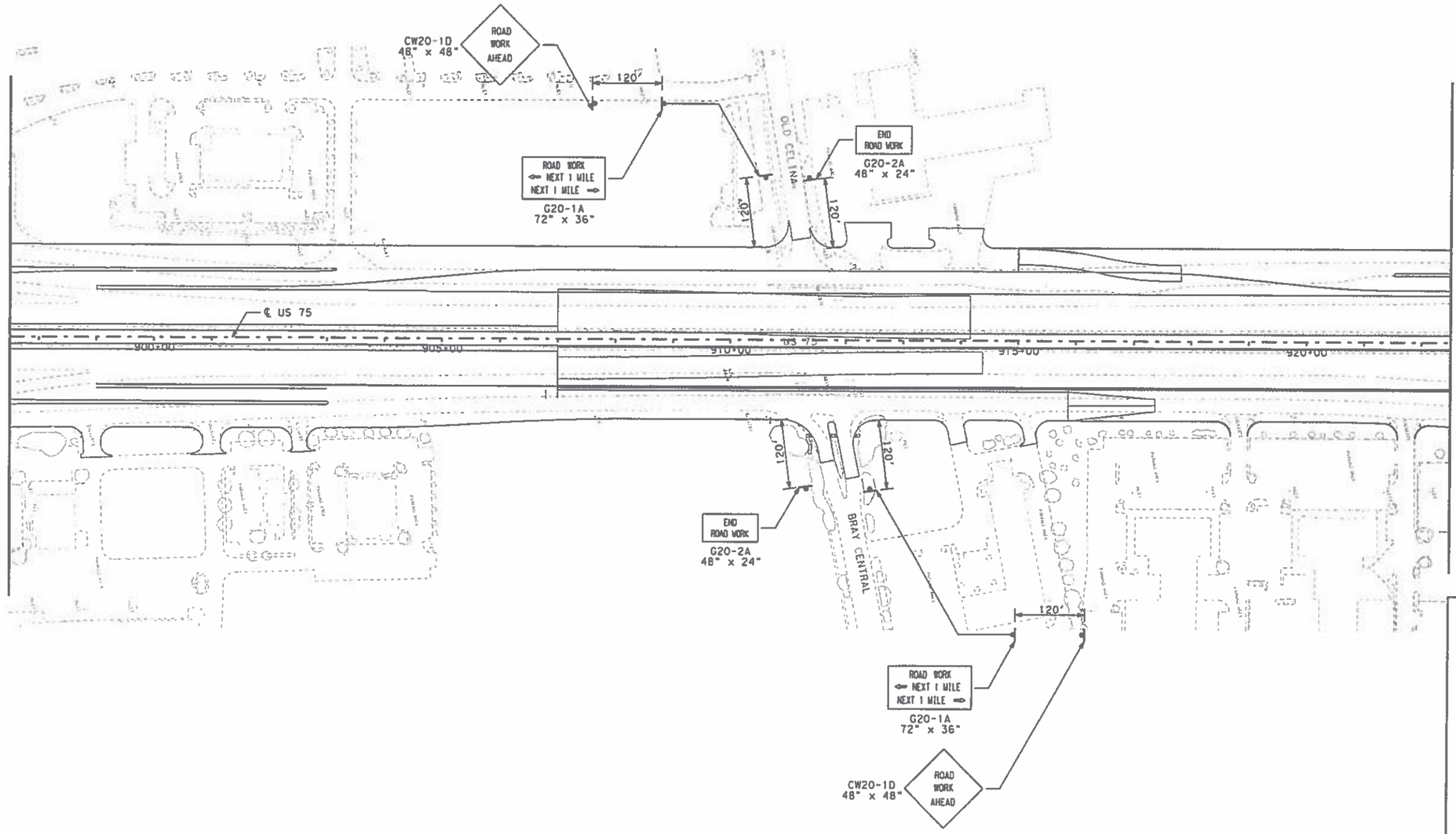
Texas Department of Transportation

US 75
PROJECT LAYOUT
& ADVANCED WARNING SIGNS
STA. 872+50.00 TO STA. 897+50.00

SHEET 2 OF 6

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
JAP	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
BKB	0047	14	065	
CHECK				
TLH				

DATE: 2/19/2010 FILE NAME: T:\MCKDES\Projects\US 75\Wilmeth Intersection\PS&E\Plans\Roadway\US 75 Project Layout2.dgn



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTE:
COORDINATE WITH CONSTRUCTION PROJECT 0047-1-063 (US 75 @ US 380)

72

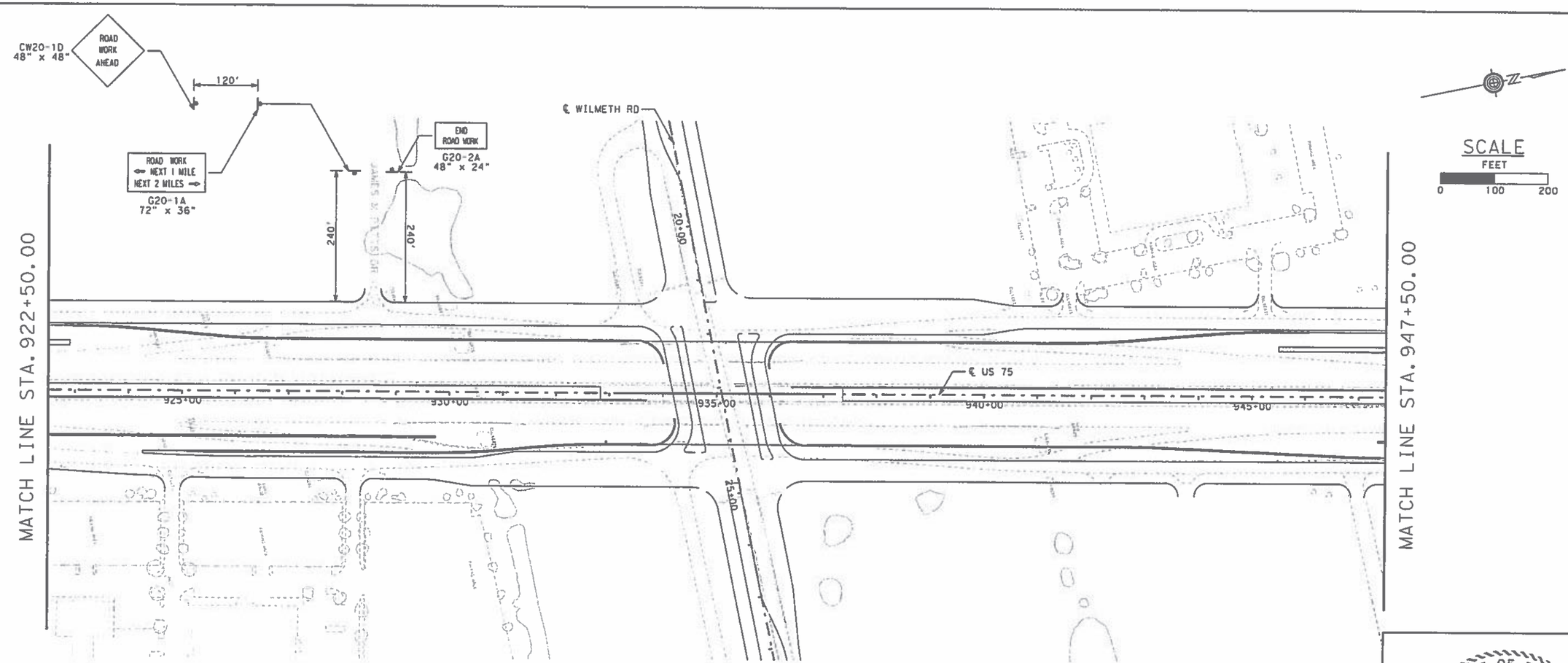
STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED
PROFESSIONAL ENGINEER
Byron K. Bishop
2/20/10

US 75
PROJECT LAYOUT
& ADVANCED WARNING SIGNS
STA. 897+50.00 TO STA. 922+50.00

SHEET 3 OF 6

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS: JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: BKB	TEXAS	DALLAS	COLLIN	[redacted]
CHECK: TLH	CONTROL	SECTION	JOB	
	0047	14	065	

DATE: 2/19/2010 FILE NAME: T:\NCKOES\Projects\US 75\Wilmeth Intersection\PS&E\Plans\Roadway\US 75 Project Layout3.dgn



DATE: 2/19/2010 FILE NAME: T:\MCKDES\Projects\US 75\Wilmeth Intersection\PS&E\Plans\Roadway\US 75 Project Layout4.dgn

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTE:
COORDINATE WITH CONSTRUCTION PROJECT 0047-1-063 (US 75 @ US 380)

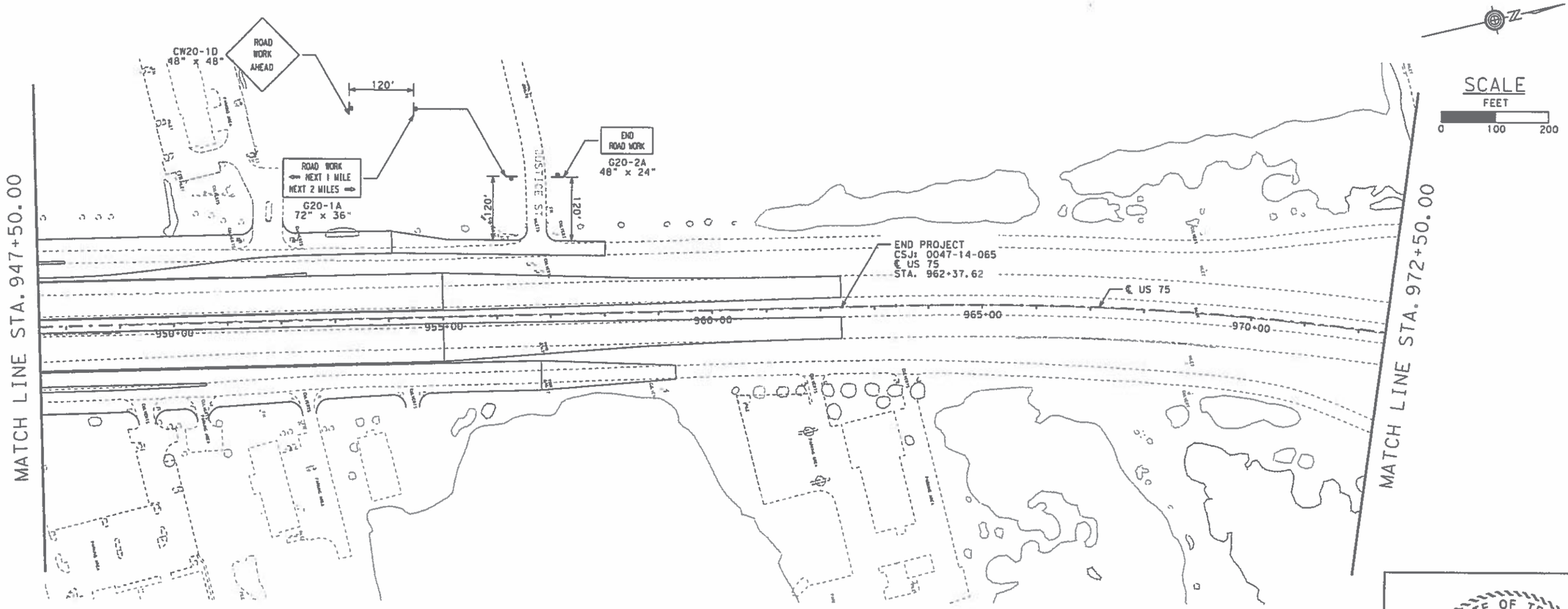
STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED PROFESSIONAL ENGINEER
Byron K. Bishop
2/20/10

Texas Department of Transportation

US 75
PROJECT LAYOUT & ADVANCED WARNING SIGNS
STA. 922+50.00 TO STA. 947+50.00

SHEET 4 OF 6

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BKB	TEXAS	DALLAS	COLLIN	
CHECK TLH	CONTROL	SECTION	JOB	
	0047	14	065	



DATE: 2/19/2010 FILE NAME: I:\MCKDES\Projects\US 75\Mimeth Intersection\PS&E\Plans\Roadway\US 75 Project Layout5.dgn

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

74

NOTE:
COORDINATE WITH
CONSTRUCTION PROJECT 0047-1-063
(US 75 @ US 380)

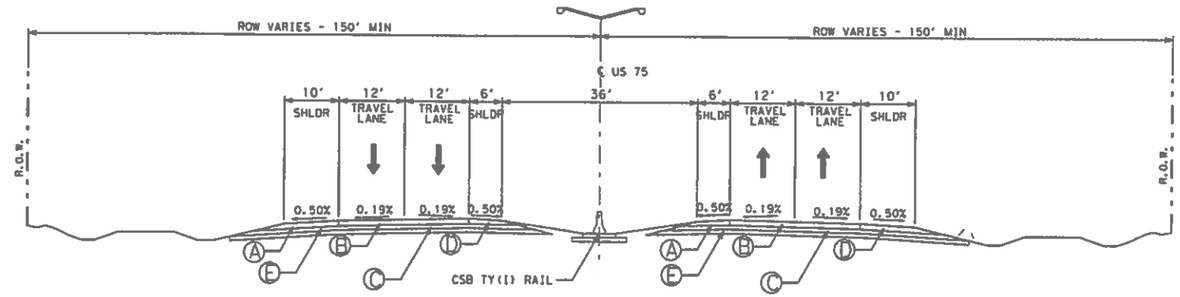
STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED
PROFESSIONAL ENGINEER
Byron K. Bishop
2/20/10

Texas Department of Transportation

US 75
PROJECT LAYOUT
& ADVANCED WARNING SIGNS
STA. 947+50.00 TO STA. 972+50.00

SHEET 5 OF 6

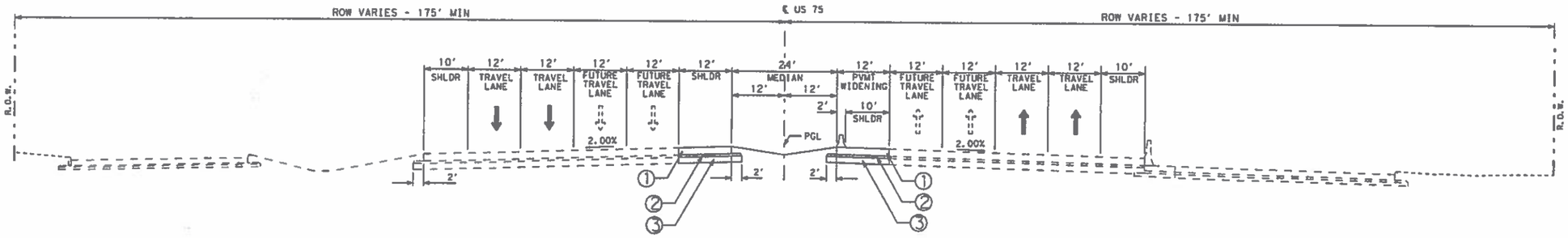
DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BKB	TEXAS	DALLAS	COLLIN	
CHECK TLH	CONTROL	SECTION	JOB	[redacted]
	0047	14	065	



EXISTING US 75 SECTION
FROM BEGIN PROJECT TO END PROJECT

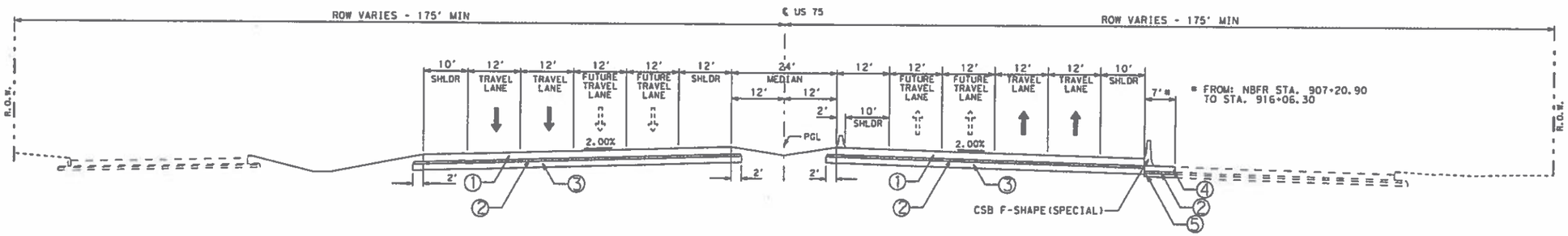
LEGEND

- Ⓐ 8" FLEX BASE
- Ⓑ 8" CONT REINF CONC PVMT
- Ⓒ 6" FND COURSE
- Ⓓ 8" FND COURSE
- Ⓔ 6" LIME STABILIZED SUBGRADE
- ① 13" CRCP
- ② 4" TY B HMAC
- ③ 10" LTS (5%)
- ④ 10" CRCP
- ⑤ 6" LTS (5%)
- ⑥ 6" LTS (4%)
- ⑦ TY I CURB
- ⑧ TY II CURB



PROPOSED US 75 SECTION
890+37.99 TO STA. 907+00.00

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US 75 SECTION
907+00.00 TO STA. 915+00.00

STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED
PROFESSIONAL ENGINEER
By K. Bishop
5/4/10

US 75
TYPICAL SECTIONS

SCALE: NTS

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
TLH	6			US 75
GRAPHICS BSS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BKB	TEXAS	DALLAS	COLLIN	
CHECK TLH	CONTROL	SECTION	JOB	[redacted]
	0047	14	065	

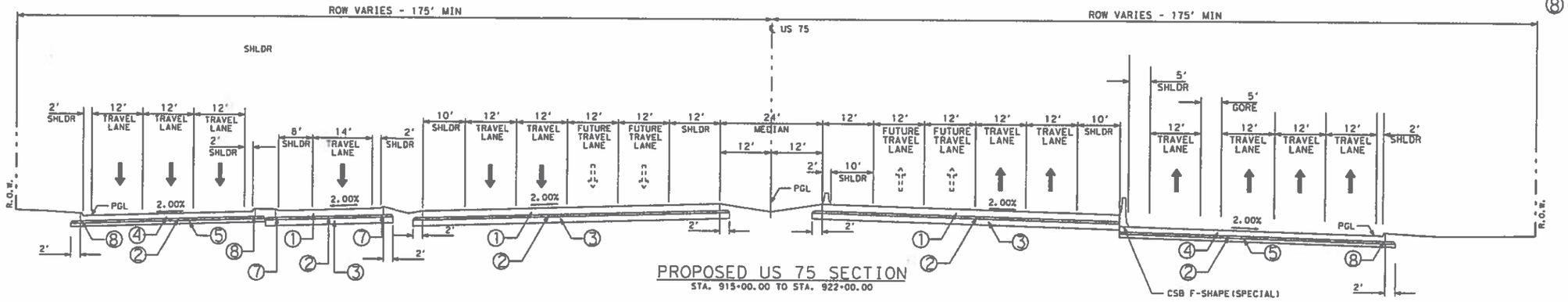
75

⚠ REPLACED 05.06.10 VU

DATE: 5/4/2010 FILE NAME: T:\MCKDES\Projects\US 75\Wilmeth Intersection\PS&E\Plans\Roadway\Typical Sections\US75_TYPICALS.dgn

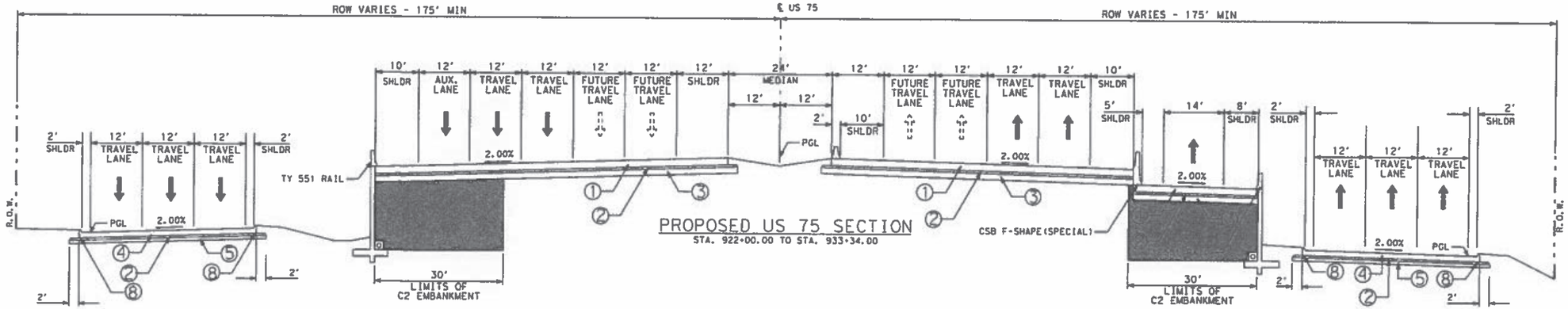
LEGEND

① 13" CRCP
② 4" TY B HMAC
③ 10" LTS (5%)
④ 10" CRCP
⑤ 6" LTS (5%)
⑥ 6" LTS (4%)
⑦ TY I CURB
⑧ TY II CURB



PROPOSED US 75 SECTION
STA. 915+00.00 TO STA. 922+00.00

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US 75 SECTION
STA. 922+00.00 TO STA. 933+34.00

76

⚠ REPLACED 05.06.10 VN

STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED
PROFESSIONAL ENGINEER
Byron K. Bishop
5/4/10

Texas Department of Transportation

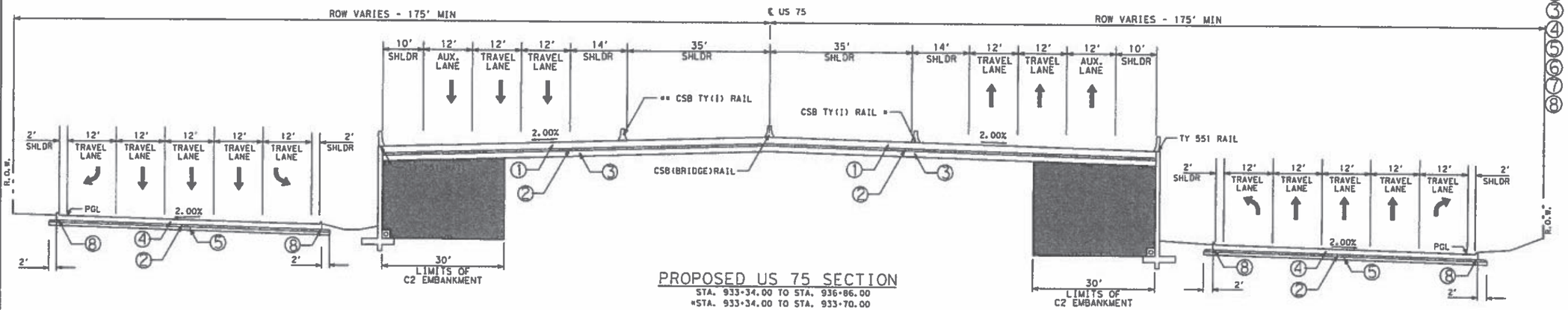
US 75
TYPICAL SECTIONS

SCALE: NTS

SHEET 2 OF 4

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
TLH	6			US 75
GRAPHICS: BSS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: BKB	TEXAS	DALLAS	COLLIN	
CHECK: TLH	CONTROL	SECTION	JOB	
	0047	14	065	

DATE: 5/4/2010 FILE NAME: T:\MCKIBES\Projects\US 75\Mlmain Intersection\PSE\Plans\Roadway\TypicalSections\US75 - TYPICALS.dgn



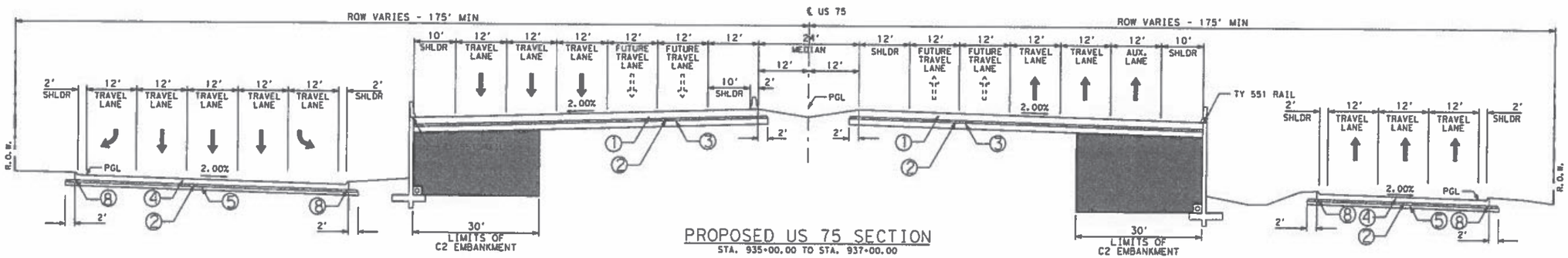
PROPOSED US 75 SECTION

STA. 933+34.00 TO STA. 936+86.00
*STA. 933+34.00 TO STA. 933+70.00
**STA. 936+40.00 TO STA. 936+86.00

LEGEND

① 13" CRCP
② 4" TY B HMAC
③ 10" LTS (5%)
④ 10" CRCP
⑤ 6" LTS (5%)
⑥ 6" LTS (4%)
⑦ TY I CURB
⑧ TY II CURB

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED US 75 SECTION

STA. 935+00.00 TO STA. 937+00.00

77

STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED PROFESSIONAL ENGINEER
Byron K. Bishop
5/14/10

US 75 TYPICAL SECTIONS

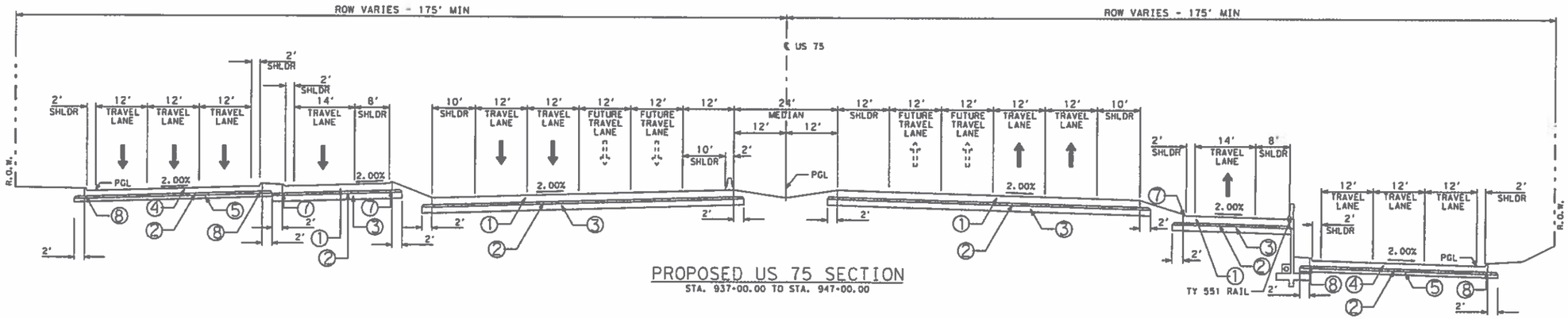
SCALE: NTS

SHEET 3 OF 4

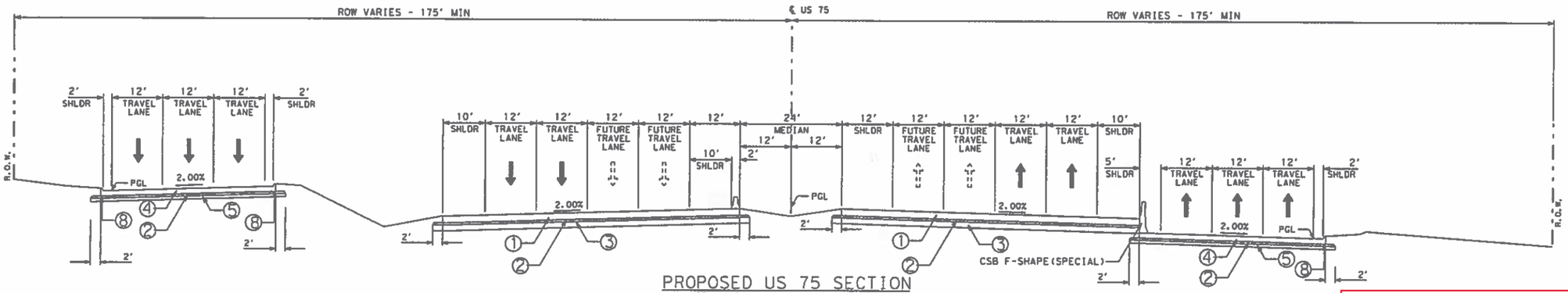
DESIGN	FED.RD. DIV. NO.			HIGHWAY NO.
TLH	6			US 75
GRAPHICS BSS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BKB	TEXAS	DALLAS	COLLIN	[redacted]
CHECK TLH	CONTROL	SECTION	JOB	
	0047	14	065	

⚠ REPLACED 05.06.10 WN

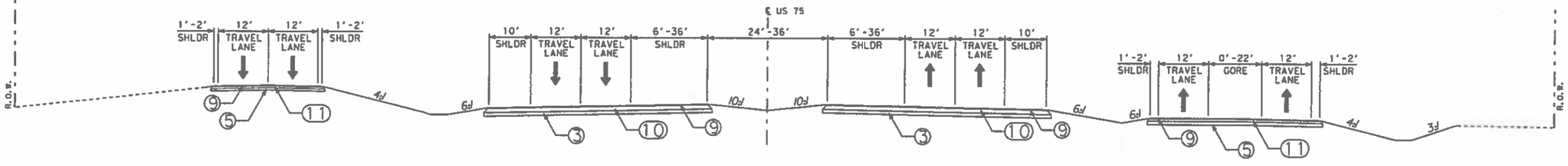
DATE: 5/4/2010 FILE NAME: T:\MCRDES\Projects\US 75\Wilmeth Intersection\PS&E\Plans\Roadway\TypicalSections\US75 - TYPICALS.dgn



PROPOSED US 75 SECTION
STA. 937+00.00 TO STA. 947+00.00



PROPOSED US 75 SECTION
STA. 947+00.00 TO STA. 955+00.00



PROPOSED INTERIM US 75 SECTION
MAINLANES: STA. 955+00.00 TO STA. 962+37.65
NBFR: STA. 956+79.79 TO STA. 959+29.79
SBFR: STA. 954+08.58 TO STA. 965+03.66

LEGEND
① 13" CRCP
② 4" TY B HMAC
③ 10" LTS (5%)
④ 10" CRCP
⑤ 6" LTS (5%)
⑥ 6" LTS (4%)
⑦ TY I CURB
⑧ TY II CURB
⑨ 2" TY C HMAC
⑩ 12" TY B HMAC
⑪ 6" TY B HMAC

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

78

STATE OF TEXAS
BYRON K. BISHOP
84580
LICENSED
PROFESSIONAL ENGINEER
Byron K. Bishop
5/4/10

Texas Department of Transportation

US 75
TYPICAL SECTIONS

SCALE: NTS — SHEET 4 OF 4

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
TLH	6			US 75
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
BSS	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
BKB	0047	14	065	[redacted]
CHECK				
TLH				

⚠ REPLACED 05.06.10 VN

DATE: 5/4/2010 FILE NAME: T:\MCKDES\Projects\US 75\Interim Intersection\PSE\Plans\Roadway\TypicalSections\US75 - TYPICALS.dgn

FINAL PLANS

NAME OF CONTRACTOR: ZACHRY Construction

DATE OF LETTING: 12/01/2011

DATE WORK BEGAN: 11/05/2012

DATE WORK COMPLETED: 02/22/2016

DATE WORK ACCEPTED: 02/22/2016

Summary of Change Orders

VOLUME I See Sheets 1A, 1B, 1C, 1D, 1E, 1F

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT
C 47-14-67
CSJ: 0047-14-067

US 75

COLLIN COUNTY

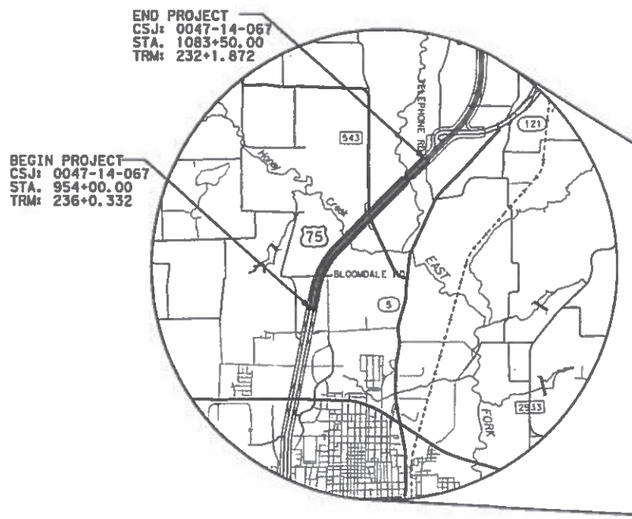
LIMITS: FROM SOUTH OF BLOOMDALE ROAD IN MCKINNEY
TO TELEPHONE ROAD (CR 275)

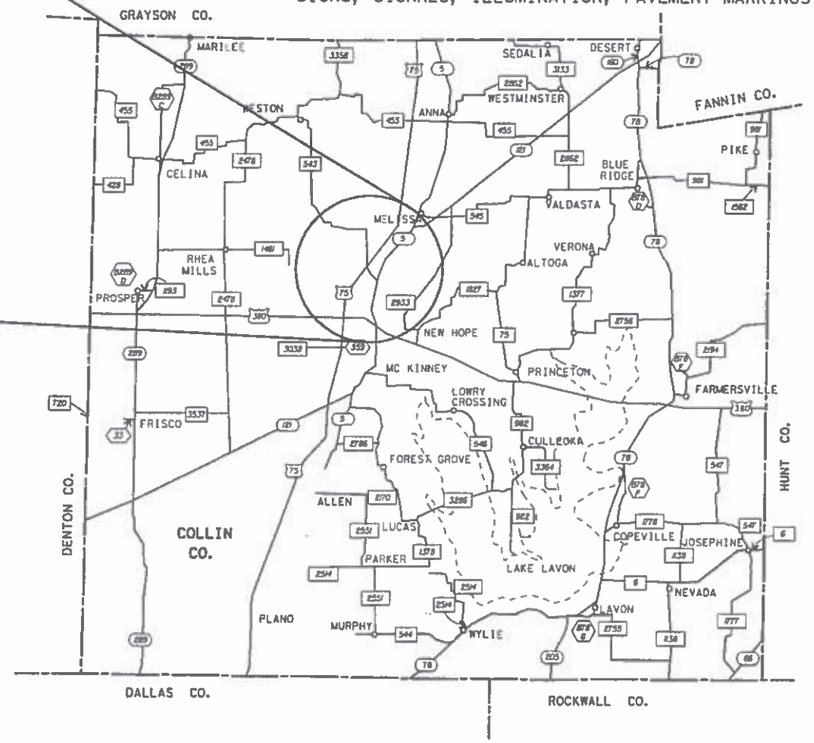
TOTAL LENGTH OF PROJECT =

ROADWAY	=	11,430.00 FT.	= 2.165 MI.
BRIDGE	=	1,520.00 FT.	= 0.288 MI.
TOTAL	=	12,950.00 FT.	= 2.453 MI.

TYPE OF WORK: FOR THE CONSTRUCTION OF RECONSTRUCT AND WIDEN 4 LANE TO 8 LANE AND 3 LANE FRONTAGE ROAD EACH DIRECTION

CONSISTING OF: GRADING, BASE, PAVEMENT, STRUCTURES, DRAINAGE, SIGNS, SIGNALS, ILLUMINATION, PAVEMENT MARKINGS





COLLIN COUNTY
SCALE 0 1 2 3 4 5 6 MI.
DALLAS DISTRICT

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

Barry Heard P.E. 5-17-16
Signature of Registrant & Date

EQUATIONS: NONE
EXCEPTIONS: NONE
RAILROAD CROSSINGS: NONE

DESIGN	FED. RD. DIV. NO.	PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	C 47-14-67		US 75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	[redacted]
	0047	14	067	

DESIGN SPEED:
US 75 MAINLANES: 70 MPH
US 75 RAMPS: 40 MPH
US 75 FRONTAGE ROADS: 40 MPH
CROSS STREETS: 30 MPH

ADT (2010) - 73,000
ADT (2030) - 130,000
FUNCTIONAL CLASSIFICATION = URBAN FREEWAY

NOTE:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000-007)

TDLR INSPECTION REQUIRED

Attachment No. 1 to special AGREEMENT FOR CONSTRUCTION, MAINTENANCE AND OPERATION OF CONTINUOUS HIGHWAY ILLUMINATION SYSTEM WITHIN MUNICIPALITIES, dated: March 28, 2008

The City-State construction, maintenance and operation responsibilities shall be as heretofore agreed to, accepted and specified in the Agreement to which these Plans are made a part.

Jack Carr Dir. of Engineering 9-16-11
SIGNATURE TITLE DATE
CITY OF McKINNEY

Burns & McDonnell

BURNS & McDONNELL ENGINEERING CO, INC
15950 NORTH DALLAS PARKWAY, SUITE 700
DALLAS, TEXAS, 75248
TEXAS REGISTERED ENGINEERING FIRM F-845

SUBMITTED FOR LETTING 9-12 2011
Anthony Kinney, P.E.
PROJECT MANAGER
BURNS & McDONNELL ENGINEERING CO, INC

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

CONCURRENCE: Sept. 9, 2011
Ruben C. Delgado
COUNTY ENGINEER, COLLIN COUNTY

Texas Department of Transportation

SUBMITTED FOR LETTING 9/12 2011
P.E.
AREA ENGINEER

RECOMMENDED FOR LETTING 9/14/2011
P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

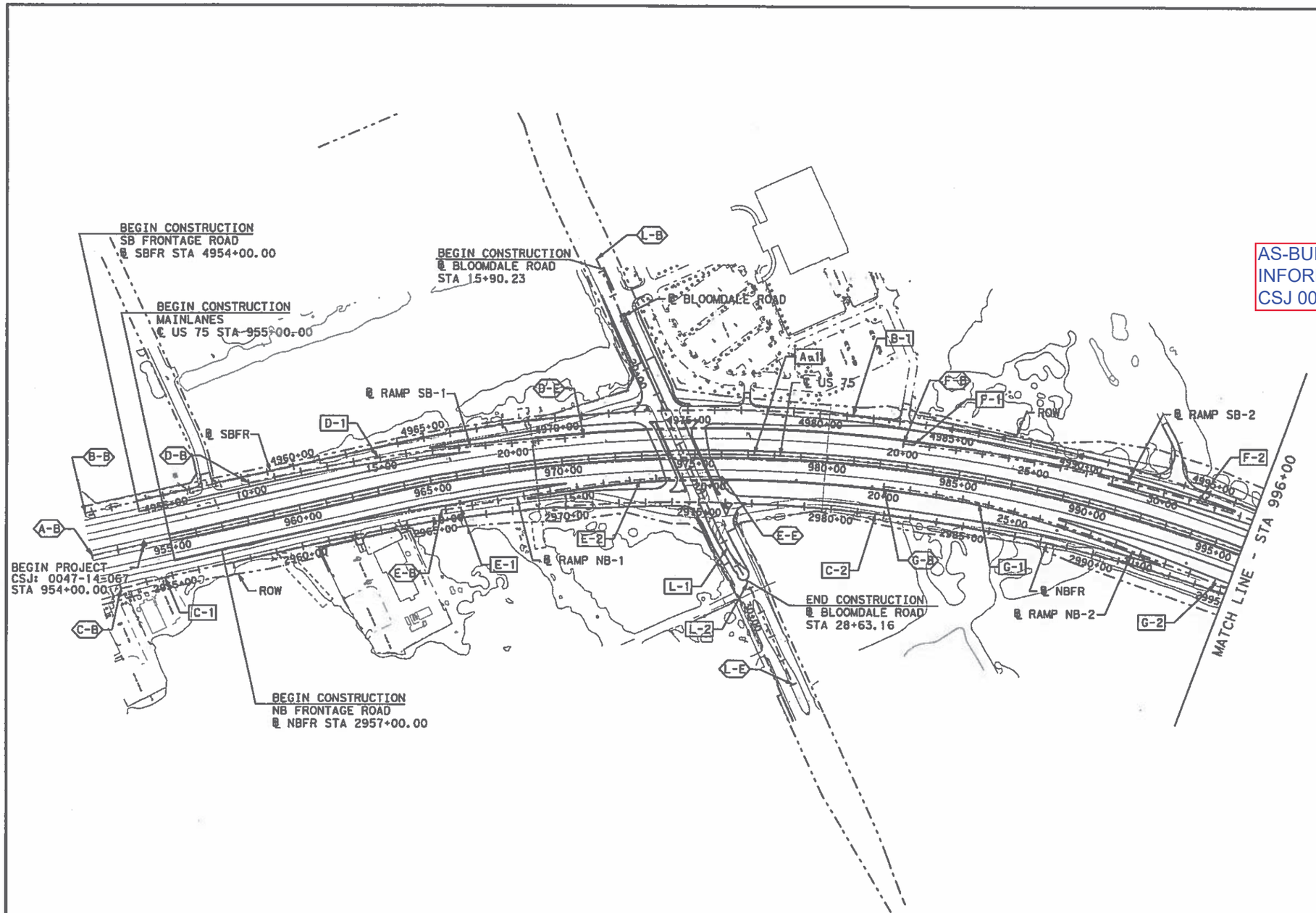
RECOMMENDED FOR LETTING 20
, P.E.
DIRECTOR, TRAFFIC OPERATIONS DIVISION

RECOMMENDED FOR LETTING: 9/14 2011
Will J Hale, P.E.
DISTRICT ENGINEER

APPROVED FOR LETTING 11.01.2011
FOR P.E.
DIRECTOR, DESIGN DIVISION

79

FILENAME: T:\INFX\TxDOT\58604_US75_Bloomdale\CADD\1_100_COVR.dgn
PLOTTED: 8/30/2011



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTE:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR ADDITIONAL INFORMATION.

LEGEND

X-X	CURVE NUMBER
E-B	BEGINNING/END POINT

STATE OF TEXAS
ANTHONY KIMMEY
67156
LICENSED PROFESSIONAL ENGINEER
9-12-11

Burns & McDonnell
BURNS & MCDONNELL ENGINEERING CO, INC
15950 NORTH DALLAS PARKWAY, SUITE 700
DALLAS, TEXAS, 75248
TEXAS REGISTERED ENGINEERING FIRM F-845

US 75

PROJECT LAYOUT

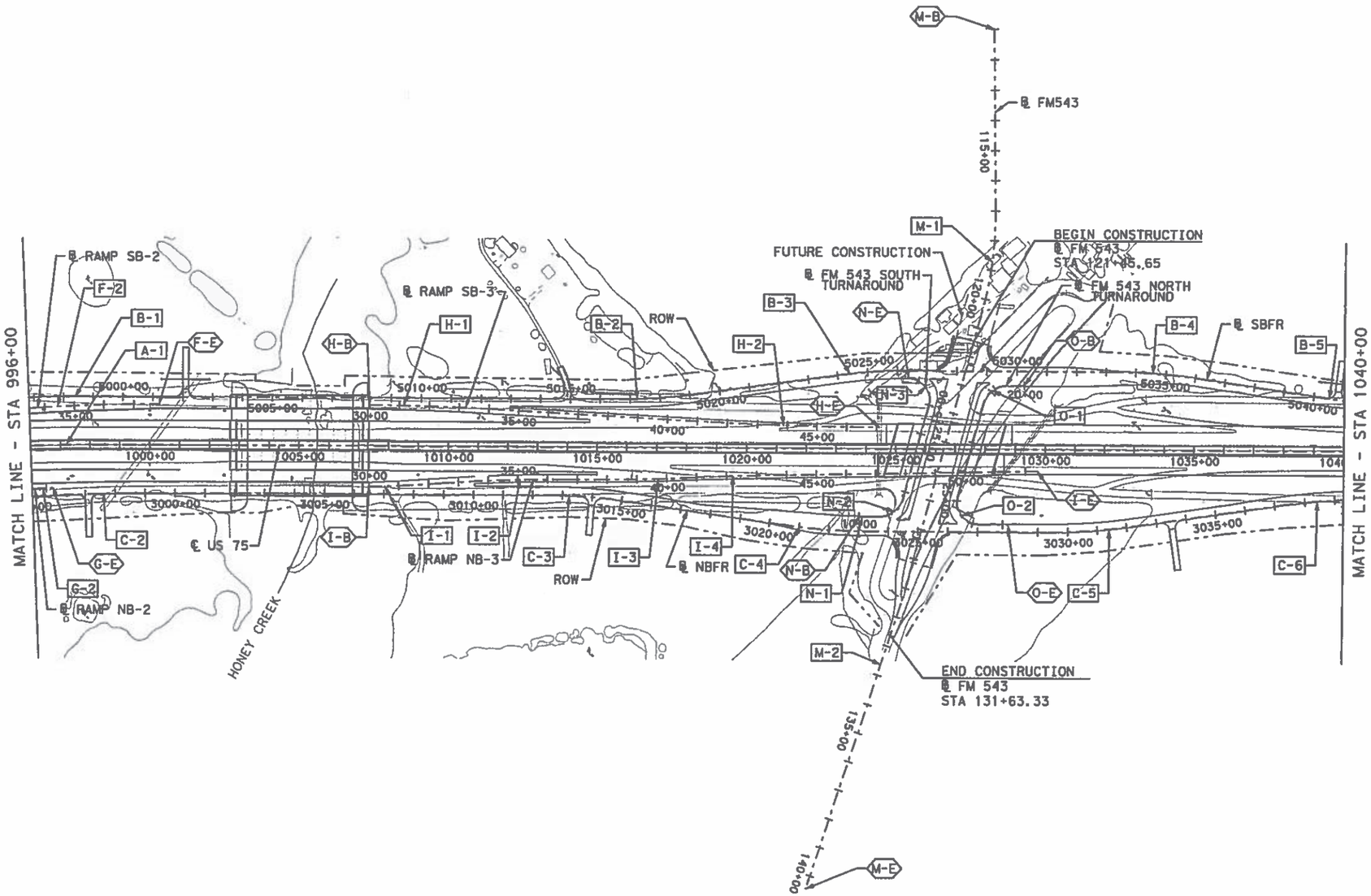
BEGIN PROJECT TO STA 996+00

SCALE: 1"=400' SHEET 1 OF 3

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
ALP	6			US 75
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
SET	TEXAS	DALLAS	COLLIN	
DETAIL	CONTROL	SECTION	JOB	
TLW	0047	14	067	
CHECK				
ALP				

80

FILENAME: t:\inf\txdot\58604_us75_bloomdale\coddl\1_150_PLP_001.dgn
PLOTTED: 9/8/2011 2:30:29 PM



0 200' 400'
SCALE IN FEET

NOTE:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR ADDITIONAL INFORMATION.

LEGEND

X-X CURVE NUMBER

E-B BEGINNING/END POINT

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
ANTHONY KINNEY
67156
LICENSED PROFESSIONAL ENGINEER
9.12.11

Burns & McDonnell
BURNS & MCDONNELL ENGINEERING CO., INC
15950 NORTH DALLAS PARKWAY, SUITE 700
DALLAS, TEXAS, 75248
TEXAS REGISTERED ENGINEERING FIRM F-845

US 75

PROJECT LAYOUT

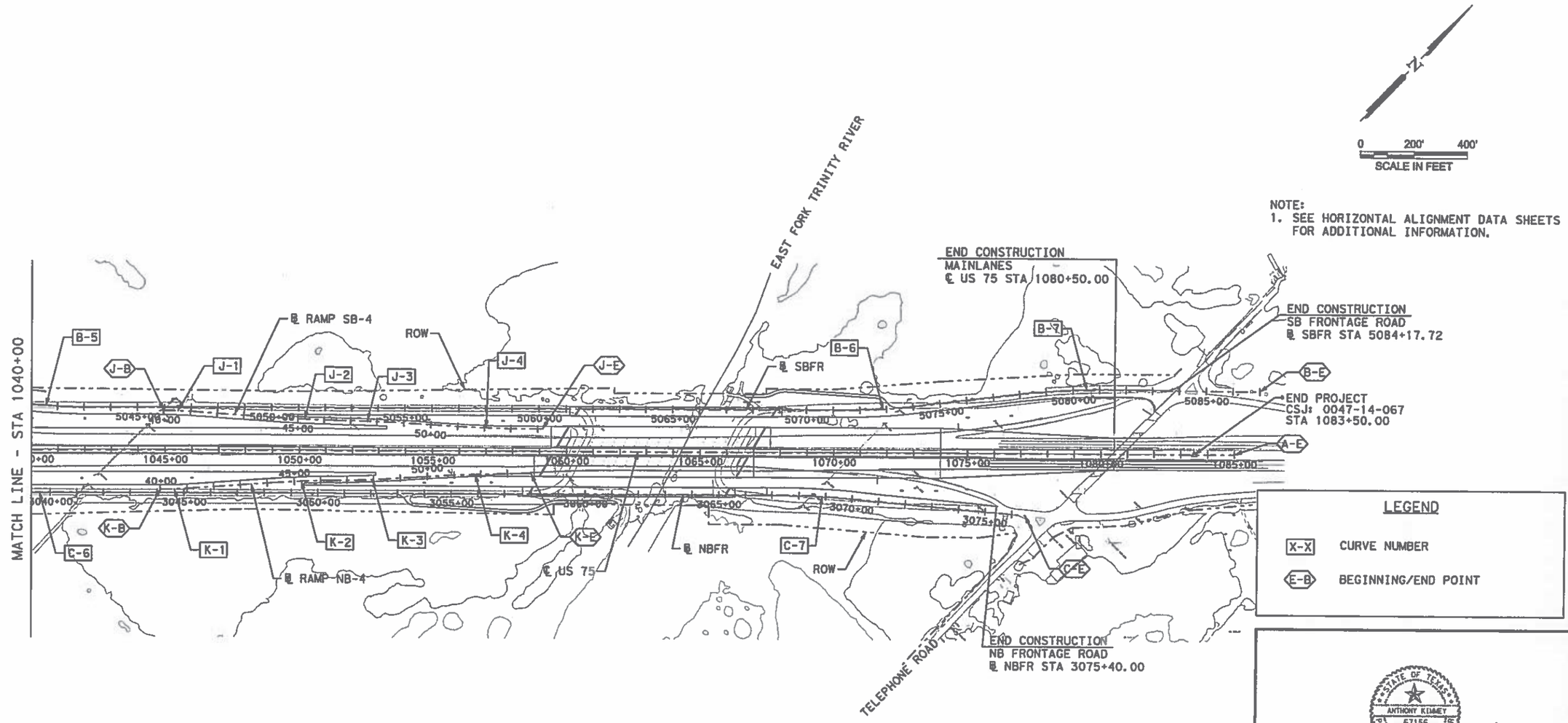
STA 996+00 TO 1040+00

SCALE: 1"=400' SHEET 2 OF 3

DESIGN	DIST. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
ALP	6		US 75
CHECK SET	STATE	DISTRICT	COUNTY
DETAIL TLW	TEXAS	DALLAS	COLLIN
CHECK ALP	CONTROL	SECTION	JOB
	0047	14	067

SHEET NO.

FILENAME= t:\Inf\txdot\58604_us75_bloomdale\cadd\l_150_PLP_002.dgn
PLOTTED: 9/8/2011 2:30:38 PM



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

82

STATE OF TEXAS
ANTHONY KIMEY
67156
LICENSED
PROFESSIONAL ENGINEER
9-12-11

BURNS & MCDONNELL ENGINEERING CO, INC
15950 NORTH DALLAS PARKWAY, SUITE 700
DALLAS, TEXAS, 75248
TEXAS REGISTERED ENGINEERING FIRM F-845

Texas Department of Transportation

US 75

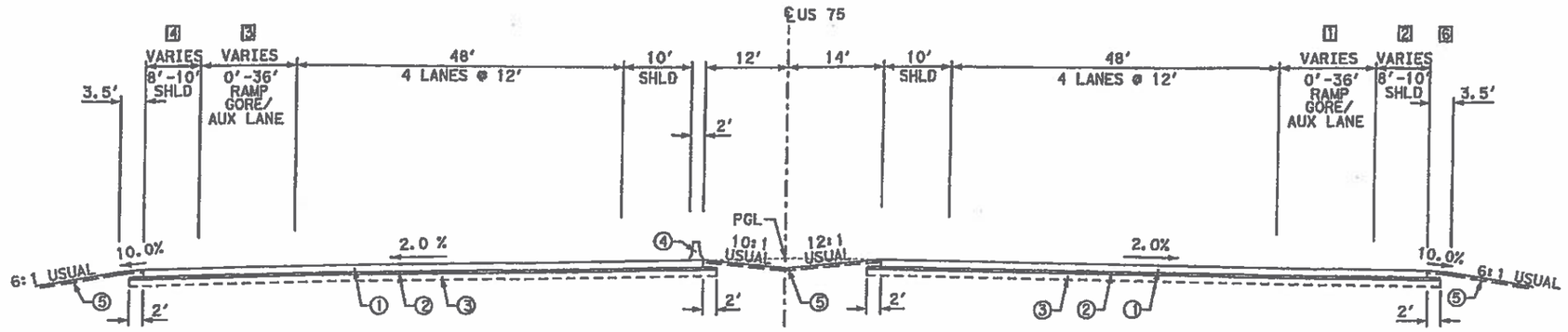
PROJECT LAYOUT

STA 1040+00 TO END PROJECT

SCALE: 1"=400' SHEET 3 OF 3

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
ALP	6			US 75
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
SET	TEXAS	DALLAS	COLLIN	[redacted]
DETAIL	CONTROL	SECTION	JOB	
TLW	0047	14	067	
CHECK				
ALP				

FILENAME: t:\inf\txdot\58604_us75_bloomdale\cadd\1_150_PLP_003.dgn
PLOTTED: 9/8/2011 2:30:45 PM



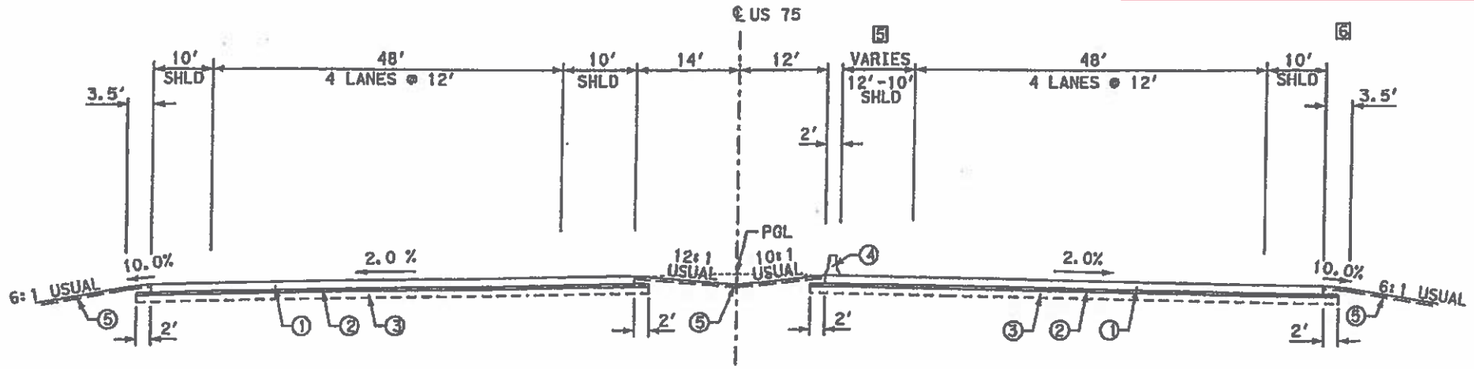
SOUTHBOUND US 75

STA 1014+50.00 TO STA 1024+85.00
STA 1047+00.00 TO STA 1059+54.00
STA 1066+89.00 TO STA 1074+00.00

NORTHBOUND US 75

STA 1015+00.00 TO STA 1024+85.00
STA 1047+50.00 TO STA 1059+54.00
STA 1066+89.00 TO STA 1074+00.00

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



SOUTHBOUND US 75

STA 1007+14.00 TO STA 1014+50.00
STA 1028+46.00 TO STA 1047+00.00

NORTHBOUND US 75

*STA 955+00.00 TO STA 962+20.00
STA 999+98.00 TO STA 1002+90.00
STA 1007+14.00 TO STA 1015+00.00
STA 1028+46.00 TO STA 1047+50.00
(*BEGIN CSB STA 955+25.00)

3 TRANSITION FROM 36'TO 0' RAMP GORE STA 1015+00.00 TO STA 1024+43.32 STA 1052+88.95 TO STA 1059+09.46
4 TRANSITION FROM 10'TO 8' SHOULDER STA 1022+36.04 TO STA 1024+43.32
3 12'AUX LANE STA 1066+89.00 TO STA 1074+00.00
4 TRANSITION FROM 8'-10' SHOULDER STA 1057+14.27 TO STA 1058+72.48

1 TRANSITION FROM 36'TO 0' RAMP GORE STA 1015+00.00 TO STA 1024+85.00
1 TRANSITION FROM 36'TO 12' RAMP GORE/AUX LANE STA 1052+88.95 TO STA 1058+69.07
1 12' AUX LANE STA 1066+89.00 TO STA 1074+00.00
2 TRANSITION FROM 8'TO 10' SHOULDER STA 1018+17.07 TO STA 1020+93.72 STA 1057+14.27 TO STA 1058+69.07
5 TRANSITION FROM 12'TO 10' SHOULDER STA 955+00 TO STA 957+00.00
6 SEE SHEET 3 OF 11 TYPICAL SECTIONS FOR SPECIAL DETAILED EDGE CONDITION STA 955+00.00 TO STA 962+05.00

1 REPLACED 11-29-11 BB

NOTE:

1. SEE BRIDGE SHEETS FOR TYPICAL SECTIONS AT BRIDGE LOCATIONS.
2. SEE ROADWAY PLAN/PROFILE SHEETS FOR DETAILED BARRIER LIMITS
3. 50' OF CSB OVERLAP OCCURS AT EACH TRANSITION.

PROPOSED TYPICAL SECTION LEGEND

1. 13" CONCRETE PAVEMENT (CRCP)
2. 4" HMAC BASE (TY B)
3. 11" LIME TREATED SUBGRADE (5%, 45.8#/SY)
4. CSB (F-SHAPED) (C.I.P.)
5. ~~4" COMPOST MANUFACTURED TOPSOIL,~~ FERTILIZER, AND SEEDING
6. TYPE I CURB
7. 10" CONCRETE PAVEMENT (CRCP)
8. 6" LIME TREATED SUBGRADE (5%, 25.0#/SY)
9. TYPE II CURB
10. 10" LIME TREATED SUBGRADE (5%, 41.7#/SY)
11. 2" HMAC (TY C)
12. 6" HMAC (TY B)
13. 12" HMAC (TY B)
14. TYPE II DOWEL CURB

STATE OF TEXAS
ANTHONY KINNEY
67156
LICENSED
PROFESSIONAL ENGINEER
10-31-11

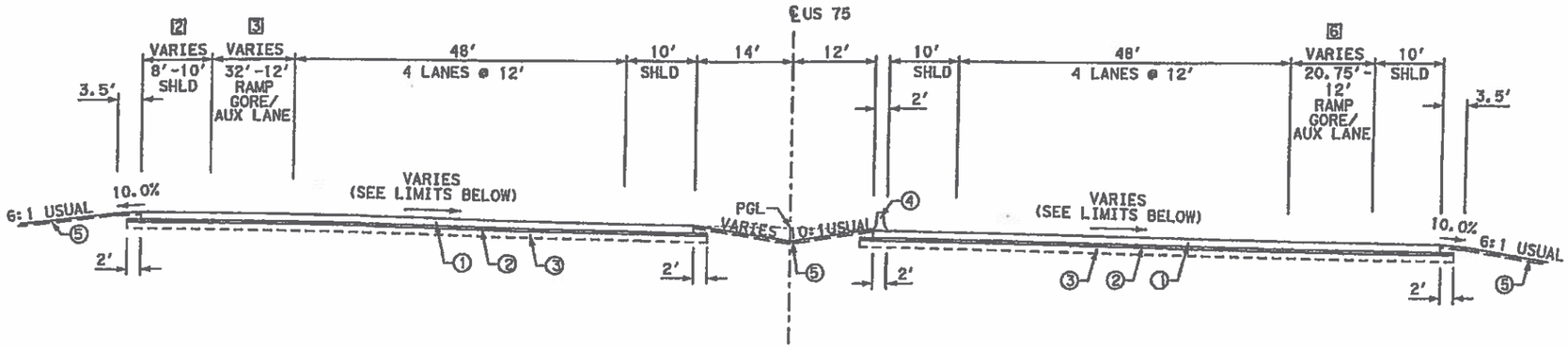
BURNS & MCDONNELL ENGINEERING CO, INC
15950 NORTH DALLAS PARKWAY, SUITE 700
DALLAS, TEXAS, 75248
TEXAS REGISTERED ENGINEERING FIRM F-845

US 75
PROPOSED TYPICAL SECTIONS
MAINLANES

SCALE: NTS SHEET 1 OF 11

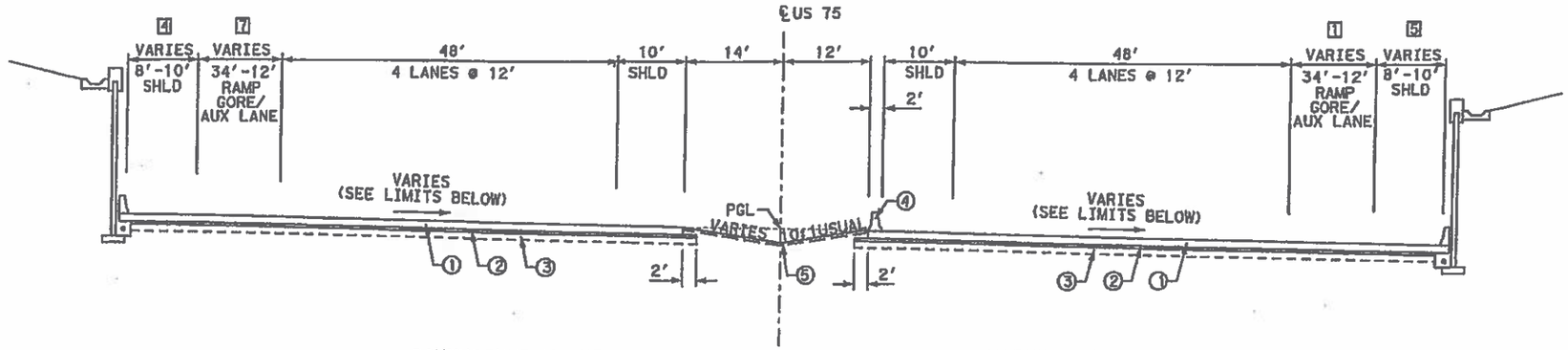
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
ALP	6			US 75
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
SET	TEXAS	DALLAS	COLLIN	[redacted]
DETAIL	CONTROL	SECTION	JOB	
SPC	0047	14	067	
CHECK				
ALP				

FILENAME: T:\INFO\TxDOT\58604_US75_Bloomdale\CADD\1_180_PTYP_001.dgn
PLOTTED: 10/28/2011 4:33:18 PM



SOUTHBOUND US 75
STA 955+75.00 TO STA 969+12.13
STA 985+83.53 TO STA 1002+90.00

NORTHBOUND US 75
STA 962+20.00 TO STA 969+79.44
STA 985+41.89 TO STA 999+98.00



SOUTHBOUND US 75
STA 969+12.13 TO STA 985+83.53

NORTHBOUND US 75
STA 969+79.44 TO STA 985+41.89

TRANSITION FROM 2.0% TO 3.4% STA 955+00.00 TO STA 964+90.00
3 TRANSITION FROM 26'TO 14.70' RAMP GORE/AUX LANE STA 965+73.19 TO STA 969+12.13
7 TRANSITION FROM 14.70'TO 12' RAMP GORE/AUX LANE STA 969+12.13 TO STA 970+88.48
7 12' AUX LANE STA 970+88.48 TO STA 982+76.15
7 TRANSITION FROM 12'TO 19.53' RAMP GORE/AUX LANE STA 982+76.15 TO STA 985+83.53
5 TRANSITION FROM 19.53'TO 32' RAMP GORE/AUX LANE STA 985+83.53 TO STA 990+52.25
2 TRANSITION FROM 8'TO 9.16' SHOULDER STA 966+81.70 TO STA 969+12.13
4 TRANSITION FROM 9.16'TO 10' SHOULDER STA 969+12.13 TO STA 970+88.48
4 TRANSITION FROM 10'TO 8' SHOULDER STA 982+76.15 TO STA 984+68.23
TRANSITION FROM 3.4% TO 2.0% STA 994+09.00 TO STA 1003+96.00

TRANSITION FROM 2.0% TO 3.4% STA 962+20.00 TO STA 964+90.00
1 TRANSITION FROM 34'TO 12' RAMP GORE/AUX LANE STA 969+51.84 TO STA 976+03.07
1 12' AUX LANE STA 976+03.07 TO STA 982+22.85
1 TRANSITION FROM 12'TO 20.75' RAMP GORE/AUX LANE STA 982+22.85 TO STA 985+41.89
5 TRANSITION FROM 8'TO 10' SHOULDER STA 973+92.22 TO STA 976+03.07
5 TRANSITION FROM 10'TO 8' SHOULDER STA 982+22.85 TO STA 984+28.05
6 TRANSITION FROM 20.75'TO 12' RAMP GORE/AUX LANE STA 985+41.89 TO STA 989+04.74
TRANSITION FROM 3.4% TO 2.0% STA 994+90.00 TO STA 999+98.00

⚠ REPLACED 11-28-11 BB

NOTE:

1. SEE BRIDGE SHEETS FOR TYPICAL SECTIONS AT BRIDGE LOCATIONS.
2. SEE RETAINING WALL SHEETS FOR RETAINING WALL DETAILS.

PROPOSED TYPICAL SECTION LEGEND

1. 13" CONCRETE PAVEMENT (CRCP)
2. 4" HMAC BASE (TY B)
3. 11" LIME TREATED SUBGRADE (5%, 45.8#/SY)
4. CSB (F-SHAPED) (C.I.P.)
5. ~~4" COMPOST MANUFACTURED TOPSOIL,~~ FERTILIZER, AND SEEDING
6. TYPE I CURB
7. 10" CONCRETE PAVEMENT (CRCP)
8. 6" LIME TREATED SUBGRADE (5%, 25.0#/SY)
9. TYPE II CURB
10. 10" LIME TREATED SUBGRADE (5%, 41.7#/SY)
11. 2" HMAC (TY C)
12. 6" HMAC (TY B)
13. 12" HMAC (TY B)
14. TYPE II DOWEL CURB

STATE OF TEXAS
ANTHONY KINNEY
67156
LICENSED PROFESSIONAL ENGINEER
10-31-11

Burns & McDonnell
BURNS & MCDONNELL ENGINEERING CO., INC
15950 NORTH DALLAS PARKWAY, SUITE 700
DALLAS, TEXAS, 75248
TEXAS REGISTERED ENGINEERING FIRM F-845

US 75
PROPOSED TYPICAL SECTIONS
SUPERELEVATED MAINLANES

SCALE: NTS

SHEET 2 OF 11

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
ALP	6		US 75
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
SET	TEXAS	DALLAS	COLLIN	
DETAIL	CONTROL	SECTION	JOB	
SPC	0047	14	067	
CHECK				
ALP				

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

FILENAME: T:\INFYT\DOT\58604_US75_Bloomdale\CADD\1_160_PTYP_002.dgn
PLOTTED: 10/26/2011 4:34:50 PM

FINAL PLANS

NAME OF CONTRACTOR: EO BELL Construction

DATE OF LETTING: 08/07/2012

DATE WORK BEGAN: 09/09/2013

DATE WORK COMPLETED: 12/18/2017

DATE WORK ACCEPTED: 12/19/2017

SUMMARY OF CHANGE ORDERS:
SEE PLAN SHEETS 1-A, 1-B, 1-C, 1-D, 1-E

VOLUME 1 OF 3

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT
NO. C47-14-68
CSJ: 0047-14-068

HWY: US 75

COLLIN COUNTY

LIMITS: FROM SOUTH OF TELEPHONE ROAD (COUNTY ROAD 275)
TO NORTH OF MELISSA ROAD

TOTAL LENGTH OF PROJECT =

ROADWAY	= 16,669.66 FT	= 3.157 MI.
TELEPHONE RD (UNDERPASS BRIDGE)*	= 407.00 FT	= 0.077 MI.
SH121 NB (BRIDGE CONNECTOR)*	= 700.00 FT	= 0.133 MI.
SH121 SB (BRIDGE CONNECTOR)*	= 723.00 FT	= 0.137 MI.
DAVIS RD (UNDERPASS BRIDGE)*	= 304.06 FT	= 0.058 MI.
MELISSA RD (UNDERPASS BRIDGE)*	= 281.80 FT	= 0.053 MI.
TOTAL	= 16,669.66 FT	= 3.157 MI.

* DOES NOT CONTRIBUTE TO TOTAL LENGTH OF PROJECT

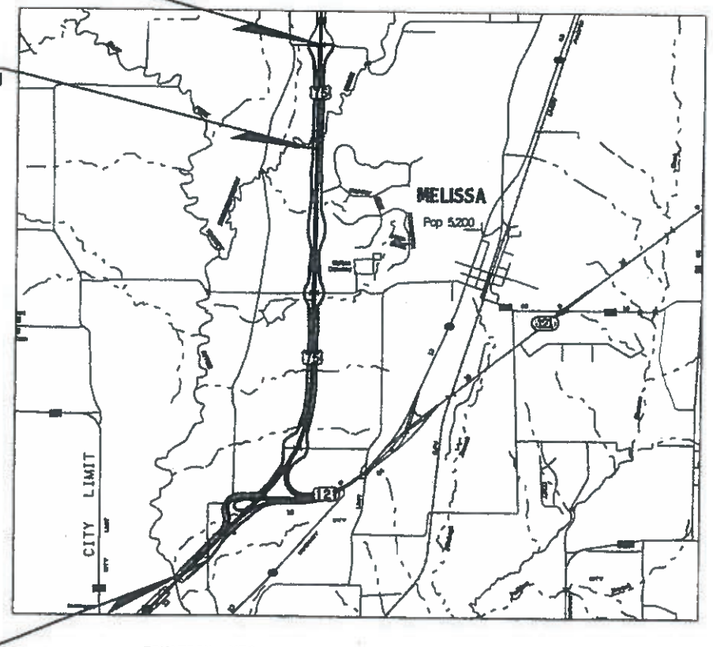
TYPE OF WORK: RECONSTRUCT AND WIDEN 4 LANE TO 6 LANES AND 2 LANE FRONTAGE ROADS EACH DIRECTION

CONSISTING OF: GRADING, BASE, PAVEMENT, STRUCTURES, DRAINAGE, SIGNS, PAVEMENT MARKINGS

END INCIDENTAL CONSTRUCTION
CSJ 0047-14-068
STA ~~1274~~+76.00

END PROJECT
BEGIN INCIDENTAL CONSTRUCTION
CSJ 0047-14-068
STA ~~1233~~+85.00
TRM 230+0.842

1067+00.00



COLLIN COUNTY
0 1
SCALE IN MILES
DALLAS DISTRICT

BEGIN PROJECT
CSJ 0047-14-068
STA 1067+00.00
TRM 234+0.184

EQUATION: YES
STA 1074+00.00 BK = STA 1074+15.34 AH = -15.34 FT
EXCEPTIONS: NONE
RAILROAD CROSSINGS: NONE

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	C47-14-68		US 75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

DESIGN SPEED:
US 75 MAINLANES: 70 MPH
US 75 RAMPS: 50 MPH
US 75 FRONTAGE ROADS: 50 MPH
SH 121 DIRECT CONNECTORS: 45 MPH
SIDE ROADS: 30 MPH
ADT (2012) = 51,100
ADT (2032) = 78,300
FUNCTIONAL CLASSIFICATION = RURAL FREEWAY

NOTE:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000-007)

TDLR INSPECTION REQUIRED

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

ARCADIS
ARCADIS U.S., INC. FIRM ID #533
12400 Colt Rd. Ste.1200
Dallas, Texas 75251
Tel: 972.934.3711
Fax: 972.934.3662
www.arcadis-us.com

CONCURRENCE: MAY 9, 2012
Jamshid Jahangiri, P.E.
CONSULTING ENGINEER
ARCADIS U.S., INC

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED PROFESSIONAL ENGINEER

CONCURRENCE: May 9, 2012
COLLIN COUNTY

STATE OF TEXAS
BRENAN D. PONEY
98881
LICENSED PROFESSIONAL ENGINEER

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

Signature of Registrant & Date 1/10/18

85

Texas Department of Transportation

RECOMMENDED FOR LETTING 5-9 2012
Barry Heard, P.E.
AREA ENGINEER

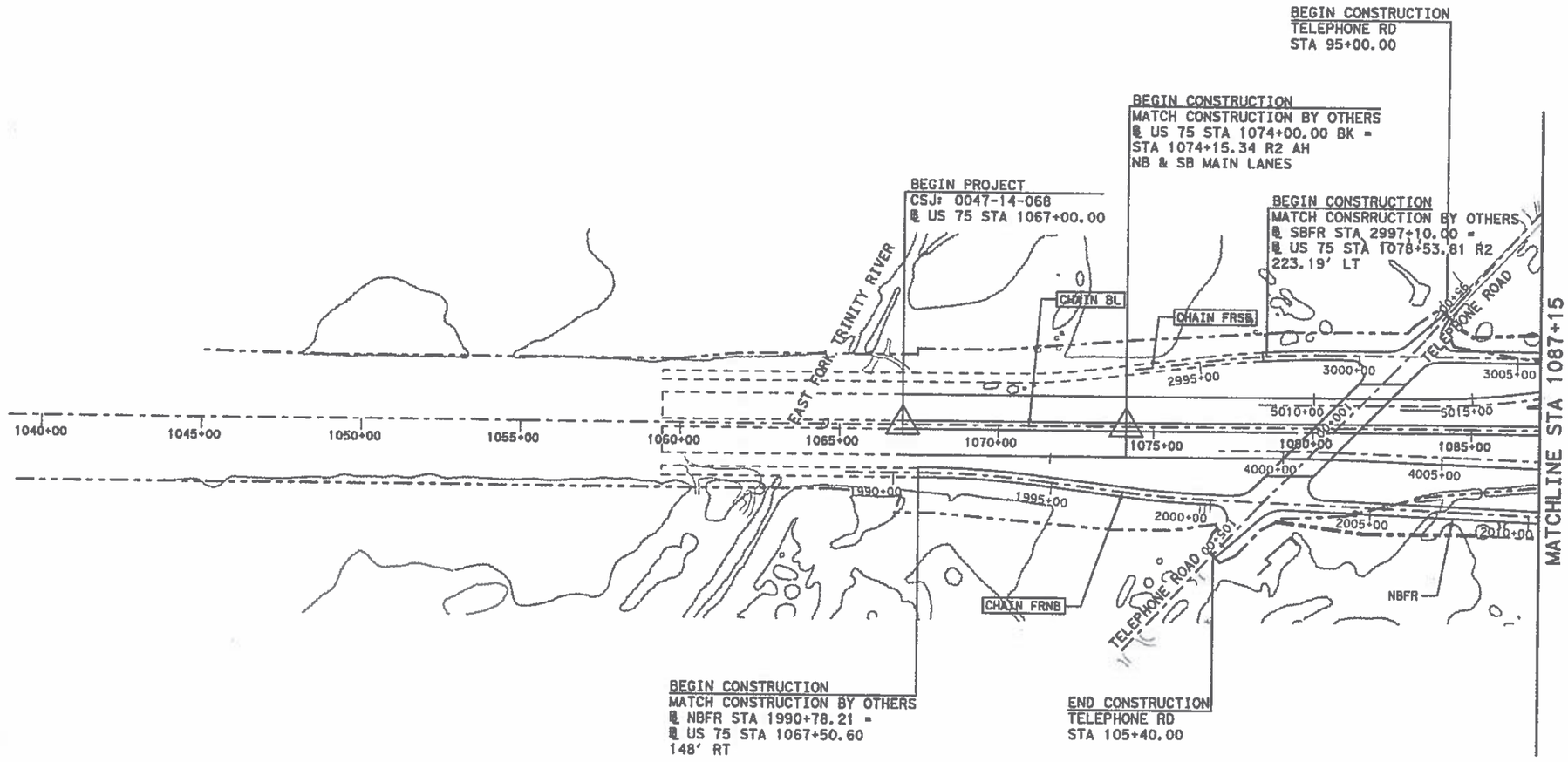
APPROVED FOR LETTING 20
, P.E.
DIRECTOR, BRIDGE DIVISION

RECOMMENDED FOR LETTING 5-14-2012
Moola Sagi, P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

APPROVED FOR LETTING 2012
, P.E.
DIRECTOR, TRAFFIC OPERATIONS DIVISION

RECOMMENDED FOR LETTING: 5/14 2012
Will Hall, P.E.
DISTRICT ENGINEER

APPROVED FOR LETTING 06/29/2012
, P.E.
DIRECTOR, DESIGN DIVISION
FOR



0 400
SCALE IN FEET

NOTES:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR ADDITIONAL INFORMATION.
2. SEE CONTROL POINT LAYOUT SHEETS FOR SURVEY CONTROL INFORMATION.

LEGEND

EXIST ROW	
PROP ROW	
CONTROL ACCESS	
EXIST EASEMENT	
PROP EASEMENT	
GEOPAK CHAIN	XXXX

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

86

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED
PROFESSIONAL ENGINEER

7-25-12
Jamshid Jahangiri, P.E.

ARCADIS
ARCADIS U.S., INC. FIRM ID #633

Texas Department of Transportation

US 75
PROJECT LAYOUT

SCALE: 1" = 400' SHEET 1 OF 5

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

7/25/2012
G:\TRA\TXDOT\DAL\US75PSE068\SheetFiles\1general\PROJWLAY01.dgn

BEGIN SH 121 SBDC CONSTRUCTION
℄ SH 121 SB STA 5017+55.20 =
℄ US 75 STA 1087+56.35 R2
105.62' LT

BEGIN SH 121 NBDC CONSTRUCTION
℄ SH 121 NB STA 4013+00.00 =
℄ US 75 STA 1092+87.62 R2
116.95' RT

BEGIN CONSTRUCTION
DAVIS RD
STA 94+79.89

END CONSTRUCTION
DAVIS RD
STA 104+40.00

END CONSTRUCTION
℄ SH 121 SBDC
STA 5067+86.25

END CONSTRUCTION
℄ SH 121 NBDC
STA 4055+83.18

MATCHLINE STA 1087+15

MATCHLINE STA 1135+15

PROPOSED CR 276/277 CONNECTOR

SBDC

CULVERT #13

CULVERT #1

CULVERT #2

CULVERT #3

CULVERT #4

CULVERT #5

CULVERT #6

CULVERT #7

CHAIN FRSB

CHAIN BL

SBFR

CHAIN SH121-N

CHAIN SH121-S

CHAIN SH12175

CHAIN EDC-KBR

US 75 NBFR TO NBDC

SBDC TO NBFR

NBDC

DAVIS ROAD

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

0 400
SCALE IN FEET

NOTES:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR ADDITIONAL INFORMATION.
2. SEE CONTROL POINT LAYOUT SHEETS FOR SURVEY CONTROL INFORMATION.

LEGEND

EXIST ROW	
PROP ROW	
CONTROL ACCESS	
EXIST EASEMENT	
PROP EASEMENT	
GEOPAK CHAIN	XXXX

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED PROFESSIONAL ENGINEER

9/13/13
Jamshid Jahangiri, P.E.
KBR TECHNICAL SERVICES, INC.
TEXAS REGISTRATION # 2397

DATE	BY	REV	REVISION
9/13/2013	JJ	1	FOR PROP ROW, SH 121 EBDC, & SH 121 NBDC

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation
© 2012

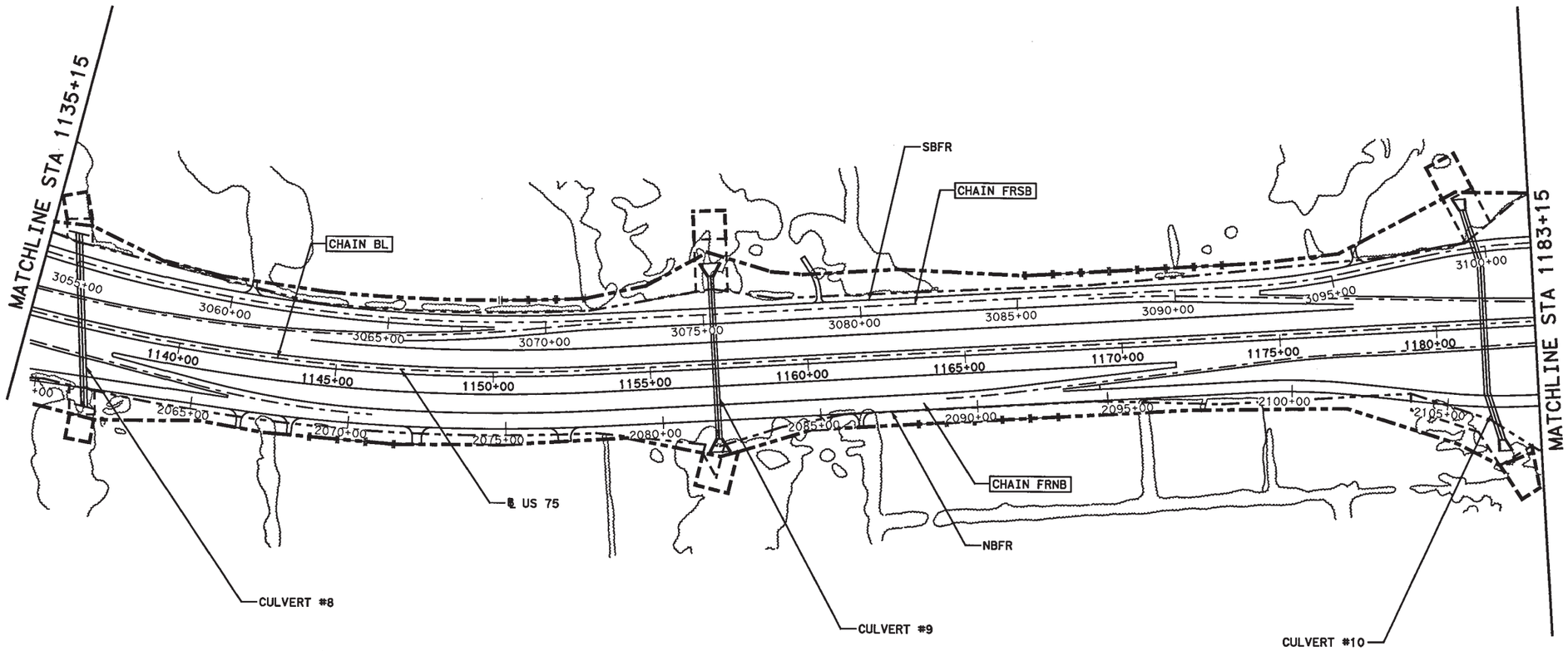
US 75
PROJECT LAYOUT

SCALE: 1" = 400'
SHEET 2 OF 5

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

87

9/13/2013
h:\dallas\us75\lufkin\office\SheetFiles\general\PROJ=LAY02=KBR=06-18-2013.dgn



0 400
SCALE IN FEET

NOTES:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR ADDITIONAL INFORMATION.
2. SEE CONTROL POINT LAYOUT SHEETS FOR SURVEY CONTROL INFORMATION.

LEGEND

EXIST ROW	
PROP ROW	
CONTROL ACCESS	
EXIST EASEMENT	
PROP EASEMENT	
GEOPAK CHAIN	XXXX

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED PROFESSIONAL ENGINEER

7-25-12
Jamshid Jahangiri, P.E.

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

US 75
PROJECT LAYOUT

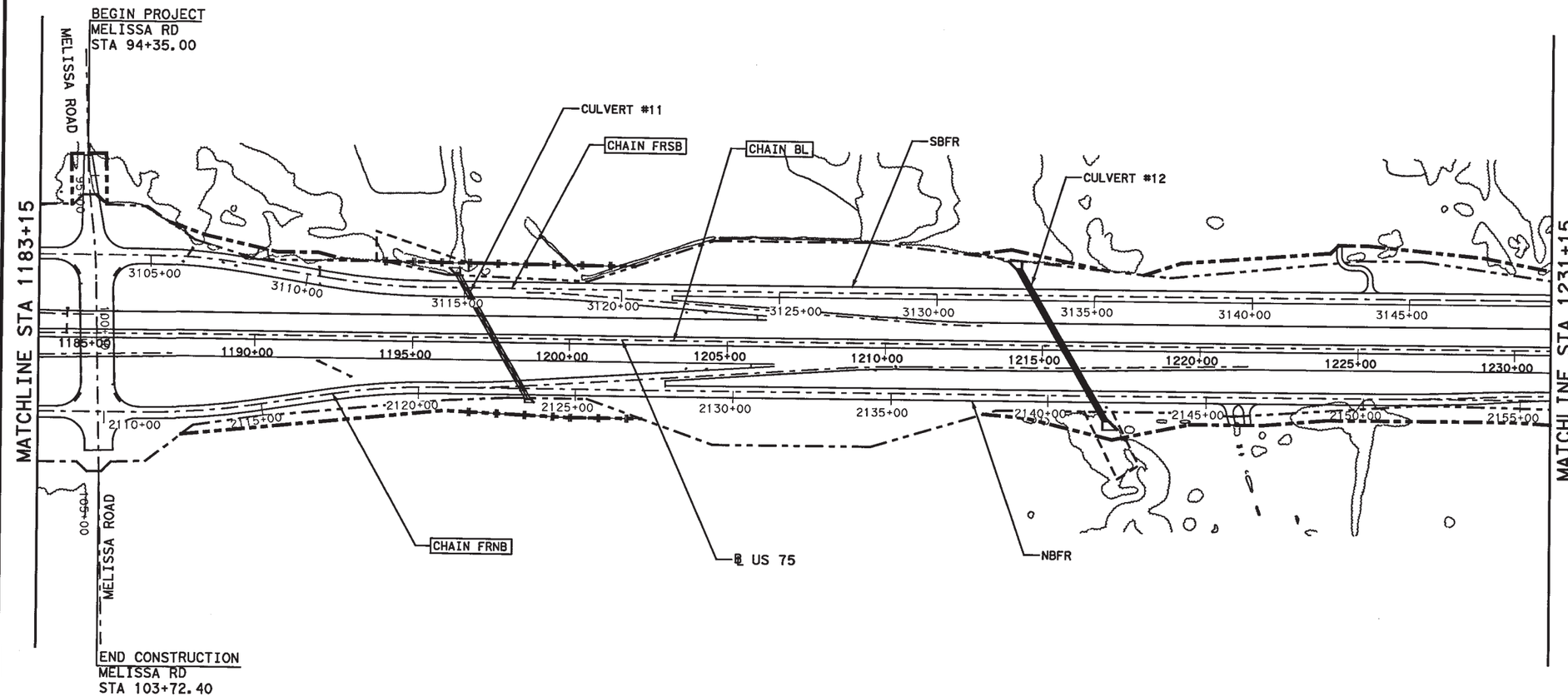
SCALE: 1" = 400'

SHEET 3 OF 5

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

88

7/25/2012
G:\TRA\TXDOT\DAL\US75PSE068\Sheet Files\1general\PROJ*LAY03.dgn



0 400
SCALE IN FEET

NOTES:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR ADDITIONAL INFORMATION.
2. SEE CONTROL POINT LAYOUT SHEETS FOR SURVEY CONTROL INFORMATION.

LEGEND

EXIST ROW
PROP ROW
CONTROL ACCESS
EXIST EASEMENT
PROP EASEMENT
GEOPAK CHAIN XXXX

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED
PROFESSIONAL ENGINEER

7-25-12

Jamshid Jahangiri, P.E.

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation

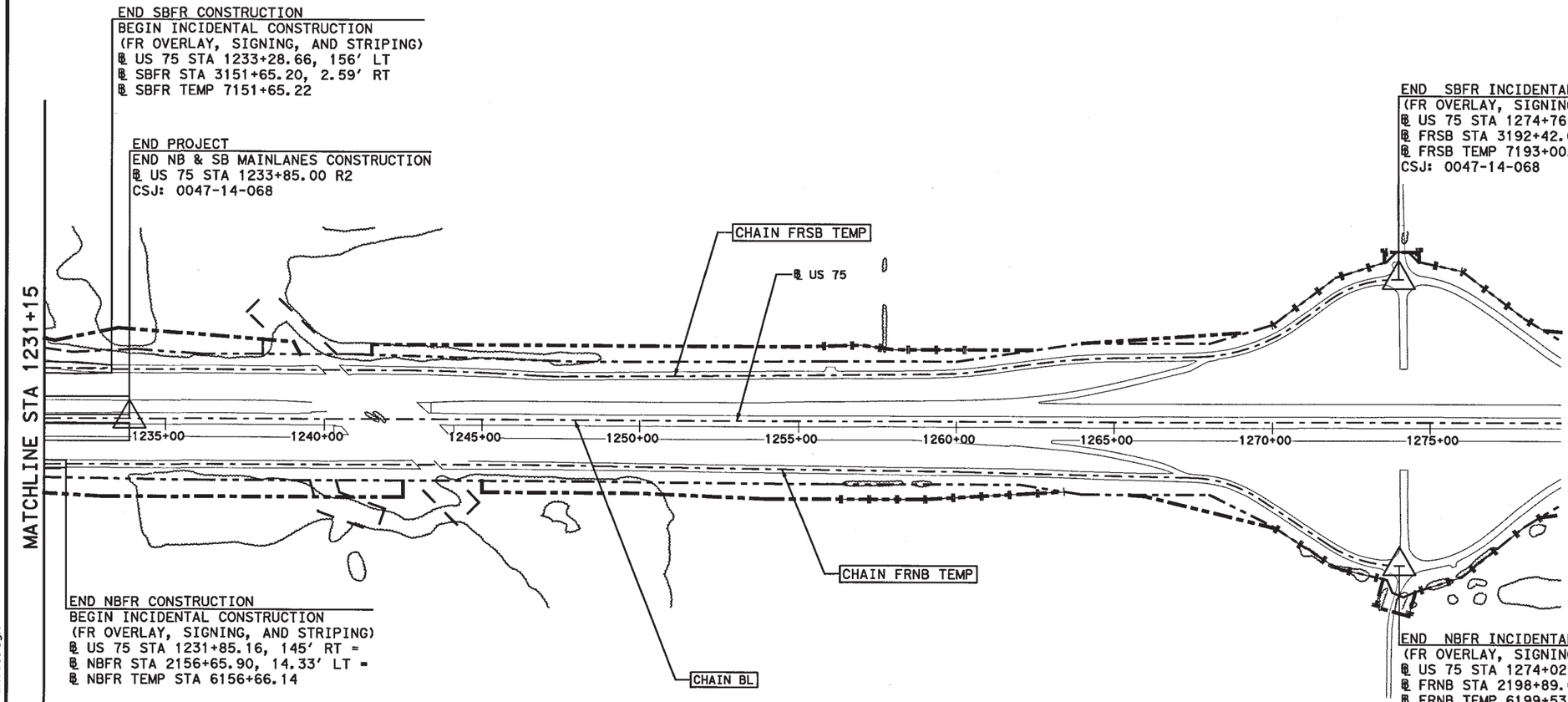
AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

US 75
PROJECT LAYOUT

SCALE: 1" = 400'

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

7/25/2012
G:\TRA\TXDOT\DAL\US75PSE068\SheetFiles\1general\PROJ#LAY04.dgn



0 400
SCALE IN FEET

NOTES:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR ADDITIONAL INFORMATION.
2. SEE CONTROL POINT LAYOUT SHEETS FOR SURVEY CONTROL INFORMATION.

LEGEND

EXIST ROW
PROP ROW
CONTROL ACCESS
EXIST EASEMENT
PROP EASEMENT
GEOPAK CHAIN XXXX

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED PROFESSIONAL ENGINEER

7-25-12
Jamshid Jahangiri, P.E.

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation
© 2012

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

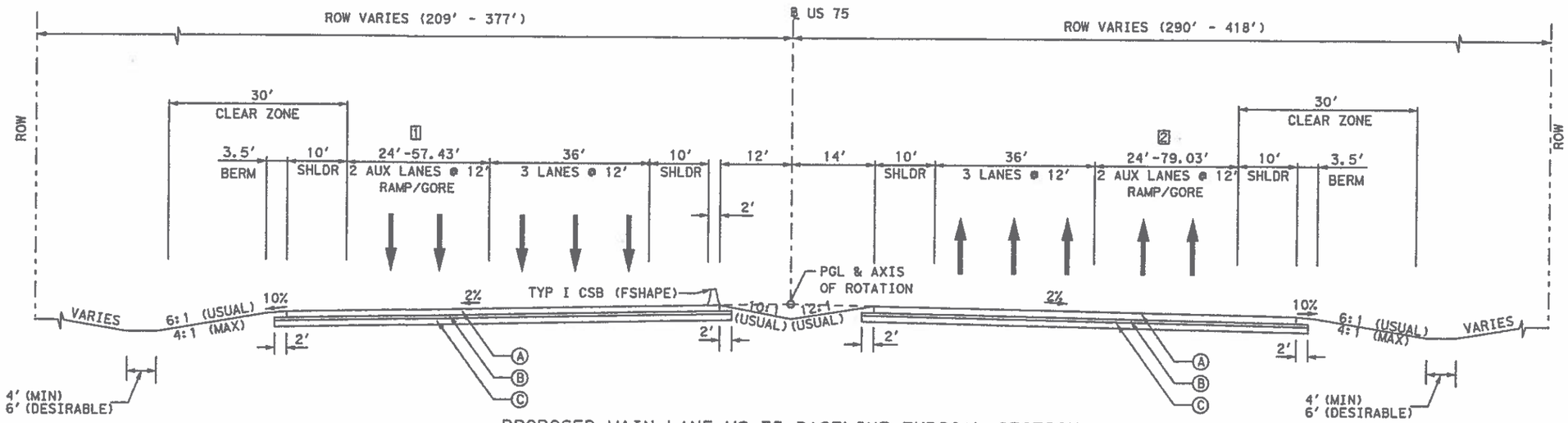
US 75
PROJECT LAYOUT

SCALE: 1" = 400' SHEET 5 OF 5

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

90

7/25/2012
G:\TRAFFIC\TXDOT\DAL\US75PSE068\Sheetfiles\1general\PROJ*LAY05.dgn



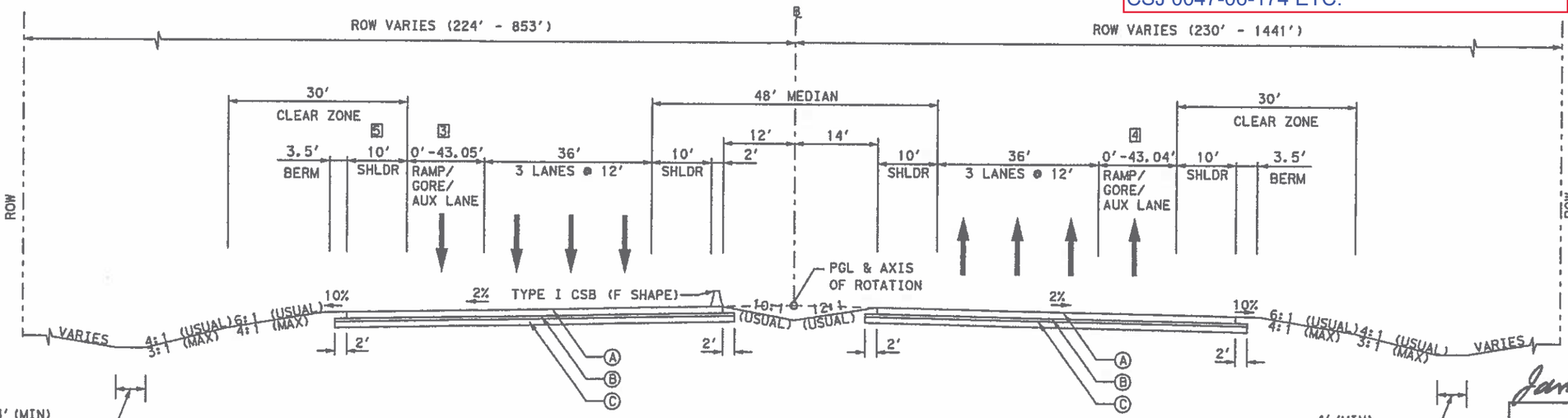
PROPOSED MAIN LANE US 75 BASELINE TYPICAL SECTION WITH AUXILARY LANE

STA 1074+15.34 TO STA 1101+29.97 (NORTHBOUND LANES)
STA 1074+15.34 TO STA 1087+54.21 (SOUTHBOUND LANES)
(EQUATION: STA 1074+00.00 BK = STA 1074+15.34 AH)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

TYPICAL SECTION LEGEND

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 4" HMAC (TY B)
- (C) 6" LIME TREATED SUBGRADE (6%)
- (D) 9" CONCRETE PAVEMENT (CRCP)
- (E) TYPE II CURB
- (F) 8" FLEXBASE
- (G) 10" CONCRETE PAVEMENT (CRCP)
- (H) 4" HMAC (TY C)
- (I) 2" HMAC (TY C)



PROPOSED MAIN LANE US 75 BASELINE TYPICAL SECTION

STA 1101+29.97 TO STA 1226+00.00 (NORTHBOUND LANES)
STA 1087+54.21 TO STA 1226+00.00 (SOUTHBOUND LANES)

[1]	24' (2 - 12' LANES) STA 1074+00.00 TO STA 1083+47.73
[1]	TRANSITIONS 24' TO 57.43' STA 1083+47.73 TO STA 1087+54.21
[2]	24' (2 - 12' LANES) STA 1074+00.00 TO STA 1079+08.39
[2]	TRANSITIONS 24' TO 79.03' STA 1079+08.39 TO STA 1092+89.39
[2]	12' LANE STA 1092+89.39 TO STA 1095+85.68
[2]	TRANSITIONS 12' TO 43' STA 1095+85.68 TO STA 1101+29.97

[4]	TRANSITIONS 0' TO 43.03' STA 1129+99.70 TO STA 1138+48.79
[4]	TRANSITIONS 43.04' TO 0' STA 1171+64.59 TO STA 1187+49.57
[4]	TRANSITIONS 41.04' TO 0' STA 1205+75.68 TO STA 1221+49.57

[5]	TRANSITIONS 10' TO 8' SHOULDER STA 1106+49.85 TO STA 1107+68.75

[3]	TRANSITIONS 0' TO 14' STA 1097+50.00 TO STA 1103+50.00
[3]	14' LANE STA 1103+50.00 TO STA 1107+68.75
[3]	TRANSITIONS 14' TO 43.05' STA 1107+68.75 TO STA 1114+95.60
[3]	TRANSITIONS 0' TO 43.02' STA 1123+84.99 TO STA 1145+84.02
[3]	TRANSITIONS 43.04' TO 0' STA 1177+21.41 TO STA 1184+38.24
[3]	TRANSITIONS 43.04' TO 0' STA 1205+93.45 TO STA 1213+10.27

91

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED
PROFESSIONAL ENGINEER
7-25-12
Jamshid Jahangiri, P.E.

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

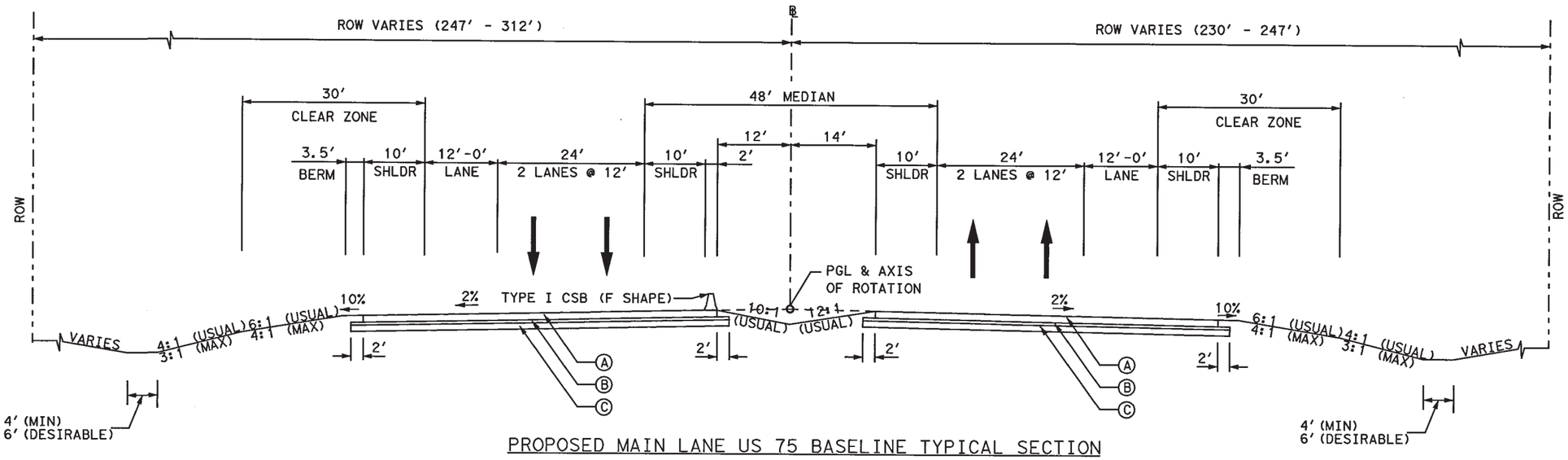
Texas Department of Transportation
© 2012

US 75
PROPOSED TYPICAL SECTIONS
MAINLANES

NOT TO SCALE SHEET 4 OF13

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

7/13/2012
G:\Tro\TXDOT\DAL\US75PSE068\SheetFiles\general\TypSection.dgn



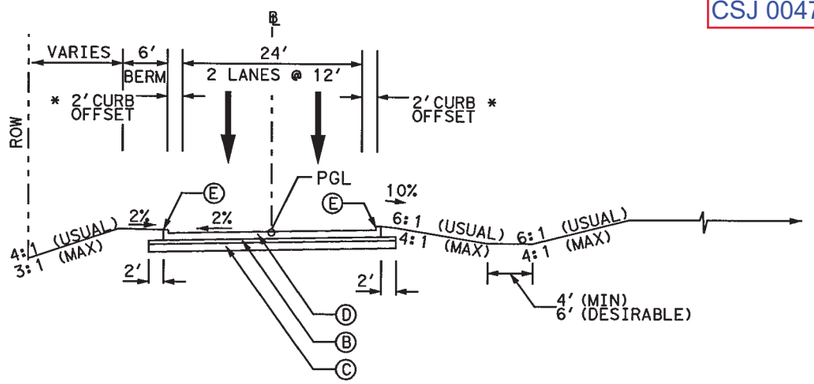
PROPOSED MAIN LANE US 75 BASELINE TYPICAL SECTION

STA 1226+00.00 TO STA 1233+85.00 (NORTHBOUND LANES)
STA 1226+00.00 TO STA 1233+85.00 (SOUTHBOUND LANES)

* CURB OFFSET IS TO THE FACE-OF-CURB.

TYPICAL SECTION LEGEND

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 4" HMAC (TY B)
- (C) 6" LIME TREATED SUBGRADE (6%)
- (D) 9" CONCRETE PAVEMENT (CRCP)
- (E) TYPE II CURB
- (F) 8" FLEXBASE
- (G) 10" CONCRETE PAVEMENT (CRCP)
- (H) 4" HMAC (TY C)
- (I) 2" HMAC (TY C)



PROPOSED SB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 2996+97.50 TO STA 3001+56.63 (SBFR)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED
PROFESSIONAL ENGINEER

7-25-12

Jamshid Jahangiri, P.E.

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation

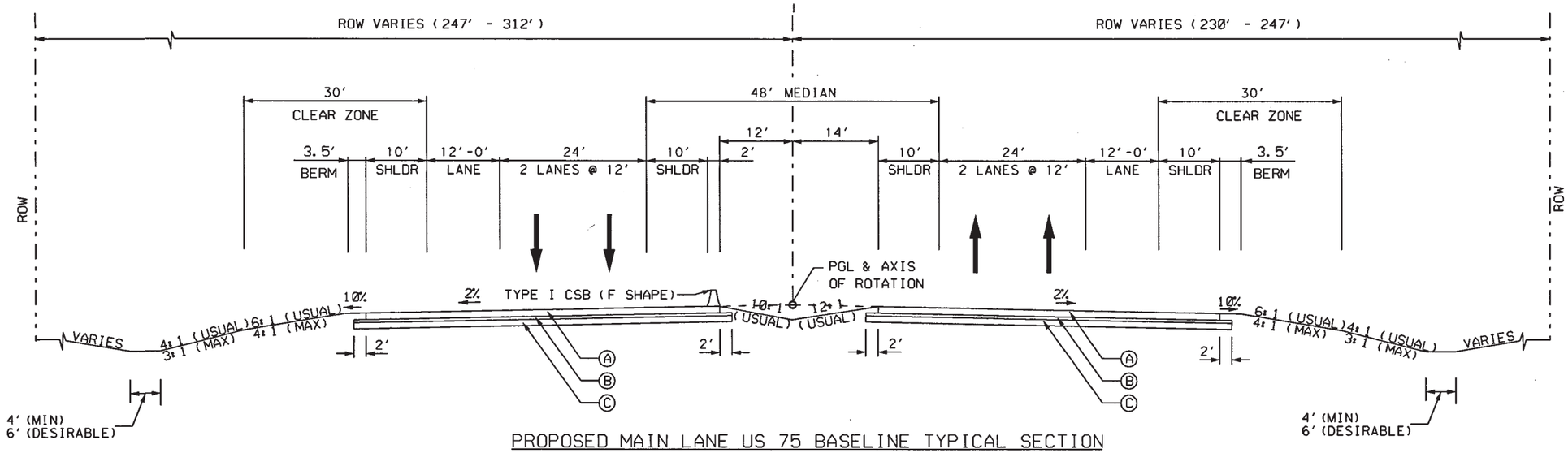
US 75
PROPOSED TYPICAL SECTIONS
MAINLANES

NOT TO SCALE — SHEET 5 OF13

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

92

7/13/2012
G:\Tra\TXDOT\DAL\US75PSE068\Sheet Files\general\TypSection.dgn



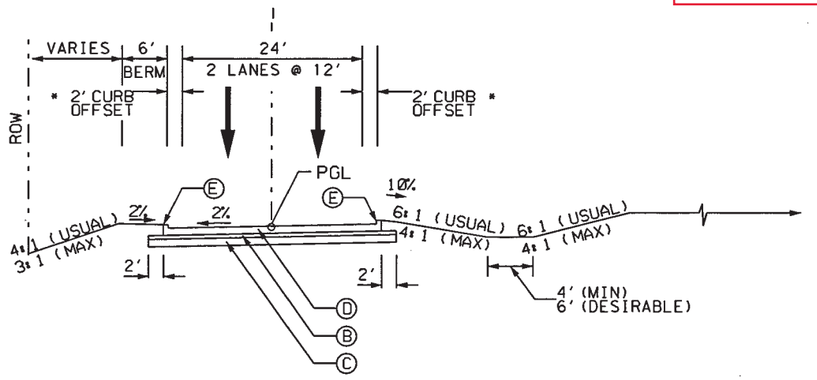
PROPOSED MAIN LANE US 75 BASELINE TYPICAL SECTION

STA 1226+00.00 TO STA 1233+85.00 (NORTHBOUND LANES)
STA 1226+00.00 TO STA 1233+85.00 (SOUTHBOUND LANES)

* CURB OFFSET IS TO THE FACE-OF-CURB.

TYPICAL SECTION LEGEND

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 4" HMAC (TY B)
- (C) 6" LIME TREATED SUBGRADE (6%)
- (D) 9" CONCRETE PAVEMENT (CRCP)
- (E) TYPE II CURB
- (F) 8" FLEXBASE
- (G) 10" CONCRETE PAVEMENT (CRCP)
- (H) 4" HMAC (TY C)
- (I) 2" HMAC (TY C)



PROPOSED SB FRONTAGE ROAD US 75
TYPICAL SECTION

2 STA 2997+50.00 TO STA 3001+56.63 (SBFR)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
BRENAN D HONEY
98351
LICENSED
PROFESSIONAL ENGINEER
10/11/13

2 CHANGE ORDER
1. REVISED SBFR

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation

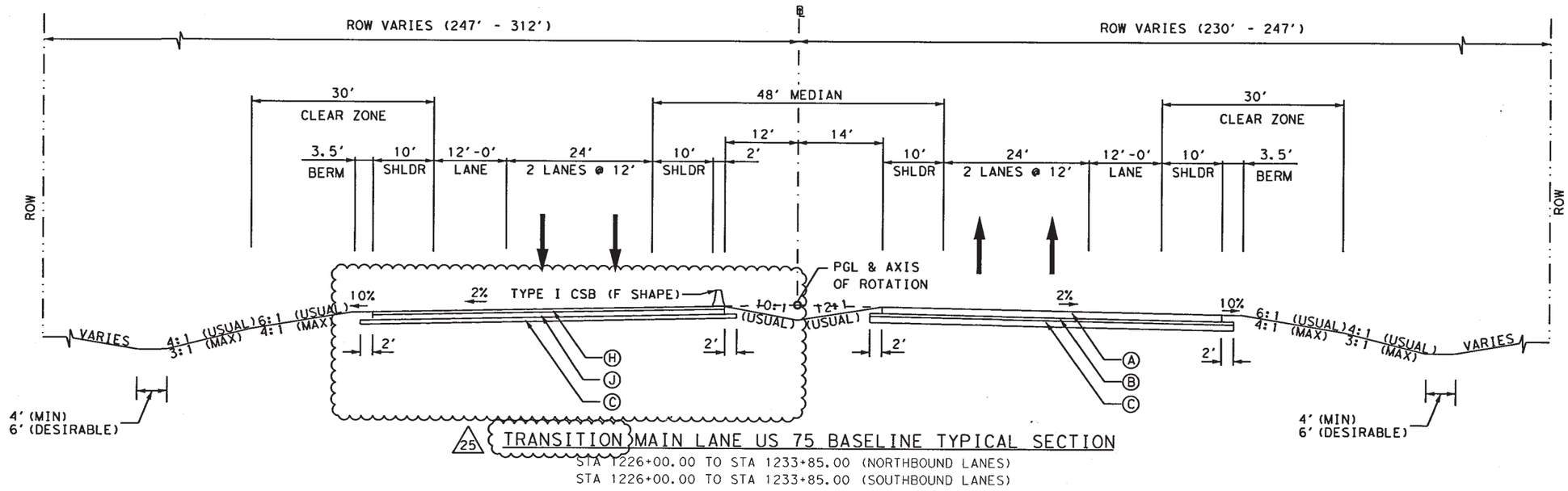
US 75
PROPOSED TYPICAL SECTIONS
MAINLANES

NOT TO SCALE SHEET 5 OF 13

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

93

$DATE$
$FILE$



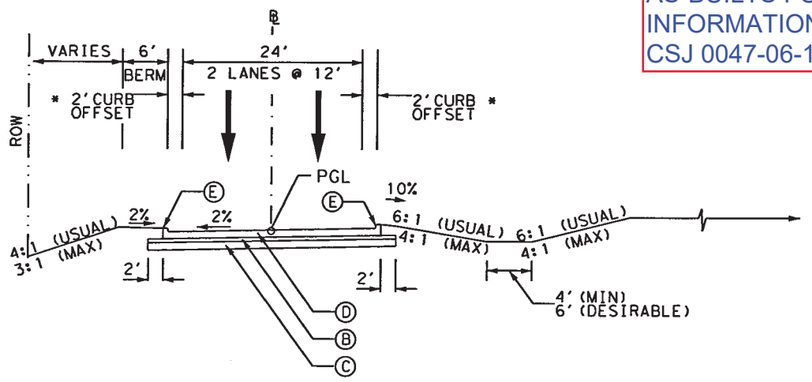
25 TRANSITION MAIN LANE US 75 BASELINE TYPICAL SECTION

STA 1226+00.00 TO STA 1233+85.00 (NORTHBOUND LANES)
STA 1226+00.00 TO STA 1233+85.00 (SOUTHBOUND LANES)

TYPICAL SECTION LEGEND

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 4" HMAC (TY B)
- (C) 6" LIME TREATED SUBGRADE (6%)
- (D) 9" CONCRETE PAVEMENT (CRCP)
- (E) TYPE II CURB
- (F) 8" FLEXBASE
- (G) 10" CONCRETE PAVEMENT (CRCP)
- (H) 4" HMAC (TY C)
- (I) 2" HMAC (TY C)
- (J) 8" HMAC (TY B)

* CURB OFFSET IS TO THE FACE-OF-CURB.



PROPOSED SB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 2997+50.00 TO STA 3001+56.63 (SBFR)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

25

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED PROFESSIONAL ENGINEER

THIS SHEET WAS
ORIGINALLY SEALED
BY JAMSHID JAHANGIRI
ON 7-25-12

STATE OF TEXAS
JAMES T. CAMPBELL
117279
LICENSED PROFESSIONAL ENGINEER

FOR REVISION NO. 25
ONLY
James T. Campbell

25 CHANGE ORDER
1. NORTH END TIE-IN REVISIONS

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation
© 2012

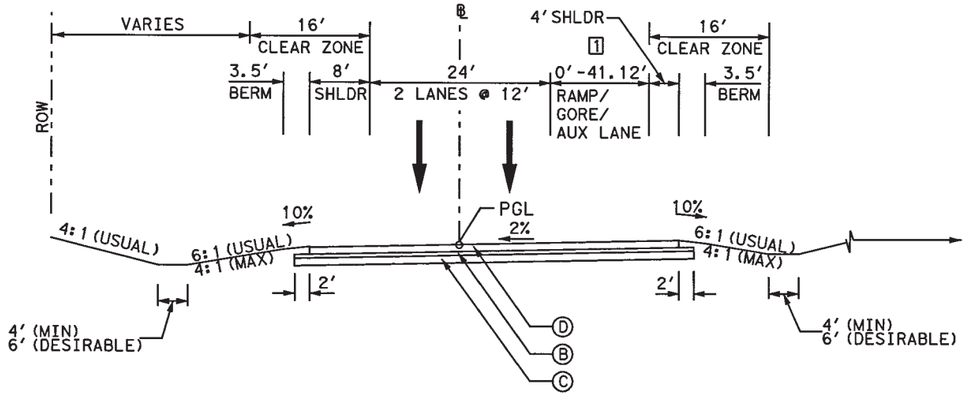
US 75
PROPOSED TYPICAL SECTIONS
MAINLANES

NOT TO SCALE SHEET 5 OF 13

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
	CONTROL	SECTION	JOB	
CHECK	0047	14	068	

94

$DATE$
$FILE$



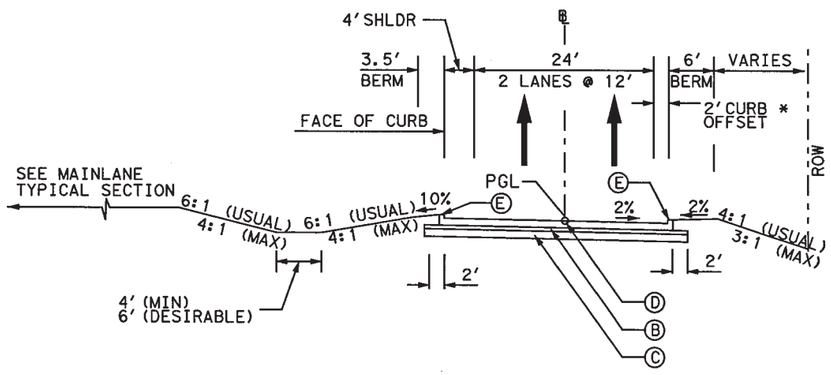
PROPOSED SB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 3001+56.63 TO STA 3151+65.20 (SBFR)

NOTE: SEE MAIN LANE TYPICAL SECTION

1 TRANSITIONS 41.08' TO 0' RAMP GORE STA 3036+06.90 TO STA 3042+66.86
1 TRANSITIONS 41.06' TO 0' RAMP GORE STA 3067+32.86 TO STA 3071+87.21
1 14' AUXILIARY LANE STA 3071+87.21 TO STA 3088+16.30
1 TRANSITIONS 14' TO 41.12' RAMP GORE STA 3088+16.30 TO STA 3092+87.85
1 14' AUXILIARY LANE STA 3104+48.91 TO STA 3117+00.12
1 TRANSITIONS 14' TO 41.05' RAMP GORE STA 3117+00.12 TO STA 3121+87.78

* CURB OFFSET IS TO THE FACE-OF-CURB.



PROPOSED NB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 1990+78.21 TO STA 2001+62.78 (NBFR)

TYPICAL SECTION LEGEND

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 4" HMAC (TY B)
- (C) 6" LIME TREATED SUBGRADE (6%)
- (D) 9" CONCRETE PAVEMENT (CRCP)
- (E) TYPE II CURB
- (F) 8" FLEXBASE
- (G) 10" CONCRETE PAVEMENT (CRCP)
- (H) 4" HMAC (TY C)
- (I) 2" HMAC (TY C)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED
PROFESSIONAL ENGINEER

Jamshid Jahangiri, P.E.
5-4-2012

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

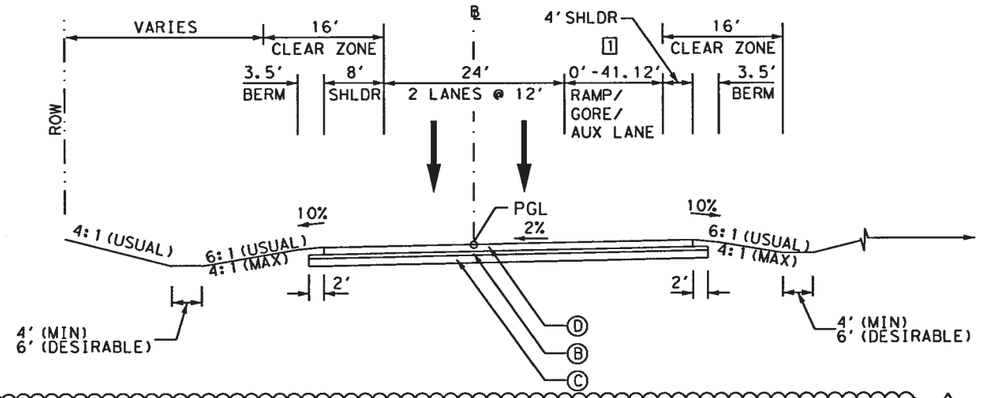
Texas Department of Transportation

US 75
PROPOSED TYPICAL SECTIONS
FRONTAGE ROADS

NOT TO SCALE — SHEET 6 OF 13

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

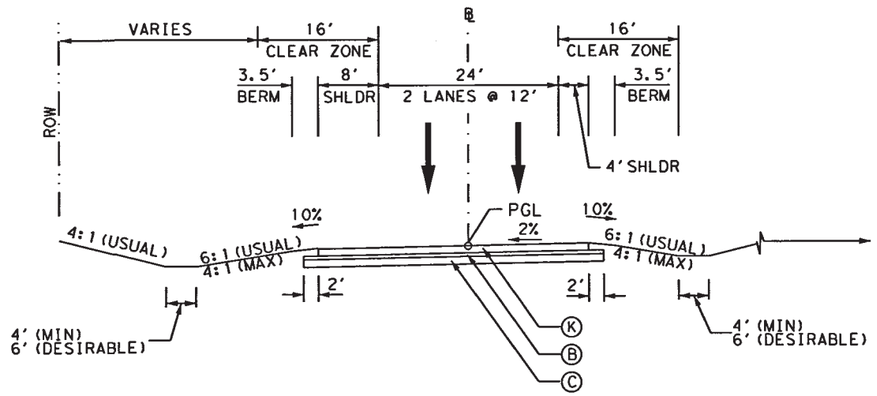
5/4/2012
g:\trg\txdot\dal\us75pse068\sheetfiles\general\TypSection.dgn



PROPOSED SB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 3001+56.63 TO STA 3144+36.54(SBFR)
STA 7144+36.54 TO STA 7148+32.00(SBFR)

25



TRANSITION SB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 7148+32.00 TO STA 7151+65.22 (SBFR)

NOTE: SEE MAIN LANE TYPICAL SECTION

1 TRANSITIONS 41.08' TO 0' RAMP GORE STA 3036+06.90 TO STA 3042+66.86
1 TRANSITIONS 41.06' TO 0' RAMP GORE STA 3067+32.86 TO STA 3071+87.21
1 14' AUXILIARY LANE STA 3071+87.21 TO STA 3088+16.30
1 TRANSITIONS 14' TO 41.12' RAMP GORE STA 3088+16.30 TO STA 3092+87.85
1 14' AUXILIARY LANE STA 3104+48.91 TO STA 3117+00.12
1 TRANSITIONS 14' TO 41.05' RAMP GORE STA 3117+00.12 TO STA 3121+87.78

TYPICAL SECTION LEGEND

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 4" HMAC (TY B)
- (C) 6" LIME TREATED SUBGRADE (6%)
- (D) 9" CONCRETE PAVEMENT (CRCP)
- (E) TYPE II CURB
- (F) 8" FLEXBASE
- (G) 10" CONCRETE PAVEMENT (CRCP)
- (H) 4" HMAC (TY C)
- (I) 2" HMAC (TY C)
- (K) 9" HMAC (TY B)

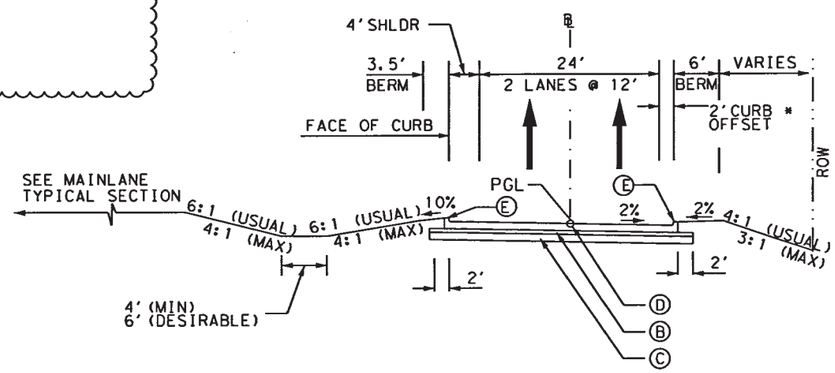
* CURB OFFSET IS TO THE FACE-OF-CURB.

25

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED PROFESSIONAL ENGINEER

THIS SHEET WAS ORIGINALLY SEALED BY JAMSHID JAHANGIRI ON 5-4-12

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROPOSED NB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 1990+78.21 TO STA 2001+62.78 (NBFR)

STATE OF TEXAS
JAMES T. CAMPBELL
117279
LICENSED PROFESSIONAL ENGINEER

FOR REVISION NO. 25 ONLY

James T. Campbell

25 CHANGE ORDER
1. NORTH END TIE-IN REVISIONS

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation

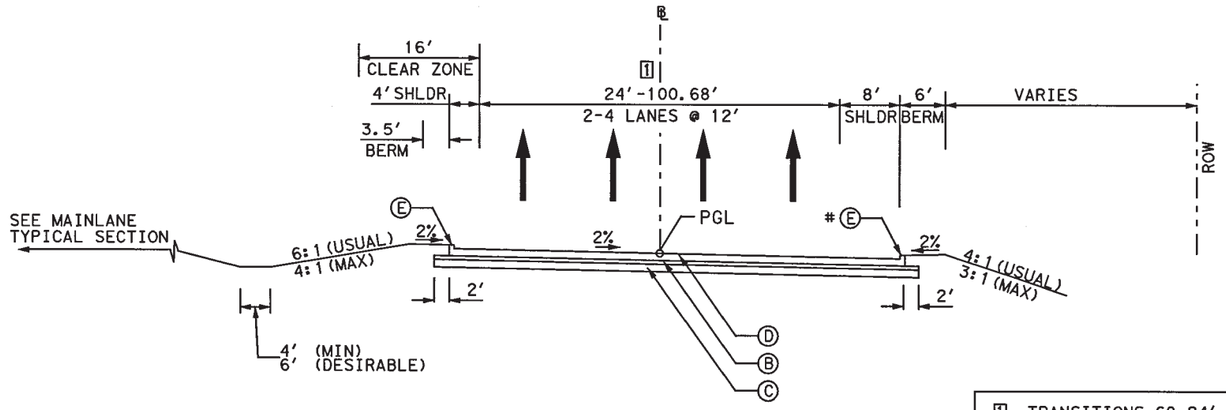
US 75
PROPOSED TYPICAL SECTIONS FRONTAGE ROADS

NOT TO SCALE SHEET 6 OF 13

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

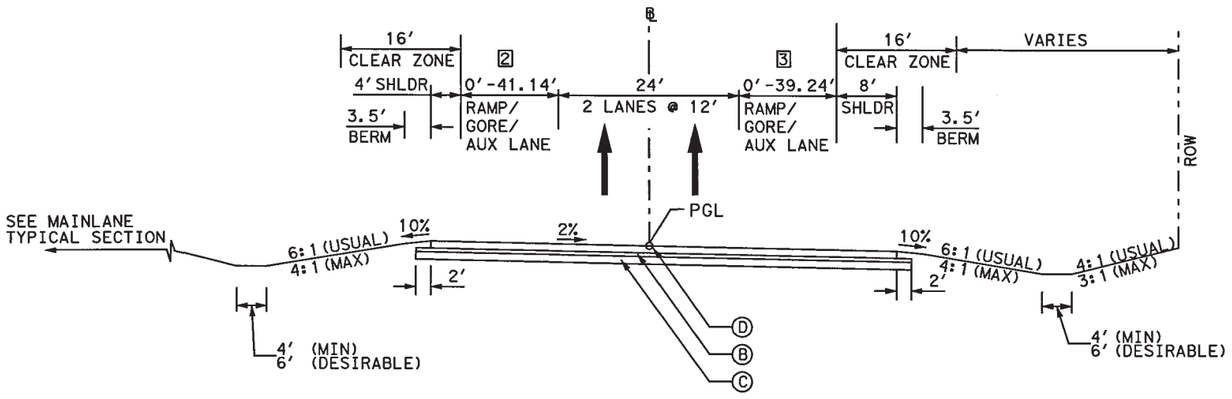
96

$DATE$
$FILE$



PROPOSED NB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 2038+44.96 TO STA 2054+15.77 (NBFR)
(# NO TYPE II CURB: STA 2038+44.96 TO STA 2041+13.94)



PROPOSED NB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 2001+62.78 TO STA 2038+44.96 (NBFR)
STA 2054+15.77 TO STA 2156+65.90 (NBFR)

1	TRANSITIONS 68.24' TO 48.19' RAMP GORE STA 2038+44.96 TO STA 2041+05.13
1	100.68' (RAMP GORE) STA 2041+05.13
1	TRANSITIONS 100.68' TO 52' STA 2041+05.13 TO STA 2044+42.17
1	52' (2 - 12' LANES, 2 - 14' LANES) STA 2044+42.17 TO STA 2054+15.77

2	TRANSITIONS 45.35' TO 36.23' RAMP GORE STA 2033+54.56 TO STA 2038+44.96
2	TRANSITIONS 41.14' TO 14' RAMP GORE STA 2065+21.49 TO STA 2070+70.90
2	14' AUXILIARY LANE STA 2070+70.90 TO STA 2089+03.68
2	TRANSITIONS 14' TO 41.05' RAMP GORE STA 2089+03.68 TO STA 2093+91.35
2	TRANSITIONS 0' TO 41.05' RAMP GORE STA 2121+26.27 TO STA 2127+85.55

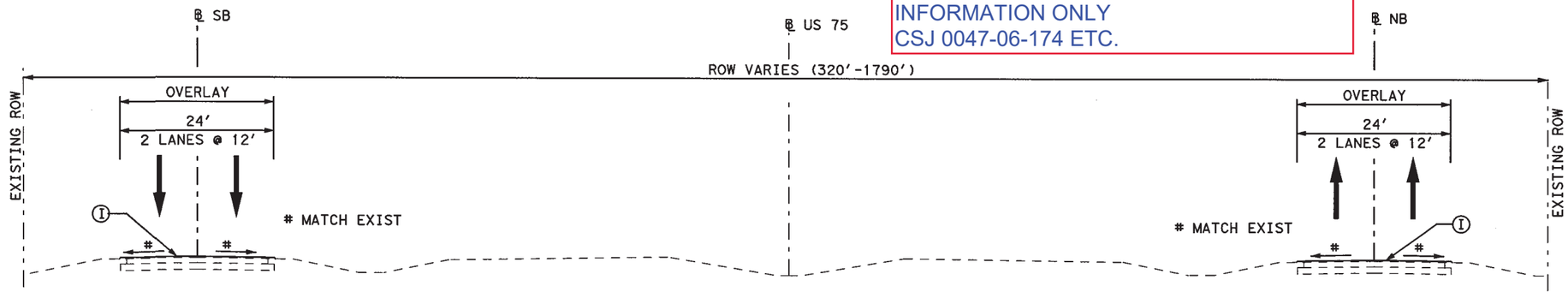
3	TRANSITIONS 0' TO 39.24' RAMP GORE STA 2017+86.13 TO STA 2022+41.51

* CURB OFFSET IS TO THE FACE-OF-CURB.

TYPICAL SECTION LEGEND

- (A) 13" CONCRETE PAVEMENT (CRCP)
- (B) 4" HMAC (TY B)
- (C) 6" LIME TREATED SUBGRADE (6%)
- (D) 9" CONCRETE PAVEMENT (CRCP)
- (E) TYPE II CURB
- (F) 8" FLEXBASE
- (G) 10" CONCRETE PAVEMENT (CRCP)
- (H) 4" HMAC (TY C)
- (I) 2" HMAC (TY C)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.



PROP NB & SB FRONTAGE ROAD OVERLAY US 75
TYPICAL SECTION

STA 6156+66.14 TO STA 6167+73.59 (TEMP NBFR)
STA 6168+42.27 TO STA 6199+53.42 (TEMP NBFR)
STA 7151+65.22 TO STA 7158+28.08 (TEMP SBFR)
STA 7158+96.74 TO STA 7193+00.11 (TEMP SBFR)

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED
PROFESSIONAL ENGINEER

Jamshid Jahangiri, P.E.
5-4-2012

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation

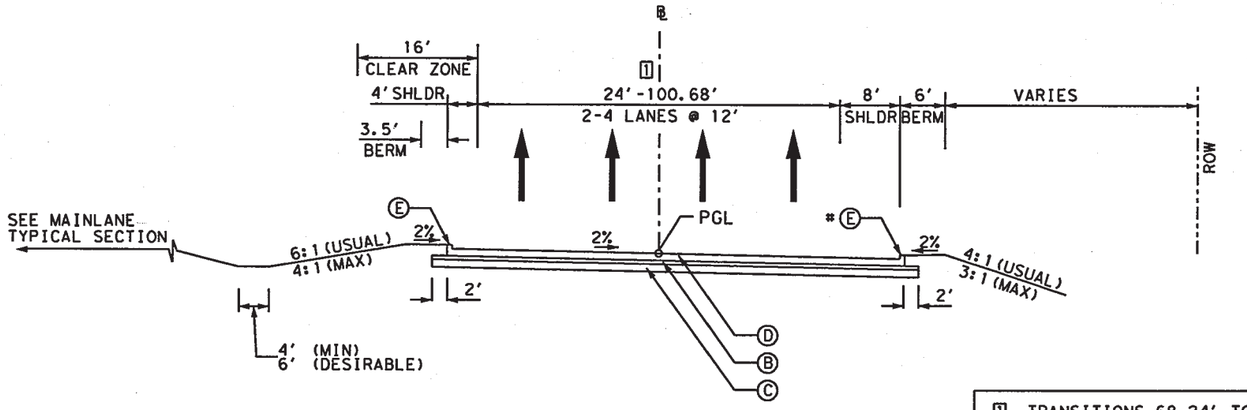
US 75
PROPOSED TYPICAL SECTIONS
FRONTAGE ROADS

NOT TO SCALE — SHEET 7 OF 13

DESIGN	FED. RD. DIV. NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

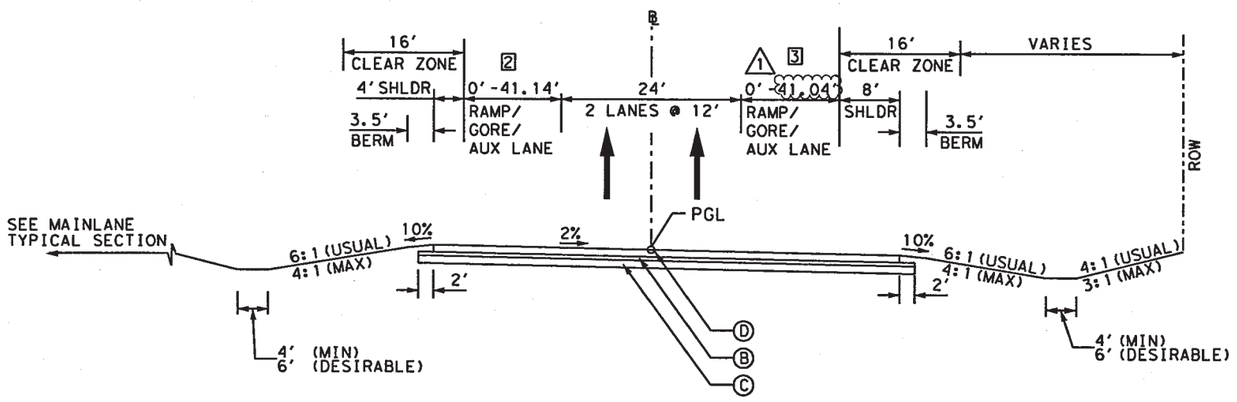
97

5/4/2012
g:\tro\txdot\dal\us75pse068\sheetfiles\general\TypSection.dgn



PROPOSED NB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 2038+44.96 TO STA 2054+15.77 (NBFR)
(# NO TYPE II CURB: STA 2038+44.96 TO STA 2041+13.94)



PROPOSED NB FRONTAGE ROAD US 75
TYPICAL SECTION

STA 2001+62.78 TO STA 2038+44.96 (NBFR)
STA 2054+15.77 TO STA 2156+65.90 (NBFR)

1 TRANSITIONS 68.24' TO 48.19' RAMP GORE STA 2038+44.96 TO STA 2041+05.13
1 100.68' (RAMP GORE) STA 2041+05.13
1 TRANSITIONS 100.68' TO 52' STA 2041+05.13 TO STA 2044+42.17
1 52' (2 - 12' LANES, 2 - 14' LANES) STA 2044+42.17 TO STA 2054+15.77

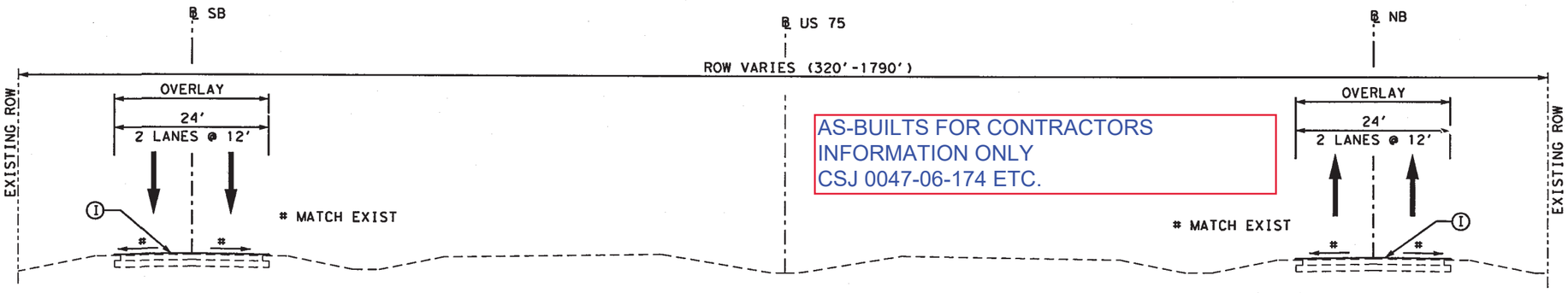
2 TRANSITIONS 45.35' TO 36.23' RAMP GORE STA 2033+54.56 TO STA 2038+44.96
2 TRANSITIONS 41.14' TO 14' RAMP GORE STA 2065+21.49 TO STA 2070+70.90
2 14' AUXILIARY LANE STA 2070+70.90 TO STA 2089+03.68
2 TRANSITIONS 14' TO 41.05' RAMP GORE STA 2089+03.68 TO STA 2093+91.35
2 TRANSITIONS 0' TO 41.05' RAMP GORE STA 2121+26.27 TO STA 2127+85.55

3 TRANSITIONS 0' TO 41.04' RAMP GORE STA 2017+86.13 TO STA 2023+38.20

* CURB OFFSET IS TO THE FACE-OF-CURB.

TYPICAL SECTION LEGEND

Ⓐ	13" CONCRETE PAVEMENT (CRCP)
Ⓑ	4" HMAC (TY B)
Ⓒ	6" LIME TREATED SUBGRADE (6%)
Ⓓ	9" CONCRETE PAVEMENT (CRCP)
Ⓔ	TYPE II CURB
Ⓕ	8" FLEXBASE
Ⓖ	10" CONCRETE PAVEMENT (CRCP)
Ⓗ	4" HMAC (TY C)
Ⓘ	2" HMAC (TY C)



PROP NB & SB FRONTAGE ROAD OVERLAY US 75
TYPICAL SECTION

STA 6156+66.14 TO STA 6167+73.59 (TEMP NBFR)
STA 6168+42.27 TO STA 6199+53.42 (TEMP NBFR)
STA 7151+65.22 TO STA 7158+28.08 (TEMP SBFR)
STA 7158+96.74 TO STA 7193+00.11 (TEMP SBFR)

98

STATE OF TEXAS
JAMSHID JAHANGIRI
56390
LICENSED
PROFESSIONAL ENGINEER

Jamshid Jahangiri, P.E.
9/13/13

KBR TECHNICAL SERVICES, INC.
TEXAS REGISTRATION # 2397

DATE	BY	REV	REVISION
9/13/2013	JJ	1	FOR SH 121 EBDC & SH 121 NBDC REVISION

ARCADIS
ARCADIS U.S., INC. FIRM ID #533

Texas Department of Transportation

US 75
PROPOSED TYPICAL SECTIONS
FRONTAGE ROADS

NOT TO SCALE — SHEET 7 OF 13

DESIGN	FED.RD. DIV.NO.	STATE PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	(See Title Sheet)		US75
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	COLLIN	
CHECK	CONTROL	SECTION	JOB	
	0047	14	068	

9/13/2013
h:\dallas\us75\lufkin*office\SheetFiles\1general\TypSection*KBR*06-11-2013.dgn

FINAL PLANS

NAME OF CONTRACTOR: Austin Bridge & Road, LP

DATE OF LETTING: 2-8-2012

DATE WORK BEGAN: 5-21-2012

DATE WORK COMPLETED: 4-25-2013

DATE WORK ACCEPTED: 4-25-2013

SUMMARY OF CHANGE ORDERS: See Plan Sheet 1A.

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT
NH 2012 (317)
CSJ: 0047-14-070

US 75
COLLIN COUNTY

LIMITS: FROM MELISSA ROAD
TO GRAYSON COUNTY LINE

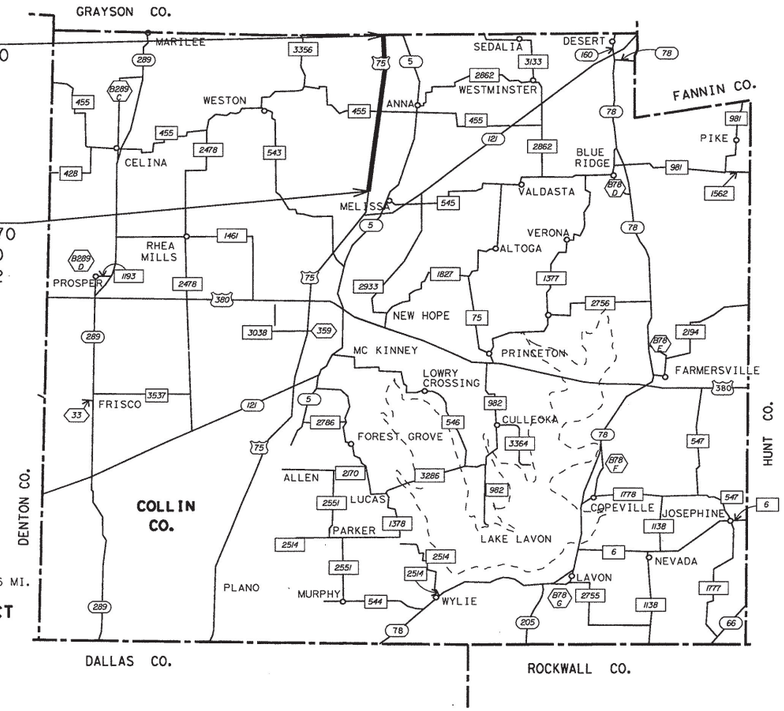
TOTAL LENGTH OF PROJECT =

ROADWAY	= 40,638.17 FT.	=	07.697 MI.
BRIDGE	= 306.83 FT.	=	00.058 MI.
TOTAL	= 40,945.00 FT.	=	07.755 MI.

TYPE OF WORK: FOR THE CONSTRUCTION OF FULL DEPTH REPAIR AND MILL AND OVERLAY.
CONSISTING OF: FULL DEPTH CONCRETE REPAIR, MILL AND OVERLAY, FOGSEAL, AND PAVEMENT MARKINGS.

BEGIN PROJECT
CSJ 0047-14-070
STA 1599+45.00
TRM 224+00.119

END PROJECT
CSJ 0047-14-070
STA 1190+00.00
TRM 230+01.912



EQUATIONS: NONE
EXCEPTIONS: THROCKMORTON CREEK BRIDGE
NB STA. 1240+64.59 TO STA. 1243+71.42
SB STA. 1239+82.59 TO STA. 1242+99.42
RAILROAD CROSSINGS: NONE

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

Barry Heard, P.E. 8-30-13
Signature of Registrant & Date

99

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
JAP	6	NH 2012 (317)		US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

DESIGN SPEEDS = 70 MPH
ADT 44,000 (2009)

FUNCTIONAL CLASSIFICATION = RURAL OTHER PRINCIPAL ARTERIAL

NOTE:

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, MARCH, 1994)

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

TEXAS DEPARTMENT OF TRANSPORTATION

SUBMITTED FOR LETTING: 1-10 20 12
Barry D. Heard, P.E.
DESIGN ENGINEER

RECOMMENDED FOR LETTING: 1-10 20 12
Barry D. Heard, P.E.
AREA ENGINEER

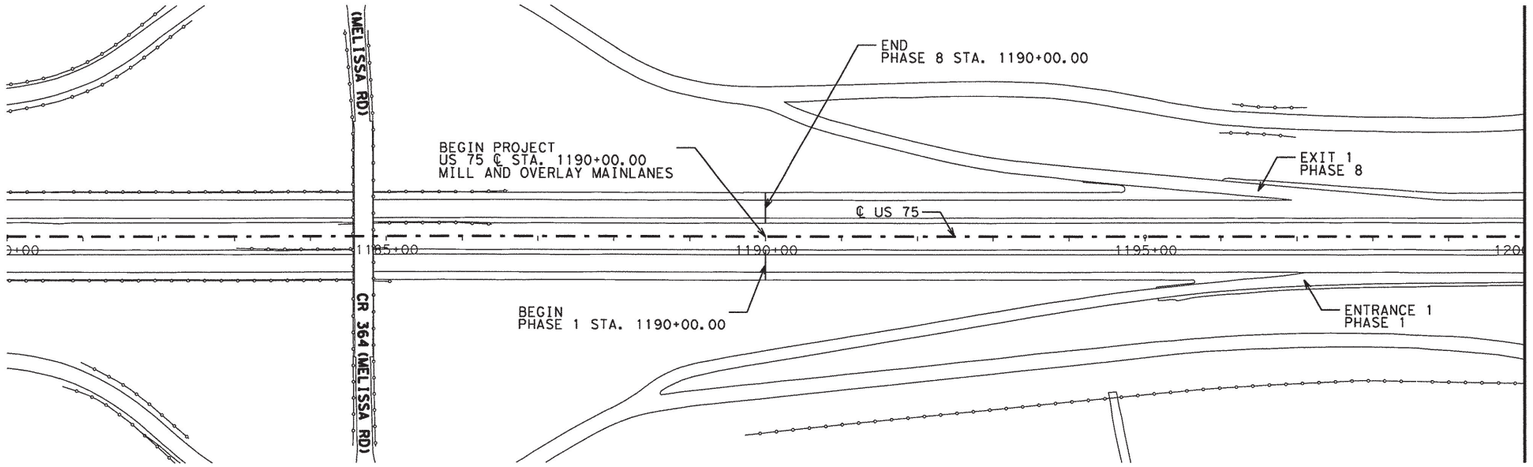
APPROVED FOR LETTING: 20
, P.E.
DIRECTOR, BRIDGE DIVISION

RECOMMENDED FOR LETTING: 1-12 20 12
Moon Saqr, P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

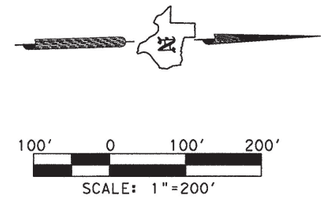
APPROVED FOR LETTING: 20
, P.E.
DIRECTOR, TRAFFIC OPERATIONS DIVISION

RECOMMENDED FOR LETTING: 1/12 20 12
Will K Hall, P.E.
DISTRICT ENGINEER

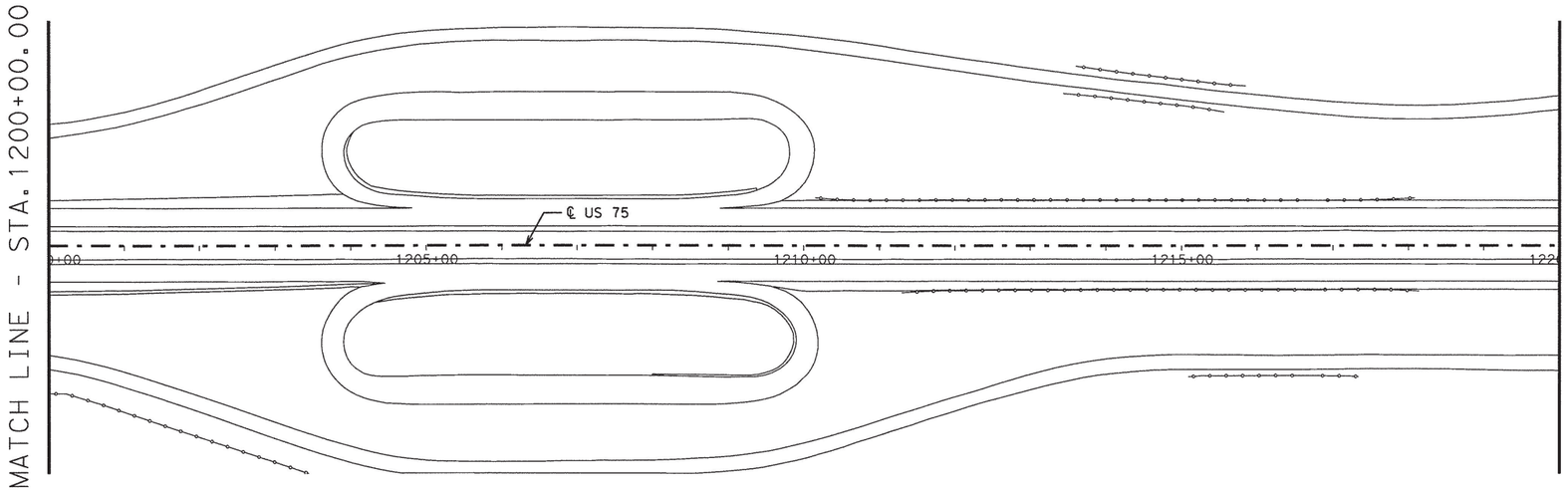
APPROVED FOR LETTING: 20
, P.E.
DIRECTOR, DESIGN DIVISION



MATCH LINE - STA. 1200+00.00



NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

100

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

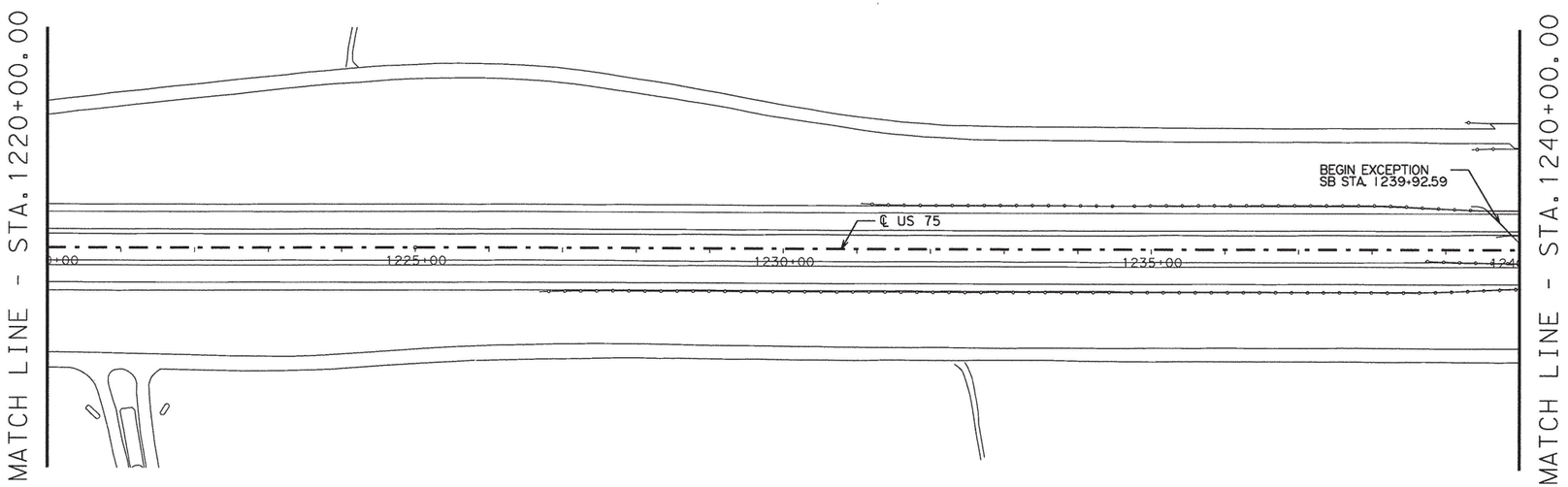
Texas Department of Transportation

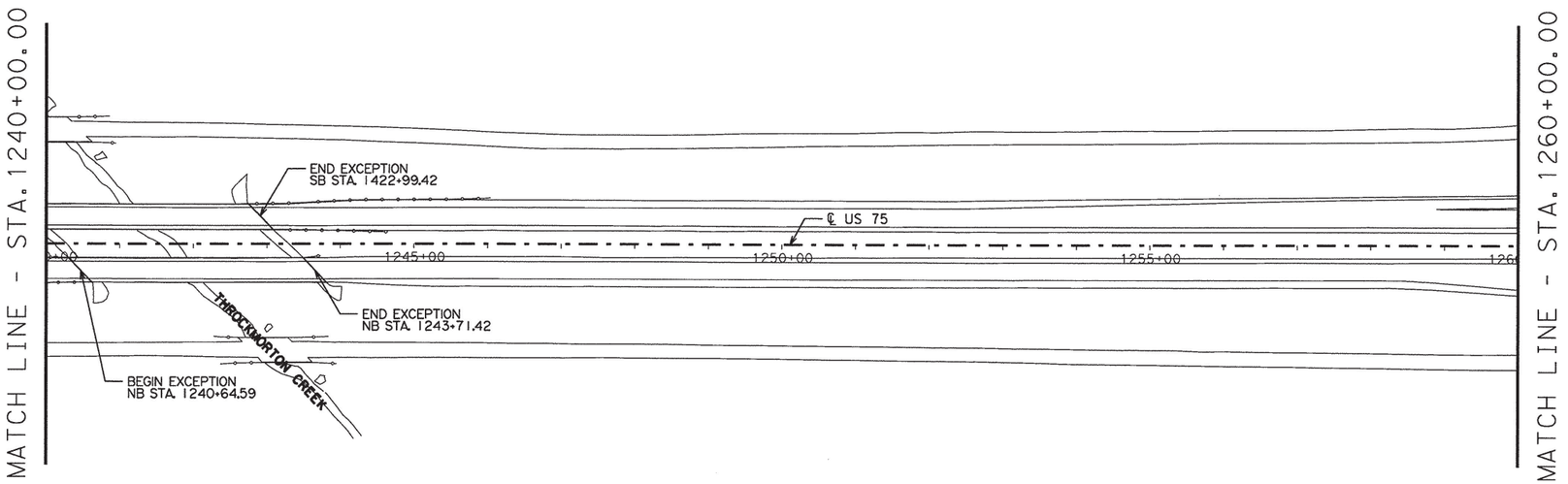
US 75
PROJECT LAYOUT
BEGIN PROJECT TO STA. 1220+00

SHEET 1 OF 11

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

DATE: 1/5/2012 FILE NAME: T:\MCKOES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT1.dgn





AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry D. Heard, P.E.
1-10-12

Texas Department of Transportation

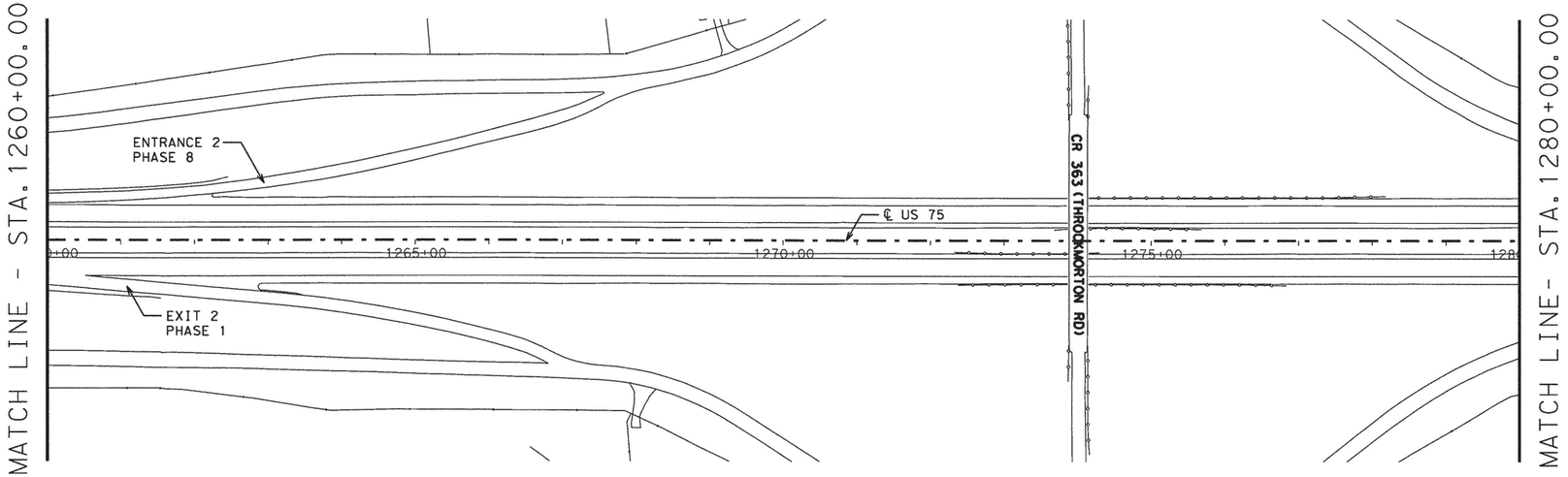
US 75
PROJECT LAYOUT
STA. 1220+00 TO STA. 1260+00

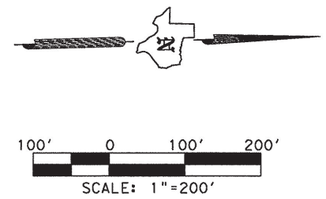
SHEET 2 OF 11

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

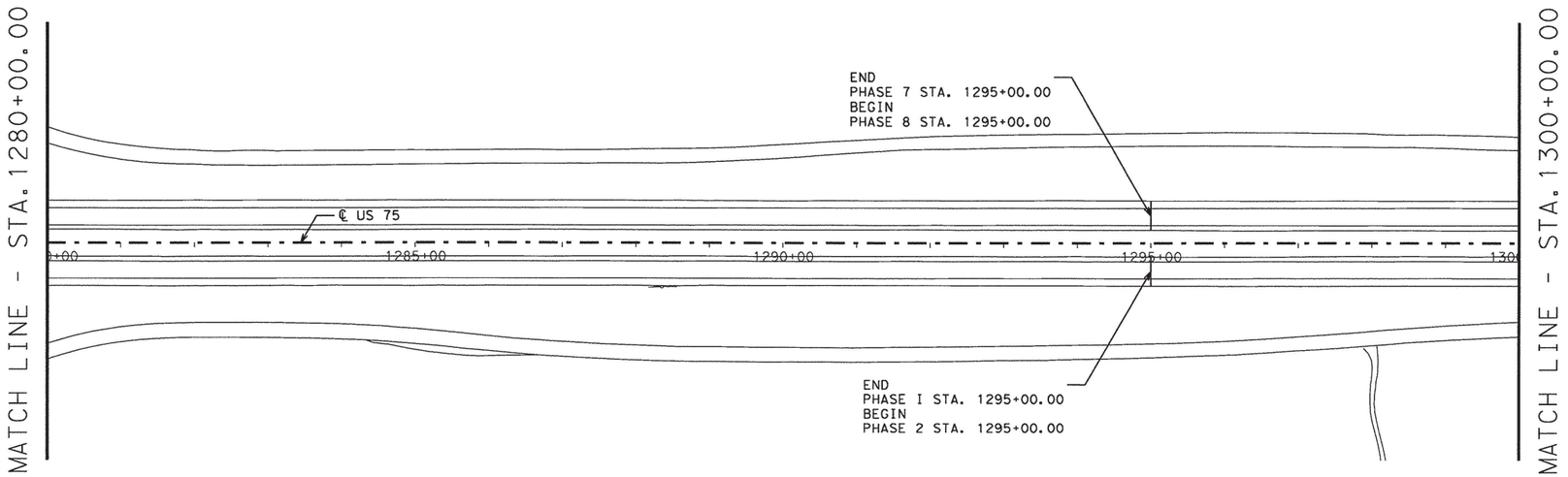
101

DATE: 1/10/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT2.dgn





NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

102

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

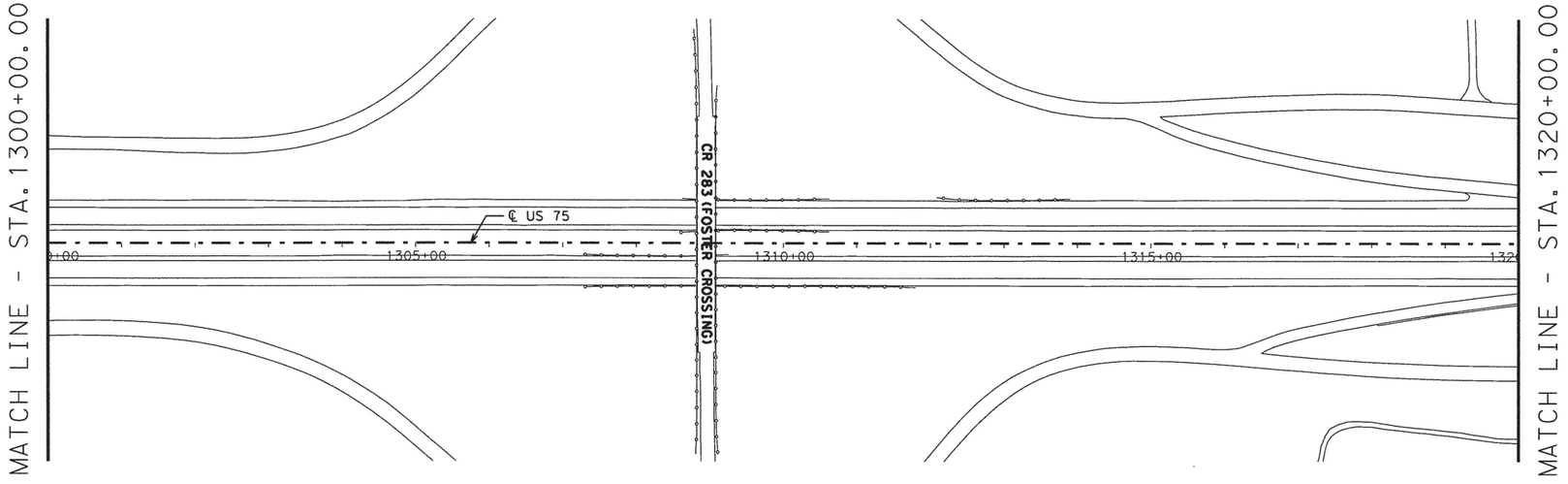
Texas Department of Transportation

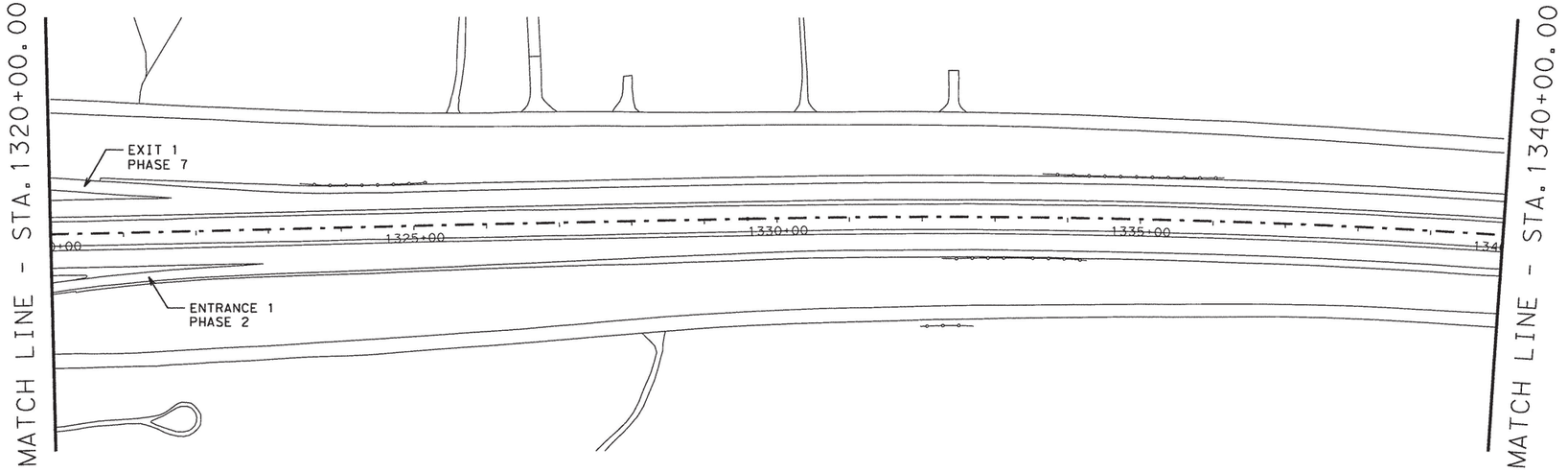
US 75
PROJECT LAYOUT
STA. 1260+00 TO STA. 1300+00

SHEET 3 OF 11

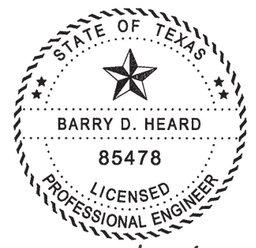
DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT3.dgn





NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION



Barry Heard, P.E.
1-4-12

Texas Department of Transportation

US 75
PROJECT LAYOUT
STA. 1300+00 TO STA. 1340+00

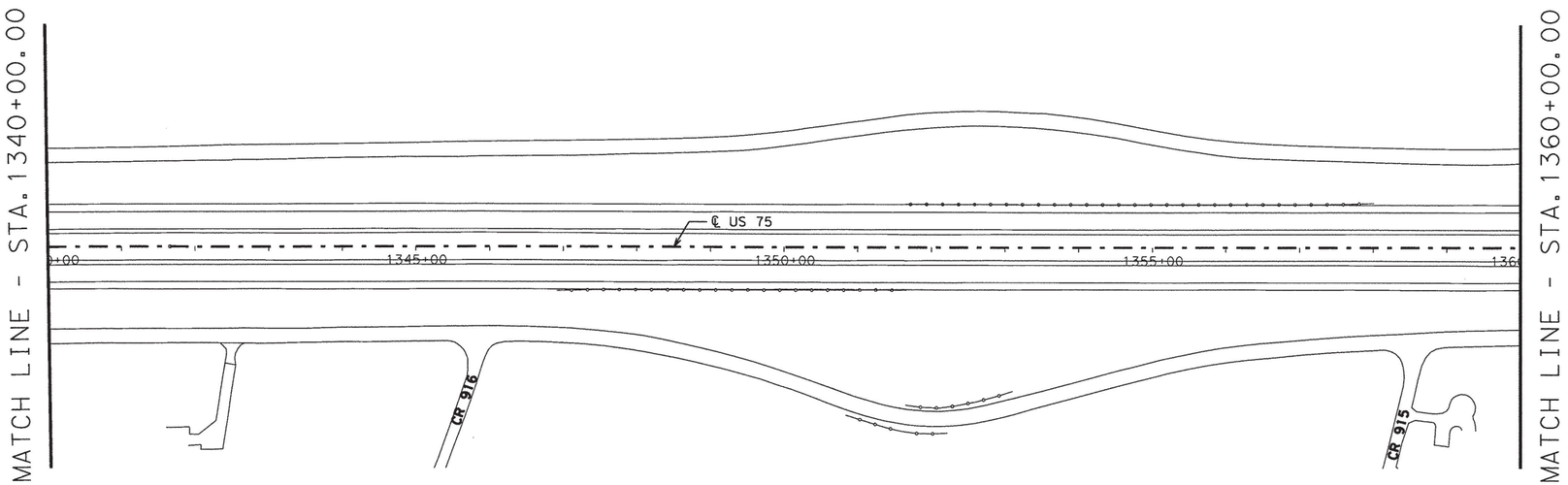
SHEET 4 OF 11

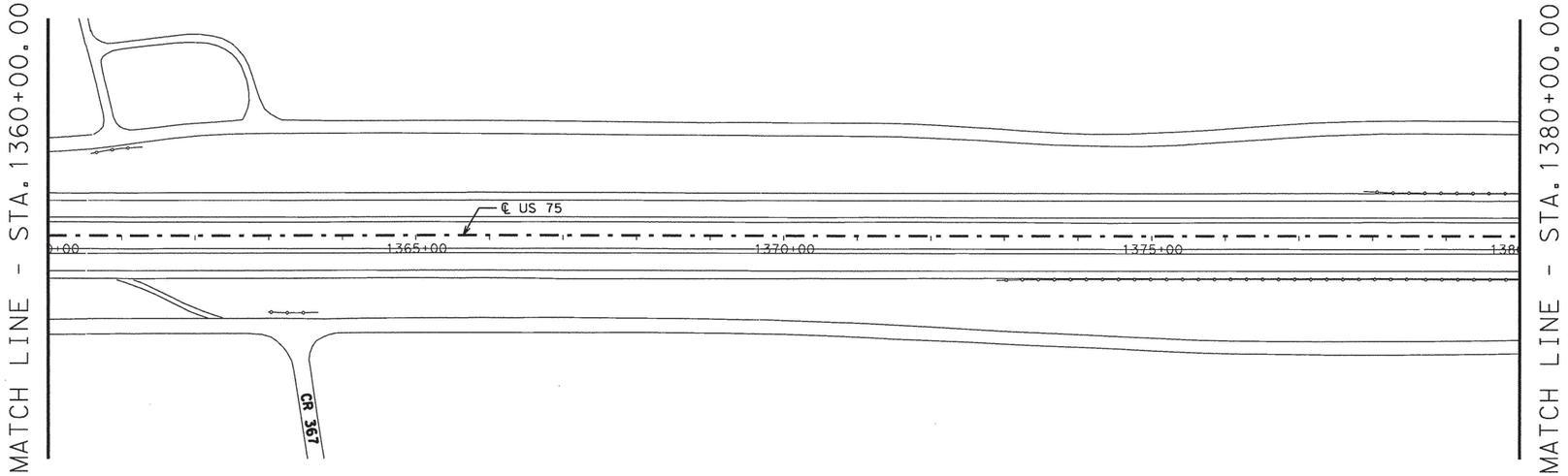
AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

103

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK JAP	TEXAS	DALLAS	COLLIN	
CHECK JAP	CONTROL	SECTION	JOB	[redacted]
	0047	14	070	

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT4.dgn





NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation

US 75
PROJECT LAYOUT
STA. 1340+00 TO STA. 1380+00

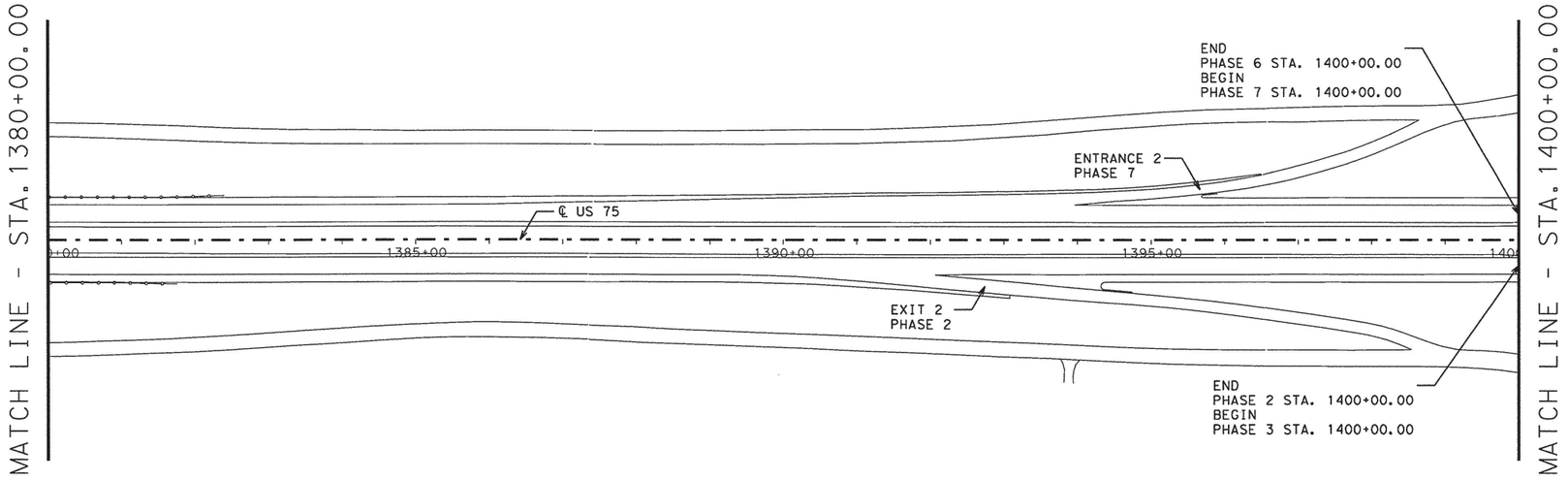
SHEET 5 OF 11

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	[redacted]
	0047	14	070	

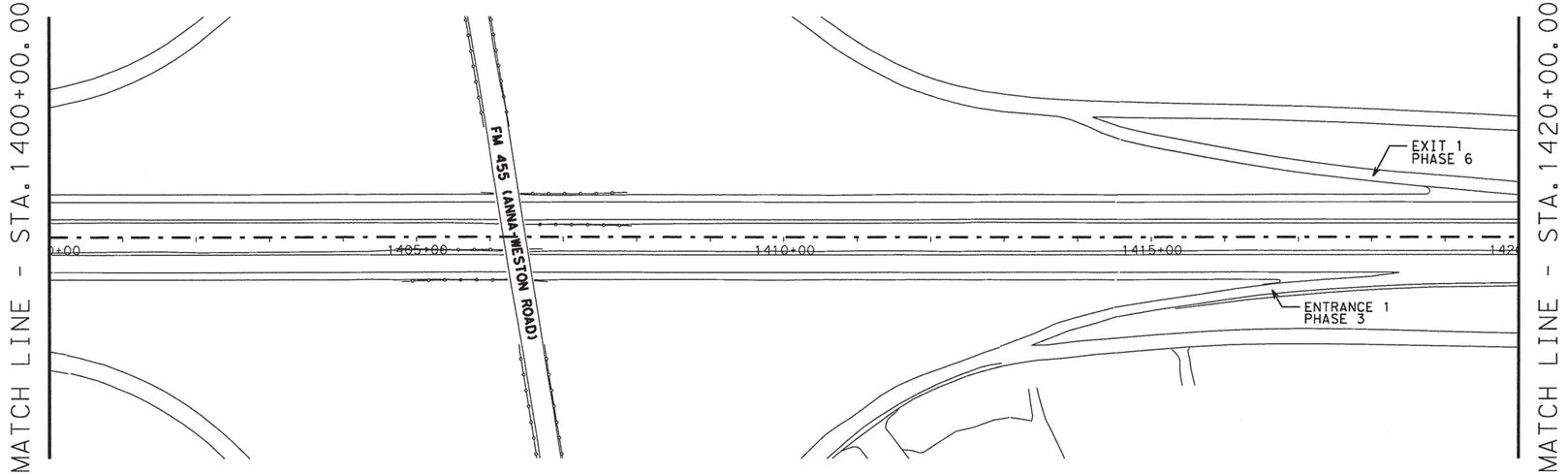
AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

104

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT5.dgn



NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

105

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER
Barry Heard, P.E.
1-4-12

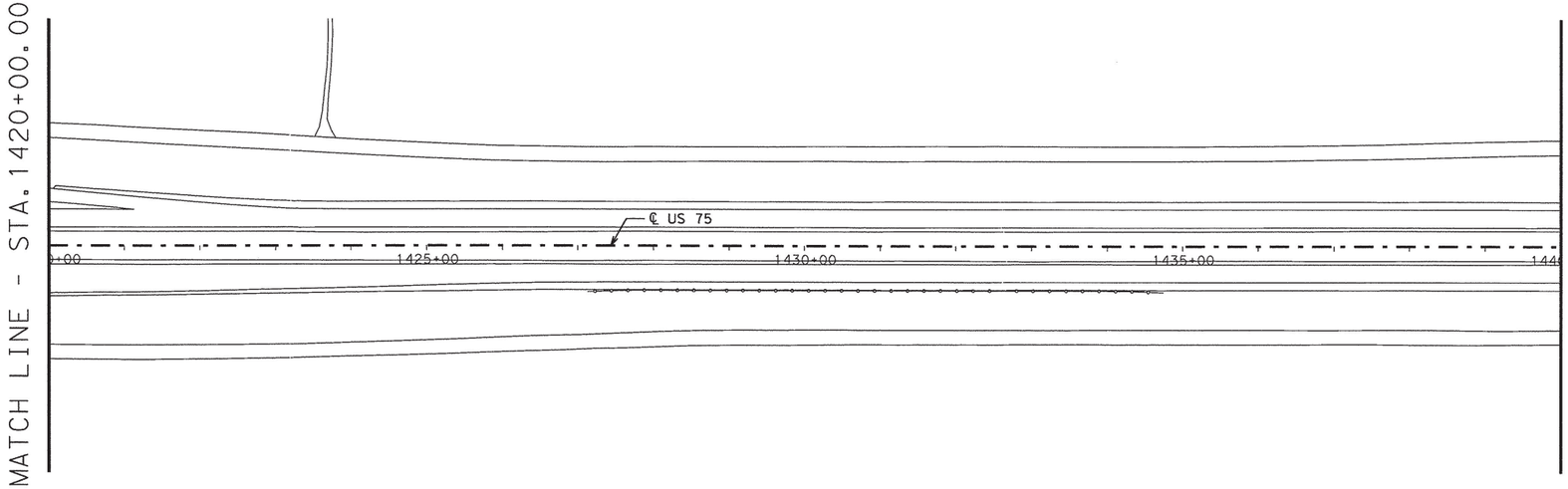
Texas Department of Transportation

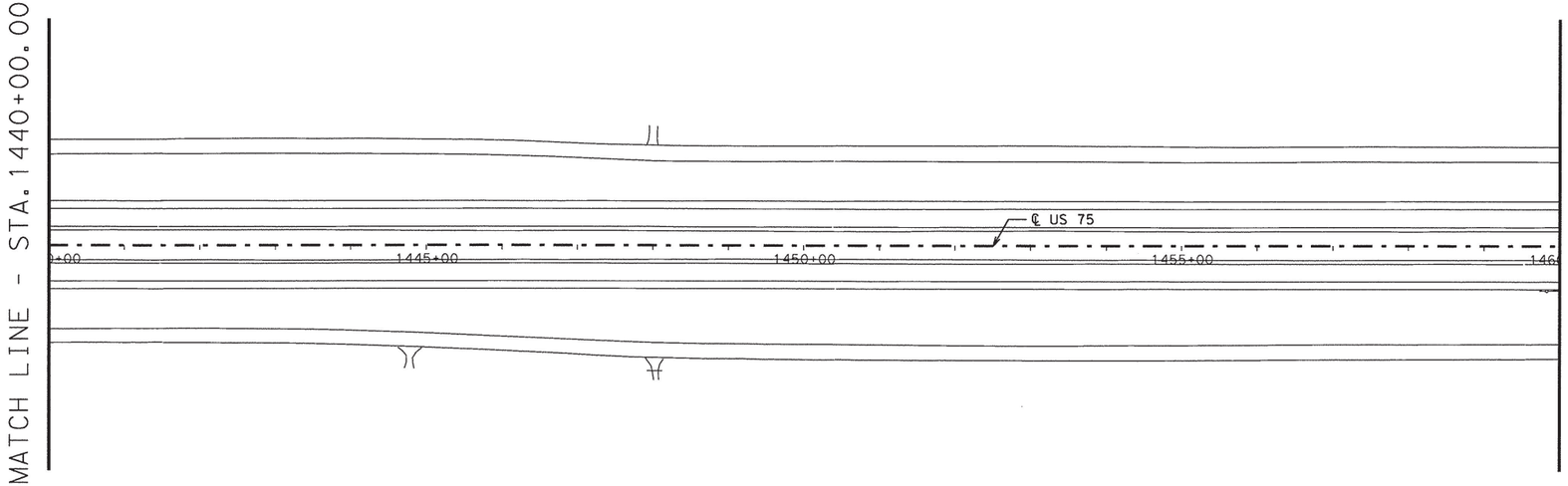
US 75
PROJECT LAYOUT
STA. 1380+00 TO STA. 1420+00

SHEET 6 OF 11

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT6.dgn





100' 0 100' 200'

SCALE: 1"=200'

NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation

US 75
PROJECT LAYOUT
STA. 1420+00 TO STA. 1460+00

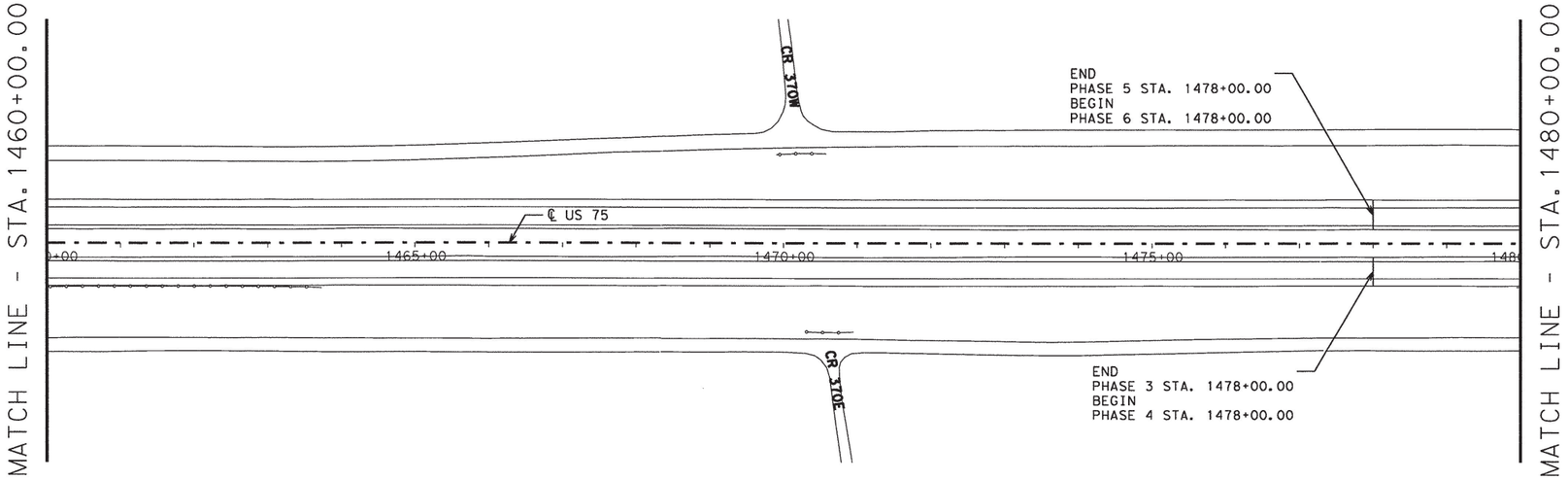
SHEET 7 OF 11

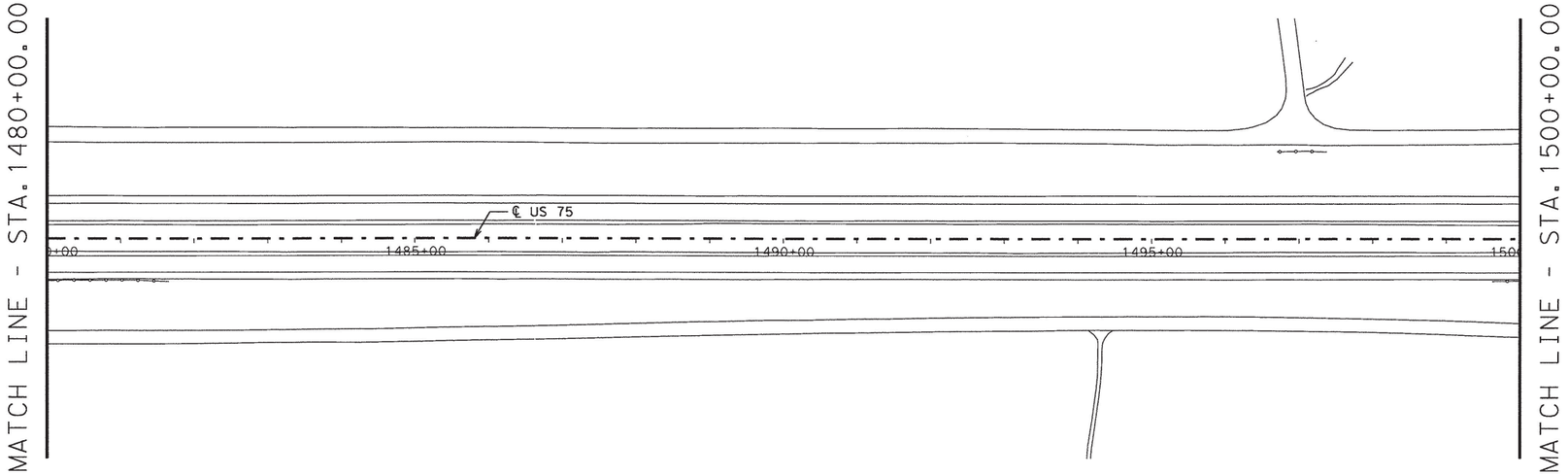
DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

106

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT7.dgn





NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation
© 2012

US 75
PROJECT LAYOUT
STA. 1460+00 TO STA. 1500+00

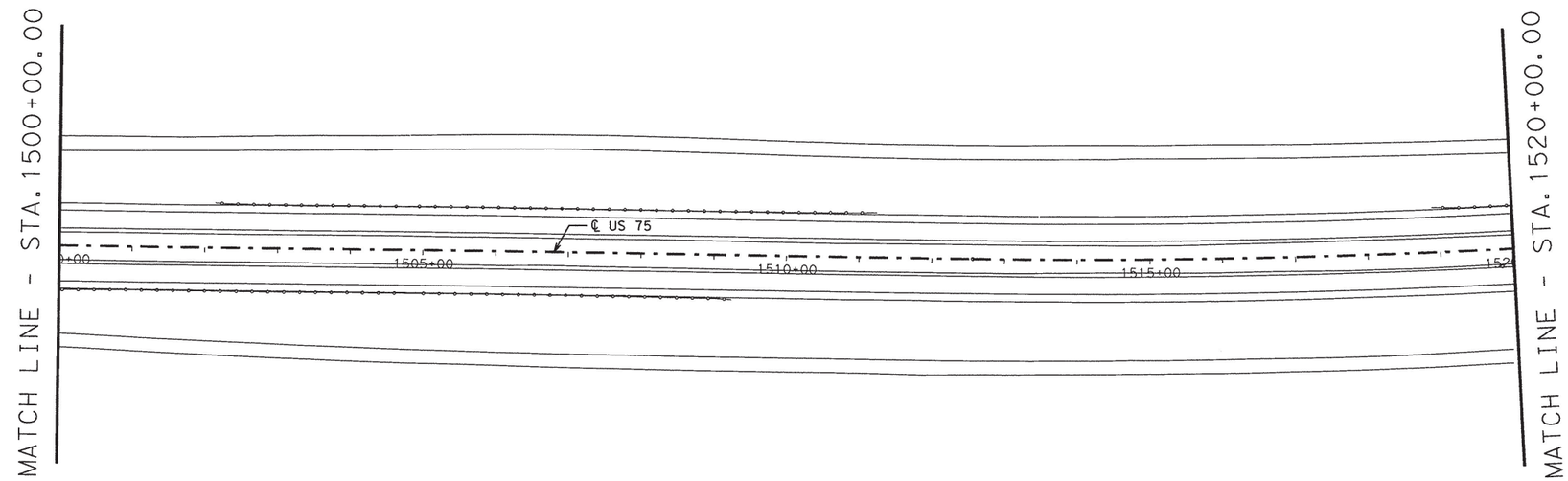
SHEET 8 OF 11

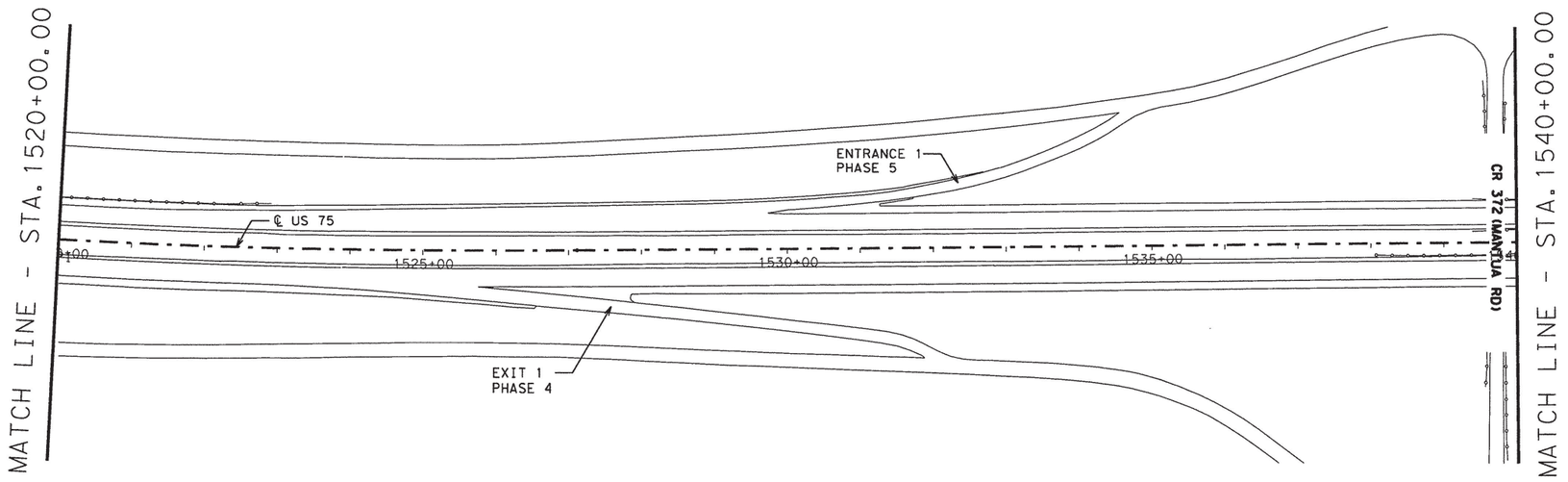
DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

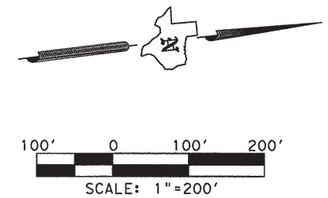
AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

107

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT8.dgn







NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

108

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

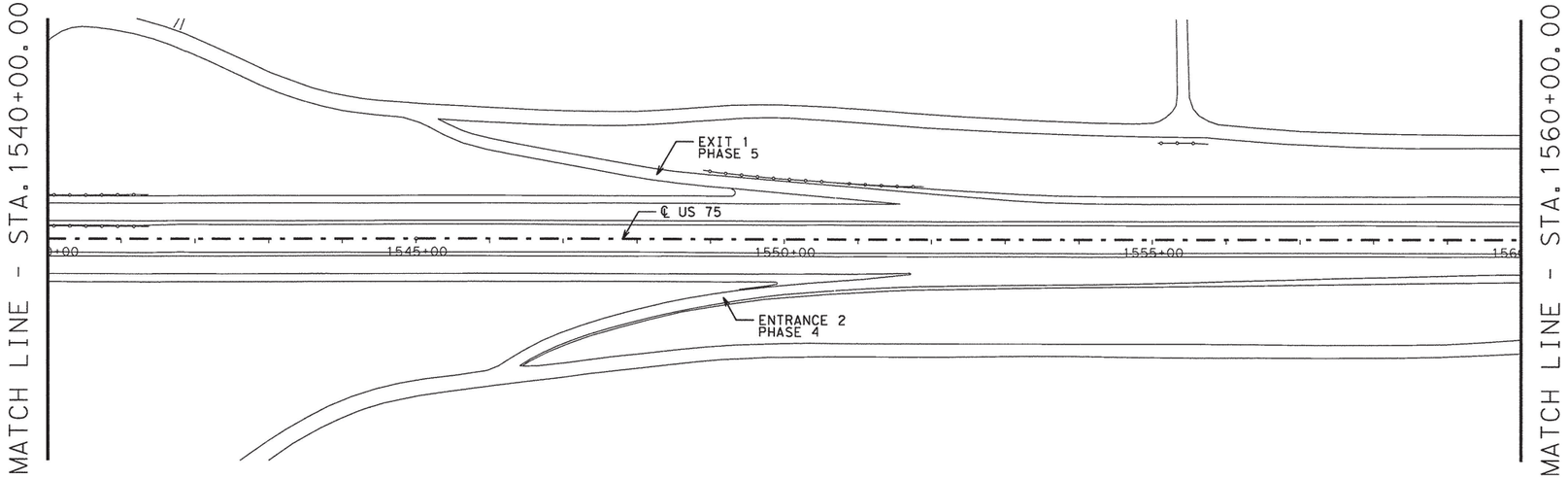
Texas Department of Transportation

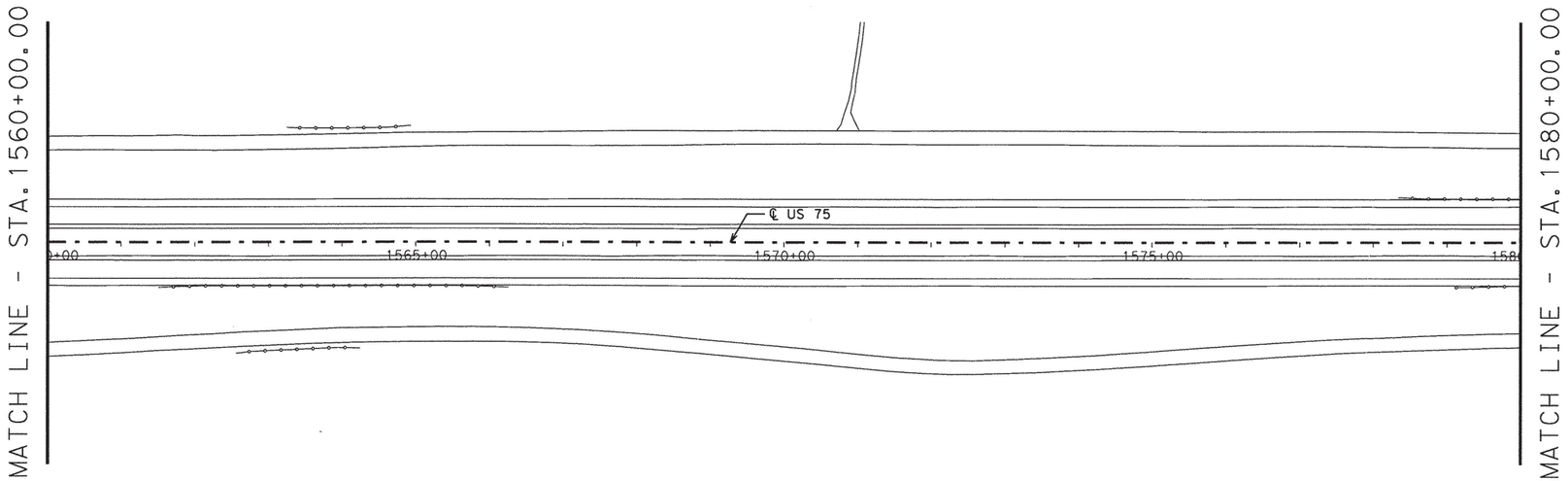
US 75
PROJECT LAYOUT
STA. 1500+00 TO STA. 1540+00

SHEET 9 OF 11

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	[redacted]
	0047	14	070	

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT9.dgn





NOTE:
SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation
© 2012

US 75
PROJECT LAYOUT
STA. 1540+00 TO STA. 1580+00

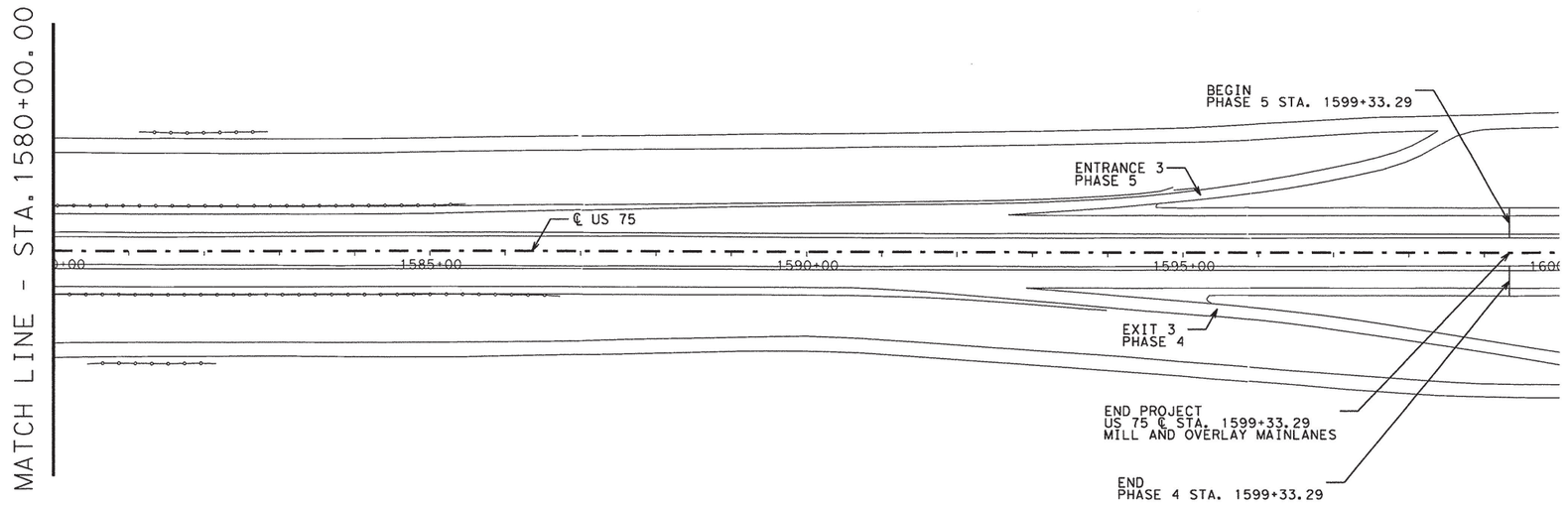
SHEET 10 OF 11

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
CHECK BDH	CONTROL	SECTION	JOB	
	0047	14	070	

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

109

DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (H1R)\Plans\PROJECT LAYOUT\PROJECT LAYOUT10.dgn



100′ 0 100′ 200′

SCALE: 1"=200′

NOTE:

SEE TCP NARRATIVE FOR ADDITIONAL INFORMATION

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation

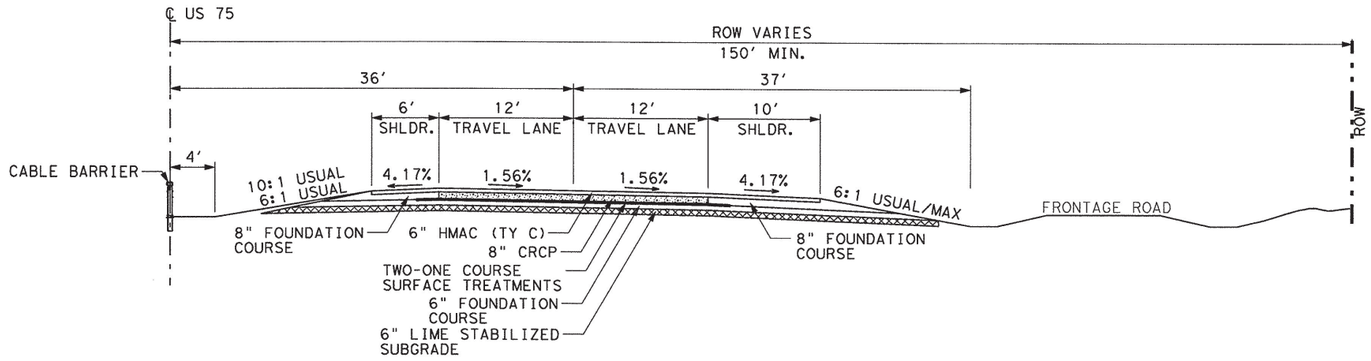
AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

US 75
PROJECT LAYOUT
STA. 1580+00 TO END PROJECT

SHEET 11 OF 11

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK BDH	TEXAS	DALLAS	COLLIN	
	CONTROL	SECTION	JOB	
CHECK BDH	0047	14	070	

DATE: 1/5/2012 FILE NAME: T:\MCK0ES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\PROJECT LAYOUT\PROJECT LAYOUT11.dgn

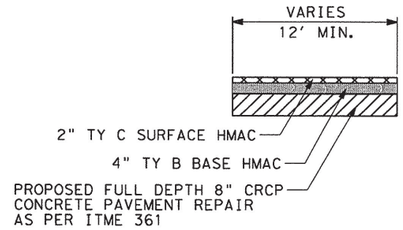


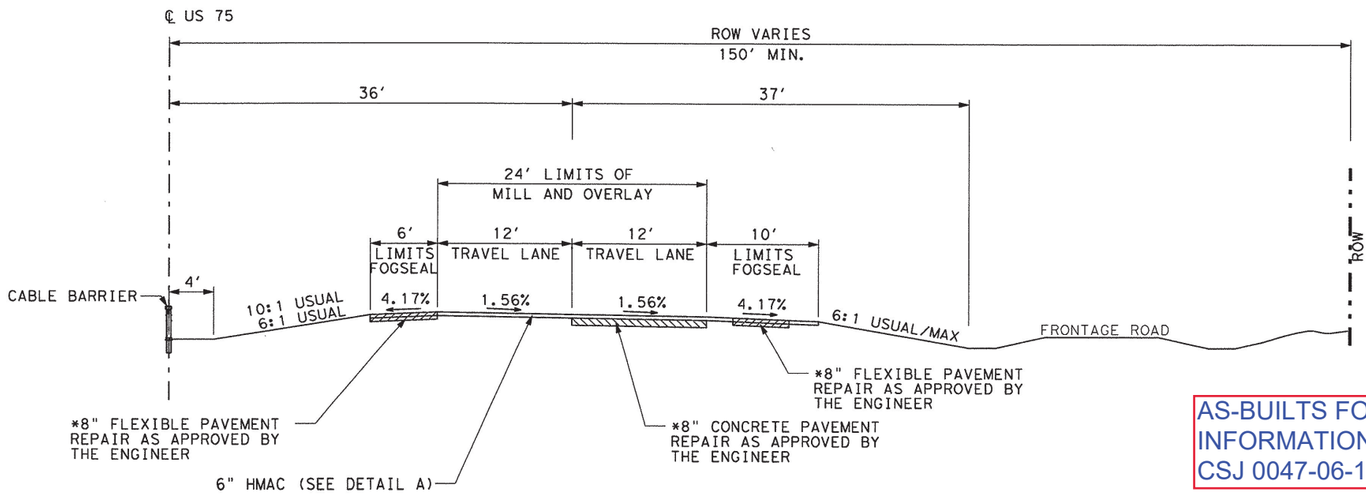
EXISTING SECTION

(SYMMETRICAL ABOUT ℄)

FROM STA. 1190+00.00 TO STA. 1240+64.59, NB
FROM STA. 1190+00.00 TO STA. 1239+92.59, SB
FROM STA. 1243+71.42 TO STA. 1599+45.00, NB
FROM STA. 1242+99.42 TO STA. 1599+45.00, SB

DETAIL A





PROPOSED SECTION

(SYMMETRICAL ABOUT ℄)

FROM STA. 1190+00.00 TO STA. 1240+64.59, NB
FROM STA. 1190+00.00 TO STA. 1239+92.59, SB
FROM STA. 1243+71.42 TO STA. 1592+00.00, NB
FROM STA. 1242+99.42 TO STA. 1591+84.00, SB

AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTES:

1. SEE "ROADWAY QUANTITIES" FOR BRIDGE EXCEPTIONS.
* 8" FULL DEPTH CONCRETE PAVEMENT REPAIR AND FLEXIBLE PAVEMENT REPAIR AS APPROVED AND DETERMINED BY THE ENGINEER.

111

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation

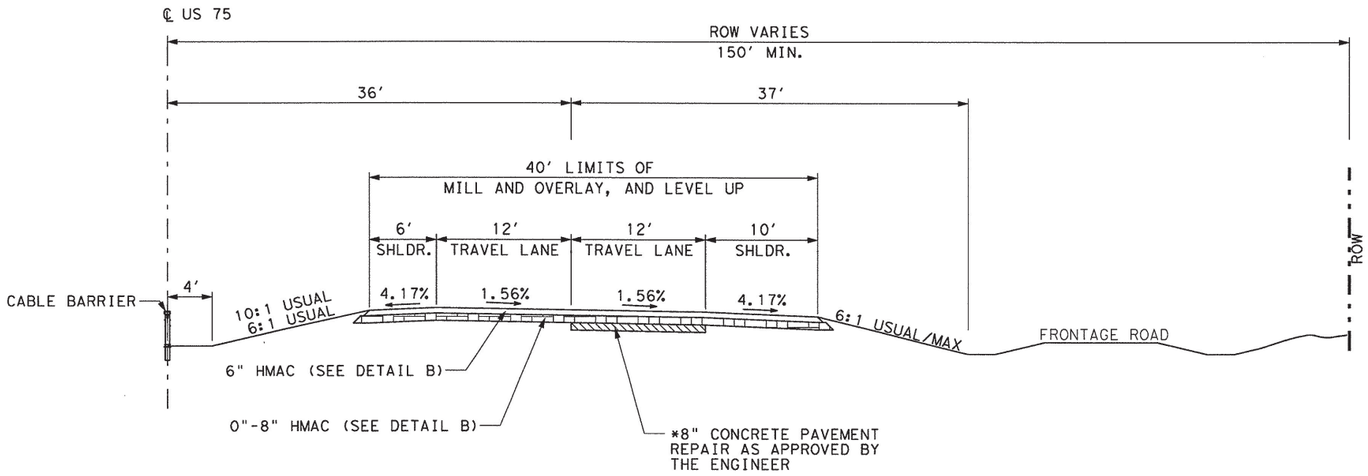
TYPICAL SECTIONS

SCALE: NTS

SHEET 1 OF 3

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CGC	TEXAS	DALLAS	COLLIN	
CHECK CGC	CONTROL	SECTION	JOB	[redacted]
	0047	14	070	

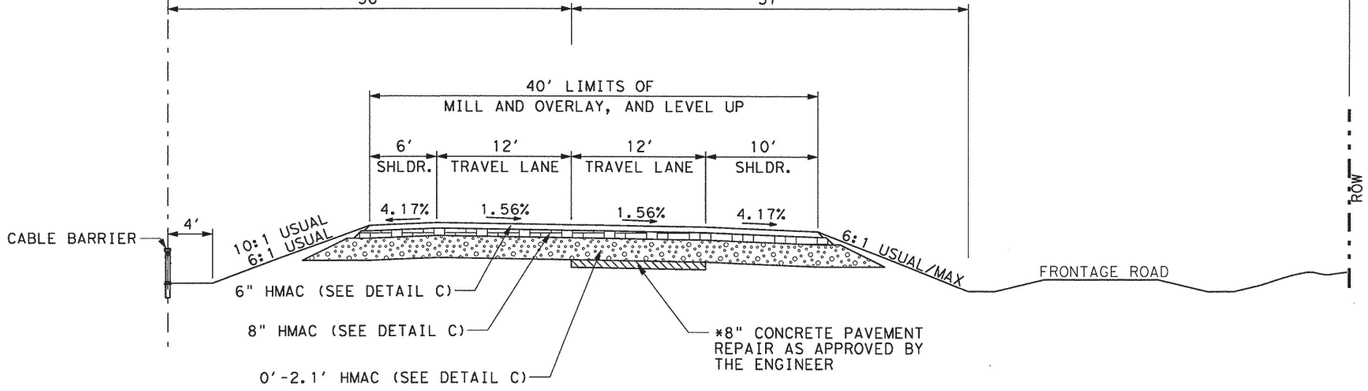
DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\75typical.dgn



PROPOSED SECTION NB RE-PROFILING

(SYMMETRICAL ABOUT ℄)

FROM STA. 1592+00.00 TO STA. 1593+75.00, NB
FROM STA. 1599+00.00 TO STA. 1599+45.00, NB

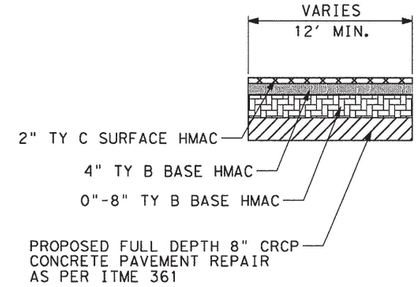


PROPOSED SECTION NB RE-PROFILING

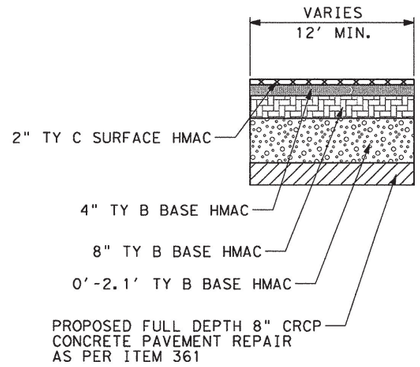
(SYMMETRICAL ABOUT ℄)

FROM STA. 1593+75.00 TO STA. 1599+00.00, NB

DETAIL B



DETAIL C



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTES:

* 8" FULL DEPTH CONCRETE PAVEMENT REPAIR AS REQUIRED AND DETERMINED BY THE ENGINEER.

112

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation

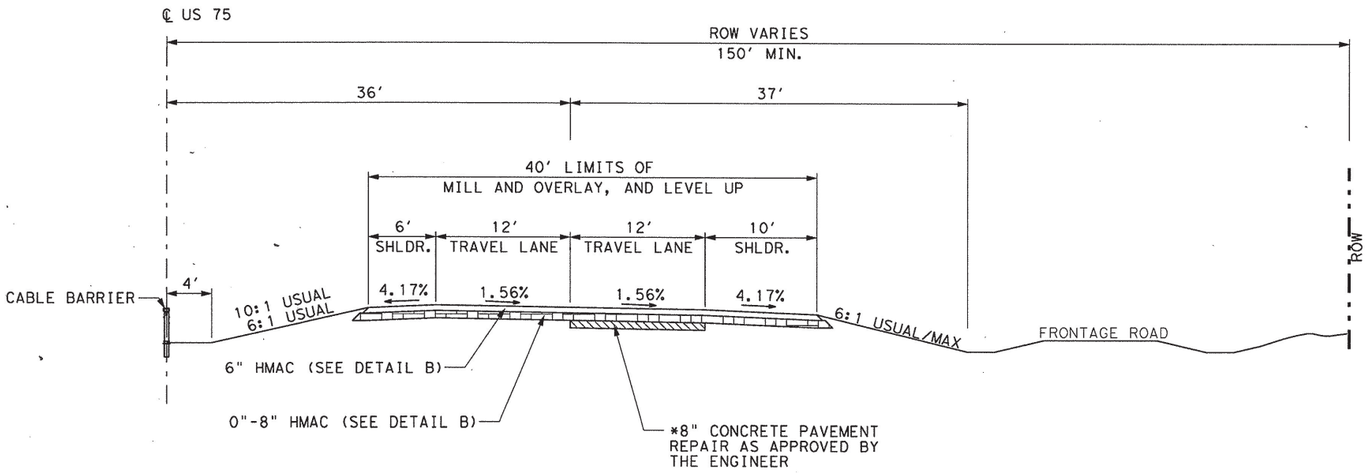
TYPICAL SECTIONS

SCALE: NTS

SHEET 2 OF 3

DESIGN	FED. RD. DIV. NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CGC	TEXAS	DALLAS	COLLIN	
CHECK CGC	CONTROL	SECTION	JOB	
	0047	14	070	

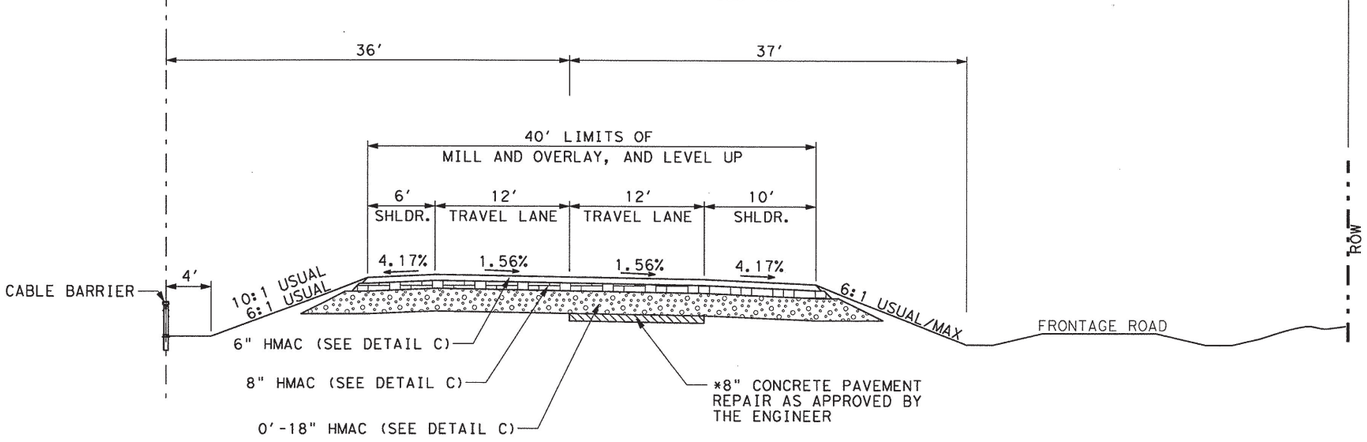
DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\75typical.dgn



PROPOSED SECTION SB RE-PROFILING

(SYMMETRICAL ABOUT ℄)

FROM STA. 1591+84.00 TO STA. 1593+14.00, SB
FROM STA. 1598+58.00 TO STA. 1599+33.29, SB

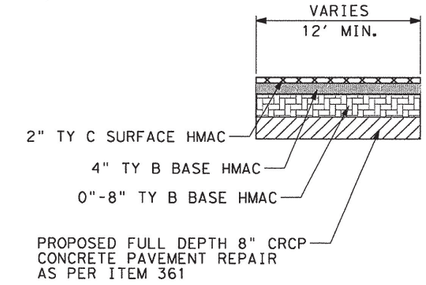


PROPOSED SECTION SB RE-PROFILING

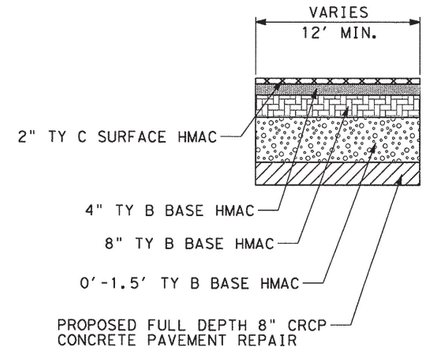
(SYMMETRICAL ABOUT ℄)

FROM STA. 1593+14.00 TO STA. 1598+58.00, SB

DETAIL B



DETAIL C



AS-BUILTS FOR CONTRACTORS
INFORMATION ONLY
CSJ 0047-06-174 ETC.

NOTES:
* 8" FULL DEPTH CONCRETE PAVEMENT REPAIR AS REQUIRED AND DETERMINED BY THE ENGINEER.

113

STATE OF TEXAS
BARRY D. HEARD
85478
LICENSED
PROFESSIONAL ENGINEER

Barry Heard, P.E.
1-4-12

Texas Department of Transportation

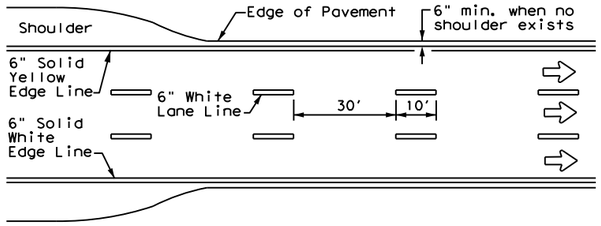
TYPICAL SECTIONS

SCALE: NTS

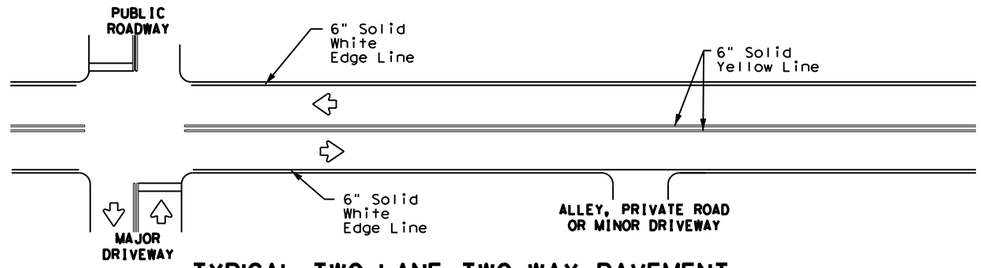
SHEET 3 OF 3

DESIGN	FED.RD. DIV.NO.			HIGHWAY NO.
JAP	6			US 75
GRAPHICS JAP	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CGC	TEXAS	DALLAS	COLLIN	
CHECK CGC	CONTROL	SECTION	JOB	
	0047	14	070	

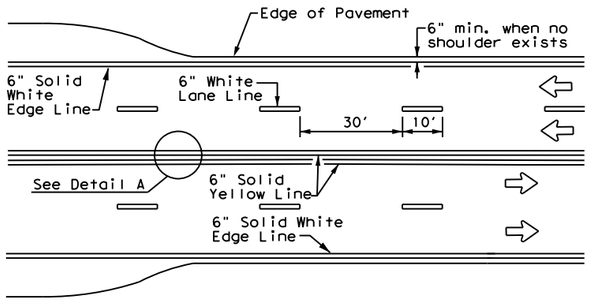
DATE: 1/5/2012 FILE NAME: T:\MCKDES\Projects\US 75\US 75 Melissa Rd to Grayson County Line (HIR)\Plans\75typical.dgn

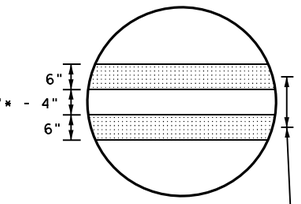


EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS

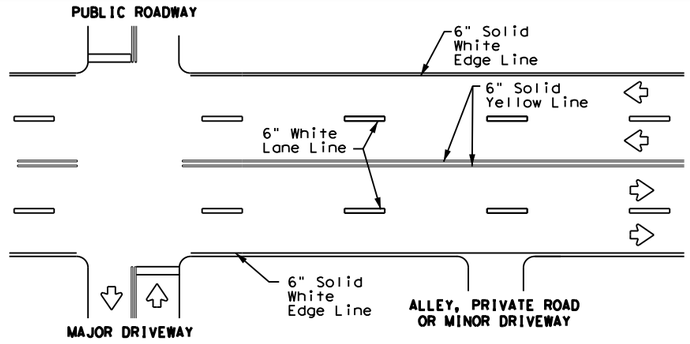




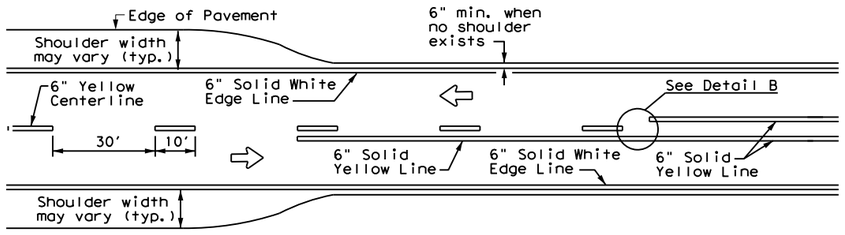
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

* 2" minimum for restripe projects when approved by the Engineer.

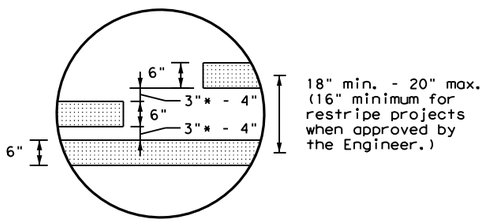
** 8" minimum for restripe projects when approved by the Engineer.



TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS

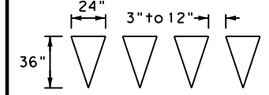


TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

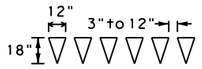


DETAIL "B"

* 2" minimum for restripe projects when approved by the Engineer.

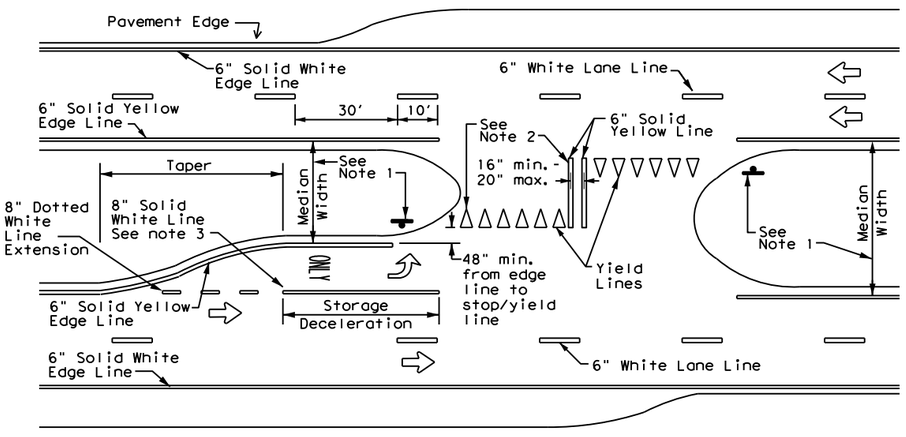


For posted speed on road being marked equal to or greater than 45 MPH.



For posted speed on road being marked equal to or less than 40 MPH.

YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

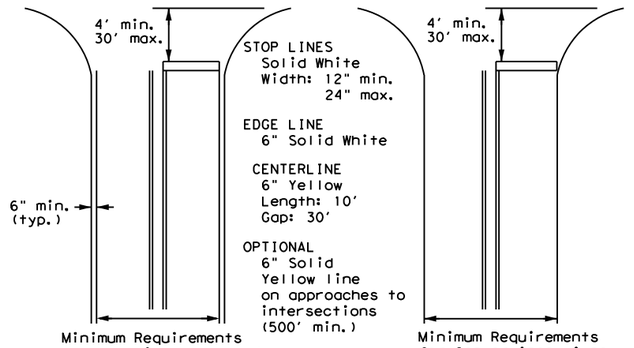
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways

Texas Department of Transportation

Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

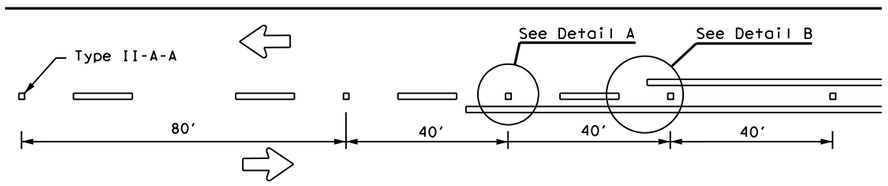
PM(1)-22

FILE: pm1-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 11-78 8-00 6-20	0047	06	174,ETC.	US75
8-95 3-03 12-22	DIST	COUNTY		SHEET NO.
5-00 2-12	DAL	COLLIN		114

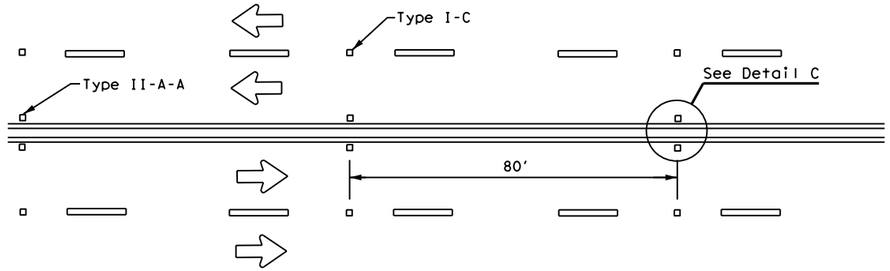
22A

DATE: $DATE$ $TIME$
FILE: $FILE$

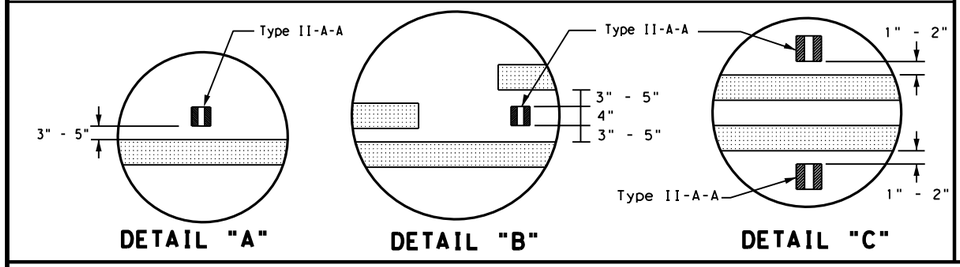
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

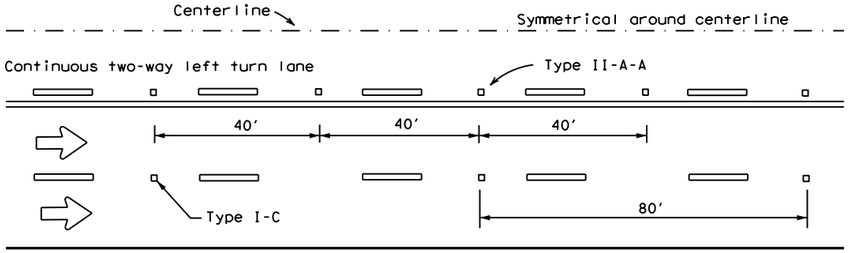


CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS

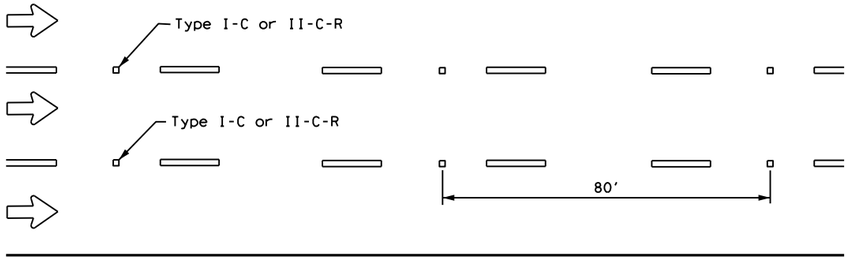


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY ROADWAYS





CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



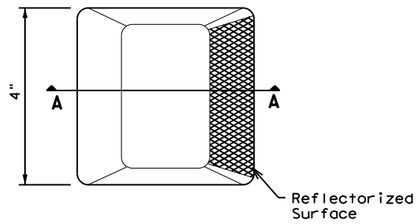
LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

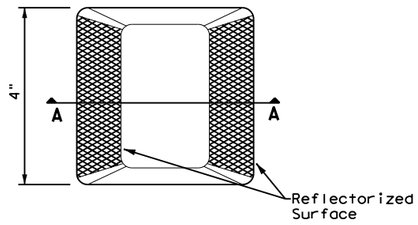
See Note 3.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

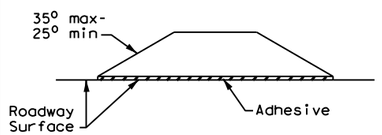
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)

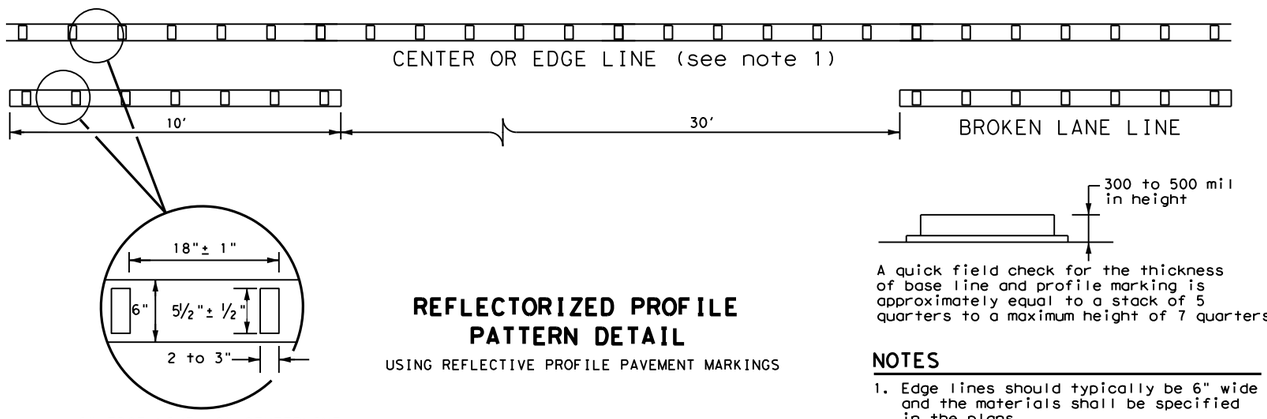


Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS



6" EDGE LINE, 6" CENTERLINE OR 6" LANE LINE

REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

Texas Department of Transportation

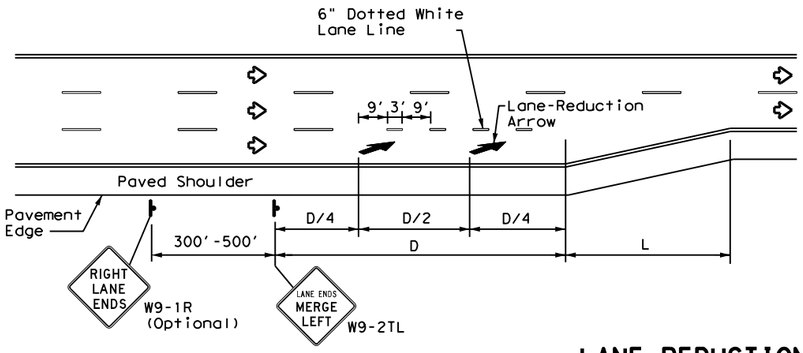
Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS PM(2)-22

FILE: pm2-22.dgn	DN:	CK:	DW:	CK:
©TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-77 8-00 6-20 4-92 2-10 12-22 5-00 2-12	0047	06	174,ETC.	US75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		115

22B

DATE: 2023/02/21
FILE: DOCUMENT NAME

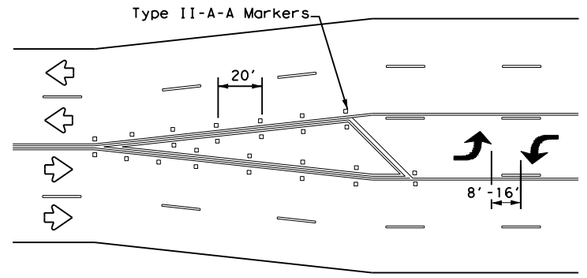


LANE REDUCTION

NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	



A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

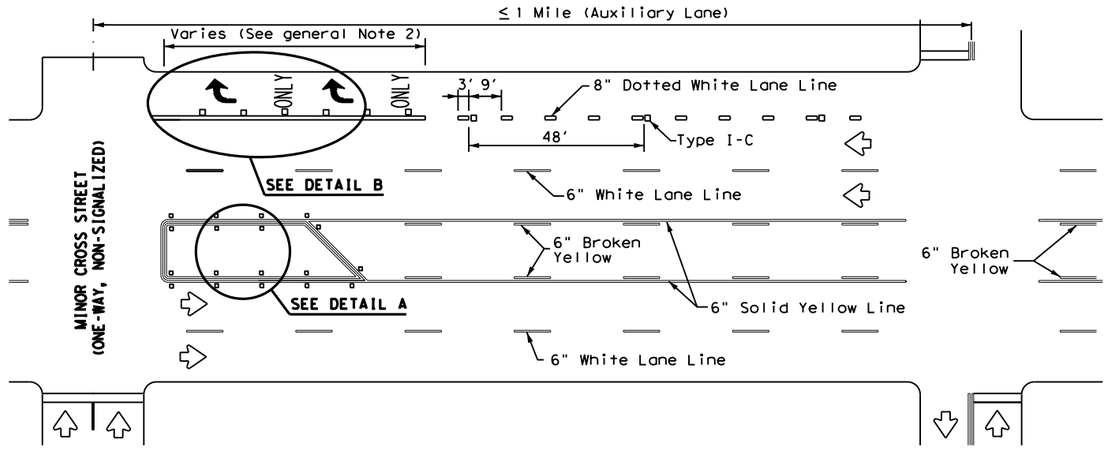
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

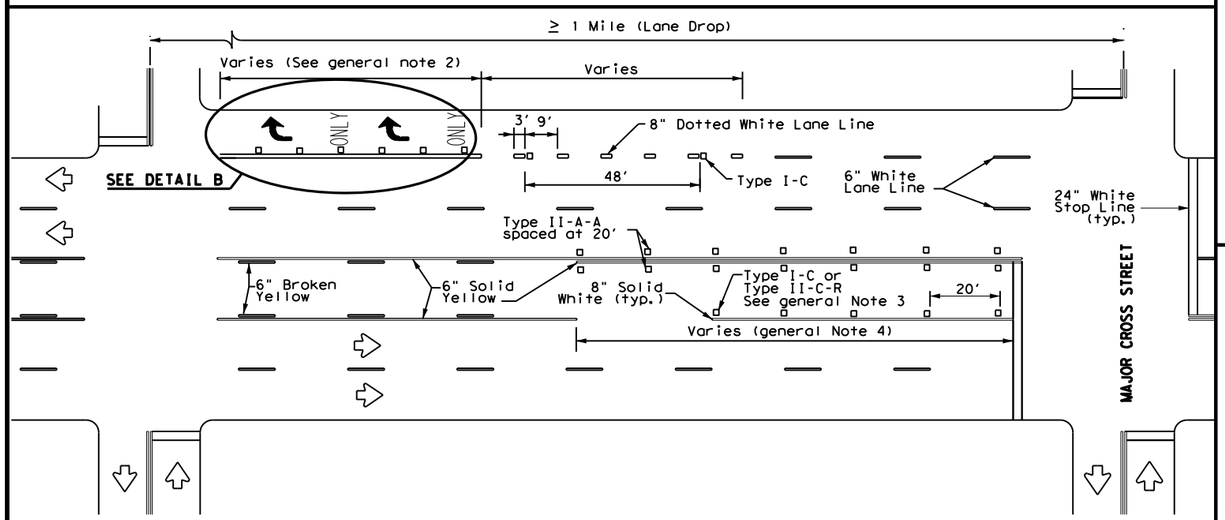
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

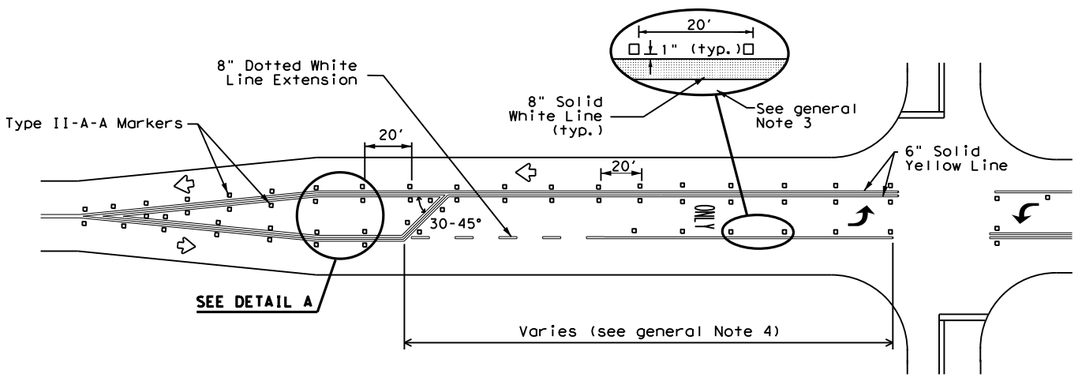
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



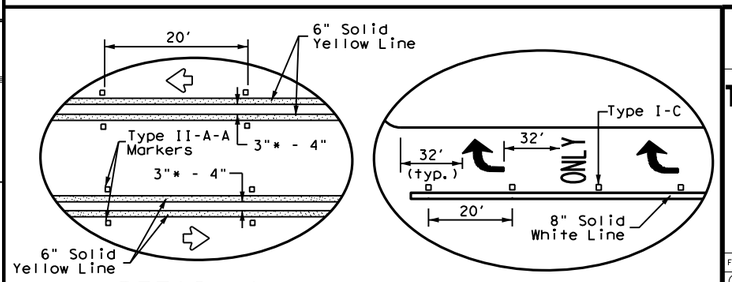
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

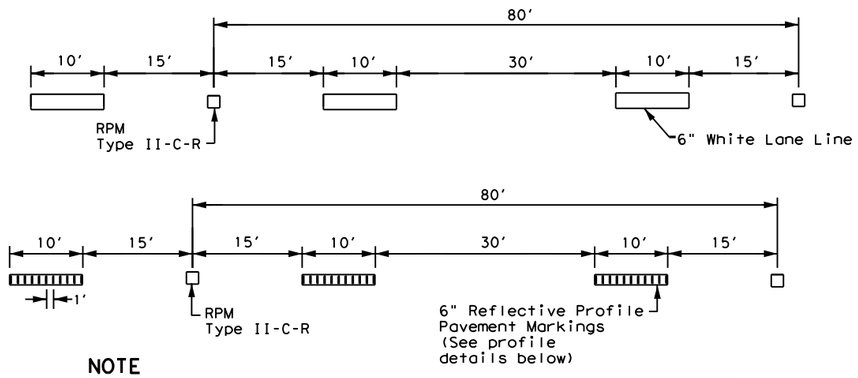
PM(3)-22

FILE: pm3-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-98 3-03 6-20	0047	06	174,ETC.	US75
5-00 2-10 12-22	DIST	COUNTY		SHEET NO.
8-00 2-12	DAL	COLLIN		116

22C

DATE:
FILE:

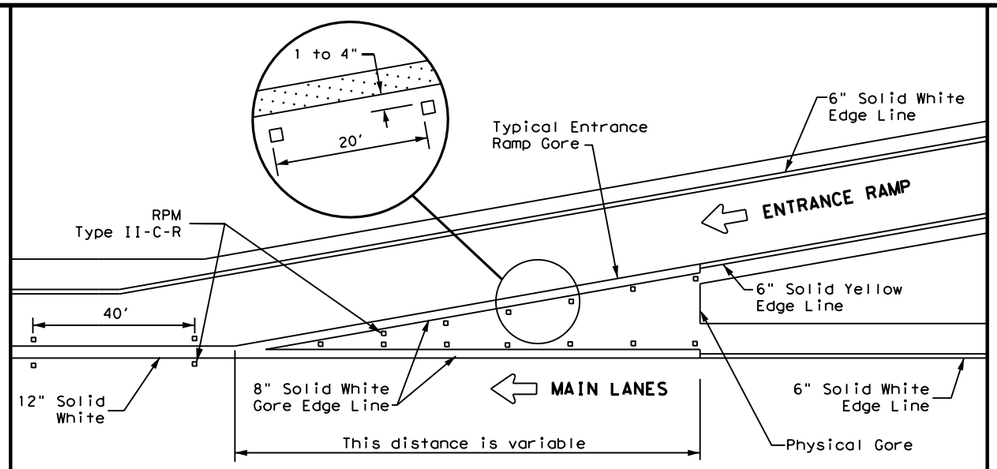
DATE:
FILE:



NOTE

Reflectorized raised pavement markers Type II-C-R shall be spaced on 80' centers with the clear face toward normal traffic and the red face toward wrong way traffic. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.

TRAFFIC LANE LINES PAVEMENT MARKING



TYPICAL ENTRANCE RAMP GORE MARKING

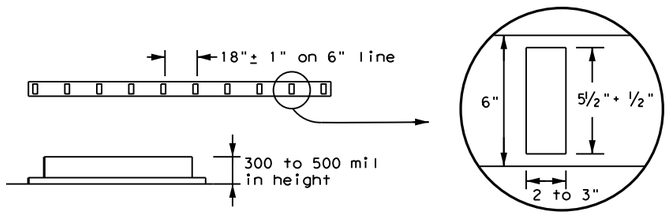
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

LEGEND	
⇦	Traffic flow
↱	Pavement marking arrows (white)
▫	Reflectorized Raised Markers (RPM) Type II-C-R

GENERAL NOTE

On concrete pavements the raised pavement markers shall be placed to one side of the longitudinal joints.



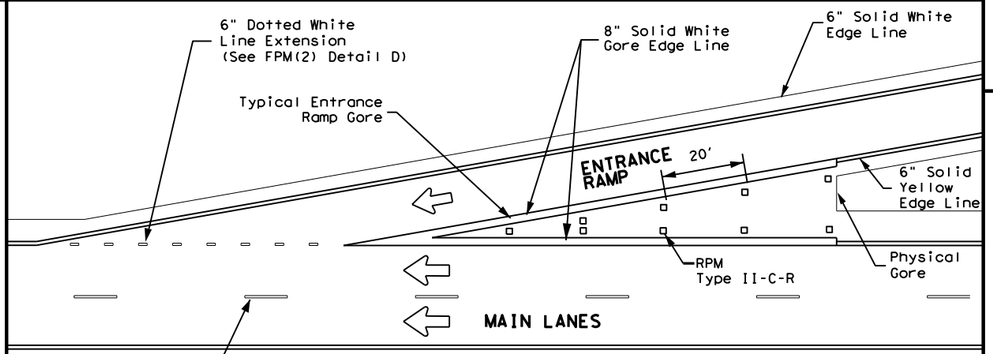
Reflective Profile Pavement Markings

Standard 6" Profile Detail

NOTE

Edge lines should typically be 6" wide and the materials shall be as specified in the plans. See details above if reflective profile pavement markings are to be used.

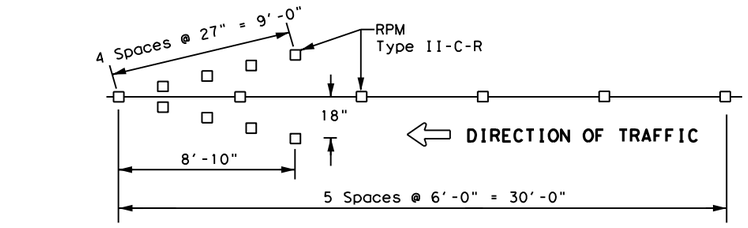
EDGE LINE PAVEMENT MARKINGS



NOTE

See the Roadway Design Manual Chapter 3 to determine if a tapered acceleration lane may be used.

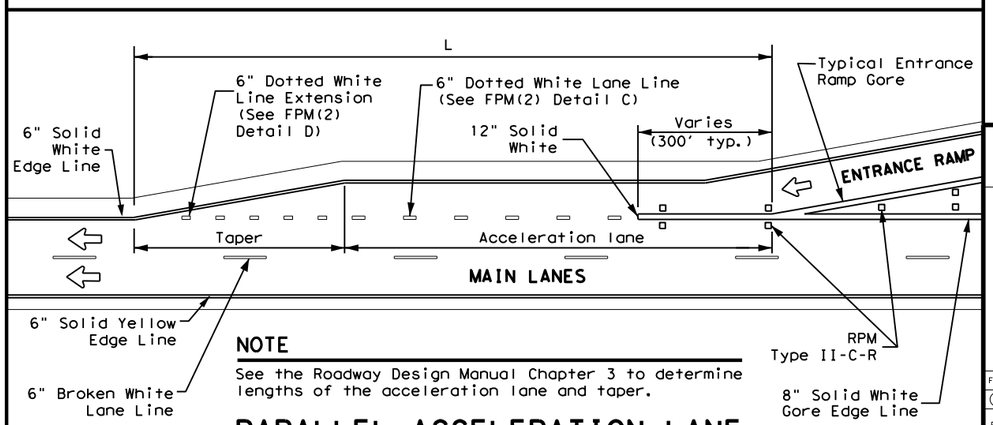
TAPERED ACCELERATION LANE



NOTES

1. Reflectorized raised pavement markers Type-II-C-R in the wrong way arrow shall have the clear face toward normal traffic and the red face toward the wrong way traffic.
2. Red reflectorized wrong way arrows, not to exceed two, may be placed on exit ramps. Locations of the arrows shall be as shown in the plans or as directed by the engineer.

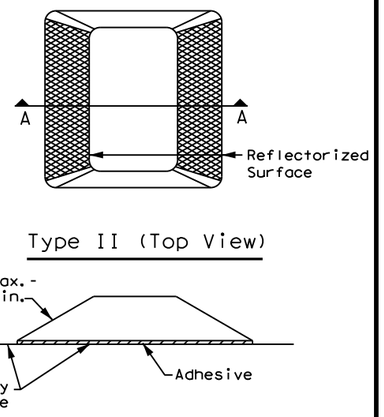
WRONG WAY ARROW



NOTE

See the Roadway Design Manual Chapter 3 to determine lengths of the acceleration lane and taper.

PARALLEL ACCELERATION LANE



SECTION A

REFLECTORIZED RAISED PAVEMENT MARKER (RPM)

Texas Department of Transportation

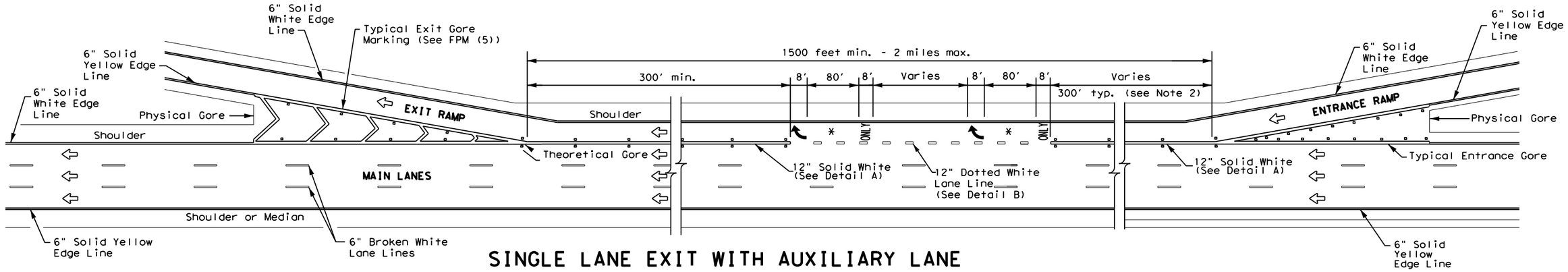
Traffic Safety Division Standard

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS WITH RAISED PAVEMENT MARKERS

FPM(1)-22

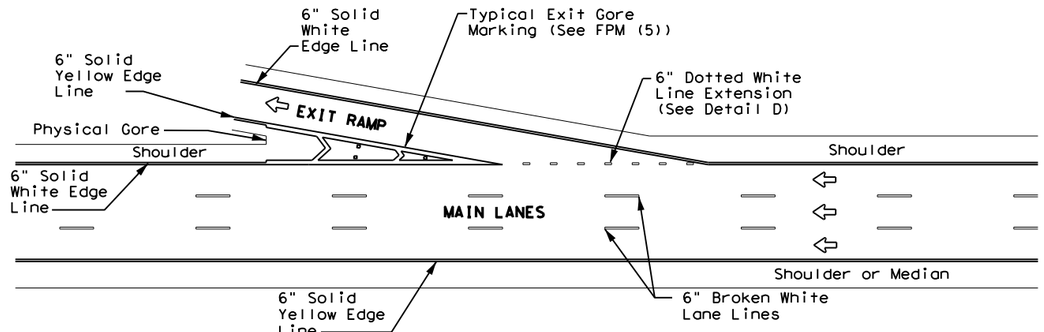
FILE: fpm(1)-22.dgn	DN:	CK:	DW:	CK:
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174, ETC.	US75
5-74 8-00 2-12	DIST	COUNTY		SHEET NO.
4-92 2-08 10-22	DAL	COLLIN		117
5-00 2-10				

23A



SINGLE LANE EXIT WITH AUXILIARY LANE

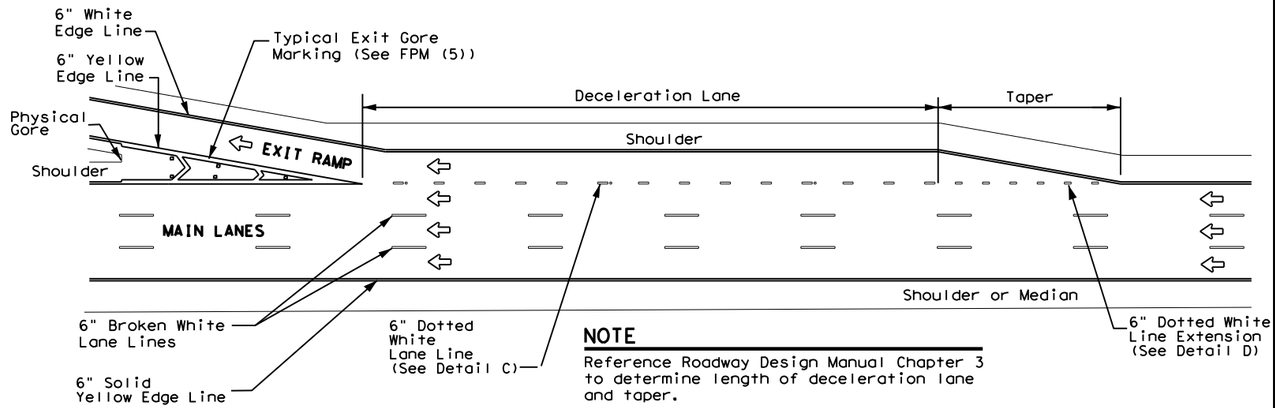
(See Note 2)



NOTE

Reference Roadway Design Manual Chapter 3 to determine if tapered deceleration lane may be used.

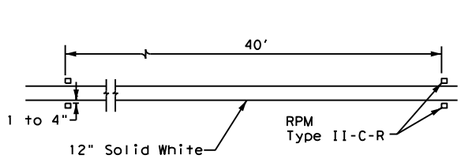
TAPERED DECELERATION LANE



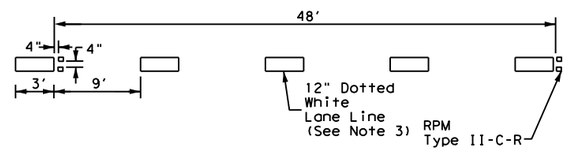
NOTE

Reference Roadway Design Manual Chapter 3 to determine length of deceleration lane and taper.

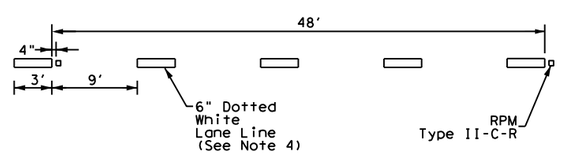
PARALLEL DECELERATION LANE



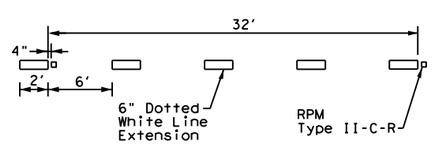
DETAIL A



DETAIL B



DETAIL C



DETAIL D

GENERAL NOTES

1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") dotted lane line (see Detail B) is used to separate a through lane that continues beyond the interchange from an adjacent mandatory exit lane.
4. Normal (6") dotted lane line (see Detail C) is used at parallel acceleration and deceleration lanes.
5. See FPM(1) for traffic lane line pavement marking details.

LEGEND	
⇦	Traffic flow
↱	Pavement marking arrows (white)
▫	Reflectorized Raised Markers (RPM) Type II-C-R
✳	Arrow markings are optional, however "ONLY" is required if arrow is used

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

Texas Department of Transportation

Traffic Safety Division Standard

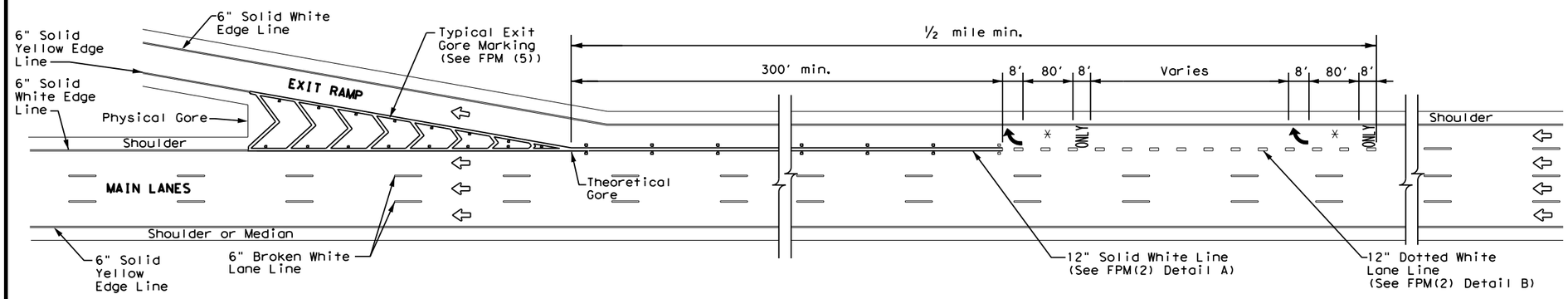
TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS ENTRANCE AND EXIT RAMPS

FPM(2)-22

FILE: fpm(2)-22.dgn	DN:	CK:	DW:	CK:
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-77 5-00 2-12 4-92 8-00 10-22 8-95 2-10	0047	06	174, ETC.	US75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		118

23B

DATE:
FILE:

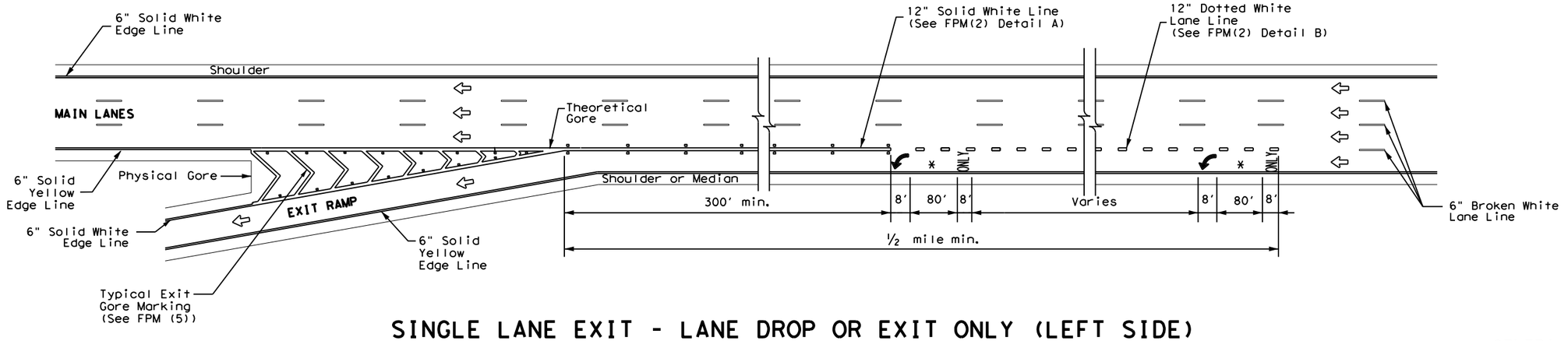


SINGLE LANE EXIT - LANE DROP OR EXIT ONLY

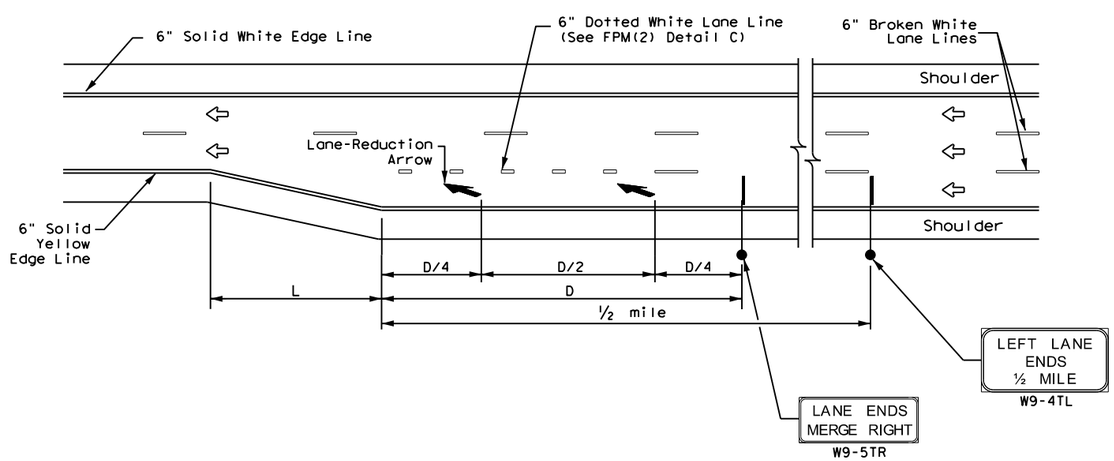
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

LEGEND	
⇦	Traffic flow
↱	Pavement marking arrows (white)
▫	Reflectorized Raised Markers (RPM) Type II-C-R
*	Arrow markings are optional, however "ONLY" is required if arrow is used



SINGLE LANE EXIT - LANE DROP OR EXIT ONLY (LEFT SIDE)



FREEWAY LANE REDUCTION

NOTES

1. Large Guide signs shall conform to the TxDOT Freeway Signing Handbook.
2. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
3. Arrows and sign details can be found in the Standard Highway Sign Designs for Texas (SHSD) at http://www.txdot.gov.
4. These guidelines may also be applied to the design of a right side lane reduction. Use LANE ENDS MERGE LEFT (W9-5TL) and RIGHT LANE ENDS 1/2 MILE (W9-4TR) signs in lieu of what is shown on drawing.

ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	
80 MPH	1,500	
85 MPH	1,625	

GENERAL NOTES

1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") dotted lane line (see FPM(2) Detail B) is used to separate a through lane that continues beyond the interchange from an adjacent mandatory exit lane.
4. Edge lines are not required in curb and gutter sections of frontage roads.
5. See FPM(1) for traffic lane line pavement marking details.

Texas Department of Transportation

Traffic Safety Division Standard

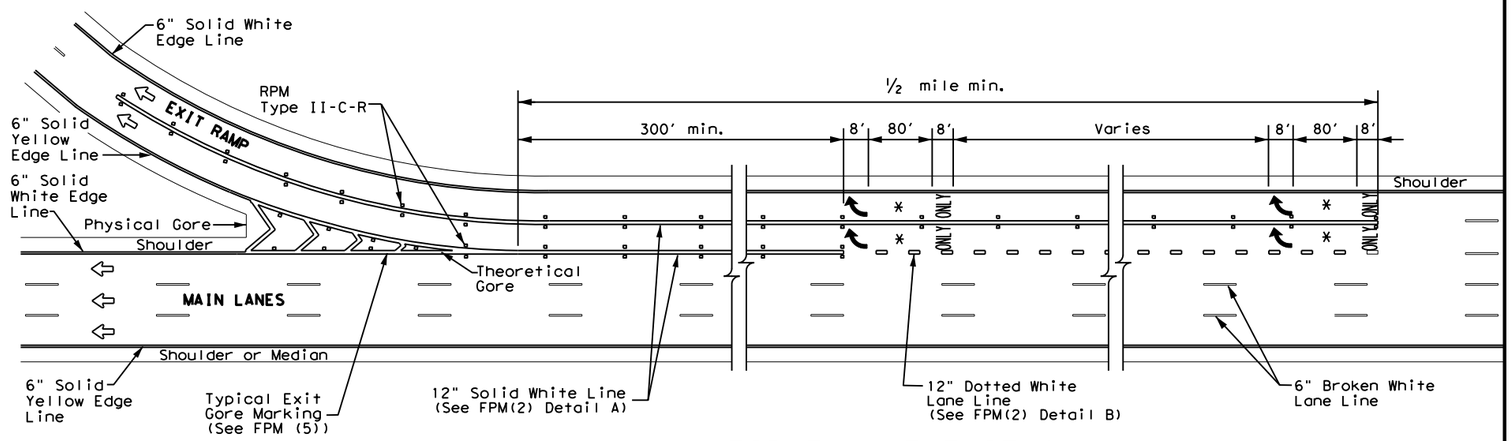
TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS SINGLE LANE DROP (EXIT ONLY) AND LANE REDUCTION DETAILS

FPM(3)-22

FILE: fpm(3)-22.dgn	DN:	CK:	DW:	CK:
© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174, ETC.	US75
4-92 2-10	DIST	COUNTY		SHEET NO.
5-00 2-12	DAL	COLLIN		119
8-00 10-22				

23C

DATE:
FILE:



MULTIPLE LANE EXIT ONLY

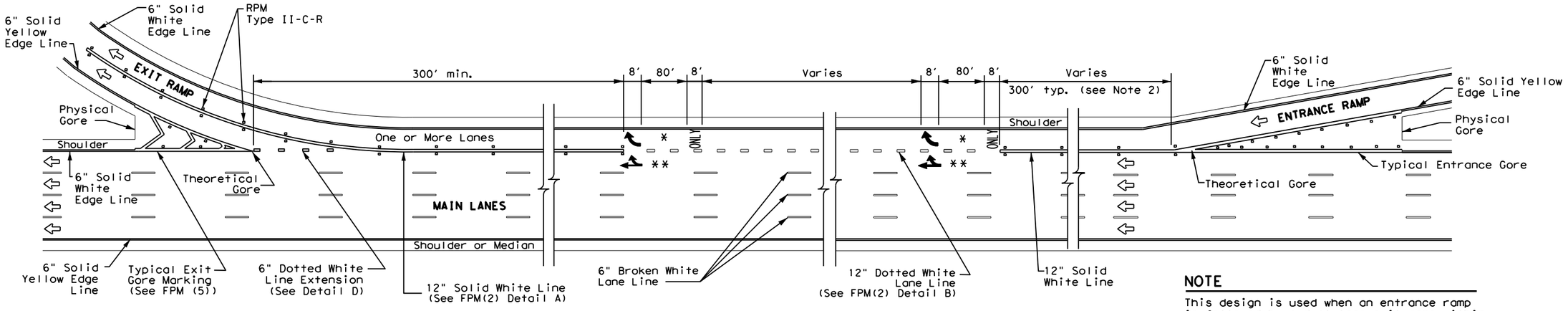
LEGEND	
⇦	Traffic Flow
▫	Reflectorized Raised Markers (RPM) Type II-C-R
↱	Pavement marking arrow (white)
*	Arrow markings are optional, however "ONLY" is required if arrow is used
**	Arrow markings are optional

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

GENERAL NOTES

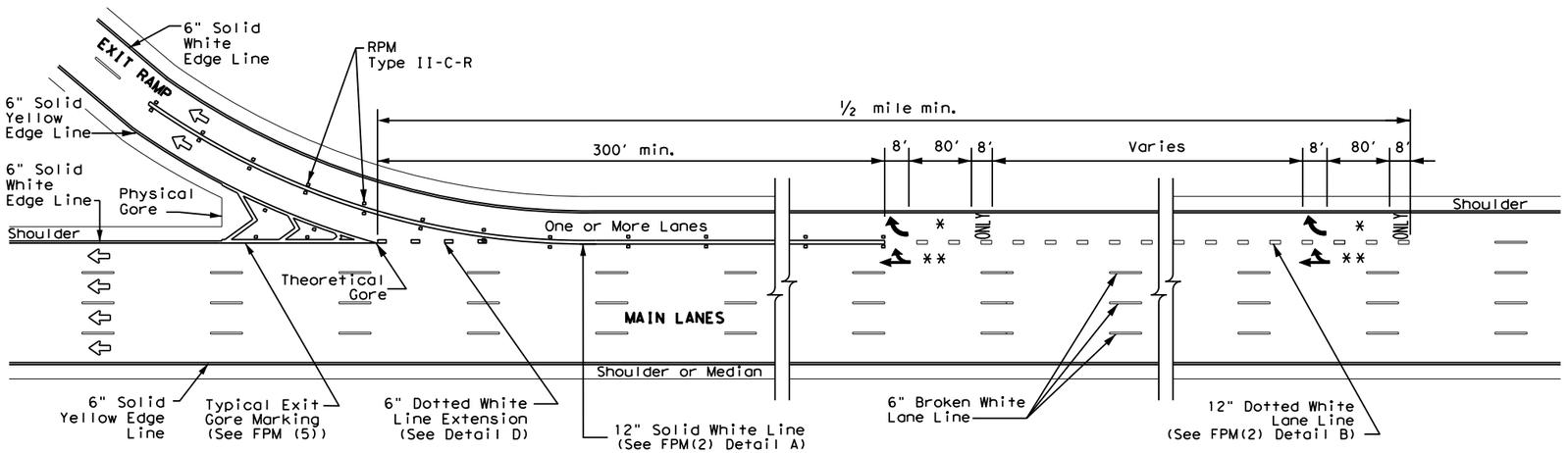
1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") dotted lane line (see FPM(2) Detail B) is used to separate a through lane that continues beyond the interchange from an adjacent mandatory exit lane.
4. Edge lines are not required in curb and gutter sections of frontage roads.
5. See FPM(1) for traffic lane line pavement marking details.



SINGLE LANE ENTRANCE WITH MULTIPLE LANE EXIT - EXIT ONLY WITH OPTION LANE

NOTE

This design is used when an entrance ramp is followed by a dual lane exit ramp within 2400' downstream (theoretical gore to theoretical gore).



MULTIPLE LANE EXIT - EXIT ONLY WITH OPTION LANE

DATE:
FILE:

Texas Department of Transportation

Traffic Safety Division Standard

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS MULTIPLE LANE DROP (EXIT) DETAILS

FPM(4)-22

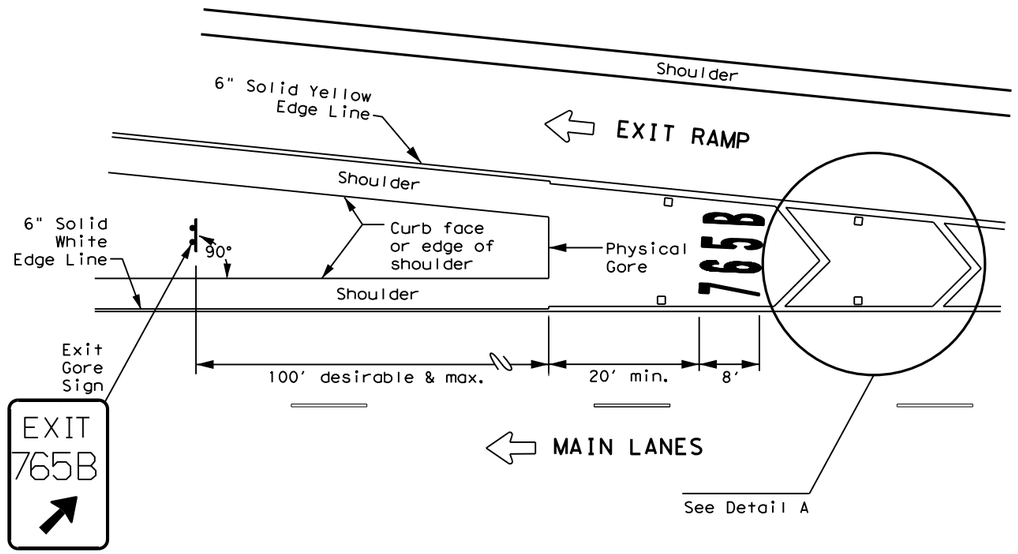
FILE: fpm(4)-22.dgn	DN:	CK:	DW:	CK:
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0047	06	174, ETC.	US75
2-77 2-10	DIST	COUNTY		SHEET NO.
5-00 2-12	DAL	COLLIN		120
8-00 10-22				

230

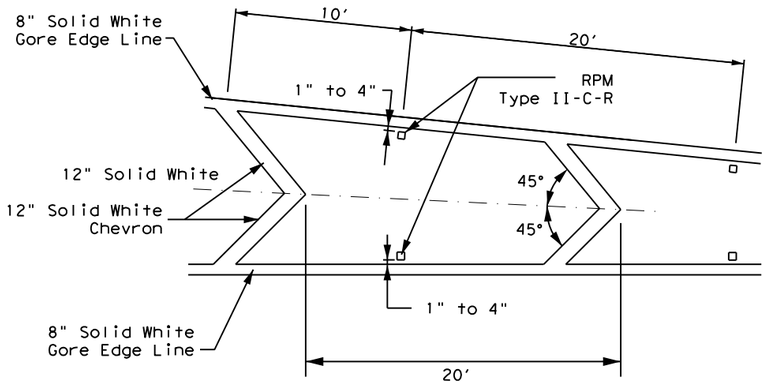
DATE:
FILE:

EXIT NUMBER PAVEMENT MARKING NOTES

1. Minimum 8 foot white exit number pavement markings should be used, unless otherwise noted.
2. Spacing between letters and numbers should be approximately 4 inches.
3. Pavement markings are to be located as specified elsewhere in the plans.
4. Numbers and Letters details can be found in the Standard Highway Design for Texas (SHSD) Section 12 at http://www.txdot.gov



MARKINGS WITH EXIT NUMBER



NOTES

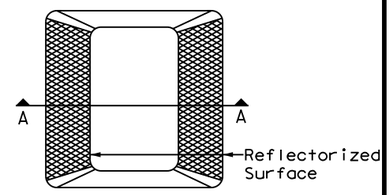
1. Raised pavement markers shall be centered between each chevron or neutral area line.
2. For more information, see Reflectorized Raised Pavement Marker Detail.

DETAIL A

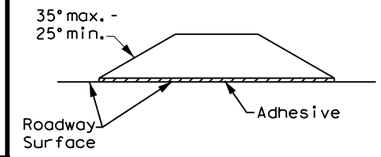
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

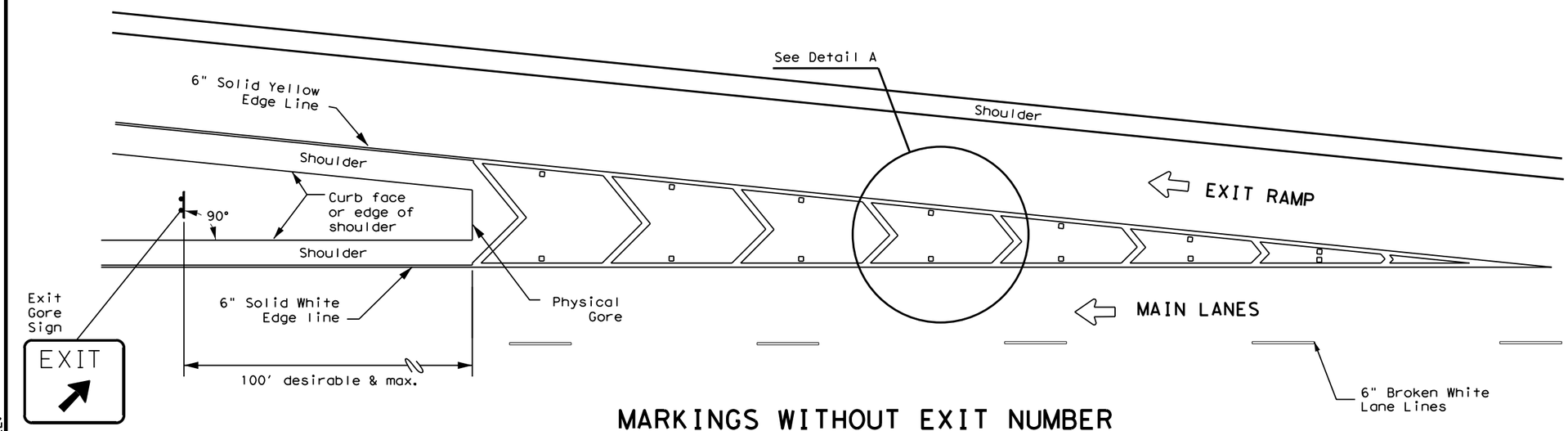
LEGEND	
⇦	Traffic flow
▫	Reflectorized Raised Markers (RPM) Type II-C-R



Type II (Top View)



SECTION A



MARKINGS WITHOUT EXIT NUMBER

REFLECTORIZED RAISED PAVEMENT MARKER (RPM)

Texas Department of Transportation

Traffic Safety Division Standard

EXIT GORE PAVEMENT MARKINGS

FPM(5)-22

FILE: fpm(5)-22.dgn	DN:	CK:	DW:	CK:
© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 9-19 10-22	0047	06	174, ETC.	US75
	DIST	COUNTY		SHEET NO.
	DAL	COLLIN		121

23E

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damage resulting from its use.

Notes To Designer:
1. Do not alter Sheet Design or Font style, size or weight - match text attributes.
2. If additional space is needed for a numbered section, fence and adjust sections up or down as needed for proportioning and readability but do not relocate from its relative position.
3. All areas should be addressed thoroughly and verify the necessary pay items are set up to support actions needed.

Filled Out: XX/XX/XXXX
Prepared by: Name/Section

I. STORMWATER POLLUTION PREVENTION PLAN-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List adjacent MS 4 Operator(s) that receive discharges from this project. They need to be notified prior to construction activities.
(Note: Leave blank only if no adjacent MS 4 Operator(s) are affected.)

1. Collin County Phase II MS 4 contact Tracy Homfeld, Asst Director of Engineering
2. City of Richardson Phase II MS 4 contact Bill Alsup, Env. Health Director
3. City of Plano Phase I MS 4 contact Echo Rexroad, Env. Quality Manager
4. City of Allen Phase II MS 4 contact William Nahas, Stormwater Program Manager
5. Town of Fairview Phase II MS 4 contact James Chancellor, Town Engineer
6. City of McKinney Phase II MS 4 contact Amesha Morris, Stormwater Administrator
7. City of Melissa Phase II MS 4 contact Jeff Cartwright, Public Works Director

☐ No Action Required ☒ Required Action

Action Number:

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000.
2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas. No equipment is allowed in any sream channel below the ordinary High Water Mark except on approved temporary stream crossings or drill pads.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required
☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)
☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
☐ Individual 404 Permit Required
☐ Other Nationwide Permit Required: NWP# 3(a)

Required Actions: List Waters of the US Permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.
1.

2.

3.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices for applicable 401 General Conditions:
(Note: If CORP Permit not required, do not check boxes.)

Erosion	Sedimentation	Post-Construction TSS
☐ Temporary Vegetation	☐ Silt Fence	☐ Vegetative Filter Strips
☐ Blankets/Matting	☐ Rock Berm	☐ Retention/Irrigation Systems
☐ Mulch	☐ Triangular Filter Dike	☐ Extended Detention Basin
☐ Sodding	☐ Sand Bag Berm	☐ Constructed Wetlands
☐ Interceptor Swale	☐ Straw Bale Dike	☐ Wet Basin
☐ Diversion Dike	☐ Brush Berms	☐ Erosion Control Compost
☐ Erosion Control Compost	☐ Erosion Control Compost	☐ Mulch Filter Berm and Socks
☐ Mulch Filter Berm and Socks	☐ Mulch Filter Berm and Socks	☐ Compost Filter Berm and Socks
☐ Compost Filter Berm and Socks	☐ Compost Filter Berm and Socks	☐ Vegetation Lined Ditches
	☐ Stone Outlet Sediment Traps	☐ Sand Filter Systems
	☐ Sediment Basins	☐ Grassy Swales

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☒ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.
Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751 & 752 in order to comply with requirements for invasive species, beneficial landscaping and tree/brush removal commitments.

☒ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS TREATY ACT.

☐ No Action Required ☒ Required Action

Action Number:

1. Follow Special Notes.

Special Notes:

1. Avoid harming all wildlife species if encountered and allow them to safely leave the project site. Due diligence should be used to avoid killing or harming any wildlife species in the implementation of transportation projects.
2. If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediated area, and contact the Engineer immediately.
3. The Migratory Bird Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, trade or transport any migratory bird, nest, young, feather or egg in part or in whole, without a federal permit issued in accordance within the Act's policies and regulations. The contractor would remove all old migratory bird nests from any structure or trees where work would be done from October 1 to February 15. In addition, the contractor would be prepared to prevent migratory birds from building nest(s) between February 15 to October 1. In the event that migratory birds are encountered on-site during project construction, efforts to avoid adverse impacts on protected birds, active nests, eggs and/or young would be observed.

LIST OF ABBREVIATIONS

BMP:	Best Management Practice	SPCC:	Spill Prevention Control and Countermeasure
CGP:	Construction General Permit	SW3P:	Storm Water Pollution Prevention Plan
DSHS:	Texas Department of State Health Services	PCN:	Pre-Construction Notification
FHWA:	Federal Highway Administration	PSL:	Project Specific Location
MOA:	Memorandum of Agreement	TCEQ:	Texas Commission on Environmental Quality
MOU:	Memorandum of Understanding	TPDES:	Texas Pollutant Discharge Elimination System
MS4:	Municipal Separate Stormwater Sewer System	TPWD:	Texas Parks and Wildlife Department
MBTA:	Migratory Bird Treaty Act	TxDOT:	Texas Department of Transportation
NOT:	Notice of Termination	T&E:	Threatened and Endangered Species
NWP:	Nationwide Permit	USACE:	U.S. Army Corp of Engineers
NOI:	Notice of Intent	USFWS:	U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):
Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Safety Data Sheets (SDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act. Maintain an adequate supply of on-site spill response materials, as indicated in the SDS. In the event of a spill, take actions to mitigate the spill as indicated in the SDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:
* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canisters, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation(s) or replacement(s) (bridge class structures not including box culverts)?
☐ Yes ☒ No

If "No", then no further action is required.
If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?
☐ Yes ☐ No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required ☐ Required Action

Action Number:

1.

2.

3.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☒ No Action Required ☐ Required Action

Action Number:

1.

GENERAL NOTE:

Any change orders and/or deviations from the final design must be reported to the Engineer prior to commencement of construction activities, as additional environmental clearance may be required.

LAST REVISION: 1/15/15

 Texas Department of Transportation
Dallas District

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US 75
STATE	DISTRICT	COUNTY	
TEXAS	DALLAS	Collin	
CONTROL	SECTION	JOB	SHEET NO.
0047	06	174, etc.	122

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with TxDOT policy for projects disturbing less than 1 acre of soil, and not part of a larger common plan of development.

For all projects with any soil disturbing activities, TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office. If no field office is available, then this SWP3 shall be kept at the appropriate TxDOT Area Office.

This SWP3 is consistent with requirements specified in applicable stormwater plans, and the project's environmental permits, issues, and commitments (EPICs).

1.0 SITE/PROJECT DESCRIPTION
1.1 PROJECT CONTROL SECTION JOB (CSJ):
0047-06-174 & 0047-14-088

1.2 PROJECT LIMITS:

From: DALLAS COUNTY LINE

To: GRAYSON COUNTY LINE

1.3 PROJECT COORDINATES:

BEGIN: (Lat) 33.1847385, (Long): -96.6396642

END: (Lat) 33.400075,(Long) -96.580295

1.4 TOTAL PROJECT AREA (Acres): 1,124

1.5 TOTAL AREA TO BE DISTURBED (Acres): 0

1.6 NATURE OF CONSTRUCTION ACTIVITY:

1.7 MAJOR SOIL TYPES:

Soil Type	Description

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

☐ PSLs determined during preconstruction meeting
☐ PSLs determined during construction
X No PSLs planned for construction

Type	Sheet #s

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.3.)

☐ Mobilization
☐ Install sediment and erosion controls
☐ Blade existing topsoil into windrows, prep ROW, clear and grub
☐ Remove existing pavement
☐ Grading operations, excavation, and embankment
☐ Excavate and prepare subgrade for proposed pavement widening
☐ Remove existing culverts, safety end treatments (SETs)
☐ Remove existing metal beam guard fence (MBGF), bridge rail
☐ Install proposed pavement per plans
☐ Install culverts, culvert extensions, SETs
☐ Install mow strip, MBGF, bridge rail
☐ Place flex base
☐ Rework slopes, grade ditches
☐ Blade windrowed material back across slopes
☐ Revegetation of unpaved areas
☐ Achieve site stabilization and remove sediment and erosion control measures
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

☐ Sediment laden stormwater from stormwater conveyance over disturbed area
☐ Fuels, oils, and lubricants from construction vehicles, equipment, and storage
☐ Solvents, paints, adhesives, etc. from various construction activities
☐ Transported soils from offsite vehicle tracking
☐ Construction debris and waste from various construction activities
☐ Contaminated water from excavation or dewatering pump-out water
☐ Sanitary waste from onsite restroom facilities
☐ Trash from various construction activities/receptacles
☐ Long-term stockpiles of material and waste
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.11 RECEIVING WATERS:

Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody
US 75: Spring Creek, Bowman Branch, and Brown Branch; Rowlett Creek	*(Segment 0820B*);*
Cottonwood Creek	(Segment 0820A);
Sloan Creek which flows to Wilson Creek;	*(Segment 0821C*)*
Honey Creek, THrockmorton Creek, and Hurricane Creek, which flows to East Fork Trinity River and multiple of their unnamed tributaries.	*(Segment 0821D*)*
Segment 0820B, 0821C, and 0821D are impaired by Bacteria in Water (Recreation Use)	

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

X Development of plans and specifications
X Perform SWP3 inspections
X Maintain SWP3 records and update to reflect daily operations
☐ Other: _____
☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

X Day To Day Operational Control
X Maintain schedule of major construction activities
X Install, maintain and modify BMPs
☐ Other: _____
☐ Other: _____

STATE OF TEXAS
MADHU SASTRY
82864
LICENSED PROFESSIONAL ENGINEER

4/18/2023

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6	SEE TITLE SHEET		123
STATE	STATE DIST.	COUNTY	
TEXAS	DAL	COLLIN	
CONT.	SECT.	JOB	HIGHWAY NO.
0047	06	174,ETC.	US75

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ P Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☐ ☐ Temporary Seeding
- ☐ ☐ Permanent Planting, Sodding or Seeding
- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- T ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☐ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☐ ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☐ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☐ Loaded haul trucks to be covered with tarpaulin
- ☐ Stabilized construction exit
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.5 POLLUTION PREVENTION MEASURES:

- ☐ Chemical Management
- ☐ Concrete and Materials Waste Management
- ☐ Debris and Trash Management
- ☐ Dust Control
- ☐ Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☒ Fire hydrant flushings
- ☒ Irrigation drainage
- ☒ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☒ Potable water sources
- ☒ Springs
- ☒ Uncontaminated groundwater
- ☒ Water used to wash vehicles or control dust
- ☒ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3 .

2.9 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3.

STATE OF TEXAS
MADHU SASTRY
82864
LICENSED PROFESSIONAL ENGINEER

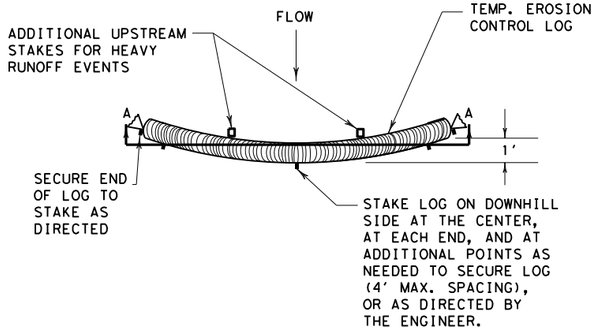
Madhu Sastry 4/18/2023

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

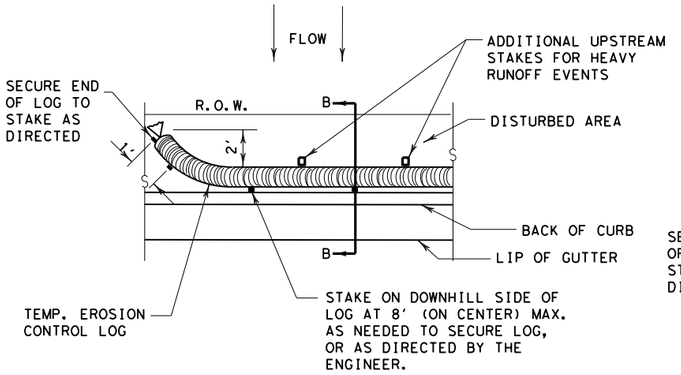
Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6	SEE TITLE SHEET		124
STATE	STATE DIST.	COUNTY	
TEXAS	DAL	COLLIN	
CONT.	SECT.	JOB	HIGHWAY NO.
0047	06	174,ETC.	US75

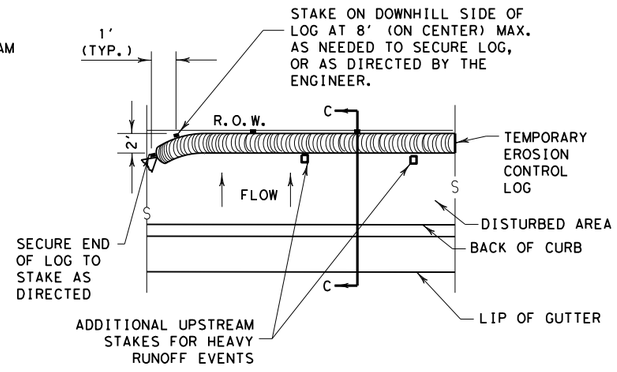
DATE:
FILE:



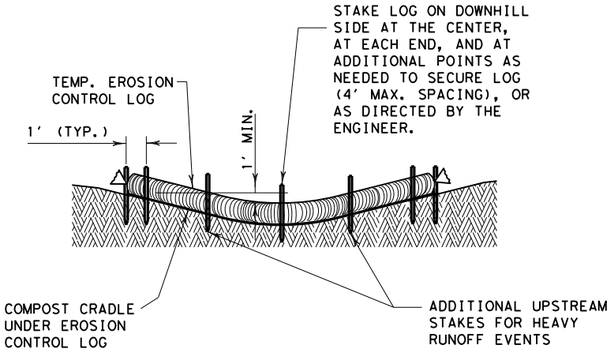
PLAN VIEW



PLAN VIEW



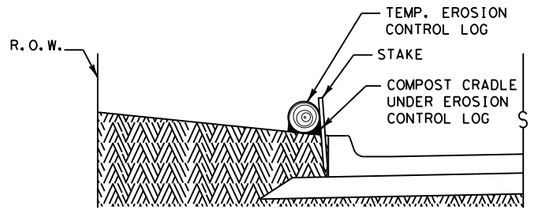
PLAN VIEW



SECTION A-A

EROSION CONTROL LOG DAM

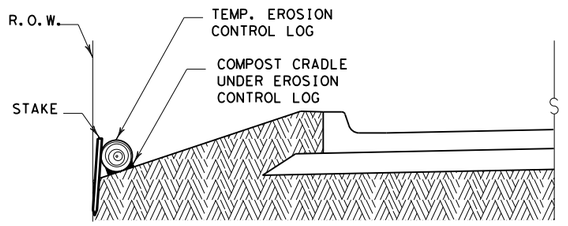
CL-D



SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

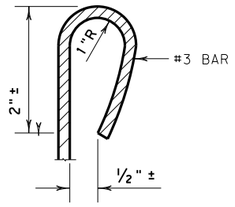
CL-BOC



SECTION C-C

EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

CL-ROW



REBAR STAKE DETAIL

GENERAL NOTES:

1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
4. FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
5. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
8. SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
9. TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE LOG.
10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

LEGEND

- CL-D — EROSION CONTROL LOG DAM
- CL-BOC — EROSION CONTROL LOG AT BACK OF CURB
- CL-ROW — EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY
- CL-SST — EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING
- CL-SSL — EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING
- CL-DI — EROSION CONTROL LOG AT DROP INLET
- CL-CI — EROSION CONTROL LOG AT CURB INLET
- CL-GI — EROSION CONTROL LOG AT CURB & GRATE INLET

SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

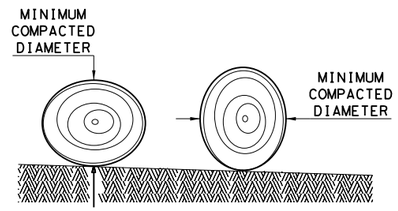
Log Traps: The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

1. Within drainage ditches spaced as needed or min. 500' on center
2. Immediately preceding ditch inlets or drain inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way
5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.



DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS

Texas Department of Transportation

Design Division Standard

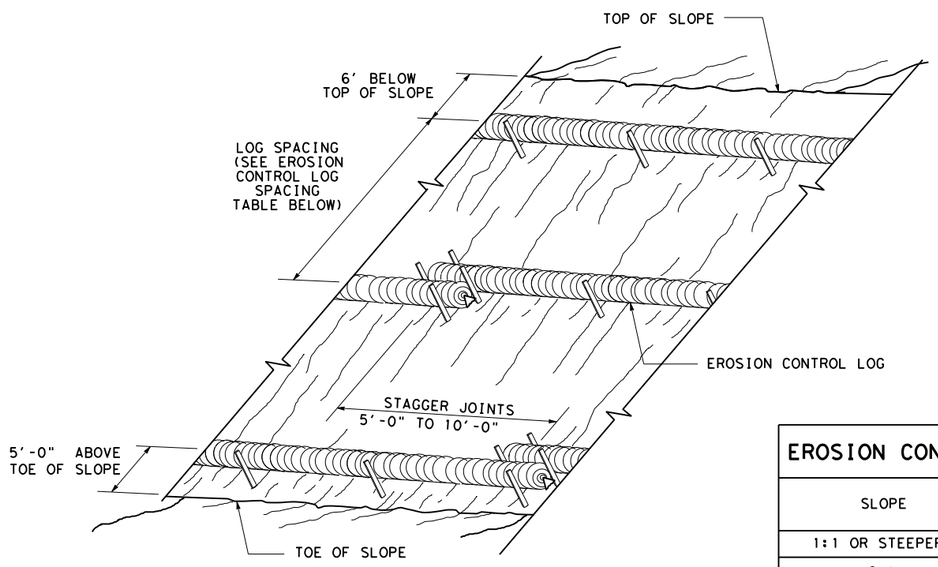
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9)-16

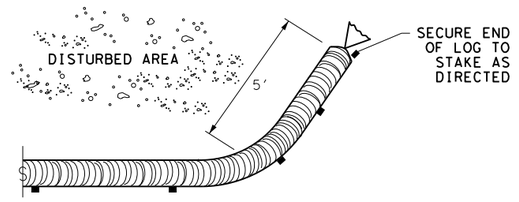
FILE: ec916		DN: TxDOT		CK: KM	DW: LS/PT		CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY		
REVISIONS	0047	06	174,ETC.		US75		
	DIST	COUNTY				SHEET NO.	
	DAL	COLLIN				125	

DATE:
FILE:



EROSION CONTROL LOGS ON SLOPES
STAKE AND TRENCHING ANCHORING

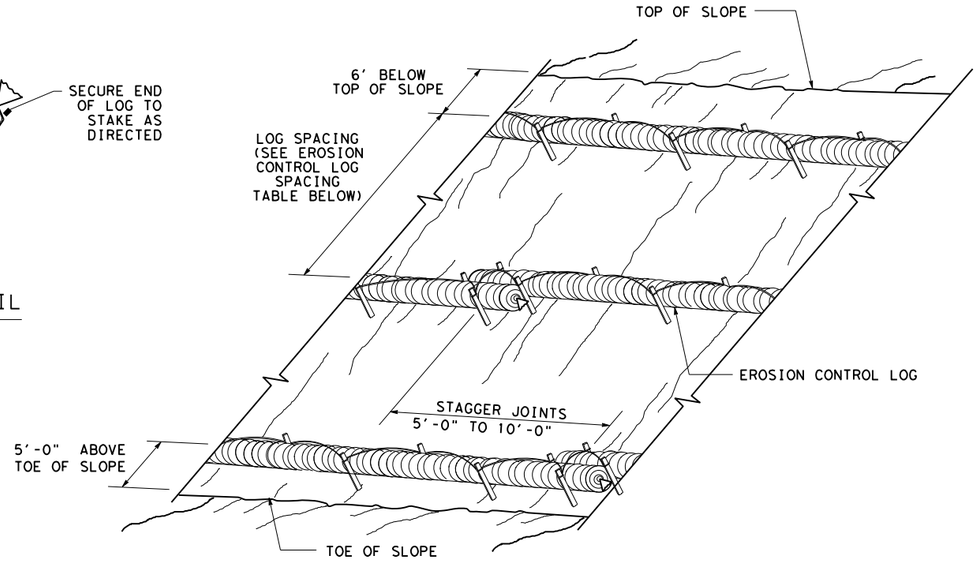
CL-SST



END SECTION RAP DETAIL

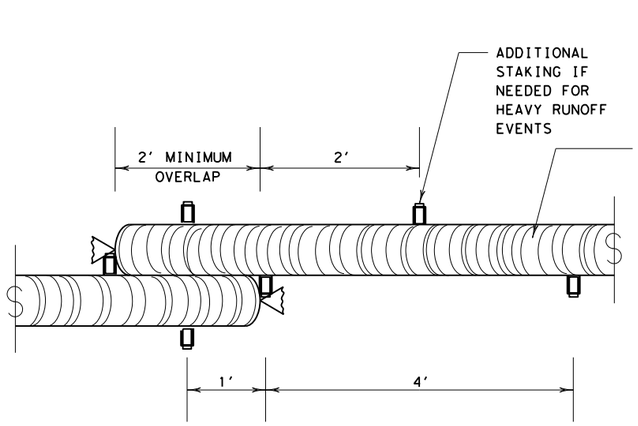
EROSION CONTROL LOG SPACING TABLE				
SLOPE	LOG DIAMETER			
	6"	8"	12"	18"
1:1 OR STEEPER	5'	10'	15'	20'
2:1	10'	20'	30'	40'
3:1	15'	30'	45'	60'
4:1 OR FLATTER	20'	40'	60'	80'

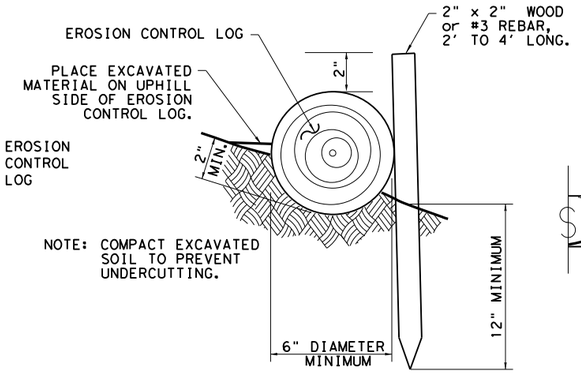
* ADJUSTMENTS CAN BE MADE FOR SOIL TYPE:
SOFT, LOAMY SOILS-ADJUST ROWS CLOSER TOGETHER;
HARD, ROCKY SOILS- ADJUST ROWS FARTHER APART



EROSION CONTROL LOGS ON SLOPES
STAKE AND LASHING ANCHORING

CL-SSL

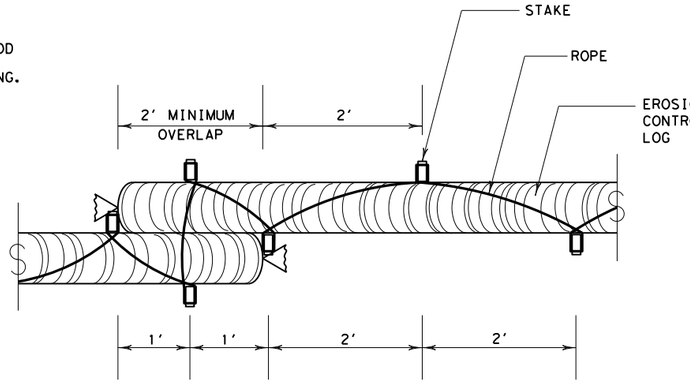


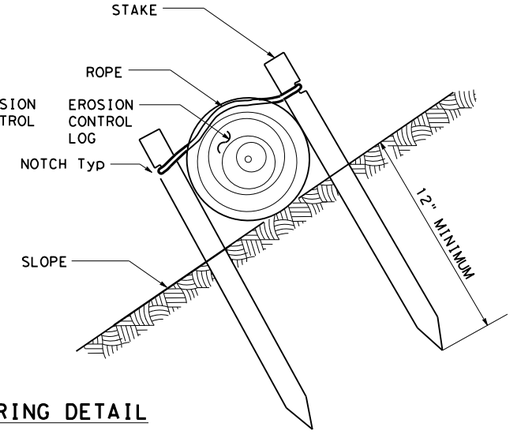


STAKE AND TRENCHING ANCHORING DETAIL

CL-SST

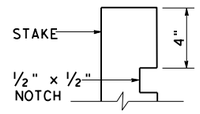
TRENCH DEPTH TABLE	
LOG DIAMETER	DEPTH
6"	2"
8"	3"
12"	4"
18"	5"





STAKE AND LASHING ANCHORING DETAIL

CL-SSL



STAKE NOTCH DETAIL

SHEET 2 OF 3

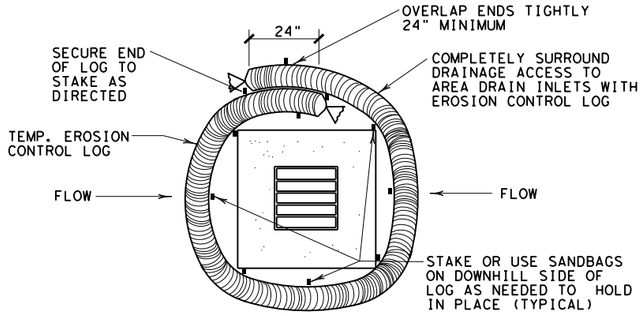
Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES
EROSION CONTROL LOG
EC(9)-16

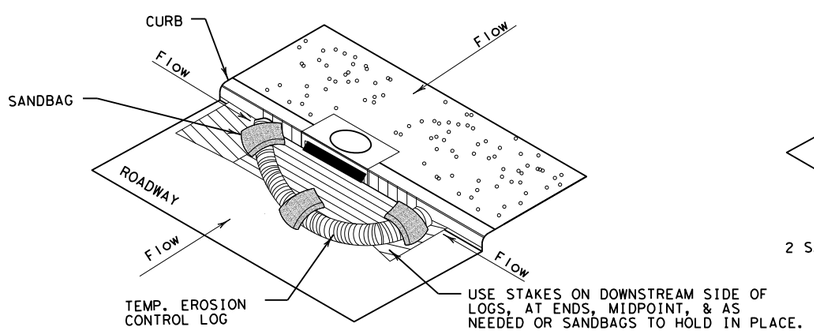
FILE: ec116	DN: TxDOT		CK: KM		DW: LS/PT	CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY	
REVISIONS	0047	06	174,ETC.		US75	
	DIST	COUNTY				SHEET NO.
	DAL	COLLIN				126

DATE:
FILE:



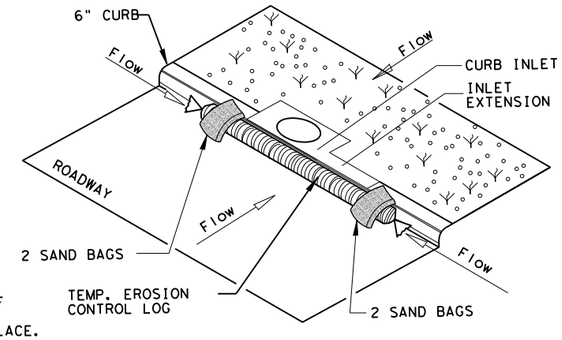
EROSION CONTROL LOG AT DROP INLET

CL-DI



EROSION CONTROL LOG AT CURB INLET

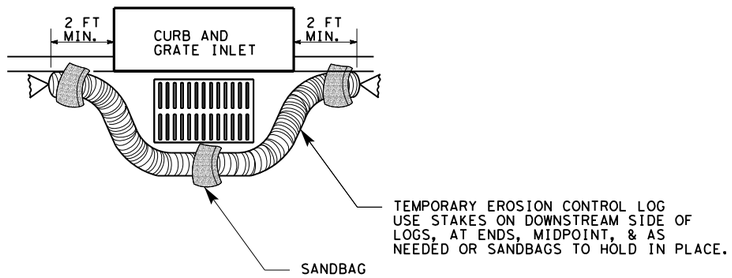
CL-CI



EROSION CONTROL LOG AT CURB INLET

CL-CI

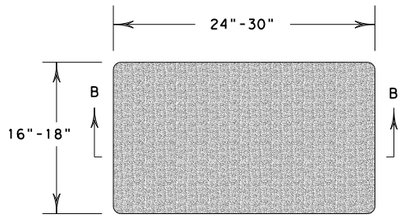
NOTE:
EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI

SECTION B-B



SANDBAG DETAIL

SHEET 3 OF 3

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9)-16

FILE: ec916	DN: TxDOT		CK: KM	DW: LS/PT		CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY	
REVISIONS	0047	06	174,ETC.		US75	
	DIST	COUNTY				SHEET NO.
	DAL	COLLIN				127

PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the right of way and/or properties of the Railroad and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right of Way or when impacting current or future Railroad operations. Coordinate with the Railroad while performing the work outlined herein, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right of Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right of Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.03 PLANS / SPECIFICATIONS

TxDOT has received written Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines can be found on the Railroad website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, Federal Railroad Administration (FRA), and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The safe operation of railroad train movements takes precedence over any work to be performed by the Contractor. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 15 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 15 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail. When not in use, keep Contractor machinery and materials at least 50 feet from the Railroad's nearest track.

D. Vehicular crossings of railroad track are allowed only at existing crossings, or haul road crossings developed with Railroad approval.

E. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

F. Railroad requirements do not allow work within 50 feet of track centers when a train passes the work site and all personnel must clear the area within 50 feet of the track centerline and secure all equipment. Additional allowances may be pursued as outlined in 3.02 and 3.03.

G. All permanent clearances shall be verified before project closing.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the contract site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a railroad flag person will be required. At the direction of the railroad flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame, the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window, the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and FRA requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Do not perform any work within Railroad Right of Way without a valid executed Right of Entry Agreement if required on this project.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right of Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right of Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.15 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least 30 days in advance of any work. Include in the written request:
1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of nearest rail. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right of Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right of Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement.

3.05 RAILROAD SAFETY ORIENTATION

A. Complete the railroad course "Orientation for Contractor's Safety", and maintain current registration prior to working on railroad property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

"UPRR, BNSF, KCS/TEXMEX will not accept on-track safety training certificates from other railroads. Refer to Railroad specific contractor right of entry for training information."

B. Know and follow the "Contractor's Right of Entry Agreement" EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right of Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:
A. 15' - 0" (BNSF)(UPRR)and 14'-0" (KCS) horizontal from centerline of track
B. 22' (KCS) and 21' - 6" (UPRR & BNSF) vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement without written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement without receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	0047	06	174	US 75
	DIST	COUNTY		SHEET NO.
	18	COLLIN		128

DATE:
FILE:

3.09 MAINTENANCE OF RAILROAD FACILITIES

A. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right of Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractors's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the project site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.10 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
   1. Pre-construction meetings.
   2. Pile driving/drilling of caissons or drilled shafts.
   3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
   4. Erection of precast concrete or steel bridge superstructure.
   5. Placement of waterproofing (prior to placing ballast on bridge deck).
   6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.11 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad at expense of TxDOT to protect Railroad facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from nearest rail of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to railroad facilities, which, in the opinion of the Railroad Designated Representative, may endanger railroad facilities or operations.

D. During any Contractor's operations when, in the opinion of the Railroad Designated Representative, railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.12 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad will be done by its own forces and it is not a part of the Work under this Contract.

3.13 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around railroad facilities with the Railroad Designated Representative.

3.14 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

   UPRR 1-800-336-9193
   7:00 AM to 9:00 PM CST Monday-Friday except holidays,
   staffed 24 hrs/day for emergencies
   48 hrs notice required

   BNSF 1-800-533-2891
   24 hour number
   5 working days notice required

   KCS 1-800-344-8377
   Texas One Call, a 24 hour number
   48 hrs notice required, excluding weekends and holidays

   If a telecommunications system is buried anywhere on or near railroad property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near railroad property. Refer to the project General Notes for additional information.

C. Projects involving a boring or jack and bore operation under track such as drainage pipes or culverts and utilities require an installation plan reviewed and approved by the Railroad and TxDOT prior to proceeding with such construction. A railroad inspector and contractor assisted monitoring of ground and track movement is required to maintain safe passage of rail traffic. Stop installation and do not allow passage of trains if movements in excess of 1/4 inch vertical or horizontal is detected in the tracks. Immediately repair the damage to the satisfaction of TxDOT and the Railroad before proceeding.

3.15 RAILROAD FLAGGING

Per the Right of Entry Agreement for flagging, notify the Railroad Representative at least 10 working days in advance of Contractor's work and at least 30 working days in advance of any Contractor's work in which any person or equipment will be within 25 feet of nearest rail or as specified in the Contractor Right of Entry (CROE).

3.16 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right of Way and leave the right of Way in a clean and presentable condition to the satisfaction of TxDOT and the Railroad.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	0047	06	174	US 75
	DIST	COUNTY		SHEET NO.
	18	COLLIN		129

DATE:
FILE:

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 978545H
Crossing Type: RR Over
RR Company Owning Track at Crossing: DART
Operating RR Company at Track: DART
RR MP: 591.020
RR Subdivision: N/A
City: Richardson
County: Collin
CSJ at this Crossing: 0047-06-174
Highway/Roadway name crossing the railroad: US 75
# of regularly scheduled trains per day at this crossing: _____
# of switching movements per day at this crossing: _____
% of estimated contract cost of work within railroad ROW: <1%

Scope of Work at this Crossing to Be Performed by State Contractor:
State's contractor will be performing full depth conrete repair and pavement marking installation in the RR ROW.

Scope of Work at this Crossing to Be Performed by Railroad Company:
None.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

Traffic control.

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: ____

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☐ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
☐ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630
☐ OTHERS _____

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit

Railroad Protective Liability		
☐	Not Required	
☒	Non - Bridge Projects	$2,000,000 / $6,000,000
☐	Bridge Projects	$5,000,000 / $10,000,000
☐	Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☐ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: UPRR Maintenance Consent Letter. TxDOT CST to assist.
☒ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: DART
https://www.dart.org/about/rightofway.asp

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

Approved ROE Agreement templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required
☐ Required: Contact Information for Construction Inspection:

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call the DART Railroad Emergency Line
at 214-928-6000
Location: DOT# 978545H
RR Milepost 591.020

Texas Department of Transportation | Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn		DN: TxDOT	CK:	DW:		CK:	
©TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0047	06	174		US 75	
9/2021		DIST	COUNTY			SHEET NO.	
		DAL	COLLIN			130	

DATE:
FILE:

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 789630B
Crossing Type: RR OVER
RR Company Owning Track at Crossing: KCS
Operating RR Company at Track: KCS
RR MP: 590.300
RR Subdivision: ALLIANCE
City: PLANO
County: COLLIN
CSJ at this Crossing: 0047-06-174
Highway/Roadway name crossing the railroad: US 75
# of regularly scheduled trains per day at this crossing:
# of switching movements per day at this crossing:
% of estimated contract cost of work within railroad ROW:

Scope of Work at this Crossing to Be Performed by State Contractor:
State's contractor will be performing full depth conrete repair and pavement marking installation in the RR ROW.

Scope of Work at this Crossing to Be Performed by Railroad Company:
None.

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

Traffic control.

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☐ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit

Railroad Protective Liability		
☐	Not Required	
☒	Non - Bridge Projects	$2,000,000 / $6,000,000
☐	Bridge Projects	$5,000,000 / $10,000,000
☐	Other	

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☐ Not Required
☐ Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)
☐ Required: UPRR Maintenance Consent Letter. TxDOT CST to assist.
☒ Required: Contractor to obtain (see Item 5, Article 8.4)

With the following railroad companies: KCS

https://jllrpg.360works.com/fmi/webd/rpo web kcs.fmp12

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

Approved ROE Agreement templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call KCS Railroad Emergency Line
at 877-527-9464
Location: DOT# 789630B
RR Milepost 590.300
Subdivision ALLIANCE

Texas Department of Transportation | Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0047	06	174		US 75	
9/2021		DIST	COUNTY			SHEET NO.	
		DAL	COLLIN			131	