

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 7/31/2013

Control	0035-05-055
Project	STP 2013(926)
Highway	US 83
County	MENARD

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an addendum notification which details the changes and the respective proposal pages which were added and/or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped "This Proposal Issued for Informational Purposes."

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

SUBJECT: PLANS AND PROPOSAL ADDENDUMS
PROJECT: STP 2013(926) CONTROL: 0035-05-055
COUNTY: MENARD
LETTING: 08/07/2013
REFERENCE NO: 0725

PROPOSAL ADDENDUMS

- _ PROPOSAL COVER
X BID INSERTS (SH. NO.: 2-9, 3-9, 4-9, 5-9, 6-9, 7-9, 9-9))
X GENERAL NOTES (SH. NO.: A, B, H, J))

X SPEC LIST (SH. NO.: 3-3))
_ SPECIAL PROVISIONS:
ADDED:

DELETED:

X SPECIAL SPECIFICATIONS:
ADDED: 8020

DELETED: 5369

_ OTHER:

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

SEE CHANGES BELOW

GENERAL NOTES:

- GENERAL NOTE SHEET (A)
 - REVISED RATES OF ITEM 318
 - REVISED ESTIMATED QUANTITIES OF ITEM 318
 - REVISED COMPACTION REQUIREMENT TABLE
- GENERAL NOTE SHEET (B)
 - ADDED MODIFIED STANDARD SHEET RAC-R(MOD)
- GENERAL NOTE SHEET (H)
 - ADDED NOTE FOR ITEM 585, "RIDE QUALITY OF PAVEMENT SURFACES"
- *INFORMATION FOR GENERAL NOTE SHEETS H & I SHIFTED DUE TO THESE CHANGES
- GENERAL NOTE SHEET (J)
 - REMOVE BID ITEM 5369, "CENTERLINE TEXTURING"
 - ADD ITEM 8020, " REFLECTORIZED PROFILE PAVEMENT MARKINGS"

BID INSERTS
DESCRIPTION OF ABOVE CHANGES (CONTINUED)
(INCLUDING PLANS SHEET CHANGES)

BID INSERT (2-9) REMOVE ITEM 318-2064
 ADD ITEM 318-2066 WITH ADJUSTED QUANTITIES
 BID INSERT (2-9) REVISE QUANTITY OF ITEM 318-2309
 BID INSERT (2-9) ADD ITEM 354-2020 WITH NEW QUANTITIES
 BID INSERT (2-9) SHIFTED DUE TO THESE CHANGES
 BID INSERT (3-9) REVISED QUANTITY OF ITEM 432-2002
 BID INSERT (3-9) REVISED QUANTITY OF ITEM 432-2039
 BID INSERT (3-9) SHIFTED DUE TO THE CHANGES
 BID INSERT (4-9) REVISED QUANTITY OF ITEM 460-2003
 BID INSERT (4-9) REVISED QUANTITY OF ITEM 466-2024
 BID INSERT (4-9) DELETE ITEM 467-2061
 BID INSERT (5-9) REVISED QUANTITY OF ITEM 467-2301
 BID INSERT (6-9) REVISED QUANTITY OF ITEM 540-2002
 BID INSERT (6-9) REVISED QUANTITY OF ITEM 540-2044
 BID INSERT (6-9) REVISED QUANTITY OF ITEM 544-2013
 BID INSERT (7-9) REVISED QUANTITY OF ITEM 658-2260
 BID INSERT (9-9) DELETE ITEM 5369-2001
 BID INSERT (9-9) DELETE ITEM 8251-2005-005 REPLACE WITH
 ITEM 8020-2002 WITH SAME QUANTITY
 BID INSERT (9-9) DELETE ITEM 8251-2014-005 REPLACE WITH
 ITEM 8020-2013 WITH SAME QUANTITY
 BID INSERT (9-9) DELETE ITEM 8251-2017-005 REPLACE WITH
 ITEM 8020-2007 WITH SAME QUANTITY

PLAN SHEET MODIFICATIONS

SHEET NO 2 REVISED
 SHEET NO 3 REVISED
 SHEET NO 4 REVISED
 SHEET NO 4C REVISED
 SHEET NO.4D REVISED
 SHEET NO.5 REVISED
 SHEET NO 5A REVISED
 SHEET NO.6 REVISED
 SHEET NO.7 REVISED
 SHEET NO.9 REVISED
 SHEET NO 10 REVISED
 SHEET NO 11 REVISED
 SHEET NO 13 REVISED
 SHEET NO 15 REVISED
 SHEET NO 38 REVISED
 SHEET NO 39 REVISED
 SHEET NO 43 REVISED
 SHEET NO 44 REVISED
 SHEET NO 45 REVISED
 SHEET NO 46 REVISED
 SHEET NO 47 REVISED
 SHEET NO 60A ADDED
 THE FOLLOWING DUPLICATE SHEETS DATED 6/25/13 ARE OMITTED
 FROM THE PLAN SET TO MATCH THE INDEX OF SHEETS:
 63,64,65,66,67,68,69,70,71,72,73,74
 SHEET NO 69 ENGINEER SEAL DATED 6/26/13 REVISED
 SHEET NO 88 REVISED

SHEET NO 92 REVISED
DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

(CONTINUED)

SHEET NO 93 REVISED
SHEET NO 94A ADDED
SHEET NO 112A ADDED
SHEET NO 119 REVISED

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	2002	002	PREPARING ROW DOLLARS and CENTS	STA	277.280	1
	100	2017	002	PREP ROW (TREE)(GREATER THAN 8 IN DIA) DOLLARS and CENTS	EA	42.000	2
	110	2001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	37,960.000	3
	132	2004		EMBANKMENT (FINAL)(DENS CONT)(TY B) DOLLARS and CENTS	CY	2,676.000	4
	134	2004		BACKFILL (TY A OR B) DOLLARS and CENTS	STA	290.560	5
	150	2002		BLADING DOLLARS and CENTS	HR	113.570	6
	164	2023	002	CELL FBR MLCH SEED(PERM)(RURAL)(CLAY) DOLLARS and CENTS	SY	60,743.000	7
	247	2366	033	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS) DOLLARS and CENTS	CY	24,644.000	8
	310	2001		PRIME COAT (MC-30) DOLLARS and CENTS	GAL	10,152.000	9
	314	2010		EMULS ASPH (EROSN CONT)(SS-1) DOLLARS and CENTS	GAL	1,883.300	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	316	2555	016	ASPH (AC10-2TR) DOLLARS and CENTS	GAL	17,766.000	11
	316	2709	016	AGGR (GR 4) DOLLARS and CENTS	CY	441.390	12
	318	2066		AGGR(TY-PB GR-4 SAC-A) DOLLARS and CENTS	CY	2,613.000	13
	318	2309		A-R BINDER (TYPE II) DOLLARS and CENTS	GAL	150,225.000	14
	354	2020		PLANE ASPH CONC PAV(0" TO 1") DOLLARS and CENTS	SY	1,045.000	15
	354	2173	005	PLANING AND TEXTURING (MICRO-MILL- ING) DOLLARS and CENTS	SY	151,421.330	16
	400	2006		CUT & RESTORING PAV DOLLARS and CENTS	SY	66.000	17
	430	2009		CL C CONC FOR EXT STRU(CULV)(6'X 3') DOLLARS and CENTS	LF	64.000	18
	430	2010		CL C CONC FOR EXT STRU(CULV)(5'X 5') DOLLARS and CENTS	LF	40.000	19
	430	2019		CL C CONC FOR EXT STRU(CULV)(6'X 4') DOLLARS and CENTS	LF	64.000	20

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	430	2020		CL C CONC FOR EXT STR (CULV)(4' X 2') DOLLARS and CENTS	LF	8.000	21
	430	2023		CL C CONC FOR EXT STRU (CULV)(5' X 3') DOLLARS and CENTS	LF	40.000	22
	430	2024		CL C CONC FOR EXT STR (CULV)(5' X 4') DOLLARS and CENTS	LF	160.000	23
	430	2035		CL C CONC FOR EXT STRU (CULV)(4' X 3') DOLLARS and CENTS	LF	16.000	24
	430	2040		CL C CONC FOR EXT STRU (CULV)(7' X 6') DOLLARS and CENTS	LF	24.000	25
	430	2051		CL C CONC FOR EXT STR (CULV) 5' X 2' DOLLARS and CENTS	LF	52.000	26
	432	2002		RIPRAP (CONC)(5 IN) DOLLARS and CENTS	CY	172.800	27
	432	2039		RIPRAP (MOW STRIP)(4 IN) DOLLARS and CENTS	CY	80.500	28
	450	2155	001	RAIL (TY T223)(RETROFIT) DOLLARS and CENTS	LF	414.500	29
	452	2003		REMOV RAIL (CONC POST & MTL ELE- MENTS) DOLLARS and CENTS	LF	416.000	30

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	460	2003		CMP (GAL STL 18 IN) and DOLLARS CENTS	LF	233.000	31
	466	2023		WINGWALL (FW-0)(HW=7 FT) and DOLLARS CENTS	EA	2.000	32
	466	2024		WINGWALL (FW-0)(HW=8 FT) and DOLLARS CENTS	EA	2.000	33
	467	2032		SET (TY I)(S= 4 FT)(HW= 5 FT)(3:1)(C) and DOLLARS CENTS	EA	2.000	34
	467	2033		SET (TY I)(S= 4 FT)(HW= 6 FT)(3:1)(C) and DOLLARS CENTS	EA	2.000	35
	467	2040		SET (TY I)(S= 5 FT)(HW= 5 FT)(3:1)(C) and DOLLARS CENTS	EA	4.000	36
	467	2041		SET (TY I)(S= 5 FT)(HW= 6 FT)(3:1)(C) and DOLLARS CENTS	EA	28.000	37
	467	2042		SET (TY I)(S= 5 FT)(HW= 7 FT)(3:1)(C) and DOLLARS CENTS	EA	10.000	38
	467	2048		SET (TY I)(S= 6 FT)(HW= 4 FT)(3:1)(C) and DOLLARS CENTS	EA	1.000	39
	467	2049		SET (TY I)(S= 6 FT)(HW= 5 FT)(3:1)(C) and DOLLARS CENTS	EA	7.000	40
	467	2050		SET (TY I)(S= 6 FT)(HW= 6 FT)(3:1)(C) and DOLLARS CENTS	EA	16.000	41

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	467	2107		SET (TY I)(S= 4 FT)(HW= 3 FT)(4:1)(C) DOLLARS and CENTS	EA	4.000	42
	467	2108		SET (TY I)(S= 4 FT)(HW= 4 FT)(4:1)(C) DOLLARS and CENTS	EA	6.000	43
	467	2115		SET (TY I)(S= 5 FT)(HW= 5 FT)(4:1)(C) DOLLARS and CENTS	EA	4.000	44
	467	2301		SET (TY II)(18 IN)(CMP)(6:1)(P) DOLLARS and CENTS	EA	14.000	45
	480	2001		CLEAN EXIST CULVS DOLLARS and CENTS	EA	2.000	46
	496	2007		REMOV STR (PIPE) DOLLARS and CENTS	LF	49.000	47
	500	2001	011	MOBILIZATION DOLLARS and CENTS	LS	1.000	48
	502	2001	033	BARRICADES, SIGNS AND TRAFFIC HAN- DLING DOLLARS and CENTS	MO	14.000	49
	512	2093	002	PORT CBR (DES SOURCE) DOLLARS and CENTS	LF	210.000	50
	512	2094	002	PORT CBR (MOVE) DOLLARS and CENTS	LF	630.000	51

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	ITEM NO	DESC CODE	S.P. NO.				
	512	2095	002	PORT CBR (STOCKPILE) DOLLARS and CENTS	LF	210.000	52
	529	2002		CONC CURB (TY II) DOLLARS and CENTS	LF	100.000	53
	530	2050	006	DRIVEWAYS (SURF TREAT) (TYPE 1) DOLLARS and CENTS	SY	1,183.000	54
	540	2002	031	MTL W-BEAM GD FEN (STEEL POST) DOLLARS and CENTS	LF	1,100.000	55
	540	2011	031	MTL BEAM GD FEN TRANS (THRIE-BEAM) DOLLARS and CENTS	EA	4.000	56
	540	2044	031	DOWNSTREAM ANCHOR TERMI- NAL(DAT)SECTION DOLLARS and CENTS	EA	8.000	57
	540	2046	031	MTL BM GD FEN TRANS (NON-SYM) DOLLARS and CENTS	EA	4.000	58
	542	2001		REMOVING METAL BEAM GUARD FENCE DOLLARS and CENTS	LF	1,250.000	59
	544	2013		GDRAIL END TRT(INSTALL)(HBA POST) DOLLARS and CENTS	EA	8.000	60
	545	2049		CRASH CUSH ATTEN (INSTL)(WORK ZONE) DOLLARS and CENTS	EA	2.000	61

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	545	2050		CRASH CUSH ATTEN(MOV&RESET)(WORK ZONE) DOLLARS and CENTS	EA	6.000	62
	545	2051		CRASH CUSH ATTEN (REMOVE)(WORK ZONE) DOLLARS and CENTS	EA	2.000	63
	644	2001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) DOLLARS and CENTS	EA	26.000	64
	644	2027		IN SM RD SN SUP&AM TYS80(1)SA(U) DOLLARS and CENTS	EA	7.000	65
	644	2028		IN SM RD SN SUP&AM TYS80(1)SA(U-1EXT) DOLLARS and CENTS	EA	2.000	66
	658	2258		INSTL DEL ASSM (D-SW)SZ (TYC)CTB DOLLARS and CENTS	EA	30.000	67
	658	2260		INSTL DEL ASSM (D-SW)SZ (TYC)GF1 DOLLARS and CENTS	EA	58.000	68
	658	2316		INSTL OM ASSM (OM-2Z)(FLX)GND DOLLARS and CENTS	EA	38.000	69
	662	2115		WK ZN PAV MRK SHT TERM (TAB) TY Y-2 DOLLARS and CENTS	EA	8,500.000	70
	666	2157		REF PAV MRK TY II (W) 24" (SLD) DOLLARS and CENTS	LF	97.000	71

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	672	2015	034	REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	2,115.000	72
	672	2017	034	REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	623.000	73
	1122	2001	001	ROCK FILTER DAMS (INSTALL) (TY 1) DOLLARS and CENTS	LF	224.000	74
	1122	2009	001	ROCK FILTER DAMS (REMOVE) DOLLARS and CENTS	LF	224.000	75
	1122	2016	001	CONSTRUCTION EXITS (INSTALL) (TY 1) DOLLARS and CENTS	SY	234.000	76
	1122	2019	001	CONSTRUCTION EXITS (REMOVE) DOLLARS and CENTS	SY	234.000	77
	1122	2037	001	TEMPORARY SEDIMENT CONTROL FENCE INSTLL DOLLARS and CENTS	LF	600.000	78
	1122	2049	001	BIOGRD EROSN CONT LOGS (18" DIA)INSTALL DOLLARS and CENTS	LF	3,766.000	79
	1122	2056	001	BIODEGRADBLE EROSION CONTROL LOGS REMOV DOLLARS and CENTS	LF	3,766.000	80

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	1122	2057	001	TEMPORARY SEDIMENT CONTROL FENCE REMOVE DOLLARS CENTS and	LF	600.000	81
	3239	2002		TOM (ASPHALT) PG 70-22 DOLLARS CENTS and	TON	781.170	82
	3239	2004		TOM (AGGREGATE) SAC B DOLLARS CENTS and	TON	13,970.880	83
	3270	2120		SUPERPAVE MIXTURES SP-D SAC-B PG70-22 DOLLARS CENTS and	TON	3,489.750	84
	8020	2002		REF PROF PAV MRK TY I(W)4"(SLD)(090MIL) DOLLARS CENTS and	LF	113,237.000	85
	8020	2007		REF PROF PAV MRK TY I(Y)4"(SLD)(090MIL) DOLLARS CENTS and	LF	89,189.000	86
	8020	2013		REF PROF PAV MRK TY I(Y)4"(BRK)(90 MIL) DOLLARS CENTS and	LF	5,420.000	87
	8251	2002	005	RE PM W/RET REQ TY I(W)4"(BRK)(090MIL) DOLLARS CENTS and	LF	12,410.000	88

BASIS OF ESTIMATE

Item No.	Description	Usage	Area	Rate	Estimated Quantity
210	Rolling		300,449 SY	1,020 SY/HR	# 295 HR
216	Proof Rolling	Subgrade	50,760 SY	2,500 SY/HR	20 HR
310	Prime Coat	Flexible Base	50,760 SY	0.20 GAL/SY	10,152 GAL
314	Emulsified Asphalt Treatment	Edge Seal	37,665 SY	0.20 GAL/SY	1,883 GAL asphalt
					# 5,649 GAL water
316	Surface Treatments	Asphalt	50,760 SY	0.35 GAL/SY	17,766 GAL
316	Surface Treatments	Aggregate	50,760 SY	115 SY/CY	441 CY
318	Hot Asphalt-Rubber Surface Treatments	Asphalt	300,449 SY	0.50 GAL/SY	150,225 GAL
318	Hot Asphalt-Rubber Surface Treatments	Aggregate	300,449 SY	115 SY/CY	2,613 CY
3239	Thin Overlay Mixture (TOM)	Asphalt	300,449 SY	5.2 LB/SY	781 TON
3239	Thin Overlay Mixture (TOM)	Aggregate	300,449 SY	93 LB/SY	13,971 TON
3270	Superpave Mixtures	Surface Course	50,760 SY	137.5 LB/SY	3,490 TON

Quantity is shown for Contractor's information only (not a pay item).

COMPACTION REQUIREMENTS

Item No.	Description	Course	Percent Minimum Density
132	Embankment TY B	All	98
247	Flexible Base	All	100
400	Excavation and Backfill for Structures	All	98

Note: Density will be tested in accordance with Tex-113-E, Tex-114-E, and Tex-115-E.

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Highway: US 83

GENERAL NOTES

The following Standard Sheets have been modified: RAC-R(MOD).

Signs, markings, delineators and signals conform to details shown on the plans, the TMUTCD, the Compliant Work Zone Traffic Control Device List (CWZTCDL), the Department's Standard Sheets, "Standard Highway Sign Designs for Texas" and "Sign Crew Field Book." These publications are available from the Department's Traffic Operations Division.

Locate the project bulletin board at an approved location within the project limits such as at a field office, staging area, or stockpile, and make accessible to the public at all times. Do not remove the bulletin board from the project until approved.

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

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

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

All motor vehicle equipment having an obstructed view to the rear shall have a reverse signal alarm audible above the surrounding noise level.

Item 2, "Instructions to Bidders"

For questions call: Ronald L. "Lewis" Nowlin, P.E.
 Junction Area Engineer
 2124 N. Main
 Junction, Texas 76849
 (325) 446-9603
 Lewis.Nowlin@txdot.gov

Item 5, "Control of the Work"

Match existing roadway cross slopes. Place a row of two blue-tops at each station throughout the length of the proposed roadway for both subgrade and top lift of base course, except in horizontal curves. Within horizontal curves, place a row of two blue-tops at 25 ft. intervals to match the existing roadway cross slope for both subgrade and top lift of base course.

Responsibility for construction surveying shall conform to Article 5.6.C, "Method C."

Item 8, "Prosecution and Progress"

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Submit the sequence of work and estimated progress schedule on paper or as a Portable Document Format (PDF) electronic file compatible with Adobe Systems Incorporated "Acrobat Reader X".

Item 9, "Measurement and Payment"

Provide a conversion rate for units of payment for work subcontracted to disadvantaged business enterprises if units of payments differ from those shown on the plans.

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

Item 100, "Preparing Right of Way"

This Item is limited to construction areas in the proposed passing lanes and consists of removing and stockpiling existing topsoil; brush and debris removal at all structures; and brush and/or tree trimming or removal within 16 ft. of proposed edge of travel way. Perform this work between October 1 and March 1.

Perform major pruning of trees and shrubs in accordance with ANSI Standards for Tree Care Maintenance Operations (ANSI A300 Part 1) under Section 5.1 (except for 5.1.1); Section 5.2; Section 5.3; Section 5.4; Section 5.6, Pruning Types, which includes the types: "Clean", "Thin", "Raise"; and Section 5.9, Utility Pruning. Prune to the branch bark ridge at the main crotch of the central limb. Apply black pruning paint (non-specific, not labeled specifically as pruning paint) to all cuts on oak trees. Spray paint is acceptable. Aerial lifts are required for large trees having 12 in. caliper or larger. Remove pruned debris outside the right of way in a legal manner or chip cuttings into mulch (not greater than 1 in. by 1 in. by 0.5 in.) and spread material at 2 in. depth at an onsite location within the grassed right of way.

To minimize the spread of live oak decline, take the following steps when pruning or removing oak trees:

1. Clean trimming equipment with an alcohol solution prior to pruning each tree.
2. Apply pruning paint immediately after making each cut when pruning.
3. Remove from the right of way or burn oak trees within 7 days of cut. Chipping of oak trees will not be permitted unless remaining mulch is removed from the right of way.

Item 164, "Seeding for Erosion Control"

Finish grade, level smooth, clear and rake all stones, stumps, weed vegetation, roots, brush, wire, grade stakes, and all other objects larger than 1 in. thickness or diameter, then place cellulose fiber mulch seeding to areas designated to be seeded.

Item 204, "Sprinkling"

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Apply water for dust control to un-surfaced bases during the work day, at the end of each work day, and on non-work days as directed.

Item 247, “Flexible Base”

Stockpile flexible base produced for this project separately from any other stockpiled material and label stockpile with project number, material type, and grade.

For projects less than 20,000 CY, build one stockpile. For projects of 20,000 CY or more, multiple stockpiles are allowed, but minimum stockpile size is 20,000 CY. Reimburse the Department for the cost of sampling and testing performed in accordance with Special Provision 006---003 for any stockpile not built as described. Charges for additional sampling and testing will be deducted from the Contractor's estimates.

Place flexible base in lifts of 8 in.

Provide 24 hours written notice of intent to begin crushing operations. Materials produced prior to this notice will not be accepted.

Item 302, “Aggregates for Surface Treatments”

Stockpile aggregates separately and label stockpiles with project number, material type, and grade.

The target value for the desired percent by weight of residual bitumen coating on the aggregate is 1.2%.

Item 310, “Prime Coat”

Refinish material that does not receive prime coat within one working day following acceptance of flexible base.

Unless otherwise directed, allow prime coat to cure for seven days before placing surface treatment.

Item 314, “Emulsified Asphalt Treatment”

Apply a 3 ft. wide strip of emulsified asphalt at a rate of 0.20 gallons per square yard as an edge seal along each pavement edge. Lap the pavement edge seal onto the pavement a maximum of 6 in. Dilute the emulsion 3 parts water to 1 part emulsion. Payment will not be made for water.

Item 316, “Surface Treatments”

Cure the first surface treatment course a minimum of 1 day before placing the second course.

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

Do not place wet aggregate.

Use medium pneumatic rollers that meet the requirements of Item 210, "Rolling." If traprock aggregate is used, the Engineer may require steel wheel rollers.

Item 354, "Planing and Texturing Pavement"

Mirco-milling will be ¼" in depth.

Remove and dispose of existing raised pavement markers, jiggle bars, and traffic buttons before planing.

Mark and saw cut straight lines at the boundaries of planed areas. Do not saw cut pavement until the lines are approved.

Take measures to prevent reclaimed asphalt pavement (RAP) from entering storm drain grates, inlets and waterways.

All reclaimed asphalt pavement (RAP) not incorporated into the project shall remain the property of the Department. Deliver to the Department's stockpile location at the north end of the project, as directed.

Furnish, install, and maintain temporary sediment control fence around the stockpile of reclaimed asphalt pavement (RAP) material at all times. When the existing RAP stockpile is enclosed by temporary sediment control fence, remove and replace fencing as necessary to add or remove RAP. Leave fencing in place at the conclusion of the project. This shall be measured and paid for as Item 1122, "Temporary Erosion, Sedimentation, and Environmental Controls."

Item 400, "Excavation and Backfill for Structures"

If excavating beyond the dimensions shown on the plans, furnish and install cement stabilized backfill in such areas at no cost.

Use Class C bedding.

Item 421, "Hydraulic Cement Concrete"

Provide sulfate-resistant concrete (containing Type II cement) for all concrete identified as structural concrete in Table 5, except for the following: bridge railing, approach slabs, concrete traffic barrier, prestressed concrete panels, Class H concrete, and Class S concrete.

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Provide all items listed in 421.3.C, "Testing Equipment" with the exception of strength-testing equipment.

Entrained air is required in all slip formed concrete, but is not required for other structural concrete. Adjust the dosage of air entraining agent for low air content as directed by the Engineer. If entrained air is provided where not required, only the upper limits of the applicable Special Provision will be enforced.

Item 427, "Surface Finishes for Concrete"

Provide rub finish to Surface Area I.

Item 432, "Riprap"

Furnish and install 1/2-in. thick joint filler board conforming to DMS-6310, "Joint Sealants and Fillers" between concrete riprap and adjacent existing concrete, and where directed.

Item 450, "Railing"

Furnish and install barrier reflectors on the top of concrete railing.

Item 467, "Safety End Treatment"

Type II safety end treatments shall have riprap aprons as shown on the plans.

Item 496, "Removing Structures"

This item shall include the complete removal and proper disposal of existing structures, including but not limited to the following: culvert barrels, railing, wingwalls, headwalls, retaining walls, safety end treatments, pipe runners, riprap, deck, overlay, approach slabs, joints, beams, bracing, drains, conduits, pipes, bents, abutments, columns, pilings, footings, web-walls, drilled shafts, reinforcing steel, bridge protective assemblies, clearance signs, etc. Portions of the structure at least 2 ft. below the permanent ground line may be left in place as directed.

Remove medallions embedded in the culvert headwalls and salvage to the State.

Item 502, "Barricades, Signs and Traffic Handling"

The contractor force account "Safety Contingency" that has been established for this project is for work zone enhancements that were unforeseen in the project planning and design stage, but would improve the effectiveness of the traffic control plan. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if doing so does not slow implementation of work zone enhancements.

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Furnish regulatory speed limit signs. The Engineer will determine placement locations and will provide supervision to the Contractor in placing, removing and replacing these signs. The construction speed zones are as follows:

Highway	Begin Reference Marker	End Reference Marker	Existing Speed Limit (mph)	Work Zone Speed Limit (mph)
US 83	436+0.000	444+0.698	70	60

Shadow, lead, and trail vehicles shown on the plans are required.

Use high level warning flags on advance warning signs during daytime operations.

One-way traffic control will be included in payment for this Item.

Provide flaggers at such times and locations as directed to ensure the safe passage of traffic through construction areas. When flaggers are used to control traffic, furnish and install signs CW20-7 "FLAGGER SYMBOL", CW20-7aD "FLAGGER AHEAD", and CW3-4 "BE PREPARED TO STOP". Flaggers shall use 24 in. STOP/SLOW paddles.

Remove Type III barricades and plastic drums upon depletion of a stockpile. At Contractor's option, place these items near the fence line.

Warning reflectors mounted on plastic drums may be substituted in place of Type C steady burn warning lights.

Temporarily relocate existing mailbox assemblies on portable mailbox stands as shown on the plans, or as directed. Use materials conforming to the Compliant Work Zone Traffic Control Device List (CWZTCDL).

Install orange plastic construction fencing around the perimeter of trenches and excavations to remain open at night, and at other locations shown on the plans or as directed. Construction fence shall be orange plastic, highly visible, 4 ft. high, and as approved. Construction fence supports shall be steel t-posts with safety caps, wooden posts having minimum dimension of 1 1/2 in, or plastic drums. Embed steel or wooden posts sufficiently as directed. Steel or wooden supports shall extend to top of construction fence. Attach construction fence to supports sufficiently as directed. Do not exceed 8 ft. between supports. Do not use steel reinforcing bars as supports for construction fence.

Temporarily relocate existing permanent sign assemblies to temporary supports as shown on the plans, or as directed.

Provide flaggers if using pilot cars with either automated flagger assistance devices or temporary traffic signals.

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

Item 512, "Portable Concrete Traffic Barrier"

The PCTB and crash cushions are to be provided by TxDOT, and will be picked up and returned to:
Concho/Menard Maintenance Office
1418 W. Broadway Eden, Texas 76837

Item 540, "Metal Beam Guard Fence"

Widen crown to accommodate guardrail and transitions as shown on the applicable Standard Sheets. Unless otherwise designated, crown widening will be included in payment for this item.

Item 542, "Removing Metal Beam Guard Fence"

Materials determined salvageable shall remain property of the Department. Deliver to the Department's maintenance section which has responsibility for the project area.

Item 544, "Guardrail End Treatments"

Furnish and install object markers Type OB-3F on the front of the impact heads of single guardrail terminals as shown on Standard Sheet D&OM(VIA).

Widen crown to accommodate single guardrail terminals as shown on the applicable Standard Sheets. Unless otherwise designated, crown widening will be included in payment for this item.

Item 585, "Ride Quality for Pavement Surfaces"

Schedule 2 from Table 1 will be used to determine the level of bonus or penalty for each 0.1-mi. section on the project.

Item 636, "Aluminum Signs"

Materials determined salvageable shall remain property of the Department. Deliver to the Department's maintenance section which has responsibility for the project area.

Before removal from the project site, spray-paint (with an oil-based paint), an "X" across the face of non-salvageable signs as directed.

Item 644, "Small Roadside Sign Supports and Assemblies"

Where foundations protrude through riprap or other concrete areas, wrap the foundation with 1/4-in. thick bituminous fiber sheets before placing concrete or repairing the concrete area. Bituminous fiber sheet tubes may be used for forming sign foundations

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instead of removable forms and shall be left in place below the finished concrete or riprap surface. Neatly trim the bituminous fiber sheets flush with the finished surface after the concrete has cured.

Drill and pour small roadside sign foundations on the same day or suitably cover the drilled hole.

Cover each unfinished sign base with a reflectorized traffic cone.

Furnish and install omni-directional sign post wrap (12 in. by 12 in. Type C retroreflective sheeting with pressure sensitive backing) on sign posts. Sign post wrap shall be yellow for all signs except for signs R1-2 "YIELD" and R1-1 "STOP", on which sign post wrap shall be red. Place the bottom of sign post wrap a height of 4 ft. above the edge of travel lane. For signs with I-beams, provide four strips of 12 in. high by 2 in. wide sign post wrap per post.

Item 658, "Delineator and Object Marker Assemblies"

Place reflector units within metal beam guard fence units at 50-ft. spacing.

Item 662, "Work Zone Pavement Markings"

Do not use temporary flexible-reflective roadway marker tabs to delineate stop bars, crosswalks, symbols, or words.

Use the temporary flexible-reflective roadway marker tab configuration shown on Standard Sheet TCP(7-1) for surface treatment and use the configuration shown on WZ(STPM) for overlay.

Item 1122, "Temporary Erosion, Sedimentation, and Environmental Controls"

Install temporary and permanent erosion control devices at the earliest time practical. Place a weatherproof bulletin board on approved temporary mounts containing the TCEQ required information at each of the project limits or as directed. Post the following documents:

1. TCEQ TPDES Storm Water Program construction site notice.
2. TCEQ Notice of Intent.
3. TCEQ TPDES Permit.

Ensure that the sheets remain dry. Place rain gauges at designated locations. Remove erosion control devices at the completion of the project when directed.

Item 3270, "Superpave Mixtures"

Liquid antistripping agents are not allowed.

Do not dump and reload hot mix asphalt.

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Should the paving operation stop three times in one day due to equipment malfunction or mixture flow interruption, the Engineer may require the Contractor to immediately suspend operations until the next working day.

Hauling equipment is subject to weight verification.

If a limestone material source is used, add a minimum of 1% lime conforming to the requirements of Item 301, "Asphalt Antistripping Agents." Testing in accordance with method Tex-530-C is waived.

Design a mixture with a gradation that has stone-on-stone contact and passes below the reference zone shown in Table 9. Verify stone-on-stone contact using the method given in the Superpave design procedure in Tex-204-F, Part IV.

Item 8020, "Reflectorized Profile Pavement Markings"

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

Item 8251, "Reflectorized Pavement Markings with Retroreflective Requirements"

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

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

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

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

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PROJECT : STP 2013(926)
HIGHWAY : US 83
COUNTY : MENARD

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF
----- TRANSPORTATION JUNE 1, 2004.
STANDARD SPECIFICATIONS ARE INCORPORATED
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 100 PREPARING RIGHT OF WAY (103)
ITEM 110 EXCAVATION (132)
ITEM 132 EMBANKMENT (100)(204)(210)(216)(400)
ITEM 134 BACKFILLING PAVEMENT EDGES (166)(168)(300)(314)
ITEM 150 BLADING
ITEM 164 SEEDING FOR EROSION CONTROL (166)(168)
ITEM 247 FLEXIBLE BASE (105)(204)(210)(216)(520)
ITEM 310 PRIME COAT (300)(316)
ITEM 314 EMULSIFIED ASPHALT TREATMENT (204)(300)
ITEM 316 SURFACE TREATMENTS (210)(300)(302)
ITEM 318 HOT ASPHALT-RUBBER SURFACE TREATMENTS (210)(300)(302)
(520)
ITEM 354 PLANING AND TEXTURING PAVEMENT
ITEM 400 EXCAVATION AND BACKFILL FOR STRUCTURES (132)(401)(420)
(421)
ITEM 430 EXTENDING CONCRETE STRUCTURES (420)(421)(440)(448)
ITEM 432 RIPRAP (247)(420)(421)(427)(431)(440)
ITEM 450 RAILING (420)(421)(424)(440)(441)(442)(445)(446)(448)
(540)
ITEM 452 REMOVING RAILING (420)
ITEM 460 CORRUGATED METAL PIPE (400)(445)
ITEM 466 HEADWALLS AND WINGWALLS (400)(420)(421)(430)(440)(464)
ITEM 467 SAFETY END TREATMENT (400)(420)(421)(430)(432)(440)(445)
(460)(464)
ITEM 480 CLEANING EXISTING CULVERTS
ITEM 496 REMOVING STRUCTURES (430)
ITEM 500 MOBILIZATION
ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING
ITEM 512 PORTABLE CONCRETE TRAFFIC BARRIER (420)(421)(424)(440)

(442)
ITEM 529 CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER (420)
(421)(440)
ITEM 530 INTERSECTIONS, DRIVEWAYS, AND TURNOUTS (247)(316)(334)
(340)
ITEM 540 METAL BEAM GUARD FENCE (421)(441)(445)(529)(542)(544)
ITEM 542 REMOVING METAL BEAM GUARD FENCE
ITEM 544 GUARDRAIL END TREATMENTS
ITEM 545 CRASH CUSHION ATTENUATORS (421)
ITEM 644 SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES (421)(440)
(441)(442)(445)(634)(636)(643)(656)
ITEM 658 DELINEATOR AND OBJECT MARKER ASSEMBLIES (445)
ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)
ITEM 666 REFLECTORIZED PAVEMENT MARKINGS (316)(318)(662)(677)(678)
ITEM 672 RAISED PAVEMENT MARKERS

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE
----- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED
HEREON WHEREVER IN CONFLICT THEREWITH.

REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS
(FORM FHWA 1273, MAY, 2012)

WAGE RATES

SPECIAL PROVISION "NOTICE TO ALL BIDDERS" (000---003)
SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO
ENSURE EQUAL EMPLOYMENT OPPORTUNITY" (000---004)
SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS" (000---006)
SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT"
(000---009)
SPECIAL PROVISION "DEPARTMENT DIVISION MAILING AND PHYSICAL ADDRESS"
(000---011)
SPECIAL PROVISION "NOTICE OF CHANGES TO U.S. DEPARTMENT OF LABOR
REQUIRED PAYROLL INFORMATION" (000--1483)
SPECIAL PROVISION "ON-THE-JOB TRAINING PROGRAM" (000--1676)
SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL AID
CONTRACTS" (000--1966)
SPECIAL PROVISION "PARTNERING" (000--2329)
SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000--2332)
SPECIAL PROVISION "NONDISCRIMINATION" (000--2607)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--2711)
SPECIAL PROVISION TO ITEM 1 (001---015)
SPECIAL PROVISION TO ITEM 2 (002---017)
SPECIAL PROVISION TO ITEM 3 (003---033)
SPECIAL PROVISION TO ITEM 4 (004---017)
SPECIAL PROVISION TO ITEM 5 (005---004)
SPECIAL PROVISIONS TO ITEM 6 (006---003)(006---030)(006---047)
SPECIAL PROVISION TO ITEM 7 (007---918)
SPECIAL PROVISIONS TO ITEM 8 (008---006)(008---119)
SPECIAL PROVISIONS TO ITEM 9 (009---009)(009---015)
SPECIAL PROVISION TO ITEM 100 (100---002)
SPECIAL PROVISION TO ITEM 161 (161---006)

SPECIAL PROVISION TO ITEM 164 (164---002)
 SPECIAL PROVISION TO ITEM 166 (166---001)
 SPECIAL PROVISION TO ITEM 247 (247---033)
 SPECIAL PROVISION TO ITEM 300 (300---039)
 SPECIAL PROVISION TO ITEM 302 (302---010)
 SPECIAL PROVISION TO ITEM 316 (316---016)
 SPECIAL PROVISION TO ITEM 354 (354---005)
 SPECIAL PROVISION TO ITEM 420 (420---002)
 SPECIAL PROVISION TO ITEM 421 (421---035)
 SPECIAL PROVISION TO ITEM 424 (424---003)
 SPECIAL PROVISION TO ITEM 431 (431---001)
 SPECIAL PROVISION TO ITEM 440 (440---006)
 SPECIAL PROVISION TO ITEM 441 (441---008)
 SPECIAL PROVISION TO ITEM 442 (442---016)
 SPECIAL PROVISION TO ITEM 448 (448---002)
 SPECIAL PROVISION TO ITEM 450 (450---001)
 SPECIAL PROVISION TO ITEM 464 (464---006)
 SPECIAL PROVISION TO ITEM 500 (500---011)
 SPECIAL PROVISION TO ITEM 502 (502---033)
 SPECIAL PROVISION TO ITEM 512 (512---002)
 SPECIAL PROVISION TO ITEM 530 (530---006)
 SPECIAL PROVISION TO ITEM 540 (540---031)
 SPECIAL PROVISION TO ITEM 636 (636---014)
 SPECIAL PROVISION TO ITEM 643 (643---001)
 SPECIAL PROVISION TO ITEM 672 (672---034)
 SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 1122 (1122--001)
 SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 8251 (8251--005)

SPECIAL SPECIFICATIONS:

ITEM 1122 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL
 CONTROLS (161)(432)(556)
 ITEM 3239 THIN OVERLAY MIXTURE (TOM)
 ITEM 3270 SUPERPAVE MIXTURES (210)(300)(301)(320)(520)(585)
 ITEM 8020 REFLECTORIZED PROFILE PAVEMENT MARKINGS
 ITEM 8094 MOBILE RETROREFLECTIVITY DATA COLLECTION FOR PAVEMENT
 MARKINGS
 ITEM 8251 REFLECTORIZED PAVEMENT MARKINGS WITH RETROREFLECTIVE
 REQUIREMENTS (316)(318)(502)(677)(678)(8094)

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH
 ----- PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER
 PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-
 LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL
 PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFI-
 CATIONS FOR THIS PROJECT.

SPECIAL SPECIFICATION

8020

Reflectorized Profile Pavement Markings

1. **Description.** Furnish and place reflectorized profile pavement markings of the type, color, shape, size, width, and thickness shown on the plans.

2. **Materials.**

A. **Type I Profile Marking Materials.** Type I profile markings are thermoplastic type materials that require heating to elevated temperatures for application. Type I marking materials must conform to departmental materials specification DMS 8220, "Hot Applied Thermoplastic." Clearly mark each container of Type I marking material to indicate the color, weight, type of material, manufacturer's name, and the lot/batch number.

In addition to the above requirements, the thermoplastic type material must contain a minimum of 35.0% intermix glass beads.

B. **Type II Profile Marking Materials.** Type II profile markings are paint-type materials that are applied at ambient or slightly elevated temperatures.

Type II paint-type profile markings must be a catalyzed methacrylate or other catalyzed material approved by the Construction Division and must contain a minimum of 20.0% intermix glass beads conforming to DMS 8290, "Glass Traffic Beads" and meet the color requirements for each color, white and yellow, as specified in DMS 8220.

3. **Equipment Requirements.** Equipment used to place pavement markings must:

A. Be maintained in satisfactory operating condition.

B. Be considered in satisfactory operating condition if it has an average placement rate of 5,000 linear ft. per hour of acceptable 4 in. solid or broken lines over any 5 consecutive working days.

C. Meet or exceed the material handling at elevated temperatures requirements of the National Board of Fire Underwriters and the Texas Railroad Commission.

D. Be capable of placing a minimum of 40,000 linear ft. of 4 in. solid or broken markings per working day.

E. Have the same production capabilities as 4 in. marking equipment, and must be capable of placing linear markings up to 8 in. in width in a single pass.

- F. Production capabilities for the placement of markings other than solid or broken lines must be approved by the Engineer.
- G. Be capable of placing a centerline and no-passing barrier-line configuration consisting of 1 broken line and 2 solid lines at the same time to the alignment and spacing shown on the plans.
- H. Be capable of placing solid and broken lines simultaneously.
- I. Be capable of placing lines with clean edges and of uniform cross-section. All lines must have a tolerance of $\pm 1/8$ in. per 4 in. width.
- J. Have an automatic cut-off device with manual operating capabilities to provide clean, square marking ends, and to provide a method of applying broken line in a stripe-to-gap ratio of 10 to 30. The length of the stripe must not be less than 10 ft. or more than 10.5 ft. The total length of any stripe-gap cycle must not be less than 39.5 ft. or more than 40.5 ft.
- K. Provide continuous mixing and agitation of the pavement marking material. The use of pans, aprons, or similar appliances which the die overruns will not be permitted for longitudinal striping applications.
- L. Apply beads by an automatic bead dispenser attached to the pavement marking equipment in such a manner that the beads are dispensed uniformly and almost instantly upon the marking as the marking is being applied to the road surface. The bead dispenser must have an automatic cut-off control, synchronized with the cut-off of the pavement marking equipment.
- M. Be capable of producing the types and shapes of profiles as specified under Article 4 "Construction," Section C & D.

4. Construction.

- A. **General.** When required, review the sequence of work to be followed and the estimated progress schedule with the Engineer.

Markings may be placed on roadways either free of traffic or open to traffic. On roadways open to traffic, place the markings under traffic conditions that exist with a minimum of interference to the operation of the facility. Traffic control must be as shown on the plans, or as approved by the Engineer in writing. All markings placed under open traffic conditions must be protected from traffic damage and disfigurement.

Guides to mark the lateral location of pavement markings must be established as shown on the plans or as directed by the Engineer. Establish the pavement marking guides for verification.

Place markings in proper alignment with the guides. The deviation rate in alignment must not exceed 1 in. per 200 ft. of roadway. The maximum deviation must not exceed 2 in. nor must any deviation be abrupt.

Markings must essentially have a uniform cross section. The density and quality of markings must be uniform throughout their thickness. The applied markings must have no more than 5%, by area, of holes or voids, and must be free of blisters.

Type I markings, in place on the roadway, must be reflectorized both internally and externally. Apply glass beads to the material at a uniform rate sufficient to achieve uniform and distinctive retroreflective characteristics when observed in accordance with Test Method, TEX-828-b.

Markings placed that are not in alignment or sequence, as shown on the plans or as stated in this Item, must be removed by the contractor at the contractor's expense. Remove in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for measurement and payment. Guides placed on the roadway for alignment purposes must not establish a permanent marking on the roadway.

When Type I markings are to be placed, use a hand-held thermometer. The thermometer must be capable of measuring the temperature of the pavement marking material to be placed.

- B. Surface Preparation.** Portland cement concrete surfaces must be cleaned in accordance with Item 678, "Pavement Surface Preparation for Markings," to remove curing membrane, dirt, grease, old markings, and other forms of contamination.

Pavement to which material is to be applied must be completely dry. Pavements will be considered dry if, on a sunny day after observation for 15 minutes, no condensation occurs on the underside of a 1 ft. square piece of clear plastic that has been placed on the pavement and weighted on the edges.

- C. Application of Type I Profile Pavement Markings.** Portland cement concrete surfaces and asphaltic surfaces 3 years old or older must be further prepared for Type I profile markings, after cleaning, by placing a Type II marking as a sealer in accordance with Item 666, "Reflectorized Pavement Markings." Type II markings must be placed a minimum of 2 and a maximum of 30 calendar days in advance of placing Type I profile markings. Type II markings which become dirty due to inclement weather or road conditions must be cleaned by washing, brushing, compressed air, or other means approved by the Engineer, prior to application of Type I profile markings. If washing is used, the surface of Type II markings must become completely dry before placing Type I profile markings. Color, location, and configuration of Type II markings must be the same as that of Type I profile markings.

Apply Type I profile pavement marking material within temperature limits recommended by the material manufacturer. Apply Type I profile pavement markings on clean, dry pavement having a surface temperature above 50°F. Measure pavement temperature in accordance with Test Method TEX-829-b.

When Type I profile pavement marking application is by spray, and operations cease for 5 minutes or more, the spray head must be flushed by spraying pavement marking material into a pan or similar container until the pavement marking material being sprayed is at the proper temperature for application.

Unless otherwise directed, do not place Type I profile pavement marking materials on roadways between September 30 and March 1, subject to temperature and moisture limitations specified herein.

Type I profile markings must have a minimum thickness of 0.060 in. (60 mil) for edge line markings and 0.090 in. (90 mil) for gore and centerline/no-passing barrier line markings. In addition, at a longitudinal spacing indicated on the plans, the markings must be profiled in a vertical manner such that the profile is transverse to the longitudinal marking direction. The profile must not be less than 0.30 in. (300 mil) nor greater than 0.50 in. (500 mil) in height when measured above the normal top surface plane of the roadway. The transverse width of the profile must not be less than 3.25 in., and the longitudinal width not less than 1 in., when measured at the top surface plane of the profile bar. The profile may be either a 1 or 2 transverse bar profile. When the 2 transverse bar profile is utilized, the spacing between the bases of the profile bars must not exceed 0.50 in. The above transverse bar width is for each 4 in. of line width.

- D. Application of Type II Profile Pavement Markings.** The application of Type II profile marking materials must be done only on surfaces with a minimum surface temperature of 50°F.

Prior to applying Type II profile pavement markings, the pavement surface must be prepared by placing a Type II pavement marking in accordance with Item 666, "Reflectorized Pavement Markings," as a sealer.

In not less than 2 nor more than 30 calendar days after placement of the Type II pavement markings specified above, the Type II profile pavement markings must be placed. The Type II profile pavement markings must consist of a series of transverse dots a minimum of 0.50 in. in base diameter and 0.20 in. (200 mil) in height or transverse bars a minimum of 0.50 in. in base width and 0.20 in. (200 mil) in height with a longitudinal spacing and pattern as indicated on the plans. When the dot profile pattern is utilized, the number of dots utilized to define the line width must be 1 more than the line width in inches (example: for a 4 in. wide line, 5 dots must be used). When the bar profile is utilized, the bar's transverse length must be plus or minus 0.125 in. per 4 in. of line width.

- 5. Performance Period for Profile Pavement Markings.** Profile pavement markings must meet all requirements of this specification for a minimum of 15 calendar days after installation. Pavement markings that fail to meet all requirements of this specification must be removed and replaced by the contractor at the contractor's expense. Replace all pavement markings failing the requirements of this item within 30 calendar days following notification of such failing. All replacement markings must also meet all requirements of this item for a minimum of 15 calendar days after installation.
- 6. Measurement.** This Item will be measured by the foot of marking .

Where multiple stripes are placed, each stripe will be measured separately for payment.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2, "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

7. **Payment.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Reflectorized Profile Pavement Markings" of the various types, colors, shapes, sizes and widths specified. This price is full compensation for furnishing all materials; for application of pavement markings; and for equipment, labor, tools and incidentals.

Work-zone pavement markings (Type II paint and beads) used as a sealer for Type I profile markings (thermoplastic and beads) will be paid for under Item 662, "Work Zone Pavement Markings."

Surface preparation, when shown on the plans, will be paid for under Item 678, "Pavement Surface Preparation for Markings."

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