

INDEX OF SHEETS

SEE SHEET NO. 2

FUNCTIONAL CLASS = MINOR ARTERIAL AND GREATER

FEDERAL-AID PROJECT NUMBER			
F 2025(304)			
CONT	SECT	JOB	HIGHWAY
0035	05	062, ETC	US 83, ETC
DIST	COUNTY		SHEET NO.
SJT	MENARD, ETC		1

**STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION**

**PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT**

FEDERAL AID PROJECT F 2025(304)

US 83, ETC
MENARD, ETC

NET LENGTH OF PROJECT 1,063,988 FT = 201.513 MI

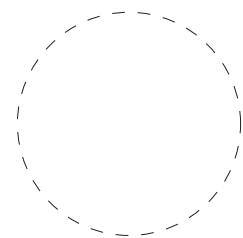
LIMITS: VARIOUS HIGHWAYS IN SAN ANGELO DISTRICT
FOR THE CONSTRUCTION OF SEAL COAT

FINAL PLANS	
Letting Date:	_____
Name of Contractor:	_____
Date Work Began:	_____
Date Work Completed:	_____
Date Work Accepted:	_____
Final Contract Cost:	_____

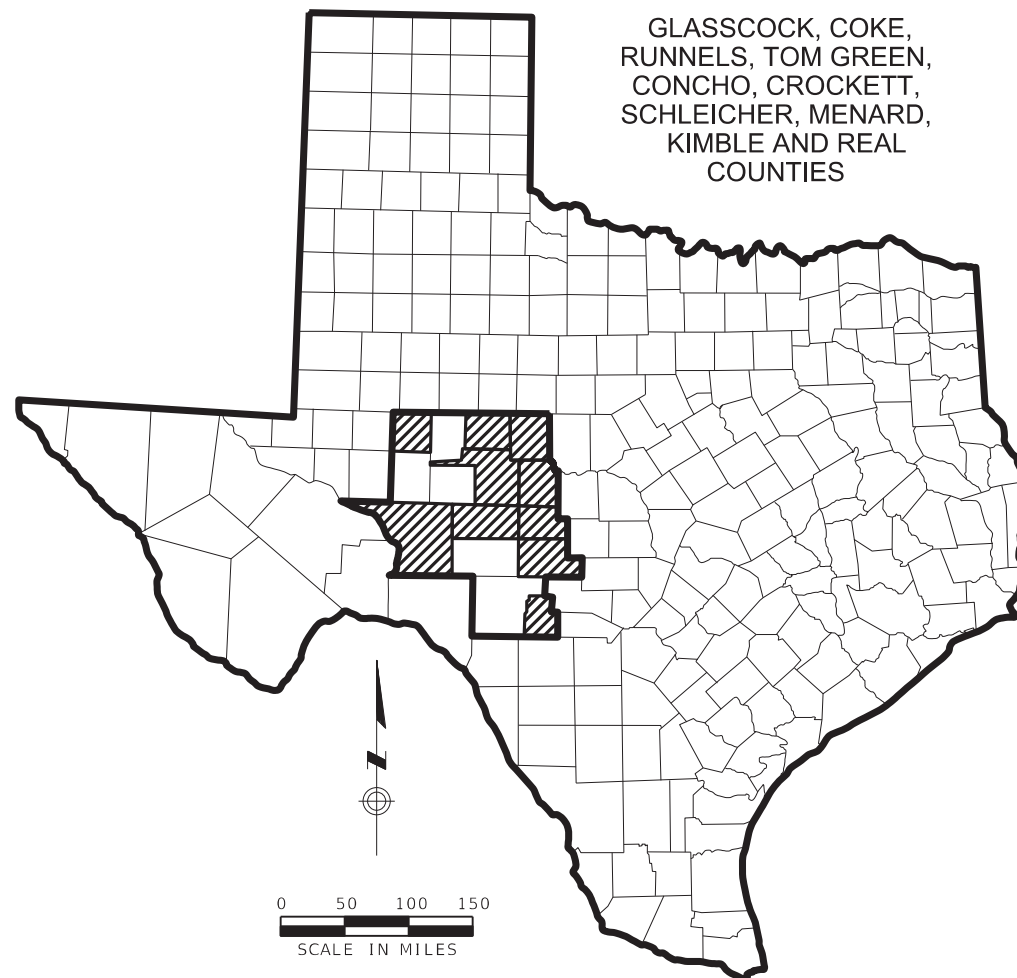
Project was built according to the Plans & Specifications. These final plans reflect the work done and the quantities shown thereon and on the Final Estimate are Final Quantities.

Area Engineer

Date



Summary of Change Orders:



GLASSCOCK, COKE,
RUNNELS, TOM GREEN,
CONCHO, CROCKETT,
SCHLEICHER, MENARD,
KIMBLE AND REAL
COUNTIES

- EXCEPTIONS
NONE
- EQUATIONS
NONE
- RAILROAD CROSSINGS
NONE

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, SEPTEMBER 1, 2024 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, OCTOBER 23, 2023).



SUBMITTED FOR LETTING: 10/15/2024

DocuSigned by:
Nicholas Greenly
DDF89C6522AF49E...
District Design Engineer

RECOMMENDED FOR LETTING: 10/15/2024

DocuSigned by:
John L. ... P.E.
826185212F51427...
District Director of TP&D

APPROVED FOR LETTING: 10/15/2024

DocuSigned by:
[Signature]
BC10B17FA709437...
District Engineer

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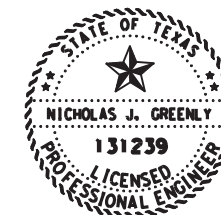
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<u>TRAFFIC DETAILS</u>	
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Nick Greenly P.E.

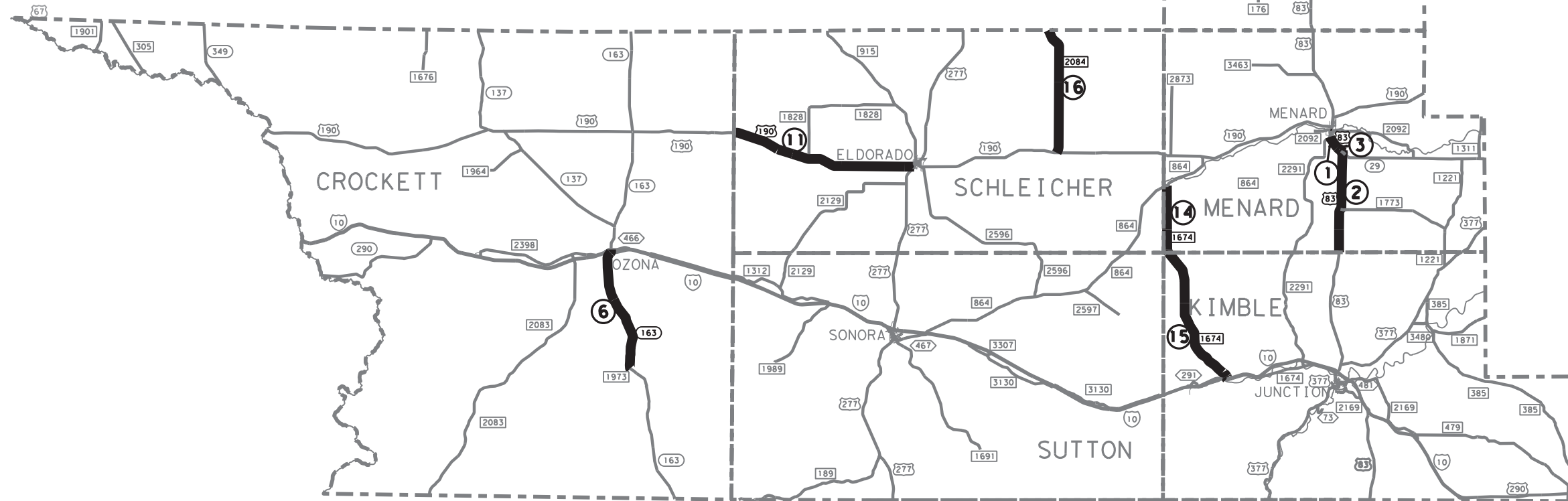
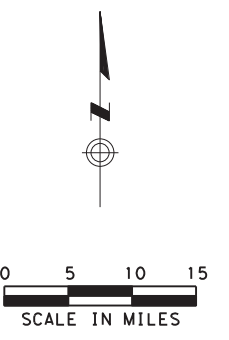
10/24/2024

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE BY A # HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

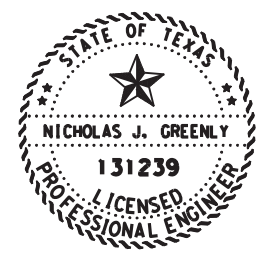
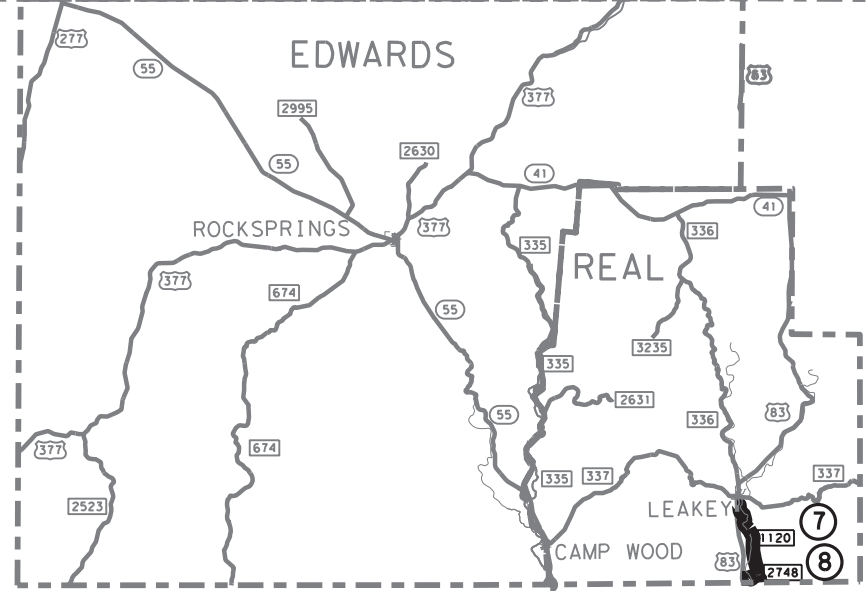
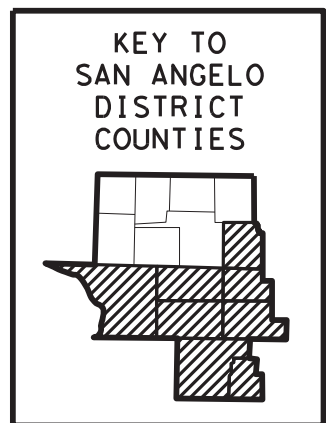
		San Angelo District	
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SHEET 1 OF 1		NOT TO SCALE	
© TXDOT 2024	CONT	SECT	JOB
SHEET ISSUED OR LAST REVISED	0035	05	062, ETC
	DIST	COUNTY	HIGHWAY
	SJT	MENARD, ETC	US 83, ETC
			SHEET NO.
			2

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SITE #	Cont-Sec-Job	Highway	County	Length (Miles)	(Feet)
①	0035-05-062	US 83	MENARD	0.599	3,163
②	0035-06-034	US 83	MENARD	11.829	62,457
③	0396-01-044	US 83	MENARD	1.746	9,219
⑥	0412-04-032	SH 163	CROCKETT	14.759	77,928
⑦	0554-02-022	FM 1120	REAL	7.501	39,605
⑧	0554-03-006	RM 2748	REAL	0.708	3,738
⑩	0555-02-022	FM 380	CONCHO	12.068	63,719



SITE #	Cont-Sec-Job	Highway	County	Length (Miles)	(Feet)
⑪	0558-12-019	US 190	SCHLEICHER	21.758	114,882
⑭	1296-01-018	RM 1674	MENARD	7.882	41,617
⑮	1296-02-015	RM 1674	KIMBLE	17.308	91,386
⑯	1923-02-015	RM 2084	SCHLEICHER	14.824	78,271
⑳	3619-01-004	RE0011	CONCHO	4.243	22,403
TOTALS				115.225	608,388

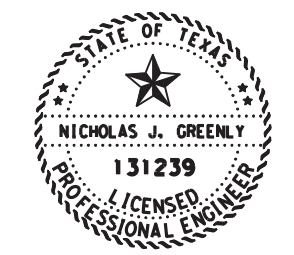
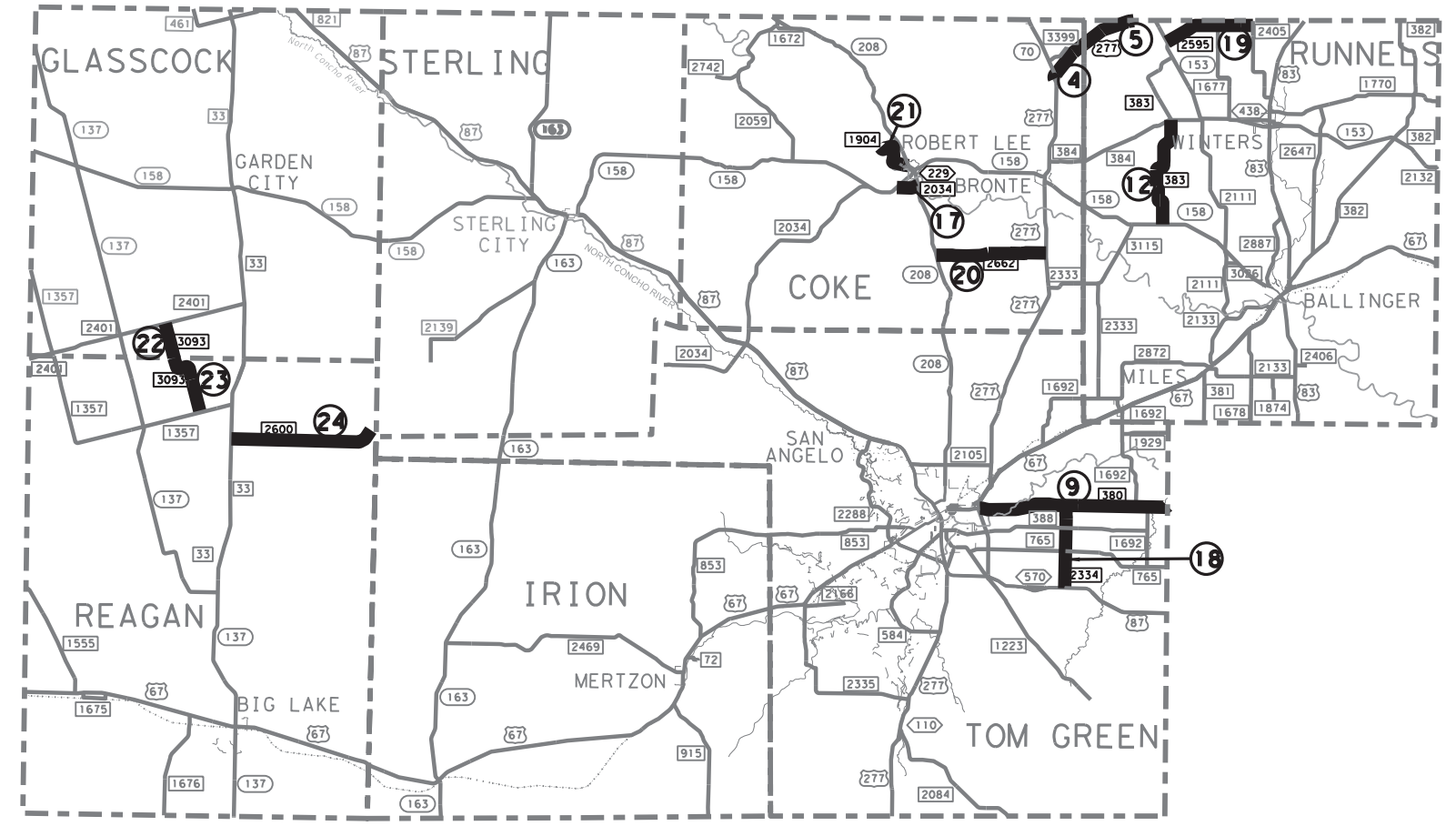


Nick Greenly P.E.
 10/24/2024

		San Angelo District	
<h3>LOCATION MAP JUNCTION AREA</h3>			
SHEET 1 OF 1		SCALE 1"=15 MILES	
© TXDOT 2024	CONT	SECT	JOB
SHEET ISSUED OR LAST REVISED	0035 05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.
	SJT	MENARD, ETC	3



SITE#	Cont-Sec-Job	Highway	County	Length (Miles)	(Feet)
④	0407-01-021	US 277	COKE	3.908	20,634
⑤	0407-02-017	US 277	RUNNELS	4.732	24,985
⑨	0555-01-043	FM 380	TOM GREEN	16.249	85,795
⑫	0827-01-013	FM 383	RUNNELS	9.980	52,694
⑬	OMITTED				
⑰	2010-01-015	RM 2034	COKE	1.843	9,731
⑱	2229-03-013	FM 2334	TOM GREEN	7.096	37,467
⑲	2572-01-005	FM 2595	RUNNELS	7.750	40,920
⑳	2998-01-007	FM 2662	COKE	9.447	49,880
㉑	3291-01-007	FM 1904	COKE	3.873	20,450
㉒	3398-01-005	RM 3093	GLASSCOCK	3.035	16,025
㉓	3398-02-006	RM 3093	REAGAN	5.885	31,073
㉔	3462-02-008	RM 2600	REAGAN	12.490	65,947
TOTALS				86.288	455,600



Nick Greenly P.E.

10/22/2024

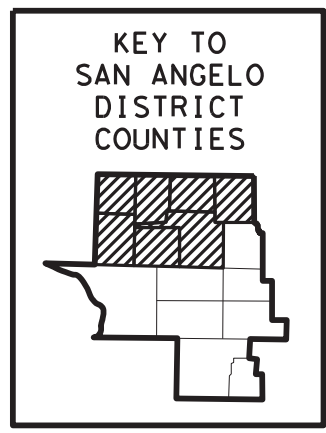


LOCATION MAP SAN ANGELO AREA

SHEET 1 OF 1 SCALE 1"=15 MILES

© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
SHEET ISSUED OR LAST REVISED	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY		SHEET NO.
SJT	MENARD, ETC		4	

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BASIS OF ESTIMATE

Item No.	Description	Usage	Area or Length	Rate	Estimated Quantity
316	Surface Treatment	ASPH(AC-20-5TR OR AC-20XP)	3,196,124 SY	0.45 GAL/SY	1,439,678 GAL
316	Surface Treatment	AGGR(TY-PD, GR-3)(SAC-B)	3,196,124 SY	110 SY/CY	29,131 CY
316	Surface Treatment	ASPH(AC-20-5TR OR AC-20XP)	437,219 SY	0.40 GAL/SY	174,894 GAL
316	Surface Treatment	AGGR(TY-PD, GR-4)(SAC-A)	437,219 SY	130 SY/CY	3,374 CY

GENERAL NOTES

The following Standard Sheets have been modified: None.

Locate the project bulletin board at an approved location within the project limits such as at a field office, staging area, or stockpile, and make accessible to the public at all times. Do not remove the bulletin board from the project until approved. If a construction site notice is required for the project, post a copy at each geographically separated work location.

In those instances where fixed features require, vary the governing slopes indicated in these plans from within the limits to the extent determined.

If Contractor elects to establish a pit within 200 ft. of a public road, construct a barrier or other device in accordance with Natural Resources Code, Chapter 133, and Section 133.041.

Do not use salt water with solids in excess of 10,000 parts per million, as determined by evaporation.

Contractor questions on this project are to be addressed by the following individual:

Jesus Garcia, P.E.; email Jesus.Garcia9@txdot.gov and Randy Baiza, P.E.; email Randy.Baiza@txdot.gov

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>

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, "Control of the Work"

Responsibility for construction surveying shall conform to Section 5.9.3., "Method C."

Item 6, "Control of Materials"

When allowed, store materials and equipment in approved areas within the right of way.

Access the work area from the right of way.

Highway: US 83, ETC.

Control: 0035-05-062, ETC.

To comply with the latest provisions of Build America, Buy America Act (BABA Act) of the Bipartisan Infrastructure Law, the contractor must submit an original of the TxDOT Construction Material Buy America Certification Form for all items classified as construction materials. This form is not required for materials classified as a manufactured product.

Refer to the Buy America Material Classification Sheet for clarification on material categorization.

The Buy America Material Classification Sheet is located at the below link.

<https://www.txdot.gov/business/resources/materials/buy-america-material-classification-sheet.html> for clarification on material categorization.

Item 7, “Legal Relations and Responsibilities”

No significant traffic generator events have been identified.

Item 8, “Prosecution and Progress”

Submit the sequence of work and estimated progress schedule on paper or as a Portable Document Format (PDF) electronic file compatible with Adobe Systems Incorporated “Acrobat Reader XI”. Construction schedules shall be submitted using the “Critical Path Method” per Section 5.5.2

Charges for working days shall conform to Section 8.3.1.2., “Six-Day Workweek.”

Seal coat season is May 1 to August 31.

The Engineer may consider extending working days beyond the end of the seal coat season.

Item 9, “Measurement and Payment”

The progress payment period shall end two working days before the last working day of the month. Deliver invoices to be paid as material on hand on or before the end of the progress payment period.

For projects that include a disadvantaged business enterprises (DBE) goal, provide a conversion rate for units of payment for work subcontracted to DBE if units of payments differ from those shown on the plans.

Item 302, “Aggregates for Surface Treatments”

Stockpile aggregates separately and label stockpiles with project number, material type, and grade. Leave stockpile sites within the State right of way in same condition as they were prior to construction, without litter and without fence damage. Level smooth any excess rock that was not hauled away.

Highway: US 83, ETC.

Control: 0035-05-062, ETC.

The target value for the desired percent by weight of residual bitumen coating for virgin limestone aggregate is 1.2%. If using aggregate other than virgin limestone, notify the Engineer prior to pre-coating. The Engineer will determine the target value for the percent residual bitumen coating for non-limestone aggregate.

Pre-coat limestone rock asphalt with 0.6% flux oil.

Item 316, “Seal Coat”

Certifications are required for this project, refer to SP 316-001 for more information.

Cover or protect the following, as applicable: railings, bridge joints, utility covers, railroad crossings, and exposed concrete such as curbs, bridge approach slabs, bridge decks, sidewalks, mow strips, and concrete pavement.

Do not place wet aggregate.

Use medium pneumatic rollers that meet the requirements of Item 210, “Rolling.”

Furnish nozzles that apply 22 percent to 32 percent less volume of asphalt in the wheel paths of the travel lanes, or as directed.

Engineer will witness the Transverse Distribution Test, Tex-922-K, Part III.

Furnish similar color aggregate from a common source for individual roadways.

Provide a minimum of five rollers.

Provide a minimum of four rotary, self-propelled brooms. Sweep the pavement prior to surface treatment operations, and sweep the pavement prior to pavement marking operations.

The Contractor is required to bring in a minimum of 3 bags (100 lbs. total) of aggregate sample for each type and source used for determining placement rates and quality control purposes. The State will not buy excess aggregate remaining on the project due to rate changes made in the field.

Stockpiled aggregate not removed from the State right of way within 30 calendar days of final acceptance will become the property of the State.

Item 502, “Barricades, Signs and Traffic Handling”

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.

Omit advance warning signs and furnish and install reduced signs CW20-1 "ROAD WORK AHEAD" mounted back to back with reduced size signs G20-2 "END ROAD WORK" signs at intersecting city streets and county roads.

Furnish and install signs CW20-1D "ROAD WORK AHEAD", G20-1aT "ROAD WORK ←NEXT X MILES, NEXT X MILES→", and G20-2 "END ROAD WORK" at intersecting state highways.

In addition to providing a Contractor's Responsible Person and phone number for emergency contact, have employee(s) available to respond on the project for emergencies and for taking corrective measures within 30 minutes.

Cones may be used as the typical channelizing device.

Item 506, "Temporary Erosion, Sedimentation, and Environmental Controls"

The Storm Water Pollution Prevention Plan (SWP3) consists of temporary erosion control measures needed and provided for under this Item. The disturbed area is less than one acre and use of erosion control measures is not anticipated. If physical conditions encountered at the job site require necessary controls, BMP installation, maintenance, and removal will be paid as extra work on a force account basis per Articles 4.4 and 9.7. **Item 662, "Work Zone Pavement Markings"**

Do not use temporary flexible-reflective roadway marker tabs to delineate words, symbols, shapes, or diagonal or transverse lines.

Paint and beads are allowed for nonremovable markings.

Use the temporary flexible-reflective roadway marker tab configuration shown on Standard Sheet TCP(SC-6)-21 and TCP(SC-7)-21 for conventional roadways and use the configuration shown on WZ(STPM) for divided highways.

Item 666, "Retroreflectorized Pavement Markings"

Place glass beads for pavement markings in accordance with the following table:

Marking Types	Glass Bead (Double Drop) Types	Glass Bead Rates	
		Surface Treatment	Asphalt Concrete Pavement, Microsurfacing, Concrete Pavement
TY I markings	Type II	12 LB per 100 SF	6 LB per 100 SF
	Type III	12 LB per 100 SF	6 LB per 100 SF
TY II markings	Type II	12 LB per GAL	6 LB per GAL
	Type III	12 LB per GAL	6 LB per GAL

Apply TY II marking material at a rate of 25 gallons per mile.

The striper speed shall not exceed 5 MPH during application. Convert to gravity-flow bead-ers (if not in use) to obtain optimum bead application, when directed.

Clean striper tanks before use if there is a build-up of dry paint, as directed. Flush lines and guns before use.

Reference existing markings before performing work that disturbs the markings, so that the markings can be re-established.

Provide a double-drop of Type II and Type III glass beads.

For the purposes of this project, existing no-passing zone markings were not evaluated for adherence to current standards, but were re-established in their existing locations.

Item 668, "Prefabricated Pavement Markings and Rumble Strips"

When applying Type C specialty markings (symbols, words, etc.) over existing thermoplastic markings, first apply heat to the surface of the existing markings and roughen the surface with a shovel. Remove existing Type A, B, or C prefabricated markings prior to placing the new Type C markings.

Item 677, "Eliminating Existing Pavement Markings and Markers"

Use the following method: Mechanical.

For work on profile markings, only the elimination of the profile bars (raised portion of the profile markings) is required.



CONTROLLING PROJECT ID 0035-05-062

DISTRICT San Angelo

COUNTY Coke, Concho, Crockett, Glasscock, Kimble, Menard, Reagan, Real, Runnels, Schleicher, Tom Green

HIGHWAY FM 1120, FM 1904, FM 2334, FM 2595, FM 2662, FM 380, FM 383, RE 11, RM 1674, RM 2034, RM 2084, RM 2600, RM 2748, RM 3093, SH 163, US 190, US 277, US 83

Estimate & Quantity Sheet

CONTROL SECTION JOB				0035-05-062		0035-06-034		0396-01-044		0407-01-021		0407-02-017		0412-04-032	
PROJECT ID				A00208065		A00208068		A00208069		A00195487		A00208070		A00195489	
COUNTY				Menard		Menard		Menard		Coke		Runnels		Crockett	
HIGHWAY				US 83		US 83		US 83		US 277		US 277		SH 163	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-7067	ASPH (AC-20-5TR OR AC-20XP)	GAL	7,162.000		142,505.000		25,227.000		38,657.000		52,479.000		122,320.000	
	316-7148	AGGR (TY-PD, GR-4)(SAC-A)	CY	139.000		2,748.000		487.000							
	316-7222	AGGR (TY-PD, GR-3)(SAC-B)	CY							785.000		1,061.000		2,476.000	
	500-7001	MOBILIZATION	LS	1.000											
	502-7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	4.000											
	503-7001	PORTABLE CHANGEABLE MESSAGE SIGN	DAY	3.000		8.000		4.000		4.000		5.000		7.000	
	505-7003	TMA (MOBILE OPERATION)	DAY	1.000		3.000		1.000		1.000		1.000		3.000	
	662-7112	WK ZN PAV MRK SHT TERM (TAB)TY W	EA	80.000		621.000		265.000		33.000				66.000	
	662-7114	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	73.000		1,591.000		290.000		428.000		633.000		1,951.000	
	666-7172	RE PM TY II (W) 6" (BRK)	LF	800.000		6,210.000		2,650.000		330.000				660.000	
	666-7175	RE PM TY II (W) 6" (SLD)	LF	5,666.000		126,159.000		17,710.000		36,053.000		49,818.000		152,494.000	
	666-7179	RE PM TY II (W) 8" (SLD)	LF	26.000		1,599.000		720.000							
	666-7184	RE PM TY II (W) 24" (SLD)	LF											1,500.000	
	666-7211	RE PM TY II (Y) 6" (BRK)	LF			10,190.000				3,810.000		6,020.000		18,380.000	
	666-7212	RE PM TY II (Y) 6" (DOT)	LF			1,374.000									
	666-7213	RE PM TY II (Y) 6" (SLD)	LF	5,650.000		63,143.000		16,740.000		10,722.000		13,696.000		22,854.000	
	666-7214	RE PM TY II (Y) 8" (SLD)	LF			4,425.000		1,292.000		68.000					
	668-7091	PREFAB PM TY C (W)(ARROW)	EA			2.000		4.000							
	668-7100	PREFAB PM TY C (W)(LN REDUCT ARROW)	EA			8.000									
	668-7103	PREFAB PM TY C (W)(WORD)	EA			2.000		6.000							
	668-7111	PREFAB PM TY C (W)(36")(YLD TRI)	EA			7.000		4.000						16.000	
	668-7113	PREFAB PM TY C (W)(BIKE ARROW)	EA											10.000	
	668-7115	PREFAB PM TY C (W)(BIKE SYMBOL)	EA											10.000	
	672-7002	REFL PAV MRKR TY I-C	EA	40.000		366.000		133.000		3,747.000				34.000	
	672-7004	REFL PAV MRKR TY II-A-A	EA	73.000		1,365.000		290.000		13,268.000		477.000		1,217.000	
	677-7030	ELIM EXT PM & MRKS (RUMBLE STRIP)	LF	11,356.000		199,492.000		35,742.000		50,653.000		69,534.000		193,728.000	
18		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000											
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000											



CONTROLLING PROJECT ID 0035-05-062

DISTRICT San Angelo

COUNTY Coke, Concho, Crockett, Glasscock, Kimble, Menard, Reagan, Real, Runnels, Schleicher, Tom Green

HIGHWAY FM 1120, FM 1904, FM 2334, FM 2595, FM 2662, FM 380, FM 383, RE 11, RM 1674, RM 2034, RM 2084, RM 2600, RM 2748, RM 3093, SH 163, US 190, US 277, US 83

Estimate & Quantity Sheet

CONTROL SECTION JOB				0554-02-022		0554-03-006		0555-01-043		0555-02-022		0558-12-019		0827-01-013	
PROJECT ID				A00195675		A00195678		A00195681		A00195494		A00195504		A00195512	
COUNTY				Real		Real		Tom Green		Concho		Schleicher		Runnels	
HIGHWAY				FM 1120		RM 2748		FM 380		FM 380		US 190		FM 383	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-7067	ASPH (AC-20-5TR OR AC-20XP)	GAL	48,489.000		4,424.000		174,294.000		90,159.000		207,704.000		53,039.000	
	316-7148	AGGR (TY-PD, GR-4)(SAC-A)	CY												
	316-7222	AGGR (TY-PD, GR-3)(SAC-B)	CY	985.000		90.000		3,525.000		1,824.000		4,197.000		1,073.000	
	500-7001	MOBILIZATION	LS												
	502-7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO												
	503-7001	PORTABLE CHANGEABLE MESSAGE SIGN	DAY	4.000				8.000				9.000			
	505-7003	TMA (MOBILE OPERATION)	DAY	2.000		1.000		3.000		3.000		4.000		2.000	
	662-7112	WK ZN PAV MRK SHT TERM (TAB)TY W	EA					94.000							
	662-7114	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	997.000		91.000		2,165.000		1,614.000		2,901.000		1,326.000	
	666-7172	RE PM TY II (W) 6" (BRK)	LF					940.000							
	666-7175	RE PM TY II (W) 6" (SLD)	LF	77,953.000		7,091.000		166,212.000		126,283.000		229,777.000		104,930.000	
	666-7179	RE PM TY II (W) 8" (SLD)	LF												
	666-7184	RE PM TY II (W) 24" (SLD)	LF	38.000		11.000		330.000		144.000				43.000	
	666-7211	RE PM TY II (Y) 6" (BRK)	LF	3,530.000		170.000		20,760.000		14,440.000		28,100.000		11,620.000	
	666-7212	RE PM TY II (Y) 6" (DOT)	LF												
	666-7213	RE PM TY II (Y) 6" (SLD)	LF	56,761.000		6,548.000		28,808.000		31,488.000		20,518.000		17,606.000	
	666-7214	RE PM TY II (Y) 8" (SLD)	LF												
	668-7091	PREFAB PM TY C (W)(ARROW)	EA					8.000							
	668-7100	PREFAB PM TY C (W)(LN REDUCT ARROW)	EA												
	668-7103	PREFAB PM TY C (W)(WORD)	EA					2.000							
	668-7111	PREFAB PM TY C (W)(36")(YLD TRI)	EA												
	668-7113	PREFAB PM TY C (W)(BIKE ARROW)	EA												
	668-7115	PREFAB PM TY C (W)(BIKE SYMBOL)	EA												
	672-7002	REFL PAV MRKR TY I-C	EA					47.000							
	672-7004	REFL PAV MRKR TY II-A-A	EA	873.000		91.000		1,348.000		1,126.000		1,668.000		806.000	
	677-7030	ELIM EXT PM & MRKS (RUMBLE STRIP)	LF	138,244.000		13,809.000		215,780.000		172,211.000		278,395.000		134,156.000	
18		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS												
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS												



CONTROLLING PROJECT ID 0035-05-062

DISTRICT San Angelo

COUNTY Coke, Concho, Crockett, Glasscock, Kimble, Menard, Reagan, Real, Runnels, Schleicher, Tom Green

HIGHWAY FM 1120, FM 1904, FM 2334, FM 2595, FM 2662, FM 380, FM 383, RE 11, RM 1674, RM 2034, RM 2084, RM 2600, RM 2748, RM 3093, SH 163, US 190, US 277, US 83

Estimate & Quantity Sheet

CONTROL SECTION JOB				1296-01-018		1296-02-015		1923-02-015		2010-01-015		2229-03-013		2572-01-005	
PROJECT ID				A00195531		A00195534		A00208074		A00195536		A00208077		A00195537	
COUNTY				Menard		Kimble		Schleicher		Coke		Tom Green		Runnels	
HIGHWAY				RM 1674		RM 1674		RM 2084		RM 2034		FM 2334		FM 2595	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-7067	ASPH (AC-20-5TR OR AC-20XP)	GAL	50,242.000		113,640.000		107,354.000		13,511.000		50,169.000		41,768.000	
	316-7148	AGGR (TY-PD, GR-4)(SAC-A)	CY												
	316-7222	AGGR (TY-PD, GR-3)(SAC-B)	CY	1,016.000		2,297.000		2,173.000		275.000		1,016.000		846.000	
	500-7001	MOBILIZATION	LS												
	502-7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO												
	503-7001	PORTABLE CHANGEABLE MESSAGE SIGN	DAY												
	505-7003	TMA (MOBILE OPERATION)	DAY	2.000		4.000		4.000		1.000		2.000		2.000	
	662-7112	WK ZN PAV MRK SHT TERM (TAB)TY W	EA												
	662-7114	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	1,057.000		2,385.000		2,020.000		245.000		937.000		1,031.000	
	666-7172	RE PM TY II (W) 6" (BRK)	LF												
	666-7175	RE PM TY II (W) 6" (SLD)	LF	82,976.000		107,852.000		156,676.000		19,173.000		73,572.000		80,958.000	
	666-7179	RE PM TY II (W) 8" (SLD)	LF					420.000							
	666-7184	RE PM TY II (W) 24" (SLD)	LF	29.000		35.000		29.000		68.000		48.000		84.000	
	666-7211	RE PM TY II (Y) 6" (BRK)	LF	9,660.000		16,130.000		17,880.000		1,760.000		8,750.000		9,950.000	
	666-7212	RE PM TY II (Y) 6" (DOT)	LF												
	666-7213	RE PM TY II (Y) 6" (SLD)	LF	25,209.000		106,416.000		58,155.000		7,986.000		4,858.000		8,102.000	
	666-7214	RE PM TY II (Y) 8" (SLD)	LF												
	668-7091	PREFAB PM TY C (W)(ARROW)	EA												
	668-7100	PREFAB PM TY C (W)(LN REDUCT ARROW)	EA												
	668-7103	PREFAB PM TY C (W)(WORD)	EA												
	668-7111	PREFAB PM TY C (W)(36")(YLD TRI)	EA					10.000							
	668-7113	PREFAB PM TY C (W)(BIKE ARROW)	EA												
	668-7115	PREFAB PM TY C (W)(BIKE SYMBOL)	EA												
	672-7002	REFL PAV MRKR TY I-C	EA												
	672-7004	REFL PAV MRKR TY II-A-A	EA	808.000		2,167.000		1,637.000		166.000		596.000		223.000	
	677-7030	ELIM EXT PM & MRKS (RUMBLE STRIP)	LF	117,845.000		230,398.000		232,711.000		27,483.000		87,180.000		88,649.000	
18		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS												
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS												



CONTROLLING PROJECT ID 0035-05-062

DISTRICT San Angelo

COUNTY Coke, Concho, Crockett, Glasscock, Kimble, Menard, Reagan, Real, Runnels, Schleicher, Tom Green

HIGHWAY FM 1120, FM 1904, FM 2334, FM 2595, FM 2662, FM 380, FM 383, RE 11, RM 1674, RM 2034, RM 2084, RM 2600, RM 2748, RM 3093, SH 163, US 190, US 277, US 83

Estimate & Quantity Sheet

CONTROL SECTION JOB				2998-01-007		3291-01-007		3398-01-005		3398-02-006		3462-02-008		3619-01-004	
PROJECT ID				A00195538		A00195540		A00195545		A00195546		A00195547		A00195549	
COUNTY				Coke		Coke		Glasscock		Reagan		Reagan		Concho	
HIGHWAY				FM 2662		FM 1904		RM 3093		RM 3093		RM 2600		RE 11	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-7067	ASPH (AC-20-5TR OR AC-20XP)	GAL	53,602.000		21,140.000		22,575.000		45,010.000		92,931.000		36,171.000	
	316-7148	AGGR (TY-PD, GR-4)(SAC-A)	CY												
	316-7222	AGGR (TY-PD, GR-3)(SAC-B)	CY	1,085.000		428.000		457.000		911.000		1,879.000		732.000	
	500-7001	MOBILIZATION	LS												
	502-7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO												
	503-7001	PORTABLE CHANGEABLE MESSAGE SIGN	DAY												
	505-7003	TMA (MOBILE OPERATION)	DAY	3.000		1.000		1.000		2.000		3.000		2.000	
	662-7112	WK ZN PAV MRK SHT TERM (TAB)TY W	EA												
	662-7114	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	1,233.000		518.000		402.000		782.000		1,667.000		569.000	
	666-7172	RE PM TY II (W) 6" (BRK)	LF												
	666-7175	RE PM TY II (W) 6" (SLD)	LF	99,163.000		40,390.000		31,880.000		61,927.000		131,786.000		44,537.000	
	666-7179	RE PM TY II (W) 8" (SLD)	LF			66.000									
	666-7184	RE PM TY II (W) 24" (SLD)	LF	50.000		15.000		17.000		17.000		22.000		12.000	
	666-7211	RE PM TY II (Y) 6" (BRK)	LF	9,350.000		4,210.000		3,940.000		6,730.000		12,900.000		3,050.000	
	666-7212	RE PM TY II (Y) 6" (DOT)	LF												
	666-7213	RE PM TY II (Y) 6" (SLD)	LF	46,338.000		17,676.000		2,360.000		11,385.000		51,197.000		31,521.000	
	666-7214	RE PM TY II (Y) 8" (SLD)	LF												
	668-7091	PREFAB PM TY C (W)(ARROW)	EA												
	668-7100	PREFAB PM TY C (W)(LN REDUCT ARROW)	EA												
	668-7103	PREFAB PM TY C (W)(WORD)	EA												
	668-7111	PREFAB PM TY C (W)(36")(YLD TRI)	EA			6.000									
	668-7113	PREFAB PM TY C (W)(BIKE ARROW)	EA												
	668-7115	PREFAB PM TY C (W)(BIKE SYMBOL)	EA												
	672-7002	REFL PAV MRKR TY I-C	EA												
	672-7004	REFL PAV MRKR TY II-A-A	EA	1,061.000		150.000		227.000		163.000		1,295.000		554.000	
	677-7030	ELIM EXT PM & MRKS (RUMBLE STRIP)	LF	154,851.000		49,740.000		38,180.000		69,627.000		195,883.000		79,108.000	
18		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS												
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS												



CONTROLLING PROJECT ID 0035-05-062

DISTRICT San Angelo

COUNTY Coke, Concho, Crockett, Glasscock, Kimble, Menard, Reagan, Real, Runnels, Schleicher, Tom Green


HIGHWAY FM 1120, FM 1904, FM 2334, FM 2595, FM 2662, FM 380, FM 383, RE 11, RM 1674, RM 2034, RM 2084, RM 2600, RM 2748, RM 3093, SH 163, US 190, US 277, US 83

Estimate & Quantity Sheet

CONTROL SECTION JOB				TOTAL EST.	TOTAL FINAL
PROJECT ID					
COUNTY					
HIGHWAY					
ALT	BID CODE	DESCRIPTION	UNIT		
	316-7067	ASPH (AC-20-5TR OR AC-20XP)	GAL	1,614,572.000	
	316-7148	AGGR (TY-PD, GR-4)(SAC-A)	CY	3,374.000	
	316-7222	AGGR (TY-PD, GR-3)(SAC-B)	CY	29,131.000	
	500-7001	MOBILIZATION	LS	1.000	
	502-7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	4.000	
	503-7001	PORTABLE CHANGEABLE MESSAGE SIGN	DAY	52.000	
	505-7003	TMA (MOBILE OPERATION)	DAY	52.000	
	662-7112	WK ZN PAV MRK SHT TERM (TAB)TY W	EA	1,159.000	
	662-7114	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	26,906.000	
	666-7172	RE PM TY II (W) 6" (BRK)	LF	11,590.000	
	666-7175	RE PM TY II (W) 6" (SLD)	LF	2,031,036.000	
	666-7179	RE PM TY II (W) 8" (SLD)	LF	2,831.000	
	666-7184	RE PM TY II (W) 24" (SLD)	LF	2,492.000	
	666-7211	RE PM TY II (Y) 6" (BRK)	LF	221,330.000	
	666-7212	RE PM TY II (Y) 6" (DOT)	LF	1,374.000	
	666-7213	RE PM TY II (Y) 6" (SLD)	LF	665,737.000	
	666-7214	RE PM TY II (Y) 8" (SLD)	LF	5,785.000	
	668-7091	PREFAB PM TY C (W)(ARROW)	EA	14.000	
	668-7100	PREFAB PM TY C (W)(LN REDUCT ARROW)	EA	8.000	
	668-7103	PREFAB PM TY C (W)(WORD)	EA	10.000	
	668-7111	PREFAB PM TY C (W)(36")(YLD TRI)	EA	43.000	
	668-7113	PREFAB PM TY C (W)(BIKE ARROW)	EA	10.000	
	668-7115	PREFAB PM TY C (W)(BIKE SYMBOL)	EA	10.000	
	672-7002	REFL PAV MRKR TY I-C	EA	4,367.000	
	672-7004	REFL PAV MRKR TY II-A-A	EA	31,649.000	
	677-7030	ELIM EXT PM & MRKS (RUMBLE STRIP)	LF	2,884,755.000	
18		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000	
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000	


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 FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/1. General/QUANTITY SUMMARY (1 of 3).dgn

SITE No.	C-S-J	HIGHWAY	COUNTY	PLAN SHEET NO.	AREA SY	316-7067	316-7148	316-7222	500-7001	502-7001	503-7001	505-7003	662-7112	662-7114	666-7172
						ASPH (AC-20-5TR OR AC-20XP)	AGGR (TY-PD, GR-4) (SAC-A)	AGGR (TY-PD, GR-3) (SAC-B)	MOBILIZATION	BARRICADES, SIGNS AND TRAFFIC HANDLING	PORTABLE CHANGEABLE MESSAGE SIGN	TMA (MOBILE OPERATION)	WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (BRK)
						GAL	CY	CY	LS	MO	DAY	DAY	EA	EA	LF
1	0035-05-062	US 83	MENARD	39	17,904	7,162	139		1	4	3	1	80	73	800
2	0035-06-034	US 83	MENARD	40-41	356,252	142,505	2,748				8	3	621	1,591	6,210
3	0396-01-044	US 83	MENARD	42-43	63,063	25,227	487				4	1	265	290	2,650
4	0407-01-021	US 277	COKE	44	85,898	38,657		785			4	1	33	428	330
5	0407-02-017	US 277	RUNNELS	45	116,620	52,479		1,061			5	1		633	
6	0412-04-032	SH 163	CROCKETT	46-47	271,815	122,320		2,476			7	3	66	1,951	660
7	0554-02-022	FM 1120	REAL	48	107,742	48,489		985			4	2		997	
8	0554-03-006	RM 2748	REAL	49	9,828	4,424		90				1		91	
9	0555-01-043	FM 380	TOM GREEN	50-51	387,309	174,294		3,525			8	3	94	2,165	940
10	0555-02-022	FM 380	CONCHO	52	200,346	90,159		1,824				3		1,614	
11	0558-12-019	US 190	SCHLEICHER	53-54	461,564	207,704		4,197			9	4		2,901	
12	0827-01-013	FM 383	RUNNELS	55	117,861	53,039		1,073				2		1,326	
13	OMITTED			56-57											
14	1296-01-018	RM 1674	MENARD	58	111,645	50,242		1,016				2		1,057	
15	1296-02-015	RM 1674	KIMBLE	59	252,530	113,640		2,297				4		2,385	
16	1923-02-015	RM 2084	SCHLEICHER	60-61	238,557	107,354		2,173				4		2,020	
17	2010-01-015	RM 2034	COKE	62	30,016	13,511		275				1		245	
18	2229-03-013	FM 2334	TOM GREEN	63-64	108,424	50,169		1,016				2		937	
19	2572-01-005	FM 2595	RUNNELS	65	92,814	41,768		846				2		1,031	
20	2998-01-007	FM 2662	COKE	66	119,111	53,602		1,085				3		1,233	
21	3291-01-007	FM 1904	COKE	67	46,974	21,140		428				1		518	
22	3398-01-005	RM 3093	GLASSCOCK	68	50,165	22,575		457				1		402	
23	3398-02-006	RM 3093	REAGAN	69	100,019	45,010		911				2		782	
24	3462-02-008	RM 2600	REAGAN	70	206,509	92,931		1,879				3		1,667	
25	3619-01-004	RE0011	CONCHO	71	80,377	36,171		732				2		569	
PROJECT TOTALS					3,633,343	1,614,572	3,374	29,131	1	4	52	52	1,159	26,906	11,590

		San Angelo District	
<h2>QUANTITY SUMMARY</h2>			
SHEET 1 OF 3		NOT TO SCALE	
© TXDOT 2024	CONT SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC
DIST	COUNTY		SHEET NO.
SJT	MENARD, ETC		11


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 FILE: pw://ttdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/1. General/QUANTITY SUMMARY (2 of 3).dgn

SITE No.	C-S-J	HIGHWAY	COUNTY	PLAN SHEET NO.	AREA SY	666-7212	666-7175	666-7179	666-7184	666-7211	666-7213	666-7214	668-7091	668-7100	668-7103
						RE PM TY II (Y) 6" (DOT)	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 8" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	RE PM TY II (Y) 8" (SLD)	PREFAB PM TY C (W) (ARROW)	PREFAB PM TY C (W) (LN REDUCT ARROW)	PREFAB PM TY C (W) (WORD)
						LF	LF	LF	LF	LF	LF	LF	EA	EA	EA
1	0035-05-062	US 83	MENARD	39	17,904		5,666	26			5,650				
2	0035-06-034	US 83	MENARD	40-41	356,252	1,374	126,159	1,599		10,190	63,143	4,425	2	8	2
3	0396-01-044	US 83	MENARD	42-43	63,063		17,710	720			16,740	1,292	4		6
4	0407-01-021	US 277	COKE	44	85,898		36,053			3,810	10,722	68			
5	0407-02-017	US 277	RUNNELS	45	116,620		49,818			6,020	13,696				
6	0412-04-032	SH 163	CROCKETT	46-47	271,815		152,494		1,500	18,380	22,854				
7	0554-02-022	FM 1120	REAL	48	107,742		77,953		38	3,530	56,761				
8	0554-03-006	RM 2748	REAL	49	9,828		7,091		11	170	6,548				
9	0555-01-043	FM 380	TOM GREEN	50-51	387,309		166,212		330	20,760	28,808	8			2
10	0555-02-022	FM 380	CONCHO	52	200,346		126,283		144	14,440	31,488				
11	0558-12-019	US 190	SCHLEICHER	53-54	461,564		229,777			28,100	20,518				
12	0827-01-013	FM 383	RUNNELS	55	117,861		104,930		43	11,620	17,606				
13	OMITTED			56-57											
14	1296-01-018	RM 1674	MENARD	58	111,645		82,976		29	9,660	25,209				
15	1296-02-015	RM 1674	KIMBLE	59	252,530		107,852		35	16,130	106,416				
16	1923-02-015	RM 2084	SCHLEICHER	60-61	238,557		156,676	420	29	17,880	58,155				
17	2010-01-015	RM 2034	COKE	62	30,016		19,173		68	1,760	7,986				
18	2229-03-013	FM 2334	TOM GREEN	63-64	108,424		73,572		48	8,750	4,858				
19	2572-01-005	FM 2595	RUNNELS	65	92,814		80,958		84	9,950	8,102				
20	2998-01-007	FM 2662	COKE	66	119,111		99,163		50	9,350	46,338				
21	3291-01-007	FM 1904	COKE	67	46,974		40,390	66	15	4,210	17,676				
22	3398-01-005	RM 3093	GLASSCOCK	68	50,165		31,880		17	3,940	2,360				
23	3398-02-006	RM 3093	REAGAN	69	100,019		61,927		17	6,730	11,385				
24	3462-02-008	RM 2600	REAGAN	70	206,509		131,786		22	12,900	51,197				
25	3619-01-004	RE0011	CONCHO	71	80,377		44,537		12	3,050	31,521				
PROJECT TOTALS					3,633,343	1,374	2,031,036	2,831	2,492	221,330	665,737	5,785	14	8	10

		San Angelo District	
<h2>QUANTITY SUMMARY</h2>			
SHEET 2 OF 3		NOT TO SCALE	
© TXDOT 2024	REVISIONS	CONT SECT 0035 05	JOB HIGHWAY 062, ETC US 83, ETC
		DIST COUNTY SJT MENARD, ETC	SHEET NO. 12

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SITE No.	C-S-J	HIGHWAY	COUNTY	PLAN SHEET NO.	AREA SY	668-7111	668-7113	668-7115	672-7002	672-7004	677-7030
						PREFAB PM TY C (W) (36") (YLD TRI)	PREFAB PM TY C (W) (BIKE ARROW)	PREFAB PM TY C (W) (BIKE SYMBOL)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
						EA	EA	EA	EA	EA	LF
1	0035-05-062	US 83	MENARD	39	17,904				40	73	11,356
2	0035-06-034	US 83	MENARD	40-41	356,252	7			366	1,365	199,492
3	0396-01-044	US 83	MENARD	42-43	63,063	4			133	290	35,742
4	0407-01-021	US 277	COKE	44	85,898				3,747	13,268	50,653
5	0407-02-017	US 277	RUNNELS	45	116,620					477	69,534
6	0412-04-032	SH 163	CROCKETT	46-47	271,815	16	10	10	34	1,217	193,728
7	0554-02-022	FM 1120	REAL	48	107,742					873	138,244
8	0554-03-006	RM 2748	REAL	49	9,828					91	13,809
9	0555-01-043	FM 380	TOM GREEN	50-51	387,309				47	1,348	215,780
10	0555-02-022	FM 380	CONCHO	52	200,346					1,126	172,211
11	0558-12-019	US 190	SCHLEICHER	53-54	461,564					1,668	278,395
12	0827-01-013	FM 383	RUNNELS	55	117,861					806	134,156
13	OMITTED			56-57							
14	1296-01-018	RM 1674	MENARD	58	111,645					808	117,845
15	1296-02-015	RM 1674	KIMBLE	59	252,530					2,167	230,398
16	1923-02-015	RM 2084	SCHLEICHER	60-61	238,557	10				1,637	232,711
17	2010-01-015	RM 2034	COKE	62	30,016					166	27,483
18	2229-03-013	FM 2334	TOM GREEN	63-64	108,424					596	87,180
19	2572-01-005	FM 2595	RUNNELS	65	92,814					223	88,649
20	2998-01-007	FM 2662	COKE	66	119,111					1,061	154,851
21	3291-01-007	FM 1904	COKE	67	46,974	6				150	49,740
22	3398-01-005	RM 3093	GLASSCOCK	68	50,165					227	38,180
23	3398-02-006	RM 3093	REAGAN	69	100,019					163	69,627
24	3462-02-008	RM 2600	REAGAN	70	206,509					1,295	195,883
25	3619-01-004	RE0011	CONCHO	71	80,377					554	79,108
PROJECT TOTALS					3,633,343	43	10	10	4,367	31,649	2,884,755

		San Angelo District	
<h2>QUANTITY SUMMARY</h2>			
SHEET 3 OF 3		NOT TO SCALE	
© TXDOT 2024	REVISIONS	CONT SECT	JOB HIGHWAY
		0035 05	062, ETC US 83, ETC
		DIST COUNTY	SHEET NO.
		SJT MENARD, ETC	13

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GENERAL NOTES

1. When a contractor force account "Safety Contingency" has been established for the project, it is for work zone enhancements that were unforeseen in the project planning and design stage, but would improve the effectiveness of the traffic control plan. 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 doing so does not slow implementation of work zone enhancements.
2. Shadow, lead, trail, and ramp control vehicles shown on the plans are required.
3. Use high level warning flags on advance warning signs during daytime operations.
4. Provide flaggers at such times and locations as directed to ensure the safe passage of traffic through construction areas. When flaggers are used to control traffic, furnish and install signs CW20-7 "FLAGGER SYMBOL", CW20-7aD "FLAGGER AHEAD", and CW3-4 "BE PREPARED TO STOP". Flaggers shall use 24 in. STOP/SLOW paddles.
5. Temporarily relocate existing mailbox assemblies on portable mailbox stands as shown on the plans, or as directed. Use materials conforming to the Compliant Work Zone Traffic Control Device List (CWZTCDL).
6. Prior to each work day, make provisions to exclude vehicles from parking within work areas.
7. Temporarily relocate existing permanent sign assemblies to temporary supports as shown on the plans, or as directed.
8. Omit advance warning signs and furnish and install reduced size signs CW20-1 "ROAD WORK AHEAD" mounted back to back with reduced size signs G20-2 "END ROAD WORK" signs at intersecting city streets and county roads.
9. Furnish and install signs CW20-1D "ROAD WORK AHEAD", G20-1aT "ROAD WORK ←NEXT X MILES, NEXT X MILES→", and G20-2 "END ROAD WORK" at intersecting state highways.
10. Sign and buffer spacing may be altered to fit field conditions, as directed.
11. In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have employee(s) available to respond on the project for emergencies and for taking corrective measures within 30 minutes.
12. Cones may be used as the typical channelizing device for freeway surfacing projects.
13. 28 in. tall 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 in. tall two-piece cones.
14. All construction signs and barricades placed during any phase of work shall remain in place until removal is approved by the Engineer.
15. The Engineer may direct the Contractor to furnish additional signs and barricades as required to maintain traffic flow, detours and motorist safety during construction.
16. Warning signs for long term stationary work should be mounted at 7 ft. to the bottom of the sign.
17. For long 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.
18. All motor vehicle equipment having an obstructed view to the rear shall have a reverse signal alarm audible above the surrounding noise level.
19. Traffic control devices denoted with the triangle symbol on the plans may be omitted.
20. When sheet WZ(RS) is included in the plans, furnish and install temporary rumble strips for daytime lane closures. Do not use temporary rumble strips on freeways or expressways.
21. When sheet WZ(BRK) is included in the plans, furnish and install signs CW21-1T "GIVE US A BRAKE".
22. Flags attached to signs shown in the plans are required.
23. Signs END ROAD WORK (G20-2) may be omitted when conflicting with G20-2 signs already in place on the project.
24. The Engineer will determine advisory speeds to be shown on plaques CW13-1P.
25. Temporary work zone devices (including portable barriers) manufactured after December 31, 2019 must have been successfully tested to the 2016 edition of Manual for Assessing Safety Hardware (MASH). Such devices manufactured on or before this date, and successfully tested to either National Cooperative Highway Research Program (NCHRP) Report 350 or the 2009 edition of MASH, may continue to be used.

TRUCK MOUNTED ATTENUATOR REQUIREMENTS

Provide the number of vehicles with truck mounted attenuators listed in the table below. The Contractor shall determine if multiple operations will occur at the same time, to determine the total number of truck mounted attenuators needed for the project.

WZ(BTS-1)	0	TCP(2-3)	0	TCP(6-1)	0
TCP(1-1)	0	TCP(2-4)	0	TCP(6-2)	0
TCP(1-2)	0	TCP(2-5)	0	TCP(6-3)	0
TCP(1-3)	0	TCP(2-6)	0	TCP(6-4)	0
TCP(1-4)	0	TCP(3-1)	2	TCP(6-5)	0
TCP(1-5)	0	TCP(3-2)	3	TCP(6-6)	0
TCP(1-6)	0	TCP(3-3)	3	TCP(6-7)	0
TCP(2-1)	0	TCP(3-4)	1	TCP(6-8)	0
TCP(2-2)	0	TCP(5-1)	0	TCP(6-9)	0
TRAFFIC CONTROL PLAN PILOT VEHICLE OPERATION					0
TRAFFIC CONTROL PLAN TWO LANE CLOSURES ON FOUR LANE UNDIVIDED HIGHWAYS					0
TRAFFIC CONTROL PLAN LANE CLOSURES WITH BARRIER					0
TRAFFIC CONTROL PLAN SHOULDER CLOSURES WITH BARRIER					0
TRAFFIC CONTROL PLAN WORK SPACE NEAR SHOULDER					0
TRAFFIC CONTROL PLAN CROSSOVER CLOSURE					0
TRAFFIC CONTROL PLAN TURNAROUND CLOSURE					0
TRAFFIC CONTROL PLAN LANE CLOSURES WITH TRAFFIC SIGNAL AND BARRIER					0
TRAFFIC CONTROL PLAN LANE CLOSURES WITH TRAFFIC SIGNAL					0
TRAFFIC CONTROL PLAN FREEWAY CLOSURE					0

PORTABLE CHANGEABLE MESSAGE SIGN REQUIREMENTS

Provide the portable changeable message signs listed in the table below. The Contractor shall determine if multiple operations will occur at the same time, to determine the total number of portable changeable message signs needed for the project.

TCP(6-1)	0	TCP(6-4)	0	TCP(6-8)	0
TCP(6-2)	0	TCP(6-6)	0	TCP(6-9)	0
TCP(6-3)	0	TCP(6-7)	0		
TRAFFIC CONTROL PLAN LANE CLOSURES WITH BARRIER					0
TRAFFIC CONTROL PLAN SHOULDER CLOSURES WITH BARRIER					0
TRAFFIC CONTROL PLAN LANE CLOSURES WITH TRAFFIC SIGNAL AND BARRIER					0
TRAFFIC CONTROL PLAN LANE CLOSURES WITH TRAFFIC SIGNAL					0
TRAFFIC CONTROL PLAN FREEWAY CLOSURE					0

TYPICAL USAGE

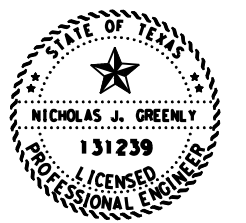
MOBILE
 Work that moves continuously or intermittently (stopping for up to approximately 15 minutes).

SHORT DURATION
 Work that occupies a location up to 1 hour.

SHORT TERM STATIONARY
 Daytime work that occupies a location for more than 1 hour in a single daylight period.

INTERMEDIATE TERM STATIONARY
 Work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour.

LONG TERM STATIONARY
 Work that occupies a location more than 3 days.



Nick Greenly P.E.

10/03/2024



TRAFFIC CONTROL PLAN GENERAL REQUIREMENTS

SHEET 1 OF 1 NOT TO SCALE

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11-19	DIST	COUNTY		SHEET NO.
	SJT	MENARD, ETC		14

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

- 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).
- The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Traffic control devices should be in place only while work is actually in progress or a definite need exists.
- The Engineer has the final decision on the location of all traffic control devices.
- 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:

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

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

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



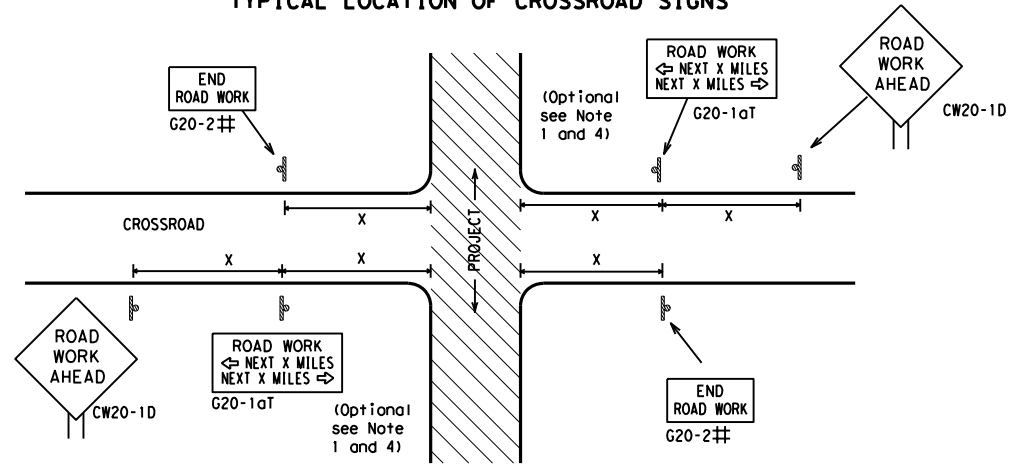
**BARRICADE AND CONSTRUCTION
GENERAL NOTES
AND REQUIREMENTS**

BC (1) - 21

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© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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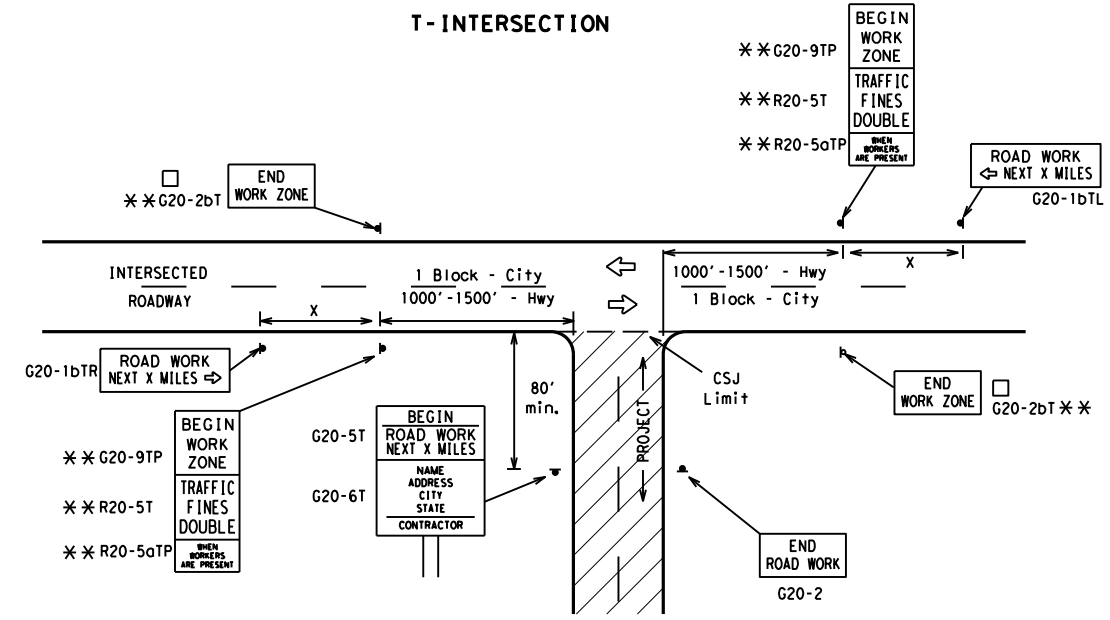
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TYPICAL LOCATION OF CROSSROAD SIGNS



- ## May be mounted on back of "ROAD WORK AHEAD" (CW20-1D) sign with approval of Engineer. (See note 2 below)
- 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.
 - 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.
 - 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.
 - 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.
 - Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
 - 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

- 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.
- 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}

Sign Number or Series	SIZE		SPACING	
	Conventional Road	Expressway/Freeway	Posted Speed MPH	Sign Δ Spacing "x" Feet (Apprx.)
CW20 ⁴	48" x 48"	48" x 48"	30	120
CW21			35	160
CW22			40	240
CW23			45	320
CW25			50	400
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"	55	500 ²
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"	60	600 ²
			65	700 ²
			70	800 ²
			75	900 ²
			80	1000 ²
			*	* ³

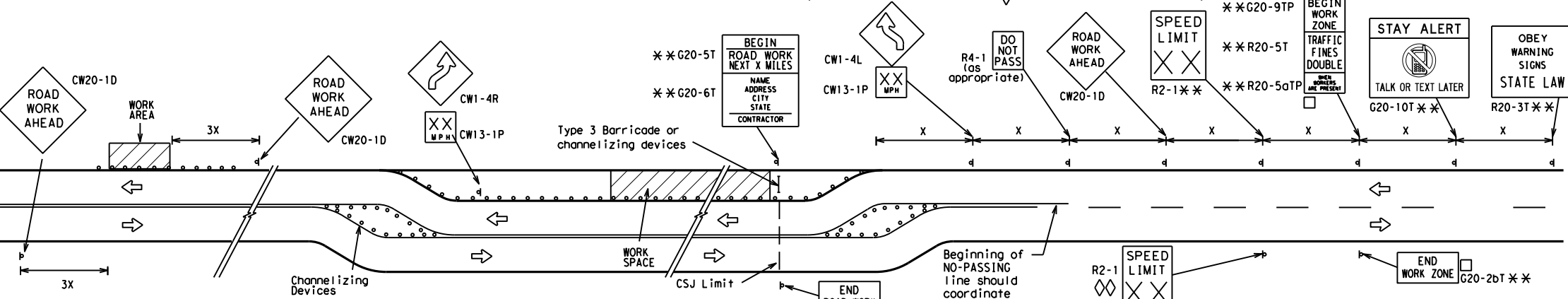
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

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

GENERAL NOTES

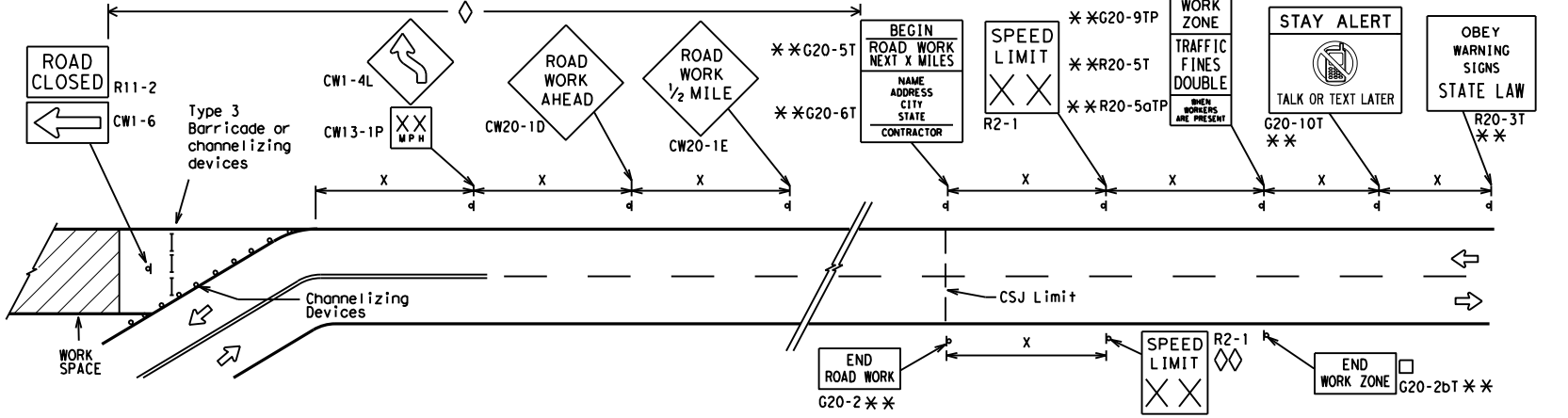
- Special or larger size signs may be used as necessary.
- Distance between signs should be increased as required to have 1500 feet advance warning.
- Distance between signs should be increased as required to have 1/2 mile or more advance warning.
- 36" x 36" "ROAD WORK AHEAD" (CW20-1D) signs may be 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".
- Only diamond shaped warning sign sizes are indicated.
- 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 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.

SHEET 2 OF 12



BARRICADE AND CONSTRUCTION PROJECT LIMIT

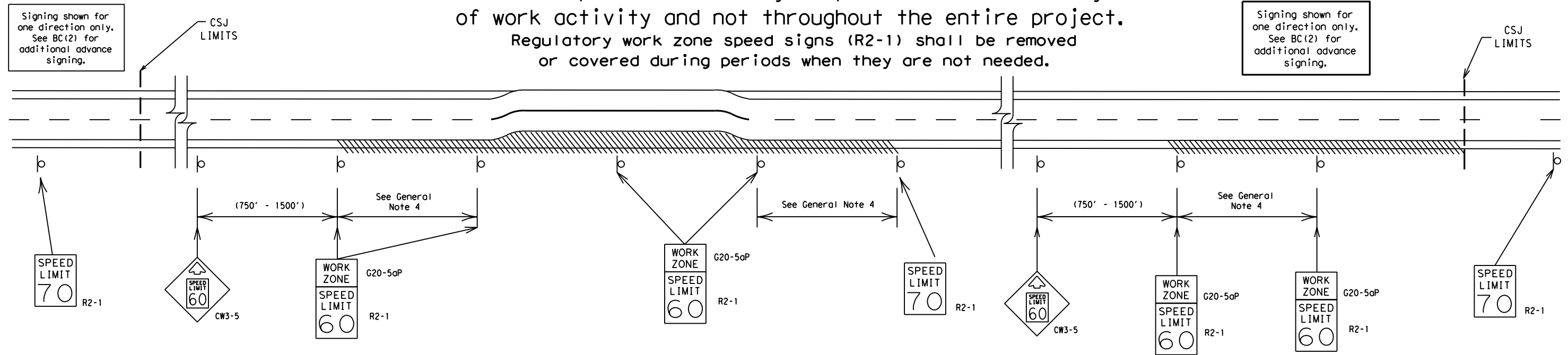
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9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	SJT	MENARD, ETC		16

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:

- rough road or damaged pavement surface
- substantial alteration of roadway geometrics (diversions)
- construction detours
- grade
- width
- 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

- Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
- Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- 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
- Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
- 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.
- Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
- Techniques that may help reduce traffic speeds include but are not limited to:
 - Law enforcement.
 - Flagger stationed next to sign.
 - Portable changeable message sign (PCMS).
 - Low-power (drone) radar transmitter.
 - Speed monitor trailers or signs.
- Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
- 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.

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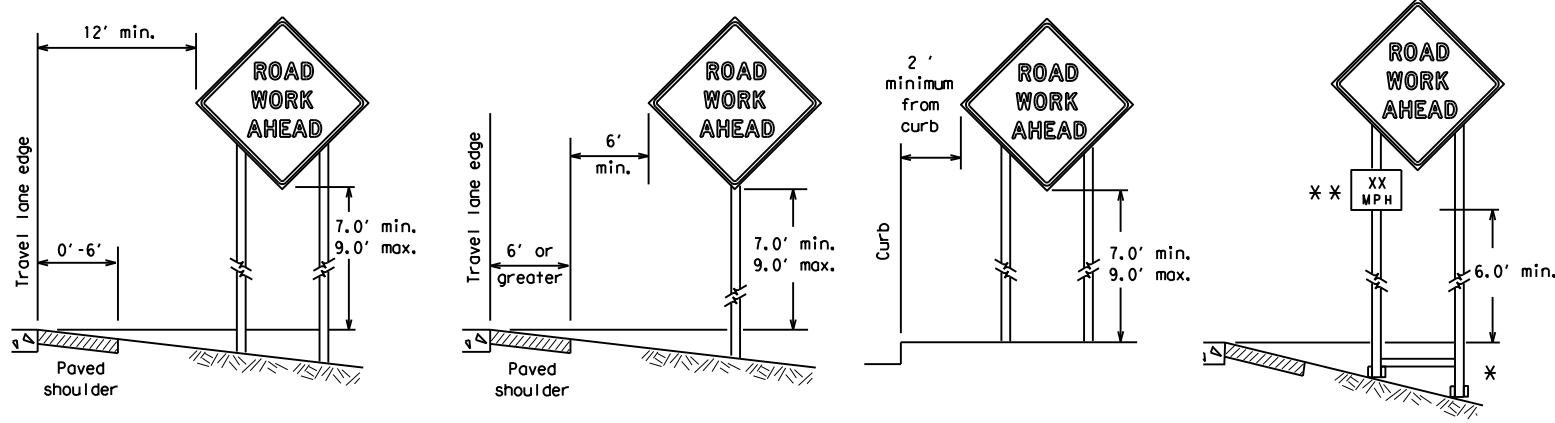
SHEET 3 OF 12

		Traffic Safety Division Standard	
<h2>BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT</h2>			
<h3>BC (3) - 21</h3>			
FILE:	bc-21.dgn	DW:	TxDOT
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REVISIONS		0035 05	062, ETC US 83, ETC
9-07	8-14	DIST	COUNTY SHEET NO.
7-13	5-21	SJT	MENARD, ETC 17

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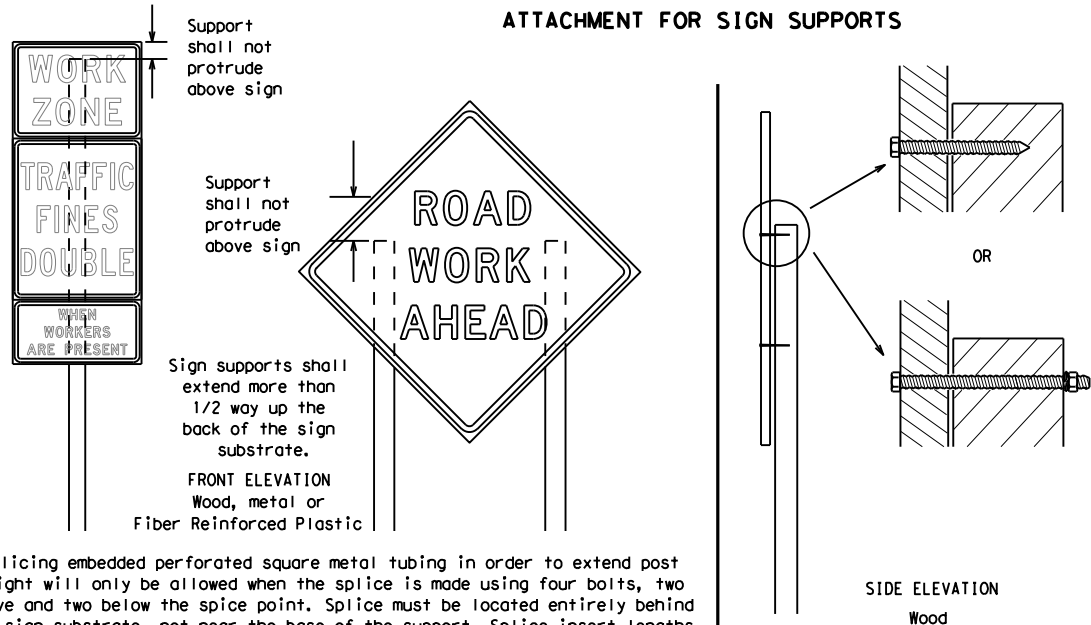
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



* 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



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 splice 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.

GENERAL NOTES FOR WORK ZONE SIGNS

- Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
- Wooden sign posts shall be painted white.
- Barricades shall NOT be used as sign supports.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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)

- 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.
 - Long-term stationary - work that occupies a location more than 3 days.
 - 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.
 - Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
 - Short, duration - work that occupies a location up to 1 hour.
 - Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

- 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.
- 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.
- Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
- 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.
- 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

- 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

- 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.
- "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
- 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

- 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).
- White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
- 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

- 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

- When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
- 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.
- 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.
- 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.
- Burlap shall NOT be used to cover signs.
- Duct tape or other adhesive material shall NOT be affixed to a sign face.
- Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

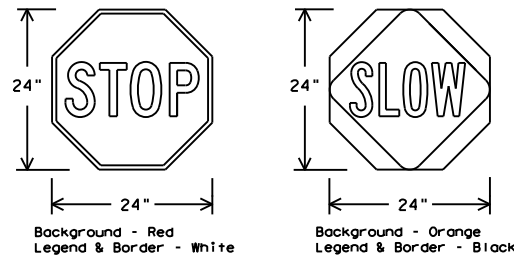
- Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
- The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
- Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
- 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.
- 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.
- 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.
- Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

- 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.

STOP/SLOW PADDLES

- STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
- STOP/SLOW paddles shall be retroreflectORIZED when used at night.
- STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
- 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.



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

- 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.
- 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.
- When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
- 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.
- 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.
- 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.

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Traffic Safety Division Standard

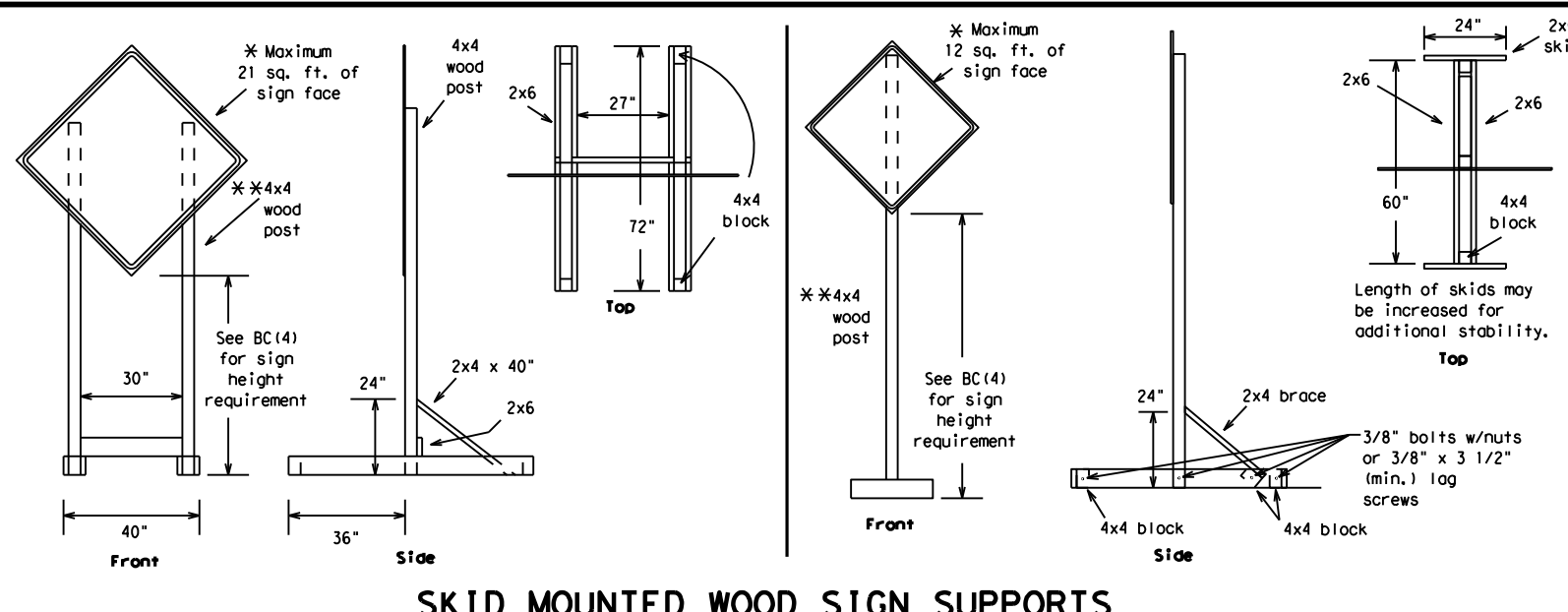
BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC (4) - 21

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9-07 8-14	DIST	COUNTY	SHEET NO.	
7-13 5-21	SJT	MENARD, ETC	18	

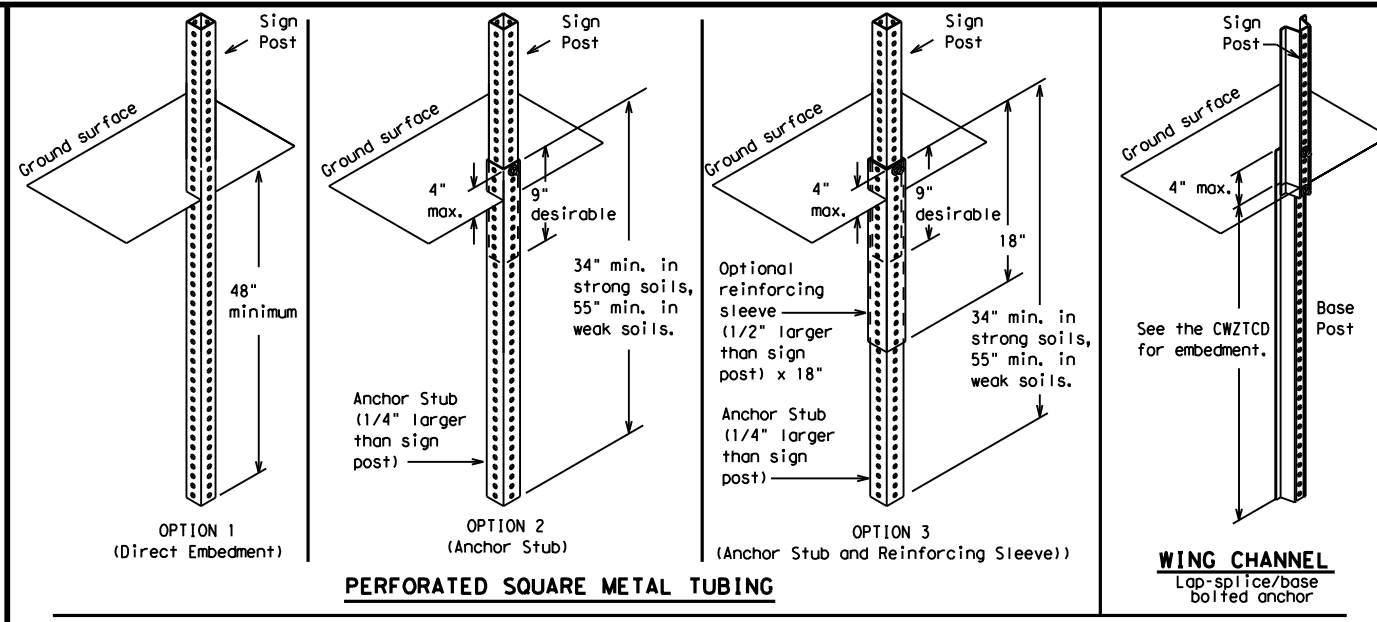
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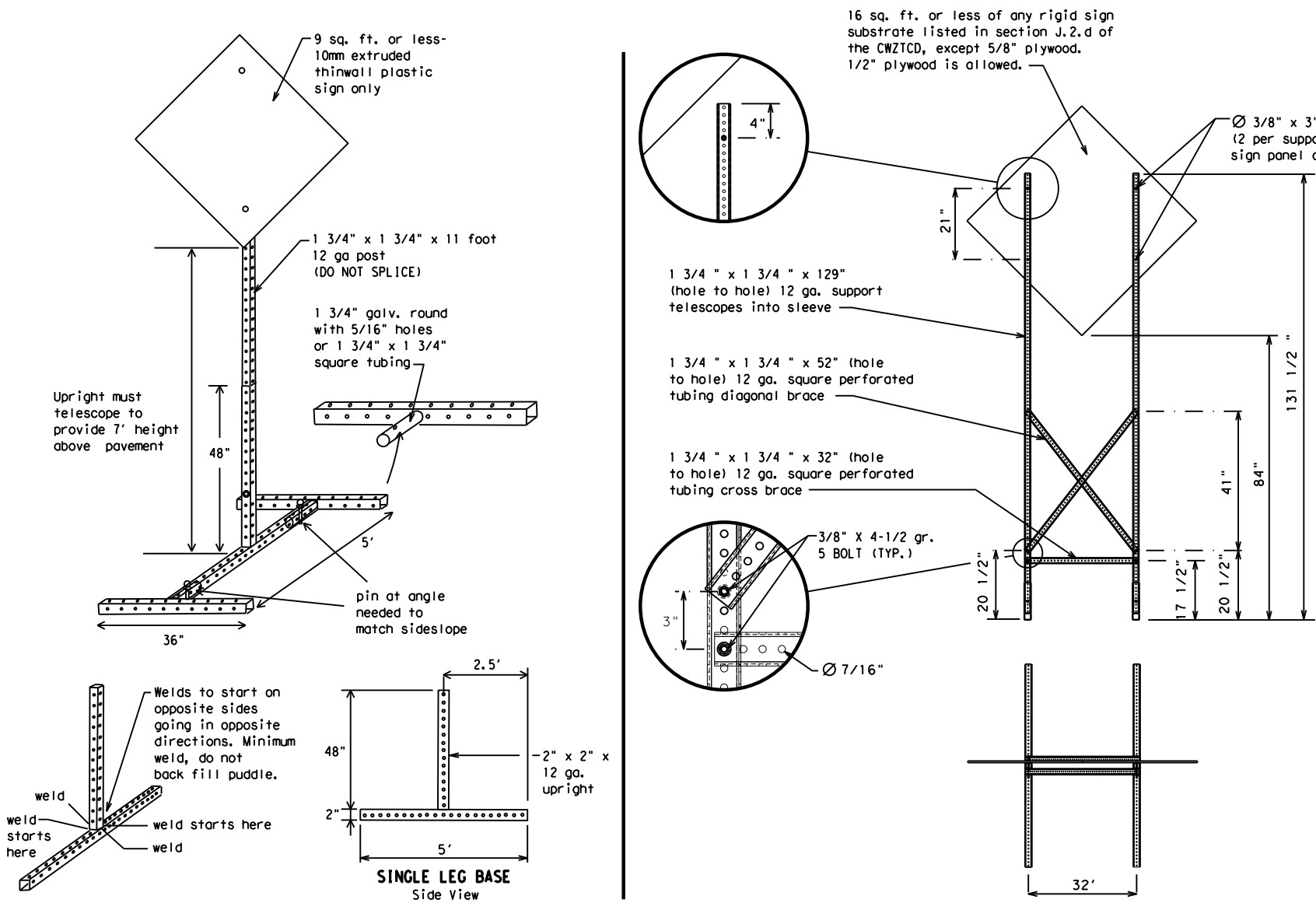
SKID MOUNTED WOOD SIGN SUPPORTS

* 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

- 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.
- No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
- 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.

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BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5) - 21

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REVISIONS	0035 05	062, ETC	US 83, ETC						
9-07	8-14	DIST	COUNTY	SHEET NO.					
7-13	5-21	SJT	MENARD, ETC	19					

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

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

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

PORTABLE CHANGEABLE MESSAGE SIGNS

- The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
- 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.
- 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.
- Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
- Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
- When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
- 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.
- 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.
- Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
- 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.
- Do not use the word "Danger" in message.
- Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
- Do not display messages that scroll horizontally or vertically across the face of the sign.
- 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.
- 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.
- Each line of text should be centered on the message board rather than left or right justified.
- 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.

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
XXXXXXXX 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

- Only 1 or 2 phases are to be used on a PCMS.
- The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
- A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
- A Location Phase is necessary only if a distance or location is not included in the first phase selected.
- 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.
- 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

- The words RIGHT, LEFT and ALL can be interchanged as appropriate.
- Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
- EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
- Highway names and numbers replaced as appropriate.
- ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
- AHEAD may be used instead of distances if necessary.
- FT and MI, MILE and MILES interchanged as appropriate.
- AT, BEFORE and PAST interchanged as needed.
- 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

- 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.
- 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.
- 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.
- 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.

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WORD OR PHRASE	ABBREVIATION	WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD	Major	MAJ
Alternate	ALT	Miles	MI
Avenue	AVE	Miles Per Hour	MPH
Best Route	BEST RTE	Minor	MNR
Boulevard	BLVD	Monday	MON
Bridge	BRDG	Normal	NORM
Canot	CANT	North	N
Center	CTR	Northbound	(route) N
Construction Ahead	CONST AHD	Parking	PKING
CROSSING	XING	Road	RD
Detour Route	DETOUR RTE	Right Lane	RT LN
Do Not	DONT	Saturday	SAT
East	E	Service Road	SERV RD
Eastbound	(route) E	Shoulder	SHLDR
Emergency	EMER	Slippery	SLIP
Emergency Vehicle	EMER VEH	South	S
Entrance, Enter	ENT	Southbound	(route) S
Express Lane	EXP LN	Speed	SPD
Expressway	EXPWY	Street	ST
XXXX Feet	XXXX FT	Sunday	SUN
Fog Ahead	FOG AHD	Telephone	PHONE
Freeway	FRWY, FWY	Temporary	TEMP
Freeway Blocked	FWY BLKD	Thursday	THURS
Friday	FRI	To Downtown	TO DWNTN
Hazardous Driving	HAZ DRIVING	Traffic	TRAF
Hazardous Material	HAZMAT	Travelers	TRVLR
High-Occupancy Vehicle	HOV	Tuesday	TUES
Highway	HWY	Time Minutes	TIME MIN
Hour(s)	HR, HRS	Upper Level	UPR LEVEL
Information	INFO	Vehicles (s)	VEH, VEHS
It Is	ITS	Warning	WARN
Junction	JCT	Wednesday	WED
Left	LFT	Weight Limit	WT LIMIT
Left Lane	LFT LN	West	W
Lane Closed	LN CLOSED	Westbound	(route) W
Lower Level	LWR LEVEL	Wet Pavement	WET PVMT
Maintenance	MAINT	Will Not	WONT

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

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BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

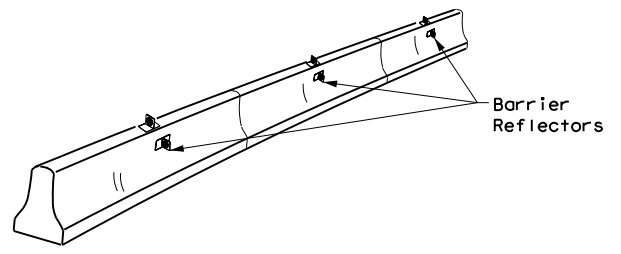
BC (6) - 21

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7-13	5-21	SJT		MENARD, ETC					20

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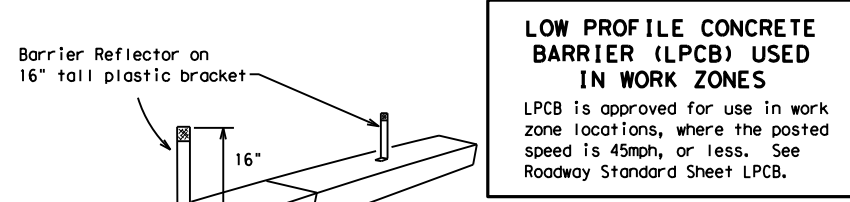
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- Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
- Color of Barrier Reflectors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



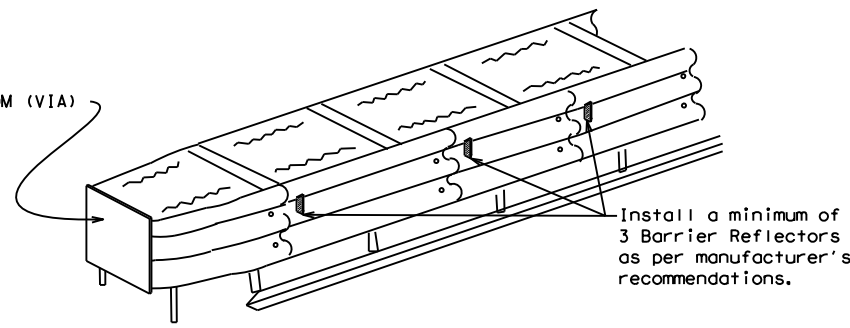
CONCRETE TRAFFIC BARRIER (CTB)

- 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.
- 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.
- When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
- Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
- Maximum spacing of Barrier Reflectors is forty (40) feet.
- Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
- Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
- Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
- Single slope barriers shall be delineated as shown on the above detail.



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 appropriate 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

WARNING LIGHTS

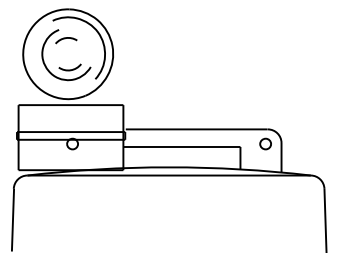
- Warning lights shall meet the requirements of the TMUTCD.
- Warning lights shall NOT be installed on barricades.
- Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet 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.
- 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".
- The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
- 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.
- 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.
- The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

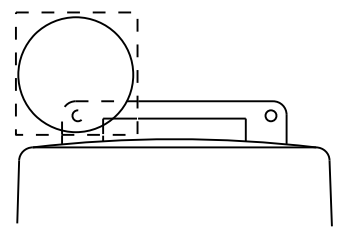
- Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
- Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
- A series of sequential flashing warning lights placed on channelizing 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.
- 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.
- Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
- Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
- 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

- 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.
- 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.
- The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
- Round reflectors shall be fully reflectorized, including the area where attached to the drum.
- 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.
- 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.
- When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
- The warning reflector should be mounted on the side of the handle nearest approaching traffic.
- The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.



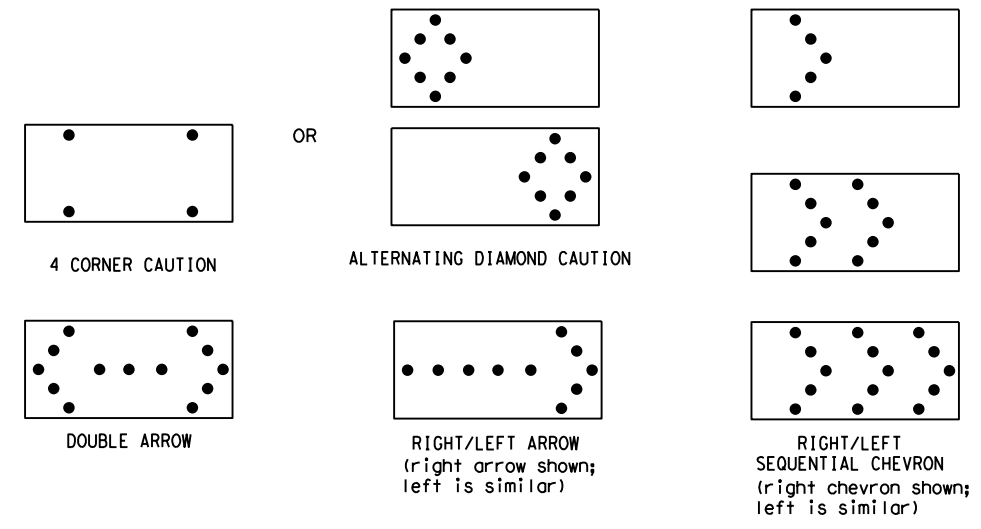
Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



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

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.

- 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.
- 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.
- 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.
- The Flashing Arrow Board should be able to display the following symbols:



- The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
- The straight line caution display is NOT ALLOWED.
- 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.
- 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.
- The sequential arrow display is NOT ALLOWED.
- The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
- The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
- A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
- 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.
- 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

SHEET 7 OF 12

TRUCK-MOUNTED ATTENUATORS

- Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
- Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
- Refer to the CWZTCD for a list of approved TMAs.
- TMAs are required on freeways unless otherwise noted in the plans.
- 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.
- 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.



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

BC (7) -21

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9-07	8-14	DIST	COUNTY	SHEET NO.					
7-13	5-21	SJT	MENARD, ETC	21					

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GENERAL NOTES

- For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
- 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.
- 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.
- 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).
- 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.
- 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

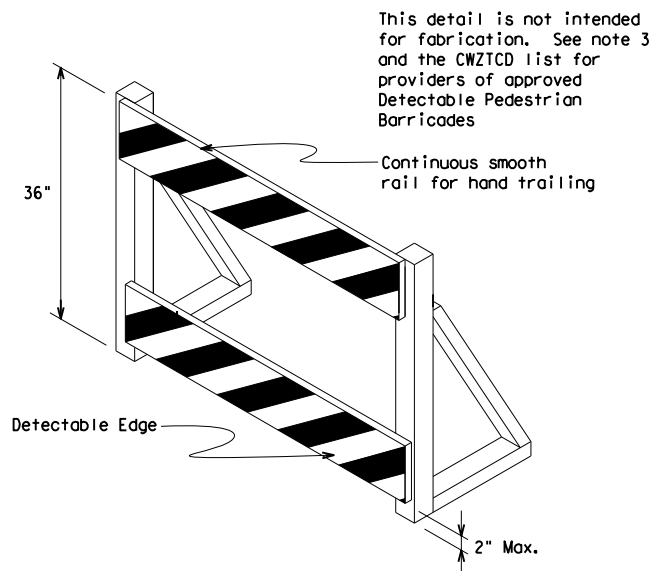
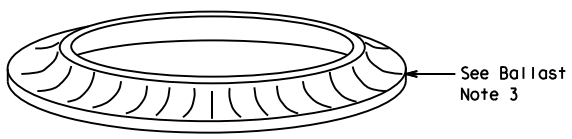
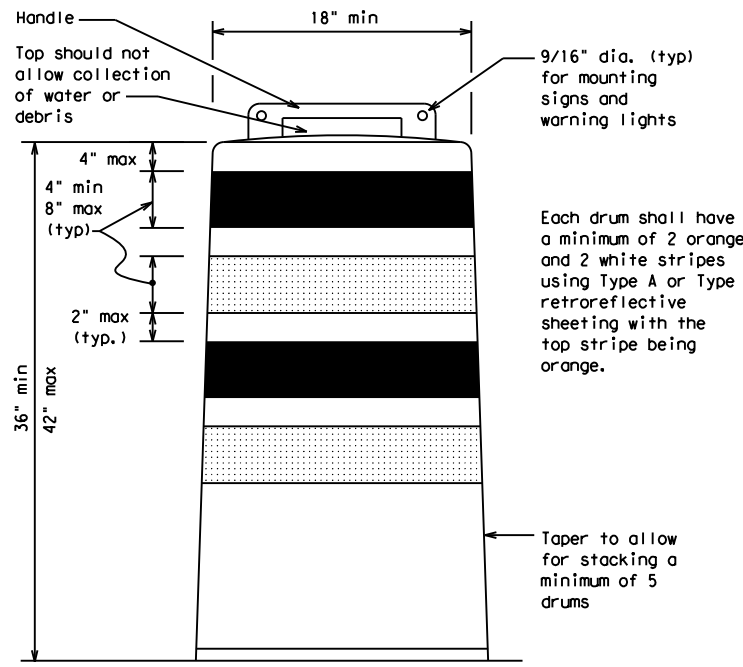
- Pre-qualified plastic drums shall meet the following requirements:
- Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
 - The body and base shall lock together in such a manner that the body separates from the base when impacted 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
 - Drum body shall have a maximum unballasted weight of 11 lbs.
 - Drum and base shall be marked with manufacturer's name and model number.

RETROREFLECTIVE SHEETING

- 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.
- 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.

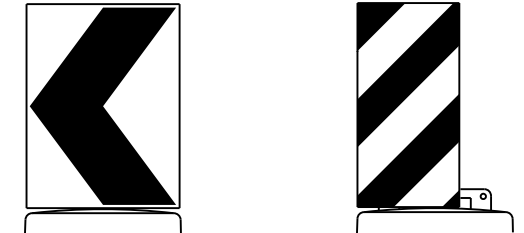
BALLAST

- 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.
- 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.
- Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
- 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.
- 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.
- Ballast shall not be placed on top of drums.
- Adhesives may be used to secure base of drums to pavement.



DETECTABLE PEDESTRIAN BARRICADES

- 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.
- 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.
- 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.
- 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.
- Warning lights shall not be attached to detectable pedestrian barricades.
- 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

- Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
- 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.
- 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.
- 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.
- Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
- Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
- 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.
- 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.

SHEET 8 OF 12



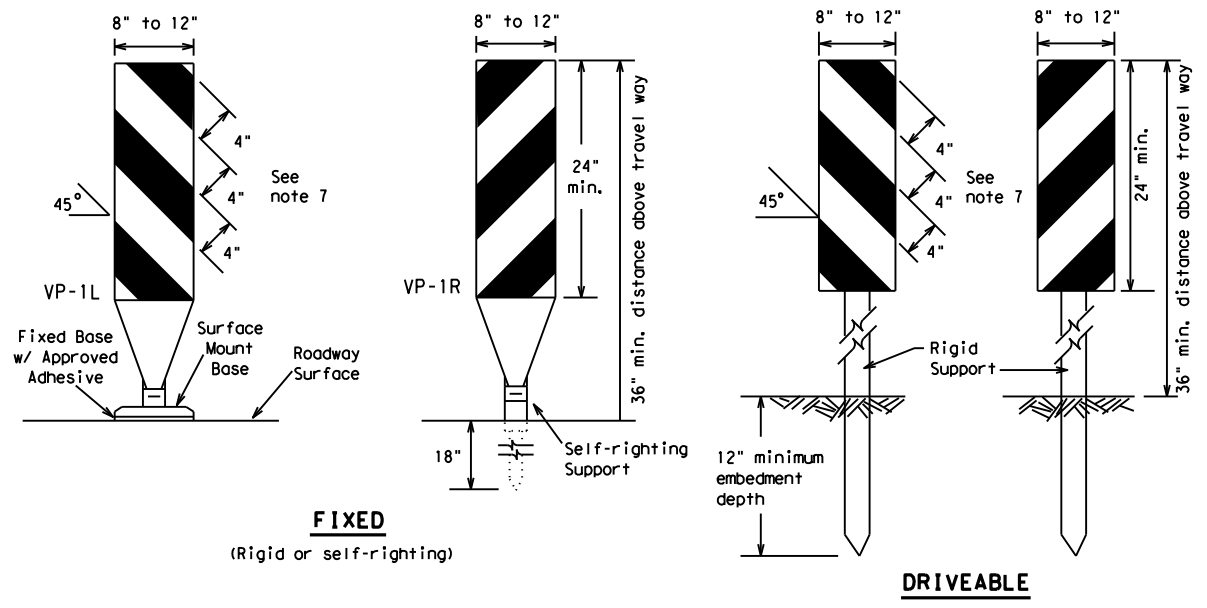
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8) - 21

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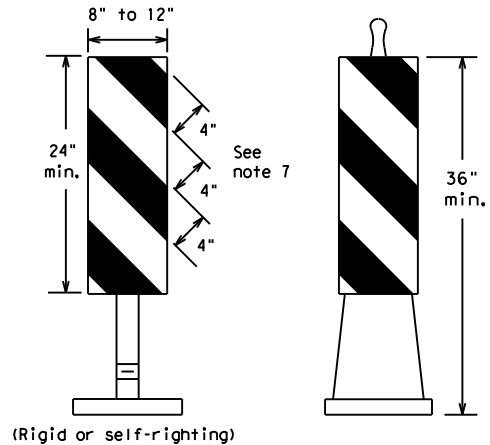
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FIXED
(Rigid or self-righting)

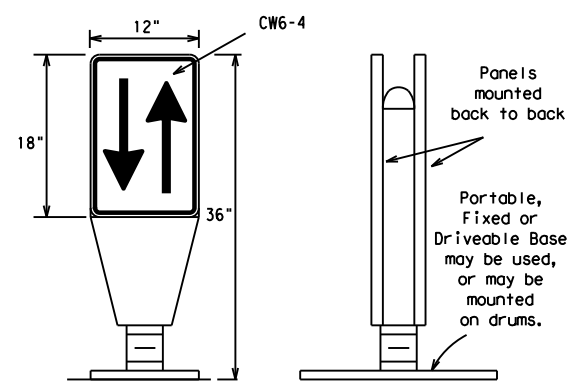
DRIVEABLE

- Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
- 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.
- 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.
- VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
- Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
- Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.



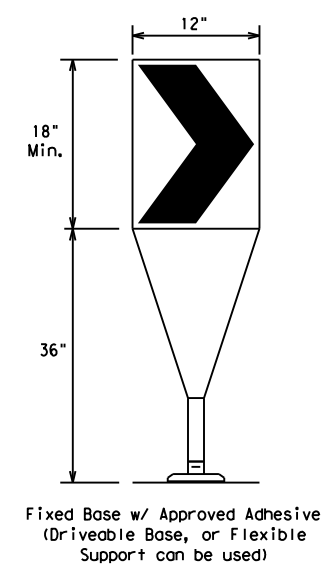
PORTABLE

VERTICAL PANELS (VPs)



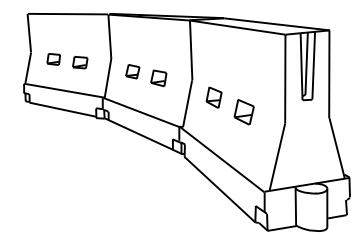
OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

- 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.
- The OTLD may be used in combination with 42" cones or VPs.
- Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
- 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.



- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- 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.
- 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.
- To be effective, the chevron should be visible for at least 500 feet.
- 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.
- 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



LONGITUDINAL CHANNELIZING DEVICES (LCD)

- 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.
- LCDs may be used instead of a line of cones or drums.
- LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
- LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
- 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

- 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.
- 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.
- 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.
- 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.
- 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

GENERAL NOTES

- 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).
- 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.
- 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).
- 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.
- Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
- 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.
- 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.

Posted Speed	Formula	Minimum Desirable Taper Lengths * *			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	L = 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



BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (9) - 21

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7-13	5-21	SJT	MENARD, ETC	23					

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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.

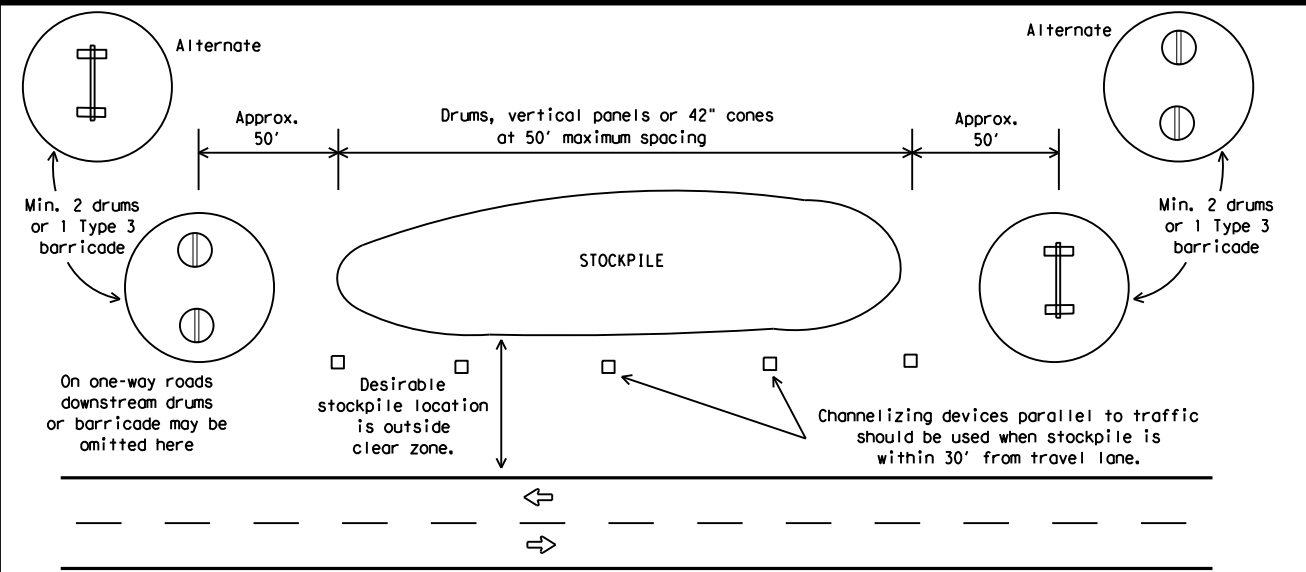


TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



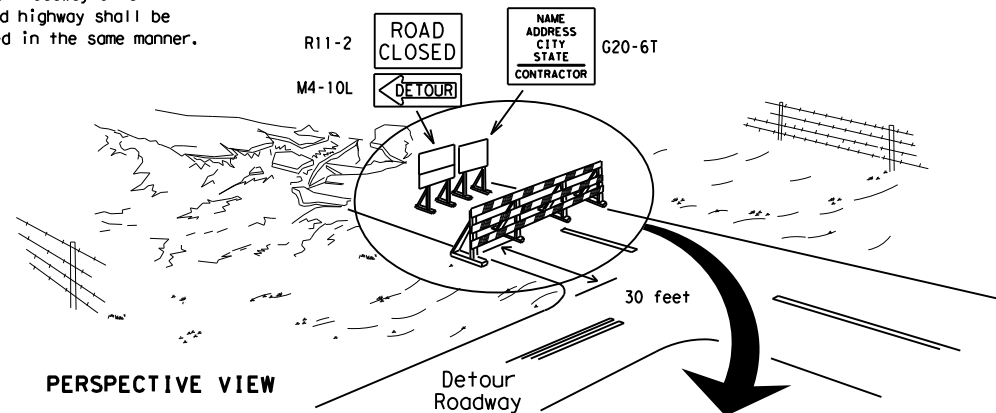
Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



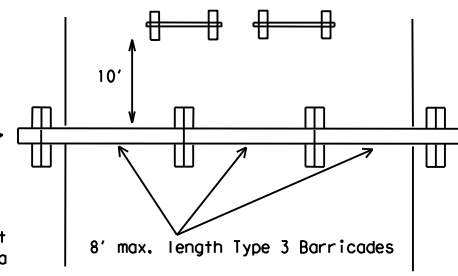
TRAFFIC CONTROL FOR MATERIAL STOCKPILES

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



PERSPECTIVE VIEW

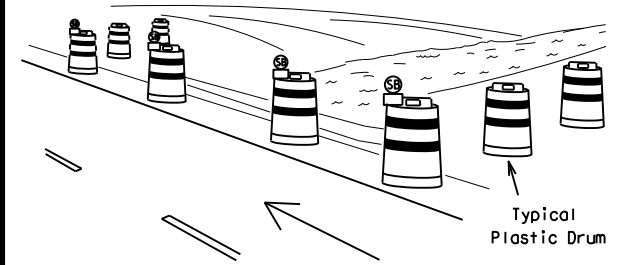
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.



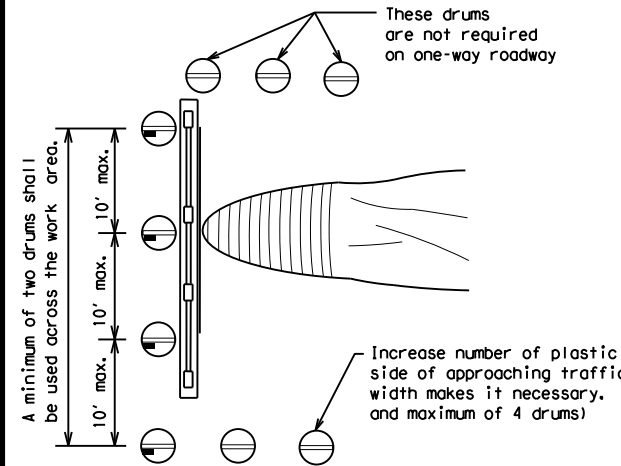
PLAN VIEW

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

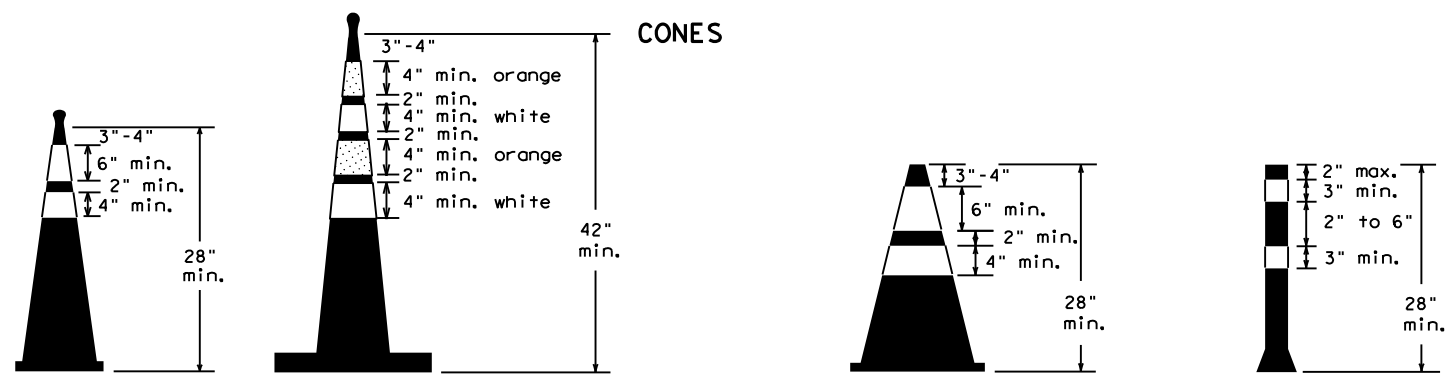


PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS

1. Where positive redirection 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
	Steady burn warning light or yellow warning reflector



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.

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	OW: TxDOT	CR: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	
9-07 8-14	DIST	COUNTY	SHEET NO.	
7-13 5-21	SJT	MENARD, ETC	24	

WORK ZONE PAVEMENT MARKINGS

GENERAL

- 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.
- Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- Additional supplemental pavement marking details may be found in the plans or specifications.
- Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
- 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).
- 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.
- All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

- Raised pavement markers are to be placed according to the patterns on BC(12).
- 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

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

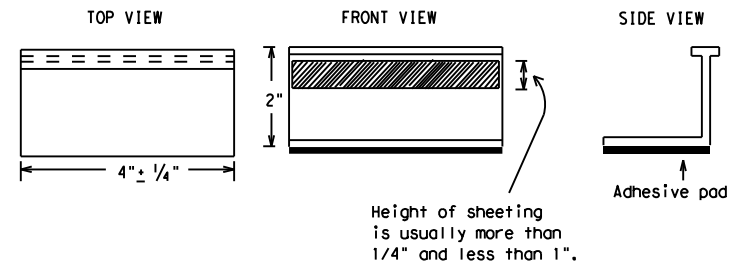
MAINTAINING WORK ZONE PAVEMENT MARKINGS

- The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
- 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.
- 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.
- 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

- 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.
- 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.
- 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".
- The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
- Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
- Blast cleaning may be used but will not be required unless specifically shown in the plans.
- Over-painting of the markings SHALL NOT BE permitted.
- Removal of raised pavement markers shall be as directed by the Engineer.
- 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.
- 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**

- Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
- 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.
 - 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.
 - 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.
- Small design variances may be noted between tab manufacturers.
- 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

- Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
- All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
- 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).

SHEET 11 OF 12



BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
2-98 9-07 5-21	DIST	COUNTY	SHEET NO.	
1-02 7-13	SJT	MENARD, ETC	25	
11-02 8-14				

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PAVEMENT MARKING PATTERNS

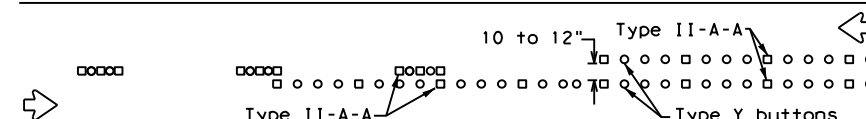


REFLECTORIZED PAVEMENT MARKINGS - PATTERN A

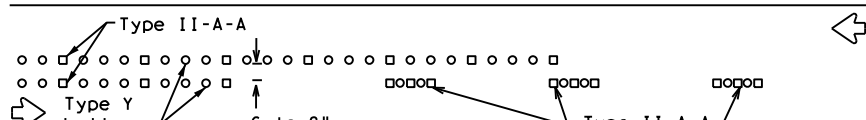


REFLECTORIZED PAVEMENT MARKINGS - PATTERN B

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.



RAISED PAVEMENT MARKERS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN B

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



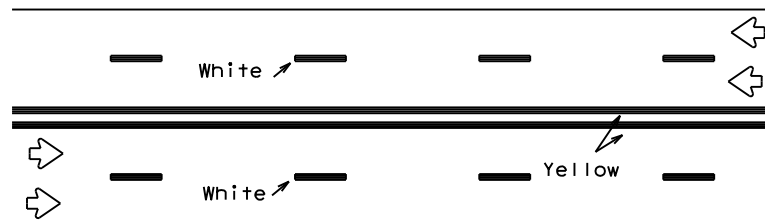
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectORIZED pavement markings.



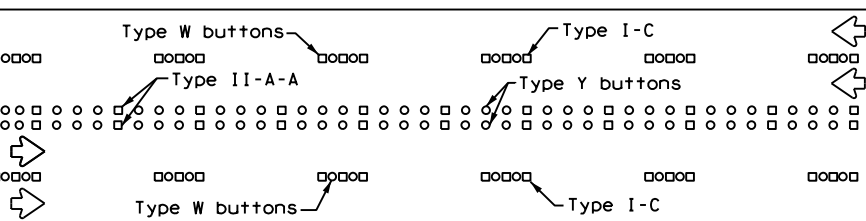
RAISED PAVEMENT MARKERS

EDGE & LANE LINES FOR DIVIDED HIGHWAY



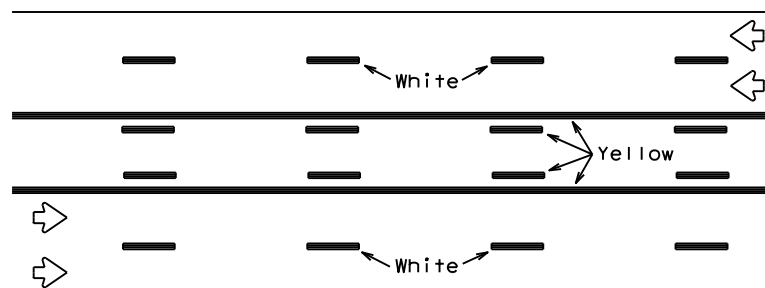
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectORIZED pavement markings.



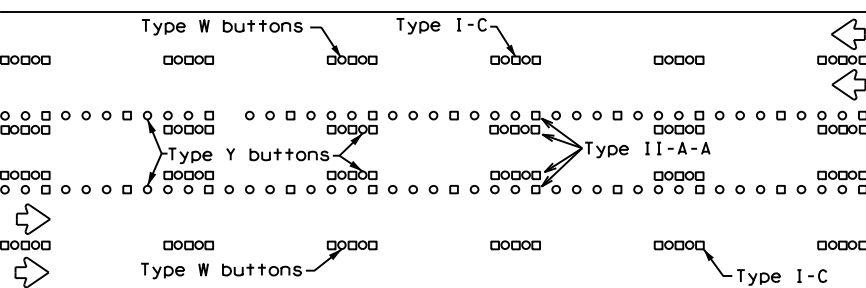
RAISED PAVEMENT MARKERS

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS

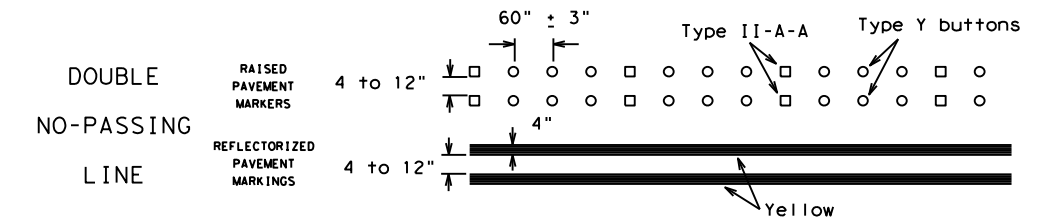
Prefabricated markings may be substituted for reflectORIZED pavement markings.



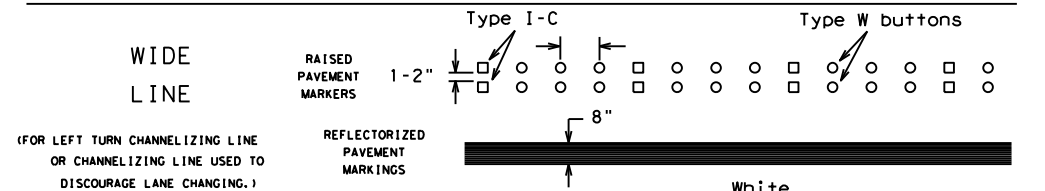
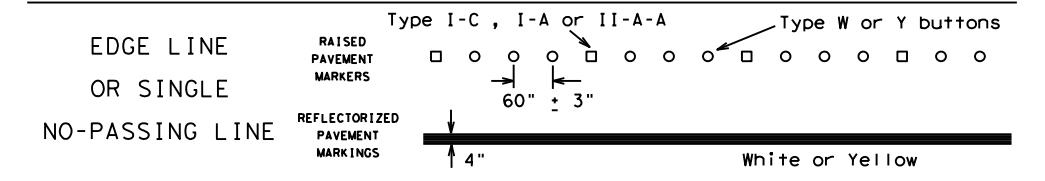
RAISED PAVEMENT MARKERS

TWO-WAY LEFT TURN LANE

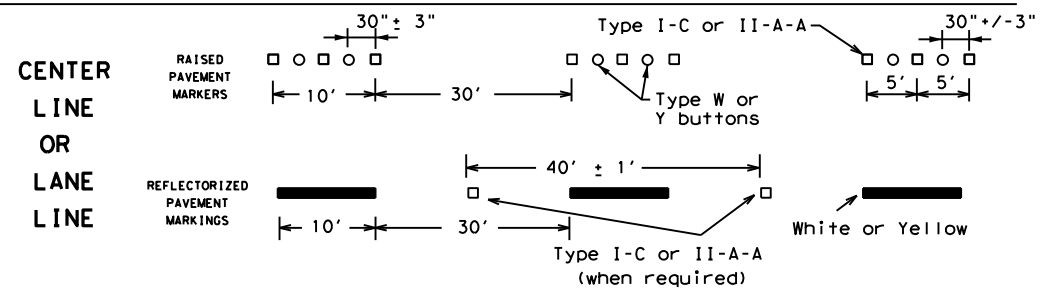
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS



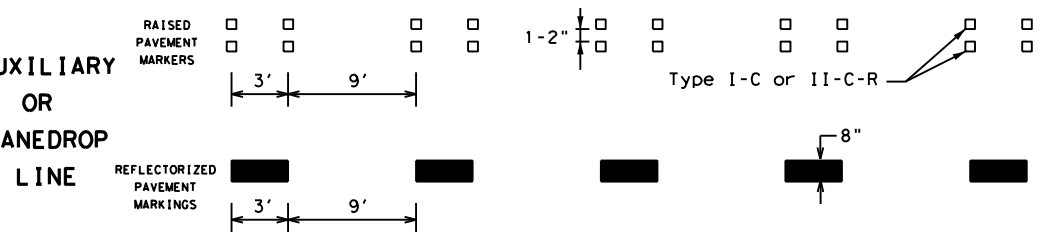
SOLID LINES



BROKEN LINES

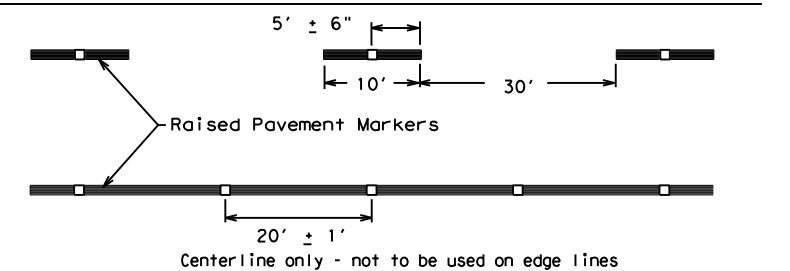


AUXILIARY OR LANEDROP LINE



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.



SHEET 12 OF 12



BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

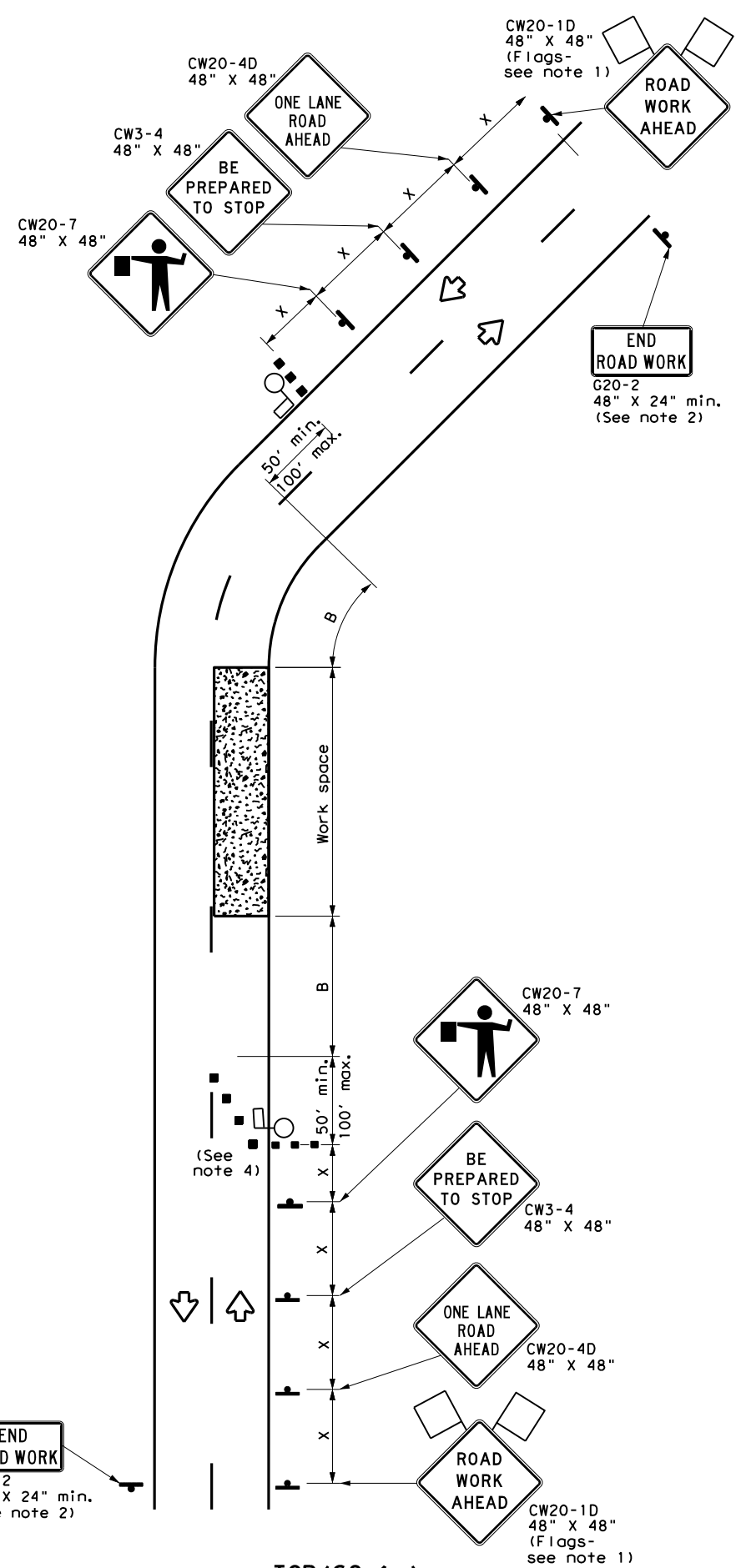
Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

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©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
1-97 9-07 5-21	DIST	COUNTY	SHEET NO.	
2-98 7-13	SJT	MENARD, ETC	26	
11-02 8-14				

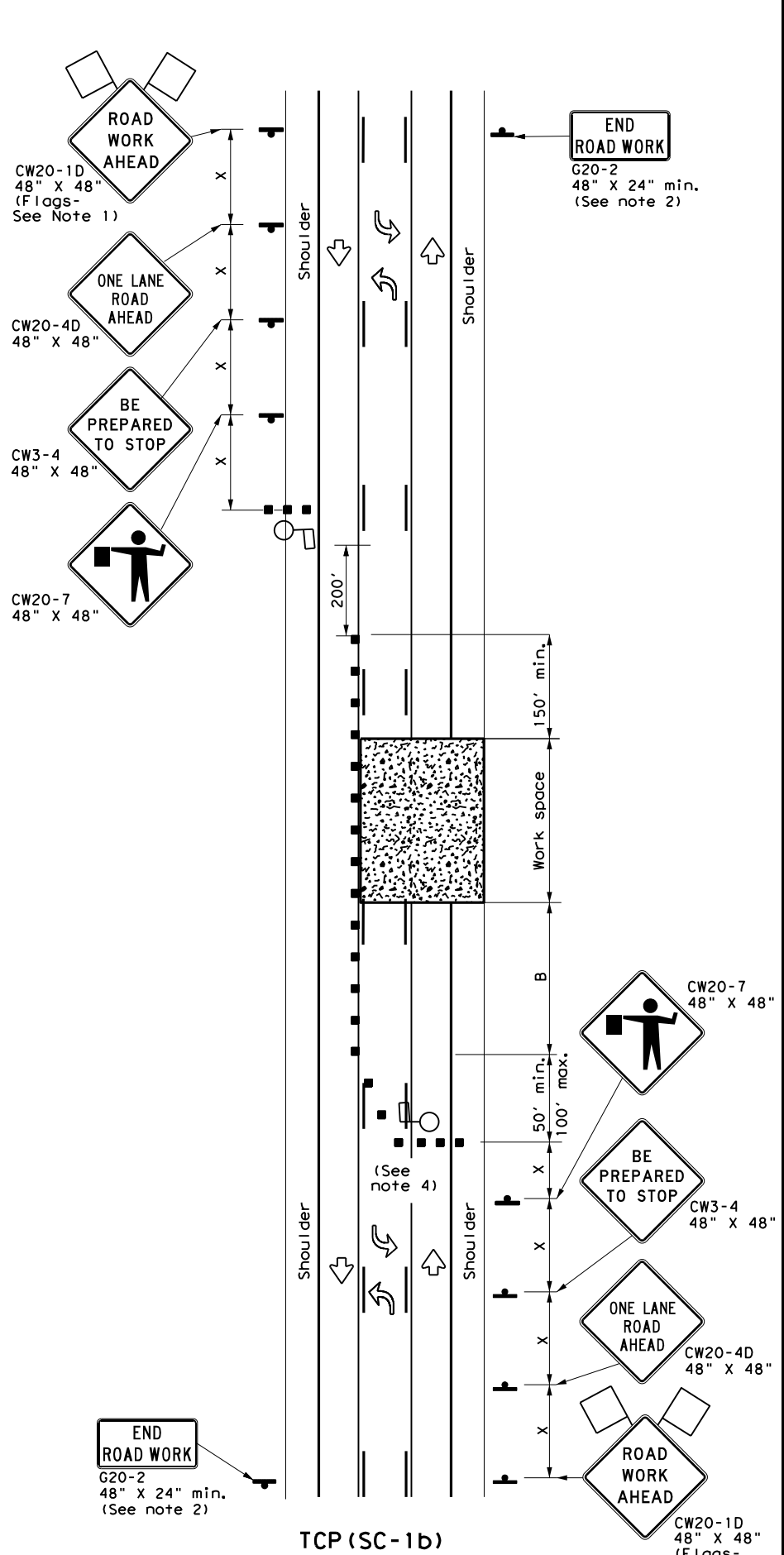
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TCP (SC-1a)
ONE LANE TWO-WAY (TWO LANES)
CONTROL WITH PILOT VEHICLE



TCP (SC-1b)
ONE LANE TWO-WAY (THREE LANES)
CONTROL WITH PILOT VEHICLE
AND CHANNELIZING DEVICES

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths * * *			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing Distance "x"	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
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

- Flags attached to signs where shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
- Sign spacing may be increased or an additional ROAD WORK AHEAD (CW20-1D) sign may be used if advance warning ahead of the flagger sign is less than 1500 feet.
- Flaggers should use two-way radios or other methods of communication at all times for traffic control coordination.
- Flaggers should use 24" STOP (CW20-8) / SLOW (CW20-8aT) paddles to control traffic. Flags should be limited to emergency situations.
- 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).
- If the seal coat operation crosses intersections, traffic in these areas must be controlled. Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning additional traffic control personnel (flaggers) at the intersection.
- Temporary rumble strips are not required on seal coat operations.
- The pilot car is used to guide vehicles through traffic control zone. The pilot car shall have an identification name displayed and PILOT CAR, FOLLOW ME (G20-4) sign or message board mounted in a conspicuous position on rear.

TCP (SC-1a)

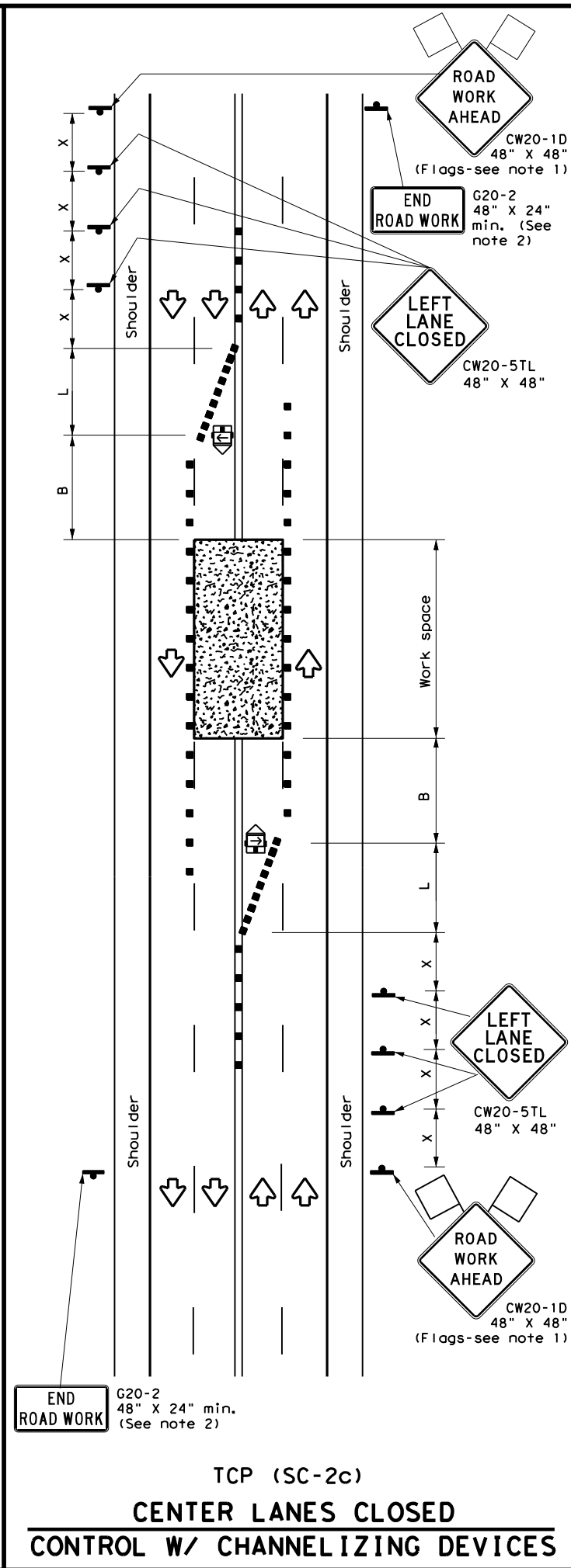
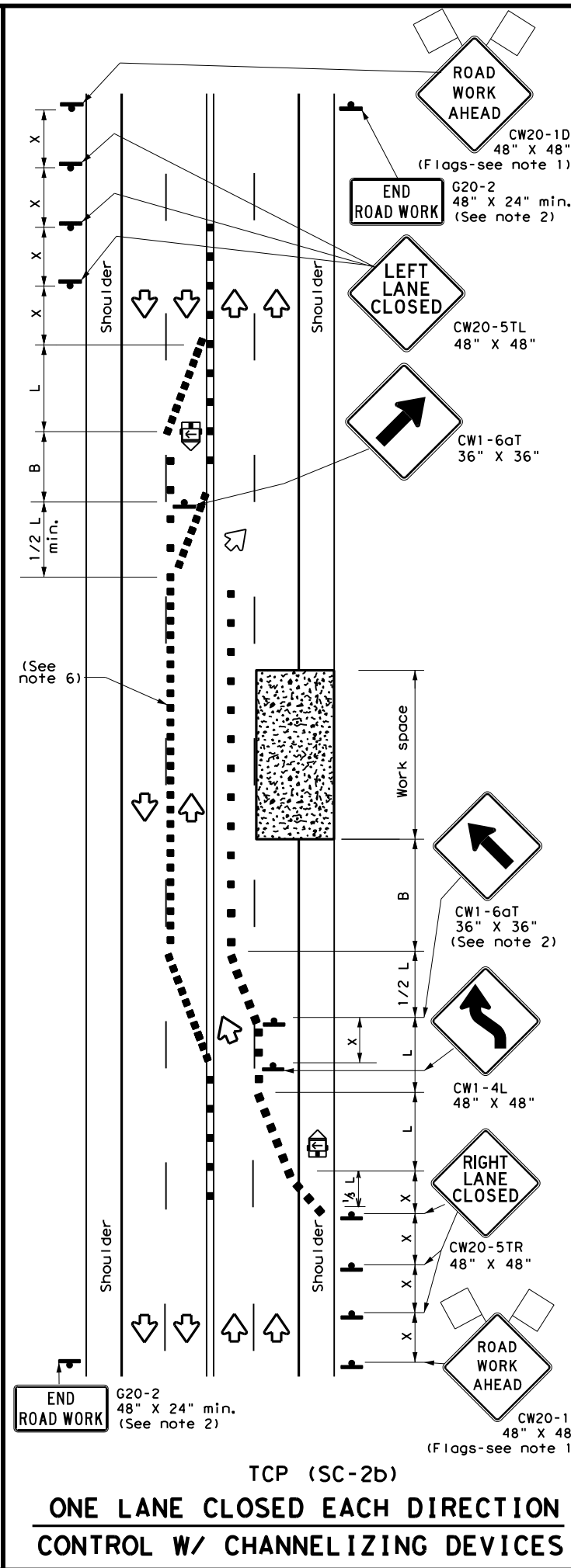
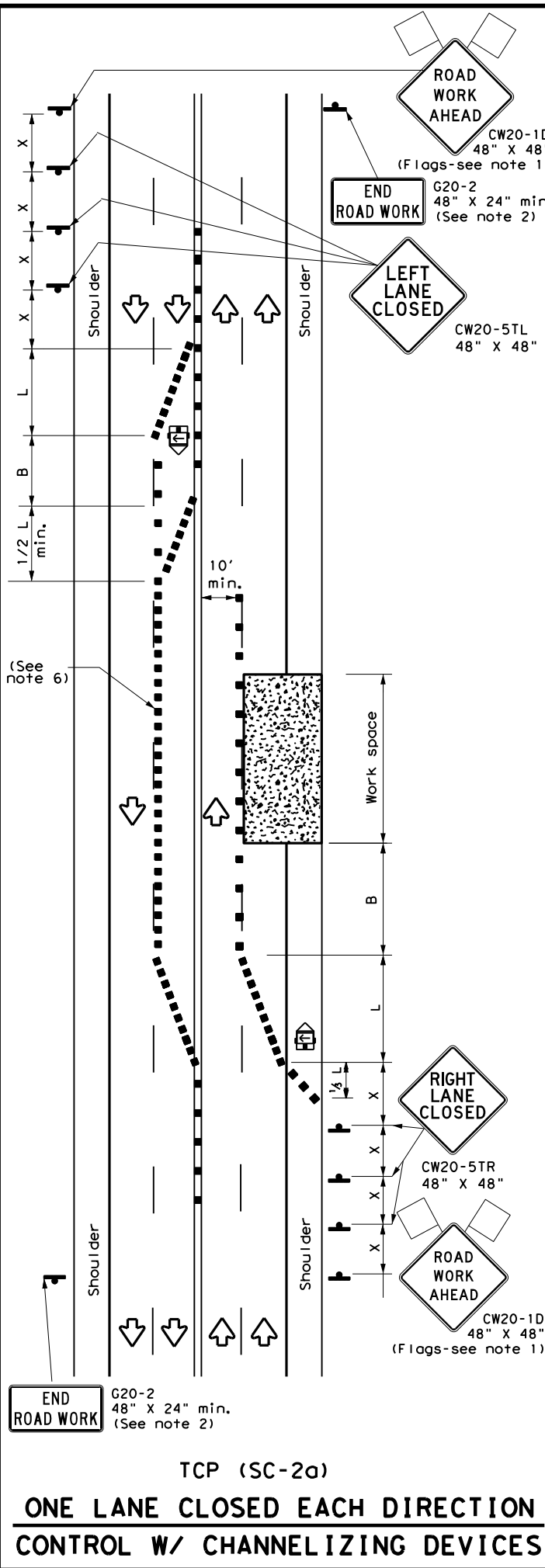
- Channelizing devices on the centerline are not required when a pilot car is leading traffic, unless directed by the Engineer.

SHEET 1 OF 8

		Traffic Safety Division Standard	
TRAFFIC CONTROL PLAN			
SEAL COAT OPERATIONS			
ONE-LANE TWO-WAY			
TCP (SC-1) - 22			
FILE: tcpsc-1-22.dgn	DN:	CK:	DW:
© TxDOT October 2022	CONT	SECT	JOB
4-21 REVISIONS	0035 05	062, ETC	US 83, ETC
10-22	DIST	COUNTY	SHEET NO.
	SJT	MENARD, ETC	27

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing Distance "x"	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40	L = WS	265'	295'	320'	40'	80'	240'	155'
45		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**
- Flags attached to signs where shown are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
 - The ROAD WORK AHEAD (CW20-1D) sign may be repeated if the visibility of the work zone is less than 1500 feet.
 - If the seal coat operation crosses intersections, traffic in these areas must be controlled. Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning additional traffic control personnel (flaggers) at the intersection.
 - Temporary rumble strips are not required on seal coat operations.

TCP (SC-2a) and (SC-2b)

- Channelizing devices which separate two-way traffic shall be spaced on tapers at:
 - 20 feet;
 - 15 feet when posted speeds are 35 mph or slower; or
 - at 1/2(S) for tangent sections.
 This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

SHEET 2 OF 8

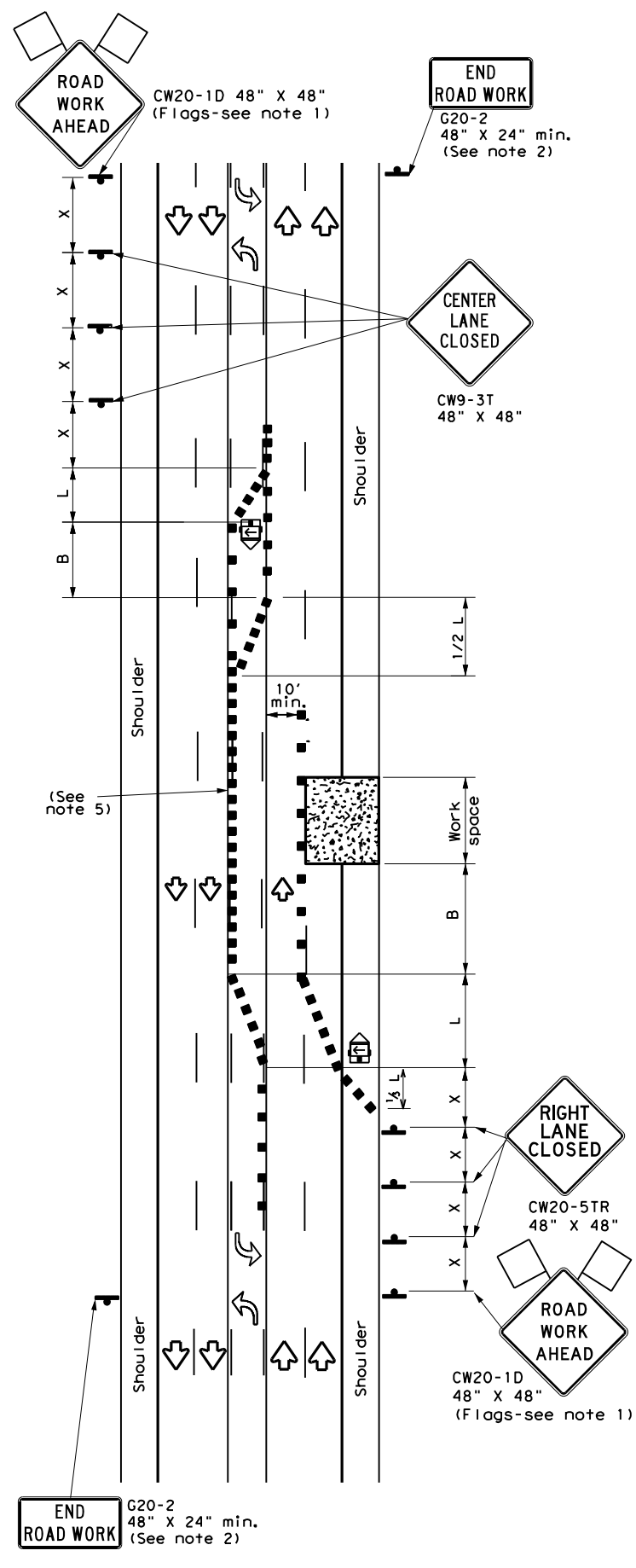
Texas Department of Transportation
 Traffic Safety Division Standard

TRAFFIC CONTROL PLAN
SEALCOAT OPERATIONS
MULTILANE ROADS
(UNDIVIDED)
TCP (SC-2) -22

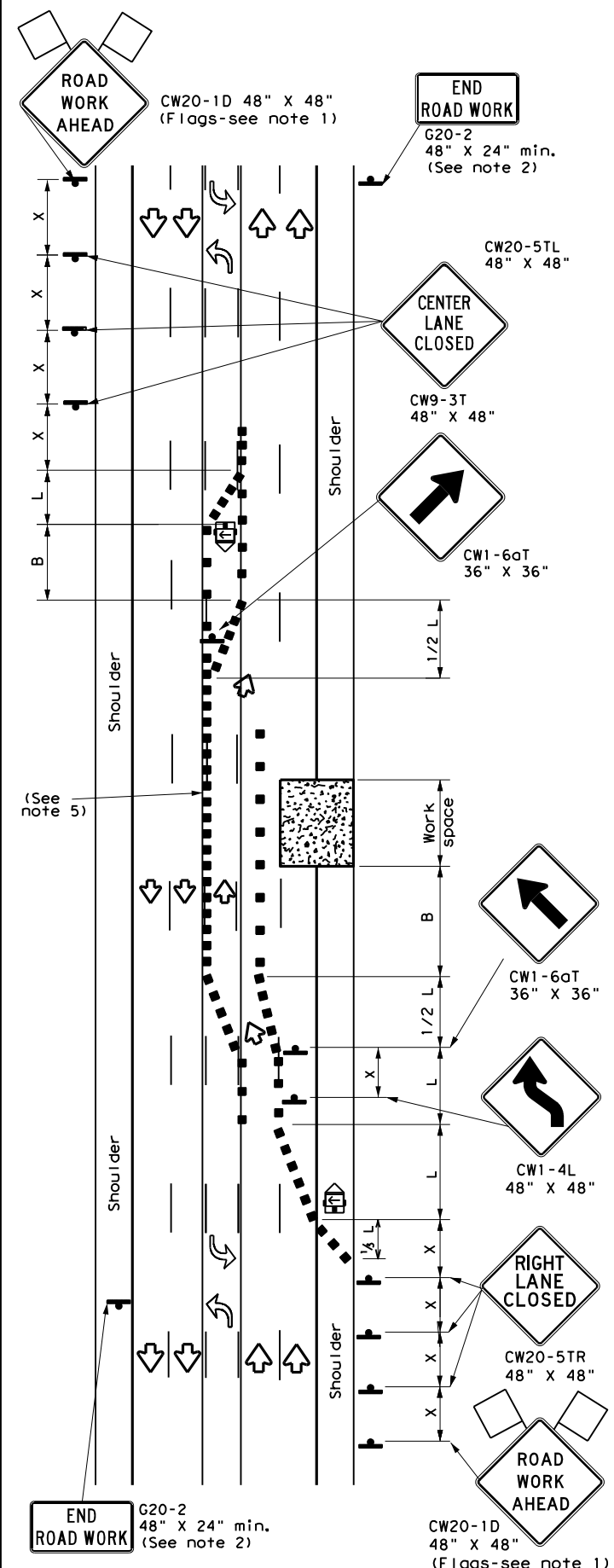
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© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
4-21	DIST	COUNTY	SHEET NO.	
10-22	SJT	MENARD, ETC	28	

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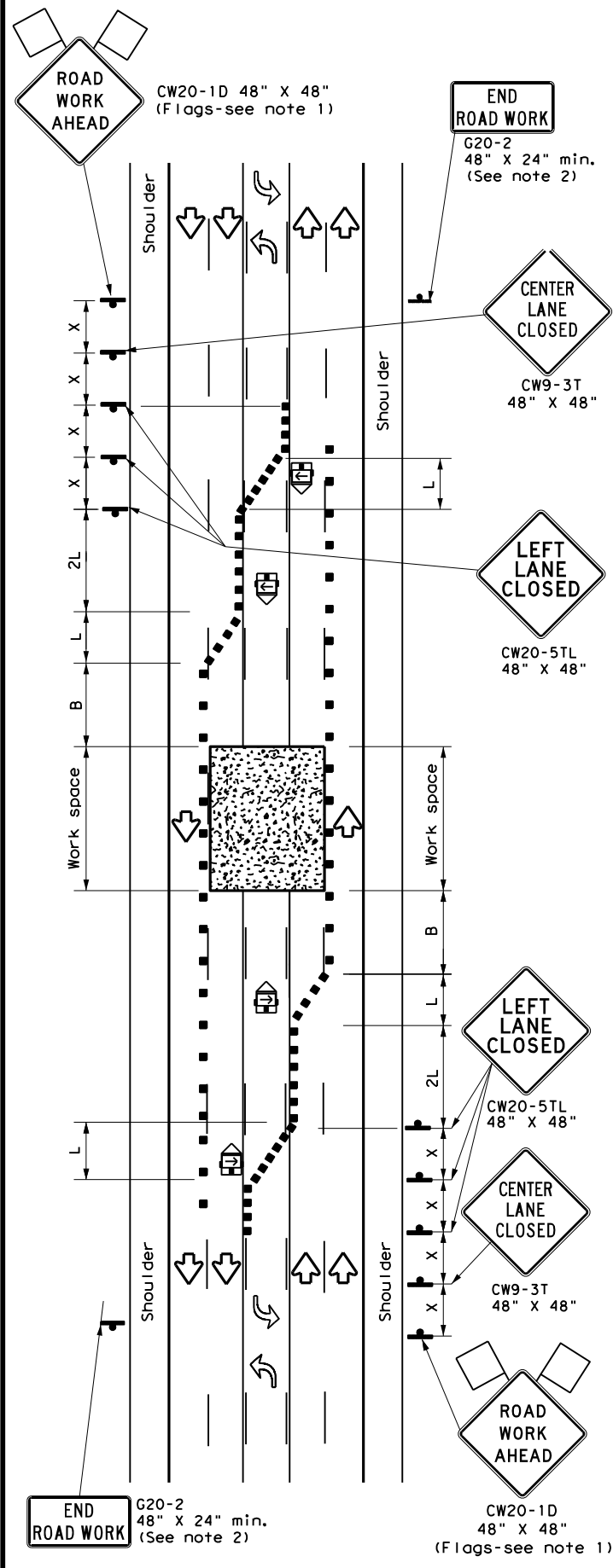
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TCP (SC-3a)
ONE LANE CLOSED
CONTROL W/ CHANNELIZING DEVICES



TCP (SC-3b)
TWO LANES CLOSED
CONTROL W/ CHANNELIZING DEVICES



TCP (SC-3c)
CENTER LANES CLOSED
CONTROL W/ CHANNELIZING DEVICES

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

Posted Speed * X	Formula L = WS ² /60	Minimum Desirable Taper Lengths ** X X			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing Distance "X"	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = 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**
- Flags attached to signs where shown are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
 - If the seal coat operation crosses intersections, traffic in these areas must be controlled. Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning additional traffic control personal (flaggers) at the intersection.
 - Temporary rumble strips are not required on seal coat operations.
- TCP (SC-3a) and (SC-3b)**
- Channelizing devices which separate two-way traffic shall be spaced on tapers at:
 - 20 feet;
 - 15 feet when posted speeds are 35 mph or slower; or
 - at 1/2(S) for tangent sections.
 This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

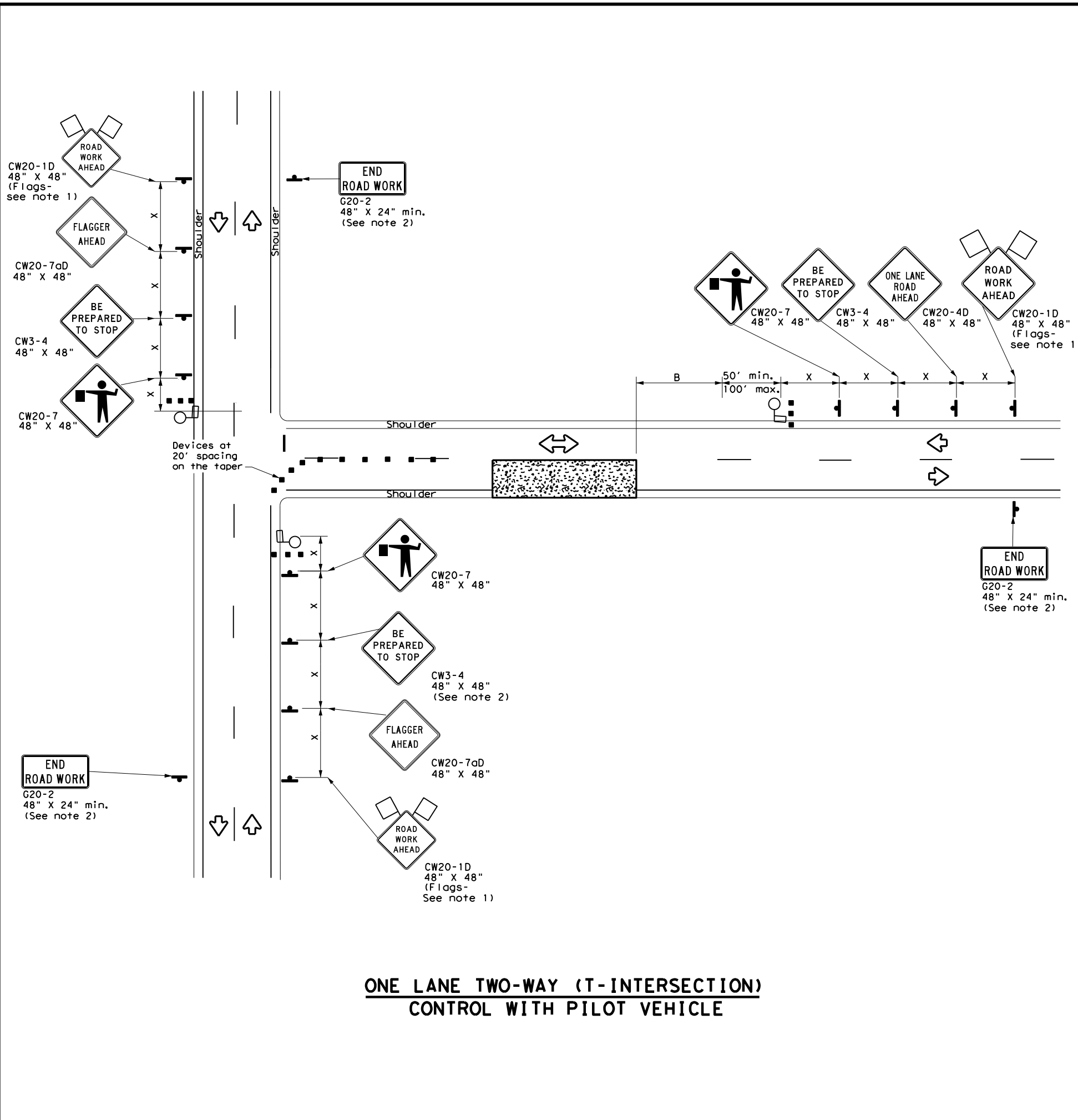
Texas Department of Transportation
 Traffic Safety Division Standard

TRAFFIC CONTROL PLAN
SEAL COAT OPERATIONS
MULTILANE ROADS
(W/ CENTER LEFT TURN LANE)
TCP (SC-3) -22

FILE: tcpsc-3-22.dgn	DW: _____	CK: _____	HW: _____
© TxDOT October 2022	CONT. SECT.	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC
4-21	DIST	COUNTY	SHEET NO.
10-22	SJT	MENARD, ETC	29

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GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
- Flaggers should use two-way radios or other methods of communication at all times for traffic control coordination.
- Flaggers should use 24" STOP (CW20-8) / SLOW (CW20-8aT) paddles to control traffic. Flags should be limited to emergency situations.
- 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).
- Temporary rumble strips are not required on seal coat operations.
- The pilot car is used to guide vehicles through traffic control zone. The pilot car shall have an identification name displayed and PILOT CAR, FOLLOW ME (G20-4) sign or message board mounted in a conspicuous position on rear.

SHEET 4 OF 8

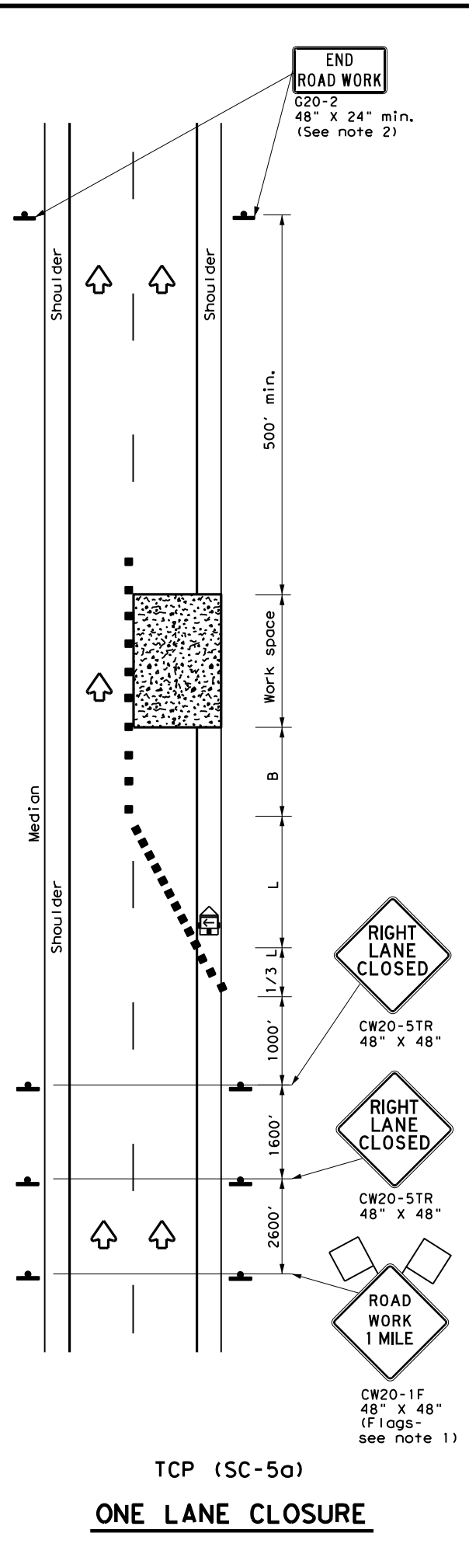
Texas Department of Transportation
 Traffic Safety Division Standard

**TRAFFIC CONTROL PLAN
 SEAL COAT OPERATIONS
 NEAR INTERSECTION
 TCP (SC-4) - 22**

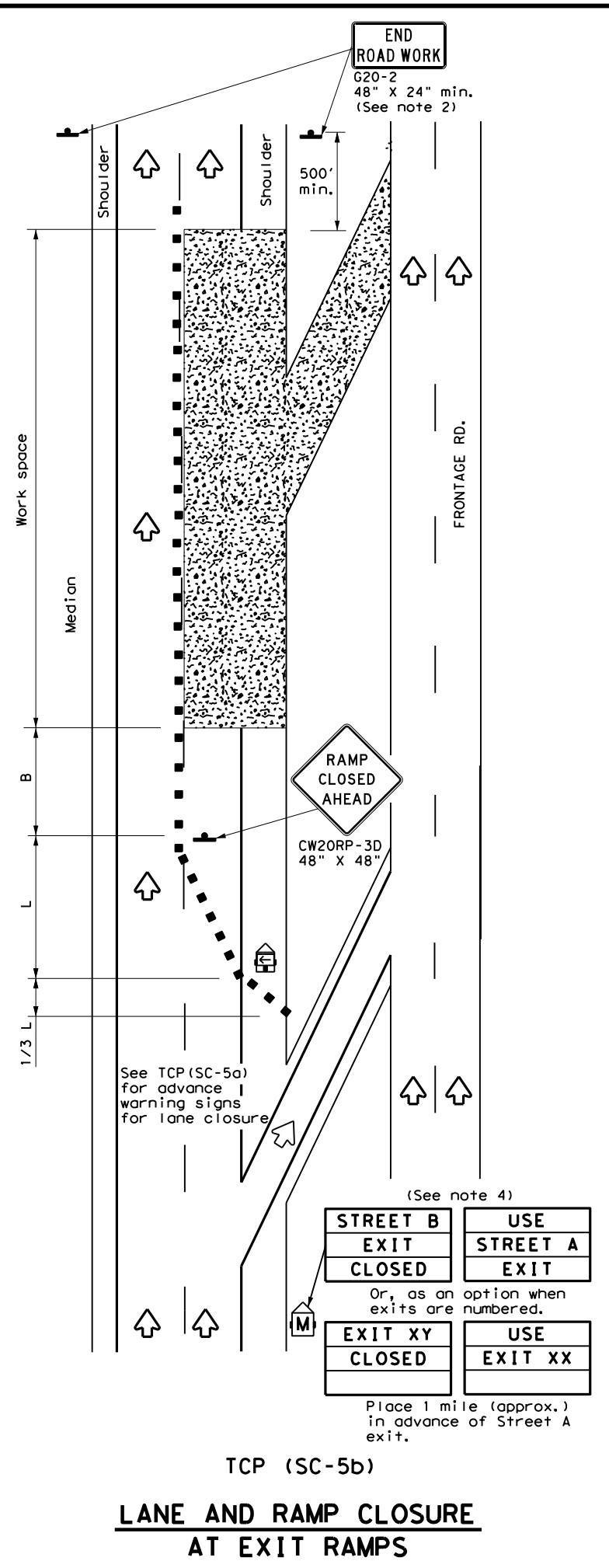
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© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
4-21	DIST	COUNTY	SHEET NO.	
10-22	SJT	MENARD, ETC	30	

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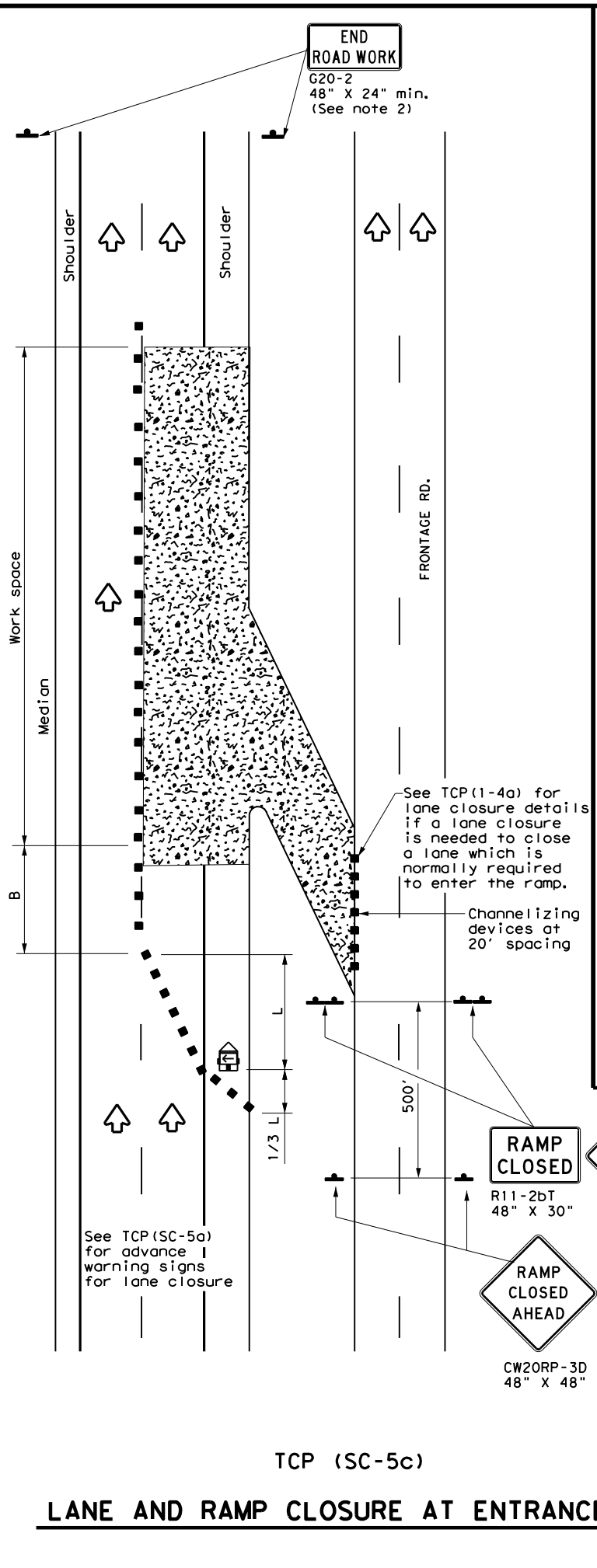
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TCP (SC-5a)
ONE LANE CLOSURE



TCP (SC-5b)
LANE AND RAMP CLOSURE AT EXIT RAMP



TCP (SC-5c)
LANE AND RAMP CLOSURE AT ENTRANCE RAMP

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing Distance "X"	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
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**
- Flags attached to signs where shown, are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except:
 - If project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
 - USE NEXT RAMP (CW25-1T) sign is optional with approval by the Engineer.
 - 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.
 - The PCMS may be omitted if: it is replaced with a RAMP CLOSED AHEAD (CW20RP-3D) sign or when a permanent Dynamic Message Sign (DMS) is available in the appropriate location to display a similar message as called for on the PCMS.
 - Temporary rumble strips are not required on seal coat operations.

SHEET 5 OF 8

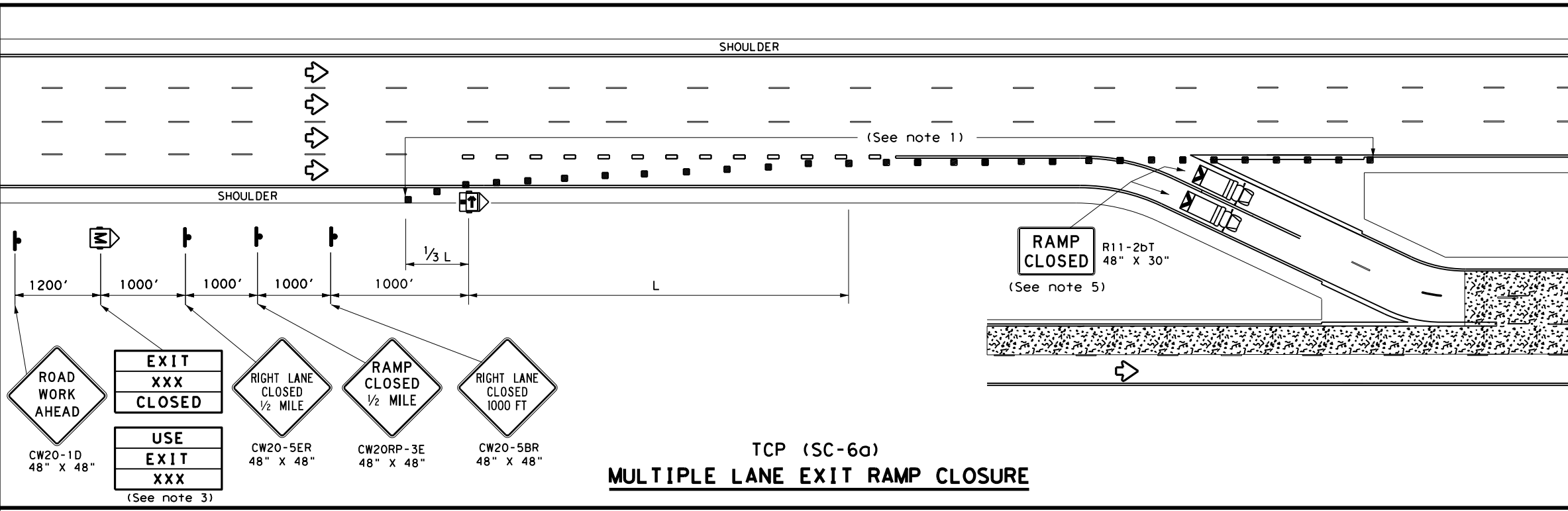
Texas Department of Transportation
 Traffic Safety Division Standard

**TRAFFIC CONTROL PLAN
 SEAL COAT OPERATIONS
 DIVIDED HIGHWAYS**

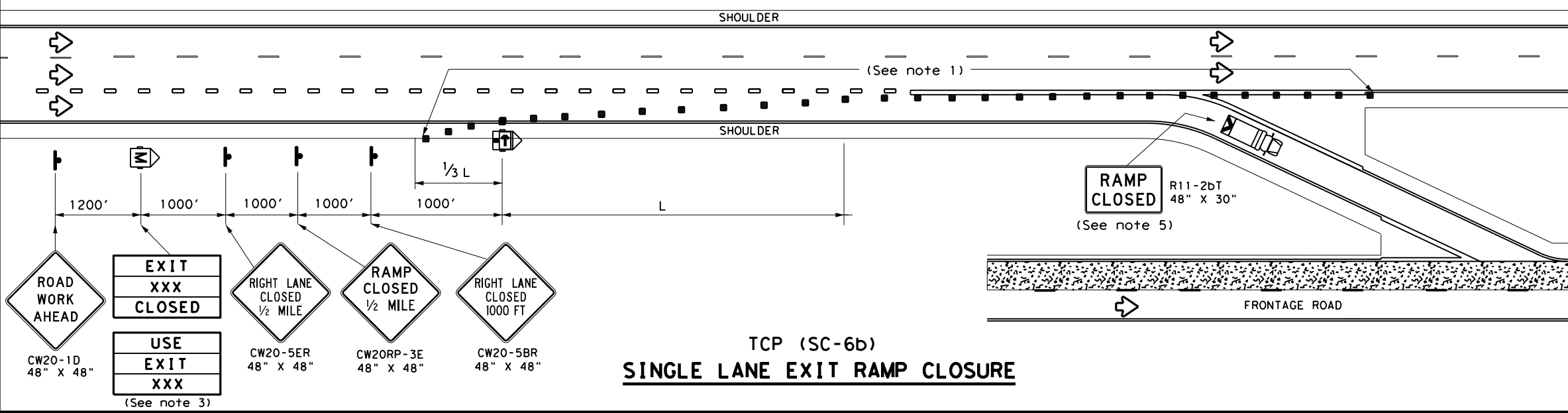
TCP (SC-5) -22

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© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
4-21	DIST	COUNTY	SHEET NO.	
10-22	SJT	MENARD, ETC	31	

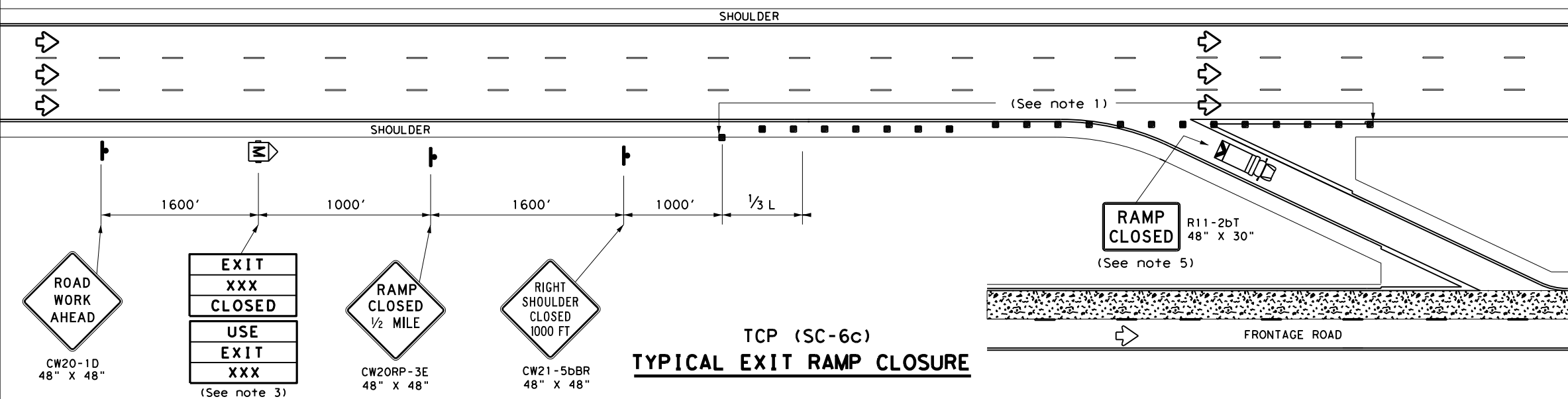
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**TCP (SC-6a)
MULTIPLE LANE EXIT RAMP CLOSURE**



**TCP (SC-6b)
SINGLE LANE EXIT RAMP CLOSURE**



**TCP (SC-6c)
TYPICAL EXIT RAMP CLOSURE**

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

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" **			Suggested Maximum Spacing of Channelizing Devices		Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	
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'
85		850'	935'	1020'	85'	170'	695'

** 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**
- Place channelizing devices at 20' spacings. Tighter spacing allowed as necessary to address field conditions or observed driver behavior.
 - See the Standard Highway Sign Design for Texas (SHSD) for sign details.
 - The PCMS may be omitted if replaced with a RAMP CLOSED AHEAD (CW20RP-3D) sign or when a permanent Dynamic Message Sign (DMS) is available in an appropriate location to display a similar message as called for on the PCMS.
 - When it is determined that a through lane should be closed in addition to the exit ramp, refer to TCP(6-4) for traffic control details.
 - A Truck Mounted Attenuator (TMA), where shown, is REQUIRED and shall have a RAMP CLOSED (R11-2bT) sign mounted on the rear of the truck.

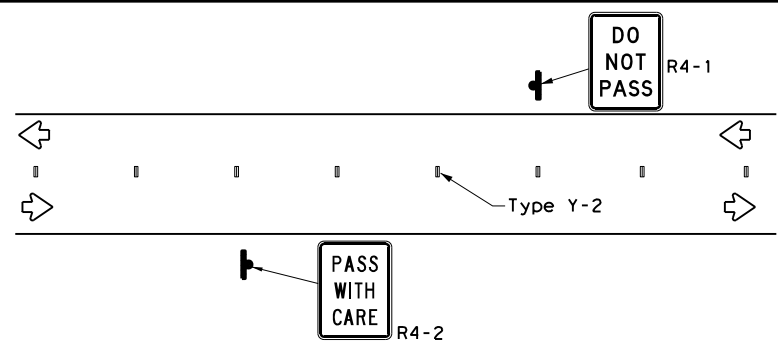
**TRAFFIC CONTROL PLAN
SEAL COAT OPERATIONS
DIVIDED HIGHWAYS**

TCP (SC-6) - 22

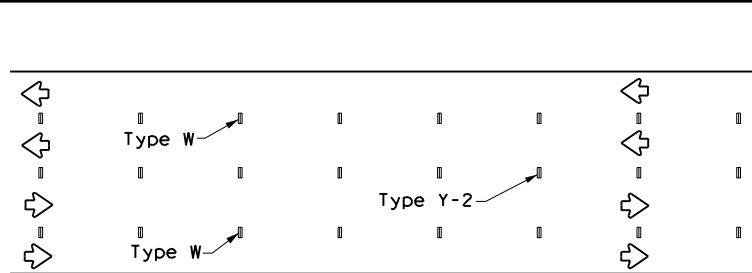
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© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
10-22	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	32	

WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS (TABS)

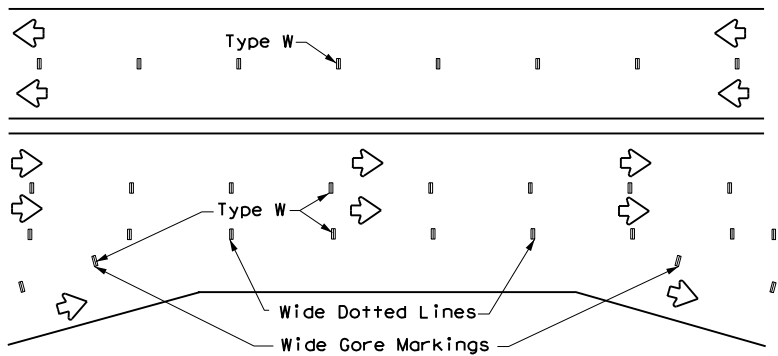
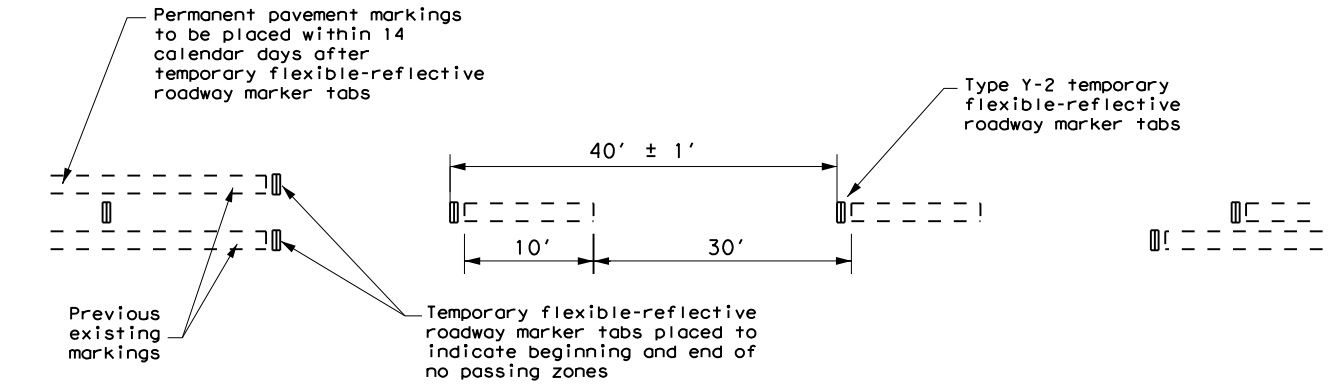
TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS



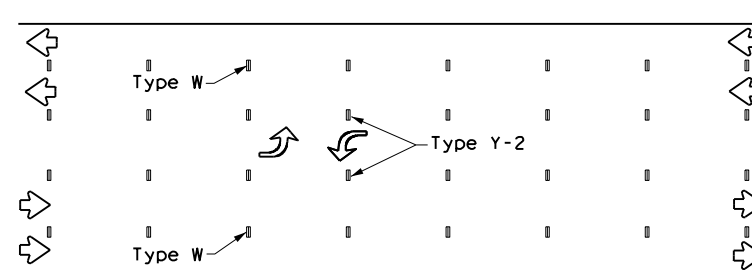
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO LANE TWO-WAY HIGHWAYS



LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



LANE LINES FOR DIVIDED HIGHWAY



TWO-WAY LEFT TURN LANE

TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS

1. Temporary markings for surfacing projects shall be Temporary Flexible-Reflective Roadway Marker Tabs with protective cover unless otherwise approved by the Engineer. Tabs are to be installed to provide true alignment for striping crews or as directed by the Engineer. Tabs will be placed at the spacing indicated. Tabs should be applied to the pavement no more than two days before the surfacing is applied. After the surfacing is rolled and swept, the protective cover over the reflective strip shall be removed.
2. Temporary Flexible-Reflective Roadway Marker Tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with a yellow body); Type Y (one amber reflective surface with yellow body); and Type W (one white or silver reflective surface with white body). Additional details may be found on BC(11).
3. Temporary Flexible-Reflective Roadway Marker Tabs will require normal maintenance replacement when used on roadways with an Average Daily Traffic (ADT) per lane of up to 7500 vehicles with no more than 10% truck mix. When roadway volumes exceed these values, additional maintenance replacement of these devices should be planned for.
4. When dry, tabs shall be visible for a minimum distance of 200 feet during normal daylight hours and when illuminated by automobile low-beam head light at night, unless sight distance is restricted by roadway geometrics.
5. No two consecutive tabs nor four tabs per 1000 feet of line shall be missing or fail to meet the visual performance requirements of Note 4.
6. Tabs shall meet requirements of Departmental Material Specification DMS-8242.
7. Tabs shall NOT be used to simulate edge lines.

NOTES:

1. The Contractor will be responsible for maintaining short term pavement markings until permanent pavement markings are in place. When the Contractor is responsible for placement of permanent pavement markings, no segment of roadway shall remain without permanent pavement markings for a period greater than 14 calendar days unless weather conditions prohibit placement. Permanent pavement markings shall be placed as soon as weather permits.
2. For exit gores where a lane is being dropped, place wide gore markings or retroreflective channelizing devices to guide motorist through the exit. If channelizing devices are to be used it should be noted elsewhere in the plans. One piece cones are NOT acceptable.
3. Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as 1/4 inch, unless otherwise noted.

DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) & MATERIAL PRODUCER LISTS (MPL)

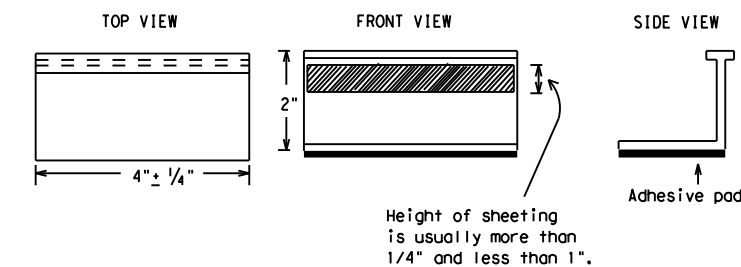
1. DMSs referenced above may be found along with embedded links to their respective MPLs at the following website: <http://www.txdot.gov>

SHEET 7 OF 8

WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS (TABS)

SOLID LINES	DOUBLE NO-PASSING LINE	
	SINGLE NO-PASSING LINE or CHANNELIZATION LINE	
	8" WIDE SOLID LINE	
BROKEN LINES (FOR CENTER LINE OR LANE LINE)		
WIDE DOTTED LINES (FOR LANE DROP LINES)		
WIDE GORE MARKINGS		

TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS



TEMPORARY PAVEMENT MARKINGS FOR SEAL COAT OPERATIONS

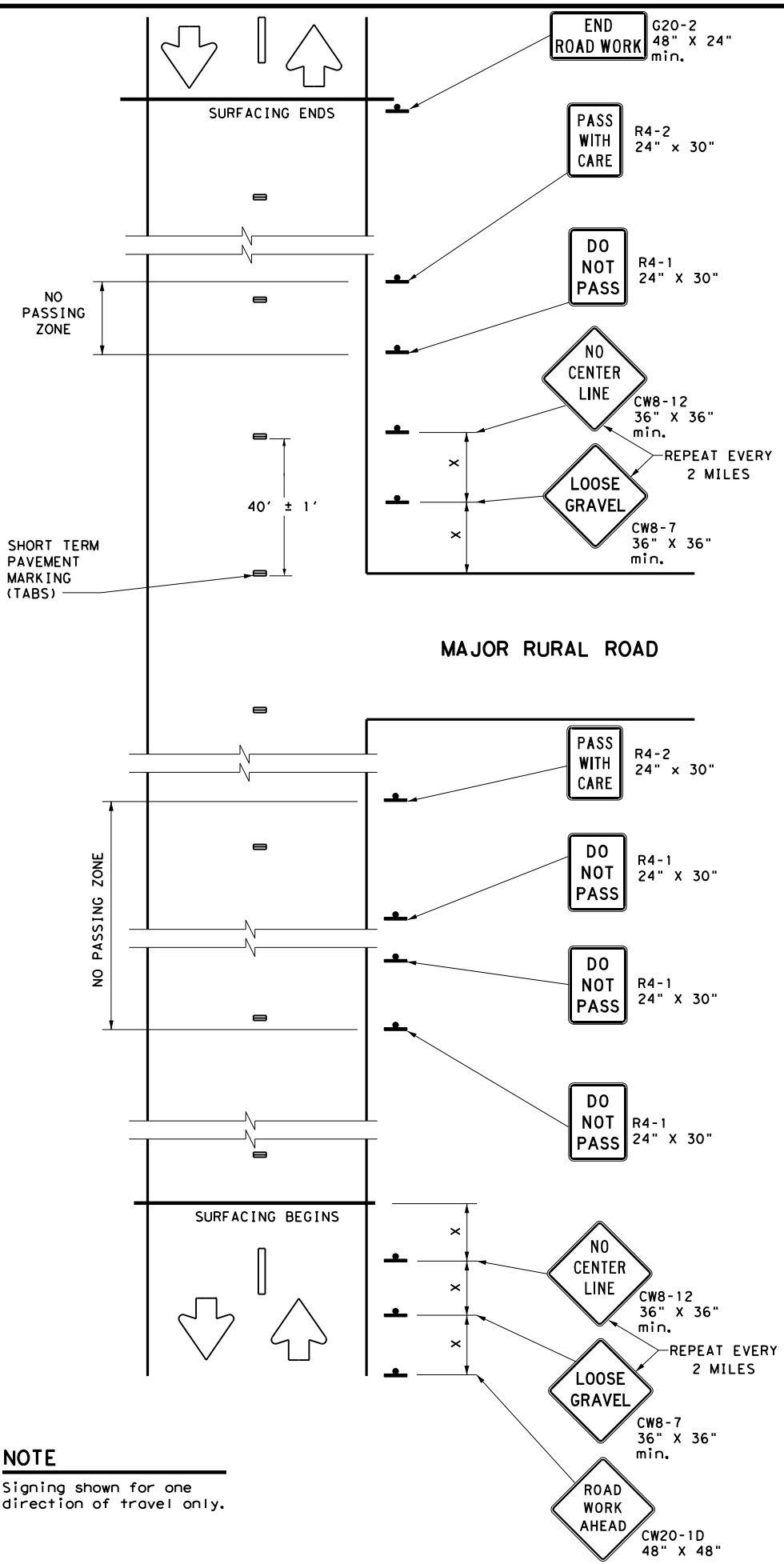
TCP (SC-7) -22

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© TxDOT	October 2022	CONT	SECT	JOB	HIGHWAY				
REVISIONS		0035	05	062, ETC	US 83, ETC				
	4-21	DIST	COUNTY	SHEET NO.					
	10-22	SJT	MENARD, ETC	33					

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NOTE
 Signing shown for one direction of travel only.

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS

DO NOT PASS (R4-1) SIGN and NO-PASSING ZONES

- A. Prior to the beginning of construction, all currently striped no-passing zones shall be signed with the DO NOT PASS (R4-1) signs and PASS WITH CARE (R4-2) signs placed at the beginning and end of each zone for each direction of travel, except as otherwise provided herein. Signs marking these individual no-passing zones need not be covered prior to construction if the signs supplement the existing pavement markings.
- B. At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-1TP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is a considerable distance between no-passing zones, the end of the no-passing zone may be signed with a PASS WITH CARE sign and a NEXT XX MILES plaque.
- C. Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshields and lights. The DO NOT PASS sign and NEXT XX MILES plaque should be used and repeated as often as necessary for this purpose. Where several existing zones are to be combined into one individual no-passing zone, the sign at the beginning of the zone should be covered until the surfacing operation has passed this location so as not to have the DO NOT PASS sign conflict with the existing pavement markings. Also, unless one day of operation completes the entire length of such combined zones, appropriate DO NOT PASS and PASS WITH CARE signs should be placed at the beginning and end of the no-passing zones where the surfacing operation has stopped for the day.
- D. DO NOT PASS and PASS WITH CARE signs are to remain in place until permanent pavement markings are installed.

NO CENTER LINE (CW8-12) SIGN

- A. Center line markings are yellow pavement markings that delineate the separation between lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line markings.
- B. At the time construction activity obliterates the existing center line markings (low volume roads may not have an existing center line), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately two mile intervals within the work area, beyond major intersections, and other locations deemed necessary by the Engineer.
- C. The NO CENTER LINE signs are to remain in place until permanent pavement markings are installed.

LOOSE GRAVEL (CW8-7) SIGN

- A. When construction begins, a LOOSE GRAVEL (CW8-7) sign should be erected at each end of the work area and repeated at intervals of approximately two miles in rural areas and closer in urban areas.
- B. The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

COORDINATION OF SIGN LOCATIONS

- A. The location of warning signs at the beginning and end of a work area are to be coordinated with other signing typically shown on the Barricade and Construction Standards for project limits to ensure adequate sign spacing.
- B. Where possible, the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed:
 - a.) In the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) sign and the TRAFFIC FINES DOUBLE (R20-5T) sign; and
 - b.) One "X" sign spacing prior to the CONTRACTOR (G20-6T) sign typically located at or near the limits of surfacing.
 LOOSE GRAVEL and NO CENTER LINE sign placements will then be repeated as described above.

Posted Speed *	Minimum Sign Spacing Distance "X"
30	120'
35	160'
40	240'
45	320'
50	400'
55	500'
60	600'
65	700'
70	800'
75	900'

* Conventional Roads Only

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

GENERAL NOTES

1. Surfacing operations that cover or obliterate existing pavement markings must first have the passing zones clearly marked with tabs as well as having any of the traffic control devices detailed on this sheet furnished and erected as directed by the Engineer.
2. The devices shown on this sheet are to be used to supplement those required by the BC Standards or others required elsewhere in the plans.
3. Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Short Duration / Short Term Stationary Work Zone Sign Supports.
4. When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
5. Signs on divided highways, freeways and expressways should be placed on both right and left sides of the roadway based on roadway conditions as directed by the Engineer.

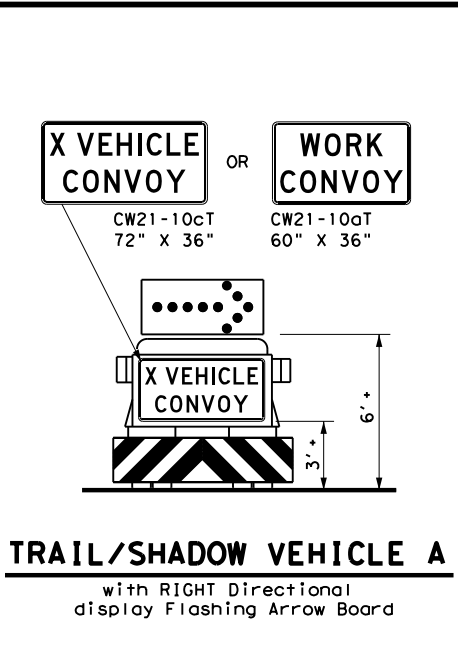
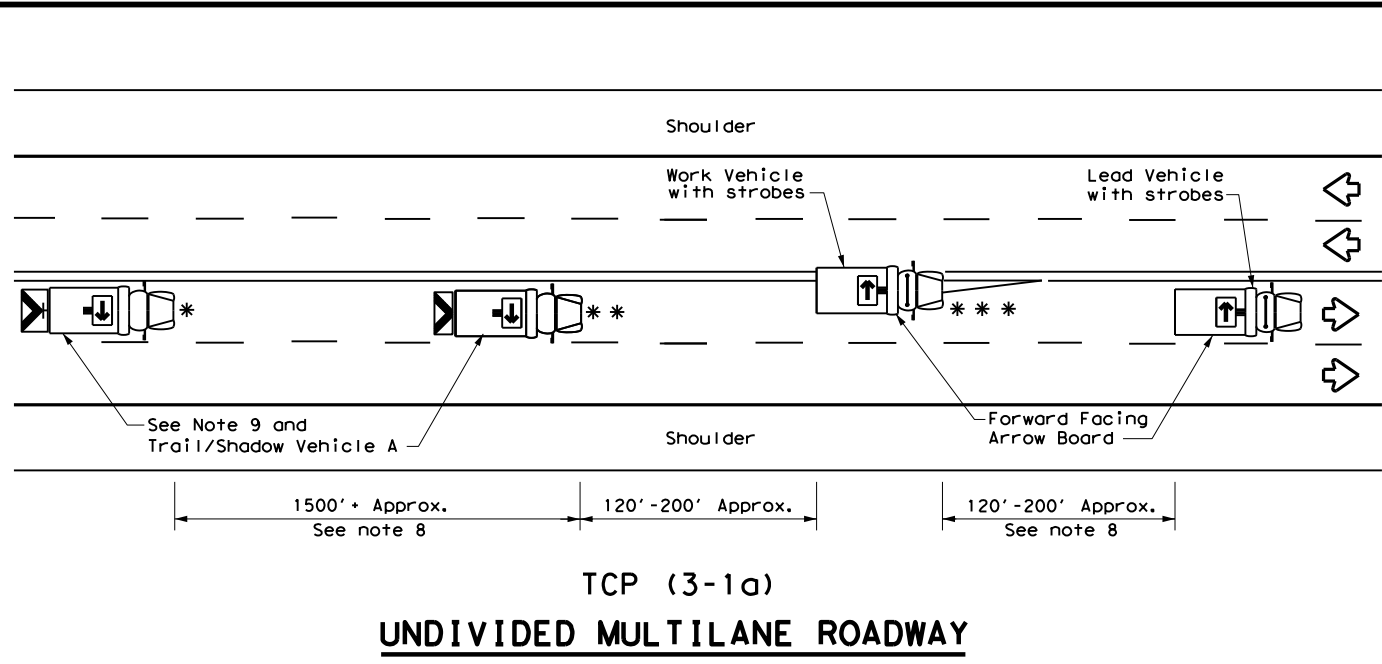
SHEET 8 OF 8



TRAFFIC CONTROL DETAILS FOR SEAL COAT OPERATIONS
TCP (SC-8) -22

FILE: tcpsc-8-22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	
4-21	DIST	COUNTY	SHEET NO.	
10-22	SJT	MENARD, ETC	34	

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 DATE: 10/3/2024 8:58:29 AM
 FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/2 - TCP/TCP(3-1)-13.dgn

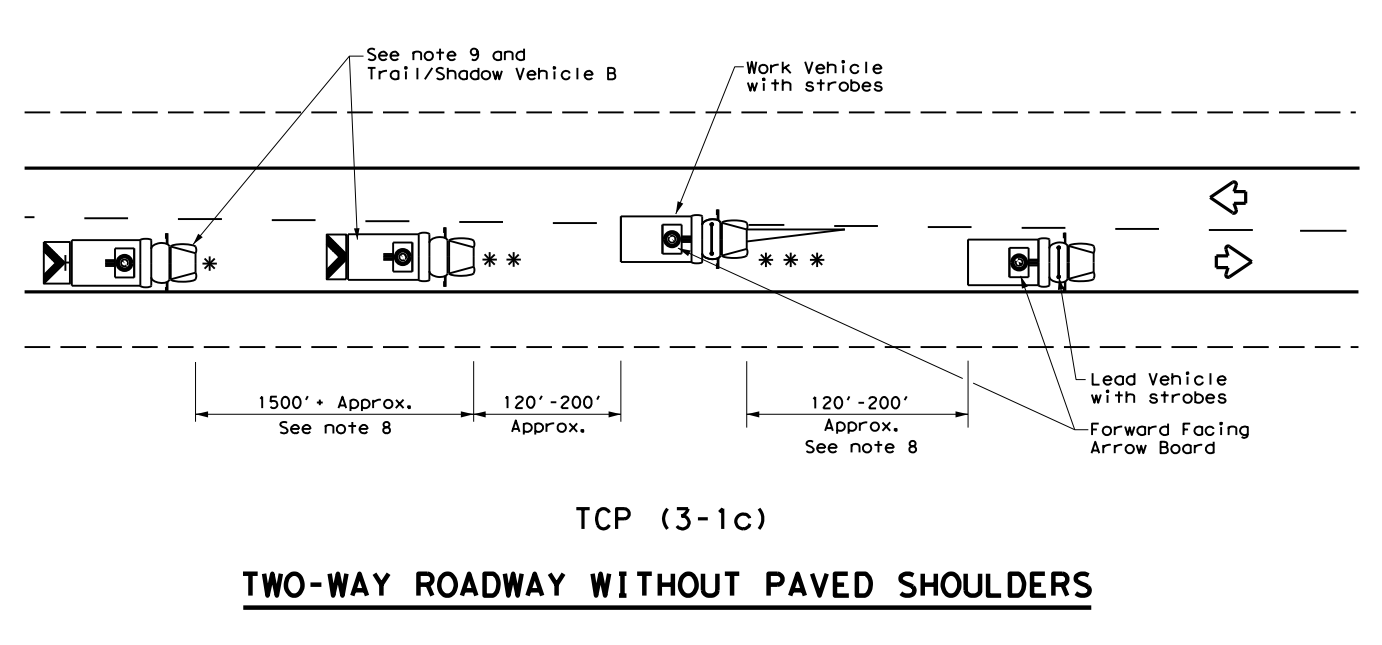
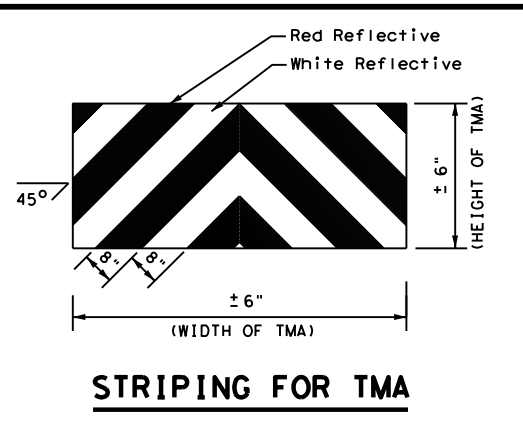
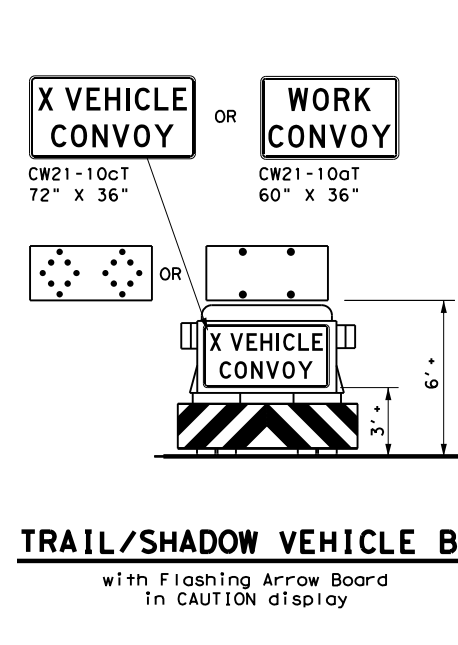
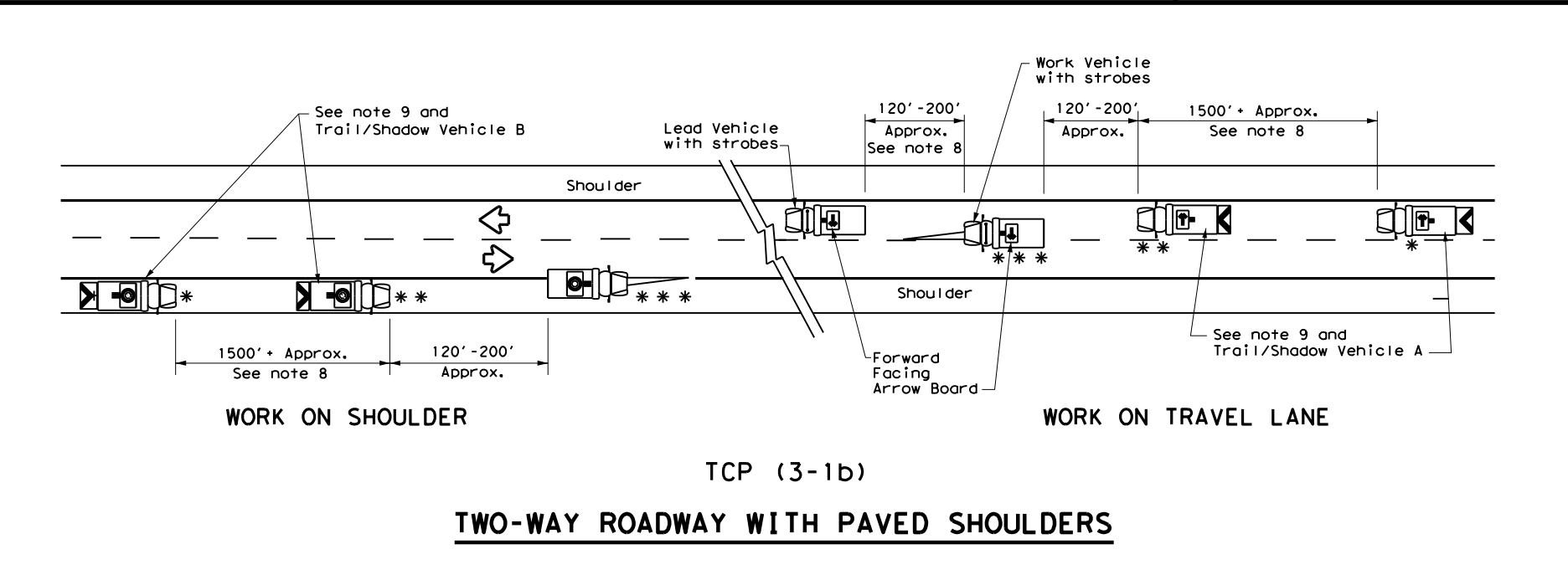


LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

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.



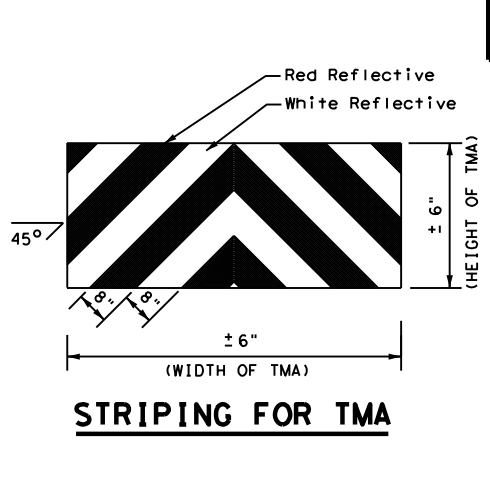
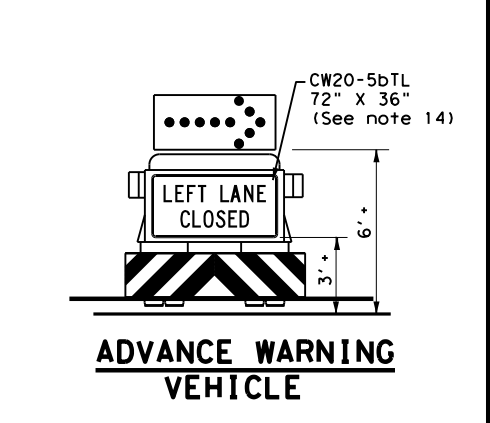
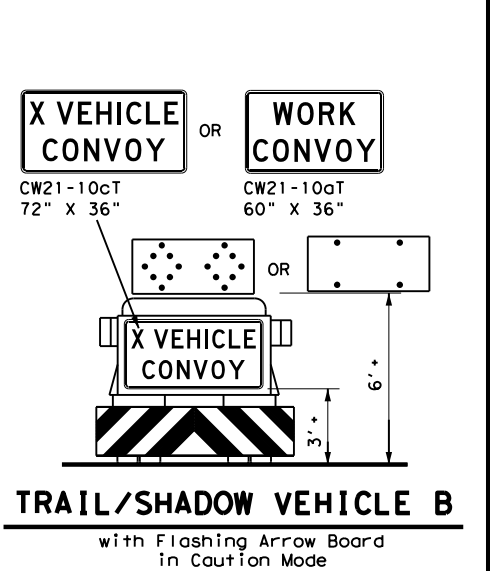
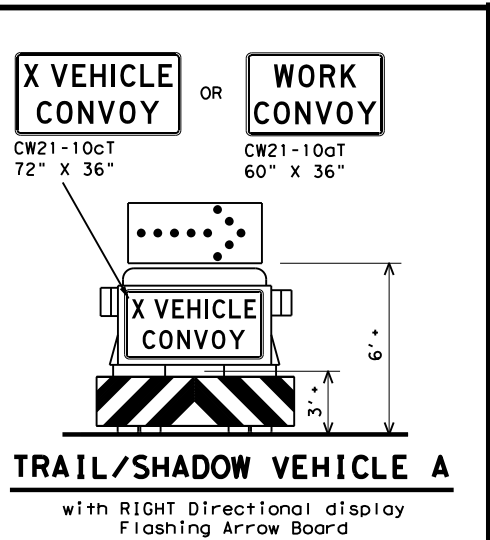
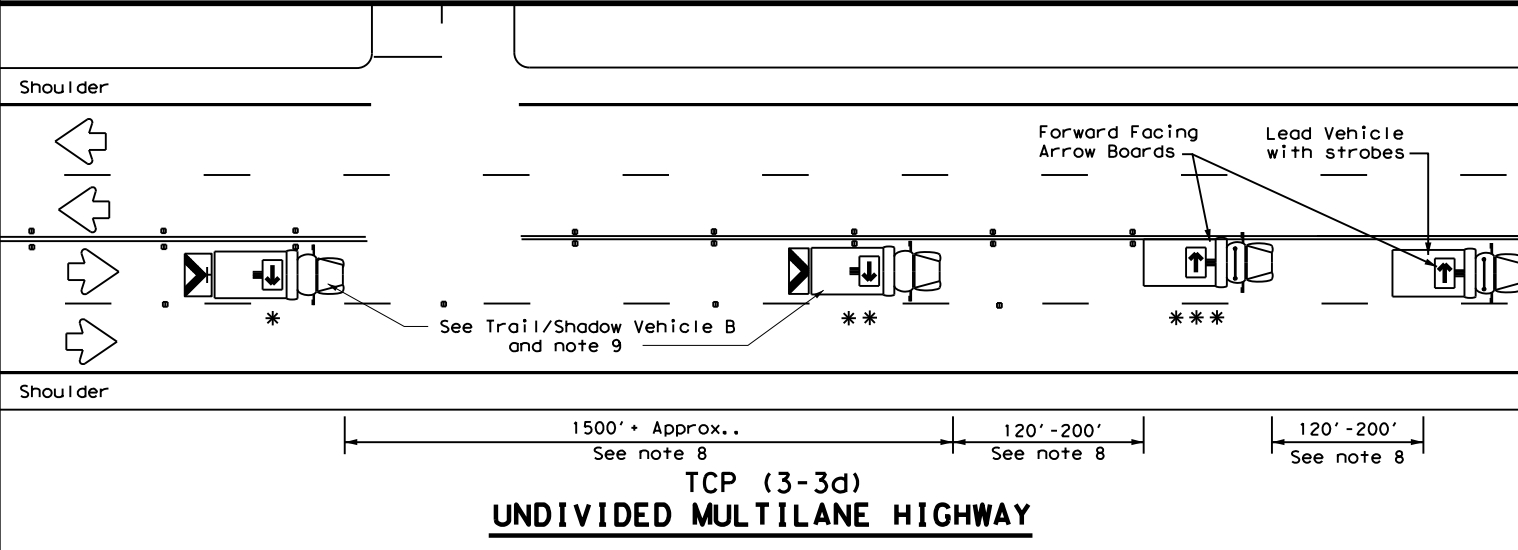
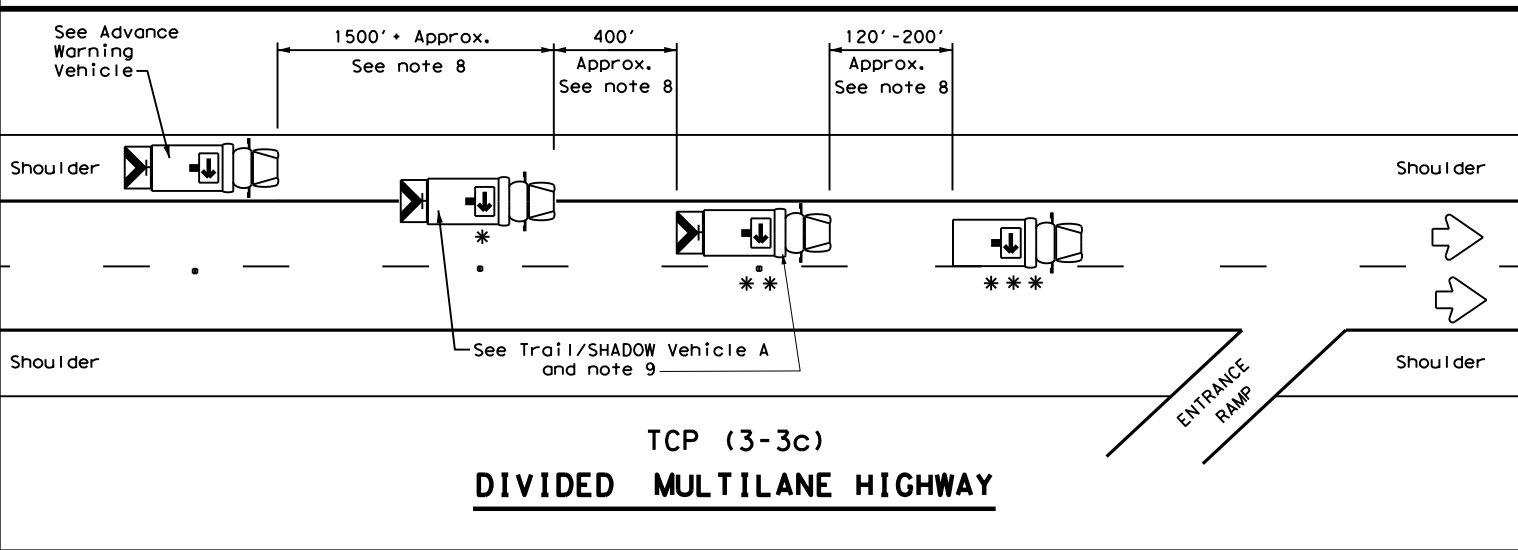
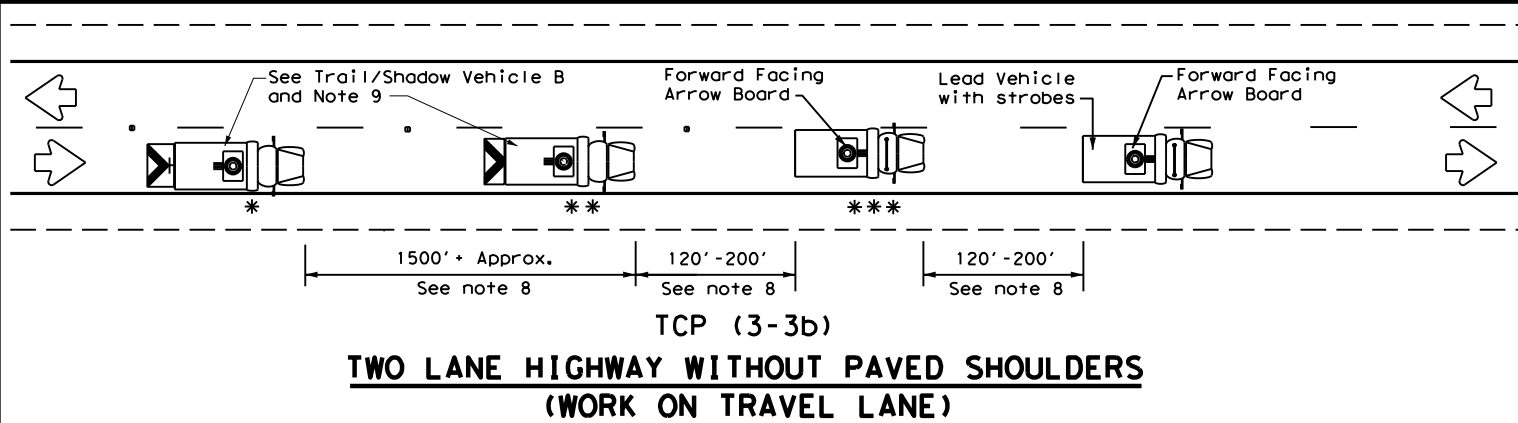
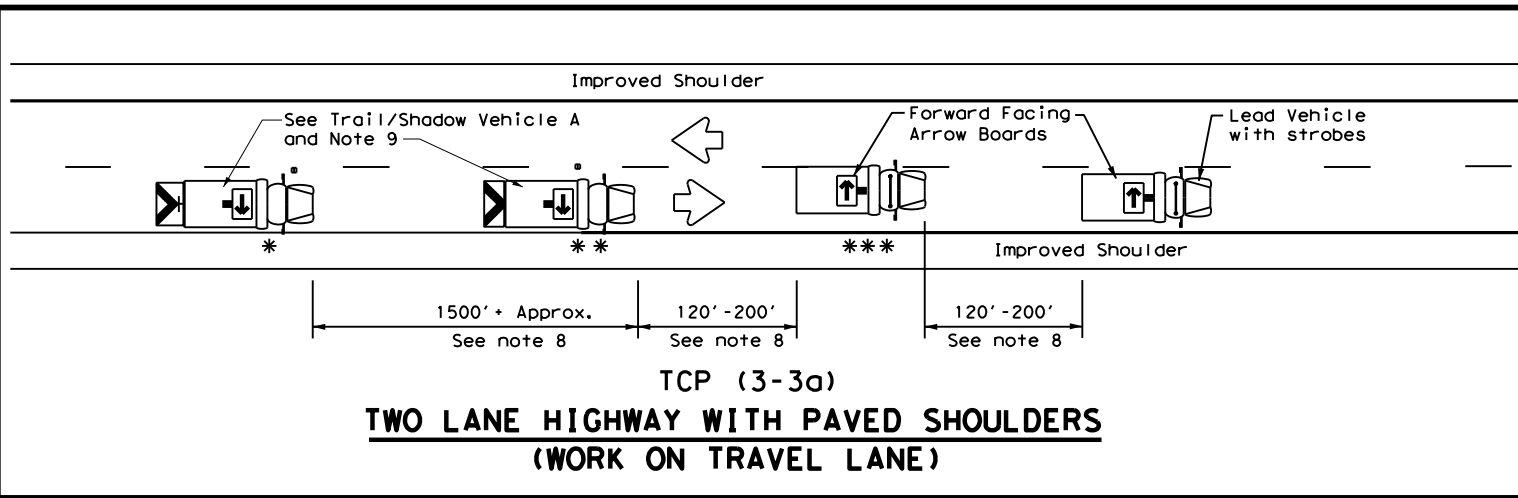
Texas Department of Transportation
 Traffic Operations Division Standard

**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		0035	05	062, ETC	US 83, ETC				
2-94	4-98								
8-95	7-13								
1-97									
		DIST:	COUNTY:		SHEET NO.				
		SJT	MENARD, ETC		35				

DATE: 10/3/2024 8:58:41 AM
 FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/2 - TCP/TCP(3-3)-14.dgn
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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

- 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.
- 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.
- The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE, ADVANCE WARNING and TRAIL VEHICLE are required.
- 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.
- 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.
- Each vehicle shall have two-way radio communication capability.
- When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
- 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.
- 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.
- 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.
- A double arrow shall not be displayed on the arrow board on the Advance Warning Vehicle.
- For divided highways with three or four lanes in each direction, use TCP(3-2).
- Standard diamond shape versions of the CW20-5 series signs may be used as an option if the rectangular signs shown are not available.
- The Advance Warning Vehicle may straddle the edgeline when Shoulder width makes it necessary.
- 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.

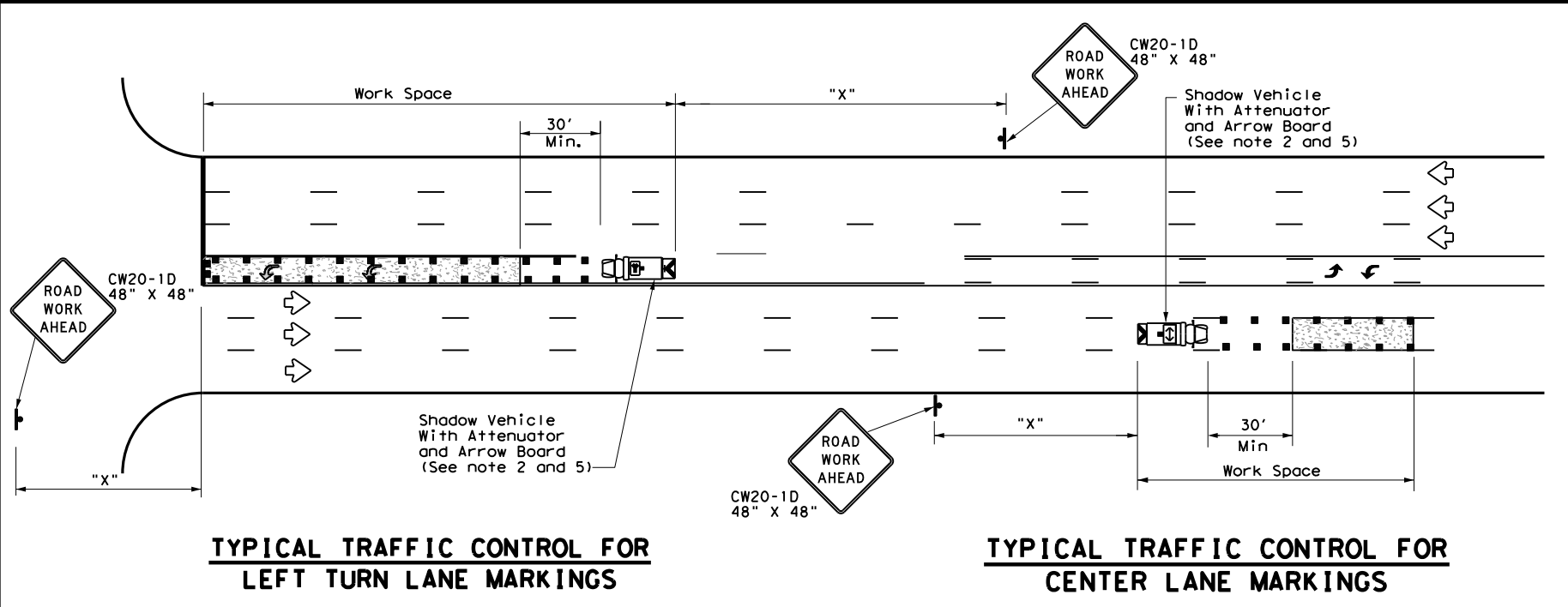
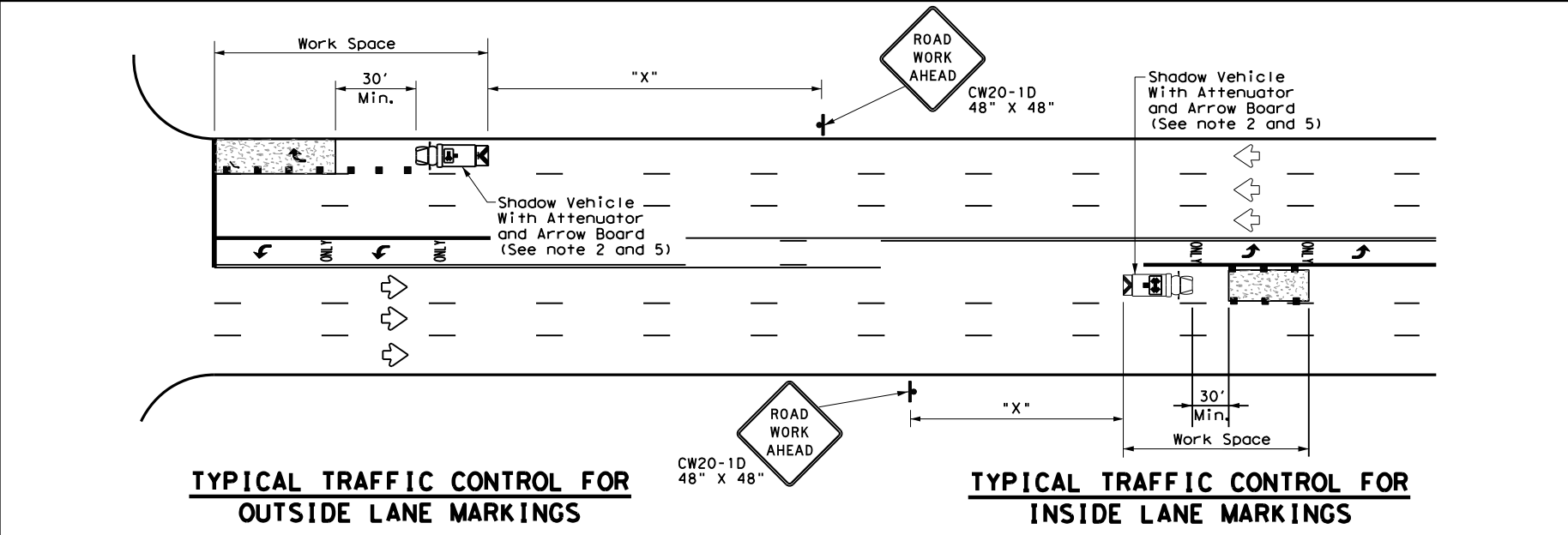
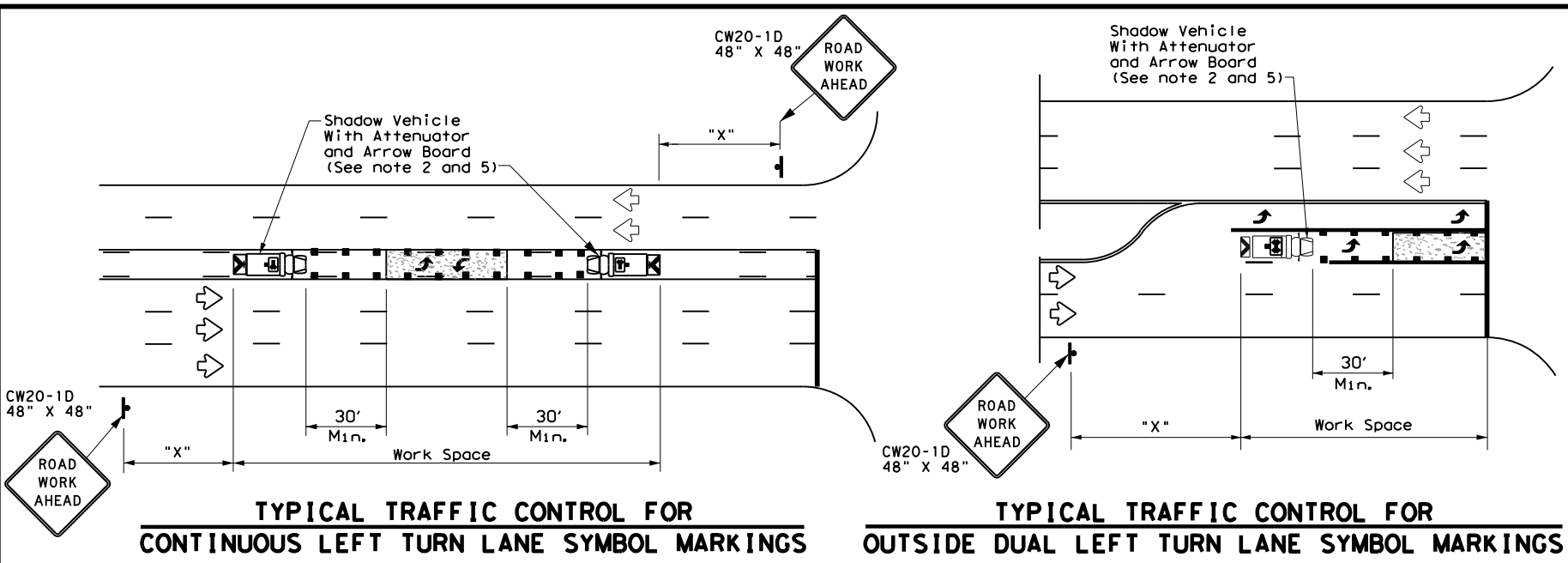
Traffic Operations Division Standard

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

FILE: tcp3-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	
2-94 4-98				
8-95 7-13				
1-97 7-14				
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	36	

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 FILE: \\txdot.projectwiseonline.com:TXDOT12\Documents\07 - SJT\Design Projects\003505062\4 - Design\Plan Set\2 - TCP\TCP(3-4)-13.dgn



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

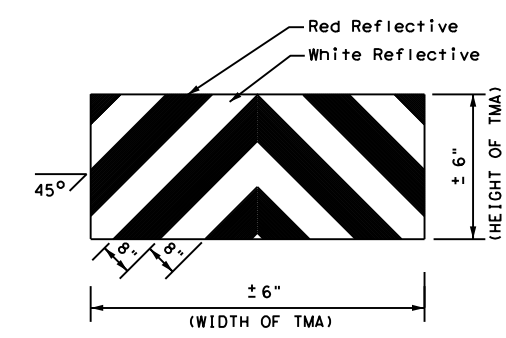
Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS ² / 60	150'	165'	180'	30'	60'	120'	90'
35		205'	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
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	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	37	

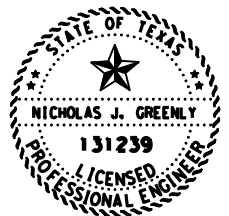
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DATE: 10/03/2024 02:52 PM
 FILE: FILE:

SEAL COAT MATERIAL SELECTION TABLE		
TIER I: HEAVY USE - USE ONLY THESE MATERIALS FROM TIER I.		
TYPE	ASPHALT CEMENT (AC)	ASPHALT RUBBER (A-R)
ASPHALT	<input checked="" type="checkbox"/> AC-20-5TR <input checked="" type="checkbox"/> AC-20XP <input type="checkbox"/> AC-15P	<input type="checkbox"/> A-R TY II <input type="checkbox"/> A-R TY III
TIER II: MODERATE USE - USE MATERIALS FROM TIER II OR ANY MATERIALS SELECTED FROM TIER I.		
TYPE	ASPHALT CEMENT (AC)	ASPHALT EMULSION
ASPHALT	<input type="checkbox"/> AC-10-2TR <input type="checkbox"/> AC-15P <input type="checkbox"/> AC-20XP	<input type="checkbox"/> CHFRS-2P <input type="checkbox"/> HFRS-2P <input type="checkbox"/> CRS-2P
TIER SPL: SPECIAL - USE ONLY THESE MATERIALS IDENTIFIED IN TIER SPL.		
TYPE	ASPHALT CEMENT (AC)	ASPHALT EMULSION
ASPHALT	<input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____	<input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
DISTRICTWIDE SEAL COAT APPLICATION SEASONS; REFER TO ITEM 316 FOR TEMPERATURE AND WEATHER RESTRICTIONS.		
SEASON 1:	AMA, CHS, LBB	MAY 15 TO AUG 31
SEASON 2:	ABL, ATL, BWD, DAL, FTW, LFK, ODA, PAR, SJT, TYL, WAC, WFS	MAY 1 TO AUG 31
SEASON 3:	AUS, BMT, BRY, ELP, HOU, SAT, YKM	MAY 1 TO SEP 15
SEASON 4:	CRP, LRD, PHR	APR 1 TO SEPT 30

INSTRUCTIONS TO THE CONTRACTOR:

1. PROVIDE MATERIALS ACCORDING TO THE ALTERNATES SELECTED FOR THE ROADWAY TIER DESIGNATIONS SPECIFIED AT VARIOUS ROADWAY LOCATIONS SHOWN ON THE PLANS.
2. ALTERNATELY, SUPPLY SELECTED BINDERS FROM A HIGHER TIER, BUT ONLY IF THE TYPE OF MATERIAL IS ALLOWED FOR THE DESIGNATED TIER; PAYMENT WILL ONLY BE MADE FOR THE TIER DESIGNATED FOR THE PAVEMENT.
3. SUPPLY THE AGGREGATE TYPE, GRADE AND SURFACE AGGREGATE CLASS SHOWN ON THE PLANS.
4. ADHERE TO THE APPLICATION SEASON FOR THE APPLICABLE DISTRICT.
5. SEAL COATS ON ROUTINE MAINTENANCE CONTRACTS MUST BE COMPLETED BY AUGUST 31 UNLESS OTHERWISE SHOWN ON THE PLANS.
6. TIER SPL TO BE USED FOR DISTRICTS TO CREATE MATERIAL SELECTION OPTIONS THAT ARE DISTRICT OR PROJECT SPECIFIC.



Nick Greenly P.E.

10/03/2024

SEAL COAT MATERIAL SELECTION TABLE

SCTABLE

FILE: sctable.dgn	DN: CES	CK: KM	DW:	CK:
© TxDOT: Sept 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	38	

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

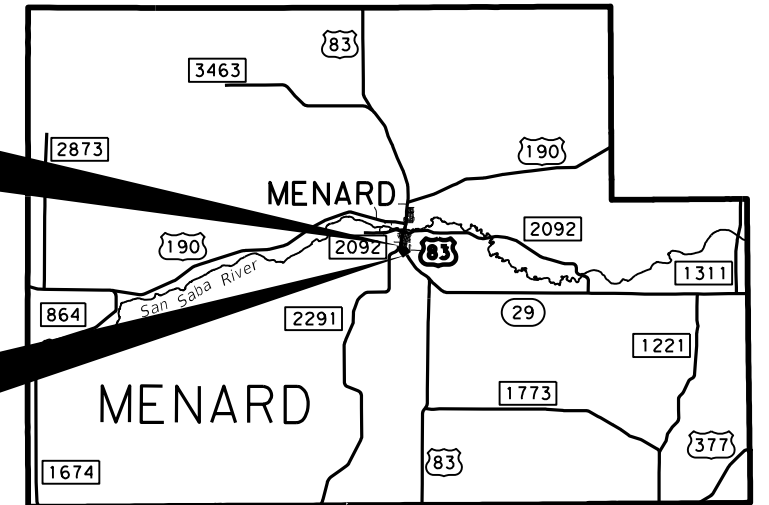
County Menard
 Ctl-Sec-Job 0035-05-062
 Highway US 83
 Length (MI) 0.599
 Funct. Class Minor Arterial
 Limits From RM 2291
 Limits To Menard City Limits
 Current ADT 6,652

GENERAL NOTES

1. Begin Seal Coat at pavement joint just before RM 2291.
2. Seal coat full roadway width. 12 LF lanes with varied shoulder widths. See Summary of Surfacing Table.
3. End Seal coat 0.599 Miles South of RM 2291.

BEGIN CONSTRUCTION
 TRM 446+1.041
 DFO 427.067
 MILE POINT 12.991
 LATITUDE 30.907458°
 LONGITUDE -99.788315°

END CONSTRUCTION
 TRM 446+1.640
 DFO 427.666
 MILE POINT 13.590
 LATITUDE 30.899908°
 LONGITUDE -99.783617°



SITE LOCATION

DATE: 10/2/2024 4:34:27 PM FILE: p:\t\tdot\project\wiseonline.com\TXDOT12\Documents\07 - SJT\Design Projects\003505062\4 - Design\Plan Set\3. Roadway\SEAL COAT SITE 01.dgn

(0+00 = TRM 446+1.041)

SUMMARY OF SURFACING							
STATION		LENGTH	WIDTH		AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7148 AGGR (TY-PD, GR-4) (SAC-A)
FROM	TO	LF	* AVG	LF	SY	GAL 0.40 GAL/SY	CY 130 SY/CY
0+00	9+30	930	*	58	5,994	2,398	47
9+30	31+63	2233		48	11,910	4,764	92
TOTALS					17,904	7,162	139

SUMMARY OF TCP	
503-7001 PORTABLE CHANGEABLE MESSAGE SIGN	505-7003 TMA (MOBILE OPERATION)
DAY	DAY
3	1

PAVEMENT MARKINGS QUANTITY SUMMARY								
662-7112	662-7114	666-7172	666-7175	666-7179	666-7213	672-7002	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (BRK)	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 8" (SLD)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	EA	LF	LF	LF	LF	EA	EA	LF
80	73	800	5,666	26	5,650	40	73	11,356

0 5 10
SCALE IN MILES

NICHOLAS J. GREENLY
131239
LICENSED PROFESSIONAL ENGINEER

Nick Greenly P.E.

10/03/2024

Texas Department of Transportation
San Angelo District

SEAL COAT SITE 1
US 83

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY		SHEET NO.
	SJT	MENARD, ETC		39

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

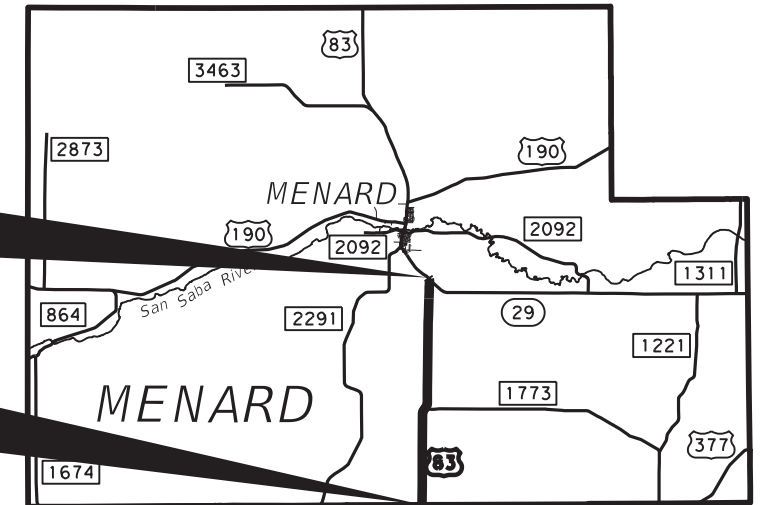
County Menard
 Ctl-Sec-Job 0035-06-034
 Highway US 83
 Length (MI) 11.829
 Funct. Class Minor Arterial
 Limits From SH 29
 Limits To Kimble CL
 Current ADT 3,938

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with various shoulder widths.
2. Begin seal coat at ramp gores. See drawing on next sheet.
3. End Seal coat at the Kimble County Line.

BEGIN CONSTRUCTION
 TRM 448+1.332
 DFO 429.412
 MILE POINT 25.153
 LATITUDE 30.881394°
 LONGITUDE -99.764069°

END CONSTRUCTION
 TRM 460+1.110
 DFO 441.241
 MILE POINT 36.982
 LATITUDE 30.710756°
 LONGITUDE -99.771216°



SITE LOCATION

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7112	662-7114	666-7172	666-7175	666-7179	666-7211	666-7212	666-7213	666-7214	668-7091	668-7100	668-7103	668-7111	672-7002	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (BRK)	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 8" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (DOT)	RE PM TY II (Y) 6" (SLD)	RE PM TY II (Y) 8" (SLD)	PREFAB PM TY C (W) (ARROW)	PREFAB PM TY C (W) (LN REDUCT ARROW)	PREFAB PM TY C (W) (WORD)	PREFAB PM TY C (W) (36") (YLD TRI)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	LF
621	1,591	6,210	126,159	1,599	10,190	1,374	63,143	4,425	2	8	2	7	366	1,365	199,492

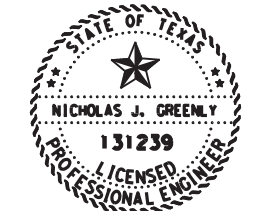
(0+00 = TRM 448+1.332)

SUMMARY OF SURFACING

STATION		LENGTH	WIDTH		AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7148 AGGR (TY-PD, GR-4) (SAC-A)	
FROM	TO	LF	* AVG	LF	SY	GAL	0.40 GAL/SY	CY	130 SY/CY
Interchange US 83 and SH 29					45,920	18,368		354	
25+55	207+45	18190		44	88,929	35,572		685	
207+45	216+50	905	*	50	5,028	2,012		39	
216+50	275+46	5896		56	36,687	14,675		283	
275+46	284+86	940	*	50	5,223	2,090		41	
284+86	332+86	4,800		44	23,467	9,387		181	
332+86	343+46	1,060		42	4,947	1,979		39	
343+46	371+92	2,846	*	46	14,547	5,819		112	
371+92	459+47	8,755		42	40,857	16,343		315	
459+47	468+39	892	*	49	4,857	1,943		38	
468+39	530+17	6,178		56	38,441	15,377		296	
530+17	538+93	876	*	49	4,770	1,908		37	
538+93	630+17	9,124		42	42,579	17,032		328	
TOTALS					356,252	142,505		2,748	

SUMMARY OF TCP

503-7001	505-7003
PORTABLE CHANGEABLE MESSAGE SIGN	TMA (MOBILE OPERATION)
DAY	DAY
8	3



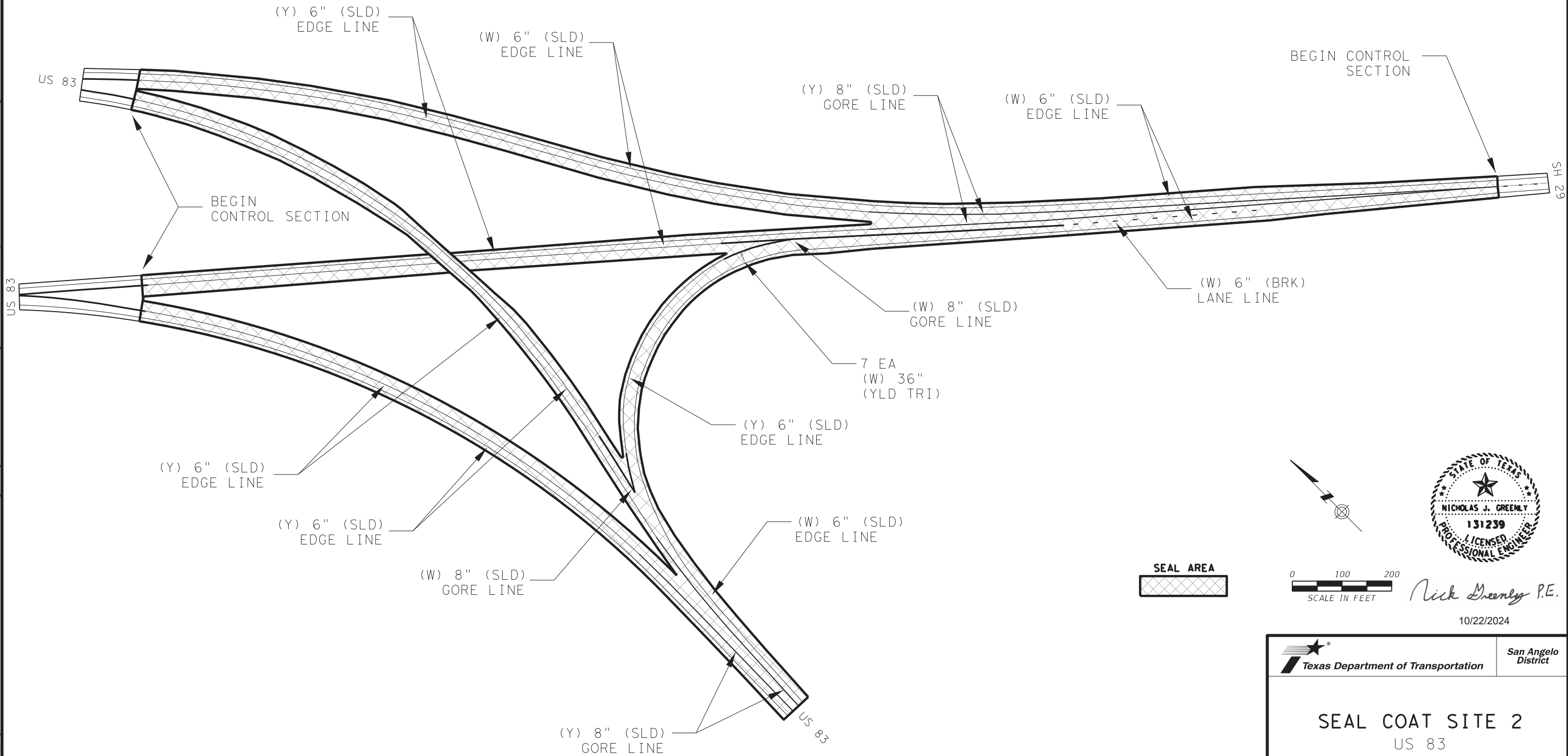
Nick Greenly P.E.

10/22/2024

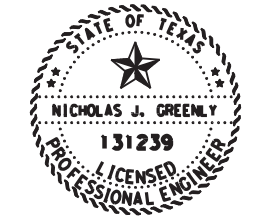
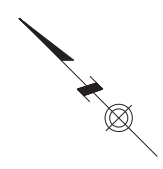
		San Angelo District	
<h2>SEAL COAT SITE 2</h2> <h3>US 83</h3>			
SHEET 1 OF 2		SCALE: 1"=10 MILES	
© TXDOT 2024	CONT	SECT	JOB
REVISIONS	0035 05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.
	SJT	MENARD, ETC	40

DATE: 10/18/2024 4:23:13 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE_02 (1 of 2).dgn

DATE: 10/18/2024 4:23:26 PM
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US 83 INTERCHANGE WITH SH 29



Nick Greenly P.E.

10/22/2024



SEAL COAT SITE 2
 US 83

SHEET 2 OF 2 SCALE 1"=200'

©TxDOT 2024	CONT	SECT	JOB	HIGHWAY
SHEET ISSUED OR LAST REVISED	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	41	

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

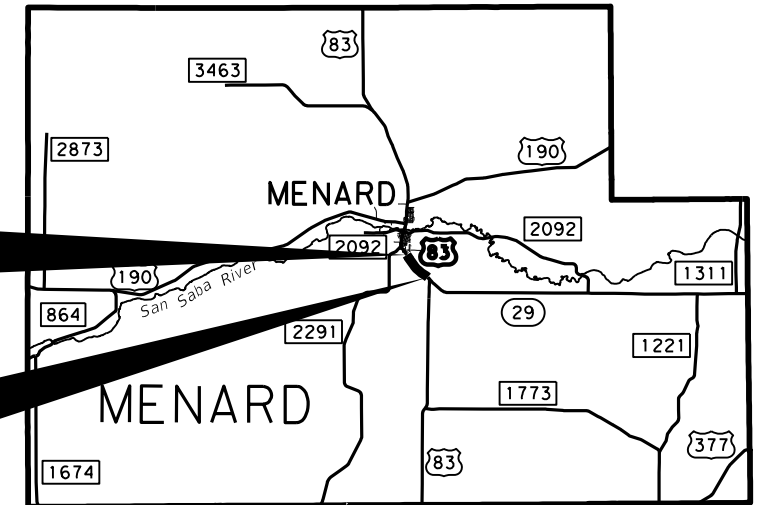
County Menard
 Ctl-Sec-Job 0396-01-044
 Highway US 83
 Length (MI) 1.746
 Funct. Class Minor Arterial
 Limits From 0.599 MI S of RM 2291
 Limits To SH 29
 Current ADT 4,936

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varied shoulder widths.
2. See Summary of Surfacing Table.
3. End Seal coat at US 83 and SH 29 gores. See drawing on next sheet.

BEGIN CONSTRUCTION
 TRM 446+1.640
 DFO 427.666
 MILE POINT 23.419
 LATITUDE 30.899908°
 LONGITUDE -99.783617°

END CONSTRUCTION
 TRM 448+1.332
 DFO 429.412
 MILE POINT 25.165
 LATITUDE 30.881396°
 LONGITUDE -99.764070°



SITE LOCATION

(0+00 = TRM 446+1.640)

SUMMARY OF SURFACING									
STATION		LENGTH	WIDTH		AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7148 AGGR (TY-PD, GR-4) (SAC-A)	
FROM	TO	LF	* AVG	LF	SY	GAL	0.40 GAL/SY	CY	130 SY/CY
0+00	53+91	5391		47	28,153	11,262		217	
53+91	62+83	892	*	70	6,938	2,776		54	
Interchange to SH 29					27,972	11,189		216	
TOTALS					63,063	25,227		487	

SUMMARY OF TCP	
503-7001 PORTABLE CHANGEABLE MESSAGE SIGN	505-7003 TMA (MOBILE OPERATION)
DAY	DAY
4	1

PAVEMENT MARKINGS QUANTITY SUMMARY												
662-7112	662-7114	666-7172	666-7175	666-7179	666-7213	666-7214	668-7091	668-7103	668-7111	672-7002	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (BRK)	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 8" (SLD)	RE PM TY II (Y) 6" (SLD)	RE PM TY II (Y) 8" (SLD)	PREFAB PM TY C (W) (ARROW)	PREFAB PM TY C (W) (WORD)	PREFAB PM TY C (W) (36") (YLD TRI)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	LF
265	290	2,650	17,710	720	16,740	1,292	4	6	4	133	290	35,742

SCALE IN MILES

Nick Greenly P.E.

10/03/2024

Texas Department of Transportation San Angelo District

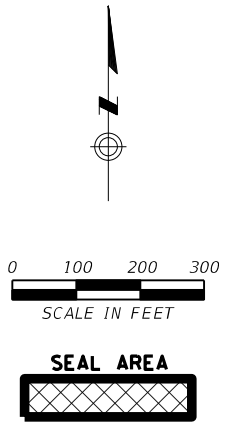
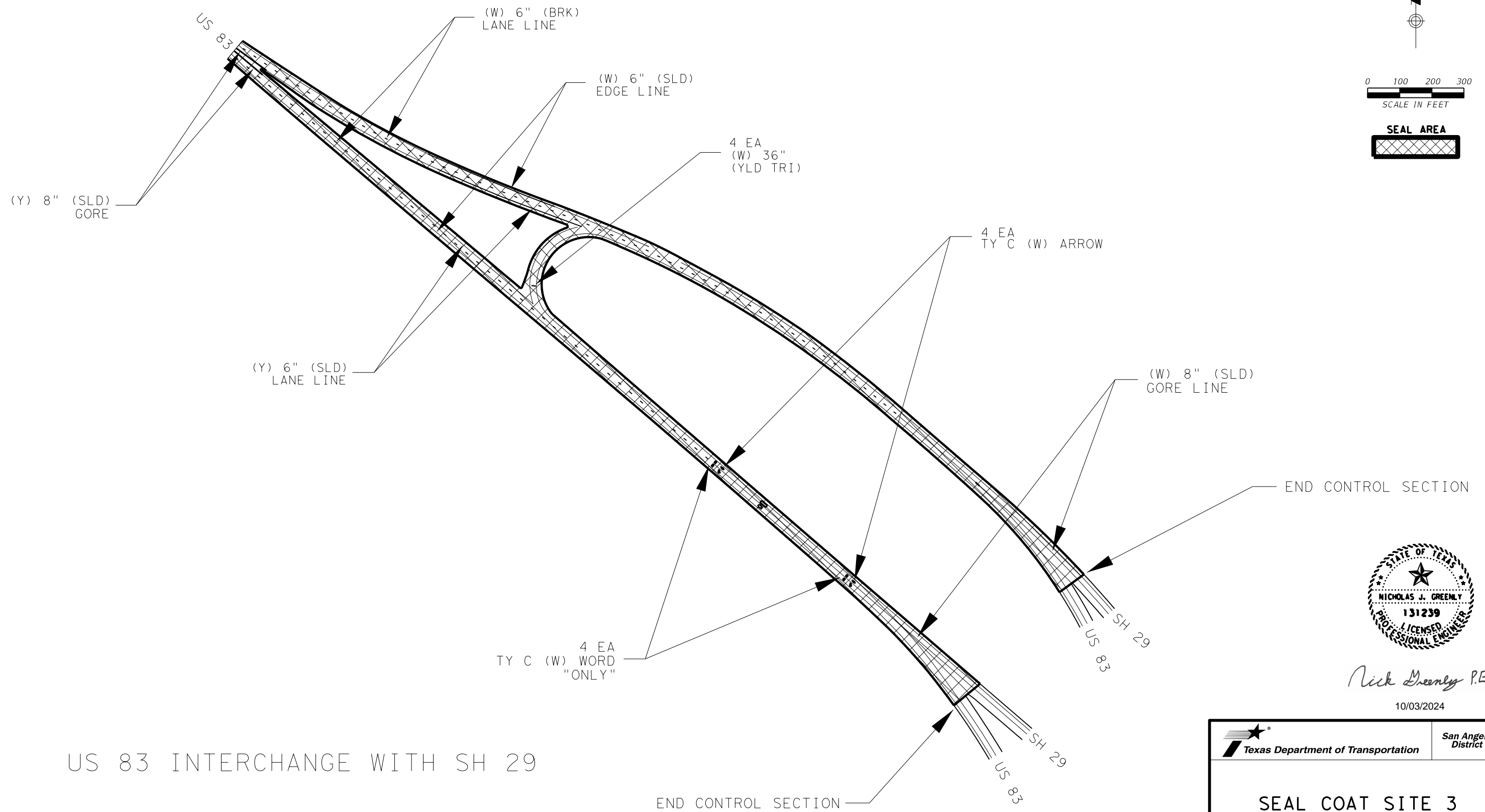
SEAL COAT SITE 3
US 83

SHEET 1 OF 2 SCALE: 1"=10 MILES

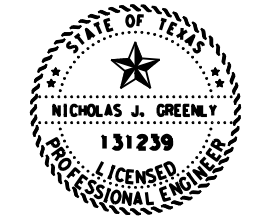
© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	42	

DATE: 10/2/2024 4:35:04 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3 - Roadway/SEAL COAT SITE 03 (1 of 2).dgn

DATE: 10/12/2024 4:35:16 PM
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US 83 INTERCHANGE WITH SH 29



Nick Greenly P.E.
 10/03/2024

		San Angelo District	
SEAL COAT SITE 3 US 83			
SHEET 2 OF 2		SCALE 1"=300'	
©TxDOT 2024 <small>SHEET ISSUED OR LAST REVISED</small>	CONT 0035	SECT 05	JOB 062, ETC HIGHWAY US 83, ETC
DIST SJT	COUNTY MENARD, ETC		SHEET NO. 43

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

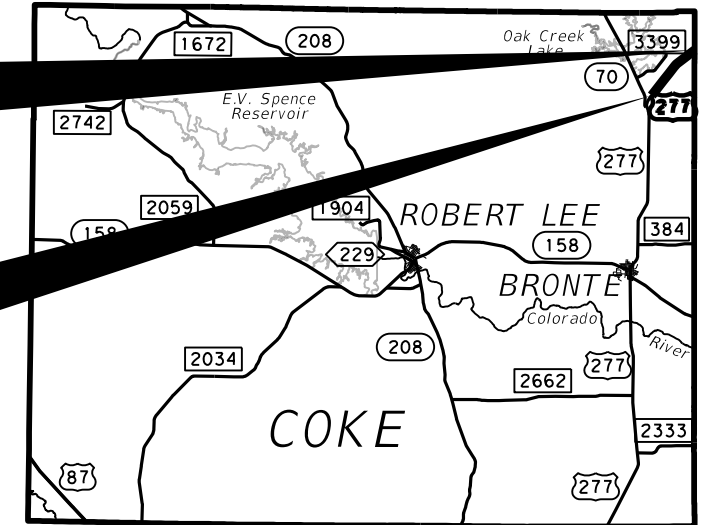
County Coke
 Ctl-Sec-Job 0407-01-021
 Highway US 277
 Length (MI) 3.416
 Funct. Class Minor Arterial
 Limits From Runnels CL
 Limits To SH 70
 Current ADT 2762

GENERAL NOTES

1. Seal Coat full roadway width. 12 LF lanes with 8 LF shoulder widths.
2. See Summary of Surfacing Table.
3. End Seal Coat at TRM 353+1.422 before the SH 70 interchange.

BEGIN CONSTRUCTION
 TRM 350+0.020
 DFO 191.504
 MILE POINT 0.000
 LATITUDE 32.053012°
 LONGITUDE -100.235174°

END CONSTRUCTION
 TRM 352+1.422
 DFO 194.920
 MILE POINT 3.416
 LATITUDE 32.017147°
 LONGITUDE -100.274961°



SITE LOCATION

DATE: 10/2/2024 4:35:28 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 04.dgn

(0+00 = TRM 350+0.00)

SUMMARY OF SURFACING

STATION		LENGTH LF	WIDTH		AREA SY	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO		* AVG	LF		GAL	0.45 GAL/SY	CY	110 SY/CY
0+00	113+15	11315		42	52,804	23,762		481	
113+15	118+91	576	*	44	2,816	1,268		26	
118+91	131+00	1209		46	6,180	2,781		57	
131+00	136+70	570	*	44	2,787	1,255		26	
136+70	177+14	4044		42	18,872	8,493		172	
177+14	181+53	439	*	50	2,439	1,098		23	
TOTALS					85,898	38,657		785	

SUMMARY OF TCP

503-7001 PORTABLE CHANGEABLE MESSAGE SIGN DAY	505-7003 TMA (MOBILE OPERATION) DAY
4	1

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7112	662-7114	666-7172	666-7175	666-7211	666-7213	666-7214	672-7002	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY W	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (BRK)	RE PM TY II (W) 6" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	RE PM TY II (Y) 8" (SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	EA	LF	LF	LF	LF	LF	EA	EA	LF
33	428	330	36,053	3,810	10,722	68	3,747	13,268	50,653

SCALE IN MILES

Nick Greenly P.E.
10/03/2024

Texas Department of Transportation San Angelo District

SEAL COAT SITE 4
US 277

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY		SHEET NO.
	SJT	MENARD, ETC		44

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

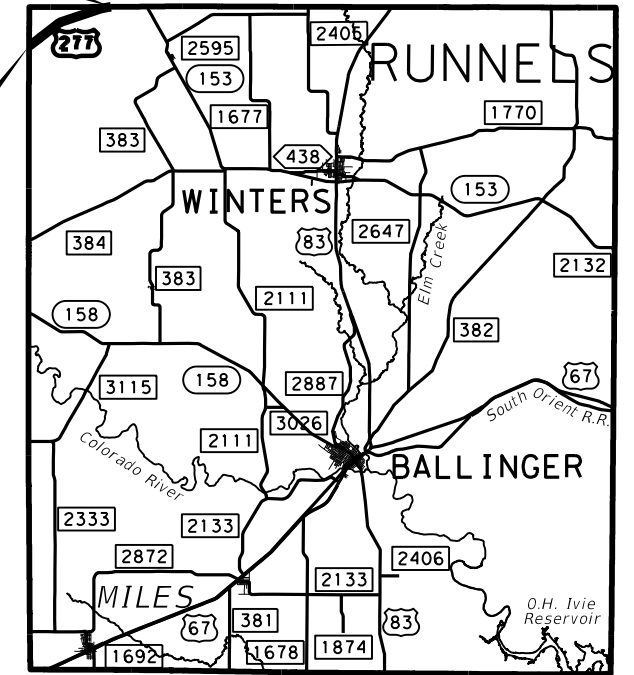
County Runnels
 Ctl-Sec-Job 0407-02-017
 Highway US 277
 Length (MI) 4.732
 Funct. Class Minor Arterial
 Limits From Nolan CL
 Limits To Coke CL
 Current ADT 1541

GENERAL NOTES

1. Seal coat full roadway width. 12LF lanes with 8 LF shoulder widths.
2. See Summary of Surfacing Table.
3. End Seal coat at the Coke County Line.

BEGIN CONSTRUCTION
 TRM 342+0.773
 DFO 186.772
 MILE POINT 0.000
 LATITUDE 32.082414°
 LONGITUDE -100.163558°

END CONSTRUCTION
 TRM 350+0.019
 DFO 191.504
 MILE POINT 4.732
 LATITUDE 32.053012°
 LONGITUDE -100.235174°



DATE: 10/2/2024 4:35:40 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 05.dgn

(0+00 = TRM 342+0.772)

SUMMARY OF SURFACING

STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	LF	SY	GAL	0.45 GAL/SY	CY	110 SY/CY
0+00	249+90	24,990	42	116,620	52,479		1,061	
TOTALS				116,620	52,479		1,061	

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	EA	LF
633	49,818	6,020	13,696	477	69,534

SUMMARY OF TCP

503-7001	505-7003
PORTABLE CHANGEABLE MESSAGE SIGN	TMA (MOBILE OPERATION)
DAY	DAY
5	1

Nick Greenly P.E.
 10/03/2024

Texas Department of Transportation San Angelo District

SEAL COAT SITE 5
 US 277

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY		SHEET NO.
	SJT	MENARD, ETC		45

DATA FOR FINAL PLANS

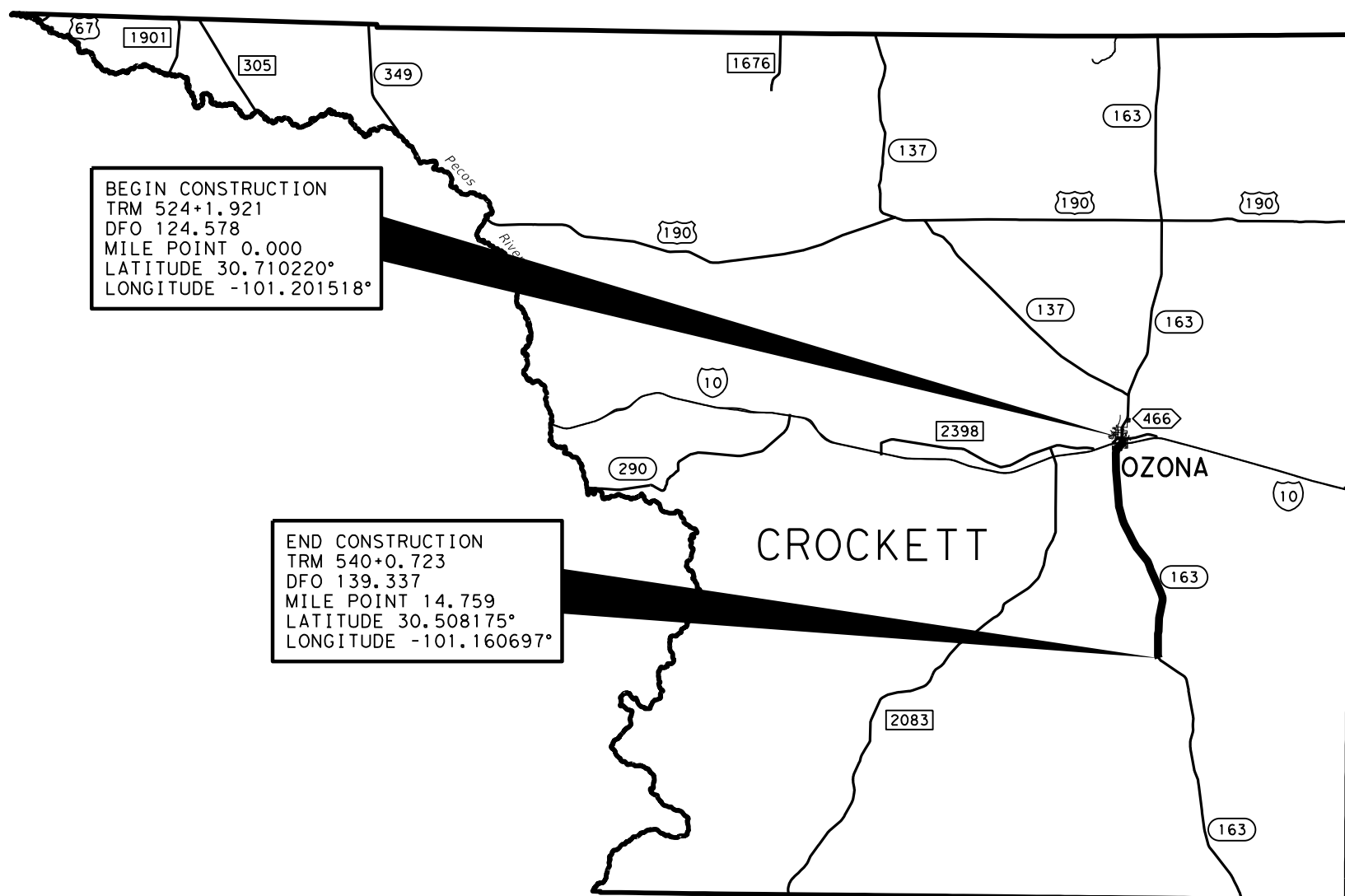
Asphalt Supplier _____
 Asphalt Type _____
 Asphalt Rate (GAL/SY) _____
 Aggregate Source _____
 Aggregate Rate (SY/CY) _____

SITE INFORMATION

County Crockett
 Ctl-Sec-Job 0412-04-032
 Highway SH 163
 Length (MI) 14.759
 Funct. Class Major Collector
 Limits From SL 466
 Limits To RM 1973
 Current ADT 5903

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varied shoulder widths.
2. See Summary of Surfacing Table.
3. See sheet 2 for end of construction.



BEGIN CONSTRUCTION
 TRM 524+1.921
 DFO 124.578
 MILE POINT 0.000
 LATITUDE 30.710220°
 LONGITUDE -101.201518°

END CONSTRUCTION
 TRM 540+0.723
 DFO 139.337
 MILE POINT 14.759
 LATITUDE 30.508175°
 LONGITUDE -101.160697°

(0+00 = TRM 524+1.916)

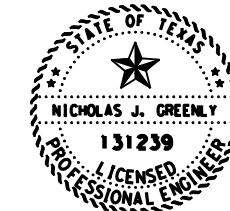
SUMMARY OF SURFACING

STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	LF	SY	GAL	0.45 GAL/SY	CY	110 SY/CY
Intersection at 11 St (SL 466)				890	401		9	
0+64	14+10	1346	52	7,777	3,500		71	
Intersection at 14th St				1,215	547		12	
15+15	17+06	191	54	1,146	516		11	
Intersection at 15th St				2,677	1,205		25	
19+59	23+55	396	50	2,200	990		20	
23+55	37+91	1436	46	7,340	3,303		67	
37+91	38+86	95	42	444	200		5	
38+86	58+77	1991	40	8,849	3,983		81	
58+77	779+27	72050	30	240,167	108,076		2,184	
Intersection at End of Job				1,216	548		12	
TOTALS				271,815	122,320		2,476	

SUMMARY OF TCP

503-7001 PORTABLE CHANGEABLE MESSAGE SIGN	505-7003 TMA (MOBILE OPERATION)
DAY	DAY
7	3

SITE LOCATION



Nick Greenly P.E.

10/03/2024

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7112	662-7114	666-7172	666-7175	666-7184	666-7211	666-7213	668-7111	668-7113	668-7115	672-7002	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (BRK)	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	PREFAB PM TY C (W) (36") (YLD TRI)	PREFAB PM TY C (W) (BIKE ARROW)	PREFAB PM TY C (W) (BIKE SYMBOL)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	LF
66	1,951	660	152,494	1,500	18,380	22,854	16	10	10	34	1,217	193,728

Texas Department of Transportation San Angelo District

SEAL COAT SITE 6
SH 163

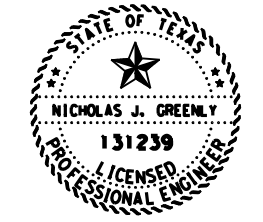
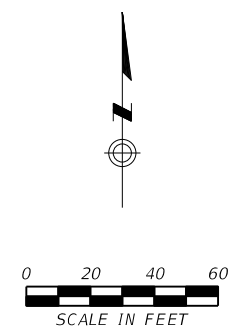
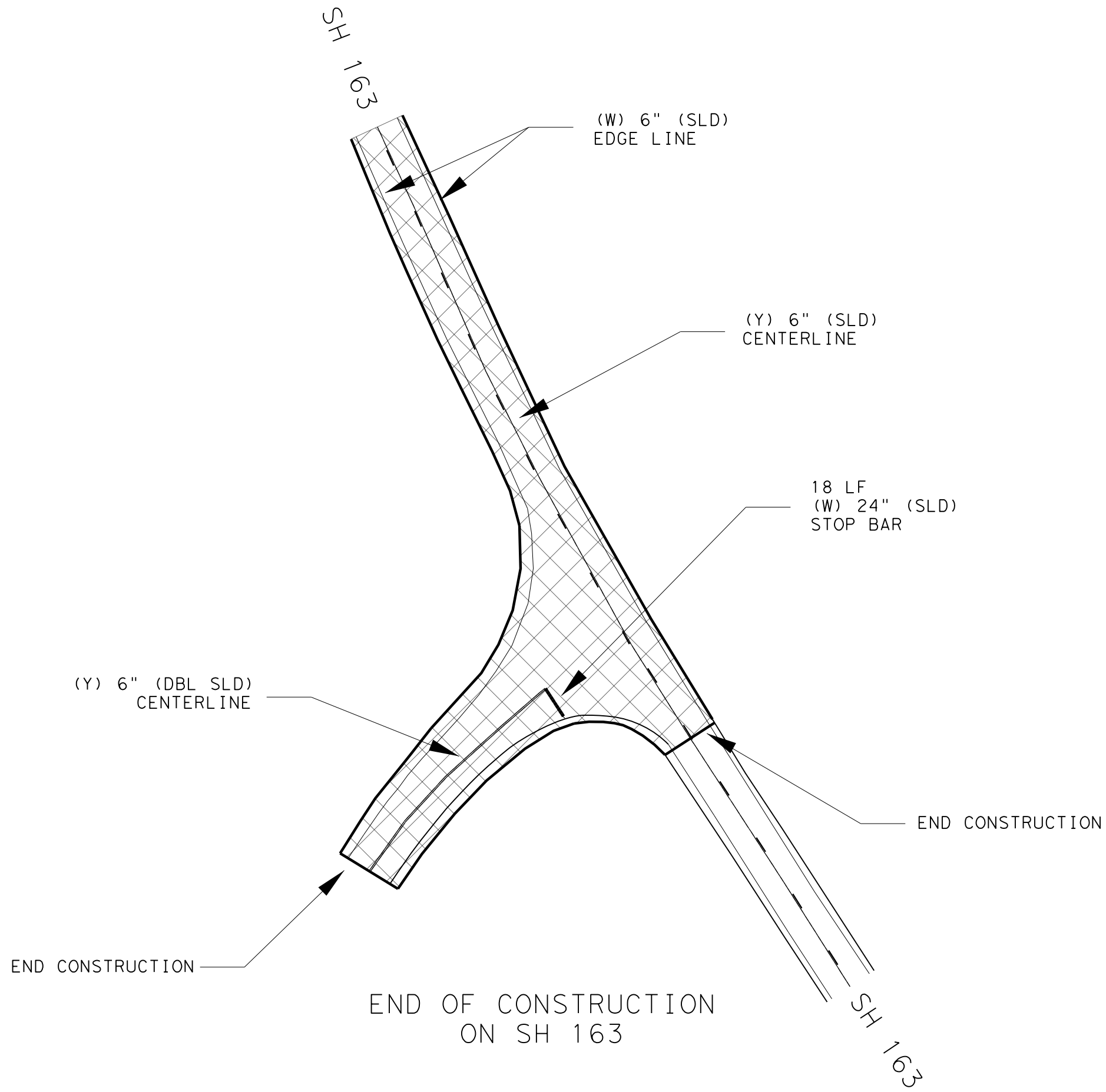
SHEET 1 OF 2 SCALE: 1"=10 MILES

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CONT	SECT	JOB	HIGHWAY
0035 05	062, ETC	US 83, ETC	
DIST	COUNTY	SHEET NO.	
SJT	MENARD, ETC	46	

DATE: 10/2/2024 4:35:53 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE_06 (1 of 2).dgn

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Nick Greenly P.E.
 10/03/2024



SEAL COAT SITE 6
 SH 163

SHEET 2 OF 2 SCALE 1"=60'

©TxDOT 2024	CONT	SECT	JOB	HIGHWAY
<small>SHEET ISSUED OR LAST REVISED</small>	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	47	

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

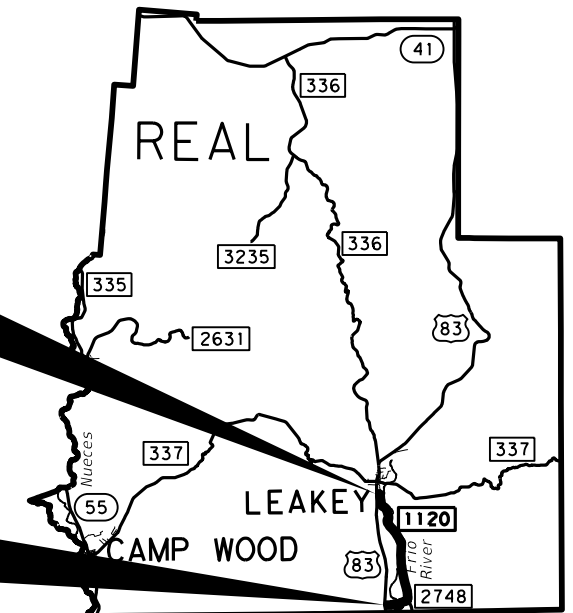
County Real
 Ctl-Sec-Job 0554-02-022
 Highway FM 1120
 Length (MI) 7.501
 Funct. Class Major Collector
 Limits From US 83
 Limits To US 83
 Current ADT 1,320

GENERAL NOTES

1. Seal coat full roadway width. 10 LF lanes with varied shoulder widths.
2. Do not seal 3 Concrete Crossings as shown in Summary of Surfacing Table.
3. End Seal coat at US 83.

BEGIN CONSTRUCTION
 TRM 480+0.028
 DFO 0.000
 MILE POINT 0.000
 LATITUDE 29.714961°
 LONGITUDE -99.763171°

END CONSTRUCTION
 TRM 488+0.051
 DFO 7.501
 MILE POINT 7.501
 LATITUDE 29.631158°
 LONGITUDE -99.756804°



SITE LOCATION

(0+00 = TRM 480-0.023)

SUMMARY OF SURFACING

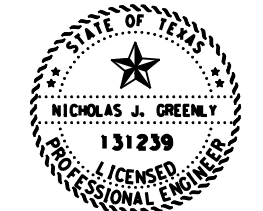
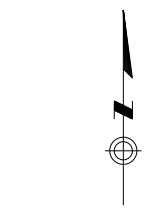
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	0+56	Begin Taper		333	150	4
0+56	88+39	8783	26	25,374	11,419	231
88+39	90+40	201	30	670	302	7
90+40	94+04	364	CONCRETE LOW WATER CROSSING AT FRIO RIVER			
94+04	98+10	406	30	1,354	610	13
98+10	164+26	6616	26	19,113	8,601	174
164+26	291+35	12709	24	33,891	15,251	309
291+35	293+15	180	CONCRETE LOW WATER CROSSING AT LITTLE DRY FRIO CREEK			
293+15	354+66	6151	24	16,403	7,382	150
354+66	357+09	243	CONCRETE LOW WATER CROSSING AT FRIO RRIVER			
357+09	393+23	3614	24	9,638	4,338	88
393+23	395+66	243	28	756	341	7
395+66	396+04	End Taper to US 83		210	95	2
TOTALS				107,742	48,489	985

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
997	77,953	38	3,530	56,761	873	138,244

SUMMARY OF TCP

503-7001	505-7003
PORTABLE CHANGEABLE MESSAGE SIGN	TMA (MOBILE OPERATION)
DAY	DAY
4	2



Nick Greenly P.E.

10/03/2024

				San Angelo District	
<h2>SEAL COAT SITE 7</h2> <p>FM 1120</p>					
SHEET 1 OF 1			SCALE: 1"=10 MILES		
© TXDOT 2024	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0035 05	062,	ETC	US 83,	ETC
	DIST	COUNTY		SHEET NO.	
	SJT	MENARD, ETC		48	

DATE: 10/2/2024 4:36:17 PM
 FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3 - Roadway/SEAL COAT SITE 07.dgn

DATA FOR FINAL PLANS

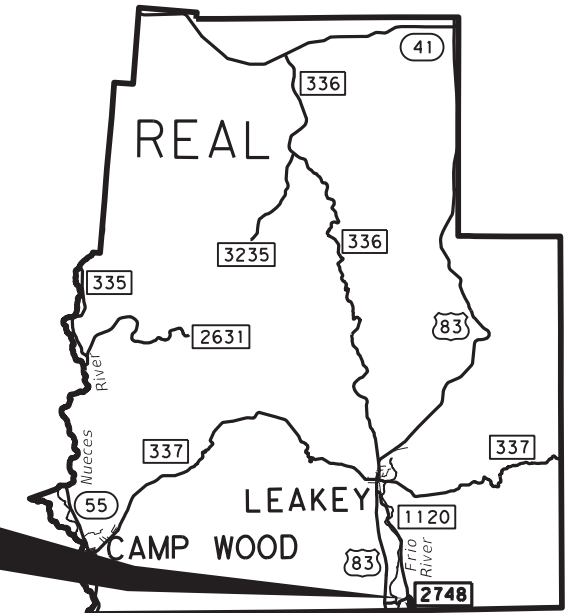
Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

County Real
 Ctl-Sec-Job 0554-03-006
 Highway RM 2748
 Length (MI) 0.708
 Funct. Class Minor Collector
 Limits From FM 1120
 Limits To Uvalde County Line
 Current ADT 297

GENERAL NOTES

- Seal coat full roadway width of 11 LF lanes and 1 LF shoulder widths.
- See Summary of Surfacing Table.
- End Seal coat at the Uvalde County Line.



BEGIN CONSTRUCTION
 TRM 486+0.026
 DFO 0.000
 MILE POINT 1.000
 LATITUDE 29.634447°
 LONGITUDE -99.737638°

END CONSTRUCTION
 TRM 488+0.014
 DFO 0.708
 MILE POINT 1.708
 LATITUDE 29.625353°
 LONGITUDE -99.733024°

SITE LOCATION

DATE: 10/18/2024 4:23:50 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 08.dgn

(0+00 = TRM 486-0.026)

SUMMARY OF SURFACING

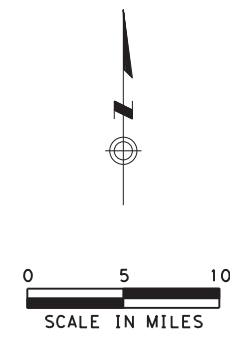
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	0+56	Begin Taper		383	173	4
0+56	35+98	3,542	24	9,445	4,251	86
TOTALS				9,828	4,424	90

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
91	7,091	11	170	6,548	91	13,809

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
1



Nick Greenly P.E.

10/22/2024



SEAL COAT SITE 8
 RM 2748

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY		SHEET NO.
	SJT	MENARD, ETC		49

DATA FOR FINAL PLANS

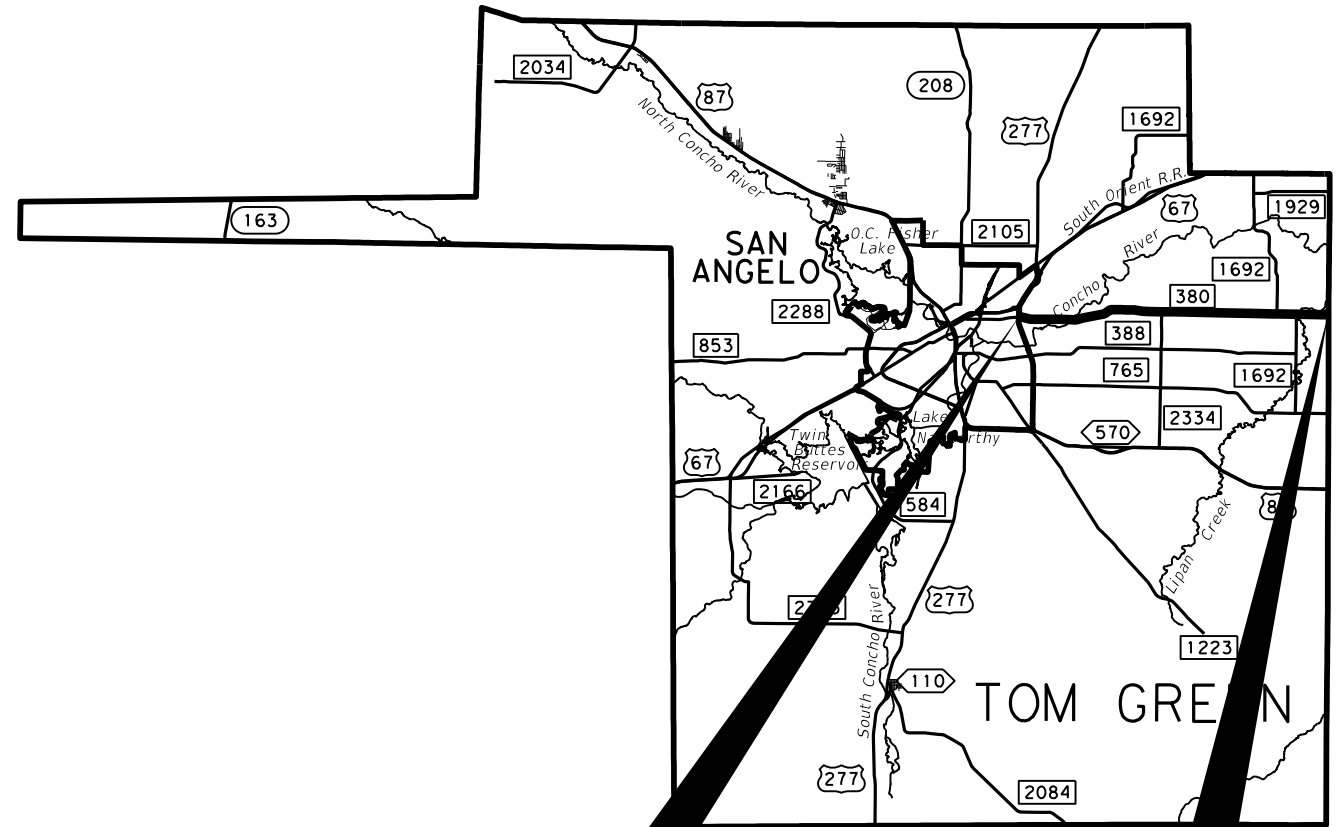
Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

County Tom Green
 Ctl-Sec-Job 0555-01-043
 Highway FM 380
 Length (MI) 16.249
 Funct. Class Major Collector
 Limits From SL 306
 Limits To Concho County Line
 Current ADT 2,496

GENERAL NOTES

1. Seal coat full roadway width, 12 LF lanes with 6-8 LF shoulder widths.
2. Begin seal coat at pavement joint before SL 306. See drawing on next sheet.
3. See Summary of Surfacing Table.
4. End Seal coat at Concho County Line.



BEGIN CONSTRUCTION
 TRM 376+0.994
 DFO 0.000
 MILE POINT 11.654
 LATITUDE 31.472525°
 LONGITUDE -100.385798°

SITE LOCATION

END CONSTRUCTION
 TRM 394+0.061
 DFO 16.249
 MILE POINT 27.903
 LATITUDE 31.475393°
 LONGITUDE -100.112440°

(0+00 = TRM 376-0.994)

SUMMARY OF SURFACING

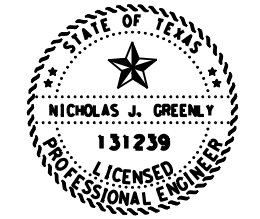
STATION		LENGTH	WIDTH		AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	*AVG	LF	SY	GAL	0.45 GAL/SY	CY	110 SY/CY
Begin Taper					1,074	484		10	
1+32	18+74	1742		64	12,388	5,575		113	
18+74	28+09	935	*	52	5,403	2,432		50	
28+09	32+09	400		36	1,600	720		15	
32+09	137+33	10524		40	46,774	21,049		426	
137+33	138+29	96	*	35	374	169		4	
138+29	142+56	427		30	1,424	641		13	
142+56	143+52	96	*	35	374	169		4	
143+52	858+79	71527		40	317,898	143,055		2,890	
TOTALS					387,309	174,294		3,525	

SUMMARY OF TCP

503-7001 PORTABLE CHANGEABLE MESSAGE SIGN	505-7003 TMA (MOBILE OPERATION)
DAY	DAY
8	3

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7112 WK ZN PAV MRK SHT TERM (TAB) TY W	662-7114 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666-7172 RE PM TY II (W) 6" (BRK)	666-7175 RE PM TY II (W) 6" (SLD)	666-7184 RE PM TY II (W) 24" (SLD)	666-7211 RE PM TY II (Y) 6" (BRK)	666-7213 RE PM TY II (Y) 6" (SLD)	668-7091 PREFAB PM TY C (W) (ARROW)	668-7103 PREFAB PM TY C (W) (WORD)	672-7002 REFL PAV MRKR TY I-C	672-7004 REFL PAV MRKR TY II-A-A	677-7030 ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	LF
94	2,165	940	166,212	330	20,760	28,808	8	2	47	1,348	215,780



Nick Greenly P.E.

10/03/2024

Texas Department of Transportation San Angelo District

SEAL COAT SITE 9

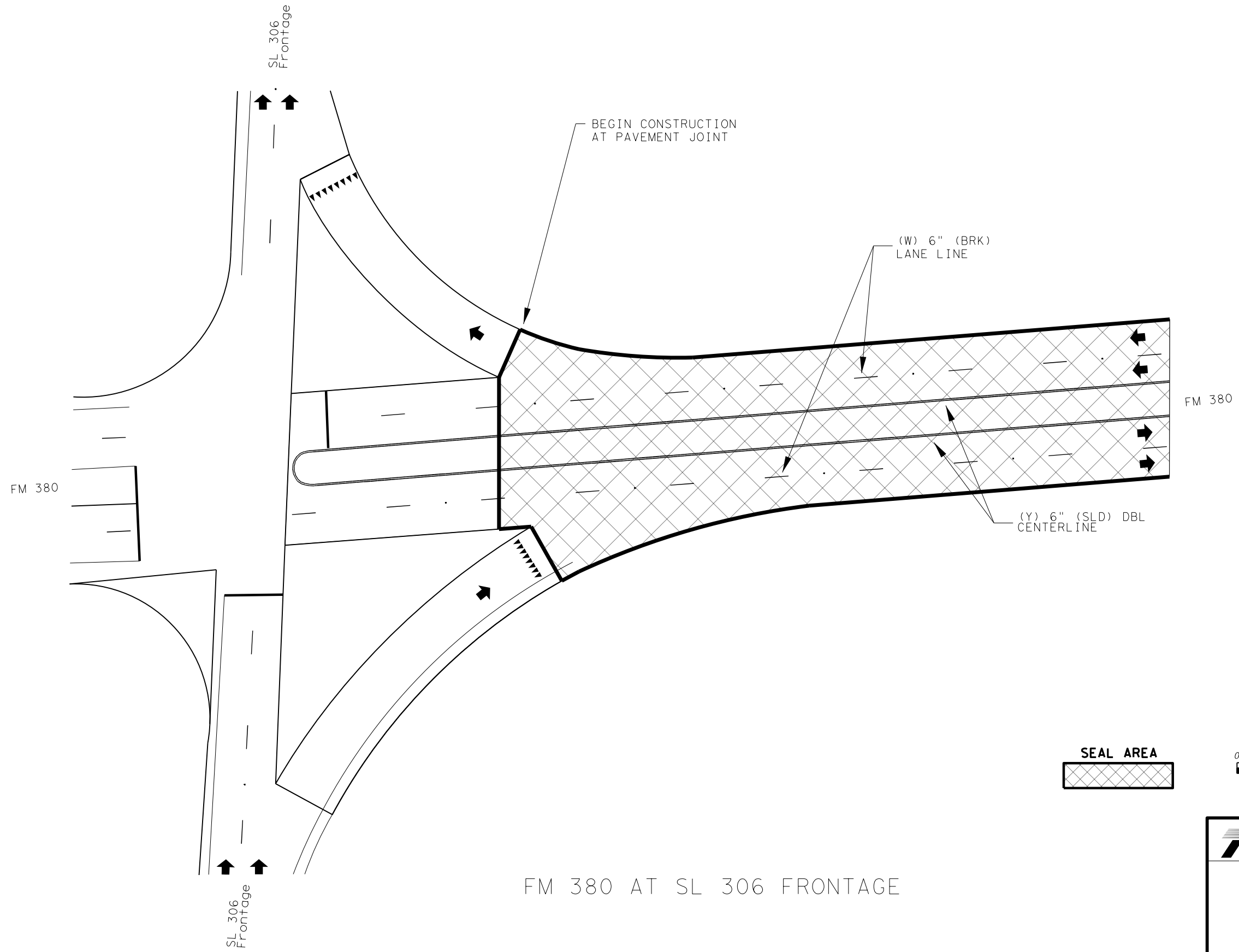
FM 380

SHEET 1 OF 2 SCALE: 1"=10 MILES

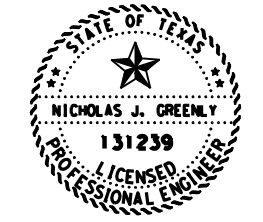
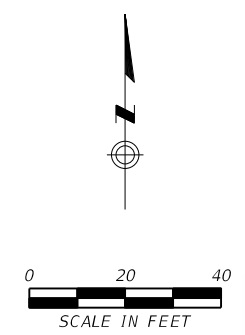
© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	50	

DATE: 10/2/2024 4:36:42 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE_09 (1 of 2).dgn

DATE: 10/12/2024 4:36:55 PM
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FM 380 AT SL 306 FRONTAGE



Nick Greenly P.E.

10/03/2024



SEAL COAT SITE 9
 FM 380

SHEET 2 OF 2 SCALE 1"=40'

©TxDOT 2024	CONT	SECT	JOB	HIGHWAY
SHEET ISSUED OR LAST REVISED	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	51	

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

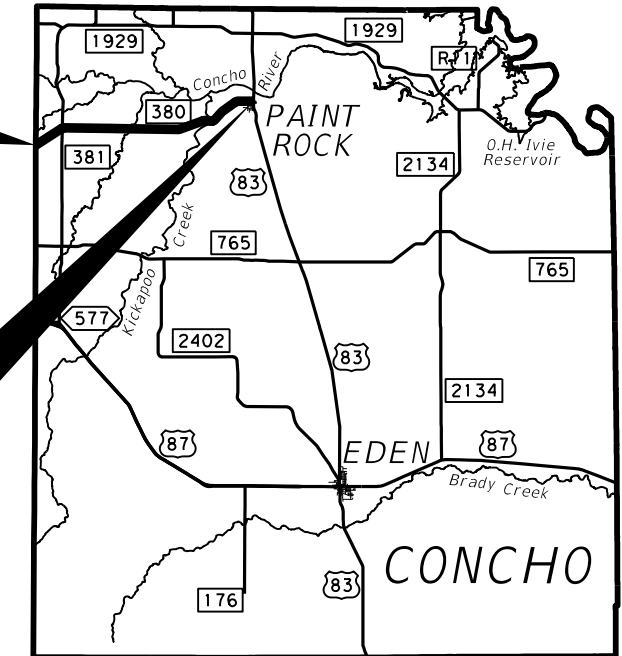
County Concho
 C+I-Sec-Job 0555-02-022
 Highway FM 380
 Length (MI) 12.068
 Funct. Class Major Collector
 Limits From Tom Green CL
 Limits To US 83
 Current ADT 664

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varied shoulder widths.
2. See Summary of Surfacing Table.
3. End Seal coat at US 83.

BEGIN CONSTRUCTION
 TRM 394+0.001
 DFO 16.284
 MILE POINT 0.000
 LATITUDE 31.475395°
 LONGITUDE -100.112437°

END CONSTRUCTION
 TRM 406+0.232
 DFO 28.352
 MILE POINT 12.068
 LATITUDE 31.508113°
 LONGITUDE -99.920046°



SITE LOCATION

(0+00 = TRM 394+0.001)

SUMMARY OF SURFACING

STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	88+61	8861	38	37,414	16,837	341
88+61	494+50	40589	26	117,258	52,767	1,066
494+50	497+69	319	CONCRETE BRIDGE AT KICKAPOO CREEK			
497+69	615+39	11770	26	34,003	15,302	310
615+39	636+82	2143	48	11,430	5,144	104
636+82	637+14	End Taper to US 83		241	109	3
TOTALS				200,346	90,159	1,824

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
1,614	126,283	144	14,440	31,488	1,126	172,211

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
3

Nick Greenly P.E.
 10/03/2024

SEAL COAT SITE 10
 FM 380

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	52	

DATE: 10/2/2024 4:37:06 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 10.dgn

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

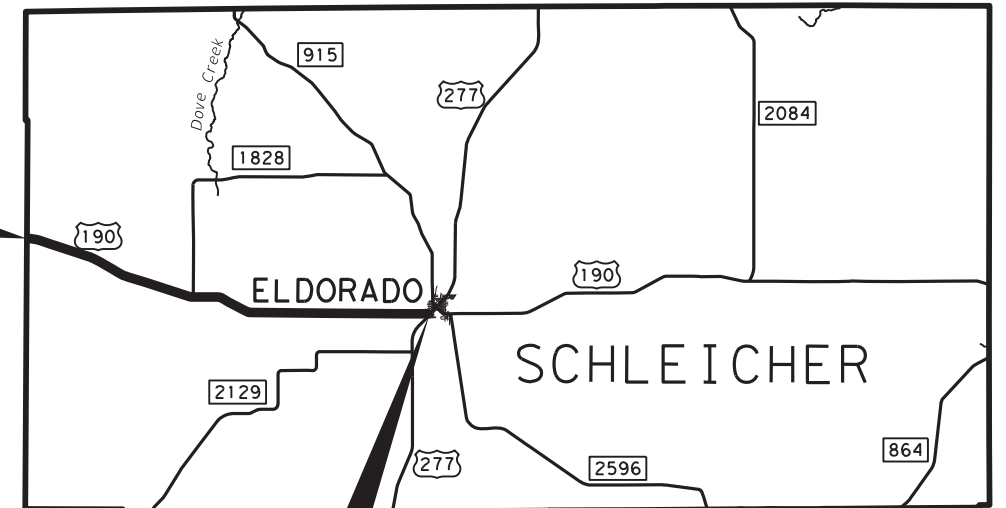
SITE INFORMATION

County Schleicher
 Ct1-Sec-Job 0558-12-019
 Highway US 190
 Length (MI) 21.758
 Funct. Class Minor Arterial
 Limits From Crockett CL
 Limits To US 277
 Current ADT 1,154

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with 6 LF shoulder widths.
2. See Summary of Surfacing Table.
3. End Seal coat at pavement joint before US 277.

BEGIN CONSTRUCTION
 TRM 348+0.135
 DFO 71.043
 MILE POINT 1.000
 LATITUDE 30.910610°
 LONGITUDE -100.960384°



SITE LOCATION

END CONSTRUCTION
 TRM 368+1.905
 DFO 92.801
 MILE POINT 22.758
 LATITUDE 30.855044°
 LONGITUDE -100.606797°

(0+00 = TRM 348+0.135)

SUMMARY OF SURFACING

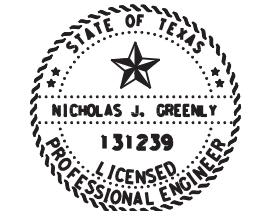
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	1153+91	115391	36	461,564	207,704	4,197
TOTALS				461,564	207,704	4,197

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	EA	LF
2,901	229,777	28,100	20,518	1,668	278,395

SUMMARY OF TCP

503-7001	505-7003
PORTABLE CHANGEABLE MESSAGE SIGN	TMA (MOBILE OPERATION)
DAY	DAY
9	4



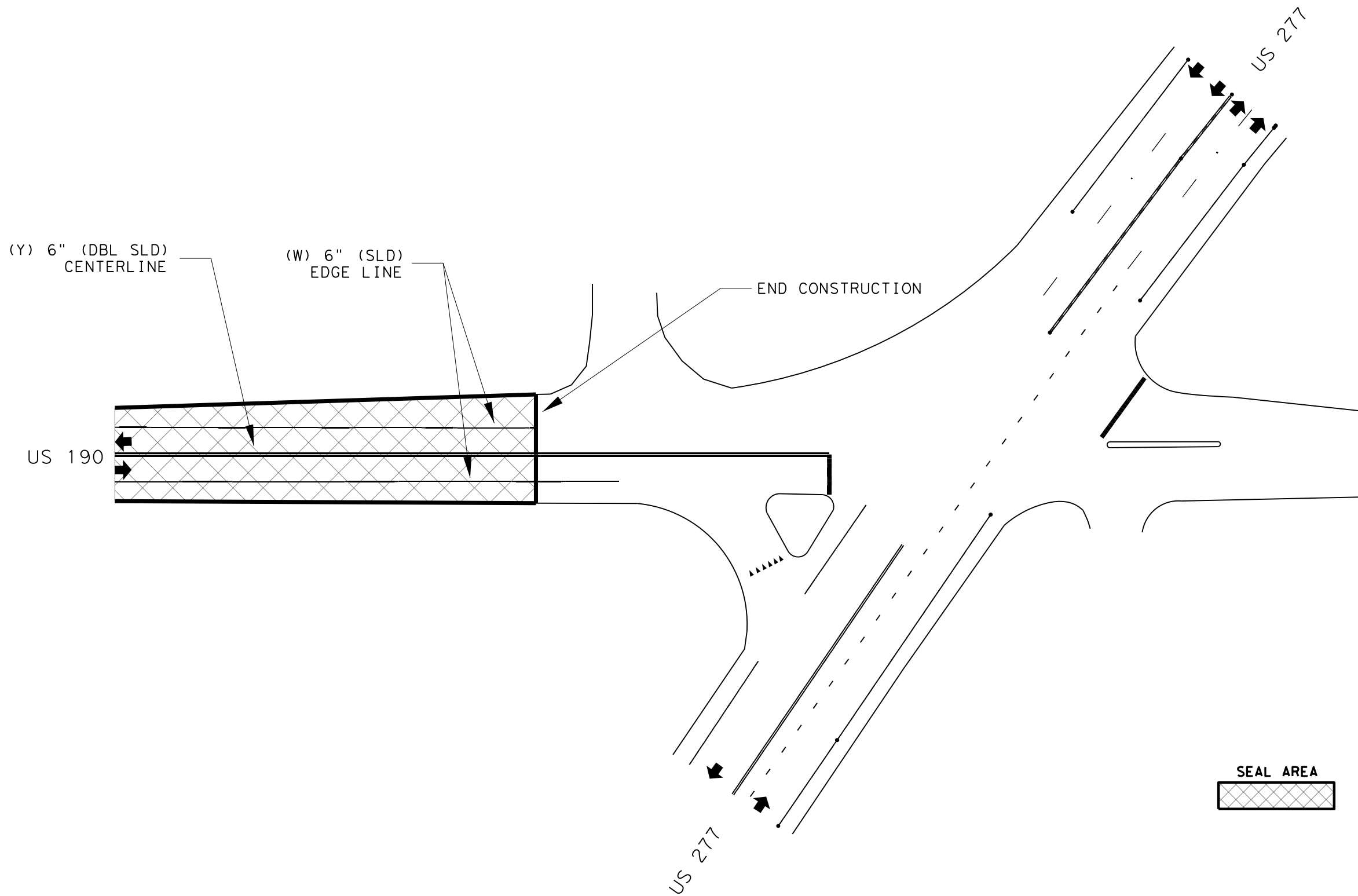
Nick Greenly P.E.

10/22/2024

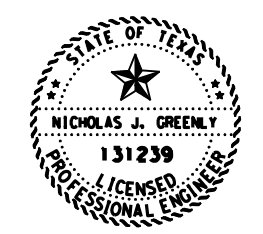
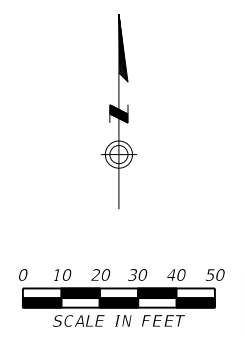
				San Angelo District	
<h2>SEAL COAT SITE 11</h2> <p>US 190</p>					
SHEET 1 OF 2			SCALE: 1"=10 MILES		
© TXDOT 2024	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0035 05	062, ETC	US 83,	ETC	
	DIST	COUNTY	SHEET NO.		
	SJT	MENARD, ETC	53		

DATE: 10/18/2024 4:24:01 PM
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DATE: 10/12/2024 4:37:32 PM
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US 190 TO US 277



Nick Greenly P.E.

10/03/2024

		San Angelo District	
<h3>SEAL COAT SITE 11</h3> <p>US 190</p>			
SHEET 2 OF 2		SCALE 1"=50'	
©TxDOT 2024 <small>SHEET ISSUED OR LAST REVISED</small>	CONT SECT 0035 05	JOB 062, ETC	HIGHWAY US 83, ETC
DIST SJT	COUNTY MENARD, ETC	SHEET NO. 54	

DATA FOR FINAL PLANS

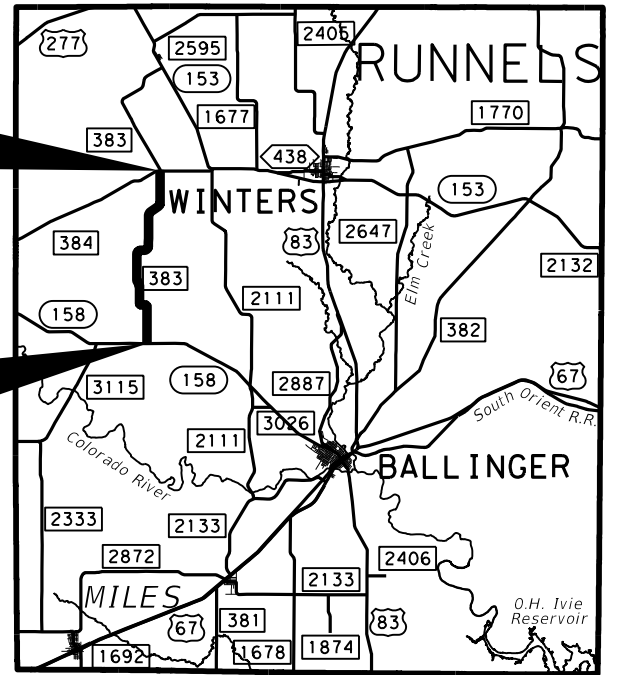
Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

County Runnels
 Ctl-Sec-Job 0827-01-013
 Highway FM 383
 Length (MI) 9.980
 Funct. Class Minor Collector
 Limits From FM 384
 Limits To SH 158
 Current ADT 63

GENERAL NOTES

1. Seal coat full roadway width. 10 LF lanes with various small shoulder widths.
2. See Summary of Surfacing Table.
3. End Seal coat at SH 158.



BEGIN CONSTRUCTION
 TRM 324+1.041
 DFO 7.010
 MILE POINT 7.026
 LATITUDE 31.958374°
 LONGITUDE -100.107626°

END CONSTRUCTION
 TRM 334+1.045
 DFO 16.990
 MILE POINT 17.006
 LATITUDE 31.827844°
 LONGITUDE -100.119559°

SITE LOCATION

(0+00 = TRM 324+1.041)

SUMMARY OF SURFACING

STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	1+05	Begin Taper		1,178	531	11
1+05	524+49	52344	20	116,320	52,344	1,058
524+49	526+95	End Taper to SH 158		363	164	4
TOTALS				117,861	53,039	1,073

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
1,326	104,930	43	11,620	17,606	806	134,156

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
2

Nick Greenly P.E.
 10/03/2024

Texas Department of Transportation
 San Angelo District

SEAL COAT SITE 12
 FM 383

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	55	

DATE: 10/2/2024 4:37:45 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 12.dgn

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

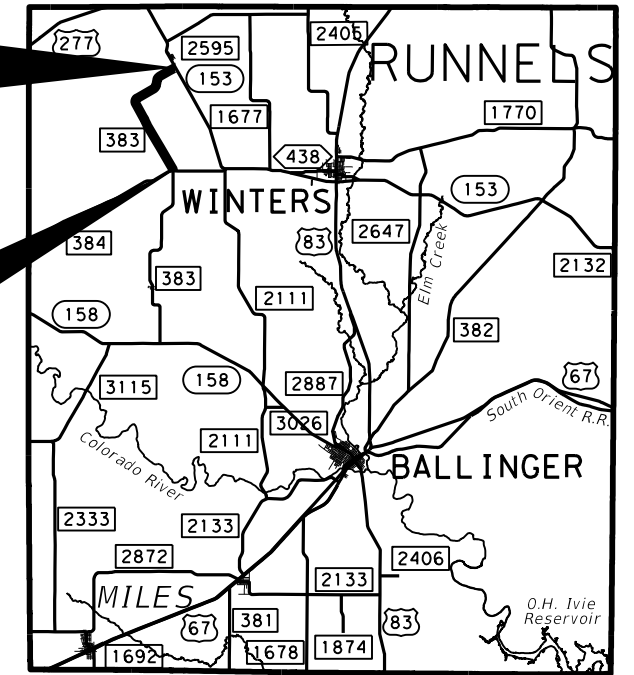
County Runnels
 Ctl-Sec-Job 0828-01-018
 Highway FM 383
 Length (MI) 7.010
 Funct. Class Minor Collector
 Limits From SH 153
 Limits To FM 384
 Current ADT 37

GENERAL NOTES

1. Seal coat full roadway width, 10 LF lanes with various small shoulder widths.
2. See Summary of Surfacing Table.
3. End Seal coat at FM 384.

BEGIN CONSTRUCTION
 TRM 318-0.046
 DFO 0.000
 MILE POINT 0.000
 LATITUDE 32.036603°
 LONGITUDE -100.105378°

END CONSTRUCTION
 TRM 324+1.041
 DFO 7.010
 MILE POINT 7.010
 LATITUDE 31.958374°
 LONGITUDE -100.107626°



SITE LOCATION

(0+00 = TRM 318-0.046)

SUMMARY OF SURFACING

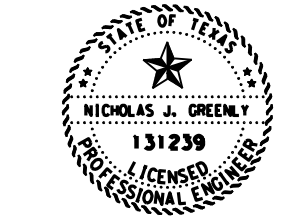
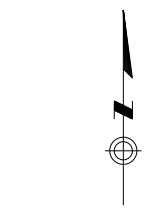
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	0+56	Begin Taper		380	171	4
0+56	9+01	845	30	2,817	1,268	26
9+01	367+08	35807	20	79,572	35,808	724
367+08	372+12	Ramp From FM 384		1,989	896	19
367+08	369+86	278	30	927	418	9
369+86	370+57	End Taper to FM 384		684	308	7
TOTALS				86,369	38,869	789

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
951	73,639	74	7,980	15,541	602	97,160

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
2



Nick Greenly P.E.

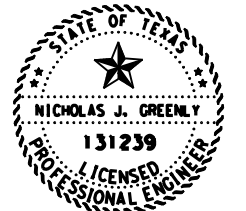
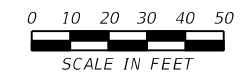
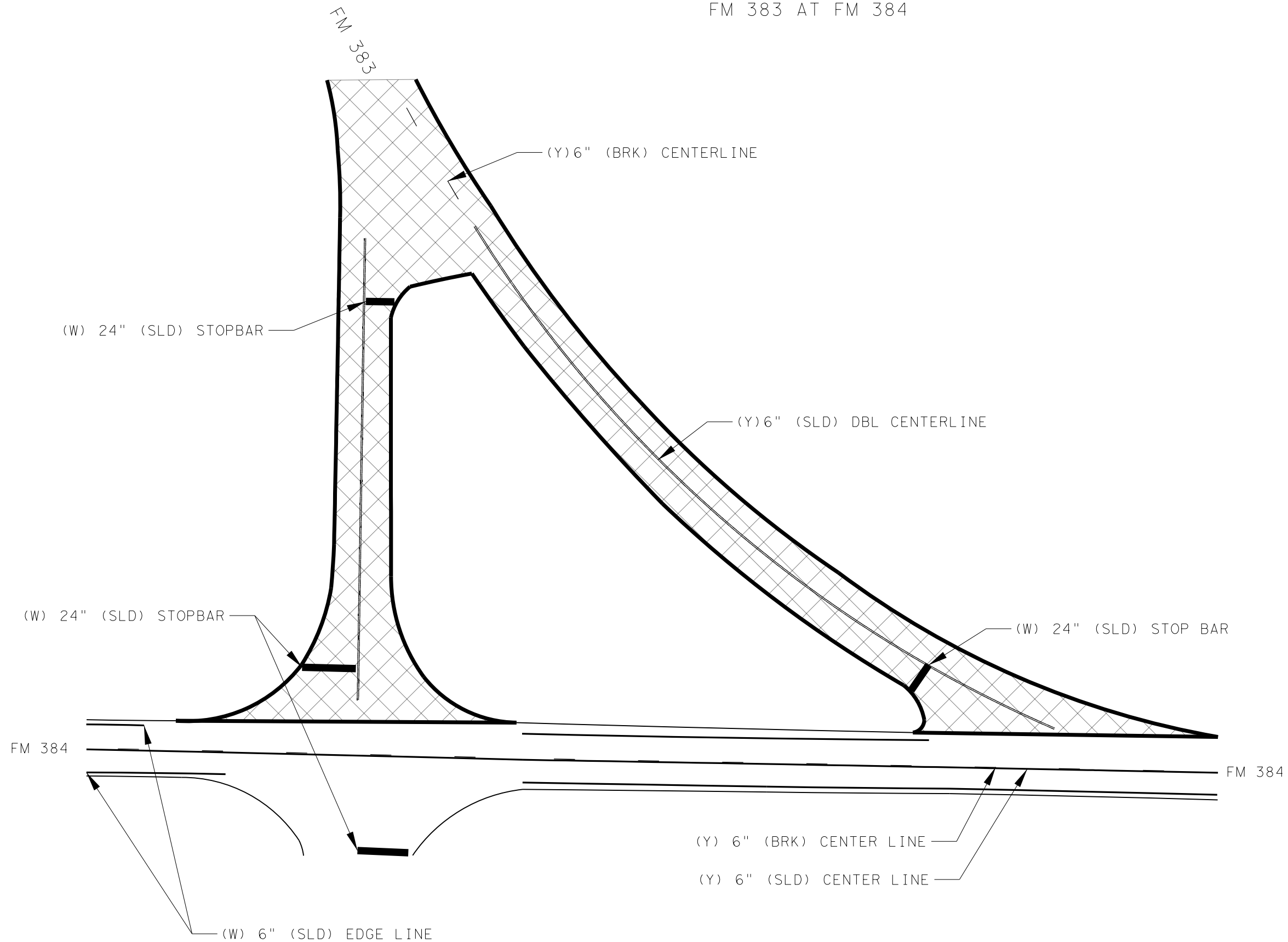
10/03/2024

				San Angelo District	
<h2>SEAL COAT SITE 13</h2> <p>FM 383</p>					
SHEET 1 OF 2			SCALE: 1"=10 MILES		
© TXDOT 2024	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0035	05	062, ETC	US 83, ETC	
	DIST	COUNTY		SHEET NO.	
	SJT	MENARD, ETC		56	

DATE: 10/2/2024 4:37:56 PM
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DATE: 10/12/2024 4:38:09 PM
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FM 383 AT FM 384



Nick Greenly P.E.

10/03/2024



SEAL COAT SITE 13
FM 383

SHEET 2 OF 2 SCALE 1"=50'

©TxDOT 2024	CONT	SECT	JOB	HIGHWAY
SHEET ISSUED OR LAST REVISED	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	57	

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

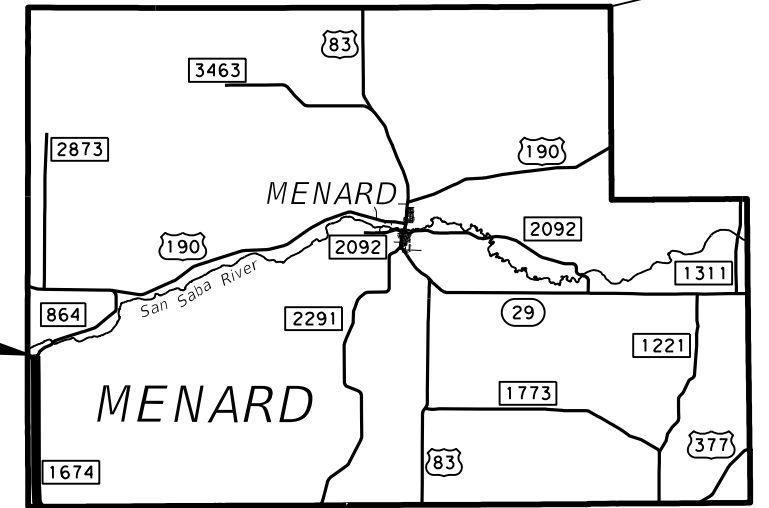
SITE INFORMATION

County Menard
 Ctl-Sec-Job 1296-01-018
 Highway Rm 1674
 Length (MI) 7.882
 Funct. Class Minor Collector
 Limits From RM 864
 Limits To Kimble CL
 Current ADT 75

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat at Kimble CL.

BEGIN CONSTRUCTION
 TRM 404-0.065
 DFO 0.000
 MILE POINT 0.062
 LATITUDE 30.824452°
 LONGITUDE -100.109372°



SITE LOCATION

END CONSTRUCTION
 TRM 412+0.011
 DFO 7.882
 MILE POINT 7.944
 LATITUDE 30.710414°
 LONGITUDE -100.106056°

(0+00 = TRM 404-0.065)

SUMMARY OF SURFACING

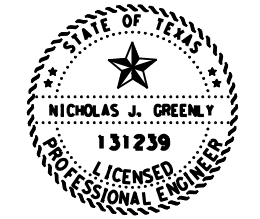
STATION		LENGTH	WIDTH		AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	* AVG	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	0+63	Begin Taper			567	256	6
0+63	3+60	297	*	30	990	446	9
3+60	416+43	41283	*	24	110,088	49,540	1,001
TOTALS					111,645	50,242	1,016

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
1,057	82,976	29	9,660	25,209	808	117,845

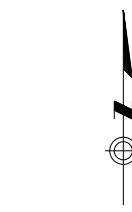
SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
2



Nick Greenly P.E.

10/03/2024



SEAL COAT SITE 14

RM 1674

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	58	

DATE: 10/2/2024 4:38:22 PM FILE: p:\t\tdot\project\wiseonline.com\TXDOT12\Documents\07 - SJT\Design Projects\003505062\4 - Design\Plan Set\3. Roadway\SEAL COAT SITE 14.dgn

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

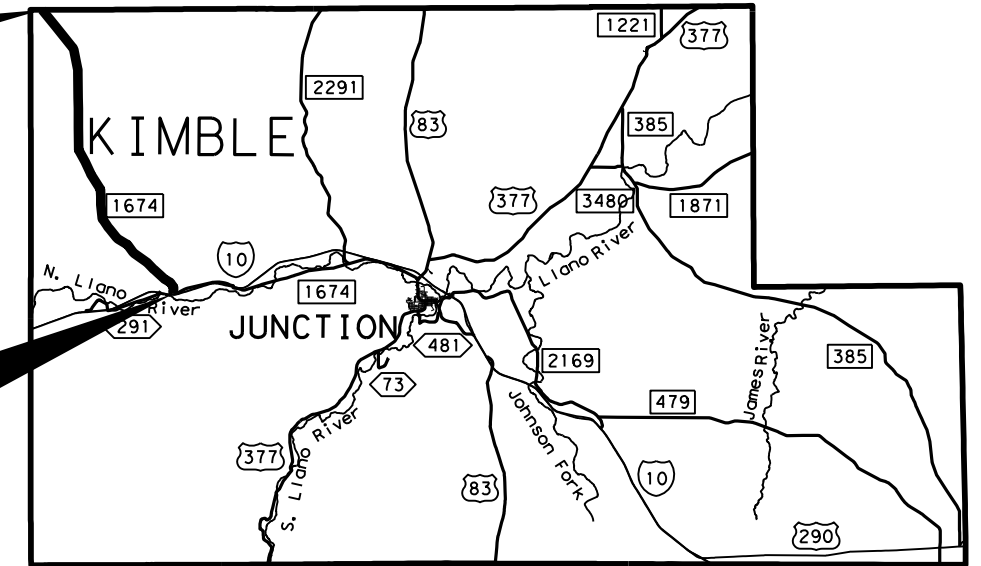
County Kimble
 Ctl-Sec-Job 1296-02-015
 Highway RM 1674
 Length (MI) 17.308
 Funct. Class Minor Collector
 Limits From Menard CL
 Limits To 17.308 Miles South of Menard CL
 Current ADT 205

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat 17.308 Miles South of Menard County Line.

BEGIN CONSTRUCTION
 TRM 412+0.011
 DFO 7.882
 MILE POINT 1.000
 LATITUDE 31.710413°
 LONGITUDE -100.106055°

END CONSTRUCTION
 TRM 428+1.366
 DFO 25.190
 MILE POINT 18.308
 LATITUDE 30.495324°
 LONGITUDE -99.991725°



SITE LOCATION

(0+00 = TRM 412+0.011)

SUMMARY OF SURFACING

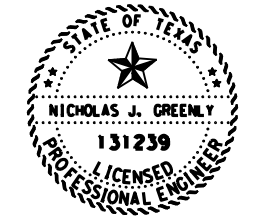
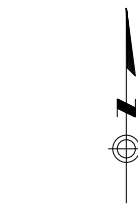
STATION		LENGTH	WIDTH	AREA	316-7067		316-7222	
FROM	TO	LF	LF	SY	ASPH (AC-20-5TR OR AC-20XP)	GAL	0.45 GAL/SY	AGGR (TY-PD, GR-3) (SAC-B)
								CY
0+00	573+55	57355	24	152,947	68,827			1,391
573+55	915+45	34190	26	98,772	44,448			898
915+45	916+21	End Taper		811	365			8
TOTALS				252,530	113,640			2,297

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
2,385	107,852	35	16,130	106,416	2,167	230,398

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
4



Nick Greenly P.E.

10/03/2024

				San Angelo District	
<h2>SEAL COAT SITE 15</h2> <p>RM 1674</p>					
SHEET 1 OF 1			SCALE: 1"=10 MILES		
© TXDOT 2024	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0035 05	062, ETC	US 83, ETC		
	DIST	COUNTY		SHEET NO.	
	SJT	MENARD, ETC		59	

DATE: 10/2/2024 4:38:35 PM
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DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

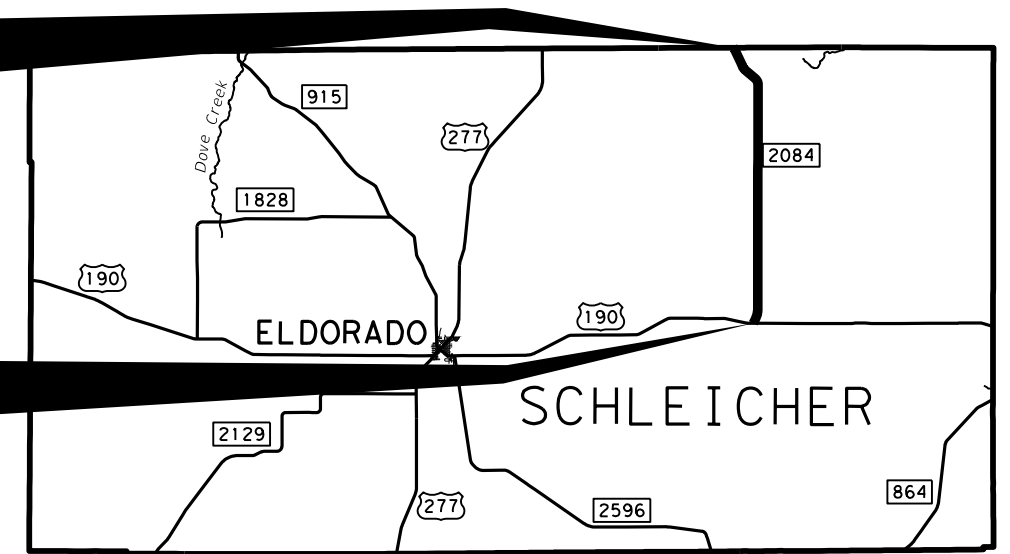
County Schleicher
 C+I-Sec-Job 1923-02-015
 Highway RM 2084
 Length (MI) 14.824
 Funct. Class Major Collector
 Limits From Tom Green CL
 Limits To US 190
 Current ADT 173

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat at US 190.

BEGIN CONSTRUCTION
 TRM 392+0.013
 DFO 12.772
 MILE POINT 0.000
 LATITUDE 31.088314°
 LONGITUDE -100.344013°

END CONSTRUCTION
 TRM 406+0.871
 DFO 27.596
 MILE POINT 14.824
 LATITUDE 30.879785°
 LONGITUDE -100.326450°



SITE LOCATION

(0+00 = TRM 392+0.013)

SUMMARY OF SURFACING

STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	266+20	26620	24	70,987	31,945	646
266+20	780+02	51382	28	159,856	71,936	1,454
780+02	789+60	Ramp To US 190		4,012	1,806	37
780+02	782+59	257	32	914	412	9
782+59	785+79	Ramp From US 190		1,400	630	13
782+59	784+57	198	32	704	317	7
784+57	785+34	End Taper to US 190		684	308	7
TOTALS				238,557	107,354	2,173

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
4

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7179	666-7184	668-7111	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 8" (SLD)	RE PM TY II (W) 24" (SLD)	PREFAB PM TY C (W) (36") (YLD TRI)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	EA	LF	LF	EA	LF
2,020	156,676	420	29	10	17,880	58,155	1,637	232,711

Nick Greenly P.E.
10/03/2024

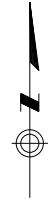
Texas Department of Transportation
 San Angelo District

SEAL COAT SITE 16
 RM 2084

SHEET 1 OF 2 SCALE: 1"=10 MILES

© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST		COUNTY	SHEET NO.
	SJT		MENARD, ETC	60

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RM 2084

(W) 8" (SLD) EDGE LINE

(W) 6" (SLD) EDGE LINE

(Y) 6" (SLD) EDGE LINE

(Y) 6" (SLD) DBL CENTERLINE

(W) 8" (SLD) EDGE LINE

5 EA (W) 36" (YLD TRI)

(W) 8" (SLD) EDGE LINE

5 EA (W) 36" (YLD TRI)

(Y) 6" (SLD) EDGE LINE

(W) 24" (SLD) STOP BAR

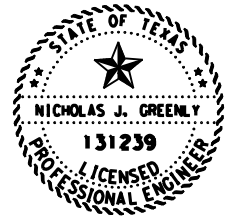
(Y) 6" (SLD) EDGE LINE

US 190

US 190

(W) 6" (SLD) EDGE LINE

(W) 8" (SLD) EDGE LINE



Nick Greenly P.E.

10/03/2024

RM 2084 AT US 190



SITE 16

RM 2084

SHEET 2 OF 2 SCALE 1"=60'

©TxDOT 2024	CONT	SECT	JOB	HIGHWAY
SHEET ISSUED OR LAST REVISED	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	61	

DATE: 10/12/2024 4:39:00 PM
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DATA FOR FINAL PLANS

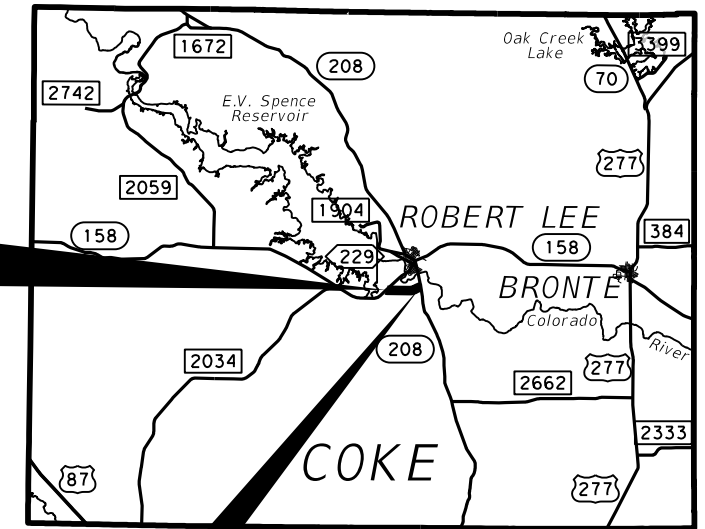
Asphalt Supplier _____
 Asphalt Type _____
 Asphalt Rate (GAL/SY) _____
 Aggregate Source _____
 Aggregate Rate (SY/CY) _____

SITE INFORMATION

County Coke
 C+I-Sec-Job 2010-01-015
 Highway RM 2034
 Length (MI) 1.843
 Funct. Class Minor Collector
 Limits From SH 208
 Limits To SH 158
 Current ADT 351

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat at SH 158.



BEGIN CONSTRUCTION
 TRM 332-0.040
 DFO 0.000
 MILE POINT 0.000
 LATITUDE 31.875869°
 LONGITUDE -100.478123°

END CONSTRUCTION
 TRM 334+0.057
 DFO 1.843
 MILE POINT 1.843
 LATITUDE 31.873052°
 LONGITUDE -100.508702°

SITE LOCATION

(0+00 = TRM 332-0.040)

SUMMARY OF SURFACING

STATION	LENGTH	WIDTH	AREA	316-7067		316-7222	
				ASPH (AC-20-5TR OR AC-20XP)		AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	LF	SY	GAL	0.45 GAL/SY	CY
0+00	1+20	Begin Taper		1,267	571		12
1+20	12+92	1172	30	3,907	1,759		36
12+92	72+57	5965	24	15,907	7,159		145
72+57	95+64	2307	32	8,203	3,692		75
95+64	96+70	End Taper to SH 158		732	330		7
TOTALS				30,016	13,511		275

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
245	19,173	68	1,760	7,986	166	27,483

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
1

SCALE IN MILES

Nick Greenly P.E.
 10/03/2024

Texas Department of Transportation
 San Angelo District

SEAL COAT SITE 17
 RM 2034

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY		SHEET NO.
	SJT	MENARD, ETC		62

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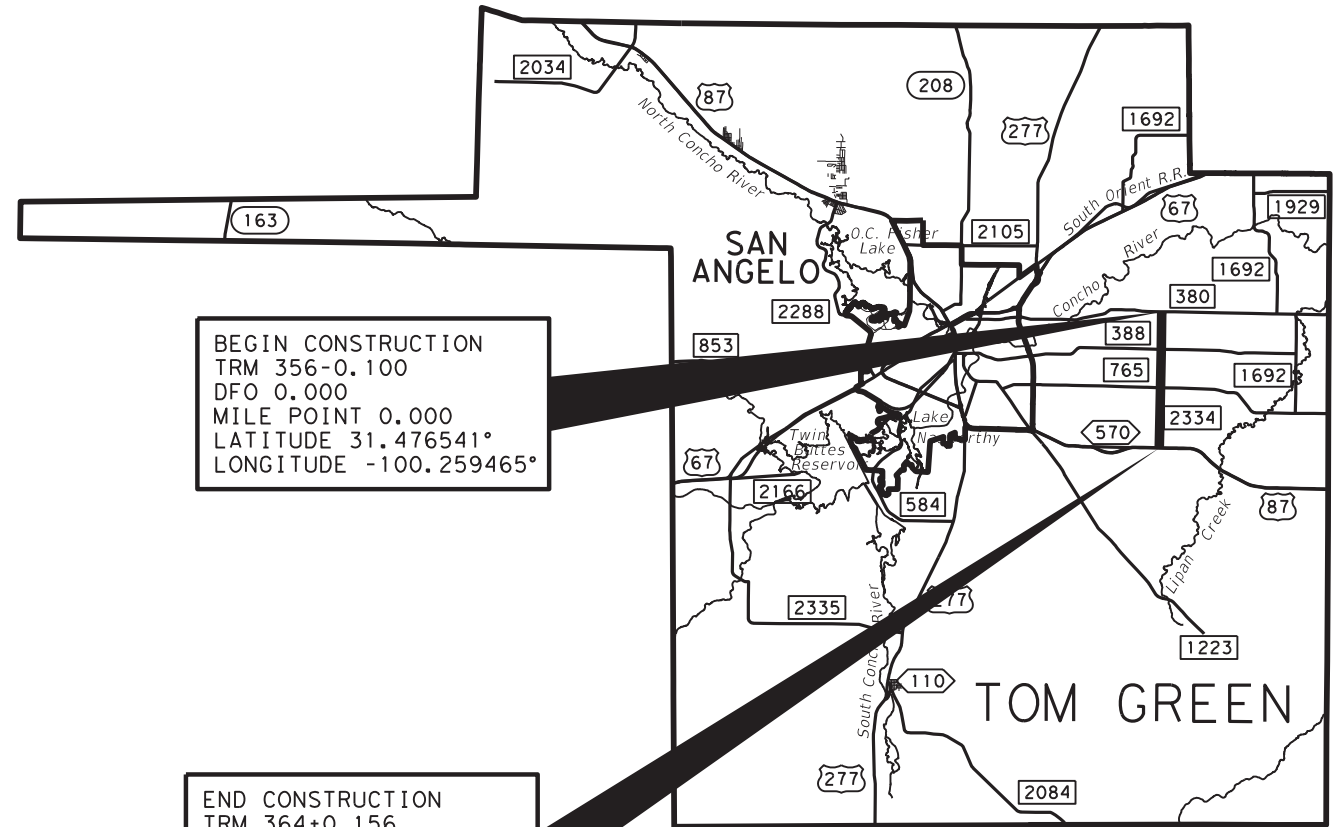
Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

County Tom Green
 Ctl-Sec-Job 2229-03-013
 Highway FM 2334
 Length (MI) 7.096
 Funct. Class Major Collector
 Limits From FM 380
 Limits To US 87
 Current ADT 462

GENERAL NOTES

- Seal coat full roadway width. 12 LF lanes with 1 LF shoulders.
- See Summary of Surfacing table.
- End seal coat at pavement joint before US 87.



BEGIN CONSTRUCTION
 TRM 356-0.100
 DFO 0.000
 MILE POINT 0.000
 LATITUDE 31.476541°
 LONGITUDE -100.259465°

END CONSTRUCTION
 TRM 364+0.156
 DFO 7.096
 MILE POINT 7.096
 LATITUDE 31.373361°
 LONGITUDE -100.261854°

SITE LOCATION

(0+00 = TRM 356-0.100)

SUMMARY OF SURFACING

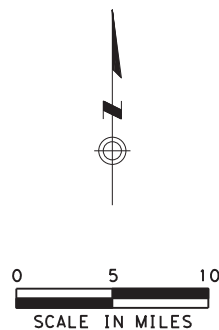
STATION		LENGTH		WIDTH		AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	* AVG	LF	SY	GAL	0.45 GAL/SY	CY	110 SY/CY	
0+00	0+64	Begin Taper			476		215		5	
0+64	208+74	20,810		26	60,118		27,054		547	
Transition to FM 765					194		88		2	
Transition from FM 765					342		154		4	
209+98	371+82	16,184		28	50,351		22,658		458	
TOTALS					111,481		50,169		1,016	

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
937	73,572	48	8,750	4,858	596	87,180

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
2



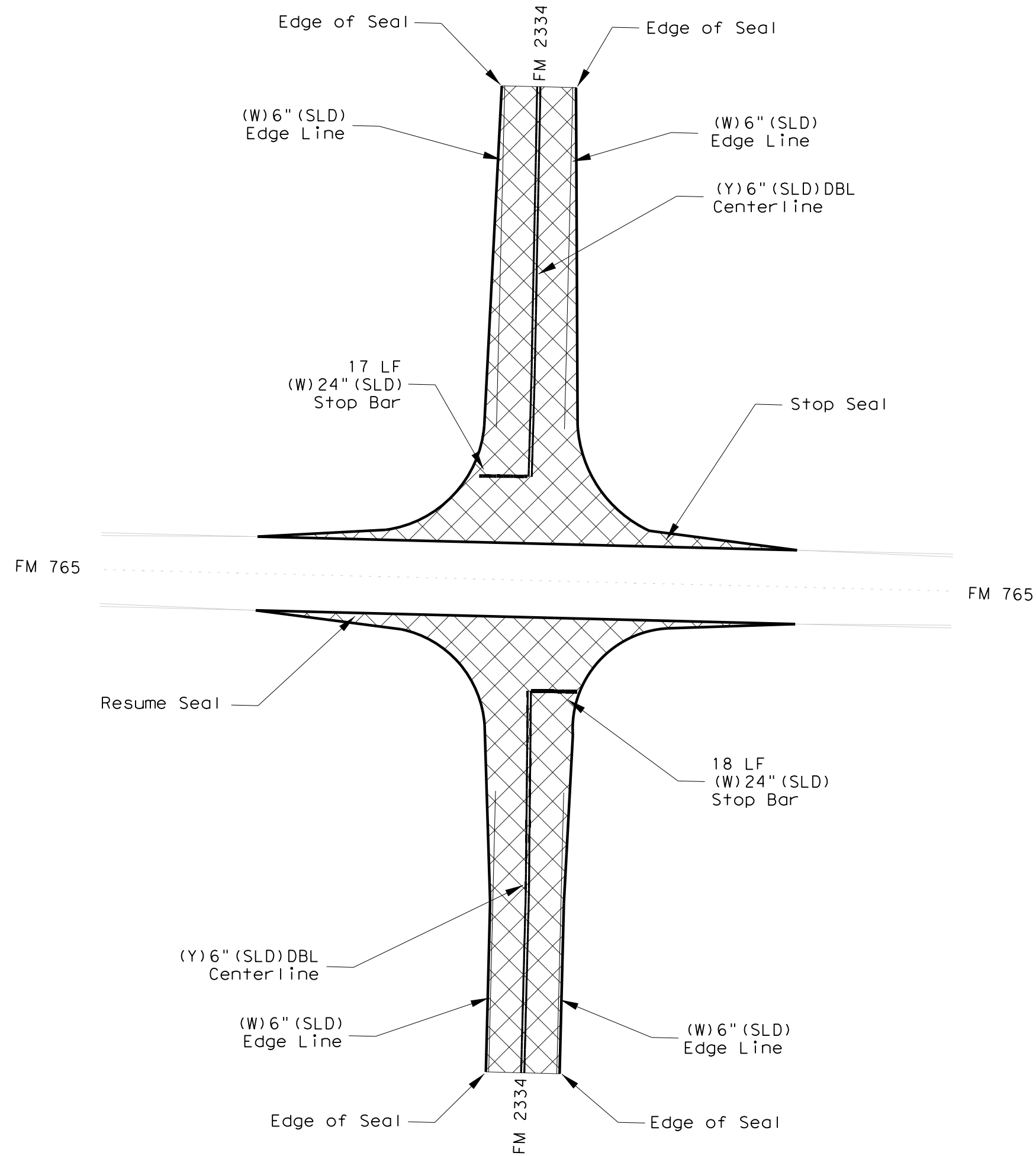
Nick Greenly P.E.

10/22/2024

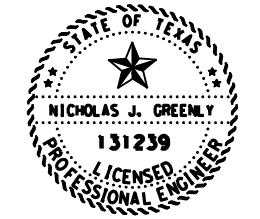
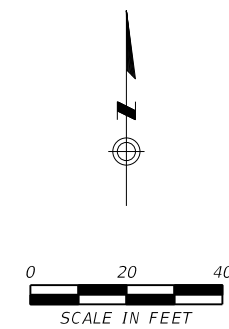
Texas Department of Transportation				San Angelo District
SEAL COAT SITE 18				
FM 2334				
SHEET 1 OF 2		SCALE: 1"=10 MILES		
© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	63	

DATE: 10/18/2024 4:24:14 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 18 (1 of 2).dgn

DATE: 10/12/2024 4:39:36 PM
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FM 2334 AT FM 765



Nick Greenly P.E.

10/03/2024

		San Angelo District	
<h3>SEAL COAT SITE 18</h3> <p>FM 2334</p>			
SHEET 2 OF 2		SCALE 1"=40'	
©TxDOT 2024 <small>SHEET ISSUED OR LAST REVISED</small>	CONT SECT 0035 05	JOB 062, ETC	HIGHWAY US 83, ETC
DIST SJT	COUNTY MENARD, ETC	SHEET NO. 64	

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

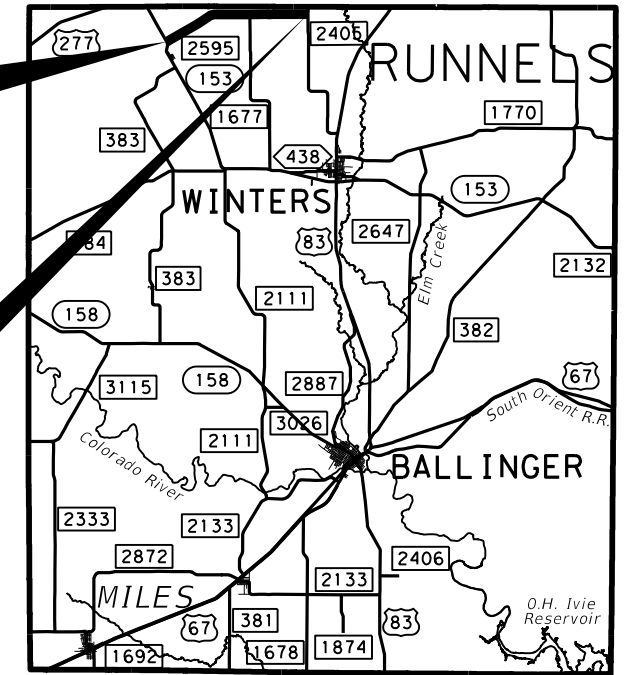
County Runnels
 C+I-Sec-Job 2572-01-005
 Highway FM 2595
 Length (MI) 7.750
 Funct. Class Minor Collector
 Limits From SH 153
 Limits To FM 2405
 Current ADT 92

GENERAL NOTES

1. Seal coat full roadway width, 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End sealcoat FM 2405.

BEGIN CONSTRUCTION
 TRM 394-0.036
 DFO 0.000
 MILE POINT 0.000
 LATITUDE 32.056076°
 LONGITUDE -100.113193°

END CONSTRUCTION
 TRM 400+1.672
 DFO 7.750
 MILE POINT 7.750
 LATITUDE 32.076643°
 LONGITUDE -99.987413°



SITE LOCATION

(0+00 = TRM 394-0.036)

SUMMARY OF SURFACING

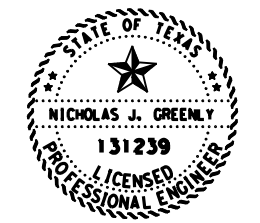
STATION		LENGTH	WIDTH	AREA	316-7067		316-7222	
FROM	TO	LF	LF	SY	ASPH (AC-20-5TR OR AC-20XP)	GAL	AGGR (TY-PD, GR-3) (SAC-B)	CY
0+00	0+73	Begin Taper		604		272		6
0+73	7+93	720	28	2,240		1,008		21
7+93	409+01	40108	20	89,129		40,109		811
End Taper to FM 2405				841		379		8
TOTALS				92,814		41,768		846

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
1,031	80,958	84	9,950	8,102	223	88,649

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
2



Nick Greenly P.E.

10/03/2024



San Angelo District

SEAL COAT SITE 19
 FM 2595

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	65	

DATE: 10/2/2024 4:39:50 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 19.dgn

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

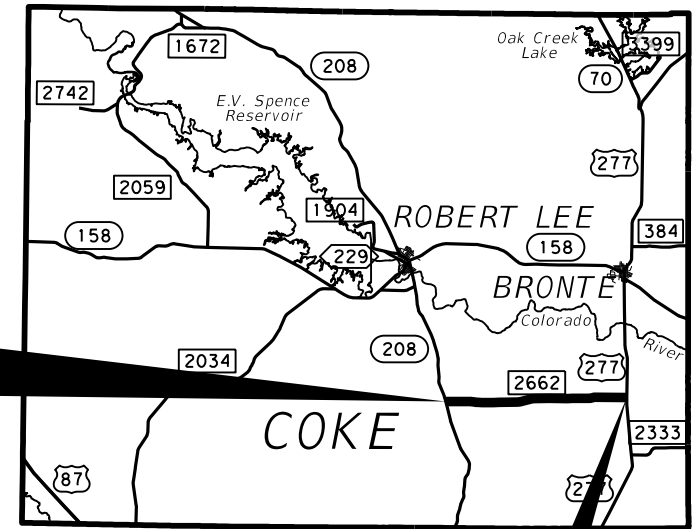
SITE INFORMATION

County Coke
 C+I-Sec-Job 2998-01-007
 Highway FM 2662
 Length (MI) 9.447
 Funct. Class Minor Collector
 Limits From SH 208
 Limits To US 277
 Current ADT 33

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat at SH 208.

BEGIN CONSTRUCTION
 TRM 374+0.042
 DFO 0.000
 MILE POINT 0.000
 LATITUDE 31.788788°
 LONGITUDE -100.450553°



SITE LOCATION

END CONSTRUCTION
 TRM 384+0.042
 DFO 9.447
 MILE POINT 9.447
 LATITUDE 31.791821°
 LONGITUDE -100.290234°

(0+00 = TRM 374-0.039)

SUMMARY OF SURFACING

STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	LF	SY	GAL	0.45 GAL/SY	CY	110 SY/CY
0+00	0+69	Begin Taper		462	208		5	
0+69	11+54	1085	30	3,617	1,628		33	
11+54	489+09	47755	21	111,429	50,144		1,013	
489+09	498+84	975	30	3,250	1,463		30	
498+84	499+34	End Taper to US 277		353	159		4	
TOTALS				119,111	53,602		1,085	

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
1,233	99,163	50	9,350	46,338	1,061	154,851

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
3

Nick Greenly P.E.
 10/03/2024

Texas Department of Transportation
 San Angelo District

SEAL COAT SITE 20
 FM 2662

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY		SHEET NO.
	SJT	MENARD, ETC		66

DATE: 10/2/2024 4:40:01 PM
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DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

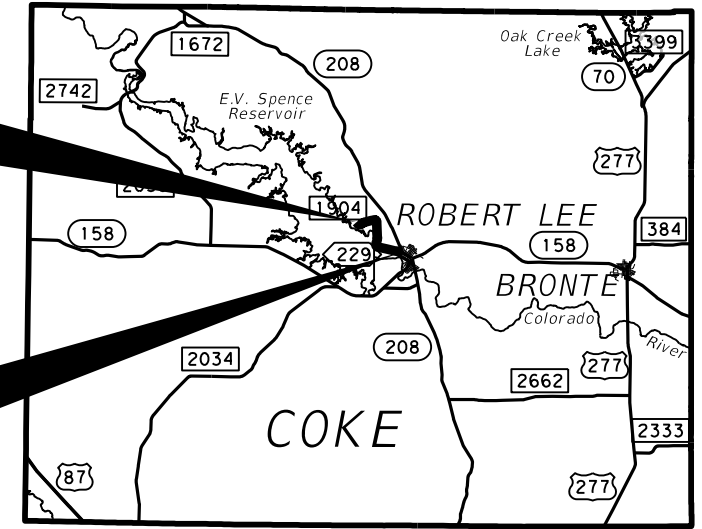
County	Coke
Ctl-Sec-Job	3291-01-007
Highway	FM 1904
Length (MI)	3.873
Funct. Class	Minor Collector
Limits From	End of Road
Limits To	SH 208
Current ADT	55

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. Begin seal at the end of the road.
3. See Summary of Surfacing table.
4. End seal coat at SH 208.

BEGIN CONSTRUCTION
 TRM 368-0.001
 DFO 0.000
 MILE POINT 0.000
 LATITUDE 31.922780°
 LONGITUDE -100.532725°

END CONSTRUCTION
 TRM 372+0.039
 DFO 3.873
 MILE POINT 3.873
 LATITUDE 31.900502°
 LONGITUDE -100.492045°



SITE LOCATION

DATE: 10/2/2024 4:40:13 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 21.dgn

(0+00 = TRM 368-0.001)

SUMMARY OF SURFACING							
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY	
0+00	197+89	19789	20	43,976	19,790	400	
197+89	203+74	585	32	2,080	936	19	
203+74	204+69	End Taper to SH 208		918	414	9	
TOTALS				46,974	21,140	428	

SUMMARY OF TCP
505-7003
TMA (MOBILE OPERATION)
DAY
1

PAVEMENT MARKINGS QUANTITY SUMMARY								
662-7114	666-7175	666-7179	666-7184	668-7111	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 8" (SLD)	RE PM TY II (W) 24" (SLD)	PREFAB PM TY C (W) (36") (YLD TRI)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	EA	LF	LF	EA	LF
518	40,390	66	15	6	4,210	17,676	150	49,740

Nick Greenly P.E.
10/03/2024

Texas Department of Transportation San Angelo District

SEAL COAT SITE 21

FM 1904

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TXDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	67	

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

County Glasscock
 Ctl-Sec-Job 3398-01-005
 Highway RM 3093
 Length (MI) 3.035
 Funct. Class Minor Collector
 Limits From RM 2401
 Limits To Reagan CL
 Current ADT 361

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat at Reagan County Line.



BEGIN CONSTRUCTION
 TRM 342+0.101
 DFO 0.000
 MILE POINT 5.000
 LATITUDE 31.693950°
 LONGITUDE -101.577143°

END CONSTRUCTION
 TRM 346+0.135
 DFO 3.035
 MILE POINT 8.035
 LATITUDE 31.651349°
 LONGITUDE -101.563643°

SITE LOCATION

DATE: 10/2/2024 4:40:25 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 22.dgn

(0+00 = TRM 342-0.101)

SUMMARY OF SURFACING

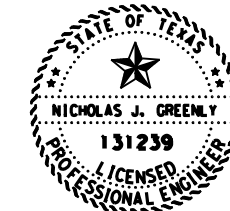
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	0+61	Begin Taper		430	194	4
0+61	160+47	15986	28	49,735	22,381	453
TOTALS				50,165	22,575	457

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
402	31,880	17	3,940	2,360	227	38,180

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
1



Nick Greenly P.E.

10/03/2024

		San Angelo District	
<h2>SEAL COAT SITE 22</h2> <p>RM 3093</p>			
SHEET 1 OF 1		SCALE: 1"=10 MILES	
© TXDOT 2024	CONT	SECT	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.
	SJT	MENARD, ETC	68

DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

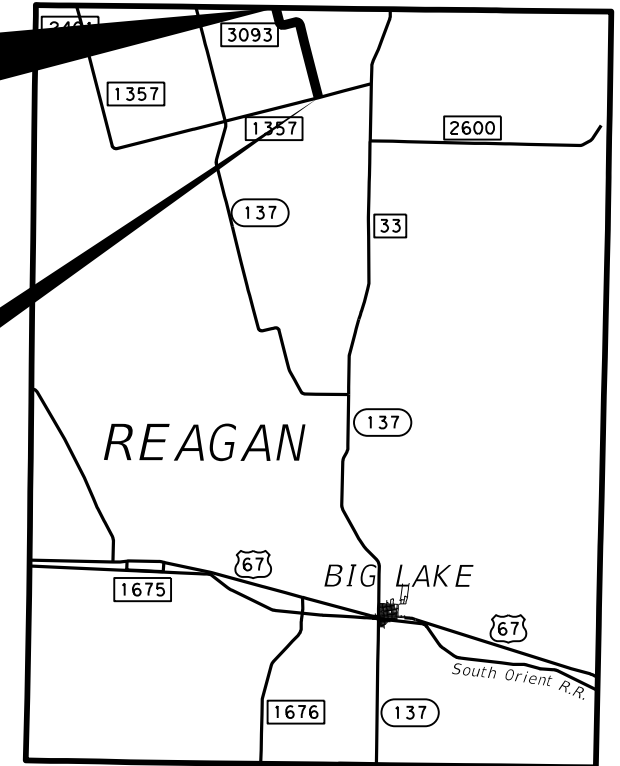
County Reagan
 Ctl-Sec-Job 3398-02-006
 Highway RM 3093
 Length (MI) 5.885
 Funct. Class Minor Collector
 Limits From Glasscock CL
 Limits To RM 1357
 Current ADT 149

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat at RM 1357.

BEGIN CONSTRUCTION
 TRM 346+0.135
 DFO 3.035
 MILE POINT 0.500
 LATITUDE 31.651349°
 LONGITUDE -101.563643°

END CONSTRUCTION
 TRM 350+1.988
 DFO 8.920
 MILE POINT 6.385
 LATITUDE 31.583796°
 LONGITUDE -101.525077°



SITE LOCATION

(0+00 = TRM 346+0.135)

SUMMARY OF SURFACING

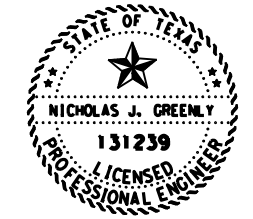
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	180+31	18031	28	56,097	25,244	510
180+31	310+73	13042	30	43,474	19,564	396
310+73	311+15	End Taper to RM 1357		448	202	5
TOTALS				100,019	45,010	911

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114 WK ZN PAV MRK SHT TERM (TAB)TY Y-2	666-7175 RE PM TY 11 (W) 6" (SLD)	666-7184 RE PM TY 11 (W) 24" (SLD)	666-7211 RE PM TY 11 (Y) 6" (BRK)	666-7213 RE PM TY 11 (Y) 6" (SLD)	672-7004 REFL PAV MRKR TY 11-A-A	677-7030 ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
782	61,927	17	6,730	11,385	163	69,627

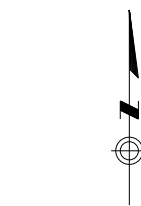
SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
2



Nick Greenly P.E.

10/03/2024



San Angelo District

SEAL COAT SITE 23
 RM 3093

SHEET 1 OF 1 SCALE: 1"=10 MILES

© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	69	

DATE: 10/2/2024 4:40:38 PM FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/3. Roadway/SEAL COAT SITE 23.dgn

DATA FOR FINAL PLANS

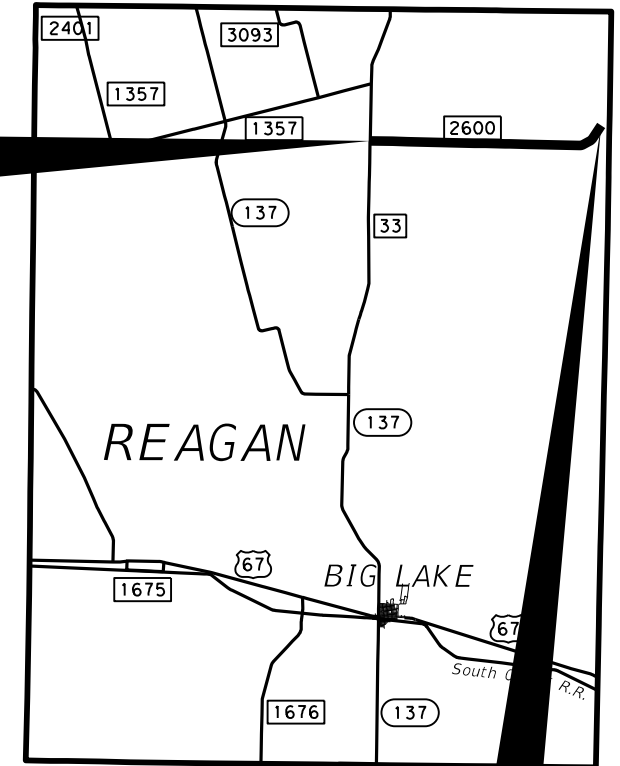
Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

County Reagan
 C+I-Sec-Job 3462-02-008
 Highway RM 2600
 Length (MI) 12.490
 Funct. Class Minor Collector
 Limits From RM 33
 Limits To End of Road
 Current ADT 172

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with varying shoulder widths.
2. See Summary of Surfacing table.
3. End seal coat at the end of the road.



BEGIN CONSTRUCTION
 TRM 314-0.038
 DFO 0.000
 MILE POINT 5.000
 LATITUDE 31.551537°
 LONGITUDE -101.479011°

SITE LOCATION

END CONSTRUCTION
 TRM 326+0.488
 DFO 12.490
 MILE POINT 17.490
 LATITUDE 31.564800°
 LONGITUDE -101.275065°

(0+00 = TRM 314-0.038)

SUMMARY OF SURFACING

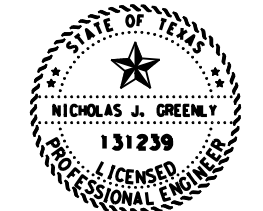
STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)		316-7222 AGGR (TY-PD, GR-3) (SAC-B)	
FROM	TO	LF	* AVG LF	SY	GAL	0.45 GAL/SY	CY	110 SY/CY
0+00	0+95	Begin Taper		1,008	454		10	
0+95	6+10	515	32	1,832	825		17	
6+10	660+75	65465	28	203,669	91,652		1,852	
TOTALS				206,509	92,931		1,879	

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
1,667	131,786	22	12,900	51,197	1,295	195,883

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
3



Nick Greenly P.E.

10/03/2024

		San Angelo District	
<h2>SEAL COAT SITE 24</h2> <p>RM 2600</p>			
SHEET 1 OF 1		SCALE: 1"=10 MILES	
© TXDOT 2024	CONT	SECT	JOB
REVISIONS	0035 05	062, ETC	US 83, ETC
	DIST	COUNTY	SHEET NO.
	SJT	MENARD, ETC	70

DATE: 10/2/2024 4:40:50 PM
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DATA FOR FINAL PLANS

Asphalt Supplier	_____
Asphalt Type	_____
Asphalt Rate (GAL/SY)	_____
Aggregate Source	_____
Aggregate Rate (SY/CY)	_____

SITE INFORMATION

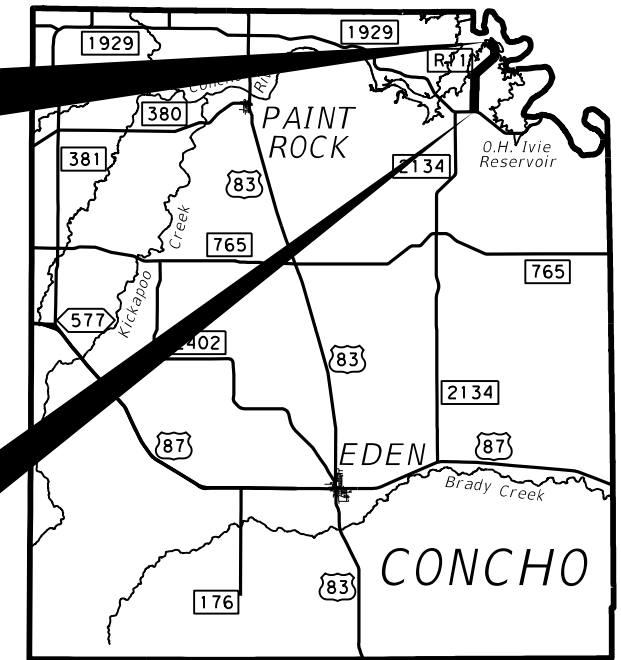
County Concho
 Ctl-Sec-Job 3619-01-004
 Highway RE 0011
 Length (MI) 4.243
 Funct. Class Minor Collector
 Limits From End of Maintenance
 Limits To FM 1929
 Current ADT 148

GENERAL NOTES

1. Seal coat full roadway width. 12 LF lanes with 4 LF shoulders
2. See Summary of Surfacing table.
3. End seal at FM 1929.

BEGIN CONSTRUCTION
 TRM 364+0.029
 DFO 0.000
 MILE POINT 1.000
 LATITUDE 31.553738°
 LONGITUDE -99.709365°

END CONSTRUCTION
 TRM 368+0.080
 DFO 4.243
 MILE POINT 5.243
 LATITUDE 31.500905°
 LONGITUDE -99.721713°



SITE LOCATION

(0+00 = TRM 364-0.029)

SUMMARY OF SURFACING

STATION		LENGTH	WIDTH	AREA	316-7067 ASPH (AC-20-5TR OR AC-20XP)	316-7222 AGGR (TY-PD, GR-3) (SAC-B)
FROM	TO	LF	LF	SY	GAL 0.45 GAL/SY	CY 110 SY/CY
0+00	223+76	22376	32	79,560	35,802	724
Mailbox Pullout				438	198	4
End Taper to FM 1929				379	171	4
TOTALS				80,377	36,171	732

PAVEMENT MARKINGS QUANTITY SUMMARY

662-7114	666-7175	666-7184	666-7211	666-7213	672-7004	677-7030
WK ZN PAV MRK SHT TERM (TAB)TY Y-2	RE PM TY II (W) 6" (SLD)	RE PM TY II (W) 24" (SLD)	RE PM TY II (Y) 6" (BRK)	RE PM TY II (Y) 6" (SLD)	REFL PAV MRKR TY II-A-A	ELIM EXT PM & MRKS (RUMBLE STRIP)
EA	LF	LF	LF	LF	EA	LF
569	44,537	12	3,050	31,521	554	79,108

SUMMARY OF TCP

505-7003
TMA (MOBILE OPERATION)
DAY
2

Nick Greenly P.E.
 10/03/2024

Texas Department of Transportation
 San Angelo District

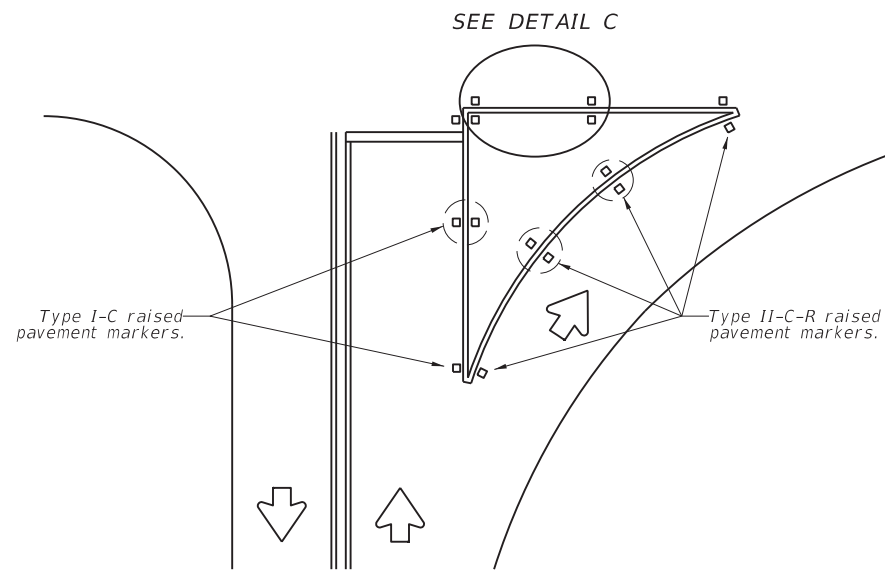
SEAL COAT SITE 25
 RE 0011

SHEET 1 OF 1 SCALE: 1"=10 MILES

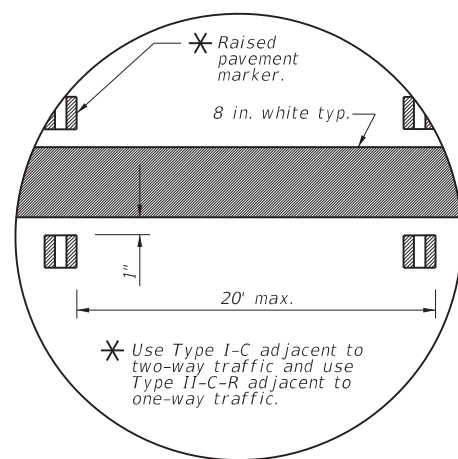
© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035 05	062, ETC	US 83, ETC	
	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	71	

DATE: 10/2/2024 4:41:02 PM
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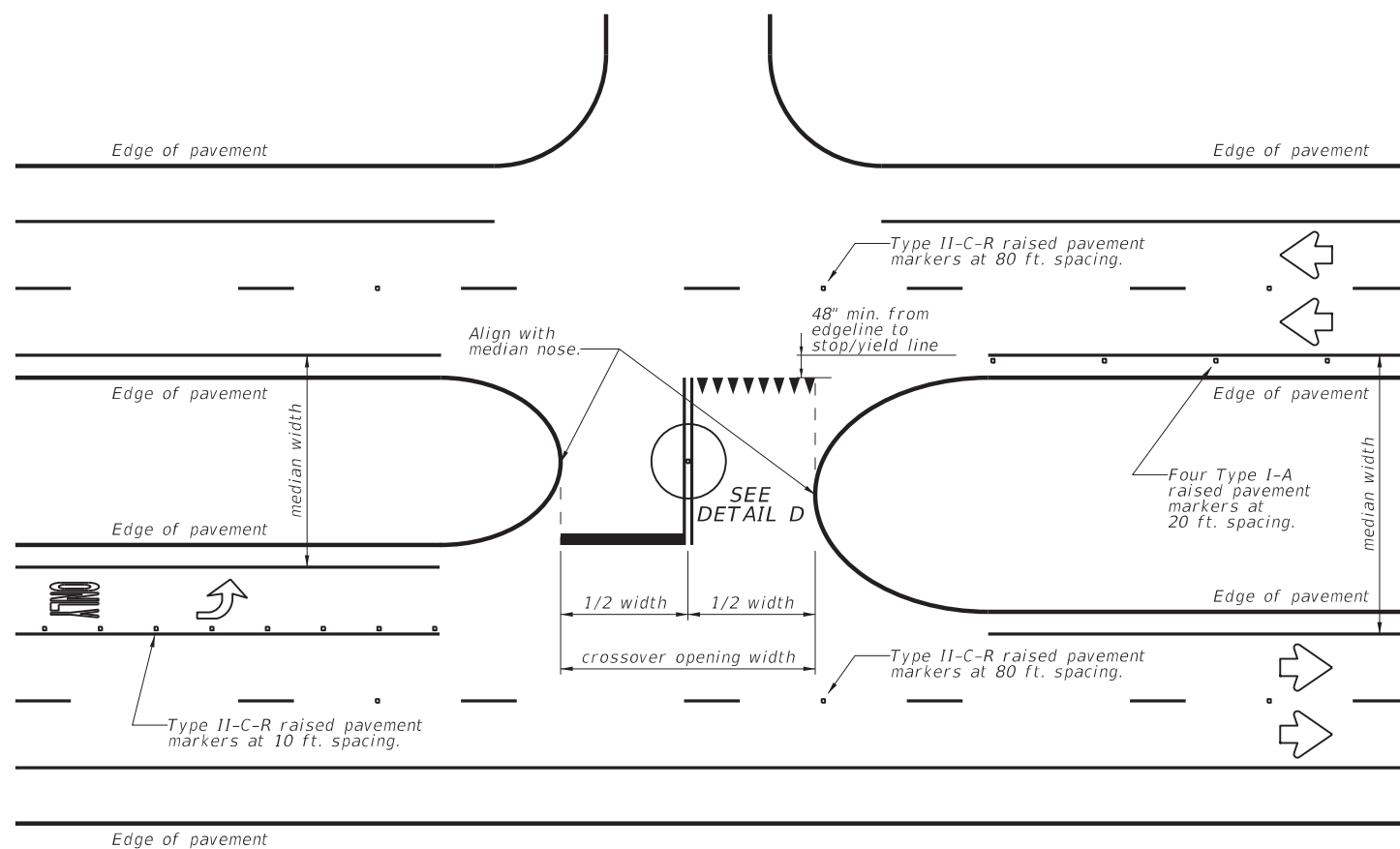
DATE: 10/18/2024 4:24:26 PM
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DETAILS FOR
 TYPICAL INTERSECTION
 WITH UNCURBED
 CHANNELIZING ISLAND

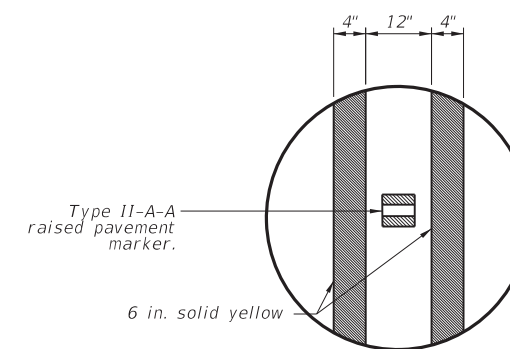


DETAIL C



CROSSOVER DETAILS

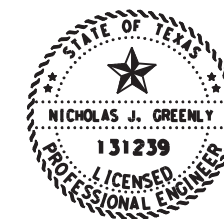
PROJECT QUANTITIES OF WORDS AND ARROWS								
EAST	SOUTH	ONLY	STOP	AHEAD	←	→	↑	⊗
1	1	8	0	0	7	5	2	0
					↕	↗	↘	↻
					0	0	8	0



DETAIL D

GENERAL NOTES

1. Lane-use word and arrow markings should be used in bays serving public road intersections.
2. When lane-use word 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. See Standard Sheet PM(3) for more details.
3. Use 36 in. yield triangles or 24 in. stop bars, double yellow pavement markings, and Type II-A-A raised pavement markers at crossovers having narrower median width of at least 30 ft. Place one Type II-A-A raised pavement marker centered in the median, between the double yellow pavement markings.
4. The stop bar widths or number of yield triangles at each location is determined by the crossover opening width.
5. Spacing between yield triangles shall be 12 in.

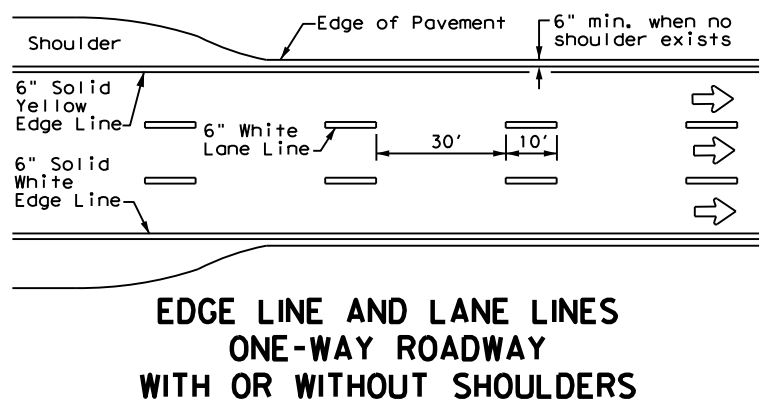


Nick Greenly P.E.

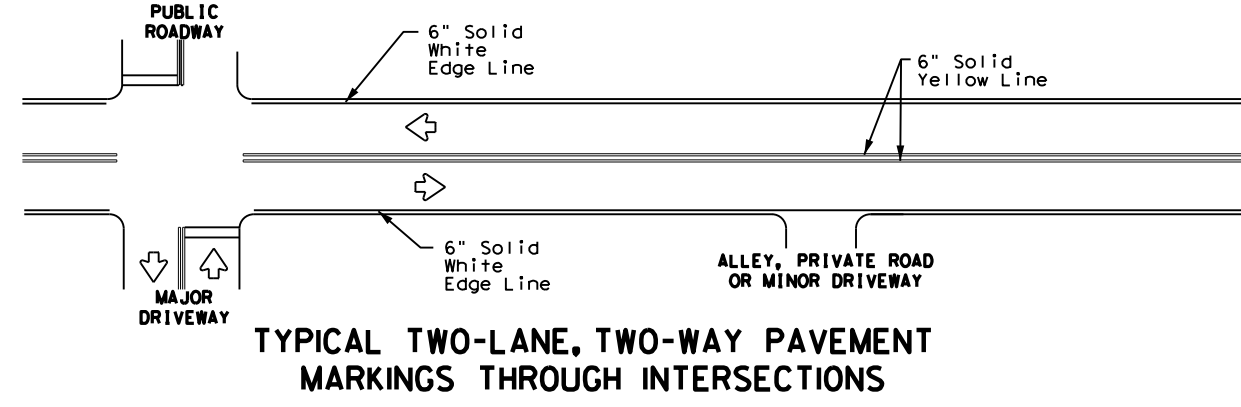
10/22/2024

		San Angelo District	
PAVEMENT MARKING DETAILS (RURAL)			
SHEET 1 OF 1		NOT TO SCALE	
©TxDOT 2024 SHEET ISSUED OR LAST REVISED 09-20	CONT SECT 0035 05	JOB 062, ETC	HIGHWAY US 83, ETC
DIST SJT	COUNTY MENARD, ETC	SHEET NO. 72	

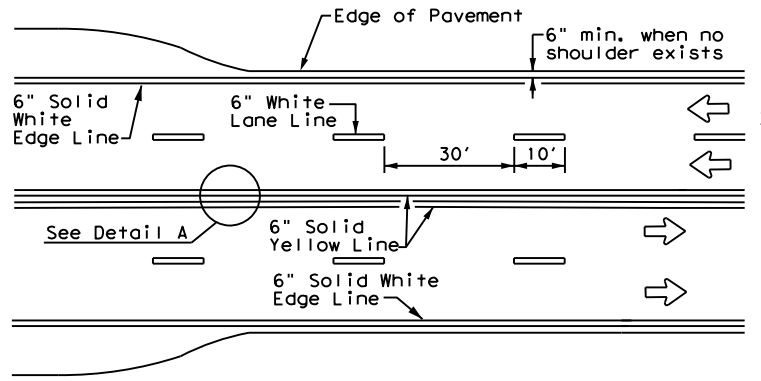
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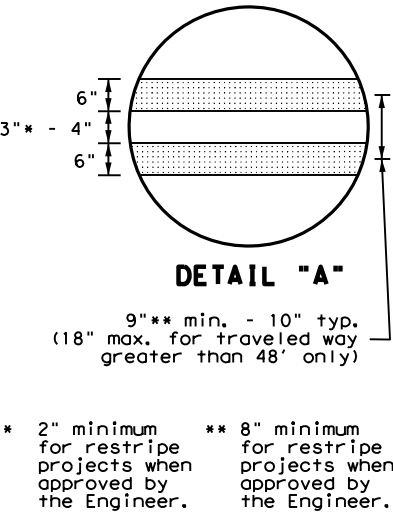
**EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS**



**TYPICAL TWO-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS**



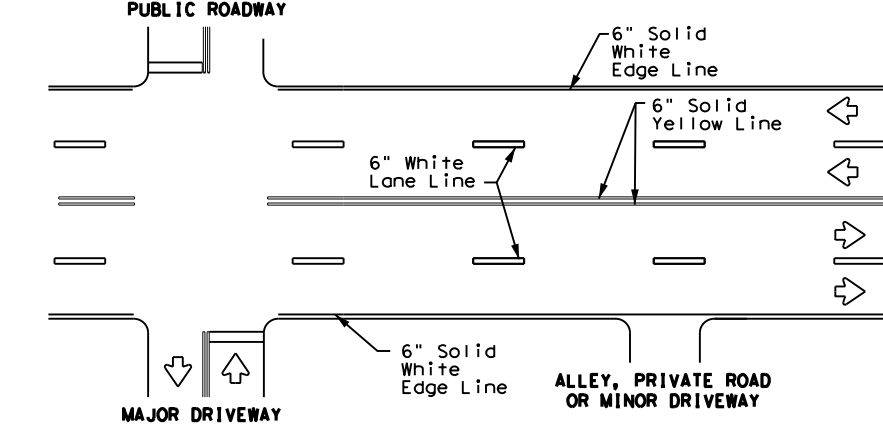
**CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS**



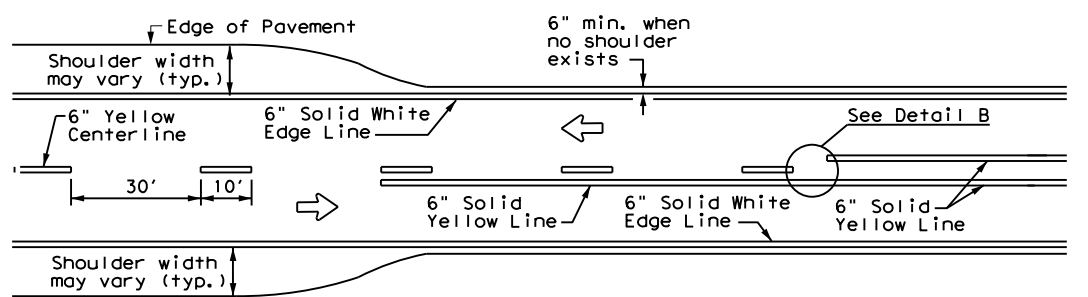
DETAIL "A"

9" min. - 10" typ.
(18" max. for traveled way greater than 48' only)

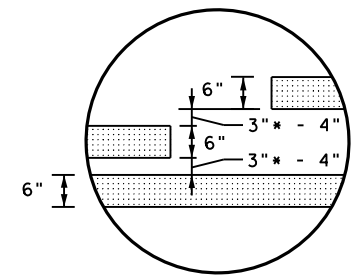
* 2" minimum for restripe projects when approved by the Engineer.
** 8" minimum for restripe projects when approved by the Engineer.



**TYPICAL MULTI-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS**

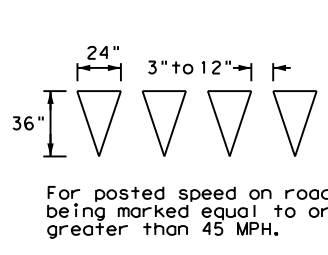


**TWO LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS**



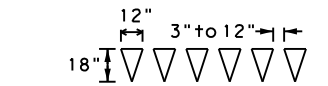
DETAIL "B"

* 2" minimum for restripe projects when approved by the Engineer.



YIELD LINES

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.

NOTES

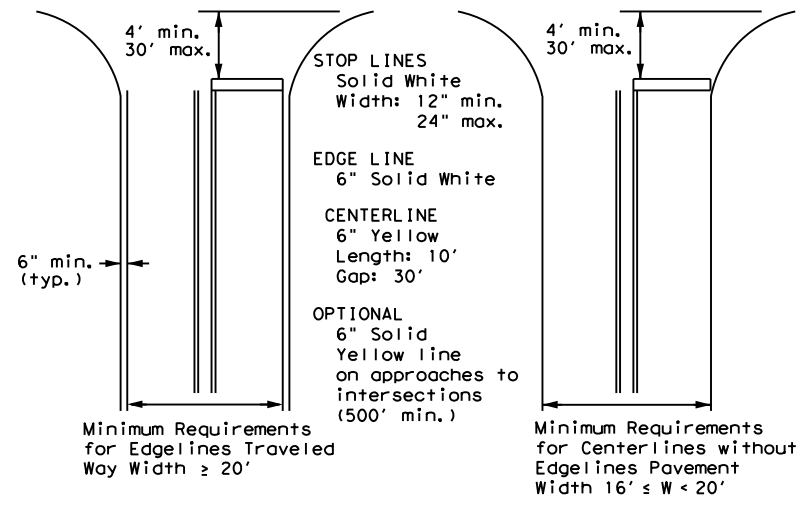
- Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling 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.
- 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.
- 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

- 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.
- 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

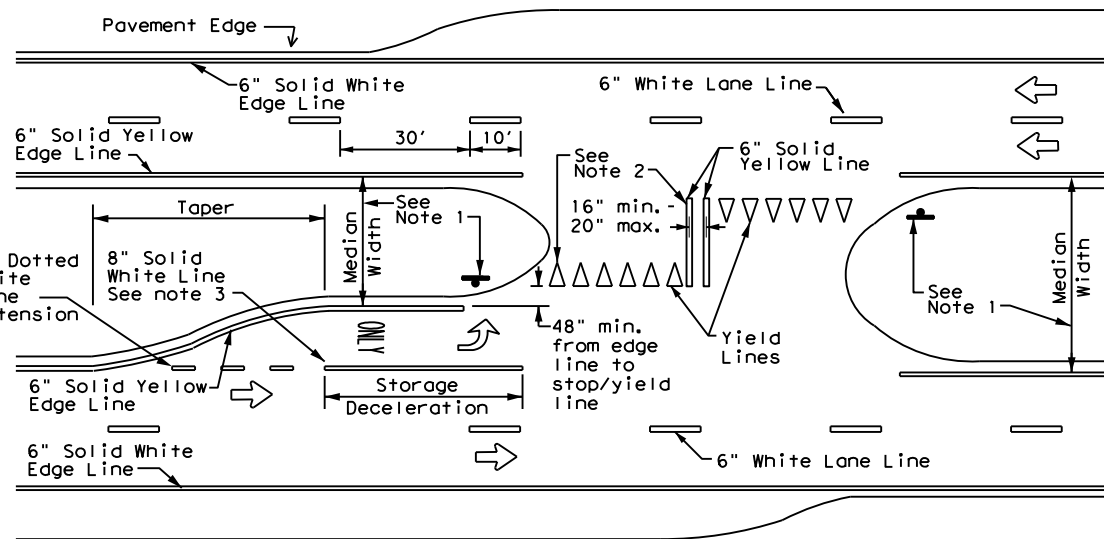
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



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



FOUR LANE DIVIDED ROADWAY CROSSOVERS

Texas Department of Transportation
 Traffic Safety Division Standard

**TYPICAL STANDARD
PAVEMENT MARKINGS**

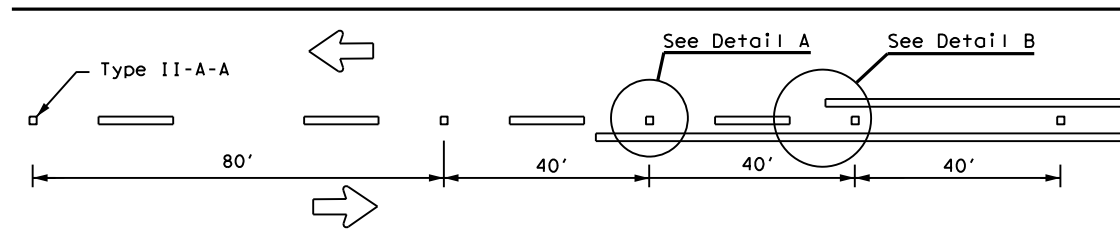
PM(1)-22

FILE: pm1-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
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8-95 3-03 12-22	SJT	MENARD, ETC	73	
5-00 2-12				

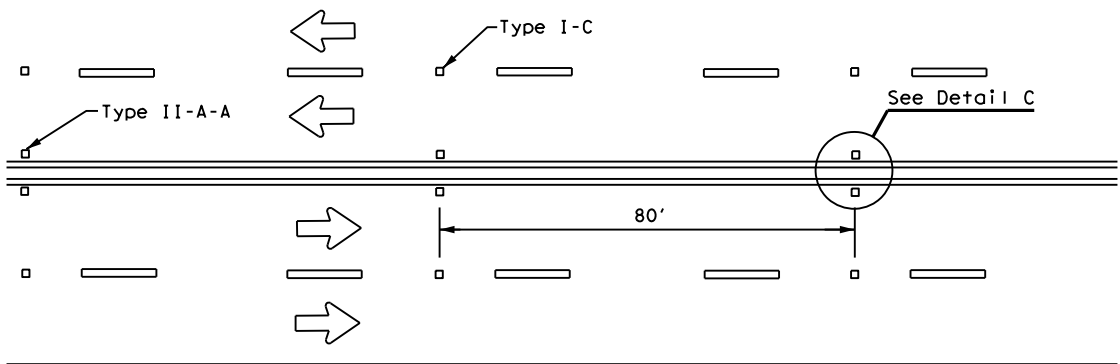
22A

REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

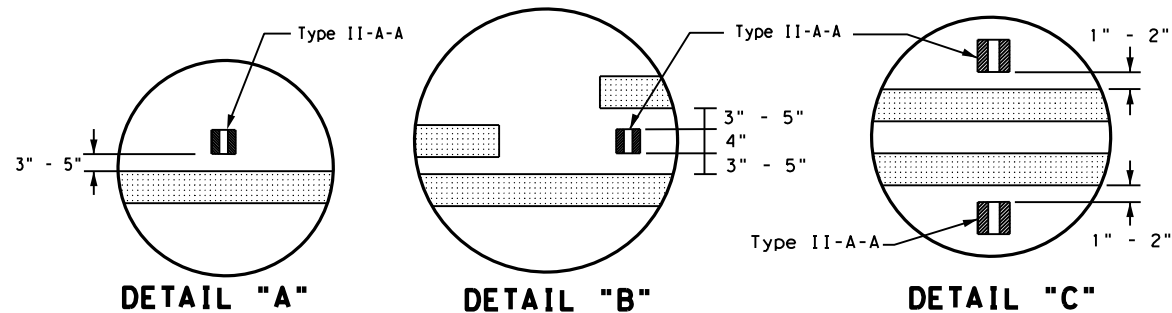
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CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS



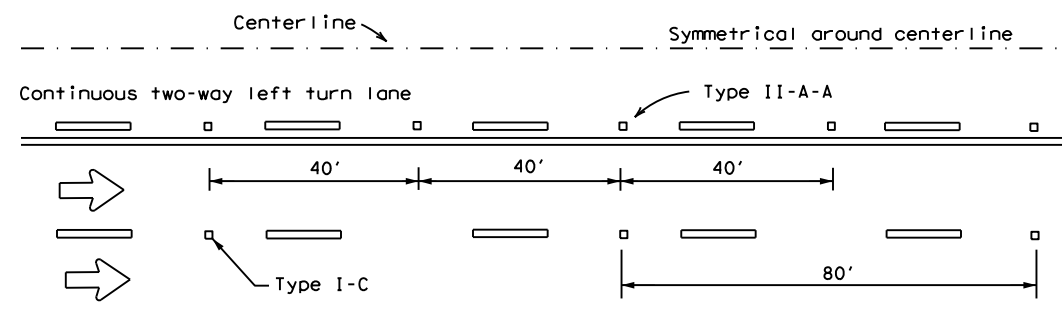
**CENTERLINE & LANE LINES
FOR FOUR LANE TWO-WAY ROADWAYS**



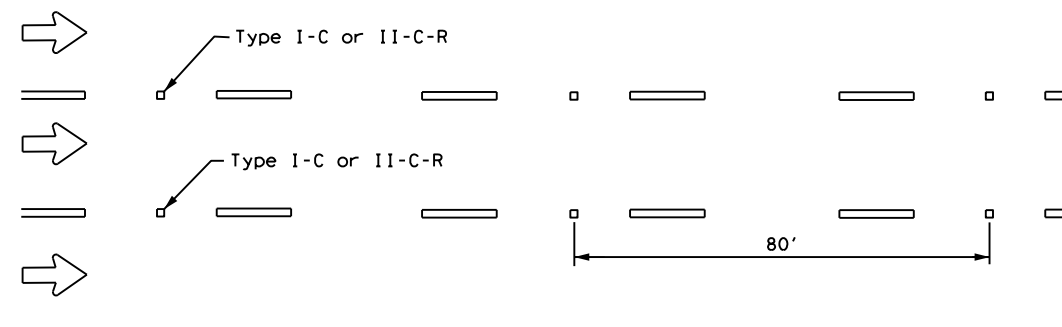
DETAIL "A"

DETAIL "B"

DETAIL "C"

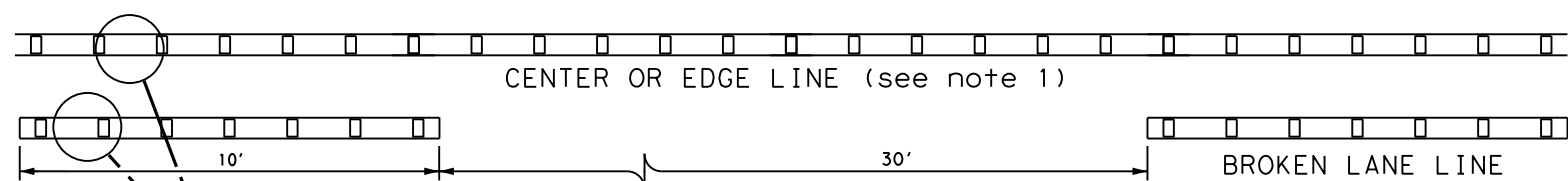


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



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.



**REFLECTORIZED PROFILE
PATTERN DETAIL**

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

6" EDGE LINE, 6" CENTERLINE
 OR 6" LANE LINE

NOTES

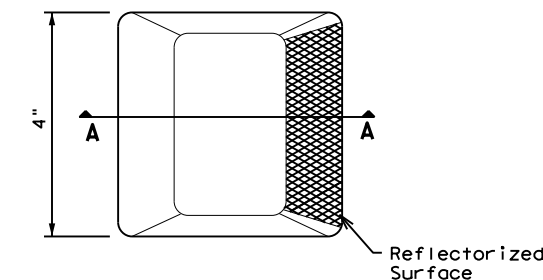
1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

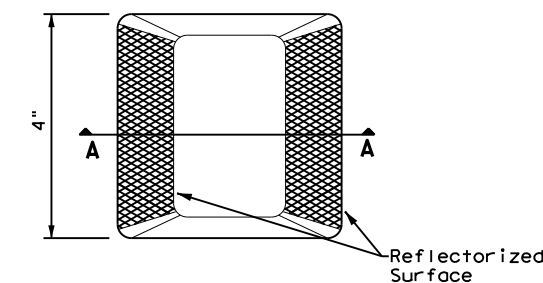
1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements, the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians, and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

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

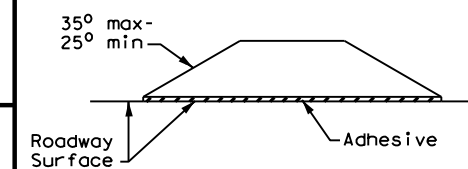
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

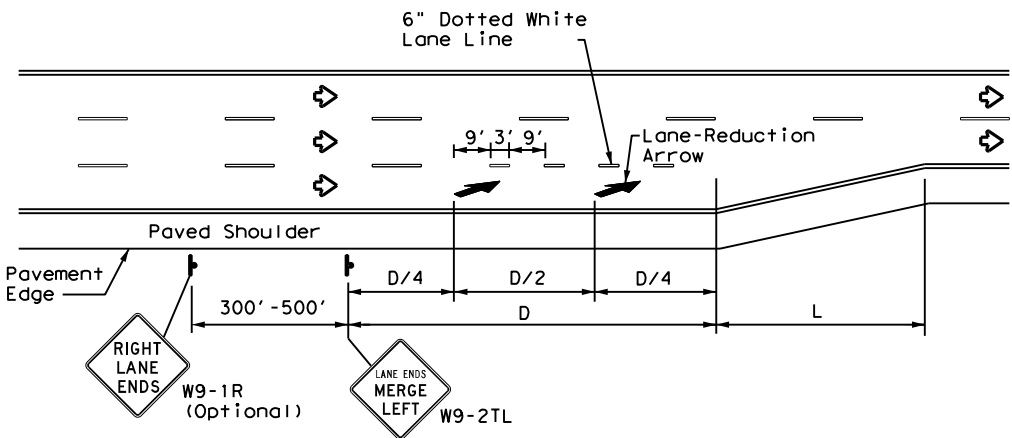


**POSITION GUIDANCE USING
RAISED MARKERS
REFLECTORIZED PROFILE
MARKINGS
PM(2) - 22**

FILE: pm2-22.dgn	DWG:	CHK:	DWG:	CHK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
4-77 8-00 6-20	DIST	COUNTY	SHEET NO.	
4-92 2-10 12-22	SJT	MENARD, ETC	74	
5-00 2-12				

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 FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/00106222/00106222.dgn



LANE REDUCTION

NOTES

- 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.
- 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.
- 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.
- For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

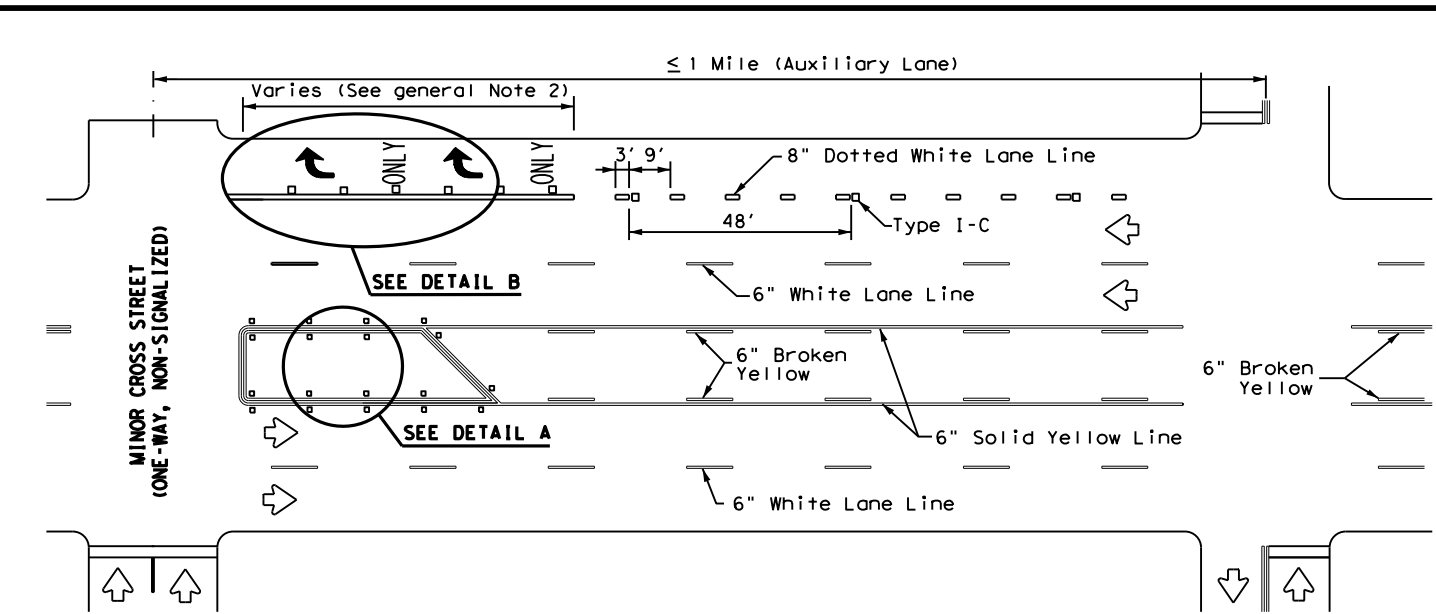
ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L = \frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	

GENERAL NOTES

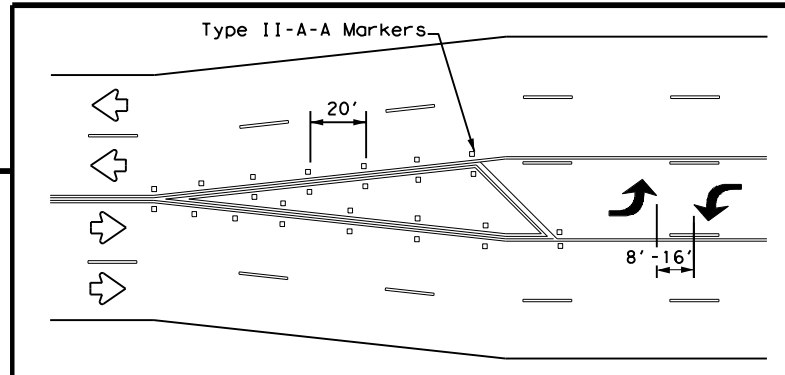
- Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
- 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.
- 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.
- 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.

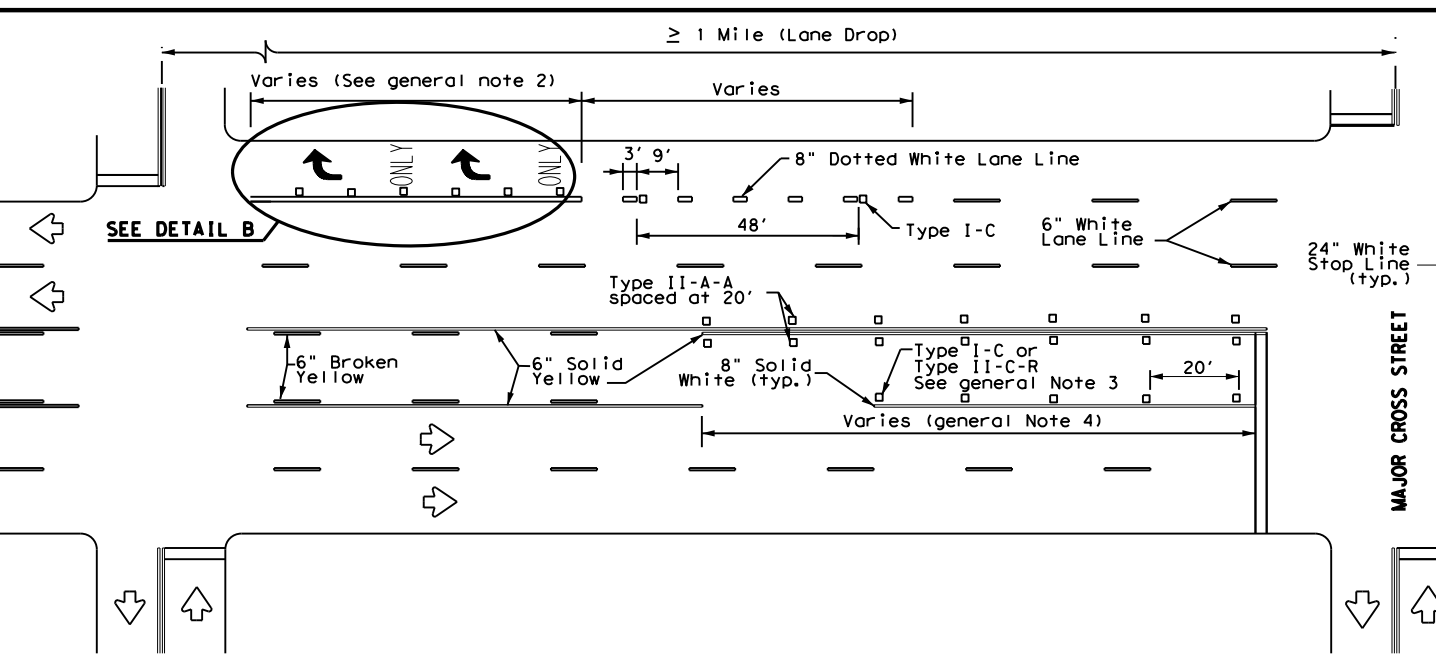


TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE

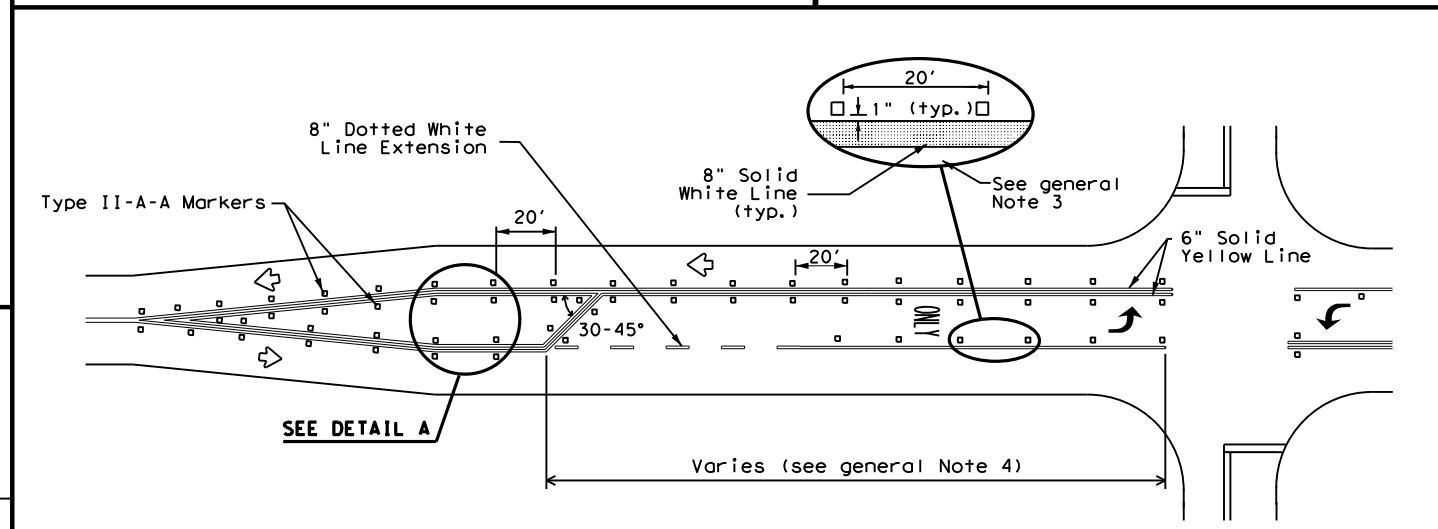


A two-way left-turn (TWLTL) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

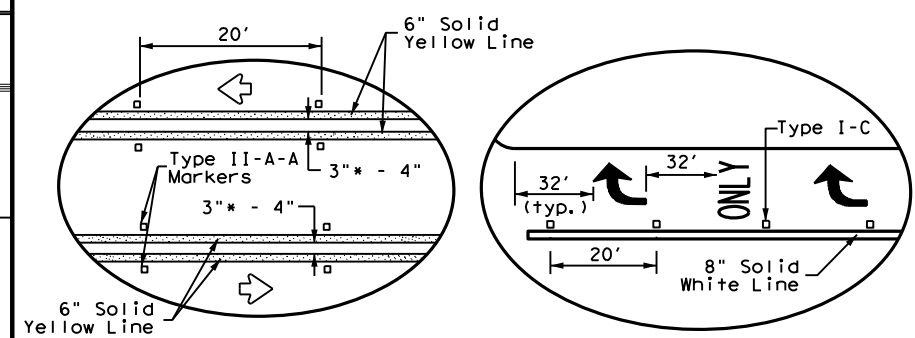
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



DETAIL A

DETAIL B

* 2" minimum allowed for restripe projects when approved by the Engineer.

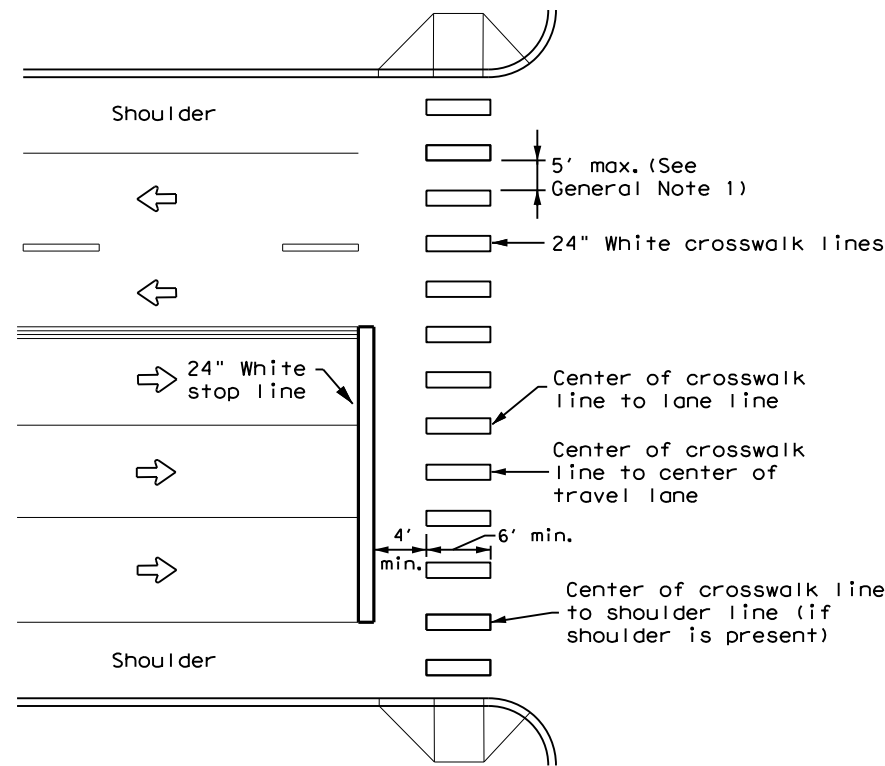
Texas Department of Transportation
 Traffic Safety Division Standard

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	0035	05	062, ETC	US 83, ETC
4-98 3-03 6-20	DIST	COUNTY	SHEET NO.	
5-00 2-10 12-22	SJT	MENARD, ETC	75	
8-00 2-12				

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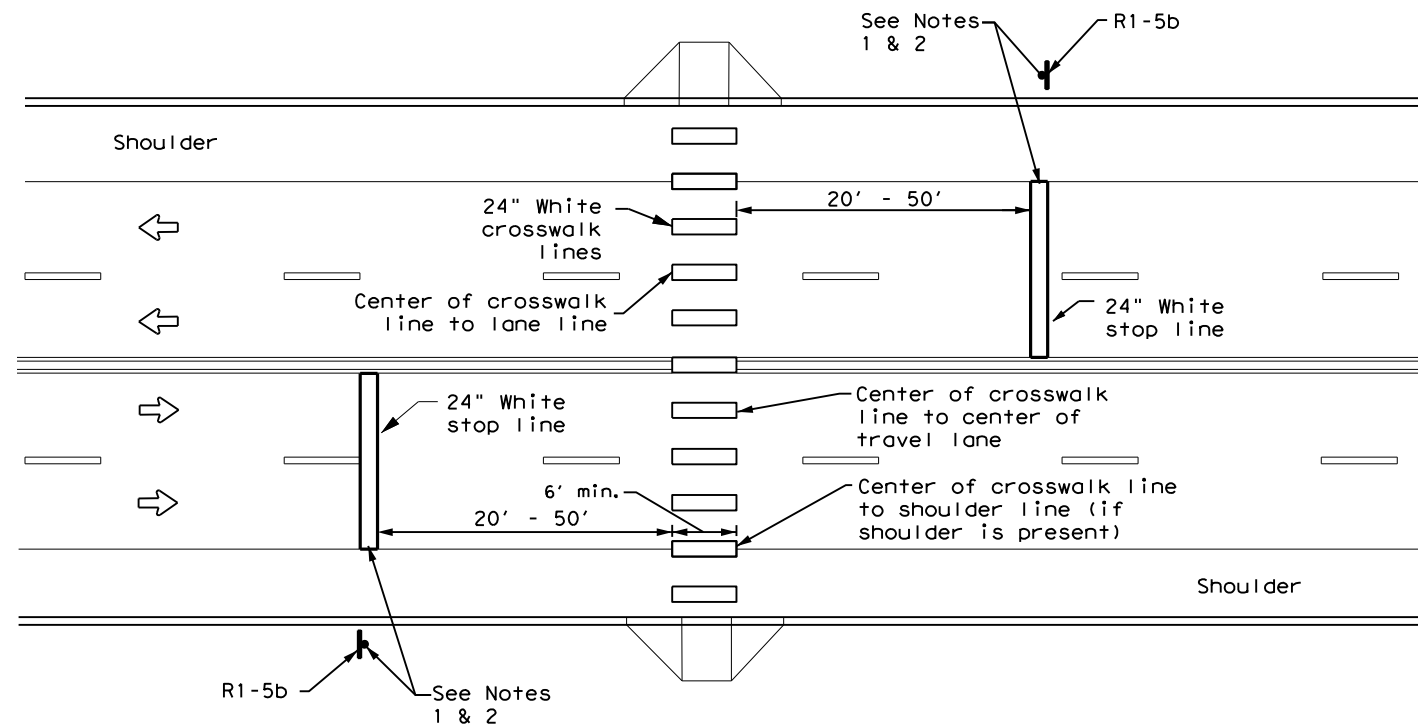
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

1. Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines (if present).
2. A minimum 6" clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
3. For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
4. At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
5. Each crosswalk shall be a minimum of 6' wide.
6. The High-Visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimension shall comply with the "Texas Manual on Uniform Traffic Control Devices."
7. Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

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.



UNSIGNALIZED MIDBLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

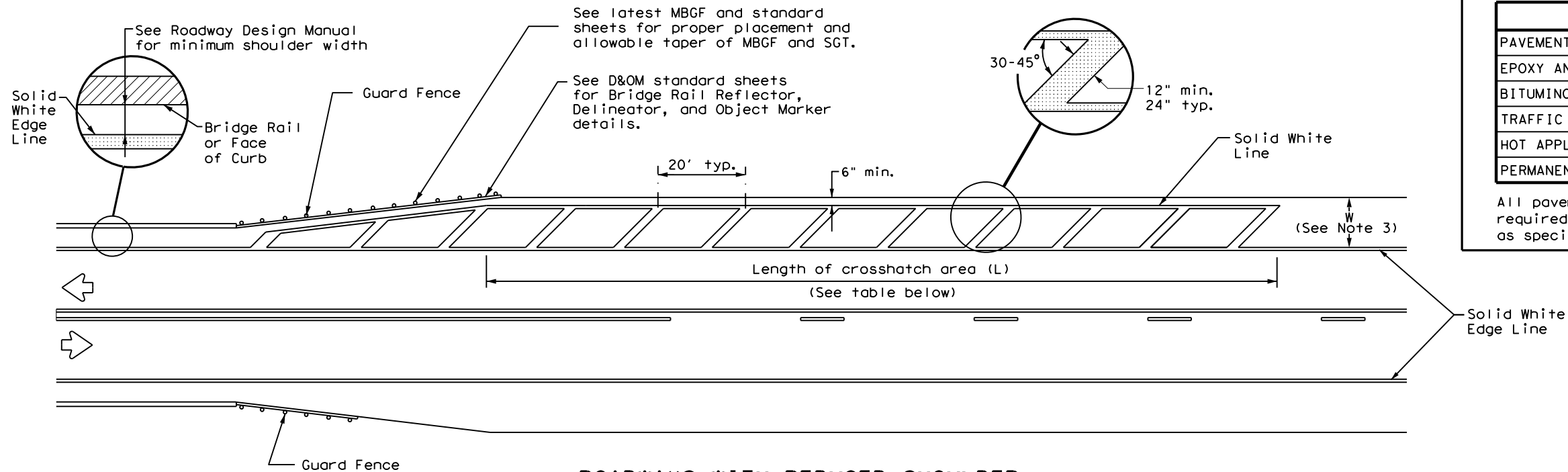
NOTES:

1. Use stop bars with Stop Here For Pedestrians (R1-5b) signs at unsignalized midblock crosswalks.
2. Use stop bars with STOP HERE ON RED (R10-6 or R10-6a) signs at midblock crosswalks controlled by traffic signals or pedestrian hybrid beacons.

		Traffic Safety Division Standard	
<h2>CROSSWALK PAVEMENT MARKINGS</h2> <h3>PM(4) - 22A</h3>			
FILE: pm4-22a.dgn	DN:	CK:	DW:
© TxDOT December 2022	CONT	SECT	JOB
REVISIONS	0035	05	062, ETC
6-20	DIST	COUNTY	SHEET NO.
6-22	SJT	MENARD, ETC	76
12-22			

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 PROJECT: 003505062, ETC US 83, ETC
 COUNTY: MENARD, ETC
 SHEET NO: 77



ROADWAYS WITH REDUCED SHOULDER WIDTHS ACROSS BRIDGE OR CULVERT

CROSSHATCH LENGTH (L)	
Posted Speed (MPH)	L (ft)
30	300 ft
35	
40	
45	
50	500 ft
55	
60	
65	
70	
75	

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 4 inches from the bridge rail or face of curb or 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions.
2. No-passing zone on bridge approach is optional. If used, the no-passing zone shall be a minimum 500 feet long from the beginning of the bridge.
3. The crosshatching should be required if the shoulder width in advance of the bridge is 4 feet or wider and a reduction of at least 3 feet in shoulder width across the bridge occurs.
4. On divided highways, review both the right and left shoulder widths for the need for narrow bridge pavement markings.

MATERIAL SPECIFICATIONS

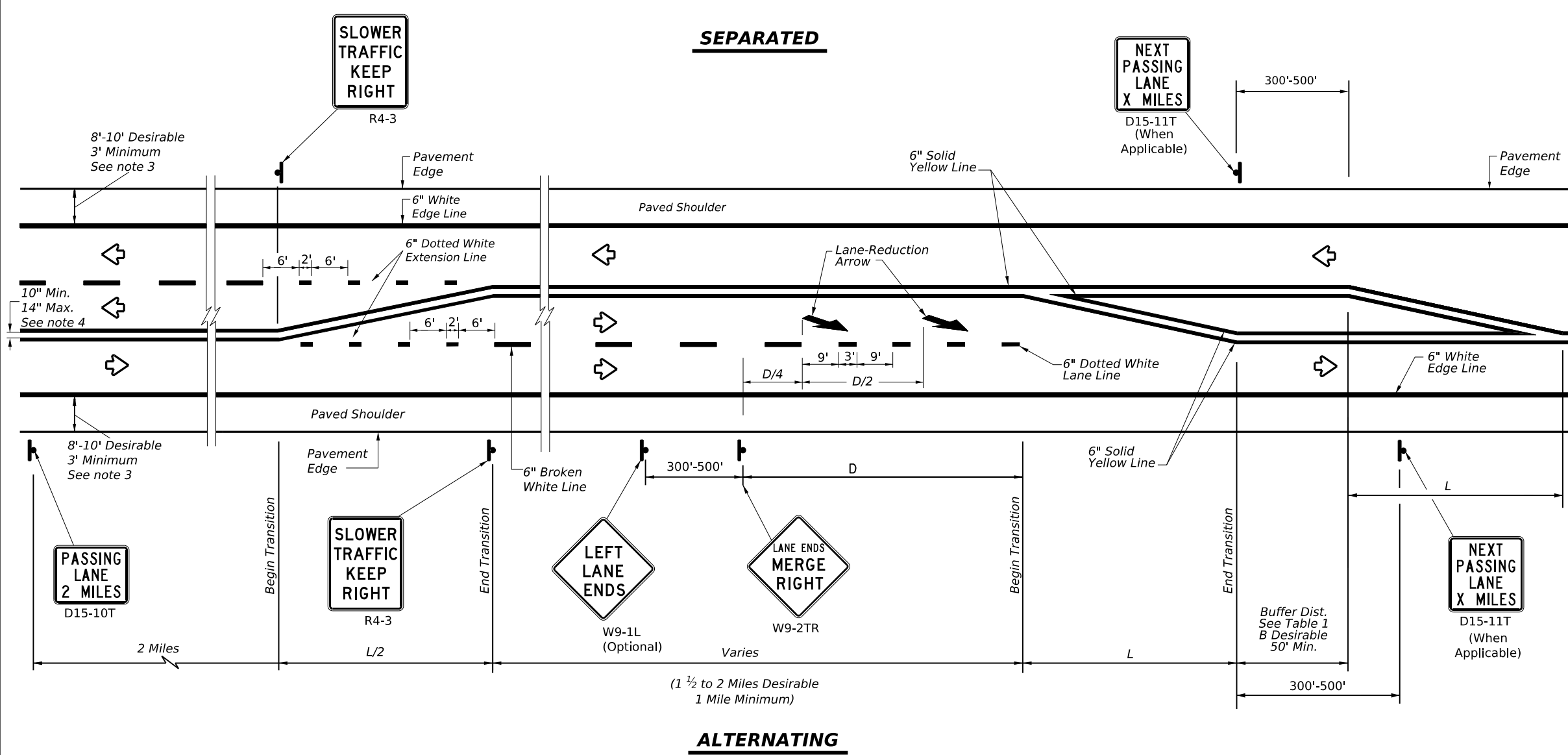
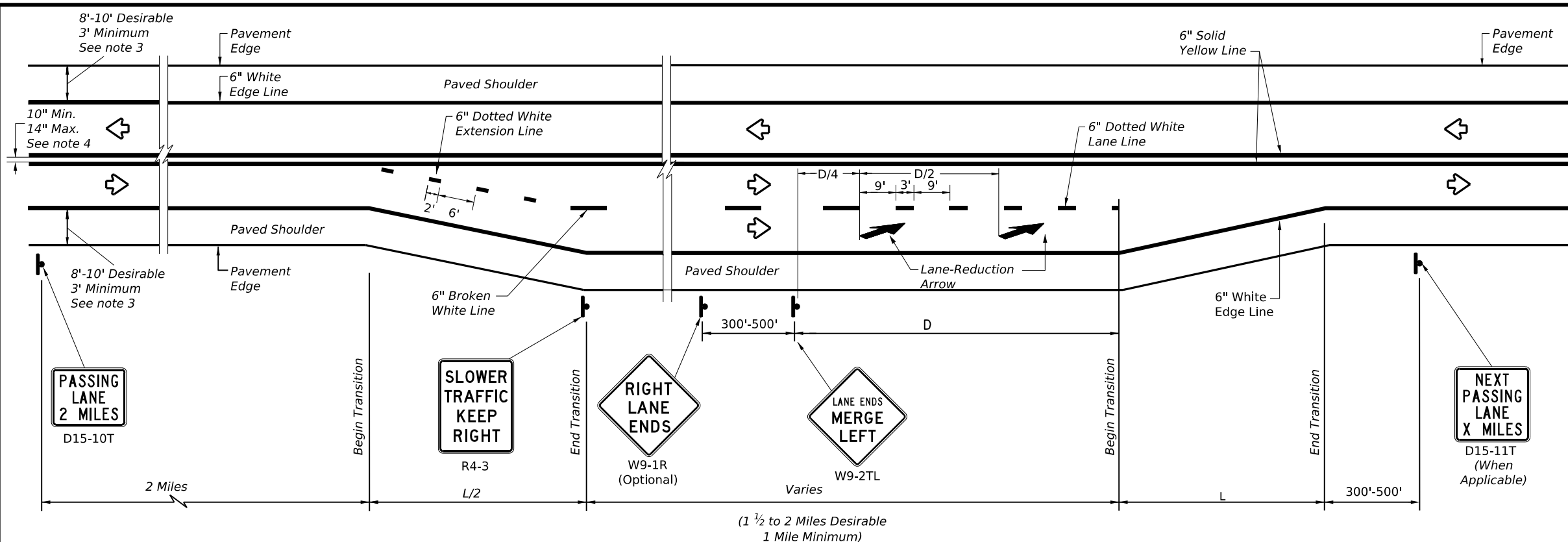
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

				Traffic Safety Division Standard	
PAVEMENT MARKINGS FOR ROADWAYS WITH REDUCED SHOULDER WIDTHS ACROSS BRIDGE OR CULVERT PM(5) - 22					
FILE: pm5-22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT	
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0035	05	062, ETC	US 83, ETC	
DIST	COUNTY		SHEET NO.		
SJT	MENARD, ETC		77		

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LEGEND	
	Sign
	Traffic Flow

TYPICAL TAPER LENGTH (L)	
Formula *	$L = WS$

* Transition length should be rounded up to nearest 5 foot increment.

L=Length of Transition (FT)
 W=Width of Offset (FT)
 S=Posted Speed (MPH)

EXAMPLE
 A 12 foot lane is added on a 70 mph roadway.
 The length of the transition should be:
 $L = 12 \times 70 = 840$ ft

**TABLE 1
 ADVANCE WARNING SIGN
 DISTANCE (D)
 AND BUFFER DISTANCE (B)**

Posted Speed	D (FT)	B (FT)
40	670	305
45	775	360
50	885	425
55	990	495
60	1100	570
65	1200	645
70	1250	730
75	1350	820

GENERAL NOTES

- For minimum and desirable design details, see the Roadway Design Manual, Chapter 4, Section 6, Super 2 Highways.
- For Raised Pavement Markers (RPM) details, see Pavement Markings Standard sheet, PM(2) - Centerline for All Two Lane Two-Way Roadways. Note that RPMs are not recommended on the 6" dotted white extension lines.
- For rumble strip options available for the designed shoulder width, see Rumble Strip Standard sheet RS(2).
- For pavement marking details, see Pavement Marking Standard sheet PM(1).



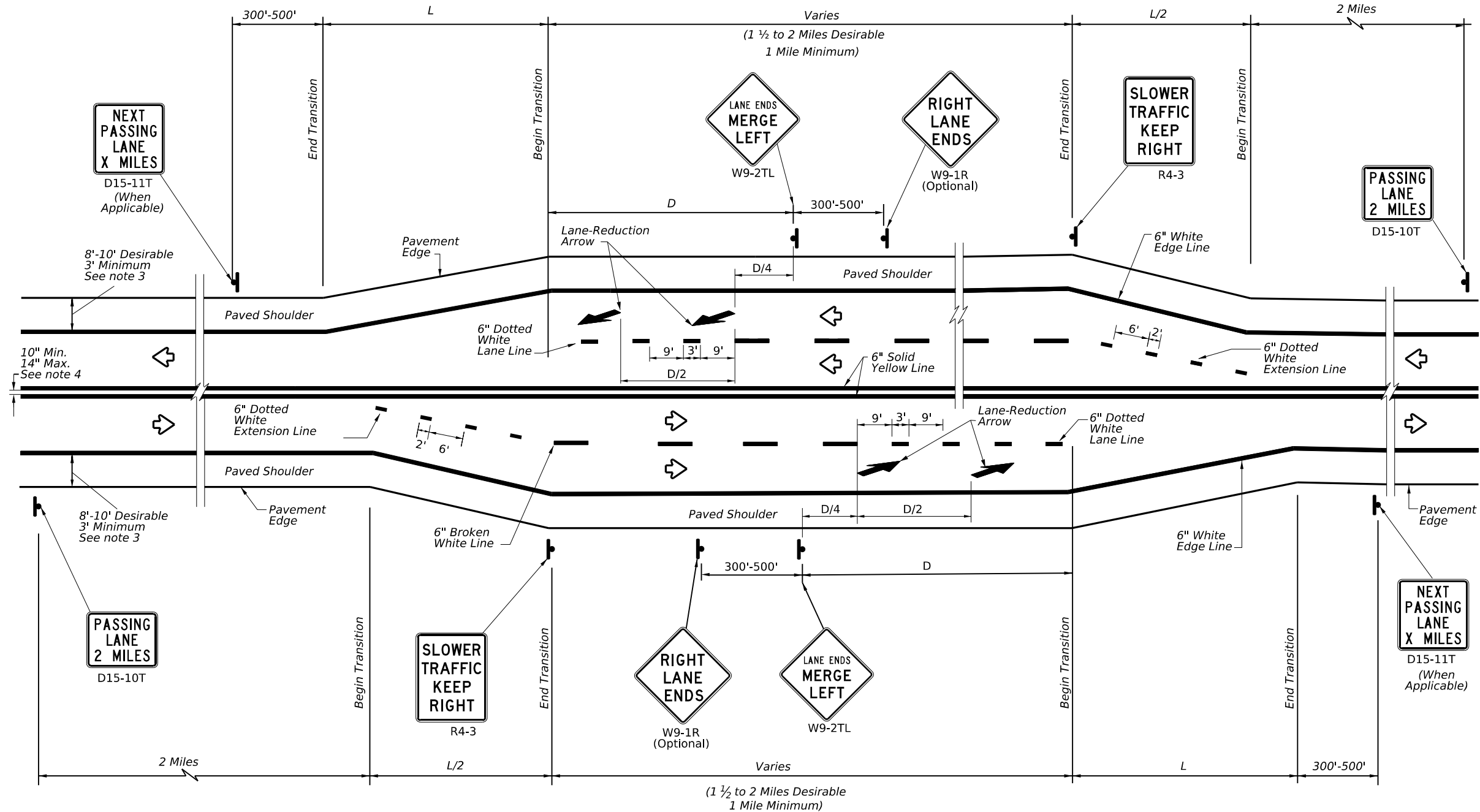
**TEXAS SUPER 2
 PASSING LANES**

TS2(PL-1)-23

FILE: ts2-1-23.dgn	DN:	CK:	DW:	CK:
© TxDOT February 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
5-10 3-18	DIST	COUNTY	SHEET NO.	
2-12 2-23	SJT	MENARD, ETC	78	
3-12				

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SIDE BY SIDE PASSING LANES

LEGEND	
	Sign
	Traffic Flow

TYPICAL TAPER LENGTH (L)	
Formula *	$L = WS$

* Transition length should be rounded up to nearest 5 foot increment.

L=Length of Transition (FT)
 W=Width of Offset (FT)
 S=Posted Speed (MPH)

EXAMPLE
 A 12 foot lane is added on a 70 mph roadway.
 The length of the transition should be:
 $L=12 \times 70=840$ ft

**TABLE 1
 ADVANCE WARNING
 SIGN DISTANCE (D)**

Posted Speed	D (FT)
40	670
45	775
50	885
55	990
60	1100
65	1200
70	1250
75	1350

GENERAL NOTES

- For minimum and desirable design details, see the Roadway Design Manual, Chapter 4, Section 6, Super 2 Highways.
- For Raised Pavement Markers (RPM) details, see Pavement Markings Standard sheet, PM(2) - Centerline for All Two Lane Two-Way Roadways. Note that RPMs are not recommended on the 6" dotted white extension lines.
- For rumble strip options available for the designed shoulder width, see Rumble Strip Standard sheet RS(2).
- For pavement marking details, see Pavement Marking Standard sheet PM(1).



**TEXAS SUPER 2
 PASSING LANES**

TS2(PL-2)-23

FILE: ts2-2-23.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0035	05	062, ETC	US 83, ETC
5-10 3-18	DIST	COUNTY	SHEET NO.	
2-12 2-23	SJT	MENARD, ETC	79	
3-12				

DATE: 10/2/2024 4:42:53 PM
FILE: pw://txdot.projectwiseonline.com:TXDOT12/Documents/07 - SJT/Design Projects/003505062/4 - Design/Plan Set/9. Environmental/ENVIRONMENTAL PERMITS ISSUES AND COMMITMENTS.dgn

I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or CGP 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 MS4 Operator that may receive discharges from this project. The MS4 Operator may need to be notified prior to construction activities.

1. N/A
 NO ACTION REQUIRED ACTION REQUIRED

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.

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#

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.

Required Actions: List waters of the U.S. that the permit applies to, the location in project, and check BMP's planned to control erosion, sedimentation and post-construction TSS.

1. N/A

BEST MANAGEMENT PRACTICES

EROSION

- SEEDING OR SODDING
 MULCHING
 SOIL RETENTION BLANKETS
 BIODEGRADABLE EROSION CONTROL LOGS
 DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
 DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
 TOPSOIL OR COMPOST
 FLEXIBLE CHANNEL LINERS
 GROUND COVER

SEDIMENTATION

- ROCK FILTER DAMS
 TEMPORARY SEDIMENT CONTROL FENCES
 TRIANGULAR FILTER DIKES
 TOPSOIL OR COMPOST
 BIODEGRADABLE EROSION CONTROL LOGS
 SEDIMENT BASINS
 SAND BAG BERMS
 STRAW BALE DIKES
 BRUSH BERMS
 STORM INLET SEDIMENT TRAPS

POST-CONSTRUCTION TSS

- VEGETATIVE FILTER STRIPS
 RETENTION/IRRIGATION SYSTEMS
 EXTENDED DETENTION BASINS
 CONSTRUCTED WETLANDS
 WET BASINS
 TOPSOIL OR COMPOST
 BIODEGRADABLE EROSION CONTROL LOGS
 VEGETATION LINED DITCHES
 SAND FILTER SYSTEMS
 GRASSY SWALES

III. CULTURAL RESOURCES

Refer to the 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 ACTION REQUIRED
1. N/A

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.

Adhere to specification requirements of Items 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 ACTION REQUIRED
1.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS

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 immediate area, and contact the Engineer immediately.

- NO ACTION REQUIRED ACTION REQUIRED

1. The Migratory Bird Treaty 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 with the Act's policies and regulations. Migration patterns would not be affected by the proposed project. Remove non-active migratory bird nests from structures where work would be performed from September 1 through the end of February. Prevent migratory birds from building nests from March 1 to August 31. In the event that migratory birds are encountered on-site during project construction, avoid adverse impacts on protected birds, active nests, eggs, and/or young.

ABBREVIATIONS USED

BMP - Best Management Practice
CGP - Construction General Permit
CSN - Construction Site Notice
DSHS - Texas Department of State Health Services
EPA - U.S. Environmental Protection Agency
MS4 - Municipal Separate Stormwater Sewer System
MSDS - Material Safety Data Sheet
NOI - Notice of Intent
NWP - Nationwide Permit
PCN - Pre-Construction Notification
PSL - Project Specific Location
SW3P - Storm Water Pollution Prevention Plan
TCEQ - Texas Commission on Environmental Quality
TPDES - Texas Pollutant Discharge Elimination System
TSS - Total Suspended Solids
USACE - U.S. Army Corps of Engineers

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 MSDS 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 labeling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the TxDOT 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, canister, barrels, etc.
Undesirable smells or odors
Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (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 ACTION REQUIRED

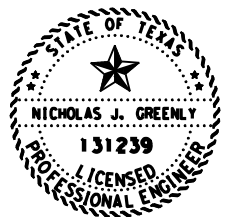
1. N/A

VII. OTHER ENVIRONMENTAL ISSUES

(Includes regional issues such as Edwards Aquifer District, etc.)

- NO ACTION REQUIRED ACTION REQUIRED

1. N/A



Nick Greenly P.E.

10/03/2024



ENVIRONMENTAL PERMITS ISSUES AND COMMITMENTS

SHEET 1 OF 1		NOT TO SCALE		
© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
SHEET ISSUED OR LAST REVISED	0035 05	062, ETC	US 83, ETC	
11-19	DIST	COUNTY	SHEET NO.	
	SJT	MENARD, ETC	80	