FED.RD. DIV.NO.	PROJECT NO.		SHEET NO.
6	F 2024(332), ETC		1
STATE	STATE DIST.	COUNTY	
TEXAS	YKM	FAYETTE, ETC	
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC

SEE SHEET 2 FOR "INDEX OF SHEETS"

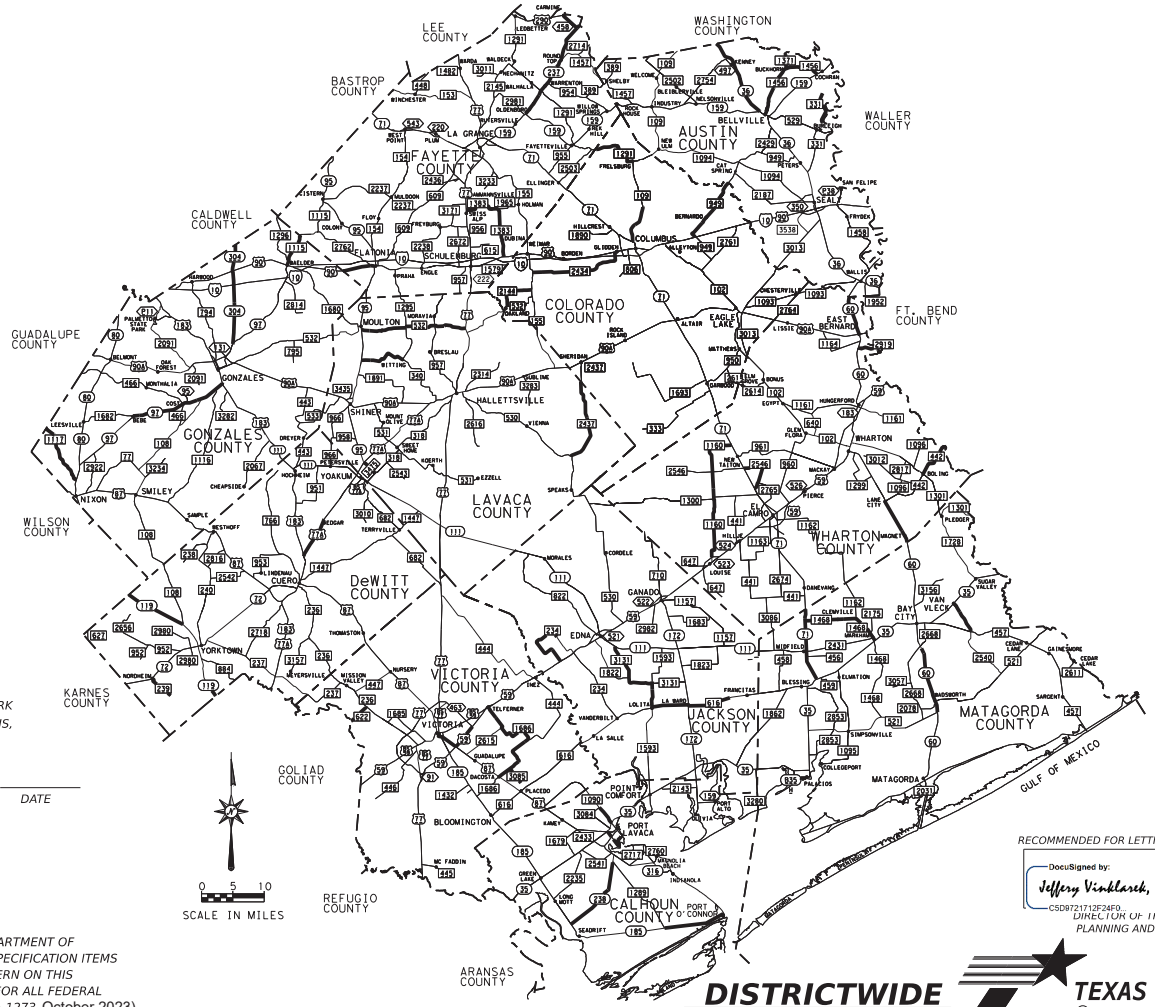
STATE OF TEXAS
TEXAS DEPARTMENT OF TRANSPORTATION

CONTRACTOR: _____
DATE OF LETTING: _____
DATE WORK BEGAN: _____
DATE WORK COMPLETED: _____
DATE WORK ACCEPTED: _____
FINAL CONTRACT COST: $ _____

LIST OF APPROVED FIELD CHANGES:

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FOR THE CONSTRUCTION OF SEAL COAT TYPE WORK
CONSISTING OF SEAL COAT



DESIGN SPEED: N/A
CSJ: 0026-02-039,ETC
HIGHWAY: US 90,ETC
COUNTY: FAYETTE,ETC
LIMITS: DISTRICTWIDE
ADT: SEE PROJECT SUMMARY
LENGTH: SEE PROJECT SUMMARY

SEE LOCATION MAP FOR MORE DETAIL.

SEE PROJECT DATA SHEETS FOR: EQUATIONS
EXCEPTIONS
RAILROAD CROSSINGS

THIS IS TO CERTIFY THAT THE CONSTRUCTION WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS, CONTRACT AND LISTED FIELD CHANGES.

_____ , P. E. _____
AREA ENGINEER *DATE*

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 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 2023).

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

SUBMITTED FOR LETTING 08/16/2023
Amanda Anderle Fling, P.E.
DISTRICT DESIGN ENGINEER

RECOMMENDED FOR LETTING 8/23/2023
DocuSigned by:
Jeffery Vinklarek, P.E.
C5D9721712F24F0...
DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED FOR LETTING 8/23/2023
DocuSigned by:
Martin C. Horsts PE
894AD332139E46D...
DISTRICT ENGINEER

DISTRICTWIDE
YOAKUM DISTRICT

TEXAS DEPARTMENT OF TRANSPORTATION

SHEET NO.	DESCRIPTION
	GENERAL
1	TITLE SHEET
2	INDEX OF SHEETS
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6-8	LOCATION MAP
9-11	GENERAL NOTES
12-13	ESTIMATE & QUANTITY SHEET
14-122	PROJECT DATA & BASIS OF ESTIMATE
	TRAFFIC CONTROL
	STANDARD SHEETS
123-134	BC(1-12)-21
135	TCP(SC-1)-22
136	TCP(SC-2)-22
137	TCP(SC-3)-22
138	TCP(SC-4)-22
139	TCP(SC-5)-22
140	TCP(SC-6)-22
141	TCP(SC-7)-22
142	TCP(SC-8)-22
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144	TCP(3-2)-13
145	TCP(3-3)-14
146	TCP(5-1)-18
147	TCP - LEFT TURN LANE(YKM DISTRICT)
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157	RS(2)-23
158	RS(3)-23
159	RS(4)-23
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	ENVIRONMENTAL
161	ENVIRONMENTAL PERMITS, ISSUES & COMMITMENTS
	STANDARD SHEETS
	RAILROAD
	STANDARD SHEETS
162-180	RAILROAD SCOPE OF WORK
181-182	RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

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

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

Amanda Anderle Fling, P.E.

08/16/2023

INDEX OF SHEETS

Texas Department of Transportation

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6			
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	FAYETTE, ETC	2

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DATE: $DATE$

YOAKUM AREA OFFICE PROJECT SUMMARY

No.	CSJ	HIGHWAY	COUNTY	LIMITS	LENGTH (MI.)	TRM BEGIN	TRM END	ADT
*1	0026-02-039	US 90	FAYETTE	FROM GONZALES C/L TO 0.12 MI W OF SH 95	3.985	718+0.021	722+0.008	2559
2	0114-13-005	SS 458	FAYETTE	FROM US 290 TO SH 237	2.392	448-0.042	450+0.394	903
3	0267-01-034	SH 237	FAYETTE	FROM WASHINGTON C/L TO 0.8 MI N OF SH 159	12.912	448+0.001	460+0.882	3883
4	0267-02-040	SH 237	FAYETTE	FROM 0.8 MI N OF SH 159 TO 0.1 MI N OF SH 159	0.720	460+0.882	462+0.309	2862
5	1266-02-008	** FM 1383	FAYETTE	FROM US 77 TO BOHUSLAV RD (AMMANNSVILLE)	3.784	472-0.015	474+1.788	304
6	2347-01-007	** FM 1383	FAYETTE	FROM BOHUSLAV RD (AMMANNSVILLE) TO US 90	7.141	474+1.788	482+0.951	412
7	0216-04-013	FM 1117	GONZALES	FROM GUADALUPE C/L TO SH 80	8.054	504+0.075	512+0.144	1308
8	0347-01-030	SH 97	GONZALES	FROM CR 112 TO US 183	9.688	592+1.099	602+0.834	7250
9	0347-02-034	SH 97	GONZALES	FROM 0.25 MI W OF FM 1682 TO CR 112	3.106	588+2.225	592+1.099	1800
*10	0573-03-020	SH 304	GONZALES	FROM CALDWELL C/L TO SH 97	12.852	480+1.832	494+0.855	1900
*11	1262-02-014	FM 1115	GONZALES	FROM FAYETTE C/L TO US 90	4.292	478+0.005	482+0.268	1650
12	0269-06-061	UA 77	DEWITT	FROM 4.845 MI N OF US 183 TO 0.14 MI N OF US 183	4.705	522+0.000	526+0.715	3655
13	0359-03-029	SH 119	DEWITT	FROM KARNES C/L TO 0.3 MI N FM 108	7.639	538+0.048	544+1.688	1626
14	0943-02-013	** FM 239	DEWITT	FROM SH 72 TO END OF MAINTENANCE	3.392	534+0.013	536+1.431	429
15	0324-04-005	FM 3475	LAVACA	FROM 0.15 MI S OF UA 77 TO FM 318	1.906	506+0.132	508+0.061	3281
16	1007-01-027	FM 532	LAVACA	FROM SH 95 TO US 77	13.955	574-0.820	586+1.150	1234
17	1445-01-019	** FM 340	LAVACA	FROM SH 95 TO FM 1295	6.107	574-0.013	580+0.132	325
18	2349-02-013	FM 2437	LAVACA	FROM COLORADO C/L TO FM 530	10.652	506+0.010	516+0.672	323
				SHEET TOTAL:	117.282			

* PROJECT WITH RAILROAD COORDINATION REQUIRED.
** STATE FUNDED

ALL PROJECTS HAVE EXISTING RAISED REFLECTIVE PAVEMENT MARKERS TO BE REMOVED BY CONTRACTOR.

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YOAKUM AREA OFFICE

PROJECT SUMMARY

Texas Department of Transportation

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	FAYETTE, ETC	3

WHARTON AREA OFFICE PROJECT SUMMARY

No.	CSJ	HIGHWAY	COUNTY	LIMITS	LENGTH (MI.)	TRM BEGIN	TRM END	ADT
*19	0187-02-071	SH 36	AUSTIN	FROM WASHINGTON C/L TO SH 159	10.602	582+0.000	592+0.602	7783
20	1405-02-006	** FM 1371	AUSTIN	FROM WASHINGTON C/L TO FM 1456	1.819	453+0.030	454+1.805	655
*21	1410-01-025	** FM 1456	AUSTIN	FROM SH 36 TO SH 159	11.121	626-0.075	636+1.132	2492
22	2937-01-009	FM 331	AUSTIN	FROM END OF MAINTENANCE TO FM 529	5.785	454+0.000	458+1.784	452
23	0716-02-050	FM 109	COLORADO	FROM KANSTEINER RD TO BS 71-F	5.051	476+0.923	480+1.966	3179
24	1105-02-017	FM 1291	COLORADO	FROM FAYETTE C/L TO FM 109	6.618	470+0.015	476+0.655	689
25	1106-01-015	FM 949	COLORADO	FROM IH 10 TO AUSTIN C/L	8.899	624-0.323	632+0.603	2501
26	2063-01-009	** FM 2144	COLORADO	FROM FM 532 TO FM 155	5.130	594-0.003	598+1.155	263
*27	2345-01-012	** FM 2434	COLORADO	FROM FM 155 TO US 90	12.280	596-0.018	608+0.306	1320
*28	0240-02-035	SH 60	WHARTON	FROM AUSTIN C/L TO US 90A	4.163	484+0.636	490+1.065	3929
29	0241-01-053	SH 60	WHARTON	FROM FM 442 TO MATAGORDA C/L	6.138	514+1.346	520+1.494	5213
30	0838-01-033	FM 442	WHARTON	FROM FM 1301 TO FORT BEND C/L	4.848	648+0.830	652+1.687	6841
*31	1302-01-027	FM 1160	WHARTON	FROM SH 71 TO SL 523	18.191	502-0.017	520+0.417	1051
32	2940-01-008	FM 2919	WHARTON	FROM SH 60 TO FORT BEND C/L	3.153	488-0.017	490+1.161	1092
33	2974-01-007	FM 2546	WHARTON	FROM SH 71 TO SH 71	5.535	622+1.519	628+1.067	665
34	0241-03-031	SH 60	MATAGORDA	FROM 0.417 MI S OF FM 2668 TO 1.105 MI S OF LIVE OAK CREEK	2.179	536+0.086	538+0.262	2946
*35	0241-04-025	SH 60	MATAGORDA	FROM 1.105 MI S OF LIVE OAK CREEK TO 0.2 MI S OF FM 521	6.569	538+0.262	544+0.787	3402
36	0266-07-022	SH 71	MATAGORDA	FROM WHARTON C/L TO 0.1 MI N OF SH 35	9.308	720+0.000	728+1.328	4557
37	0346-10-023	FM 1468	MATAGORDA	FROM SH 71 TO SH 35	10.315	524-0.027	534+0.348	6608
*38	2525-01-019	FM 2540	MATAGORDA	FROM SH 35 TO FM 457	4.345	524-0.020	528+0.350	2290
				SHEET TOTAL:	142.049			

* PROJECT WITH RAILROAD COORDINATION REQUIRED.
** STATE FUNDED

ALL PROJECTS HAVE EXISTING RAISED REFLECTIVE PAVEMENT MARKERS TO BE REMOVED BY CONTRACTOR.

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WHARTON AREA OFFICE

PROJECT SUMMARY

Texas Department of Transportation

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	FAYETTE, ETC	4

VICTORIA AREA OFFICE PROJECT SUMMARY

No.	CSJ	HIGHWAY	COUNTY	LIMITS	LENGTH (MI.)	TRM BEGIN	TRM END	ADT
*39	0088-05-111	US 59	VICTORIA	FROM SL 463 TO US 87 (FRT RDS)	3.391	632+1.658	636+1.079	2130
*40	1132-01-036	FM 1686	VICTORIA	FROM 0.07 MI S OF US 59 TO US 87	15.425	538+0.101	552+1.837	730
41	3172-02-008	** FM 3085	VICTORIA	FROM FM 1686 TO END OF STATE MAINTENANCE (HENDERSON RD)	2.327	594-0.025	596+0.328	180
*42	0497-02-045	FM 616	JACKSON	FROM FM 1593 TO SH 172	4.725	716+0.867	720+1.598	2085
*43	0497-03-012	FM 616	JACKSON	FROM SH 172 TO 3.20 MI E OF SH 172 (W CARANCAHUA CREEK)	3.200	722-0.331	724+0.868	1410
44	0515-01-073	** FM 234	JACKSON	FROM CR 103 (BISCHOFF RD) TO CR 112 (LOST BRIDGE RD)	4.299	534+0.038	538+0.347	174
*45	1090-03-022	FM 1593	JACKSON	FROM 1700 FT N OF FM 3131 TO FM 616	3.523	536+1.266	540+0.829	3151
46	1756-01-023	FM 3131	JACKSON	FROM SH 111 TO FM 1593	8.116	612+0.003	620+0.231	1906
*47	2821-03-011	** FM 234	JACKSON	FROM US 59 (SKLAR'S) TO CR 103 (BISCHOFF RD)	4.032	530-0.015	534+0.038	174
48	0144-05-047	SH 238	CALHOUN	FROM 0.12 MI W OF FM 1289 TO SH 185	10.174	558+1.361	568+1.538	1112
49	0144-06-029	SH 185	CALHOUN	FROM FM 1289 TO END OF MAINTENANCE	8.063	628+0.642	636+0.733	2530
50	0515-03-058	FM 1090	CALHOUN	FROM FM 3084 TO SH 35	2.624	552+0.927	554+1.515	12248
*51	0515-03-059	FM 1090	CALHOUN	FROM SH 238 (ALCOA DR) TO US 87 IN PORT LAVACA	0.821	560+1.711	560+2.531	4842
*52	0515-03-060	FM 1090	CALHOUN	FROM 0.4 MI S OF SOUTH ST (LAVILLA ST) TO 0.5 MI S OF SH 238 (LARRY DR)	2.554	556+1.597	560+1.181	950
				SHEET TOTAL:	73.274			

* PROJECT WITH RAILROAD COORDINATION REQUIRED.
** STATE FUNDED

ALL PROJECTS HAVE EXISTING RAISED REFLECTIVE PAVEMENT MARKERS TO BE REMOVED BY CONTRACTOR.

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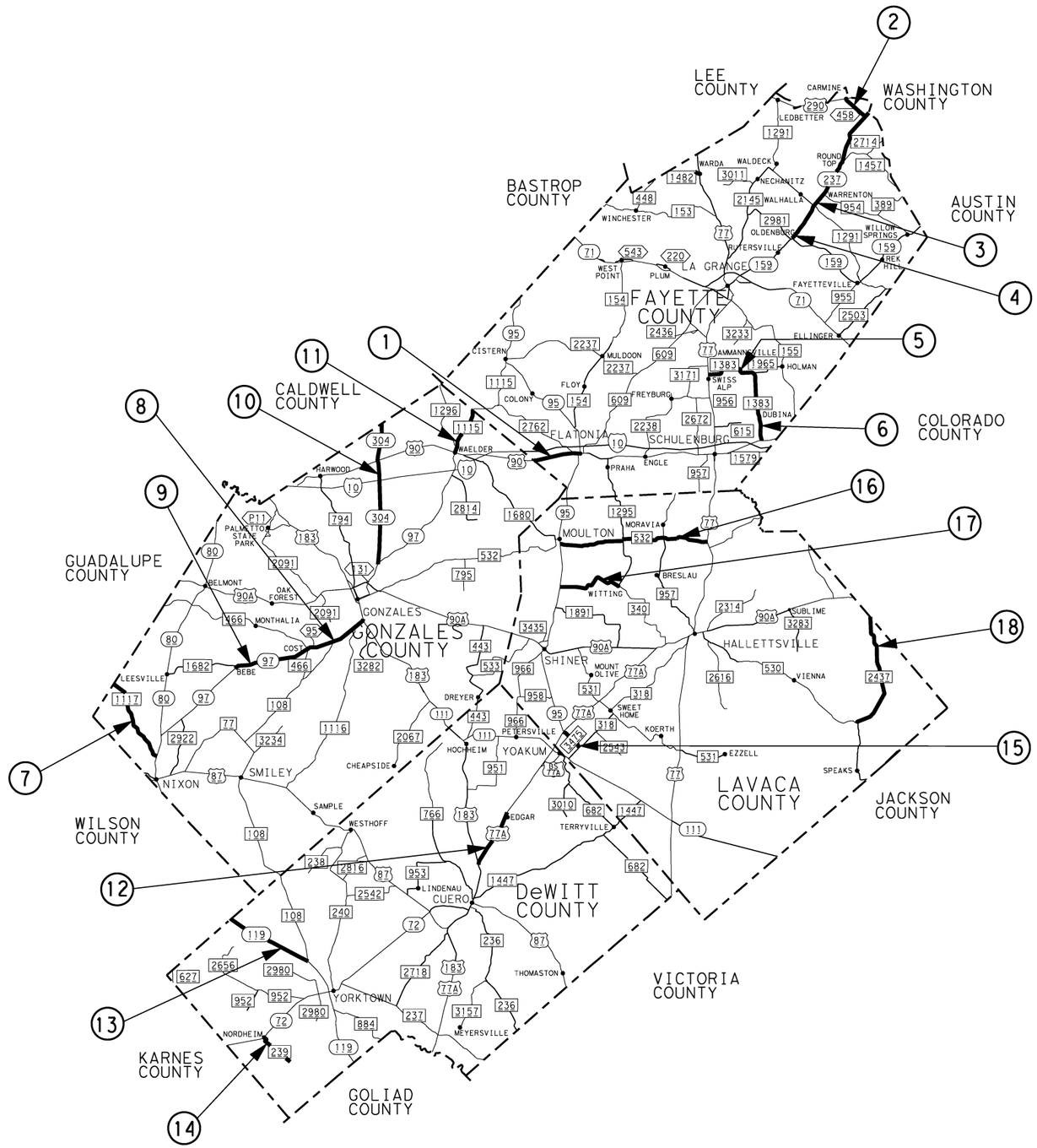
PROJECT SUMMARY

Texas Department of Transportation

VICTORIA AREA OFFICE

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	FAYETTE, ETC	5



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SCALE IN MILES

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DATE: $DATE$

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

Amanda Anderle Fling, P.E.

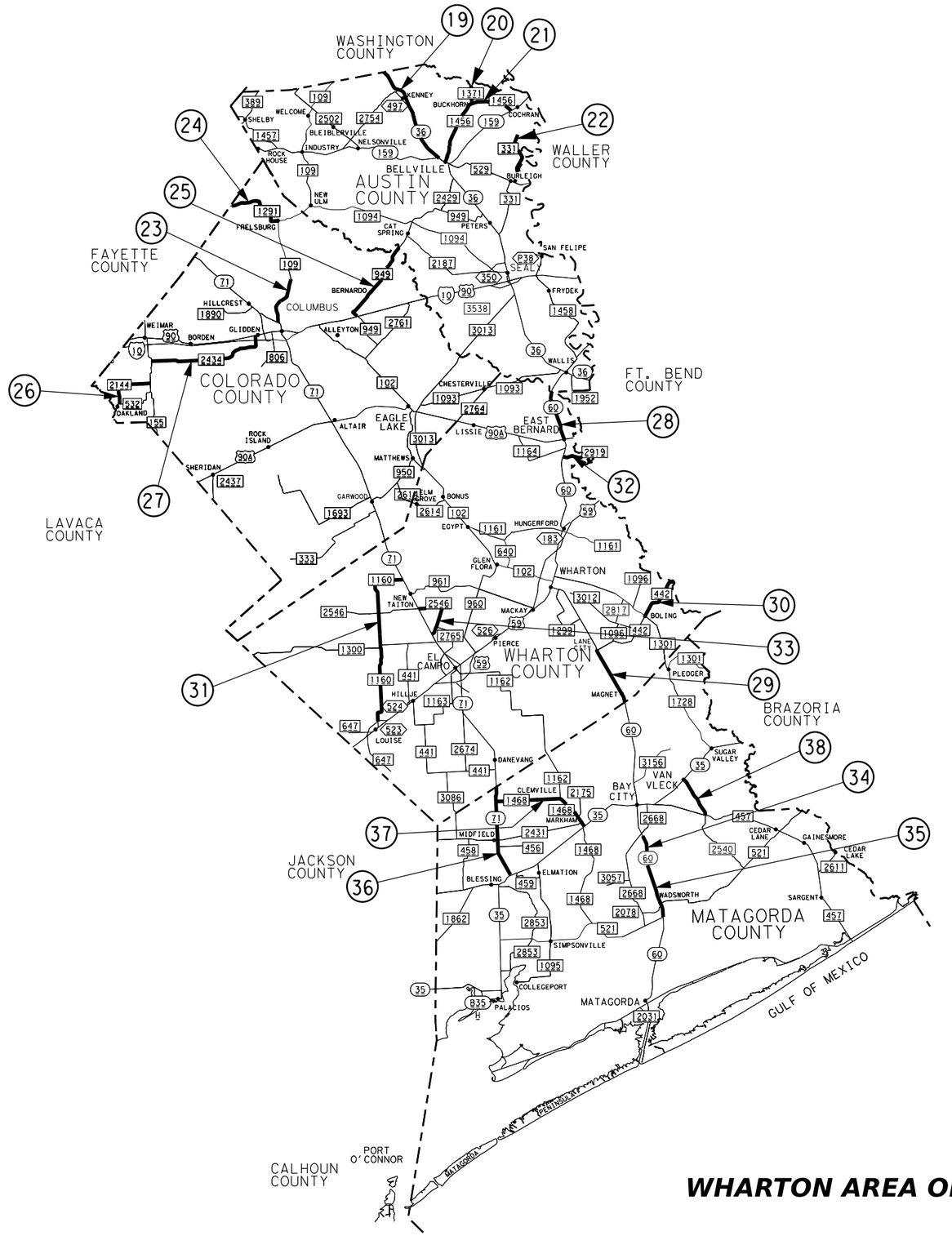
08/16/2023

LOCATION MAP

YOAKUM AREA OFFICE

Texas Department of Transportation

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	FAYETTE, ETC	6



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SCALE IN MILES

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FILE: LOCATION MAP.dgn
DATE: $DATE$

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

Amanda Anderle Fling, P.E.

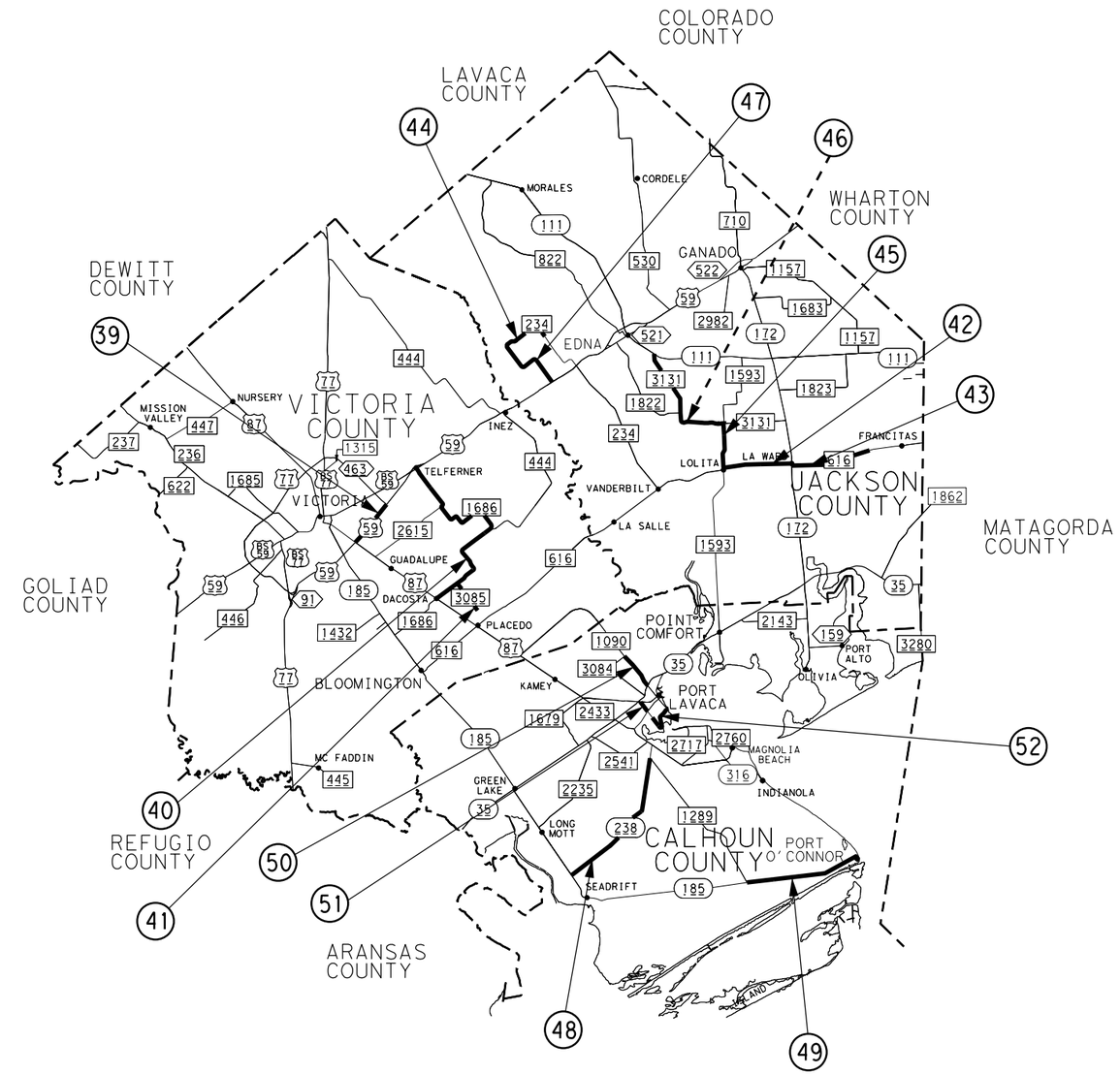
08/16/2023

LOCATION MAP

WHARTON AREA OFFICE

Texas Department of Transportation

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	FAYETTE, ETC	7



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SCALE IN MILES

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DATE: $DATE$

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

Amanda Anderle Fling, P.E.

08/16/2023

LOCATION MAP

VICTORIA AREA OFFICE

Texas Department of Transportation

SHEET 3 OF 3

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0026	02	039, ETC	US 90, ETC
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	FAYETTE, ETC	8

GENERAL:

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

Clayton Harris Clayton.Harris@txdot.gov
James Janak James.Janak@txdot.gov

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

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.

All questions submitted that generate a response will be posted through this site. The site is organized by District, Project Type (Construction or Maintenance), Letting Date, CCSJ/Project Name.

I. UNION PACIFIC RAILROAD COMPANY

PROTECTION OF FIBER OPTIC CABLE SYSTEMS

Fiber optic cable systems may be buried on the railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. The state and/or its contractor shall telephone the railroad during normal business hours (7:00 a.m. to 9:00 p.m., central time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, seven-day number for emergency calls) to determine if fiber optic cable is buried on the railroad's premises to be used by the state. If it is, the state and/or its contractor will telephone the telecommunications company(ies) involved, arrange for a cable locator and make arrangements for relocation or other protection of the fiber optic cable prior to beginning any work on the railroad's premises.

II. BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY

PROTECTION OF FIBER OPTIC CABLE SYSTEMS

The state and/or its contractor shall, five working days before any work is performed, call the railroad's communications network control center at 1-800-533-2891 (a 24-hour number) to assist in determining if fiber optic communications, control systems, or other type of cable systems are buried in the general locations where work is to be performed. In the event such cable is present, the state and/or its contractor shall then call the owner of the cable line to determine its exact location. The contractor shall indemnify and hold harmless the railroad against any cost or claims arising out of damage to any fiber optic communications, control systems or other types of cable systems, but only to the extent such damage is caused by negligence of the contractor.

III. KANSAS CITY SOUTHERN RAILWAY COMPANY

Fiber optic cable systems may be buried on the railroad’s property. Protection of the fiber optic cable system is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. The state and/or its contractor shall telephone Texas One Call at 1-800-344-8377 (a 24-hour number) to determine if fiber optic cable is buried anywhere on the railroad’s premises to be used by the state. If it is, the state and/or its contractor will telephone the telecommunications company(ies) involved, arrange for a cable locator, and make arrangements for relocation or other protection of the fiber optic cable prior to beginning any work on the railroad premise.

IV. UNIVERSAL TEXAS

Fiber optic cable systems may be buried on the railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. The state and/or its contractor shall telephone Texas One Call at 1-800-545-6005 (a 24-hour number) to determine if fiber optic cable is buried anywhere on the railroad's premises to be used by the state. If it is, the state and/or its contractor will telephone the telecommunications company(ies) involved, arrange for a cable locator, and make arrangements for relocation or other protection of the fiber optic cable prior to beginning any work on the railroad's premises.

Remove and dispose of existing raised pavement markers as directed. All work involved in the removal and disposal of these markers will not be paid for directly but shall be considered subsidiary to the various bid items involved.

Do not work on the roadway before sunrise or after sunset unless otherwise approved.

Leave all traffic lanes open to traffic at night, weekends and holidays unless otherwise approved.

Furnish a certified copy of the legal gross weight of each vehicle hauling materials by weight and certified measurements for all trucks hauling material by volume.

Do not cross the median except at existing crossovers.

Unless otherwise approved, maintain a minimum safety clearance from the edge of the travelway for material stockpiled in proximity of traffic lanes based on the current average traffic count of the particular highway as follows:

0 - 1500 = 16 feet
Over 1500 = 30 feet

In the event the above requirements cannot be met, make arrangements to stockpile material off the right of way.

ITEM 6: CONTROL OF MATERIALS

To comply with the latest provisions of Build America, Buy America Act (BABA Act) of the Bipartisan Infrastructure Law, the contractor must submit a notarized 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 identified.

If the contractor proposes work beyond the TxDOT obtained permit limitations, the contractor is responsible for additional costs, delays, and obtaining new or revised permits prior to construction.

ITEM 8: PROSECUTION AND PROGRESS

The latest work-start date is June 1, 2024.

Provide progress schedule as a Bar Chart.

ITEM 302: AGGREGATES FOR SURFACE TREATMENTS

Furnish Type PE aggregate consisting of crushed slag, crushed stone or natural limestone rock asphalt.

Furnish precoated aggregate that has a residual bitumen coating target value of 1.0% by weight.

ITEM 316: SEAL COAT

The asphalt application season for this project is May 1 to September 15.

Remove daily excess aggregate in developed or curb and gutter sections with a pickup broom or other method as approved and dispose of at an approved site.

Calibrate spray bars in accordance with Test Method TEX-922-K, Part III, prior to beginning seal coat.

In addition to other asphalt distributor requirements, the asphalt distributor shall be capable of providing a transversely varied asphalt rate. The Contractor shall demonstrate that the distributor can apply an asphalt rate outside of the wheel path locations between 22 and 32 percent higher than the asphalt rate being applied in the wheelpaths for the nozzle arrangement determined by the Engineer. The Contractor's calibration of the distributor will include verification of this capability and a description of the spray bar(s) and nozzles being used. The percentage difference in asphalt rate provided by each tested spray bar shall be provided to the Engineer. The Engineer will select the pavements where the transversely varied asphalt rate is to be provided.

Seal additional roadway widened areas at bridges, curves, etc., shoulder tapers, mailbox turnouts, and historical markers. Payment for these quantities will be included with the appropriate items all as directed.

Use a patch truck and crew behind the aggregate spreader box as directed.

Use two paper widths covering a minimum of five feet at the beginning of each shot to construct a straight transverse joint and to prevent overlapping of the asphalt.

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.

Law enforcement assistance for this project will be required, as approved, for major traffic control changes and lane closures. Coordinate with local law enforcement and arrange for law enforcement in a marked vehicle as approved by the Engineer. Complete the daily tracking form provided by the department, including all signatures, and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided.

Provide trail and lead vehicles when using TCP(3-1), TCP(3-2), or TCP(3-3).

Utilize TCP(3-3) for sweeping operations or for installing and removing tabs or raised pavement markers.

Provide suitable warning lights mounted high enough to be visible from all directions on all construction equipment, including pilot vehicles, and operate warning lights when the equipment is within the right of way. Equip other equipment such as trucks, trailers, autos, etc., with emergency flashers and use emergency flashers while within the work area.

Barricades and warning signs are to remain in place until final markings are complete.

No additional payment will be made for relocating existing sign assemblies to temporary mounts.

Maintain a minimum distance of two (2) miles between work areas.

Limit lane closure lengths for seal coat operations to two (2) miles on two lane, two-way highways with ADT volumes greater than 1000, and three (3) miles on two lane, two-way highways with ADT volumes less than 1000, and on four lane highways. The lane closure length will be determined during construction in urban areas.

Signs warning of temporary conditions, such as "NO CENTER LINE," "LOOSE GRAVEL," etc., shall only be displayed when conditions are present. Remove or completely cover signs that do not apply to the roadway conditions. These signs may be installed prior to beginning work but shall remain completely covered until the signs are applicable.

In accordance with Article 502.4.2, no payment will be made for the month if the contractor fails to provide or properly maintain signs in compliance with the contract requirements. Temporary warning signs that are visible when conditions do not apply will be considered improper maintenance of signs.

ITEM 506: TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS

The storm water pollution prevention plan (SW3P) for this project will consist of utilizing existing vegetation. 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

T-Tabs will not be allowed on this project.

Remove the exposed portions of the temporary flexible reflective roadway marker tabs after raised pavement markers are installed. If the tabs are not in line with the markings, remove the tabs immediately after the centerline markings are installed.

ITEM 666: REFLECTORIZED PAVEMENT MARKINGS

Remove all applied markings that are not in alignment or sequence as stated in the plans using the Surface Treatment Method.

Provide Type I pavement markings in accordance with this item. The requirements of this item are supplemented with the following provision: Place Type I pavement markings with a ribbon-gun application. All other provisions remain in effect.

Retroreflectivity testing is required for all profile striping.

ITEM 668: PREFABRICATED PAVEMENT MARKINGS

Pavement marking material may be placed on roadways at any time during the year, subject to temperature and moisture limitations specified.

ITEM 6185: TRUCK MOUNTED ATTENUATOR (TMA) AND TRAILER ATTENUATOR (TA)

Shadow vehicle(s) with TMA are set up for stationary and/or mobile operations. The contractor will be responsible for determining if operations will be ongoing at the same time to determine the total number of TMAs needed for the project.

The TMA/TA used for installation/removal of traffic control for a work area will be subsidiary to the TMA/TA used to perform the work.

Unless otherwise approved, maintain a minimum safety clearance from the edge of the travelway for material stockpiled in proximity of traffic lanes based on the current average traffic count of the particular highway as follows:

0 - 1500 = 16 feet
Over 1500 = 30 feet

In the event the above requirements cannot be met, make arrangements to stockpile material off the right of way.

ITEM 6: CONTROL OF MATERIALS

To comply with the latest provisions of Build America, Buy America Act (BABA Act) of the Bipartisan Infrastructure Law, the contractor must submit a notarized 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 identified.

If the contractor proposes work beyond the TxDOT obtained permit limitations, the contractor is responsible for additional costs, delays, and obtaining new or revised permits prior to construction.

ITEM 8: PROSECUTION AND PROGRESS

The latest work-start date is June 1, 2024.

Provide progress schedule as a Bar Chart.

ITEM 302: AGGREGATES FOR SURFACE TREATMENTS

Furnish Type PE aggregate consisting of crushed slag, crushed stone or natural limestone rock asphalt.

Furnish precoated aggregate that has a residual bitumen coating target value of 1.0% by weight.

Project Number: **Sheet: 10**

County: FAYETTE, ETC **Control: 0026-02-039, ETC**

Highway: US 90, ETC

ITEM 316: SEAL COAT

The asphalt application season for this project is May 1 to September 15.

Remove daily excess aggregate in developed or curb and gutter sections with a pickup broom or other method as approved and dispose of at an approved site.

Calibrate spray bars in accordance with Test Method TEX-922-K, Part III, prior to beginning seal coat.

In addition to other asphalt distributor requirements, the asphalt distributor shall be capable of providing a transversely varied asphalt rate. The Contractor shall demonstrate that the distributor can apply an asphalt rate outside of the wheel path locations between 22 and 32 percent higher than the asphalt rate being applied in the wheelpaths for the nozzle arrangement determined by the Engineer. The Contractor's calibration of the distributor will include verification of this capability and a description of the spray bar(s) and nozzles being used. The percentage difference in asphalt rate provided by each tested spray bar shall be provided to the Engineer. The Engineer will select the pavements where the transversely varied asphalt rate is to be provided.

Seal additional roadway widened areas at bridges, curves, etc., shoulder tapers, mailbox turnouts, and historical markers. Payment for these quantities will be included with the appropriate items all as directed.

Use a patch truck and crew behind the aggregate spreader box as directed.

Use two paper widths covering a minimum of five feet at the beginning of each shot to construct a straight transverse joint and to prevent overlapping of the asphalt.

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Remove the exposed portions of the temporary flexible reflective roadway marker tabs after raised pavement markers are installed. If the tabs are not in line with the markings, remove the tabs immediately after the centerline markings are installed.

Project Number: **Sheet: 11**

County: FAYETTE, ETC **Control: 0026-02-039, ETC**

Highway: US 90, ETC

ITEM 666: REFLECTORIZED PAVEMENT MARKINGS

Remove all applied markings that are not in alignment or sequence as stated in the plans using the Surface Treatment Method.

Provide Type I pavement markings in accordance with this item. The requirements of this item are supplemented with the following provision: Place Type I pavement markings with a ribbon-gun application. All other provisions remain in effect.

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The TMA/TA used for installation/removal of traffic control for a work area will be subsidiary to the TMA/TA used to perform the work.

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0026-02-039

DISTRICT Yoakum

COUNTY Austin, Calhoun, Colorado, De Witt, Fayette, Gonzales, Jackson, Lavaca, Matagorda, Victoria, Wharton

HIGHWAY FM 109, FM 1090, FM 1115, FM 1117, FM 1160, FM 1291, FM 1371, FM 1383, FM 1456, FM 1468, FM 1593, FM 1686, FM 2144, FM 234, FM 239, FM 2434, FM 2437, FM 2540, FM 2546, FM 2919, FM 3085, FM 3131, FM 331, FM 340, FM 3475, FM 442, FM 532, FM 616, FM 949, SH 119, SH 185, SH 237, SH 238, SH 304, SH 36, SH 60, SH 71, SH 97, SS 458, UA 77, US 59, US 90

ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL
	316-6246	AGGR(TY-PE GR-3 SAC-B)	CY	47,386.000	
	316-6249	AGGR(TY-PE GR-4 SAC-B)	CY	9,363.000	
	316-6537	ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)	GAL	2,698,013.000	
	500-6001	MOBILIZATION	LS	1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	5.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA	3,164.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	47,791.000	
	666-6030	REFL PAV MRK TY I (W)8"(DOT)(100MIL)	LF	1,001.000	
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	14,697.000	
	666-6174	REFL PAV MRK TY II (W) 6" (SLD)	LF	2,587,750.000	
	666-6208	REFL PAV MRK TY II (Y) 6" (BRK)	LF	247,253.000	
	666-6210	REFL PAV MRK TY II (Y) 6" (SLD)	LF	1,059,629.000	
	666-6306	RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)	LF	4,779.000	
	666-6309	RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)	LF	690,638.000	
	666-6318	RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)	LF	91,174.000	
	666-6321	RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)	LF	418,912.000	
	666-6343	REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	LF	2,587,750.000	
	666-6346	REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)	LF	247,253.000	
	666-6347	REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)	LF	1,059,629.000	
	668-6074	PREFAB PAV MRK TY C (W) (12") (SLD)	LF	856.000	
	668-6075	PREFAB PAV MRK TY C (W) (18") (SLD)	LF	216.000	
	668-6076	PREFAB PAV MRK TY C (W) (24") (SLD)	LF	2,735.000	
	668-6077	PREFAB PAV MRK TY C (W) (ARROW)	EA	44.000	
	668-6085	PREFAB PAV MRK TY C (W) (WORD)	EA	28.000	
	668-6089	PREFAB PAV MRK TY C (W) (RR XING)	EA	13.000	
	668-6092	PREFAB PAV MRK TY C (W) (36")(YLD TRI)	EA	44.000	
	668-6108	PREFAB PAV MRK TY C (Y) (24") (SLD)	LF	396.000	
	672-6007	REFL PAV MRKR TY I-C	EA	2,295.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	37,801.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA	317.000	
	672-6016	TRAFFIC BUTTON TY W	EA	260.000	
	672-6017	TRAFFIC BUTTON TY Y	EA	260.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA	1.000	
	6185-6002	TMA (STATIONARY)	DAY	25.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	150.000	
	12	RAILROAD FLAGGING: RAILROAD FORCE ACCOUNT WORK (PARTICIPATING)	LS	13.000	
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000	
		LAW ENFORCEMENT: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000	

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0026-02-039

DISTRICT Yoakum

COUNTY Austin, Calhoun, Colorado, De Witt, Fayette, Gonzales, Jackson, Lavaca, Matagorda, Victoria, Wharton

HIGHWAY FM 109, FM 1090, FM 1115, FM 1117, FM 1160, FM 1291, FM 1371, FM 1383, FM 1456, FM 1468, FM 1593, FM 1686, FM 2144, FM 234, FM 239, FM 2434, FM 2437, FM 2540, FM 2546, FM 2919, FM 3085, FM 3131, FM 331, FM 340, FM 3475, FM 442, FM 532, FM 616, FM 949, SH 119, SH 185, SH 237, SH 238, SH 304, SH 36, SH 60, SH 71, SH 97, SS 458, UA 77, US 59, US 90

ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL
	18	EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000	

P R O J E C T D A T A

CONTROL: 0026-02-039 HWY: US 90
COUNTY : FAYETTE TYPE: SEAL COAT
LENGTH : 21,042.00 FT = 3.985 MI PROJECT: #1
LIMITS : FROM GONZALES C/L TRAFFIC: 2559 VPD
TO 0.12 MI W OF SH 95

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 210+42.00 (5)	21042.00	24	56112

	TOTAL TRAVEL LANE AREA		**56112**
(1) STA 0+00.00 TO STA 210+42.00 (5)	21675.00	12	28056

	TOTAL SHOULDER AREA		**28056**
INTERSECTIONS			
COUNTY ROADS (5 EA)	VAR	VAR	720
CITY STREETS (2 EA)	VAR	VAR	290
FM 2762	VAR	VAR	506

	TOTAL INTERSECTION AREA		**1516**

Project Number: **Sheet** 14

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[US 90 PROJECT #1 CONT 0026-02-039 FAYETTE CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 718+0.021
(5) STA 210+42.00 = MP: 3.985 = TRM 722+0.008

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	56112 SY	510	CY
	SHOULDERS	1 CY/110 SY	28056 SY	255	CY
	INTERSECTIONS	1 CY/110 SY	1516 SY	14	CY
			TOTAL	**779**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	56112 SY	24689	GAL
	SHOULDERS	0.44 GAL/SY	28056 SY	12345	GAL
	INTERSECTIONS	0.44 GAL/SY	1516 SY	667	GAL
			TOTAL	**37701**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	21042 LF	526	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**536**	**EA**
666	**REFL PAV MRK TY II(W)6″(SLD)**				
	EDGELINE		EST	**42084**	**LF**
666	**RE PM W/RET REQ TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	14589 LF	3647	LF
	SINGLE NO PASS	10 LF/40 LF	5414 LF	1354	LF
			TOTAL	**5001**	**LF**
666	**RE PM W/RET REQ TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		5414 LF	5414	LF
	DOUBLE NO PASS		1743 LF X 2	3486	LF
			TOTAL	**8900**	**LF**
666	**REF PROF PAV MRK TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**42084**	**LF**

Project Number: **Sheet** 15

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[US 90 PROJECT #1 CONT 0026-02-039 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
668	**PREFAB PAV MRK TY C(W)(24″)(SLD)**				
	STOP BAR		EST	**15**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	14589 LF	182	EA
	SINGLE NO PASS	1 EA/40 LF	5414 LF	135	EA
	DOUBLE NO PASS	1 EA/40 LF	1743 LF	44	EA
			TOTAL	**361**	**EA**
6001	**PORTABLE CHANGEABLE MESSAGE SIGN**		EST	**1**	**EA**
6185	**TMA (STATIONARY)**		EST	**25**	**DAY**
6185	**TMA (MOBILE OPERATION)**		EST	**150**	**DAY**

P R O J E C T D A T A

CONTROL: 0114-13-005 HWY: SS 458
COUNTY : FAYETTE TYPE: SEAL COAT
LENGTH : 12,630.00 FT = 2.392 MI PROJECT: #2
LIMITS : FROM US 290 TRAFFIC: 903 VPD
TO SH 237

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 126+30.00 (5)	12630.00	24	33680
		TOTAL TRAVEL LANE AREA	**33680**
ADDITIONAL AREA			
DOGLEG @ SH 237	420.00	28	1307
		TOTAL ADDITIONAL AREA	**1307**
INTERSECTIONS			
CITY STREETS (5 EA)	VAR	VAR	413
COUNTY ROADS (2 EA)	VAR	VAR	180
		TOTAL INTERSECTION AREA	**593**

Project Number: **Sheet** 16

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SS 458 PROJECT #2 CONT 0114-13-005 FAYETTE CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 1.024 = TRM 448-0.042
(5) STA 126+30.00 = MP: 3.416 = TRM 450+0.394

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	33680 SY	306	CY
	ADDITIONAL AREA	1 CY/110 SY	1307 SY	12	CY
	INTERSECTIONS	1 CY/110 SY	593 SY	5	CY
			TOTAL	**323**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	33680 SY	14819	GAL
	ADDITIONAL AREA	0.44 GAL/SY	1307 SY	575	GAL
	INTERSECTIONS	0.44 GAL/SY	593 SY	261	GAL
			TOTAL	**15655**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	13050 LF	326	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**336**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**19044**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	1968 LF	492	LF
	SINGLE NO PASS	10 LF/40 LF	5937 LF	1484	LF
			TOTAL	**1976**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		5937 LF	5937	LF
	DOUBLE NO PASS		1444 LF X 2	2888	LF
			TOTAL	**8825**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**7056**	**LF**

Project Number: **Sheet** 17

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SS 458 PROJECT #2 CONT 0114-13-005 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	1960 LF	490	LF
	SINGLE NO PASS	10 LF/40 LF	868 LF	217	LF
			TOTAL	**707**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		868 LF	868	LF
	DOUBLE NO PASS		700 LF X 2	1400	LF
			TOTAL	**2268**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**19044**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	1968 LF	492	LF
	SINGLE NO PASS	10 LF/40 LF	5937 LF	1484	LF
			TOTAL	**1976**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		5937 LF	5937	LF
	DOUBLE NO PASS		1444 LF X 2	2888	LF
			TOTAL	**8825**	**LF**
668	**PREFAB PAV MRK TY C(W)(18")(SLD)**				
	SCHOOL ZONE		EST	**40**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**12**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	3928 LF	49	EA
	SINGLE NO PASS	1 EA/40 LF	6805 LF	170	EA
	DOUBLE NO PASS	1 EA/40 LF	2144 LF	54	EA
			TOTAL	**273**	**EA**

P R O J E C T D A T A

CONTROL: 0267-01-034 HWY: SH 237
COUNTY : FAYETTE TYPE: SEAL COAT
LENGTH : 68,176.00 FT = 12.912 MI PROJECT: #3
LIMITS : FROM WASHINGTON C/L TRAFFIC: 3961 VPD
TO 0.8 MI N OF SH 159

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 681+76.00 (5)	68176.00	28	212103
		TOTAL TRAVEL LANE AREA	**212103**

INTERSECTIONS			
FM 1457	VAR	VAR	312
FM 954	VAR	VAR	163
FM 1291 (2 EA)	VAR	VAR	775
COUNTY ROADS & CITY STREETS (23 EA)	VAR	VAR	2016
		TOTAL INTERSECTION AREA	**3266**

Project Number: **Sheet** 18

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 237 PROJECT #3 CONT 0267-01-034 FAYETTE CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 1.000 = TRM 448+0.001 MI
(5) STA 681+76.00 = MP: 13.912 = TRM 460+0.882 MI

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	212103 SY	1571	CY
	INTERSECTIONS	1 CY/135 SY	3266 SY	24	CY
			TOTAL	**1595**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	212103 SY	67873	GAL
	INTERSECTIONS	0.32 GAL/SY	3266 SY	1045	GAL
			TOTAL	**68918**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	68176 LF	1704	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1714**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**116688**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	7704 LF	1926	LF
	SINGLE NO PASS	10 LF/40 LF	30347 LF	7587	LF
			TOTAL	**9513**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		30347 LF	30347	LF
	DOUBLE NO PASS		24930 LF X 2	49860	LF
			TOTAL	**80207**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**19664**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	SINGLE NO PASS	10 LF/40 LF	536 LF	**134**	**LF**

Project Number: **Sheet** 19

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 237 PROJECT #3 CONT 0267-01-034 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		536 LF	536	LF
	DOUBLE NO PASS		4380 LF X 2	8760	LF
			TOTAL	**9296**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**116688**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	7704 LF	1926	LF
	SINGLE NO PASS	10 LF/40 LF	30347 LF	7587	LF
			TOTAL	**9513**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		30347 LF	30347	LF
	DOUBLE NO PASS		24930 LF X 2	49860	LF
			TOTAL	**80207**	**LF**
668	**PREFAB PAV MRK TY C(W)(18")(SLD)**				
	SCHOOL ZONE		EST	**48**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	70	LF
	CROSSWALK		EST	30	LF
			TOTAL	**100**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	7704 LF	96	EA
	SINGLE NO PASS	1 EA/40 LF	30883 LF	772	EA
	DOUBLE NO PASS	1 EA/40 LF	29310 LF	733	EA
			TOTAL	**1601**	**EA**

P R O J E C T D A T A

CONTROL: 0267-02-040 HWY: SH 237
COUNTY : FAYETTE TYPE: SEAL COAT
LENGTH : 3,802.00 FT = 0.720 MI PROJECT: #4
LIMITS : FROM 0.8 MI N OF SH 159 TRAFFIC: 2862 VPD
TO 0.1 MI N OF SH 159

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 38+02.00 (5)	3802.00	28	11828
	TOTAL TRAVEL LANE AREA		**11828**

Project Number: **Sheet** 20

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 237 PROJECT #4 CONT 0267-02-040 FAYETTE CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 1.000 = TRM 460+0.882
(5) STA 38+02.00 = MP: 1.720 = TRM 462+0.309

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	11828 SY		**88 CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	11828 SY		**3785 GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	3802 LF		95 EA
	BEGIN/END NO PASSING		EST		10 EA
				TOTAL	**105 EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST		**7604 LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	SINGLE NO PASS	10 LF/40 LF	1512 LF		**378 LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		1512 LF		1512 LF
	DOUBLE NO PASS		2290 LF X 2		4580 LF
				TOTAL	**6092 LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST		**7604 LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	SINGLE NO PASS	10 LF/40 LF	1512 LF		**378 LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		1512 LF		1512 LF
	DOUBLE NO PASS		2290 LF X 2		4580 LF
				TOTAL	**6092 LF**

Project Number: **Sheet** 21

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 237 PROJECT #4 CONT 0267-02-040 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
672	**REFL PAV MRKR TY II-A-A**				
	SINGLE NO PASS	1 EA/40 LF	1512 LF		38 EA
	DOUBLE NO PASS	1 EA/40 LF	2290 LF		57 EA
				TOTAL	**95 EA**

P R O J E C T D A T A

CONTROL: 1266-02-008 HWY: FM 1383
COUNTY : FAYETTE TYPE: SEAL COAT
LENGTH : 19,980.00 FT = 3.784 MI PROJECT: #5
LIMITS : FROM US 77 TRAFFIC: 304 VPD
TO BOHUSLAV RD(AMMANNSVILLE)

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 199+80.00 (5)	19980.00	24	53280
		TOTAL TRAVEL LANE AREA	**53280**

INTERSECTIONS			
COUNTY ROADS (5 EA)	VAR	VAR	515
US 77	VAR	VAR	94
		TOTAL INTERSECTION AREA	**609**

Project Number: **Sheet** 22

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1383 PROJECT #5 CONT 1266-02-008 FAYETTE CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.006 = TRM 472-0.015
(5) STA 199+80.00 = MP: 3.790 = TRM 474+1.788

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[FM 1383 PROJECT #5 CONT 1266-02-008 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	53280 SY	484	CY
	INTERSECTIONS	1 CY/110 SY	609 SY	6	CY
			TOTAL	**490**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	53280 SY	23443	GAL
	INTERSECTIONS	0.44 GAL/SY	609 SY	268	GAL
			TOTAL	**23711**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	19980 LF	500	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**510**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**39960**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	3285 LF	821	LF
	SINGLE NO PASS	10 LF/40 LF	4350 LF	1088	LF
			TOTAL	**1909**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		4350 LF	4350	LF
	DOUBLE NO PASS		11138 LF X 2	22276	LF
			TOTAL	**26626**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**39960**	**LF**

Project Number: **Sheet** 23

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1383 PROJECT #5 CONT 1266-02-008 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	3285 LF	821	LF
	SINGLE NO PASS	10 LF/40 LF	4350 LF	1088	LF
			TOTAL	**1909**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		4350 LF	4350	LF
	DOUBLE NO PASS		11138 LF X 2	22276	LF
			TOTAL	**26626**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**15**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	3285 LF	41	EA
	SINGLE NO PASS	1 EA/40 LF	4350 LF	109	EA
	DOUBLE NO PASS	1 EA/40 LF	11138 LF	278	EA
			TOTAL	**428**	**EA**

P R O J E C T D A T A

CONTROL: 2347-01-007 HWY: FM 1383
COUNTY : FAYETTE TYPE: SEAL COAT
LENGTH : 37,705 FT = 7.141 MI PROJECT: #6
LIMITS : FROM BOHUSLAV RD(AMMANNSVILLE) TRAFFIC: 412 VPD
TO US 90

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 271+25.00	27125.00	24	72333
	STA 271+25.00 TO STA 377+05.00 (5)	10580.00	22	25862

			TOTAL TRAVEL LANE AREA	**98195**

INTERSECTIONS

FM 1965	VAR	VAR	124
US 90	VAR	VAR	446
COUNTY ROADS (7 EA)	VAR	VAR	968

		TOTAL INTERSECTION AREA	**1538**

Project Number: **Sheet** 24

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1383 PROJECT #6 CONT 2347-01-007 FAYETTE CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 3.694 = TRM 474+1.788
(5) STA 377+05.00 = MP: 10.835 = TRM 482+0.951

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[FM 1383 PROJECT #6 CONT 2347-01-007 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	98195 SY	893	CY
	INTERSECTIONS	1 CY/110 SY	1538 SY	14	CY
			TOTAL	**907**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	98195 SY	43206	GAL
	INTERSECTIONS	0.44 GAL/SY	1538 SY	677	GAL
			TOTAL	**43883**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	37705 LF	943	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**953**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**54250**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	965 LF	241	LF
	SINGLE NO PASS	10 LF/40 LF	11252 LF	2813	LF
			TOTAL	**3054**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		11252 LF	11252	LF
	DOUBLE NO PASS		25488 LF X 2	50976	LF
			TOTAL	**62228**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**54250**	**LF**

Project Number: **Sheet** 25

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1383 PROJECT #6 CONT 2347-01-007 FAYETTE CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	965 LF	241	LF
	SINGLE NO PASS	10 LF/40 LF	11252 LF	2813	LF
			TOTAL	**3054**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		11252 LF	11252	LF
	DOUBLE NO PASS		25488 LF X 2	50976	LF
			TOTAL	**62228**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**40**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	965 LF	12	EA
	SINGLE NO PASS	1 EA/40 LF	11252 LF	281	EA
	DOUBLE NO PASS	1 EA/40 LF	25488 LF	637	EA
			TOTAL	**930**	**EA**

P R O J E C T D A T A

CONTROL: 0216-04-013 HWY: FM 1117
COUNTY : GONZALES TYPE: SEAL COAT
LENGTH : 42,526.00 FT = 8.054 MI PROJECT: #7
LIMITS : FROM GUADALUPE C/L TRAFFIC: 1308 VPD
TO SH 80

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 425+26.00 (5)	42526.00	24	113403
		TOTAL TRAVEL LANE AREA	**113403**
(1) STA 0+00.00 TO STA 425+26.00 (5)	42526.00	8	37801
		TOTAL SHOULDER AREA	**37801**
ADDITIONAL AREA			
FROM GUADALUPE C/L SIGN TO BEGIN CONTROL	530	32	1884
		TOTAL ADDITIONAL AREA	**1884**
INTERSECTIONS			
COUNTY ROADS (10 EA)	VAR	VAR	1870
		TOTAL INTERSECTION AREA	**1870**

Project Number: **Sheet** 26

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1117 PROJECT #7 CONT 0216-04-013 GONZALES CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 504+0.075
(5) STA 425+26.00 = MP: 8.054 = TRM 512+0.144

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[FM 1117 PROJECT #7 CONT 0216-04-013 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	113403 SY	1031 CY	
	SHOULDERS	1 CY/110 SY	37801 SY	344 CY	
	ADDITIONAL AREA	1 CY/110 SY	1884 SY	17 CY	
	INTERSECTIONS	1 CY/110 SY	1870 SY	17 CY	
			TOTAL	**1409 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	113403 SY	49897 GAL	
	SHOULDERS	0.44 GAL/SY	37801 SY	16632 GAL	
	ADDITIONAL AREA	0.44 GAL/SY	1884 SY	829 GAL	
	INTERSECTIONS	0.44 GAL/SY	1870 SY	823 GAL	
			TOTAL	**68181 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	43056 LF	1076 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**1086 EA**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**86112 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	5067 LF	1267 LF	
	SINGLE NO PASS	10 LF/40 LF	15849 LF	3962 LF	
			TOTAL	**5229 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		15849 LF	15849 LF	
	DOUBLE NO PASS		21754 LF X 2	43508 LF	
			TOTAL	**59357 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**86112 LF**	

Project Number: **Sheet** 27

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1117 PROJECT #7 CONT 0216-04-013 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	5067 LF	1267 LF	
	SINGLE NO PASS	10 LF/40 LF	15849 LF	3962 LF	
			TOTAL	**5229 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		15849 LF	15849 LF	
	DOUBLE NO PASS		21754 LF X 2	43508 LF	
			TOTAL	**59357 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**12 LF**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	5067 LF	63 EA	
	SINGLE NO PASS	1 EA/40 LF	15849 LF	396 EA	
	DOUBLE NO PASS	1 EA/40 LF	21754 LF	544 EA	
			TOTAL	**1003 EA**	

P R O J E C T D A T A

CONTROL: 0347-01-030 HWY: SH 97
COUNTY : GONZALES TYPE: SEAL COAT
LENGTH : 51,153.00 FT = 9.688 MI PROJECT: #8
LIMITS : FROM CR 112 TRAFFIC: 7250 VPD
TO US 183

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 187+35.00	18735.00	24	49960
	STA 187+35.00 TO STA 192+25.00	490.00	24-38	1688
	STA 192+25.00 TO STA 212+70.00	2045.00	38	8634
	STA 212+70.00 TO STA 217+60.00	490.00	38-24	1688
	STA 217+60.00 TO STA 326+70.00	10910.00	24	29093
	STA 326+70.00 TO STA 331+60.00	490.00	24-38	1688
	STA 331+60.00 TO STA 341+20.00	960.00	38	4053
	STA 341+20.00 TO STA 346+10.00	490.00	38-24	1688
	STA 346+10.00 TO STA 448+05.00	10195.00	24	27187
	STA 448+05.00 TO STA 452+25.00	420.00	24-36	1400
	STA 452+25.00 TO STA 462+05.00	980.00	36	3920
	STA 462+05.00 TO STA 466+25.00	420.00	36-24	1400
	STA 466+25.00 TO STA 476+70.00	1045.00	24	2787
	STA 476+70.00 TO STA 484+50.00	780.00	24-36	2600
	STA 484+50.00 TO STA 500+73.00	1623.00	36	6492
	STA 500+73.00 TO STA 501+69.00	96.00	36-48	448
	STA 501+69.00 TO STA 506+43.00	474.00	48	2528
	STA 506+43.00 TO STA 507+43.00	100.00	48-36	467
	STA 507+43.00 TO STA 509+88.00	245.00	36-48	1143
	STA 509+88.00 TO STA 511+53.00 (5)	165.00	24	440

		TOTAL TRAVEL LANE AREA		**149304**

Project Number: **Sheet** 28

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 97 PROJECT #8 CONT 0347-01-030 GONZALES CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 187+35.00	18735.00	16	33307
	STA 187+35.00 TO STA 192+25.00	490.00	16-8	653
	STA 192+25.00 TO STA 212+70.00	2045.00	8	1818
	STA 212+70.00 TO STA 217+60.00	490.00	8-16	653
	STA 217+60.00 TO STA 326+70.00	10910.00	16	19396
	STA 326+70.00 TO STA 331+60.00	490.00	16-8	653
	STA 331+60.00 TO STA 341+20.00	960.00	8	853
	STA 341+20.00 TO STA 346+10.00	490.00	8-16	653
	STA 346+10.00 TO STA 422+25.00	7615.00	16	13538
	STA 422+25.00 TO STA 448+05.00	2580.00	20	5733
	STA 448+05.00 TO STA 452+25.00	420.00	20-8	653
	STA 452+25.00 TO STA 462+05.00	980.00	8	871
	STA 462+05.00 TO STA 466+25.00	420.00	8-20	653
	STA 466+25.00 TO STA 476+70.00	1045.00	20	2322
	STA 476+70.00 TO STA 484+50.00	780.00	20-14	1473
	STA 484+50.00 TO STA 507+43.00	2293.00	14	3567
	STA 507+43.00 TO STA 509+88.00	245.00	14-30	599
	STA 509+88.00 TO STA 511+53.00 (5)	165.00	22	403

		TOTAL SHOULDER AREA		**87798**

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED PROFESSIONAL ENGINEER

---[SH 97 PROJECT #8 CONT 0347-01-030 GONZALES CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
ADDITIONAL AREA			
SPUR 95/HISTORICAL MARKER	380.00	30	1267
SH 97 CONNECTOR @ US 183	VAR	VAR	1215

	TOTAL ADDITIONAL AREA		**2482**
INTERSECTIONS			
COUNTY ROADS (8 EA)	VAR	VAR	1263

	TOTAL INTERSECTION AREA		**1263**

Project Number: **Sheet** 29

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 97 PROJECT #8 CONT 0347-01-030 GONZALES CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 592+1.099
(5) STA 511+53.00 = MP: 9.688 = TRM 602+0.834

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[SH 97 PROJECT #8 CONT 0347-01-030 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	149304 SY	1357 CY	
	SHOULDERS	1 CY/110 SY	87798 SY	798 CY	
	ADDITIONAL AREA	1 CY/110 SY	2482 SY	23 CY	
	INTERSECTIONS	1 CY/110 SY	1263 SY	11 CY	
			TOTAL	**2189 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	149304 SY	65694 GAL	
	SHOULDERS	0.44 GAL/SY	87798 SY	38631 GAL	
	ADDITIONAL AREA	0.44 GAL/SY	2482 SY	1092 GAL	
	INTERSECTIONS	0.44 GAL/SY	1263 SY	556 GAL	
			TOTAL	**105973 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	LANE LINE	1 EA/40 LF	1252 LF	31 EA	
	GORE @ US 183 & SH 97 CONNECTOR	1 EA/20 LF	125 LF	6 EA	
	TURN LANE	1 EA/20 LF	3205 LF	160 EA	
			TOTAL	**197 EA**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	47933 LF	1198 EA	
	GORE	2 EA/20 LF	3220 LF X 2	644 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**1852 EA**	
666	**REFL PAV MRK TY I(W)8"(DOT)(100MIL)**				
	TURN LANE	3 LF/12 LF	2055 LF	**514 LF**	
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	GORE @ US 183 & SH 97 CONNECTOR		EST	125 LF	
	TURN LANE		EST	1150 LF	
			TOTAL	**1275 LF**	

Project Number: **Sheet** 30

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 97 PROJECT #8 CONT 0347-01-030 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(W)6"(BRK)(100MIL)**				
	LANE LINE	10 LF/40 LF	1252 LF	**313 LF**	
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	102306 LF	
	SH 97 CONNECTOR EDGELINE		EST	425 LF	
			TOTAL	**102731 LF**	
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	7330 LF	1833 LF	
	SINGLE NO PASS	10 LF/40 LF	26874 LF	6719 LF	
			TOTAL	**8552 LF**	
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		26874 LF	26874 LF	
	DOUBLE NO PASS		13382 LF X 2	26764 LF	
	SH 97 CONNECTOR EDGELINE		EST	425 LF	
	GORE		3220 LF X 4	12880 LF	
			TOTAL	**66943 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**30 LF**	
672	**REFL PAV MRKR TY I-C**				
	LANE LINE	1 EA/80 LF	1252 LF	16 EA	
	GORE @ US 183 & SH 97 CONNECTOR	1 EA/20 LF	125 LF	6 EA	
	TURN LANE	1 EA/20 LF	1150 LF	58 EA	
			TOTAL	**80 EA**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	7330 LF	92 EA	
	SINGLE NO PASS	1 EA/40 LF	26874 LF	672 EA	
	DOUBLE NO PASS	1 EA/40 LF	13382 LF	335 EA	
	GORE	2 EA/20 LF	3220 LF X 2	644 EA	
			TOTAL	**1743 EA**	

P R O J E C T D A T A

CONTROL: 0347-02-034 HWY: SH 97
COUNTY : GONZALES TYPE: SEAL COAT
LENGTH : 16,400.00 FT = 3.106 MI ROJECT: #9
LIMITS : FROM 0.25 MI W OF FM 1682 TRAFFIC: 1800 VPD
TO CR 112

	LIMITS STA TO STA		LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 4+90.00		490.00	24-38	1688
	STA 4+90.00 TO STA 14+80.00		990.00	38	4180
	STA 14+80.00 TO STA 19+70.00		490.00	38-24	1688
	STA 19+70.00 TO STA 130+60.00	(3)	11090.00	24	29573
(3)	STA 131+55.00 TO STA 164+95.00	(5)	3340.00	24	8907

			TOTAL TRAVEL LANE AREA		**46036**

(1)	STA 0+00.00 TO STA 14+80.00		1480.00	8	1316
	STA 14+80.00 TO STA 19+70.00		490.00	8-16	653
	STA 19+70.00 TO STA 130+60.00	(3)	11090.00	16	19716
(3)	STA 131+55.00 TO STA 164+95.00	(5)	3340.00	16	5938

			TOTAL SHOULDER AREA		**27623**

INTERSECTIONS					
	COUNTY ROADS (5 EA)		VAR	VAR	547

			TOTAL INTERSECTION AREA		**547**

Project Number: **Sheet** 31

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 97 PROJECT #9 CONT 0347-02-034 GONZALES CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 9.360 = TRM 588+2.225
(5) STA 164+95.00 = MP: 12.484 = TRM 592+1.099

(2) NO EQUATIONS
(3) EXCEPTION: STA 130+60.00 TO STA 131+55.00 = -95.00 FT = -0.018 MI
(TURKEY CREEK BRIDGE)
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	46036 SY	419	CY
	SHOULDERS	1 CY/110 SY	27623 SY	251	CY
	INTERSECTIONS	1 CY/110 SY	547 SY	5	CY
			TOTAL	**675**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	46036 SY	20256	GAL
	SHOULDERS	0.44 GAL/SY	27623 SY	12154	GAL
	INTERSECTIONS	0.44 GAL/SY	547 SY	241	GAL
			TOTAL	**32651**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	830 LF	**42**	**EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	15244 LF	381	EA
	GORE	2 EA/20 LF	1156 LF X 2	232	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**623**	**EA**
666	**REFL PAV MRK TY I(W)(8")(DOT)(100MIL)**				
	TURN LANE	3 LF/12 LF	580 LF	**145**	**LF**
666	**REFL PAV MRK TY I(W)(8")(SLD)(100MIL)**				
	TURN LANE		EST	**250**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**32800**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	1913 LF	478	LF
	SINGLE NO PASS	10 LF/40 LF	7329 LF	1832	LF
			TOTAL	**2310**	**LF**

Project Number: **Sheet** 32

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 97 PROJECT #9 CONT 0347-02-034 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		7329 LF	7329	LF
	DOUBLE NO PASS		5468 LF X 2	10936	LF
	GORE		1156 LF X 4	4624	LF
			TOTAL	**22889**	**LF**
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	830 LF	**42**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	1913 LF	24	EA
	SINGLE NO PASS	1 EA/40 LF	7329 LF	183	EA
	DOUBLE NO PASS	1 EA/40 LF	5468 LF	137	EA
	GORE	2 EA/20 LF	1156 LF X 2	232	EA
			TOTAL	**576**	**EA**

P R O J E C T D A T A

CONTROL: 0573-03-020 HWY: SH 304
COUNTY : GONZALES TYPE: SEAL COAT
LENGTH : 67,860.00 FT = 12.852 MI PROJECT: #10
LIMITS : FROM CALDWELL C/L TRAFFIC: 1900 VPD
TO SH 97

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 178+85.00 (3)	17885.00	24	47693
(3)	STA 179+30.00 TO STA 180+53.00 (3)	123.00	28	383
(3)	STA 180+63.00 TO STA 269+97.00	8934.00	28	27795
	STA 269+97.00 TO STA 679+15.00 (5)	40918.00	24	109115

		TOTAL TRAVEL LANE AREA		**184986**
(1)	STA 0+00.00 TO STA 178+85.00 (3)	17885.00	16	31796
	STA 269+97.00 TO STA 679+15.00 (5)	40918.00	16	72743

		TOTAL SHOULDER AREA		**104539**

INTERSECTIONS			
SH 97 BUTTONHOOK	VAR	VAR	1930
COUNTY ROADS (10 EA)	VAR	VAR	1675

	TOTAL INTERSECTION AREA		**3605**

Project Number: **Sheet** 33

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 304 PROJECT #10 CONT 0573-03-020 GONZALES CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.010 = TRM 480+1.832
(5) STA 679+15.00 = MP: 12.872 = TRM 494+0.855

(2) NO EQUATIONS
(3) EXCEPTIONS: STA 178+85.00 TO STA 179+30.00 = -45.00 FT = -0.008 MI
(US 90 INT)
STA 180+53.00 TO STA 180+63.00 = -10.00 FT = -0.002 MI
(RR XING)
(4) RAILROAD CROSSING: 1 RETAINED STA 180+53.00 TO STA 180+63.00

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[SH 304 PROJECT #10 CONT 0573-03-020 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	184986 SY	1682	CY
	SHOULDERS	1 CY/110 SY	104539 SY	950	CY
	INTERSECTIONS	1 CY/110 SY	3605 SY	33	CY
			TOTAL	**2665**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	184986 SY	81394	GAL
	SHOULDERS	0.44 GAL/SY	104539 SY	45997	GAL
	INTERSECTIONS	0.44 GAL/SY	3605 SY	1586	GAL
			TOTAL	**128977**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	67860 LF	1697	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1707**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**135720**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	13659 LF	3415	LF
	SINGLE NO PASS	10 LF/40 LF	38592 LF	9648	LF
			TOTAL	**13063**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		38592 LF	38592	LF
	DOUBLE NO PASS		14665 LF X 2	29330	LF
			TOTAL	**67922**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**135720**	**LF**

Project Number: **Sheet** 34

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 304 PROJECT #10 CONT 0573-03-020 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MKR TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	13659 LF	3415	LF
	SINGLE NO PASS	10 LF/40 LF	38592 LF	9648	LF
			TOTAL	**13063**	**LF**
666	**REF PROF PAV MKR TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		38592 LF	38592	LF
	DOUBLE NO PASS		14665 LF X 2	29330	LF
			TOTAL	**67922**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	42	LF
	RR XING		EST	48	LF
			TOTAL	**90**	**LF**
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST	**1**	**EA**
668	**PREFAB PAV MRK TY C(W)(36")(YLD TRI)**		EST	**4**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	13659 LF	171	EA
	SINGLE NO PASS	1 EA/40 LF	38592 LF	965	EA
	DOUBLE NO PASS	1 EA/40 LF	14665 LF	367	EA
			TOTAL	**1503**	**EA**

P R O J E C T D A T A

CONTROL: 1262-02-014 HWY: FM 1115
COUNTY : GONZALES TYPE: SEAL COAT
LENGTH : 22,662.00 FT = 4.292 MI PROJECT: #11
LIMITS : FROM FAYETTE C/L TRAFFIC: 1650 VPD
TO US 90

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 15+00.00	1500.00	24	4000
	STA 15+00.00 TO STA 226+62.00 (5)	21162.00	26	61135

		TOTAL TRAVEL LANE AREA		**65135**
(1)	STA 0+00.00 TO STA 3+36.00	336.00	24	896
	STA 3+36.00 TO STA 10+73.00	737.00	16	1310
	STA 10+73.00 TO STA 15+00.00	427.00	24	1139

		TOTAL SHOULDER AREA		**3345**
INTERSECTIONS				
COUNTY ROADS (3 EA)		VAR	VAR	480

		TOTAL INTERSECTION AREA		**480**

Project Number: **Sheet** 35

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1115 PROJECT #11 CONT 1262-02-014 GONZALES CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 478+0.005
(5) STA 226+62.00 = MP: 4.292 = TRM 482+0.268

(2) NO EQUATIONS
(3) NO EXCEPTION
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
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---[FM 1115 PROJECT #11 CONT 1262-02-014 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	65135 SY	592	CY
	SHOULDERS	1 CY/110 SY	3345 SY	30	CY
	INTERSECTIONS	1 CY/110 SY	480 SY	4	CY
			TOTAL	**626**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	65135 SY	28659	GAL
	SHOULDERS	0.44 GAL/SY	3345 SY	1472	GAL
	INTERSECTIONS	0.44 GAL/SY	480 SY	211	GAL
			TOTAL	**30342**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	22662 LF	567	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**577**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**45324**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	2871 LF	718	LF
	SINGLE NO PASS	10 LF/40 LF	10272 LF	2568	LF
			TOTAL	**3286**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		10272 LF	10272	LF
	DOUBLE NO PASS		8977 LF X 2	17954	LF
			TOTAL	**28226**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**45324**	**LF**

Project Number: **Sheet** 36

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1115 PROJECT #11 CONT 1262-02-014 GONZALES CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	2871 LF	718	LF
	SINGLE NO PASS	10 LF/40 LF	10272 LF	2568	LF
			TOTAL	**3286**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		10272 LF	10272	LF
	DOUBLE NO PASS		8977 LF X 2	17954	LF
			TOTAL	**28226**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**14**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	2871 LF	36	EA
	SINGLE NO	1 EA/40 LF	10272 LF	257	EA
	DOUBLE NO PASS	1 EA/40 LF	8977 LF	224	EA
			TOTAL	**517**	**EA**

P R O J E C T D A T A

CONTROL: 0269-06-061 HWY: UA 77
COUNTY : DEWITT TYPE: SEAL COAT
LENGTH : 24,846.00 FT = 4.705 MI PROJECT: #12
LIMITS : FROM 4.845 MI N OF US 183 TRAFFIC: 3655 VPD
TO 0.14 MI N OF US 183

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 206+75.00	20675.00	28	64322
STA 206+75.00 TO STA 248+46.00 (5)	4171.00	24	11123

	TOTAL TRAVEL LANE AREA		**75445**
(1) STA 0+00.00 TO STA 248+46.00 (5)	24846.00	16	44171

	TOTAL SHOULDER AREA		**44171**
INTERSECTIONS			
COUNTY ROADS (3 EA)	VAR	VAR	733
HISTORICAL MARKER	150	9-12	175

	TOTAL INTERSECTION AREA		**908**

Project Number: **Sheet** 37

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[UA 77 PROJECT #12 CONT 0269-06-061 DEWITT CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 7.845 = TRM 522+0.000
(5) STA 248+46.00 = MP: 12.550 = TRM 526+0.715

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	75445 SY	686	CY
	SHOULDERS	1 CY/110 SY	44171 SY	402	CY
	INTERSECTIONS	1 CY/110 SY	908 SY	8	CY
			TOTAL	**1096**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	75445 SY	33196	GAL
	SHOULDERS	0.44 GAL/SY	44171 SY	19435	GAL
	INTERSECTIONS	0.44 GAL/SY	908 SY	400	GAL
			TOTAL	**53031**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	24566 LF	614	EA
	GORE	2 EA/20 LF	280 LF X 2	56	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**680**	**EA**
666	**RE PM W/RET REQ TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**49692**	**LF**
666	**RE PM W/RET REQ TY I(Y)6″(BRK)(100MIL)**				
	DUAL CENTERLINE STRIPE				
	PASS	10 LF/40 LF	13803 LF X 2	6902	LF
	SINGLE NO PASS	10 LF/40 LF	6326 LF X 2	3163	LF
			TOTAL	**10065**	**LF**
666	**RE PM W/RET REQ TY I(Y)6″(SLD)(100MIL)**				
	DUAL CENTERLINE STRIPE				
	SINGLE NO PASS		6326 LF	6326	LF
	CONVENTIONAL CENTERLINE STRIPE				
	DOUBLE NO PASS		4180 LF X 2	8360	LF
	GORE		280 LF X 4	1120	LF
			TOTAL	**15806**	**LF**

Project Number: **Sheet** 38

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[UA 77 PROJECT #12 CONT 0269-06-061 DEWITT CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
672	**REFL PAV MRKR TY II-A-A**				
	DUAL CENTERLINE STRIPE				
	PASS	1 EA/80 LF	13803 LF X 2	345	EA
	SINGLE NO PASS	1 EA/80 LF	6326 LF X 2	158	EA
		1 EA/40 LF	6326 LF	158	EA
	CONVENTIONAL CENTERLINE STRIPE				
	DOUBLE NO PASS	1 EA/40 LF	4180 LF	105	EA
	GORE	2 EA/20 LF	280 LF X 2	56	EA
			TOTAL	**822**	**EA**

P R O J E C T D A T A

CONTROL: 0359-03-029 HWY: SH 119
COUNTY : DEWITT TYPE: SEAL COAT
LENGTH : 40,334.00 FT = 7.639 MI PROJECT: #13
LIMITS : FROM KARNES C/L TRAFFIC: 1626 VPD
TO 0.3 MI N FM 108

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 403+34.00 (5)	40334.00	24	107557
		TOTAL TRAVEL LANE AREA	**107557**
(1) STA 0+00.00 TO STA 173+10.00	17310.00	16	30773
STA 185+32.00 TO STA 403+34.00 (5)	21802.00	16	38759
		TOTAL SHOULDER AREA	**69532**
ADDITIONAL AREA			
RIGHT TURN LANE/SHLDR @ FRANK KOZIELSKI RD	1063.00	8	945
		TOTAL ADDITIONAL AREA	**945**
INTERSECTIONS			
COUNTY ROADS (9 EA)	VAR	VAR	1870
		TOTAL INTERSECTION AREA	**1870**

Project Number: **Sheet** 39

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 119 PROJECT #13 CONT 0359-03-029 DEWITT CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 538+0.048
(5) STA 403+34.00 = MP: 7.639 = TRM 544+1.688

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	107557 SY	978	CY
	SHOULDERS	1 CY/110 SY	69532 SY	632	CY
	ADDITIONAL AREA	1 CY/110 SY	945 SY	9	CY
	INTERSECTIONS	1 CY/110 SY	1870 SY	17	CY
			TOTAL	**1636**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	107557 SY	47325	GAL
	SHOULDERS	0.44 GAL/SY	69532 SY	30594	GAL
	ADDITIONAL AREA	0.44 GAL/SY	945 SY	416	GAL
	INTERSECTIONS	0.44 GAL/SY	1870 SY	823	GAL
			TOTAL	**79158**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	793 LF	**40**	**EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	40334 LF	1008	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1018**	**EA**
666	**REFL PAV MRK TY I(W)8"(DOT)(100MIL)**				
	TURN LANE	3 LF/12 LF	312 LF	**78**	**LF**
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST	**481**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**80668**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	14027 LF	3507	LF
	SINGLE NO PASS	10 LF/40 LF	16604 LF	4151	LF
			TOTAL	**7658**	**LF**

Project Number: **Sheet** 40

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 119 PROJECT #13 CONT 0359-03-029 DEWITT CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		16604 LF	16604	LF
	DOUBLE NO PASS		8949 LF X 2	17898	LF
			TOTAL	**34502**	**LF**
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	RT TURN		EST	**3**	**EA**
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**3**	**EA**
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	793 LF	**40**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	14027 LF	175	EA
	SINGLE NO PASS	1 EA/40 LF	16604 LF	415	EA
	DOUBLE NO PASS	1 EA/40 LF	8949 LF	224	EA
			TOTAL	**814**	**EA**

P R O J E C T D A T A

CONTROL: 0943-02-013 HWY: FM 239
COUNTY : DEWITT TYPE: SEAL COAT
LENGTH : 17,912.00 FT = 3.392 MI PROJECT: #14
LIMITS : FROM SH 72 TRAFFIC: 429 VPD
TO END OF MAINTANENCE

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 179+12.00 (5)	17912.00	22	43785
		TOTAL TRAVEL LANE AREA	**43785**
INTERSECTIONS			
COUNTY ROADS (5 EA)	VAR	VAR	858
		TOTAL INTERSECTION AREA	**858**

Project Number: **Sheet** 41

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 239 PROJECT #14 CONT 0943-02-013 DEWITT CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.031 = TRM 534+0.013
(5) STA 179+12.00 = MP: 3.423 = TRM 536+1.431

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	43785 SY	398	CY
	INTERSECTIONS	1 CY/110 SY	858 SY	8	CY
			TOTAL	**406**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	43785 SY	19265	GAL
	INTERSECTIONS	0.44 GAL/SY	858 SY	378	GAL
			TOTAL	**19643**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	17912 LF	448	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**458**	**EA**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	8777 LF	2194	LF
	SINGLE NO PASS	10 LF/40 LF	4612 LF	1153	LF
			TOTAL	**3347**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		4612 LF	4612	LF
	DOUBLE NO PASS		4157 LF X 2	8314	LF
			TOTAL	**12926**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	8777 LF	2194	LF
	SINGLE NO PASS	10 LF/40 LF	4612 LF	1153	LF
			TOTAL	**3347**	**LF**

Project Number: **Sheet** 42

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 239 PROJECT #14 CONT 0943-02-013 DEWITT CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		4612 LF	4612	LF
	DOUBLE NO PASS		4157 LF X 2	8314	LF
			TOTAL	**12926**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**11**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	8777 LF	110	EA
	SINGLE NO PASS	1 EA/40 LF	4612 LF	115	EA
	DOUBLE NO PASS	1 EA/40 LF	4157 LF	104	EA
			TOTAL	**329**	**EA**

P R O J E C T D A T A

CONTROL: 0324-04-005 HWY: FM 3475
COUNTY : LAVACA TYPE: SEAL COAT
LENGTH : 10,064.00 FT = 1.906 MI PROJECT: #15
LIMITS : FROM 0.15 MI S OF UA 77 TRAFFIC: 3281 VPD
TO FM 318

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 100+64.00 (5)	10064.00	24	26837
		TOTAL TRAVEL LANE AREA	**26837**
(1) STA 0+00.00 TO STA 100+64.00 (5)	10064.00	20	22364
		TOTAL SHOULDER AREA	**22364**
INTERSECTIONS			
COUNTY ROADS & CITY STREETS (5 EA)	VAR	VAR	1187
FM 318	VAR	VAR	458
		TOTAL INTERSECTION AREA	**1645**

Project Number: **Sheet** 43

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 3475 PROJECT #15 CONT 0324-04-005 LAVACA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.149 = TRM 506+0.132
(5) STA 100+64.00 = MP: 2.055 = TRM 508+0.061

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[FM 3475 PROJECT #15 CONT 0324-04-005 LAVACA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	26837 SY	244 CY	
	SHOULDERS	1 CY/110 SY	22364 SY	203 CY	
	INTERSECTIONS	1 CY/110 SY	1645 SY	15 CY	
			TOTAL	**462 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	26837 SY	11808 GAL	
	SHOULDERS	0.44 GAL/SY	22364 SY	9840 GAL	
	INTERSECTIONS	0.44 GAL/SY	1645 SY	724 GAL	
			TOTAL	**22372 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	ISLAND	1 EA/20 LF	428 LF	**21 EA**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	10064 LF	252 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**262 EA**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**20128 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	4783 LF	1196 LF	
	SINGLE NO PASS	10 LF/40 LF	3436 LF	859 LF	
			TOTAL	**2055 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		3436 LF	3436 LF	
	DOUBLE NO PASS		1845 LF X 2	3690 LF	
			TOTAL	**7126 LF**	

Project Number: **Sheet** 44

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 3475 PROJECT #15 CONT 0324-04-005 LAVACA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**20128 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	4783 LF	1196 LF	
	SINGLE NO PASS	10 LF/40 LF	3436 LF	859 LF	
			TOTAL	**2055 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		3436 LF	3436 LF	
	DOUBLE NO PASS		1845 LF X 2	3690 LF	
			TOTAL	**7126 LF**	
668	**PREFAB PAV MRK TY C(W)12"(SLD)**				
	ISLAND		EST	**428 LF**	
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"STOP"		EST	2 EA	
	"AHEAD"		EST	2 EA	
			TOTAL	**4 EA**	
668	**PREFAB PAV MRK TY C(W)(36")(YLD TRI)**		EST	**10 EA**	
672	**REFL PAV MRKR TY I-C**				
	ISLAND	1 EA/20 LF	428 LF	**21 EA**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	4783 LF	60 EA	
	SINGLE NO PASS	1 EA/40 LF	3436 LF	86 EA	
	DOUBLE NO PASS	1 EA/40 LF	1845 LF	46 EA	
			TOTAL	**192 EA**	

P R O J E C T D A T A

CONTROL: 1007-01-027 HWY: FM 532
COUNTY : LAVACA TYPE: SEAL COAT
LENGTH : 73,683.00 FT = 13.955 MI PROJECT: #16
LIMITS : FROM SH 95 TRAFFIC: 1234 VPD
TO US 77

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 521+93.00	52193.00	24	139181
STA 521+93.00 TO STA 736+83.00 (5)	21490.00	23	54919

	TOTAL TRAVEL LANE AREA		**194100**

INTERSECTIONS			
SH 95	VAR	VAR	75
COUNTY ROADS (22 EA)	VAR	VAR	1827

	TOTAL INTERSECTION AREA		**1902**

Project Number: **Sheet** 45

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 532 PROJECT #16 CONT 1007-01-027 LAVACA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.003 = TRM 574-0.820
(5) STA 736+83.00 = MP: 13.958 = TRM 586+1.150

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	194100 SY	1765	CY
	INTERSECTIONS	1 CY/110 SY	1902 SY	17	CY
			TOTAL	**1782**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	194100 SY	85404	GAL
	INTERSECTIONS	0.44 GAL/SY	1902 SY	837	GAL
			TOTAL	**86241**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	73683 LF	1842	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1852**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**104386**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	6406 LF	1602	LF
	SINGLE NO PASS	10 LF/40 LF	33118 LF	8280	LF
			TOTAL	**9882**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		33118 LF	33118	LF
	DOUBLE NO PASS		32613 LF X 2	65226	LF
			TOTAL	**98344**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**104386**	**LF**

Project Number: **Sheet** 46

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 532 PROJECT #16 CONT 1007-01-027 LAVACA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	6406 LF	1602	LF
	SINGLE NO PASS	10 LF/40 LF	33118 LF	8280	LF
			TOTAL	**9882**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		33118 LF	33118	LF
	DOUBLE NO PASS		32613 LF X 2	65226	LF
			TOTAL	**98344**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**27**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	6406 LF	80	EA
	SINGLE NO PASS	1 EA/40 LF	33118 LF	828	EA
	DOUBLE NO PASS	1 EA/40 LF	32613 LF	815	EA
			TOTAL	**1723**	**EA**

P R O J E C T D A T A

CONTROL: 1445-01-019 HWY: FM 340
COUNTY : LAVACA TYPE: SEAL COAT
LENGTH : 32,245.00 FT = 6.107 MI PROJECT: #17
LIMITS : FROM SH 95 TRAFFIC: 325 VPD
TO FM 1295

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 322+45.00 (5)	32245.00	24	85987
		TOTAL TRAVEL LANE AREA	**85987**

INTERSECTIONS			
COUNTY ROADS (9 EA)	VAR	VAR	1348
HISTORICAL MARKER	VAR	VAR	300
		TOTAL INTERSECTION AREA	**1648**

Project Number: **Sheet** 47

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 340 PROJECT #17 CONT 1445-01-019 LAVACA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.003 = TRM 574-0.013
(5) STA 322+45.00 = MP: 6.110 = TRM 580+0.132

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	85987 SY	782 CY	
	INTERSECTIONS	1 CY/110 SY	1648 SY	15 CY	
			TOTAL	**797 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	85987 SY	37834 GAL	
	INTERSECTIONS	0.44 GAL/SY	1648 SY	725 GAL	
			TOTAL	**38559 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	32245 LF	806 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**816 EA**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**64490 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	3505 LF	876 LF	
	SINGLE NO PASS	10 LF/40 LF	11017 LF	2754 LF	
			TOTAL	**3630 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		11017 LF	11017 LF	
	DOUBLE NO PASS		17032 LF X 2	34064 LF	
			TOTAL	**45081 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**64490 LF**	

Project Number: **Sheet** 48

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 340 PROJECT #17 CONT 1445-01-019 LAVACA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	3505 LF	876 LF	
	SINGLE NO PASS	10 LF/40 LF	11017 LF	2754 LF	
			TOTAL	**3630 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		11017 LF	11017 LF	
	DOUBLE NO PASS		17032 LF X 2	34064 LF	
			TOTAL	**45081 LF**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	3505 LF	44 EA	
	SINGLE NO PASS	1 EA/40 LF	11017 LF	275 EA	
	DOUBLE NO PASS	1 EA/40 LF	17032 LF	426 EA	
			TOTAL	**745 EA**	

P R O J E C T D A T A

CONTROL: 2349-02-013 HWY: FM 2437
COUNTY : LAVACA TYPE: SEAL COAT
LENGTH : 56,243.00 FT = 10.652 MI PROJECT: #18
LIMITS : FROM COLORADO C/L TRAFFIC: 323 VPD
TO FM 530

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 562+43.00 (5)	56243.00	32	199975
		TOTAL TRAVEL LANE AREA	**199975**

INTERSECTIONS

FM 530	VAR	VAR	218
COUNTY ROADS (2 EA)	VAR	VAR	272
PVT 1045(DCP)	VAR	VAR	270
		TOTAL INTERSECTION AREA	**760**

Project Number: **Sheet** 49

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2437 PROJECT #18 CONT 2349-02-013 LAVACA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 506+0.010
(5) STA 562+43.00 = MP: 10.652 = TRM 516+0.672

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED PROFESSIONAL ENGINEER

---[FM 2437 PROJECT #18 CONT 2349-02-013 LAVACA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	199975 SY	1818	CY
	INTERSECTIONS	1 CY/110 SY	760 SY	7	CY
			TOTAL	**1825**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	199975 SY	87989	GAL
	INTERSECTIONS	0.44 GAL/SY	760 SY	334	GAL
			TOTAL	**88323**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	56243 LF	1406	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1416**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**112486**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	32067 LF	8017	LF
	SINGLE NO PASS	10 LF/40 LF	16253 LF	4063	LF
			TOTAL	**12080**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		16253 LF	16253	LF
	DOUBLE NO PASS		7690 LF X 2	15380	LF
			TOTAL	**31633**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**112486**	**LF**

Project Number: **Sheet** 50

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2437 PROJECT #18 CONT 2349-02-013 LAVACA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	32067 LF	8017	LF
	SINGLE NO PASS	10 LF/40 LF	16253 LF	4063	LF
			TOTAL	**12080**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		16253 LF	16253	LF
	DOUBLE NO PASS		7690 LF X 2	15380	LF
			TOTAL	**31633**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**14**	**LF**
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"STOP"		EST	1	EA
	"AHEAD"		EST	1	EA
			TOTAL	**2**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	32067 LF	401	EA
	SINGLE NO PASS	1 EA/40 LF	16253 LF	406	EA
	DOUBLE NO PASS	1 EA/40 LF	7690 LF	192	EA
			TOTAL	**999**	**EA**

P R O J E C T D A T A

CONTROL: 0187-02-071 HWY: SH 36
COUNTY : AUSTIN TYPE: SEAL COAT
LENGTH : 55,980.00 FT = 10.602 MI PROJECT: #19
LIMITS : FROM WASHINGTON C/L TRAFFIC: 7783 VPD
TO SH 159

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 3+30.00	330.00	46-36	1503
	STA 3+30.00 TO STA 183+19.00	17989.00	36	71956
	STA 183+19.00 TO STA 216+45.00	3326.00	24	8869
	STA 216+45.00 TO STA 219+25.00	280.00	24-48	1120
	STA 219+25.00 TO STA 362+85.00	14360.00	48	76587
	STA 362+85.00 TO STA 367+97.00	512.00	48-24	2048
	STA 367+97.00 TO STA 437+49.00	6952.00	24	18539
	STA 437+49.00 TO STA 441+29.00	380.00	24-36	1267
	STA 441+29.00 TO STA 455+19.00	1390.00	36-48	6487
	STA 455+19.00 TO STA 541+31.00	8612.00	48	45931
	STA 541+31.00 TO STA 549+81.00	850.00	48-24	3400
	STA 549+81.00 TO STA 559+80.00 (5)	999.00	24	2664

			TOTAL TRAVEL LANE AREA	**240371**

(1)	STA 0+00.00 TO STA 559+80.00 (5)	55980.00	20	124400

			TOTAL SHOULDER AREA	**124400**

INTERSECTIONS			
COUNTY ROADS (10 EA)	VAR	VAR	1302
KENNEY INTERCHANGE			
ENTRANCE/EXIT RAMPS	VAR	VAR	1206
CROSSOVERS	VAR	VAR	970

		TOTAL INTERSECTION AREA	**3478**

Project Number: **Sheet** 51

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 36 PROJECT #19 CONT 0187-02-071 AUSTIN CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 582+0.000
(5) STA 559+80.00 = MP: 10.602 = TRM 592+0.602

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[SH 36 PROJECT #19 CONT 0187-02-071 AUSTIN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	240371 SY	1781	CY
	SHOULDERS	1 CY/135 SY	124400 SY	921	CY
	INTERSECTIONS	1 CY/135 SY	3478 SY	26	CY
			TOTAL	**2728**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	240371 SY	76919	GAL
	SHOULDERS	0.32 GAL/SY	124400 SY	39808	GAL
	INTERSECTIONS	0.32 GAL/SY	3478 SY	1113	GAL
			TOTAL	**117840**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	LANE LINE	1 EA/40 LF	37435 LF	936	EA
	RAMP GORE	1 EA/20 LF	810 LF	41	EA
	ENTRANCE RAMP	2 EA/20 LF	675 LF	68	EA
			TOTAL	**1045**	**EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	27661 LF	692	EA
	GORE	2 EA/20 LF	4307 LF X 2	862	EA
	CONTINUOUS LT TURN	1 EA/40 LF	24012 LF X 2	1201	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**2765**	**EA**
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	RAMP GORE		EST	810	LF
	ENTRANCE RAMP		EST	675	LF
			TOTAL	**1485**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	111960	LF
	CROSSOVER EDGELINE		EST	417	LF
			TOTAL	**112377**	**LF**

Project Number: **Sheet** 52

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 36 PROJECT #19 CONT 0187-02-071 AUSTIN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	185 LF	46	LF
	SINGLE NO PASS	10 LF/40 LF	2511 LF	628	LF
	CONTINUOUS LT TURN	10 LF/40 LF	24012 LF X 2	12006	LF
			TOTAL	**12680**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		2511 LF	2511	LF
	DOUBLE NO PASS		24965 LF X 2	49930	LF
	CONTINUOUS LT TURN		24012 LF X 2	48024	LF
	GORE		4307 LF X 4	17228	LF
	CROSSOVER EDGELINE		EST	335	LF
			TOTAL	**118028**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**20**	**LF**
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	LT TURN		EST	**8**	**EA**
668	**PREFAB PAV MRK TY C(W)(36")(YLD TRI)**		EST	**9**	**EA**
672	**REFL PAV MRKR TY I-C**				
	LANE LINE	1 EA/80 LF	37435 LF	468	EA
	RAMP GORE	1 EA/20 LF	810 LF	41	EA
	ENTRANCE RAMP	2 EA/20 LF	675 LF	68	EA
			TOTAL	**577**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	185 LF	2	EA
	SINGLE NO PASS	1 EA/40 LF	2511 LF	63	EA
	DOUBLE NO PASS	1 EA/40 LF	24965 LF	624	EA
	GORE	2 EA/20 LF	4307 LF X 2	862	EA
	CONTINUOUS LT TURN	1 EA/40 LF	24012 LF X 2	1201	EA
			TOTAL	**2752**	**EA**

P R O J E C T D A T A

CONTROL: 1405-02-006 HWY: FM 1371
COUNTY : AUSTIN TYPE: SEAL COAT
LENGTH : 9,605.00 FT = 1.819 MI PROJECT: #20
LIMITS : FROM WASHINGTON C/L TRAFFIC: 655 VPD
TO FM 1456

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 96+05.00 (5)	9605.00	24	25613
		TOTAL TRAVEL LANE AREA	**25613**
INTERSECTIONS			
COUNTY ROADS (2 EA)	VAR	VAR	354
		TOTAL INTERSECTION AREA	**354**

Project Number: **Sheet** 53

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1371 PROJECT #20 CONT 1405-02-006 AUSTIN CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 453+0.030
(5) STA 96+05.00 = MP: 1.819 = TRM 454+1.805

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	25613 SY	233 CY	
	INTERSECTIONS	1 CY/110 SY	354 SY	3 CY	
			TOTAL	**236 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	25613 SY	11270 GAL	
	INTERSECTIONS	0.44 GAL/SY	354 SY	156 GAL	
			TOTAL	**11426 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	9605 LF	240 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**250 EA**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**19210 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	SINGLE NO PASS	10 LF/40 LF	6678 LF	**1670 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		6678 LF	6678 LF	
	DOUBLE NO PASS		2885 LF X 2	5770 LF	
			TOTAL	**12448 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**19210 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	SINGLE NO PASS	10 LF/40 LF	6678 LF	**1670 LF**	

Project Number: **Sheet** 54

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1371 PROJECT #20 CONT 1405-02-006 AUSTIN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		6678 LF	6678 LF	
	DOUBLE NO PASS		2885 LF X 2	5770 LF	
			TOTAL	**12448 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**20 LF**	
672	**REFL PAV MRKR TY II-A-A**				
	SINGLE NO PASS	1 EA/40 LF	6678 LF	167 EA	
	DOUBLE NO PASS	1 EA/40 LF	2885 LF	72 EA	
			TOTAL	**239 EA**	

P R O J E C T D A T A

CONTROL: 1410-01-025 HWY: FM 1456
COUNTY : AUSTIN TYPE: SEAL COAT
LENGTH : 58,720.00 FT = 11.121 MI PROJECT: #21
LIMITS : FROM SH 36 TRAFFIC: 2492 VPD
TO SH 159

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 30+62.00 (3)	3062.00	22	7485
(3) STA 30+72.00 TO STA 587+30.00 (5)	55658.00	22	136053

		TOTAL TRAVEL LANE AREA	**143538**

INTERSECTIONS

FM 1371	VAR	VAR	361
COUNTY ROADS (11 EA)	VAR	VAR	1435

		TOTAL INTERSECTION AREA	**1796**

Project Number: **Sheet** 55

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1456 PROJECT #21 CONT 1410-01-025 AUSTIN CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 626-0.075
(5) STA 587+30.00 = MP: 11.123 = TRM 636+1.132

(2) NO EQUATIONS
(3) EXCEPTION: STA 30+62.00 TO STA 30+72.00 = -10.00 FT = -0.002 MI
(RR XING)
(4) RAILROAD CROSSING: 1 RETAINED STA 30+62.00 TO STA 30+72.00

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	143538 SY	1305	CY
	INTERSECTIONS	1 CY/110 SY	1796 SY	16	CY
			TOTAL	**1321**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	143538 SY	63157	GAL
	INTERSECTIONS	0.44 GAL/SY	1796 SY	790	GAL
			TOTAL	**63947**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	58720 LF	1468	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1478**	**EA**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	17320 LF	4330	LF
	SINGLE NO PASS	10 LF/40 LF	20020 LF	5005	LF
			TOTAL	**9335**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		20020 LF	20020	LF
	DOUBLE NO PASS		20980 LF X 2	41960	LF
			TOTAL	**61980**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	17320 LF	4330	LF
	SINGLE NO PASS	10 LF/40 LF	20020 LF	5005	LF
			TOTAL	**9335**	**LF**

Project Number: **Sheet** 56

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1456 PROJECT #21 CONT 1410-01-025 AUSTIN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		20020 LF	20020	LF
	DOUBLE NO PASS		20980 LF X 2	41960	LF
			TOTAL	**61980**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	RAILROAD STOP BAR		EST	66	LF
	STOP BAR		EST	75	LF
			TOTAL	**141**	**LF**
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST	**2**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	17320 LF	217	EA
	SINGLE NO PASS	1 EA/40 LF	20020 LF	501	EA
	DOUBLE NO PASS	1 EA/40 LF	20980 LF	525	EA
			TOTAL	**1243**	**EA**

P R O J E C T D A T A

CONTROL: 2937-01-009 HWY: FM 331
COUNTY : AUSTIN TYPE: SEAL COAT
LENGTH : 30,550.00 FT = 5.785 PROJECT: #22
LIMITS : FROM END OF MAINTENANCE TRAFFIC: 452 VPD
TO FM 529

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 305+50.00 (5)	30550.00	24	81467
		TOTAL TRAVEL LANE AREA	**81467**
INTERSECTIONS			
FM 529	VAR	VAR	205
COUNTY ROADS (2 EA)	VAR	VAR	152
		TOTAL INTERSECTION AREA	**357**

Project Number: **Sheet** 57

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 331 PROJECT #22 CONT 2937-01-009 AUSTIN CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.001 = TRM 454+0.000
(5) STA 305+50.00 = MP: 5.786 = TRM 458+1.784

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[FM 331 PROJECT #22 CONT 2937-01-009 AUSTIN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	81467 SY	741	CY
	INTERSECTIONS	1 CY/110 SY	357 SY	3	CY
			TOTAL	**744**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	81467 SY	35845	GAL
	INTERSECTIONS	0.44 GAL/SY	357 SY	157	GAL
			TOTAL	**36002**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	30550 LF	764	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**774**	**EA**
666	**REFL PAV MRK TY II(W)6″(SLD)**				
	EDGELINE		EST	**61100**	**LF**
666	**REFL PAV MRK TY II(Y)6″(BRK)**				
	PASS	10 LF/40 LF	22530 LF	5633	LF
	SINGLE NO PASS	10 LF/40 LF	7025 LF	1756	LF
			TOTAL	**7389**	**LF**
666	**REFL PAV MRK TY II(Y)6″(SLD)**				
	SINGLE NO PASS		7025 LF	7025	LF
	DOUBLE NO PASS		995 LF X 2	1990	LF
			TOTAL	**9015**	**LF**
666	**REF PROF PAV MRK TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**61100**	**LF**

Project Number: **Sheet** 58

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 331 PROJECT #22 CONT 2937-01-009 AUSTIN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	22530 LF	5633	LF
	SINGLE NO PASS	10 LF/40 LF	7025 LF	1756	LF
			TOTAL	**7389**	**LF**
666	**REF PROF PAV MRK TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		7025 LF	7025	LF
	DOUBLE NO PASS		995 LF X 2	1990	LF
			TOTAL	**9015**	**LF**
668	**PREFAB PAV MRK TY C(W)(24″)(SLD)**				
	STOP BAR		EST	**18**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	22530 LF	282	EA
	SINGLE NO PASS	1 EA/40 LF	7025 LF	176	EA
	DOUBLE NO PASS	1 EA/40 LF	995 LF	25	EA
			TOTAL	**483**	**EA**

P R O J E C T D A T A

CONTROL: 0716-02-050 HWY: FM 109
COUNTY : COLORADO TYPE: SEAL COAT
LENGTH : 26,670.00 FT = 5.051 MI PROJECT: #23
LIMITS : FROM KANSTEINER RD TRAFFIC: 3179 VPD
TO BS 71-F

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 266+70.00 (5)	26670.00	24	71120
	TOTAL TRAVEL LANE AREA		**71120**
(1) STA 0+00.00 TO STA 266+70.00 (5)	26670.00	16	47413
	TOTAL SHOULDER AREA		**47413**
ADDITIONAL AREA			
@ MAILBOX TURNOUT	210.00	29	677
@ DRY CREEK	740.00	12	987
	TOTAL ADDITIONAL AREA		**1664**
INTERSECTIONS			
COUNTY ROADS (4 EA)	VAR	VAR	853
BS 71-F DOGLEG	VAR	VAR	380
BS 71-F	VAR	VAR	150
	TOTAL INTERSECTION AREA		**1383**

Project Number: **Sheet** 59

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 109 PROJECT #23 CONT 0716-02-050 COLORADO CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 8.913 = TRM 476+0.923
(5) STA 266+70.00 = MP: 13.964 = TRM 480+1.966

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[FM 109 PROJECT #23 CONT 0716-02-050 COLORADO CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	71120 SY	647	CY
	SHOULDERS	1 CY/110 SY	47413 SY	431	CY
	ADDITIONAL AREA	1 CY/110 SY	1664 SY	15	CY
	INTERSECTIONS	1 CY/110 SY	1383 SY	13	CY
			TOTAL	**1106**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	71120 SY	31293	GAL
	SHOULDERS	0.44 GAL/SY	47413 SY	20862	GAL
	ADDITIONAL AREA	0.44 GAL/SY	1664 SY	732	GAL
	INTERSECTIONS	0.44 GAL/SY	1383 SY	609	GAL
			TOTAL	**53496**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	26670 LF	667	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**677**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**53340**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	7830 LF	1958	LF
	SINGLE NO PASS	10 LF/40 LF	8330 LF	2083	LF
			TOTAL	**4041**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		8330 LF	8330	LF
	DOUBLE NO PASS		6510 LF X 2	13020	LF
			TOTAL	**21350**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	EDGELINE		EST	**180**	**LF**

Project Number: **Sheet** 60

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 109 PROJECT #23 CONT 0716-02-050 COLORADO CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**53340**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	7830 LF	1958	LF
	SINGLE NO PASS	10 LF/40 LF	8330 LF	2083	LF
			TOTAL	**4041**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		8330 LF	8330	LF
	DOUBLE NO PASS		6510 LF X 2	13020	LF
			TOTAL	**21350**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**16**	**LF**
668	**PREFAB PAV MRK TY C(W)(36")(YLD TRI)**		EST	**5**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	7830 LF	98	EA
	SINGLE NO PASS	1 EA/40 LF	8330 LF	208	EA
	DOUBLE NO PASS	1 EA/40 LF	6510 LF	163	EA
			TOTAL	**469**	**EA**

P R O J E C T D A T A

CONTROL: 1105-02-017 HWY: FM 1291
COUNTY : COLORADO TYPE: SEAL COAT
LENGTH : 34,945.00 FT = 6.618 MI PROJECT: #24
LIMITS : FROM FAYETTE C/L TRAFFIC: 689 VPD
TO FM 109

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 70+50.00	7050.00	25	19583
	STA 70+50.00 TO STA 73+35.00	285.00	24	760
	STA 73+35.00 TO STS 349+45.00 (5)	27610.00	25	76694

		TOTAL TRAVEL LANE AREA		**97037**

INTERSECTIONS				
COUNTY ROADS (9 EA)		VAR	VAR	2208

		TOTAL INTERSECTION AREA		**2208**

Project Number: **Sheet** 61

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1291 PROJECT #24 CONT 1105-02-017 COLORADO CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.000 = TRM 470+0.015
(5) STA 349+45.00 = MP: 6.618 = TRM 476+0.655

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	97037 SY	882	CY
	INTERSECTIONS	1 CY/110 SY	2208 SY	20	CY
			TOTAL	**902**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	97037 SY	42696	GAL
	INTERSECTIONS	0.44 GAL/SY	2208 SY	972	GAL
			TOTAL	**43668**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	34945 LF	874	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**884**	**EA**
666	**REFL PAV MRK TY II(W)6″(SLD)**				
	EDGELINE		EST	**69890**	**LF**
666	**REFL PAV MRK TY II(Y)6″(BRK)**				
	PASS	10 LF/40 LF	3100 LF	775	LF
	SINGLE NO PASS	10 LF/40 LF	11020 LF	2755	LF
			TOTAL	**3530**	**LF**
666	**REFL PAV MRK TY II(Y)6″(SLD)**				
	SINGLE NO PASS		11020 LF	11020	LF
	DOUBLE NO PASS		20345 LF X 2	40690	LF
			TOTAL	**51710**	**LF**
666	**REF PROF PAV MRK TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**69890**	**LF**

Project Number: **Sheet** 62

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1291 PROJECT #24 CONT 1105-02-017 COLORADO CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	3100 LF	775	LF
	SINGLE NO PASS	10 LF/40 LF	11020 LF	2755	LF
			TOTAL	**3530**	**LF**
666	**REF PROF PAV MRK TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		11020 LF	11020	LF
	DOUBLE NO PASS		20345 LF X 2	40690	LF
			TOTAL	**51710**	**LF**
668	**PREFAB PAV MRK TY C(W)(24″)(SLD)**				
	STOP BAR		EST	**11**	**LF**
672	**REFL PAV MRKR TY I-C**				
	EDGELINE @ EHLINGER RD		EST	**90**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	3100 LF	39	EA
	SINGLE NO PASS	1 EA/40 LF	11020 LF	276	EA
	DOUBLE NO PASS	1 EA/40 LF	20345 LF	509	EA
	C/L @ EHLINGER RD		EST	90	EA
			TOTAL	**914**	**EA**
672	**TRAFFIC BUTTON TY W**				
	EDGELINE @ EHLINGER RD		EST	**260**	**EA**
672	**TRAFFIC BUTTON TY Y**				
	C/L @ EHLINGER RD		EST	**260**	**EA**

P R O J E C T D A T A

CONTROL: 1106-01-015 HWY: FM 949
COUNTY : COLORADO TYPE: SEAL COAT
LENGTH : 46,987.00 FT = 8.899 MI PROJECT: #25
LIMITS : FROM IH 10 TRAFFIC: 2501 VPD
TO AUSTIN C/L

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 2+95.00	295.00	36	1180
STA 2+95.00 TO STA 469+87.00 (5)	46692.00	28	145264

	TOTAL TRAVEL LANE AREA		**146444**

INTERSECTIONS

COUNTY ROADS (12 EA)	VAR	VAR	2434

	TOTAL INTERSECTION AREA		**2434**

Project Number: **Sheet** 63

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 949 PROJECT #25 CONT 1106-01-015 COLORADO CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 1.003 = TRM 624-0.323
(5) STA 469+87.00 = MP: 9.902 = TRM 632+0.603

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	146444 SY	1331 CY	
	INTERSECTIONS	1 CY/110 SY	2434 SY	22 CY	
			TOTAL	**1353 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	146444 SY	64435 GAL	
	INTERSECTIONS	0.44 GAL/SY	2434 SY	1071 GAL	
			TOTAL	**65506 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	46987 LF	1175 EA	
	BEGIN END/NO PASSING		EST	10 EA	
			TOTAL	**1185 EA**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**93974 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	10635 LF	2659 LF	
	SINGLE NO PASS	10 LF/40 LF	23525 LF	5881 LF	
			TOTAL	**8540 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		23525 LF	23525 LF	
	DOUBLE NO PASS		12035 LF X 2	24070 LF	
			TOTAL	**47595 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**93974 LF**	

Project Number: **Sheet** 64

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 949 PROJECT #25 CONT 1106-01-015 COLORADO CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	10635 LF	2659 LF	
	SINGLE NO PASS	10 LF/40 LF	23525 LF	5881 LF	
			TOTAL	**8540 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		23525 LF	23525 LF	
	DOUBLE NO PASS		12035 LF X 2	24070 LF	
			TOTAL	**47595 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**30 LF**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	10635 LF	133 EA	
	SINGLE NO PASS	1 EA/40 LF	23525 LF	588 EA	
	DOUBLE NO PASS	1 EA/40 LF	12035 LF	301 EA	
			TOTAL	**1022 EA**	

P R O J E C T D A T A

CONTROL: 2063-01-009 HWY: FM 2144
COUNTY : COLORADO TYPE: SEAL COAT
LENGTH : 27,088.00 FT = 5.130 MI PROJECT: #26
LIMITS : FROM FM 532 TRAFFIC: 263 VPD
TO FM 155

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 270+88.00 (5)	27088.00	26	78254
		TOTAL TRAVEL LANE AREA	**78254**
INTERSECTIONS			
COUNTY ROADS (6 EA)	VAR	VAR	1173
		TOTAL INTERSECTION AREA	**1173**

Project Number: **Sheet** 65

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2144 PROJECT #26 CONT 2063-01-009 COLORADO CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.011 = TRM 594-0.003
(5) STA 270+88.00 = MP: 5.141 = TRM 598+1.155

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	78254 SY	711	CY
	INTERSECTIONS	1 CY/110 SY	1173 SY	11	CY
			TOTAL	**722**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	78254 SY	34432	GAL
	INTERSECTIONS	0.44 GAL/SY	1173 SY	516	GAL
			TOTAL	**34948**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	27088 LF	677	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**687**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**54176**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	6540 LF	1635	LF
	SINGLE NO PASS	10 LF/40 LF	9100 LF	2275	LF
			TOTAL	**3910**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		9100 LF	9100	LF
	DOUBLE NO PASS		11420 LF X 2	22840	LF
			TOTAL	**31940**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**54176**	**LF**

Project Number: **Sheet** 66

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2144 PROJECT #26 CONT 2063-01-009 COLORADO CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	6540 LF	1635	LF
	SINGLE NO PASS	10 LF/40 LF	9100 LF	2275	LF
			TOTAL	**3910**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		9100 LF	9100	LF
	DOUBLE NO PASS		11420 LF X 2	22840	LF
			TOTAL	**31940**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	6540 LF	82	EA
	SINGLE NO PASS	1 EA/40 LF	9100 LF	228	EA
	DOUBLE NO PASS	1 EA/40 LF	11420 LF	286	EA
			TOTAL	**596**	**EA**

P R O J E C T D A T A

CONTROL: 2345-01-012 HWY: FM 2434
COUNTY : COLORADO TYPE: SEAL COAT
LENGTH : 64,840.00 FT = 12.280 MI PROJECT: #27
LIMITS : FROM FM 155 TRAFFIC: 1320 VPD
TO US 90

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 648+40.00 (5)	64840.00	25	180111
		TOTAL TRAVEL LANE AREA	**180111**

INTERSECTIONS

COUNTY ROADS AND CITY STREETS (19 EA)	VAR	VAR	3106
IH 10 EXIT/ENTRANCE RAMPS (4 EA)	VAR	VAR	551
		TOTAL INTERSECTION AREA	**3657**

Project Number: **Sheet** 67

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2434 PROJECT #27 CONT 2345-01-012 COLORADO CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.003 = TRM 596-0.018
(5) STA 648+40.00 = MP: 12.283 = TRM 608+0.306

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	180111 SY	1637	CY
	INTERSECTIONS	1 CY/110 SY	3657 SY	33	CY
			TOTAL	**1670**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	180111 SY	79249	GAL
	INTERSECTIONS	0.44 GAL/SY	3657 SY	1609	GAL
			TOTAL	**80858**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	64840 LF	1621	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1631**	**EA**
666	**REFL PAV MRK TY II(W)6″(SLD)**				
	EDGELINE		EST	**129680**	**LF**
666	**REFL PAV MRK TY II(Y)6″(BRK)**				
	PASS	10 LF/40 LF	11625 LF	2906	LF
	SINGLE NO PASS	10 LF/40 LF	32975 LF	8244	LF
			TOTAL	**11150**	**LF**
666	**REFL PAV MRK TY II(Y)6″(SLD)**				
	SINGLE NO PASS		32975 LF	32975	LF
	DOUBLE NO PASS		19620 LF X 2	39240	LF
			TOTAL	**72215**	**LF**
666	**REF PROF PAV MRK TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**129680**	**LF**

Project Number: **Sheet** 68

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2434 PROJECT #27 CONT 2345-01-012 COLORADO CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	11625 LF	2906	LF
	SINGLE NO PASS	10 LF/40 LF	32975 LF	8244	LF
			TOTAL	**11150**	**LF**
666	**REF PROF PAV MRK TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		32975 LF	32975	LF
	DOUBLE NO PASS		19620 LF X 2	39240	LF
			TOTAL	**72215**	**LF**
668	**PREFAB PAV MRK TY C(W)(24″)(SLD)**				
	STOP BAR		EST	**92**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	11625 LF	145	EA
	SINGLE NO PASS	1 EA/40 LF	32975 LF	824	EA
	DOUBLE NO PASS	1 EA/40 LF	19620 LF	491	EA
			TOTAL	**1460**	**EA**

P R O J E C T D A T A

CONTROL: 0240-02-035 HWY: SH 60
COUNTY : WHARTON TYPE: SEAL COAT
LENGTH : 21,983.00 FT = 4.163 MI PROJECT: #28
LIMITS : FROM AUSTIN C/L TRAFFIC: 3929 VPD
TO US 90A

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 142+77.00 (3)	14277.00	24	38072
(3) STA 187+92.00 TO STA 264+40.00 (3)	7648.00	24	20395
(3) STA 264+52.00 TO STA 265+10.00 (5)	58.00	24	155
	TOTAL TRAVEL LANE AREA		**58622**
(1) STA 0+00.00 TO STA 142+77.00 (3)	14277.00	16	25381
(3) STA 187+92.00 TO STA 264+40.00 (3)	7648.00	16	13596
(3) STA 264+52.00 TO STA 265+10.00 (5)	58.00	16	103
	TOTAL SHOULDER AREA		**39080**
INTERSECTIONS			
US 90A	VAR	VAR	368
COUNTY ROADS (8 EA)	VAR	VAR	735
	TOTAL INTERSECTION AREA		**1103**

Project Number: **Sheet** 69

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #28 CONT 0240-02-035 WHARTON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.057 = TRM 484+0.636
(5) STA 265+10.00 = MP: 5.077 = TRM 490+1.065

(2) NO EQUATIONS
(3) EXCEPTION: STA 142+77.00 TO STA 187+92.00 = -4515.00 FT = -0.855 MI
(MIDDLE BERNARD CREEK PROJECT)
STA 264+40.00 TO STA 264+52.00= -12.00 FT = -0.002 MI
(RR XING)
(4) RAILROAD CROSSING: 1 RETAINED STA 264+40.00 TO STA 264+52.00

Amanda Anderle Fling, P.E.
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08/16/2023
DATE

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PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	58622 SY	434	CY
	SHOULDERS	1 CY/135 SY	39080 SY	289	CY
	INTERSECTIONS	1 CY/135 SY	1103 SY	8	CY
			TOTAL	**731**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	58622 SY	18759	GAL
	SHOULDERS	0.32 GAL/SY	39080 SY	12506	GAL
	INTERSECTIONS	0.32 GAL/SY	1103 SY	353	GAL
			TOTAL	**31618**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	ISLAND	1 EA/20 LF	100 LF	**5**	**EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	21983 LF	550	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**560**	**EA**
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	ISLAND		EST	**100**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**43966**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	14710 LF	3678	LF
	SINGLE NO PASS	10 LF/40 LF	4489 LF	1122	LF
			TOTAL	**4800**	**LF**

Project Number: **Sheet** 70

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #28 CONT 0240-02-035 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		4489 LF	4489	LF
	DOUBLE NO PASS		2795 LF X 2	5590	LF
			TOTAL	**10079**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	12	LF
	RAILROAD STOP BAR		EST	60	LF
			TOTAL	**72**	**LF**
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST	**1**	**EA**
668	**PREFAB PAV MRK TY C(W)(36")(YLD TRI)**		EST	**6**	**EA**
672	**REFL PAV MRKR TY I-C**				
	ISLAND	1 EA/20 LF	100 LF	**5**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	14710 LF	184	EA
	SINGLE NO PASS	1 EA/40 LF	4489 LF	112	EA
	DOUBLE NO PASS	1 EA/40 LF	2795 LF	70	EA
			TOTAL	**366**	**EA**

P R O J E C T D A T A

CONTROL: 0241-01-053 HWY: SH 60
COUNTY : WHARTON TYPE: SEAL COAT
LENGTH : 32,410.00 FT = 6.138 MI PROJECT: #29
LIMITS : FROM FM 442 TRAFFIC: 5213 VPD
TO MATAGORDA C/L

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 4+65.00	465.00	24-36	1550
	STA 4+65.00 TO STA 11+15.00	650.00	36	2600
	STA 11+15.00 TO STA 13+75.00	260.00	36-24	867
	STA 13+75.00 TO STA 324+10.00 (5)	31035.00	24	82760

		TOTAL TRAVEL LANE AREA		**87777**

(1)	STA 0+00.00 TO STA 4+65.00	465.00	16-4	517
	STA 4+65.00 TO STA 11+15.00	650.00	4	289
	STA 11+15.00 TO STA 13+75.00	260.00	4-16	289
	STA 13+75.00 TO STA 324+10.00 (5)	31035.00	16	55173

		TOTAL SHOULDER AREA		**56268**

INTERSECTIONS				
	COUNTY ROADS (10 EA)	VAR	VAR	854

		TOTAL INTERSECTION AREA		**854**

Project Number: **Sheet** 71

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #29 CONT 0241-01-053 WHARTON CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 9.284 = TRM 514+1.346
(5) STA 324+10.00 = MP: 15.422 = TRM 520+1.494

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
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08/16/2023
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LICENSED
PROFESSIONAL ENGINEER

---[SH 60 PROJECT #29 CONT 0241-01-053 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	87777 SY	650 CY	
	SHOULDERS	1 CY/135 SY	56268 SY	417 CY	
	INTERSECTIONS	1 CY/135 SY	854 SY	6 CY	
			TOTAL	**1073 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	87777 SY	28089 GAL	
	SHOULDERS	0.32 GAL/SY	56268 SY	18006 GAL	
	INTERSECTIONS	0.32 GAL/SY	854 SY	273 GAL	
			TOTAL	**46368 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	90 LF	**5 EA**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	31245 LF	781 EA	
	GORE	2 EA/20 LF	1165 LF X 2	234 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**1025 EA**	
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST	**90 LF**	
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**64820 LF**	
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	29859 LF	7465 LF	
	SINGLE NO PASS	10 LF/40 LF	1178 LF	295 LF	
			TOTAL	**7760 LF**	

Project Number: **Sheet** 72

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #29 CONT 0241-01-053 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		1178 LF	1178 LF	
	DOUBLE NO PASS		208 LF X 2	416 LF	
	GORE		1165 LF X 4	4660 LF	
			TOTAL	**6254 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**12 LF**	
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	LT TURN		EST	**1 EA**	
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**1 EA**	
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	90 LF	**5 EA**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	29859 LF	373 EA	
	SINGLE NO PASS	1 EA/40 LF	1178 LF	29 EA	
	DOUBLE NO PASS	1 EA/40 LF	208 LF	5 EA	
	GORE	2 EA/20 LF	1165 LF X 2	234 EA	
			TOTAL	**641 EA**	

P R O J E C T D A T A

CONTROL: 0838-01-033 HWY: FM 442
COUNTY : WHARTON TYPE: SEAL COAT
LENGTH : 25,600.00 FT = 4.848 MI PROJECT: #30
LIMITS : FROM FM 1301 TRAFFIC: 6841 VPD
TO FORT BEND C/L

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 256+00.00 (5)	25600.00	24	68267

	TOTAL TRAVEL LANE AREA		**68267**
(1) STA 0+00.00 TO STA 23+21.00	2321.00	10	2579
STA 23+21.00 TO STA 256+00.00 (5)	23279.00	16	41385

	TOTAL SHOULDER AREA		**43964**
INTERSECTIONS			
COUNTY ROADS (5 EA)	VAR	VAR	497

	TOTAL INTERSECTION AREA		**497**

Project Number: **Sheet** 73

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 442 PROJECT #30 CONT 0838-01-033 WHARTON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 7.830 = TRM 648+0.830
(5) STA 256+00.00 = MP: 12.678 = TRM 652+1.687

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	68267 SY	621	CY
	SHOULDERS	1 CY/110 SY	43964 SY	400	CY
	INTERSECTIONS	1 CY/110 SY	497 SY	5	CY
			TOTAL	**1026**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	68267 SY	30037	GAL
	SHOULDERS	0.44 GAL/SY	43964 SY	19344	GAL
	INTERSECTIONS	0.44 GAL/SY	497 SY	219	GAL
			TOTAL	**49600**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	25600 LF	640	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**650**	**EA**
666	**REFL PAV MARK TY II(W)6″(SLD)**				
	EDGELINE		EST	**51200**	**LF**
666	**RE PM W/RET REQ TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	14300 LF	3575	LF
	SINGLE NO PASS	10 LF/40 LF	7025 LF	1756	LF
			TOTAL	**5331**	**LF**
666	**RE PM W/RET REQ TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		7025 LF	7025	LF
	DOUBLE NO PASS		4275 LF X 2	8550	LF
			TOTAL	**15575**	**LF**
666	**REF PROF PAV MRK TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**51200**	**LF**

Project Number: **Sheet** 74

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 442 PROJECT #30 CONT 0838-01-033 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
668	**PREFAB PAV MRK TY C(W)(24″)(SLD)**				
	STOP BAR		EST	28	LF
	CROSSWALK		EST	36	LF
			TOTAL	**64**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	14300 LF	179	EA
	SINGLE NO PASS	1 EA/40 LF	7025 LF	176	EA
	DOUBLE NO PASS	1 EA/40 LF	4275 LF	107	EA
			TOTAL	**462**	**EA**

P R O J E C T D A T A

CONTROL: 1302-01-027 HWY: FM 1160
COUNTY : WHARTON TYPE: SEAL COAT
LENGTH : 96,049.00 FT = 18.191 MI PROJECT: #31
LIMITS : FROM SH 71 TRAFFIC: 1051 VPD
TO SL 523

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 931+51.00 (3)	93151.00	25	258753
(3) STA 942+01.00 TO STA 970+99.00 (5)	2898.00	25	8050

	TOTAL TRAVEL LANE AREA		**266803**
STA 929+76.00 TO STA 931+51.00 (3)	175.00	20	389
(3) STA 942+01.00 TO STA 943+71.00	170.00	20	378

	TOTAL SHOULDER AREA		**767**
INTERSECTIONS			
FM 2546 (2 EA)	VAR	VAR	292
FM 1300 (2 EA)	VAR	VAR	1290
US 59 ON/OFF RAMPS	VAR	VAR	693
SL 523	VAR	VAR	222
COUNTY ROADS (16 EA)	VAR	VAR	1846

	TOTAL INTERSECTION AREA		**4343**

Project Number: **Sheet** 75

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1160 PROJECT #31 CONT 1302-01-027 WHARTON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.005 = TRM 502-0.017
(5) STA 970+99.00 = MP: 18.394 = TRM 520+0.417

(2) NO EQUATIONS
(3) EXCEPTION: STA 931+51.00 TO STA 942+01.00 = -1050.00 FT = -0.198 MI
(US 59 OVERPASS)
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	266803 SY	2425	CY
	SHOULDERS	1 CY/110 SY	767 SY	7	CY
	INTERSECTIONS	1 CY/110 SY	4343 SY	39	CY
			TOTAL	**2471**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	266803 SY	117393	GAL
	SHOULDERS	0.44 GAL/SY	767 SY	337	GAL
	INTERSECTIONS	0.44 GAL/SY	4343 SY	1911	GAL
			TOTAL	**119641**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	96049 LF	2401	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**2411**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**185324**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	73029 LF	18257	LF
	SINGLE NO PASS	10 LF/40 LF	9870 LF	2468	LF
			TOTAL	**20725**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		9870 LF	9870	LF
	DOUBLE NO PASS		10813 LF X 2	21626	LF
			TOTAL	**31496**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**6774**	**LF**

Project Number: **Sheet** 76

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1160 PROJECT #31 CONT 1302-01-027 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	1984 LF	496	LF
	SINGLE NO PASS	10 LF/40 LF	1403 LF	351	LF
			TOTAL	**847**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		1403 LF	**1403**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**185324**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	73029 LF	18257	LF
	SINGLE NO PASS	10 LF/40 LF	9870 LF	2468	LF
			TOTAL	**20725**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		9870 LF	9870	LF
	DOUBLE NO PASS		10813 LF X 2	21626	LF
			TOTAL	**31496**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**172**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	75013 LF	938	EA
	SINGLE NO PASS	1 EA/40 LF	11273 LF	282	EA
	DOUBLE NO PASS	1 EA/40 LF	10813 LF	270	EA
			TOTAL	**1490**	**EA**

P R O J E C T D A T A

CONTROL: 2940-01-008 HWY: FM 2919
COUNTY : WHARTON TYPE: SEAL COAT
LENGTH : 16,648.00 FT = 3.153 MI PROJECT: #32
LIMITS : FROM SH 60 TRAFFIC: 1092 VPD
TO FORT BEND C/L

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 166+48.00 (5)	16648.00	29	53644

	TOTAL TRAVEL LANE AREA		**53644**

INTERSECTIONS

SH 60	VAR	VAR	208
COUNTY ROADS (3 EA)	VAR	VAR	285

	TOTAL INTERSECTION AREA		**493**

Project Number: **Sheet** 77

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2919 PROJECT #32 CONT 2940-01-008 WHARTON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.004 = TRM 488-0.017
(5) STA 166+48.00 = MP: 3.157 = TRM 490+1.161

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED PROFESSIONAL ENGINEER

---[FM 2919 PROJECT #32 CONT 2940-01-008 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	53644 SY	488	CY
	INTERSECTIONS	1 CY/110 SY	493 SY	4	CY
			TOTAL	**492**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	53644 SY	23603	GAL
	INTERSECTIONS	0.44 GAL/SY	493 SY	217	GAL
			TOTAL	**23820**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	16648 LF	416	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**426**	**LF**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**33296**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	4997 LF	1249	LF
	SINGLE NO PASS	10 LF/40 LF	6937 LF	1734	LF
			TOTAL	**2983**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		6937 LF	6937	LF
	DOUBLE NO PASS		4647 LF X 2	9294	LF
			TOTAL	**16231**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**33296**	**LF**

Project Number: **Sheet** 78

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2919 PROJECT #32 CONT 2940-01-008 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	4997 LF	1249	LF
	SINGLE NO PASS	10 LF/40 LF	6937 LF	1734	LF
			TOTAL	**2983**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		6937 LF	6937	LF
	DOUBLE NO PASS		4647 LF X 2	9294	LF
			TOTAL	**16231**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**12**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	4997 LF	62	EA
	SINGLE NO PASS	1 EA/40 LF	6937 LF	173	EA
	DOUBLE NO PASS	1 EA/40 LF	4647 LF	116	EA
			TOTAL	**351**	**EA**

P R O J E C T D A T A

CONTROL: 2974-01-007 HWY: FM 2546
COUNTY : WHARTON TYPE: SEAL COAT
LENGTH : 29,230.00 FT = 5.535 MI PROJECT: #33
LIMITS : FROM SH 71 TRAFFIC: 665 VPD
TO SH 71

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 292+30.00 (5)	29230.00	27	87690
		TOTAL TRAVEL LANE AREA	**87690**

INTERSECTIONS			
FM 2765	VAR	VAR	343
SH 71 (2 EA)	VAR	VAR	470
COUNTY ROADS (7 EA)	VAR	VAR	841
		TOTAL INTERSECTION AREA	**1654**

Project Number: **Sheet** 79

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2546 PROJECT #33 CONT 2974-01-007 WHARTON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.004 = TRM 622+1.519
(5) STA 292+30.00 = MP: 5.539 = TRM 628+1.067

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[FM 2546 PROJECT #33 CONT 2974-01-007 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	87690 SY	797	CY
	INTERSECTIONS	1 CY/110 SY	1654 SY	15	CY
			TOTAL	**812**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	87690 SY	38584	GAL
	INTERSECTIONS	0.44 GAL/SY	1654 SY	728	GAL
			TOTAL	**39312**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	29230 LF	731	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**741**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**58460**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	14200 LF	3550	LF
	SINGLE NO PASS	10 LF/40 LF	6855 LF	1714	LF
			TOTAL	**5264**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		6855 LF	6855	LF
	DOUBLE NO PASS		8175 LF X 2	16350	LF
			TOTAL	**23205**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**58460**	**LF**

Project Number: **Sheet** 80

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2546 PROJECT #33 CONT 2974-01-007 WHARTON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	14200 LF	3550	LF
	SINGLE NO PASS	10 LF/40 LF	6855 LF	1714	LF
			TOTAL	**5264**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		6855 LF	6855	LF
	DOUBLE NO PASS		8175 LF X 2	16350	LF
			TOTAL	**23205**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**36**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	14200 LF	178	EA
	SINGLE NO PASS	1 EA/40 LF	6855 LF	171	EA
	DOUBLE NO PASS	1 EA/40 LF	8175 LF	204	EA
			TOTAL	**553**	**EA**

P R O J E C T D A T A

CONTROL: 0241-03-031 HWY: SH 60
COUNTY : MATAGORDA TYPE: SEAL COAT
LENGTH : 11,506.00 FT = 2.179 MI PROJECT: #34
LIMITS : FROM 0.417 MI S OF FM 2668 TRAFFIC: 2946 VPD
TO 1.105 MI S OF LIVE OAK CREEK

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 115+06.00 (5)	11506.00	24	30683
	TOTAL TRAVEL LANE AREA		**30683**
(1) STA 0+00.00 TO STA 115+06.00 (5)	11506.00	20	25569
	TOTAL SHOULDER AREA		**25569**
INTERSECTIONS			
COUNTY ROADS (1 EA)	VAR	VAR	25
	TOTAL INTERSECTION AREA		**25**

Project Number: **Sheet** 81

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #34 CONT 0241-03-031 MATAGORDA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 15.055 = TRM 536+0.086
(5) STA 115+06.00 = MP: 17.234 = TRM 538+0.262

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[SH 60 PROJECT #34 CONT 0241-03-031 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	30683 SY	279 CY	
	SHOULDERS	1 CY/110 SY	25569 SY	232 CY	
	INTERSECTIONS	1 CY/110 SY	25 SY	1 CY	
			TOTAL	**512 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	30683 SY	13501 GAL	
	SHOULDERS	0.44 GAL/SY	25569 SY	11250 GAL	
	INTERSECTIONS	0.44 GAL/SY	25 SY	11 GAL	
			TOTAL	**24762 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	11506 LF	288 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**298 EA**	
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**23012 LF**	
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	8753 LF	2188 LF	
	SINGLE NO PASS	10 LF/40 LF	2383 LF	596 LF	
			TOTAL	**2784 LF**	
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100 MIL)**				
	SINGLE NO PASS		2383 LF	2383 LF	
	DOUBLE NO PASS		370 LF X 2	740 LF	
			TOTAL	**3123 LF**	

Project Number: **Sheet** 82

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #34 CONT 0241-03-031 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	8753 LF	109 EA	
	SINGLE NO PASS	1 EA/40 LF	2383 LF	60 EA	
	DOUBLE NO PASS	1 EA/40 LF	370 LF	9 EA	
			TOTAL	**178 EA**	

P R O J E C T D A T A

CONTROL: 0241-04-025 HWY: SH 60
COUNTY : MATAGORDA TYPE: SEAL COAT
LENGTH : 34,685.00 FT = 6.569 MI PROJECT: #35
LIMITS : FROM 1.105 MI S OF LIVE OAK CREEK TRAFFIC: 3985 VPD
TO 0.2 MI S OF FM 521

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 99+24.00 (3)	9924.00	24	26464
(3) STA 99+39.00 TO STA 248+49.00	14910.00	24	39760
STA 248+49.00 TO STA 251+99.00	350.00	24-36	1167
STA 251+99.00 TO STA 279+39.00	2740.00	36	10960
STA 279+39.00 TO STA 282+69.00	330.00	36-24	1100
STA 282+69.00 TO STA 327+07.00	4438.00	24	11835
STA 327+07.00 TO STA 328+17.00	110.00	24-36	367
STA 328+17.00 TO STA 342+10.00	1393.00	36	5572
STA 342+10.00 TO STA 347+00.00 (5)	490.00	36-24	1633
	TOTAL TRAVEL LANE AREA		**98858**

(1) STA 0+00.00 TO STA 99+24.00 (3)	9924.00	20	22053
(3) STA 99+39.00 TO STA 248+49.00	14910.00	20	33133
STA 248+49.00 TO STA 251+99.00	350.00	20-8	544
STA 251+99.00 TO STA 279+39.00	2740.00	8	2436
STA 279+39.00 TO STA 282+69.00	330.00	8-20	513
STA 282+69.00 TO STA 347+00.00 (5)	6431.00	20	14291
	TOTAL SHOULDER AREA		**72970**

INTERSECTIONS			
FM 2078	VAR	VAR	105
FM 521 (2 EA)	VAR	VAR	1050
COUNTY ROADS & CITY STREETS (14 EA)	VAR	VAR	1176
	TOTAL INTERSECTION AREA		**2331**

Project Number: **Sheet** 83

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #35 CONT 0241-04-025 MATAGORDA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 17.531 = TRM 538+0.262
(5) STA 347+00.00 = MP: 24.102 = TRM 544+0.787

(2) NO EQUATIONS
(3) EXCEPTION: STA 99+24.00 TO STA 99+39.00 = -15.00 FT = -0.002 MI (RR XING)
(4) RAILROAD CROSSING: 1 RETAINED STA 99+24.00 TO STA 99+39.00

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	98858 SY	899 CY	
	SHOULDERS	1 CY/110 SY	72970 SY	663 CY	
	INTERSECTIONS	1 CY/110 SY	2331 SY	21 CY	
			TOTAL	**1583 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	98858 SY	43498 GAL	
	SHOULDERS	0.44 GAL/SY	72970 SY	32107 GAL	
	INTERSECTIONS	0.44 GAL/SY	2331 SY	1026 GAL	
			TOTAL	**76631 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	954 LF	48 EA	
	ISLAND	1 EA/20 LF	298 LF	15 EA	
			TOTAL	**63 EA**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	29833 LF	746 EA	
	CONTINUOUS LT TURN	1 EA/40 LF	2530 LF X 2	128 EA	
	GORE	2 EA/20 LF	2322 LF X 2	464 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**1348 EA**	
666	**REFL PAV MRK TY I(W)8"(DOT)(100MIL)**				
	TURN LANE	3 EA/12 LF	484 LF	**121 LF**	
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST	**470 LF**	
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**69370 LF**	

Project Number: **Sheet** 84

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 60 PROJECT #35 CONT 0241-04-025 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	21316 LF	5329 LF	
	SINGLE NO PASS	10 LF/40 LF	7560 LF	1890 LF	
	CONTINUOUS LT TURN	10 LF/40 LF	2530 LF X 2	1265 LF	
			TOTAL	**8484 LF**	
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		7560 LF	7560 LF	
	DOUBLE NO PASS		609 LF X 2	1218 LF	
	CONTINUOUS LT TURN		2530 LF X 2	5060 LF	
	GORE		2322 LF X 4	9288 LF	
			TOTAL	**23126 LF**	
668	**PREFAB PAV MRK TY C(W)(12")(SLD)**				
	ISLAND		EST	**298 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	26 LF	
	RAILROAD STOP BAR		EST	72 LF	
			TOTAL	**98 LF**	
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	LT TURN		EST	11 EA	
	RT TURN		EST	2 EA	
			TOTAL	**13 EA**	
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**4 EA**	
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST	**2 EA**	
668	**PREFAB PAV MRK TY C(36")(YLD TRI)**		EST	**10 EA**	

---[SH 60 PROJECT #35 CONT 0241-04-025 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	954 LF	48	EA
	ISLAND	1 EA/20 LF	298 LF	15	EA

			TOTAL	**63**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	21316 LF	266	EA
	SINGLE NO PASS	1 EA/40 LF	7560 LF	189	EA
	DOUBLE NO PASS	1 EA/40 LF	609 LF	15	EA
	CONTINUOUS LT TURN	1 EA/40 LF	2530 LF X 2	128	EA
	GORE	2 EA/20 LF	2322 LF X 2	464	EA

			TOTAL	**1062**	**EA**

Project Number: **Sheet** 85

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

P R O J E C T D A T A

CONTROL: 0266-07-022 HWY: SH 71
COUNTY : MATAGORDA TYPE: SEAL COAT
LENGTH : 49,147.00 FT = 9.308 MI PROJECT: #36
LIMITS : FROM WHARTON C/L TRAFFIC: 4557 VPD
TO 0.1 MI N OF SH 35

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 72+27.00	7227.00	24	19272
	STA 72+27.00 TO STA 76+47.00	420.00	24-36	1400
	STA 76+47.00 TO STA 80+57.00	410.00	36	1640
	STA 80+57.00 TO STA 84+77.00	420.00	36-24	1400
	STA 84+77.00 TO STA 151+77.00	6700.00	24	17867
	STA 151+77.00 TO STA 163+47.00	1170.00	36	4680
	STA 163+47.00 TO STA 287+67.00	12420.00	24	33120
	STA 287+67.00 TO STA 288+67.00	100.00	24-36	333
	STA 288+67.00 TO STA 289+52.00	85.00	36	340
	STA 289+52.00 TO STA 291+02.00	150.00	36-24	500
	STA 291+02.00 TO STA 351+17.00	6015.00	24	16040
	STA 351+17.00 TO STA 354+87.00	370.00	36	1480
	STA 354+87.00 TO STA 489+47.00	13460.00	24	35893
	STA 489+47.00 TO STA 491+47.00 (5)	200.00	24-28	578
	TOTAL TRAVEL LANE AREA			**134543**

(1)	STA 0+00.00 TO STA 151+77.00	15177.00	16	26981
	STA 151+77.00 TO STA 163+47.00	1170.00	12	1560
	STA 163+47.00 TO STA 287+67.00	12420.00	16	22080
	STA 287+67.00 TO STA 288+67.00	100.00	16-12	156
	STA 288+67.00 TO STA 289+52.00	85.00	12	113
	STA 289+52.00 TO STA 291+02.00	150.00	12-16	233
	STA 291+02.00 TO STA 351+17.00	6015.00	16	10693
	STA 351+17.00 TO STA 354+87.00	370.00	12	493
	STA 354+87.00 TO STA 491+47.00 (5)	13660.00	16	24284
	TOTAL SHOULDER AREA			**86593**

INTERSECTIONS			
FM 1468	VAR	VAR	363
SH 111	VAR	VAR	373
FM 2431	VAR	VAR	336
FM 456	VAR	VAR	195
CITY STREETS & COUNTY ROADS (14 EA)	VAR	VAR	1373
TOTAL INTERSECTION AREA			**2640**

Project Number: **Sheet** 86

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 71 PROJECT #36 CONT 0266-07-022 MATAGORDA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 1.011 = TRM 720+0.000
(5) STA 491+47.00 = MP: 10.319 = TRM 728+1.328

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[SH 71 PROJECT #36 CONT 0266-07-022 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	134543 SY	997 CY	
	SHOULDERS	1 CY/135 SY	86593 SY	641 CY	
	INTERSECTIONS	1 CY/135 SY	2640 SY	20 CY	
			TOTAL	**1658 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	134543 SY	43054 GAL	
	SHOULDERS	0.32 GAL/SY	86593 SY	27710 GAL	
	INTERSECTIONS	0.32 GAL/SY	2640 SY	845 GAL	
			TOTAL	**71609 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	235 LF	**12 EA**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	48227 LF	1206 EA	
	GORE	2 EA/20 LF	920 LF X 2	184 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**1400 EA**	
666	**REFL PAV MRK TY I(W)(8")(SLD)(100MIL)**				
	TURN LANE		EST	**235 LF**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**98294 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	37988 LF	9497 LF	
	SINGLE NO PASS	10 LF/40 LF	9370 LF	2343 LF	
			TOTAL	**11840 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		9370 LF	**9370 LF**	

Project Number: **Sheet** 87

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 71 PROJECT #36 CONT 0266-07-022 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	DOUBLE NO PASS		600 LF X 2	1200 LF	
	GORE		920 LF X 4	3680 LF	
			TOTAL	**4880 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**98294 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	37988 LF	9497 LF	
	SINGLE NO PASS	10 LF/40 LF	9370 LF	2343 LF	
			TOTAL	**11840 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		9370 LF	**9370 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**83 LF**	
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	RT TURN		EST	**1 EA**	
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**1 EA**	
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	235 LF	**12 EA**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	37988 LF	475 EA	
	SINGLE NO PASS	1 EA/40 LF	9370 LF	234 EA	
	DOUBLE NO PASS	1 EA/40 LF	600 LF	15 EA	
	GORE	2 EA/20 LF	920 LF X 2	184 EA	
			TOTAL	**908 EA**	

P R O J E C T D A T A

CONTROL: 0346-10-023 HWY: FM 1468
COUNTY : MATAGORDA TYPE: SEAL COAT
LENGTH : 54,465.00 FT = 10.315 MI PROJECT: #37
LIMITS : FROM SH 71 TRAFFIC: 6608 VPD
TO SH 35

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 341+85.00	34185.00	28	106353
	STA 341+85.00 TO STA 344+85.00	300.00	28-48	1267
	STA 344+85.00 TO STA 350+85.00	600.00	48	3200
	STA 350+85.00 TO STA 353+35.00	250.00	48-28	1056
	STA 353+35.00 TO STA 544+65.00 (5)	19130.00	28	59516

		TOTAL TRAVEL LANE AREA		**171392**

(1)	STA 0+00.00 TO STA 1+30.00	130.00	20	289
	STA 135+44.00 TO STA 142+57.00	713.00	20	1584
	STA 341+85.00 TO STA 353+35.00	1150.00	12	1533

		TOTAL SHOULDER AREA		**3406**

INTERSECTIONS			
FM 2175	VAR	VAR	613
FM 2431	VAR	VAR	243
COUNTY ROADS AND CITY STREETS (26 EA)	VAR	VAR	2050

	TOTAL INTERSECTION AREA		**2906**

Project Number: **Sheet** 88

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1468 PROJECT #37 CONT 0346-10-023 MATAGORDA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.018 = TRM 524-0.027
(5) STA 544+65.00 = MP: 10.333 = TRM 534+0.348

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[FM 1468 PROJECT #37 CONT 0346-10-023 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	171392 SY	1558 CY	
	SHOULDERS	1 CY/110 SY	3406 SY	31 CY	
	INTERSECTIONS	1 CY/110 SY	2906 SY	26 CY	
			TOTAL	**1615 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	171392 SY	75412 GAL	
	SHOULDERS	0.44 GAL/SY	3406 SY	1499 GAL	
	INTERSECTIONS	0.44 GAL/SY	2906 SY	1279 GAL	
			TOTAL	**78190 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	395 LF	**20 EA**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	53470 LF	1337 EA	
	GORE	2 EA/20 LF	995 LF X 2	200 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**1547 EA**	
666	**REFL PAV MRK TY I(W)8″(SLD)(100MIL)**				
	TURN LANE		EST	**395 LF**	
666	**REFL PAV MRK TY II(W)6″(SLD)**				
	EDGELINE		EST	**98554 LF**	
666	**REFL PAV MRK TY II(Y)6″(BRK)**				
	PASS	10 LF/40 LF	41271 LF	10318 LF	
	SINGLE NO PASS	10 LF/40 LF	6201 LF	1550 LF	
			TOTAL	**11868 LF**	

Project Number: **Sheet** 89

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1468 PROJECT #37 CONT 0346-10-023 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REFL PAV MRK TY II(Y)6″(SLD)**				
	SINGLE NO PASS		6201 LF	**6201 LF**	
666	**RE PM W/RET REQ TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**10376 LF**	
666	**RE PM W/RET REQ TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	2693 LF	673 LF	
	SINGLE NO PASS	10 LF/40 LF	2495 LF	624 LF	
			TOTAL	**1297 LF**	
666	**RE PM W/RET REQ TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		2495 LF	2495 LF	
	DOUBLE NO PASS		100 LF X 2	200 LF	
	GORE		995 LF X 4	3980 LF	
			TOTAL	**6675 LF**	
666	**REF PROF PAV MRK TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**98554 LF**	
666	**REF PROF PAV MRK TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	41271 LF	10318 LF	
	SINGLE NO PASS	10 LF/40 LF	6201 LF	1550 LF	
			TOTAL	**11868 LF**	
666	**REF PROF PAV MRK TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		6201 LF	**6201 LF**	
668	**PREFAB PAV MRK TY C(W)(18″)(SLD)**				
	SCHOOL ZONE		EST	**48 LF**	

---[FM 1468 PROJECT #37 CONT 0346-10-023 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	171	LF
	STOP BAR @ CROSSWALK		EST	45	LF
	CROSSWALK		EST	36	LF
			TOTAL	**252**	**LF**
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	LT TURN		EST	1	EA
	RT TURN		EST	2	EA
			TOTAL	**3**	**EA**
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**3**	**EA**
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	395 LF	**20**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	43964 LF	550	EA
	SINGLE NO PASS	1 EA/40 LF	8696 LF	217	EA
	DOUBLE NO PASS	1 EA/40 LF	50 LF	1	EA
	GORE	2 EA/20 LF	995 LF X 2	200	EA
			TOTAL	**968**	**EA**

Project Number: **Sheet** 90

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

P R O J E C T D A T A

CONTROL: 2525-01-019 HWY: FM 2540
COUNTY : MATAGORDA TYPE: SEAL COAT
LENGTH : 22,945 FT = 4.345 MI PROJECT: #38
LIMITS : FROM SH 35 TRAFFIC: 2290 VPD
TO FM 457

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 77+78.00 (3)	7778.00	24	20741
(3) STA 77+88.00 TO STA 229+55.00 (5)	15167.00	24	40445

	TOTAL TRAVEL LANE AREA		**61186**
(1) STA 0+00.00 TO STA 10+68.00	1068.00	12	1424

	TOTAL SHOULDER AREA		**1424**
INTERSECTIONS			
SH 35	VAR	VAR	168
FM 457	VAR	VAR	270
COUNTY ROADS & CITY STREETS (9 EA)	VAR	VAR	1300

	TOTAL INTERSECTION AREA		**1738**

Project Number: **Sheet** 91

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2540 PROJECT #38 CONT 2525-01-019 MATAGORDA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.006 = TRM 524-0.020
(5) STA 229+55.00 = MP: 4.353 = TRM 528+0.350

(2) NO EQUATIONS
(3) EXCEPTION: STA 77+78.00 TO STA 77+88.00 = -10.00 FT. = -0.002 MI.
(RR XING)
(4) RAILROAD CROSSING: 1 RETAINED STA 77+78.00 TO STA 77+88.00

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[FM 2540 PROJECT #38 CONT 2525-01-019 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	61186 SY	556 CY	
	SHOULDERS	1 CY/110 SY	1424 SY	13 CY	
	INTERSECTIONS	1 CY/110 SY	1738 SY	16 CY	
			TOTAL	**585 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	61186 SY	26922 GAL	
	SHOULDERS	0.44 GAL/SY	1424 SY	627 GAL	
	INTERSECTIONS	0.44 GAL/SY	1738 SY	765 GAL	
			TOTAL	**28314 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	22945 LF	574 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**584 EA**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**38584 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	11228 LF	2807 LF	
	SINGLE NO PASS	10 LF/40 LF	5839 LF	1460 LF	
			TOTAL	**4267 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		5839 LF	5839 LF	
	DOUBLE NO PASS		1743 LF X 2	3486 LF	
			TOTAL	**9325 LF**	
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**5170 LF**	

Project Number: **Sheet** 92

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 2540 PROJECT #38 CONT 2525-01-019 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	SINGLE NO PASS	10 LF/40 LF	2631 LF		**658 LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		2631 LF	2631 LF	
	DOUBLE NO PASS		912 LF X 2	1824 LF	
			TOTAL	**4455 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST		**38584 LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	11228 LF	2807 LF	
	SINGLE NO PASS	10 LF/40 LF	5839 LF	1460 LF	
			TOTAL	**4267 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		5839 LF	5839 LF	
	DOUBLE NO PASS		1743 LF X 2	3486 LF	
			TOTAL	**9325 LF**	
668	**PREFAB PAV MRK TY C(W)(18")(SLD)**				
	SCHOOL ZONE		EST		**80 LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	20 LF	
	RAILROAD STOP BAR		EST	72 LF	
	STOP BAR @ CROSSWALK		EST	65 LF	
	CROSSWALK		EST	160 LF	
			TOTAL	**317 LF**	
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST		**2 EA**

---[FM 2540 PROJECT #38 CONT 2525-01-019 MATAGORDA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	11228 LF	140	EA
	SINGLE NO PASS	1 EA/40 LF	8470 LF	212	EA
	DOUBLE NO PASS	1 EA/40 LF	2655 LF	66	EA
			TOTAL	**418**	**EA**

Project Number: **Sheet** 93

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

P R O J E C T D A T A

CONTROL: 0088-05-111 HWY: US 59
COUNTY : VICTORIA TYPE: SEAL COAT
LENGTH : 17,905.00 FT = 3.391 MI PROJECT: #39
LIMITS : FROM SL 463 TRAFFIC: 2130 VPD
TO US 87 (FRT RDS)

LIMITS STA TO STA		LENGTH FT	WIDTH FT	AREA SY
SOUTHBOUND FRONTAGE RD				
(1) STA 0+00.00 TO STA 7+50.00		750.00	40	3333
STA 7+50.00 TO STA 71+60.00	(3)	6410.00	24	17093
(3) STA 73+10.00 TO STA 79+62.00		652.00	14	1014
STA 79+62.00 TO STA 100+80.00		2118.00	24	5648
STA 100+80.00 TO STA 103+22.00		242.00	42	1129
STA 103+22.00 TO STA 176+84.00		7362.00	24	19632
STA 176+84.00 TO STA 180+55.00	(5)	371.00	14	577
NORTHBOUND FRONTAGE RD				
(1) STA 0+00.00 TO STA 5+45.00		545.00	40	2422
STA 5+45.00 TO STA 27+50.00		2205.00	24	5880
STA 27+50.00 TO STA 29+50.00		200.00	14	311
STA 29+50.00 TO STA 71+50.00	(3)	4200.00	24	11200
(3) STA 73+00.00 TO STA 104+58.00		3158.00	24	8421
STA 104+58.00 TO STA 108+00.00		342.00	42	1596
STA 108+00.00 TO STA 119+95.00		1195.00	24	3187
STA 119+95.00 TO STA 124+50.00		455.00	14	708
STA 124+50.00 TO STA 166+00.00		4150.00	24	11067
STA 166+00.00 TO STA 173+48.00		748.00	36	2992
STA 173+48.00 TO STA 180+55.00	(5)	707.00	14	1100

		TOTAL TRAVEL LANE AREA		**97310**
SOUTHBOUND FRONTAGE RD				
(1) STA 0+00.00 TO STA 71+60.00	(3)	7160.00	16	12729
(3) STA 73+10.00 TO STA 180+55.00	(5)	10745.00	16	19102
NORTHBOUND FRONTAGE RD				
(1) STA 0+00.00 TO STA 71+50.00	(3)	7150.00	16	12711
(3) STA 73+00.00 TO STA 180+55.00	(5)	10755.00	16	19120

		TOTAL SHOULDER AREA		**63662**

Project Number: **Sheet** 94

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[US 59(FRT RDS) PROJECT #39 CONT 0088-05-111 VICTORIA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
ADDITIONAL AREAS			
TURNAROUND @ SL 463	VAR	VAR	1940
TURNAROUND @ HANSELMAN RD (2 EA)	VAR	VAR	1118
HANSELMAN RD CROSSOVER	VAR	VAR	1275
TURNAROUND @ US 87	VAR	VAR	570
SOUTHBOUND GORES	VAR	VAR	1710
NORTHBOUND GORES	VAR	VAR	1775

	TOTAL ADDITIONAL AREA		**8388**
INTERSECTIONS			
COUNTY ROADS & CITY STREEETS (4 EA)	VAR	VAR	1317

	TOTAL INTERSECTION AREA		**1317**

(1) STA 0+00.00 = MP: 3.417 = TRM 632+1.658
(5) STA 180+55.00 = MP: 6.836 = TRM 636+1.079

(2) NO EQUATIONS
(3) EXCEPTIONS:
SOUTHBOUND
STA 71+60.00 TO STA 73+10.00 = - 150.00 FT = -0.028 MI
(LONE TREE CREEK BRIDGE)
NORTHBOUND
STA 71+50.00 TO STA 73+00.00 = - 150.00 FT = -0.028 MI
(LONE TREE CREEK BRIDGE)
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[US 59(FRT RDS) PROJECT #39 CONT 0088-05-111 VICTORIA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	97310 SY	721	CY
	SHOULDERS	1 CY/135 SY	63662 SY	472	CY
	ADDITIONAL AREAS	1 CY/135 SY	8388 SY	62	CY
	INTERSECTIONS	1 CY/135 SY	1317 SY	10	CY
			TOTAL	**1265**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	97310 SY	31139	GAL
	SHOULDERS	0.32 GAL/SY	63662 SY	20372	GAL
	ADDITIONAL AREAS	0.32 GAL/SY	8388 SY	2684	GAL
	INTERSECTIONS	0.32 GAL/SY	1317 SY	421	GAL
			TOTAL	**54616**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	LANE LINE	1 EA/40 LF	29450 LF	736	EA
	TURN LANE	1 EA/20 LF	1553 LF	78	EA
	ENT/EXIT RAMP GORE	1 EA/20 LF	6330 LF	317	EA
	ISLAND	1 EA/20 LF	130 LF	7	EA
			TOTAL	**1138**	**EA**
666	**REFL PAV MRK TY I(W)8"(DOT)(100MIL)**				
	TURN LANE	3 LF/12 LF	198 LF	**50**	**LF**
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST	1355	LF
	ENT/EXIT RAMP		EST	6330	LF
			TOTAL	**7685**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**36450**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	EDGELINE			**36450**	**LF**

Project Number: **Sheet** 95

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[US 59(FRT RDS) PROJECT #39 CONT 0088-05-111 VICTORIA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
668	**PREFAB PAV MRK TY C(W)(12")(SLD)**				
	ISLAND		EST	**130**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**24**	**LF**
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	LT TURN		EST	2	EA
	LT/THRU		EST	2	EA
	RT/THRU		EST	3	EA
	TURNAROUND		EST	3	EA
			TOTAL	**10**	**EA**
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**3**	**EA**
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**3**	**EA**
672	**REFL PAV MRKR TY I-C**				
	LANE LINE	1 EA/80 LF	29450 LF	368	EA
	TURN LANE	1 EA/20 LF	1553 LF	78	EA
	ISLAND	1 EA/20 LF	130 LF	7	EA
			TOTAL	**453**	**EA**
672	**REFL PAV MRKR TY II-C-R**				
	ENT/EXIT RAMP GORE	1 EA/20 LF	6330 LF	**317**	**EA**

P R O J E C T D A T A

CONTROL: 1132-01-036 HWY: FM 1686
COUNTY : VICTORIA TYPE: SEAL COAT
LENGTH : 81,444.00 FT = 15.425 MI PROJECT: #40
LIMITS : FROM 0.07 MI S OF US 59 TRAFFIC: 730 VPD
TO US 87

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 553+56.00 (3)	55356.00	26	159917
(3) STA 558+86.00 TO STA 783+37.00 (3)	22451.00	26	64858
(3) STA 791+85.00 TO STA 828+22.00 (5)	3637.00	26	10507

	TOTAL TRAVEL LANE AREA		**235282**

INTERSECTIONS			
FM 444	VAR	VAR	232
COUNTY ROADS & CITY STREETS (11 EA)	VAR	VAR	1209

	TOTAL INTERSECTION AREA		**1441**

Project Number: **Sheet** 96

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1686 PROJECT #40 CONT 1132-01-036 VICTORIA CO. CONT'D]---

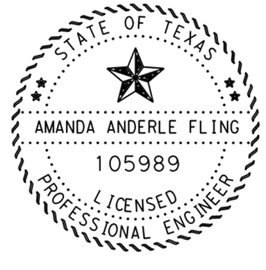
LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 4.114 = TRM 538+0.101
(5) STA 828+22.00 = MP: 19.799 = TRM 552+1.837

(2) NO EQUATIONS
(3) EXCEPTIONS: STA 553+56.00 TO STA 558+86.00 = -530.00 FT = -0.100 MI
(DRAW BRIDGE REPLACEMENT PROJECT)
STA 783+37.00 TO STA 791+85.00 = -848.00 FT = -0.160 MI
(LONE TREE CREEK BRIDGE REPLACEMENT PROJECT)
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE



B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	235282 SY	2139	CY
	INTERSECTIONS	1 CY/110 SY	1441 SY	13	CY
			TOTAL	**2152**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	235282 SY	103524	GAL
	INTERSECTIONS	0.44 GAL/SY	1441 SY	634	GAL
			TOTAL	**104158**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	81444 LF	2036	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**2046**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**162888**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	53402 LF	13351	LF
	SINGLE NO PASS	10 LF/40 LF	21020 LF	5255	LF
			TOTAL	**18606**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		21020 LF	21020	LF
	DOUBLE NO PASS		6900 LF X 2	13800	LF
			TOTAL	**34820**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**162888**	**LF**

Project Number: **Sheet** 97

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1686 PROJECT #40 CONT 1132-01-036 VICTORIA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	53402 LF	13351	LF
	SINGLE NO PASS	10 LF/40 LF	21020 LF	5255	LF
			TOTAL	**18606**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		21020 LF	21020	LF
	DOUBLE NO PASS		6900 LF X 2	13800	LF
			TOTAL	**34820**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	12	LF
	RAILROAD STOP BAR		EST	48	LF
			TOTAL	**60**	**LF**
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST	**2**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	53402 LF	668	EA
	SINGLE NO PASS	1 EA/40 LF	21020 LF	526	EA
	DOUBLE NO PASS	1 EA/40 LF	6900 LF	173	EA
			TOTAL	**1367**	**EA**

P R O J E C T D A T A

CONTROL: 3172-02-008 HWY: FM 3085
COUNTY : VICTORIA TYPE: SEAL COAT
LENGTH : 12,290.00 FT = 2.327 MI PROJECT: #41
LIMITS : FROM FM 1686 TRAFFIC: 180 VPD
TO END OF STATE MAINTENANCE
(HENDERSON RD)

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 122+90.00 (5)	12290.00	24	32773

	TOTAL TRAVEL LANE AREA		**32773**

INTERSECTIONS

COUNTY ROAD (1 EA)	VAR	VAR	95
			--
	TOTAL INTERSECTION AREA		**95**

Project Number: **Sheet** 98

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 3085 PROJECT #41 CONT 3172-02-008 VICTORIA CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 1.003 = TRM 594-0.025
(5) STA 122+90.00 = MP: 3.330 = TRM 596+0.328

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	32773 SY	298 CY	
	INTERSECTIONS	1 CY/110 SY	95 SY	1 CY	
			TOTAL	**299 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	32773 SY	14420 GAL	
	INTERSECTIONS	0.44 GAL/SY	95 SY	42 GAL	
			TOTAL	**14462 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	12290 LF	**307 EA**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**24580 LF**	
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	10700 LF	2675 LF	
	SINGLE NO PASS	10 LF/40 LF	1550 LF	388 LF	
			TOTAL	**3063 LF**	
666	**REFL PAV MRK TY II(Y)6"(SLD))**				
	SINGLE NO PASS		1550 LF	**1550 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**24580 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	10700 LF	2675 LF	
	SINGLE NO PASS	10 LF/40 LF	1550 LF	388 LF	
			TOTAL	**3063 LF**	
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		1550 LF	**1550 LF**	

Project Number: **Sheet** 99

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 3085 PROJECT #41 CONT 3172-02-008 VICTORIA CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**36 LF**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	10700 LF	134 EA	
	SINGLE NO PASS	1 EA/40 LF	1550 LF	39 EA	
			TOTAL	**173 EA**	

P R O J E C T D A T A

CONTROL: 0497-02-045 HWY: FM 616
COUNTY : JACKSON TYPE: SEAL COAT
LENGTH : 24,948.00 FT = 4.725 MI PROJECT: #42
LIMITS : FROM FM 1593 TRAFFIC: 2085 VPD
TO SH 172

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 216+80.00	21680.00	30	72267
	STA 216+80.00 TO STA 249+48.00 (5)	3268.00	26	9441

		TOTAL TRAVEL LANE AREA		**81708**

INTERSECTIONS			
SH 172	VAR	VAR	144
COUNTY ROADS (4 EA)	VAR	VAR	344
CITY STREETS (3 EA)	VAR	VAR	152

	TOTAL INTERSECTION AREA		**640**

Project Number: **Sheet** 100

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 616 PROJECT #42 CONT 0497-02-045 JACKSON CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 4.926 = TRM 716+0.867
(5) STA 249+48.00 = MP: 9.651 = TRM 720+1.598

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	81708 SY	743	CY
	INTERSECTIONS	1 CY/110 SY	640 SY	6	CY
			TOTAL	**749**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	81708 SY	35952	GAL
	INTERSECTIONS	0.44 GAL/SY	640 SY	282	GAL
			TOTAL	**36234**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	24948 LF	624	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**634**	**EA**
666	**REFL PAV MRK TY II(W)6″(SLD)**				
	EDGELINE		EST	**49896**	**LF**
666	**REFL PAV MRK TY II(Y)6″(BRK)**				
	PASS	10 LF/40 LF	21105 LF	5276	LF
	SINGLE NO PASS	10 LF/40 LF	1378 LF	345	LF
			TOTAL	**5621**	**LF**
666	**REFL PAV MRK TY II(Y)6″(SLD)**				
	SINGLE NO PASS		1378 LF	1378	LF
	DOUBLE NO PASS		2465 LF X 2	4930	LF
			TOTAL	**6308**	**LF**
666	**REF PROF PAV MRK TY I(W)6″(SLD)(100MIL)**				
	EDGELINE		EST	**49896**	**LF**

Project Number: **Sheet** 101

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 616 PROJECT #42 CONT 0497-02-045 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6″(BRK)(100MIL)**				
	PASS	10 LF/40 LF	21105 LF	5276	LF
	SINGLE NO PASS	10 LF/40 LF	1378 LF	345	LF
			TOTAL	**5621**	**LF**
666	**REF PROF PAV MRK TY I(Y)6″(SLD)(100MIL)**				
	SINGLE NO PASS		1378 LF	1378	LF
	DOUBLE NO PASS		2465 LF X 2	4930	LF
			TOTAL	**6308**	**LF**
668	**PREFAB PAV MRK TY C(W)(24″)(SLD)**				
	STOP BAR		EST	**22**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	21105 LF	264	EA
	SINGLE NO PASS	1 EA/40 LF	1378 LF	34	EA
	DOUBLE NO PASS	1 EA/40 LF	2465 LF	62	EA
			TOTAL	**360**	**EA**

P R O J E C T D A T A

CONTROL: 0497-03-012 HWY: FM 616
COUNTY : JACKSON TYPE: SEAL COAT
LENGTH : 16,896.00 FT = 3.200 MI PROJECT: #43
LIMITS : FROM SH 172 TRAFFIC: 1410 VPD
TO 3.20 MI E OF SH 172(W CARANCAHUA CREEK)

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 168+96.00 (5)	16896.00	26	48811

		TOTAL TRAVEL LANE AREA	**48811**

INTERSECTIONS

SH 172	VAR	VAR	356
COUNTY ROADS & CITY STREETS (2 EA)	VAR	VAR	328

		TOTAL INTERSECTION AREA	**684**

Project Number: **Sheet** 102

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 616 PROJECT #43 CONT 0497-03-012 JACKSON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.007 = TRM 722-0.331
(5) STA 168+96.00 = MP: 3.207 = TRM 724+0.868

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	48811 SY	444	CY
	INTERSECTIONS	1 CY/110 SY	684 SY	6	CY
			TOTAL	**450**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	48811 SY	21477	GAL
	INTERSECTIONS	0.44 GAL/SY	684 SY	301	GAL
			TOTAL	**21778**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	16896 LF	422	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**432**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**33792**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	14086 LF	3522	LF
	SINGLE NO PASS	10 LF/40 LF	910 LF	228	LF
			TOTAL	**3750**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		910 LF	910	LF
	DOUBLE NO PASS		1900 LF X 2	3800	LF
			TOTAL	**4710**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**33792**	**LF**

Project Number: **Sheet** 103

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 616 PROJECT #43 CONT 0497-03-012 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	14086 LF	3522	LF
	SINGLE NO PASS	10 LF/40 LF	910 LF	228	LF
			TOTAL	**3750**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		910 LF	910	LF
	DOUBLE NO PASS		1900 LF X 2	3800	LF
			TOTAL	**4710**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**14**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	14086 LF	176	EA
	SINGLE NO PASS	1 EA/40 LF	910 LF	23	EA
	DOUBLE NO PASS	1 EA/40 LF	1900 LF	48	EA
			TOTAL	**247**	**EA**

P R O J E C T D A T A

CONTROL: 0515-01-073 HWY: FM 234
COUNTY : JACKSON TYPE: SEAL COAT
LENGTH : 22,702.00 FT = 4.299 MI PROJECT: #44
LIMITS : FROM CR 103 (BISCHOFF RD) TRAFFIC: 174 VPD
TO CR 112 (LOST BRIDGE RD)

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 227+02.00 (5)	22702.00	28	70628

	TOTAL TRAVEL LANE AREA		**70628**
INTERSECTIONS			
COUNTY ROADS(6 EA)	VAR	VAR	637

	TOTAL INTERSECTION AREA		**637**

Project Number: **Sheet** 104

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 234 PROJECT #44 CONT 0515-01-073 JACKSON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 4.035 = TRM 534+0.038
(5) STA 227+02.00 = MP: 8.334 = TRM 538+0.347

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	70628 SY	642	CY
	INTERSECTIONS	1 CY/110 SY	637 SY	6	CY
			TOTAL	**648**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	70628 SY	31076	GAL
	INTERSECTIONS	0.44 GAL/SY	637 SY	280	GAL
			TOTAL	**31356**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	22702 LF	568	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**578**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**45404**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	13480 LF	3370	LF
	SINGLE NO PASS	10 LF/40 LF	4025 LF	1006	LF
			TOTAL	**4376**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		4025 LF	4025	LF
	DOUBLE NO PASS		5197 LF X 2	10394	LF
			TOTAL	**14419**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**45404**	**LF**

Project Number: **Sheet** 105

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 234 PROJECT #44 CONT 0515-01-073 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	13480 LF	3370	LF
	SINGLE NO PASS	10 LF/40 LF	4025 LF	1006	LF
			TOTAL	**4376**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		4025 LF	4025	LF
	DOUBLE NO PASS		5197 LF X 2	10394	LF
			TOTAL	**14419**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	13480 LF	169	EA
	SINGLE NO PASS	1 EA/40 LF	4025 LF	101	EA
	DOUBLE NO PASS	1 EA/40 LF	5197 LF	130	EA
			TOTAL	**400**	**EA**

P R O J E C T D A T A

CONTROL: 1090-03-022 HWY: FM 1593
COUNTY : JACKSON TYPE: SEAL COAT
LENGTH : 18,604.00 FT = 3.523 MI PROJECT: #45
LIMITS : FROM 1,700 FT N OF FM 3131 TRAFFIC: 3151 VPD
TO FM 616

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 2+50.00	250.00	36	1000
	STA 2+50.00 TO STA 11+50.00	900.00	24	2400
	STA 11+50.00 TO STA 18+90.00	740.00	64	5262
	STA 18+90.00 TO STA 34+50.00	1560.00	93	16120
	STA 34+50.00 TO STA 186+04.00 (5)	15154.00	26	43778

		TOTAL TRAVEL LANE AREA		**68560**
	STA 2+50.00 TO STA 11+50.00	900.00	22	2200
	STA 34+50.00 TO STA 164+04.00	12954.00	20	28787
	STA 164+04.00 TO STA 186+04.00 (5)	2200.00	25	6111

		TOTAL SHOULDER AREA		**37098**
INTERSECTIONS				
	FM 3131 (2 EA)	VAR	VAR	428
	FM 616	VAR	VAR	148
	COUNTY ROADS (2 EA)	VAR	VAR	200

		TOTAL INTERSECTION AREA		**776**

Project Number: **Sheet** 106

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1593 PROJECT #45 CONT 1090-03-022 JACKSON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 5.265 = TRM 536+1.266
(5) STA 186+04.00 = MP: 8.788 = TRM 540+0.829

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	68560 SY	623	CY
	SHOULDERS	1 CY/110 SY	37098 SY	337	CY
	INTERSECTIONS	1 CY/110 SY	776 SY	7	CY
			TOTAL	**967**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	68560 SY	30166	GAL
	SHOULDERS	0.44 GAL/SY	37098 SY	16323	GAL
	INTERSECTIONS	0.44 GAL/SY	776 SY	341	GAL
			TOTAL	**46830**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	1600 LF	80	EA
	LANE LINE	1 EA/40 LF	440 LF	11	EA
			TOTAL	**91**	**EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	17558 LF	439	EA
	GORE	2 EA/20 LF	1046 LF X 2	210	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**659**	**EA**
666	**REFL PAV MRK TY I(W)8"(DOT)(100MIL)**				
	TURN LANE	3 LF/12 LF	370 LF	**93**	**LF**
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST	**1230**	**LF**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**37208**	**LF**

Project Number: **Sheet** 107

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1593 PROJECT #45 CONT 1090-03-022 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	10206 LF	2552	LF
	SINGLE NO PASS	10 LF/40 LF	5024 LF	1256	LF
			TOTAL	**3808**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		5024 LF	5024	LF
	DOUBLE NO PASS		1727 LF X 2	3454	LF
			TOTAL	**8478**	**LF**
666	**RE PM W/RET REQ TY I(W)6"(BRK)(100MIL)**				
	LANE LINE	10 LF/40 LF	440 LF	**110**	**LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	GORE		1046 LF X 4	**4184**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**37208**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	10206 LF	2552	LF
	SINGLE NO PASS	10 LF/40 LF	5024 LF	1256	LF
			TOTAL	**3808**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		5024 LF	5024	LF
	DOUBLE NO PASS		1727 LF X 2	3454	LF
			TOTAL	**8478**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	RAILROAD STOP BAR		EST	36	LF
	STOP BAR		EST	90	LF
			TOTAL	**126**	**LF**

---[FM 1593 PROJECT #45 CONT 1090-03-022 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST		**1 EA**
668	**PREFAB PAV MRK TY C(Y)(24")(SLD)**				
	GORE CROSSHATCH		EST		**396 LF**
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	1600 LF		80 EA
	LANE LINE	1 EA/80 LF	440 LF		6 EA

				TOTAL	**86 EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	10206 LF		128 EA
	SINGLE NO PASS	1 EA/40 LF	5024 LF		126 EA
	DOUBLE NO PASS	1 EA/40 LF	1727 LF		43 EA
	GORE	2 EA/20 LF	1046 LF X 2		210 EA

				TOTAL	**507 EA**

Project Number: **Sheet** 108

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

P R O J E C T D A T A

CONTROL: 1756-01-023 HWY: FM 3131
COUNTY : JACKSON TYPE: SEAL COAT
LENGTH : 42,854.00 FT = 8.116 MI PROJECT: #46
LIMITS : FROM SH 111 TRAFFIC: 1906 VPD
TO FM 1593

	LIMITS STA TO STA		LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 8+30.00		830.00	32	2951
	STA 8+30.00 TO STA 12+40.00		410.00	29	1321
	STA 12+40.00 TO STA 21+70.00		930.00	32	3307
	STA 21+70.00 TO STA 23+30.00		160.00	46	818
	STA 23+30.00 TO STA 108+20.00		8490.00	32	30187
	STA 108+20.00 TO STA 213+70.00		10550.00	30	35167
	STA 213+70.00 TO STA 235+40.00		2170.00	28	6751
	STA 235+40.00 TO STA 239+80.00		440.00	28-38	1613
	STA 239+80.00 TO STA 245+94.00		614.00	38	2592
	STA 245+94.00 TO STA 250+10.00		416.00	38-24	1433
	STA 250+10.00 TO STA 251+60.00		150.00	24	400
	STA 251+60.00 TO STA 293+10.00	(3)	4150.00	36	16600
(3)	STA 297+76.00 TO STA 433+20.00	(5)	13544.00	36	54176

			TOTAL TRAVEL LANE AREA		**157316**
	STA 235+40.00 TO STA 251+60.00		1620.00	24	4320

			TOTAL SHOULDER AREA		**4320**
INTERSECTIONS					
	FM 1822		VAR	VAR	176
	COUNTY ROADS (7 EA)		VAR	VAR	1094
	ADDITIONAL AREA AT CR 305		163	8	145

			TOTAL INTERSECTION AREA		**1415**

Project Number: **Sheet** 109

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 3131 PROJECT #46 CONT 1756-01-023 JACKSON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 1.015 = TRM 612+0.003
(5) STA 433+20.00 = MP: 9.219 = TRM 620+0.231

(2) NO EQUATIONS
(3) EXCEPTION: STA 293+10.00 TO STA 297+76.00 = -466.0 FT. = -0.088 MI.
(PALMETTO DAM SPILLWAY)
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	157316 SY	1430	CY
	SHOULDERS	1 CY/110 SY	4320 SY	39	CY
	INTERSECTIONS	1 CY/110 SY	1415 SY	13	CY
			TOTAL	**1482**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	157316 SY	69219	GAL
	SHOULDERS	0.44 GAL/SY	4320 SY	1901	GAL
	INTERSECTIONS	0.44 GAL/SY	1415 SY	623	GAL
			TOTAL	**71743**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	206 LF	**10**	**EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	41663 LF	1042	EA
	GORE	2 EA/20 LF	1191 LF X 2	238	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1290**	**EA**
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST	**206**	**LF**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**85708**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	27631 LF	6908	LF
	SINGLE NO PASS	10 LF/40 LF	11938 LF	2985	LF
			TOTAL	**9893**	**LF**

Project Number: **Sheet** 110

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 3131 PROJECT #46 CONT 1756-01-023 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		11938 LF	11938	LF
	DOUBLE NO PASS		2002 LF X 2	4004	LF
	GORE		1191 LF X 4	4764	LF
			TOTAL	**20706**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**85708**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	27631 LF	6908	LF
	SINGLE NO PASS	10 LF/40 LF	11938 LF	2985	LF
			TOTAL	**9893**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		11938 LF	11938	LF
	DOUBLE NO PASS		2002 LF X 2	4004	LF
	GORE		1191 LF X 4	4764	LF
			TOTAL	**20706**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST	**125**	**LF**
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"STOP"		EST	1	EA
	"AHEAD"		EST	1	EA
			TOTAL	**2**	**EA**
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	206 LF	**10**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	27631 LF	345	EA
	SINGLE NO PASS	1 EA/40 LF	11938 LF	298	EA
	DOUBLE NO PASS	1 EA/40 LF	2002 LF X 2	100	EA
	GORE	2 EA/20 LF	1191 LF X 2	238	EA
			TOTAL	**981**	**EA**

P R O J E C T D A T A

CONTROL: 2821-03-011 HWY: FM 234
COUNTY : JACKSON TYPE: SEAL COAT
LENGTH : 21,290.00 FT = 4.032 MI PROJECT: #47
LIMITS : FROM US 59 (SKLAR'S) TRAFFIC: 174 VPD
TO CR 103 (BISCHOFF RD)

LIMITS STA TO STA		LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 5+20.00		520.00	22	1271
STA 5+20.00 TO STA 79+73.00		7453.00	26	21531
STA 79+73.00 TO STA 212+90.00	(5)	13317.00	28	41431

		TOTAL TRAVEL LANE AREA		**64233**
(1) STA 0+00.00 TO STA 5+20.00		520.00	16	924

		TOTAL SHOULDER AREA		**924**
INTERSECTIONS				
COUNTY ROADS & FRONTAGE ROADS (6 EA)		VAR	VAR	773

		TOTAL INTERSECTION AREA		**773**

Project Number: **Sheet** 111

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 234 PROJECT #47 CONT 2821-03-011 JACKSON CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 0.003 = TRM 530-0.015
(5) STA 212+90.00 = MP: 4.035 = TRM 534+0.038

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO AT GRADE RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[FM 234 PROJECT #47 CONT 2821-03-011 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	64233 SY	584	CY
	SHOULDERS	1 CY/110 SY	924 SY	8	CY
	INTERSECTIONS	1 CY/110 SY	773 SY	7	CY
			TOTAL	**599**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	64233 SY	28263	GAL
	SHOULDERS	0.44 GAL/SY	924 SY	407	GAL
	INTERSECTIONS	0.44 GAL/SY	773 SY	340	GAL
			TOTAL	**29010**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	21290 LF	532	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**542**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**42580**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	13420 LF	3355	LF
	SINGLE NO PASS	10 LF/40 LF	5045 LF	1261	LF
			TOTAL	**4616**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		5045 LF	5045	LF
	DOUBLE NO PASS		2640 LF X 2	5280	LF
			TOTAL	**10325**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**42580**	**LF**

Project Number: **Sheet** 112

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 234 PROJECT #47 CONT 2821-03-011 JACKSON CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	13420 LF	3355	LF
	SINGLE NO PASS	10 LF/40 LF	5045 LF	1261	LF
			TOTAL	**4616**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		5045 LF	5045	LF
	DOUBLE NO PASS		2640 LF X 2	5280	LF
			TOTAL	**10325**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	13420 LF	168	EA
	SINGLE NO PASS	1 EA/40 LF	5045 LF	126	EA
	DOUBLE NO PASS	1 EA/40 LF	2640 LF	66	EA
			TOTAL	**360**	**EA**

P R O J E C T D A T A

CONTROL: 0144-05-047 HWY: SH 238
COUNTY : CALHOUN TYPE: SEAL COAT
LENGTH : 53,720.00 FT = 10.174 MI PROJECT: #48
LIMITS : FROM 0.12 MI W OF FM 1289 TRAFFIC: 1112 VPD
TO SH 185

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 537+20.00 (5)	53720.00	24	143253
		TOTAL TRAVEL LANE AREA	**143253**
(1) STA 0+00.00 TO STA 537+20.00 (5)	53720.00	16	95502
		TOTAL SHOULDER AREA	**95502**
INTERSECTIONS COUNTY ROADS (4 EA)	VAR	VAR	426
		TOTAL INTERSECTION AREA	**426**

Project Number: **Sheet** 113

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 238 PROJECT #48 CONT 0144-05-047 CALHOUN CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 5.773 = TRM 558+1.361
(5) STA 537+20.00 = MP: 15.947 = TRM 568+1.538

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[SH 238 PROJECT #48 CONT 0144-05-047 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	143253 SY	1302	CY
	SHOULDERS	1 CY/110 SY	95502 SY	868	CY
	INTERSECTIONS	1 CY/110 SY	426 SY	4	CY
			TOTAL	**2174**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	143253 SY	63031	GAL
	SHOULDERS	0.44 GAL/SY	95502 SY	42021	GAL
	INTERSECTIONS	0.44 GAL/SY	426 SY	187	GAL
			TOTAL	**105239**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	53720 LF	1343	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**1353**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**107440**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	48145 LF	12036	LF
	SINGLE NO PASS	10 LF/40 LF	4164 LF	1041	LF
			TOTAL	**13077**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		4164 LF	4164	LF
	DOUBLE NO PASS		1316 LF X 2	2632	LF
			TOTAL	**6796**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**107440**	**LF**

Project Number: **Sheet** 114

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 238 PROJECT #48 CONT 0144-05-047 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	48145 LF	12036	LF
	SINGLE NO PASS	10 LF/40 LF	4164 LF	1041	LF
			TOTAL	**13077**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		4164 LF	4164	LF
	DOUBLE NO PASS		1316 LF X 2	2632	LF
			TOTAL	**6796**	**LF**
668	**PREFAB PAV MRK TY C (W)(24")(SLD)**				
	STOP BAR		EST	**12**	**LF**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	48145 LF	602	EA
	SINGLE NO PASS	1 EA/40 LF	4164 LF	104	EA
	DOUBLE NO PASS	1 EA/40 LF	1316 LF	33	EA
			TOTAL	**739**	**EA**

P R O J E C T D A T A

CONTROL: 0144-06-029 HWY: SH 185
COUNTY : CALHOUN TYPE: SEAL COAT
LENGTH : 42,576.00 FT = 8.063 MI PROJECT: #49
LIMITS : FROM FM 1289 TRAFFIC: 2530 VPD
TO END OF MAINTENANCE

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 295+11.00	29511.00	24	78696
STA 295+11.00 TO STA 414+91.00	11980.00	28	37271
STA 414+91.00 TO STA 425+76.00 (5)	1085.00	22	2652

	TOTAL TRAVEL LANE AREA		**118619**

(1) STA 0+00.00 TO STA 295+11.00	29511.00	22	72138
STA 414+91.00 TO STA 425+76.00 (5)	1085.00	8	964

	TOTAL SHOULDER AREA		**73102**

Project Number: **Sheet** 115

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 185 PROJECT #49 CONT 0144-06-029 CALHOUN CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 30.339 = TRM 628+0.642
(5) STA 425+76.00 = MP: 38.402 = TRM 636+0.733

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

---[SH 185 PROJECT #49 CONT 0144-06-029 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	118619 SY	1078 CY	
	SHOULDERS	1 CY/110 SY	73102 SY	665 CY	
			TOTAL	**1743 CY**	
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	118619 SY	52192 GAL	
	SHOULDERS	0.44 GAL/SY	73102 SY	32165 GAL	
			TOTAL	**84357 GAL**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	TURN LANE	1 EA/20 LF	215 LF	**11 EA**	
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	42576 LF	1064 EA	
	GORE	2 EA/20 LF	575 LF X 2	116 EA	
	BEGIN/END NO PASSING		EST	10 EA	
			TOTAL	**1190 EA**	
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST	**215 LF**	
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**59440 LF**	
666	**RE PM W/RET REQ TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**25712 LF**	
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	38457 LF	9614 LF	
	SINGLE NO PASS	10 LF/40 LF	2010 LF	503 LF	
			TOTAL	**10117 LF**	

Project Number: **Sheet** 116

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[SH 185 PROJECT #49 CONT 0144-06-029 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		2010 LF	2010 LF	
	DOUBLE NO PASS		631 LF X 2	1262 LF	
	GORE		575 LF X 4	2300 LF	
			TOTAL	**5572 LF**	
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**59440 LF**	
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	GORE CROSSHATCH		EST	**330 LF**	
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	RT TURN		EST	**1 EA**	
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST	**1 EA**	
672	**REFL PAV MRKR TY I-C**				
	TURN LANE	1 EA/20 LF	215 LF	**11 EA**	
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	38457 LF	481 EA	
	SINGLE NO PASS	1 EA/40 LF	2010 LF	50 EA	
	DOUBLE NO PASS	1 EA/40 LF	631 LF	16 EA	
	GORE	2 EA/20 LF	575 LF X 2	116 EA	
			TOTAL	**663 EA**	

P R O J E C T D A T A

CONTROL: 0515-03-058 HWY: FM 1090
COUNTY : CALHOUN TYPE: SEAL COAT
LENGTH : 13,855.00 FT = 2.624 MI PROJECT: #50
LIMITS : FROM FM 3084 TRAFFIC: 12248 VPD
TO SH 35

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 86+07.00	8607.00	28	26777
	STA 86+07.00 TO STA 92+69.00	662.00	53	3898
	STA 92+69.00 TO STA 138+55.00 (5)	4586.00	50	25478
		TOTAL TRAVEL LANE AREA		**56153**

Project Number: **Sheet** 117

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1090 PROJECT #50 CONT 0515-03-058 CALHOUN CO. CONT'D]---

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 2.911 = TRM 552+0.927
(5) STA 138+55.00 = MP: 5.535 = TRM 554+1.515

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

---[FM 1090 PROJECT #50 CONT 0515-03-058 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR (TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	56153 SY		**510 CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	56153 SY		**24707 GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	LANE LINE	1 EA/40 LF	4663 LF X 2		**233 EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	13855 LF		346 EA
	BEGIN/END NO PASSING		EST		10 EA
				TOTAL	**356 EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST		**18480 LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	8532 LF		**2133 LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	DOUBLE NO PASS		660 LF X 2		**1320 LF**
666	**RE PM W/RET REQ TY I(W)6"(BRK)(100MIL)**				
	LANE LINE	10 LF/40 LF	4663 LF X 2		**2332 LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	DOUBLE NO PASS		4663 LF X 2		**9326 LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST		**18480 LF**
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	8532 LF		**2133 LF**

Project Number: **Sheet** 118

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1090 PROJECT #50 CONT 0515-03-058 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	DOUBLE NO PASS		660 LF X 2		**1320 LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST		**28 LF**
672	**REFL PAV MRKR TY I-C**				
	LANE LINE	1 EA/80 LF	4663 LF X 2		117 EA
	EDGELINE (STA 0+00.00 TO STA 17+75.00)				
		3 EA/20 LF	3550 LF		533 EA
				TOTAL	**650 EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	8532 LF		107 EA
	DOUBLE NO PASS	2 EA/80 LF	5323 LF		134 EA
				TOTAL	**241 EA**

P R O J E C T D A T A

CONTROL: 0515-03-059 HWY: FM 1090
COUNTY : CALHOUN TYPE: SEAL COAT
LENGTH : 4,339.00 FT = 0.821 MI PROJECT: #51
LIMITS : FROM SH 238 (ALCOA DR) TRAFFIC: 4842 VPD
TO US 87 IN PORT LAVACA

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1) STA 0+00.00 TO STA 43+39.00 (5)	4339.00	63	30373

	TOTAL TRAVEL LANE AREA		**30373**

Project Number: **Sheet** 119

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1090 PROJECT #51 CONT 0515-03-059 CALHOUN CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 10.559 = TRM 560+1.711
(5) STA 43+39.00 = MP: 11.380 = TRM 560+2.531

(2) NO EQUATIONS
(3) NO EXCEPTIONS
(4) NO RAILROAD CROSSINGS

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-4 SAC-B)**				
	TRAVEL LANES	1 CY/135 SY	30373 SY		**225 CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.32 GAL/SY	30373 SY		**9719 GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY W**				
	LANE LINE	1 EA/40 LF	8095 LF		202 EA
	TURN LANE	1 EA/20 LF	580 LF		29 EA
				TOTAL	**231 EA**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	202 LF		5 EA
	CONTINUOUS LT TURN	1 EA/40 LF	3977 LF X 2		198 EA
	GORE	2 EA/20 LF	160 LF X 2		32 EA
				TOTAL	**235 EA**
666	**REFL PAV MRK TY I(W)8"(SLD)(100MIL)**				
	TURN LANE		EST		**580 LF**
666	**RE PM W/RET REQ TY I(W)6"(BRK)(100MIL)**				
	LANE LINE	10 LF/40 LF	8095 LF		**2024 LF**
666	**RE PM W/RET REQ TY I(Y)6"(BRK)(100MIL)**				
	CONTINUOUS LT TURN	10 LF/40 LF	3977 LF X 2		**1989 LF**
666	**RE PM W/RET REQ TY I(Y)6"(SLD)(100MIL)**				
	DOUBLE NO PASS		202 LF X 2		404 LF
	CONTINUOUS LT TURN		3977 LF X 2		7954 LF
	GORE		160 LF X 4		640 LF
				TOTAL	**8998 LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	STOP BAR		EST		**40 LF**

Project Number: **Sheet** 120

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1090 PROJECT #51 CONT 0515-03-059 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
668	**PREFAB PAV MRK TY C(W)(ARROW)**				
	LT TURN		EST		2 EA
	RT TURN		EST		2 EA
				TOTAL	**4 EA**
668	**PREFAB PAV MRK TY C(W)(WORD)**				
	"ONLY"		EST		**4 EA**
662	**REFL PAV MRKR TY I-C**				
	LANE LINE	1 EA/80 LF	8095 LF		101 EA
	TURN LANE	1 EA/20 LF	580 LF		29 EA
				TOTAL	**130 EA**
672	**REFL PAV MRKR TY II-A-A**				
	DOUBLE NO PASS	2 EA/20 LF	202 LF X 2		40 EA
	CONTINUOUS LT TURN	1 EA/40 LF	3977 LF X 2		198 EA
	GORE	2 EA/20 LF	160 LF X 2		32 EA
				TOTAL	**270 EA**

P R O J E C T D A T A

CONTROL: 0515-03-060 HWY: FM 1090
COUNTY : CALHOUN TYPE: SEAL COAT
LENGTH : 13,488.00 FT = 2.554 MI PROJECT: #52
LIMITS : FROM 0.4 MI S OF SOUTH ST (LAVILLA ST) TRAFFIC: 950 VPD
TO 0.5 MI S OF SH 238 (LARRY DR)

	LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY
(1)	STA 0+00.00 TO STA 1+65.00	165.00	43	788
	STA 1+65.00 TO STA 16+60.00 (3)	1495.00	28	4651
(3)	STA 16+72.00 TO STA 131+05.00	11433.00	28	35569
	STA 131+05.00 TO STA 135+00.00 (5)	395.00	43	1887

		TOTAL TRAVEL LANE AREA		**42895**

INTERSECTIONS

CITY STREETS (4 EA)		VAR	VAR	613

		TOTAL INTERSECTION AREA		**613**

Project Number: **Sheet** 121

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1090 PROJECT #52 CONT 0515-03-060 CALHOUN CO. CONT'D]---

LIMITS STA TO STA	LENGTH FT	WIDTH FT	AREA SY

(1) STA 0+00.00 = MP: 7.473 = TRM 556+1.597
(5) STA 135+00.00 = MP: 10.029 = TRM 560+1.181

(2) NO EQUATIONS
(3) EXCEPTION: STA 16+60.00 TO STA 16+72.00 = -12.00 FT = -0.002 MI (RR XING)
(4) RAILROAD CROSSING: 1 RETAINED STA 16+60.00 TO STA 16+72.00

Amanda Anderle Fling, P.E.
DESIGN ENGINEER

08/16/2023
DATE

STATE OF TEXAS
AMANDA ANDERLE FLING
105989
LICENSED
PROFESSIONAL ENGINEER

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
316	**AGGR(TY-PE GR-3 SAC-B)**				
	TRAVEL LANES	1 CY/110 SY	42895 SY	390	CY
	INTERSECTIONS	1 CY/110 SY	613 SY	6	CY
			TOTAL	**396**	**CY**
316	**ASPH (AC-20-5TR, AC-20XP OR SPG 79-13)**				
	TRAVEL LANES	0.44 GAL/SY	42895 SY	18874	GAL
	INTERSECTIONS	0.44 GAL/SY	613 SY	270	GAL
			TOTAL	**19144**	**GAL**
662	**WK ZN PAV MRK SHT TERM(TAB)TY Y-2**				
	CENTERLINE	1 EA/40 LF	13488 LF	337	EA
	BEGIN/END NO PASSING		EST	10	EA
			TOTAL	**347**	**EA**
666	**REFL PAV MRK TY II(W)6"(SLD)**				
	EDGELINE		EST	**26976**	**LF**
666	**REFL PAV MRK TY II(Y)6"(BRK)**				
	PASS	10 LF/40 LF	5870 LF	1468	LF
	SINGLE NO PASS	10 LF/40 LF	3713 LF	928	LF
			TOTAL	**2396**	**LF**
666	**REFL PAV MRK TY II(Y)6"(SLD)**				
	SINGLE NO PASS		3713 LF	3713	LF
	DOUBLE NO PASS		3905 LF X 2	7810	LF
			TOTAL	**11523**	**LF**
666	**REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)**				
	EDGELINE		EST	**26976**	**LF**

Project Number: **Sheet** 122

County: FAYETTE, ETC **Control** 0026-02-039, ETC

Highway: US 90, ETC

---[FM 1090 PROJECT #52 CONT 0515-03-060 CALHOUN CO. CONT'D]---

B A S I S O F E S T I M A T E

ITEM	DESCRIPTION	RATE	BASIS	QUANTITY	UNIT
666	**REF PROF PAV MRK TY I(Y)6"(BRK)(100MIL)**				
	PASS	10 LF/40 LF	5870 LF	1468	LF
	SINGLE NO PASS	10 LF/40 LF	3713 LF	928	LF
			TOTAL	**2396**	**LF**
666	**REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)**				
	SINGLE NO PASS		3713 LF	3713	LF
	DOUBLE NO PASS		3905 LF X 2	7810	LF
			TOTAL	**11523**	**LF**
668	**PREFAB PAV MRK TY C(W)(24")(SLD)**				
	RAILROAD STOP BAR		EST	**72**	**LF**
668	**PREFAB PAV MRK TY C(W)(RR XING)**		EST	**2**	**EA**
672	**REFL PAV MRKR TY II-A-A**				
	PASS	1 EA/80 LF	5870 LF	73	EA
	SINGLE NO PASS	1 EA/40 LF	3713 LF	93	EA
	DOUBLE NO PASS	1 EA/40 LF	3905 LF	98	EA
			TOTAL	**264**	**EA**

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

WORKER SAFETY NOTES:

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

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

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

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

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

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS	0026	02	039, ETC	US 90, ETC
4-03 7-13	DIST	COUNTY		SHEET NO.
9-07 8-14	YKM	FAYETTE, ETC		123
5-10 5-21				

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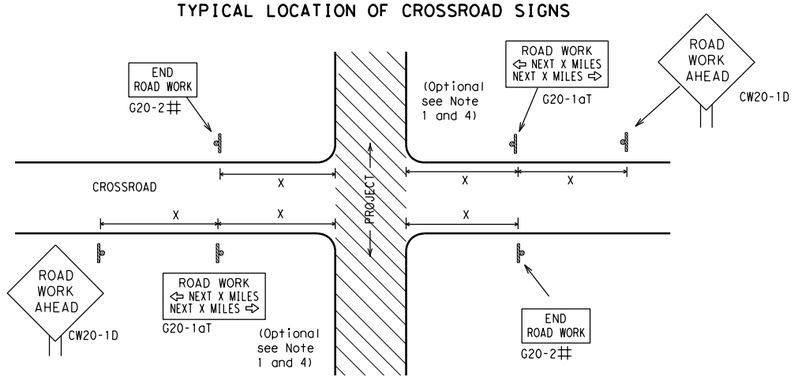
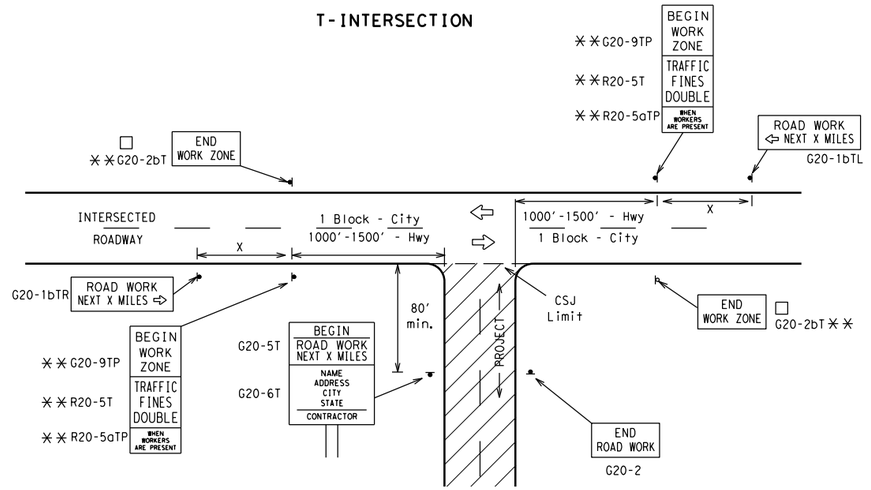
TYPICAL LOCATION OF CROSSROAD SIGNS



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

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

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

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

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

SIZE

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

SPACING

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

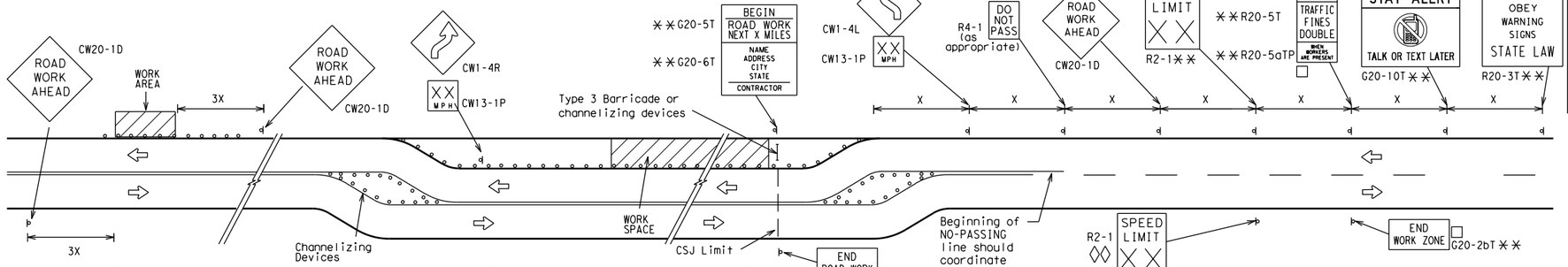
✳ For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

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

GENERAL NOTES

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

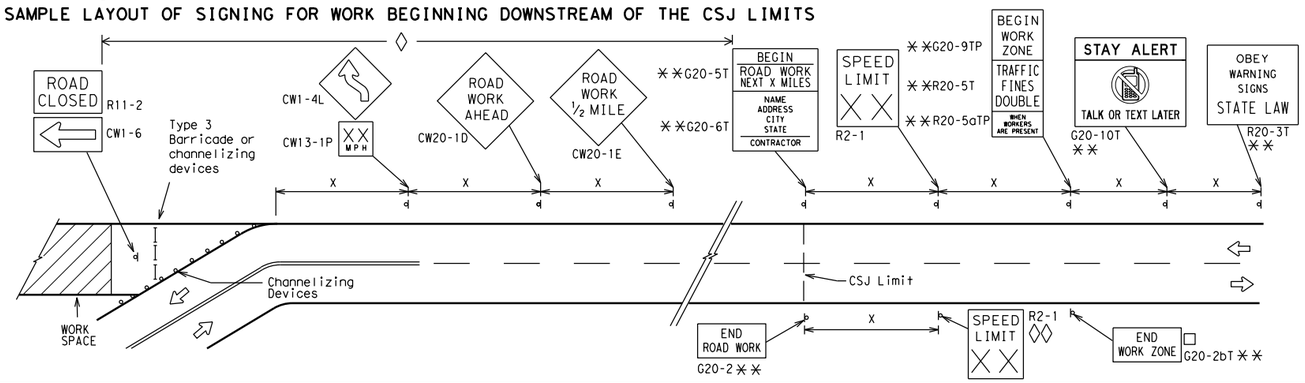
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



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

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

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



NOTES

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

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

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

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

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

LEGEND

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

SHEET 2 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

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REVISIONS	0026	02	039, ETC	US 90, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	YKM	FAYETTE, ETC		124

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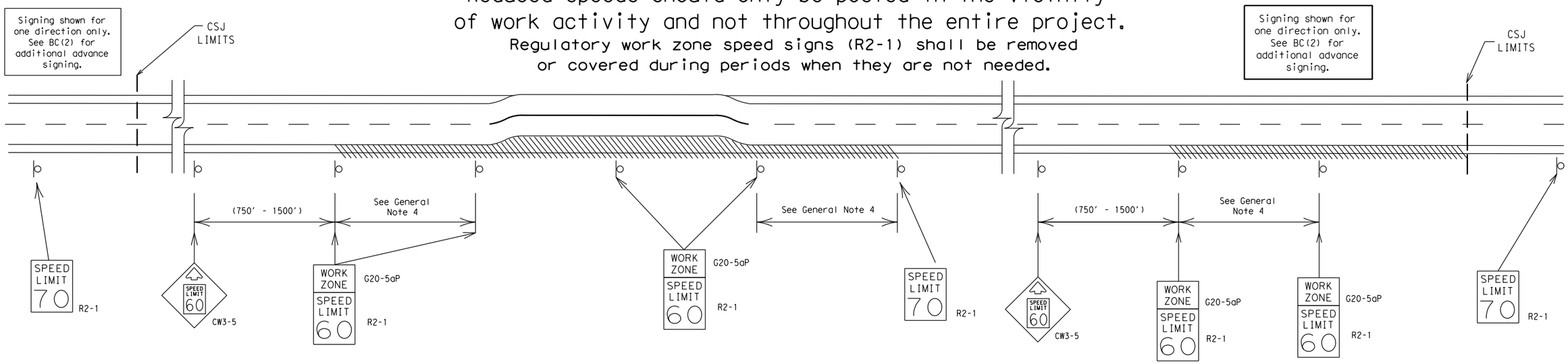
TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

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

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

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



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

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

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

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

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

SHORT TERM WORK ZONE SPEED LIMITS

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

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

GENERAL NOTES

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

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	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		125

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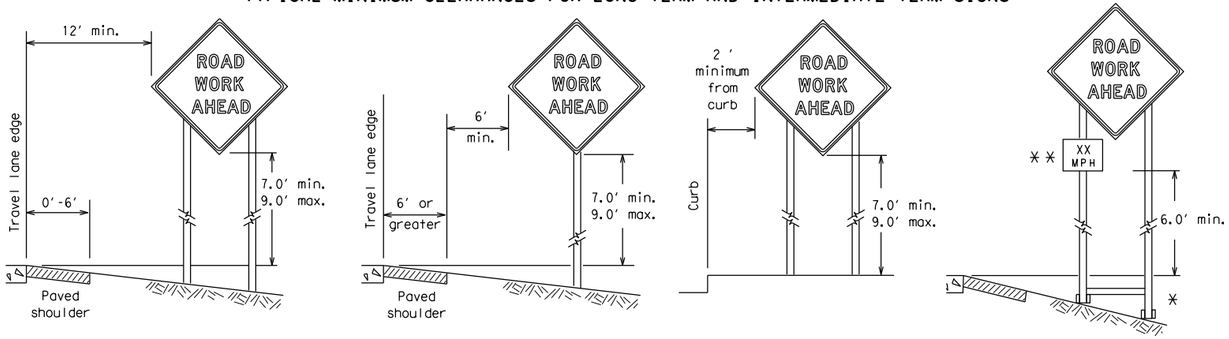
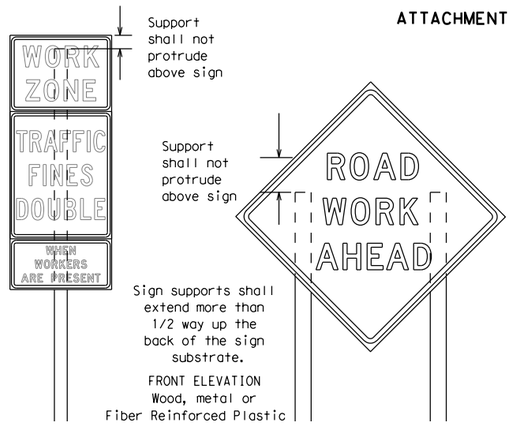
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

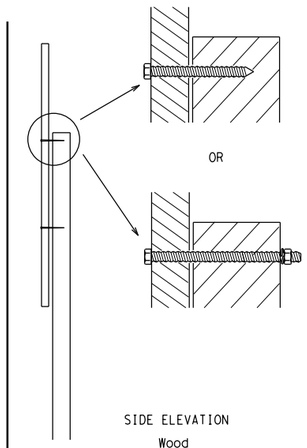


⁎ When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

⁎⁎ 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





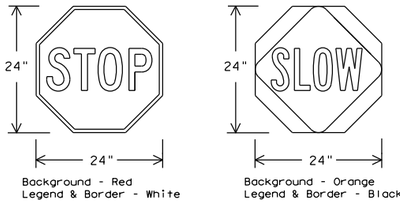
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

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

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

STOP/SLOW PADDLES

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



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

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

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

GENERAL NOTES FOR WORK ZONE SIGNS

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

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

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

SIGN MOUNTING HEIGHT

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

SIZE OF SIGNS

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

SIGN SUBSTRATES

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

REFLECTIVE SHEETING

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

SIGN LETTERS

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

REMOVING OR COVERING

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

SIGN SUPPORT WEIGHTS

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

FLAGS ON SIGNS

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

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

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7-13 5-21	YKM	FAYETTE, ETC		126

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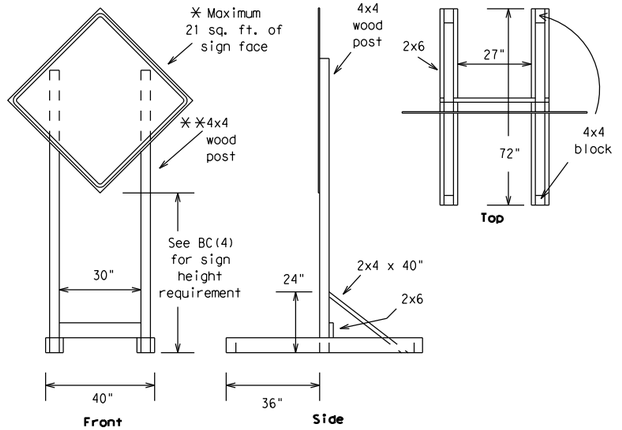
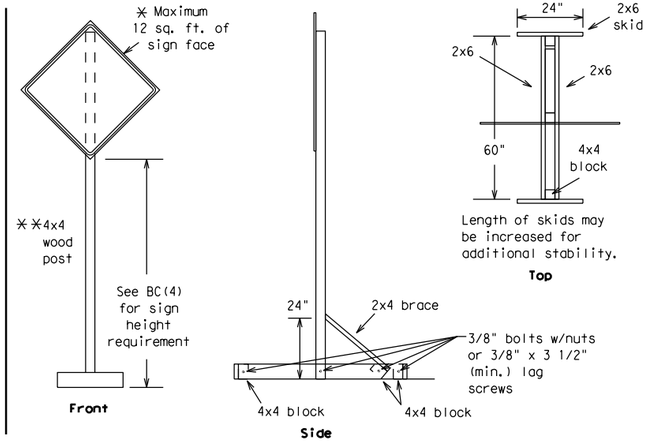
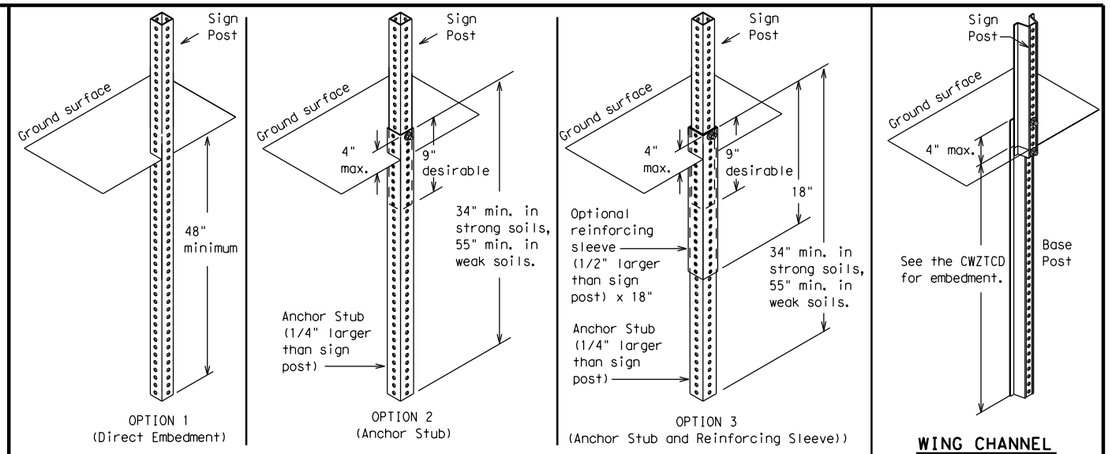




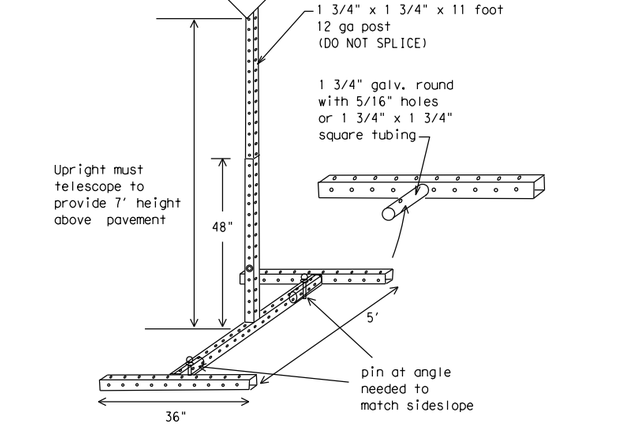
SKID MOUNTED WOOD SIGN SUPPORTS

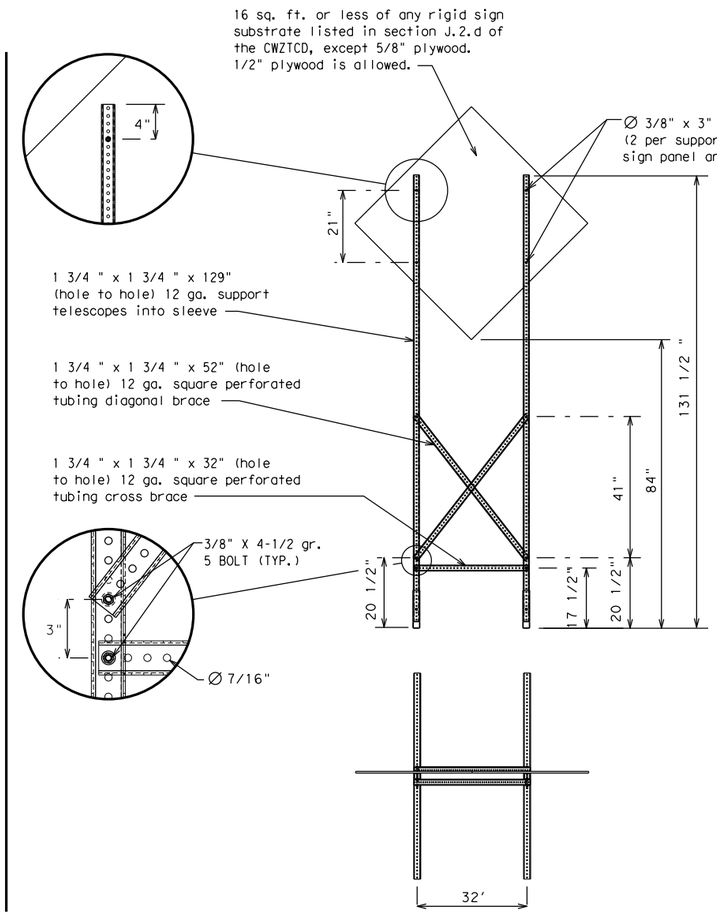
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

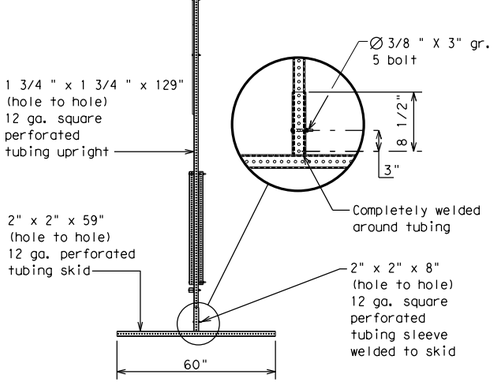


GROUND MOUNTED SIGN SUPPORTS

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

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

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

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

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS	0026	02	039, ETC	US 90, ETC
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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

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

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

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

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

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

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

Other Condition List

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

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

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

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

Location List

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

Warning List

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

** Advance Notice List

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

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

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

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

WORDING ALTERNATIVES

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

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

FULL MATRIX PCMS SIGNS

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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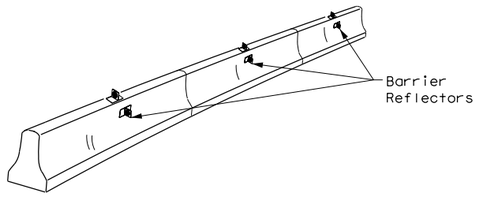
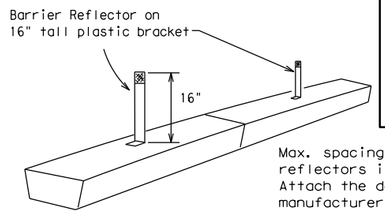
REVISIONS	0026	02	039, ETC	US 90, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	YKM	FAYETTE, ETC		128

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



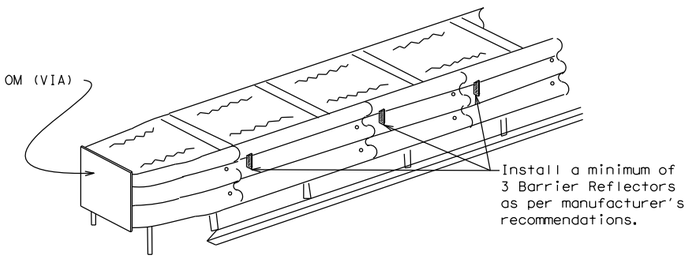
CONCRETE TRAFFIC BARRIER (CTB)

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



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

LOW PROFILE CONCRETE BARRIER (LPCB)



DELINEATION OF END TREATMENTS

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.

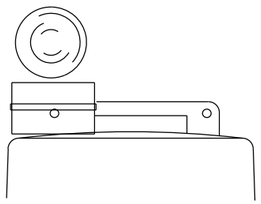
END TREATMENTS FOR CTB'S USED IN WORK ZONES

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

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

WARNING LIGHTS

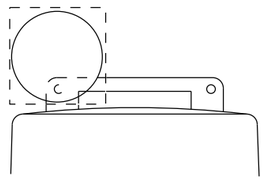
1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this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



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

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

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



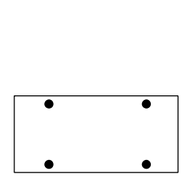
Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

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

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

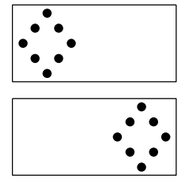
Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

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

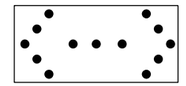


4 CORNER CAUTION

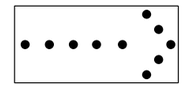
OR



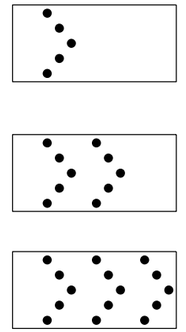
ALTERNATING DIAMOND CAUTION



DOUBLE ARROW



RIGHT/LEFT ARROW
(right arrow shown; left is similar)



RIGHT/LEFT SEQUENTIAL CHEVRON
(right chevron shown; left is similar)

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

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

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

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

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

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

Texas Department of Transportation — Traffic Safety Division Standard

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

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	YKM	FAYETTE, ETC		129

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DATE: $DATE$ $TIME$
FILE: $FILE$

GENERAL NOTES

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

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

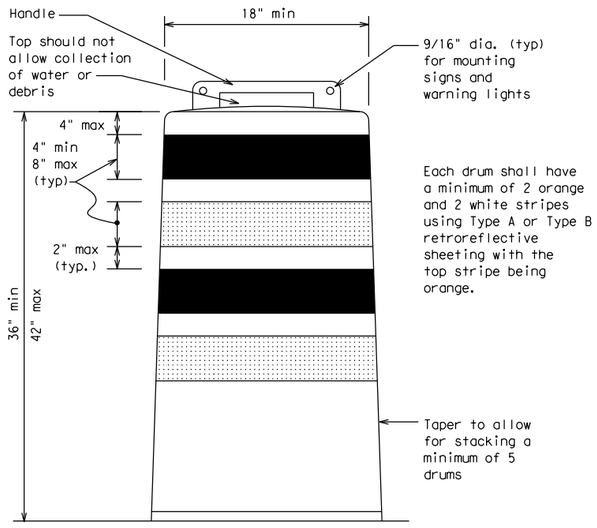
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents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

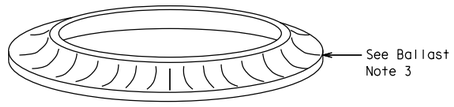
RETROREFLECTIVE SHEETING

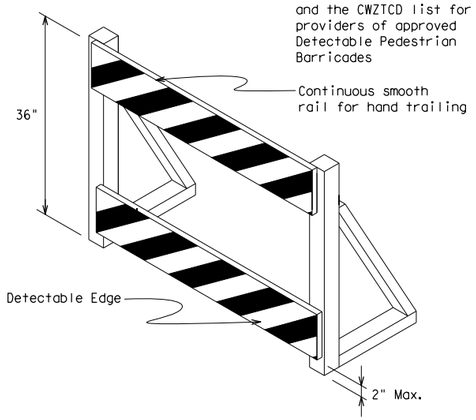
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall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

BALLAST

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

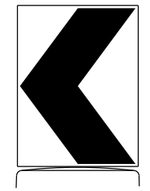




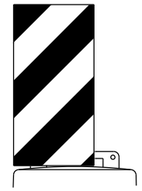


DETECTABLE PEDESTRIAN BARRICADES

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



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



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

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

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
4-03 8-14	DIST	COUNTY		SHEET NO.
9-07 5-21	YKM	FAYETTE, ETC		130
7-13				

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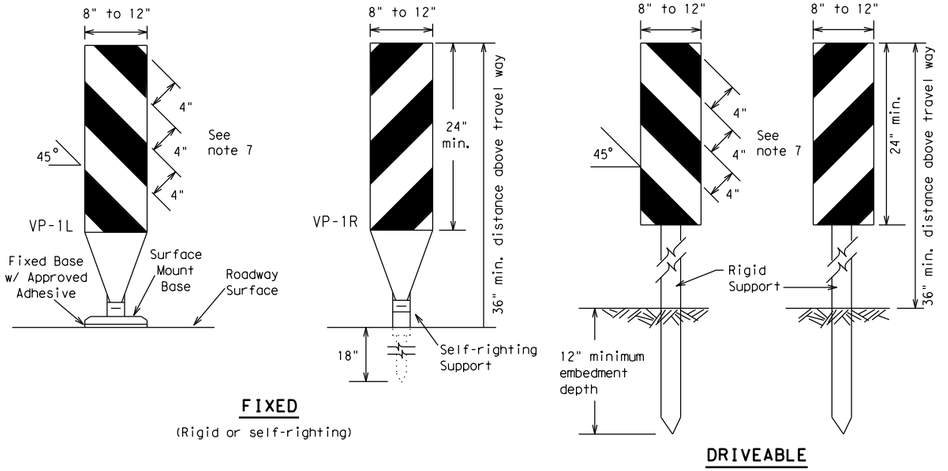
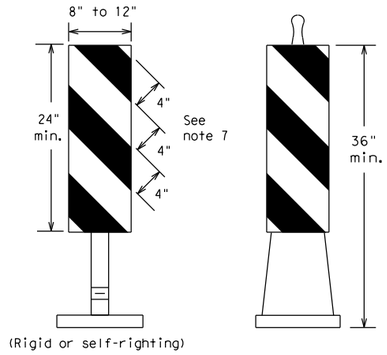


FIXED
(Rigid or self-righting)

DRIVEABLE

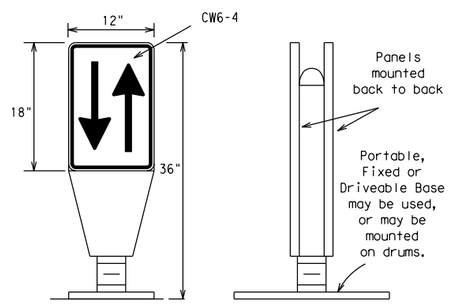


(Rigid or self-righting)

PORTABLE

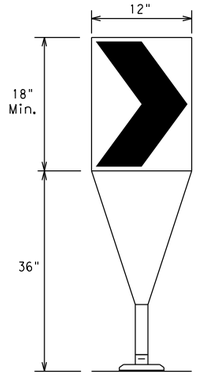
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is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

VERTICAL PANELS (VPs)



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

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



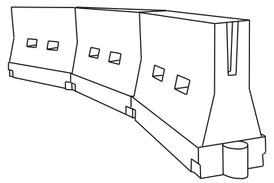
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

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

CHEVRONS

GENERAL NOTES

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



LONGITUDINAL CHANNELIZING DEVICES (LCD)

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

WATER BALLASTED SYSTEMS USED AS BARRIERS

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

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

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

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

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

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

SHEET 9 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS 9-07 8-14 7-13 5-21	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		131

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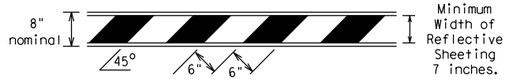
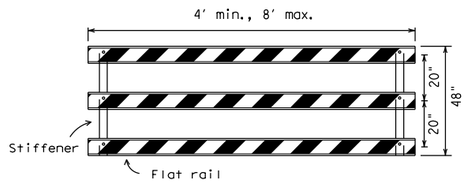
TYPE 3 BARRICADES

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.



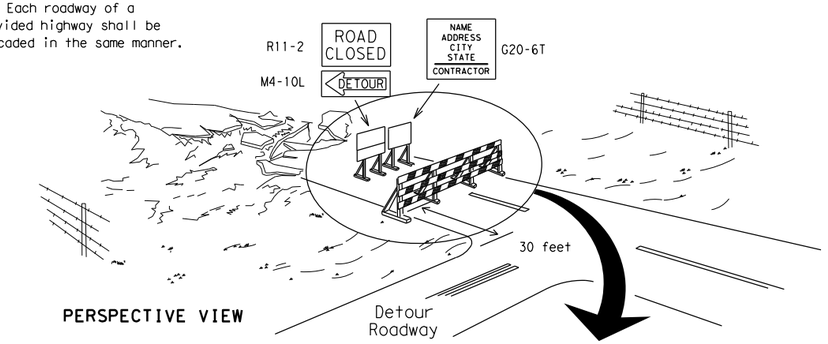
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



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

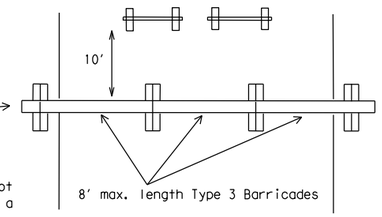
Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.

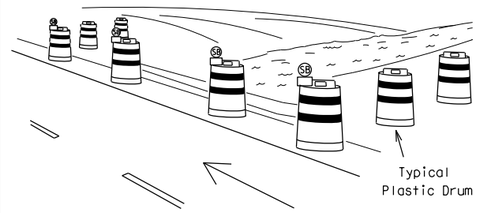
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

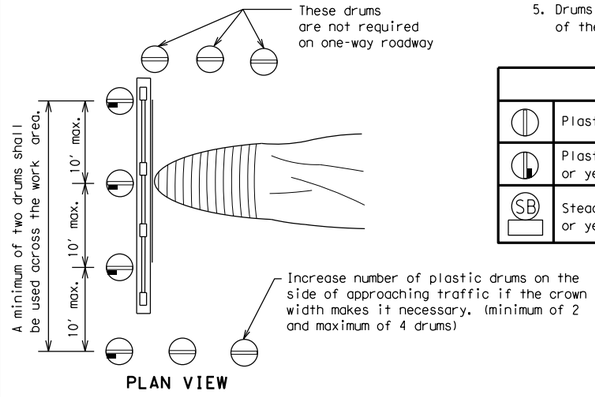
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

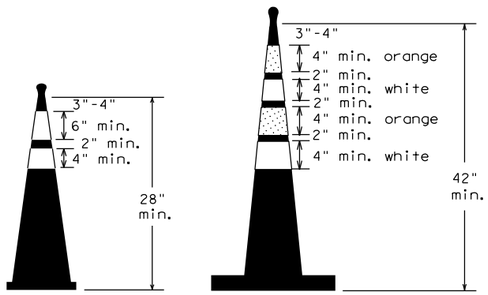
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder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



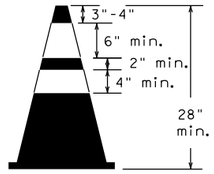
PLAN VIEW

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

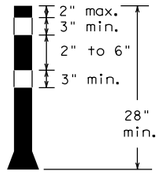
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

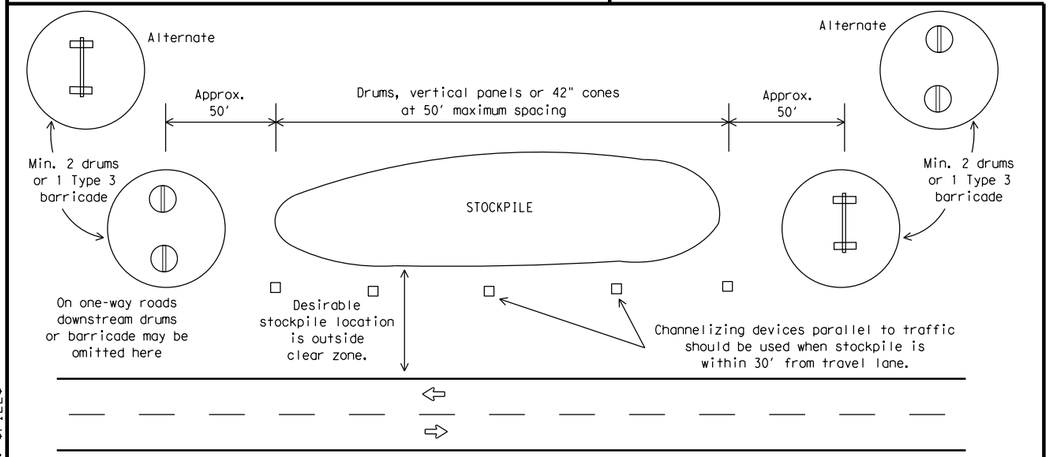


Tubular Marker

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

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

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



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS 9-07 8-14 7-13 5-21	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		132

104

DATE: $DATE$ $TIME$
FILE: $FILE$

WORK ZONE PAVEMENT MARKINGS

GENERAL

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

RAISED PAVEMENT MARKERS

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

PREFABRICATED PAVEMENT MARKINGS

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

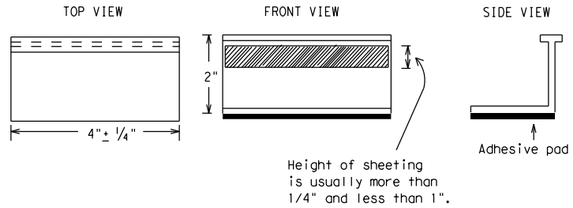
MAINTAINING WORK ZONE PAVEMENT MARKINGS

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

REMOVAL OF PAVEMENT MARKINGS

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

Temporary Flexible-Reflective Roadway Marker Tabs



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

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

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

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

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

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

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

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

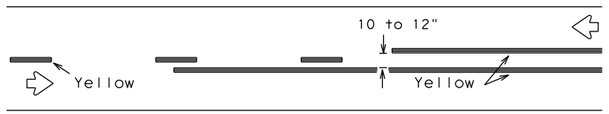
FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-98 9-07 5-21	0026	02	039, ETC	US 90, ETC
1-02 7-13	DIST	COUNTY		SHEET NO.
11-02 8-14	YKM	FAYETTE, ETC		133

105

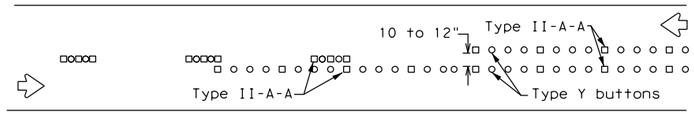
DATE: $DATE$ $TIME$
FILE: $FILE$

DATE: $DATE$ $TIME$
FILE: $FILE$

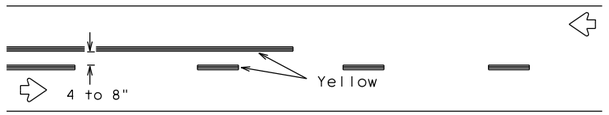
PAVEMENT MARKING PATTERNS



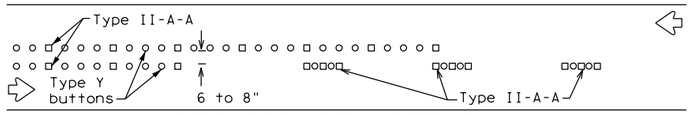
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



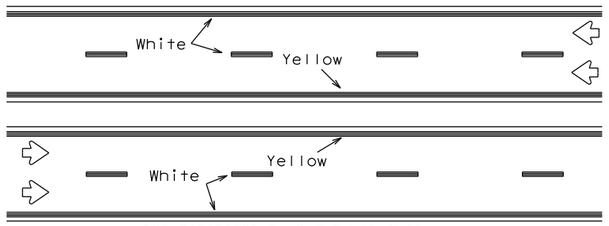
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



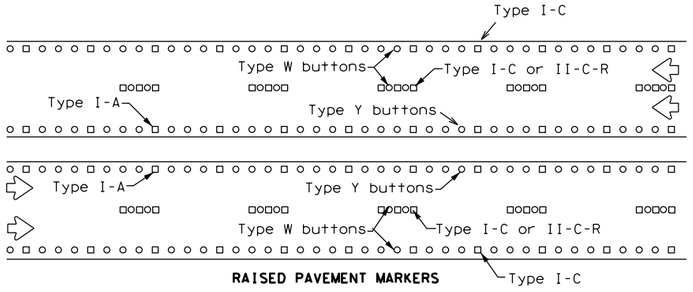
RAISED PAVEMENT MARKERS - PATTERN B

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

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



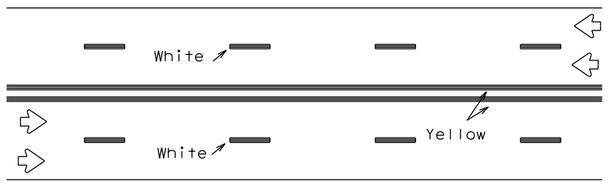
REFLECTORIZED PAVEMENT MARKINGS



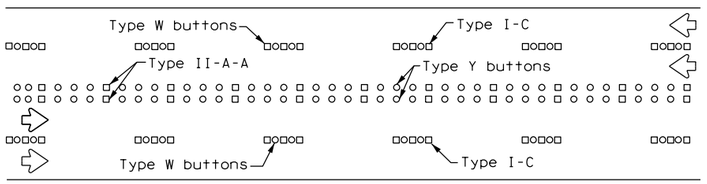
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



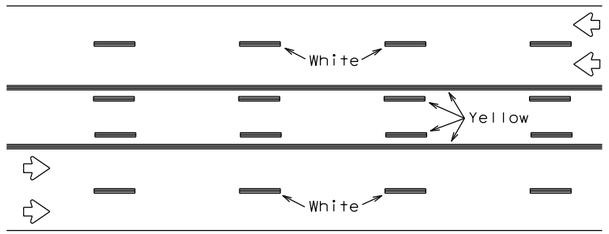
REFLECTORIZED PAVEMENT MARKINGS



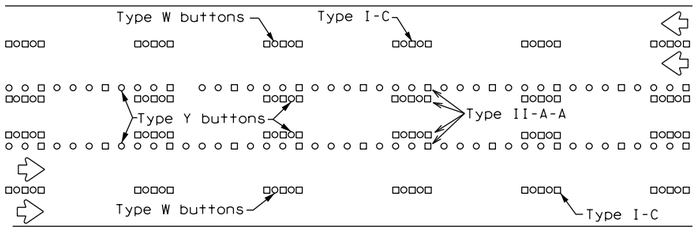
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

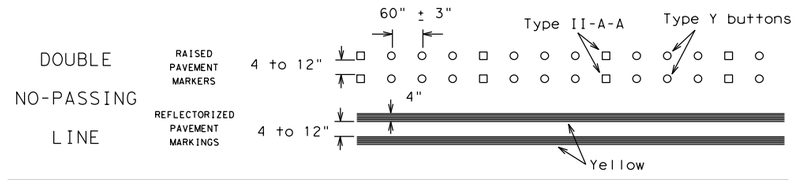
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

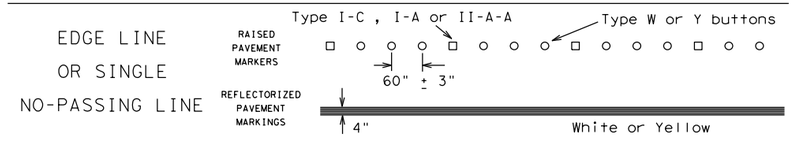
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

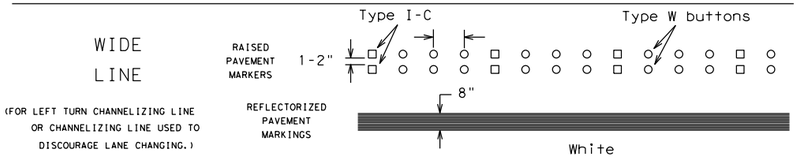


EDGE LINE OR SINGLE NO-PASSING LINE



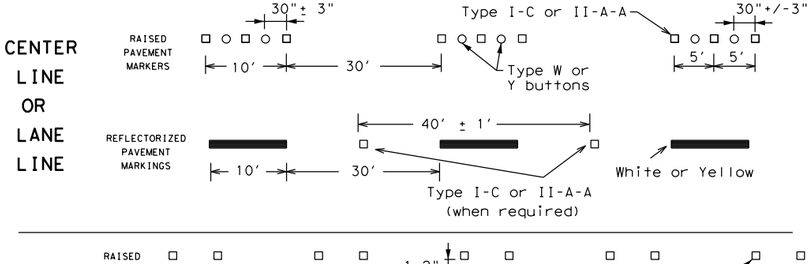
WIDE LINE

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

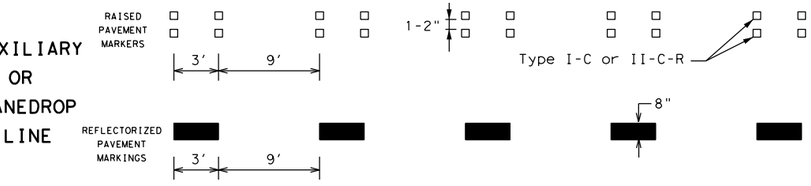


BROKEN LINES

CENTER LINE OR LANE LINE

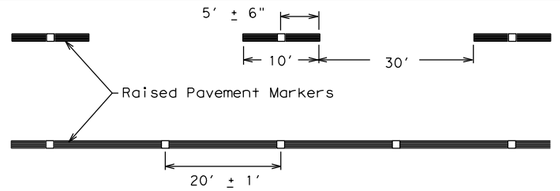


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

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



Centerline only - not to be used on edge lines

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

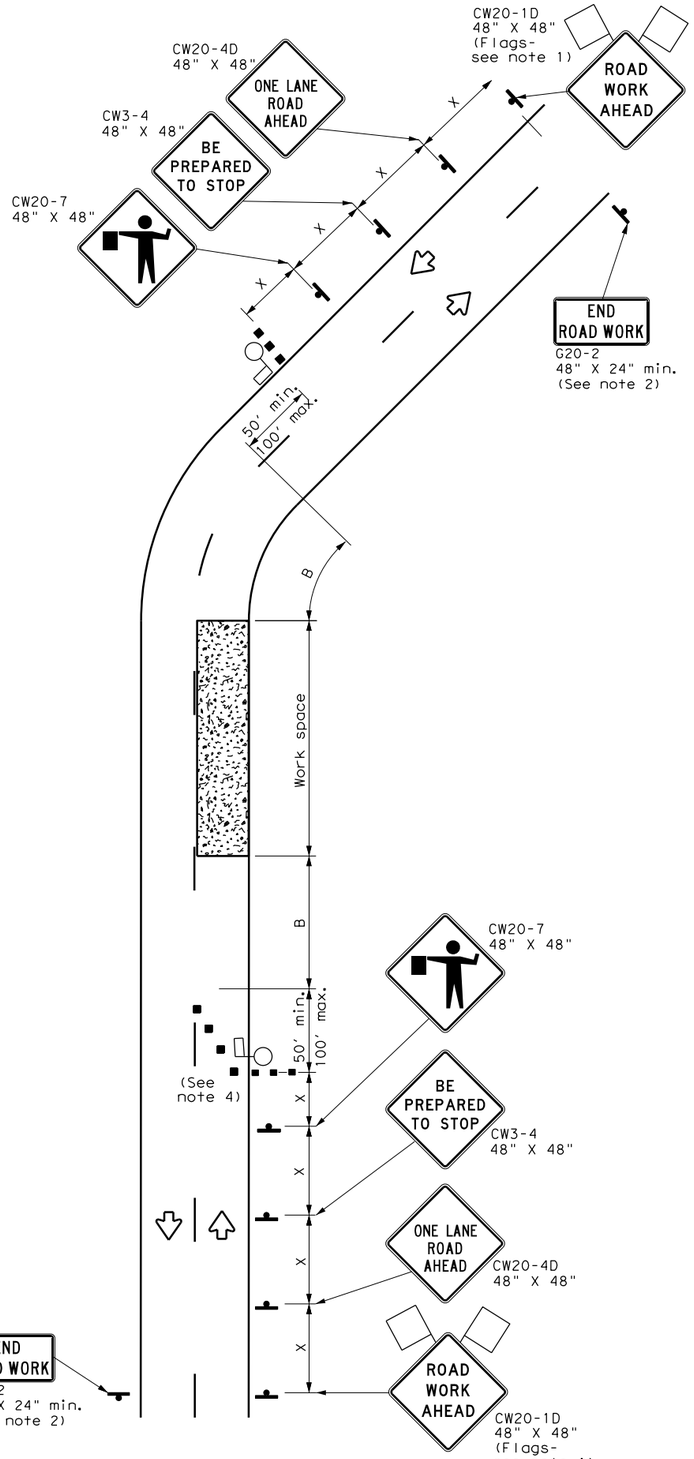
Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

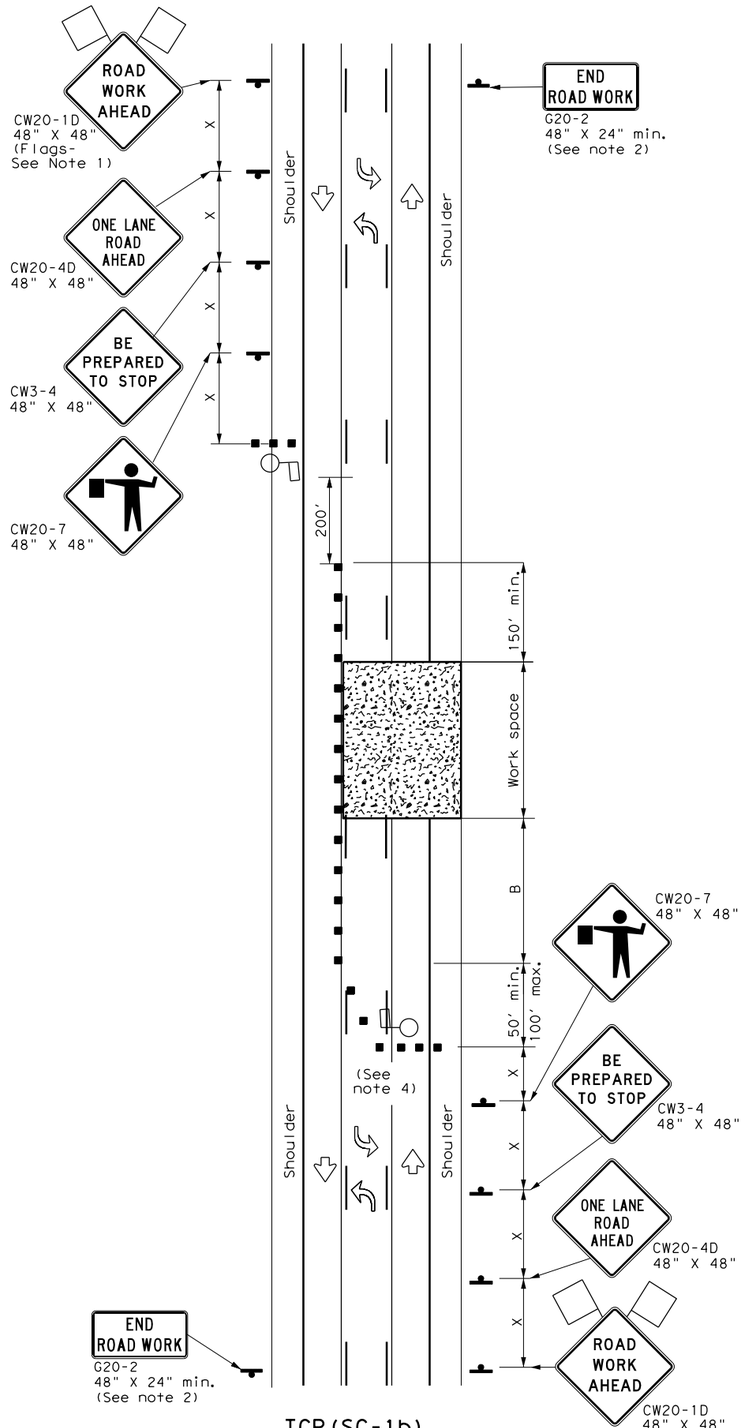
BC(12)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
1-97 9-07 5-21	DIST	COUNTY		SHEET NO.
2-98 7-13	YKM	FAYETTE, ETC		134
11-02 8-14				



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	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

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

* Conventional Roads Only

** Taper lengths have been rounded off.

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
3. 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.
4. Flaggers should use two-way radios or other methods of communication at all times for traffic control coordination.
5. Flaggers should use 24" STOP (CW20-8) / SLOW (CW20-8aT) paddles to control traffic. Flags should be limited to emergency situations.
6. 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).
7. 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.
8. Temporary rumble strips are not required on seal coat operations.
9. 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)

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

Texas Department of Transportation — Traffic Safety Division Standard

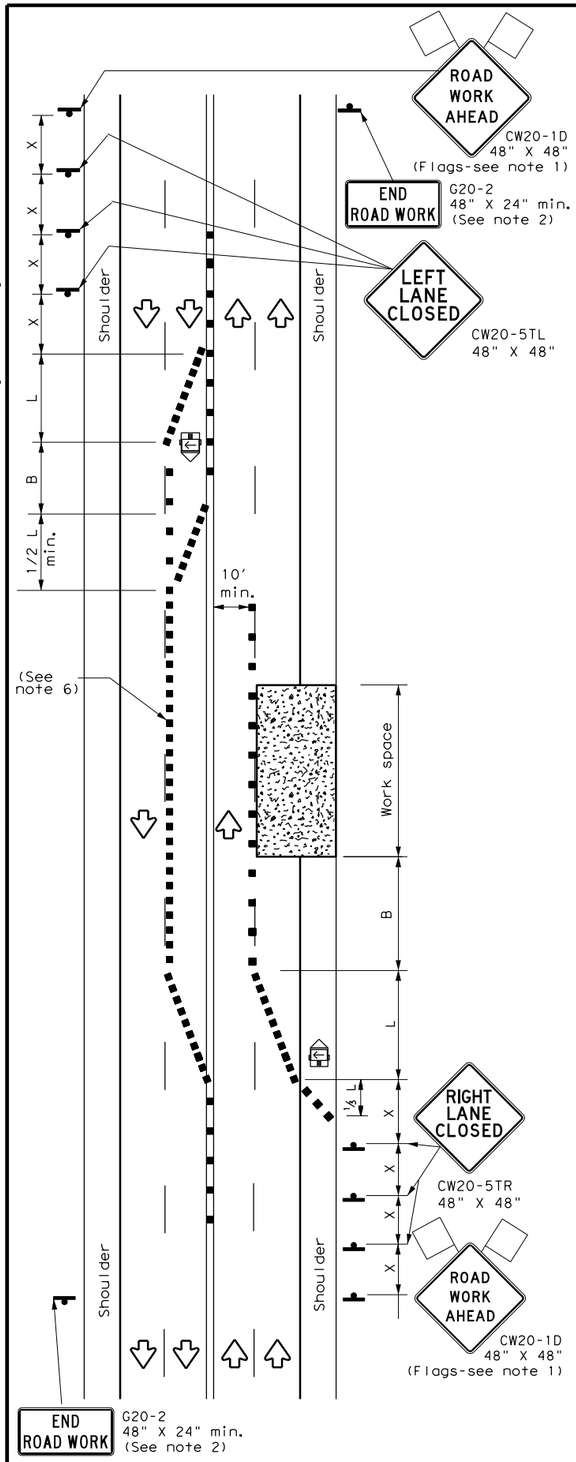
TRAFFIC CONTROL PLAN SEAL COAT OPERATIONS ONE-LANE TWO-WAY

TCP(SC-1)-22

FILE: tcpsc-1-22.dgn	DN:	CK:	DW:	CK:
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-21 10-22	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		135

217

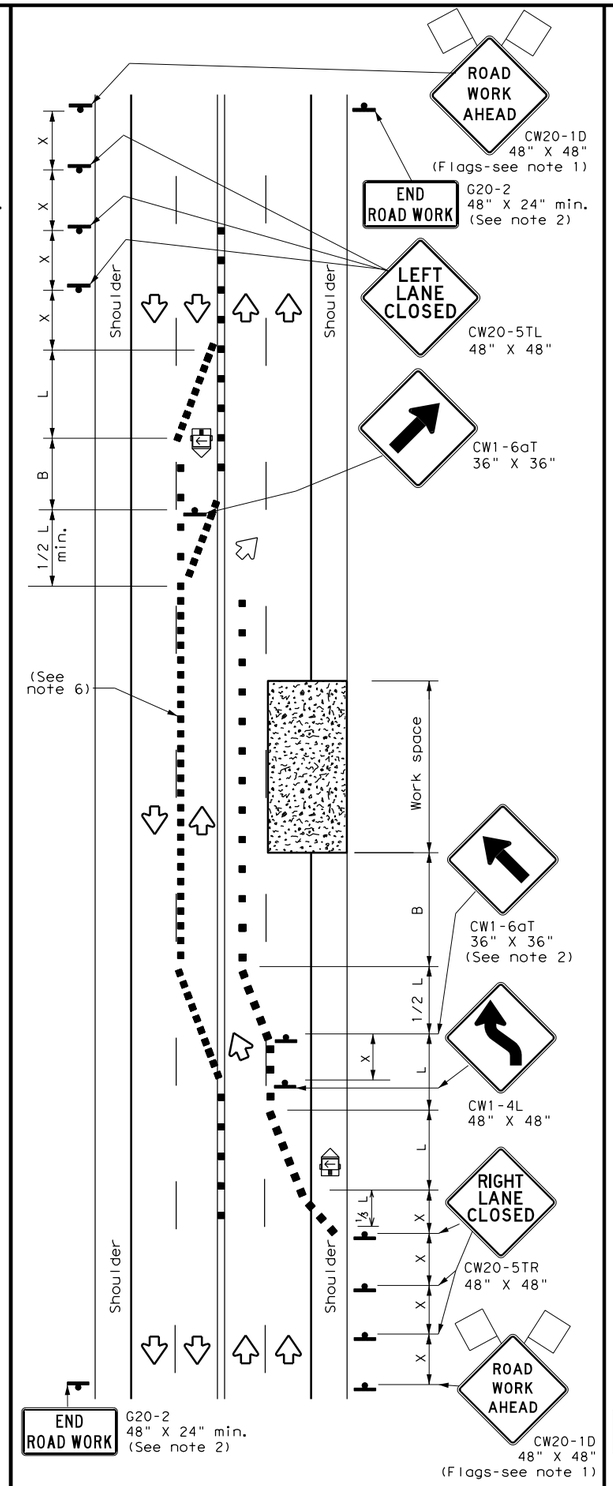
DATE: $DATE$ $TIME$
FILE: $FILE$



TCP (SC-2a)

ONE LANE CLOSED EACH DIRECTION

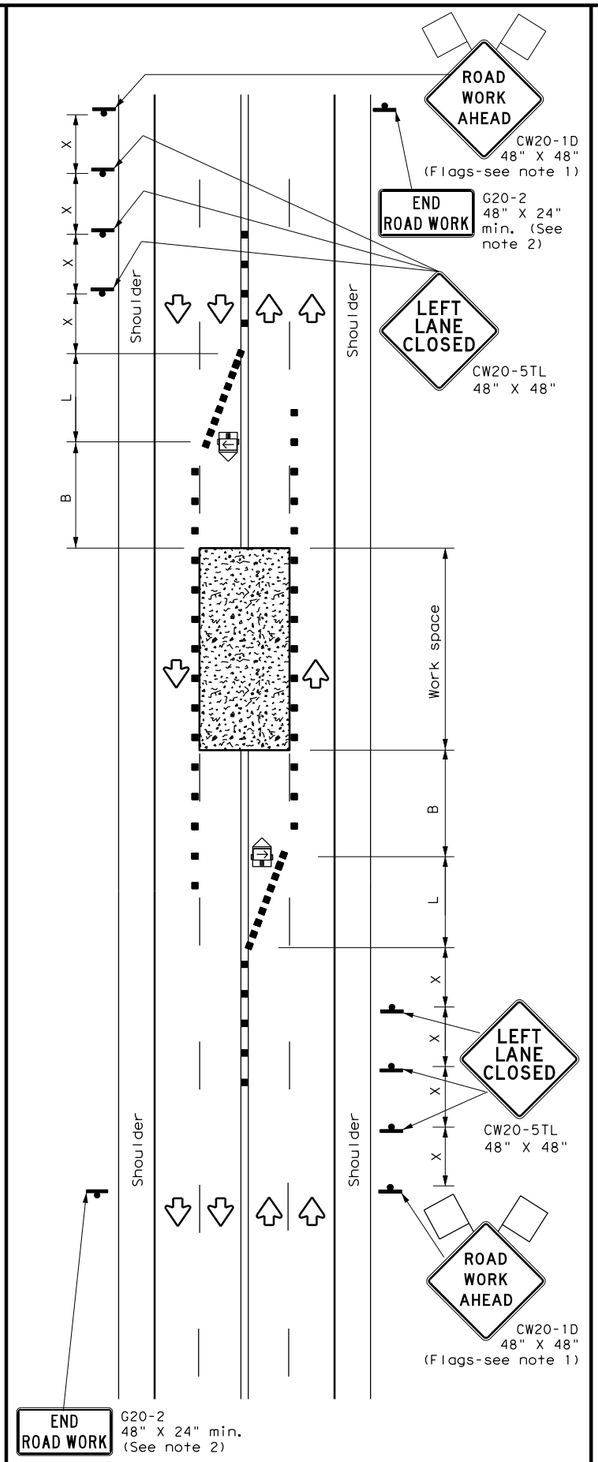
CONTROL W/ CHANNELIZING DEVICES



TCP (SC-2b)

ONE LANE CLOSED EACH DIRECTION

CONTROL W/ CHANNELIZING DEVICES



TCP (SC-2c)

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	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

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

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
3. The ROAD WORK AHEAD (CW20-1D) sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. 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.
5. Temporary rumble strips are not required on seal coat operations.

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

6. Channelizing devices which separate two-way traffic shall be spaced on tapers at:
   a.) 20 feet;
   b.) 15 feet when posted speeds are 35 mph or slower; or
   c.) 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 SEALCOAT OPERATIONS MULTILANE ROADS (UNDIVIDED)

TCP(SC-2)-22

FILE:	tcpsc-2-22.dgn	DN:	CK:	DW:	CK:
©TxDOT	October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS		0026	02	039, ETC	US 90, ETC
4-21		DIST	COUNTY		SHEET NO.
10-22		YKM	FAYETTE, ETC		136

DATE: $DATE$ $TIME$
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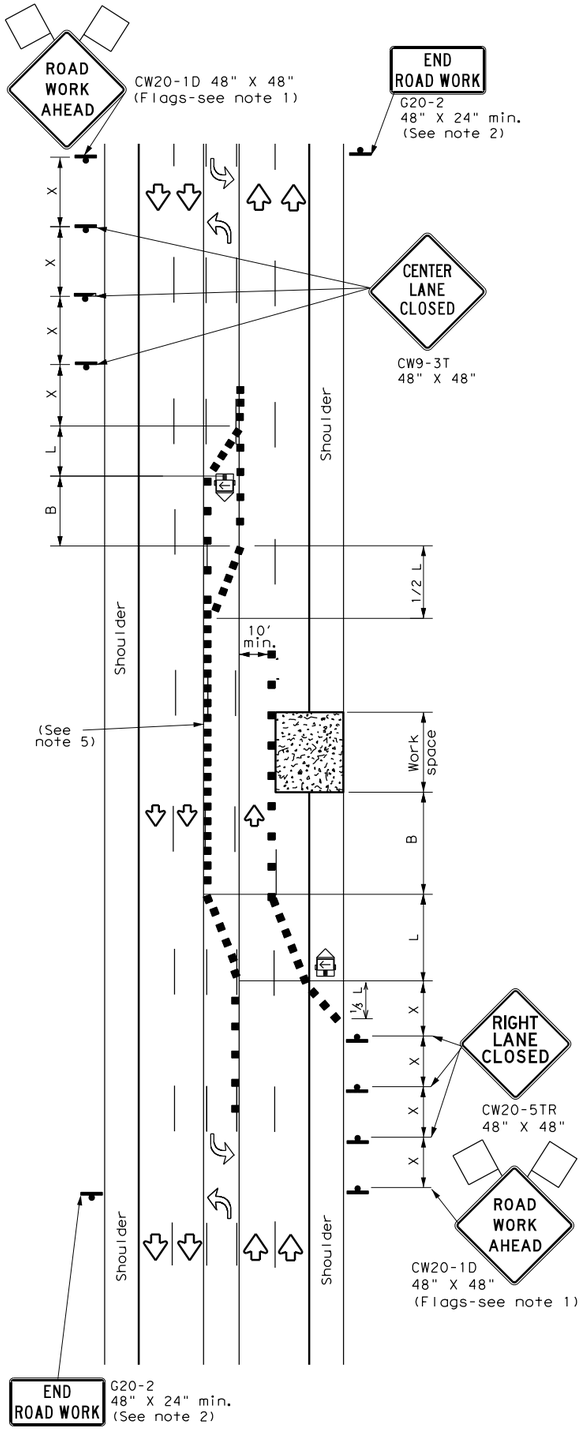
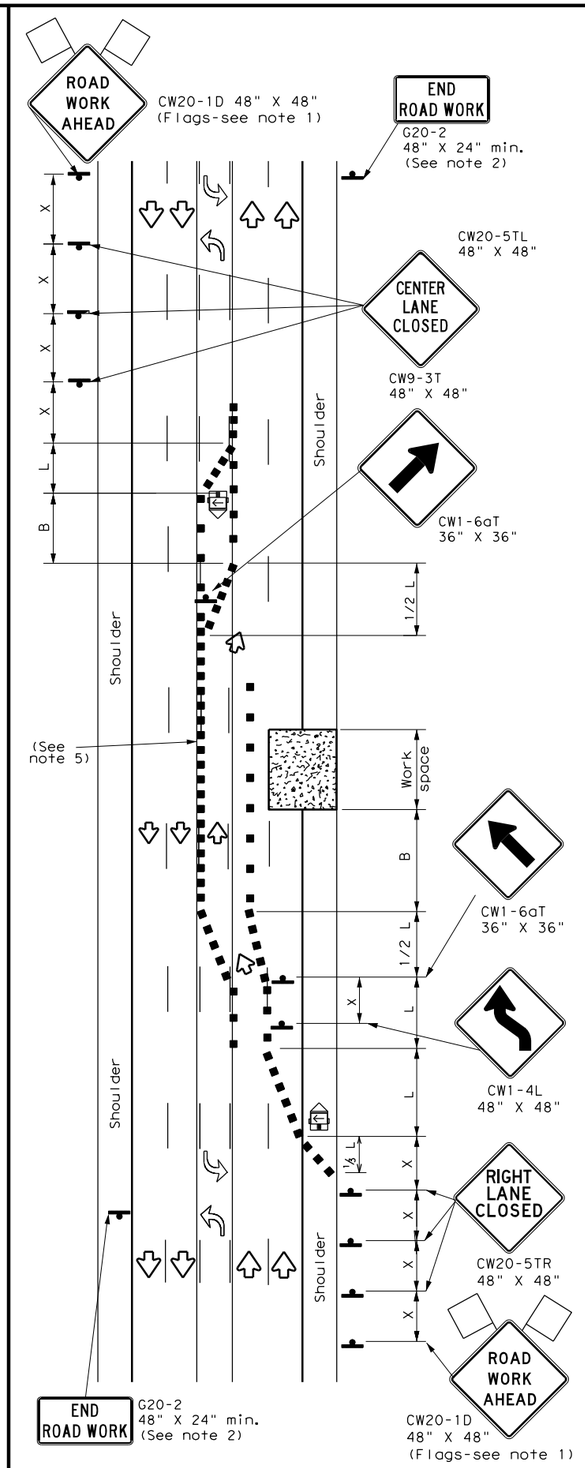
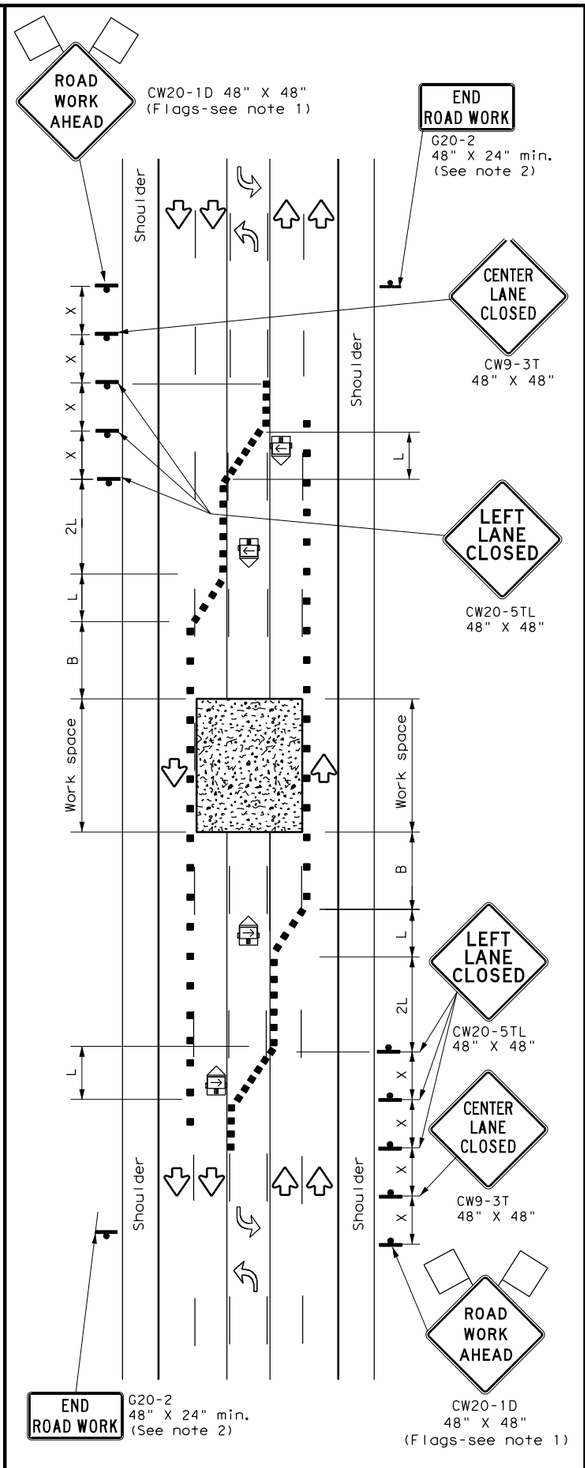
DATE: $DATE$
FILE: $FILE$
$TIME$



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

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
3. 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.
4. Temporary rumble strips are not required on seal coat operations.

TCP (SC-3a) and (SC-3b)

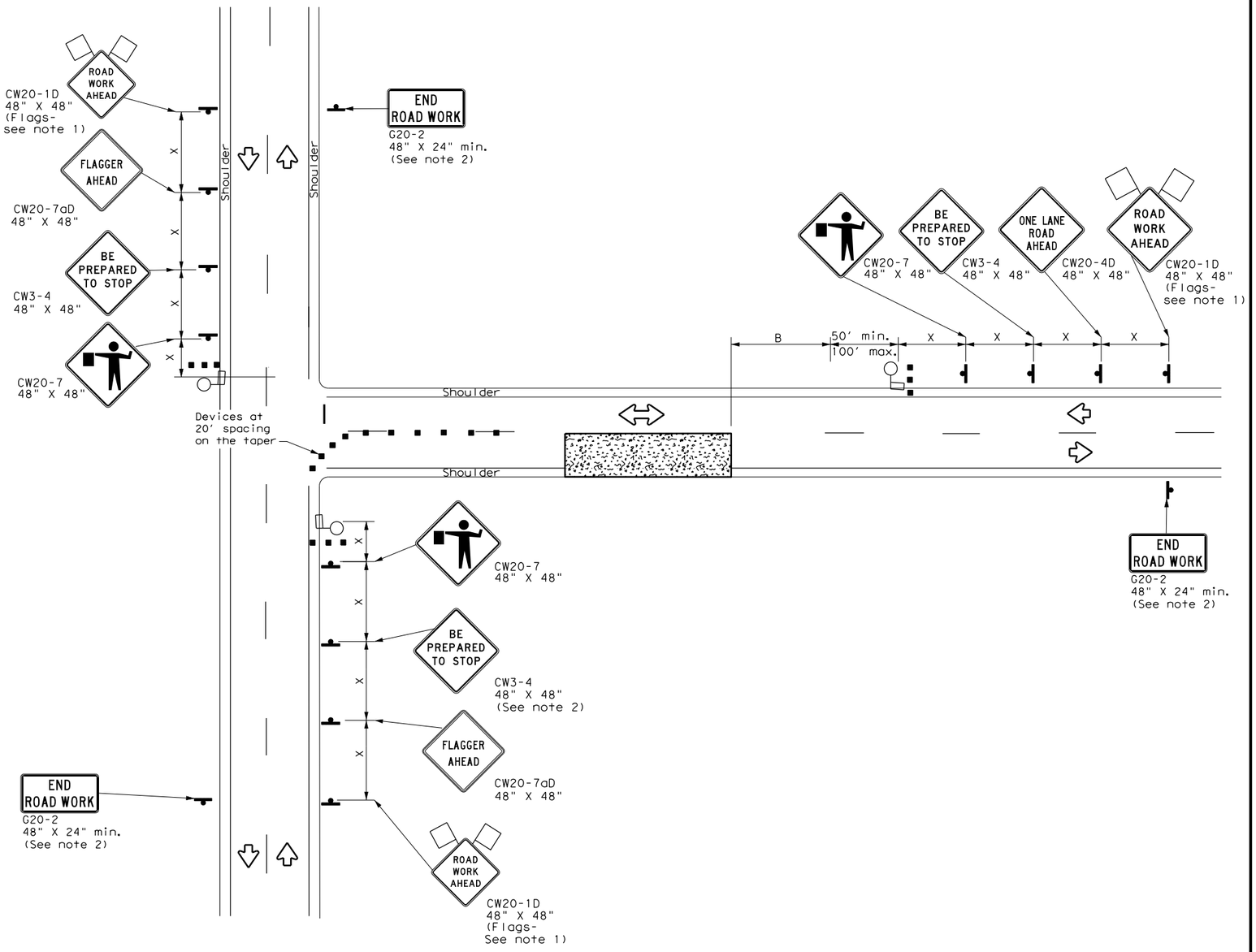
5. Channelizing devices which separate two-way traffic shall be spaced on tapers at:
   a.) 20 feet;
   b.) 15 feet when posted speeds are 35 mph or slower; or
   c.) at 1/2(S) for tangent sections.
   This tighter device spacing is intended for the areas of conflicting markings, not the entire work 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	DN:	CK:	DW:	CK:
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
4-21	DIST	COUNTY		SHEET NO.
10-22	YKM	FAYETTE, ETC		137



ONE LANE TWO-WAY (T-INTERSECTION) CONTROL WITH PILOT VEHICLE

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

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

* Conventional Roads Only

** Taper lengths have been rounded off.

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except: if project signing is present, END ROAD WORK (G20-2) sign is optional with approval by the Engineer.
3. Flaggers should use two-way radios or other methods of communication at all times for traffic control coordination.
4. Flaggers should use 24" STOP (CW20-8) / SLOW (CW20-8aT) paddles to control traffic. Flags should be limited to emergency situations.
5. 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).
6. Temporary rumble strips are not required on seal coat operations.
7. 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.

Texas Department of Transportation | Traffic Safety Division Standard

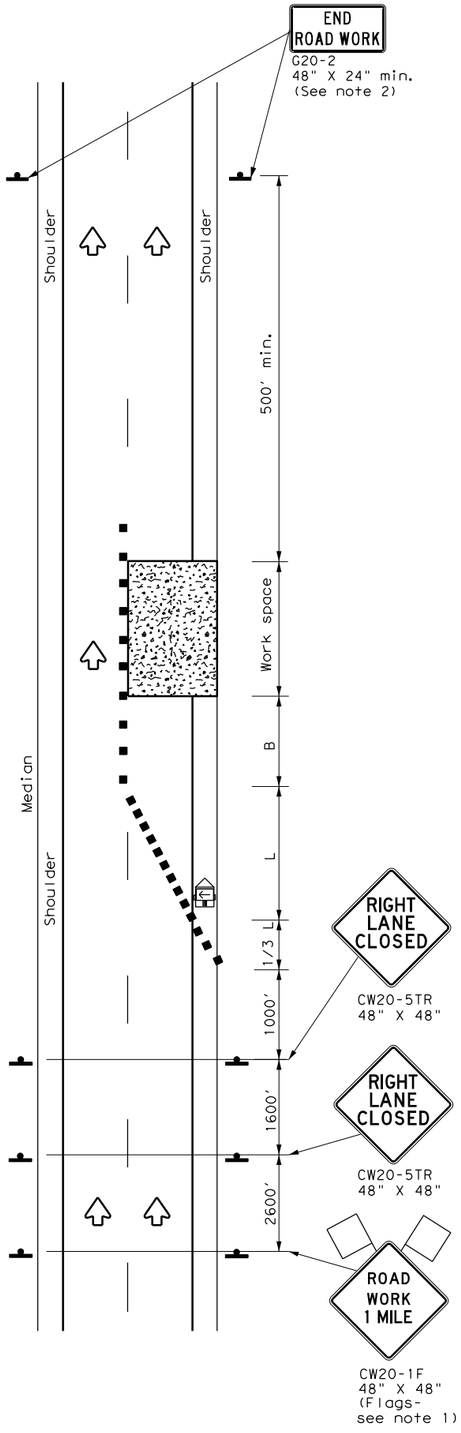
TRAFFIC CONTROL PLAN SEAL COAT OPERATIONS NEAR INTERSECTION

TCP(SC-4)-22

FILE: tcpsc-4-22.dgn	DN:	CK:	DW:	CK:
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-21 10-22	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		138

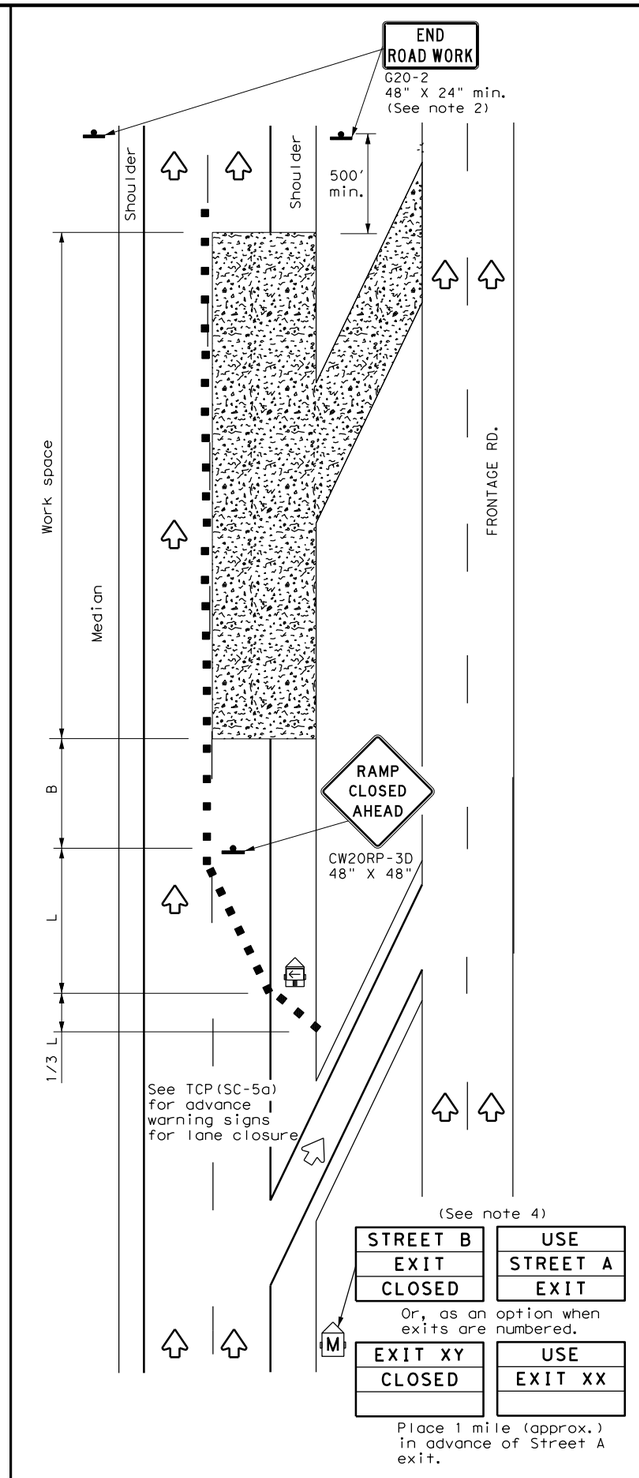
220

DATE: $DATE$ $TIME$
FILE: $FILE$



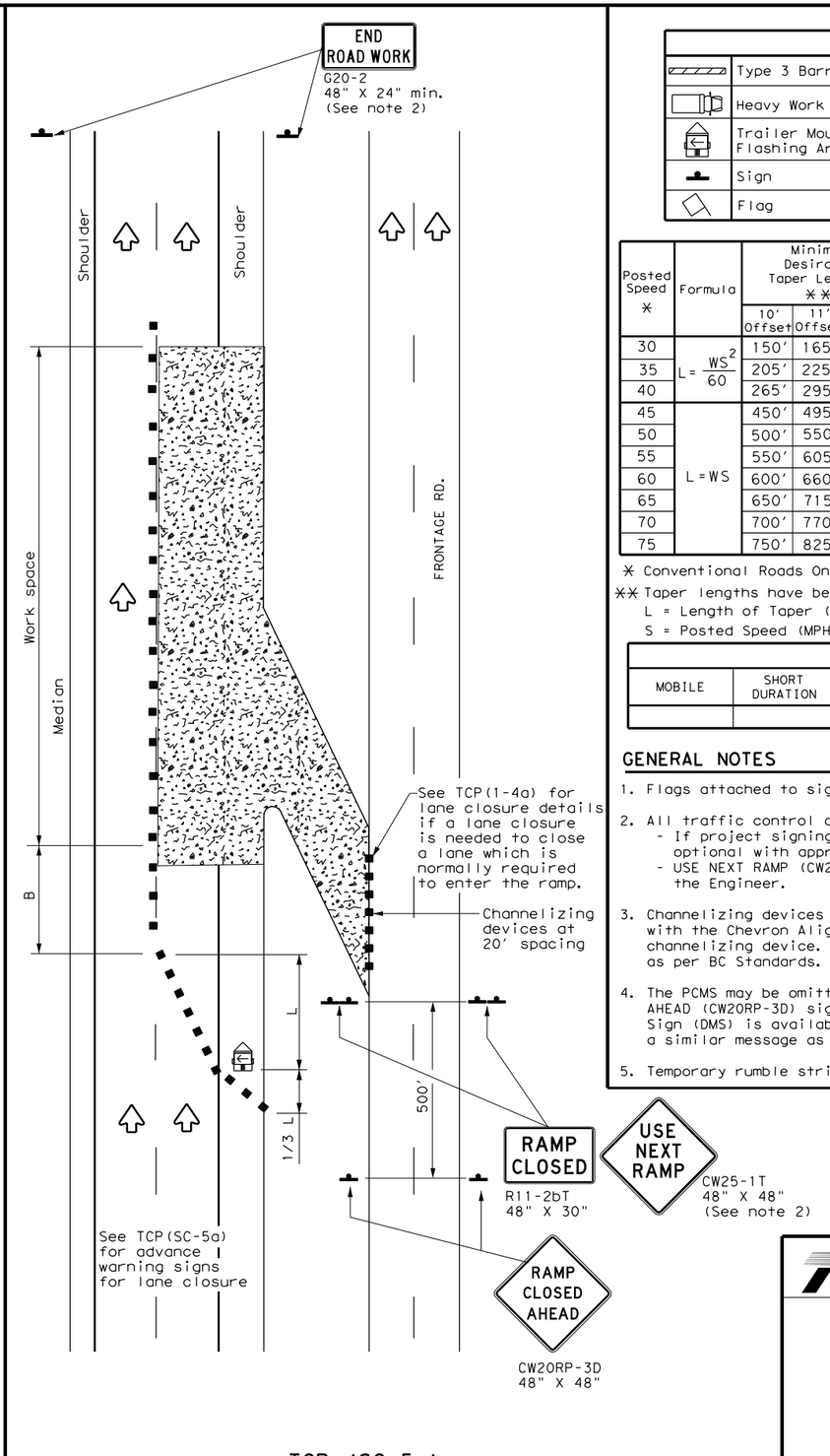
TCP (SC-5a)

ONE LANE CLOSURE



TCP (SC-5b)

LANE AND RAMP CLOSURE AT EXIT RAMPS



TCP (SC-5c)

LANE AND RAMP CLOSURE AT ENTRANCE RAMPS

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except:
   - 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.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. 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.
5. Temporary rumble strips are not required on seal coat operations.

Texas Department of Transportation — Traffic Safety Division Standard

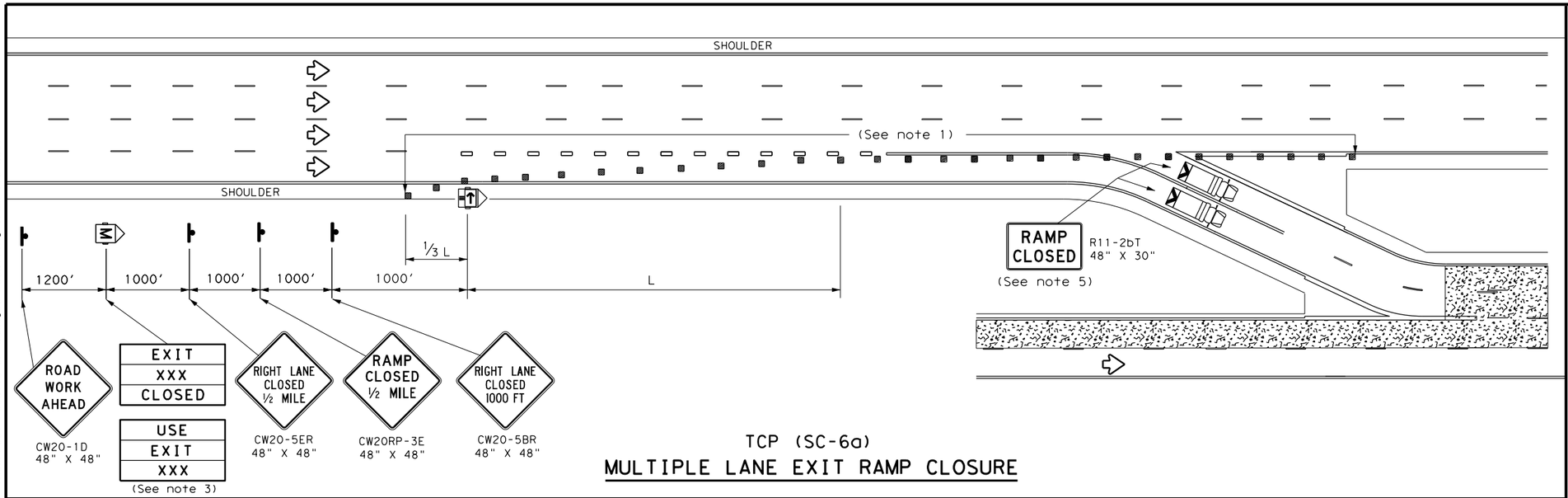
TRAFFIC CONTROL PLAN SEAL COAT OPERATIONS DIVIDED HIGHWAYS

TCP(SC-5)-22

FILE: tcpsc-5-22.dgn	DN:	CK:	DW:	CK:
© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-21 10-22	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		139

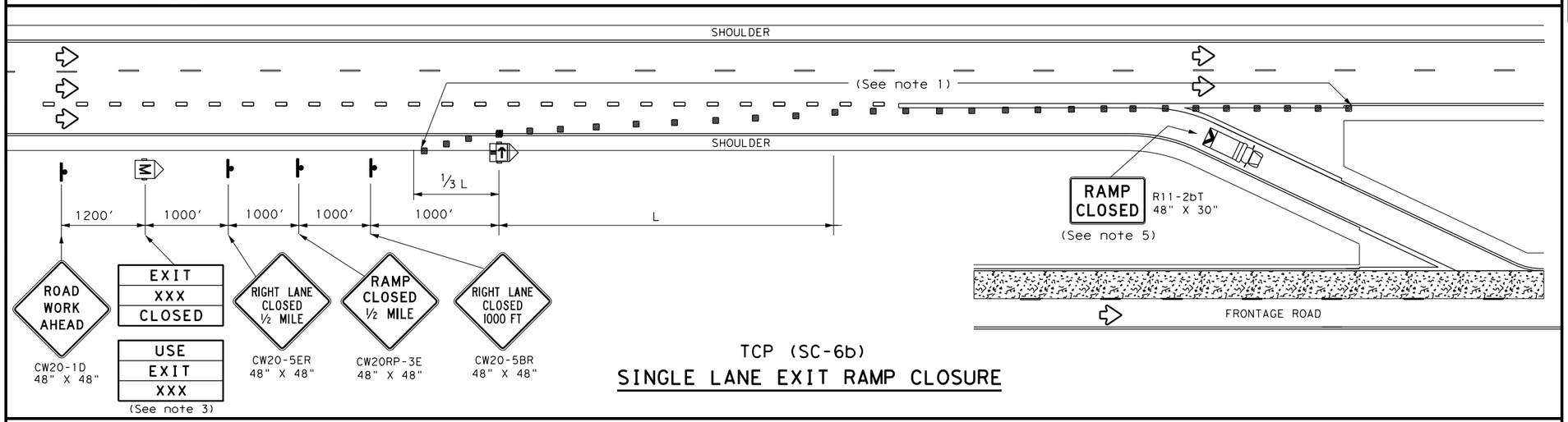
221

DATE: $DATE$ $TIME$
FILE: $FILE$



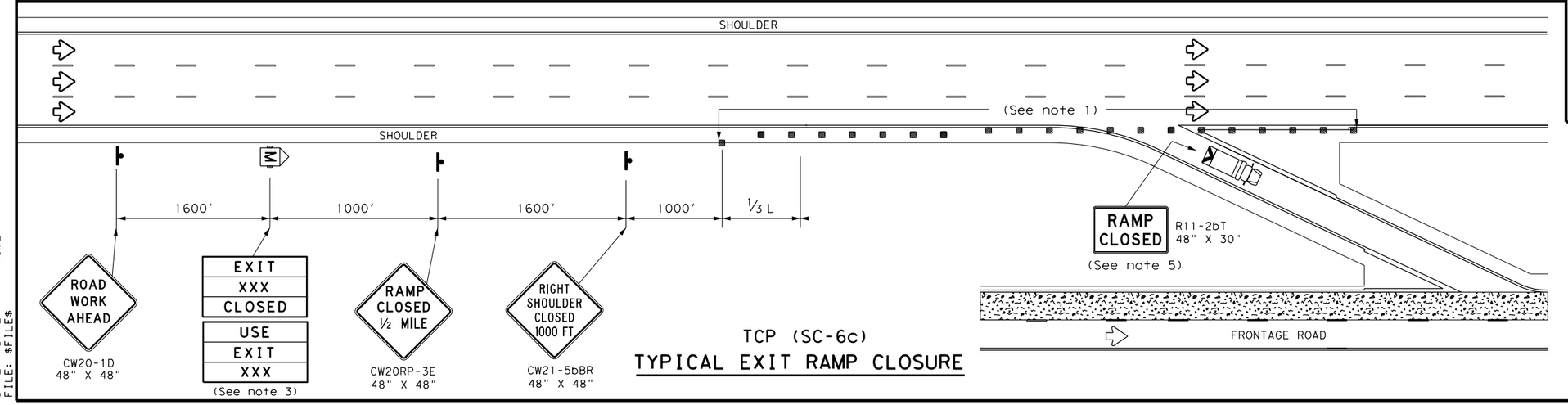
TCP (SC-6a)

MULTIPLE LANE EXIT RAMP CLOSURE



TCP (SC-6b)

SINGLE LANE EXIT RAMP CLOSURE



TCP (SC-6c)

TYPICAL EXIT RAMP CLOSURE

DATE: $DATE$ $TIME$
FILE: $FILE$

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

1. Place channelizing devices at 20′ spacings. Tighter spacing allowed as necessary to address field conditions or observed driver behavior.
2. See the Standard Highway Sign Design for Texas (SHSD) for sign details.
3. 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.
4. 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.
5. 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.

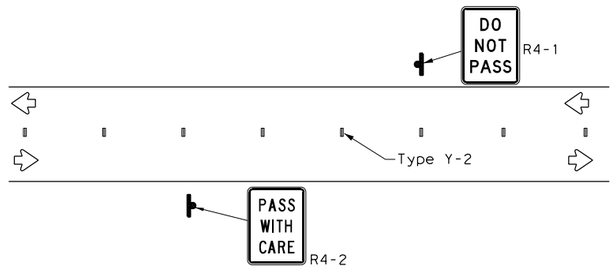
Texas Department of Transportation — Traffic Safety Division Standard

TRAFFIC CONTROL PLAN SEAL COAT OPERATIONS DIVIDED HIGHWAYS

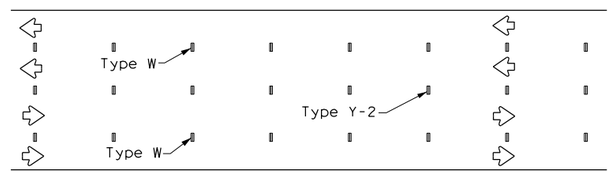
TCP(SC-6)-22

FILE: tcpsc-6-22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 10-22	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		140

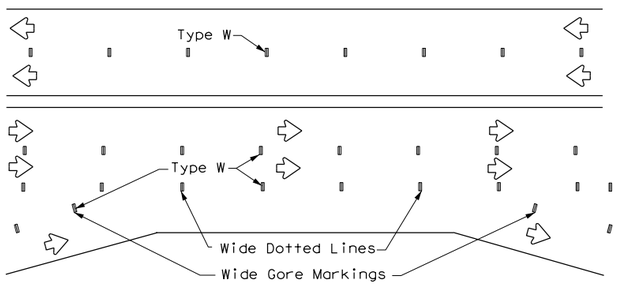
WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS (TABS)



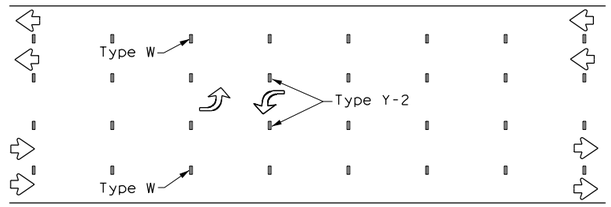
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO LANE TWO-WAY HIGHWAYS



LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS

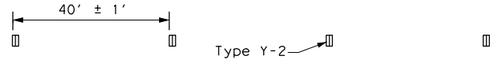
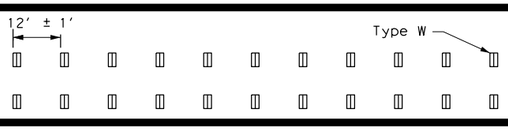


LANE LINES FOR DIVIDED HIGHWAY

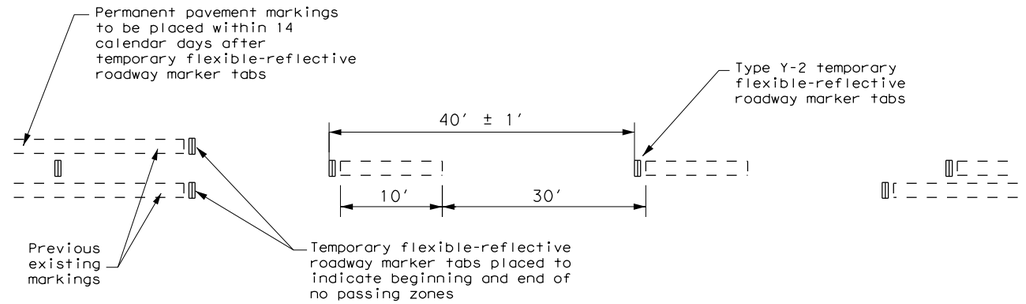


TWO-WAY LEFT TURN LANE

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		

TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS



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.

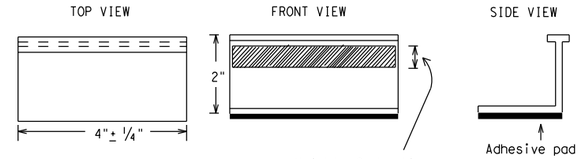
NOTES:

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

TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS



Texas Department of Transportation

Traffic Safety Division Standard

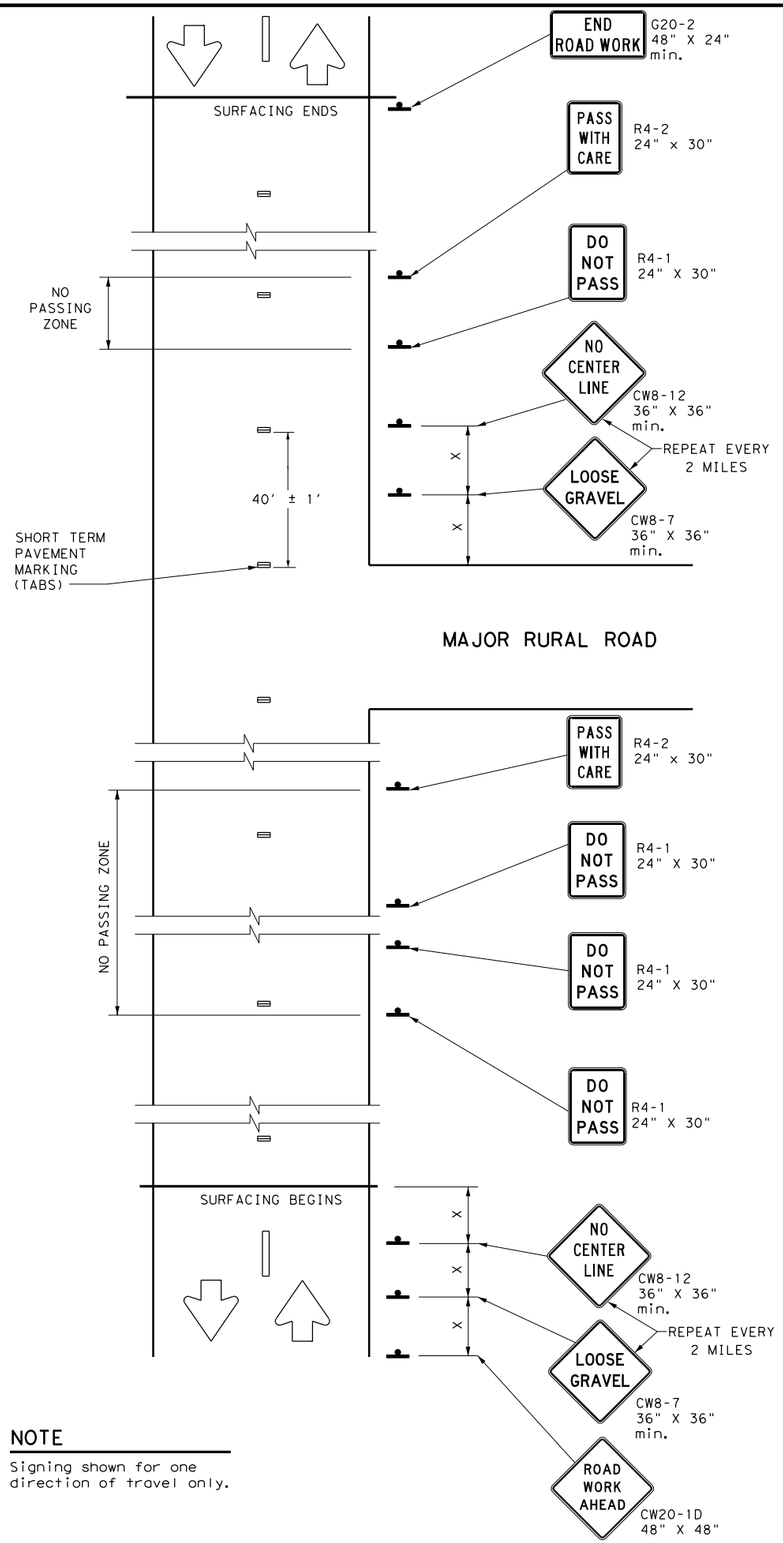
TEMPORARY PAVEMENT MARKINGS FOR SEAL COAT OPERATIONS

TCP(SC-7)-22

FILE:	tcpsc-7-22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS		0026	02	039, ETC	US 90, ETC
4-21		DIST	COUNTY		SHEET NO.
10-22		YKM	FAYETTE, ETC		141

223

DATE: $DATE$
FILE: $FILE$



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 prohibitd 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.

Texas Department of Transportation

Traffic Safety Division Standard

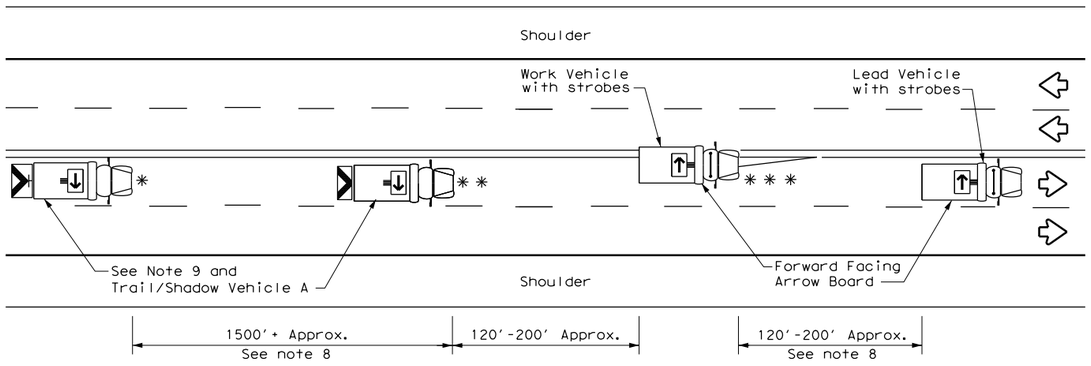
TRAFFIC CONTROL DETAILS FOR SEAL COAT OPERATIONS

TCP(SC-8)-22

FILE: tcpsc-8-22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-21 10-22	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		142

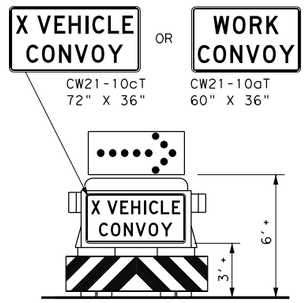
224

DATE: $DATE$ $TIME$
FILE: $FILE$



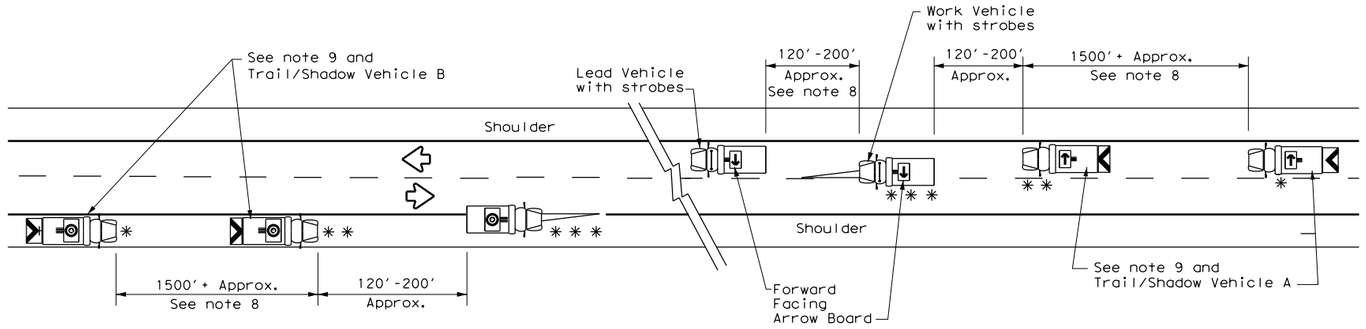
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

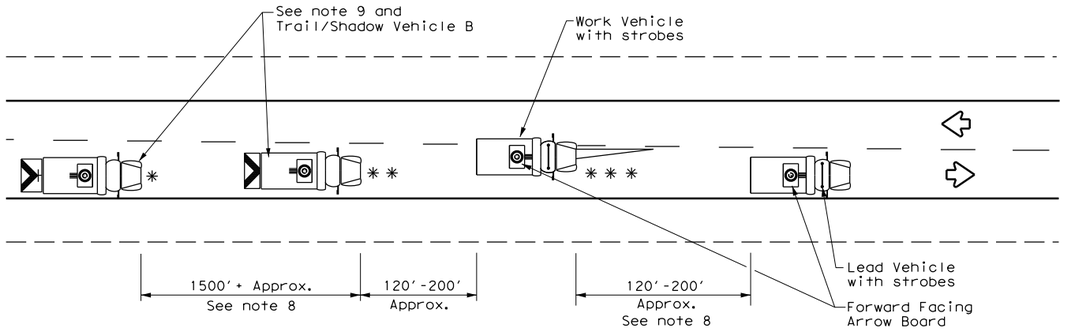


WORK ON SHOULDER

WORK ON TRAVEL LANE

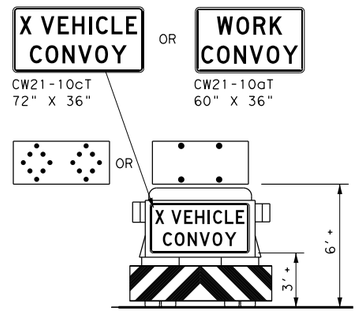
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

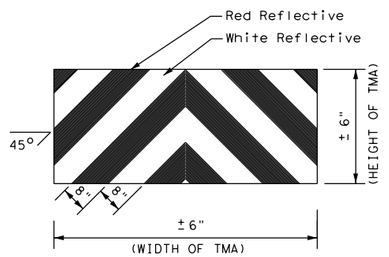
with Flashing Arrow Board in CAUTION display

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

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

GENERAL NOTES

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



STRIPING FOR TMA

Texas Department of Transportation

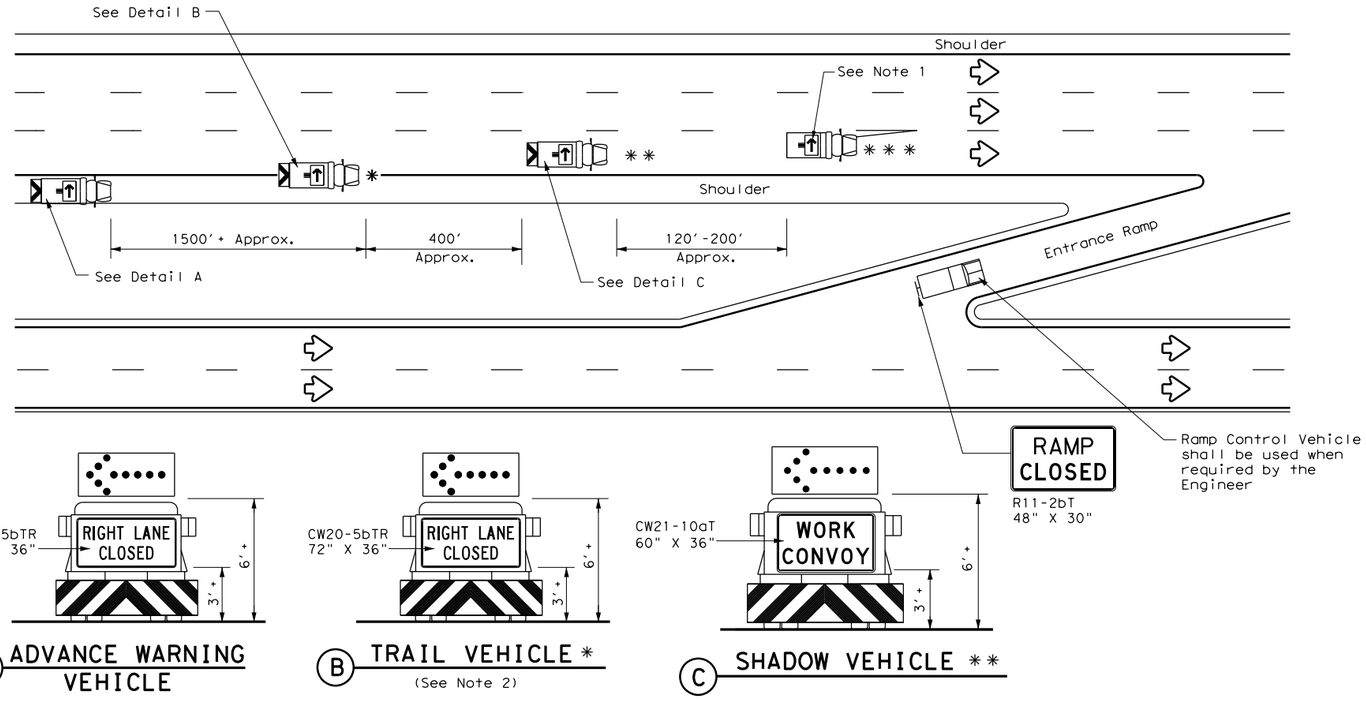
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS UNDIVIDED HIGHWAYS

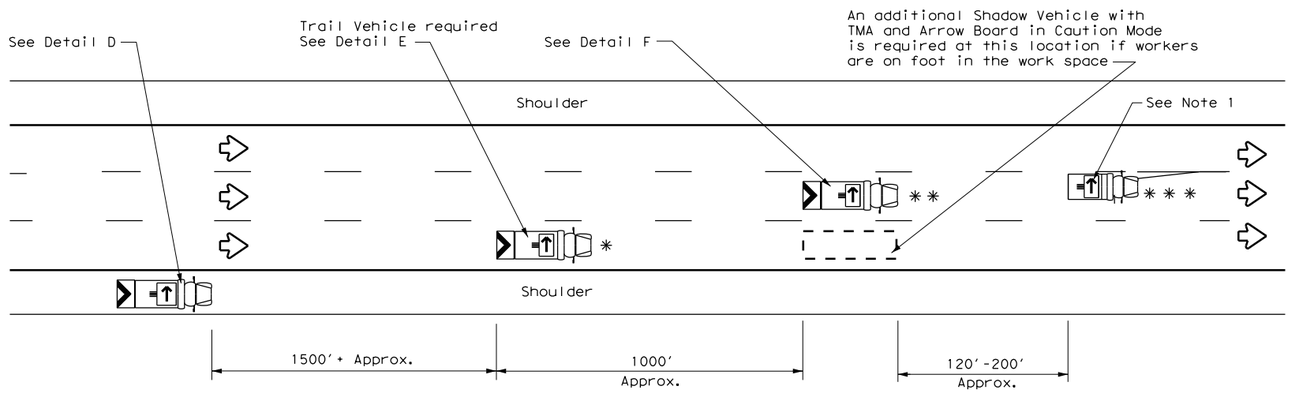
TCP(3-1)-13

FILE: tcp3-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		143

DATE: $DATE$ $TIME$
FILE: $FILE$



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



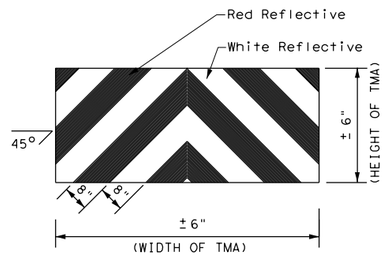
INTERIOR LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY - TCP(3-2b)

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

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

GENERAL NOTES

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



STRIPING FOR TMA

Texas Department of Transportation

Traffic Operations Division Standard

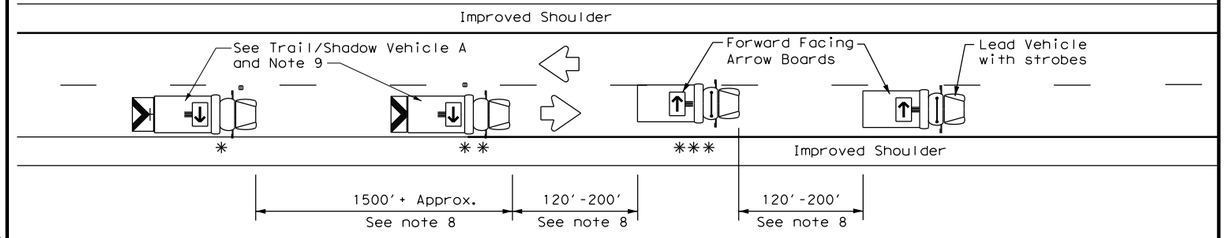
TRAFFIC CONTROL PLAN MOBILE OPERATIONS DIVIDED HIGHWAYS

TCP(3-2)-13

FILE: tcp3-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		144

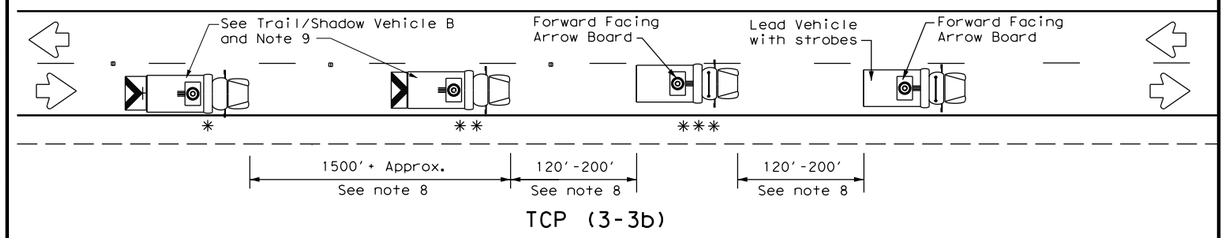
176

DATE: $DATE$ $TIME$
FILE: $FILE$



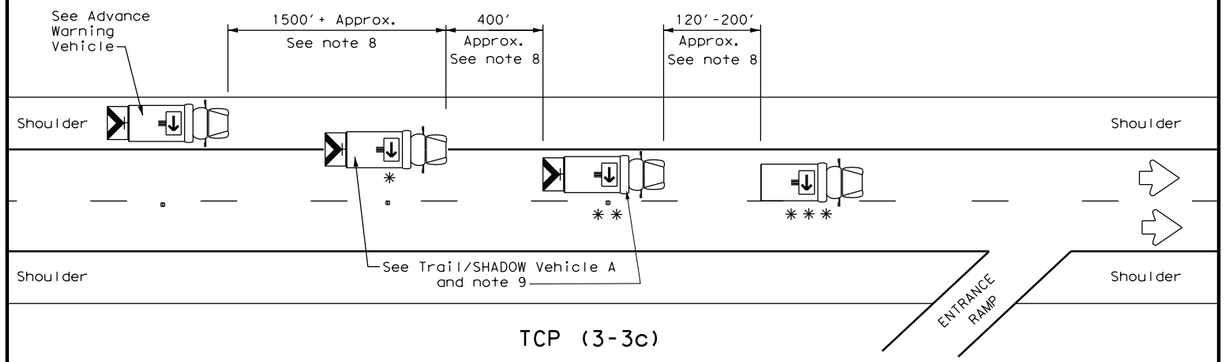
TCP (3-3a)

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



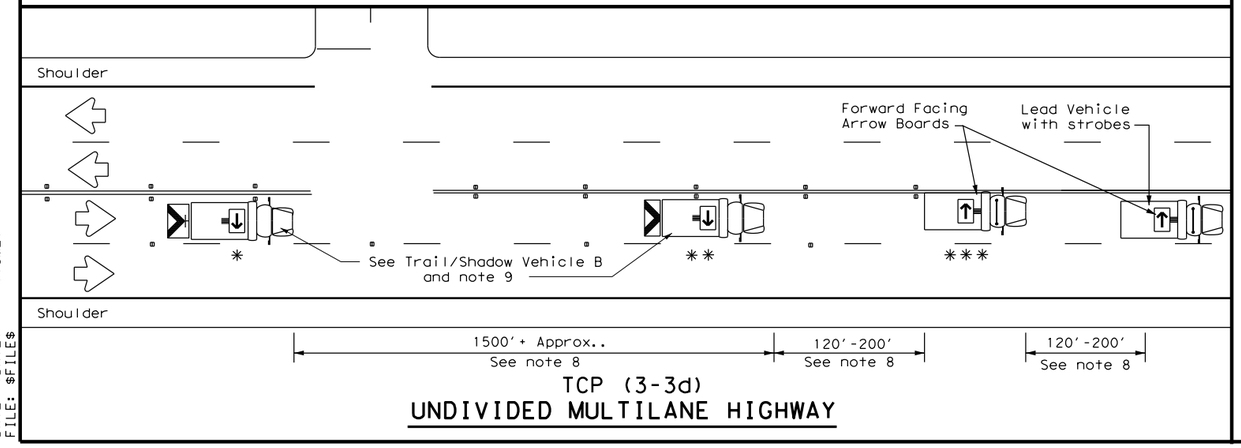
TCP (3-3b)

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



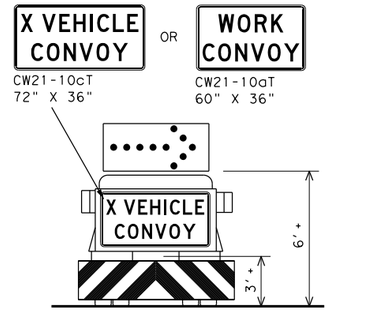
TCP (3-3c)

DIVIDED MULTILANE HIGHWAY



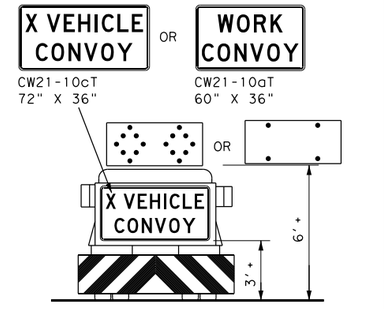
TCP (3-3d)

UNDIVIDED MULTILANE HIGHWAY



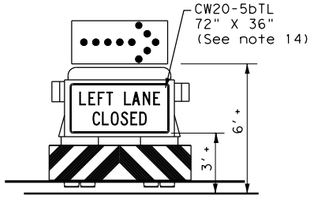
TRAIL/SHADOW VEHICLE A

with RIGHT Directional display
Flashing Arrow Board

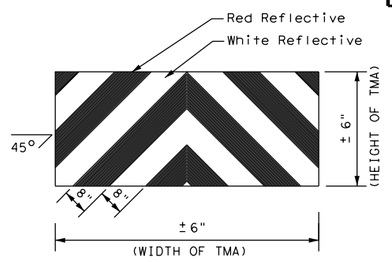


TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board
in Caution Mode



ADVANCE WARNING VEHICLE



STRIPING FOR TMA

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

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

GENERAL NOTES

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

Texas Department of Transportation

Traffic Operations Division Standard

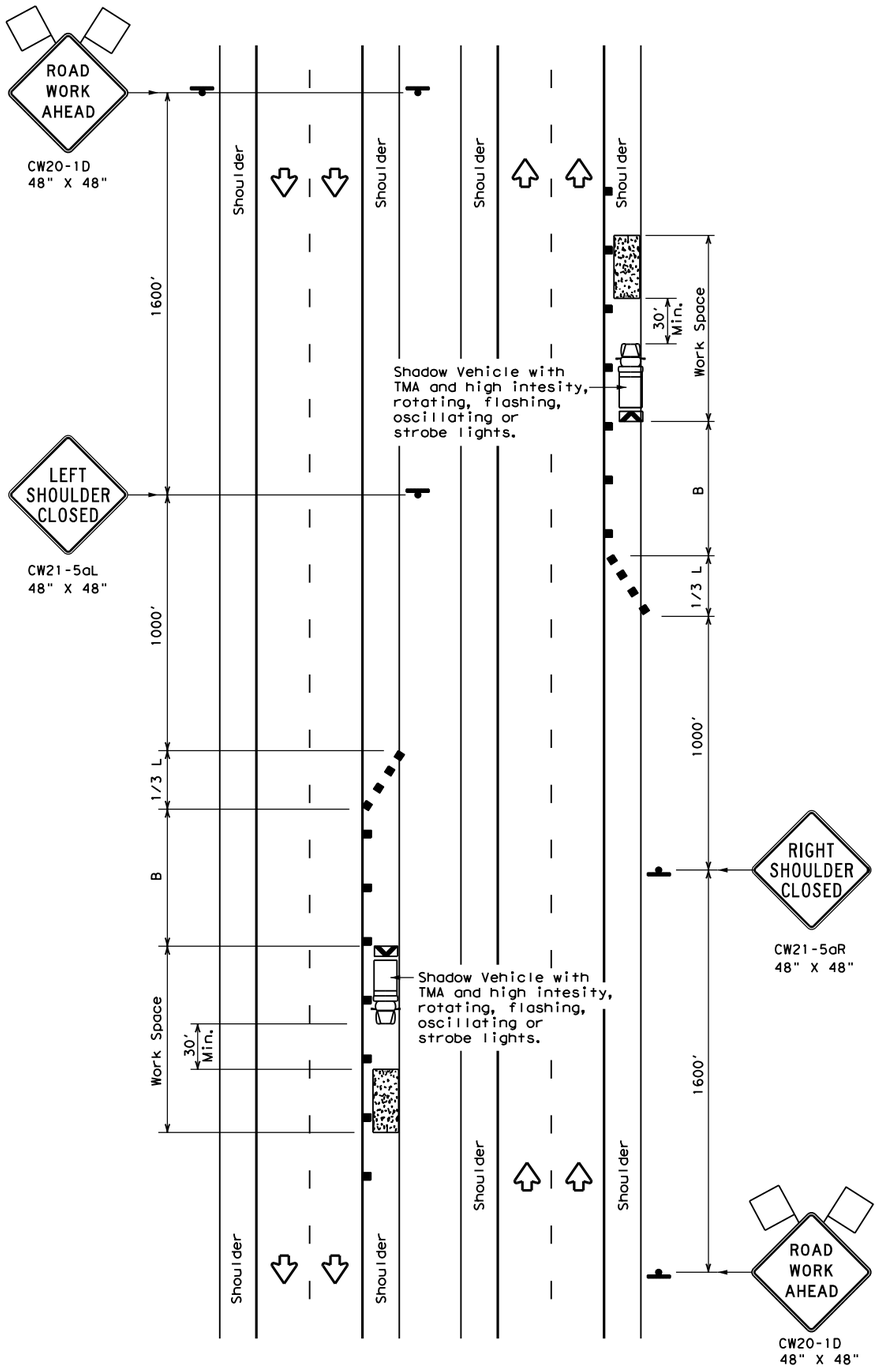
TRAFFIC CONTROL PLAN MOBILE OPERATIONS RAISED PAVEMENT MARKER INSTALLATION/ REMOVAL

TCP(3-3)-14

FILE: tcp3-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 7-13	YKM	FAYETTE, ETC		145
1-97 7-14				

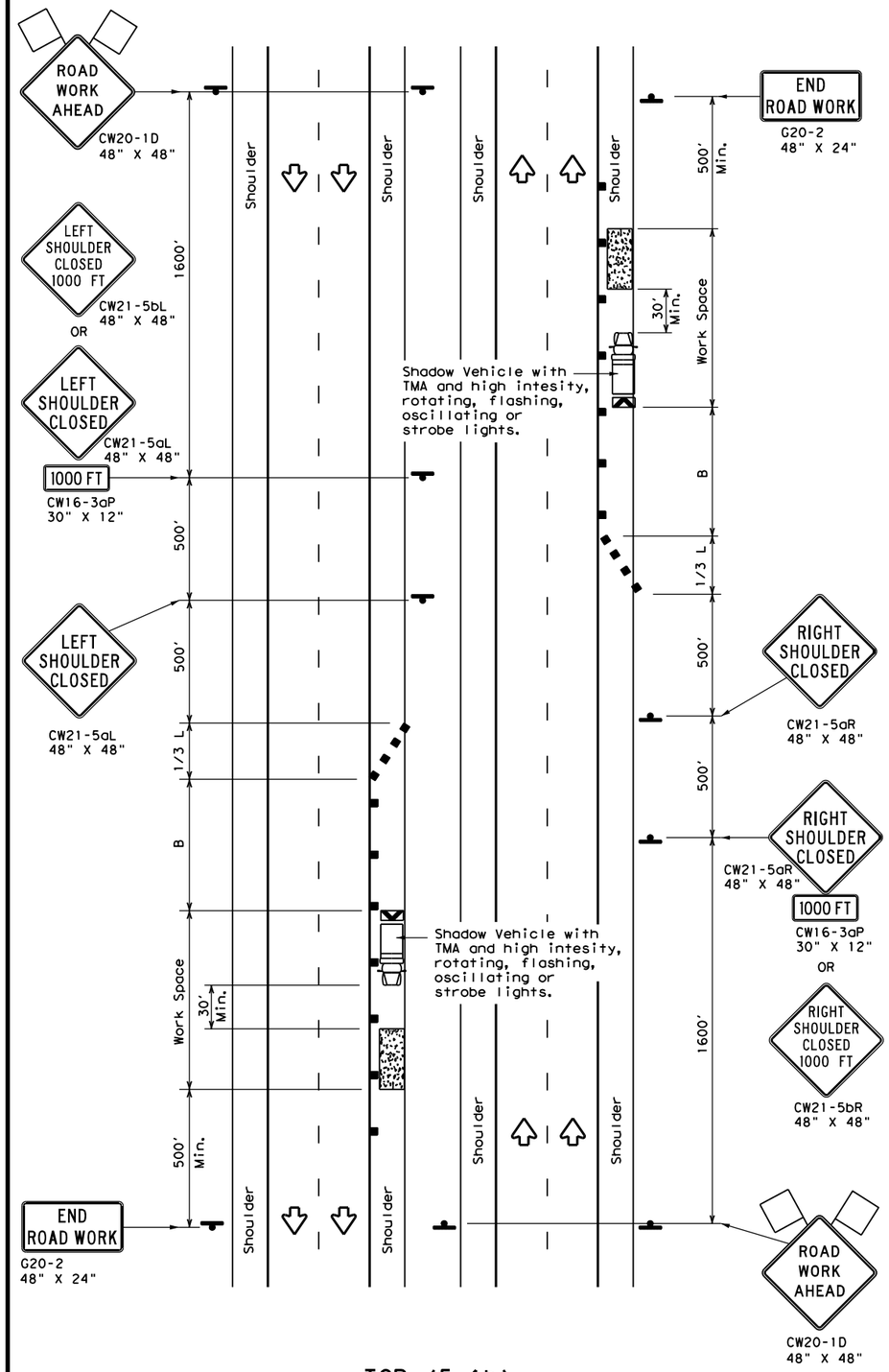
177

$TIME$
DATE: $DATE$
FILE: $FILE$



TCP (5-1a)

WORK AREA ON SHOULDER



TCP (5-1b)

WORK AREA ON SHOULDER

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

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

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

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

GENERAL NOTES

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

Texas Department of Transportation

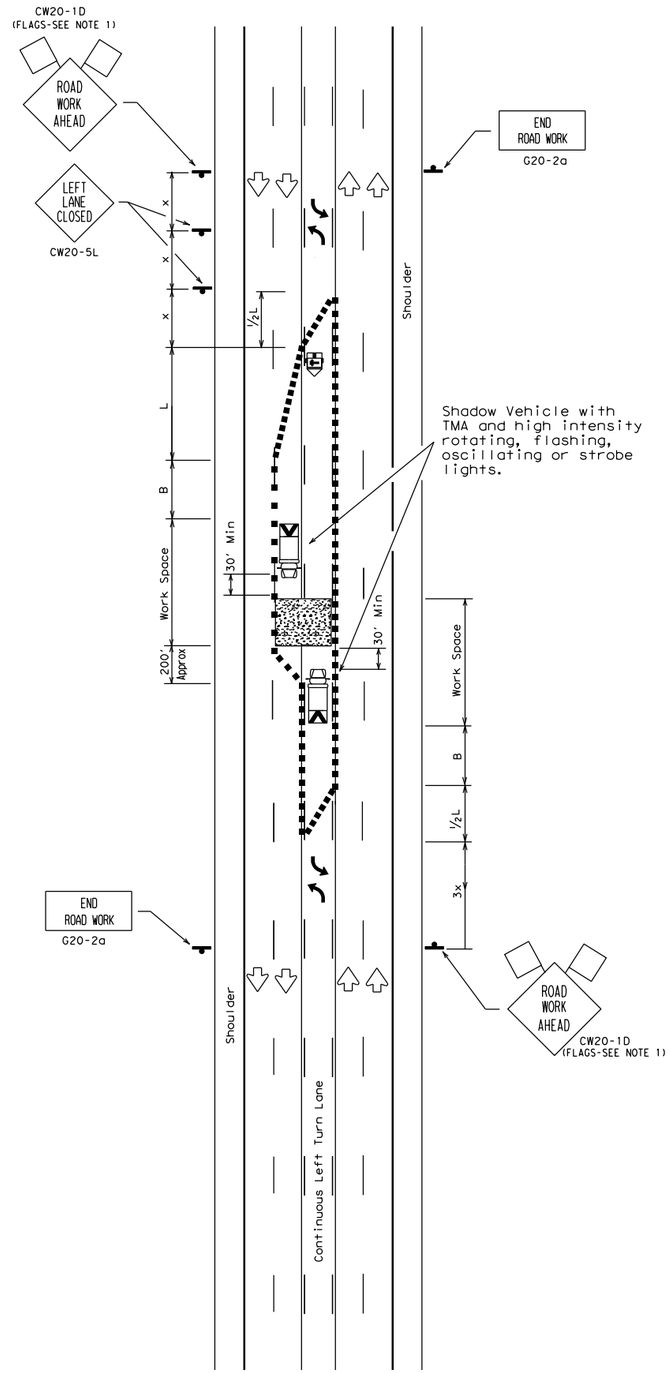
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN SHOULDER WORK FOR FREEWAYS / EXPRESSWAYS

TCP(5-1)-18

FILE: tcp5-1-18.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-18	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		146

DATE: $DATE$ $TIME$
FILE: $FILE$



Left Turn
Lane Closed

SEE BC(2) FOR CONSTRUCTION
WARNING SIGN SIZES

DATE TIME
DOCUMENT NAME

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

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

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. For short term applications, when post mounted signs are not used, the distance legend may be shown on the sign face rather than on a CW16-3aP supplemental plaque.
3. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
4. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

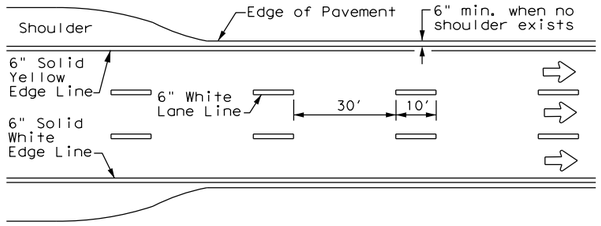
The requirement for shadow vehicles will be listed in the project GENERAL NOTES, Item 502, Barricades, Signs and Traffic Handling.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION

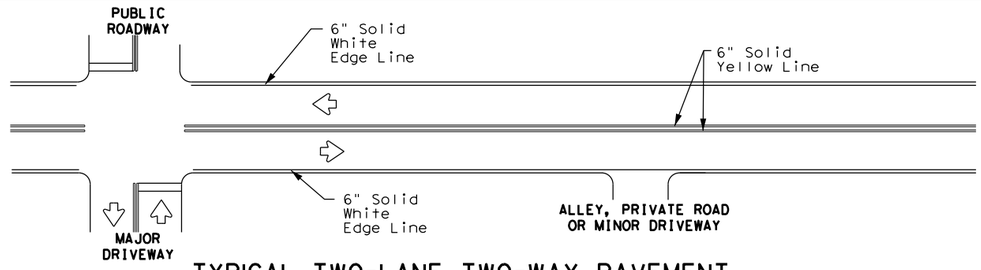
(YKM DISTRICT)
TRAFFIC CONTROL PLAN

Left Turn
Lane Closed

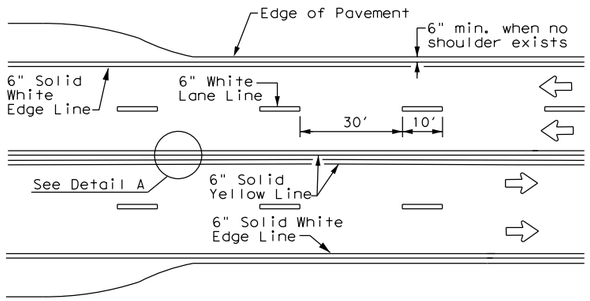
FILE:	DN: TxDOT	CK:	DW:	CK:
© TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		147

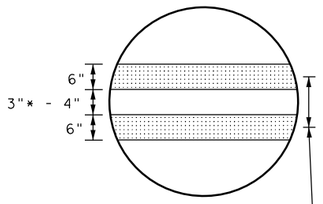


EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



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

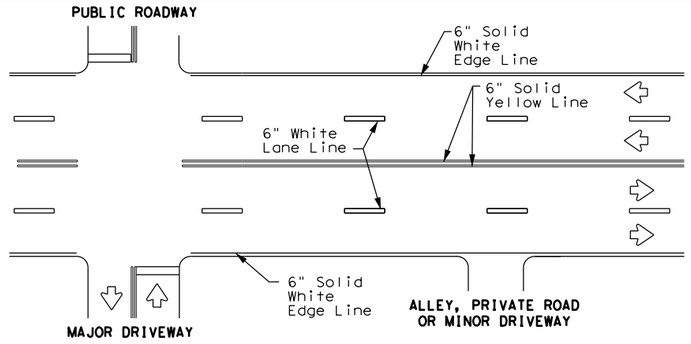




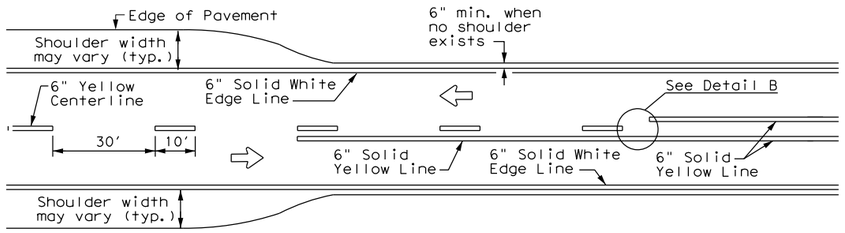
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

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

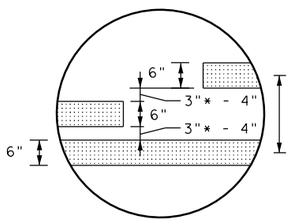
** 8" minimum for restripe projects when approved by the Engineer.



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

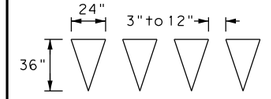


TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

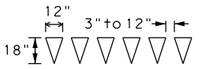


DETAIL "B"

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

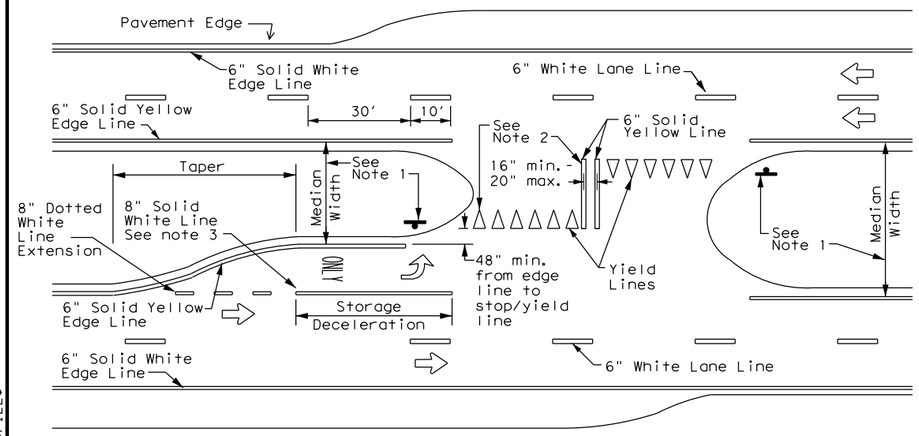


For posted speed on road being marked equal to or greater than 45 MPH.



For posted speed on road being marked equal to or less than 40 MPH.

YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

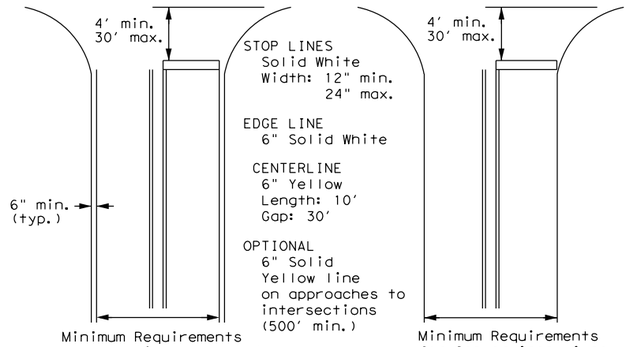
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

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

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



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways

Texas Department of Transportation

Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

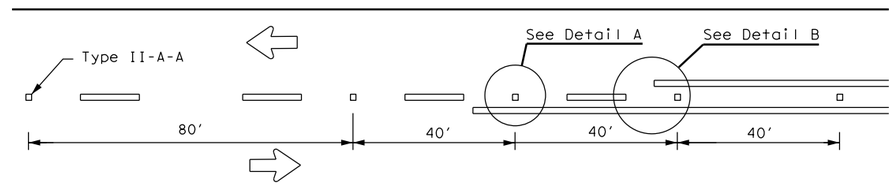
PM(1)-22

FILE: pm1-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 11-78 8-00 6-20	0026	02	039, ETC	US 90, ETC
8-95 3-03 12-22	DIST	COUNTY		SHEET NO.
5-00 2-12	YKM	FAYETTE, ETC		148

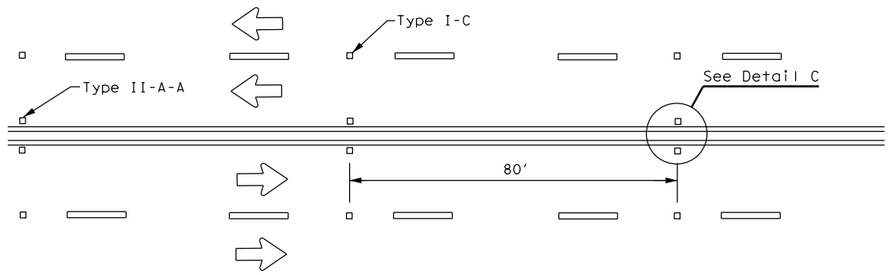
22A

DATE: $DATE$ $TIME$
FILE: $FILE$

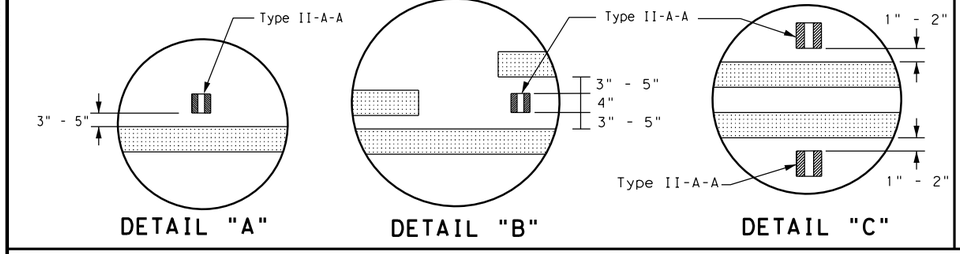
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

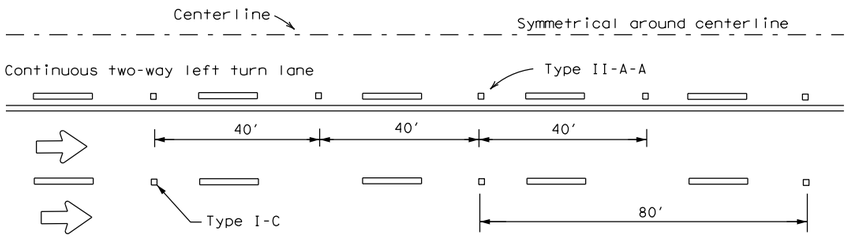


CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS

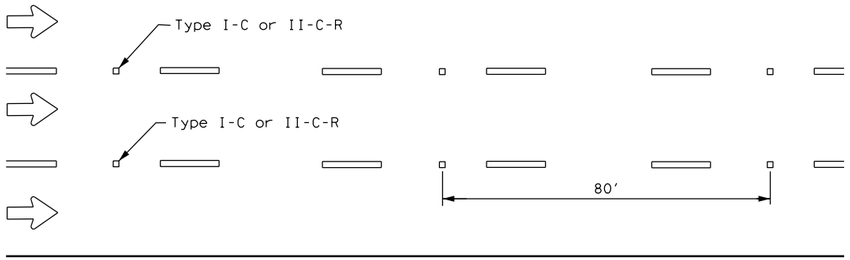


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY ROADWAYS





CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



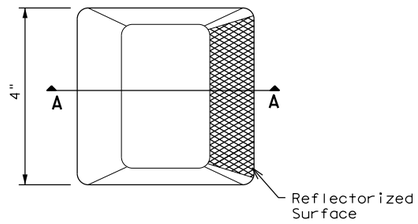
LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

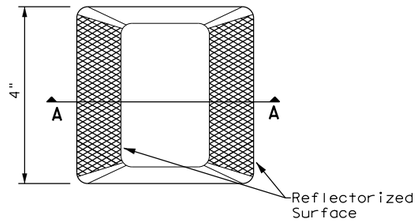
See Note 3.

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

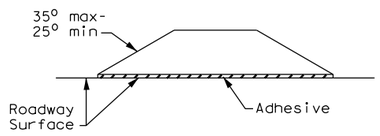
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)

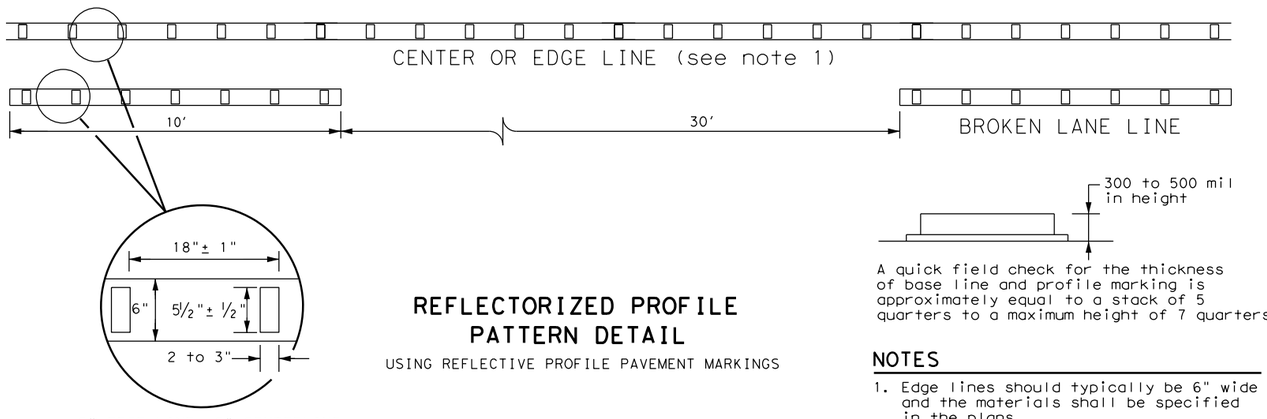


Type II (Top View)



SECTION A

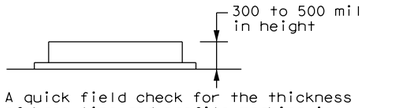
RAISED PAVEMENT MARKERS



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

REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

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

GENERAL NOTES

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

Texas Department of Transportation

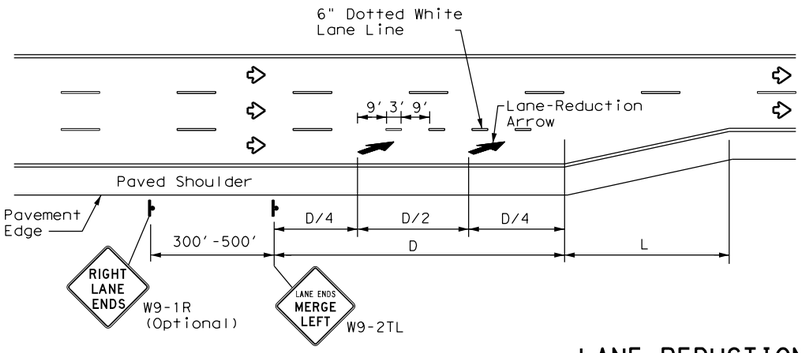
Traffic Safety Division Standard

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

FILE: pm2-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-77 8-00 6-20 4-92 2-10 12-22 5-00 2-12	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		149

22B

DATE: $DATE$ $TIME$
FILE: $FILE$

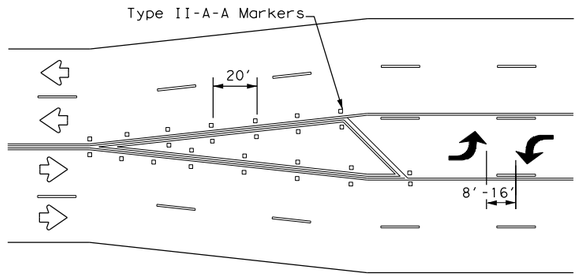


LANE REDUCTION

NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

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



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

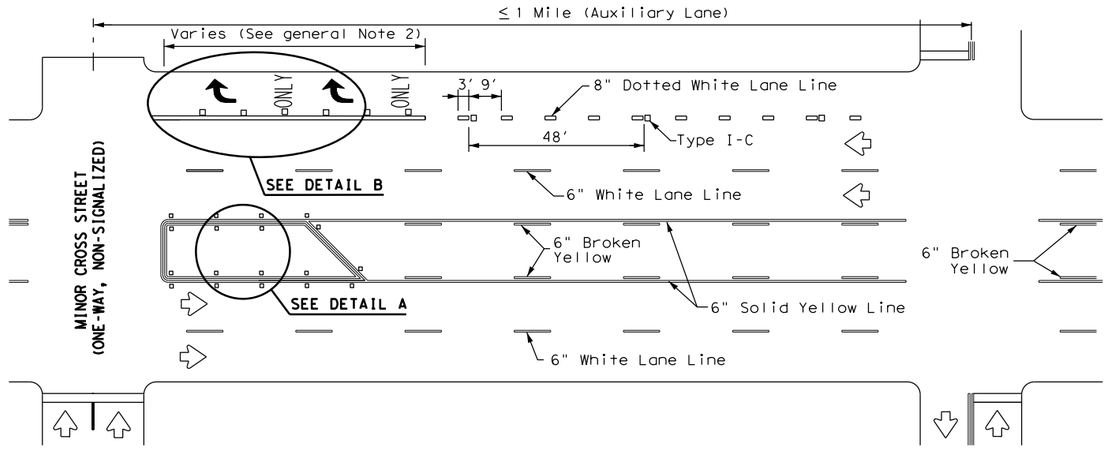
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

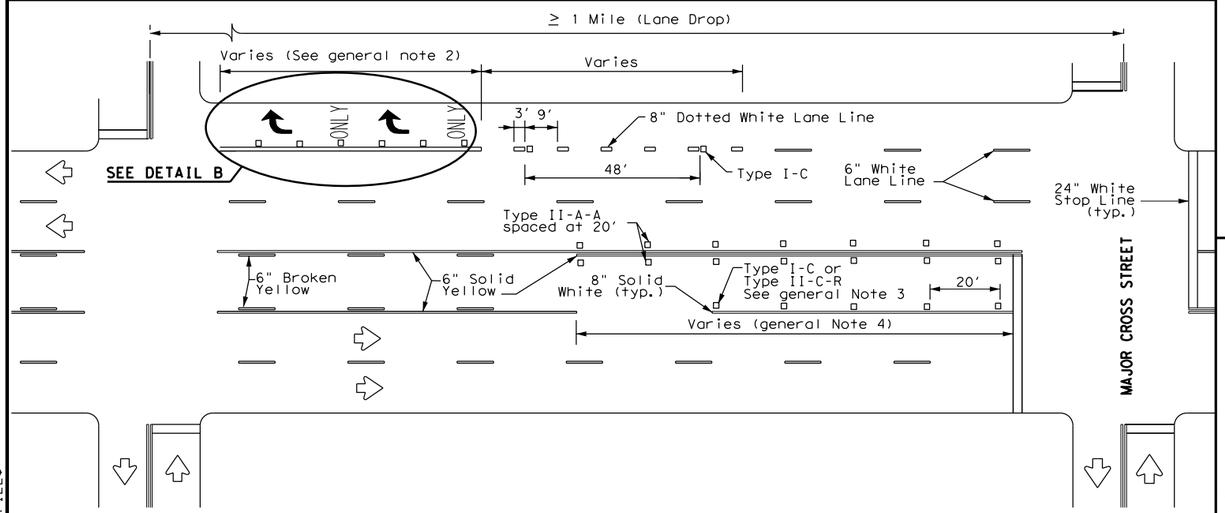
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

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

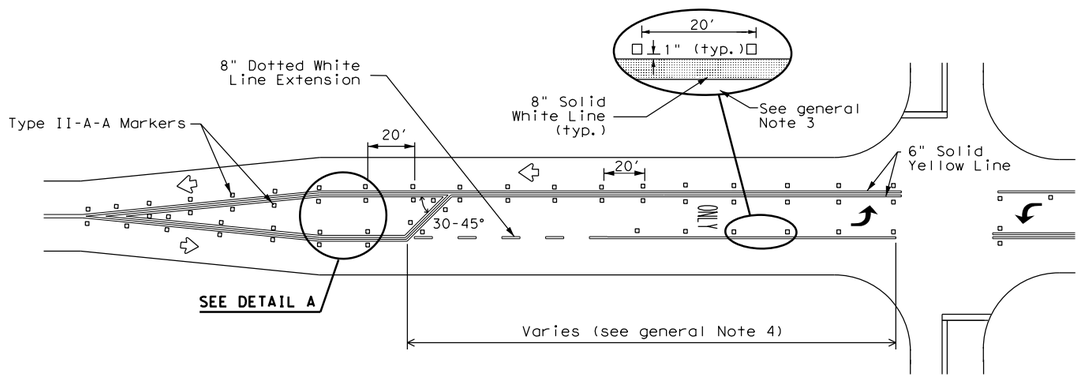
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



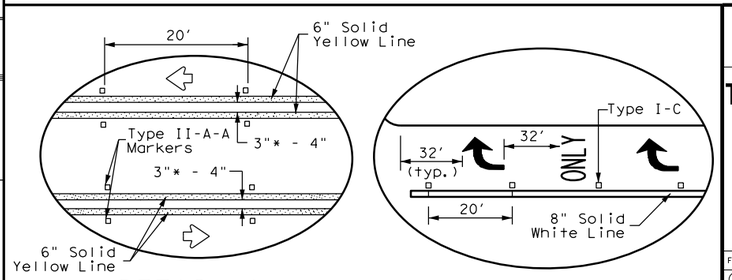
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



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



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



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

Texas Department of Transportation

Traffic Safety Division Standard

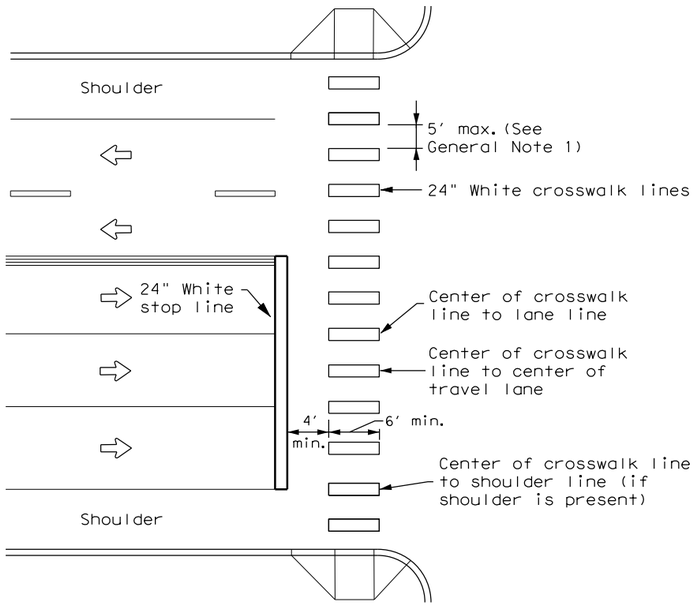
TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

PM(3)-22

FILE: pm3-22.dgn	DN:	CK:	DW:	CK:
©TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-98 3-03 6-20	0026	02	039, ETC	US 90, ETC
5-00 2-10 12-22	DIST	COUNTY		SHEET NO.
8-00 2-12	YKM	FAYETTE, ETC		150

22C

DATE: $DATE$ $TIME$
FILE: $FILE$



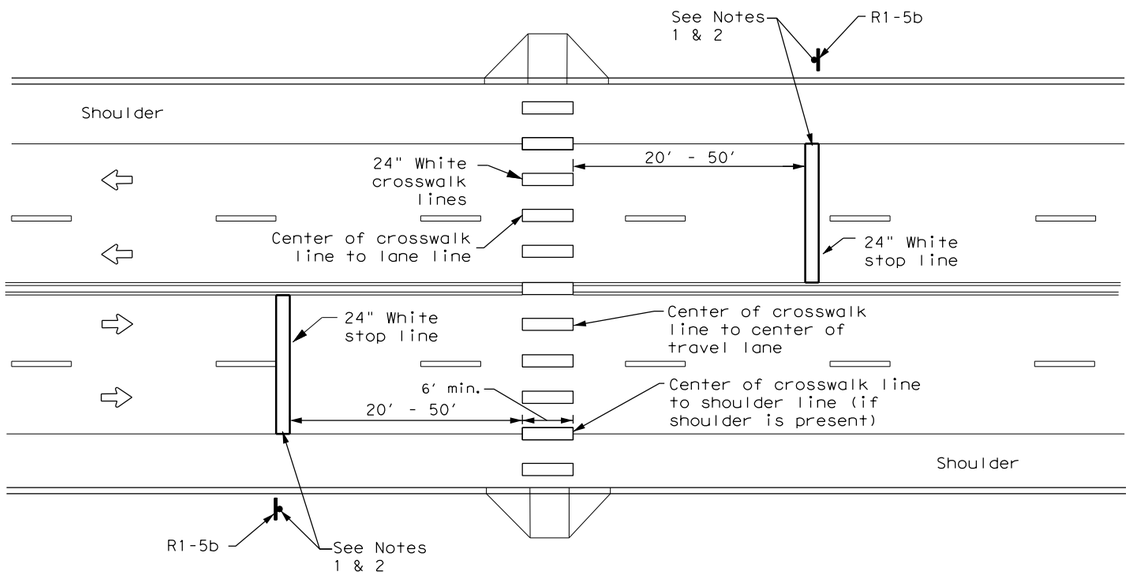
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

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 cross walks.
2. Use stop bars with STOP HERE ON RED (R10-6 or R10-6a) signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

Texas Department of Transportation

Traffic Safety Division Standard

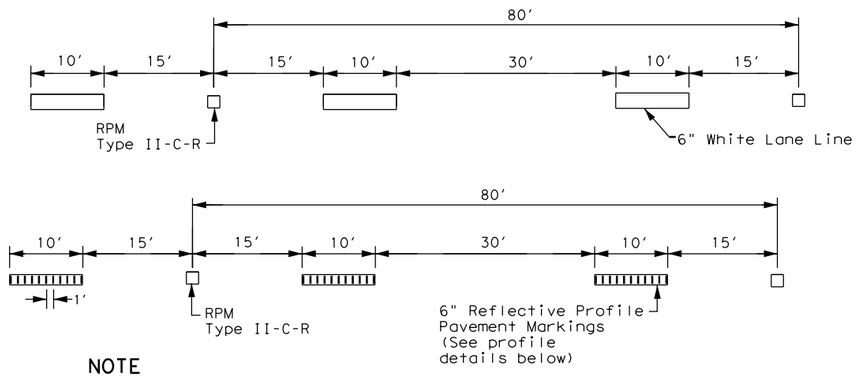
CROSSWALK PAVEMENT MARKINGS

PM(4)-22A

FILE: pm4-22a.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
6-20	DIST	COUNTY		SHEET NO.
6-22	YKM	FAYETTE, ETC		151
12-22				

22D

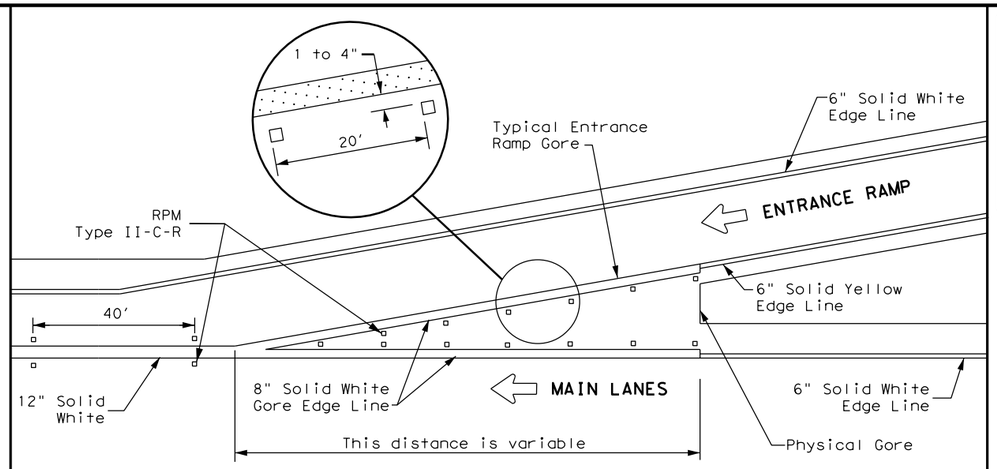
DATE: $DATE$ $TIME$
FILE: $FILE$



NOTE

Reflectorized raised pavement markers Type II-C-R shall be spaced on 80' centers with the clear face toward normal traffic and the red face toward wrong way traffic. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.

TRAFFIC LANE LINES PAVEMENT MARKING



TYPICAL ENTRANCE RAMP GORE MARKING

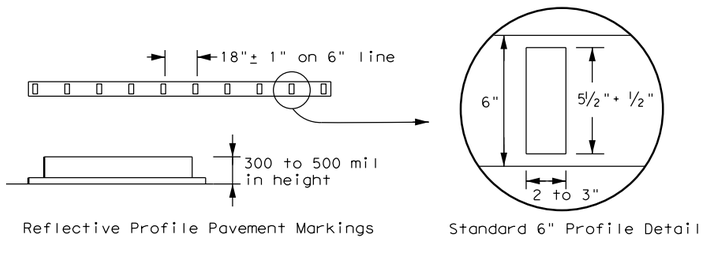
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

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

LEGEND	
⇦	Traffic flow
↱	Pavement marking arrows (white)
□	Reflectorized Raised Markers (RPM) Type II-C-R

GENERAL NOTE

On concrete pavements the raised pavement markers shall be placed to one side of the longitudinal joints.



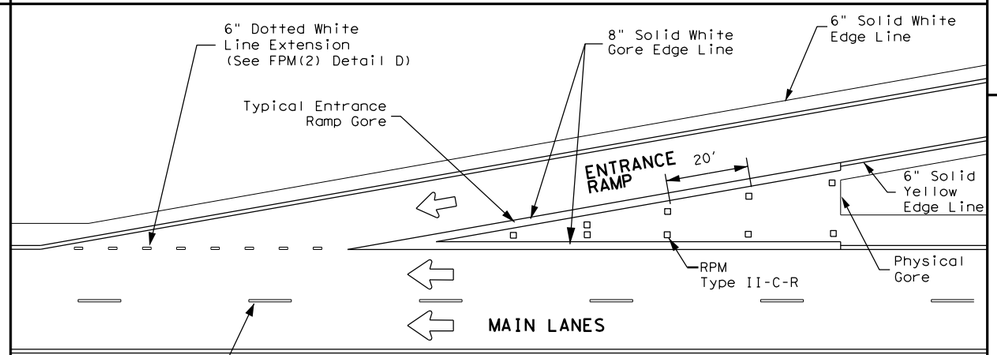
Reflective Profile Pavement Markings

Standard 6" Profile Detail

NOTE

Edge lines should typically be 6" wide and the materials shall be as specified in the plans. See details above if reflective profile pavement markings are to be used.

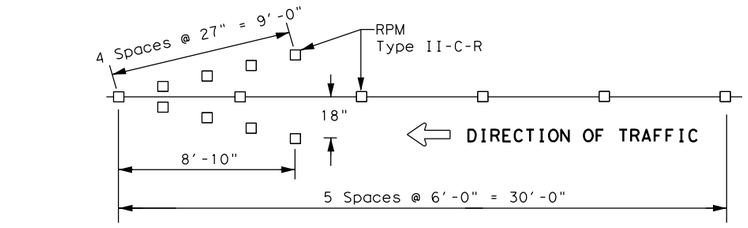
EDGE LINE PAVEMENT MARKINGS



NOTE

See the Roadway Design Manual Chapter 3 to determine if a tapered acceleration lane may be used.

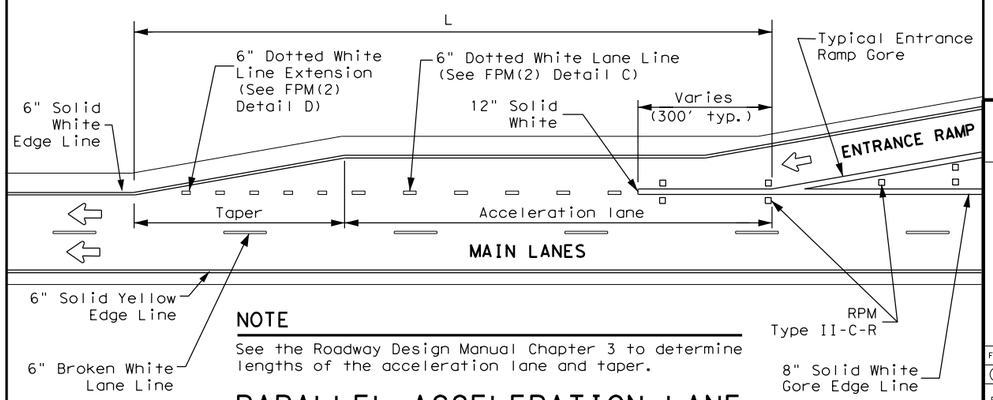
TAPERED ACCELERATION LANE



NOTES

1. Reflectorized raised pavement markers Type-II-C-R in the wrong way arrow shall have the clear face toward normal traffic and the red face toward the wrong way traffic.
2. Red reflectorized wrong way arrows, not to exceed two, may be placed on exit ramps. Locations of the arrows shall be as shown in the plans or as directed by the engineer.

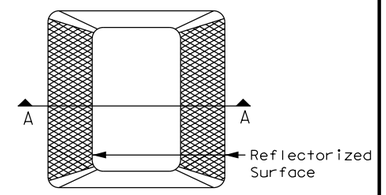
WRONG WAY ARROW



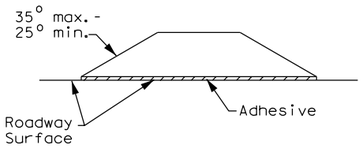
NOTE

See the Roadway Design Manual Chapter 3 to determine lengths of the acceleration lane and taper.

PARALLEL ACCELERATION LANE



Type II (Top View)



SECTION A

REFLECTORIZED RAISED PAVEMENT MARKER (RPM)

Texas Department of Transportation

Traffic Safety Division Standard

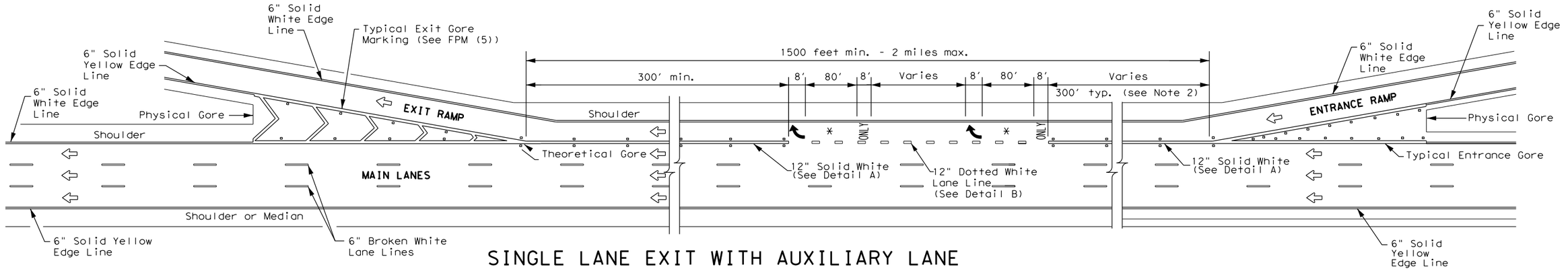
TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS WITH RAISED PAVEMENT MARKERS

FPM(1)-22

FILE: fpm(1)-22.dgn	DN:	CK:	DW:	CK:
© TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
5-74 8-00 2-12	DIST	COUNTY		SHEET NO.
4-92 2-08 10-22	YKM	FAYETTE, ETC		152
5-00 2-10				

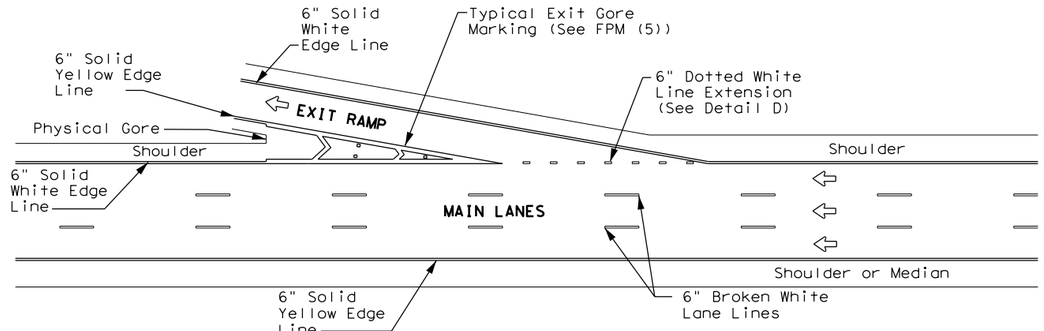
23A

DATE: $DATE$ $TIME$
FILE: $FILE$



SINGLE LANE EXIT WITH AUXILIARY LANE

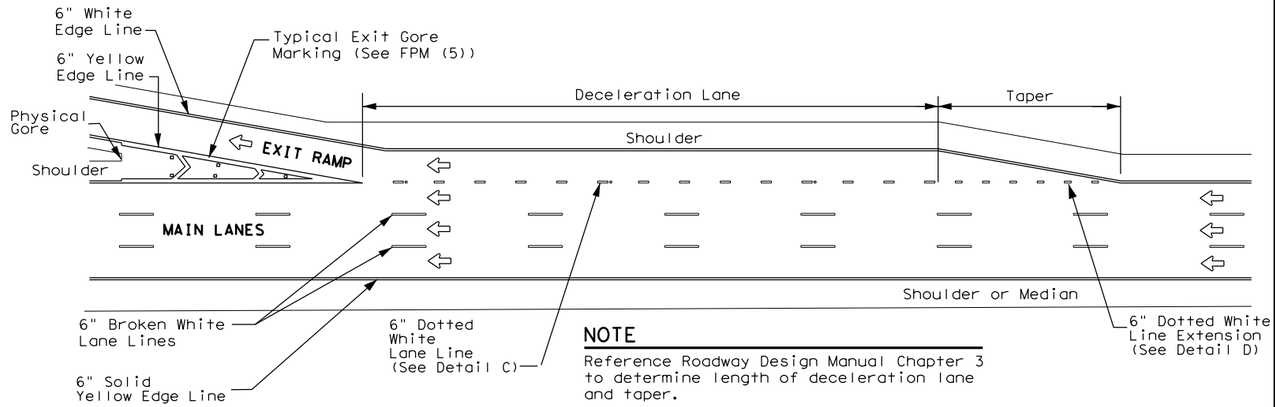
(See Note 2)



NOTE

Reference Roadway Design Manual Chapter 3 to determine if tapered deceleration lane may be used.

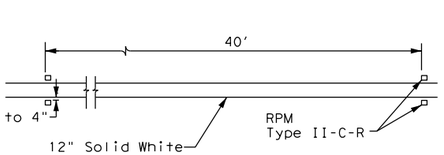
TAPERED DECELERATION LANE



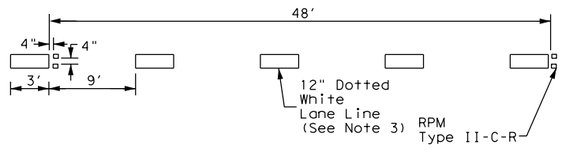
NOTE

Reference Roadway Design Manual Chapter 3 to determine length of deceleration lane and taper.

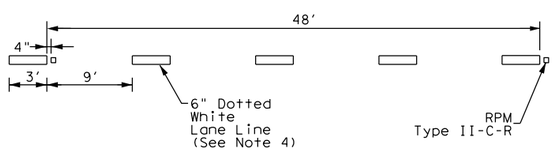
PARALLEL DECELERATION LANE



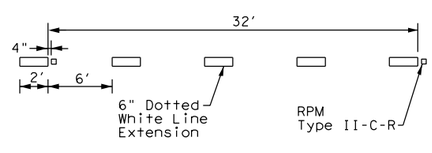
DETAIL A



DETAIL B



DETAIL C



DETAIL D

GENERAL NOTES

1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") dotted lane line (see Detail B) is used to separate a through lane that continues beyond the interchange from an adjacent mandatory exit lane.
4. Normal (6") dotted lane line (see Detail C) is used at parallel acceleration and deceleration lanes.
5. See FPM(1) for traffic lane line pavement marking details.

LEGEND	
⇦	Traffic flow
↱	Pavement marking arrows (white)
▫	Reflectorized Raised Markers (RPM) Type II-C-R
✳	Arrow markings are optional, however "ONLY" is required if arrow is used

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

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

Texas Department of Transportation

Traffic Safety Division Standard

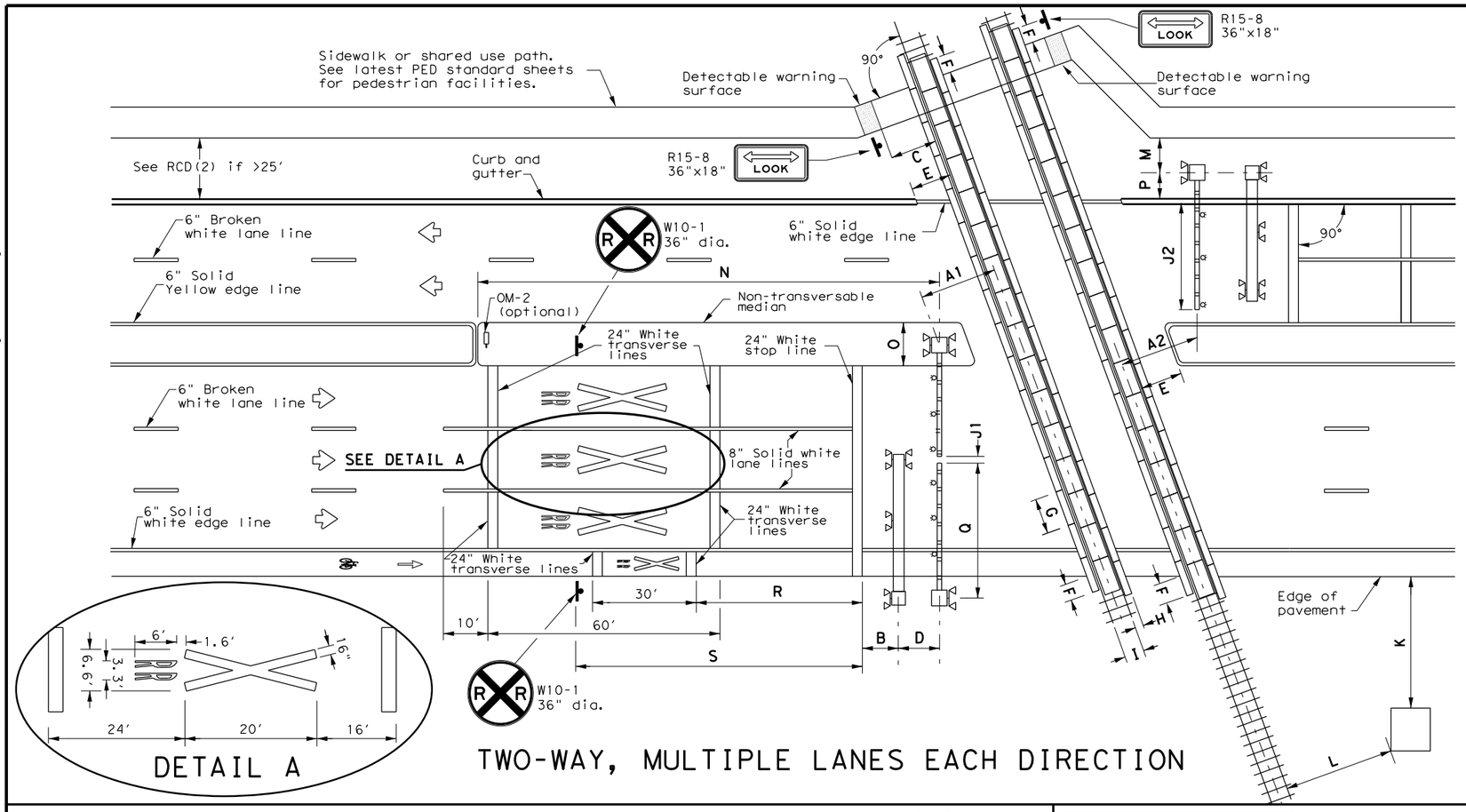
TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS ENTRANCE AND EXIT RAMPS

FPM(2)-22

FILE: fpm(2)-22.dgn	DN:	CK:	DW:	CK:
©TxDOT October 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-77 5-00 2-12 4-92 8-00 10-22 8-95 2-10	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		153

23B

DATE: $DATE$ $TIME$
FILE: $FILE$



NOTES

A1: Center of RR mast to center of rail: 12′ minimum, 15′ typical.

A2: Tip of gate to center of rail: 12′ minimum, 15′ typical.

B: Center of mast (cantilever, gate, or mast flasher) of nearest active traffic control device to stop line: 8′ (NOTE: Stop line may be moved as needed, but should be at least 8′ back from gates, if present).

C: Near edge of detectable warning surface to nearest rail: 12′ minimum.

D: Center of gate mast to center of cantilever mast: 6′ typical. NOTE: Cantilever may be located in front or behind gates.

E: Edge of median or curb to nearest rail: 10′ typical. NOTE: Design median edge to be parallel with rail.

F: Edge of planking panel from edge of pavement or sidewalk: 3′ minimum. NOTE: Field panels need not be in line with gauge panels.

G: Length of panels along rail: 8′ typical.

H: Width of field panel: 2′ typical (check with railroad company).

I: Distance between rails: 4′- 8′1/2".

J1: Tip of gate to tip of gate: 2′ maximum.

J2: 90% of traveled roadway to be covered by gate.

K: Nearest edge of RR cabinet from edge of pavement: 30′ typical. NOTE: Cabinet not required to be parallel to edge of pavement.

L: Nearest edge of RR cabinet from nearest rail: 25′ typical.

M: Center of RR mast to edge of sidewalk: 6′ minimum.

N: Center of gate mast to leading edge of non-traversable median: 100′ minimum to qualify as a Quiet Zone SSM. NOTE: 60′will suffice if there is a street intersection within the 100′ and all street intersections within 60′ are closed.

O: Width of median for RR gate assembly: 8′-6" minimum, 10′ typical when using median gates. NOTE: Center of gate mast minimum 4′-3" from face of curb.

P: Center of RR mast to face of curb: 5′-3" minimum.
Center of RR mast to edge of pavement (with shoulder): 7′ minimum.
Center of RR mast to edge of pavement (no shoulder): 9′-3" minimum.
NOTE: Final location determined by the railroad company.

Q: Gate length: 28′ or less typical, but railroad company may allow up to 32′ under special circumstances.

R: Stop line to first RR Crossing transverse line (bike lane): 50′ typical.

S: Stop line to GRADE CROSSING ADVANCE WARNING (W10-1) sign and adjacent RR Crossing pavement markings. See Table 1. See RCD(2) for other signs.

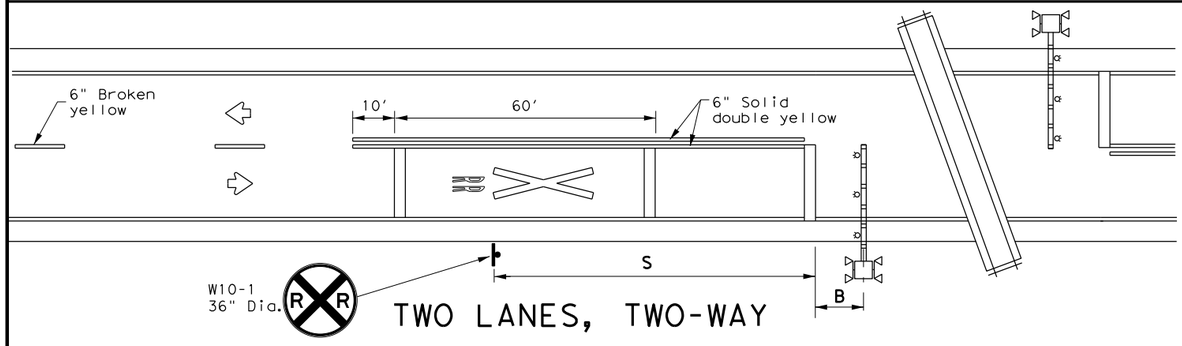
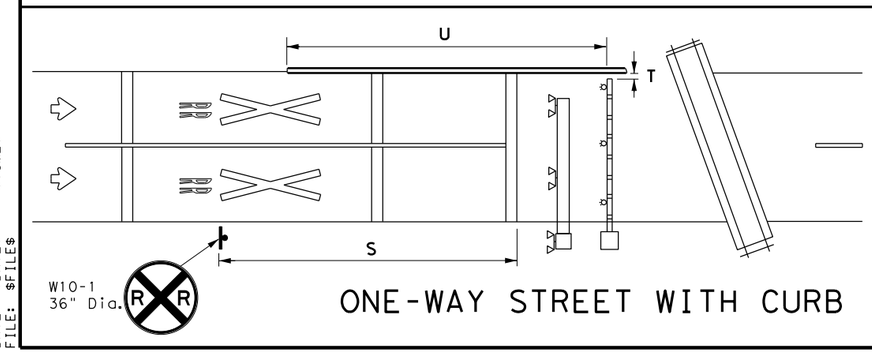


TABLE 1	
Approach Speed (mph)	Desirable Placement (feet)
20	100
25	100
30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550
75	650

LEGEND	
	Sign
	Object Marker
	Traffic Flow
	Cantilever
	Gate Assembly
	Mast Flasher Pair

GENERAL NOTES

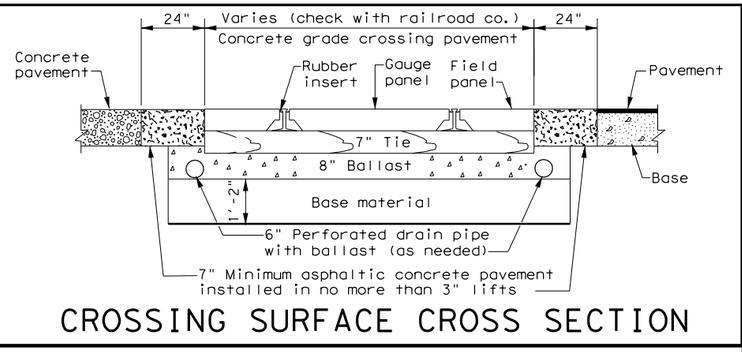
1. Medians and curbs must be non-traversable to qualify as a Quiet Zone Supplementary Safety Measure (SSM). Non-traversable curbs in Quiet Zones are 6" tall minimum and used on roadways where speed does not exceed 40 mph.
2. Raised pavement markers may be used to supplement striping. See PM(2) and PM(3) standard sheets.
3. Medians preferred whenever possible to prevent vehicles from driving around gates.
4. Longitudinal edge striping may be continued thru crossing as needed. Illumination may also be considered for nighttime visibility.
5. See SMD standard sheets for sign mounting details.
6. See the Standard Highway Sign Design for Texas (SHSD) manual for sign and pavement marking details.



NOTES

T: Tip of gate to edge of curb: 1′ maximum for Quiet Zone SSM, 90% of traveled way covered by gates for all other locations.

U: Non-traversable curb length from gate: 100′ minimum for a Quiet Zone SSM, 10′ minimum for all other locations.



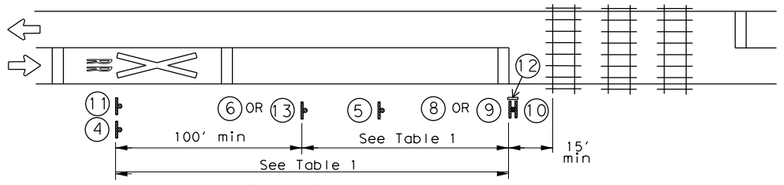
Texas Department of Transportation

Traffic Safety Division Standard

RAILROAD CROSSING DETAILS SIGNING, STRIPING, AND DEVICE PLACEMENT RCD(1)-22

FILE: rcd1-22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
2-16	DIST	COUNTY		SHEET NO.
11-22	YKM	FAYETTE, ETC		154

DATE: $DATE$
FILE: $FILE$
$TIME$

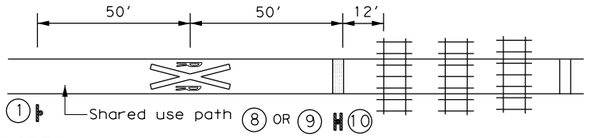


(if no (6) or (13) sign used)

PASSIVE CROSSING

NOTES

1. STOP or YIELD sign may also be installed to the left of the crossbuck sign, rather than below it.
2. A 2" white retroreflective strip shall be installed on front and back of crossbuck sign post.
3. See the Crossbuck Assemblies with YIELD or STOP Signs at Passive Grade Crossings section of the TMUTCD for further details about sign mounting arrangements.



NOTES

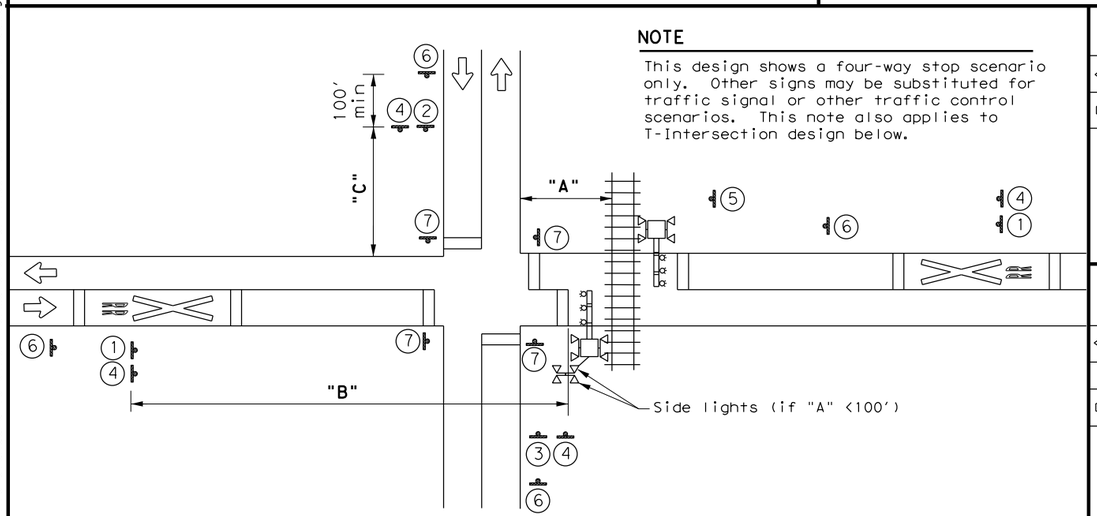
1. A shared use path is considered a separate pathway crossing when more than 25′ from traveled way of adjacent roadway.
2. Detectable warning used at stop bar.
3. Smaller signs preferred. See the Design of Bicycle Signs section within the TMUTCD for sizing details.

PATHWAY CROSSING

TABLE 1	
Approach Speed (mph)	Desirable Placement (feet)
20	100
25	100
30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550
75	650

GENERAL NOTES

1. Railroad company to provide active traffic control devices, CROSSBUCK (R15-1), NUMBER OF TRACKS (R15-2P) plaque (if more than 1 track), and EMERGENCY NOTIFICATION (I-13) signs.
2. LOW GROUND CLEARANCE (W10-5) signs may be relocated further upstream of crossing to provide advance warning of alternate route.
3. GRADE CROSSING AND INTERSECTION ADVANCE WARNING (W10-2) signs may be modified as needed to fit roadway geometry.
4. Table 1 placement distances may vary per the Placement of Warning Signs section of the TMUTCD.
5. See Table 1 to determine placement of STOP AHEAD (W3-1) and YIELD AHEAD (W3-2) signs unless shown otherwise.
6. DO NOT STOP ON TRACKS (R8-8) signs installed when potential for vehicles stopping on tracks is significant as determined by sealing engineer. Install so sign does not block view of RR mast.
7. See the Standard Highway Sign Design for Texas (SHSD) manual for sign and pavement marking details.

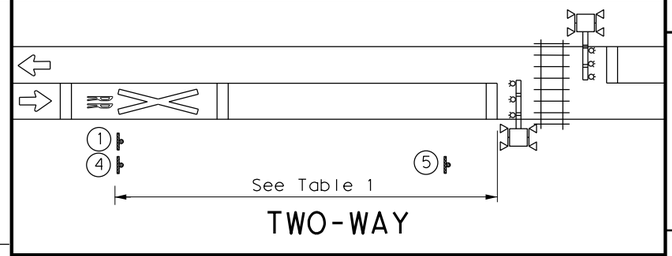


NOTE

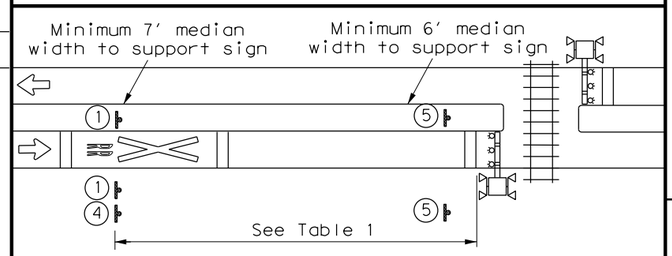
This design shows a four-way stop scenario only. Other signs may be substituted for traffic signal or other traffic control scenarios. This note also applies to T-Intersection design below.

	"A" <100′	"A" ≥100′
"B"	See Table 1. Place pavement markings and signs on opposite side of intersection from rail if spacing from Table 1 would put markings within intersection.	See Table 1. Place pavement markings and signs between rail and intersection if spacing from Table 1 would put markings within intersection.
"C"	See Table 1.	GRADE CROSSING AND INTERSECTION ADVANCE WARNING (W10-2, W10-3, W10-4) signs should only be installed if W10-1 sign is not between intersection and railroad crossing. If needed, see Table 1.

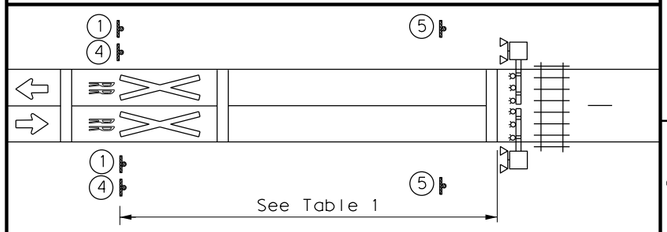
GRADE CROSSING NEAR A PARALLEL STREET



TWO-WAY

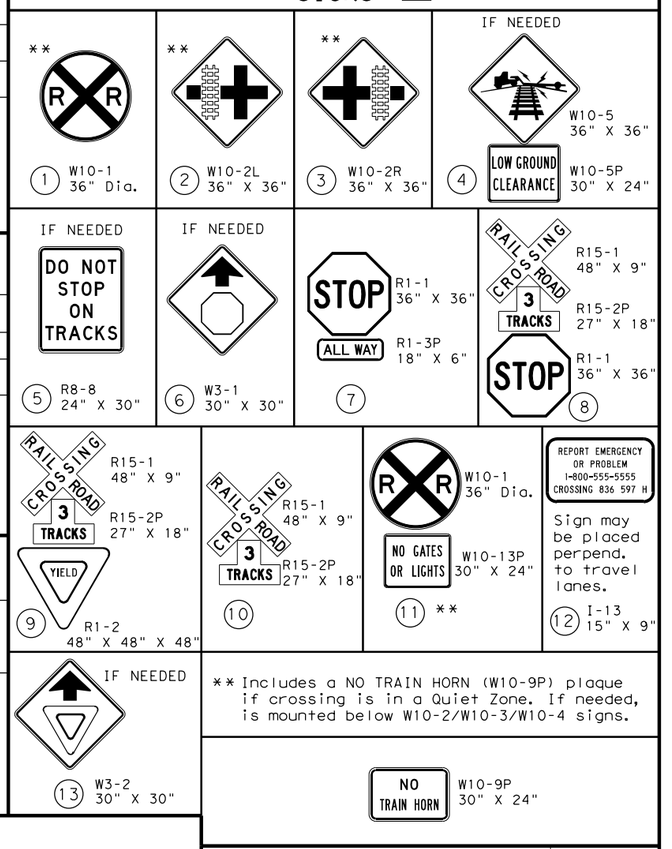


TWO-WAY WITH MEDIAN



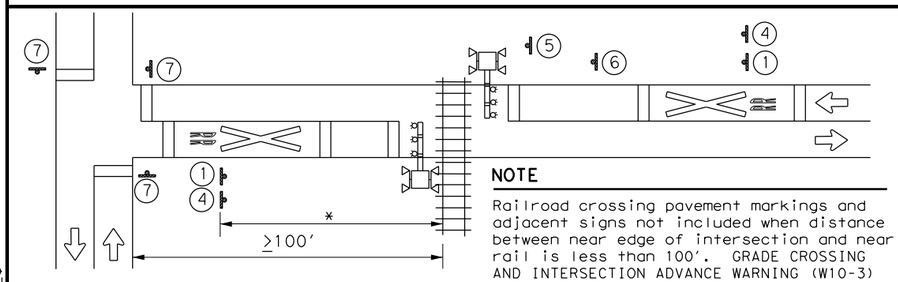
ONE-WAY

SIGNS



** Includes a NO TRAIN HORN (W10-9P) plaque if crossing is in a Quiet Zone. If needed, is mounted below W10-2/W10-3/W10-4 signs.

NO TRAIN HORN W10-9P 30" X 24"

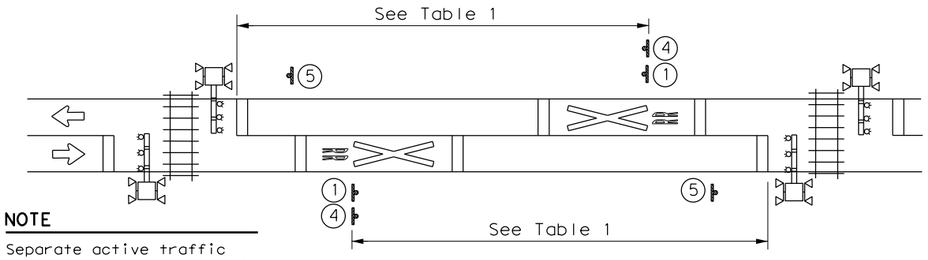


*Use Table 1 if sufficient space exists.

NOTE

Railroad crossing pavement markings and adjacent signs not included when distance between near edge of intersection and near rail is less than 100′. GRADE CROSSING AND INTERSECTION ADVANCE WARNING (W10-3) signs installed on roadway parallel with rail in this case.

T-INTERSECTION



NOTE

Separate active traffic control devices, railroad crossing pavement markings, and adjacent signs required when tracks are more than 100′ apart.

TWO ADJACENT CROSSINGS

Texas Department of Transportation

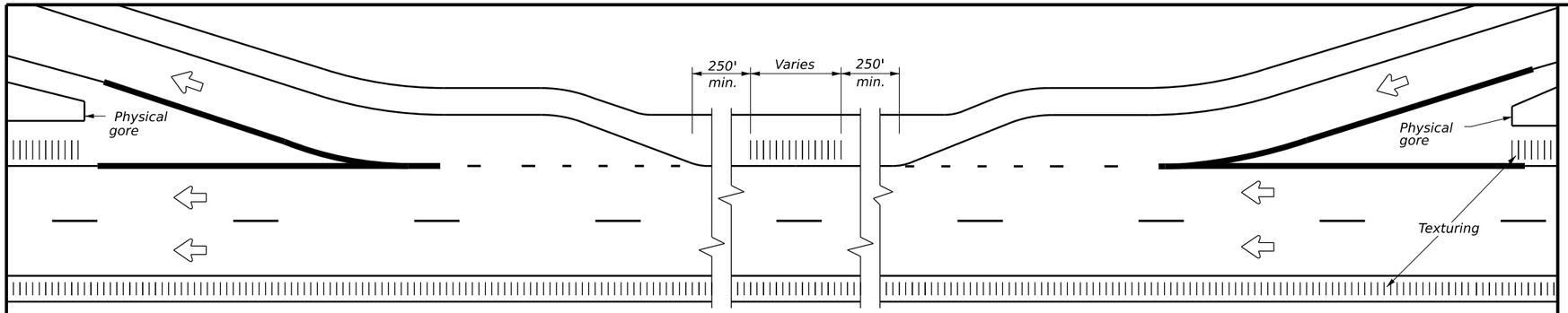
Traffic Safety Division Standard

RAILROAD CROSSING DETAILS SIGNING & STRIPING

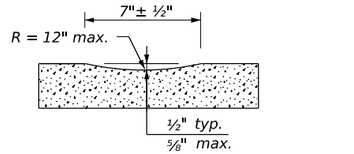
RCD(2)-22

FILE: rcd2-22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
2-16 11-22	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		155

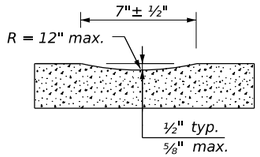
DATE: $DATE$ $TIME$
FILE: $FILE$



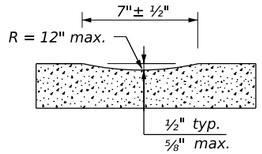
TYPICAL RUMBLE STRIP PLACEMENT AT EXIT AND ENTRANCE RAMPS



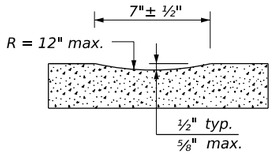
PROFILE VIEW
OPTION 1



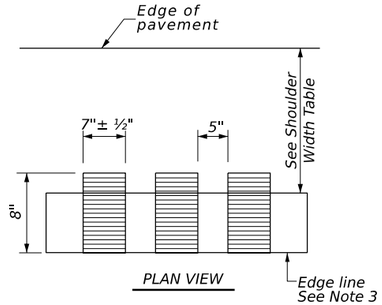
PROFILE VIEW
OPTION 2



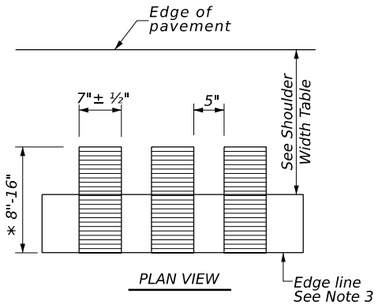
PROFILE VIEW
OPTION 3



PROFILE VIEW
OPTION 4

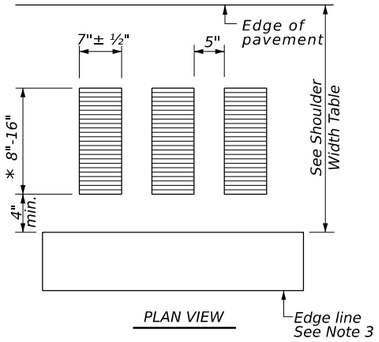


CONTINUOUS MILLED DEPRESSIONS
(Rumble Strips)



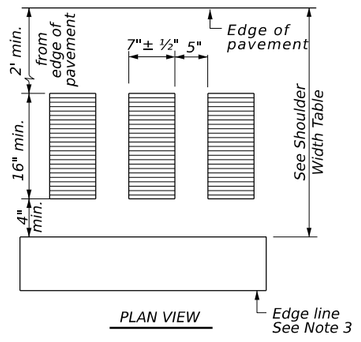
∗ This distance may vary based on width of shoulder

CONTINUOUS MILLED DEPRESSIONS
(Rumble Strips)

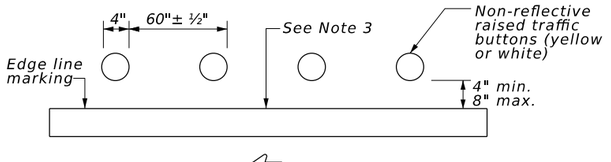


∗ This distance may vary based on width of shoulder

CONTINUOUS MILLED DEPRESSIONS
(Rumble Strips)

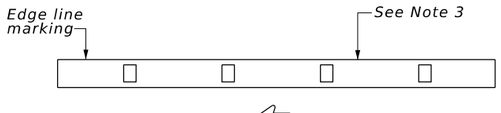


CONTINUOUS MILLED DEPRESSIONS
(Rumble Strips)



PLAN VIEW
OPTION 5

RAISED EDGE LINE
(Rumble Strips)



PLAN VIEW
OPTION 6

PROFILE EDGE LINE MARKINGS
(Rumble Strips)

GENERAL NOTES

1. Rumble strips and profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
2. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.
3. Use standard sheets PM(2) and FPM(1) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings, and profile markings.
4. See the Shoulder Width Table below for determining what options may be used for edge line rumble strips.
5. Breaks in edge line rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections, or driveways with high usage of large trucks when installed on conventional highways.
6. Rumble strips shall not be placed across exit or entrance ramps, acceleration or deceleration lanes, crossovers, gore areas, or intersections with other roadways.
7. Consideration should be given to noise levels when edge line rumble strips are to be installed near residential areas, schools, churches, etc. A 3/8 inch deep (minimum) milled rumble strip may be considered in these areas.
8. Consideration shall be given to bicyclists. See RS(6).

WHEN INSTALLING MILLED DEPRESSION EDGE LINE RUMBLE STRIPS:

9. See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Safety Division.
10. Pavement markings can be applied over milled shoulder rumble strips to create an edge line rumble stripe.

WHEN INSTALLING RAISED OR PROFILE EDGE LINE RUMBLE STRIPS:

11. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per the manufacturer's recommendations.
12. Non-reflective traffic buttons shall be placed adjacent to the pavement marking delineating the edge line when used as a rumble strip. The color of the button should match the color of the adjacent edge line marking (white or yellow). The buttons will be paid for under Item 672, "Raised Pavement Markers." Non-reflective traffic buttons must meet the requirements of DMS-4300.
13. Non-reflective traffic buttons shall not be placed across exit or entrance ramps, acceleration and deceleration lanes, crossovers, gore areas or intersections with other roadways.
14. The minimum distance between the edge line and the buttons should be used if the shoulder is less than 8 feet in width.
15. Raised profile thermoplastic markings used as edge lines may substitute for buttons.

SHOULDER WIDTH TABLE

EQUAL TO OR LESS THAN 2 FEET	GREATER THAN 2 FEET LESS THAN 4 FEET	EQUAL TO OR GREATER THAN 4 FEET
Option 1, 5, or 6	Option 1, 2, 3, 5, or 6	Option 2, 4, 5, or 6

Texas Department of Transportation

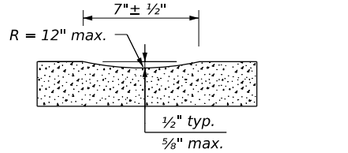
Traffic Safety Division Standard

EDGE LINE RUMBLE STRIPS ON FREEWAYS AND DIVIDED HIGHWAYS RS(1)-23

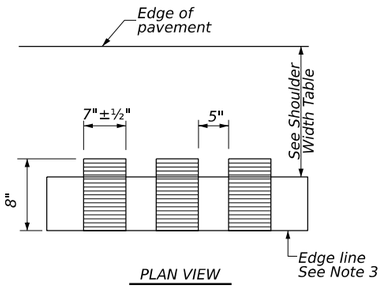
FILE: rs(1)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
4-06 1-23	DIST	COUNTY		SHEET NO.
2-10	YKM	FAYETTE, ETC		156
10-13				

DATE: $DATE$ $TIME$
FILE: $FILE$

DATE: $DATE$ $TIME$
FILE: $FILE$

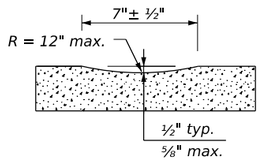


PROFILE VIEW
OPTION 1

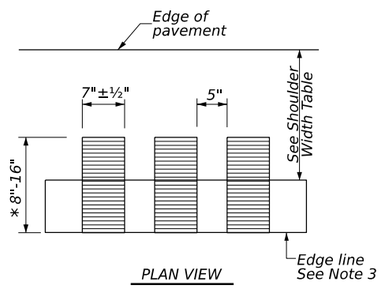


PLAN VIEW

CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)



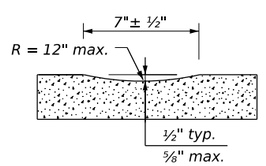
PROFILE VIEW
OPTION 2



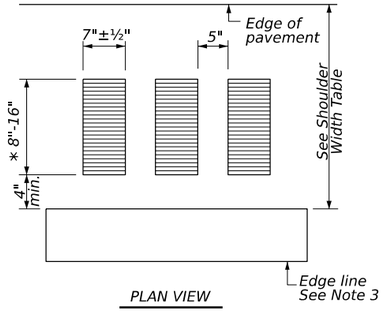
PLAN VIEW

∗ This distance may vary based on width of shoulder

CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)



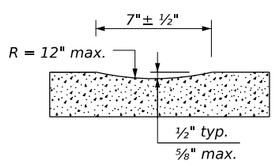
PROFILE VIEW
OPTION 3



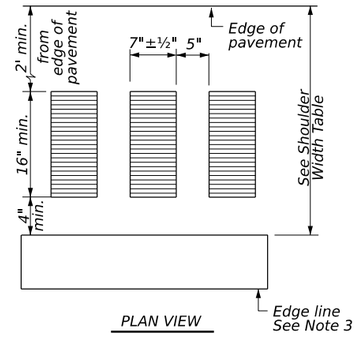
PLAN VIEW

∗ This distance may vary based on width of shoulder

CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)

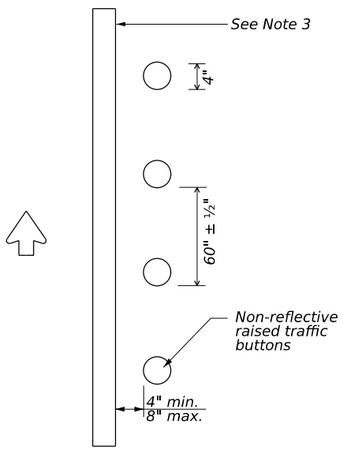


PROFILE VIEW
OPTION 4



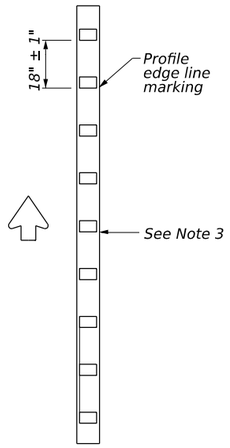
PLAN VIEW

CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)



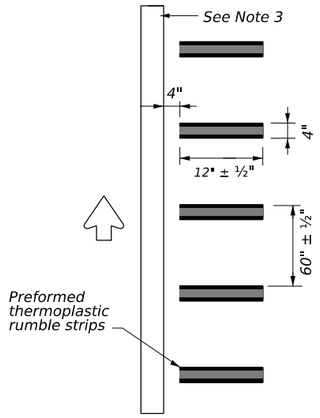
PLAN VIEW
OPTION 5

RAISED EDGE LINE (Rumble Strips)



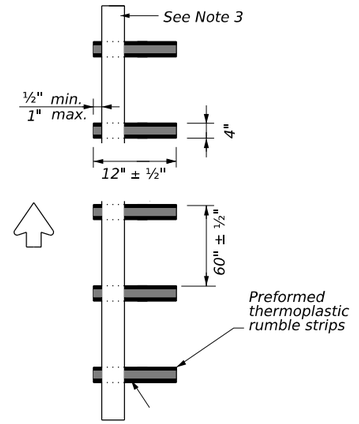
PLAN VIEW
OPTION 6

PROFILE EDGE LINE MARKINGS (Rumble Strips)



PLAN VIEW
OPTION 7

PREFORMED THERMOPLASTIC EDGE LINE (Rumble Strips)



PLAN VIEW
OPTION 8

PREFORMED THERMOPLASTIC EDGE LINE (Rumble Strips)

SHOULDER WIDTH TABLE		
EQUAL TO OR LESS THAN 2 FEET	GREATER THAN 2 FEET LESS THAN 4 FEET	EQUAL TO OR GREATER THAN 4 FEET
Option 1, 5, 6 or 8	Option 1, 2, 3 5, 6 or 7	Option 2, 4, 5 6 or 7

GENERAL NOTES

1. Rumble strips and profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
2. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.
3. Use Standard Sheet PM(2) and FPM(1) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings, and profile markings.
4. See the Shoulder Width Table below for determining what options may be used for edge line rumble strips.
5. Breaks in edge line rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections, or driveways with high usage of large trucks when installed on conventional highways.
6. Rumble strips shall not be placed across exit or entrance ramps, acceleration or deceleration lanes, crossovers, gore areas, or intersections with other roadways.
7. Consideration should be given to noise levels when edgeline rumble strips are to be installed near residential areas, schools, churches, etc. A 3/8 inch deep (minimum) milled rumble strip may be considered in these areas.
8. Consideration shall be given to bicyclists. See RS(6).

WHEN INSTALLING MILLED DEPRESSION EDGE LINE RUMBLE STRIPS:

9. See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Safety Division.
10. Pavement markings can be applied over milled shoulder rumble strips to create an edge line rumble strip.

WHEN INSTALLING RAISED OR PROFILE EDGE LINE RUMBLE STRIPS:

11. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per the manufacturer's recommendations.
12. Non-reflective traffic buttons shall be placed adjacent to the pavement marking delineating the edge line when used as a rumble strip. The color of the button should match the color of the adjacent edge line marking (white or yellow). The buttons will be paid for under Item 672, "Raised Pavement Markers." Non-reflective traffic buttons must meet the requirements of DMS-4300.
13. Non-reflective traffic buttons shall not be placed across exit or entrance ramps, acceleration and deceleration lanes, crossovers, gore areas or intersections with other roadways.
14. The minimum distance between the edge line and the buttons should be used if the shoulder is less than 8 feet in width.
15. Raised profile thermoplastic markings used as edge lines may substitute for buttons.

Texas Department of Transportation

Traffic Safety Division Standard

EDGE LINE RUMBLE STRIPS ON UNDIVIDED OR TWO LANE HIGHWAYS RS(2)-23

FILE: rs(2)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
10-13 1-23	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		157

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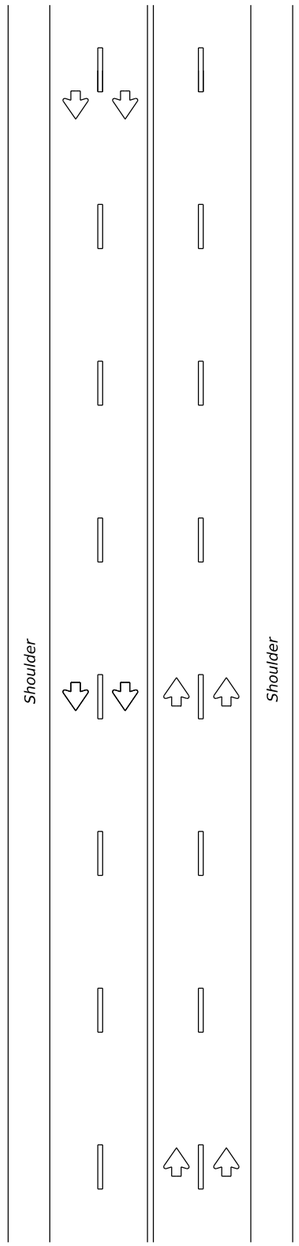
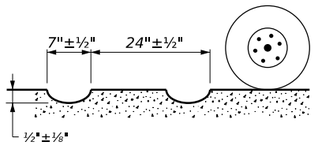
DATE: $DATE$ $TIME$
FILE: $FILE$

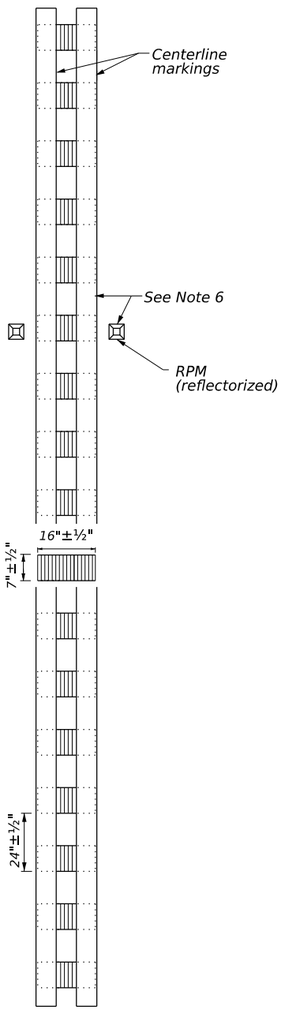
CENTERLINE RUMBLE STRIPS



MULTILANE UNDIVIDED HIGHWAY WITH SHOULDER

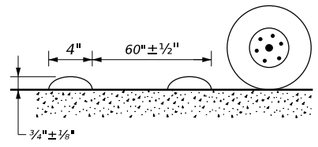


PROFILE VIEW

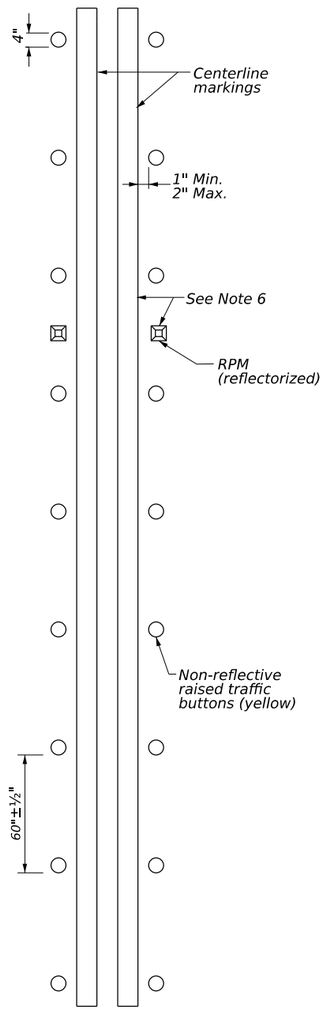


PLAN VIEW
OPTION 1

MILLED CENTERLINE RUMBLE STRIPS

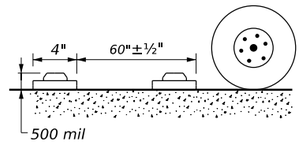


PROFILE VIEW

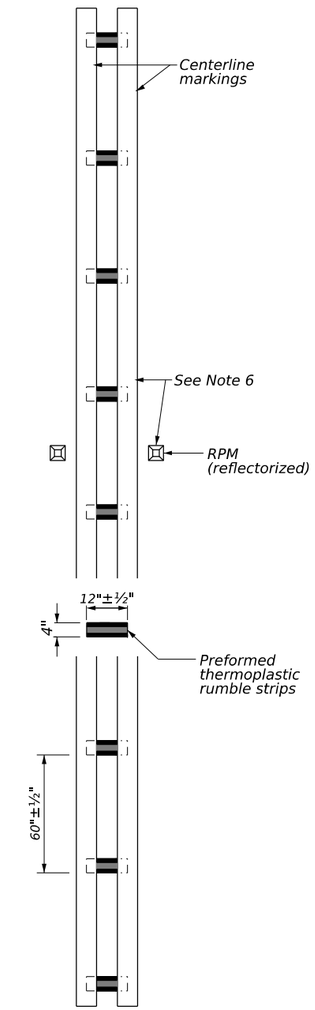


PLAN VIEW
OPTION 2

RAISED CENTERLINE RUMBLE STRIPS

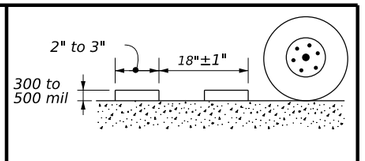


PROFILE VIEW

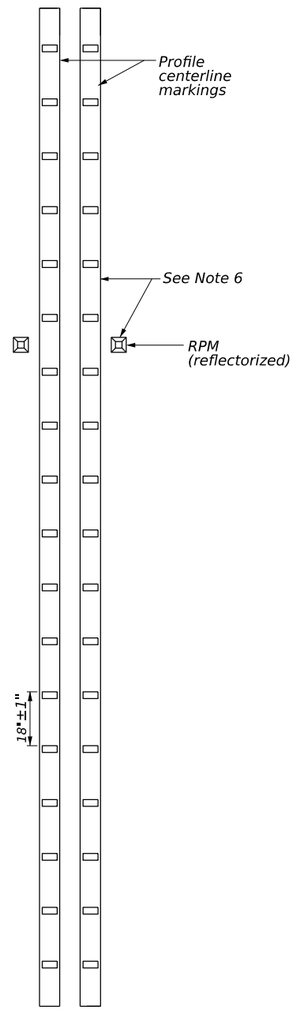


PLAN VIEW
OPTION 3

PREFORMED THERMOPLASTIC RUMBLE STRIPS



PROFILE VIEW



PLAN VIEW
OPTION 4

PROFILE CENTERLINE MARKINGS

GENERAL NOTES

1. This standard sheet provides guidelines for installing centerline rumble strips on multilane undivided highways.
2. Centerline and edge line rumble strips or profile markings shall not be placedon roadways with a posted speed limit of 45 MPH or less.
3. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.
4. See dimensions for milled rumble strips. Other shapes and dimensions may beused if approved by the Traffic Safety Division.
5. Breaks in milled centerline rumble strips shall occur at least 50 feet and nomore than 150 feet in advance of bridges, railroad crossing, intersections ordriveways with high usage of large trucks.
6. Use standard sheet PM(2) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings and profile markings.
7. Consideration should be given to noise levels when centerline rumble strips are to be installed near residential areas, schools, churches, etc. A 3/8 inch deep (minimum) milled rumble strip may be considered in these areas.
8. Pavement markings must be applied over milled centerline rumble strips for normal centerline spacing. For wider medians, specify in the plans the exact placement of the rumble strips. Place the rumble strips under each centerline marking or centered in the middle of the median.

WHEN INSTALLING CENTERLINE RUMBLE STRIPS:

9. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per manufacturer's recommendations.
10. When using non-reflective raised traffic buttons as a centerline rumble strip, the button shall be placed adjacent to the pavement marking delineating the centerline. The color of the button should be yellow for a continuous no passing roadway. The button will be paid for under Item 672, "Raised Pavement Markers." Non-reflective traffic buttons must meet the requirements of DMS-4300.
11. Consideration shall be given to bicyclists. See RS(6).

WHEN INSTALLING EDGE LINE RUMBLE STRIPS WITH OR WITHOUT CENTERLINE RUMBLE STRIPS ON UNDIVIDED HIGHWAYS:

12. See standard sheet RS(2).

Texas Department of Transportation

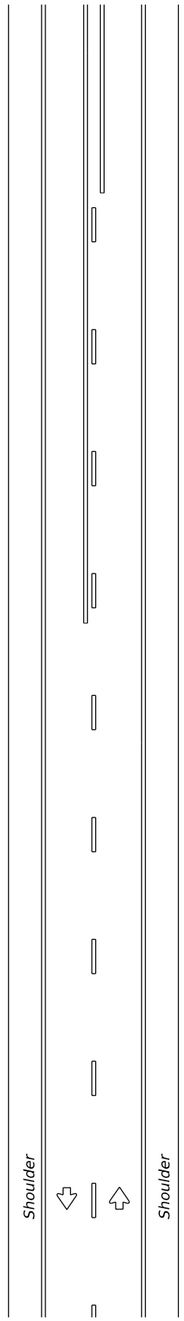
Traffic Safety Division Standard

CENTERLINE RUMBLE STRIPS ON MULTILANE UNDIVIDED HIGHWAYS RS(3)-23

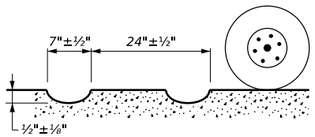
FILE: rs(3)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
10-13 1-23	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		158

DATE: $DATE$
FILE: $FILE$
$TIME$

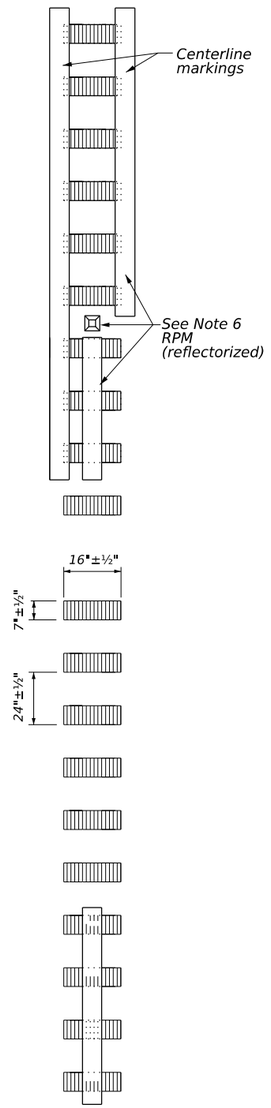
CENTERLINE RUMBLE STRIPS



TWO LANE TWO-WAY HIGHWAYS

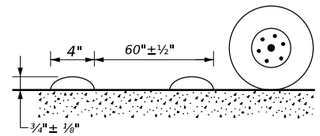


PROFILE VIEW

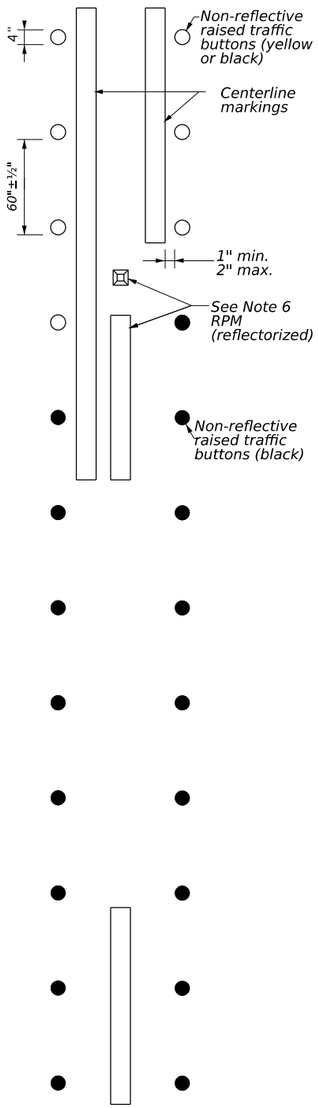


PLAN VIEW
OPTION 1

MILLED CENTERLINE RUMBLE STRIPS

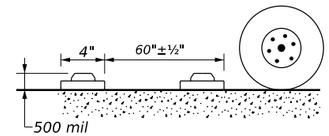


PROFILE VIEW

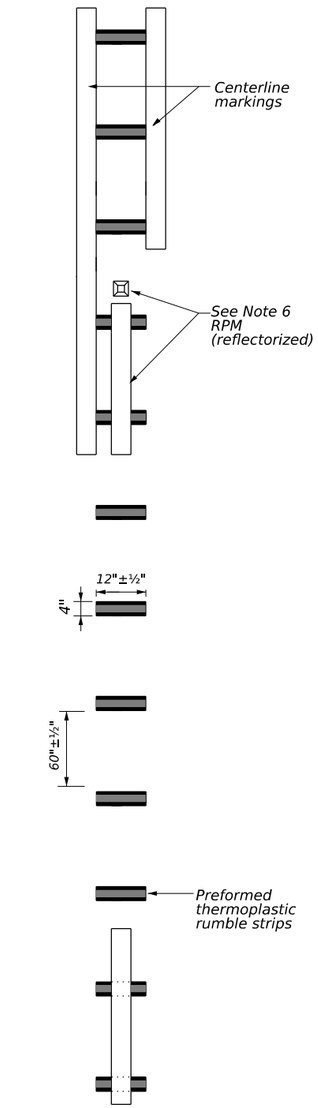


PLAN VIEW
OPTION 2

RAISED CENTERLINE RUMBLE STRIPS

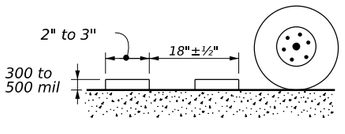


PROFILE VIEW

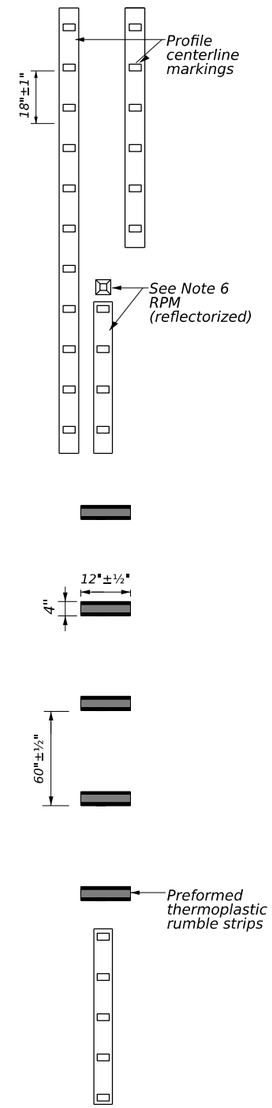


PLAN VIEW
OPTION 3

PREFORMED THERMOPLASTIC RUMBLE STRIPS



PROFILE VIEW



PLAN VIEW
OPTION 4

PROFILE CENTERLINE MARKINGS AND PREFORMED THERMOPLASTIC RUMBLE STRIPS

GENERAL NOTES

1. This standard sheet provides guidelines for installing centerline rumble strips on two-lane highways with or without shoulders.
2. Centerline and edge line rumble strips or profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
3. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.
4. See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Safety Division.
5. Breaks in milled centerline rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections or driveways with high usage of large trucks.
6. Use standard sheet PM(2) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings and profile markings.
7. Consideration should be given to noise levels when centerline rumble strips are to be installed near residential areas, schools, churches, etc. A 3/8 inch deep (minimum) milled rumble strip may be considered in these areas.
8. Pavement markings must be applied over milled centerline rumble strips.

WHEN INSTALLING CENTERLINE RUMBLE STRIPS:

9. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per manufacturer's recommendations.
10. When using non-reflective raised traffic buttons as a centerline rumble strip, the button shall be placed adjacent to the pavement marking delineating the centerline. The buttons will be paid for under Item 672, "Raised Pavement Markers." Non-reflective traffic buttons must meet the requirements of DMS-4300.
11. The color of the button should be yellow for a continuous no passing roadway. Black buttons should be used in areas where passing is allowed.
12. Consideration shall be given to bicyclists. See RS(6).

WHEN INSTALLING EDGE LINE RUMBLE STRIPS WITH OR WITHOUT CENTERLINE RUMBLE STRIPS ON UNDIVIDED HIGHWAYS:

13. See standard sheet RS(2).

Texas Department of Transportation

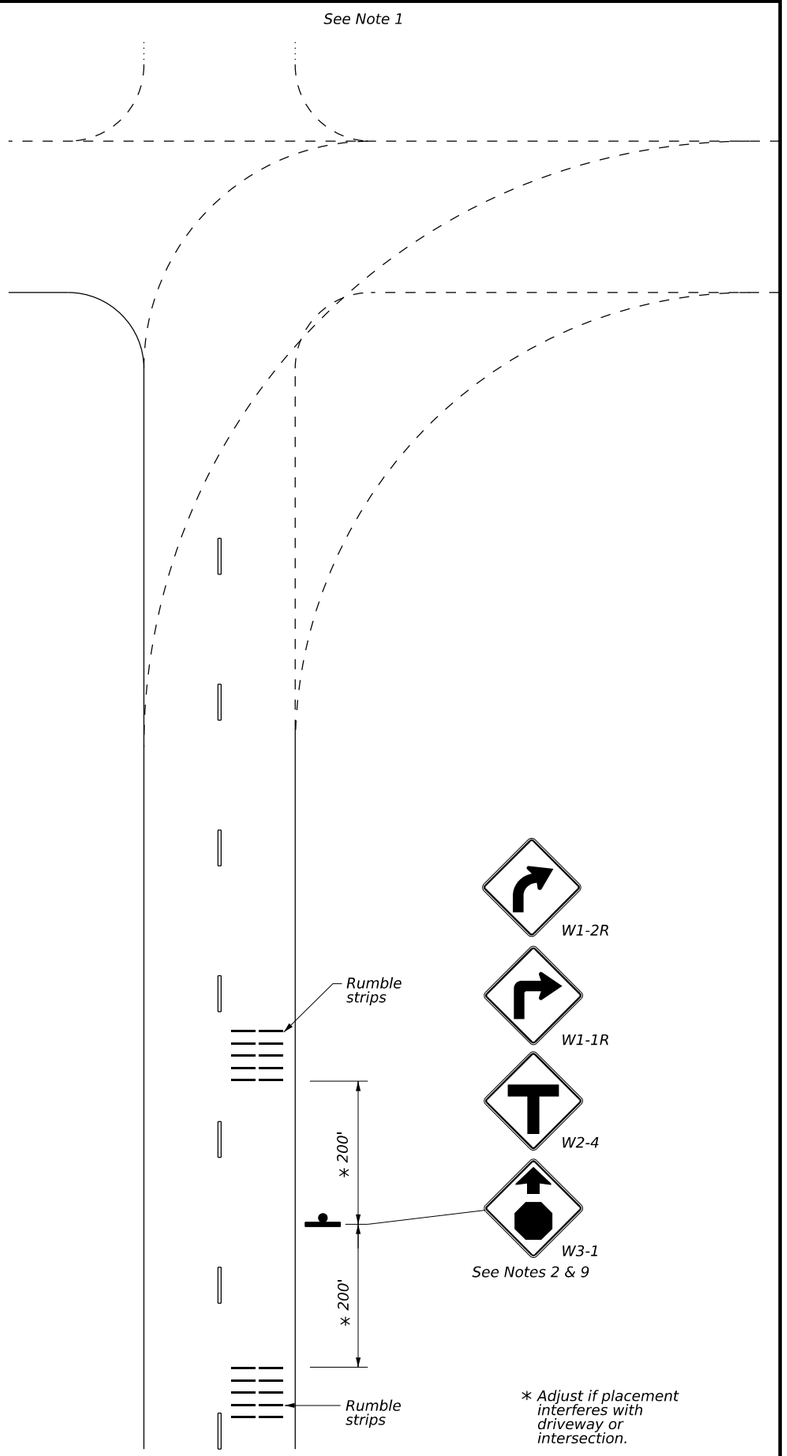
Traffic Safety Division Standard

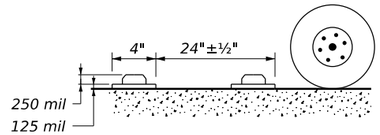
CENTERLINE RUMBLE STRIPS ON TWO LANE TWO-WAY HIGHWAYS RS(4)-23

FILE: rs(4)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
10-13 1-23	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		159

DATE: $DATE$ $TIME$
FILE: $FILE$

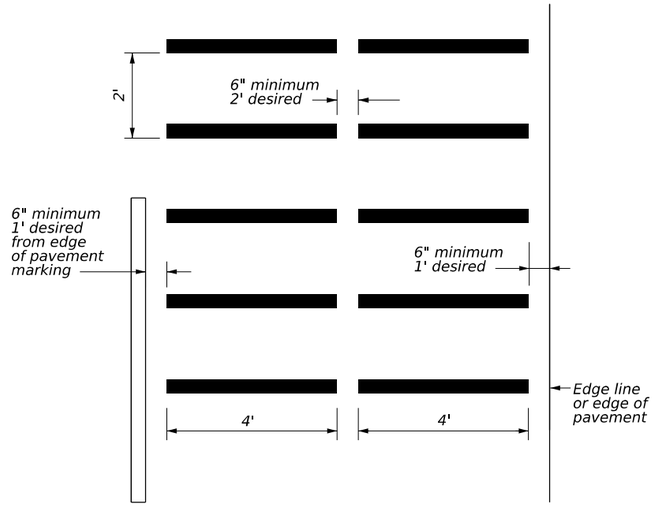
RUMBLE STRIP TYPICAL APPLICATION





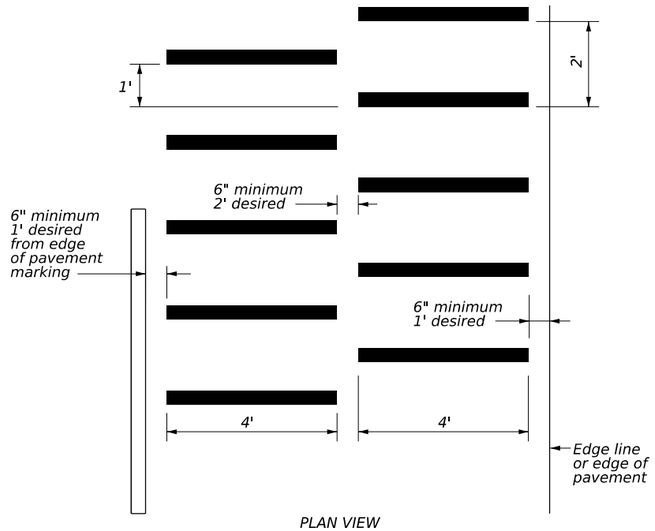
PROFILE VIEW

RUMBLE STRIP STANDARD PATTERN



PLAN VIEW

RUMBLE STRIP ALTERNATIVE PATTERN



PLAN VIEW

GENERAL NOTES

1. *Transverse or in-lane rumble strips should only be used at high incident and special geometric locations. These special geometric locations may include: approaches to rural, high speed signalized or stop-controlled intersections with sight restrictions and/or high crash rates, approaches to unexpected urban intersections, approaches to newly installed stop or signalized controlled intersections, approaches to toll plazas, approaches to hazardous horizontal curves, and approaches to railroad grade crossings.*
2. *When used, the rumble strips shall be placed 200 feet upstream and downstream of the warning sign.*
3. *The use of rumble strips should not be widespread or indiscriminate.*
4. *Preformed black raised rumble strips should be used. They should be installed in accordance with the manufacturer's recommendations.*
5. *Please reference the TxDOT Material Producers List for approved rumble strips (transverse): http://www.txdot.gov/*
6. *Consideration should be given to noise levels when in-lane or transverse rumble strips are to be installed near residential areas, schools, churches, etc.*
7. *The RUMBLE STRIPS AHEAD (W17-2T) sign may be used in advance of in-lane or transverse rumble strips, based on engineering judgement. This sign is typically not necessary for rumble strip installations built to the guidelines on this standard sheet. When used, this sign should be spaced in advance of the rumble strips based on the Guidelines for Advance Placement of Warning Signs table of the Texas Manual on Uniform Traffic Control Devices.*

W17-2T

8. *Consideration shall be given to bicyclists. See RS(6).*
9. *Other signs can be used as conditions warrant.*

Texas Department of Transportation

Traffic Safety Division Standard

TRANSVERSE OR IN-LANE RUMBLE STRIPS

RS(5)-23

FILE: rs(5)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-06 1-12, 2-10, 10-13	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		160

I. STORMWATER POLLUTION PREVENTION

Texas Pollutant Discharge Elimination System (TPDES) TXR 150000: Stormwater Discharge Permit or Construction General Permit is 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. If applicable list MS4 operator that may receive discharges from this project. MS4 operator should be notified prior to construction activities.

- ☐ Prevent stormwater pollution erosion and sedimentation in accordance with TPDES Permit TXR 150000.
- ☐ Comply with the SW3P and revise when necessary to control pollution or as required by the Engineer.
- ☐ Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA, or other inspectors.
- ☐ When Contractor project specific locations (PSL) increase disturbed soil area to 5 acres or more, sumbit Notice of Intent (NOI) to TCEQ and Engineer.
- ☐ MS4 Operator(s):

No Additional Comments

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS

United States Army Corps of Engineers (USACE) Permit is required for filling, dredging, excavating or other work in water bodies, rivers, creeks, streams, wetlands or wet areas. The Contractor must adhere to all of the terms and general conditions associated with the following permit(s). If additional work not represented in the plans is required, contact the Engineer immediately.

- ☒ No USACE Permit Required
- ☐ Work is authorized by the USACE under a Nationwide Permit _____ without a Pre-Construction Notification (PCN). Project specific permit was not issued by USACE, therefore is not in the plan set.
- ☐ Work is authorized by the USACE under a Nationwide Permit _____ with a Pre-Construction Notification (PCN). The project specific permit issued by the USACE is included in the plan set.
- ☐ Work is authorized by the USACE under a Individual Permit (IP). The project specific permit issued by the USACE is included in the plan set.
- ☐ Work would be authorized by the USACE. The project specific permit issued by the USACE or Nationwide Permit will be provided to the contractor.

United States Coast Guard (USCG) Permit is required for projects that involve the construction or modification (including changes to lighting) of a bridge or causeway across a water body determined to be navigable by the United States Coast Guard (USCG) under Section 9 of the Rivers and Harbors Act. If additional work not represented in the plans is required, contact the Engineer immediately.

- ☒ No United States Coast Guard (USCG) Coordination Required
- ☐ United States Coast Guard (USCG) Permit
- ☐ United States Coast Guard (USCG) Exemption

Best Management Practices

Erosion	Sedimentation	Post Construction TSS
☐ Temporary Vegetation	☐ Silt Fence	☐ Vegetative Filter Strips
☐ Vegetation Lined Ditches	☐ Rock Filter Dam	☐ Vegetation Lined Ditches
☐ Sodding	☐ Sand Bag Berm	☐ Grassy Swales

No Additional Comments

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the area and contact the Engineer immediately.

No Additional Comments

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical. Refer to TxDOT Standard Specifications 162, 164, 192, 193, 506, 730, 751, and 752 in order to comply with requirements for invasive species, beneficial landscaping and tree/brush removal.

No Additional Comments

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

If any of the listed species below are observed, cease work in the area, do not disturb species or habitat and contact the Engineer immediately.

The work may not remove active nests (from bridges, structures, or vegetation adjacent to the roadway, etc.) during nesting season (February 15 to October 1). If removal of structures or vegetation is necessary during the nesting season, the Contractor shall conduct a bird survey no more than 3 days in advance of the clearing/demolish start date. All bird surveys shall be conducted by a Field Biologist and adhere to the guidance document “Avoiding Migratory Birds and Handling Potential Violations” found in the TxDOT Environmental Compliance Toolkits at the time of the survey. (See below for Field Biologist and Ornithologist qualifications)

No Additional Comments

Field Biologist, Ornithologist – a field biologist is defined as an individual qualified to perform field investigations, presence/absence surveys and habitat surveys for protected avian species or species of concern. A mandatory bachelor’s degree in biology or a related science is required. At a minimum, the Field Biologist, Ornithologist, shall have completed and reported a minimum of three presence/absence and habitat surveys for protected avian species in the past five years. A minimum of three projects must have been conducted in Texas. Surveys shall have been performed for documentation of species in accordance with a protocol approved by USFWS or TPWD, or following generally accepted methodologies.

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

Refer to TxDOT Standard Specifications in the event potentially contaminated materials are observed, such as dead or distressed vegetation, trash disposal areas, drums, canisters, barrels, leaching or seepage of substances, unusual smells or odors, or stained soil, cease work in the area and contact the Engineer immediately.

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structutres not including box culverts)? Yes ☐ No ☒

No further action required.

No Additional Comments

VII. GENERAL NOTES

TxDOT has determined that a USACE Nationwide or Individual Permit is not necessary for the project since all work shall be conducted outside the USACE jurisdictional areas. Any impacts to these jurisdictioanl areas by the contractor without a USACE permit will be the responsibility of the contrator. If the contractor deems it necessary to impact the USACE jurisdcitional areas, then it becomes the contractor's entire responsibility to consult with the USACE pertaining to the need for a Nationwide or Individual Permit. TxDOT will then hold the contractor responsible for following all conditions of the approved Permit.

Version 13.1

DATE:
FILE:

Texas Department of Transportation

TxDOT Yoakum District

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

FILE: EPIC Sheet.dgn	DN:	CK:	DW:	CK:
© TxDOT: March 2017	CONT	SECT	JOB	HIGHWAY
REVISIONS	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		161

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 744842D
Crossing Type: HIGHWAY UNDERPASS
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 101.920
RR Subdivision: CUERO
City: FLATONIA
County: FAYETTE
CSJ at this Crossing: 0026-02-039
Latitude: 29.6880048
Longitude: -97.1147498

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (US 90) UNDER THE RAILROAD CROSSING. WORK ALSO RUNS PARALLEL FROM MP 121.320 TO 123.240. BUT DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF TCP THROUGH UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☑ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT 744842D
RR Milepost: 101.920
Subdivision: CUERO

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			162	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 742792V
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 138.740
RR Subdivision: GLIDDEN
City: HARWOOD
County: GONZALES
CSJ at this Crossing: 0573-03-020
Latitude: 29.6845636
Longitude: -97.4174140

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (SH 304) UP TO THE RAILROAD CROSSING. DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☑ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

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VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

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A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT 742792V
RR Milepost: 138.740
Subdivision: GLIDDEN

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS	6/2023	0026	02	039, ETC		US 90, ETC	
		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			163	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: PERPENDICULAR/NEAR 742800K
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 131.250
RR Subdivision: GLIDDEN
City: WAELDER
County: GONZALES
CSJ at this Crossing: 1262-02-014
Latitude: 29.6928582
Longitude: -97.2993031

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1115) RUNNING PERPENDICULAR TO THE RAILROAD. ALL WORK AND EQUIPMENT WILL BE OUTSIDE OF RAILROAD RIGHT OF WAY. BUT DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER & CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

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Contact Information for Flagging:

☑ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT Perpendicular/Near 742800K
RR Milepost: 131.250
Subdivision: GLIDDEN

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			164	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 022822X
Crossing Type: HIGHWAY OVERPASS
RR Company Operating Track at Crossing: BNSF RAILWAY COMPANY
RR Company Owning Track at Crossing: BNSF RAILWAY COMPANY
RR MP: 115.780
RR Subdivision: GALVESTON
City: KENNEY
County: AUSTIN
CSJ at this Crossing: 0187-02-071
Latitude: 30.0461656
Longitude: -96.3209506

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (SH 36) OVER THE RAILROAD CROSSING. WORK ALSO RUNS PARALLEL FROM MP 117.480 TO 119.440. BUT DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH BNSF RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☑ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required
Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
https://bnsf.railpermitting.com
- ☐ CPKCR
https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

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Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: BNSF RAILWAY COMPANY
Railroad Emergency Line at: 800-832-5452
Location: DOT 022822X
RR Milepost: 115.780
Subdivision: GALVESTON

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			165	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 022813Y
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: BNSF RAILWAY COMPANY
RR Company Owning Track at Crossing: BNSF RAILWAY COMPANY
RR MP: 108.310
RR Subdivision: GALVESTON
City: BELLVILLE
County: AUSTIN
CSJ at this Crossing: 1410-01-025
Latitude: 29.9584071
Longitude: -96.2542867

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1456) UP TO THE RAILROAD CROSSING. DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH BNSF RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☑ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required
Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: BNSF RAILWAY COMPANY
Railroad Emergency Line at: 800-832-5452
Location: DOT 022813Y
RR Milepost: 108.310
Subdivision: GALVESTON

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			166	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: PERPENDICULAR/NEAR 743297K
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: from 87.540 TO 87.410
RR Subdivision: GLIDDEN
City: COLUMBUS
County: COLORADO
CSJ at this Crossing: 2345-01-012
Latitude: 29.6992537
Longitude: -96.6060489

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 2434) RUNNING PERPENDICULAR TO THE RAILROAD. ALL WORK, EQUIPMENT, AND TCP WILL BE OUTSIDE OF UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: N/A

On this project, night or weekend flagging is:

☐ Expected
☐ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☑ Not Required

☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000

☐ Other: _____

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
https://bnsf.railpermitting.com
- ☐ CPKCR
https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT PERPENDICULAR/NEAR 743297K
RR Milepost: from 87.540 TO 87.410
Subdivision: GLIDDEN

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			167	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 743801V
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 52.030
RR Subdivision: GLIDDEN
City: EAST BERNARD
County: WHARTON
CSJ at this Crossing: 0240-02-035
Latitude: 29.5313402
Longitude: -96.0714843

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (SH 60) UP TO THE RAILROAD CROSSING. DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☑ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

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Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

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VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

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VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT 743801V
RR Milepost: 52.030
Subdivision: GLIDDEN

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			168	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: PERPENDICULAR/NEAR 743453U
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: KCS RAILWAY
RR Company Owning Track at Crossing: TEXAS MEXICAN RAILWAY
RR MP: 941.180
RR Subdivision: ROSENBERG
City: LOUISE
County: WHARTON
CSJ at this Crossing: 1302-01-027
Latitude: 29.1111112
Longitude: -96.4037560

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1160) RUNNING PERPENDICULAR TO THE RAILROAD. NO WORK OR EQUIPMENT IN RAILROAD RIGHT OF WAY. BUT THE TCP WILL EXTEND THROUGH THE RAILROAD CROSSING.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☑ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: KCS RAILWAY
Railroad Emergency Line at: 877-527-9464
Location: DOT PERPENDICULAR/NEAR 743453U
RR Milepost: 941.180
Subdivision: ROSENBERG

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			169	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 023400H (SPUR PERMIT)
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: BNSF RAILWAY COMPANY
RR Company Owning Track at Crossing: BNSF RAILWAY COMPANY
RR MP: 79.600
RR Subdivision: BAY CITY-CELA
City: BAY CITY
County: MATAGORDA
CSJ at this Crossing: 0241-04-025
Latitude: 28.8772420
Longitude: -95.9506104

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (SH 60) UP TO THE RAILROAD CROSSING. WORK ALSO RUNS PARALLEL FROM 78.350 TO 81.490. BUT DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH BNSF RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☑ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required
Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
https://bnsf.railpermitting.com
- ☐ CPKCR
https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: BNSF RAILWAY COMPANY
Railroad Emergency Line at: 800-832-5424
Location: DOT 023400H (SPUR PERMIT)
RR Milepost: 79.600
Subdivision: BAY CITY-CELA

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			170	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 448755K
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 289.720
RR Subdivision: ANGLETON
City: VAN VLECK
County: MATAGORDA
CSJ at this Crossing: 2525-01-019
Latitude: 29.0001407
Longitude: -95.8764325

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 2540) UP TO THE RAILROAD CROSSING. DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☑ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT 448755K
RR Milepost: 289.720
Subdivision: ANGLETON

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			171	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: NEAR 746549U
Crossing Type: HIGHWAY OVERPASS
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: From 24.320 to 24.550
RR Subdivision: CUERO
City: VICTORIA
County: VICTORIA
CSJ at this Crossing: 0088-05-111
Latitude: 28.7780028
Longitude: -96.9639380

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (US 59 FRT RD) RUNNING PARALLEL TO THE RAILROAD. ALL WORK, EQUIPMENT, AND TCP WILL BE OUTSIDE OF UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: N/A

On this project, night or weekend flagging is:

☐ Expected
☐ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☑ Not Required	
☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
https://bnsf.railpermitting.com
- ☐ CPKCR
https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT Parallel to various crossings, near 746549U
RR Milepost: From 24.320 to 24.550
Subdivision: CUERO

RRD Review Only
Initials: _____
Date: 08/29/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			172	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: PERPENDICULAR 746676V
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: KCS RAILWAY
RR Company Owning Track at Crossing: TEXAS MEXICAN RAILWAY
RR MP: 975.700
RR Subdivision: ROSENBERG
City: TELFERNER
County: VICTORIA
CSJ at this Crossing: 1132-01-036
Latitude: 28.8508181
Longitude: -96.8919367

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1686) RUNNING PERPENDICULAR TO THE RAILROAD. NO WORK OR EQUIPMENT IN RAILROAD RIGHT OF WAY. BUT THE TCP WILL EXTEND THROUGH THE RAILROAD CROSSING.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☑ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: KCS RAILWAY
Railroad Emergency Line at: 877-527-9464
Location: DOT PERPENDICULAR TO 746676V
RR Milepost: 975.700
Subdivision: ROSENBERG

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			173	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 746526M
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 17.540
RR Subdivision: CUERO
City: PLACEDO
County: VICTORIA
CSJ at this Crossing: 1132-01-036
Latitude: 28.7199233
Longitude: -96.8731312

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1686) UP TO THE RAILROAD. DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☑ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

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VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT 746526M
RR Milepost: 17.540
Subdivision: CUERO

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			174	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: Near 448699F
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: From 244.960 to 249.680
RR Subdivision: ANGLETON
City: LOLITA
County: JACKSON
CSJ at this Crossing: 0497-02-045
Latitude: 28.8434204
Longitude: -96.5233168

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 616) RUNNING PARALLEL TO THE RAILROAD. ALL WORK, EQUIPMENT, AND TCP WILL BE OUTSIDE OF UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: N/A

On this project, night or weekend flagging is:

☐ Expected
☐ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

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Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☑ Not Required
☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures — $2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures — $5,000,000 / $10,000,000
☐ Other: _____

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
  ☐ BNSF: _____
  https://bnsf.railpermitting.com
  ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
  ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT Parallel to various crossings, near 448699F
RR Milepost: From 244.960 to 249.680
Subdivision: ANGLETON

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			175	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: Near 448704A
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: From 249.680 to 252.320
RR Subdivision: ANGLETON
City: LA WARD
County: JACKSON
CSJ at this Crossing: 0497-03-012
Latitude: 28.843361
Longitude: -96.4505893

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 616) RUNNING PARALLEL TO THE RAILROAD. ALL WORK, EQUIPMENT, AND TCP WILL BE OUTSIDE OF UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: N/A

On this project, night or weekend flagging is:

☐ Expected
☐ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

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Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☑ Not Required
☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures — $2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures — $5,000,000 / $10,000,000
☐ Other: _____

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
  ☐ BNSF: _____
  https://bnsf.railpermitting.com
  ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
  ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

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VI. RAILROAD COORDINATION MEETING

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A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

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Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT Parallel to various crossings, near 448704A
RR Milepost: From 249.680 to 252.320
Subdivision: ANGLETON

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY
REVISIONS		0026	02	039, ETC		US 90, ETC
6/2023		DIST	COUNTY			SHEET NO.
		YKM	FAYETTE, ETC			176

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: PERPENDICULAR TO 448698Y
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 244.960
RR Subdivision: ANGLETON
City: LOLITA
County: JACKSON
CSJ at this Crossing: 1090-03-022
Latitude: 28.8413757
Longitude: -96.5424270

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1593) RUNNING PERPENDICULAR TO THE RAILROAD. NO WORK OR EQUIPMENT IN RAILROAD RIGHT OF WAY. BUT TCP WILL EXTEND THROUGH THE RAILROAD CROSSING.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

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Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
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Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

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☑ Not Required

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Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
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V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
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  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

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IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT PERPENDICULAR TO 448698Y
RR Milepost: 244.960
Subdivision: ANGLETON

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			177	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: PERPENDICULAR TO 746646D
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: KCS RAILWAY
RR Company Owning Track at Crossing: TEXAS MEXICAN RAILWAY
RR MP: 964.670
RR Subdivision: ROSENBERG
City: INEZ
County: JACKSON
CSJ at this Crossing: 2821-03-011
Latitude: 28.933459
Longitude: -96.7340761

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 234) RUNNING PERPENDICULAR TO THE RAILROAD. NO WORK, EQUIPMENT, OR TCP WILL BE IN RAILROAD RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: N/A

On this project, night or weekend flagging is:

☐ Expected
☐ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☑ Not Required
☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures — $2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures — $5,000,000 / $10,000,000
☐ Other: _____

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
  ☐ BNSF: _____
  https://bnsf.railpermitting.com
  ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
  ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: KCS RAILWAY
Railroad Emergency Line at: 877-527-9464
Location: DOT PERPENDICULAR/NEAR TO 746646D
RR Milepost: 964.670
Subdivision: ROSENBERG

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf	DN: TxDOT	CK:	DW:	CK:
© TxDOT June 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS 6/2023	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		178

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☑ This project is adjacent or parallel work, not within RR ROW:

DOT No.: PERPENDICULAR TO 746602D
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 1.442
RR Subdivision: PORT LAVACA IND LD
City: PORT LAVACA
County: CALHOUN
CSJ at this Crossing: 0515-03-059
Latitude: 28.6105681
Longitude: -96.6469398

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1090) RUNNING PERPENDICULAR TO THE RAILROAD. ALL WORK, EQUIPMENT AND TCP WILL BE OUTSIDE OF UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: N/A

On this project, night or weekend flagging is:

☐ Expected
☐ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required

Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☑ Not Required	
☐ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☑ Not Required
☐ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT PERPENDICULAR/NEAR TO 746602D
RR Milepost: 1.442
Subdivision: PORT LAVACA IND LD

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation | Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			179	

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 746589S (SPUR PERMIT)
Crossing Type: AT GRADE
RR Company Operating Track at Crossing: UNION PACIFIC RAILROAD
RR Company Owning Track at Crossing: UNION PACIFIC RAILROAD
RR MP: 2.190
RR Subdivision: PORT LAVACA IND LD
City: PORT LAVACA
County: CALHOUN
CSJ at this Crossing: 0515-03-060
Latitude: 28.5999011
Longitude: -96.6174555

Scope of Work, including any TCP, to be performed by State Contractor:

SEALCOAT THE ROADWAY (FM 1090) UP TO THE RAILROAD CROSSING. DURING THE ONE LANE TWO-WAY TRAFFIC CONTROL OPERATIONS A RAILROAD FLAGGER AND CONSTRUCTION FLAGGER MUST BE PRESENT FOR THE DURATION OF THE WORK THROUGH UPRR RIGHT OF WAY.

Scope of Work to be performed by Railroad Company:

NONE

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 3

On this project, night or weekend flagging is:

☐ Expected
☑ Not Expected

Flagging services will be provided by:

☑ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☐ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required
Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

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Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

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VI. RAILROAD COORDINATION MEETING

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VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: UNION PACIFIC RAILROAD
Railroad Emergency Line at: 888-877-7267
Location: DOT 746589S (SPUR PERMIT)
RR Milepost: 2.190
Subdivision: PORT LAVACA IND LD

RRD Review Only
Initials: _____
Date: 07/24/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf		DN: TxDOT	CK:	DW:		CK:	
© TxDOT June 2014		CONT	SECT	JOB		HIGHWAY	
REVISIONS		0026	02	039, ETC		US 90, ETC	
6/2023		DIST	COUNTY			SHEET NO.	
		YKM	FAYETTE, ETC			180	

PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the right of way and/or properties of the Railroad and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right of Way or when impacting current or future Railroad operations. Coordinate with the Railroad while performing the work outlined herein, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right of Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right of Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.03 PLANS / SPECIFICATIONS

TxDOT has received written Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines can be found on the Railroad website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, Federal Railroad Administration (FRA), and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The safe operation of railroad train movements takes precedence over any work to be performed by the Contractor. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 15 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 15 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail. When not in use, keep Contractor machinery and materials at least 50 feet from the Railroad's nearest track.

D. Vehicular crossings of railroad track are allowed only at existing crossings, or haul road crossings developed with Railroad approval.

E. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

F. Railroad requirements do not allow work within 50 feet of track centers when a train passes the work site and all personnel must clear the area within 50 feet of the track centerline and secure all equipment. Additional allowances may be pursued as outlined in 3.02 and 3.03.

G. All permanent clearances shall be verified before project closing.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the contract site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a railroad flag person will be required. At the direction of the railroad flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame, the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window, the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and FRA requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Do not perform any work within Railroad Right of Way without a valid executed Right of Entry Agreement if required on this project.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right of Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right of Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.15 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least 30 days in advance of any work. Include in the written request:
1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of nearest rail. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right of Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right of Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement.

3.05 RAILROAD SAFETY ORIENTATION

A. Complete the railroad course "Orientation for Contractor's Safety", and maintain current registration prior to working on railroad property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

"UPRR, BNSF, KCS/TEXMEX will not accept on-track safety training certificates from other railroads. Refer to Railroad specific contractor right of entry for training information."

B. Know and follow the "Contractor's Right of Entry Agreement" EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right of Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:
A. 15' - 0" (BNSF)(UPRR)and 14'-0" (KCS) horizontal from centerline of track
B. 22' (KCS) and 21' - 6" (UPRR & BNSF) vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement without written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement without receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

DATE: $DATE$ $TIME$
FILE: $FILE$

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

REVISIONS
March 2020

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
	CONT	SECT	JOB	HIGHWAY
	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		181

3.09 MAINTENANCE OF RAILROAD FACILITIES

A. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right of Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractors's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the project site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.10 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
   1. Pre-construction meetings.
   2. Pile driving/drilling of caissons or drilled shafts.
   3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
   4. Erection of precast concrete or steel bridge superstructure.
   5. Placement of waterproofing (prior to placing ballast on bridge deck).
   6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.11 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad at expense of TxDOT to protect Railroad facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from nearest rail of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to railroad facilities, which, in the opinion of the Railroad Designated Representative, may endanger railroad facilities or operations.

D. During any Contractor's operations when, in the opinion of the Railroad Designated Representative, railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.12 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad will be done by its own forces and it is not a part of the Work under this Contract.

3.13 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around railroad facilities with the Railroad Designated Representative.

3.14 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

   UPRR 1-800-336-9193
   7:00 AM to 9:00 PM CST Monday-Friday except holidays,
   staffed 24 hrs/day for emergencies
   48 hrs notice required

   BNSF 1-800-533-2891
   24 hour number
   5 working days notice required

   KCS 1-800-344-8377
   Texas One Call, a 24 hour number
   48 hrs notice required, excluding weekends and holidays

   If a telecommunications system is buried anywhere on or near railroad property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near railroad property. Refer to the project General Notes for additional information.

C. Projects involving a boring or jack and bore operation under track such as drainage pipes or culverts and utilities require an installation plan reviewed and approved by the Railroad and TxDOT prior to proceeding with such construction. A railroad inspector and contractor assisted monitoring of ground and track movement is required to maintain safe passage of rail traffic. Stop installation and do not allow passage of trains if movements in excess of 1/4 inch vertical or horizontal is detected in the tracks. Immediately repair the damage to the satisfaction of TxDOT and the Railroad before proceeding.

3.15 RAILROAD FLAGGING

Per the Right of Entry Agreement for flagging, notify the Railroad Representative at least 10 working days in advance of Contractor's work and at least 30 working days in advance of any Contractor's work in which any person or equipment will be within 25 feet of nearest rail or as specified in the Contractor Right of Entry (CROE).

3.16 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right of Way and leave the right of Way in a clean and presentable condition to the satisfaction of TxDOT and the Railroad.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

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© TxDOT October 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	0026	02	039, ETC	US 90, ETC
	DIST	COUNTY		SHEET NO.
	YKM	FAYETTE, ETC		182

DATE: $DATE$ $TIME$
FILE: $FILE$