

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			1
STATE	STATE DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044, ETC	FM 473

# STATE OF TEXAS

## DEPARTMENT OF TRANSPORTATION

### PLANS OF PROPOSED STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT  
PROJECT NO. STP 2021(673)HES  
CSJ: 0142-09-044, ETC  
**KENDALL  
FM 473**

DESIGN SPEED = 40 MPH  
AREA OF DISTURBED SOIL:  
= 7.99 ACRES (CSJ 0142-09-044 & CSJ 0142-10-026)  
= 15.50 ACRES (CSJ 0142-10-025)  
ADT: 044 ~ EXIST - 900 (2022) PROP - 1400 (2042)  
026 ~ EXIST - 1100 (2022) PROP - 1600 (2042)  
025 ~ EXIST - 2200 (2022) PROP - 3300 (2042)

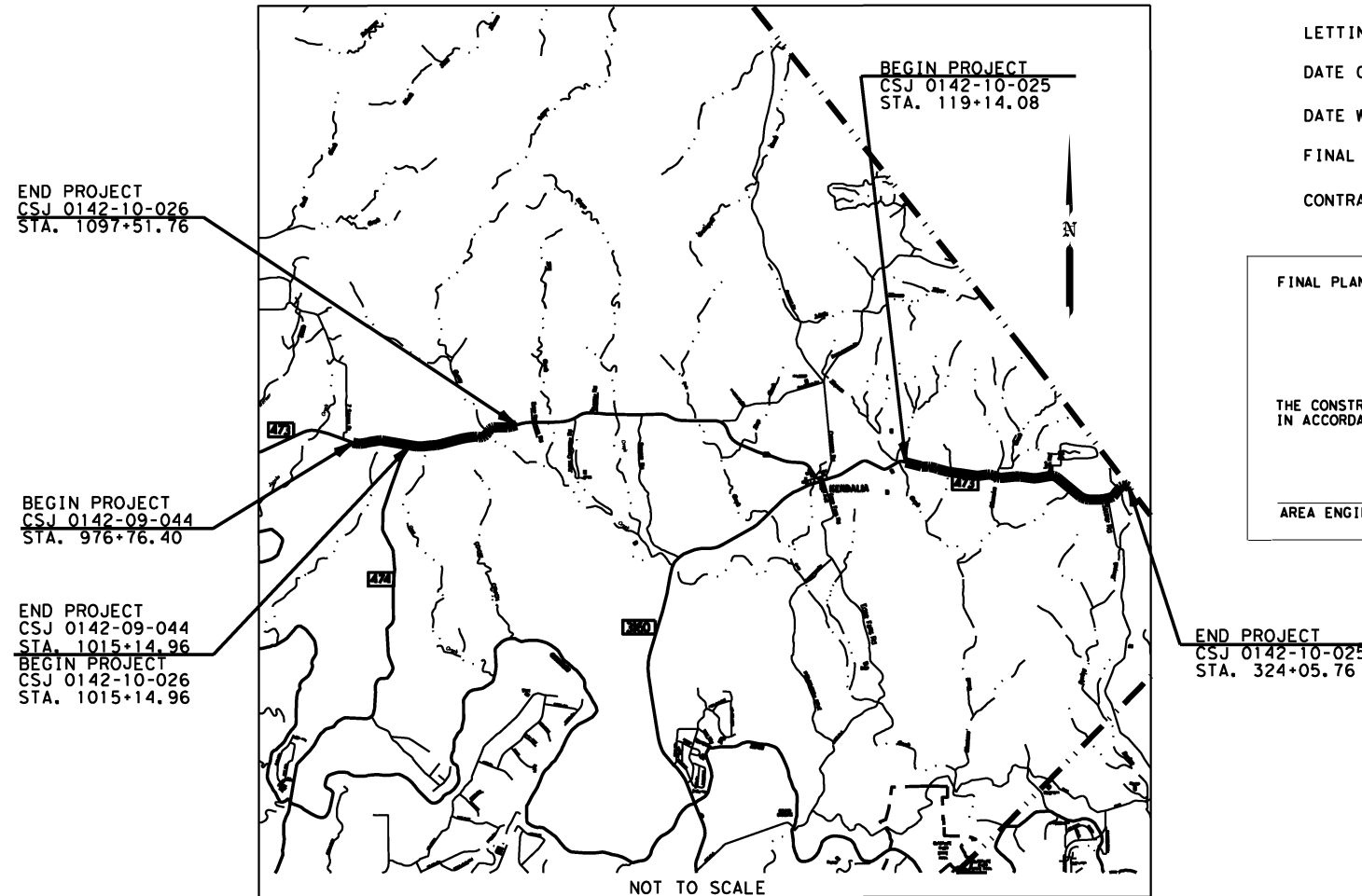
ACCESSIBILITY STANDARDS = PROWAG

#### INDEX OF SHEETS

SEE SHEET 2 FOR INDEX OF SHEETS

CSJ	PROJECT LIMITS	NET LENGTH	
		FEET	MILE
0142-09-044	FROM 0.7 MI W OF RM 474 TO RM 474	3,838.56	0.727
0142-10-026	FROM RM 474 TO 1.56 MI E OF RM 474	8,236.80	1.560
0142-10-025	FROM 1.5 MI E OF FM 3351 TO BLANCO COUNTY LINE	20,491.68	3.881
TOTALS		32,567.04	6.168

FOR WORK CONSISTING OF SAFETY TREAT FIXED OBJECTS, PROVIDE ADDITIONAL PAVED SURFACE WIDTH AND PROFILE CENTERLINE AND EDGELINE PAVEMENT MARKINGS.



#### FINAL PLANS

LETTING DATE: \_\_\_\_\_  
DATE CONTRACTOR BEGAN WORK: \_\_\_\_\_  
DATE WORK WAS ACCEPTED: \_\_\_\_\_  
FINAL CONTRACT COST: \$ \_\_\_\_\_  
CONTRACTOR: \_\_\_\_\_

FINAL PLANS STATEMENT:

THE CONSTRUCTION WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS.

P. E. \_\_\_\_\_ DATE \_\_\_\_\_

AREA ENGINEER \_\_\_\_\_

TEXAS DEPARTMENT OF TRANSPORTATION

FILE LOCATION AND NAME  
T: \Engdat\01\andor ds\Dest\gn\TITLESHEET-2014Specs.dgn

LEVELS DISPLAYED	
1	

COUNTY \_\_\_\_\_ PROJ. NO. \_\_\_\_\_  
HWY. NO. \_\_\_\_\_ LETTING DATE \_\_\_\_\_  
DATE ACCEPTED \_\_\_\_\_

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, MAY, 2012)

EXCEPTIONS: NONE  
EQUATIONS: NONE  
R. R. CROSSINGS: NONE

SUBMITTED FOR LETTING **4/28/2021**  
*Jim Cox, P.E.*  
TRANSPORTATION ENGINEER SUPERVISOR

RECOMMENDED FOR LETTING **4/29/2021**  
DocuSigned by:  
*Clayton Ripps, P.E.*  
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

RECOMMENDED FOR LETTING **4/29/2021**  
DocuSigned by:  
*Greg Granato, P.E.*  
DESIGN ENGINEER  
0D08C713B58C45C...

APPROVED FOR LETTING **4/29/2021**  
DocuSigned by:  
*Gina E. Gallegos, P.E.*  
DISTRICT ENGINEER  
124372CCDF804F5...

**GENERAL**

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- 19-25 TYPICAL SECTIONS
- 26, 26A-26G GENERAL NOTES
- 27, 27A-27C ESTIMATE & QUANTITY
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- 546-603 LANDSCAPING LAYOUTS



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

*Linda Cox, P.E.* 05/25/2021  
 \_\_\_\_\_ PE \_\_\_\_\_ DATE



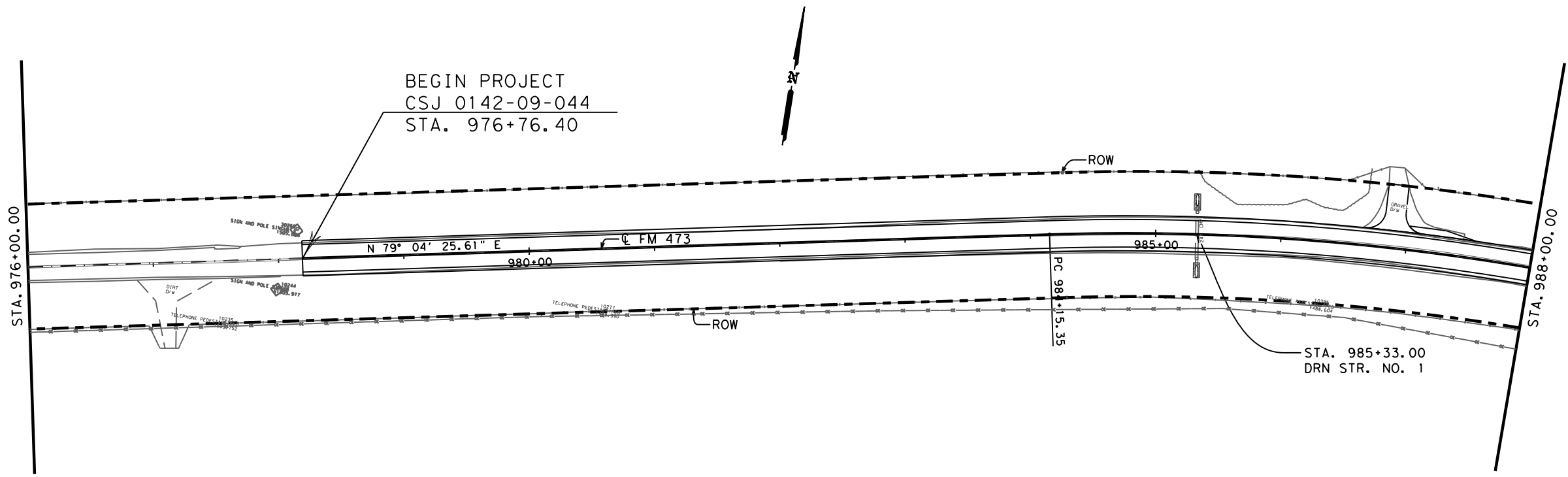
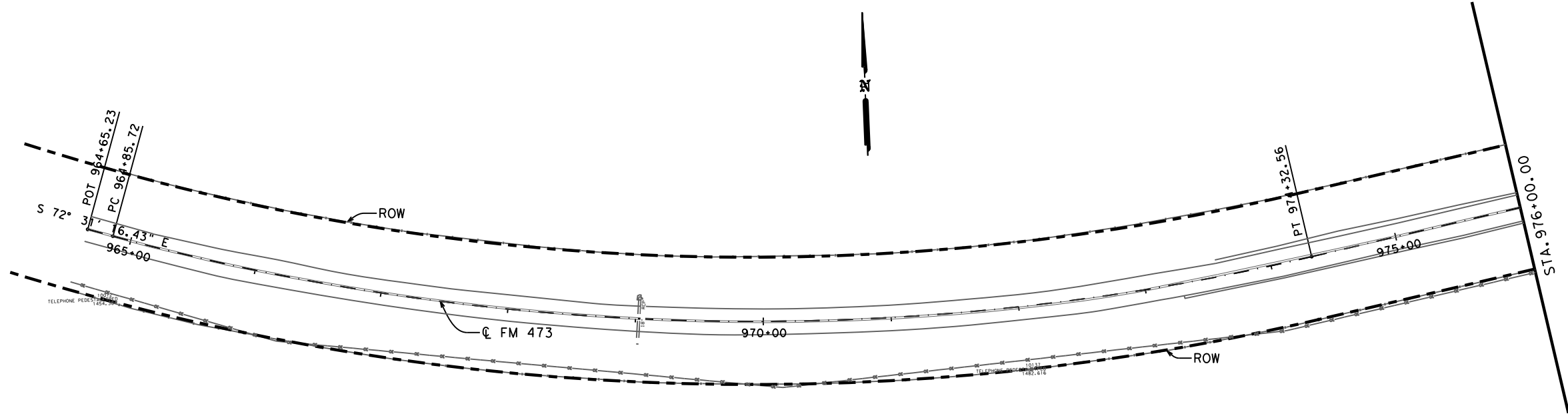
FM 473  
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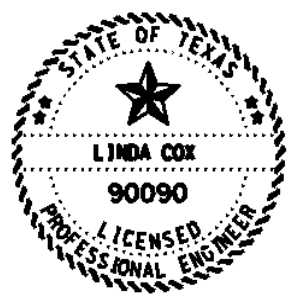
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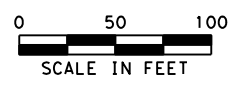
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 04/28/2021

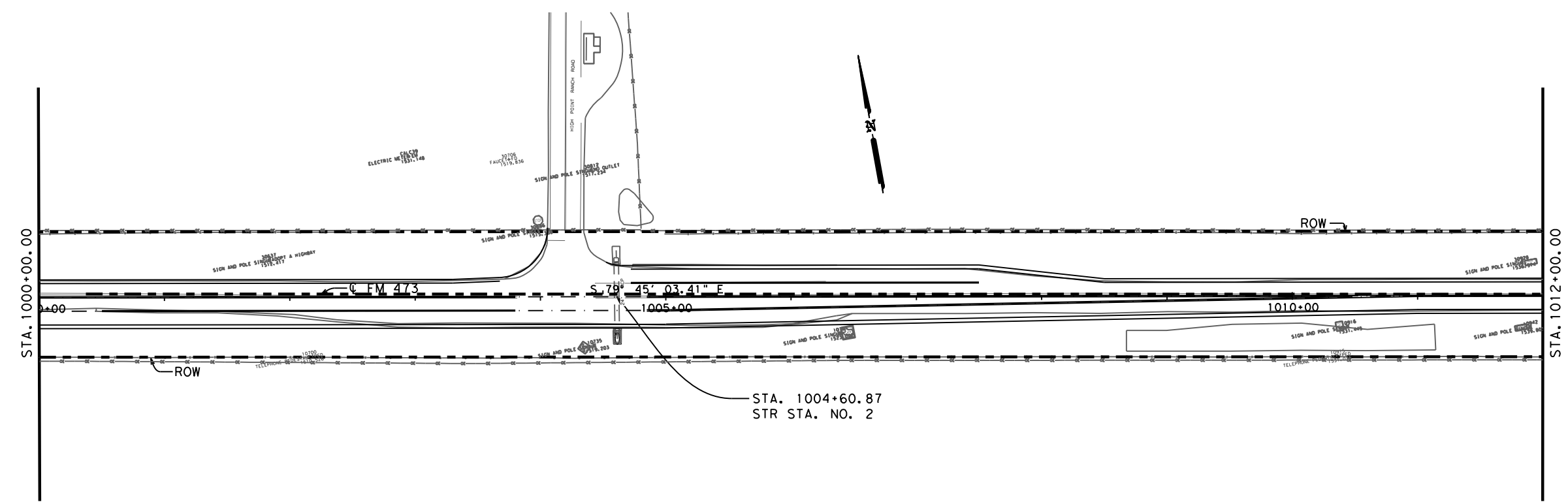
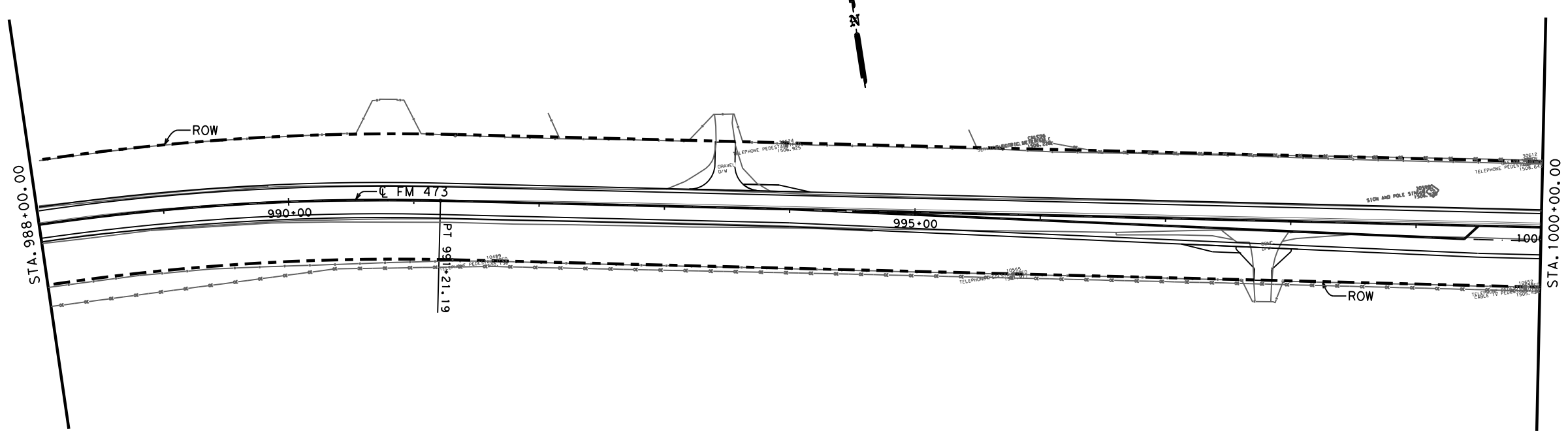


RM 473  
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 LAYOUTS

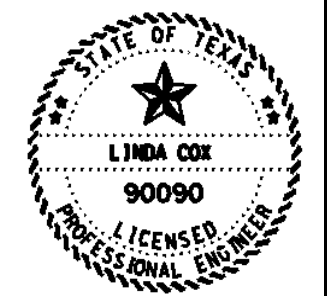


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0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		3

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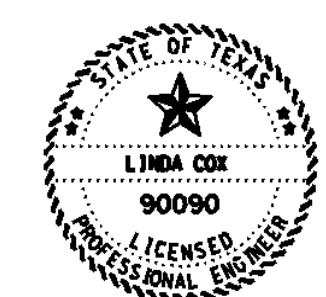
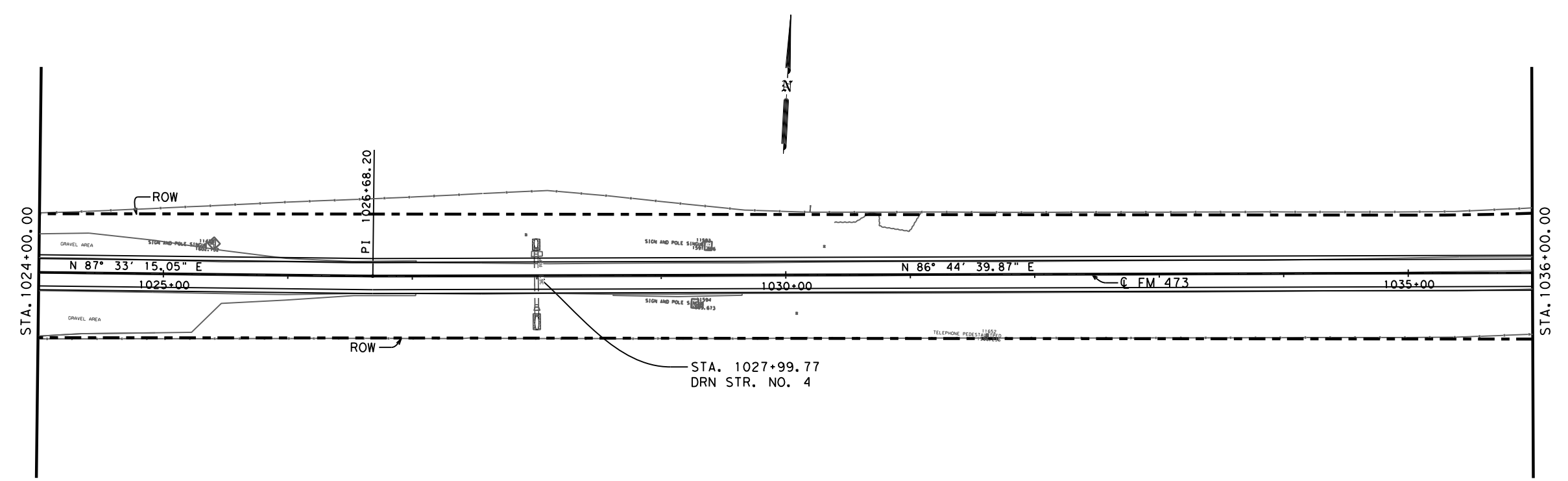
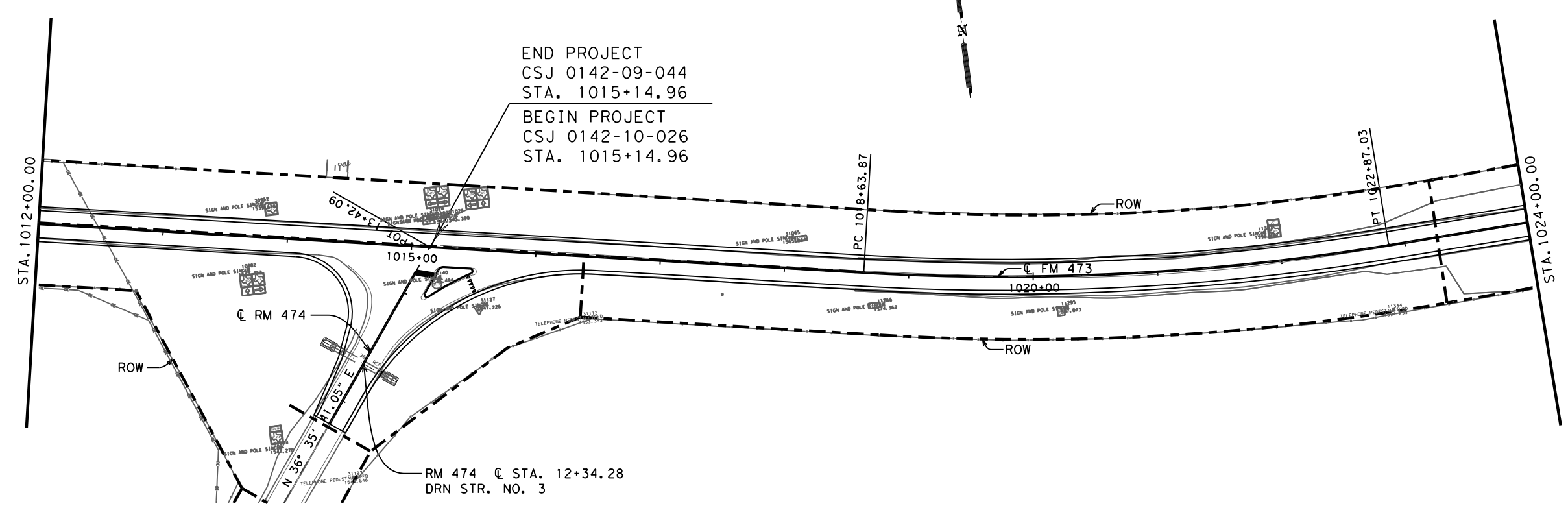


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 PROJECT  
 LAYOUTS



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SAT	KENDALL		4

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 04/28/2021

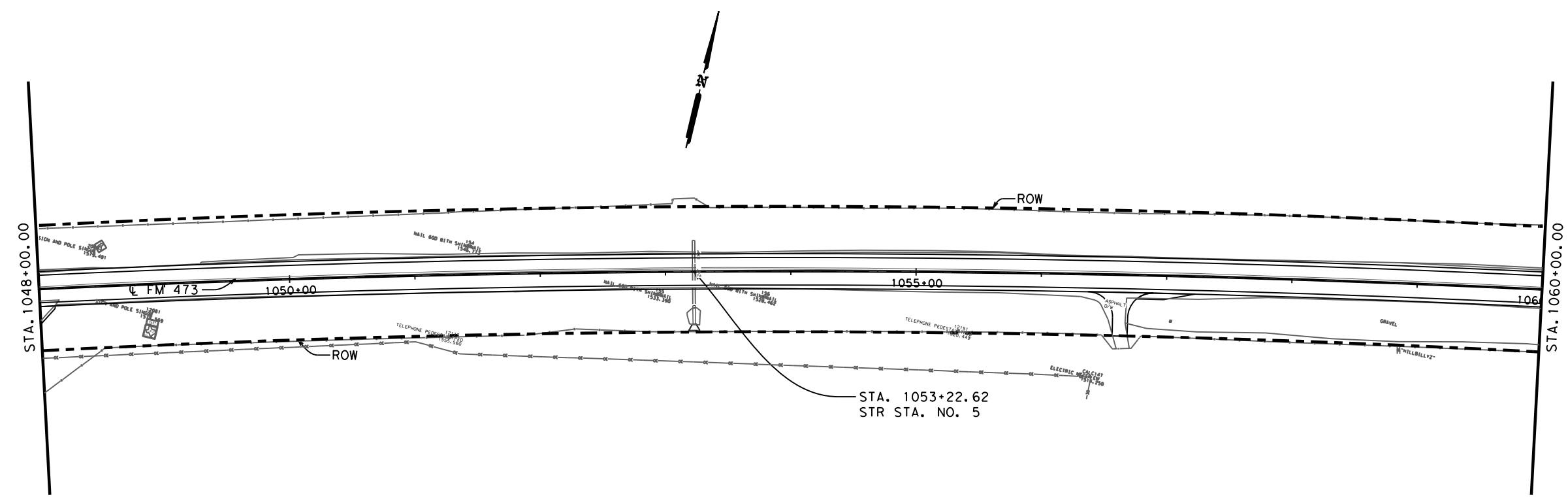
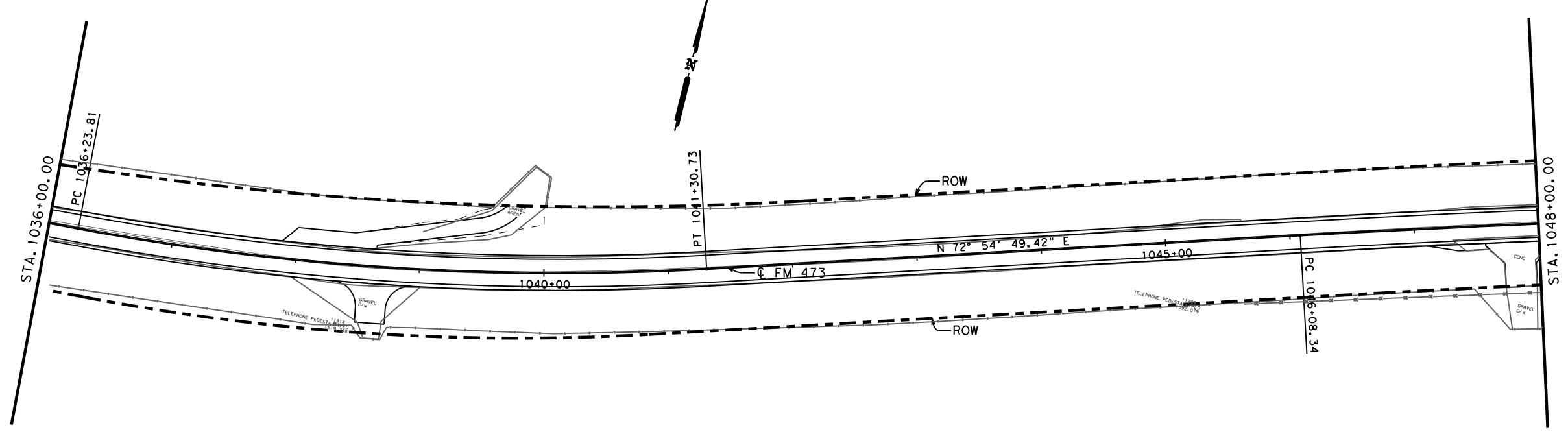


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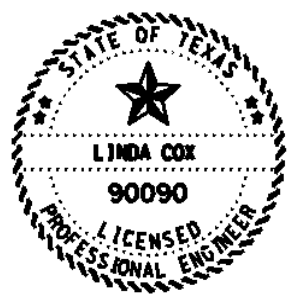


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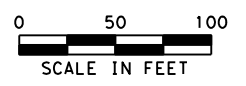
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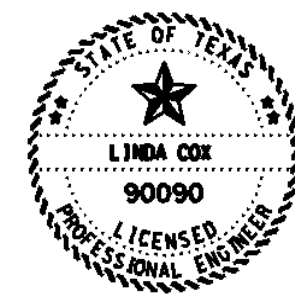
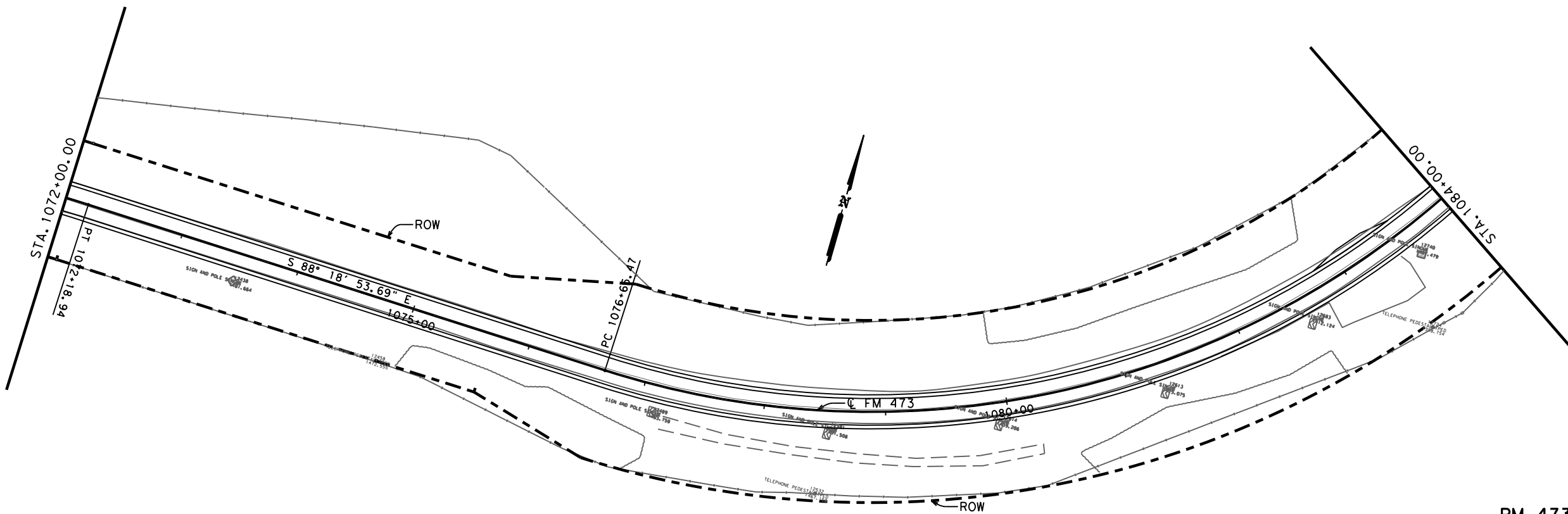
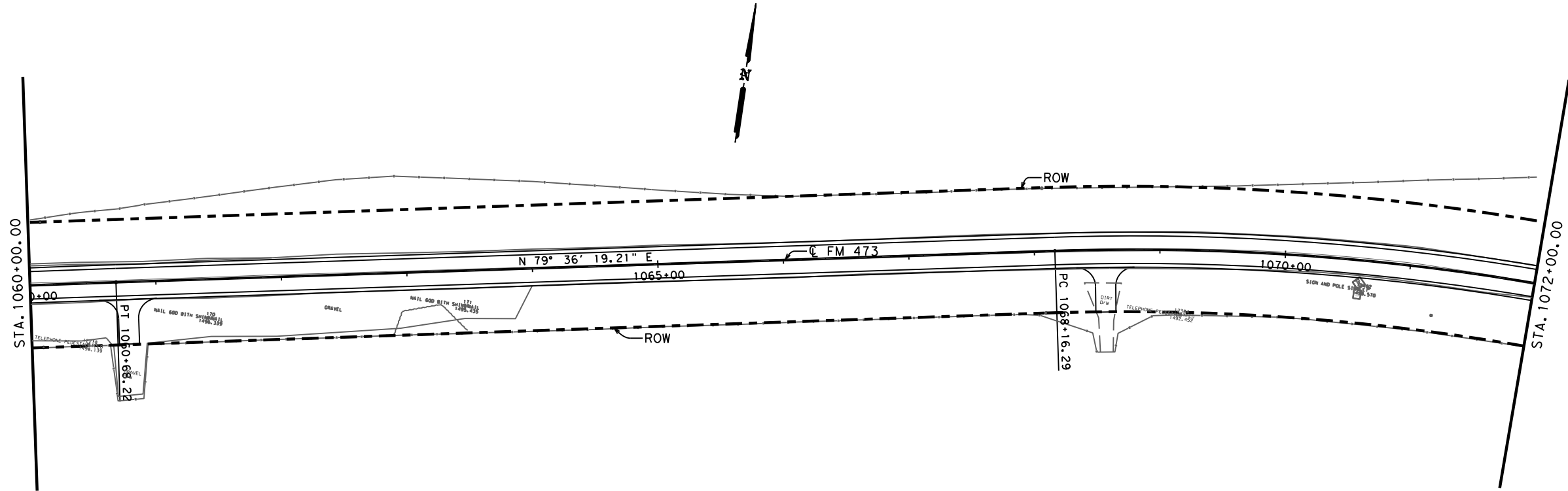
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DIST	COUNTY		SHEET NO.
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 04/28/2021



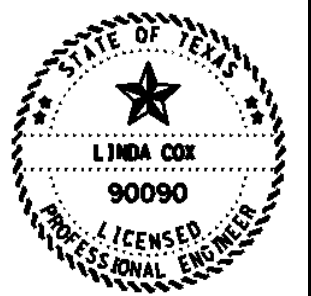
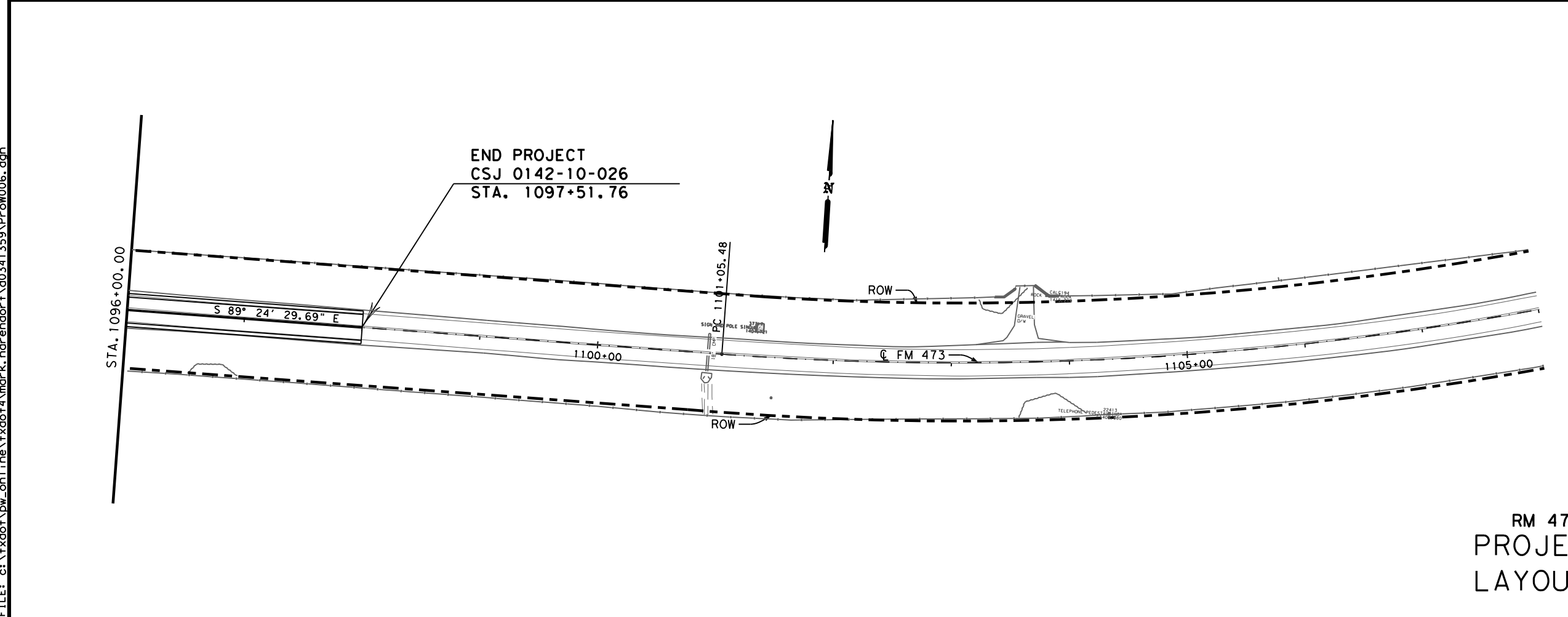
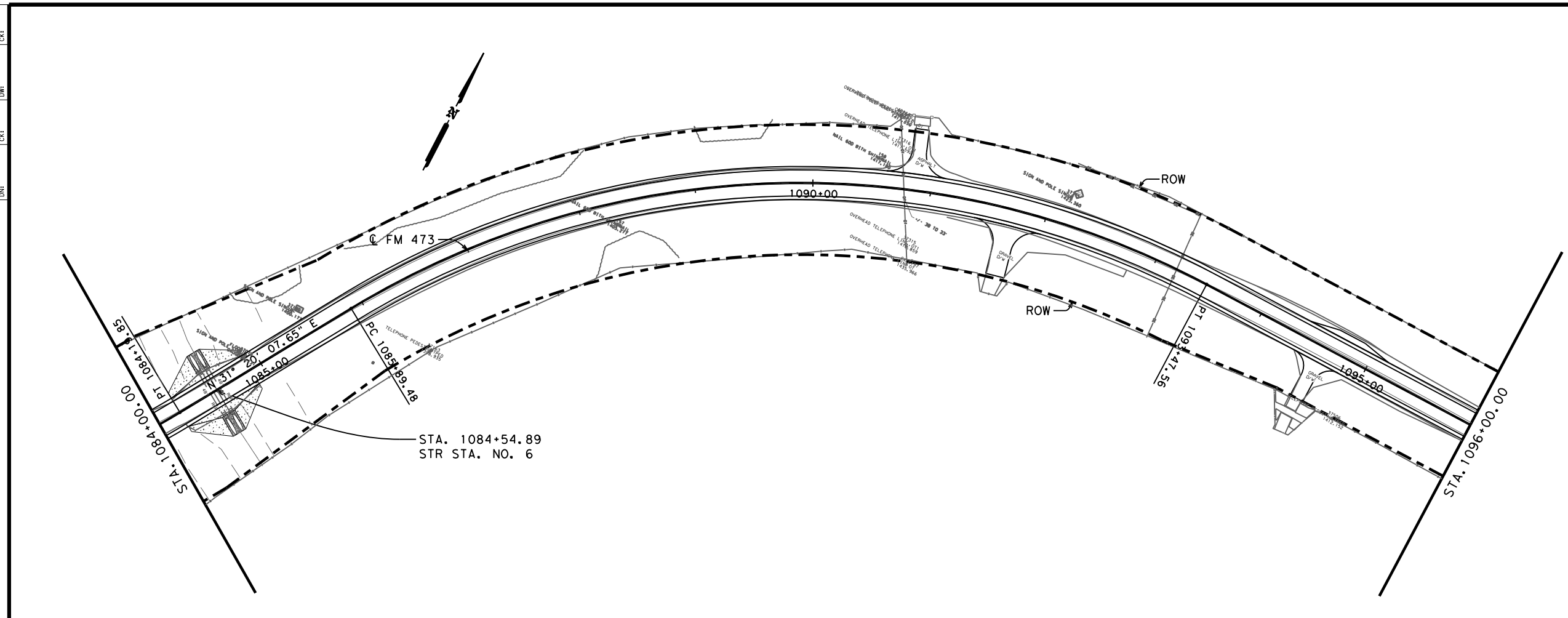
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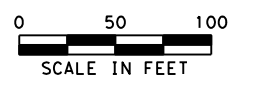
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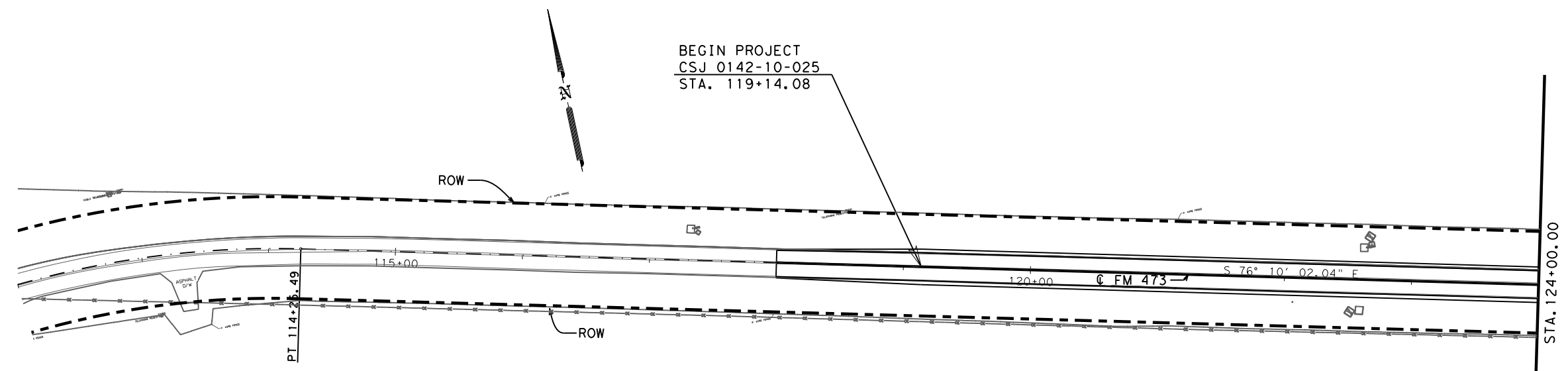
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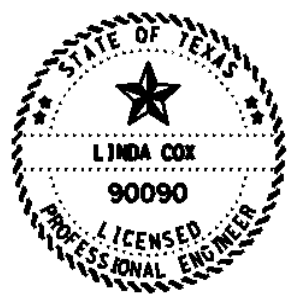
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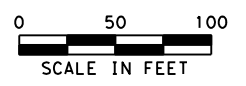
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 04/28/2021

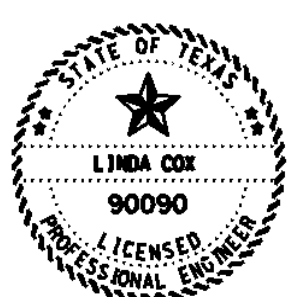
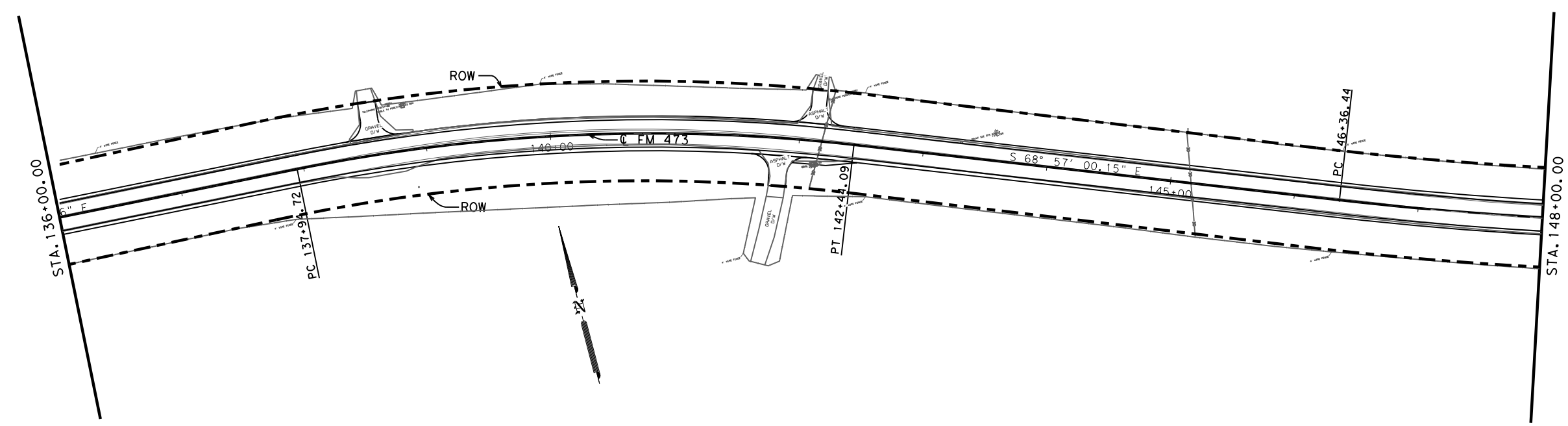
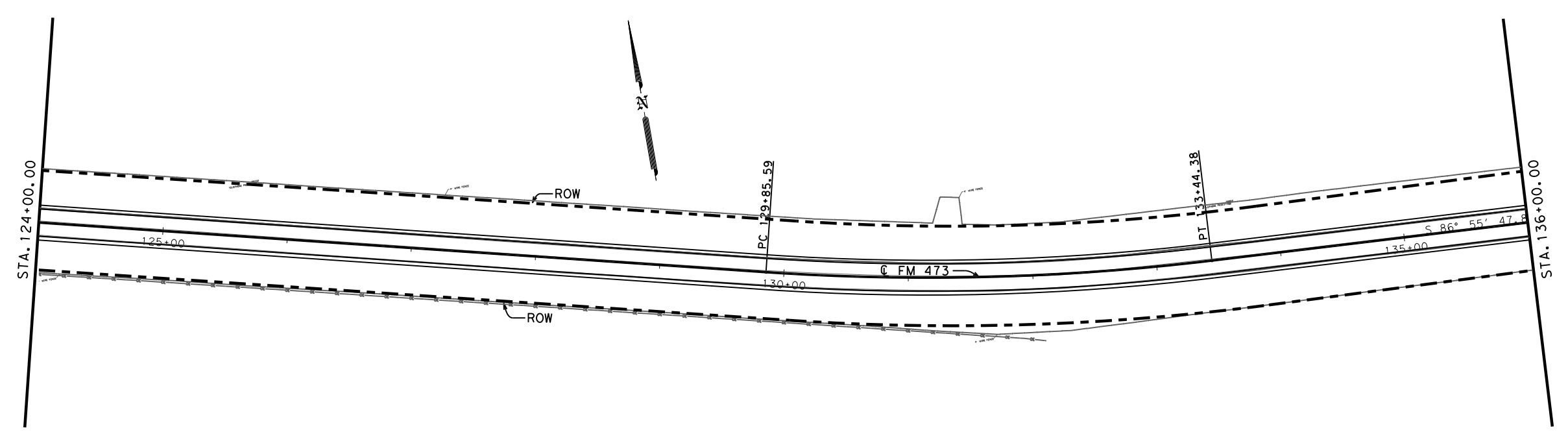


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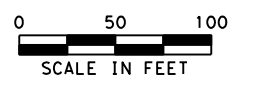


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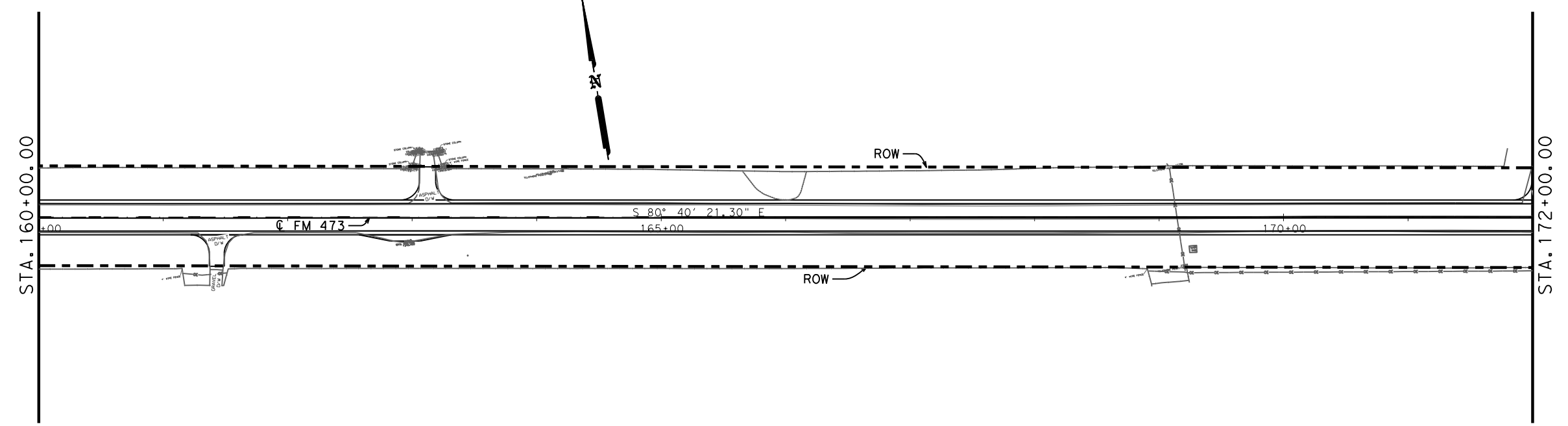
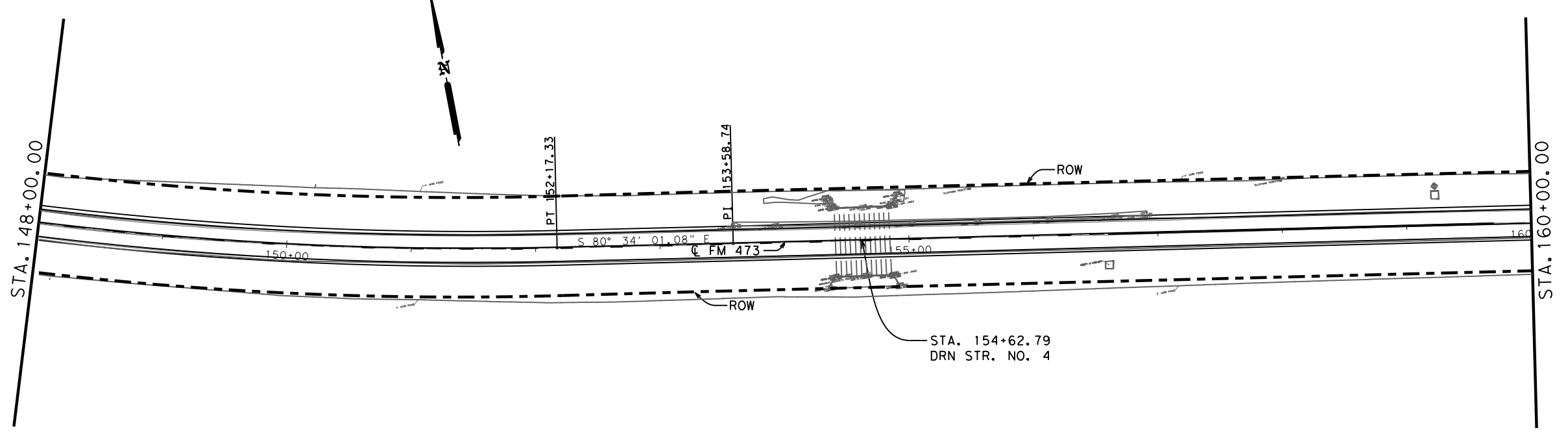
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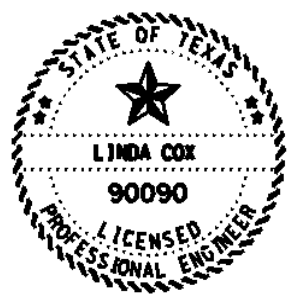


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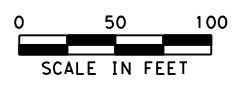
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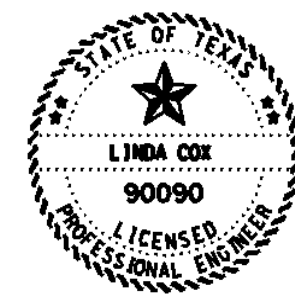
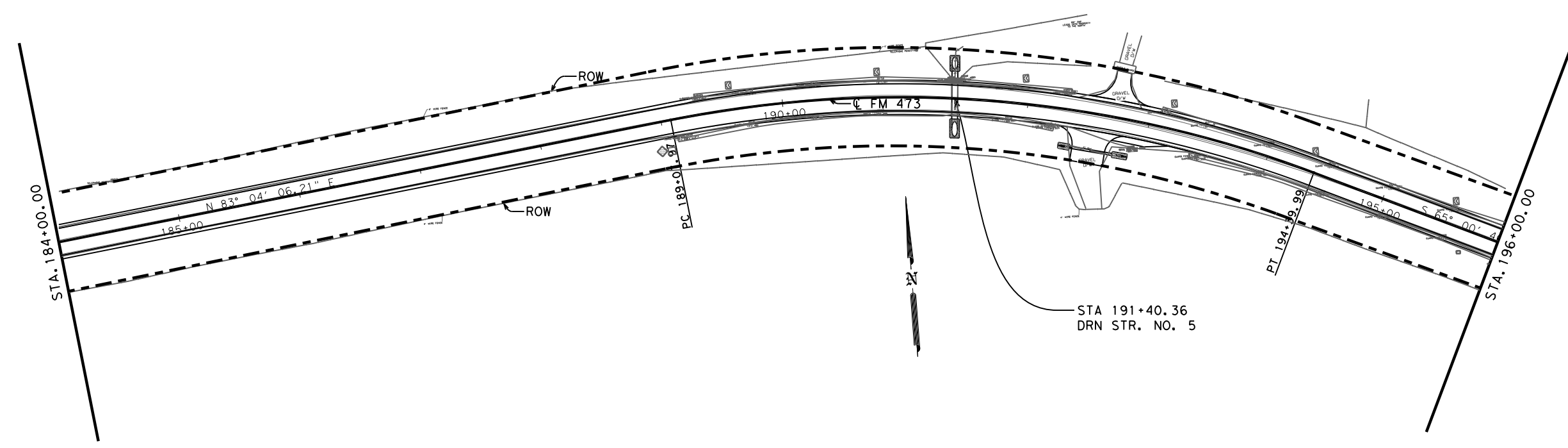
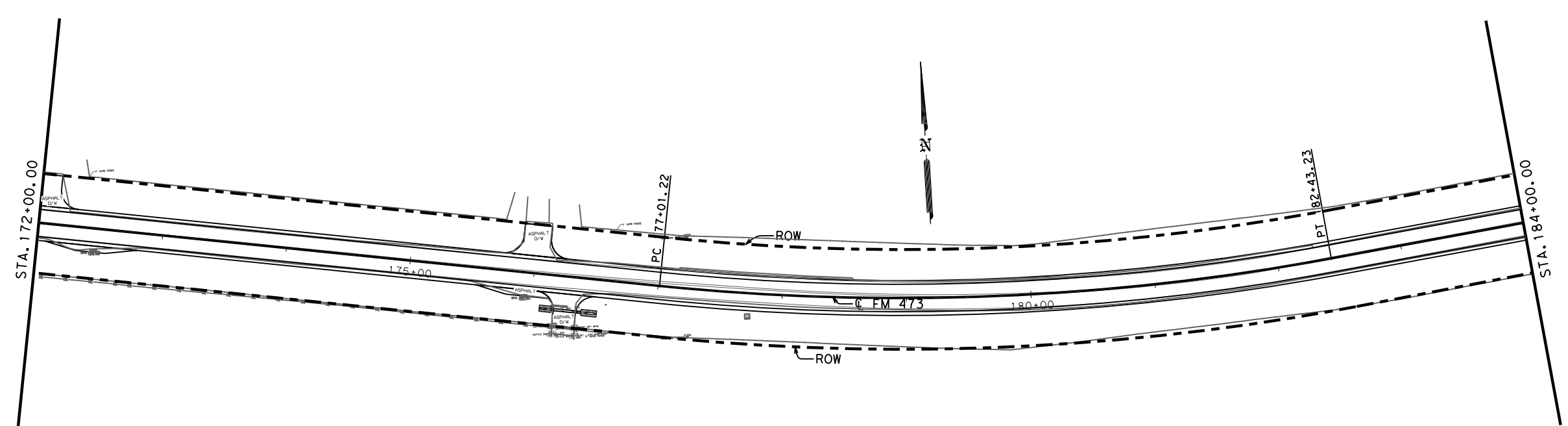


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 04/28/2021



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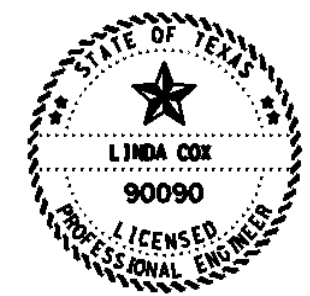
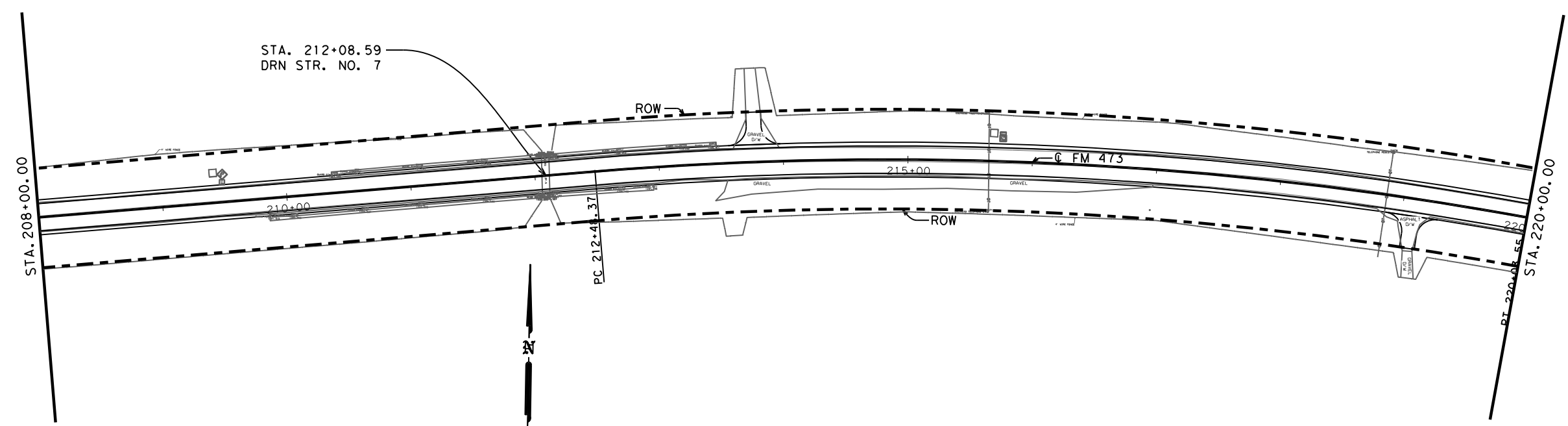
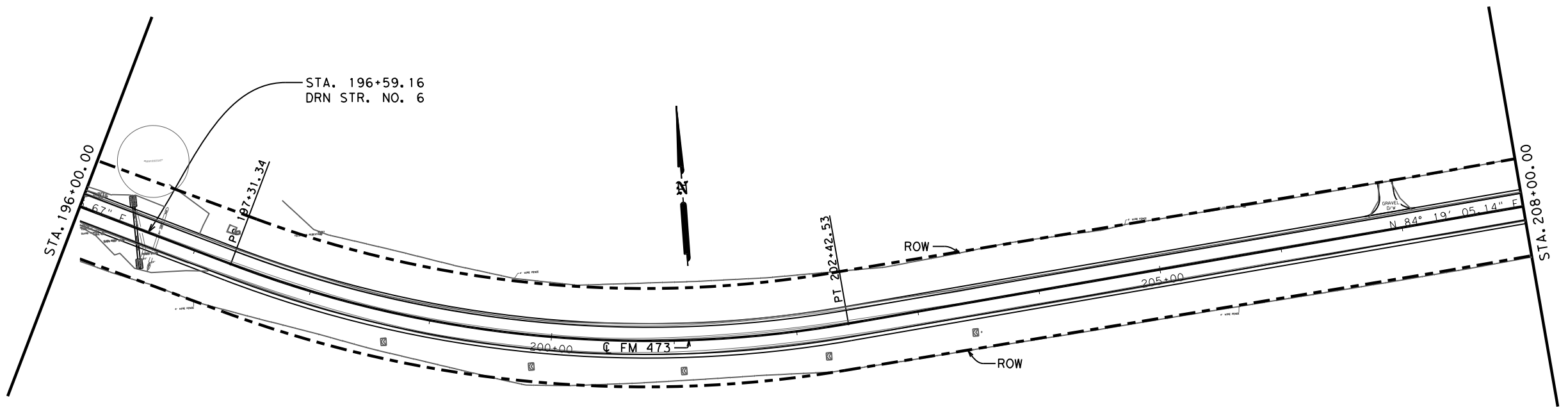


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 04/28/2021



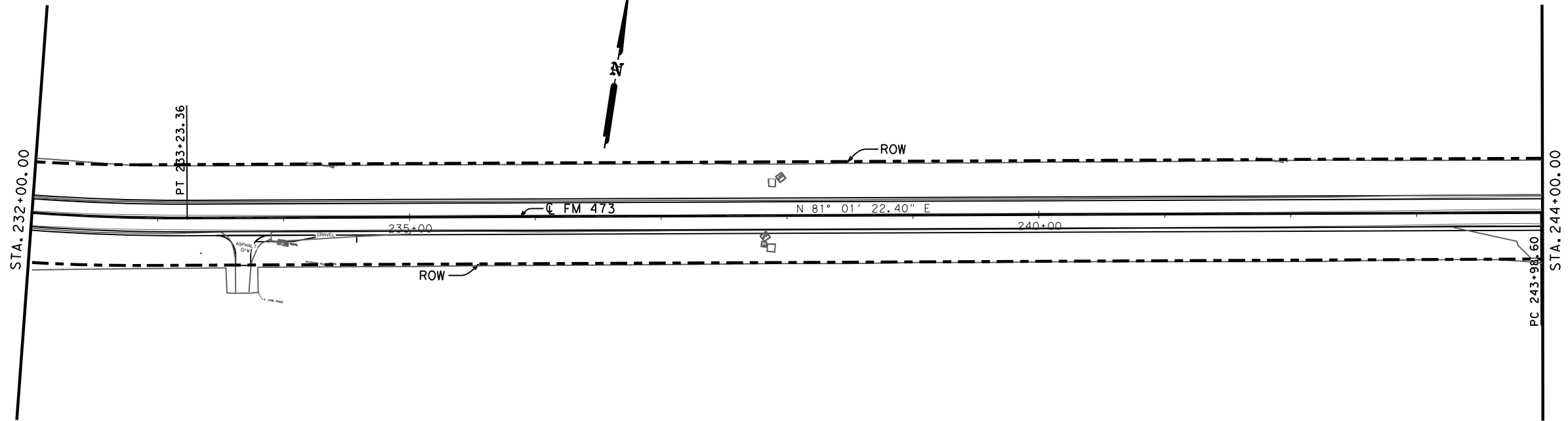
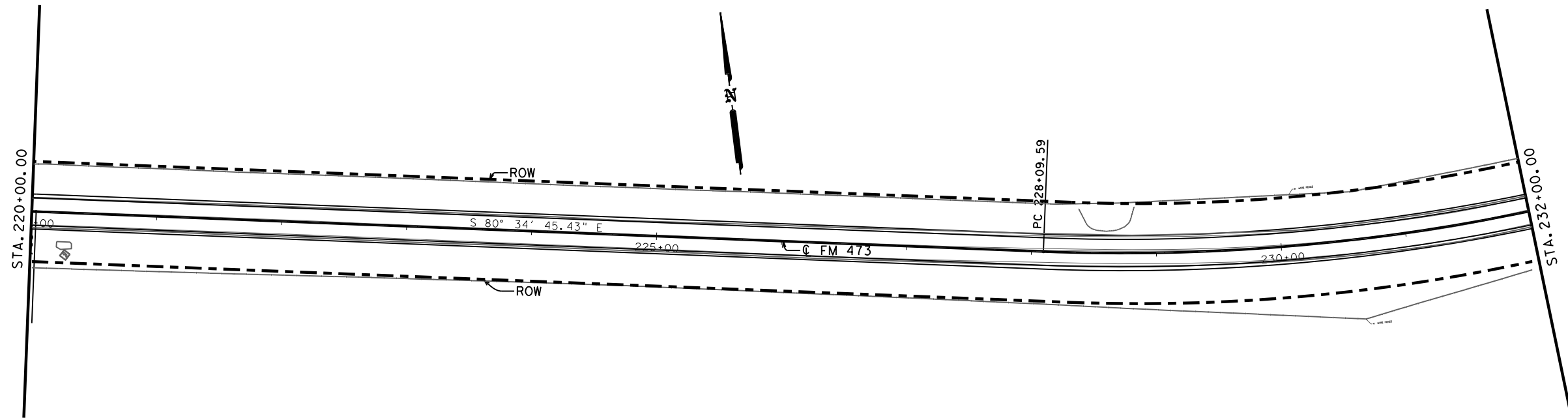
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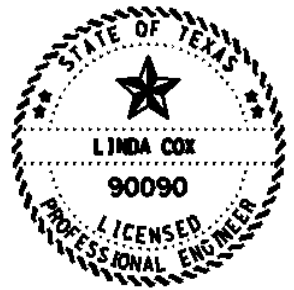
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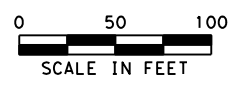
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RM 473  
 PROJECT  
 LAYOUTS



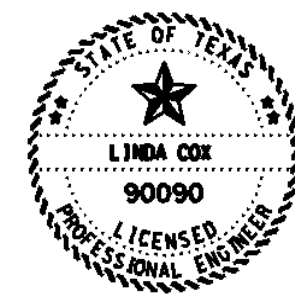
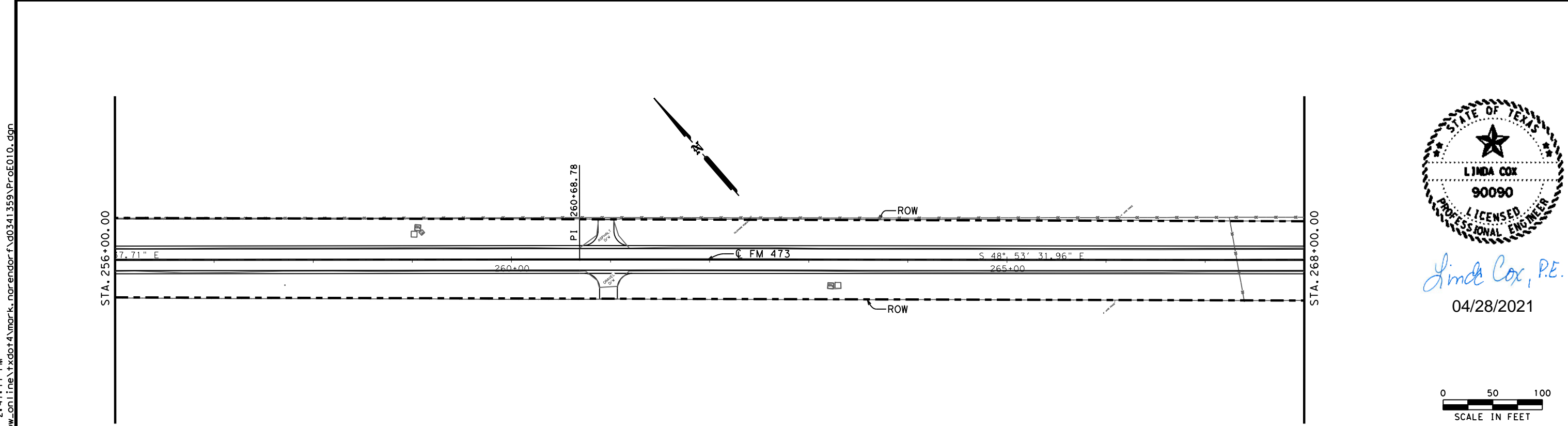
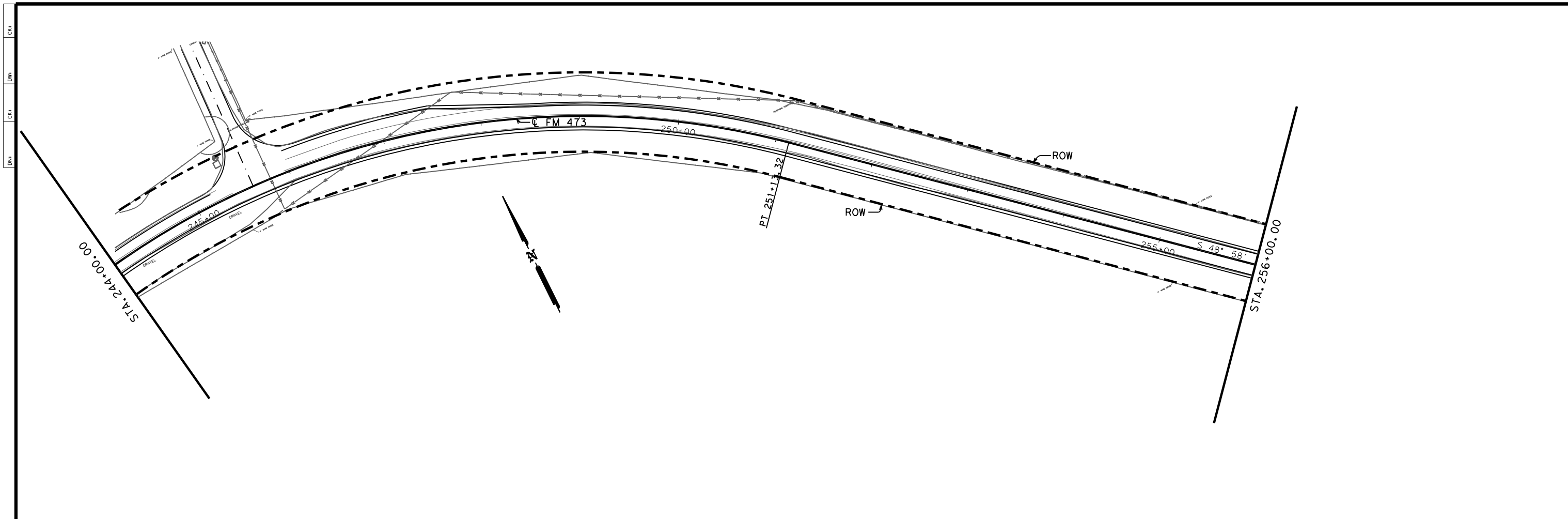
Linda Cox, P.E.  
 04/28/2021



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		14



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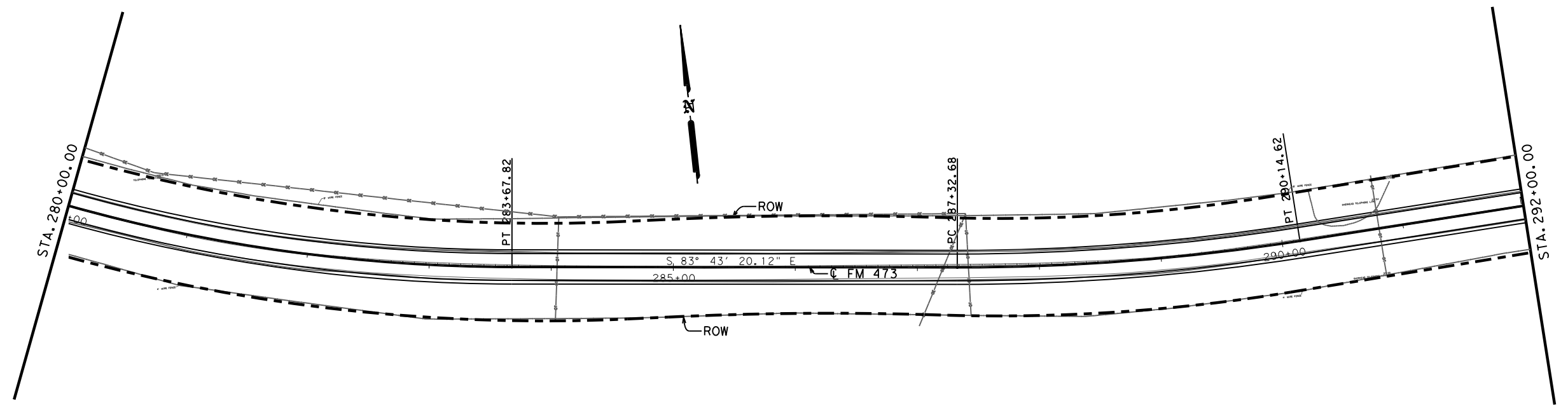
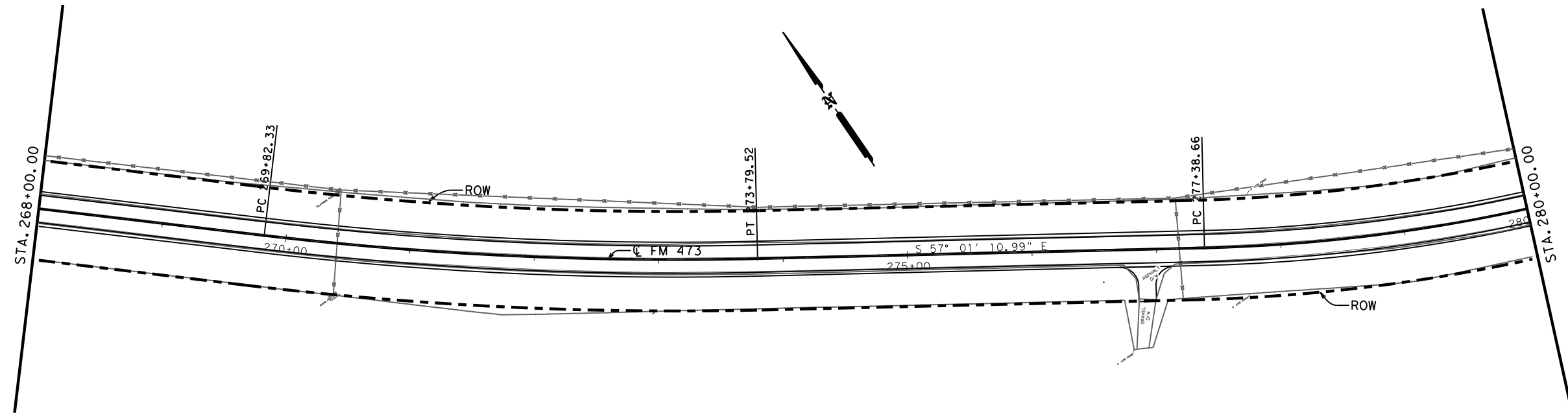


RM 473  
 PROJECT  
 LAYOUTS

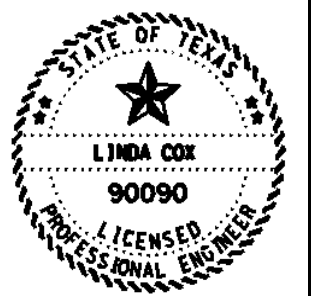


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DIST	COUNTY		SHEET NO.
SAT	KENDALL		15

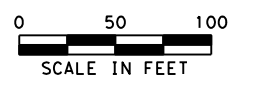
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 04/28/2021

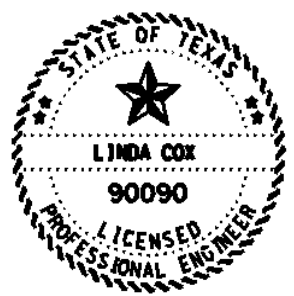
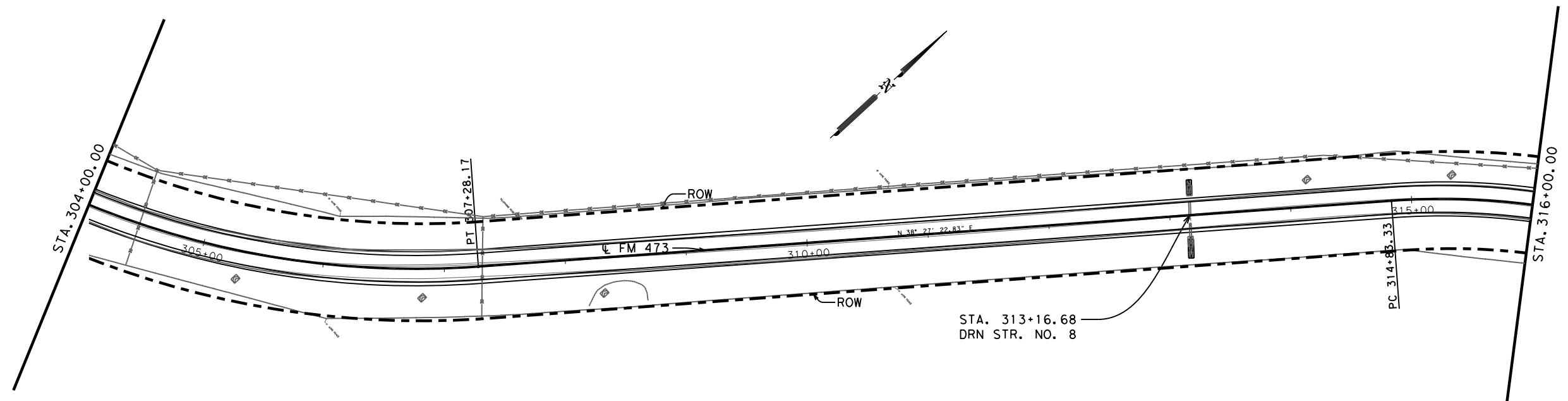
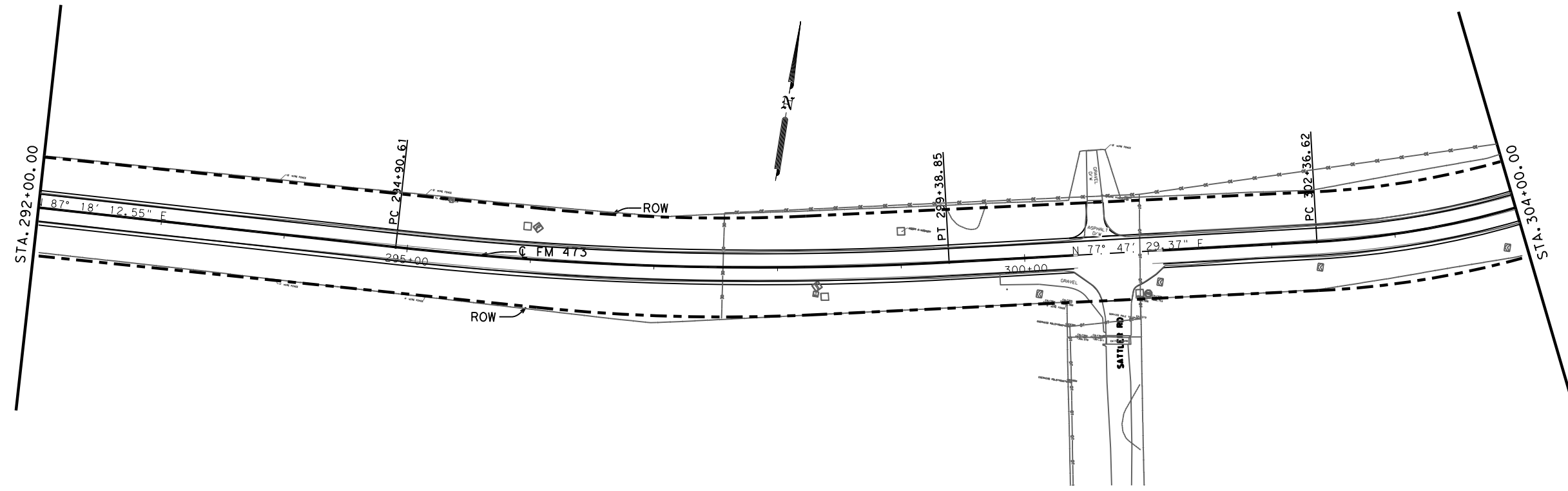


RM 473  
 PROJECT  
 LAYOUTS

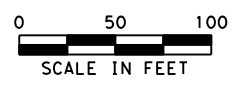


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0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		16

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04/28/2021



RM 473  
PROJECT  
LAYOUTS



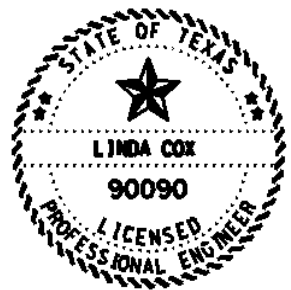
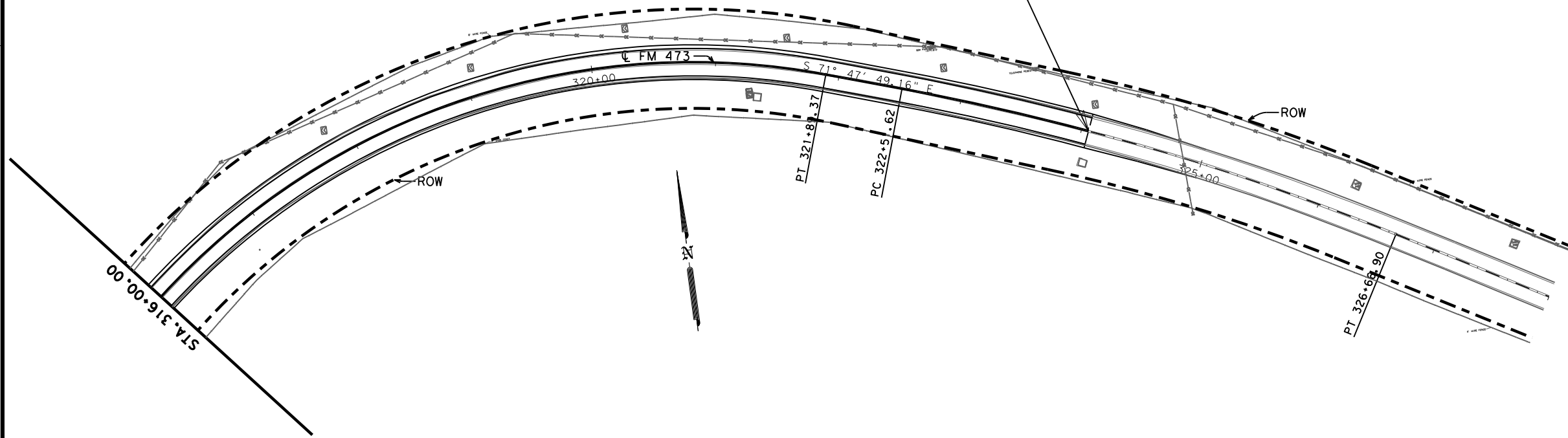
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0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		17

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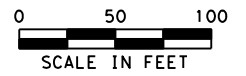
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END PROJECT  
 CSJ 0142-10-025  
 STA. 324+05.76



*Linda Cox, P.E.*

04/28/2021



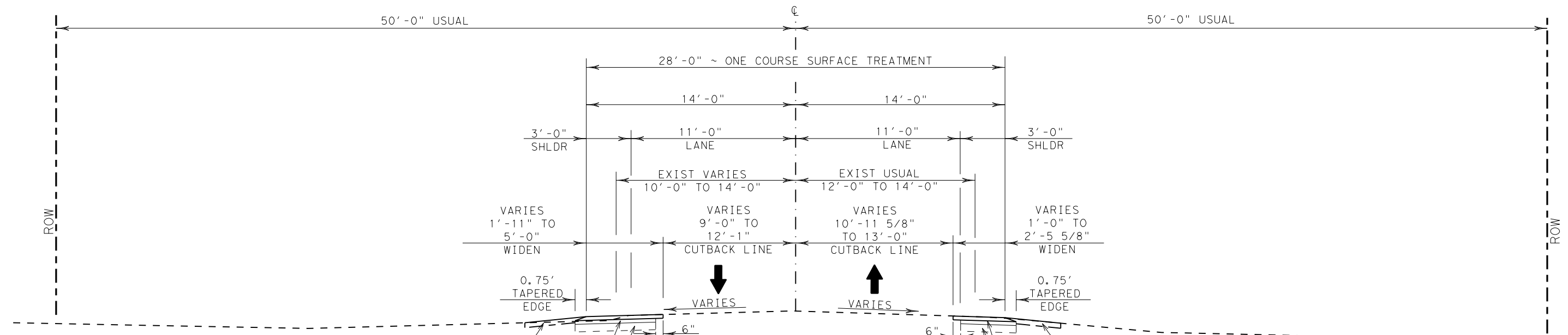
RM 473  
 PROJECT  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		18



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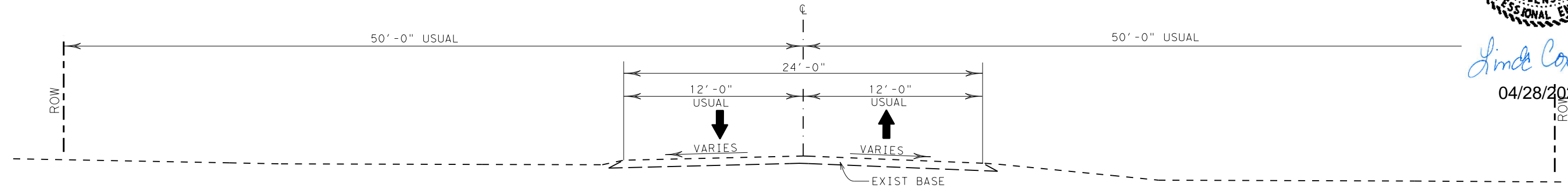
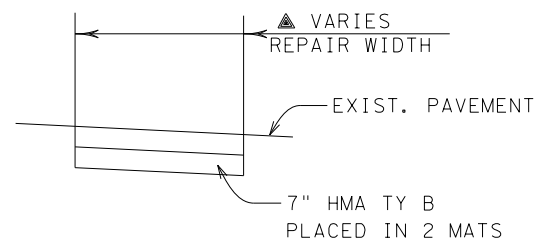


**PROPOSED TYPICAL SECTION**

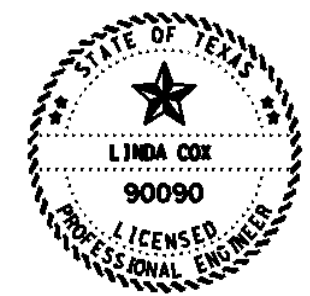
- STA. 978+19.10 TO STA. 988+80.00
- STA. 992+00.00 TO STA. 994+00.00
- STA. 1011+00.00 TO STA. 1019+22.03
- STA. 1035+52.63 TO STA. 1036+31.05
- STA. 1037+49.02 TO STA. 1038+04.48
- STA. 1040+00.00 TO STA. 1042+00.00
- STA. 1046+60.73 TO STA. 1049+00.00
- STA. 1083+93.97 TO STA. 1084+19.85
- STA. 1084+89.91 TO STA. 1085+59.59

**TYPICAL SECTION**  
 FLEX PAV STRUCT REPAIR

▲ NOTE: LOCATION, WIDTH AND LENGTH OF REPAIR SHALL BE AS APPROVED/DIRECTED BY THE ENGINEER.



**EXISTING TYPICAL SECTION**



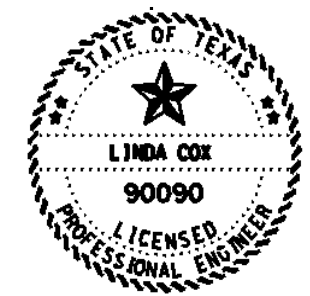
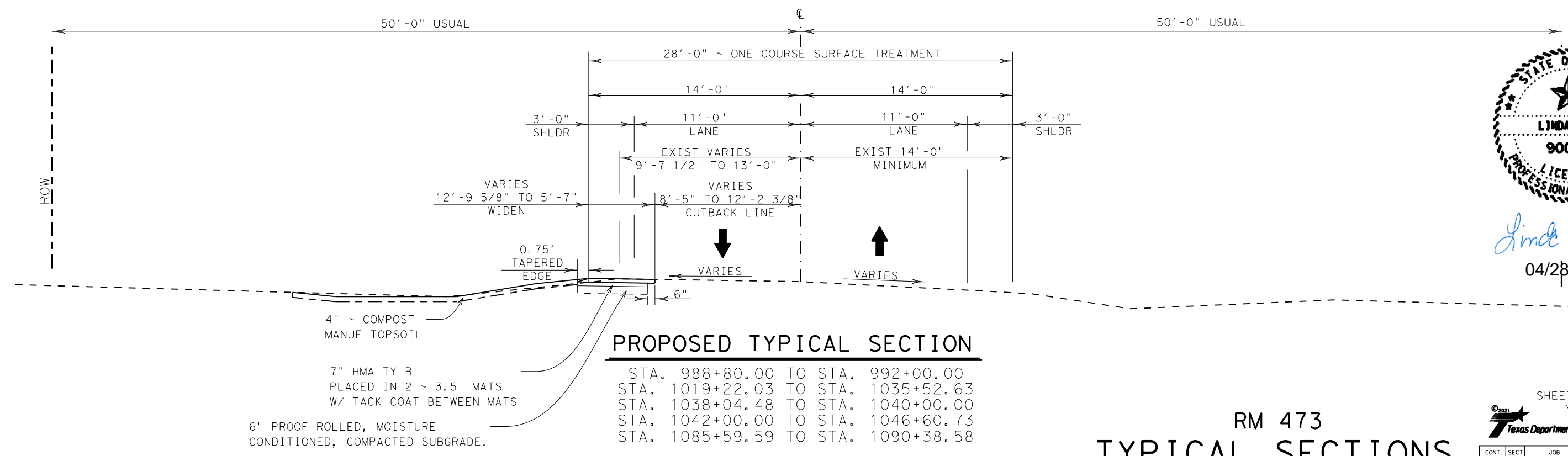
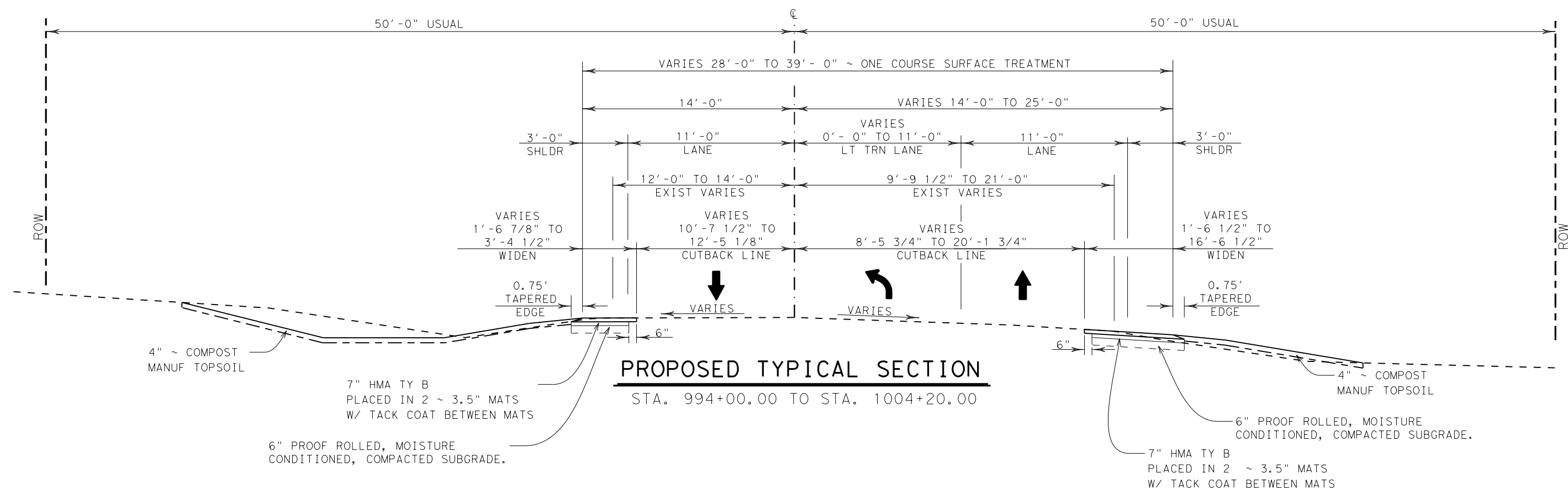
*Linda Cox, P.E.*  
 04/28/2021

RM 473  
**TYPICAL SECTIONS**  
 CSJ 0142-09-044 AND CSJ 0142-10-026

SHEET 1 OF 7  
 NTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		19

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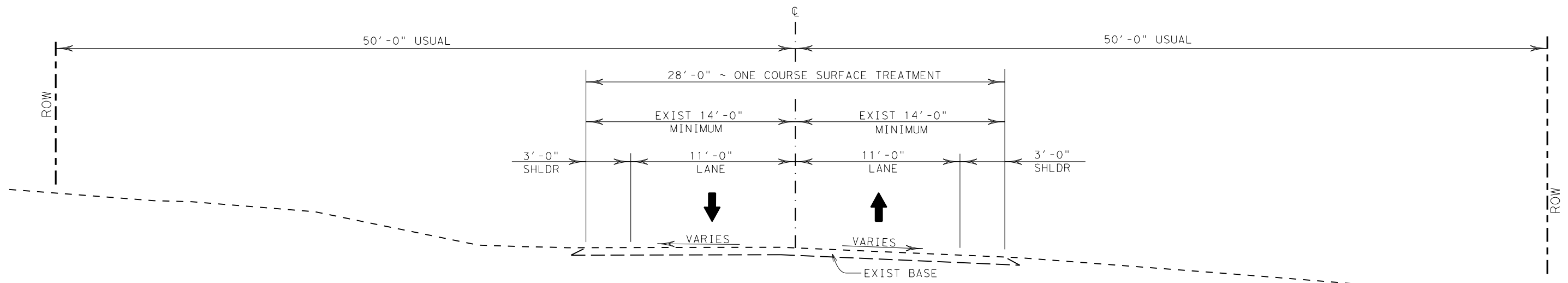
Linda Cox, P.E.  
 04/28/2021

RM 473  
**TYPICAL SECTIONS**  
 CSJ 0142-09-044 AND CSJ 0142-10-026

SHEET 2 OF 7  
 NTS

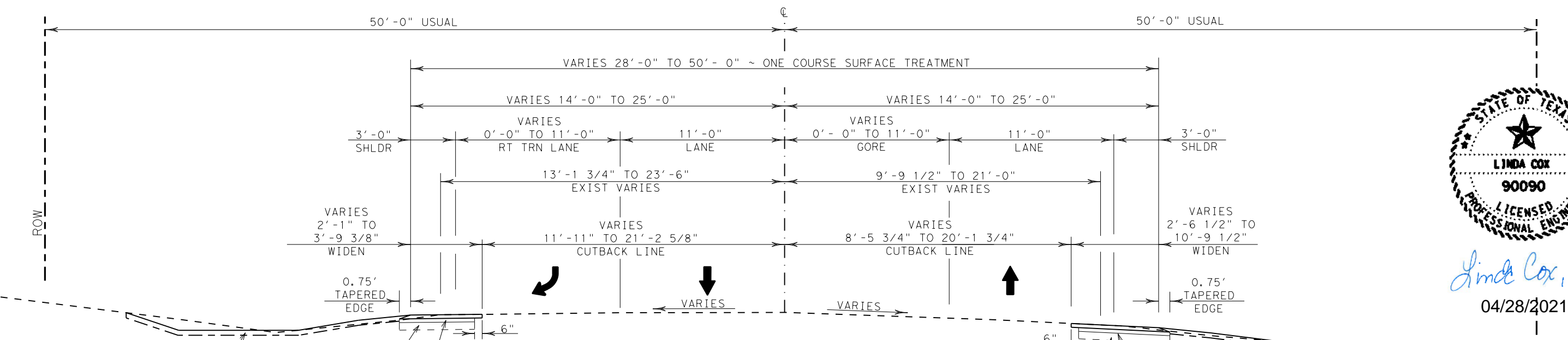
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0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		20

DWG:   
 CHK:   
 DATE:



**PROPOSED TYPICAL SECTION**

STA. 1050+50.00 TO STA. 1052+11.16  
 STA. 1054+00.00 TO STA. 1062+35.28  
 STA. 1067+59.09 TO STA. 1069+63.91  
 STA. 1090+38.58 TO STA. 1097+51.76



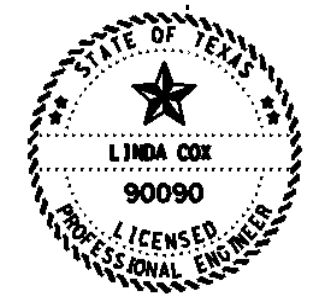
**PROPOSED TYPICAL SECTION**

STA. 1004+20.00 TO STA. 1011+00.00

4" ~ COMPOST MANUF TOPSOIL  
 6" PROOF ROLLED, MOISTURE CONDITIONED, COMPACTED SUBGRADE.  
 7" HMA TY B PLACED IN 2 ~ 3.5" MATS W/ TACK COAT BETWEEN MATS

6" PROOF ROLLED, MOISTURE CONDITIONED, COMPACTED SUBGRADE.

7" HMA TY B PLACED IN 2 ~ 3.5" MATS W/ TACK COAT BETWEEN MATS



*Linda Cox, P.E.*

04/28/2021

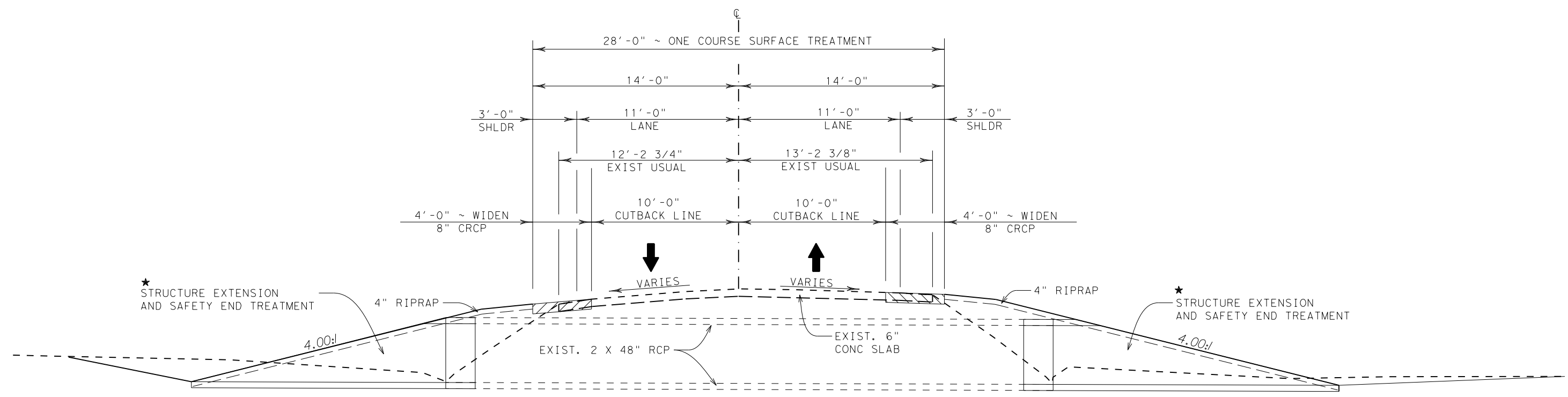
RM 473  
**TYPICAL SECTIONS**  
 CSJ 0142-09-044 AND CSJ 0142-10-026

SHEET 3 OF 7  
 NTS  
 Texas Department of Transportation

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0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		21

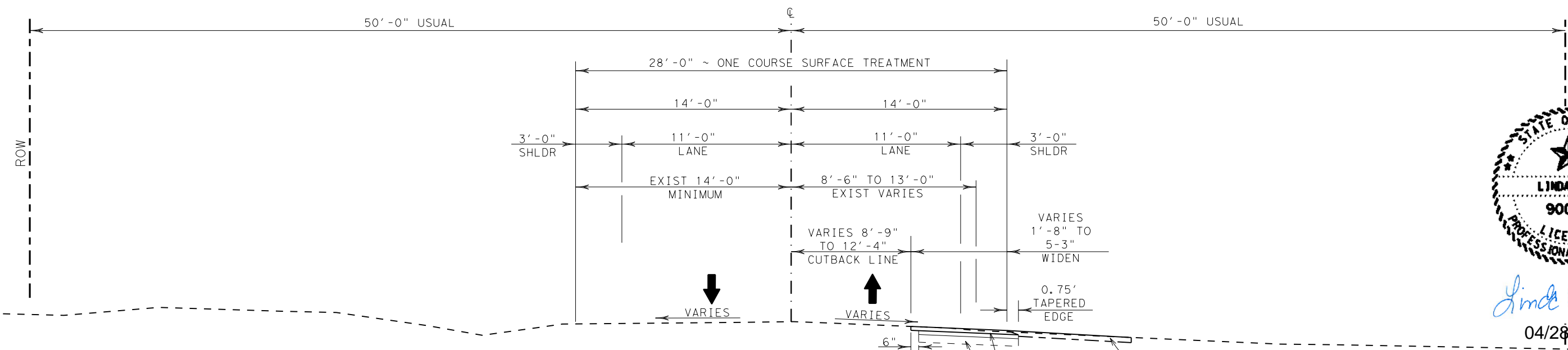
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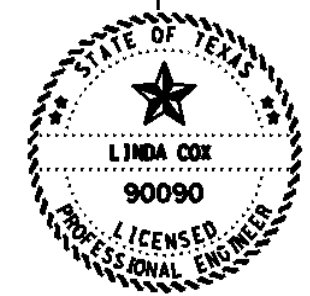
★ NOTE: SEE DRAINAGE CULVERT LAYOUTS FOR EXTENSION DETAILS.

**PROPOSED TYPICAL SECTION**  
 STA. 1084+19.85 TO STA. 1084+89.91  
 (LOW WATER CROSSING)



**PROPOSED TYPICAL SECTION**  
 STA. 1036+31.05 TO STA. 1037+49.02  
 STA. 1049+00.00 TO STA. 1050+50.00  
 STA. 1052+11.16 TO STA. 1054+00.00  
 STA. 1062+35.28 TO STA. 1067+59.09  
 STA. 1069+63.91 TO STA. 1083+93.97

4" ~ COMPOST MANUF TOPSOIL  
 7" HMA TY B PLACED IN 2 ~ 3.5" MATS W/ TACK COAT BETWEEN MATS  
 6" PROOF ROLLED, MOISTURE CONDITIONED, COMPACTED SUBGRADE.



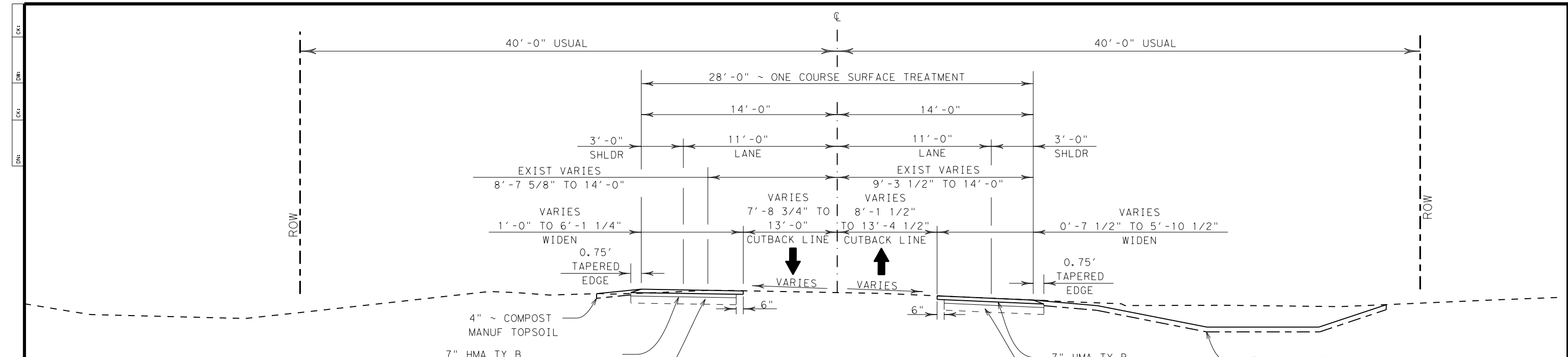
*Linda Cox, P.E.*  
 04/28/2021

RM 473  
**TYPICAL SECTIONS**  
 CSJ 0142-09-044 AND CSJ 0142-10-026

SHEET 4 OF 7  
 NTS

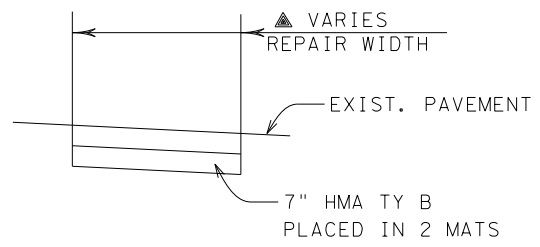
CONT	SECT	JOB	HIGHWAY
0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		22

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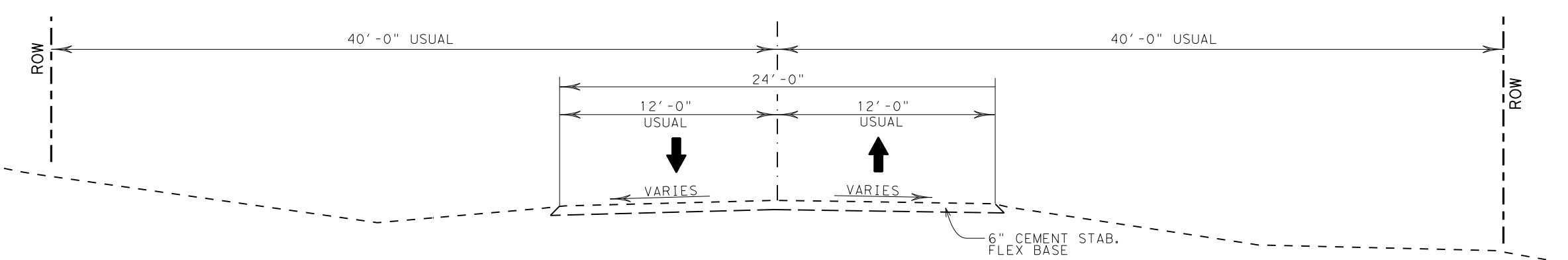
**PROPOSED TYPICAL SECTION**

- STA. 119+14.08 TO STA. 176+56.63
- STA. 178+65.25 TO STA. 196+14.50
- STA. 197+16.23 TO STA. 245+23.34
- STA. 248+50.00 TO STA. 306+28.10
- STA. 307+28.04 TO STA. 324+05.76

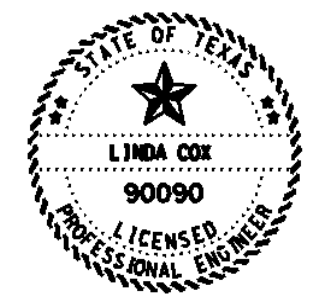


**TYPICAL SECTION**  
FLEX PAV STRUCT REPAIR

▲ NOTE: LOCATION, WIDTH AND LENGTH OF REPAIR SHALL BE AS APPROVED/DIRECTED BY THE ENGINEER.



**EXISTING TYPICAL SECTION**



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04/28/2021

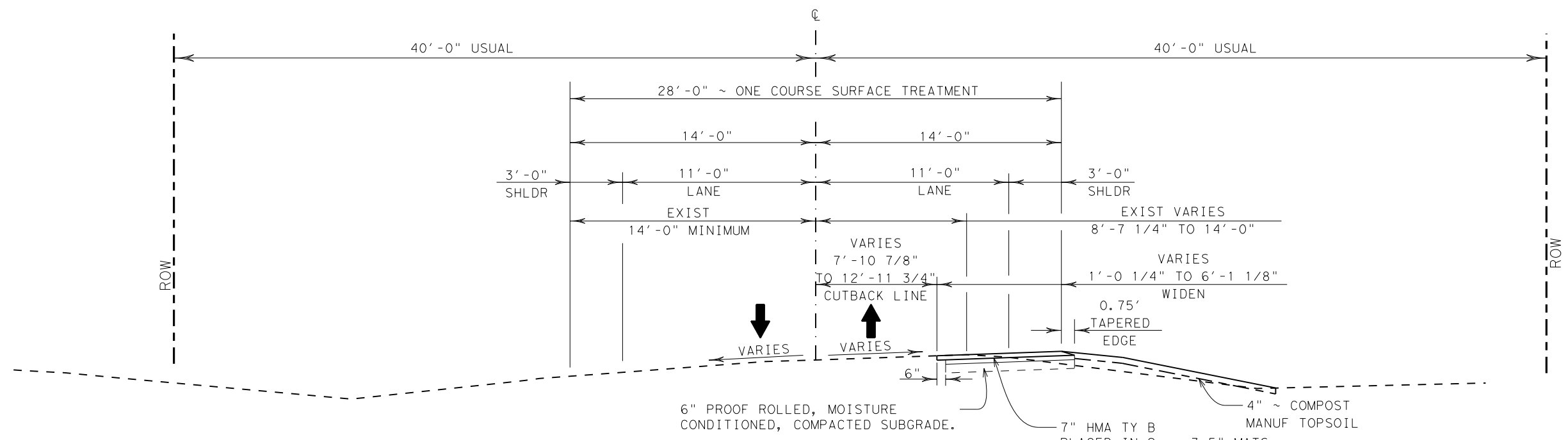
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RM 473  
**TYPICAL SECTIONS**  
CSJ 0142-10-025

SHEET 5 OF 7  
NTS

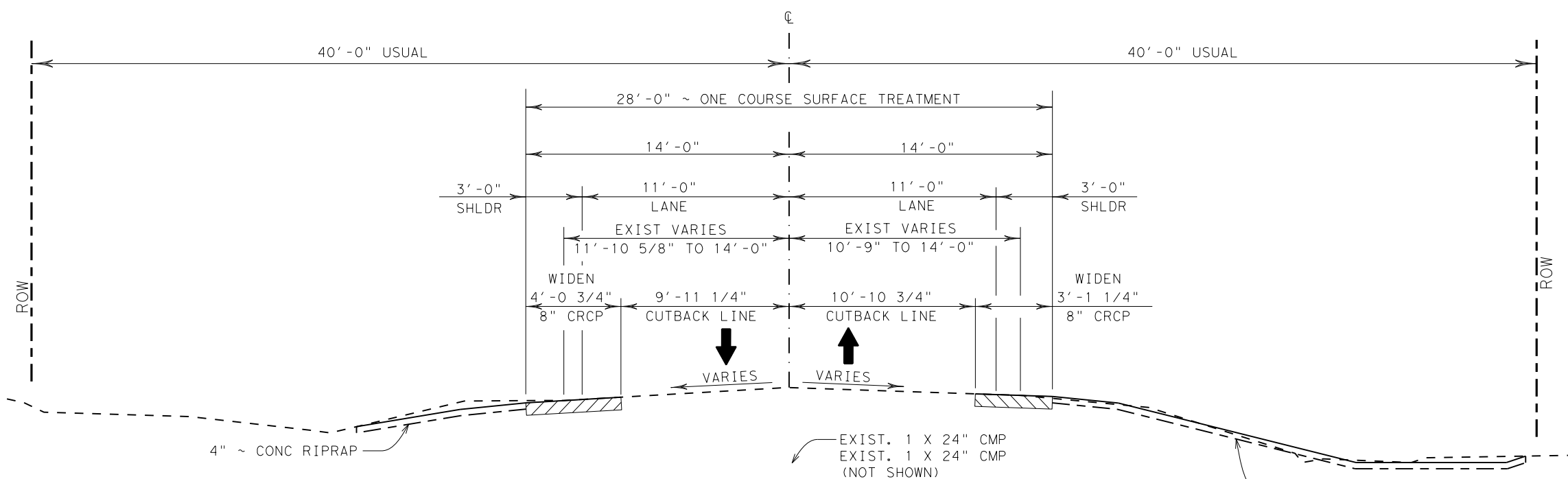
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0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		23

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**PROPOSED TYPICAL SECTION**

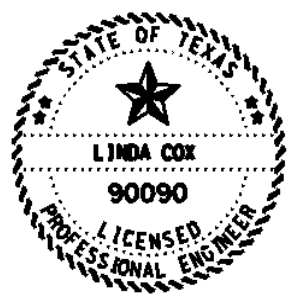
STA. 176+56.63 TO STA. 178+65.25  
 STA. 306+28.10 TO STA. 307+28.04



**PROPOSED TYPICAL SECTION**

STA. 196+14.50 TO STA. 197+16.23  
 (LOW WATER CROSSING)

★ NOTE: SEE DRAINAGE CULVERT LAYOUTS FOR EXTENSION DETAILS.



*Linda Cox, P.E.*  
 04/28/2021

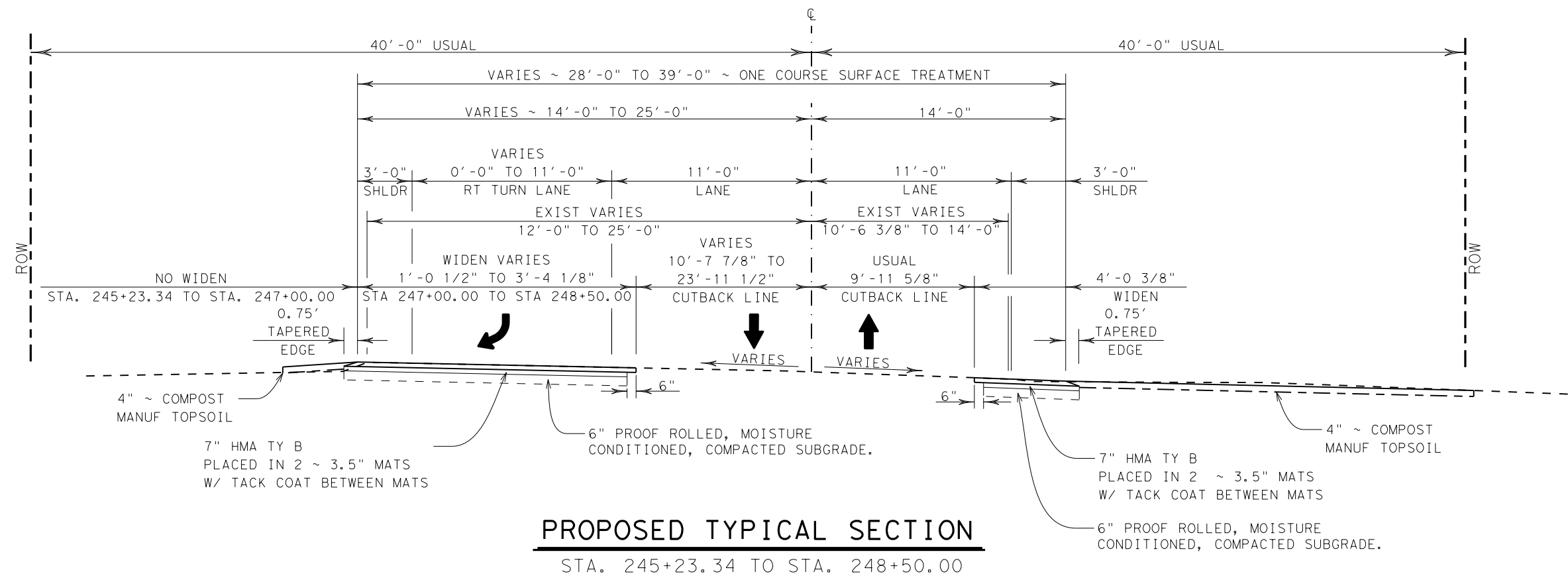
RM 473  
**TYPICAL SECTIONS**  
 CSJ 0142-10-025

SHEET 6 OF 7  
 NTS

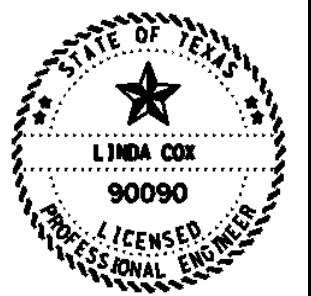
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0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		24



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*Linda Cox, P.E.*  
04/28/2021

RM 473  
**TYPICAL SECTIONS**  
CSJ 0142-10-025

SHEET 7 OF 7  
NTS

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CONT	SECT	JOB	HIGHWAY
0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		25

Control: 0142-09-044, Etc.

County: Kendall

Highway: RM 473

\*\*\*\*\*GENERAL NOTES\*\*\*\*\*  
2014 Specification Book (Revised October 9, 2020)

=====**Basis of Estimate**=====

Item	Description	Rate/Area	Quant-Unit
168	Vegetative Watering	15.6 gal X 52,899 SY	825.21 MG

- The Following Is For Information Only - Non Pay-

Item	Description	Rate/Area
204	Sprink (emb)	30 GAL / CY
210	Roll (tamp)(embank)	1 HR / 300 CY
210	Roll (tamp)(Subgr)	1 HR / 600 CY
210	Roll (tamp)(Med-B)(Subgr)	1 HR / 600 CY

=====**Asphalt Concrete Pavement**=====

**D-GR HMA TY-B PG64-22 ~ TON**

**CSJ 0142-09-044**

Location	Depth	Rate	Area	Quant-Tons
RDWY LT Mat No. 1	3.5"	385 Lbs/SY	1,891 SY	365 Tons
RDWY RT Mat No. 1	3.5"	110 Lbs/In/SY	2,755 SY	532 Tons
RDWY LT Mat No. 2	3.5"	110 Lbs/In/SY	1,736 SY	335 Tons
RDWT RT Mat No. 2	3.5"	110 Lbs/In/SY	<u>2,612 SY</u>	<u>504 Tons</u>
Total CSJ 0142-09-044 =			8,994 SY	1,736 Tons

**CSJ 0142-10-026**

Location	Depth	Rate	Area	Quant-Tons
RDWY LT Mat No. 1	3.5"	110 Lbs/In/SY	2,328 SY	449 Tons
RDWY RT Mat No. 1	3.5"	110 Lbs/In/SY	2,161 SY	417 Tons
RDWY LT Mat No. 2	3.5"	110 Lbs/In/SY	2,165 SY	418 Tons
RDWT RT Mat No. 2	3.5"	110 Lbs/In/SY	<u>1,947 SY</u>	<u>376 Tons</u>
Total CSJ 0142-10-026 =			8,601 SY	1,660 Tons

Control: 0142-09-044, Etc.

Sheet 26

County: Kendall

Highway: RM 473

**CSJ 0142-10-025**

Location	Depth	Rate	Area	Quant-Tons
RDWY LT Mat No. 1	3.5"	110 Lbs/In/SY	11,794 SY	2,276 Tons
RDWY RT Mat No. 1	3.5"	110 Lbs/In/SY	11,107 SY	2,144 Tons
RDWY LT Mat No. 2	3.5"	110 Lbs/In/SY	10,963 SY	2,116 Tons
RDWT RT Mat No. 2	3.5"	110 Lbs/In/SY	<u>10,196 SY</u>	<u>1,968 Tons</u>
Total CSJ 0142-10-025 =			44,060 SY	8,504 Tons
PROJECT TOTAL =			61,655 SY	11,900 Tons

=====**Tack Coat Data**=====

**D-GR HMA TY-B PG64-22 ~ TON**

**CSJ 0142-09-044**

Location	Rate	Area	Quant-Gals
RDWY LT	0.25 Gal/SY	1,891 SY	473 Gals
RDWY RT	0.25 Gal/SY	<u>2,755 SY</u>	<u>689 Gals</u>
Total CSJ 0142-09-044 =		4,646 SY	1,162 Gals

**CSJ 0142-10-026**

Location	Rate	Area	Quant-Gals
RDWY LT	0.25 Gal/SY	2,328 SY	582 Gals
RDWY RT	0.25 Gal/SY	<u>2,161 SY</u>	<u>540 Gals</u>
Total CSJ 0142-10-026 =		4,489 SY	1,122 Gals

**CSJ 0142-10-025**

Location	Rate	Area	Quant-Tons
RDWY LT	0.25 Gal/SY	11,794 SY	2,948 Gals
RDWY RT	0.25 Gal/SY	<u>11,107 SY</u>	<u>2,777 Gals</u>
Total CSJ 0142-10-025 =		22,901 SY	5,725 Gals
PROJECT TOTAL =		32,036 SY	8,009 Gals

Control: 0142-09-044, Etc.

County: Kendall

Highway: RM 473

Control: 0142-09-044, Etc.

Sheet 26A

County: Kendall

Highway: RM 473

===== Surface Treatment Data =====

ASPH (AC-15P, AC-20-5TR OR AC-20 XP)

Location	Rate	Area	Quant-Gals
<u>CSJ 142-09-044</u> ROADWAY	0.30 GAL/SY	14,075 SY	4,222 Gals
<u>CSJ 142-10-026</u> ROADWAY	0.30 GAL/SY	26,327 SY	7,898 Gals
<u>CSJ 142-10-025</u> ROADWAY	0.30 GAL/SY	<u>65,851 SY</u>	<u>19,755 Gals</u>
PROJECT TOTAL =		106,253 SY	31,876 Gals

AGGR (TY PD GR-4 SAC-B)

Location	Rate	Area	Quant-CY
<u>CSJ 142-09-044</u> ROADWAY	110 SY/CY	14,075 SY	128 CY
<u>CSJ 142-10-026</u> ROADWAY	110 SY/CY	26,327 SY	239 CY
<u>CSJ 142-10-025</u> ROADWAY	110 SY/CY	<u>65,851 SY</u>	<u>599 CY</u>
PROJECT TOTAL =		106,253 SY	966 CY

--General--

Remove existing raised pavement markings as the work progresses or as approved. This work is subsidiary to the various bid items. Properly dispose materials removed.

To better fit field conditions, the cross sections may be varied when approved.

If there are waste areas or material source areas, follow the Texas Aggregate Quarry and Pit Safety Act requirements.

Any materials removed and not reused and determined to be salvageable shall be stored within the project limits at an approved location or delivered undamaged to the storage yard as directed. Properly dispose unsalvageable materials in accordance with local, state, and federal regulations. Deface traffic signs so that they will not reappear in public as signs.

Any sign panels that are adjusted or removed and replaced, shall be done the same workday unless otherwise approved. This work shall be considered subsidiary to Item 502.

Notify the Engineer at least two weeks prior to a proposed traffic pattern change(s) that will require a revision to traffic signals.

Hurricane Evacuation

Hurricane Season is from June 1 thru November 30. As the closest metropolitan city inland from the Texas Coast, the City of San Antonio is a major shelter destination during mandatory hurricane evacuations. As such, planned work zone lane or road closures may be restricted and/or suspended during mandatory hurricane evacuation operations. The District will coordinate these restrictions at a minimum H-120 from any projected impact to the Texas Coast.

No time charges will be made if the Engineer determines that work on the project was impacted by the hurricane.

The Engineer may order changes in the Traffic Control Plan to accommodate evacuation traffic, and may suspend the work, all or in part, to ensure timely completion of this work. All work to implement changes in the Traffic Control Plan will be paid through existing bid prices or through Item 9.5, Force Account. However, the Department will not entertain any request for delay damages, loss of efficiency that may be attributed to the restriction or suspension of road or lane closures, or to changes in the Traffic Control Plan.

Contractor questions on this project are to be addressed to the following individual(s):  
Area Engineer Marshall Heap II, e-mail address [Marshall.Heap@txdot.gov](mailto:Marshall.Heap@txdot.gov)  
Assistant Area Engineer Jose Mendez, e-mail address [Jose.C.Mendez@txdot.gov](mailto:Jose.C.Mendez@txdot.gov)

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

All contractor questions will be reviewed by the Engineer. Once a response is developed, it will be posted to TxDOT's Public FTP at the following Address:

<https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/>

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.

**--Item 5--**

Reference all existing striping and other pavement markings to allow these markings to be re-established. Ensure the markings (lane lines, edge lines, ramp gores, etc.) are in line with signs, TMS arrows, etc. located on overhead sign supports.

Prior to letting, bidders may obtain a free computer diskette or a computerized transfer of files (from the Engineer's office) that contains the earthwork information. If copies of the cross-sections in addition to, or instead of, the CD are requested, they will be available at the Engineer's office for borrowing by copying companies at the bidder's expense.

When working near aerial electrical lines or utility poles, comply with Federal, State and local regulations. A horizontal boom or equivalent equipment is required for construction in the vicinity of the CPS Energy electric lines in order to provide vertical clearance of equipment during construction. Contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of pole bracing. The estimated duration for pole bracing is 6 to 10 weeks (or longer if temporary construction easements are required) after invoice is paid. For de-energizing or sleeving of the overhead electrical lines depicted on the plans, please contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of needed de-energization. The estimated duration for de-energizing is approximately 4 to 6 weeks (after invoice is paid) but could vary on system scenario and backfeed requirements. De-energizing may not be possible in all instances or may be restricted during specific periods of time due to load demand. Contractor will be reimbursed for the invoice cost for pole bracing and/or de-energizing or sleeving through force account.

Prevention of Migratory Bird Nesting

It is anticipated that migratory birds, a protected group of species, may try to nest on bridges, culverts, vegetation, or gravel substrate, at any time of the year. The preferred nesting season for migratory birds is from February 15 through October 1. When practicable, schedule construction operations outside of the preferred nesting season. Otherwise, nests containing migratory birds must be avoided and no work will be performed in the nesting areas until the young birds have fledged.

Structures

Bridge and culvert construction operations cannot begin until swallow nesting prevention is implemented, until after October 1 if it's determined that swallow nesting is actively occurring, or until it's determined swallow nests have been abandoned. If the State installed nesting deterrent on the bridges and culverts, maintain the existing nesting deterrent to prevent swallow nesting until October 1 or completion of the bridge and culvert work, whichever occurs earlier. If new nests are built and occupied after the beginning of the work, do not perform work that can

interfere with or discourage swallows from returning to their nests. Prevention of swallow nesting can be performed by one of the following methods:

1. By February 15 begin the removal of any existing mud nests and all other mud placed by swallows for the construction of nests on any portion of the bridge and culverts. The Engineer will inspect the bridges and culverts for nest building activity. If swallows begin nest building, scrape or wash down all nest sites. Perform these activities daily unless the Engineer determines the need to do this work more frequently. Remove nests and mud through October 1 or until bridge and culvert construction operations are completed.
2. By February 15 place a nesting deterrent (which prevents access to the bridge and culvert by swallows) on the entire bridge (except deck and railing) and culverts.

No extension of time or compensation payment will be granted for a delay or suspension of work caused by nesting swallows. This work is subsidiary to the various bid items.

**--Item 6--**

Show the stockpile lot and/or sub lot numbers on all tickets for all materials.

Steel Wrapped or Asbestos Utility Lines:

Existing steel wrapped natural gas and/or asbestos cement (AC) water lines that will no longer be in service are usually abandoned in place (AIP). However, if any of these lines have to be removed for whatever reason (in the way of other construction, to make tie-ins, etc.), comply with Item 6.

If removal of AC water lines is included in the construction contract, then notify the Engineer of proposed dates of removal of the AC water lines in accordance to Item 6. Excavate to the top of the AC water line to allow a separate contractor hired by the State to remove the AC water line. The excavation for the AC water line removal is subsidiary to the work that created the need for the removal (excavation for structures, roadway, a new line, tie-ins, etc.).

**--Item 7--**

The project's total disturbed area is 23.49 Acres. The disturbed area in all project locations and Contractor project specific locations (PSL's), within 1/4 mile of the project limits, will further establish the authorization requirements for storm water discharges. The department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. Obtain any required authorization from the TCEQ for any PSL's on or off the ROW. When the total area disturbed on the project

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and PSL's within 1/4 mile of the project exceeds 5 acres, provide a copy of the Contractor NOI for PSL's to the Engineer (to the appropriate MS4 operator when the project is on an off-state system route).

Notify the Engineer of the disturbed acreage within one (1) mile of the project limits. Obtain authorization from the TCEQ for Contractor PSL's for construction support activities on or off ROW.

No significant traffic generators events identified.

**--Item 8--**

Working days will be computed and charged in accordance with Article 8.3.1.4, Standard work week.

Create and maintain a CPM schedule.

The CPM schedule shall be created and maintained using software fully compatible with version 6.1 of Primavera Project Planner.

**--Item 9--**

When approved, provide uniformed, off-duty law enforcement officers with marked vehicles during work that requires a lane closure. The officer in marked vehicles shall be located as approved to monitor or direct traffic during the closure. The method used to direct traffic at signalized intersections shall be as approved. Additional officers and vehicles may be provided when approved or directed.

Complete the daily tracking form provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided.

Show proof of certification by the Texas Commission on Law Enforcement Standards.

All law enforcement personnel used in Work Zone Traffic Control shall be trained for performing duties in work zones and are required to take "Safe and Effective Use of Law Enforcement Personnel in Work Zones" (Course #133119) which can be found online at the following site: [www.nhi.fhwa.dot.gov](http://www.nhi.fhwa.dot.gov)

Certificates of completion should be available to all who finish the course. These should be kept by the officers in order to substantiate completion when reporting to the work site.

Minimums, scheduling fees, etc. will not be paid; TxDOT will consider paying cancellation fees on a case by case basis.

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**--Item 100--**

Begin clearing operations after trees and other areas of vegetation to be protected have been identified and approved. Install fencing around features to be protected as shown in the plans or directed. Coordinate all right of way clearing operations with the SW3P.

Trim and remove brush and trees within the stations noted in the plans and as needed for construction operations. Unless shown otherwise in the plans or a designated non-mow area, perform trimming or removal for areas to the ROW limits. Trim or remove to provide minimum of 5 ft. of horizontal clearance and 7 ft. of vertical clearance for the following: sidewalks, paths, guard fence, rails, signs, object markers, and structures. Trim to provide a minimum of 12 ft. vertical clearance under all trees. This work is subsidiary.

Obtain approval for proposed method of tree and brush trimming and removal. Vertical flailing equipment is not allowed. Treat damaged or cut branches, roots and/or stumps of all oak trees with a commercial tree wound dressing. Disinfect all pruning tools with a solution of 70% alcohol before moving from one tree to another. Unless otherwise approved remove all resulting vegetative debris from the ROW within 24 hours. The Engineer can stop all construction operations if the dressing, cut and removal requirements are not followed.

**--Item 110--**

Where excavation extends beyond a right of way fence, remove and replace the fence to a comparable condition. This work shall be considered subsidiary to the bid item.

**--Item 132--** TY C Embankment will meet a PI of 6 to 25.

**--Item 164--**

Drill seeding of permanent grasses requires the use of approved grass seeding equipment capable of properly storing and metering the release of small seeds (such as Bermuda grass) separately from fluffy type seeds (such as bluestems). Equipment manufactured for planting grain crops is acceptable for planting temporary cool season seeds, but not for planting the permanent seed mix.

If performing a permanent seeding in an area with established temporary grass cover and mowing is performed instead of tilling, seed and fertilizer may be distributed simultaneously during "Broadcast Seeding" operations, provided each component is applied at the specified rate.

**--Item 166--**

Use a fertilizer with an analysis of 13-13-13 (50% of the total N must be sulfur coated urea) to apply 60 lbs of actual N per acre. This requires 460 lbs of 13-13-13 per acre or .095 lbs per SY of area.

**--Item 168--**

Apply vegetative watering as needed to supplement natural rainfall during the vegetation establishment period. Plan quantity of irrigation water is based on the application of a total of



1.3 gal of water each week for each sq. yd. of area that is sodded or seeded. Establishment time is estimated to be 12 weeks for both sod and permanent seed mixes. Temporary seeding will require less time for establishment. Provide a schedule and coordinate watering cycles and rates per cycle with the Engineer. Obtain approval if the quantity of water to be applied is expected to exceed the plan quantity. Adjust the amount of water applied with each cycle and the number of cycles each wk. according to actual site conditions. Drought or other conditions, as determined by the Engineer, may require the application of supplemental irrigation during hours other than normal working hours.

**--Item 302--**

Previously tested aggregates found to contain excessive quantities of dust (more than 0.5 percent passing the No. 40 sieve) during precoating, stockpiling or hauling operations, may be rejected. Use Test Method Tex-200-F, Part I for testing.

Precoated Aggregate Type PE shall consist of crushed slag, crushed stone or natural limestone rock asphalt.

The Engineer will utilize the Ignition Oven Method (Tex 236-F) for aggregate gradation, with the option of utilizing belt or vacuum extraction gradation in the event the ignition oven malfunctions.

**--Item 316--**

When using latex asphalt, avoid drifting of asphalt onto traffic and adjacent properties.

Asphalt season will be year around, but meet sections 316.4.4.1 through 4.4.3.

Ensure that the asphalt for precoating the aggregate and the asphalt used for the surface treatment will not result in a reaction that may adversely affect the bonding of the aggregate and asphalt during the surface treatment operation.

Do not add bag house fines in the production of precoated material.

Clean all concrete curbs, islands, medians, etc. that get coated with asphalt.

**--Item 320--**

Construct all longitudinal ACP joints adjacent to a travel lane with a joint maker device that will create a 3:1 to 6:1 taper. For placement of 2 inches or more, the device shall provide a maximum ½ inch vertical edge. Taper outside edges (next to the grass) or backfill (shoulder-up) the same day.

Provide a material transfer device capable of providing a continuous flow of material to the paver. The material transfer device will consist of a windrow elevator or better.

When placing Item 346 mixtures, Use a self-propelled wheel mounted MTV capable of receiving mix from the haul trucks, separate from the paver. It shall have a minimum storage capacity of approximately 25 tons. It shall be equipped with a pivoting discharge conveyor and shall completely and thoroughly remix the material prior to placement. The effectiveness of the MTV's remixing ability is subject to the approval of the Engineer. In addition, the paver shall have a surge storage insert with a minimum capacity of 20 tons.

**--Item 340, 342, 346, 347, 348, 3076, & 3077--**

Table 10, in Item 340, Table 10 in Item 3076 and Table 11 in Item 3077, Hamburg Wheel Test Requirements tested in accordance with Tex-242-F are changed for PG 64-22 or lower and PG 70-22. Minimum number of passes at 12.55 mm Rut Depth, Tested at 50 degrees C will be 5,000 and 10,000 respectively.

The asphalt plant shall have truck scales as defined in Item 520. Give three weight tickets bearing the date, ticket number, the truck number, the gross, net & tare weights to the truck driver for the State inspector at the spreading and finishing operation. Trucks may be required to weigh on public scales or portable platform scales to verify the weight of the ticket.

Submit a copy of the Tex 233-F production charts on a weekly basis. At the end of the ACP work, provide all originals.

Crushing of aggregate for hot mix and immediate use for production of the mix is not allowed. Stockpile the aggregate until enough material is available for five days of production unless prior approval is provided

Hold a pre-placement meeting one month prior to the placement of the hot mix.

Do not use diesel or solvents as asphalt release agents in production, transportation, or construction. A list of approved asphalt release agents is available from the District Laboratory.

No more than one hot mix lot will be open for any specific type of hot mix, unless authorized. After a lot is open and the Contractor gets approval to change plants, the previous lot will be closed and a new lot will be opened. The numbering for the lots produced at the new plant will start with No. 1. If allowed to switch back to the original or previous plant, the next lot from that plant will resume numbering sequentially from the last lot produced by that plant.

**--Item 401--**

A shrinkage compensator is not required for when used for backfilling pipes. Strength of the Flowable Backfill will be verified by the District Laboratory. Field testing is not required, unless deemed necessary.

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**--Item 403--**

The Contractor and/or Contractor's Engineer who selects and designs the temporary shoring is responsible for the overall (global) stability calculations as well as internal stability and sliding calculations (including mat and soil nail pullout) as per the TxDOT Bridge Division Geotechnical Manual. If the Contractor chooses a Temporary Earth Retaining Wall for Temporary Shoring, then the Contractor and/or Contractor's Engineer is required also to provide wire struts as shown on these plans. Designs for any type of Retaining Wall used for Temporary Special Shoring shall conform to the TxDOT Geotechnical Manual Chapter 6: Retaining Walls.

The Contractor is responsible for maintaining positive drainage during construction of temp shoring operations and permanent wall structures.

**--Item 421--**

Use an automated ticket that contains the same information as TxDOT's ticket. Submit the ticket for approval prior to use. The concrete producer will contact the District Laboratory or the Engineer's Office (outside the San Antonio area) to inform TxDOT of scheduled structural concrete batching. Structural concrete includes bridge drill shafts, columns, caps, abutments, deck or top slabs of direct traffic culverts.

Entrained air is allowed for Class P and Class HES concrete only. Air content testing is waived for all classes of concrete.

The curing facilities and strength testing equipment is not required for this project.

Poly-fiber reinforced concrete may be used as an option, with the approval by the Engineer, for riprap, sidewalk, curb/gutter, and mow strip. Use a TxDOT approved manufacturer or producer for the poly-fiber. The poly-fibers shall be combined with the concrete in proportions as recommended by the manufacturer. A concrete mix design must be approved by the Engineer.

**--Item 427--**

Provide special surface finish Rub to Surface Area I.

**--Item 432--**

In all riprap slopes, provide 3 inch diameter weep holes at 10 foot maximum spacing and backed with loose graded gravel or crushed stone and galvanized hardware cloth.

In areas where guard fence posts are to be placed in riprap, the riprap shall have an 18 inch +/- blocked out area (round or square). After the posts are installed, the blocked out area shall be topped off with 4 inches of low strength grout/mortar consisting of about 1 sack of cement per cubic yard of mix.

Match the slope of the Riprap (Mow Strip) to the slope of the adjacent roadway.

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**--Item 500--**

"Materials on Hand" payments will not be considered in determining percentages for mobilization payments.

**--Item 502--**

Place standard markings no later than 14 days after surface treatment operations are completed.

When advanced warning flashing arrow panels and/or changeable message sign is specified, have one standby unit in good condition at the job site. Standby time shall be considered subsidiary to the bid item.

Treat the pavement drop-offs as shown in the TCP.

After written notification, the time frame is provided on the Form 599 to provide properly maintained signs and barricades before considered in non-compliance. Failure to make corrections as noted may result in payment for this item being withheld.

Moving an existing sign to a temporary location is subsidiary to this Item. Installations with permanent supports at permanent locations will be paid for under the applicable bid item (s).

Mount temporary mailboxes on plastic drum in accordance with Compliant Work Zone Traffic Control Devices, Section K. Mounting and moving the mailbox as needed for the various construction phases is subsidiary to this Item.

Notify the Engineer in writing 10 business days in advance of any temporary or permanent lane, ramp, connector, etc. closures/detours, restrictions to lane widths, alterations to vertical clearances, or modifications to radii. Any other modifications to the roadway that may adversely affect the mobility of oversized/overweight trucks also require 10 business days advance written notice to the Engineer. Unless shown in the TCP, no lane, ramp, connector, etc. closures are allowed during special events. At least one lane has to remain open at all times. Lane closures will not be allowed if this reporting requirement is not met.

For closures not listed in the TCP; the lane closures are limited to between the hours of 8:30 AM and 4:30 PM, and at least one lane has to remain open at all times.

Avoid placing stockpiles within the roadway's horizontal clear zone. If a stockpile is placed within the clear zone, address in accordance with the TMUTCD.

Do not place barricades, signs, or any other traffic control devices where they interfere with sight distance at driveways or side streets.

In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have an employee available to respond on the project for emergencies and for taking



corrective measures within 2 hours or within a reasonable time frame as specified by the Engineer.

Temporary Rumble Strips are to be used according to WZ (RS)-16.

Use 2 number of rumble strip arrays.

If Nighttime work is required and work is not behind positive barrier then full TY 3 reflective gear is required to be worn by all workers, hard hat halos are required to be worn by the flaggers at flagging stations, TY III barricades are required to be spaced at 500 ft, and a mandatory night work meeting is required.

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.

**--Item 506--**

An Inspector will perform a regularly scheduled SWP3 inspection every 7 calendar days.

Failure to address items noted on the SW3P inspection report within two report cycles may result in the Department stopping all construction operations, exclusive of time charges, or withholding that month's estimate until the SW3P deficiencies are corrected unless the Engineer determines that the area is too wet to correct SW3P deficiencies.

Failure to correctly maintain daily monitoring reports and submitting to TxDOT on a daily/weekly basis may result in the monthly estimate being withheld.

Rock Filter Dam (Ty 5) (reinforced) constructed as follows:

- Height: 6" to 12", as directed by the Engineer, measured vertically from the existing ground to the top of the filter dam, with wire mesh
- Top Width: 24"
- Slopes: 2:1 maximum (outside clear zone)  
6:1 maximum (within clear zone)
- Aggregate: Gradation shall be 3 to 6 inches.

**--Item 510--**

The length of the one-way traffic control section is limited to 1/2 miles.

Payment for Pilot Car Method includes all necessary flaggers to safely conduct operations. This may involve stationing additional flaggers at public streets and driveways.

Portable Traffic Signals will not be paid for directly, but shall be considered subsidiary to Item 502.

**--Item 540--**

MBGF posts shall be round with domed tops, and not painted. If 10 or less timber posts are needed, they may be purchased locally and will be accepted by visual inspection.

Guard fence posts placed in proposed and/or existing areas of riprap, sidewalks or other concrete shall have an 18 inch +/- (square or round) block out in the concrete. After the posts are installed, the blocked out area shall be topped off with 4 inches of low strength grout/mortar consisting of about 1 sack of cement per cubic yard of mix.

When connecting a Thrie-Beam to a concrete wingwall, bridge rail, CTB, etc., drill the holes for bolt placement using rotary or core type equipment. Use a core type drill when reinforcing steel is encountered. Do not use percussion or impact drilling. Repair damage to the concrete and spalls exceeding 1/2" from the edge of the hole.

**--Item 542--**

Salvage all undamaged/acceptable radius guardrail and deliver to the TxDOT maintenance section yard.

**--Item 556--**

Coarse Aggregate Grade 3 meeting requirements of Item 421, Table 4, is acceptable for Filter Material.

**--Item 585--**

Ride quality requirements are waived.

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**--Item 644--**

The wedge anchor system shown on State Standard Sheet SMD (TWT) is not allowed.

The set screw type for Triangular Slipbase Systems is not allowed. Use the following products for the Triangular Slipbase System.

Triangular Slip Base Systems  
(For use with 10 BWG and Schedule 80 Round Posts)

Southern Plains Fabrication	SPF Triangular Slipbase Housing	<a href="mailto:Info@SouthernPlainsFabrication.com">Info@SouthernPlainsFabrication.com</a> <a href="http://SouthernPlainsFabrication.com">http://SouthernPlainsFabrication.com</a> (806) 241-0060
Structural and Steel Products	Triangular Slipbase Breakaway Support	<a href="mailto:CustServ@s-steel.com">CustServ@s-steel.com</a> <a href="http://s-steel.com">http://s-steel.com</a> (800) 782-5804

**--Item 662--**

Raised reflective pavement markings are required when using work zone reflective pavement markings for lane lines as shown in the standards. The raised reflective pavement markings must be placed during the same operation for installation of the work zone reflective pavement markings and placed before the roadway is open to traffic. These raised reflective pavement markings will be subsidiary to work zone pavement markings.

**--Item 666--**

Use TY II material (vs. an acrylic or epoxy) as the sealer for the TY I markings, place the TY II a minimum of 14 calendar days (to provide adequate curing) before placing the TY I markings.

Failure to provide the retroreflector testing data within the time specified in the specifications will result in non-payment of the bid item.

**--Item 672--**

Place all adhesive material directly from the heated dispenser to the pavement. Do not use portable or non-heated containers. Use adhesive of sufficient thickness so that when the marker is pressed into the adhesive, 1/8" or more adhesive will remain under 100% of the marker. The adhesive should extend not less than 1/2" but not more than 1 1/2" beyond the perimeter of the marker.

**--Item 677--**

Obtain approval before using the mechanical method for the elimination of existing thermoplastic pavement markings.

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**--Item 6185--**

2 shadow vehicles with TMA will be required for this project. The TMA's will be measured and paid for by the DAY for each TMA/TA set up and operational on the worksite. The contractor will be responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMA's needed for the project. See TMA and TA Summary sheet in the plans.



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# QUANTITY SHEET

CONTROL SECTION JOB				0142-09-044		0142-10-025		0142-10-026		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00065753		A00065673		A00065754			
COUNTY				Kendall		Kendall		Kendall			
HIGHWAY				RM 473		RM 473		RM 473			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL		
	100-6002	PREPARING ROW	STA	38.390		206.060		82.850		327.300	
	104-6001	REMOVING CONC (PAV)	SY			71.000		32.000		103.000	
	104-6009	REMOVING CONC (RIPRAP)	SY			227.000		137.000		364.000	
	104-6017	REMOVING CONC (DRIVEWAYS)	SY	112.000		177.000		177.000		466.000	
	104-6054	REMOVING CONCRETE(MOW STRIP)	LF			2,160.000				2,160.000	
	110-6001	EXCAVATION (ROADWAY)	CY	2,643.000		9,511.000		6,914.000		19,068.000	
	132-6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	169.000		442.000		739.000		1,350.000	
	161-6017	COMPOST MANUF TOPSOIL (4")	SY	12,377.000		52,899.000		17,078.000		82,354.000	
	164-6035	DRILL SEEDING (PERM) (RURAL) (CLAY)	SY	12,377.000		52,899.000		17,078.000		82,354.000	
	164-6051	DRILL SEED (TEMP)(WARM OR COOL)	SY	12,377.000		52,899.000		17,078.000		82,354.000	
	168-6001	VEGETATIVE WATERING	MG	193.080		825.210		266.410		1,284.700	
	169-6001	SOIL RETENTION BLANKETS (CL 1) (TY A)	SY	12,377.000		52,899.000		17,078.000		82,354.000	
	316-6240	AGGR(TY-PD GR-4 SAC-B)	CY	128.000		599.000		239.000		966.000	
	316-6419	ASPH (AC-15P, AC-20-5TR OR AC-20XP)	GAL	4,222.000		19,755.000		7,898.000		31,875.000	
	351-6003	FLEXIBLE PAVEMENT STRUCTURE REPAIR(7")	SY	1,500.000		3,000.000		1,500.000		6,000.000	
	360-6002	CONC PVMT (CONT REINF - CRCP) (8")	SY			106.000		62.200		168.200	
	400-6005	CEM STABIL BKFL	CY	1.000		16.000				17.000	
	400-6008	CUT & RESTORE ASPH PAVING	SY			47.000				47.000	
	401-6001	FLOWABLE BACKFILL	CY			14.000				14.000	
	432-6001	RIPRAP (CONC)(4 IN)	CY	11.000		63.000		46.000		120.000	
	432-6002	RIPRAP (CONC)(5 IN)	CY			22.000		62.000		84.000	
	432-6045	RIPRAP (MOW STRIP)(4 IN)	CY			115.000				115.000	
	460-6002	CMP (GAL STL 18 IN)	LF			8.160				8.160	
	460-6003	CMP (GAL STL 24 IN)	LF	25.290		59.300		16.000		100.590	
	460-6009	CMP AR (GAL STL DES 2)	LF			72.270				72.270	
	460-6024	CMP AR (GAL STL DES 7)	LF			42.550				42.550	
	464-6006	RC PIPE (CL III)(27 IN)	LF	19.260						19.260	
	464-6008	RC PIPE (CL III)(36 IN)	LF					13.890		13.890	
	464-6010	RC PIPE (CL III)(48 IN)	LF					12.270		12.270	
	466-6005	HEADWALL (CH - FW - 0) (DIA= 24 IN)	EA					1.000		1.000	
	467-6347	SET (TY II) (18 IN) (CMP) (6: 1) (C)	EA			2.000				2.000	
	467-6375	SET (TY II) (24 IN) (CMP) (3: 1) (C)	EA			1.000				1.000	
	467-6377	SET (TY II) (24 IN) (CMP) (4: 1) (C)	EA	3.000		1.000				4.000	
	467-6379	SET (TY II) (24 IN) (CMP) (6: 1) (C)	EA	1.000						1.000	
	467-6403	SET (TY II) (27 IN) (RCP) (4: 1) (C)	EA	2.000						2.000	
	467-6448	SET (TY II) (36 IN) (RCP) (3: 1) (C)	EA					2.000		2.000	
	467-6477	SET (TY II) (48 IN) (RCP) (4: 1) (C)	EA					4.000		4.000	



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COUNTY Kendall

# QUANTITY SHEET

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PROJECT ID				A00065753		A00065673		A00065754			
COUNTY				Kendall		Kendall		Kendall			
HIGHWAY				RM 473		RM 473		RM 473			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL		
	467-6525	SET (TY II) (DES 2) (CMP) (6: 1) (P)	EA			4.000				4.000	
	467-6570	SET (TY II) (DES 7) (CMP) (3: 1) (C)	EA			1.000				1.000	
	467-6571	SET (TY II) (DES 7) (CMP) (4: 1) (C)	EA			1.000				1.000	
	480-6001	CLEAN EXIST CULVERTS	EA	3.000		11.000		4.000		18.000	
	496-6006	REMOV STR (HEADWALL)	EA			1.000				1.000	
	496-6016	REMOV STR (PIPE)	EA			3.000				3.000	
	500-6001	MOBILIZATION	LS	100.00%						100.00%	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	14.000						14.000	
	506-6005	ROCK FILTER DAMS (INSTALL) (TY 5)	LF	452.000		2,064.000		498.000		3,014.000	
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	452.000		2,064.000		498.000		3,014.000	
	506-6020	CONSTRUCTION EXITS (INSTALL) (TY 1)	SY	111.000		222.000		111.000		444.000	
	506-6024	CONSTRUCTION EXITS (REMOVE)	SY	111.000		222.000		111.000		444.000	
	506-6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	2,255.000		10,450.000		4,000.000		16,705.000	
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	2,255.000		10,450.000		4,000.000		16,705.000	
	510-6002	ONE-WAY TRAF CONT (PILOT CAR)	HR	140.000		502.000		40.000		682.000	
	530-6004	DRIVEWAYS (CONC)	SY	51.000				111.000		162.000	
	530-6006	DRIVEWAYS (SURF TREAT)	SY	289.000		742.000		899.000		1,930.000	
	530-6009	TURNOUTS (SURF TREAT)	SY	61.000		142.000		93.000		296.000	
	540-6001	MTL W-BEAM GD FEN (TIM POST)	LF			1,450.000				1,450.000	
	540-6019	MTL W-BEAM GD FEN (SPECIAL)	LF			100.000				100.000	
	540-6020	MTL W - BEAM GD FEN (LOW FILL CULVERT)	LF			50.000				50.000	
	542-6001	REMOVE METAL BEAM GUARD FENCE	LF			1,638.000				1,638.000	
	544-6001	GUARDRAIL END TREATMENT (INSTALL)	EA			16.000				16.000	
	544-6003	GUARDRAIL END TREATMENT (REMOVE)	EA			14.000				14.000	
	556-6006	PIPE UNDERDRAINS (TY 6) (6")	LF			87.200				87.200	
	560-6011	MAILBOX INSTALL-S (TWW-POST) TY 4	EA	3.000		4.000		5.000		12.000	
	560-6013	MAILBOX INSTALL-M (TWW-POST) TY 4	EA			3.000				3.000	
	644-6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	3.000		42.000		29.000		74.000	
	644-6004	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	EA	4.000		18.000		10.000		32.000	
	644-6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	1.000				2.000		3.000	
	644-6027	IN SM RD SN SUP&AM TYS80(1)SA(P)	EA			1.000		1.000		2.000	
	644-6030	IN SM RD SN SUP&AM TYS80(1)SA(T)	EA	2.000				4.000		6.000	
	644-6070	RELOCATE SM RD SN SUP&AM TY S80	EA	1.000		2.000				3.000	
	644-6076	REMOVE SM RD SN SUP&AM	EA	9.000		49.000		26.000		84.000	
	658-6016	INSTL DEL ASSM (D-SW)SZ (BRF)GF1 (BI)	EA			78.000				78.000	
	658-6060	REMOVE DELIN & OBJECT MARKER ASSMS	EA	6.000		12.000		11.000		29.000	
	658-6062	INSTL DEL ASSM (D-SW)SZ 1(BRF)GF2(BI)	EA			39.000				39.000	

DISTRICT	COUNTY	CCSJ	SHEET
San Antonio	Kendall	0142-09-044	27A



CONTROLLING PROJECT ID 0142-09-044

DISTRICT San Antonio  
HIGHWAY RM 473

COUNTY Kendall

# QUANTITY SHEET

CONTROL SECTION JOB				0142-09-044		0142-10-025		0142-10-026		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00065753		A00065673		A00065754			
COUNTY				Kendall		Kendall		Kendall			
HIGHWAY				RM 473		RM 473		RM 473			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL		
	658-6080	INSTL DEL ASSM (D-SW)SZ 1(WFLX)GND	EA			6.000		12.000		18.000	
	658-6084	INSTL DEL ASSM (D-SW)SZ 1(WFLX)SRF(BI)	EA					6.000		6.000	
	658-6086	INSTL DEL ASSM (D-SY)SZ 1(YFLX)GND	EA			2.000				2.000	
	658-6099	INSTL OM ASSM (OM-2Z)(WFLX)GND	EA	6.000		11.000		4.000		21.000	
	658-6101	INSTL OM ASSM (OM-2Z)(WFLX)SRF	EA					3.000		3.000	
	658-6103	INSTL OM ASSM (OM-3L)(WFLX)GND)GND	EA					2.000		2.000	
	658-6106	INSTL OM ASSM (OM-3R)(WFLX)GND)GND	EA					2.000		2.000	
	662-6004	WK ZN PAV MRK NON-REMOV (W)4"(SLD)	LF					2,400.000		2,400.000	
	662-6016	WK ZN PAV MRK NON-REMOV (W)24"(SLD)	LF			22.000		22.000		44.000	
	662-6034	WK ZN PAV MRK NON-REMOV (Y)4"(SLD)	LF			1,350.000		1,604.000		2,954.000	
	662-6063	WK ZN PAV MRK REMOV (W)4"(SLD)	LF			2,505.000				2,505.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA	39.000		8.000		52.000		99.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	499.000		2,099.000		911.000		3,509.000	
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	618.000		152.000		90.000		860.000	
	666-6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	10.000				6.000		16.000	
	666-6054	REFL PAV MRK TY I (W)(ARROW)(100MIL)	EA	5.000		1.000				6.000	
	666-6075	REFL PAV MRK TY I (W)(NUMBER)(100MIL)	EA			1.000				1.000	
	666-6078	REFL PAV MRK TY I (W)(WORD)(100MIL)	EA	5.000		10.000				15.000	
	666-6102	REF PAV MRK TY I(W)36"(YLD TRI)(100MIL)	EA					5.000		5.000	
	666-6156	REFL PAV MRK TY I(Y)(MED NOSE)(100MIL)	EA	1.000						1.000	
	666-6224	PAVEMENT SEALER 4"	LF	9,760.000		40,080.000		16,570.000		66,410.000	
	666-6225	PAVEMENT SEALER 6"	LF	7,438.000		41,129.000		16,582.000		65,149.000	
	666-6226	PAVEMENT SEALER 8"	LF	650.000		152.000		90.000		892.000	
	666-6230	PAVEMENT SEALER 24"	LF	10.000				6.000		16.000	
	666-6231	PAVEMENT SEALER (ARROW)	EA	5.000		1.000				6.000	
	666-6232	PAVEMENT SEALER (WORD)	EA	5.000		10.000				15.000	
	666-6233	PAVEMENT SEALER (MED NOSE)	EA	1.000						1.000	
	666-6243	PAVEMENT SEALER (YLD TRI)	EA					5.000		5.000	
	666-6248	PAVEMENT SEALER (NUMBER)	EA			1.000				1.000	
	666-6343	REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	LF	7,438.000		41,129.000		16,582.000		65,149.000	
	666-6344	REF PROF PAV MRK TY I(Y)4"(BRK)(100MIL)	LF			380.000				380.000	
	666-6345	REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	LF	9,760.000		39,700.000		16,570.000		66,030.000	
	672-6007	REFL PAV MRKR TY I-C	EA	39.000		8.000		52.000		99.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	341.000		517.000		208.000		1,066.000	
	677-6001	ELIM EXT PAV MRK & MRKS (4")	LF			2,585.000		3,435.000		6,020.000	
	677-6007	ELIM EXT PAV MRK & MRKS (24")	LF			22.000				22.000	
	3076-6001	D-GR HMA TY-B PG64-22	TON	1,736.000		8,504.000		1,660.000		11,900.000	



# QUANTITY SHEET

CONTROLLING PROJECT ID 0142-09-044

DISTRICT San Antonio  
HIGHWAY RM 473

COUNTY Kendall

CONTROL SECTION JOB				0142-09-044		0142-10-025		0142-10-026		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00065753		A00065673		A00065754			
COUNTY				Kendall		Kendall		Kendall			
HIGHWAY				RM 473		RM 473		RM 473			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL		
	3076-6066	TACK COAT	GAL	1,162.000		5,725.000		1,121.000		8,008.000	
	6185-6002	TMA (STATIONARY)	DAY	21.000		42.000		39.000		102.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY	6.000		26.000		6.000		38.000	
	18	LAW ENFORCEMENT: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000						1.000	
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000						1.000	
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000						1.000	

PHASE I

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	* 510-6003 ONE-WAY TRAF CONT (PORT TRAF SIG)	662-6004 WK ZN PAV MRK NON-REMOV (W) 4" (SLD)	662-6016 WK ZN PAV MRK NON-REMOV (W) 24"(SLD)	662-6034 WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	662-6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	677-6001 ELIM EXT PV MRK & MRKS (4")	6185-6002 TMA (STATIONARY)	6185-6005 TMA (MOBILE OPERATION)		
		HR	MO	LF	LF	LF	EA	LF	DAY	DAY		
1 OF 22	PH I-977+00 TO 983+00											
2 OF 22	PH I-983+00 TO 989+00											
3 OF 22	PH I-989+00 TO 995+00											
4 OF 22	PH I-995+00 TO 1001+00											
5 OF 22	PH I-1001+00 TO 1007+00											
6 OF 22	PH I-1007+00 TO 1013+00											
7 OF 22	PH I-1013+00 TO 1015+00	80							14	2		
TOTAL FOR CSJ 14209044		80							14	2		
PROJECT TOTAL		80							14	2		

PHASE I

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	* 510-6003 ONE-WAY TRAF CONT (PORT TRAF SIG)	662-6004 WK ZN PAV MRK NON-REMOV (W) 4" (SLD)	662-6016 WK ZN PAV MRK NON-REMOV (W) 24"(SLD)	662-6034 WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	662-6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	677-6001 ELIM EXT PV MRK & MRKS (4")	6185-6002 TMA (STATIONARY)	6185-6005 TMA (MOBILE OPERATION)		
		HR	MO	LF	LF	LF	EA	LF	DAY	DAY		
8 OF 22	PH I-1015+00 TO 1019+00											
9 OF 22	PH I-1019+00 TO 1025+00											
10 OF 22	PH I-1025+00 TO 1031+00											
11 OF 22	PH I-1031+00 TO 1037+00											
12 OF 22	PH I-1037+00 TO 1043+00											
13 OF 22	PH I-1043+00 TO 1049+00											
14 OF 22	PH I-1049+00 TO 1055+00											
15 OF 22	PH I-1055+00 TO 1061+00											
16 OF 22	PH I-1061+00 TO 1067+00											
17 OF 22	PH I-1067+00 TO 1073+00											
18 OF 22	PH I-1073+00 TO 1079+00											
19 OF 22	PH I-1079+00 TO 1085+00		1	1200	11	700	35	1200				
20 OF 22	PH I-1085+00 TO 1091+00		1	1200	11	904	46	2235				
21 OF 22	PH I-1091+00 TO 1097+00											
22 OF 22	PH I-1097+00 TO END								26	2		
TOTAL FOR CSJ 14210026			2	2400	22	1604	81	3435	26	2		
PROJECT TOTAL		80	2	2400	22	1604	81	3435	40	4		

\* FOR CONTRACTOR'S INFORMATION ONLY.  
SUBSIDIARY TO ITEM 502.

RM 473  
TRAFFIC  
CONTROL  
SUMMARY



### PHASE II

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	6158-6002 TMA (STATIONARY)	6158-6005 TMA (MOBILE OPERATION)									
		HR	DAY	DAY									
1 OF 22	PH I-977+00 TO 983+00												
2 OF 22	PH I-983+00 TO 989+00												
3 OF 22	PH I-989+00 TO 995+00												
4 OF 22	PH I-995+00 TO 1001+00												
5 OF 22	PH I-1001+00 TO 1007+00												
6 OF 22	PH I-1007+00 TO 1013+00												
7 OF 22	PH I-1013+00 TO 1015+00	60	7	4									
TOTAL FOR CSJ 14209044		60	7	4									
PROJECT TOTAL		60	7	4									

### PHASE II

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	6158-6002 TMA (STATIONARY)	6158-6005 TMA (MOBILE OPERATION)									
		HR	DAY	DAY									
8 OF 22	PH I-1015+00 TO 1019+00												
9 OF 22	PH I-1019+00 TO 1025+00												
10 OF 22	PH I-1025+00 TO 1031+00												
11 OF 22	PH I-1031+00 TO 1037+00												
12 OF 22	PH I-1037+00 TO 1043+00												
13 OF 22	PH I-1043+00 TO 1049+00												
14 OF 22	PH I-1049+00 TO 1055+00												
15 OF 22	PH I-1055+00 TO 1061+00												
16 OF 22	PH I-1061+00 TO 1067+00												
17 OF 22	PH I-1067+00 TO 1073+00												
18 OF 22	PH I-1073+00 TO 1079+00												
19 OF 22	PH I-1079+00 TO 1085+00												
20 OF 22	PH I-1085+00 TO 1091+00												
21 OF 22	PH I-1091+00 TO 1097+00												
22 OF 22	PH I-1097+00 TO END	40	13	4									
TOTAL FOR CSJ 14210026		40	13	4									
PROJECT TOTAL		100	20	8									

**RM 473  
TRAFFIC  
CONTROL  
SUMMARY**



CONTROL	SECTION	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473
DISTRICT	COUNTY	SHEET NO.	
SAT	KENDALL	29	

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PHASE III

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	* 510-6003 ONE-WAY TRAF CONT (PORT TRAF SIG)	662-6016 WK ZN PAV MRK NON-REMOV (W) 24"(SLD)	662-6034 WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	662-6063 WK ZN PAV MRK REMOV (W) 4" (SLD)	677-6001 ELIM EXT PV MRK & MRKS (4")	677-6007 ELIM EXT PV MRK & MRKS (24")	6185-6002 TMA (STATIONARY)	6185-6005 TMA (MOBILE OPERATION)			
		HR	MO	LF	LF	LF	LF	LF	DAY	DAY			
1 OF 42	115+00 TO 119+00												
2 OF 42	119+00 TO 125+00												
3 OF 42	125+00 TO 131+00												
4 OF 42	131+00 TO 137+00												
5 OF 42	137+00 TO 143+00												
6 OF 42	143+00 TO 149+00												
7 OF 42	149+00 TO 155+00												
8 OF 42	155+00 TO 161+00												
9 OF 42	161+00 TO 16700												
10 OF 42	167+00 TO 173+00												
11 OF 42	173+00 TO 179+00												
12 OF 42	179+00 TO 185+00												
13 OF 42	185+00 TO 191+00												
14 OF 42	191+00 TO 197+00												
15 OF 42	197+00 TO 203+00												
16 OF 42	203+00 TO 209+00												
17 OF 42	209+00 TO 215+00												
18 OF 42	215+00 TO 221+00												
19 OF 42	221+00 TO 227+00												
20 OF 42	227+00 TO 233+00												
21 OF 42	233+00 TO 239+00												
22 OF 42	239+00 TO 245+00												
23 OF 42	245+00 TO 251+00												

PHASE III

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	* 510-6003 ONE-WAY TRAF CONT (PORT TRAF SIG)	662-6016 WK ZN PAV MRK NON-REMOV (W) 24"(SLD)	662-6034 WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	662-6063 WK ZN PAV MRK REMOV (W) 4" (SLD)	677-6001 ELIM EXT PV MRK & MRKS (4")	677-6007 ELIM EXT PV MRK & MRKS (24")	6185-6002 TMA (STATIONARY)	6185-6005 TMA (MOBILE OPERATION)			
		HR	MO	LF	LF	LF	LF	LF	LF	DAY	DAY		
24 OF 42	251+00 TO 257+00												
25 OF 42	257+00 TO 263+00												
26 OF 42	263+00 TO 269+00												
27 OF 42	269+00 TO 275+00												
28 OF 42	275+00 TO 281+00												
29 OF 42	281+00 TO 287+00												
30 OF 42	287+00 TO 293+00												
31 OF 42	293+00 TO 299+00												
32 OF 42	299+00 TO 305+00												
33 OF 42	305+00 TO 311+00												
34 OF 42	311+00 TO 317+00												
35 OF 42	317+00 TO 323+00												
36 OF 42	323+00 TO END	250							22	10			
37 OF 42	PH III ST I CULV SHT 1 STA 189+00 TO 191+00												
38 OF 42	PH III ST I CULV SHT 2 STA 191+00 TO 197+00		1	11		770	1620						
39 OF 42	PH III ST I CULV SHT 3 STA 197+00 TO 200+00	1		11		465	965						
40 OF 42	PH III ST II CULV SHT 1 STA 189+00 TO 191+00												
41 OF 42	PH III ST II CULV SHT 2 STA 191+00 TO 197+00		1			825		11					
42 OF 42	PH III ST II CULV SHT 3 STA 197+00 TO 200+00	1			1350	445		11					
TOTAL FOR CSJ 14210025		252	2	22	1350	2505	2585	22	22	10			

RM 473 TRAFFIC CONTROL SUMMARY

\* FOR CONTRACTOR'S INFORMATION ONLY. SUBSIDIARY TO ITEM 502.

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10 YEARS Texas Department of Transportation SHEET 3 OF 4

CONTROL	SECTION	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473
DISTRICT	COUNTY	SHEET NO.	
SAT	KENDALL	30	

PHASE IV

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	6185-6002 TMA (STATIONARY)	6185-6005 TMA (MOBILE OPERATION)									
		HR	DAY	DAY									
1 OF 36	115+00 TO 119+00												
2 OF 36	119+00 TO 125+00												
3 OF 36	125+00 TO 131+00												
4 OF 36	131+00 TO 137+00												
5 OF 36	137+00 TO 143+00												
6 OF 36	143+00 TO 149+00												
7 OF 36	149+00 TO 155+00												
8 OF 36	155+00 TO 161+00												
9 OF 36	161+00 TO 167+00												
10 OF 36	167+00 TO 173+00												
11 OF 36	173+00 TO 179+00												
12 OF 36	179+00 TO 185+00												
13 OF 36	185+00 TO 191+00												
14 OF 36	191+00 TO 197+00												
15 OF 36	197+00 TO 203+00												
16 OF 36	203+00 TO 209+00												
17 OF 36	209+00 TO 215+00												
18 OF 36	215+00 TO 221+00												
19 OF 36	221+00 TO 227+00												
20 OF 36	227+00 TO 233+00												
21 OF 36	233+00 TO 239+00												
22 OF 36	239+00 TO 245+00												
23 OF 36	245+00 TO 251+00												

PHASE IV

PLANS SHEET NO.	STATION TO STATION	510-6002 ONE-WAY TRAF CONT (PILOT CAR)	6185-6002 TMA (STATIONARY)	6185-6005 TMA (MOBILE OPERATION)									
		HR	DAY	DAY									
24 OF 36	251+00 TO 257+00												
25 OF 36	257+00 TO 263+00												
26 OF 36	263+00 TO 269+00												
27 OF 36	269+00 TO 275+00												
28 OF 36	275+00 TO 281+00												
29 OF 36	281+00 TO 287+00												
30 OF 36	287+00 TO 293+00												
31 OF 36	293+00 TO 299+00												
32 OF 36	299+00 TO 305+00												
33 OF 36	305+00 TO 311+00												
34 OF 36	311+00 TO 317+00												
35 OF 36	317+00 TO 323+00												
36 OF 36	323+00 TO END	250	20	16									
TOTAL FOR CSJ 14210025		250	20	16									

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RM 473  
 TRAFFIC  
 CONTROL  
 SUMMARY

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PLANS SHEET NO.	STATION TO STATION	100-6002 PREPARING ROW	104-6001 REMOV CONC (PAV)	104-6009 REMOVING CONC (RIPRAP)	104-6017 REMOVING CONC (DRIVEWAYS)	351-6003 FLEXIBLE PAVEMENT STRUCTURE REPAIR (7")	360-6002 CONC PVMT (CONT REINF - CRCP)(8")	432-6002 RIPRAP (CONC) (5 IN)	560-6011 MAILBOX INSTALL-S(TWW-POST)TY 4			
		STA	SY	SY	SY	SY	SY	CY	EA			
1 OF 22	977+00 TO 983+00	6.24										
2 OF 22	983+00 TO 989+00	6							1			
3 OF 22	989+00 TO 995+00	6							1			
4 OF 22	995+00 TO 1001+00	6			112				1			
5 OF 22	1001+00 TO 1007+00	6										
6 OF 22	1007+00 TO 1013+00	6										
7 OF 22	1013+00 TO 1015+00	2.15				1500						
TOTAL FOR CSJ 14209044		38.39			112	1500			3			

PLANS SHEET NO.	STATION TO STATION	100-6002 PREPARING ROW	104-6001 REMOV CONC (PAV)	104-6009 REMOVING CONC (RIPRAP)	104-6017 REMOVING CONC (DRIVEWAYS)	351-6003 FLEXIBLE PAVEMENT STRUCTURE REPAIR (7")	360-6002 CONC PVMT (CONT REINF - CRCP)(8")	432-6002 RIPRAP (CONC) (5 IN)	560-6011 MAILBOX INSTALL-S(TWW-POST)TY 4			
		STA	SY	SY	SY	SY	SY	CY	EA			
8 OF 22	1015+00 TO 1019+00	3.85										
9 OF 22	1019+00 TO 1025+00	6										
10 OF 22	1025+00 TO 1031+00	6		4								
11 OF 22	1031+00 TO 1037+00	6										
12 OF 22	1037+00 TO 1043+00	6										
13 OF 22	1043+00 TO 1049+00	6			177				1			
14 OF 22	1049+00 TO 1055+00	6		13								
15 OF 22	1055+00 TO 1061+00	6							1			
16 OF 22	1061+00 TO 1067+00	6										
17 OF 22	1067+00 TO 1073+00	6										
18 OF 22	1073+00 TO 1079+00	6										
19 OF 22	1079+00 TO 1085+00	6	32	120			62.2	62	1			
20 OF 22	1085+00 TO 1091+00	6										
21 OF 22	1091+00 TO 1097+00	6							2			
22 OF 22	1097+00 TO END	1				1500						
TOTAL FOR CSJ 14210026		82.85	32	137	177	1500	62.2	62	5			
PROJECT TOTAL		121.24	32	137	289	3000	62.2	62	8			

**RM 473  
GRADING  
SUMMARY**



PLANS SHEET NO.	STATION TO STATION	316 OSCT	3076-6001 D-GR HMA TY-B PG64-22	3076-6001 D-GR HMA TY-B PG64-22	3076-6066 TACK COAT								
		SY	SY	SY	SY								
1 OF 22	977+00 TO 983+00	1496.1	502.09	462.01	1496.1								
2 OF 22	983+00 TO 989+00	1866.5	488.88	439.7	1866.5								
3 OF 22	989+00 TO 995+00	1877.6	463.11	425.54	1877.6								
4 OF 22	995+00 TO 1001+00	2374.9	1140	1090	2374.9								
5 OF 22	1001+00 TO 1007+00	3170.5	961.13	910.04	3170.5								
6 OF 22	1007+00 TO 1013+00	2152.2	736.4	686.01	2152.2								
7 OF 22	1013+00 TO 1015+00	1136.7	354.3	334.13	1136.7								
TOTAL FOR CSJ 14209044		14074.5	4645.91	4347.43	14074.5								



PLANS SHEET NO.	STATION TO STATION	316 OSCT	3076-6001 D-GR HMA TY-B PG64-22	3076-6001 D-GR HMA TY-B PG64-22	3076-6066 TACK COAT								
		SY	SY	SY	SY								
8 OF 22	1015+00 TO 1019+00	1748.9	442.43	405.92	1748.9								
9 OF 22	1019+00 TO 1025+00	1866.7	351.22	325.41	1866.7								
10 OF 22	1025+00 TO 1031+00	1866.7	454.87	430	1866.7								
11 OF 22	1031+00 TO 1037+00	1866.7	432.32	378.95	1866.7								
12 OF 22	1037+00 TO 1043+00	1866.7	478.77	425.11	1866.7								
13 OF 22	1043+00 TO 1049+00	1866.7	407.39	372.41	1866.7								
14 OF 22	1049+00 TO 1055+00	1866.4	209.82	189.01	1866.4								
15 OF 22	1055+00 TO 1061+00	1866.4			1866.4								
16 OF 22	1061+00 TO 1067+00	1866.7	176.45	157.1	1866.7								
17 OF 22	1067+00 TO 1073+00	1867	222.05	205.66	1867								
18 OF 22	1073+00 TO 1079+00	1867.2	483.16	442.96	1867.2								
19 OF 22	1079+00 TO 1085+00	1867.2	536.2	506.4	1867.2								
20 OF 22	1085+00 TO 1091+00	1867.8	308.77	283.51	1867.8								
21 OF 22	1091+00 TO 1097+00	1866.7			1866.7								
22 OF 22	1097+00 TO END	309.54			309.54								
TOTAL FOR CSJ 14210026		26327.34	4503.45	4122.44	26327.34								
PROJECT TOTAL		40401.84	9149.36	8469.87	40401.84								

**RM 473  
GRADING  
SUMMARY**

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PLANS SHEET NO.	STATION TO STATION	100-6002 PREPARING ROW	104-6001 REMOV CONC (PAV)	104-6009 REMOVING CONC (RIPRAP)	104-6017 REMOVING CONC (DRIVEWAYS)	104-6054 REMOVING CONCRETE (MOW STRIP)	351-6003 FLEXIBLE PAVEMENT STRUCTURE REPAIR(7")	360-6002 CONC PVMT (CONT REINF - CRCP)(8")	400-6008 CUT & RESTORE ASPH PAVING	432-6002 RIPRAP (CONC) (5 IN)	432-6045 RIPRAP (MOW STRIP)(4 IN)	540-6001 MTL W-BEAM GD FEN (TIM POST)	540-6019 MTL W-BEAM GD FEN (SPECIAL)
		STA	SY	SY	SY	LF	SY	SY	SY	CY	CY	LF	LF
1 OF 36	115+00 TO 119+00	1											
2 OF 36	119+00 TO 125+00	6		8									
3 OF 36	125+00 TO 131+00	6											
4 OF 36	131+00 TO 137+00	6											
5 OF 36	137+00 TO 143+00	6											
6 OF 36	143+00 TO 149+00	6											
7 OF 36	149+00 TO 155+00	6				141			47		23	325	100
8 OF 36	155+00 TO 161+00	6		8		192					17	225	
9 OF 36	161+00 TO 16700	6											
10 OF 36	167+00 TO 173+00	6		4									
11 OF 36	173+00 TO 179+00	6											
12 OF 36	179+00 TO 185+00	6											
13 OF 36	185+00 TO 191+00	6		4	177	360					9	75	
14 OF 36	191+00 TO 197+00	6	71	146		848		106		22	41	575	
15 OF 36	197+00 TO 203+00	6		6									
16 OF 36	203+00 TO 209+00	6											
17 OF 36	209+00 TO 215+00	6				619					25	250	
18 OF 36	215+00 TO 221+00	6		11									
19 OF 36	221+00 TO 227+00	6											
20 OF 36	227+00 TO 233+00	6											
21 OF 36	233+00 TO 239+00	6		8									
22 OF 36	239+00 TO 245+00	6											
23 OF 36	245+00 TO 251+00	6											
TOTAL FOR CSJ 14210025		133	71	195	177	2160		106	47	22	115	1450	100

PLANS SHEET NO.	STATION TO STATION	100-6002 PREPARING ROW	104-6001 REMOV CONC (PAV)	104-6009 REMOVING CONC (RIPRAP)	104-6017 REMOVING CONC (DRIVEWAYS)	104-6054 REMOVING CONCRETE (MOW STRIP)	351-6003 FLEXIBLE PAVEMENT STRUCTURE REPAIR(7")	360-6002 CONC PVMT (CONT REINF - CRCP)(8")	400-6008 CUT & RESTORE ASPH PAVING	432-6002 RIPRAP (CONC) (5 IN)	432-6045 RIPRAP (MOW STRIP)(4 IN)	540-6001 MTL W-BEAM GD FEN (TIM POST)	540-6019 MTL W-BEAM GD FEN (SPECIAL)
		STA	SY	SY	SY	LF	SY	SY	SY	CY	CY	LF	LF
24 OF 36	251+00 TO 257+00	6											
25 OF 36	257+00 TO 263+00	6		4									
26 OF 36	263+00 TO 269+00	6		4									
27 OF 36	269+00 TO 275+00	6											
28 OF 36	275+00 TO 281+00	6											
29 OF 36	281+00 TO 287+00	6											
30 OF 36	287+00 TO 293+00	6											
31 OF 36	293+00 TO 299+00	6		8									
32 OF 36	299+00 TO 305+00	6		4									
33 OF 36	305+00 TO 311+00	6											
34 OF 36	311+00 TO 317+00	6											
35 OF 36	317+00 TO 323+00	6		4									
36 OF 36	323+00 TO END	1.06		4			3000						
TOTAL FOR CSJ 14210025		73.06		28			3000						
PROJECT TOTAL		206.06	71	223	177	2160	3000	106	47	22	115	1450	100

**RM 473  
GRADING  
SUMMARY**

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 DWG  
 CHK  
 PLS

PLANS SHEET NO.	STATION TO STATION	540-6020 MTL W-BEAM GD FEN (LOW FILL CULVERT)	542-6001 REMOVE METAL BEAM GUARD FENCE	544-6001 GUARDRAIL END TREATMENT (INSTALL)	544-6003 GUARDRAIL END TREATMENT (REMOVE)	556-6006 PIPE UNDERDRAINS (TY 6)(6")	560-6011 MAILBOX INSTALL-S(TWW-POS T)TY 4	560-6013 MAILBOX INSTALL - M (TWW-POST) TY 4					
		LF	LF	EA	EA	LF	EA	EA					
1 OF 36	115+00 TO 119+00												
2 OF 36	119+00 TO 125+00												
3 OF 36	125+00 TO 131+00												
4 OF 36	131+00 TO 137+00												
5 OF 36	137+00 TO 143+00							1		1			
6 OF 36	143+00 TO 149+00												
7 OF 36	149+00 TO 155+00		104	2	1	87.2							
8 OF 36	155+00 TO 161+00		155	2	1								
9 OF 36	161+00 TO 16700						1						
10 OF 36	167+00 TO 173+00						1						
11 OF 36	173+00 TO 179+00							1					
12 OF 36	179+00 TO 185+00												
13 OF 36	185+00 TO 191+00		286	2	2								
14 OF 36	191+00 TO 197+00		624	6	6			1					
15 OF 36	197+00 TO 203+00												
16 OF 36	203+00 TO 209+00												
17 OF 36	209+00 TO 215+00	50	469	4	4								
18 OF 36	215+00 TO 221+00												
19 OF 36	221+00 TO 227+00												
20 OF 36	227+00 TO 233+00												
21 OF 36	233+00 TO 239+00						1						
22 OF 36	239+00 TO 245+00												
23 OF 36	245+00 TO 251+00												
TOTAL FOR CSJ 14210025		50	1638	16	14	87.2	4	3					

PLANS SHEET NO.	STATION TO STATION	540-6020 MTL W-BEAM GD FEN (LOW FILL CULVERT)	542-6001 REMOVE METAL BEAM GUARD FENCE	544-6001 GUARDRAIL END TREATMENT (INSTALL)	544-6003 GUARDRAIL END TREATMENT (REMOVE)	556-6006 PIPE UNDERDRAINS (TY 6)(6")	560-6011 MAILBOX INSTALL-S(TWW-POS T)TY 4	560-6013 MAILBOX INSTALL - M (TWW-POST) TY 4					
		LF	LF	EA	EA	LF	EA	EA					
24 OF 36	251+00 TO 257+00												
25 OF 36	257+00 TO 263+00												
26 OF 36	263+00 TO 269+00												
27 OF 36	269+00 TO 275+00												
28 OF 36	275+00 TO 281+00												
29 OF 36	281+00 TO 287+00												
30 OF 36	287+00 TO 293+00												
31 OF 36	293+00 TO 299+00												
32 OF 36	299+00 TO 305+00												
33 OF 36	305+00 TO 311+00												
34 OF 36	311+00 TO 317+00												
35 OF 36	317+00 TO 323+00												
36 OF 36	323+00 TO END												
TOTAL FOR CSJ 14210025													
PROJECT TOTAL		50	1638	16	14	87.2	4	3					

**RM 473  
 GRADING  
 SUMMARY**





PLANS SHEET NO.	STATION TO STATION	316 OSCT	3076-6001 D-GR HMA TY-B PG64-22	3076-6001 D-GR HMA TY-B PG64-22	3076-6066 TACK COAT								
		SY	SY	SY	SY								
1 OF 36	115+00 TO 119+00	260.37	67.64	59.3	260.37								
2 OF 36	119+00 TO 125+00	1866.67	710.61	660.61	1866.67								
3 OF 36	125+00 TO 131+00	1866.67	710.58	660.59	1866.67								
4 OF 36	131+00 TO 137+00	1866.67	710.56	660.56	1866.67								
5 OF 36	137+00 TO 143+00	1866.67	691.93	663.85	1866.67								
6 OF 36	143+00 TO 149+00	1866.67	650.36	600.35	1866.67								
7 OF 36	149+00 TO 155+00	1866.67	663.35	613.35	1866.67								
8 OF 36	155+00 TO 161+00	1866.67	696.1	646.1	1866.67								
9 OF 36	161+00 TO 167+00	1866.67	696.1	646.1	1866.67								
10 OF 36	167+00 TO 173+00	1866.67	696.1	646.1	1866.67								
11 OF 36	173+00 TO 179+00	1866.67	635.3	593.9	1866.67								
12 OF 36	179+00 TO 185+00	1866.67	668.19	618.14	1866.67								
13 OF 36	185+00 TO 191+00	1866.67	618.19	568.19	1866.67								
14 OF 36	191+00 TO 197+00	1866.67	704.05	654.05	1866.67								
15 OF 36	197+00 TO 203+00	1866.67	667.16	617.16	1866.67								
16 OF 36	203+00 TO 209+00	1866.67	636.72	586.72	1866.67								
17 OF 36	209+00 TO 215+00	1866.67	637.03	587.02	1866.67								
18 OF 36	215+00 TO 221+00	1866.67	680.75	630.76	1866.67								
19 OF 36	221+00 TO 227+00	1866.67	682.33	627.37	1866.67								
20 OF 36	227+00 TO 233+00	1866.67	633.81	583.8	1866.67								
21 OF 36	233+00 TO 239+00	1866.67	683.13	633.13	1866.67								
22 OF 36	239+00 TO 245+00	1866.67	687.82	637.81	1866.67								
23 OF 36	245+00 TO 251+00	2332.93	672.68	630.09	2332.93								
TOTAL FOR CSJ 14210025		41793.37	14900.49	13725.05	41793.37								



PLANS SHEET NO.	STATION TO STATION	316 OSCT	3076-6001 D-GR HMA TY-B PG64-22	3076-6001 D-GR HMA TY-B PG64-22	3076-6066 TACK COAT								
		SY	SY	SY	SY								
24 OF 36	251+00 TO 257+00	1866.67	715.85	665.85	1866.67								
25 OF 36	257+00 TO 263+00	1866.67	656.18	606.18	1866.67								
26 OF 36	263+00 TO 269+00	1866.67	668.53	618.52	1866.67								
27 OF 36	269+00 TO 275+00	1866.67	668.42	618.42	1866.67								
28 OF 36	275+00 TO 281+00	1866.67	689.86	639.86	1866.67								
29 OF 36	281+00 TO 287+00	1866.67	700.08	650.08	1866.67								
30 OF 36	287+00 TO 293+00	1866.67	699.55	649.6	1866.67								
31 OF 36	293+00 TO 299+00	1866.67	675.88	625.89	1866.67								
32 OF 36	299+00 TO 305+00	1982.17	628.15	581.16	1982.17								
33 OF 36	305+00 TO 311+00	1866.67	576.33	536.77	1866.67								
34 OF 36	311+00 TO 317+00	1866.67	648.7	598.7	1866.67								
35 OF 36	317+00 TO 323+00	1866.67	649.06	599.58	1866.67								
36 OF 36	323+00 TO END	329.03	114.39	105.57	329.03								
TOTAL FOR CSJ 14210025		22844.57	8090.98	7496.18	22844.57								
PROJECT TOTAL		64637.94	22991.47	21221.23	64637.94								

**RM 473  
GRADING  
SUMMARY**

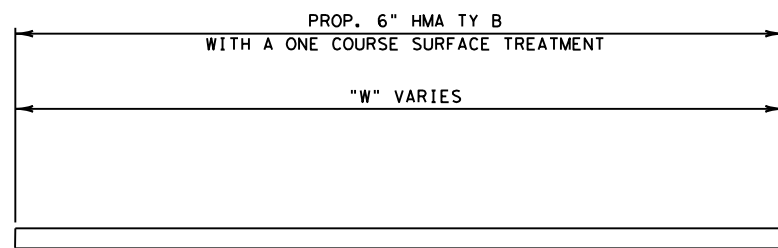
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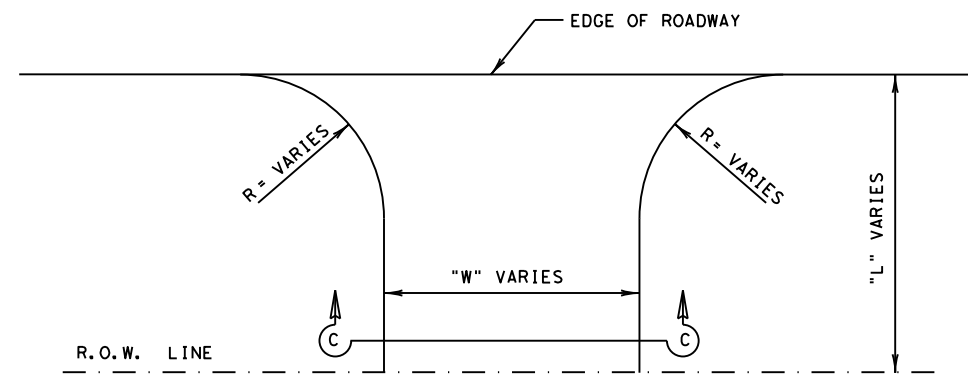




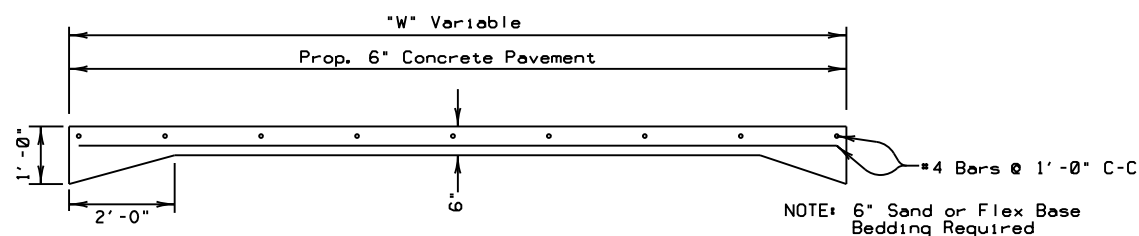




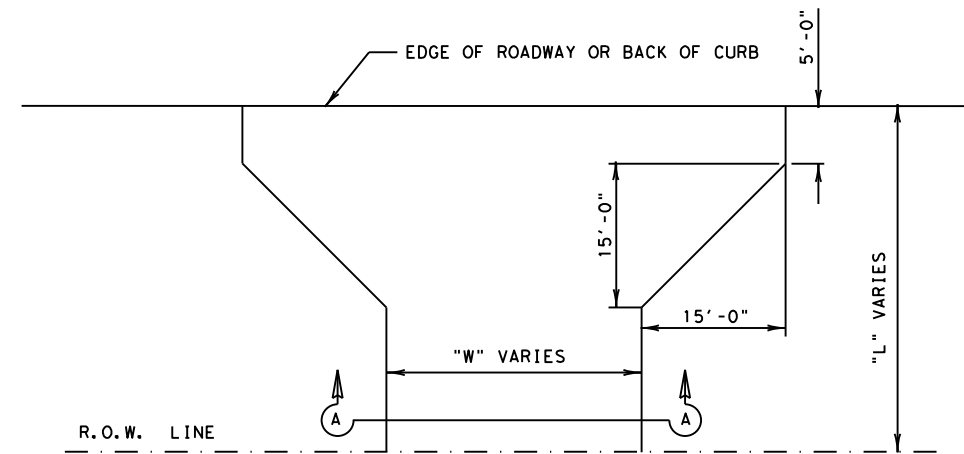
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DRIVEWAY SURF TREAT  
TYPE I



**TYPICAL**  
PLAN VIEW DRIVEWAY (SURF TREAT) TYPE I

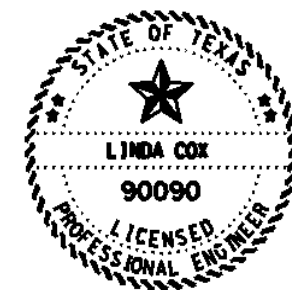


**SECTION A-A**  
DRIVEWAY CONC



**TYPICAL**  
PLAN VIEW DRIVEWAY

**DRIVEWAY DETAILS  
AND SUMMARY**



*Linda Cox, P.E.*

04/28/2021

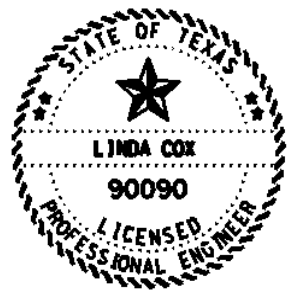
CSJ 0142-09-044 & 0142-10-026

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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.	
6		41	
STATE	STATE DIST. NO.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473

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DRIVE NO.	PLAN LAYOUT NO.	LOCATION	DRIVE TYPE	WIDTH	LENGTH	RETURN RADIUS		DRIVEWAYS		
						LT	RT	530-6005 ACP	530-6006 SURF TRT	530-6004 CONC
						LF	LF	SY	SY	SY
1	2	LT STA 986+91.46	SURF TRT	16	37	15	15		77	
2	3	LT STA 990+82.72						NO WORK PROPOSED		
3	"	LT STA 993+47.26	SURF TRT	16	38	20	20		87	
4	4	RT STA 997+78.84	CONC	14	26	15	15			51
TOTALS CSJ 0142-09-044								0	163	51
5	11	RT STA 1038+64.12	SURF TRT	24	32	20	20		104	
6	"	LT STA 1039+74.96	SURF TRT	16	195	13	13		355	
7	13	RT STA 1047+84.25	CONC	25	36	15	15			111
8	15	RT STA 1056+63.30	SURF TRT	12	35	20	20		66	
9	"	RT STA 1060+77.07	SURF TRT	16	36	15	15		75	
10	17	RT STA 1068+55.39	SURF TRT	16	36	15	15		75	
11	20	LT STA 1090+92.05	SURF TRT	12	38	20	20		70	
12	21	RT STA 1091+64.34	SURF TRT	16	44	20	20		97	
13	"	RT STA 1094+33.65	SURF TRT	12	35	15	15		57	
TOTALS CSJ 0142-10-026								0	899	111
TOTAL OF PROJECT								0	1062	162



Linda Cox, P.E.

04/28/2021

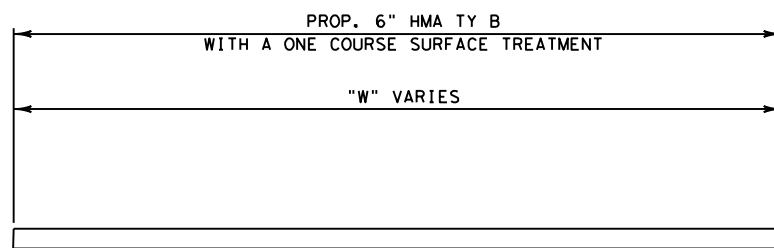
CSJ 0142-09-044 & 0142-10-026

## DRIVEWAY DETAILS AND SUMMARY

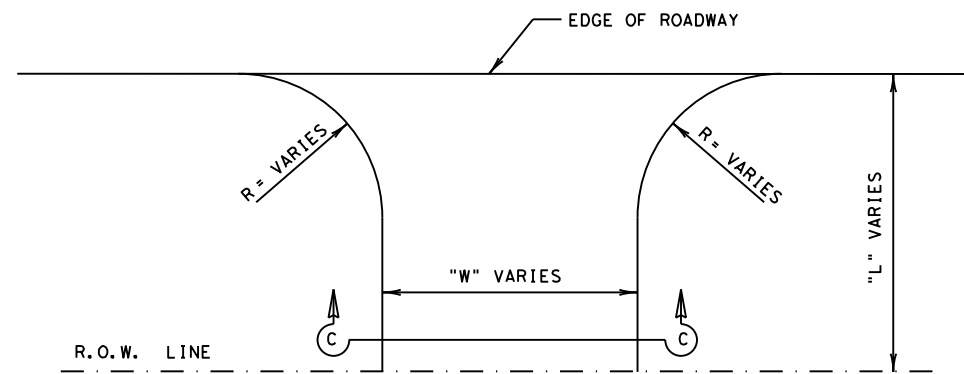
SHEET 2 OF 4

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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.
6	42
STATE	COUNTY
TEXAS	KENDALL
CONT.	HIGHWAY NO.
0142	09 044, Etc RM 473

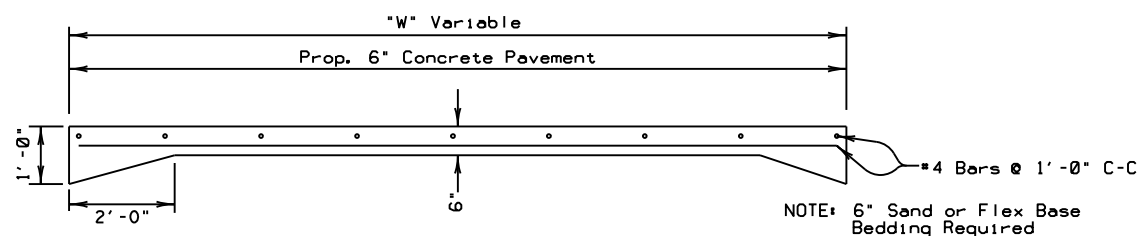
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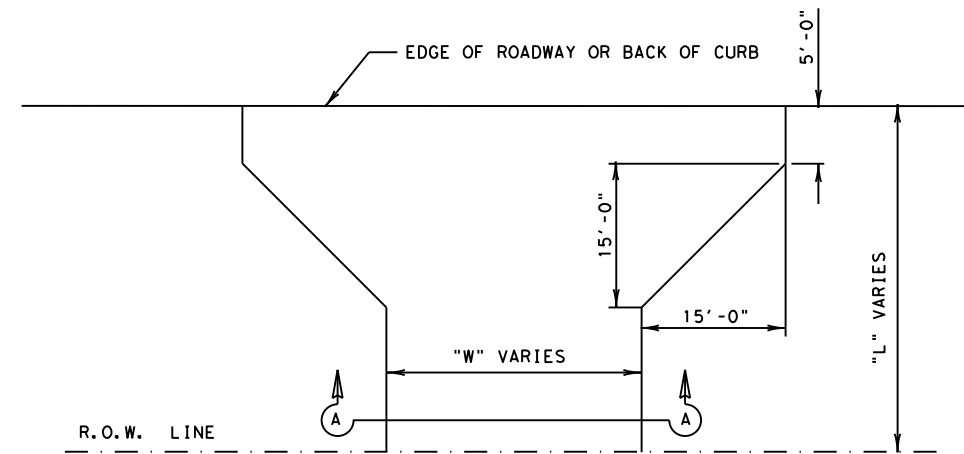
**SECTION C-C**  
DRIVEWAY SURF TREAT  
TYPE I



**TYPICAL**  
PLAN VIEW DRIVEWAY (SURF TREAT) TYPE I

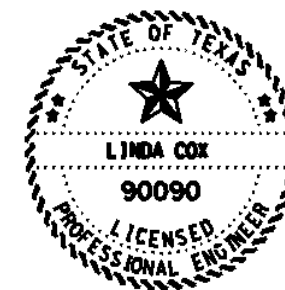


**SECTION A-A**  
DRIVEWAY CONC



**TYPICAL**  
PLAN VIEW DRIVEWAY

**DRIVEWAY DETAILS  
AND SUMMARY**



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025

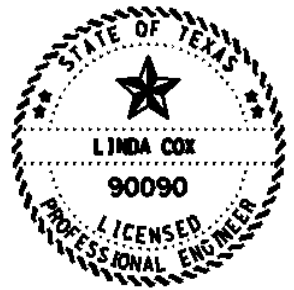
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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.	
6		43	
STATE	STATE DIST. NO.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473

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DRIVE NO.	PLAN LAYOUT NO.	LOCATION	DRIVE TYPE	WIDTH	LENGTH	RETURN RADIUS		DRIEWAYS		
						LT	RT	530-6005 ACP	530-6006 SURF TREAT	530-6004 CONC
						LF	LF	SY	SY	SY
16	27	LT STA 138+59.59	SURF TRT	14	29	15	15		56	
17	"	RT STA 141+82.20	SURF TRT	14	25	15	15		50	
18	"	LT STA 142+13.75	SURF TRT	12	27	15	15		47	
19	31	RT STA 161+43.06	SURF TRT	12	25	15	15		44	
20	"	LT STA 163+12.58	SURF TRT	13	27	15	15		50	
21	32	LT STA 172+07.55	SURF TRT	16	25	15	15		55	
22	33	LT STA 176+00.00	SURF TRT	22	25	15	15		72	
23	"	RT STA 176+27.26	SURF TRT	18	27	15	15		65	
24	36	RT STA 192+52.52	SURF TRT	27	27	15	15		92	
25	"	LT STA 192+75.69	SURF TRT	12	25	20	20		52	
26	38	LT STA 206+92.25	SURF TRT	12	25	15	15		44	
27	39	LT STA 213+78.16	SURF TRT	12	26	15	15		45	
28	40	RT STA 214+08.21	SURF TRT	12	26	15	15		45	
29	43	RT STA 233+68.28	SURF TRT	12	24	15	15		43	
30	47	LT STA 206+95.44	SURF TRT	16	26	15	15		57	
31	"	RT STA 206+95.44	SURF TRT	18	26	15	15		63	
32	50	RT STA 276+92.00	SURF TRT	14	28	15	15		54	
33	54	LT STA 300+58.89	SURF TRT	14	28	15	15		54	
TOTALS CSJ 0142-10-025								0	742	0
TOTAL OF PROJECT								0	742	0



*Linda Cox, P.E.*  
04/28/2021

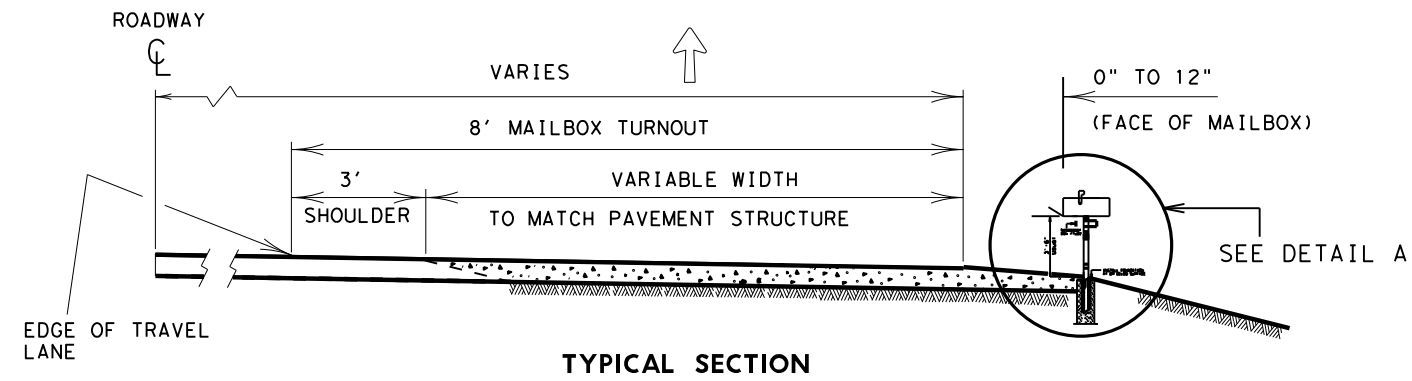
### DRIVEWAY DETAILS AND SUMMARY

CSJ 0142-10-025

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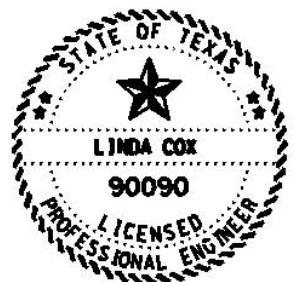
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.	
6		44	
STATE	STATE DIST. NO.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473

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NOTE: FOR ADDITIONAL INFORMATION REFERENCE STANDARD SHEETS MB-14(2), MB-14(2A) AND MB-14(2B)

PLAN SHEET NO.	MAILBOX NO.	LOCATION		QUAN	UNIT
		STATION	TO STATION		
2 OF 58	T1-LT	987+00.74	TO 987+55.00	22.0	SY
3 OF 58	T2-LT	993+62.25	TO 994+16.11	21.0	SY
4 OF 58	T3-RT	997+13.24	TO 997+59.84	18.0	SY
TOTALS CSJ 0142-09-044 =				61.0	SY
12 OF 58	T4-RT	1047+10.00	TO 1047+59.85	20.0	SY
15 OF 58	T5-RT	1056+76.24	TO 1057+23.09	17.0	SY
18 OF 58	T6-LT	1082+78.25	TO 1083+53.86	28.0	SY
19 OF 58	T7-LT	1094+40.54	TO 1095+14.54	28.0	SY
TOTALS CSJ 0142-10-026 =				93.0	SY
PROJECT TOTAL =				154.0	SY



*Linda Cox, P.E.*

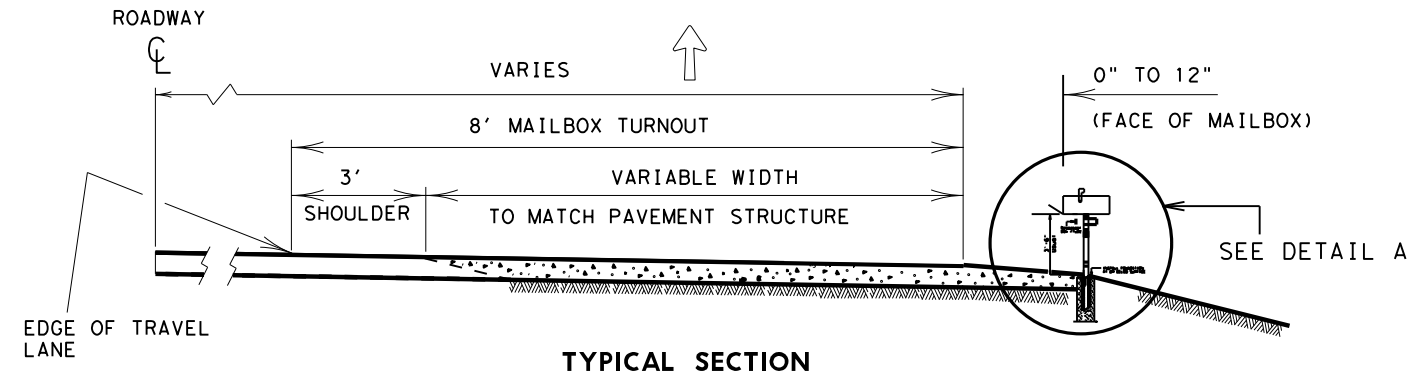
04/29/2021

**RM 473**

**MAILBOX/TURNOUT SUMMARY**

CSJ 0142-09-044 & 0142-10-026

FHWA TEXAS DIVISION	FEDERAL AID PROJECT NO.		SHEET NO.
TEXAS	KENDALL		45
CONTROL SECTION	JOB	HIGHWAY NO.	
0142 09	044, Etc	RM 473	



NOTE: FOR ADDITIONAL INFORMATION REFERENCE STANDARD SHEETS MB-14(2), MB-14(2A) AND MB-14(2B)

PLAN SHEET NO.	MAILBOX TURNOUT NO.	LOCATION			QUAN	UNIT
		STATION	TO	STATION		
27 OF 58	T6-RT	141+94.28	TO	142+47.82	20.0	SY
31 OF 58	T7-RT	162+57.38	TO	163+31.38	28.0	SY
32 OF 58	T8-RT	172+06.59	TO	172+80.59	28.0	SY
33 OF 58	T9-RT	175+54.29	TO	176+14.44	25.0	SY
36 OF 58	T10-RT	192+70.98	TO	193+19.71	19.0	SY
43 OF 58	T11-RT	233+77.82	TO	234+33.05	22.0	SY
TOTALS CSJ 0142-10-025 =					142.0	SY



*Linda Cox, P.E.*

04/29/2021

**RM 473**

**MAILBOX/TURNOUT SUMMARY**

CSJ 0142-10-025

FHWA TEXAS DIVISION		FEDERAL AID PROJECT NO.		SHEET NO.
				46
STATE	DISTRICT	COUNTY		
TEXAS	SAT	KENDALL		
CONTROL	SECTION	JOB	HIGHWAY NO.	
0142	09	044, Etc	RM 473	

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STATION	STRUCTURE DESCRIPTION	4006005	4606003	4646006	4646008	4646010	4666005	4676377	4676379	4676403	4676448	4676477	4806001
		CEM STABIL BKFL	CMP (GAL STL 24 IN)	RC PIPE (CL III) (27 IN)	RC PIPE (CL III)(36 IN)	RC PIPE (CL III)(48 IN)	HEADWALL (CH - FW - 0) (DIA= 24 IN)	SET (TY II) (24 IN) (CMP) (4:1) ( C )	SET (TY II) (24 IN) (CMP) (6:1) ( C )	SET (TY II) (27 IN) (RCP) (4: 1) ( C )	SET (TY II) (36 IN) (RCP) (3: 1)(C )	SET (TY II) (48 IN) (RCP) (4:1) ( C )	CLEAN EXIST CULVERTS
		CY	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA
STA. 985+32.76~STR. 1	1~24" CMP X 63'-7 11/16"		15.49					1	1				1
STA. 1004+61.18~ STR. 2	1~24" CMP X 75'-5 1/4"	1	9.8					2					1
STA. 12+34.28~STR. 3	1~27" RCP X 68'-1 5/16"			19.26						2			1
TOTAL CSJ 0142-09-044		1	25.29	19.26				3	1	2			3

STATION	STRUCTURE DESCRIPTION	4006005	4606003	4646006	4646008	4646010	4666005	4676377	4676379	4676403	4676448	4676477	4806001
		CEM STABIL BKFL	CMP (GAL STL 24 IN)	RC PIPE (CL III) (27 IN)	RC PIPE (CL III)(36 IN)	RC PIPE (CL III)(48 IN)	HEADWALL (CH - FW - 0) (DIA= 24 IN)	SET (TY II) (24 IN) (CMP) (4:1) ( C )	SET (TY II) (24 IN) (CMP) (6:1) ( C )	SET (TY II) (27 IN) (RCP) (4: 1) ( C )	SET (TY II) (36 IN) (RCP) (3: 1)(C )	SET (TY II) (48 IN) (RCP) (4:1) ( C )	CLEAN EXIST CULVERTS
		CY	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA
STA. 1027+99.77~STR. 4	1~36" RCP X 70'-10 3/16"				13.89						2		1
STA. 1053+22.58~STR. 5	1~24" CMP X 67'-1 7/16"		16				1						1
STA. 1084+54.89~STR. 6	2~48" RCP X 76'-0 9/16"					12.27						4	2
TOTAL CSJ 0142-10-026			16		13.89	12.27	1				2	4	4
PROJECT TOTAL		1	41.29	19.26	13.89	12.27	1	3	1	2	2	4	7

**RM 473**  
**SMALL STRUCTURE**  
**SUMMARY**

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STATION	STRUCTURE DESCRIPTION	4006005	4016001	4606002	4606003	4606009	4606024	4676347	4676375	4676377	4676525	4676570	4676571
		CEM STABIL BKFL	FLOWABLE BACKFILL	CMP (GAL STL 18 IN)	CMP (GAL STL 24 IN)	CMP AR (GAL STL DES 2)	CMP AR (GAL STL DES 7)	SET (TY II) (18 IN) (CMP) (6:1)(C)	SET (TY II) (24 IN) (CMP) (3:1)(C)	SET (TY II) (24 IN) (CMP) (4:1)(C)	SET (TY II) (DES 2) (CMP) (6:1)(P)	SET (TY II)(DES 7)(CMP)(3:1)(C)	SET (TY II)(DES 7)(CMP)(4:1)(C)
		CY	CY	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
STA. 154+62.50~STR. 4	6~60" CMP X 55'-9 5/8"												
STA. 191+40.56~STR. 5	1~60" CMP X 28'-2 3/4"		14				42.55					1	1
STA. 196+52.42~STR. 6	1~24" CMP X 0'-0"	16			59.3				1	1			
STA. 196+62.50~STR. 6	1~24" CMP X 0'-0"												
STA. 212+08.87~STR. 7	1~6' X 6' CONC BOX CULV X 34'-5 9/16"												
STA. 313+17.42~STR. 8	1~18" CMP X 58'-11 1/2"			8.16				2					
STR. 27.54' RT 176+27.26	DRIVEWAY NO. 23					30.27					2		
STR 30' RT STA 192+54.56	DRIVEWAY NO. 24					42					2		
TOTAL CSJ 0142-10-025		16	14	8.16	59.3	72.27	42.55	2	1	1	4	1	1

STATION	STRUCTURE DESCRIPTION	4806001	4966006	4966016									
		CLEAN EXIST CULVERTS	REMOV STR (HEADWALL)	REMOV STR (PIPE)									
		EA	EA	EA									
STA. 154+62.50~STR. 4	6~60" CMP X 55'-9 5/8"	6											
STA. 191+40.56~STR. 5	1~60" CMP X 28'-2 3/4"	1	1										
STA. 196+52.42~STR. 6	1~24" CMP X 0'-0"	1		1									
STA. 196+62.50~STR. 6	1~24" CMP X 0'-0"	1											
STA. 212+08.87~STR. 7	1~6' X 6' CONC BOX CULV X 34'-5 9/16"	1											
STA. 313+17.42~STR. 8	1~18" CMP X 58'-11 1/2"	1											
STR. 27.54' RT 176+27.26	DRIVEWAY NO. 23			1									
STR 30' RT STA 192+54.56	DRIVEWAY NO. 24			1									
TOTAL CSJ 0142-10-025		11	1	3									

**RM 473**  
**SMALL STRUCTURE**  
**SUMMARY**

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PLANS SHEET NO.	STATION TO STATION	662-6109 WK ZN PAV MRK SHT TERM (TAB) TY W	662-6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666-6036 REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	666-6048 REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	666-6054 REFL PAV MRK TY I (W) (ARROW) (100MIL)	666-6078 REFL PAV MRK TY I (W) (WORD) (100MIL)	666-6102 REFL PAV MRK TY I (W) 36" (YLD TRI)(100 MIL)	666-6156 REFL PAV MRK TY I (Y)(MED NOSE)(100MIL)	666-6224 PAVEMENT SEALER 4"	666-6225 PAVEMENT SEALER 6"	666-6226 PAVEMENT SEALER 8"	666-6230 PAVEMENT SEALER 24"
		EA	EA	LF	LF	EA	EA	EA	EA	LF	LF	LF	LF
1 OF 22	977+00 TO 983+00		48							960	960		
2 OF 22	983+00 TO 989+00		60							1200	1200		
3 OF 22	989+00 TO 995+00		70							1400	1200		
4 OF 22	995+00 TO 1001+00	3	105	50		1	1			2100	1200	50	
5 OF 22	1001+00 TO 1007+00	25	82	508		3	3		1	1420	1108	540	
6 OF 22	1007+00 TO 1013+00	3	100	50		1	1			2000	1200	50	
7 OF 22	1013+00 TO 1015+00	8	34	10	10					680	570	10	10
TOTAL FOR CSJ 14209044		39	499	618	10	5	5		1	9760	7438	650	10

PLANS SHEET NO.	STATION TO STATION	666-6231 PAVEMENT SEALER (ARROW)	666-6232 PAVEMENT SEALER (WORD)	666-6233 PAVEMENT SEALER (MED NOSE)	666-6243 PAVEMENT SEALER (YLD TRI)	666-6343 REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	666-6345 REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	672-6007 REFL PAV MRKR TY I-C	672-6009 REFL PAV MRKR TY II-A-A				
		EA	EA	EA	EA	LF	LF	EA	EA				
1 OF 22	977+00 TO 983+00					960	960		12				
2 OF 22	983+00 TO 989+00					1200	1200		15				
3 OF 22	989+00 TO 995+00					1200	1400		33				
4 OF 22	995+00 TO 1001+00	1	1			1200	2100	3	105				
5 OF 22	1001+00 TO 1007+00	3	3	1		1108	1420	25	82				
6 OF 22	1007+00 TO 1013+00	1	1			1200	2000	3	85				
7 OF 22	1013+00 TO 1015+00					570	680	8	9				
TOTAL FOR CSJ 14209044		5	5	1		7438	9760	39	341				

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

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PLANS SHEET NO.	STATION TO STATION	662-6109 WK ZN PAV MRK SHT TERM (TAB) TY W	662-6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666-6036 REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	666-6048 REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	666-6054 REFL PAV MRK TY I (W) (ARROW) (100MIL)	666-6078 REFL PAV MRK TY I (W) (WORD) (100MIL)	666-6102 REFL PAV MRK TY I (W) 36" (YLD TRI)(100 MIL)	666-6156 REFL PAV MRK TY I (Y)(MED NOSE)(100MIL)	666-6224 PAVEMENT SEALER 4"	666-6225 PAVEMENT SEALER 6"	666-6226 PAVEMENT SEALER 8"	666-6230 PAVEMENT SEALER 24"
		EA	EA	LF	LF	EA	EA	EA	EA	LF	LF	LF	LF
8 OF 22	1015+00 TO 1019+00	52	40	90	6			5		770	782	90	6
9 OF 22	1019+00 TO 1025+00		60							1200	1200		
10 OF 22	1025+00 TO 1031+00		60							1200	1200		
11 OF 22	1031+00 TO 1037+00		60							1200	1200		
12 OF 22	1037+00 TO 1043+00		60							1200	1200		
13 OF 22	1043+00 TO 1049+00		60							1200	1200		
14 OF 22	1049+00 TO 1055+00		60							1200	1200		
15 OF 22	1055+00 TO 1061+00		60							1200	1200		
16 OF 22	1061+00 TO 1067+00		60							1200	1200		
17 OF 22	1067+00 TO 1073+00		60							1200	1200		
18 OF 22	1073+00 TO 1079+00		60							1200	1200		
19 OF 22	1079+00 TO 1085+00		60							1200	1200		
20 OF 22	1085+00 TO 1091+00		60							1200	1200		
21 OF 22	1091+00 TO 1097+00		60							1200	1200		
22 OF 22	1097+00 TO END		10							200	200		
TOTAL FOR CSJ 14210026		52	830	90	6			5		16570	16582	90	6
PROJECT TOTAL		91	1329	708	16	5	5	5	1	26330	24020	740	16

PLANS SHEET NO.	STATION TO STATION	666-6231 PAVEMENT SEALER (ARROW)	666-6232 PAVEMENT SEALER (WORD)	666-6233 PAVEMENT SEALER (MED NOSE)	666-6243 PAVEMENT SEALER (YLD TRI)	666-6343 REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	666-6345 REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	672-6007 REFL PAV MRKR TY I-C	672-6009 REFL PAV MRKR TY II-A-A				
		EA	EA	EA	EA	LF	LF	EA	EA				
8 OF 22	1015+00 TO 1019+00				5	782	770	52	10				
9 OF 22	1019+00 TO 1025+00					1200	1200		15				
10 OF 22	1025+00 TO 1031+00					1200	1200		15				
11 OF 22	1031+00 TO 1037+00					1200	1200		15				
12 OF 22	1037+00 TO 1043+00					1200	1200		15				
13 OF 22	1043+00 TO 1049+00					1200	1200		15				
14 OF 22	1049+00 TO 1055+00					1200	1200		15				
15 OF 22	1055+00 TO 1061+00					1200	1200		15				
16 OF 22	1061+00 TO 1067+00					1200	1200		15				
17 OF 22	1067+00 TO 1073+00					1200	1200		15				
18 OF 22	1073+00 TO 1079+00					1200	1200		15				
19 OF 22	1079+00 TO 1085+00					1200	1200		15				
20 OF 22	1085+00 TO 1091+00					1200	1200		15				
21 OF 22	1091+00 TO 1097+00					1200	1200		15				
22 OF 22	1097+00 TO END					200	200		3				
TOTAL FOR CSJ 14210026					5	16582	16570	52	208				
PROJECT TOTAL		5	5	1	5	24020	26330	91	549				

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

PLANS SHEET NO.	STATION TO STATION	432-6001 RIPRAP (CONC) (4 IN)	644-6001 IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	644-6004 IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	644-6007 IN SM RD SN SUP&AM TY 10BWG(1)SA(U)	644-6027 IN SM RD SN SUP&AM TY S80(1)SA(P)	644-6030 IN SM RD SN SUP&AM TY S80(1)SA(T)	644-6070 RELOCATE SM RD SN SUP & AM TY S80	644-6076 REMOVE SM RD SN SUP & AM	658-6060 REMOVE DELIN & OBLECT MARKERS ASSMS	658-6080 INSL DEL ASSM (D-SW) SZ 1 (WFLX)(GND)	658-6084 INSL DEL ASSM (D-SW)SZ 1(WFLX)SRF(BI)	658-6099 INSL OM ASSM(OM-2Z) (WFLX)GND
		CY	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
1 OF 22	977+00 TO 983+00												
2 OF 22	983+00 TO 989+00									2			2
3 OF 22	989+00 TO 995+00												
4 OF 22	995+00 TO 1001+00	1		1					1				
5 OF 22	1001+00 TO 1007+00	3	1	1				1	2	2			2
6 OF 22	1007+00 TO 1013+00	5	1	2			2		4				
7 OF 22	1013+00 TO 1015+00	2	1		1				2	2			2
TOTAL FOR CSJ 14209044		11	3	4	1		2	1	9	6			6
								1					

PLANS SHEET NO.	STATION TO STATION	658-6101 INSL OM ASSM (OM-2Z)(WFLX)SRF SRF	658-6103 INSL OM ASSM (OM-3L)(WFLX)GND) GND	658-6106 INSL OM ASSM (OM-3R) W(F LX) GND)GND								
		EA	EA	EA								
1 OF 22	977+00 TO 983+00											
2 OF 22	983+00 TO 989+00											
3 OF 22	989+00 TO 995+00											
4 OF 22	995+00 TO 1001+00											
5 OF 22	1001+00 TO 1007+00											
6 OF 22	1007+00 TO 1013+00											
7 OF 22	1013+00 TO 1015+00											
TOTAL FOR CSJ 14209044												

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

Texas Department of Transportation  
 SHEET 3 OF 8

CONTROL	SECTION	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473
DISTRICT	COUNTY		SHEET NO.
SAT	KENDALL		51



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 DW: [ ]  
 CHK: [ ]  
 PHS: [ ]

PLANS SHEET NO.	STATION TO STATION	432-6001 RIPRAP (CONC) (4 IN)	644-6001 IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	644-6004 IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	644-6007 IN SM RD SN SUP&AM TY 10BWG(1)SA(U)	644-6027 IN SM RD SN SUP&AM TY S80(1)SA(P)	644-6030 IN SM RD SN SUP&AM TY S80(1)SA(T)	644-6070 RELOCATE SM RD SN SUP & AM TY S80	644-6076 REMOVE SM RD SN SUP & AM	658-6060 REMOVE DELIN & OBJECT MARKERS ASSMS	658-6080 INSL DEL ASSM (D-SW) SZ 1 (WFLX)(GND)	658-6084 INSL DEL ASSM (D-SW)SZ 1(WFLX)SRF(BI)	658-6099 INSL OM ASSM(OM-2Z) (WFLX)GND
		CY	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
8 OF 22	1015+00 TO 1019+00	9	3	1	2		3		8		3		
9 OF 22	1019+00 TO 1025+00	6	5	1					2				
10 OF 22	1025+00 TO 1031+00	3		3					3		2		2
11 OF 22	1031+00 TO 1037+00	2	2										
12 OF 22	1037+00 TO 1043+00	4	4										
13 OF 22	1043+00 TO 1049+00	2	1	1					2				
14 OF 22	1049+00 TO 1055+00										2		2
15 OF 22	1055+00 TO 1061+00												
16 OF 22	1061+00 TO 1067+00												
17 OF 22	1067+00 TO 1073+00	1		1					1				
18 OF 22	1073+00 TO 1079+00	4	3	1					3				
19 OF 22	1079+00 TO 1085+00	6	4	1		1			5	4	6	6	
20 OF 22	1085+00 TO 1091+00	5	4				1		1		6		
21 OF 22	1091+00 TO 1097+00	4	3	1					1				
22 OF 22	1097+00 TO END												
TOTAL FOR CSJ 14210026		46	29	10	2	1	4		26	11	12	6	4
PROJECT TOTAL		57	32	14	3	1	6		35	17	12	6	10

PLANS SHEET NO.	STATION TO STATION	658-6101 INSL OM ASSM (OM-2Z)(WFLX)SRF SRF	658-6103 INSL OM ASSM (OM-3L)(WFLX)GND GND	658-6106 INSL OM ASSM (OM-3R) W(F LX) GND)GND									
		EA	EA	EA									
8 OF 22	1015+00 TO 1019+00	3											
9 OF 22	1019+00 TO 1025+00												
10 OF 22	1025+00 TO 1031+00												
11 OF 22	1031+00 TO 1037+00												
12 OF 22	1037+00 TO 1043+00												
13 OF 22	1043+00 TO 1049+00												
14 OF 22	1049+00 TO 1055+00												
15 OF 22	1055+00 TO 1061+00												
16 OF 22	1061+00 TO 1067+00												
17 OF 22	1067+00 TO 1073+00												
18 OF 22	1073+00 TO 1079+00												
19 OF 22	1079+00 TO 1085+00		2	2									
20 OF 22	1085+00 TO 1091+00												
21 OF 22	1091+00 TO 1097+00												
22 OF 22	1097+00 TO END												
TOTAL FOR CSJ 14210026		3	2	2									
PROJECT TOTAL		3	2	2									

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

DATE: 4/26/2021 2:52:29 PM  
 FILE: c:\txdot\pww\online\txdot4\mork.nor\endorf\023997\PAVEMENT MARKING & SIGN SUMMARY (East-025).DCN

PLANS SHEET NO.	STATION TO STATION	662-6109 WK ZN PAV MRK SHT TERM (TAB) TY W	662-6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666-6036 REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	666-6054 REFL PAV MRK TY I (W) (ARROW) (100MIL)	666-6075 REFL PAV MRK TY I (W) (NUMBER) (100MIL)	666-6078 REFL PAV MRK TY I (W) (WORD) (100MIL)	666-6224 PAVEMENT SEALER 4"	666-6225 PAVEMENT SEALER 6"	666-6226 PAVEMENT SEALER 8"	666-6231 PAVEMENT SEALER (ARROW)	666-6232 PAVEMENT SEALER (WORD)	666-6248 PAVEMENT SEALER (NUMBER)
		EA	EA	LF	EA	EA	EA	LF	LF	LF	EA	EA	EA
1 OF 36	115+00 TO 119+00		10					200	200				
2 OF 36	119+00 TO 125+00		60					1200	1200				
3 OF 36	125+00 TO 131+00		60					1200	1200				
4 OF 36	131+00 TO 137+00		60					1200	1200				
5 OF 36	137+00 TO 143+00		60					1200	1200				
6 OF 36	143+00 TO 149+00		65					1050	1200				
7 OF 36	149+00 TO 155+00		75					750	1200				
8 OF 36	155+00 TO 161+00		69					980	1200				
9 OF 36	161+00 TO 16700		70					900	1200				
10 OF 36	167+00 TO 173+00		60					1200	1200				
11 OF 36	173+00 TO 179+00		60					1200	1200				
12 OF 36	179+00 TO 185+00		60					1200	1200				
13 OF 36	185+00 TO 191+00		60					1200	1200			5	
14 OF 36	191+00 TO 197+00		60					1200	1200				
15 OF 36	197+00 TO 203+00		60					1200	1200				
16 OF 36	203+00 TO 209+00		60			1	4	1200	1200			4	1
17 OF 36	209+00 TO 215+00		60					1200	1200				
18 OF 36	215+00 TO 221+00		60					1200	1200				
19 OF 36	221+00 TO 227+00		60					1200	1200				
20 OF 36	227+00 TO 233+00		60					1200	1200				
21 OF 36	233+00 TO 239+00		60					1200	1200				
22 OF 36	239+00 TO 245+00		60					1200	1200				
23 OF 36	245+00 TO 251+00	8	60	152	1		1	1200	1129	152	1	1	
TOTAL FOR CSJ 14210025		8	1369	152	1	1	10	25480	26529	152	1	10	1

PLANS SHEET NO.	STATION TO STATION	662-6109 WK ZN PAV MRK SHT TERM (TAB) TY W	662-6111 WK ZN PAV MRK SHT TERM (TAB) TY Y-2	666-6036 REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	666-6054 REFL PAV MRK TY I (W) (ARROW) (100MIL)	666-6075 REFL PAV MRK TY I (W) (NUMBER) (100MIL)	666-6078 REFL PAV MRK TY I (W) (WORD) (100MIL)	666-6224 PAVEMENT SEALER 4"	666-6225 PAVEMENT SEALER 6"	666-6226 PAVEMENT SEALER 8"	666-6231 PAVEMENT SEALER (ARROW)	666-6232 PAVEMENT SEALER (WORD)	666-6248 PAVEMENT SEALER (NUMBER)
		EA	EA	LF	EA	EA	EA	EA	LF	LF	LF	EA	EA
24 OF 36	251+00 TO 257+00		60					1200	1200				
25 OF 36	257+00 TO 263+00		60					1200	1200				
26 OF 36	263+00 TO 269+00		60					1200	1200				
27 OF 36	269+00 TO 275+00		60					1200	1200				
28 OF 36	275+00 TO 281+00		60					1200	1200				
29 OF 36	281+00 TO 287+00		60					1200	1200				
30 OF 36	287+00 TO 293+00		60					1200	1200				
31 OF 36	293+00 TO 299+00		60					1200	1200				
32 OF 36	299+00 TO 305+00		60					1200	1200				
33 OF 36	305+00 TO 311+00		60					1200	1200				
34 OF 36	311+00 TO 317+00		60					1200	1200				
35 OF 36	317+00 TO 323+00		60					1200	1200				
36 OF 36	323+00 TO END		10					200	200				
TOTAL FOR CSJ 14210025			730					14600	14600				
PROJECT TOTAL		8	2099	152	1	1	10	40080	41129	152	1	10	1

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

10 YEARS  TEXAS DEPARTMENT OF TRANSPORTATION  
 SHEET 5 OF 8

CONTROL	SECTION	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473
DISTRICT	COUNTY		SHEET NO.
SAT	KENDALL		53

DATE: 4/26/2021 2:52:30 PM  
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CHK  
 DWG  
 CHK  
 PLS

PLANS SHEET NO.	STATION TO STATION	666-6343 REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	666-6344 REF PROF PAV MRK TY I(Y)4"(BRK)(100MIL)	666-6345 REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	672-6007 REFL PAV MRKR TY I-C	672-6009 REFL PAV MRKR TY II-A-A						
		LF	LF	LF	EA	EA						
1 OF 36	115+00 TO 119+00	200		200		3						
2 OF 36	119+00 TO 125+00	1200		1200		15						
3 OF 36	125+00 TO 131+00	1200		1200		15						
4 OF 36	131+00 TO 137+00	1200		1200		15						
5 OF 36	137+00 TO 143+00	1200		1200		15						
6 OF 36	143+00 TO 149+00	1200	50	1000		15						
7 OF 36	149+00 TO 155+00	1200	150	600		15						
8 OF 36	155+00 TO 161+00	1200	80	900		16						
9 OF 36	161+00 TO 16700	1200	100	800		15						
10 OF 36	167+00 TO 173+00	1200		1200		15						
11 OF 36	173+00 TO 179+00	1200		1200		15						
12 OF 36	179+00 TO 185+00	1200		1200		15						
13 OF 36	185+00 TO 191+00	1200		1200		15						
14 OF 36	191+00 TO 197+00	1200		1200		15						
15 OF 36	197+00 TO 203+00	1200		1200		15						
16 OF 36	203+00 TO 209+00	1200		1200		15						
17 OF 36	209+00 TO 215+00	1200		1200		15						
18 OF 36	215+00 TO 221+00	1200		1200		15						
19 OF 36	221+00 TO 227+00	1200		1200		15						
20 OF 36	227+00 TO 233+00	1200		1200		15						
21 OF 36	233+00 TO 239+00	1200		1200		15						
22 OF 36	239+00 TO 245+00	1200		1200		15						
23 OF 36	245+00 TO 251+00	1129		1200	8	15						
TOTAL FOR CSJ 14210025		26529	380	25100	8	334						

PLANS SHEET NO.	STATION TO STATION	666-6343 REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	666-6344 REF PROF PAV MRK TY I(Y)4"(BRK)(100MIL)	666-6345 REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	672-6007 REFL PAV MRKR TY I-C	672-6009 REFL PAV MRKR TY II-A-A						
		LF	LF	LF	EA	EA						
24 OF 36	251+00 TO 257+00	1200		1200		15						
25 OF 36	257+00 TO 263+00	1200		1200		15						
26 OF 36	263+00 TO 269+00	1200		1200		15						
27 OF 36	269+00 TO 275+00	1200		1200		15						
28 OF 36	275+00 TO 281+00	1200		1200		15						
29 OF 36	281+00 TO 287+00	1200		1200		15						
30 OF 36	287+00 TO 293+00	1200		1200		15						
31 OF 36	293+00 TO 299+00	1200		1200		15						
32 OF 36	299+00 TO 305+00	1200		1200		15						
33 OF 36	305+00 TO 311+00	1200		1200		15						
34 OF 36	311+00 TO 317+00	1200		1200		15						
35 OF 36	317+00 TO 323+00	1200		1200		15						
36 OF 36	323+00 TO END	200		200		3						
TOTAL FOR CSJ 14210025		14600		14600		183						
PROJECT TOTAL		41129	380	39700	8	517						

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

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C&G  
 DWG  
 C&G  
 P&S

PLANS SHEET NO.	STATION TO STATION	104-6009 REMOVING CONC (RIPRAP)	432-6001 RIPRAP (CONC) (4 IN)	644-6001 IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	644-6004 IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	644-6027 IN SM RD SN SUP&AM TY S80(1)SA(P)	644-6070 RELOCATE SM RD SN SUP & AM TY S80	644-6076 REMOVE SM RD SN SUP & AM	658-6016 IN STL DEL ASSM (D-SW) SZ (BRD) GF1 (BI)	658-6060 REMOVE DELIN & OBJECT MARKERS ASSMS	658-6062 IN STL DEL ASSM (D-SW)SZ 1(BRF)GF2 (BI)	658-6080 IN STL DEL ASSM (D-SW) SZ 1 (WFLX)(GND)	658-6086 IN STL DEL ASSM (D-SY) SZ 1 (YFLX) GND
		SY	CY	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
1 OF 36	115+00 TO 119+00		1		1			1					
2 OF 36	119+00 TO 125+00		2		2			2					
3 OF 36	125+00 TO 131+00												
4 OF 36	131+00 TO 137+00												
5 OF 36	137+00 TO 143+00												
6 OF 36	143+00 TO 149+00												
7 OF 36	149+00 TO 155+00								6	4	3		
8 OF 36	155+00 TO 161+00		2		1		1	1	8		4		
9 OF 36	161+00 TO 16700												
10 OF 36	167+00 TO 173+00	4											
11 OF 36	173+00 TO 179+00		1		1			1					
12 OF 36	179+00 TO 185+00												
13 OF 36	185+00 TO 191+00		4	3	1			4	16		8		
14 OF 36	191+00 TO 197+00		6	4	1	1		6	32	3	16		
15 OF 36	197+00 TO 203+00		6	5	1			6		1		6	
16 OF 36	203+00 TO 209+00		2	1	1			2					
17 OF 36	209+00 TO 215+00		1		1			1	16	2	8		2
18 OF 36	215+00 TO 221+00		2	1	1			2					
19 OF 36	221+00 TO 227+00												
20 OF 36	227+00 TO 233+00												
21 OF 36	233+00 TO 239+00		2		2			2					
22 OF 36	239+00 TO 245+00		2	2									
23 OF 36	245+00 TO 251+00		5	5									
TOTAL FOR CSJ 14210025		4	36	21	13	1	1	28	78	10	39	6	2

PLANS SHEET NO.	STATION TO STATION	104-6009 REMOVING CONC (RIPRAP)	432-6001 RIPRAP (CONC) (4 IN)	644-6001 IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	644-6004 IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	644-6027 IN SM RD SN SUP&AM TY S80(1)SA(P)	644-6070 RELOCATE SM RD SN SUP & AM TY S80	644-6076 REMOVE SM RD SN SUP & AM	658-6016 IN STL DEL ASSM (D-SW) SZ (BRD) GF1 (BI)	658-6060 REMOVE DELIN & OBJECT MARKERS ASSMS	658-6062 IN STL DEL ASSM (D-SW)SZ 1(BRF)GF2 (BI)	658-6080 IN STL DEL ASSM (D-SW) SZ 1 (WFLX)(GND)	658-6086 IN STL DEL ASSM (D-SY) SZ 1 (YFLX) GND
		SY	CY	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
24 OF 36	251+00 TO 257+00		2	2									
25 OF 36	257+00 TO 263+00		1		1			1					
26 OF 36	263+00 TO 269+00		1		1			1					
27 OF 36	269+00 TO 275+00												
28 OF 36	275+00 TO 281+00												
29 OF 36	281+00 TO 287+00												
30 OF 36	287+00 TO 293+00												
31 OF 36	293+00 TO 299+00		2		2			2					
32 OF 36	299+00 TO 305+00		6	5			1	4					
33 OF 36	305+00 TO 311+00		4	4				3					
34 OF 36	311+00 TO 317+00		3	3				2		2			
35 OF 36	317+00 TO 323+00		6	6				6					
36 OF 36	323+00 TO END		2	1	1			2					
TOTAL FOR CSJ 14210025			27	21	5		1	21		2			
PROJECT TOTAL		4	63	42	18	1	2	49	78	12	39	6	2

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

© YEARS  
 Texas Department of Transportation  
 SHEET 7 OF 8

CONTROL	SECTION	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473
DISTRICT	COUNTY		SHEET NO.
SAT	KENDALL		55

DATE: 4/26/2021 2:52:31 PM  
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 DWG: [ ]  
 CHK: [ ]  
 PLS: [ ]

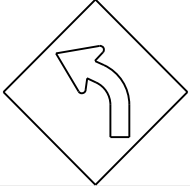

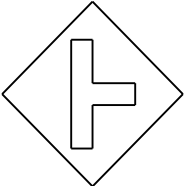

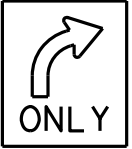
PLANS SHEET NO.	STATION TO STATION	658-6099 INSTL OM ASSM(OM-2Z) (WFLX)GND											
		EA											
1 OF 36	115+00 TO 119+00												
2 OF 36	119+00 TO 125+00												
3 OF 36	125+00 TO 131+00												
4 OF 36	131+00 TO 137+00												
5 OF 36	137+00 TO 143+00												
6 OF 36	143+00 TO 149+00												
7 OF 36	149+00 TO 155+00	4											
8 OF 36	155+00 TO 161+00												
9 OF 36	161+00 TO 167+00												
10 OF 36	167+00 TO 173+00												
11 OF 36	173+00 TO 179+00												
12 OF 36	179+00 TO 185+00												
13 OF 36	185+00 TO 191+00												
14 OF 36	191+00 TO 197+00	3											
15 OF 36	197+00 TO 203+00	2											
16 OF 36	203+00 TO 209+00												
17 OF 36	209+00 TO 215+00												
18 OF 36	215+00 TO 221+00												
19 OF 36	221+00 TO 227+00												
20 OF 36	227+00 TO 233+00												
21 OF 36	233+00 TO 239+00												
22 OF 36	239+00 TO 245+00												
23 OF 36	245+00 TO 251+00												
TOTAL FOR CSJ 14210025		9											

PLANS SHEET NO.	STATION TO STATION	658-6099 INSTL OM ASSM(OM-2Z) (WFLX)GND											
		EA											
24 OF 36	251+00 TO 257+00												
25 OF 36	257+00 TO 263+00												
26 OF 36	263+00 TO 269+00												
27 OF 36	269+00 TO 275+00												
28 OF 36	275+00 TO 281+00												
29 OF 36	281+00 TO 287+00												
30 OF 36	287+00 TO 293+00												
31 OF 36	293+00 TO 299+00												
32 OF 36	299+00 TO 305+00												
33 OF 36	305+00 TO 311+00												
34 OF 36	311+00 TO 317+00	2											
35 OF 36	317+00 TO 323+00												
36 OF 36	323+00 TO END												
TOTAL FOR CSJ 14210025		2											
PROJECT TOTAL		11											

**RM 473  
 PAVEMENT MARKING  
 AND SMALL SIGN  
 SUMMARY**

# SUMMARY OF SMALL SIGNS

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

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	
4	1	W1x2L		36x36	X		10BWG	1	SA	T	
5	2	D14-4T	<div style="border: 1px solid black; padding: 5px; text-align: center;">                     ADOPT A HIGHWAY NEXT 2 MILES  <hr/>                     SAN ANTONIO BMW RIDERS                 </div> 	48x24	X		RELOCATE				
		D14-4T		48x24	X						
		CW21-1aT		36x36	X						
5	3	W2x2R		36x36	X		10BWG	1	SA	T	
5	4	M2-1	<div style="border: 1px solid black; padding: 5px; text-align: center;">                     JCT                       RANCH 474 ROAD                 </div>	21x15	X		10BWG	1	SA	P	
		M1-6R		24x24	X						
5	4A	R3-5R		30x36	X		10BWG	1	SA	P	
6	5	R2-1	<div style="border: 1px solid black; padding: 5px; text-align: center;">                     SPEED LIMIT 60                 </div>	36x48	X		10BWG	1	SA	T	
6	6	D2-2	<div style="border: 1px solid black; padding: 5px; text-align: center;">                     Sisterdale 7 Comfort 19                 </div>	84x30	X		S80	1	SA	T	

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.  
<http://www.txdot.gov/>

- NOTE:**
- Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
  - For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS) Standard Sheet.
  - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 1 OF 23



## SUMMARY OF SMALL SIGNS

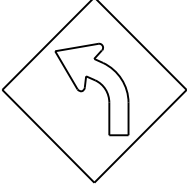





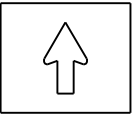


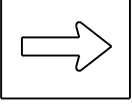
### SOSS

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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	57	

DATE: FILE:

# SUMMARY OF SMALL SIGNS

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

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
CONT'D	CONT'D											
6	7	W1x2L		36x36	X		10BWG	1	SA	T		
	7	W13-1		24x24	X							
6	8	D1-2		78x30	X		S80	1	SA	T		
7	9	M3-4		24x12	X		10BWG	1	SA	P		
		M1-6R		24x24	X							
7	10	M1-6R		24x24	X		10BWG	1	SA	U		
		M6-3		21x15	X							
		M3-3		24x12	X							
		M1-6R		24x24	X							
		M6-1R		21x15	X							

Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website:  
<http://www.txdot.gov/>

- NOTE:**
- Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
  - For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS) Standard Sheet.
  - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 2 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

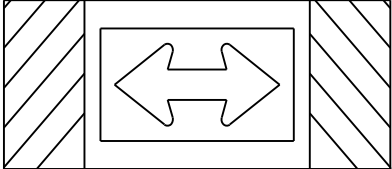

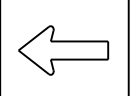

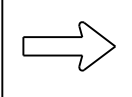

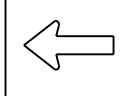


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© TxDOT May 1987	CONT: 0142	SECT: 09	JOB: 044, Etc	HIGHWAY: RM 473
4-16	DIST: SAT	COUNTY: KENDALL	SHEET NO.: 58	

DATE:  
FILE:



# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	
8	11	W1-10		96x36	X		S80	1	SA	T	
8	12	M3-4	WEST	24x12	X		10BWG	1	SA	U	
		M1-6R		24x24	X						
		M6-1L		21x15	X						
8	12	M3-2	EAST	24x12	X						
		M1-6R		24x24	X						
		M6-1R		21x15	X						
8	13	M3-3	SOUTH	24x12	X		10BWG	1	SA	U	
		M1-6R		24x24	X						
		M6-1L		21x15	X						
		M1-6R		24x12	X						
		M6-3		24x24	X						
8	14	D1-2	↑ Sisterdale ← Boerne	90x30	X		S80	1	SA	T	

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website:  
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  - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 3 OF 23



## SUMMARY OF SMALL SIGNS


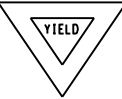


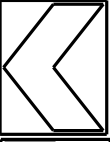
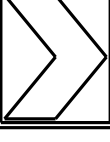


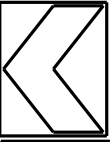
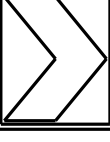

### SOSS

FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	59	

DATE: FILE:

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
CONT'D	CONT'D											
8	15	R1x1		30x30	X		10BWG	1	SA	P		
8	16	R1-2		30x30x30	X		10BWG	1	SA	T		
8	17	M3-2 M1-6F	 	24x12 24x24	X X		10BWG	1	SA	P		
8	17A	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P		
8	18	D2-1	KENDALIA 7	72x18	X		S80	1	SA	T		
9	19	M2-1 M1-6F	 	21x15 24x24	X X		10BWG	1	SA	P		
9	19A	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P		
9	20	R2-1		36x48	X		10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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  - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 4 OF 23



## SUMMARY OF SMALL SIGNS

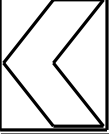
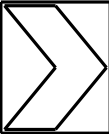



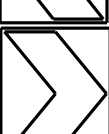
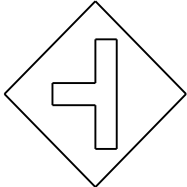
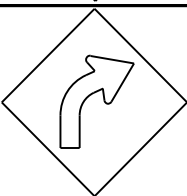
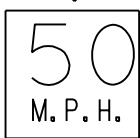
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FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT 0142	SECT 09	JOB 044, Etc	HIGHWAY RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	60	

DATE: FILE:

# SUMMARY OF SMALL SIGNS

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							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
CONT'D	CONT'D											
9	20A	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
9	20B	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
9	20C	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
10	21	W2x2L		36x36	X		10BWG	1	SA	T		
10	22	W1x2R		36x36	X		10BWG	1	SA	T		
		W13-1		24x24	X							

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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SHEET 5 OF 23



## SUMMARY OF SMALL SIGNS

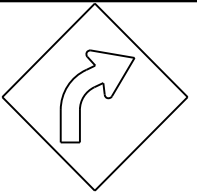
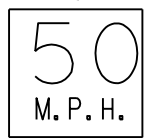
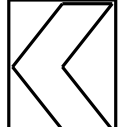
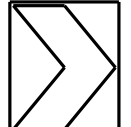
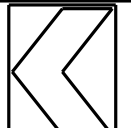
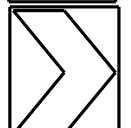
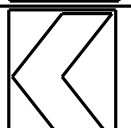
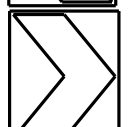
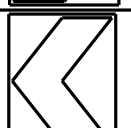
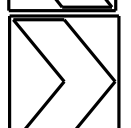
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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	61	

DATE:  
FILE:

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
CONT'D	CONT'D											
10	23	W1x2R  W13-1	 	36x36  24x24	X		10BWG	1	SA	T		
11	23A	W1-8L  W1-8R	 	12x18  12x18	X		10BWG	1	SA	P		
11	23B	W1-8L  W1-8R	 	12x18  12x18	X		10BWG	1	SA	P		
12	23C	W1-8L  W1-8R	 	12x18  12x18	X		10BWG	1	SA	P		
12	23D	W1-8L  W1-8R	 	12x18  12x18	X		10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
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SHEET 6 OF 23



## SUMMARY OF SMALL SIGNS

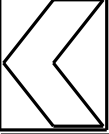
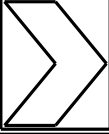
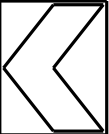
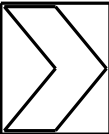
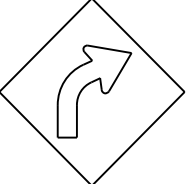
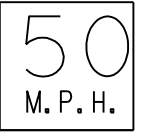


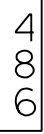
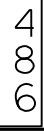
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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	62	

DATE: FILE:

# SUMMARY OF SMALL SIGNS

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CONT'D	CONT'D											
12	23E	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
12	23F	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
13	24	W1x2R		36x36	X		10BWG	1	SA	T		
		W13-1		24x24	X							
13	25	M3-2		24x12	X		10BWG	1	SA	P		
		M1-6F		24x24	X							
		D10-7aT		3x10	X							
		D10-7aT		3x10	X							

Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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SHEET 7 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

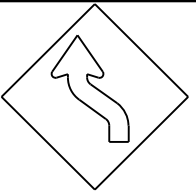
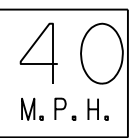

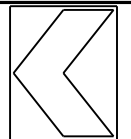
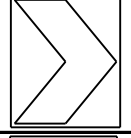
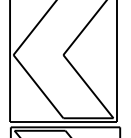
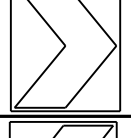
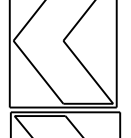
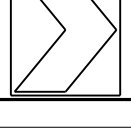
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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	63	

DATE: FILE:

# SUMMARY OF SMALL SIGNS

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DATE: \_\_\_\_\_  
 FILE: \_\_\_\_\_

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	
17	26	W1x4L  W13-1	 	36x36  24x24	X		10BWG	1	SA	T	
18	27	W8-15		36x36	X		10BWG	1	SA	T	
18	28	W1-8L  W1-8R	 	12x18  12x18	X		10BWG	1	SA	P	
18	28A	W1-8L  W1-8R	 	12x18  12x18	X		10BWG	1	SA	P	
18	29	W1-8L  W1-8R	 	12x18  12x18	X		10BWG	1	SA	P	

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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  - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 8 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
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REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	64	

# SUMMARY OF SMALL SIGNS

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										PREFABRICATED		1EXT or 2EXT = # of Ext
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	P = "Plain" T = "T" U = "U"	BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	TY = TYPE TY N TY S
19	30	W8-19aTP		18x12	X		S80	1	SA	P		
		W8-19		12x72	X							
		W8-19aTP		18x12	X							
		W8-19		12x72	X							
19	30A	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
19	31	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
19	32	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							

ALUMINUM SIGN BLANKS THICKNESS	
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SHEET 9 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

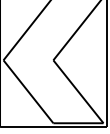
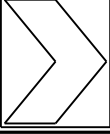
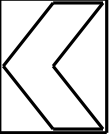
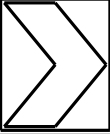
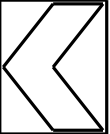
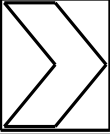
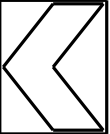
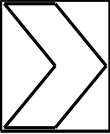
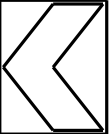
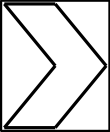
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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	65	

DATE: FILE:



# SUMMARY OF SMALL SIGNS

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							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	
CONT'D	CONT'D										
19	33	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
19	34	I-3	CURRY CREEK	48x30	X		S80	1	SA	T	
20	35	I-3	CURRY CREEK	48x30	X		S80	1	SA	T	
20	35A	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
20	35B	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
20	35C	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
20	35D	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
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SHEET 10 OF 23



## SUMMARY OF SMALL SIGNS

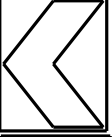
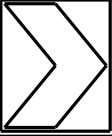

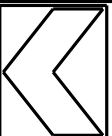
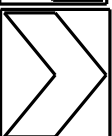
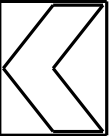
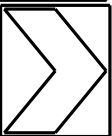
### SOSS

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4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	66	

DATE: FILE:

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
CONT'D	CONT'D											
21	35E	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
21	36	W8x18		36x36	X		10BWG	1	SA	T		
21	36A	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
21	36B	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
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SHEET 11 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS


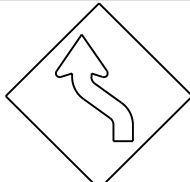
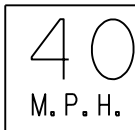
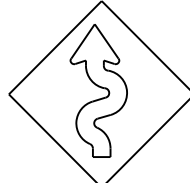
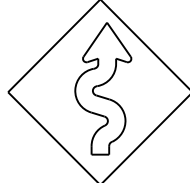

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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	67	

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23	37	W8x18		36x36	X		10BWG	1	SA	T		
24	38	W1x4L		36x36	X		10BWG	1	SA	T		
		W13-1		24x24	X							
24	39	W1x5L		36x36	X		10BWG	1	SA	T		
30	40	W1x5R		36x36	X		10BWG	1	SA	T		
30	41	D14-4T	ADOPT A HIGHWAY NEXT 2 MILES	48x24	X		RELOCATE					
		D14-4T	VICTOR'S CIRCLE OF FRIENDS	48x24	X							
		CW21-1oT		36x36								

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
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SHEET 12 OF 23



## SUMMARY OF SMALL SIGNS

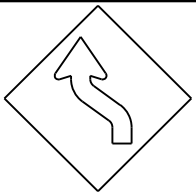

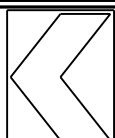
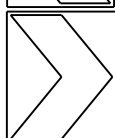
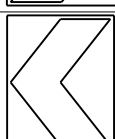
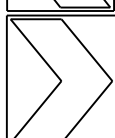
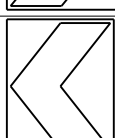
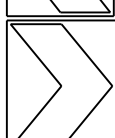

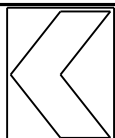
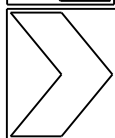
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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	68	

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
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										PREFABRICATED		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
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33	42	W1x4L		36x36	X			10BWG	1	SA	T	
		W13-1		24x24	X							
35	43	W1-8L		12x18	X			10BWG	1	SA	P	
		W1-8R		12x18	X							
35	44	W1-8L		12x18	X			10BWG	1	SA	P	
		W1-8R		12x18	X							
35	45	W1-8L		12x18	X			10BWG	1	SA	P	
		W1-8R		12x18	X							
35	46	W8x18		36x36	X			10BWG	1	SA	T	
36	47	W1-8L		12x18	X			10BWG	1	SA	P	
		W1-8R		12x18	X							

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SHEET 13 OF 23



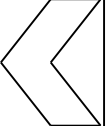
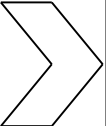
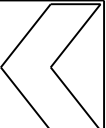
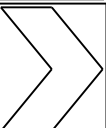
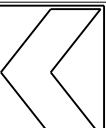
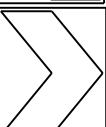
## SUMMARY OF SMALL SIGNS

### SOSS

FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
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REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	69	

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
										PREFABRICATED		1EXT or 2EXT = # of Ext
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	P = "Plain" T = "T" U = "U"	BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	TY = TYPE TY N TY S
36	48	W1-8L		12x18	X			10BWG	1	SA	P	
		W1-8R		12x18	X							
36	49	W1-8L		12x18	X			10BWG	1	SA	P	
		W1-8R		12x18	X							
36	50	W1-8L		12x18	X			10BWG	1	SA	P	
		W1-8R		12x18	X							
36	51	I-3	Simmons Creek	72x30	X			S80	1	SA	T	
36	52	W8-19aTP	FLOOD GAUGE	18x12	X			S80	1	SA		
		W8-19	FEET 5 4 3 2 1	12x72	X							
		W8-19aTP	FLOOD GAUGE	18x12	X							
		W8-19	FEET 5 4 3 2 1	12x72	X							

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.  
<http://www.txdot.gov/>

- NOTE:**
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  - For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS) Standard Sheet.
  - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 14 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

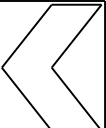
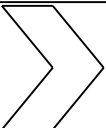

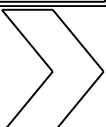



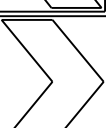

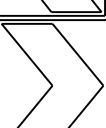
FILE: slms16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	70	

DATE:  
FILE:

# SUMMARY OF SMALL SIGNS

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DATE: FILE:

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
			Simmons Creek									
37	53	I-3		72x30	X		S80	1	SA		P	
37	54	W1-8L		12x18	X		10BWG	1	SA		P	
		W1-8R		12x18	X							
37	55	W1-8L		12x18	X		10BWG	1	SA		P	
		W1-8R		12x18	X							
37	56	W1-8L		12x18	X		10BWG	1	SA		P	
		W1-8R		12x18	X							
37	57	W1-8L		12x18	X		10BWG	1	SA		P	
		W1-8R		12x18	X							
37	58	W1-8L		12x18	X		10BWG	1	SA		P	
		W1-8R		12x18	X							

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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  - For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 15 OF 23



## SUMMARY OF SMALL SIGNS


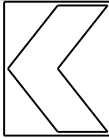
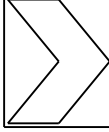
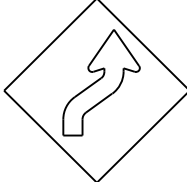



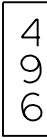
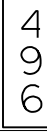
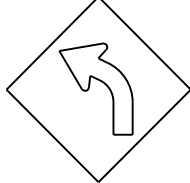
### SOSS

FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	71	

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	
38	59	W8x18		36x36	X		10BWG	1	SA	T	
38	60	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
39	61	W1x4R		36x36	X		10BWG	1	SA	T	
		W13-1		24x24	X						
40	62	M3-4		24x12	X		10BWG	1	SA	P	
		M1-6R		24x24	X						
		D10-7aT		3x10	X						
		D10-7aT		3x10	X						
40	63	W1x2L		36x36	X		10BWG	1	SA	T	

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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SHEET 16 OF 23



*Texas Department of Transportation*

**Traffic Operations Division Standard**

## SUMMARY OF SMALL SIGNS

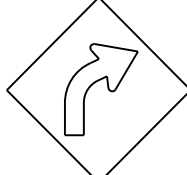
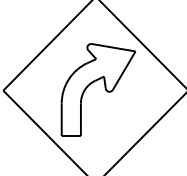

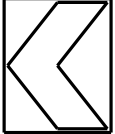
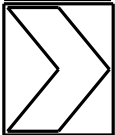
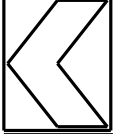
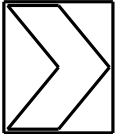
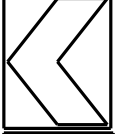
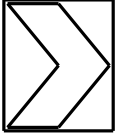
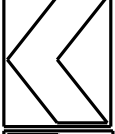
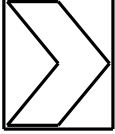
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REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	72	

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	
43	64	W1x2R		36x36	X		10BWG	1	SA	T	
43	65	W1x2R		36x36	X		10BWG	1	SA	T	
		W13-1		24x24	X						
44	65A	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
44	65B	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
45	65C	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
45	65D	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 17 OF 23



## SUMMARY OF SMALL SIGNS

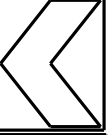
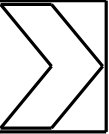

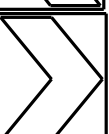

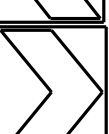

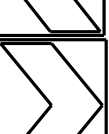

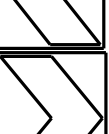
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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	73	



# SUMMARY OF SMALL SIGNS

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							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"	
CONT'D	CONT'D										
45	65E	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
45	65F	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
45	65G	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
46	65H	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						
46	65I	W1-8L		12x18	X		10BWG	1	SA	P	
		W1-8R		12x18	X						

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
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SHEET 18 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

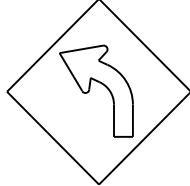

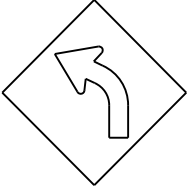
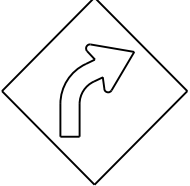
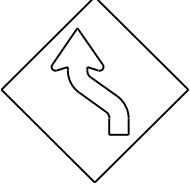




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8-16	SAT	KENDALL	74	

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U" 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	
47	66	W1x2L		36x36	X		10BWG	1	SA	T	
		W13-1		24x24	X						
48	67	W1x2L		36x36	X		10BWG	1	SA	T	
53	68	W1x2R		36x36	X		10BWG	1	SA	T	
53	69	W1x4L		36x36	X		10BWG	1	SA	T	
		W13-1		24x24	X						
54	70	D14-4T		48x24	X		RELOCATE				
		D14-4T		48x24	X						
		CW21-1aT		36x36							

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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**NOTE:**

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2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS) Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

SHEET 19 OF 23



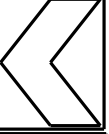
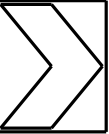
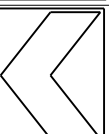
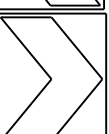

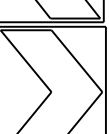

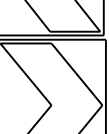
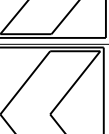
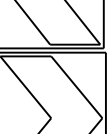
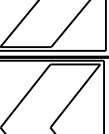
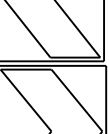
## SUMMARY OF SMALL SIGNS

### SOSS

FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	75	

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U" 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	
54	70A	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P	
54	71	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P	
54	72	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P	
54	73	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P	
54	74	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P	
55	75	W1-8L W1-8R	 	12x18 12x18	X X		10BWG	1	SA	P	

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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SHEET 20 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

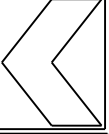
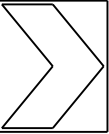
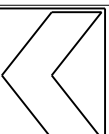
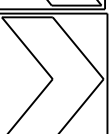

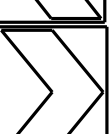
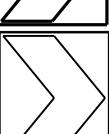
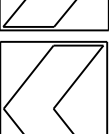
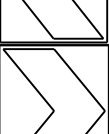
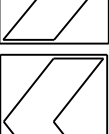
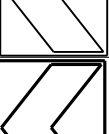
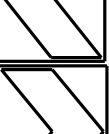
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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY		SHEET NO.
8-16	SAT	KENDALL		76

DATE:  
FILE:

# SUMMARY OF SMALL SIGNS

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DATE: \_\_\_\_\_  
 FILE: \_\_\_\_\_

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
							FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	1 or 2	UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	PREFABRICATED P = "Plain" T = "T" U = "U"		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
CONT'D	CONT'D											
55	76	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
55	77	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
55	77A	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							
56	78	W1-8R		12x18	X		10BWG	1	SA	P		
		W1-8L		12x18	X							
56	79	W1-8R		12x18	X		10BWG	1	SA	P		
		W1-8L		12x18	X							
56	79A	W1-8L		12x18	X		10BWG	1	SA	P		
		W1-8R		12x18	X							

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

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## SUMMARY OF SMALL SIGNS

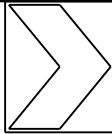
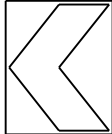
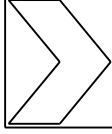
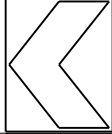
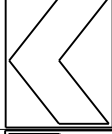
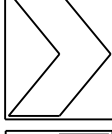
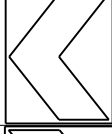
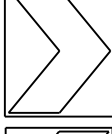

### SOSS

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© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	77	

# SUMMARY OF SMALL SIGNS

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DATE: \_\_\_\_\_  
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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION	
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57	80	W1-8R		12x18	X		10BWG	1	SA	P	
		W1-8L		12x18	X						
57	81	W1-8R		12x18	X		10BWG	1	SA	P	
		W1-8L		12x18	X						
57	82	W1-8R		12x18	X		10BWG	1	SA	P	
		W1-8L		12x18	X						
57	83	W1-8R		12x18	X		10BWG	1	SA	P	
		W1-8L		12x18	X						
57	84	W1-8R		12x18	X		10BWG	1	SA	P	
		W1-8L		12x18	X						
57	85	M3-2		24x12	X		10BWG	1	SA	P	
		M1-6F		24x24	X						

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
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Greater than 15	0.125"

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SHEET 22 OF 23



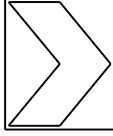
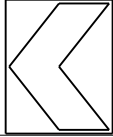
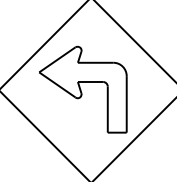
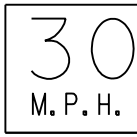
## SUMMARY OF SMALL SIGNS

### SOSS

FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	78	

# SUMMARY OF SMALL SIGNS

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PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)				BRIDGE MOUNT CLEARANCE SIGNS (See Note 2)	
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
										PREFABRICATED		1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels
57	85	D10-7oT	4 9 8	3x10	X							
		D10-7oT	4 9 8	3x10	X							
58	86	W1-8R		12x18	X	10BWG	1	SA	P			
		W1-8L		12x18	X							
58	87	W1x1L		36x36	X	10BWG	1	SA	T			
		W13-1		24x24	X							

Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
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SHEET 23 OF 23



## SUMMARY OF SMALL SIGNS

### SOSS

FILE: slums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
4-16	DIST	COUNTY	SHEET NO.	
8-16	SAT	KENDALL	79	

DATE: FILE:



DATE: 4/28/2021 7:27:56 AM  
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PLANS SHEET NO.	STATION TO STATION	506-6005 ROCK FILTER DAMS (INSTALL) (TY 5)	506-6011 ROCK FILTER DAMS (REMOVE)	506-6020 CONSTRUCTION EXITS (INSTALL) (TY 1)	506-6024 CONSTRUCTION EXITS (REMOVE)	506-6038 TEMP SEDMT CONT FEN INSTLL	506-6039 TEMP SEDMT CONT FEN REMOVE					
		LF	LF	SY	SY	LF	LF					
1 OF 36	115+00 TO 119+00	30	30									
2 OF 36	119+00 TO 125+00	66	66									
3 OF 36	125+00 TO 131+00	96	96									
4 OF 36	131+00 TO 137+00	32	32			580	580					
5 OF 36	137+00 TO 143+00	46	46			325	325					
6 OF 36	143+00 TO 149+00	66	66									
7 OF 36	149+00 TO 155+00	90	90			60	60					
8 OF 36	155+00 TO 161+00	80	80			250	250					
9 OF 36	161+00 TO 16700	60	60			345	345					
10 OF 36	167+00 TO 173+00	68	68			200	200					
11 OF 36	173+00 TO 179+00	114	114									
12 OF 36	179+00 TO 185+00	60	60									
13 OF 36	185+00 TO 191+00	66	66	111	111							
14 OF 36	191+00 TO 197+00	86	86			200	200					
15 OF 36	197+00 TO 203+00	92	92									
16 OF 36	203+00 TO 209+00	66	66									
17 OF 36	209+00 TO 215+00	62	62			340	340					
18 OF 36	215+00 TO 221+00	32	32			600	600					
19 OF 36	221+00 TO 227+00	52	52			600	600					
20 OF 36	227+00 TO 233+00	38	38			385	385					
21 OF 36	233+00 TO 239+00	28	28			570	570					
22 OF 36	239+00 TO 245+00	30	30			535	535					
23 OF 36	245+00 TO 251+00	78	78	111	111	580	580					
TOTAL FOR CSJ 14210025		1438	1438	222	222	5570	5570					

PLANS SHEET NO.	STATION TO STATION	506-6005 ROCK FILTER DAMS (INSTALL) (TY 5)	506-6011 ROCK FILTER DAMS (REMOVE)	506-6020 CONSTRUCTION EXITS (INSTALL) (TY 1)	506-6024 CONSTRUCTION EXITS (REMOVE)	506-6038 TEMP SEDMT CONT FEN INSTLL	506-6039 TEMP SEDMT CONT FEN REMOVE					
		LF	LF	SY	SY	LF	LF					
24 OF 36	251+00 TO 257+00	76	76			115	115					
25 OF 36	257+00 TO 263+00	18	18			435	435					
26 OF 36	263+00 TO 269+00	66	66			445	445					
27 OF 36	269+00 TO 275+00	74	74			295	295					
28 OF 36	275+00 TO 281+00	32	32			570	570					
29 OF 36	281+00 TO 287+00	28	28			600	600					
30 OF 36	287+00 TO 293+00	46	46			470	470					
31 OF 36	293+00 TO 299+00					600	600					
32 OF 36	299+00 TO 305+00	40	40			520	520					
33 OF 36	305+00 TO 311+00	48	48			545	545					
34 OF 36	311+00 TO 317+00	110	110			285	285					
35 OF 36	317+00 TO 323+00	88	88			140	140					
36 OF 36	323+00 TO END											
TOTAL FOR CSJ 14210025		626	626			5020	5020					
PROJECT TOTAL		2064	2064	222	222	10590	10590					

**RM 473**  
**SW3P**  
**SUMMARY**



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DNK CKS DWK CKS

PLANS SHEET NO.	STATION TO STATION	161-6017 COMPOST MANUF TOPSOIL(4")	164-6035 DRILL SEEDING (PERM) (RURAL) (CLAY)	164-6051 DRILL SEED (TEMP)(WARM OR COOL)	168-6001 VEGETATIVE WATERING	169-6001 SOIL RETENTION BLANKETS (CL1)(TY A)						
		SY	SY	SY	MG	SY						
1 OF 22	977+00 TO 983+00	1255	1255	1255	19.58	1255						
2 OF 22	983+00 TO 989+00	1792	1792	1792	27.95	1792						
3 OF 22	989+00 TO 995+00	1768	1768	1768	27.58	1768						
4 OF 22	995+00 TO 1001+00	2017	2017	2017	31.46	2017						
5 OF 22	1001+00 TO 1007+00	2140	2140	2140	33.38	2140						
6 OF 22	1007+00 TO 1013+00	2501	2501	2501	39.02	2501						
7 OF 22	1013+00 TO 1015+00	904	904	904	14.11	904						
TOTAL FOR CSJ 14209044		12377	12377	12377	193.08	12377						

PLANS SHEET NO.	STATION TO STATION	161-6017 COMPOST MANUF TOPSOIL(4")	164-6035 DRILL SEEDING (PERM) (RURAL) (CLAY)	164-6051 DRILL SEED (TEMP)(WARM OR COOL)	168-6001 VEGETATIVE WATERING	169-6001 SOIL RETENTION BLANKETS (CL1)(TY A)						
		SY	SY	SY	MG	SY						
8 OF 22	1015+00 TO 1019+00	1507	1507	1507	23.51	1507						
9 OF 22	1019+00 TO 1025+00	1414	1414	1414	22.06	1414						
10 OF 22	1025+00 TO 1031+00	1686	1686	1686	26.3	1686						
11 OF 22	1031+00 TO 1037+00	1525	1525	1525	23.79	1525						
12 OF 22	1037+00 TO 1043+00	1819	1819	1819	28.37	1819						
13 OF 22	1043+00 TO 1049+00	2213	2213	2213	34.52	2213						
14 OF 22	1049+00 TO 1055+00	943	943	943	14.71	943						
15 OF 22	1055+00 TO 1061+00	202	202	202	3.15	202						
16 OF 22	1061+00 TO 1067+00	914	914	914	14.26	914						
17 OF 22	1067+00 TO 1073+00	583	583	583	9.09	583						
18 OF 22	1073+00 TO 1079+00	1252	1252	1252	19.53	1252						
19 OF 22	1079+00 TO 1085+00	1557	1557	1557	24.29	1557						
20 OF 22	1085+00 TO 1091+00	1463	1463	1463	22.83	1463						
21 OF 22	1091+00 TO 1097+00											
22 OF 22	1097+00 TO END											
TOTAL FOR CSJ 14210026		17078	17078	17078	266.41	17078						
PROJECT TOTAL		29455	29455	29455	459.49	29455						

**RM 473  
LANDSCAPE  
SUMMARY**

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PLANS SHEET NO.	STATION TO STATION	161-6017 COMPOST MANUF TOPSOIL(4")	164-6035 DRILL SEEDING (PERM) (RURAL) (CLAY)	164-6051 DRILL SEED (TEMP)(WARM OR COOL)	168-6001 VEGETATIVE WATERING	169-6001 SOIL RETENTION BLANKETS (CL1)(TY A)						
		SY	SY	SY	MG	SY						
1 OF 36	115+00 TO 119+00	344	344	344	5.37	344						
2 OF 36	119+00 TO 125+00	1742	1742	1742	27.18	1742						
3 OF 36	125+00 TO 131+00	1818	1818	1818	28.36	1818						
4 OF 36	131+00 TO 137+00	1389	1389	1389	21.67	1389						
5 OF 36	137+00 TO 143+00	1311	1311	1311	20.45	1311						
6 OF 36	143+00 TO 149+00	1961	1961	1961	30.6	1961						
7 OF 36	149+00 TO 155+00	1678	1678	1678	26.18	1678						
8 OF 36	155+00 TO 161+00	1574	1574	1574	24.55	1574						
9 OF 36	161+00 TO 16700	1477	1477	1477	23.05	1477						
10 OF 36	167+00 TO 173+00	1977	1977	1977	30.84	1977						
11 OF 36	173+00 TO 179+00	1584	1584	1584	24.71	1584						
12 OF 36	179+00 TO 185+00	2339	2339	2339	36.49	2339						
13 OF 36	185+00 TO 191+00	1963	1963	1963	30.63	1963						
14 OF 36	191+00 TO 197+00	2301	2301	2301	35.9	2301						
15 OF 36	197+00 TO 203+00	2330	2330	2330	36.35	2330						
16 OF 36	203+00 TO 209+00	1868	1868	1868	29.14	1868						
17 OF 36	209+00 TO 215+00	1760	1760	1760	27.45	1760						
18 OF 36	215+00 TO 221+00	1976	1976	1976	30.82	1976						
19 OF 36	221+00 TO 227+00	1215	1215	1215	18.95	1215						
20 OF 36	227+00 TO 233+00	1232	1232	1232	19.22	1232						
21 OF 36	233+00 TO 239+00	1020	1020	1020	15.91	1020						
22 OF 36	239+00 TO 245+00	996	996	996	15.54	996						
23 OF 36	245+00 TO 251+00	1164	1164	1164	18.16	1164						
TOTAL FOR CSJ 14210025		37019	37019	37019	577.52	37019						

PLANS SHEET NO.	STATION TO STATION	161-6017 COMPOST MANUF TOPSOIL(4")	164-6035 DRILL SEEDING (PERM) (RURAL) (CLAY)	164-6051 DRILL SEED (TEMP)(WARM OR COOL)	168-6001 VEGETATIVE WATERING	169-6001 SOIL RETENTION BLANKETS (CL1)(TY A)						
		SY	SY	SY	MG	SY						
24 OF 36	251+00 TO 257+00	904	904	904	14.1	904						
25 OF 36	257+00 TO 263+00	1112	1112	1112	17.34	1112						
26 OF 36	263+00 TO 269+00	1392	1392	1392	21.72	1392						
27 OF 36	269+00 TO 275+00	1317	1317	1317	20.54	1317						
28 OF 36	275+00 TO 281+00	1570	1570	1570	24.49	1570						
29 OF 36	281+00 TO 287+00	1090	1090	1090	17	1090						
30 OF 36	287+00 TO 293+00	1189	1189	1189	18.54	1189						
31 OF 36	293+00 TO 299+00	1385	1385	1385	21.6	1385						
32 OF 36	299+00 TO 305+00	1676	1676	1676	26.14	1676						
33 OF 36	305+00 TO 311+00	1842	1842	1842	28.73	1842						
34 OF 36	311+00 TO 317+00	1223	1223	1223	19.08	1223						
35 OF 36	317+00 TO 323+00	970	970	970	15.13	970						
36 OF 36	323+00 TO END	210	210	210	3.28	210						
TOTAL FOR CSJ 14210025		15880	15880	15880	247.69	15880						
PROJECT TOTAL		52899	52899	52899	825.21	52899						

**RM 473  
LANDSCAPE  
SUMMARY**

**SCHEDULE OF TRAFFIC CONTROL AND WARNING DEVICES**

LOCATION	END ROAD WORK	BEGIN ROAD WORK NEXT XX MILES	NAME ADDRESS CITY STATE CONTRACTOR	WORK ZONE	ROAD WORK AHEAD	TRAFFIC FINES DOUBLE	WHEN WORKERS ARE PRESENT	DEET BARRIING SIGNS STATE LAW	ROAD WORK NEXT MILES TO NEXT	ROAD WORK TO NEXT MILES	BEGIN WORK ZONE				LOOSE GRAVEL	ROUGH ROAD	UNEVEN LINES	NO CENTER LINE	XX M.P.H.	RIGHT LANE CLOSED		BE PREPARED TO STOP	ONE LANE ROAD AHEAD	RAMP CLOSED AHEAD		FRESH OIL	WORK CONVOY	NEXT XX MILES	USE NEXT RAMP		
	G20-2	G20-5T	G20-6T	G20-5aP	CW20-1D	R20-5T	R20-5aTP	R20-3T	G20-1aT	G20-1bT (R/L)	G20-9TP	CW1-3 (R/L)	CW1-4 (R/L)	CW1-6aT	CW8-7	CW8-8	CW8-11	CW8-12	CW13-1P	CW20-5T (R/L)	CW20-7	CW3-4	CW20-4D	CW20-3D	CW3-3	CW21-2	CW21-10T	CW7-3aP	CW25-1T		
A ①	✓	✓	✓	✓	✓	✓	✓	✓		✓																					
B	✓										✓			✓	✓	✓	✓	✓	✓									✓	✓	✓	✓
C																					✓										
D	✓	✓	✓	✓	✓	✓	✓		✓		✓																				
E	✓				✓																										
F																															

**SCHEDULE OF TRAFFIC CONTROL AND WARNING DEVICES (CONT)**

LOCATION	PILOT CAR FOLLOW ME	PAVEMENT ENDS	STOP HERE ON RED	DO NOT PASS	PASS WITH CARE	RAMP CLOSED	SOFT SHOULDER	SHOULDER DROP OFF	SHOULDER WORK	ROAD MACHINERY AHEAD	TRAILER MOUNTED FLASHING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN	VP-1 (R/L)	PLASTIC DRUM	TYPE 3 BARRICADE	RIGHT LANE CLOSED AHEAD RT/LT	XX MILE	XX FT	NARROW LANES AHEAD	DETOUR 1000 FT	DETOUR 500 FT	DETOUR AHEAD	DETOUR 1/2 MILE	DETOUR	END DETOUR	END WORK ZONE	STAY ALERT TALK OR TEXT LATER					
	G20-4	CW8-3	R8-10 (R/L)	R4-1	R4-2	R11-2bT	CW8-4	CW8-9aT	CW21-5	CW21-3D						CW20-5D (R/L)	CW16-3aP	CW16-2aP	CW20-8T	CW20-2B	CW20-2C	CW20-2D	CW20-2E	M4-8	M4-8a	G20-2bT	G20-10T					
A ①																											✓	✓				
B	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								✓					
C											✓	✓	✓	✓	✓	✓	✓	✓	✓													
D																											✓					
E																																
F																																

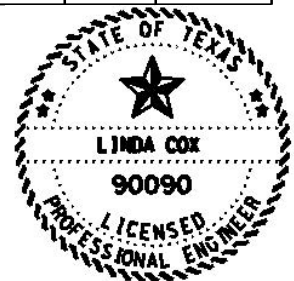
**SCHEDULE OF TRAFFIC CONTROL AND WARNING DEVICES (CONT)**

LOCATION	SIDEWALK CLOSED	CROSSWALK CLOSED USE OTHER SIDE	SIDEWALK CLOSED AHEAD CROSS HERE	SIDEWALK CLOSED CROSS HERE	DRIVEWAY	DRIVEWAY		NO PARKING
	R9-9	R9-10DBL (R/L)	R9-11 (R/L)	R9-11a (R/L)	D70 (R/L)	D70a (R/L)	CHEVRON CW1-8	R8-3a 18x24
A ①								
B							✓	✓
C								
D								
E								
F								

- ① - BARRICADES TO BE PLACED BEFORE BEGINNING CONSTRUCTION OPERATIONS AND SHALL REMAIN FOR THE DURATION OF THE PROJECT.
- A - USED AT THE BEGINNING OF THE PROJECT ON RM 473 BEFORE FM 474, AT THE END OF PROJECT ON RM 473 AFTER FM 474, AT THE BEGINNING OF THE PROJECT ON RM 473 AFTER FM 3351, AND AT THE END OF PROJECT ON RM 473 AT THE COUNTY LINE.
- B - AS DIRECTED BY THE ENGINEER.
- C - USED DURING LANE CLOSURES.
- D - USED AT THE FOLLOWING LOCATIONS: AT THE INTERSECTION OF RM 473 AND FM 474, AND SATTLER RD.
- E - TO BE USED AT THE SIDE STREETS.
- F - PLACEMENT LOCATION AND MOUNT TYPE TO BE AS DIRECTED BY THE ENGINEER.

**GENERAL NOTES :**

- ANY SIGNS LISTED ON THIS SHEET AND ANY ADDITIONAL SIGNS REQUESTED BY THE ENGINEER SHALL BE SUPPLIED BY THE CONTRACTOR AND CONSIDERED SUBSIDIARY TO ITEM 502. ANY ADDITIONAL SIGNS REQUESTED BY THE ENGINEER WILL BE IN ACCORDANCE WITH THE "BC" STANDARD SHEETS, THE "TCP" STANDARD SHEETS AND/OR THE TEXAS MUTCD.
- CERTAIN SIGNS MUST BE USED IN CONJUNCTION WITH OTHER SIGNS ... EXAMPLE: "FLAGGER AHEAD" SIGN MUST BE USED WITH THE "BE PREPARED TO STOP" SIGN.
- BARRICADES SHALL NOT BE USED AS A SIGN SUPPORT. SUPPORTS FOR SIGNS SHALL BE TEMPORARY, FIXED, OR PORTABLE SIGN SUPPORTS AS DIRECTED BY THE ENGINEER OR IN ACCORDANCE WITH THE "BC" STANDARD SHEETS AND THE TEXAS MUTCD.
- CONTRACTOR SHALL KEEP ROADWAYS FREE OF DIRT AND OR MUD TRACKED OUT OF WORK AREA . THE ENGINEER MAY REQUIRE SWEEPING OF THE AREAS IF DEEMED NECESSARY. THIS SHALL BE CONSIDERED SUBSIDIARY TO VARIOUS BID ITEMS.



*Linda Cox, P.E.*

04/27/2021

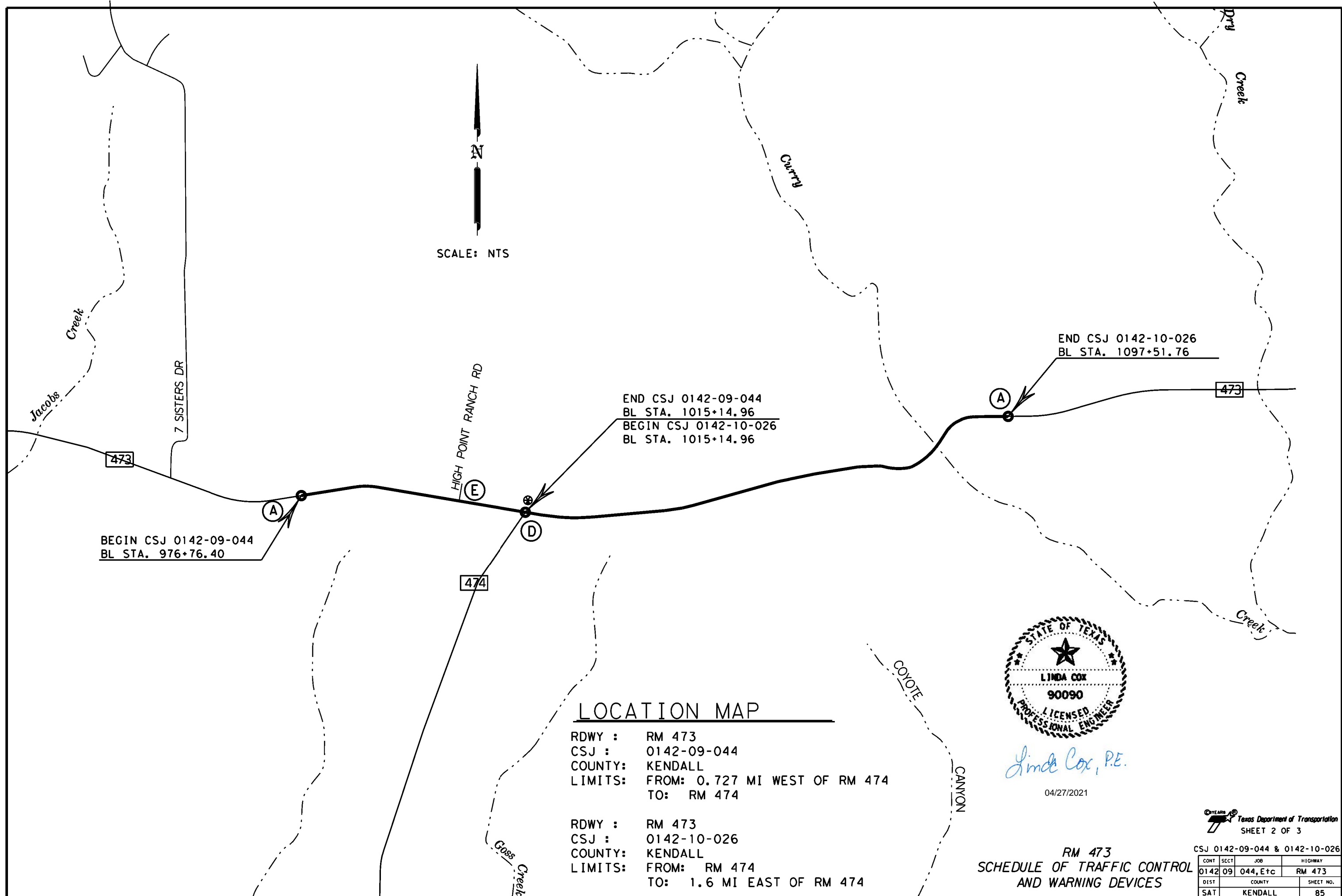


SHEET 1 OF 3

SEE: SHEETS 2, & 3 OF 3 FOR BARRICADE LOCATION AND ADDITIONAL INFORMATION.

**RM 473  
SCHEDULE OF TRAFFIC CONTROL  
AND WARNING DEVICES**

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		84



SCALE: NTS

BEGIN CSJ 0142-09-044  
BL STA. 976+76.40

END CSJ 0142-09-044  
BL STA. 1015+14.96  
BEGIN CSJ 0142-10-026  
BL STA. 1015+14.96

END CSJ 0142-10-026  
BL STA. 1097+51.76

**LOCATION MAP**

RDWY : RM 473  
CSJ : 0142-09-044  
COUNTY: KENDALL  
LIMITS: FROM: 0.727 MI WEST OF RM 474  
TO: RM 474

RDWY : RM 473  
CSJ : 0142-10-026  
COUNTY: KENDALL  
LIMITS: FROM: RM 474  
TO: 1.6 MI EAST OF RM 474



*Linda Cox, P.E.*

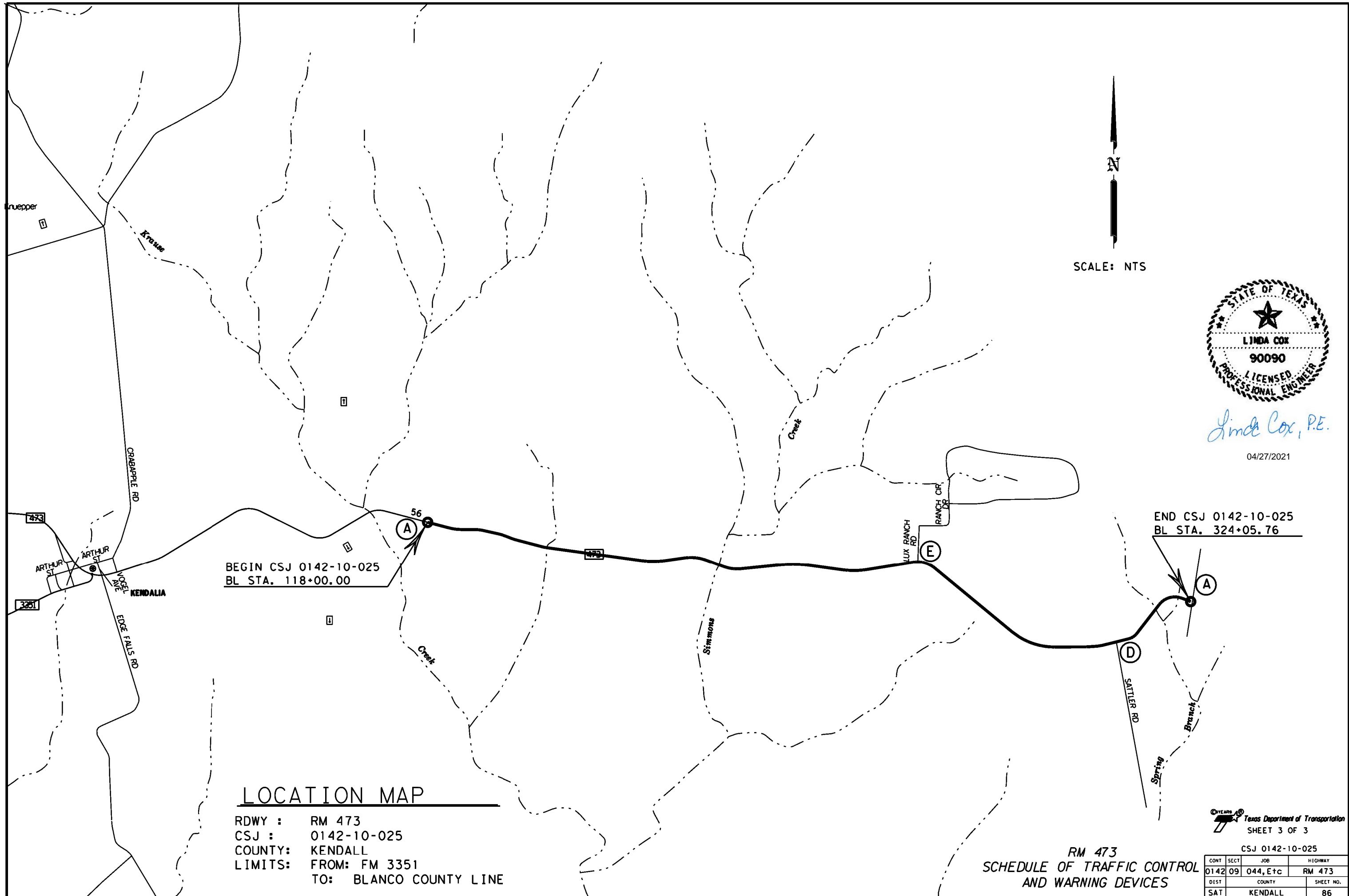
04/27/2021

**RM 473  
SCHEDULE OF TRAFFIC CONTROL  
AND WARNING DEVICES**

Texas Department of Transportation  
SHEET 2 OF 3

CSJ 0142-09-044 & 0142-10-026

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		85



SCALE: NTS



*Linda Cox, P.E.*

04/27/2021

END CSJ 0142-10-025  
BL STA. 324+05.76

BEGIN CSJ 0142-10-025  
BL STA. 118+00.00

LOCATION MAP

RDWY : RM 473  
 CSJ : 0142-10-025  
 COUNTY: KENDALL  
 LIMITS: FROM: FM 3351  
 TO: BLANCO COUNTY LINE



SHEET 3 OF 3

RM 473  
 SCHEDULE OF TRAFFIC CONTROL  
 AND WARNING DEVICES

CONT		SECT	JOB	HIGHWAY
0142	09		044, Etc	RM 473
DIST	COUNTY		SHEET NO.	
SAT	KENDALL		86	

**DETOURS, BARRICADES, WARNING SIGNS, SEQUENCE OF WORK, ETC.**

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF ITEM 7, "LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC", OF THE STANDARD SPECIFICATIONS. IN ADDITION TO THESE REQUIREMENTS, THE FOLLOWING PROVISIONS SHALL ALSO GOVERN ON THIS CONTRACT:

**1. GENERAL**

- (1) TRAFFIC MUST BE HANDLED THROUGHOUT THE PROJECT DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SAFE AND COMFORTABLE PASSAGE FOR VEHICULAR AND PEDESTRIAN TRAFFIC WITH MINIMAL INCONVENIENCE TO THE PUBLIC, AS SHOWN IN THE PLANS OR AS DIRECTED/APPROVED BY THE ENGINEER.
- (2) THE CONTRACTOR MAY PROPOSE/RECOMMEND MODIFICATIONS TO THE SEQUENCE OF WORK FOR CONSIDERATION BY THE ENGINEER. ANY MAJOR RECOMMENDED MODIFICATION BY THE CONTRACTOR SHALL INCLUDE ANY CHANGES TO THE VARIOUS BID ITEMS, IMPACT TO TRAFFIC, EFFECT OF OVERALL PROJECT IN TIME AND COST, ETC. IF THIS PROPOSAL IS IMPLEMENTED, THE CONTRACTOR WILL BE RESPONSIBLE FOR DEVELOPING DETAILED PLAN SHEETS TO BE SEALED BY A LICENSED PROFESSIONAL ENGINEER FOR INCLUSION WITH THE CHANGE ORDER. THE CONTRACTOR CANNOT PROCEED WITH ANY CONSTRUCTION OPERATIONS BASED ON A REVISED PHASE/SEQUENCE UNTIL WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. IF AT ANY TIME DURING CONSTRUCTION THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE FOR SAFE AND COMFORTABLE MOVEMENT, THE CONTRACTOR WILL IMMEDIATELY CHANGE THEIR OPERATION TO CORRECT THE UNSATISFACTORY CONDITION.
- (3) DO NOT STORE ANY CONSTRUCTION MATERIAL OR EQUIPMENT AT ANY LOCATION THAT WILL CONSTITUTE A HAZARD AND WILL ENDANGER TRAFFIC. ANY LOCATION USED AS A STORAGE AREA WITHIN THE ROW WILL REQUIRE VEGETATION TO BE ESTABLISHED ONCE NOT IN USE.
- (4) THE CONTRACTOR WILL PROVIDE ADVANCE NOTIFICATION TO THE ENGINEER OF IMPENDING / UPCOMING LANE CLOSURES. FOR ALL TEMPORARY AND / OR PERMANENT LANE, RAMP, CONNECTOR, FRONTAGE, SHOULDER, ETC. CLOSURES OR DETOURS. SEE GENERAL NOTES FOR NOTIFICATION REQUIREMENTS.
- (5) ACCESS TO ADJOINING PROPERTY MUST BE MAINTAINED AT ALL TIMES.
- (6) TEMPORARY DRAINAGE IS THE RESPONSIBILITY OF THE CONTRACTOR.
- (7) AT NO TIME SHALL TWO CONSECUTIVE INTERSECTING ROADWAYS BE CLOSED AT ONE TIME DURING CONSTRUCTION.
- (8) UNLESS OTHERWISE NOTED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER, DAILY LANE CLOSURES SHALL BE LIMITED ACCORDING TO THE FOLLOWING RESTRICTIONS:
  - A) NO NIGHT TIME OR WEEKEND CLOSURES UNLESS APPROVED/DIRECTED BY THE ENGINEER.
  - B) DAY TIME LANE CLOSURES: ON DAYS WHEN SCHOOLS ARE OPEN, NO LANE CLOSURES BEFORE 8:30 AM, UNLESS OTHERWISE APPROVED/DIRECTED BY THE ENGINEER.

NO LANE CLOSURES OR ROADWAY CLOSURES WILL BE PERMITTED FOR THE FOLLOWING KEY DATES AND/OR SPECIAL EVENTS:  
 BETWEEN DECEMBER 15 AND JANUARY 1.  
 WEDNESDAY BEFORE THANKSGIVING THRU THE SUNDAY AFTER THANKSGIVING  
 SATURDAY AND SUNDAY BEFORE MEMORIAL DAY AND LABOR DAY.  
 SATURDAY OR SUNDAY WHEN JULY 4 FALLS ON A FRIDAY OR MONDAY.  
 FRIDAY BEFORE EASTER THRU MONDAY AFTER EASTER.
- (9) REMOVAL AND DISPOSAL OF EXISTING ABANDONED UTILITIES (EITHER PREVIOUSLY ABANDONED OR ABANDONED DURING THIS PROJECT) REQUIRED TO SUPPORT THIS PROJECT'S CONSTRUCTION SHALL BE PERFORMED UNDER THE OVERALL PREPARE RIGHT-OF-WAY ITEM (ITEM 100).
- (10) COORDINATE WITH ADJACENT PROJECTS.
- (11) COVER PERMANENT SIGNS IF NOT USED. THIS IS SUBSIDIARY TO ITEM 502.
- (12) PORTABLE TRAFFIC SIGNALS USED DURING CONSTRUCTION SHALL BE SUBSIDIARY TO ITEM 502.

**2. SEQUENCE OF WORK**

- (1) THIS PROJECT WILL BE CONSTRUCTED IN (#) PHASES. BEFORE THE COMMENCEMENT OF EACH PHASE, INSTALL ADVANCE WARNING SIGNS, TEMPORARY SIGNS AND BARRICADES AS SHOWN ON THE PLANS AND/OR AS DIRECTED/APPROVED BY THE ENGINEER. DAILY LANE CLOSURES WILL BE USED IN ACCORDANCE WITH STATE TCP STANDARDS. DROP OFF CONDITIONS OF GREATER THAN 2" MUST HAVE A 3:1 SLOPE AT THE END OF EACH DAY, AS WELL AS THROUGHOUT THE PROJECT WHERE ACCESS TO ADJACENT PROPERTIES IS ALLOWED TO DRIVEWAYS AND SIDE STREETS.
- (2) PREPARING ROW / REMOVAL OF EXISTING ITEMS TO BE DONE ONLY IN AREAS WHERE WORK IS OCCURING, AS PER THE PHASES NOTED BELOW.
- (3) PLANING, SURFACE TREATMENTS AND OVERLAYS SHALL BE PERFORMED IN THE DIRECTION OF TRAFFIC. BEGIN SURFACE CONSTRUCTION ON HIGH SIDE OF ROAD TO AVOID WATER PONDING ISSUES.
- (4) A BRIEF DESCRIPTION OF THESE PHASES ARE AS FOLLOWS:

**PHASE I**

PLACE PROJECT BARRICADES AND NEW SIGNS

PLACE SW3P CONTROLS FOR PHASE I CONSTRUCTION.

- 1) CONSTRUCT CULVERT EXTENSIONS AND SAFETY END TREATMENTS/WINGWALLS AS FOLLOWS:
  - A) STRUCTURE STA. 985+33.00
  - B) STRUCTURE STA. 1004+60.87
  - C) STRUCTURE STA. 1027+99.77
  - D) STRUCTURE STA. 1053+22.52
  - E) STRUCTURE STA. 1084+54.89
  - F) STRUCTURE RM 474 STA. 12+34.28

\*\*\* NOTE: CONTRACTOR SHALL COMPLETE ALL WORK ON A CULVERT BEFORE MOVING TO CONSTRUCT THE NEXT CULVERT AS APPROVED/DIRECTED BY THE ENGINEER.

- 2) PLACE DETOUR PAVEMENT MARKINGS, "ONE-WAY, TWO-WAY" TRAFFIC CONTROL USING TEMP PORTABLE TRAFFIC SIGNALS AND MOVE TRAFFIC TO THE DETOUR AS SHOWN IN THE PLANS AND/OR AS APPROVED/DIRECTED BY THE ENGINEER.

\*\*\* NOTE: PORTABLE TRAFFIC SIGNALS SHALL BE SUBSIDIARY TO ITEM 502.

- 3) CONSTRUCT THE PROPOSED PAVEMENT WIDENING AT THE LOCATIONS AS SHOWN IN THE TCP LAYOUTS, USING "ONE-WAY, TWO-WAY" TRAFFIC CONTROL (PILOT CAR) WITH FLAGGERS COMPLETE THRU HMA TY B INCLUDING BUT NOT LIMITED TO DRIVEWAYS, MAILBOX TURNOUTS, COMPOST MANUFACTURED TOPSOIL, SEEDING, RIPRAP AND SIGNING AS APPROVED/DIRECTED BY THE ENGINEER.

\*\*\* NOTE: LENGTH OF ONE WAY TRAFFIC CONTROL WILL BE LIMITED TO HALF A MILE. THE LENGTH OF THE WORK AREA SHALL BE BASED ON CONTRACTOR'S ABILITY, AS DETERMINED BY THE ENGINEER, TO COMPLETE THRU HMA TY B AND RETURN TRAFFIC TO 2 LANE ~ 2 WAY TRAFFIC BY THE END OF EACH WORK DAY.

**PHASE II**

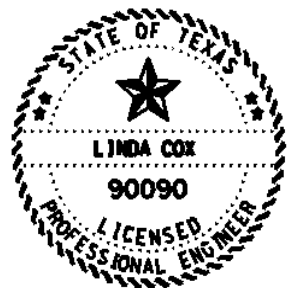
UPON COMPLETION OF PHASE I CONSTRUCTION:

- 1) PLACE SW3P CONTROLS FOR PHASE II CONSTRUCTION.
- 2) CONSTRUCT PROPOSED PAVEMENT WIDENING AT THE LOCATIONS AS SHOWN IN THE TCP LAYOUTS, USING "ONE-WAY, TWO-WAY" TRAFFIC CONTROL (PILOT CAR) WITH FLAGGERS COMPLETE THRU HMA TY B INCLUDING BUT NOT LIMITED TO DRIVEWAYS, MAILBOX TURNOUTS, COMPOST MANUFACTURED TOPSOIL, SEEDING, RIPRAP AND SIGNING AS APPROVED/DIRECTED BY THE ENGINEER.

\*\*\* NOTE: LENGTH OF ONE WAY TRAFFIC CONTROL WILL BE LIMITED TO HALF A MILE. THE LENGTH OF THE WORK AREA SHALL BE BASED ON CONTRACTOR'S ABILITY, AS DETERMINED BY THE ENGINEER, TO COMPLETE THRU HMA TY B AND RETURN TRAFFIC TO 2 LANE ~ 2 WAY TRAFFIC BY THE END OF EACH WORK DAY.


- 3) UPON COMPLETION OF PHASE II CONSTRUCTION, PLACE THE FULL WIDTH SEAL COAT, PERMANENT PAVEMENT MARKINGS, AND CLEAN-UP.

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*Linda Cox, P.E.*

04/29/2021

 Texas Department of Transportation © 1988			
<b>TRAFFIC CONTROL PLAN NARRATIVE</b>			
SHEET 1 OF 2			
FED. DIV. NO.			SHEET NO.
6			87
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044,Etc	RM 473



**PHASE III**

UPON COMPLETION OF PHASE II CONSTRUCTION:

PLACE SW3P CONTROLS FOR PHASE III CONSTRUCTION.

- 1) CONSTRUCT CULVERT EXTENSIONS AND SAFETY END TREATMENTS/WINGWALLS AS FOLLOWS:
  - A) STRUCTURE STA. 191+40.36
  - B) STRUCTURE STA. 196+59.16 IN 2 STAGES AS SHOWN IN THE TCP LAYOUTS USING ONE-WAY TRAFFIC SIGNALS. CONSTRUCT OVERFLOW SLAB WIDENING AND REPAIR OVERFLOW SLAB AFTER EXIST PIPE REMOVAL.

\*\*\* NOTE: PORTABLE TRAFFIC SIGNALS SHALL BE SUBSIDIARY TO ITEM 502.

- C) STRUCTURE STA. 313+16.68

\*\*\* NOTE: CONTRACTOR SHALL COMPLETE ALL WORK ON A CULVERT BEFORE MOVING TO CONSTRUCT THE NEXT CULVERT AS APPROVED/DIRECTED BY THE ENGINEER.

- 2) CONSTRUCT THE PROPOSED PAVEMENT WIDENING ON THE LEFT SIDE AS SHOWN IN THE TCP LAYOUTS USING "ONE WAY-TWO-WAY" TRAFFIC CONTROL, COMPLETE THRU HMA TY B INCLUDING BUT NOT LIMITED TO DRIVEWAYS, METAL BEAM GUARD FENCE, MAILBOX TURNOUTS, COMPOST MANUFACTURED TOPSOIL, SEEDING, RIPRAP AND SIGNING AS APPROVED/DIRECTED BY THE ENGINEER.

\*\*\* NOTE: LENGTH OF ONE WAY TRAFFIC CONTROL WILL BE LIMITED TO HALF A MILE. THE LENGTH OF THE WORK AREA SHALL BE BASED ON CONTRACTOR'S ABILITY, AS DETERMINED BY THE ENGINEER, TO COMPLETE THRU HMA TY B AND RETURN TRAFFIC TO 2 LANE ~ 2 WAY TRAFFIC BY THE END OF EACH WORK DAY.

**PHASE IV**

UPON COMPLETION OF PHASE III CONSTRUCTION:

- 1) PLACE SW3P CONTROLS FOR PHASE IV CONSTRUCTION.
- 2) CONSTRUCT THE PROPOSED PAVEMENT WIDENING ON THE RIGHT SIDE AS SHOWN IN THE TCP LAYOUTS USING "ONE WAY, TWO-WAY" TRAFFIC CONTROL, COMPLETE THRU HMA TY B INCLUDING BUT NOT LIMITED TO DRIVEWAYS, METAL BEAM GUARD FENCE, MAILBOX TURNOUTS, COMPOST MANUFACTURED TOPSOIL, SEEDING, RIPRAP AND SIGNING AS APPROVED/DIRECTED BY THE ENGINEER.

\*\*\* NOTE: LENGTH OF ONE WAY TRAFFIC CONTROL WILL BE LIMITED TO HALF A MILE. THE LENGTH OF THE WORK AREA SHALL BE BASED ON CONTRACTOR'S ABILITY, AS DETERMINED BY THE ENGINEER, TO COMPLETE THRU HMA TY B AND RETURN TRAFFIC TO 2 LANE ~ 2 WAY TRAFFIC BY THE END OF EACH WORK DAY.

- 3) UPON COMPLETION OF PHASE III CONSTRUCTION, PLACE THE FULL WIDTH SEAL COAT, PERMANENT PAVEMENT MARKINGS, AND CLEAN-UP

**3. SAFETY**

- (1) THE CONTRACTOR WILL PROVIDE, CONSTRUCT AND MAINTAIN BARRICADES AND SIGNS IN ACCORDANCE WITH STATE STANDARDS BC (1 - 12)-14. ANY SIGNS REQUIRED THAT ARE NOT DETAILED IN THE STANDARD SHEETS SHALL BE IN CONFORMANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND THE "STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS."
- (2) BARRICADES AND WARNING SIGNS SHALL BE PLACED AS INDICATED ON THE PLANS. THIS SHALL BE CONSIDERED THE MINIMUM REQUIRED TO PROVIDE FOR THE SAFETY OF TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN OTHER SUCH BARRICADES AND SIGNS DEEMED NECESSARY BY THE ENGINEER OR AS DIRECTED BY FIELD CONDITIONS, TO PROVIDE FOR THE PASSAGE OF TRAFFIC IN SAFETY AT ALL TIMES.
- (3) THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FLAGGERS AS DIRECTED/APPROVED BY THE ENGINEER, AT SUCH POINTS, AND FOR SUCH PERIODS OF TIME AS MAY BE REQUIRED, TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC AND THE CONTRACTOR'S PERSONNEL.
- (4) THE CONTRACTOR SHALL KEEP THE ROADWAY CLEAN AND FREE OF DIRT OR OTHER MATERIALS DURING HAULING OPERATIONS. IF THE CONTRACTOR DOES NOT MAINTAIN A CLEAN ROADWAY, THEY SHALL CEASE ALL CONSTRUCTION OPERATIONS, WHEN DIRECTED BY THE ENGINEER, TO CLEAN THE ROADWAY TO THE SATISFACTION OF THE ENGINEER.

**4. HAULING EQUIPMENT**

- (1) THE USE OF RUBBER-TIRED EQUIPMENT WILL BE REQUIRED FOR MOVING DIRT OR OTHER MATERIALS ALONG OR ACROSS PAVEMENTED SURFACES. WHERE THE CONTRACTOR DESIRES TO MOVE ANY EQUIPMENT NOT LICENSED FOR OPERATION ON PUBLIC HIGHWAYS, ON OR ACROSS PAVEMENT. THEY SHALL PROTECT THE PAVEMENT FROM DAMAGE AS DIRECTED / APPROVED BY THE ENGINEER.
- (2) THROUGHOUT CONSTRUCTION OPERATIONS, THE CONTRACTOR WILL BE REQUIRED TO CONDUCT THEIR HAULING OPERATIONS IN A MANNER SUCH THAT VEHICLES WILL NOT HAUL OVER PREVIOUSLY RECOMPACTED SUBGRADE OR COMPACTED BASE MATERIAL, EXCEPT IN SHORT SECTIONS FOR DUMPING MANIPULATIONS.

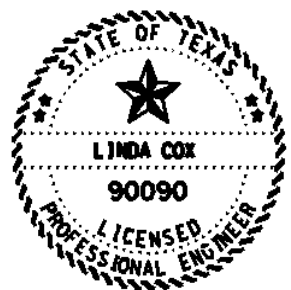
**5. FINAL CLEAN UP**

UPON COMPLETION OF THE WORK AND BEFORE FINAL ACCEPTANCE AND FINAL PAYMENT IS MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE SITE ALL SURPLUS AND DISCARDED MATERIALS AND DEBRIS OF EVERY KIND AND LEAVE THE ENTIRE PROJECT IN A SMOOTH, NEAT AND SIGHTLY CONDITION.

**6. PAYMENT**

ALL BARRICADES, SIGNS, AND FLAGGERS SHALL BE SUBSIDIARY TO ITEM 502 BARRICADES, SIGNS AND TRAFFIC HANDLING. ALL EROSION AND SEDIMENT CONTROL DEVICES WILL BE PAID FOR UNDER ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS. ALL WORK ZONE PAVEMENT MARKINGS WILL BE PAID FOR UNDER ITEM 662 WORK ZONE PAVEMENT MARKINGS. ALL OTHER WORK AND MATERIALS SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS UNLESS OTHERWISE INDICATED IN THE PLANS.

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4/26/2021



*Linda Cox, P.E.*

04/29/2021



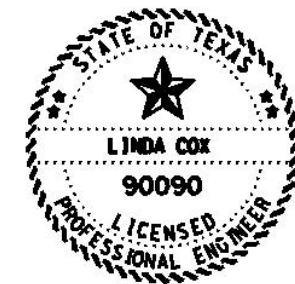
**TRAFFIC CONTROL PLAN NARRATIVE**

SHEET 2 OF 2

FED. DIV. NO.			SHEET NO.
6			88
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044,Etc	RM 473

DATE: 4/26/2021 2:55:05 PM  
 FILE: c:\t\dot\pw\_online\t\dot\4\mark\_nor\endor\_f\0239874\TRUCK MOUNTED ATTENUATOR (TMA) AND TRAILER ATTENUATOR (TA) SUMMARY SHEET.dgn

TCP PHASE	SPECIFIC TCP PLAN SHEET OR TCP STANDARD SHEET	CONSTRUCTION OPERATION	FURNISH	RELOCATE/REUSE	TOTAL TMA/TA	DURATION OF	6185 - 6002	6185 - 6005
			TMA/TA	TMA/TA	PER SET UP	TMA/TA SET UP	TMA (STATIONARY)	TMA (MOBILE)
	*		EA	EA	EA	DAYS/HR PER TMA/TA	DAY	DAY
CSJ 0142-09-044 QUANTITIES								
PHASE I	TCP (2-2) - 12	DRAIN STRUCT CONSTRUCT	1		1	8	8	
PHASE I	TCP (3-1) - 13	WRK ZN PAV MRK PLACEMENT	2		2	1		2
PHASE I	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	6	6	
PHASE II	TCP (3-1) - 13	WRK ZN PAV MRK PLACEMENT	2		2	1		2
PHASE II	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	5	5	
PHASE II	TCP (3-1) - 13	PERMANENT PAVEMENT MARKINGS	2		2	1		2
PHASE II	TCP (3-1) - 13	RAISED PAVEMENT MARKERS	2		2	1	2	
TOTAL CSJ 0142-09-044							21	6
CSJ 0142-10-026 QUANTITIES								
PHASE I	TCP (2-2) - 12	DRAIN STRUCT CONSTRUCT	1		1	12	12	
PHASE I	TCP (3-1) - 13	WRK ZN PAV MRK PLACEMENT	2		2	1		2
PHASE I	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	14	14	
PHASE II	TCP (3-1) - 13	WRK ZN PAV MRK PLACEMENT	2		2	1		2
PHASE II	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	11	11	
PHASE II	TCP (3-1) - 13	PERMANENT PAVEMENT MARKINGS	2		2	1		2
PHASE II	TCP (3-1) - 13	RAISED PAVEMENT MARKERS	2		2	1	2	
TOTAL CSJ 0142-10-026							39	6
CSJ 0142-10-025 QUANTITIES								
PHASE III	TCP (2-2) - 12	DRAIN STRUCT CONSTRUCT	1		1	4	4	
PHASE III	TCP (3-1) - 13	WRK ZN PAV MRK PLACEMENT	1		2	2		4
PHASE III	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	4	4	
PHASE III	TCP (3-1) - 13	WRK ZN PAV MRK PLACEMENT	2		2	3		6
PHASE III	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	8	8	
PHASE III	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	6	6	
PHASE IV	TCP (3-1) - 13	WRK ZN PAV MRK PLACEMENT	2		2	3		6
PHASE IV	TCP (2-2) - 12	ROADWAY WIDENING CONSTRUCTION	1		1	20	20	
PHASE IV	TCP (3-1) - 13	PERMANENT PAVEMENT MARKINGS	2		2	3		6
PHASE IV	TCP (3-1) - 13	RAISED PAVEMENT MARKERS	2		2	2		4
TOTAL CSJ 0142-10-025							42	26
PROJECT TOTAL							102	38



*Linda Cox, P.E.*

04/27/2021

\* NOTE:  
 STANDARD SHEETS SHOWN ARE FOR INFORMATION ONLY.  
 CONTRACTOR IS RESPONSIBLE FOR THE PROPER TCP WORKZONE SETUP  
 FOR THE TYPE OF CONSTRUCTION OPERATION TAKING PLACE.

NOTE.  
 FURNISH TMA/TA - THE NUMBER OF ATTENUATORS BEING FURNISHED FOR THE SPECIFIC TCP.  
 RELOCATE/REUSE TMA/TA - THE NUMBER OF ATTENUATORS BEING REUSED FROM A PREVIOUS TCP FOR THE SPECIFIC TCP.  
 TOTAL TMA/TA PER SET UP = (FURNISH TMA/TA) + (RELOCATE/REUSE TMA/TA)  
 DURATION OF TMA/TA SET UP - THE NUMBER OF DAYS THE ATTENUATORS WILL BE USED FOR THE SPECIFIC TCP.  
 TMA/TA (STATIONARY) = (TOTAL TMA/TA PER SET UP) X (THE DURATION OF TMA/TA SET UP)  
 TMA/TA (MOBILE OPERATION) = (TOTAL TMA/TA PER SET UP) X (THE DURATION OF TMA/TA SET UP)

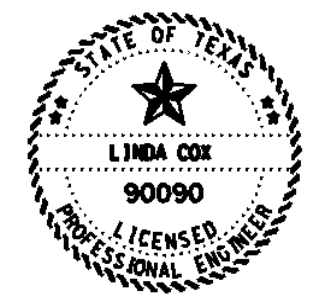
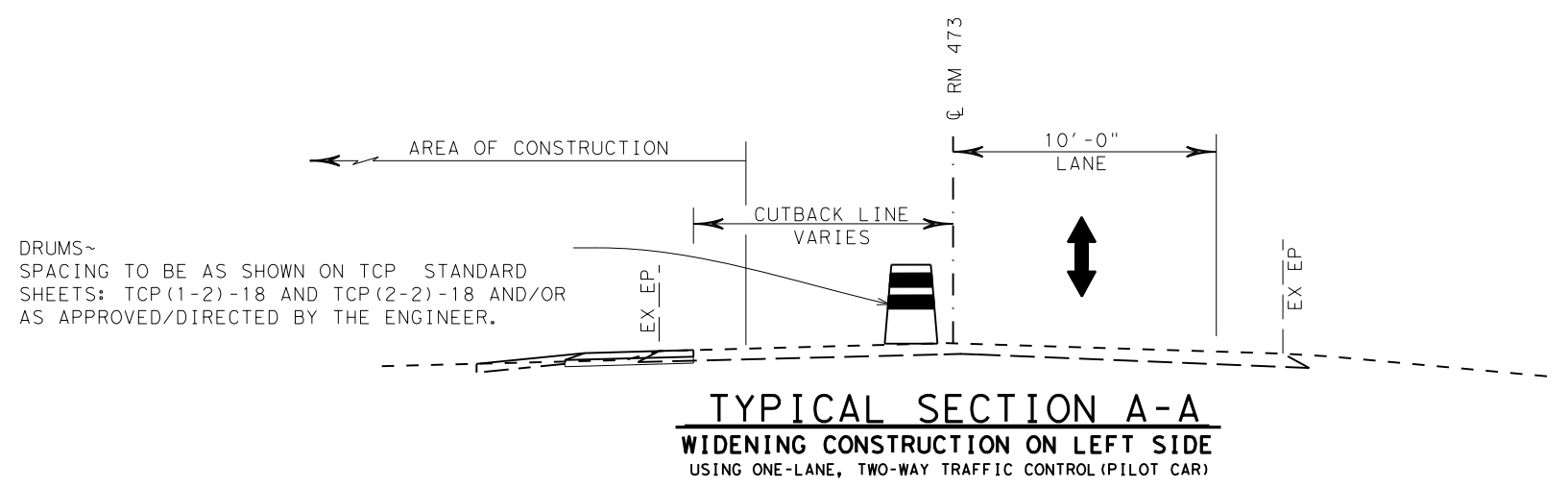
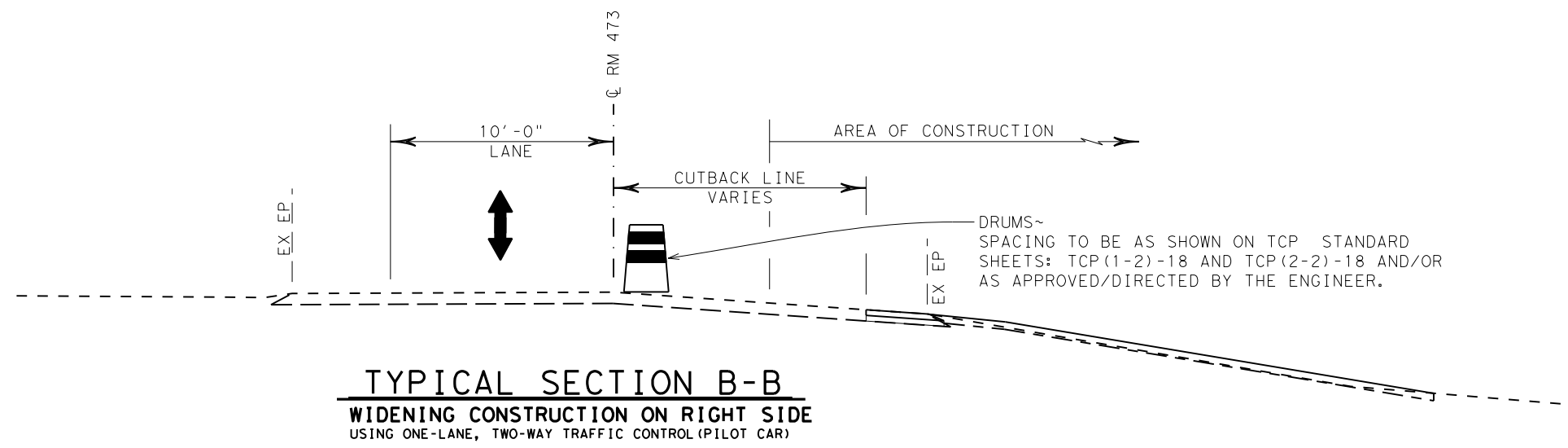
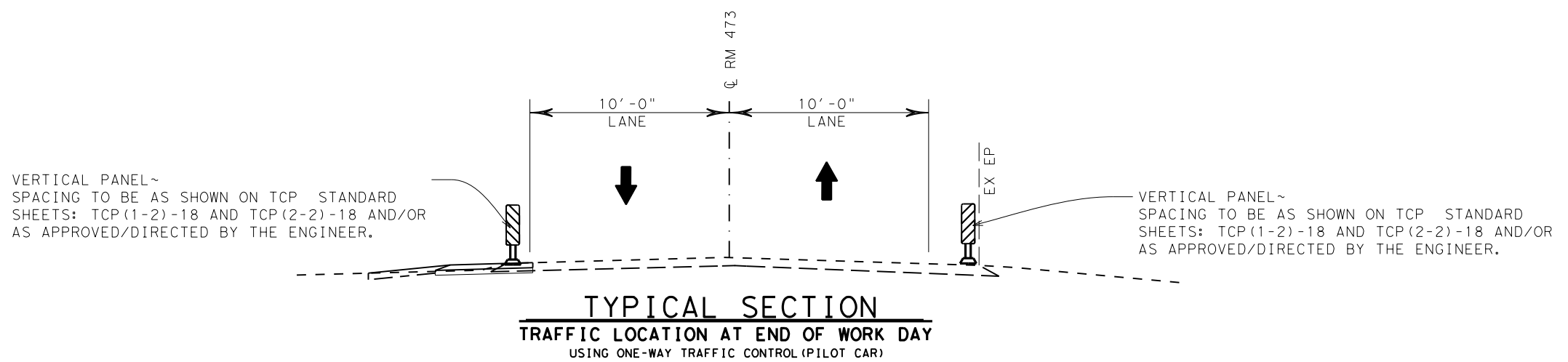
### TRUCK MOUNTED ATTENUATOR (TMA) AND TRAILER ATTENUATOR (TA) SUMMARY SHEET



FILE: tma.dgn	CONT	SECT	JOB	HIGHWAY
REVISIONS 3/2018	0142	09	044, Etc	RM 473
	DIST	COUNTY		SHEET NO.
	SAT	KENDALL		89



DN: C&S: DM: C&S:



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04/29/2021

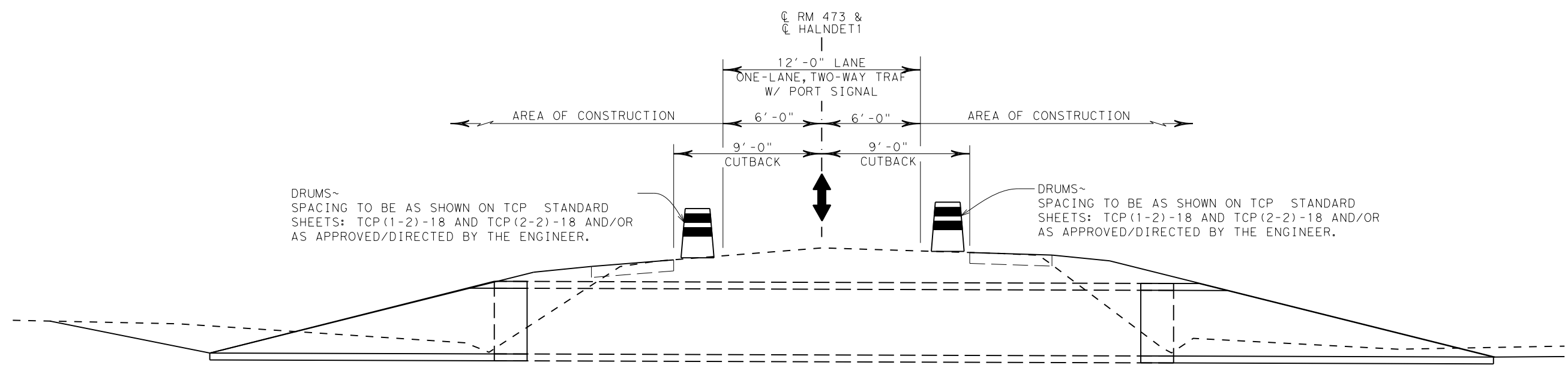
RM 473  
**TCP ~ PHASE I & II**  
**TYPICAL SECTIONS**  
CSJ 0142-09-044 AND CSJ 0142-10-026

SHEET 1 OF 2  
NTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		90

DATE: 4/27/2021 8:32:33 AM  
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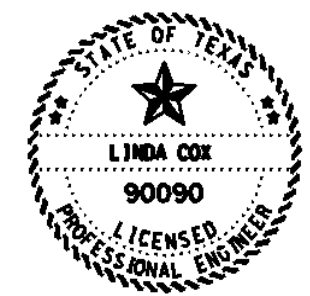


DRUMS~  
SPACING TO BE AS SHOWN ON TCP STANDARD  
SHEETS: TCP(1-2)-18 AND TCP(2-2)-18 AND/OR  
AS APPROVED/DIRECTED BY THE ENGINEER.

DRUMS~  
SPACING TO BE AS SHOWN ON TCP STANDARD  
SHEETS: TCP(1-2)-18 AND TCP(2-2)-18 AND/OR  
AS APPROVED/DIRECTED BY THE ENGINEER.

**TYPICAL SECTION**  
**LOW WATER CROSSING AT STR. STA. 1084+54.89**  
PHASE I ~ ONE-WAY TRAFFIC CONTROL  
(PORT TRAF SIG)

NOTE:  
PORTABLE TRAFFIC SIGNALS SHALL  
BE SUBSIDIARY TO ITEM 502.  
  
SEE TCP LAYOUTS ~ PHASE I  
SHEETS 19 OF 22 AND 20 OF 22  
FOR ADDITIONAL INFORMATION.



*Linda Cox, P.E.*  
04/29/2021

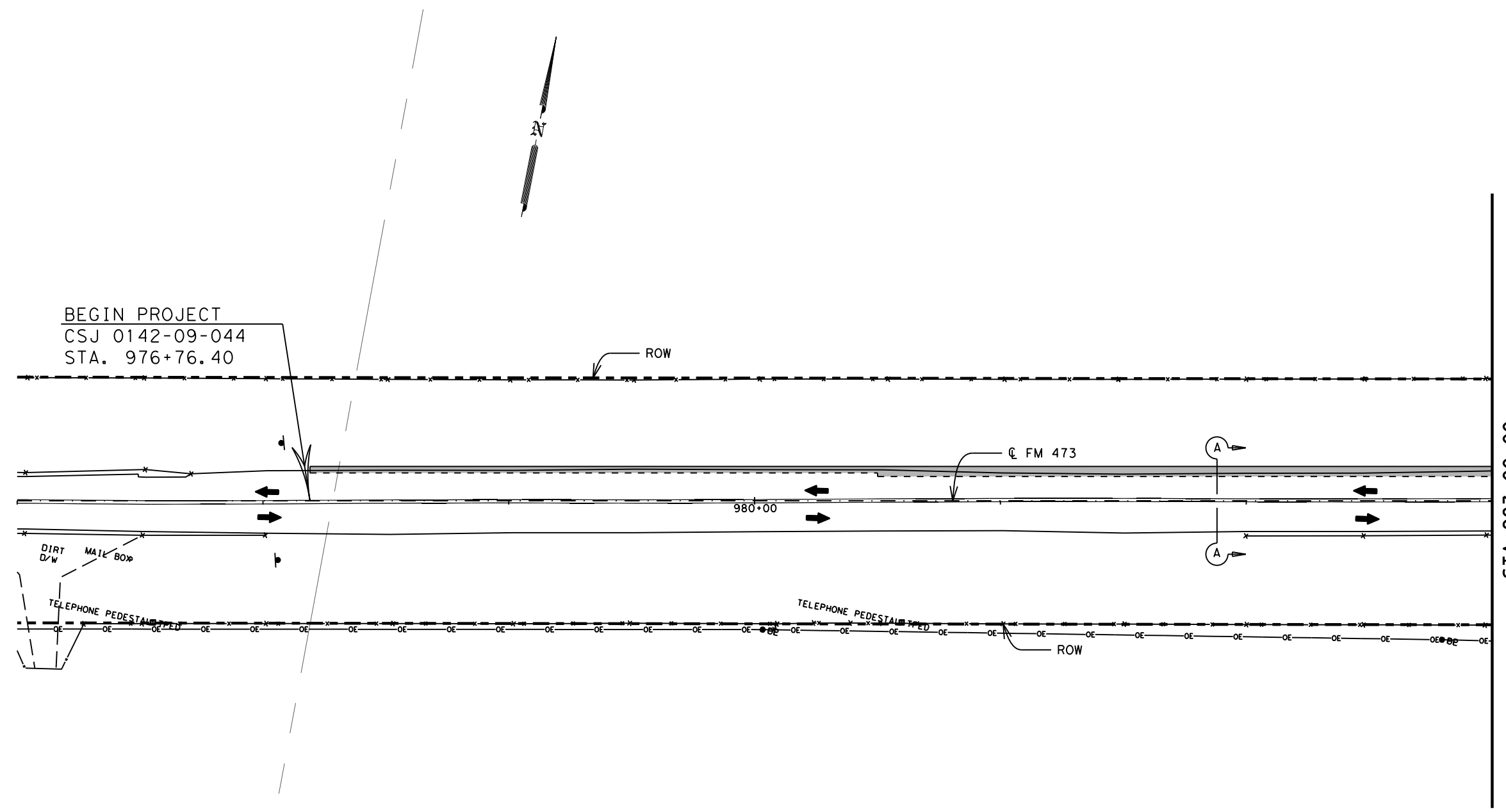
RM 473  
TCP ~ PHASE I & II  
TYPICAL SECTIONS  
CSJ 0142-09-044 AND CSJ 0142-10-026

SHEET 2 OF 2  
NTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		91

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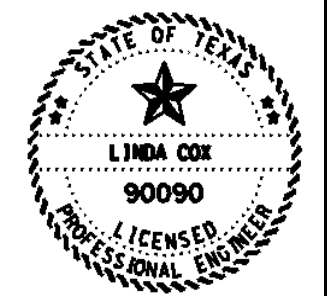
STA. 983+00.00

NOTE:  
TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2-WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 TRAFFIC DIRECTION/LOCATION  
 CONSTRUCTION AREA



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04/29/2021



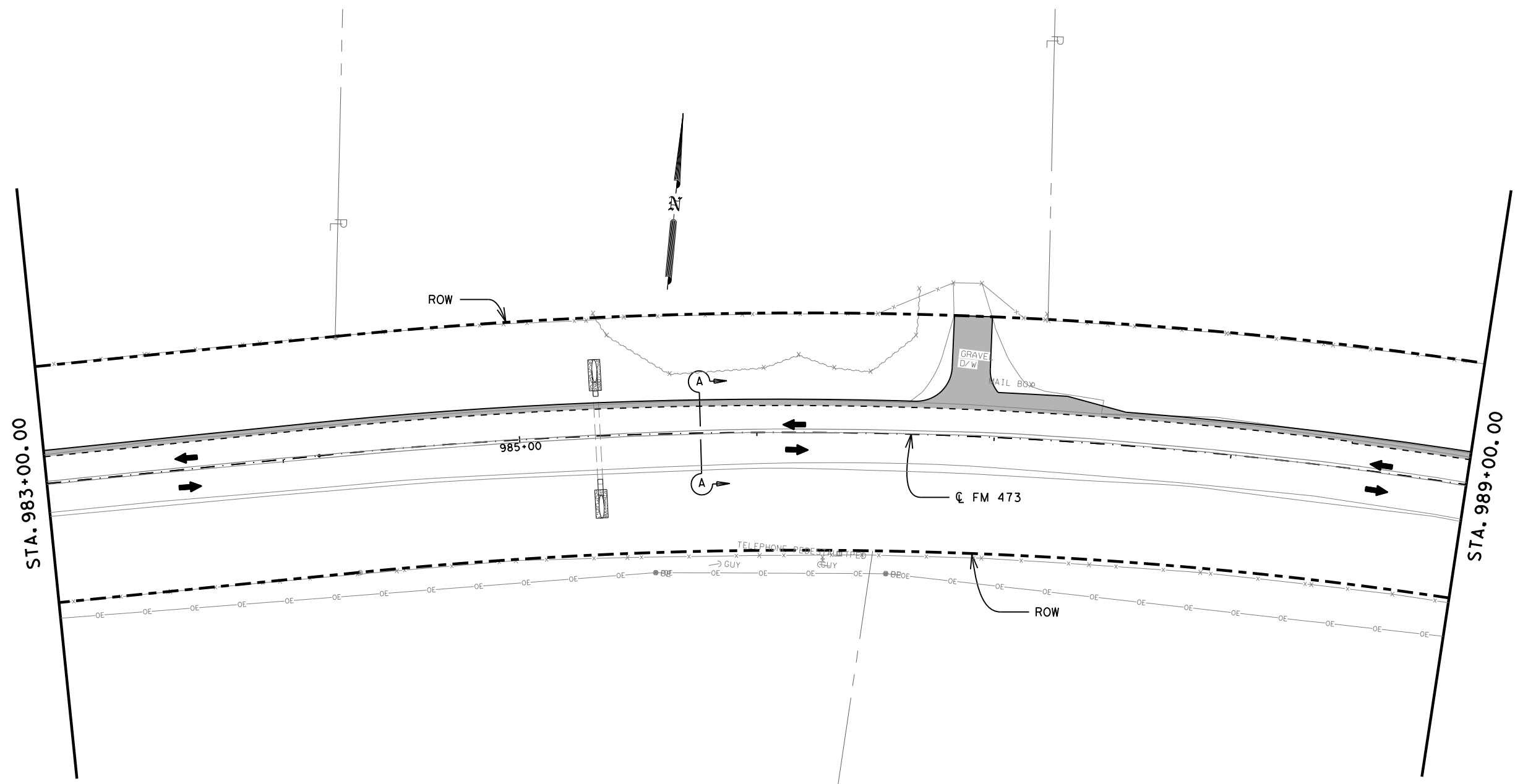
RM 473  
TCP LAYOUTS  
PHASE I



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0142	09	044, Etc	RM 473
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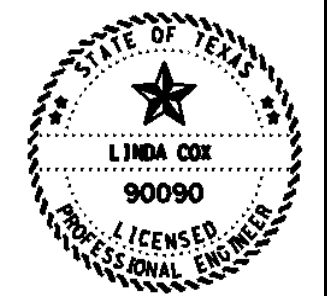


NOTE:  
TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2 -WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 TRAFFIC DIRECTION/LOCATION  
 CONSTRUCTION AREA



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04/29/2021



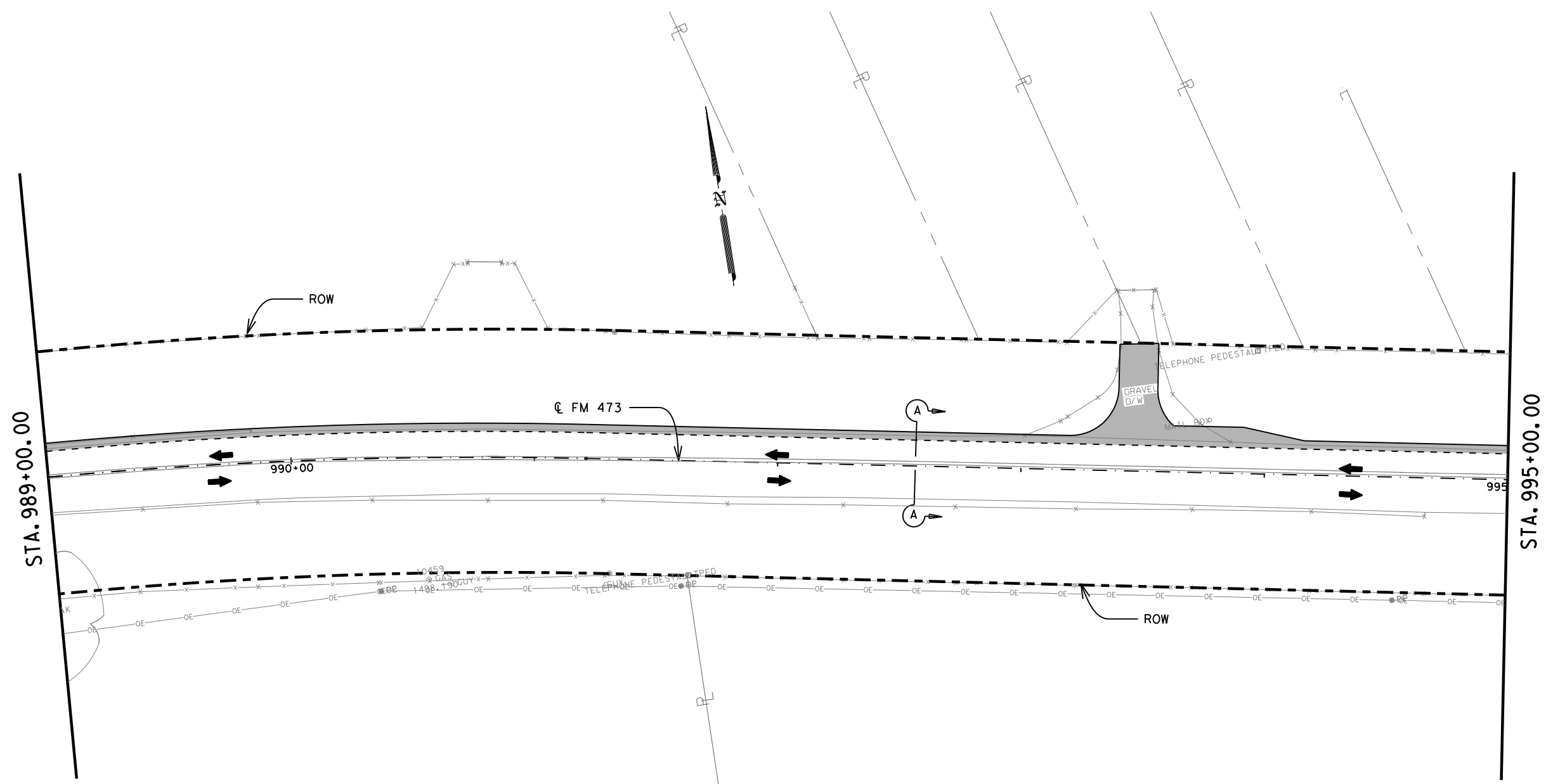
RM 473  
TCP LAYOUTS  
PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		93

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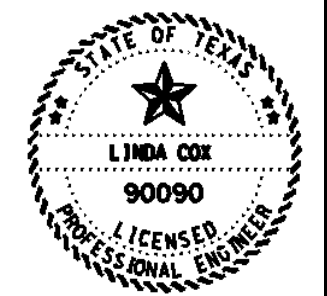
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



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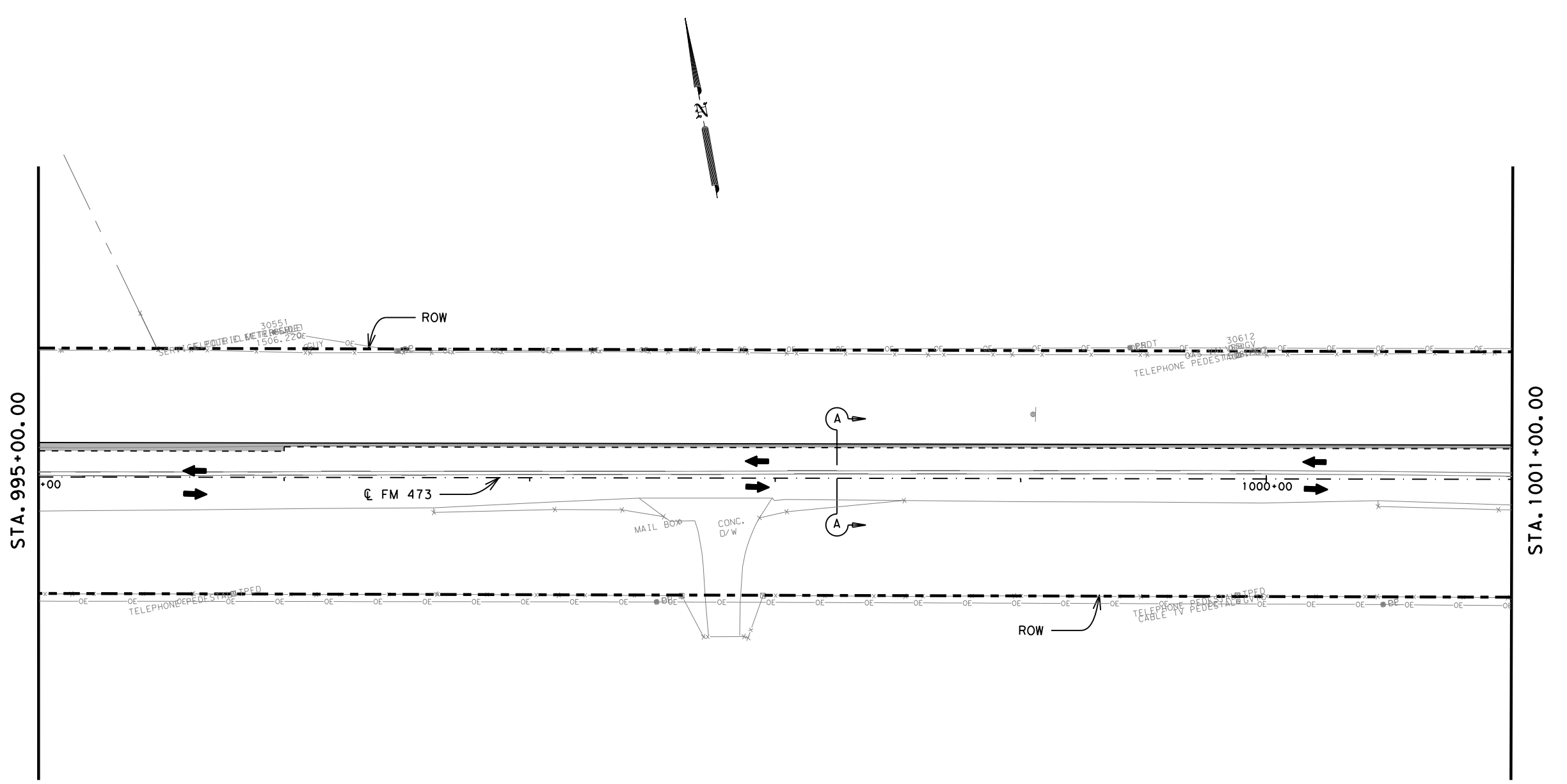
RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		94

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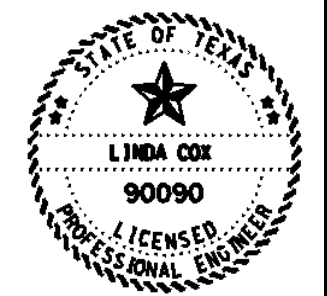


NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



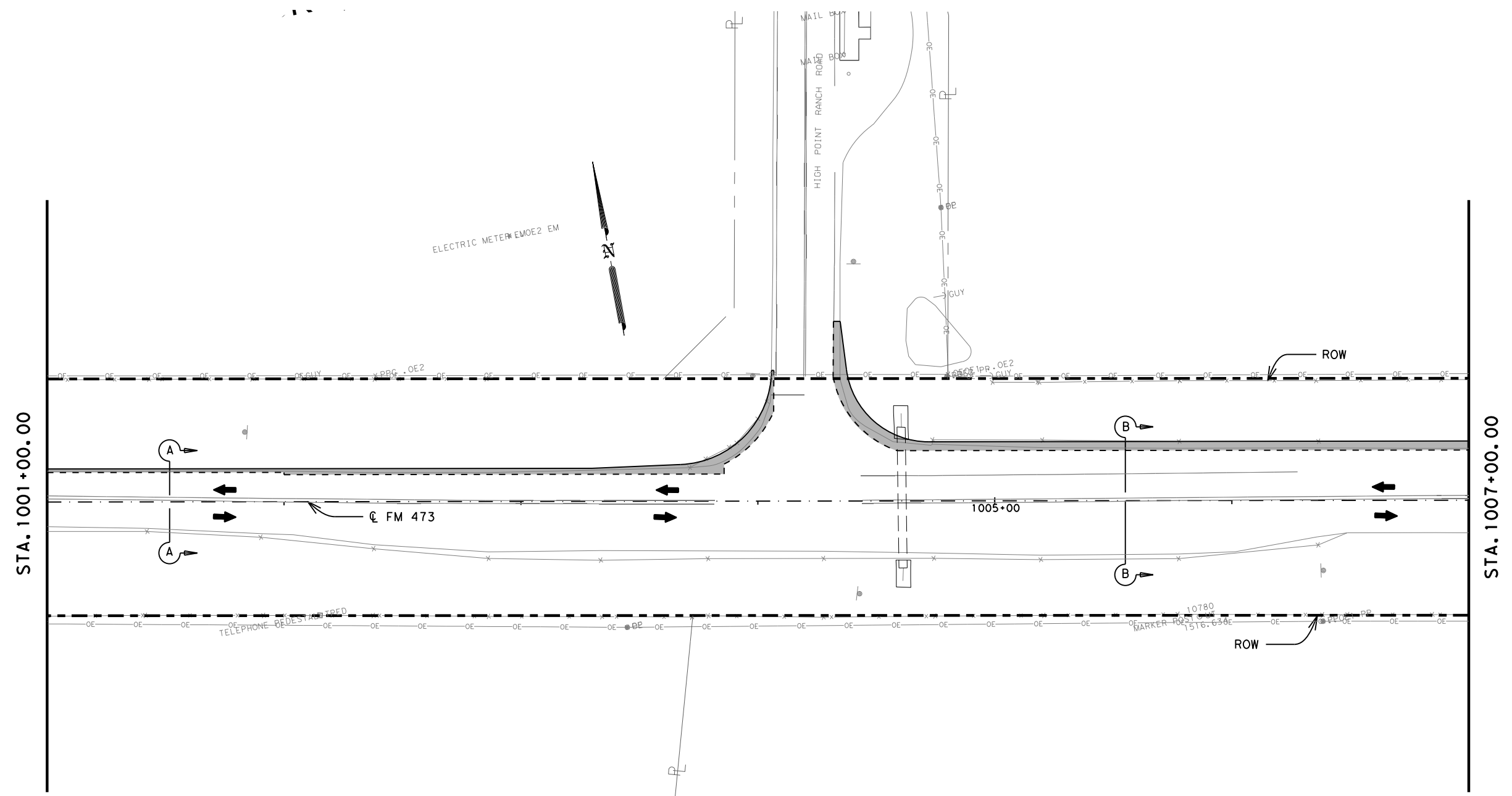
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE I

Texas Department of Transportation		SHEET 4 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		95

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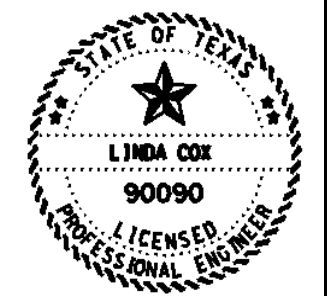
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



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 04/29/2021

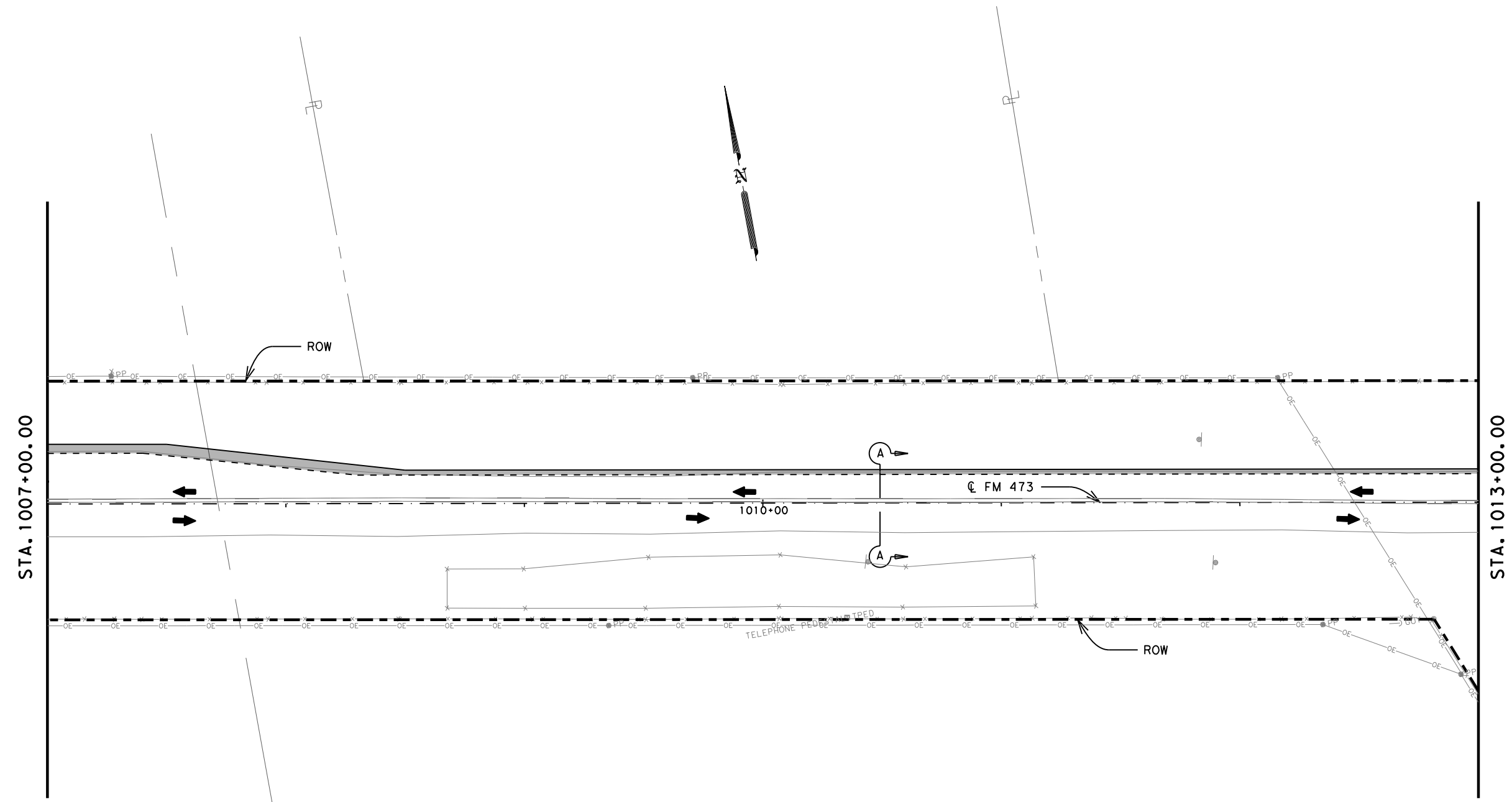


RM 473  
 TCP LAYOUTS  
 PHASE I

Texas Department of Transportation		SHEET 5 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		96

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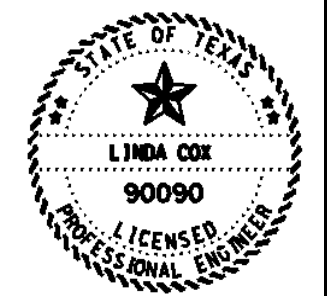


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



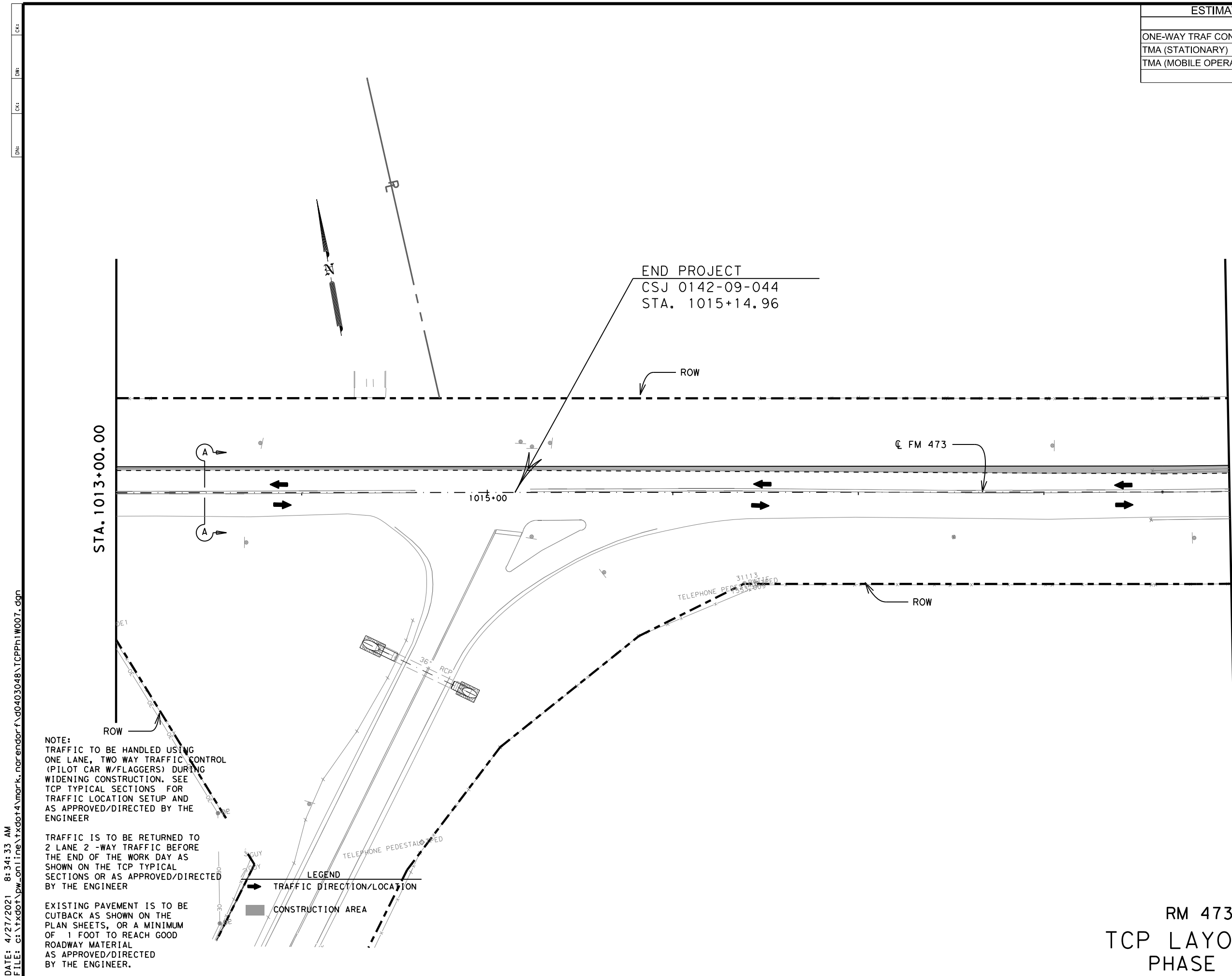
RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		97



ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ONE-WAY TRAF CONT (PILOT CAR)	80	HR
TMA (STATIONARY)	14	DAY
TMA (MOBILE OPERATION)	2	DAY

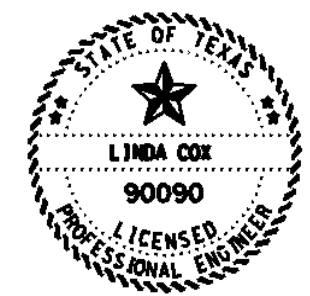
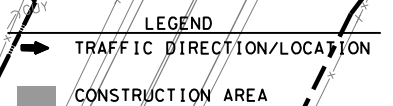


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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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*Linda Cox, P.E.*  
 04/29/2021



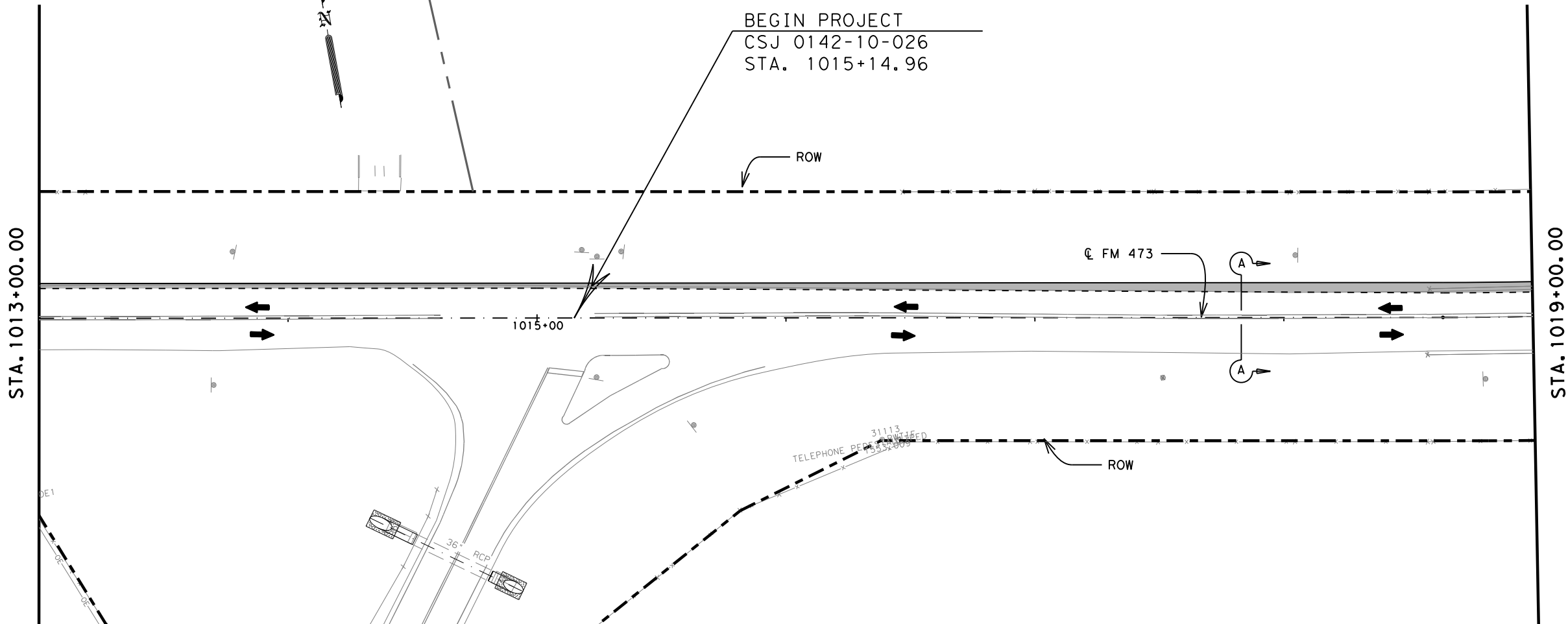
RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	98

DN: C&S: DM: C&S:

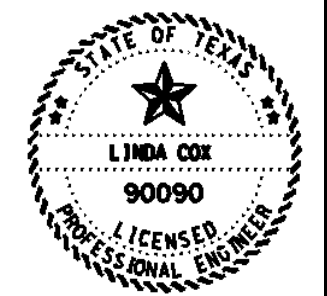
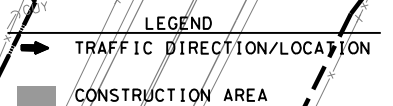
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 04/29/2021

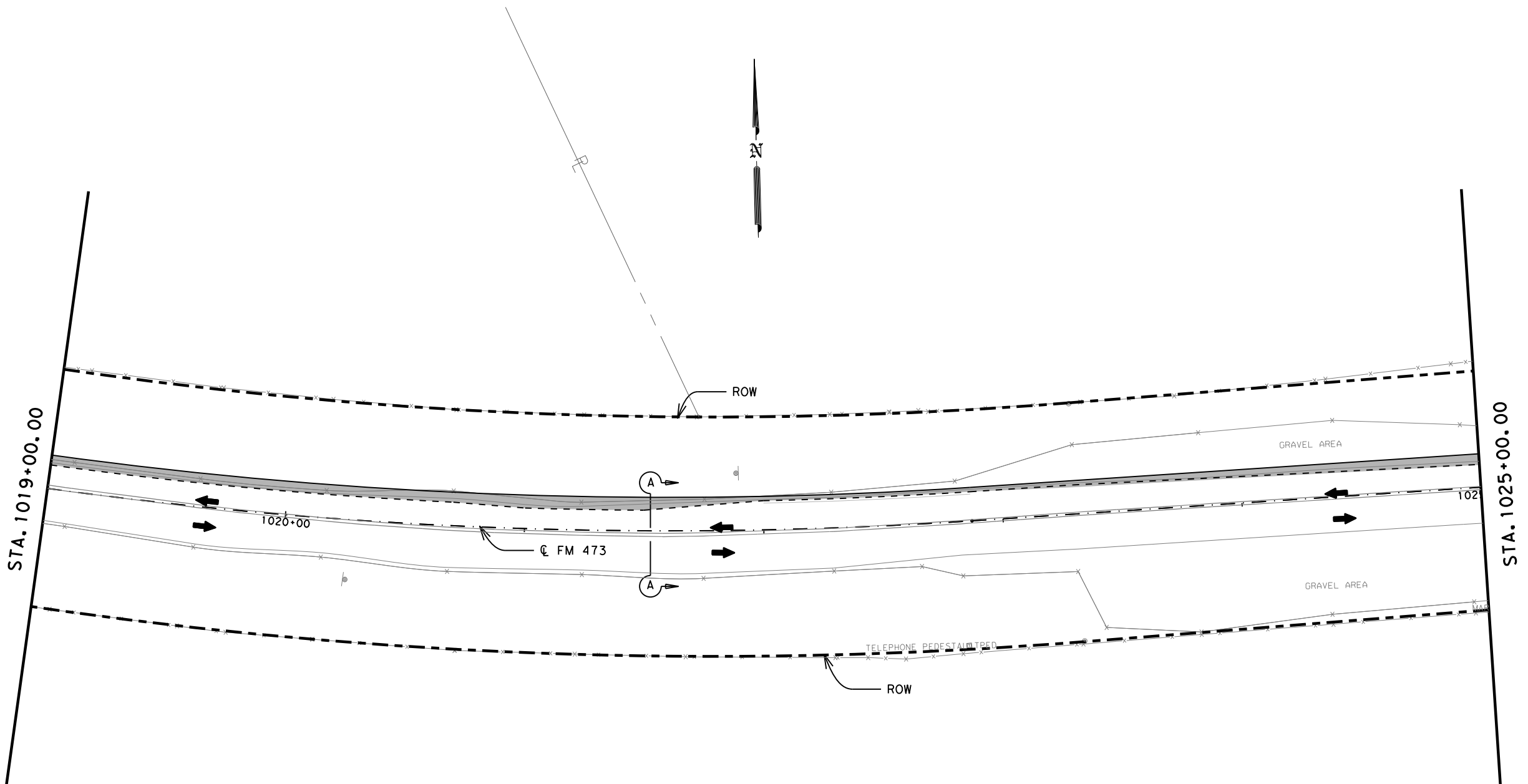


RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		99

DN: C&S: DM: C&S:



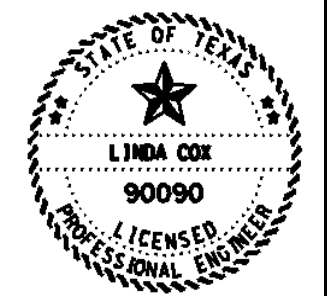
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

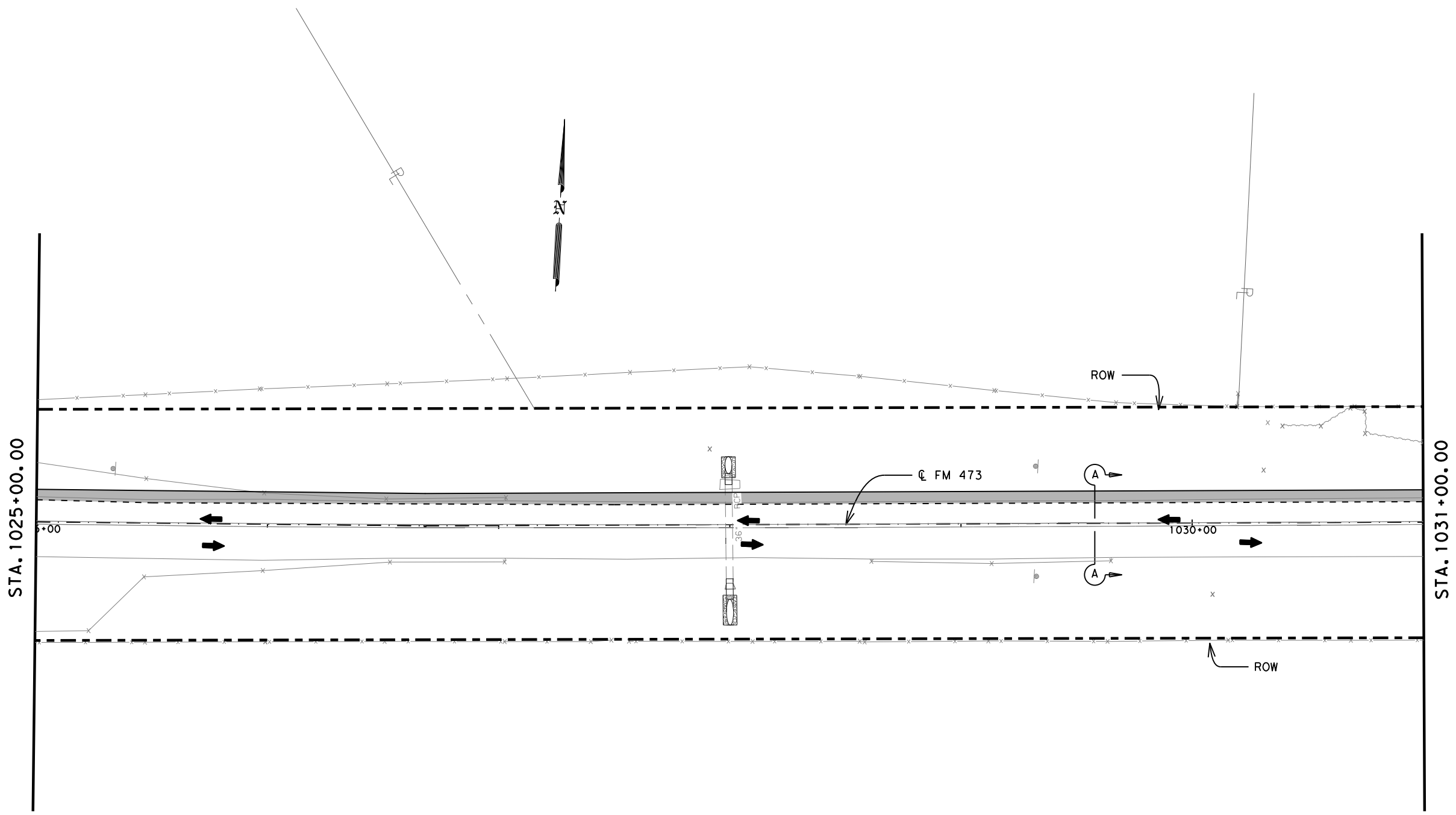


RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		100

DN: C&G: DM: C&G: CK:



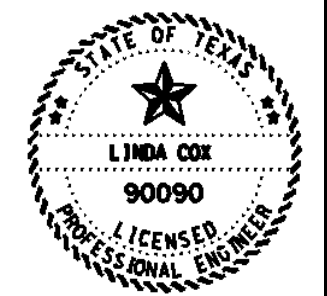
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



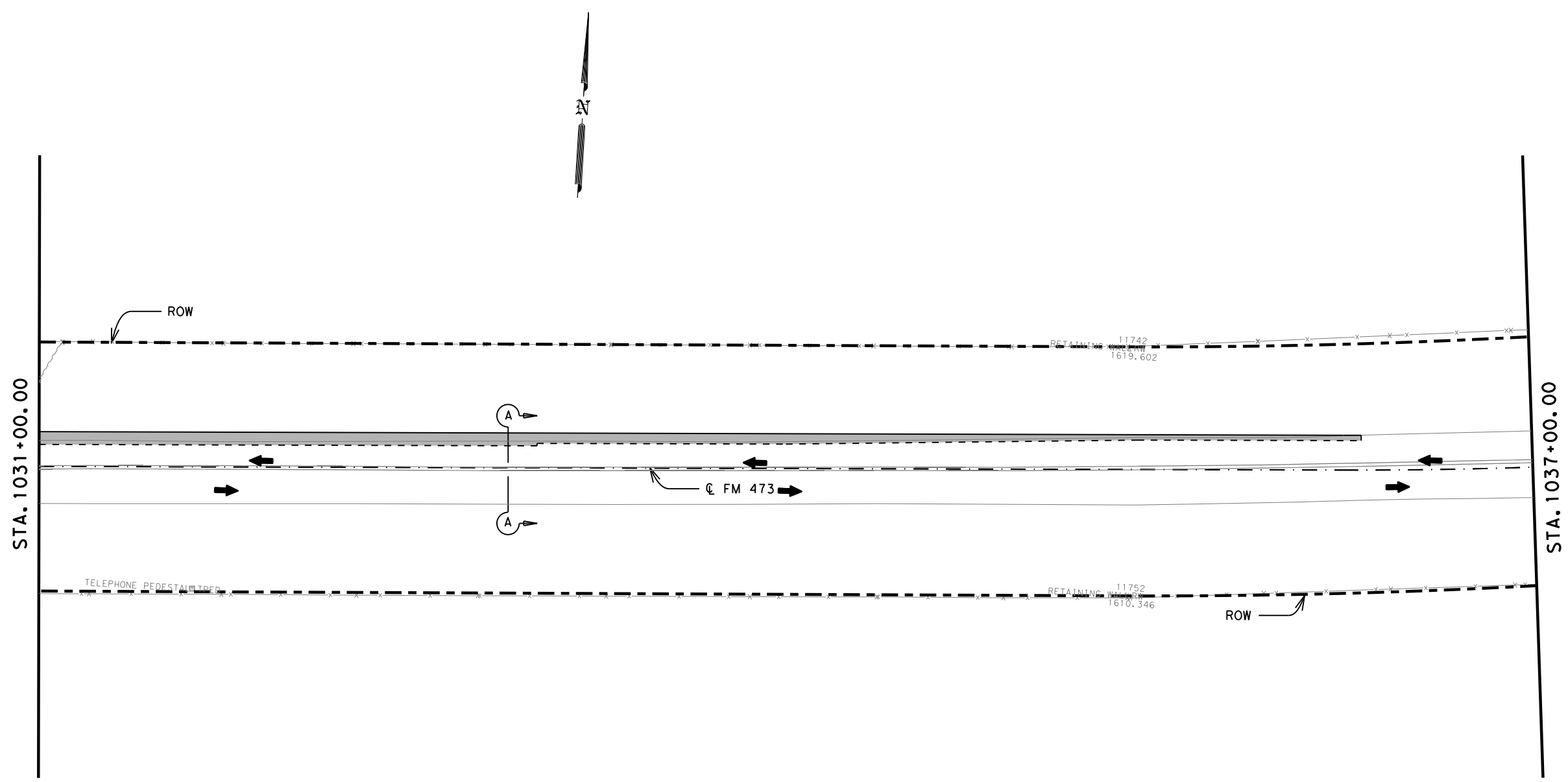
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE I

Texas Department of Transportation		SHEET 10 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		101

DN: C&S: DM: C&S:



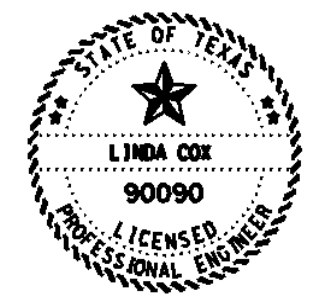
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

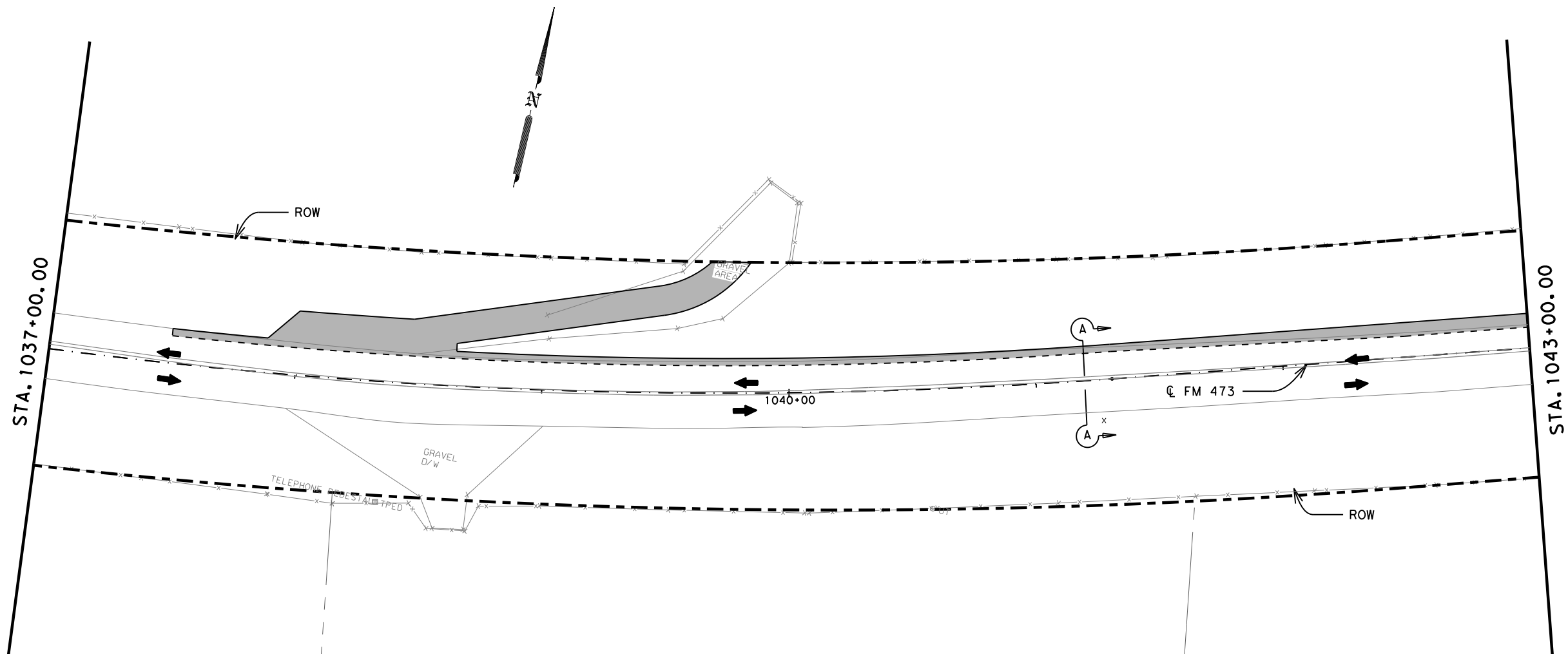


RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		102

DN: C&S: DM: C&S:

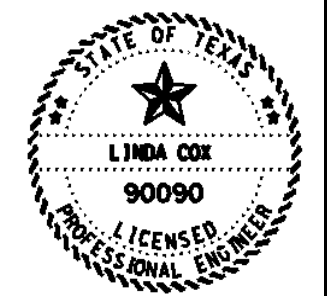


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



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04/29/2021



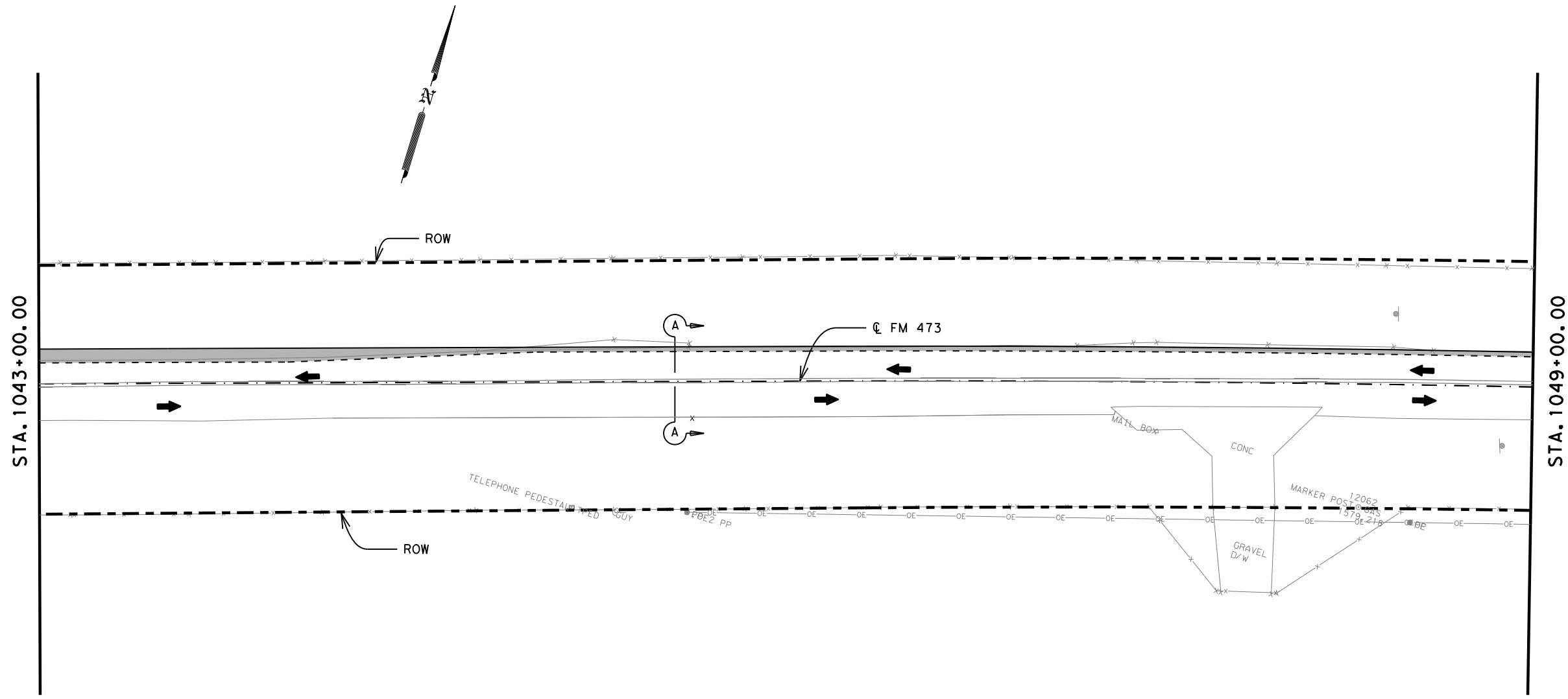
RM 473  
TCP LAYOUTS  
PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		103

DATE: 4/27/2021 8:36:00 AM  
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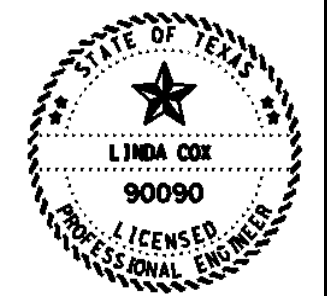


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**LEGEND**  
 TRAFFIC DIRECTION/LOCATION  
 CONSTRUCTION AREA



*Linda Cox, P.E.*  
04/29/2021



RM 473  
TCP LAYOUTS  
PHASE I

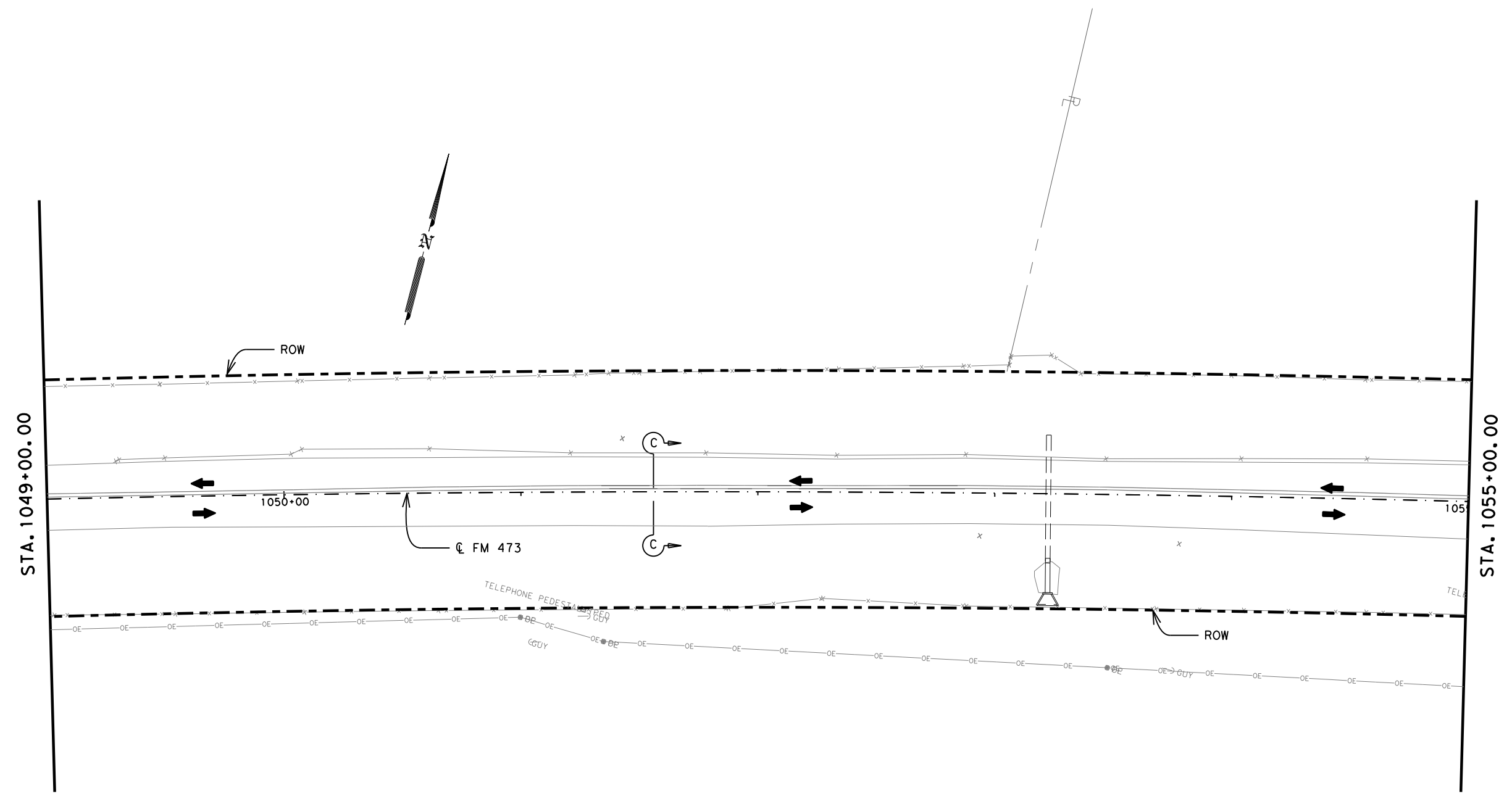


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		104

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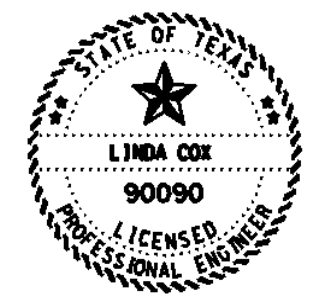


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



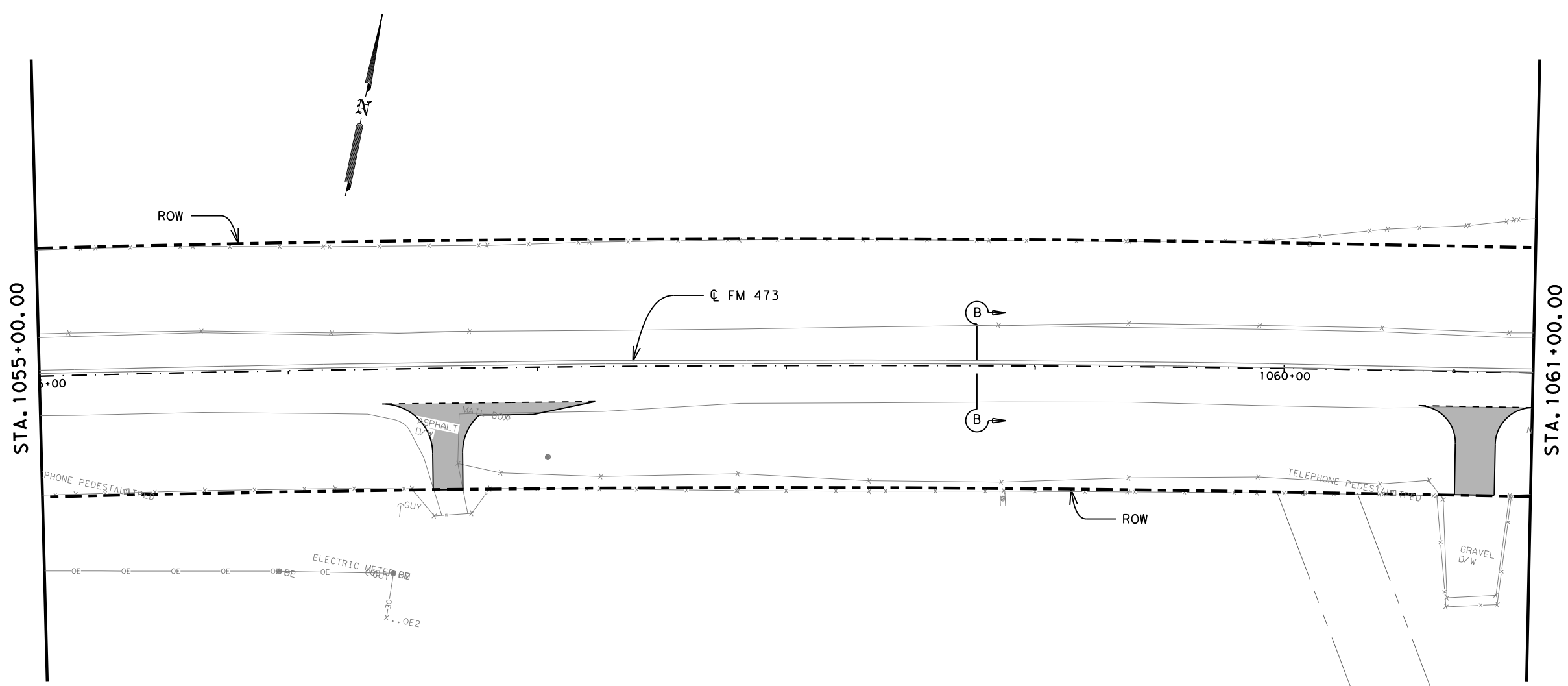
RM 473  
 TCP LAYOUTS  
 PHASE I

Texas Department of Transportation		SHEET 14 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		105



DN: CK: DM: CK: CK:

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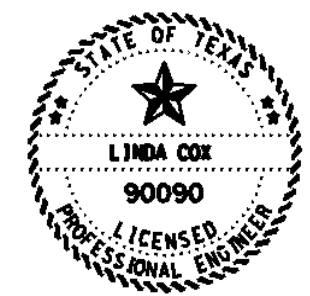


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



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 04/29/2021



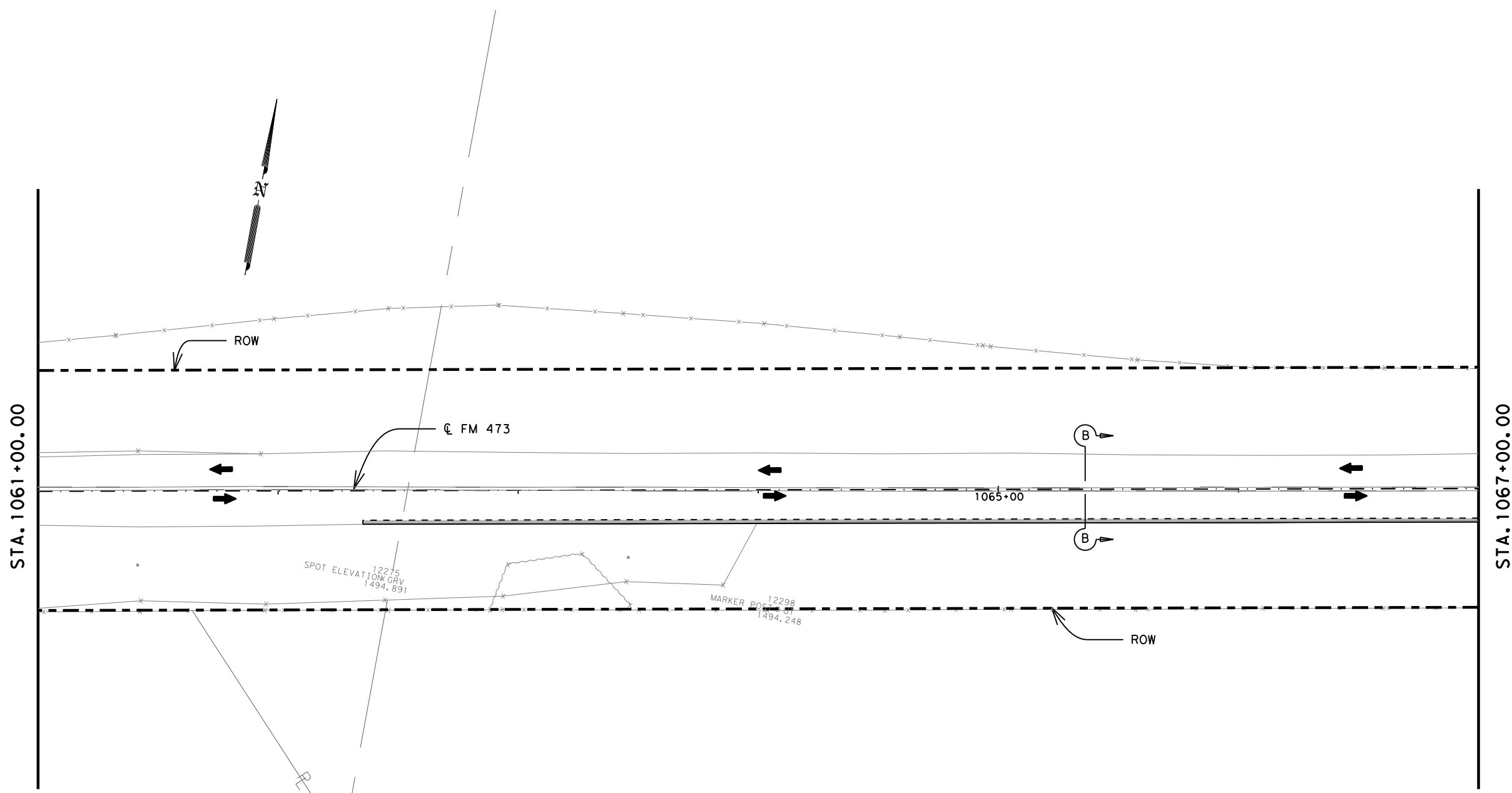
RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	106

DN: C&S: DM: C&S: CK:

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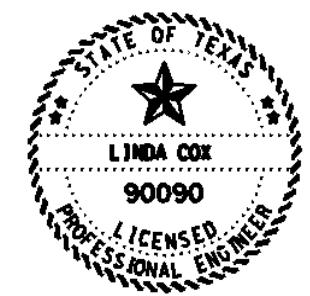


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



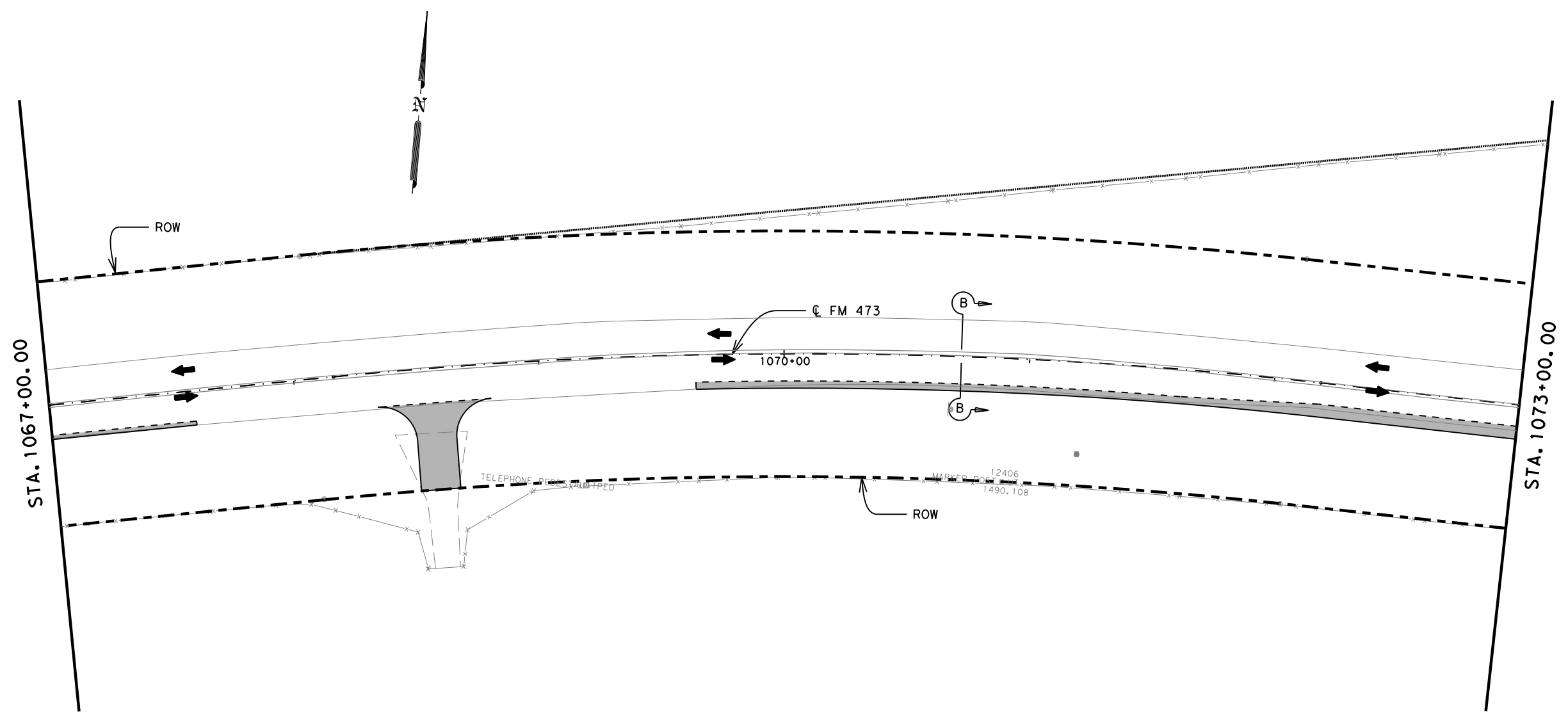
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE I

Texas Department of Transportation		SHEET 16 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		107

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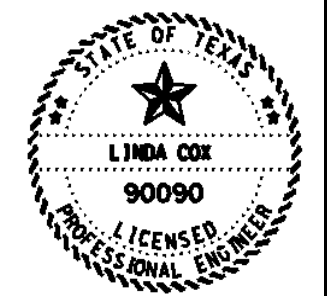


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 TRAFFIC DIRECTION/LOCATION  
 CONSTRUCTION AREA



*Linda Cox, P.E.*  
04/29/2021



RM 473  
TCP LAYOUTS  
PHASE I

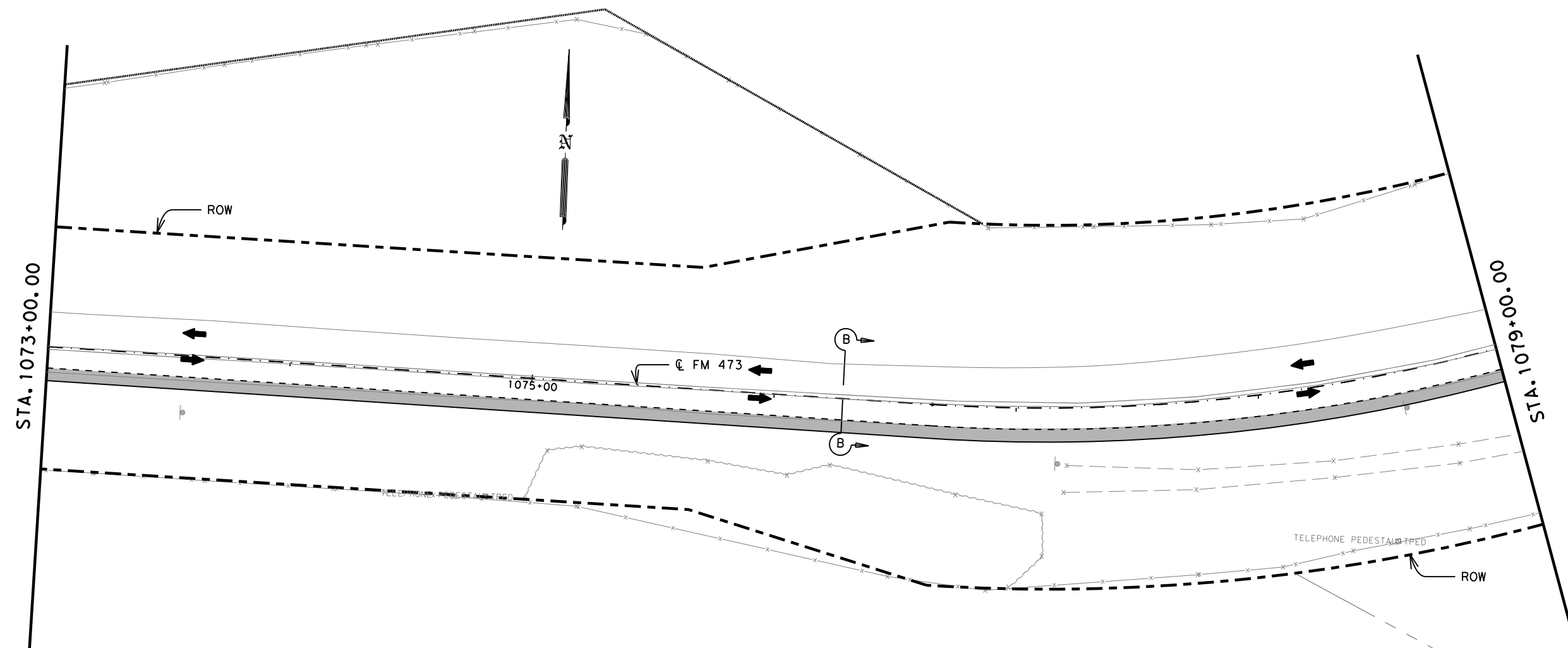


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		108

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DATE: 4/27/2021 8:37:47 AM  
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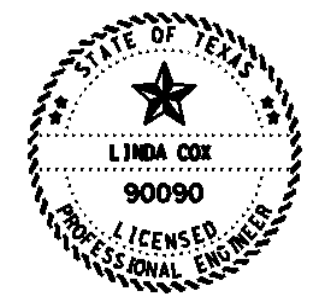


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



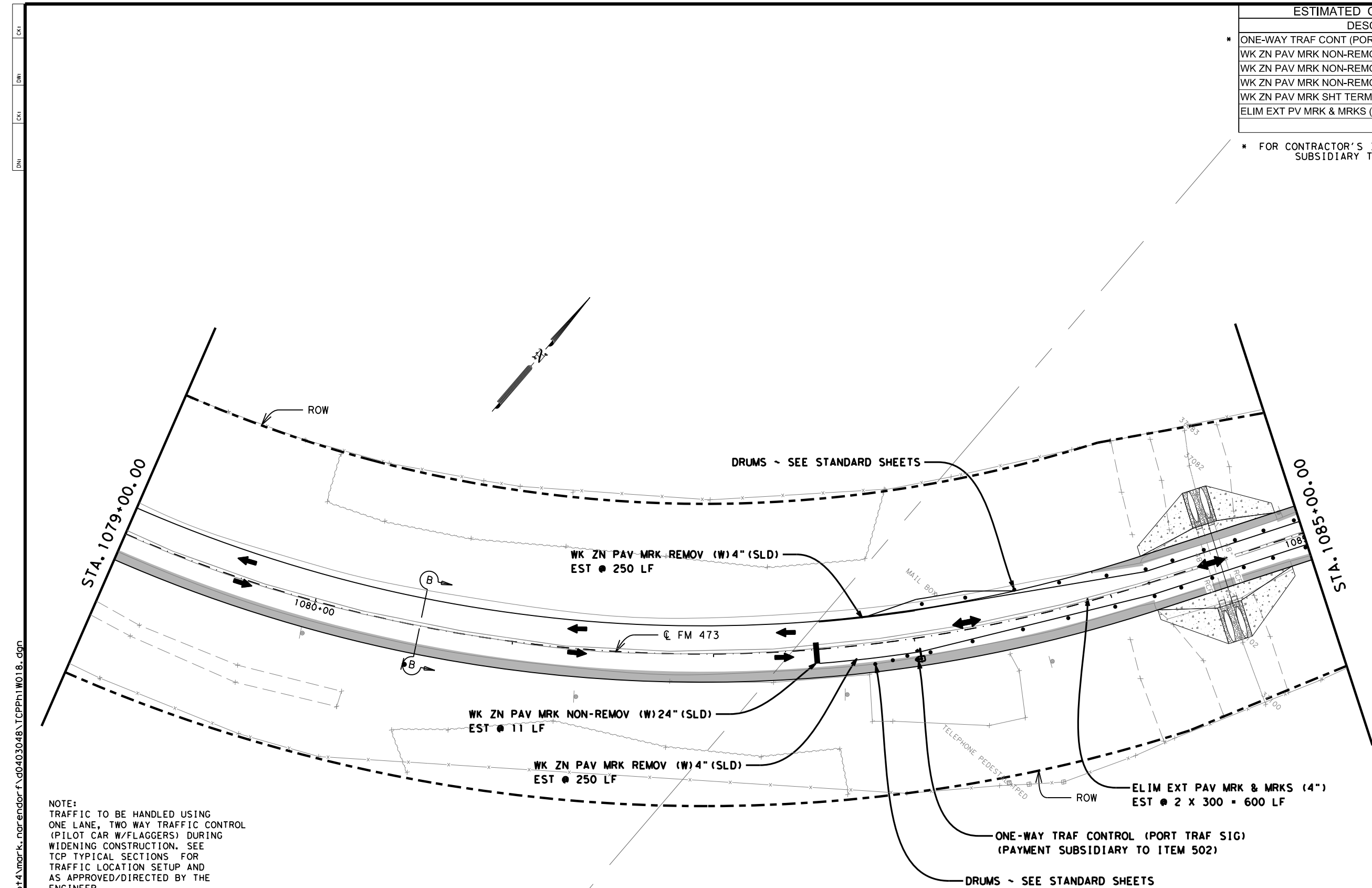
RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		109

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
* ONE-WAY TRAF CONT (PORT TRAF SIG)	1	MO
WK ZN PAV MRK NON-REMOV (W) 4" (SLD)	1200	LF
WK ZN PAV MRK NON-REMOV (W) 24" (SLD)	11	LF
WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	700	LF
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	35	EA
ELIM EXT PV MRK & MRKS (4")	1200	LF

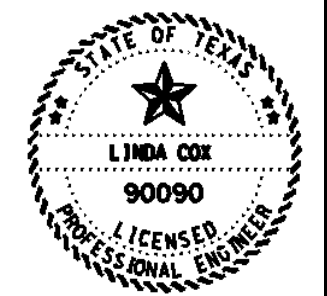
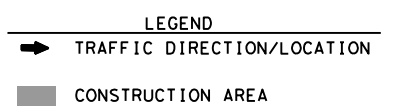
\* FOR CONTRACTOR'S INFORMATION ONLY.  
SUBSIDIARY TO ITEM 502.



NOTE:  
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*Linda Cox, P.E.*  
04/29/2021



RM 473  
TCP LAYOUTS  
PHASE I

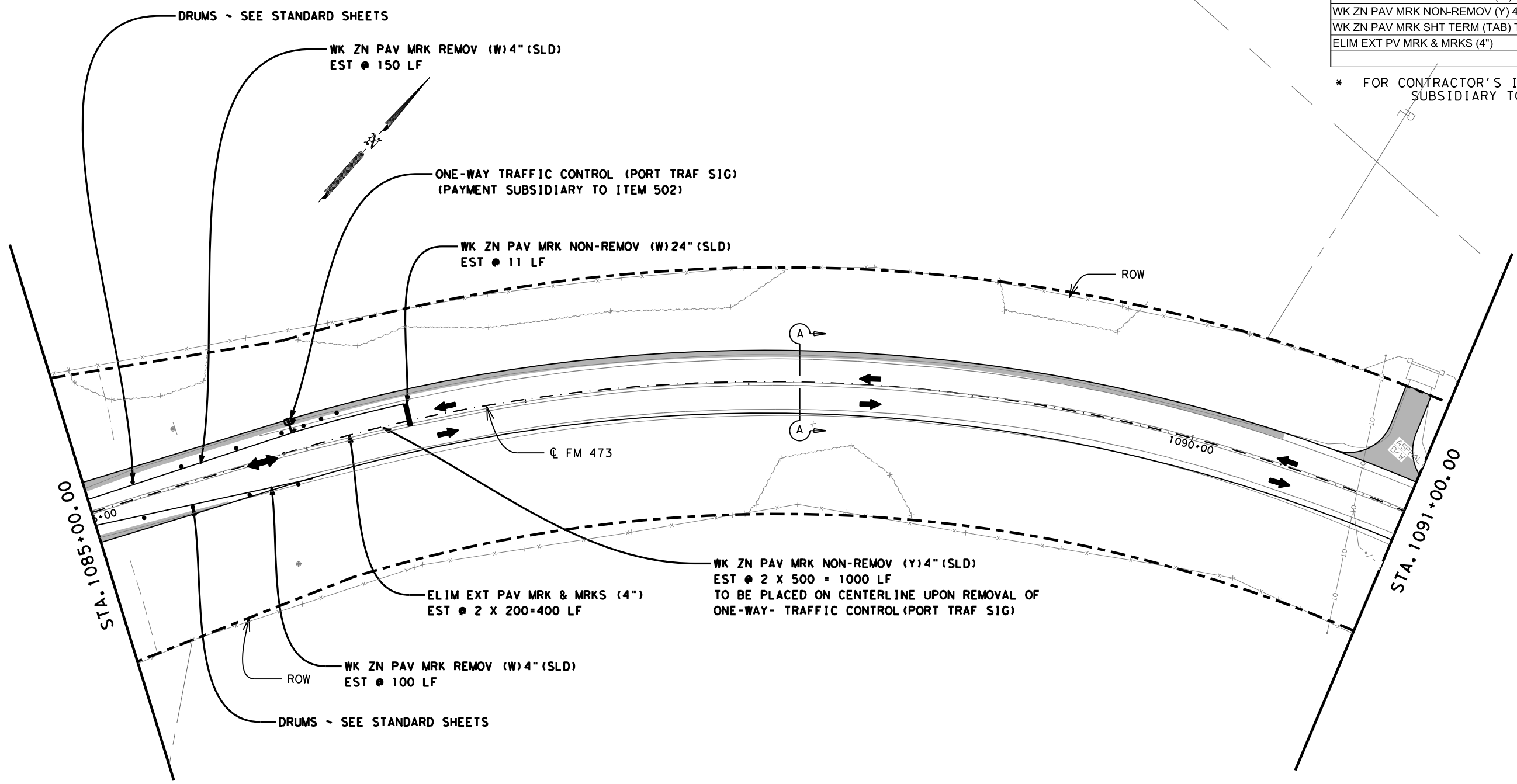
Texas Department of Transportation		SHEET 19 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		110

DATE: 4/27/2021 8:38:05 AM  
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CHK: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 CKS: \_\_\_\_\_  
 DWS: \_\_\_\_\_

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
* ONE-WAY TRAF CONT (PORT TRAF SIG)	1	MO
WK ZN PAV MRK NON-REMOV (W) 4" (SLD)	1200	LF
WK ZN PAV MRK NON-REMOV (W) 24" (SLD)	11	LF
WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	904	LF
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	46	EA
ELIM EXT PV MRK & MRKS (4")	2235	LF

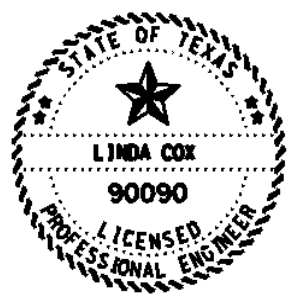
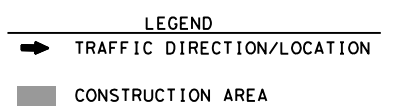
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 04/29/2021



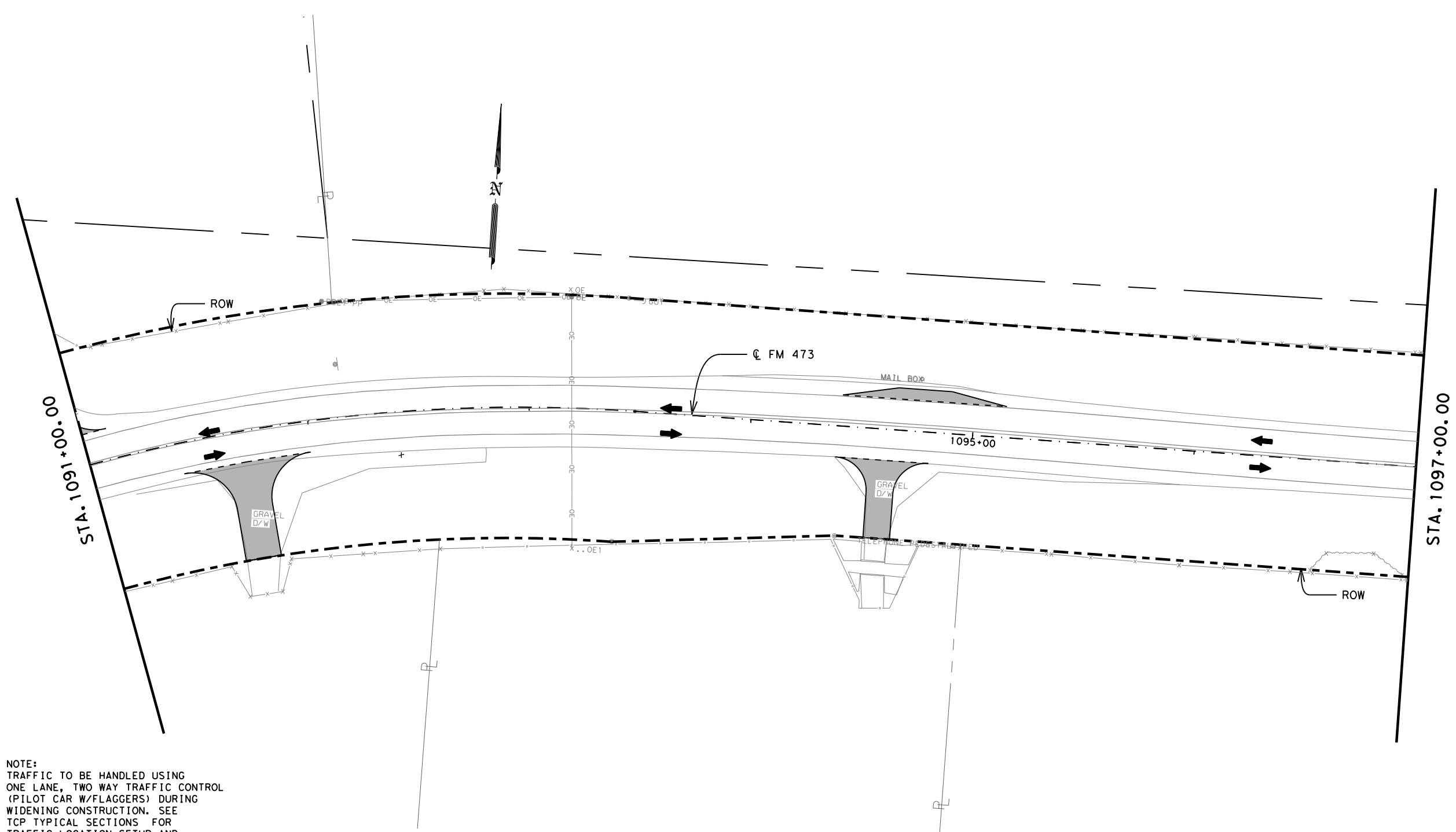
RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	111

DATE: 4/27/2021 8:38:23 AM  
 FILE: c:\t\dot\pw\_online\txdot4\work\mork\_norendor\0403048\TCPPh1\W019.dgn

DN: C&S: DM: C&S: C&S:



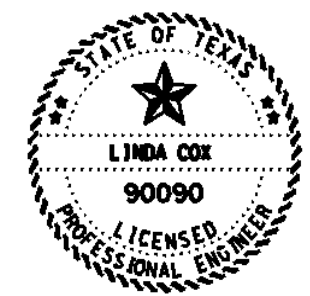
DATE: 4/27/2021 8:38:40 AM  
 FILE: c:\ttdot\p\_w\_online\ttdot4\work\mork\_norendor\0403048\tcp\p1\w020.dgn

NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



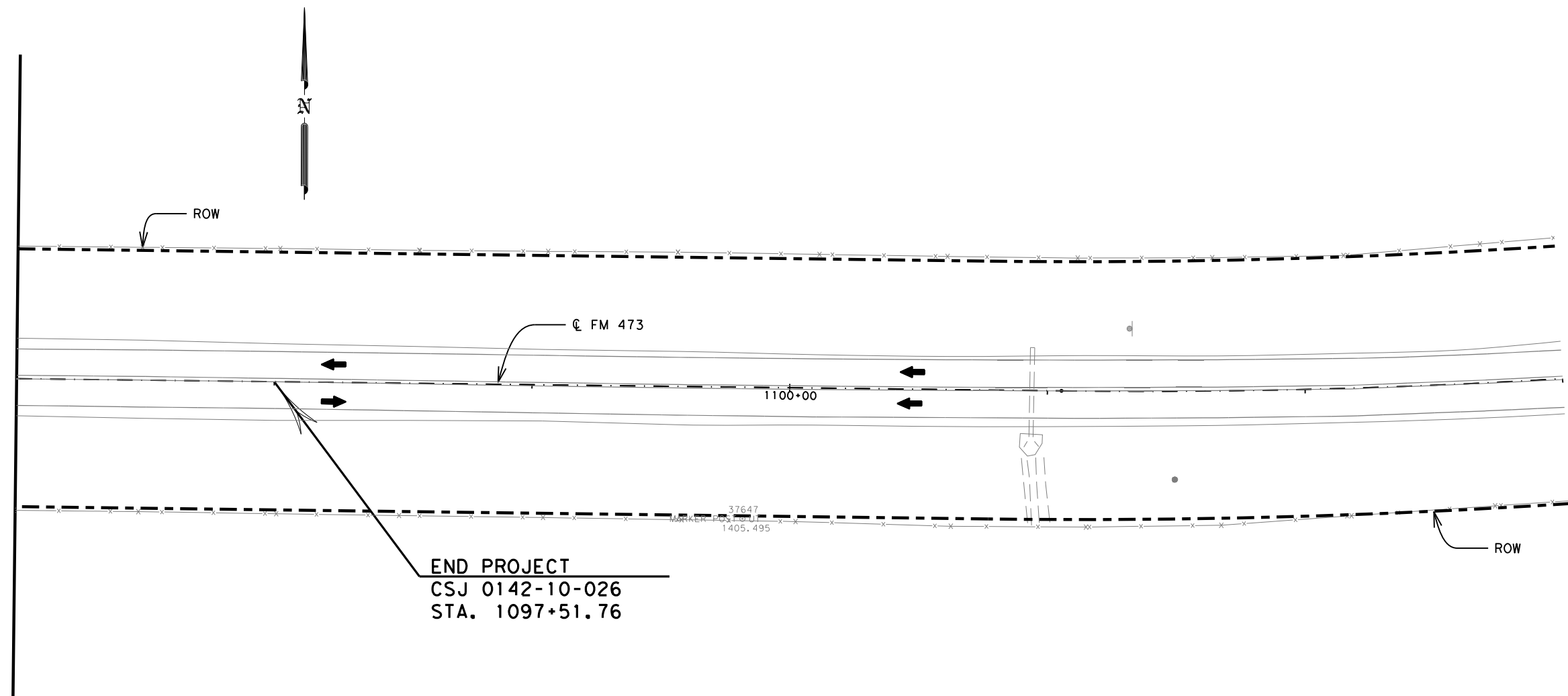
RM 473  
 TCP LAYOUTS  
 PHASE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		112

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
TMA (STATIONARY)	26	DAY
TMA (MOBILE OPERATION)	2	DAY

DWG:   
 CHK:   
 DWF:   
 CDS:   
 DWS:

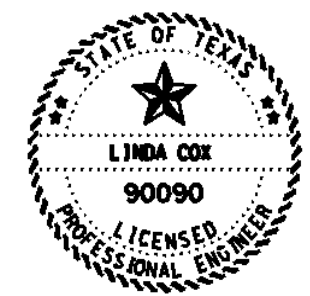
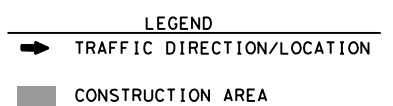


**END PROJECT**  
 CSJ 0142-10-026  
 STA. 1097+51.76

**NOTE:**  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE I

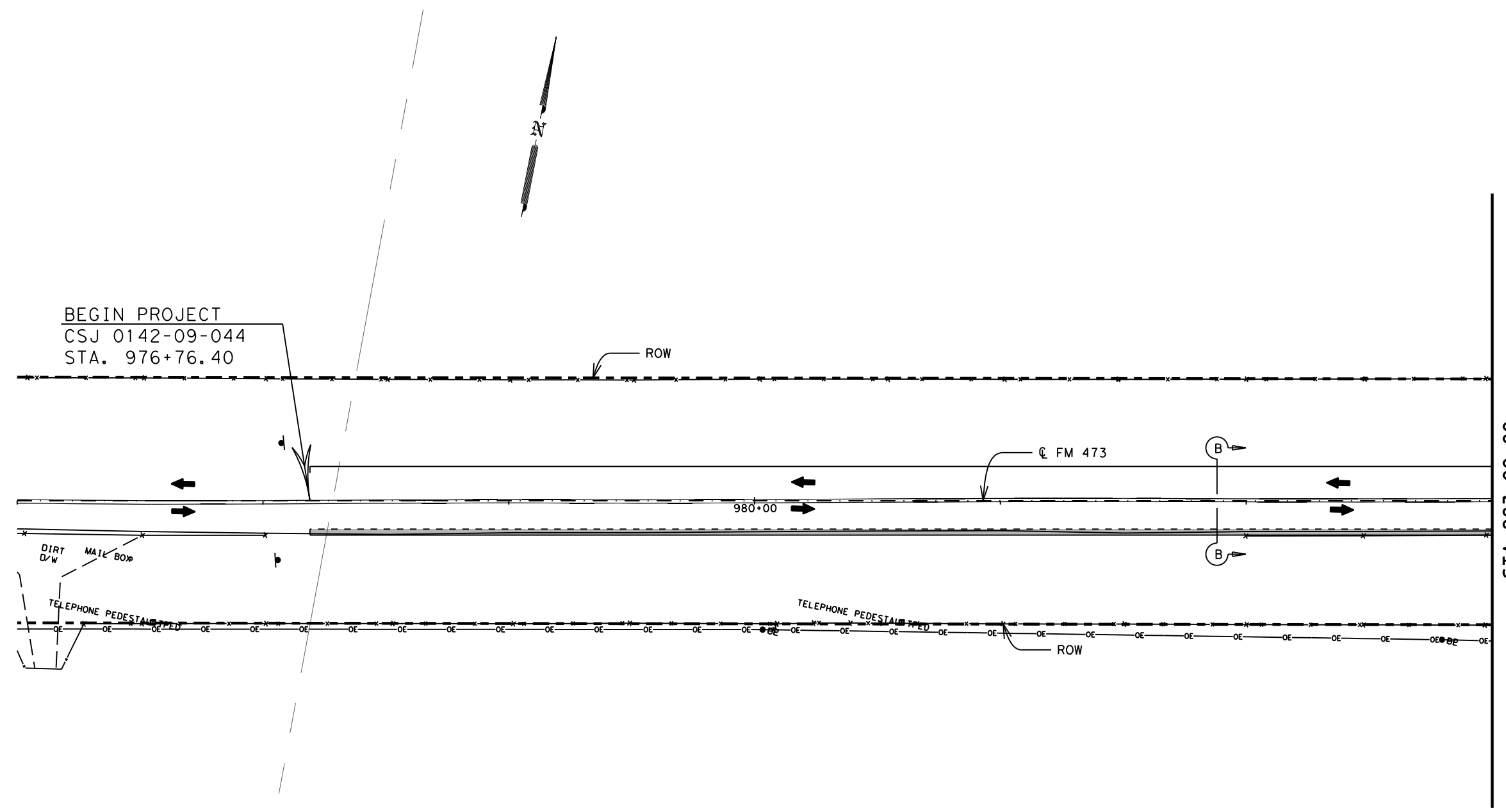


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	113

DATE: 4/27/2021 8:39:00 AM  
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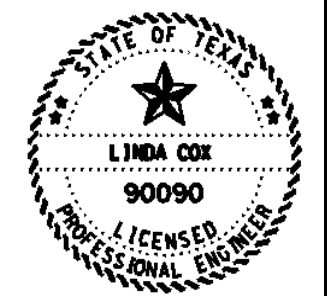
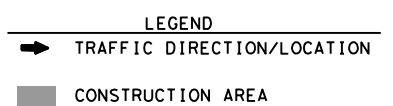
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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*Linda Cox, P.E.*  
 04/29/2021

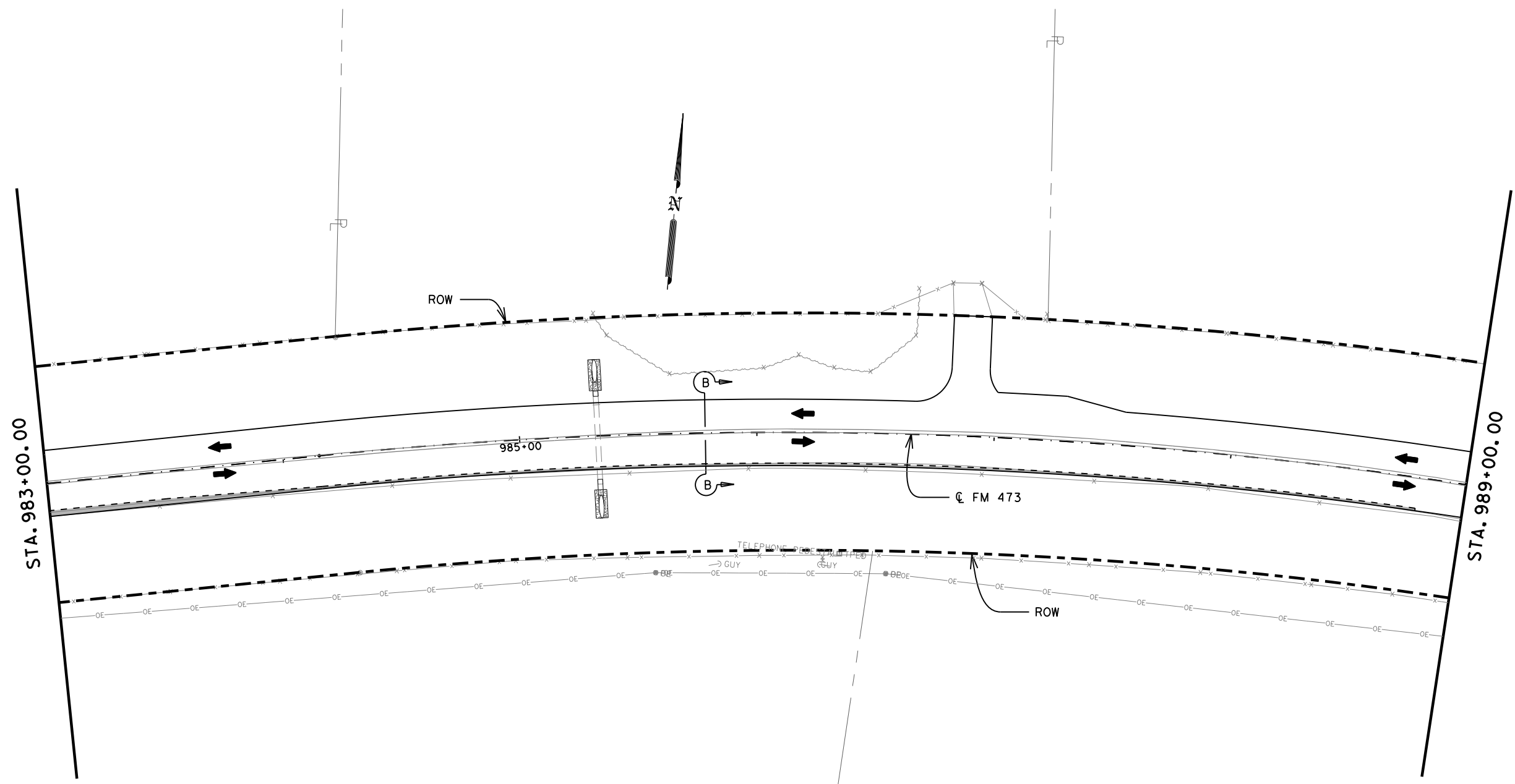


RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	114

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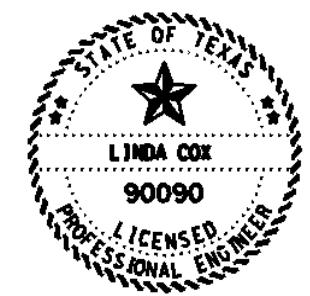
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

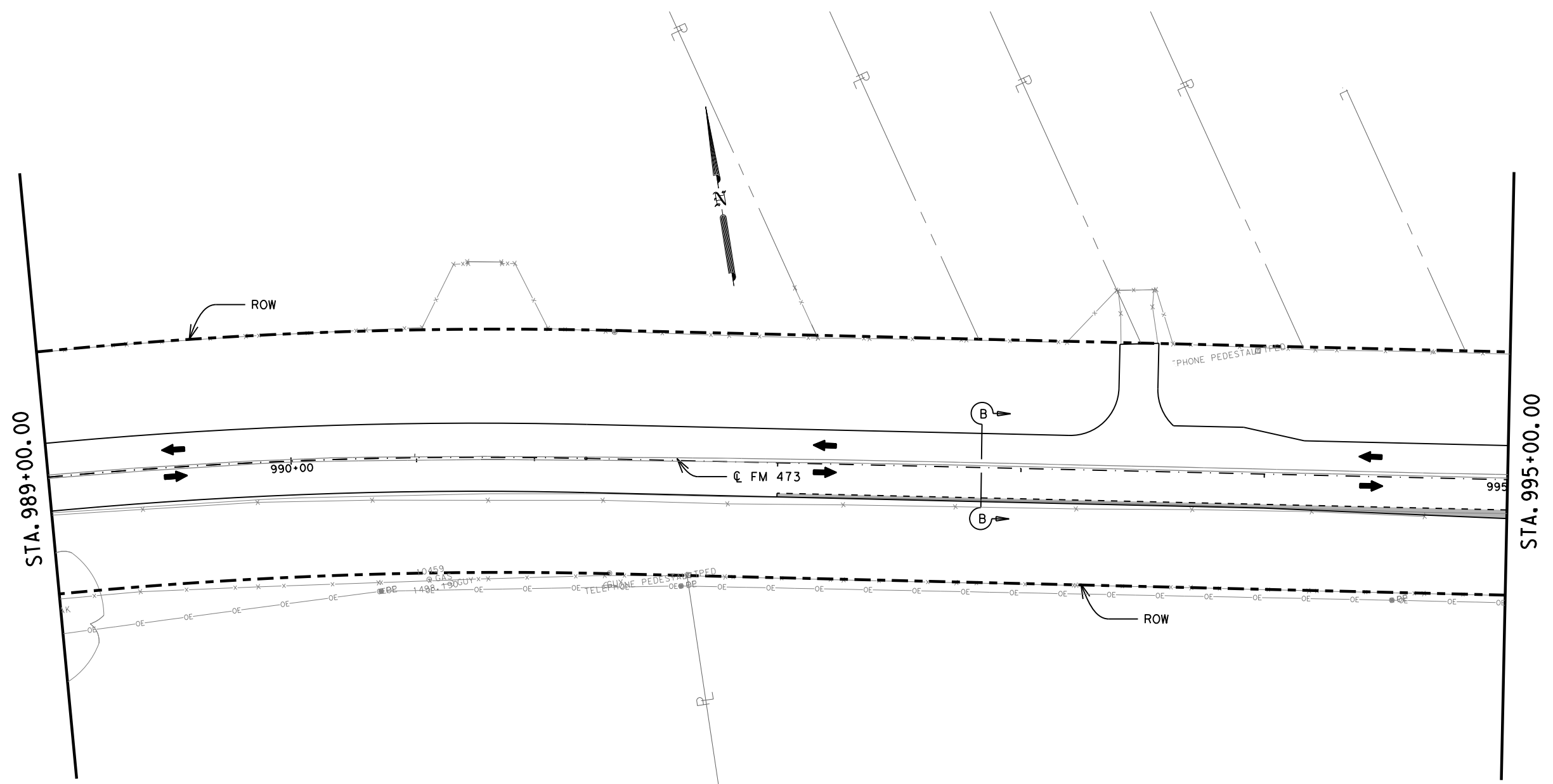


RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		115

DN: CK: DM: CK:



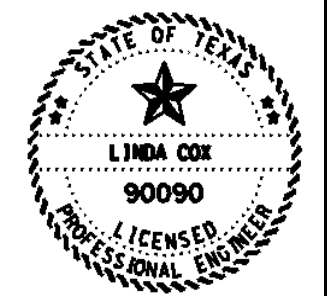
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



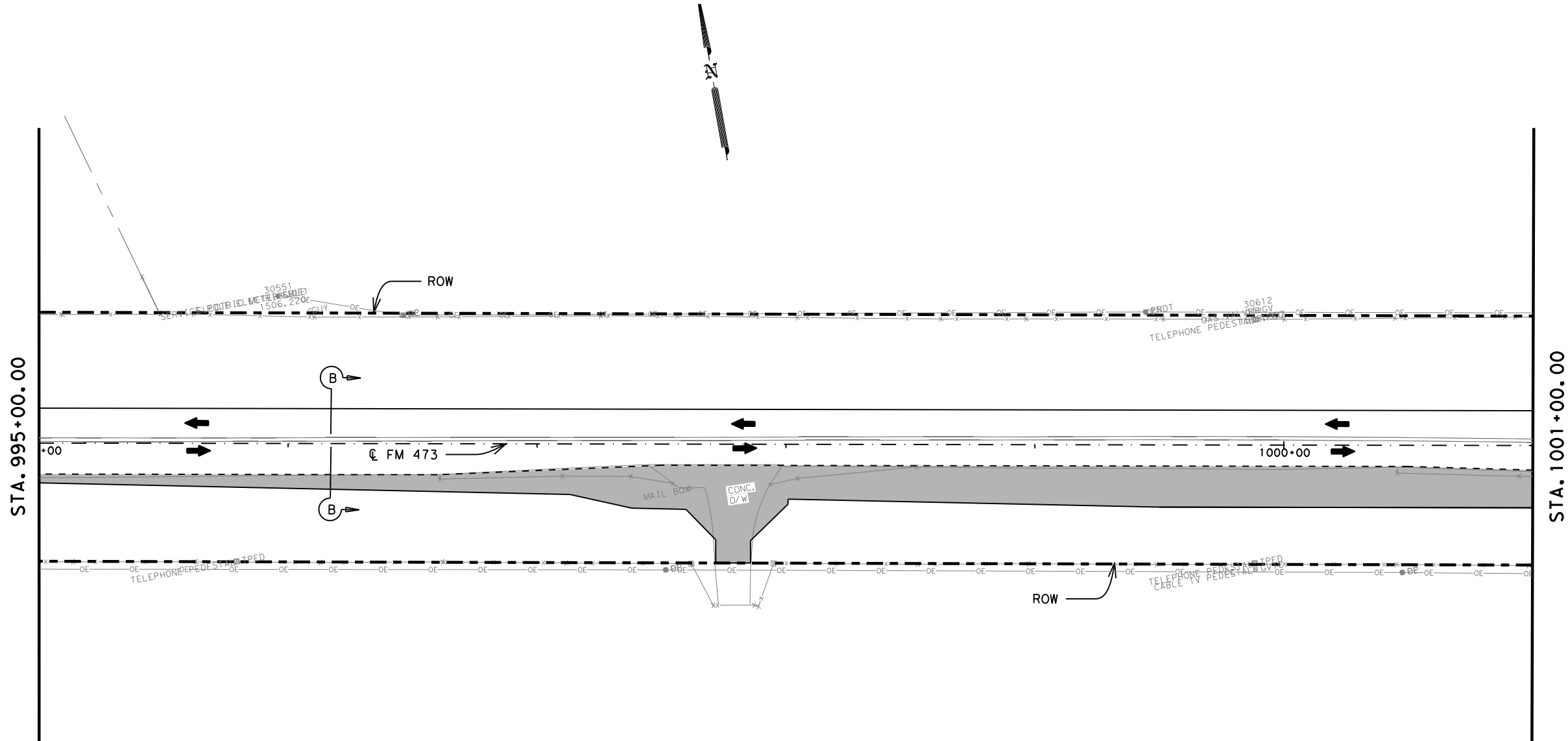
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE II

Texas Department of Transportation		SHEET 3 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		116

DN: C&S: DM: C&S: C&S:



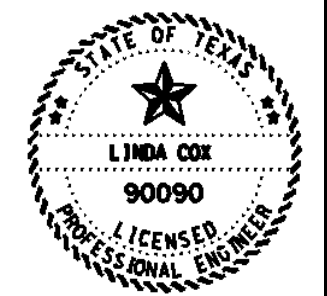
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

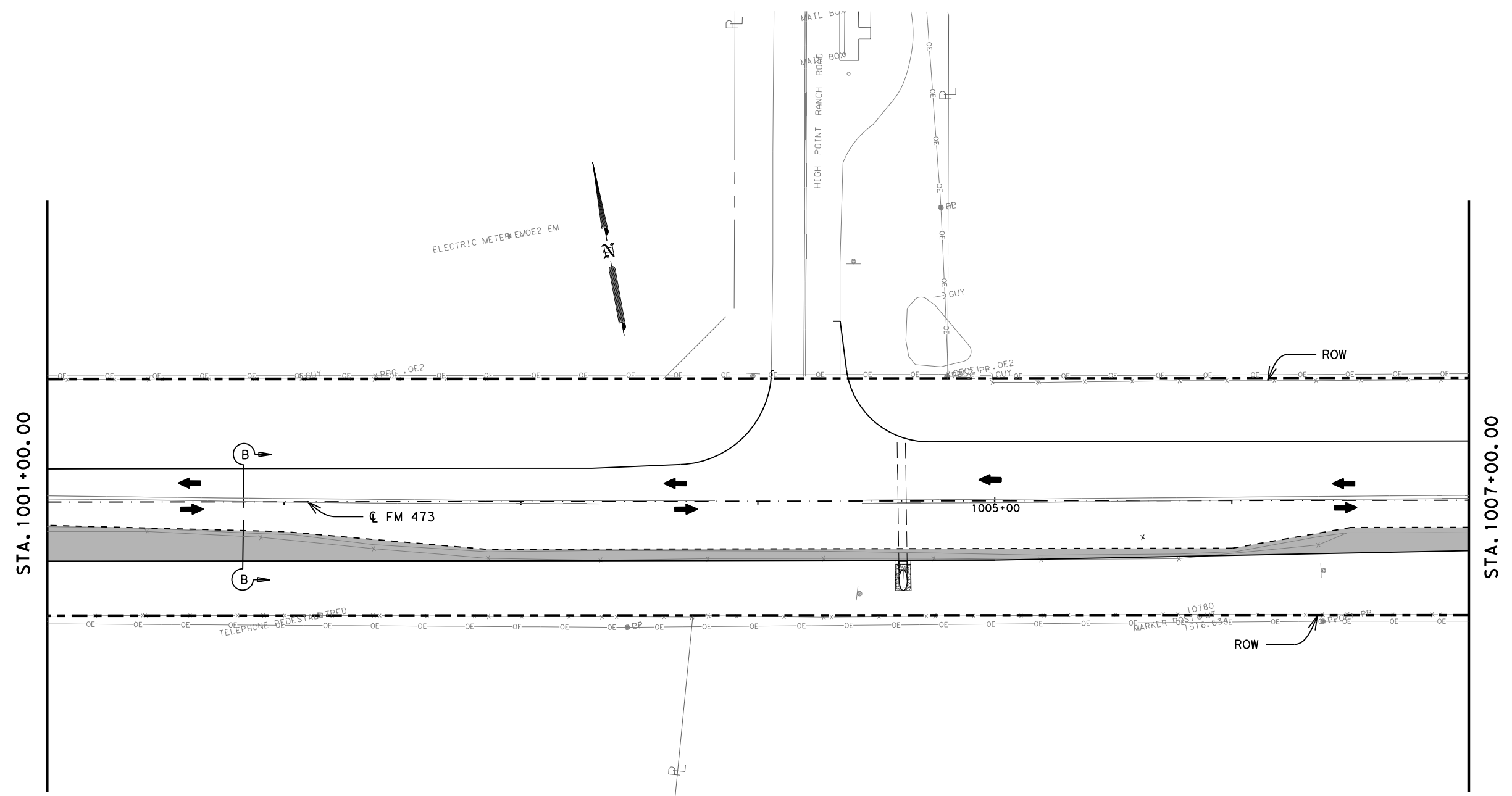


RM 473  
 TCP LAYOUTS  
 PHASE II

		SHEET 4 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		117

DN: Ck: DM: Ck: Ck:

DATE: 4/27/2021 8:40:59 AM  
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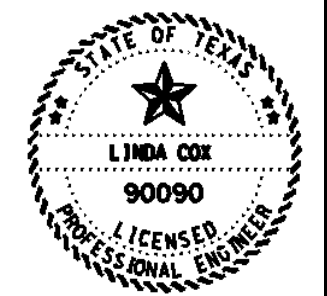


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

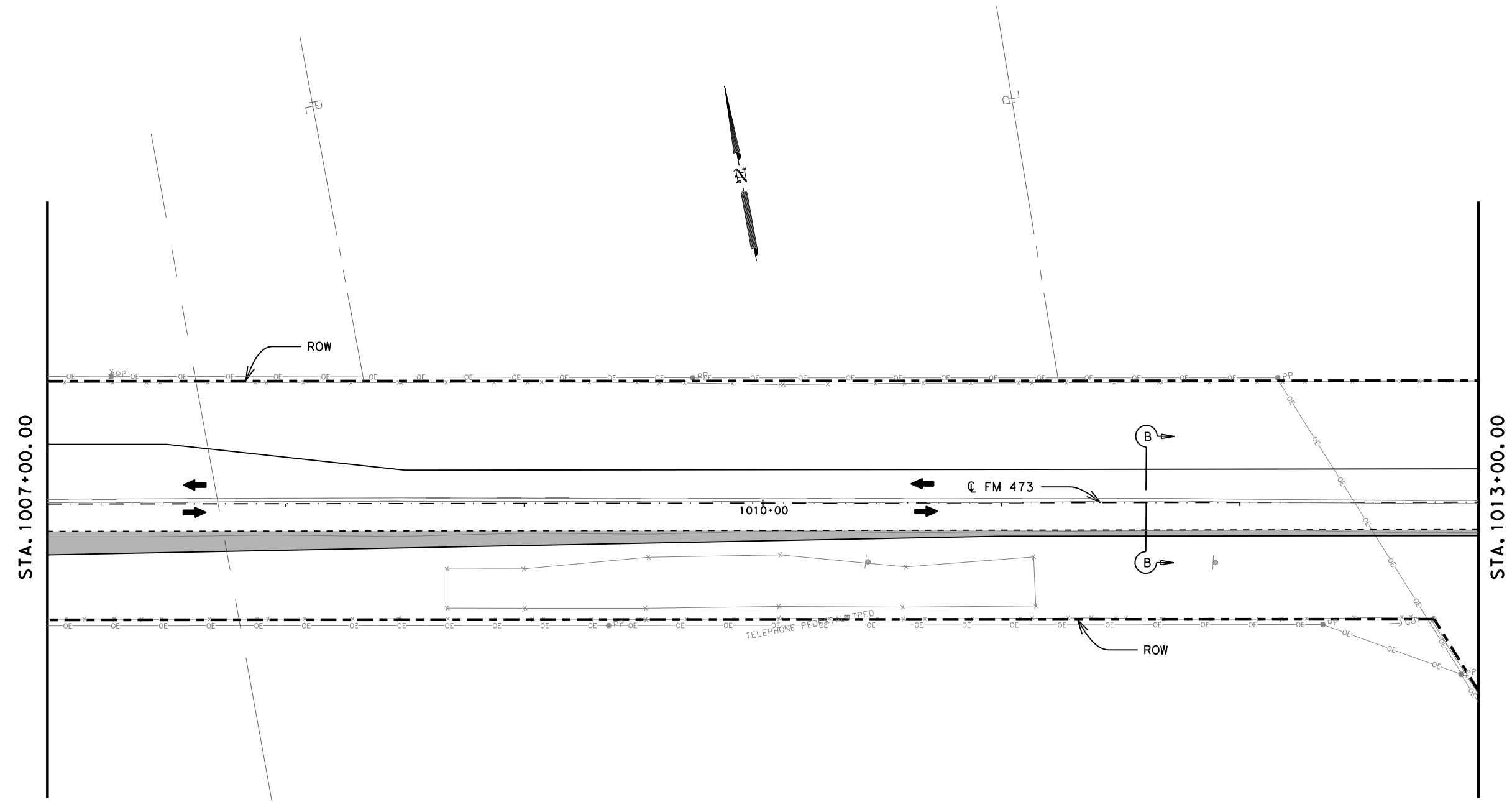


RM 473  
 TCP LAYOUTS  
 PHASE II

Texas Department of Transportation		SHEET 5 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		118

DN: C&S: DM: C&S:

DATE: 4/27/2021 8:41:18 AM  
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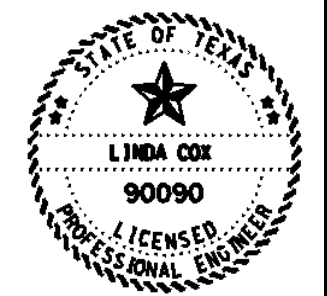


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

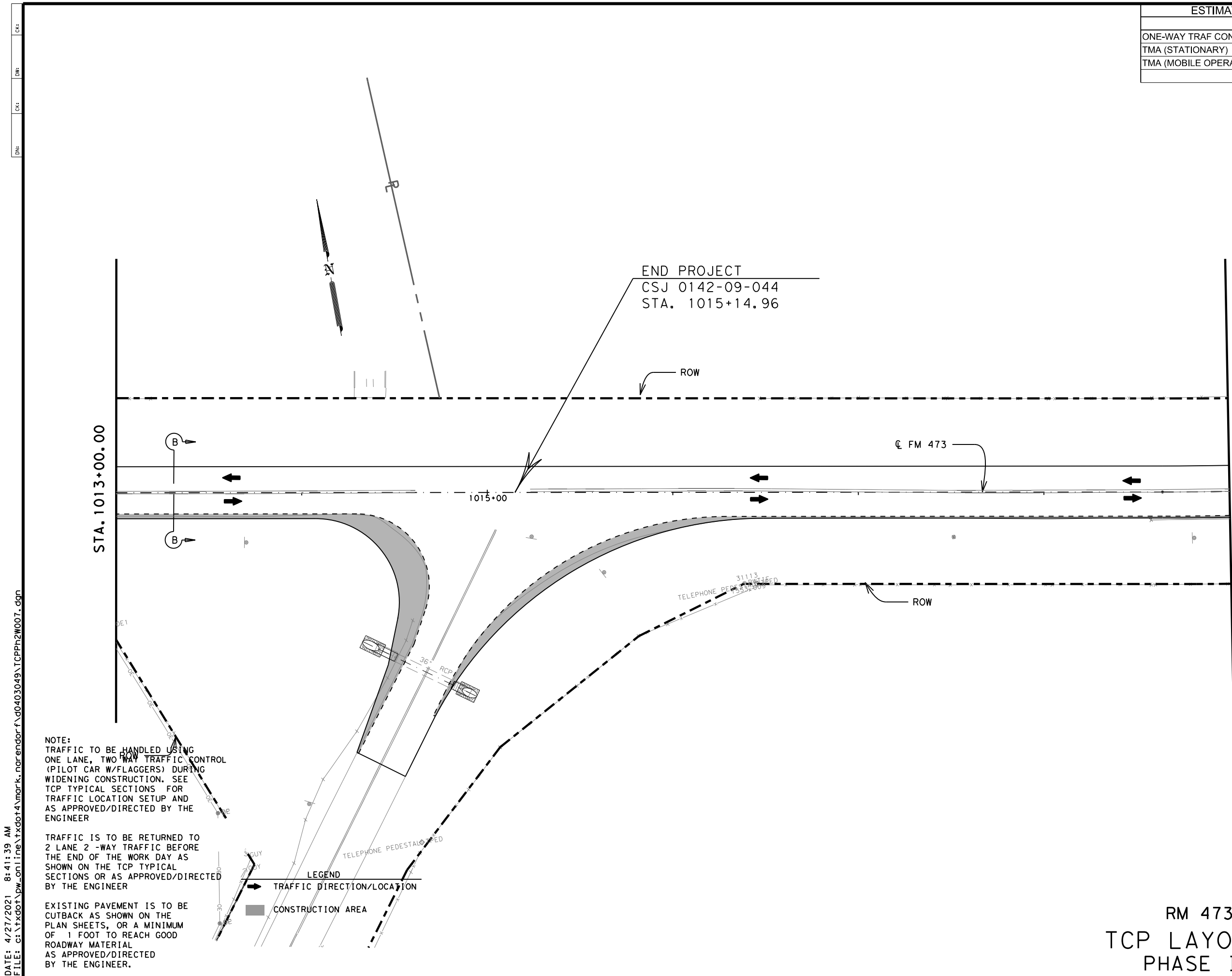


RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		119

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ONE-WAY TRAF CONT (PILOT CAR)	60	HR
TMA (STATIONARY)	7	DAY
TMA (MOBILE OPERATION)	4	DAY



DATE: 4/27/2021 8:41:39 AM  
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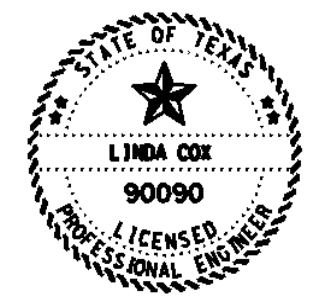
NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA

END PROJECT  
 CSJ 0142-09-044  
 STA. 1015+14.96



*Linda Cox, P.E.*  
 04/29/2021



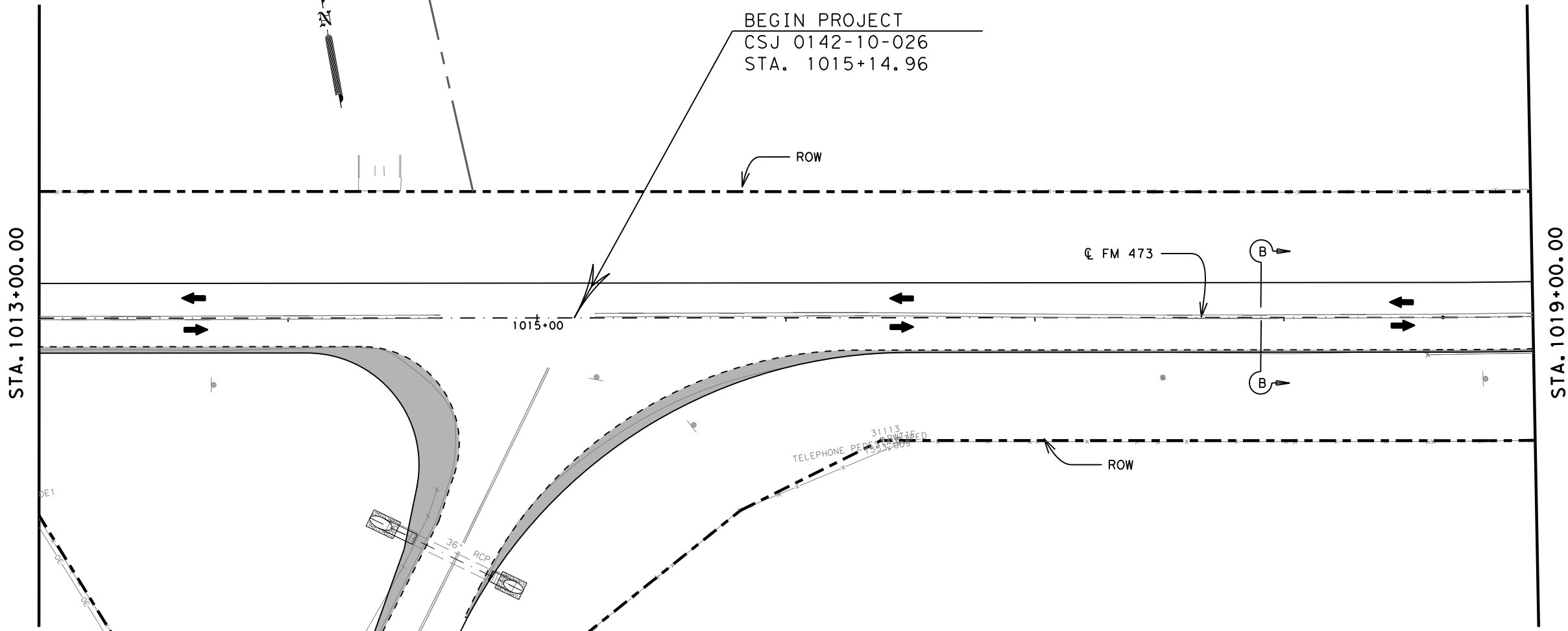
RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	120

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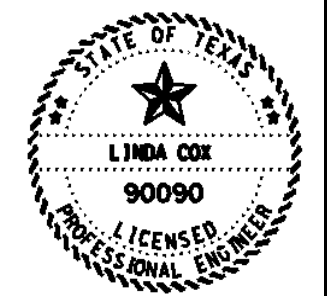
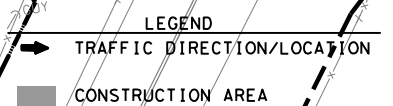
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NOTE:  
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*Linda Cox, P.E.*  
 04/29/2021



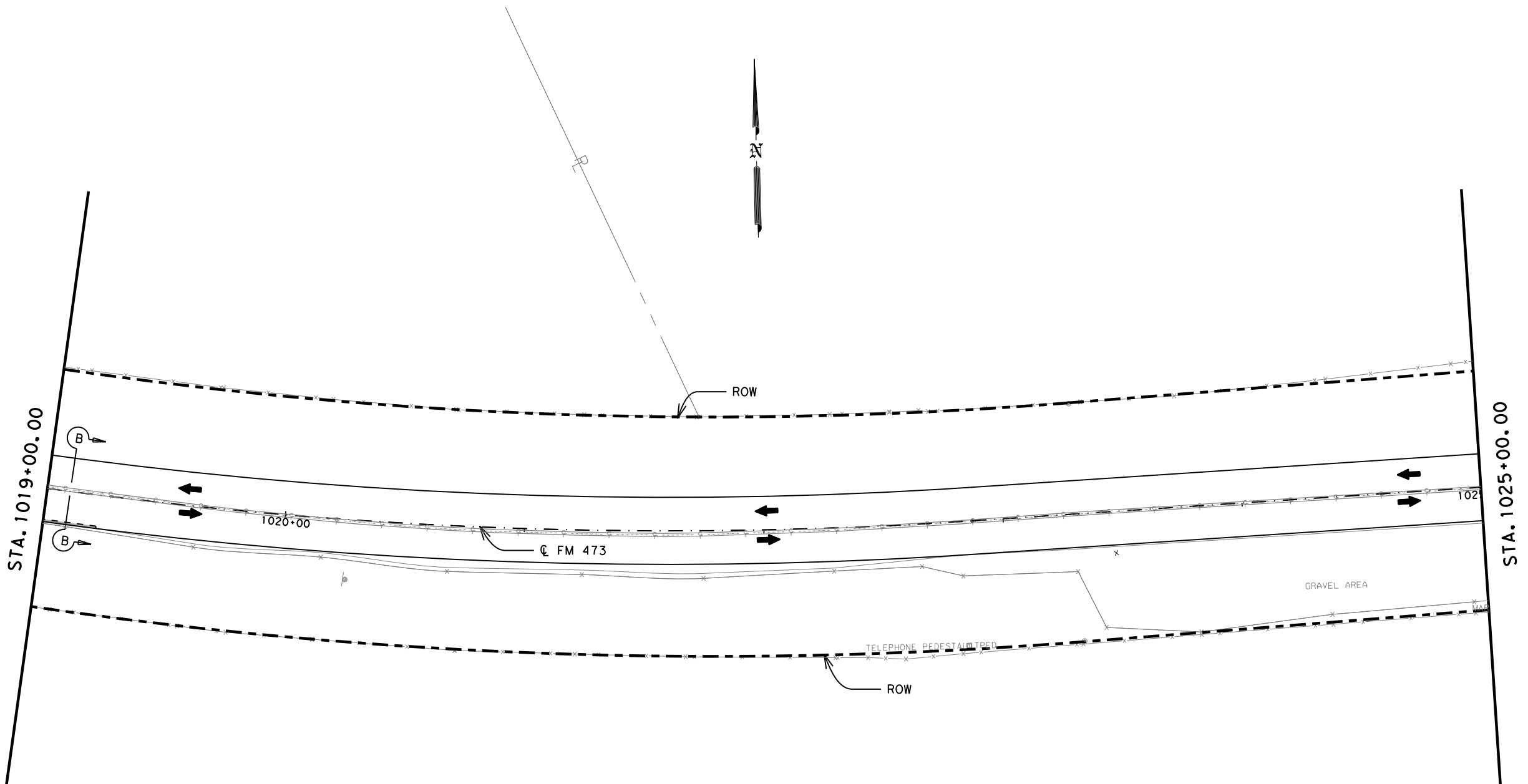
RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		121



DN: Ck: DM: Ck: DN:



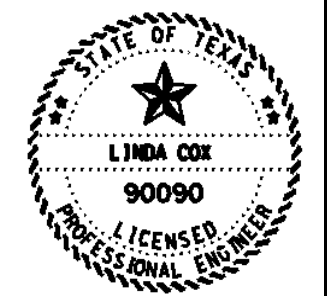
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



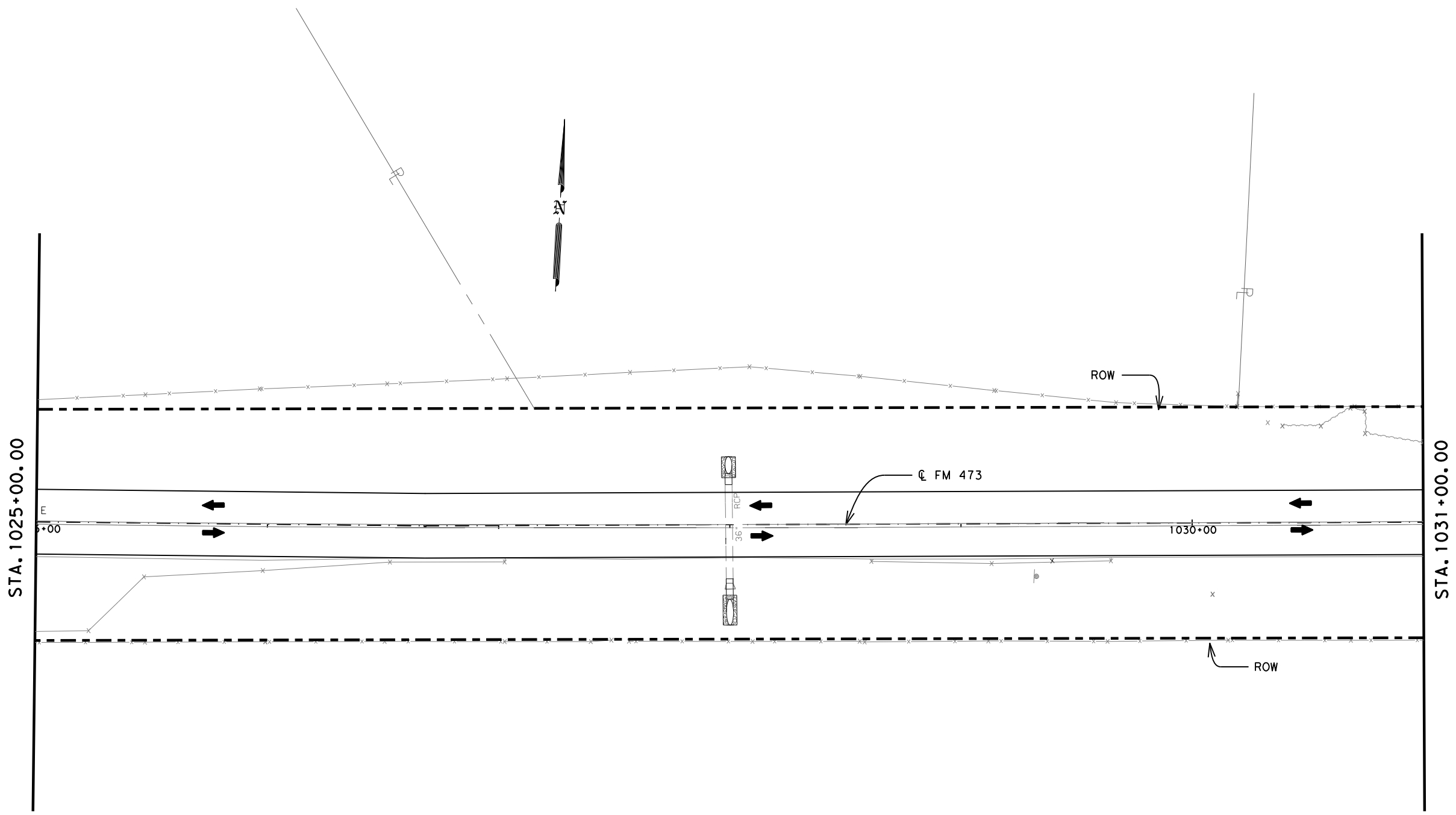
RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		122

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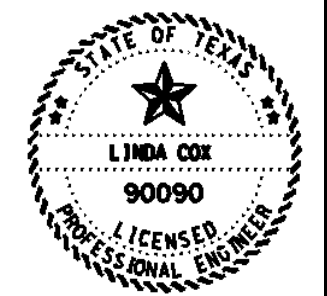


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



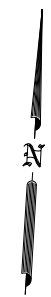
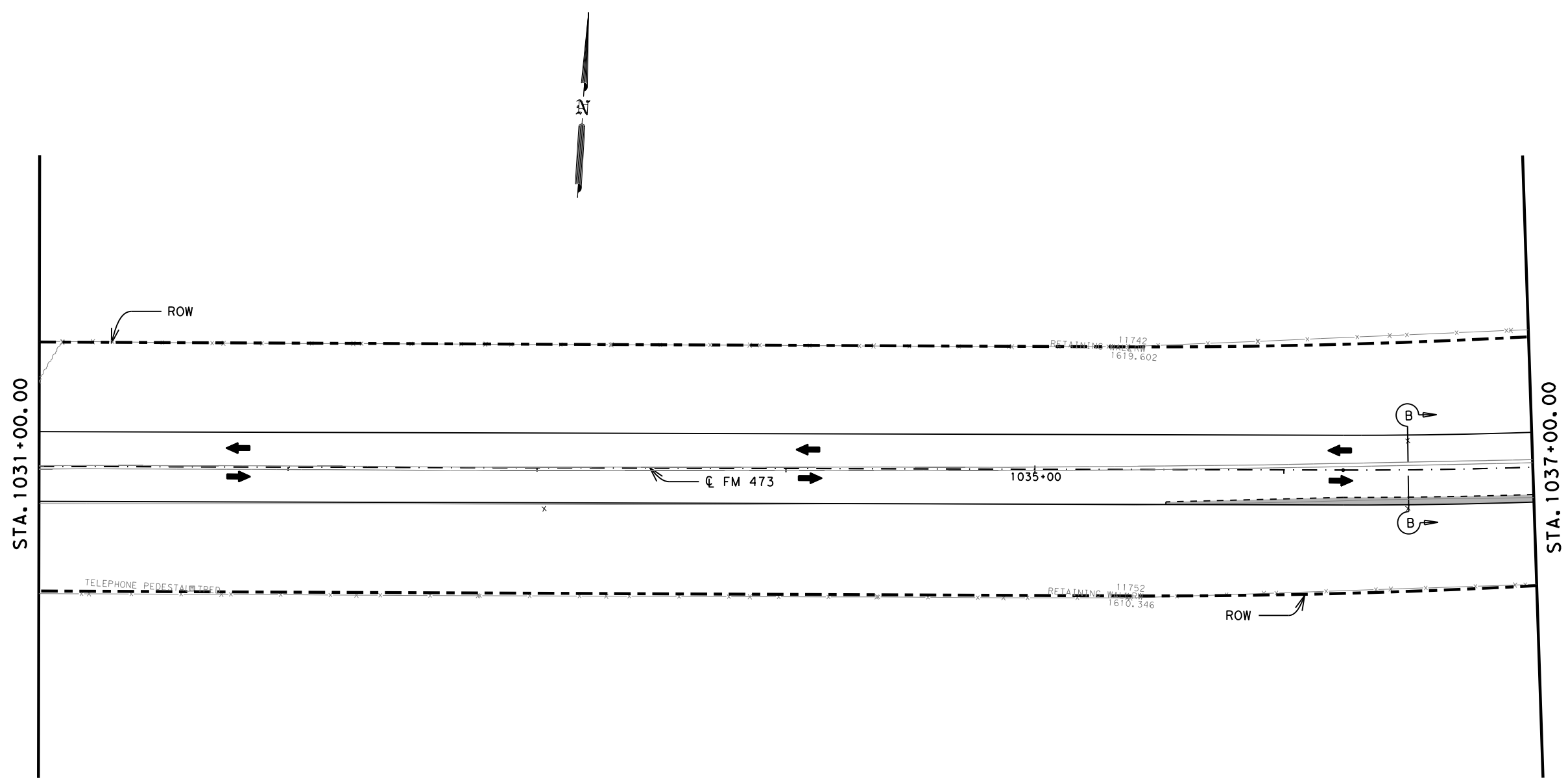
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE II

Texas Department of Transportation		SHEET 10 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		123

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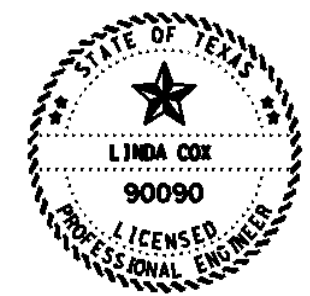


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**LEGEND**  
 TRAFFIC DIRECTION/LOCATION  
 CONSTRUCTION AREA



*Linda Cox, P.E.*  
04/29/2021

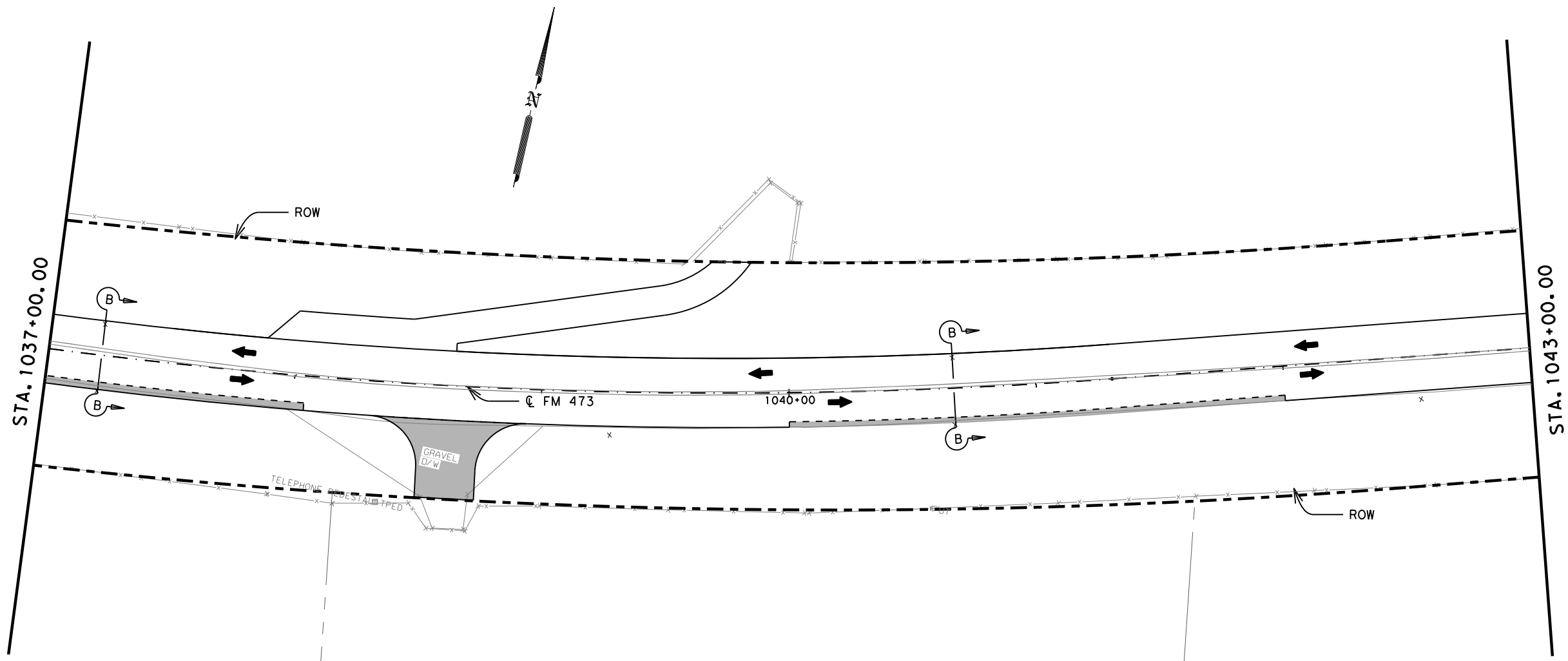


# TCP LAYOUTS PHASE II

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		124

DATE: 4/27/2021 8:42:30 AM  
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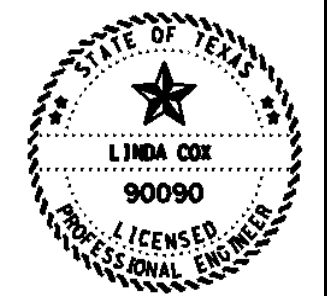


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
04/29/2021



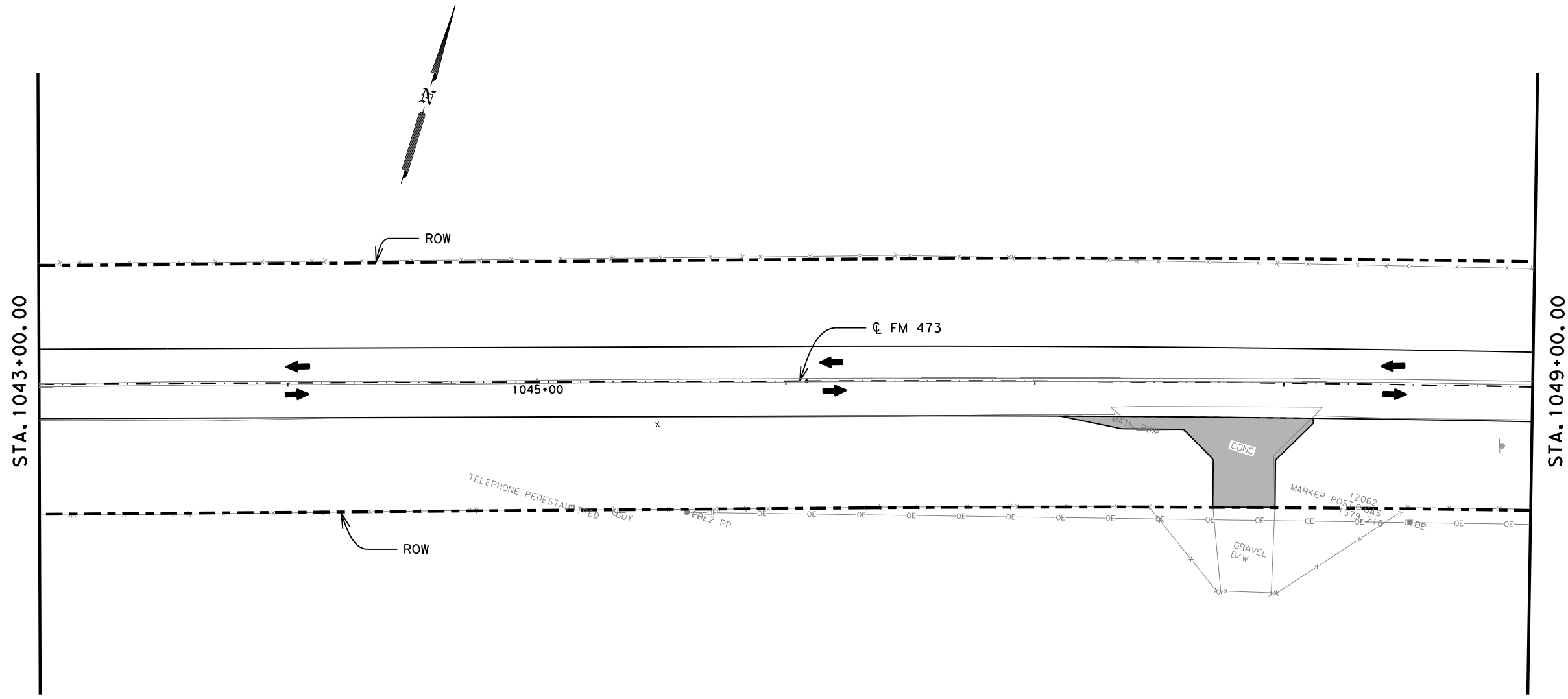
RM 473  
TCP LAYOUTS  
PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		125

DATE: 4/27/2021 8:42:39 AM  
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DN: C&S: DM: CK:



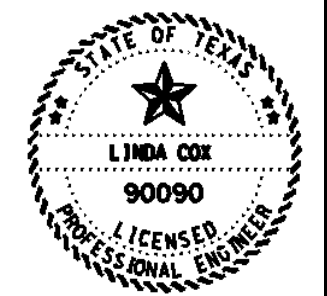
DATE: 4/27/2021 8:42:52 AM  
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2 -WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



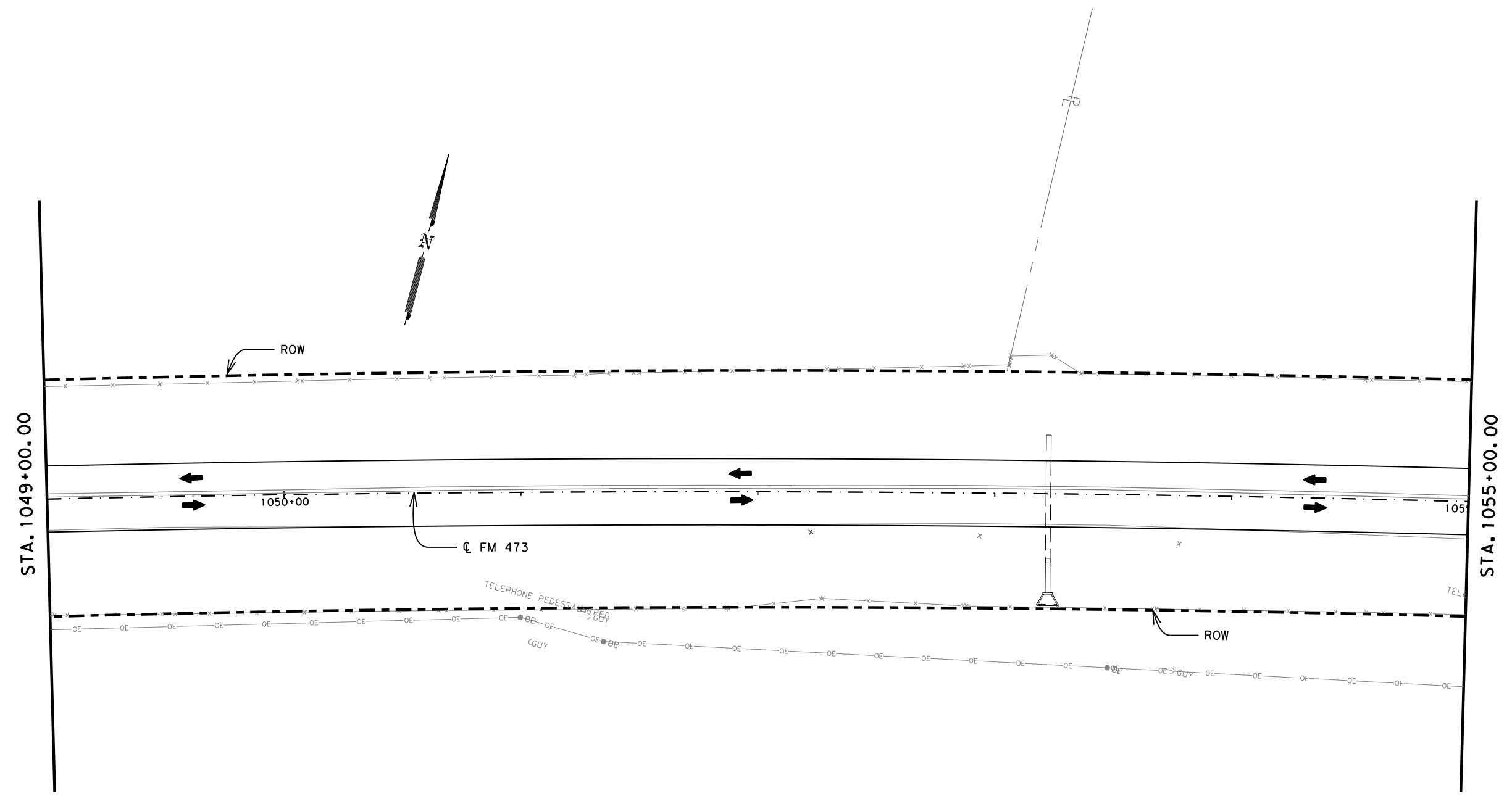
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE II

Texas Department of Transportation		SHEET 13 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		126

DN: C&S: DM: C&S: C&S:



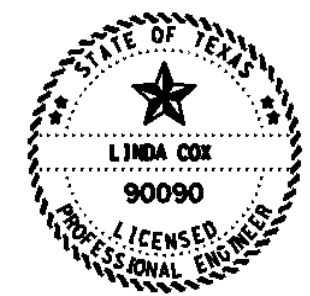
DATE: 4/27/2021 8:43:02 AM  
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

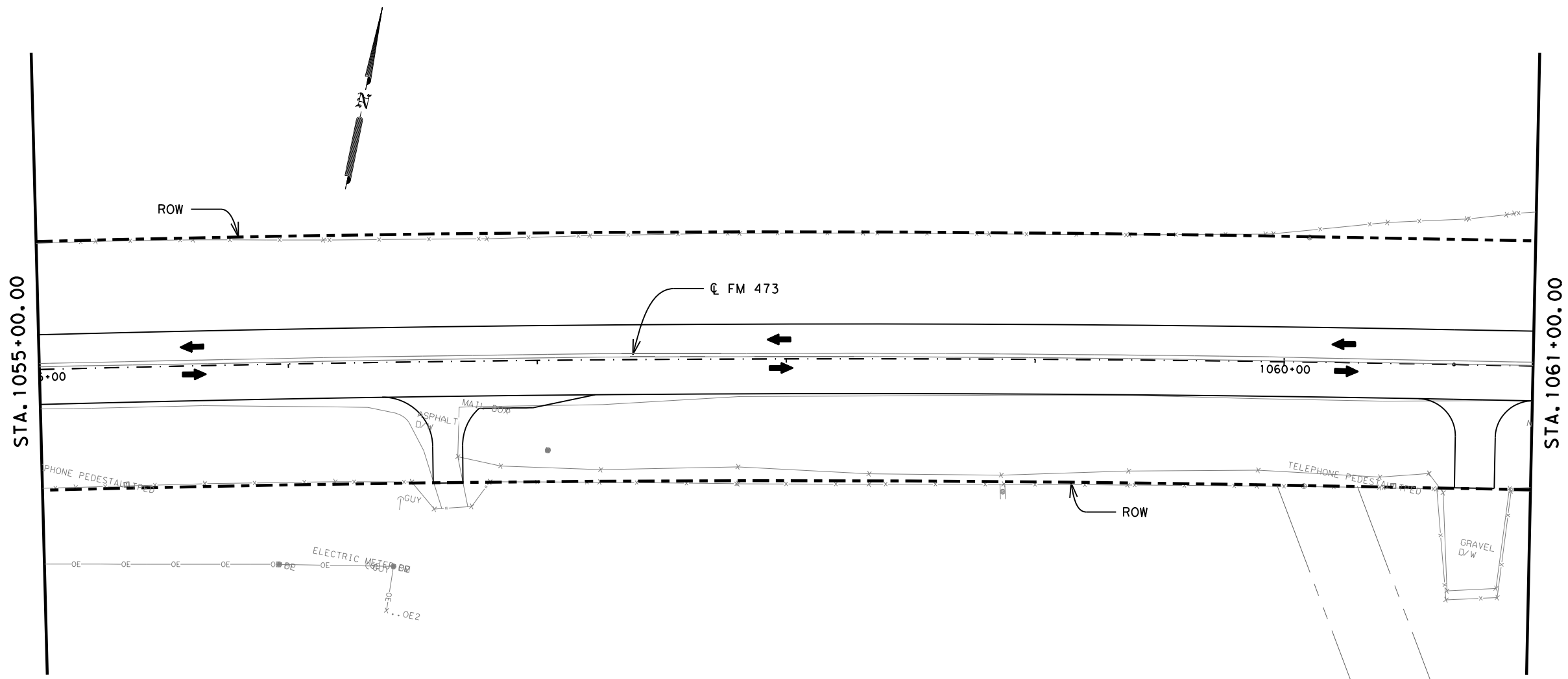


RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		127

DN: CK: DM: CK: CK:



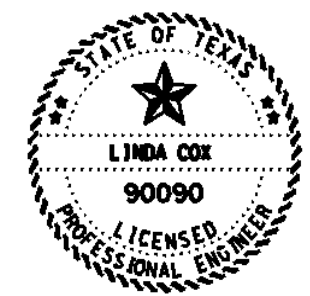
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



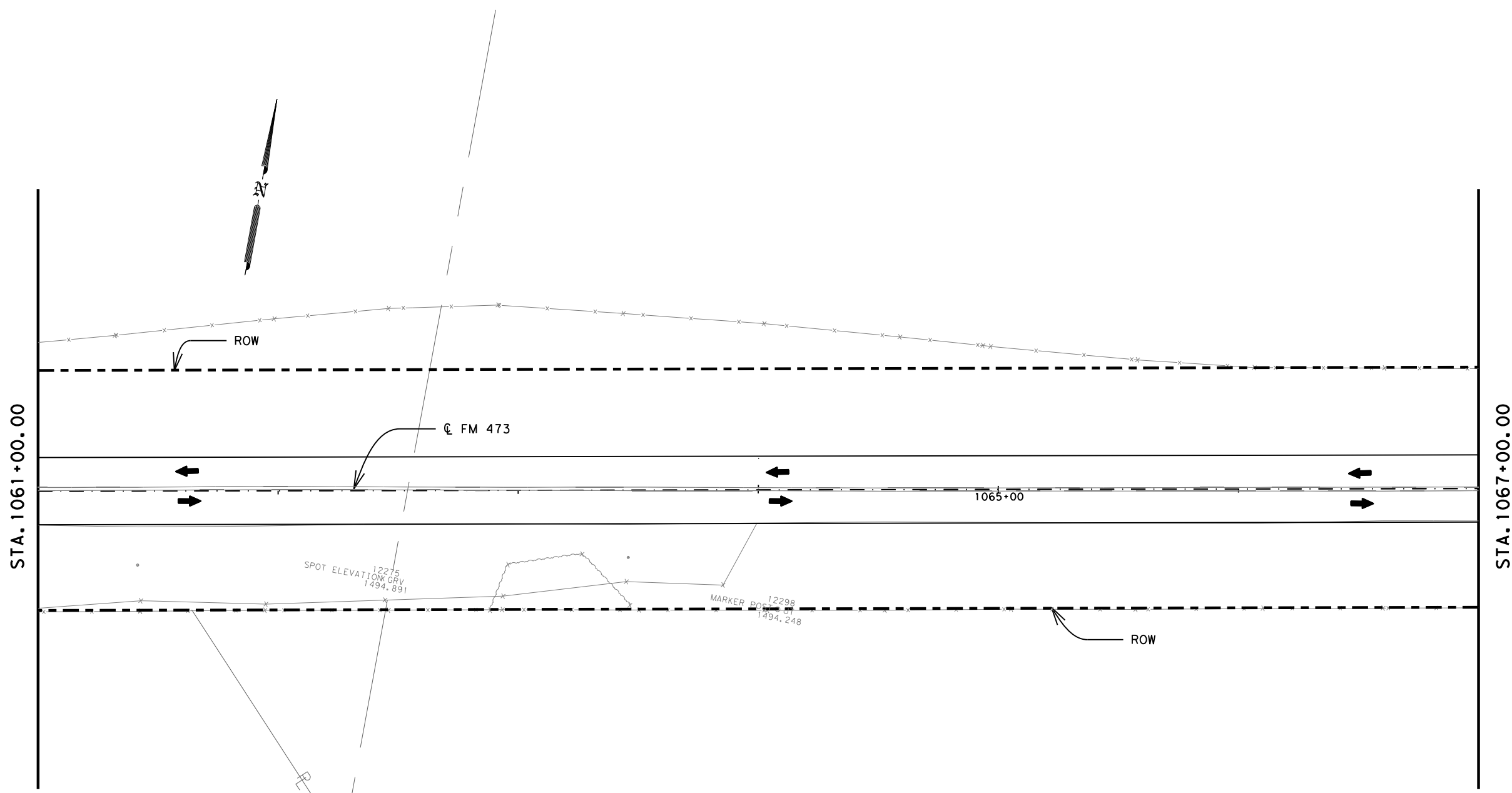
RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		128

DN: C&G: DM: C&G: CK:

DATE: 4/27/2021 8:43:26 AM  
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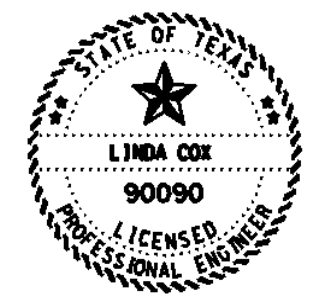


NOTE:  
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 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



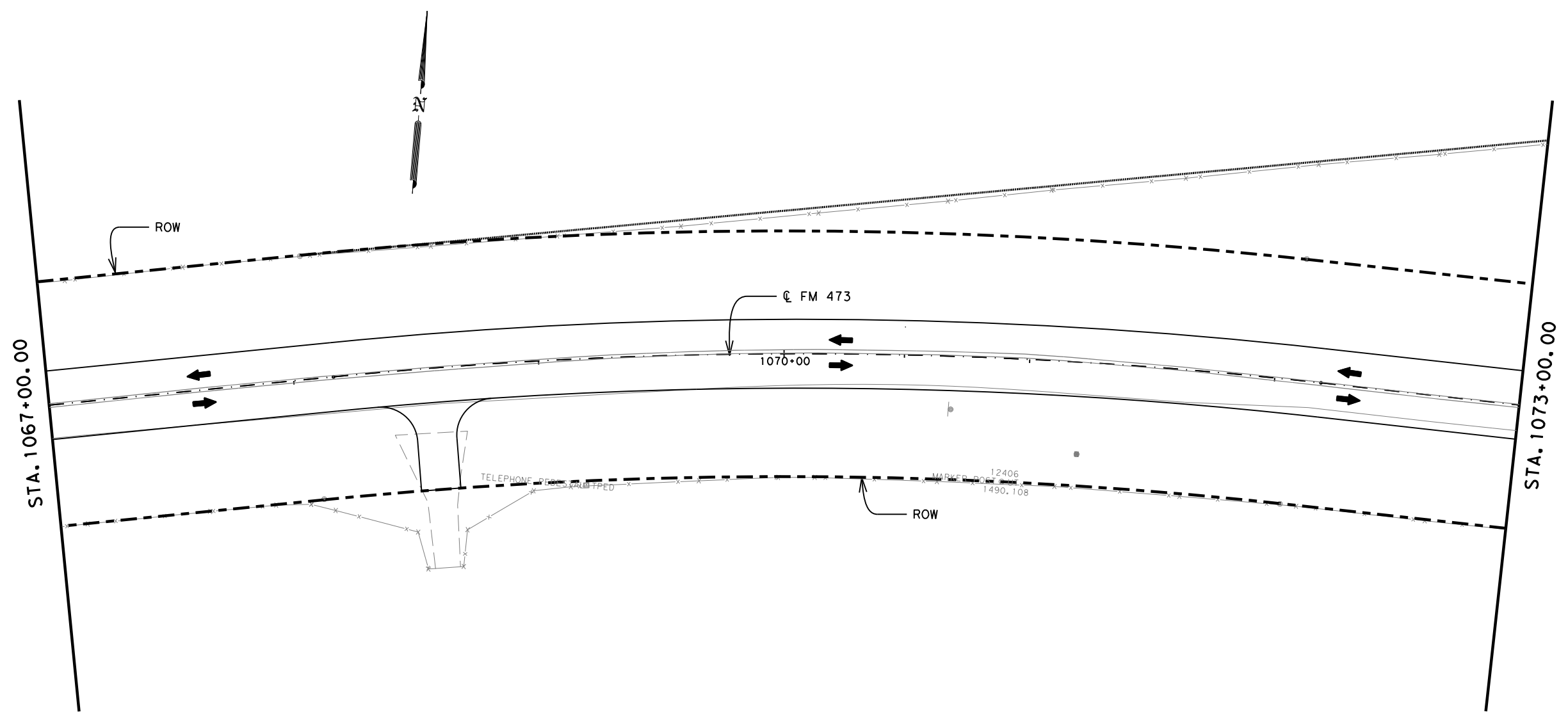
RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	129



DN: Ck: DM: Ck: DN:

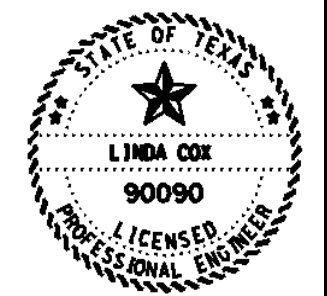


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE II

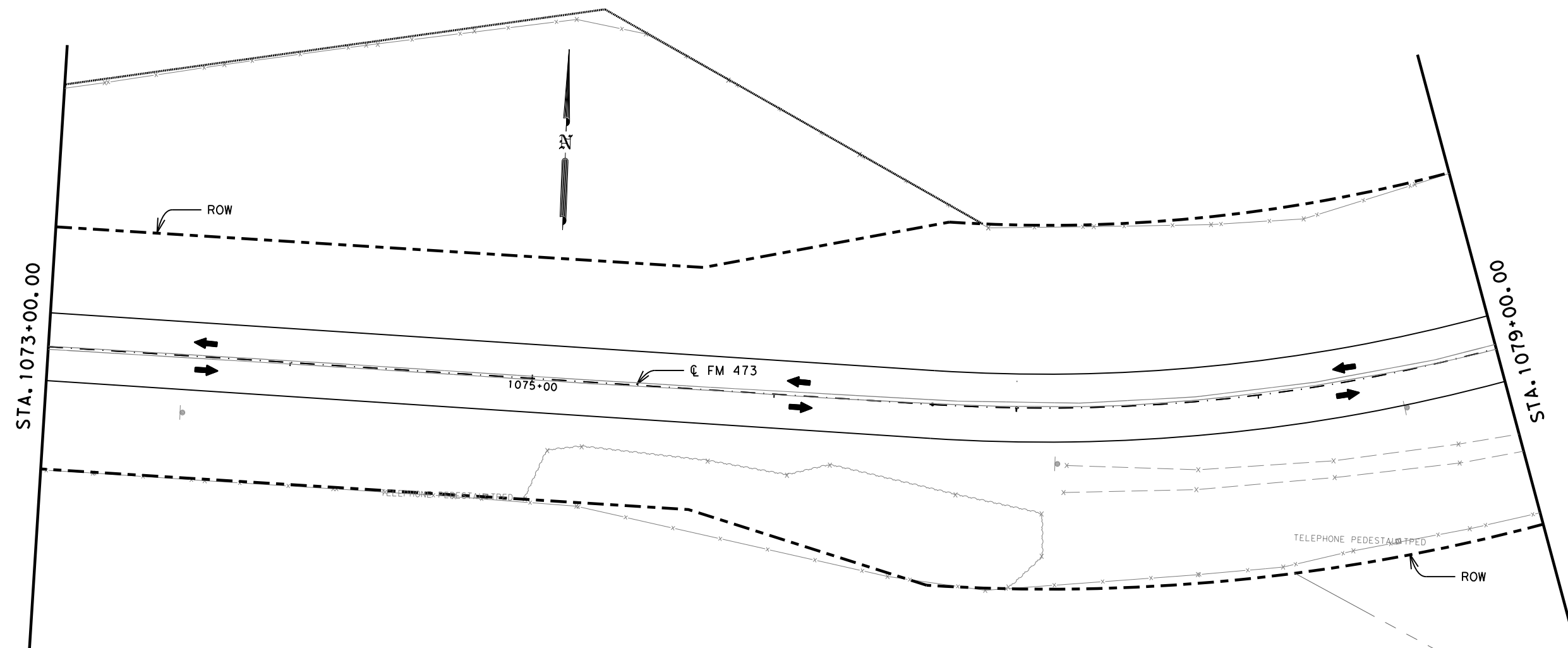


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		130

DATE: 4/27/2021 8:43:37 AM  
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DN: C&S: DM: C&S:

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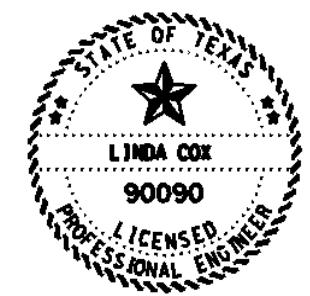


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

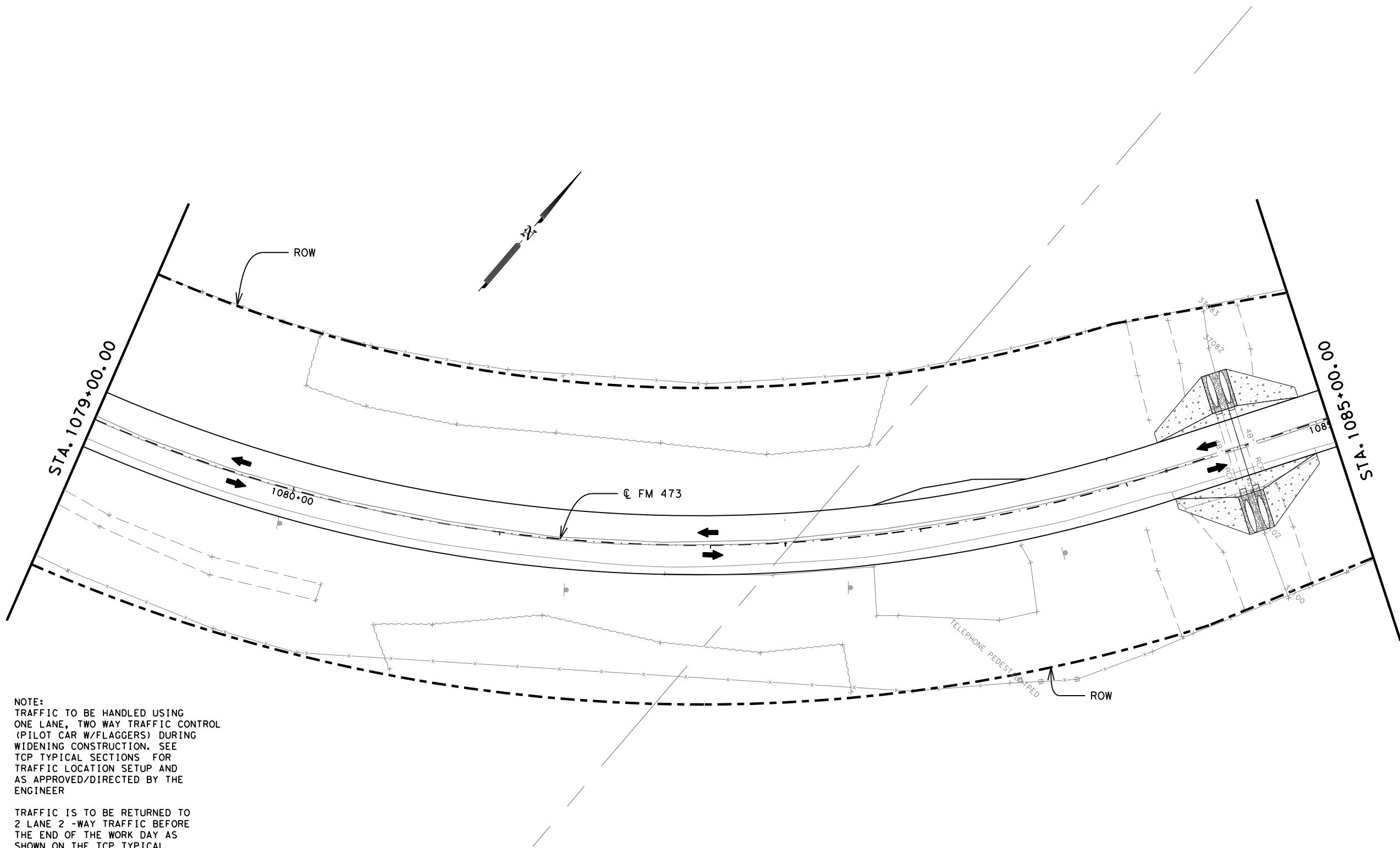


RM 473  
 TCP LAYOUTS  
 PHASE II

		SHEET 18 OF 22	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		131

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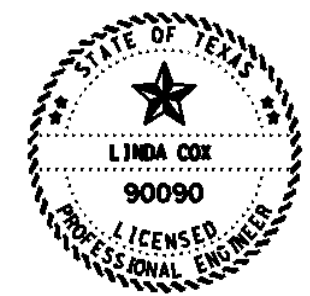


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

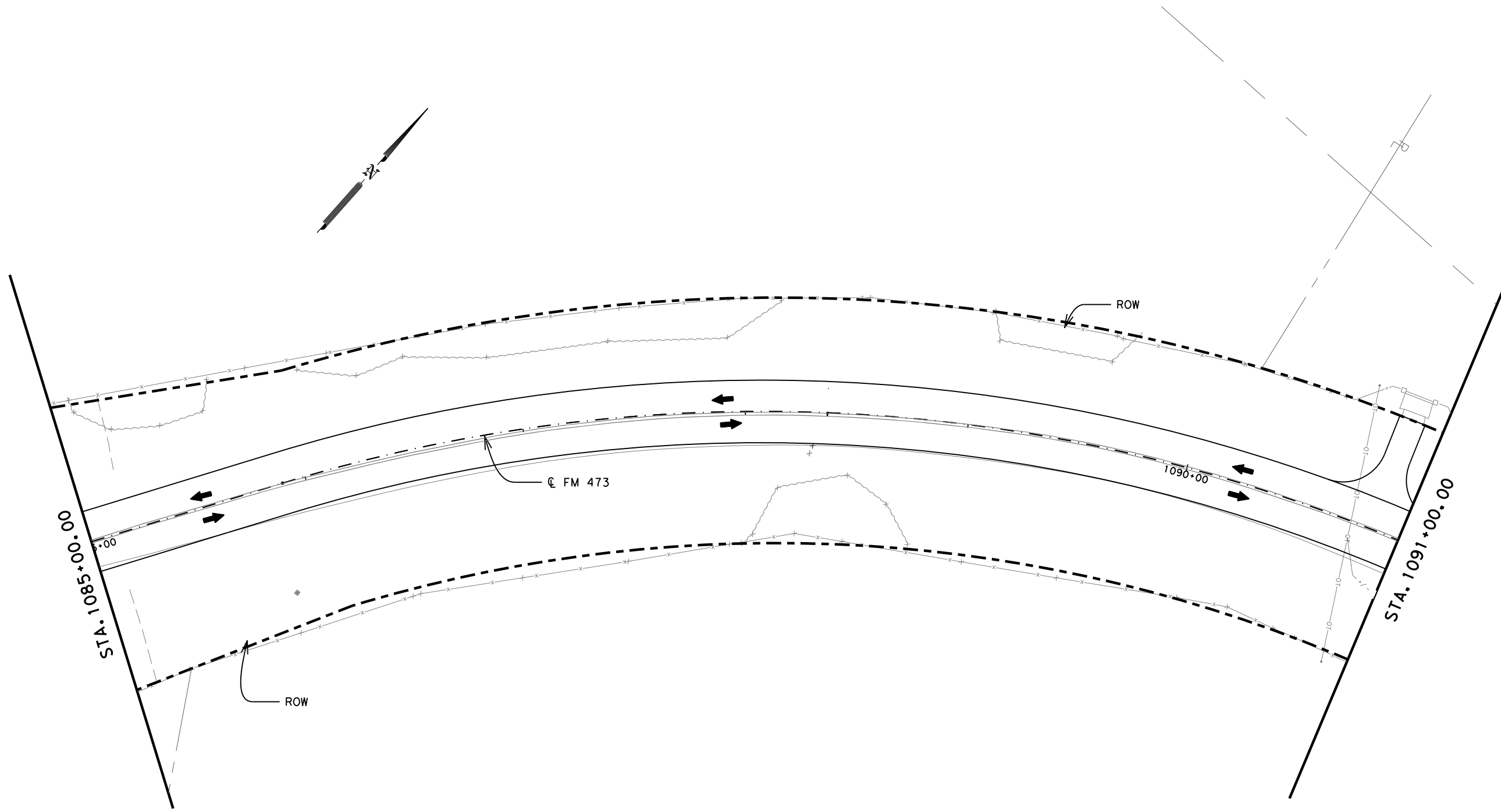


RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		132

DN: C&S: DM: C&S: CK:



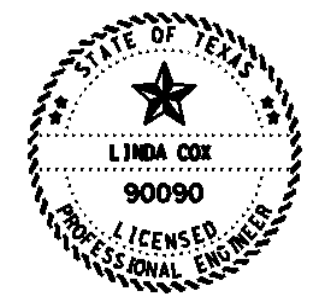
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

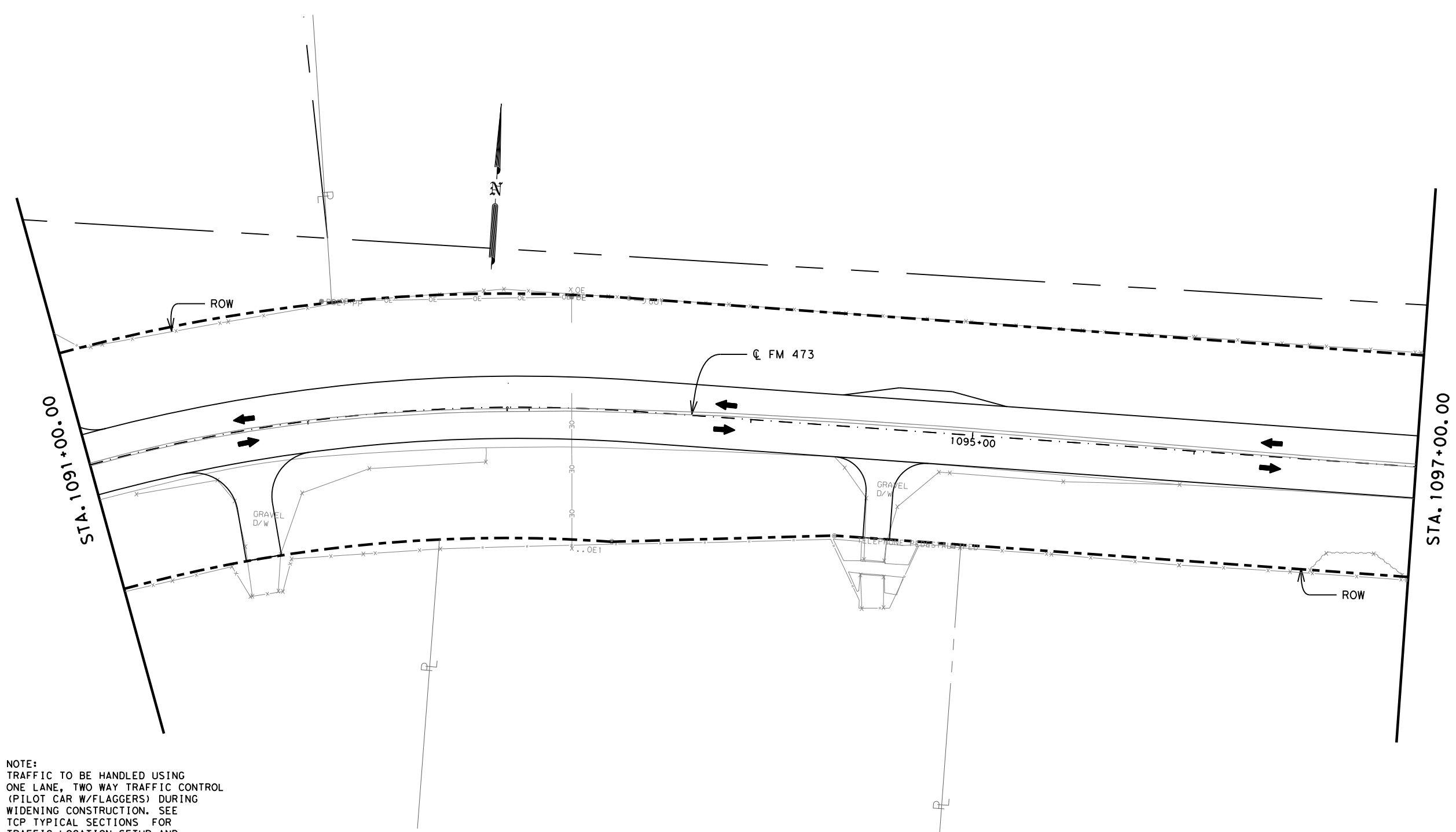


RM 473  
 TCP LAYOUTS  
 PHASE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		133

DN: C&S: DM: C&S: CK:

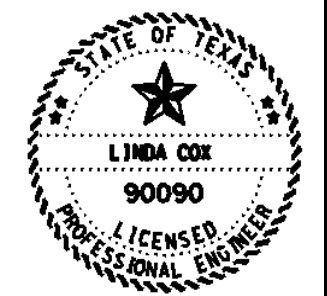


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
04/29/2021



RM 473  
TCP LAYOUTS  
PHASE II

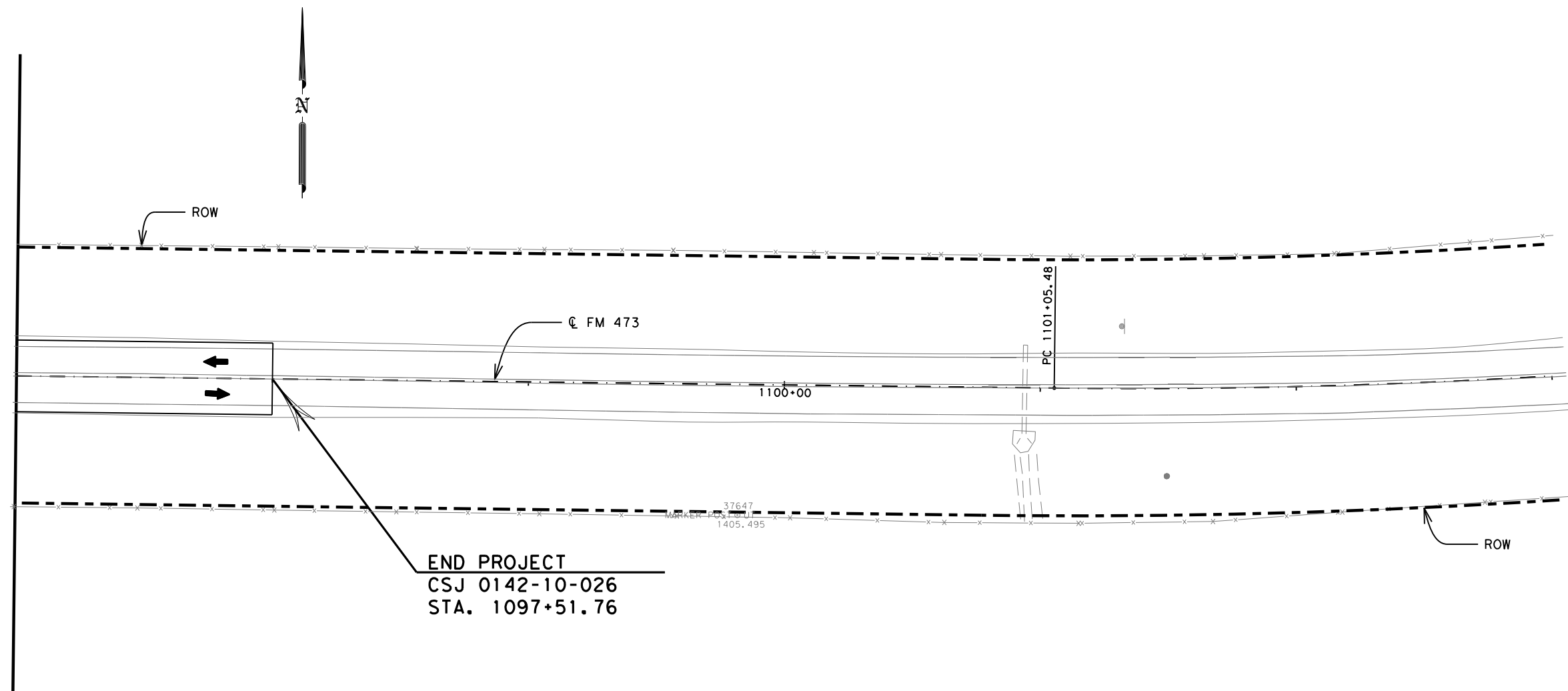


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		134

DATE: 4/27/2021 8:44:18 AM  
FILE: c:\ttdot\pw\_online\ttdot4\mark\_narendor.f\d0403049\TCPPh2W020.dgn

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ONE-WAY TRAF CONT (PILOT CAR)	40	HR
TMA (STATIONARY)	13	DAY
TMA (MOBILE OPERATION)	4	DAY

DWG:   
 CHK:   
 DWF:   
 CDS:   
 DWS:



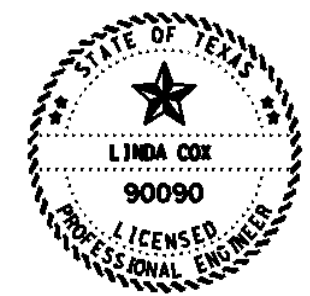
**END PROJECT**  
 CSJ 0142-10-026  
 STA. 1097+51.76

**NOTE:**  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



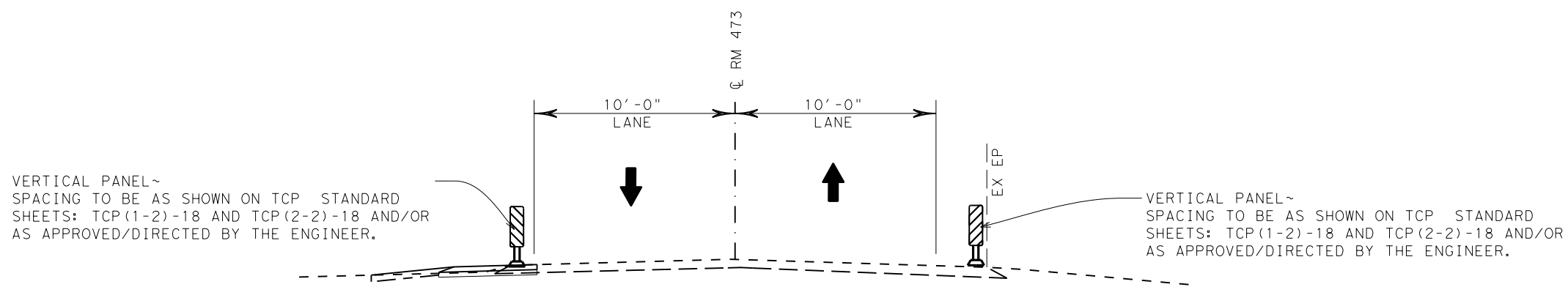
RM 473  
 TCP LAYOUTS  
 PHASE II



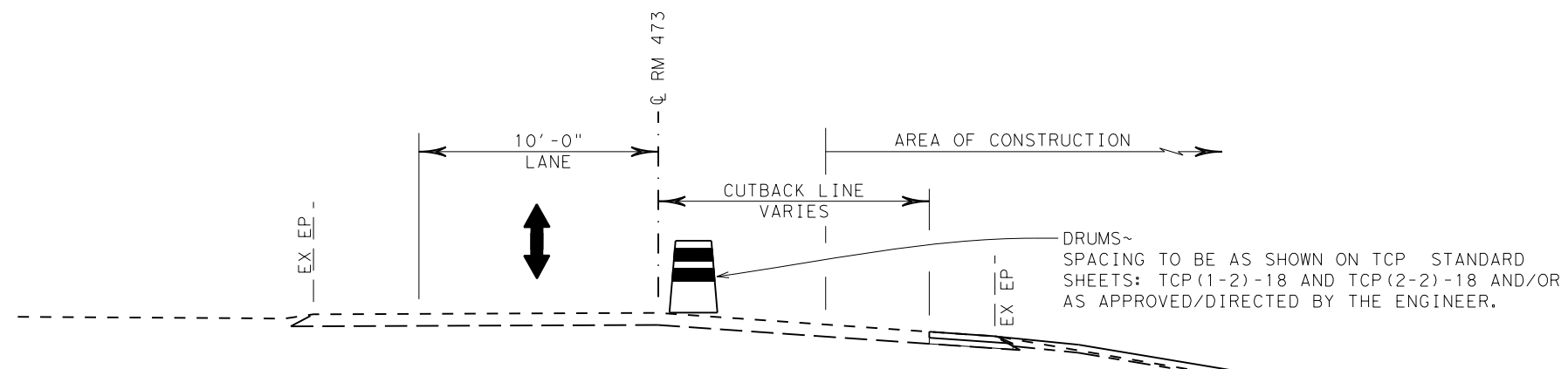
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	135

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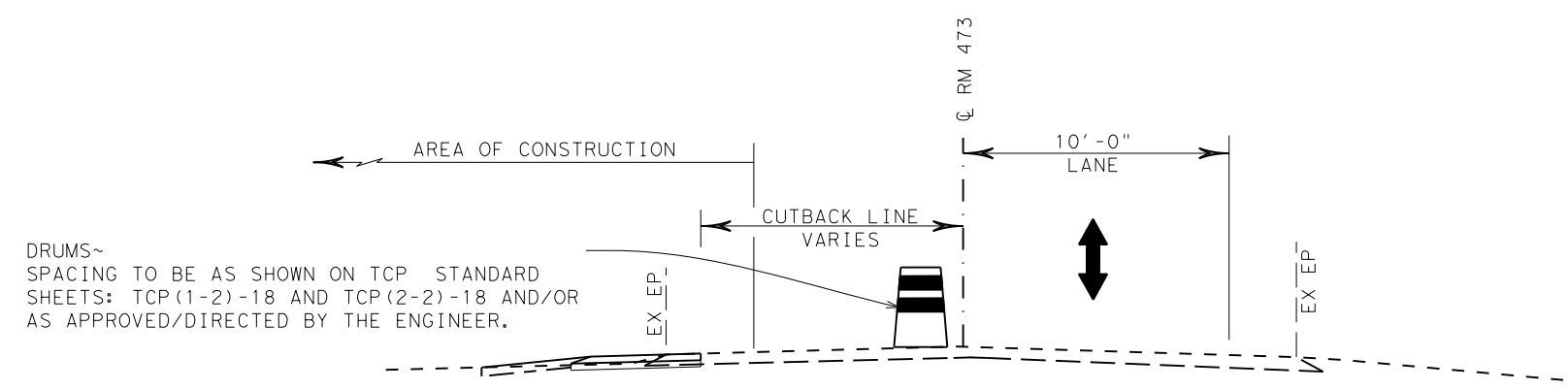
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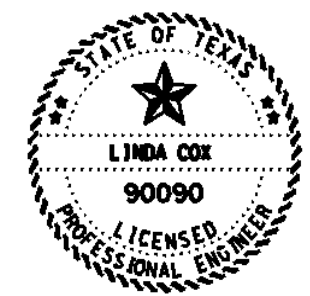
**TYPICAL SECTION**  
**TRAFFIC LOCATION AT END OF WORK DAY**  
 2-WAY TRAFFIC IN EXISTING LANES



**TYPICAL SECTION D-D**  
**WIDENING CONSTRUCTION ON RIGHT SIDE**  
 USING ONE-LANE, TWO-WAY TRAFFIC CONTROL (PILOT CAR)



**TYPICAL SECTION C-C**  
**WIDENING CONSTRUCTION ON LEFT SIDE**  
 USING ONE-LANE, TWO-WAY TRAFFIC CONTROL (PILOT CAR)



*Linda Cox, P.E.*  
 04/29/2021

RM 473  
**TCP ~ PHASE III & IV**  
**TYPICAL SECTIONS**

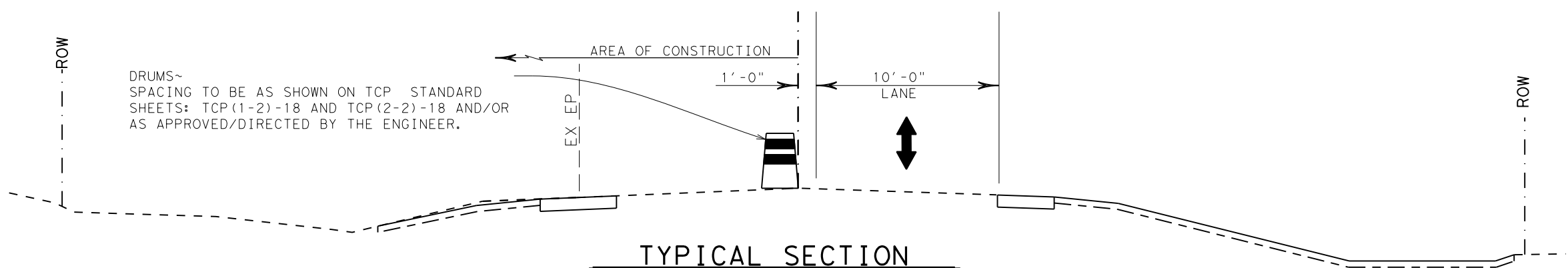
SHEET 1 OF 2  
 NTS  
 Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		136

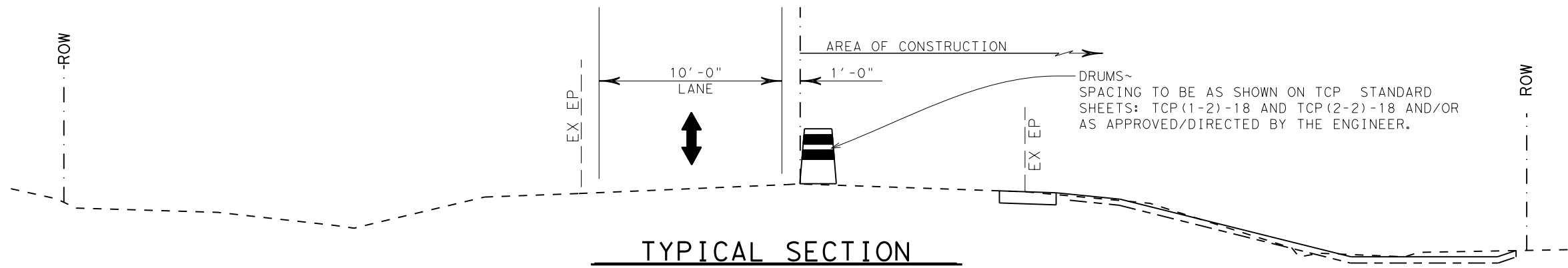
CSJ 0142-10-025

DATE: 4/27/2021 8:44:56 AM  
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DN: C&G: DM: C&G:



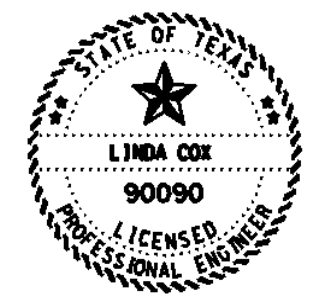
**TYPICAL SECTION**  
**LOW WATER CROSSING AT**  
**STR. STA. 196+48.73 & STR. STA. 196+68.39**  
**PHASE III ~ CULVERT STAGE II**  
**ONE-WAY TRAFFIC CONTROL**  
**(PORT TRAF SIG)**



**TYPICAL SECTION**  
**LOW WATER CROSSING AT**  
**STR. STA. 196+48.73 & STR. STA. 196+68.39**  
**PHASE III ~ CULVERT STAGE I**  
**ONE-WAY TRAFFIC CONTROL**  
**(PORT TRAF SIG)**

NOTE:  
 PORTABLE TRAFFIC SIGNALS SHALL  
 BE SUBSIDIARY TO ITEM 502.

SEE TCP LAYOUTS ~ PHASE I  
 SHEETS 19 OF 22 AND 20 OF 22  
 FOR ADDITIONAL INFORMATION.



*Linda Cox, P.E.*  
 04/29/2021

RM 473  
**TCP ~ PHASE III & IV**  
**TYPICAL SECTIONS**  
 CSJ 0142-10-025

SHEET 2 OF 2  
 NTS

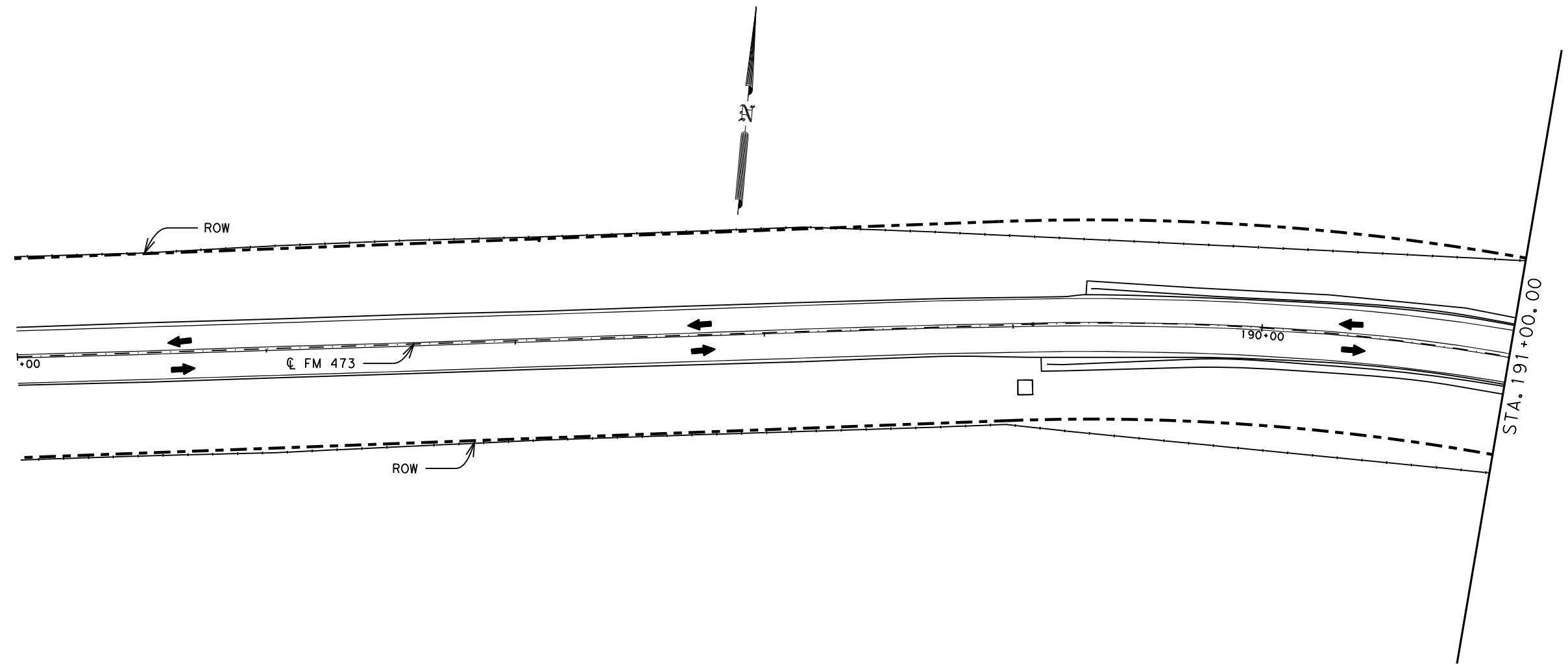
CONT	SECT	JOB	HIGHWAY
0142	09	044, ETC	FM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		137

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DATE: 4/27/2021 8:44:56 AM  
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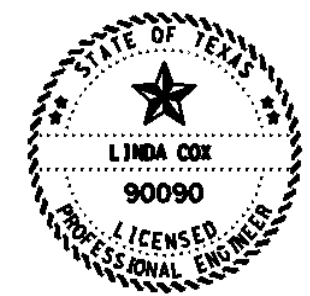


DATE: 4/27/2021 8:45:22 AM  
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 04/29/2021



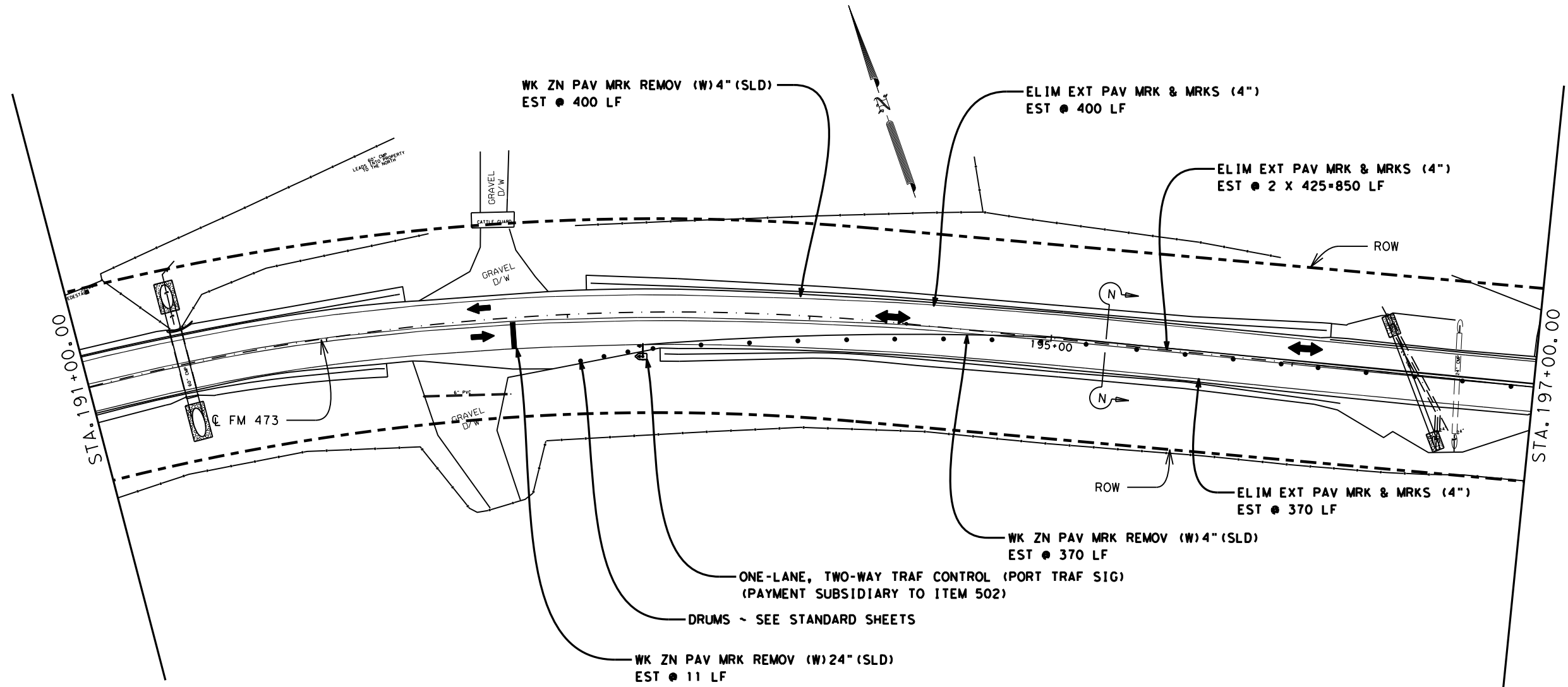
RM 473  
 TCP LAYOUTS  
 PHASE III  
 CULVERT ~ STAGE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	138

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
* ONE-WAY TRAF CONT (PORT TRAF SIG)	1	MO
WK ZN PAV MRK NON-REMOV (W) 24"(SLD)	11	LF
WK ZN PAV MRK REMOV (W) 4" (SLD)	770	LF
ELIM EXT PV MRK & MRKS (4")	1620	LF

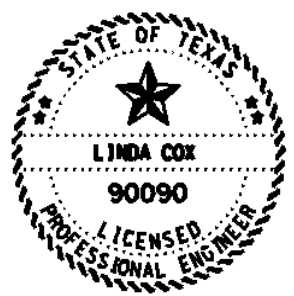
\* FOR CONTRACTOR'S INFORMATION ONLY.  
SUBSIDIARY TO ITEM 502.



NOTE:  
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04/29/2021



RM 473  
TCP LAYOUTS  
PHASE III  
CULVERT ~ STAGE I



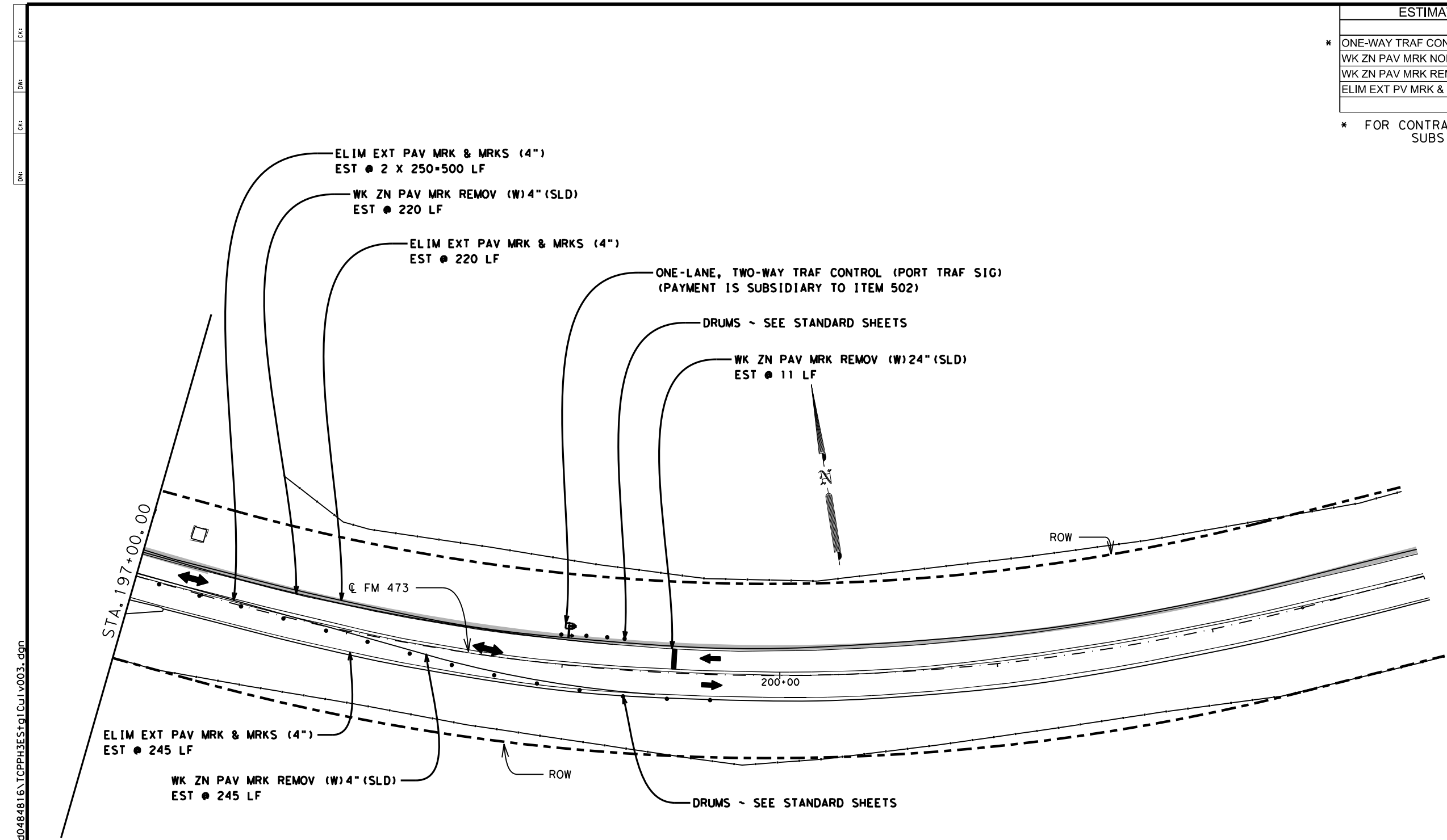
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		139

DATE: 4/27/2021 8:45:32 AM  
FILE: c:\t\dot\pw\_online\txdot4\work\mork\_norendor\0484816\TCPPH3EStg1Culv002.dgn

ESTIMATED QUANTITIES FOR CSJ 14210025

DESCRIPTION	QUAN	UNIT
* ONE-WAY TRAF CONT (PORT TRAF SIG)	1	MO
WK ZN PAV MRK NON-REMOV (W) 24"(SLD)	11	LF
WK ZN PAV MRK REMOV (W) 4" (SLD)	465	LF
ELIM EXT PV MRK & MRKS (4")	965	LF

\* FOR CONTRACTOR'S INFORMATION ONLY.  
SUBSIDIARY TO ITEM 502.



ELIM EXT PAV MRK & MRKS (4")  
EST @ 245 LF

WK ZN PAV MRK REMOV (W) 4" (SLD)  
EST @ 245 LF

DRUMS - SEE STANDARD SHEETS

WK ZN PAV MRK REMOV (W) 24" (SLD)  
EST @ 11 LF

ONE-LANE, TWO-WAY TRAF CONTROL (PORT TRAF SIG)  
(PAYMENT IS SUBSIDIARY TO ITEM 502)

ELIM EXT PAV MRK & MRKS (4")  
EST @ 220 LF

WK ZN PAV MRK REMOV (W) 4" (SLD)  
EST @ 220 LF

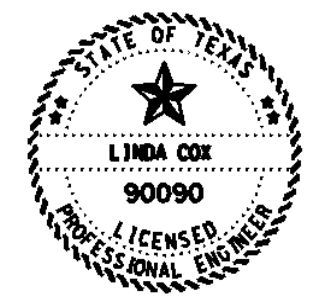
ELIM EXT PAV MRK & MRKS (4")  
EST @ 2 X 250-500 LF

DATE: 4/27/2021 8:45:44 AM  
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NOTE:  
TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2 -WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.



*Linda Cox, P.E.*  
04/29/2021

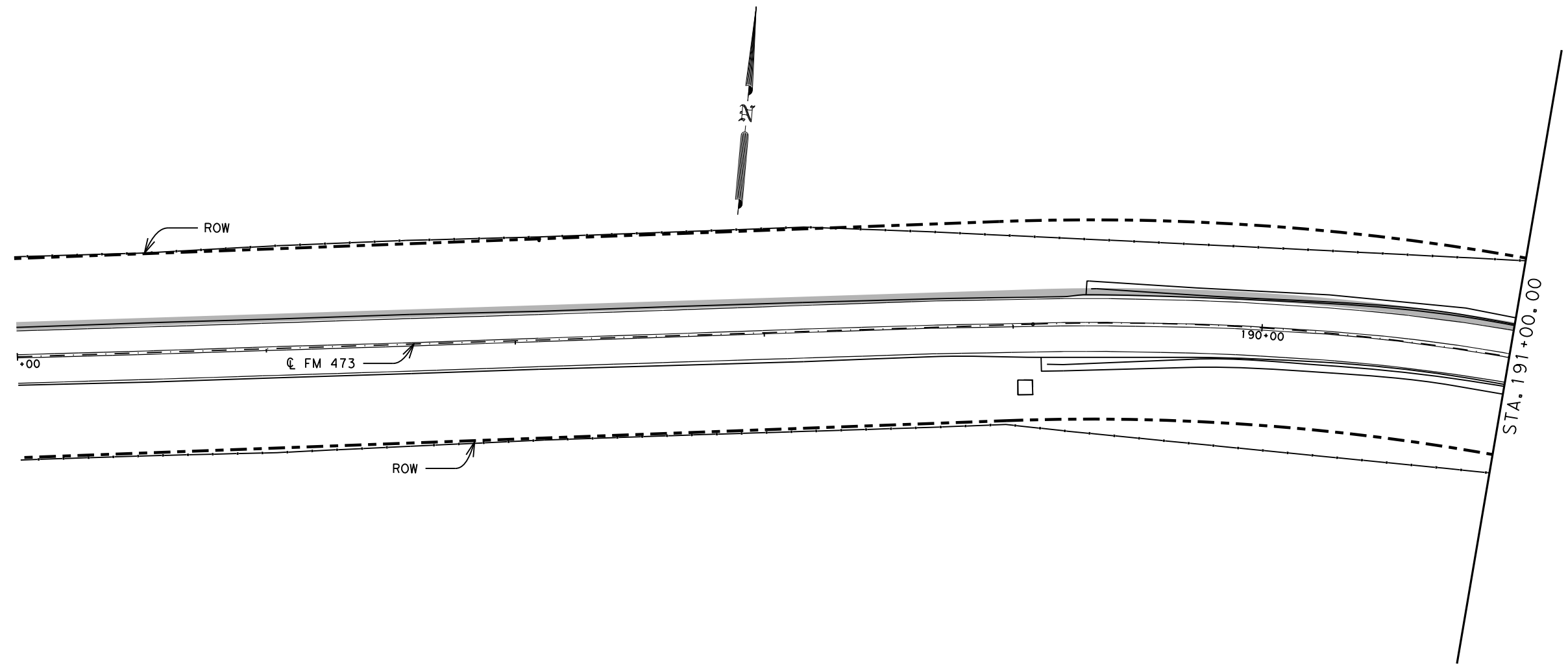


RM 473  
TCP LAYOUTS  
PHASE III  
CULVERT ~ STAGE I



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	140

DN: C&G: DM: C&G: C&G:

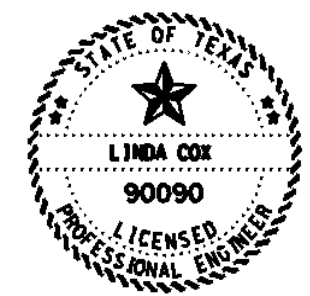


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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE III  
 CULVERT ~ STAGE II

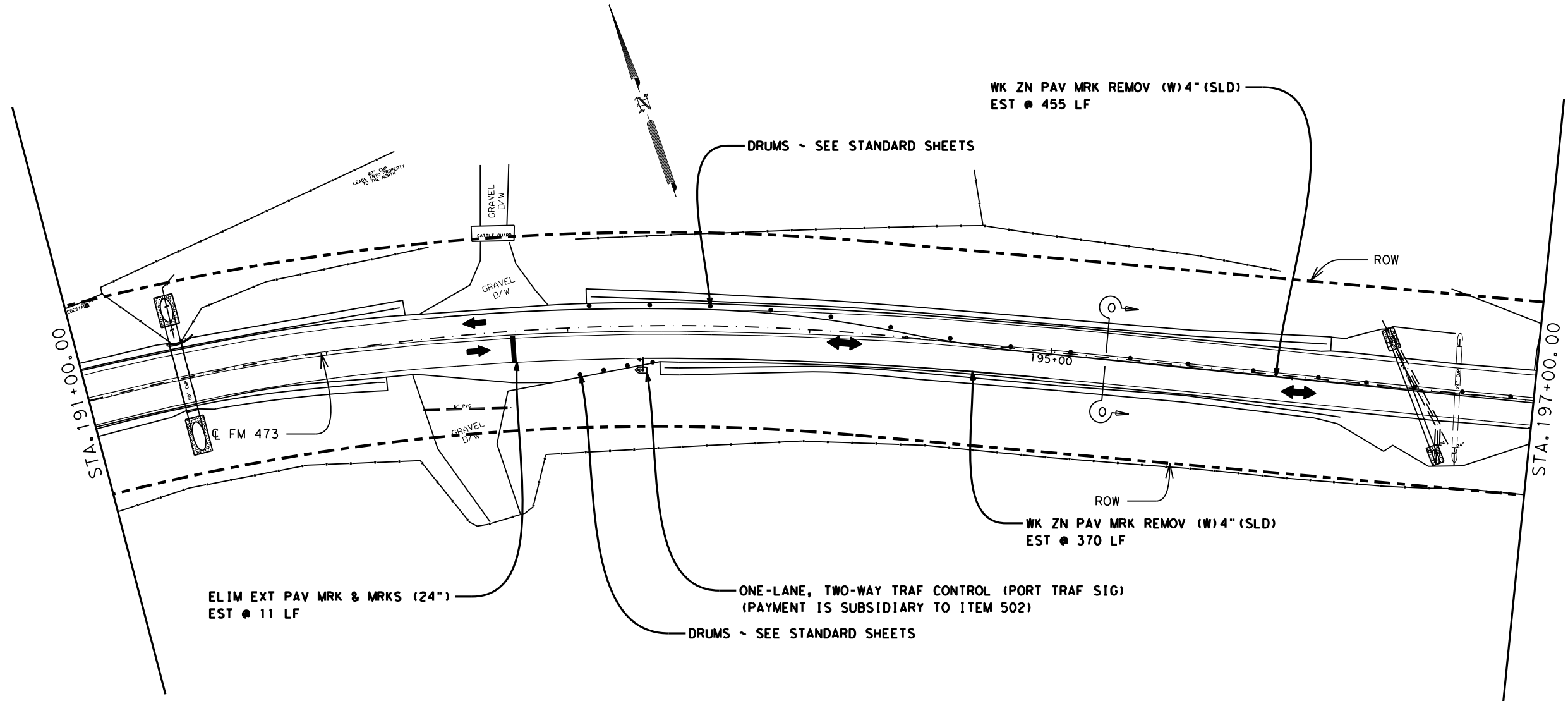


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		141

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
* ONE-WAY TRAF CONT (PORT TRAF SIG)	1	MO
WK ZN PAV MRK REMOV (W) 4" (SLD)	825	LF
ELIM EXT PV MRK & MRKS (24")	11	LF

\* FOR CONTRACTOR'S INFORMATION ONLY.  
SUBSIDIARY TO ITEM 502.

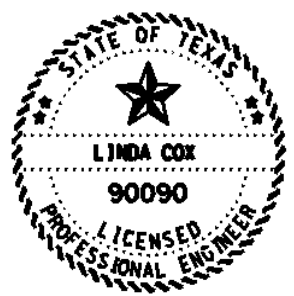
CKS: \_\_\_\_\_  
 DMF: \_\_\_\_\_  
 CKS: \_\_\_\_\_  
 DMF: \_\_\_\_\_



NOTE:  
TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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*Linda Cox, P.E.*  
04/29/2021



RM 473  
TCP LAYOUTS  
PHASE III  
CULVERT ~ STAGE II

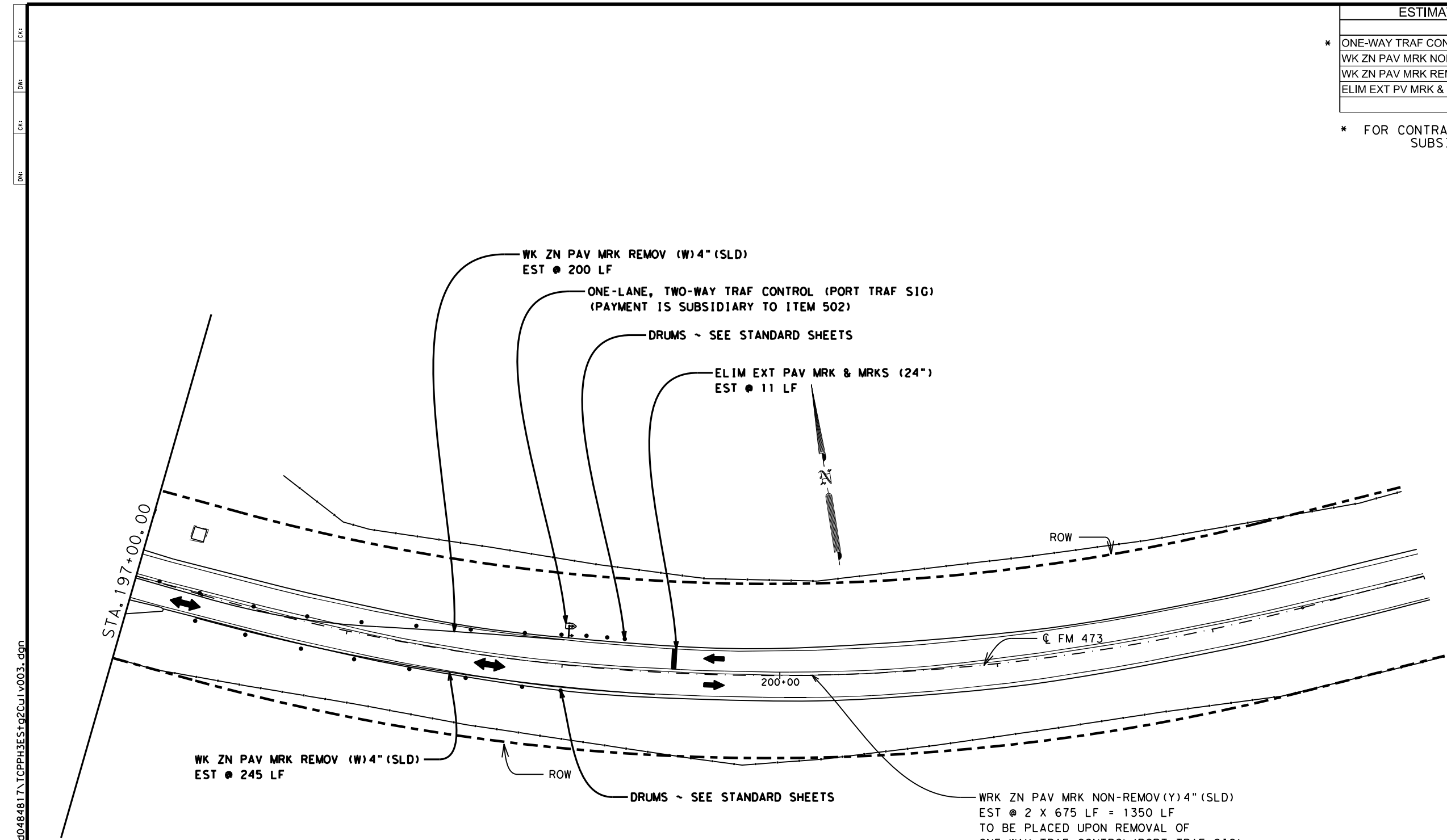


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	142

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
* ONE-WAY TRAF CONT (PORT TRAF SIG)	1	MO
WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	1350	LF
WK ZN PAV MRK REMOV (W) 4" (SLD)	445	LF
ELIM EXT PV MRK & MRKS (24")	11	LF

\* FOR CONTRACTOR'S INFORMATION ONLY.  
SUBSIDIARY TO ITEM 502.



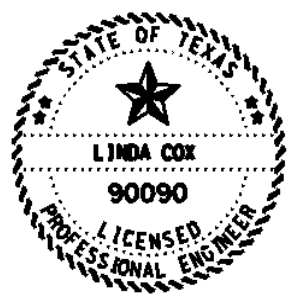
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NOTE:  
TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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WRK ZN PAV MRK NON-REMOV (Y) 4" (SLD)  
EST @ 2 X 675 LF = 1350 LF  
TO BE PLACED UPON REMOVAL OF ONE-WAY TRAF CONTROL (PORT TRAF SIG) ON THE CENTERLINE OF ROADWAY



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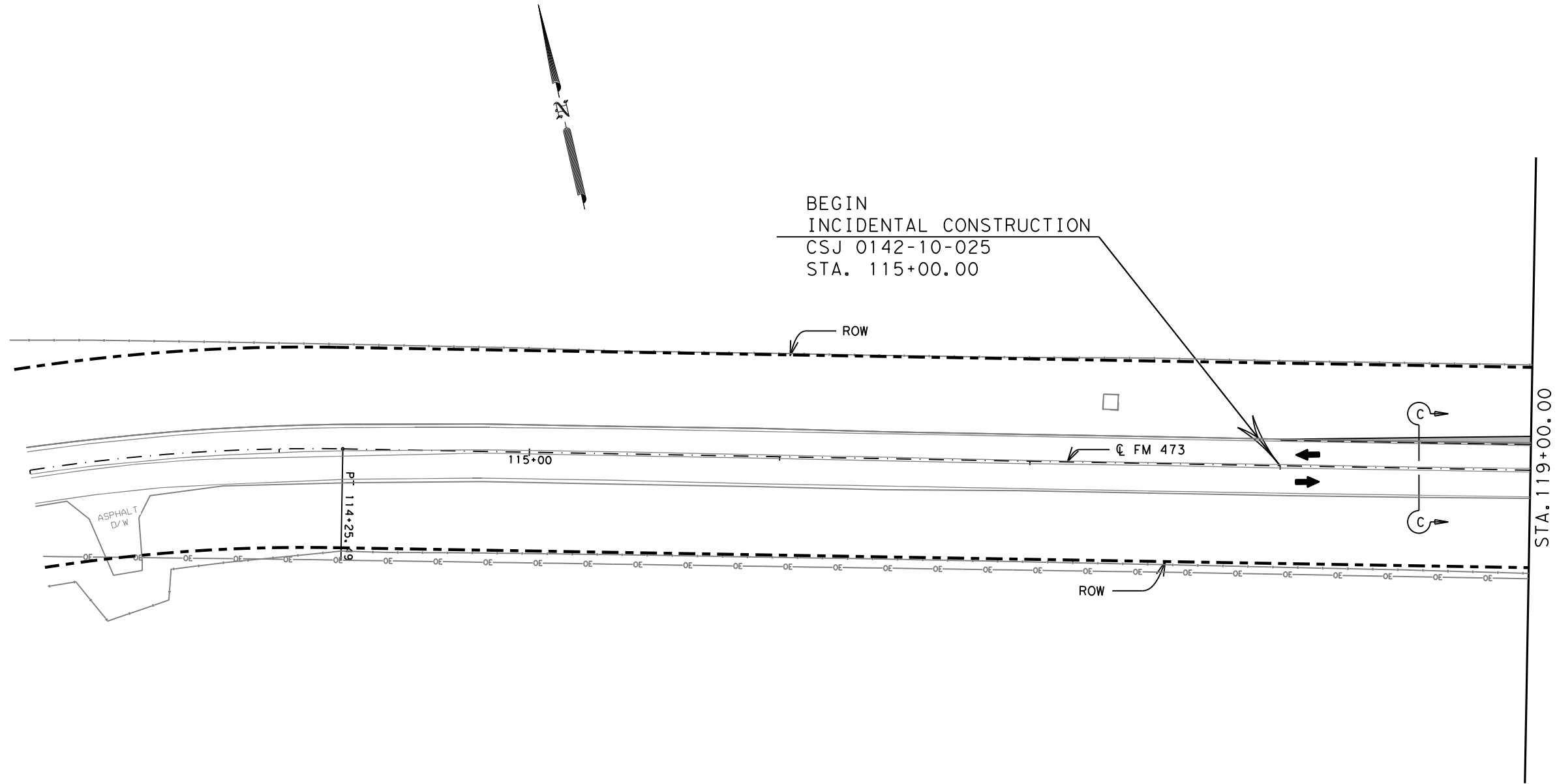


RM 473  
TCP LAYOUTS  
PHASE III  
CULVERT ~ STAGE II



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	143

DN: C&S: DM: C&S:

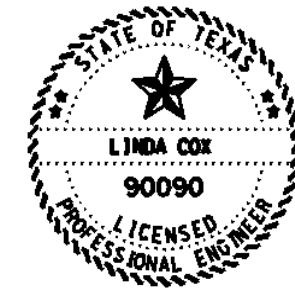


NOTE:  
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**LEGEND**  
 TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 CONSTRUCTION AREA



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04/29/2021



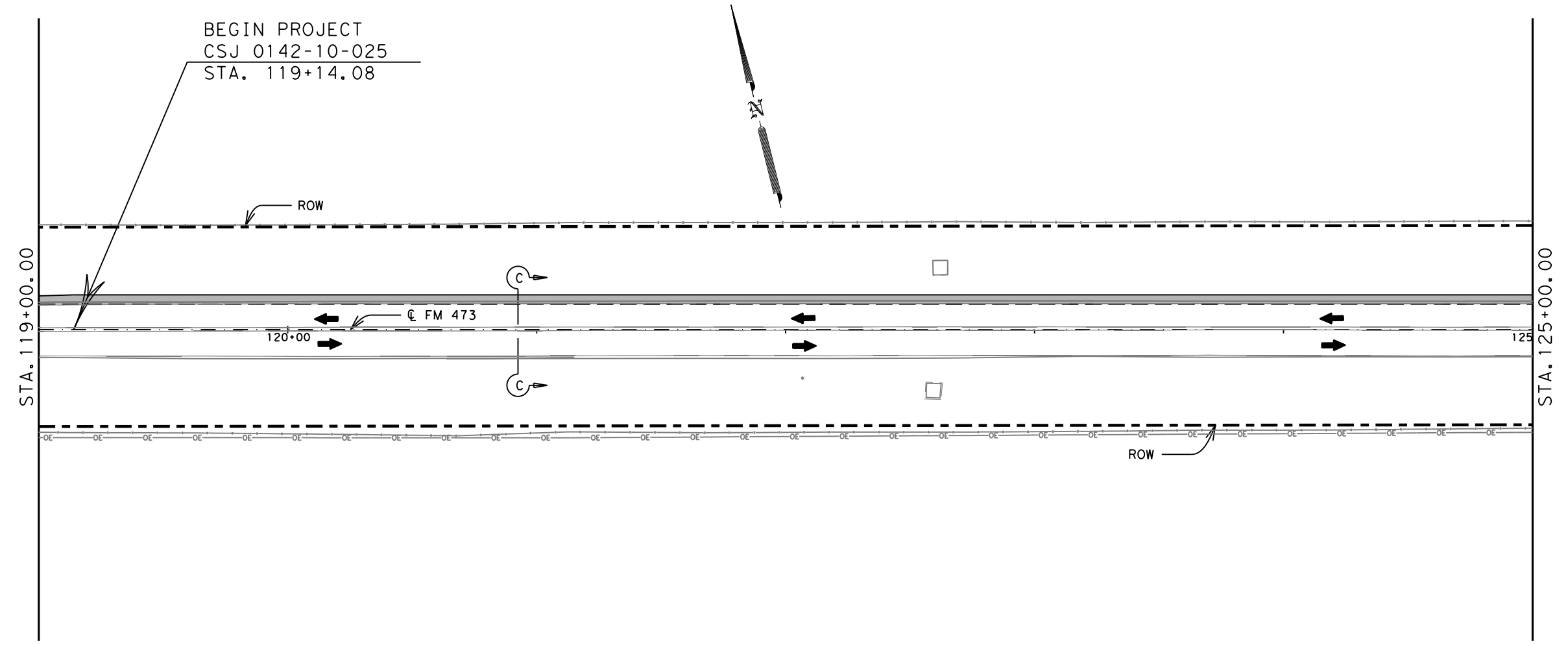
RM 473  
TCP LAYOUTS  
PHASE III

		SHEET 1 OF 36	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		144

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DN: DW: CK: CK:



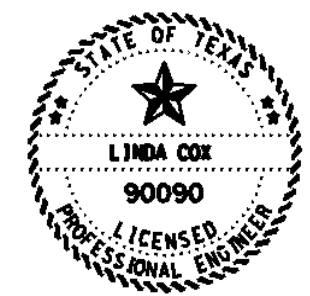
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



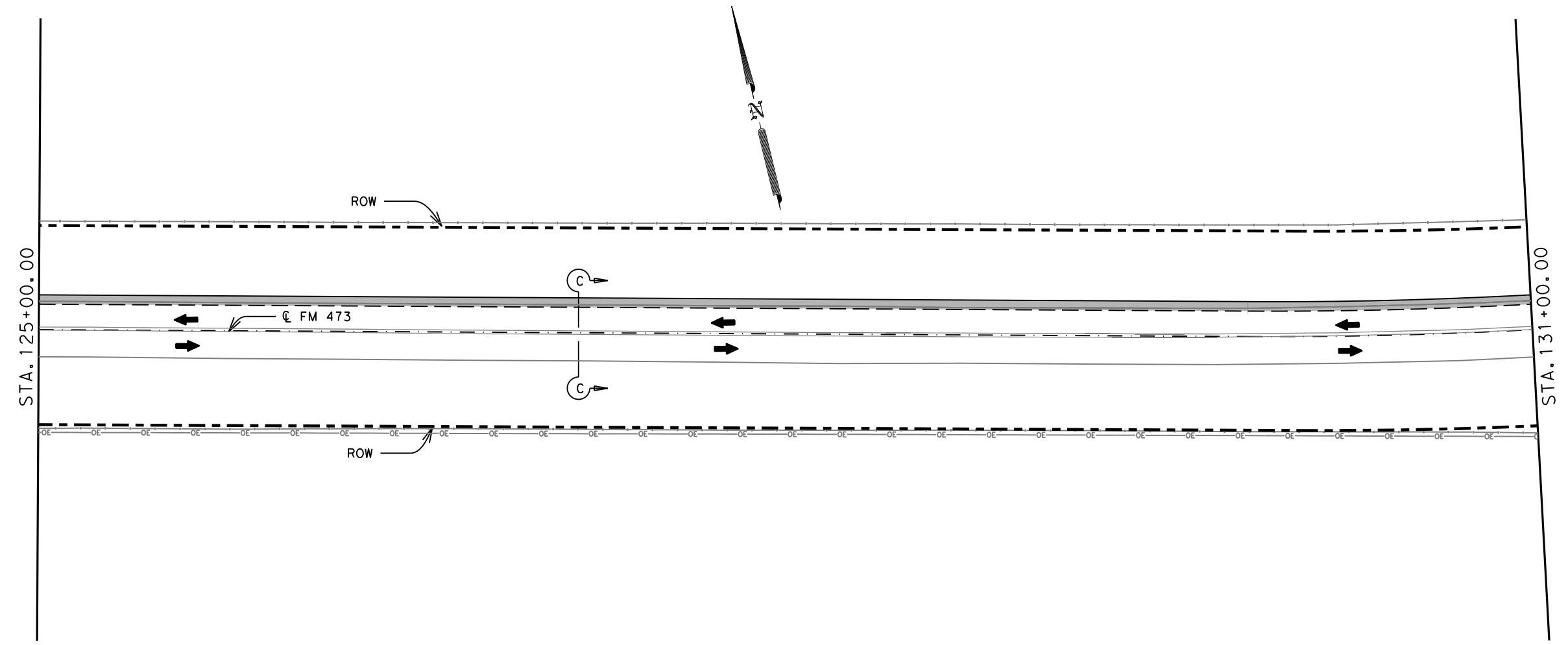
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		145



DN: C&G: DM: C&G: C&G:



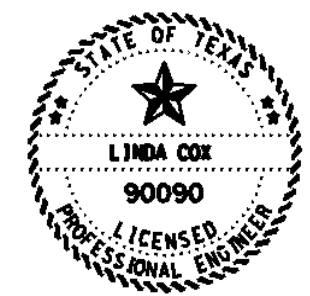
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021

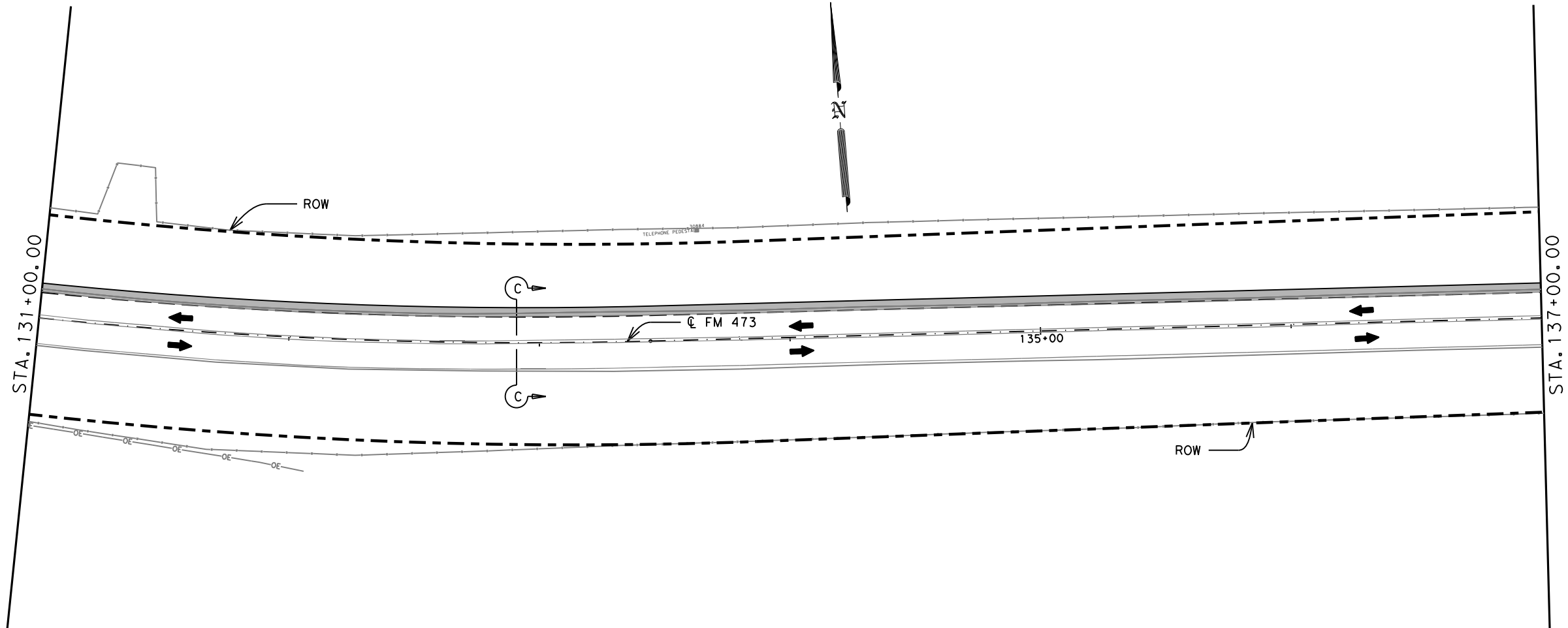


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		146

DW: C&S: DM: C&S:



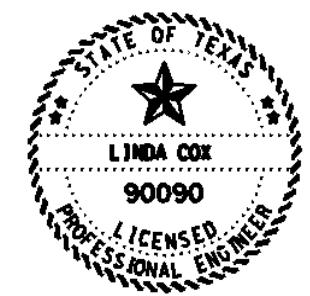
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021

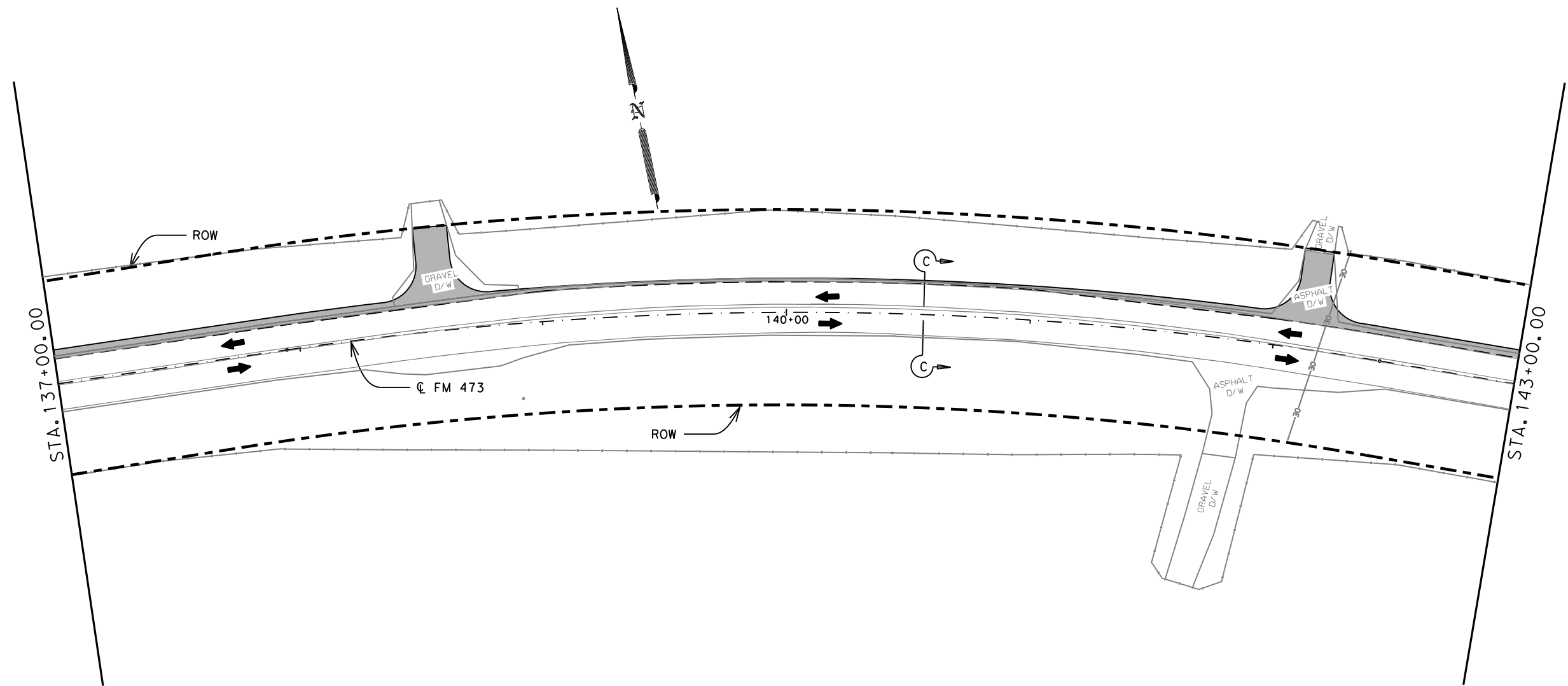


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		147

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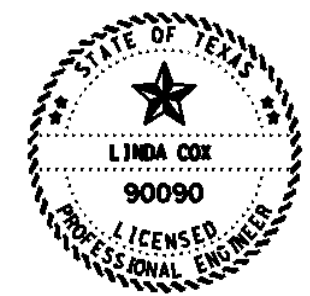


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



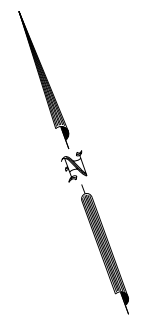
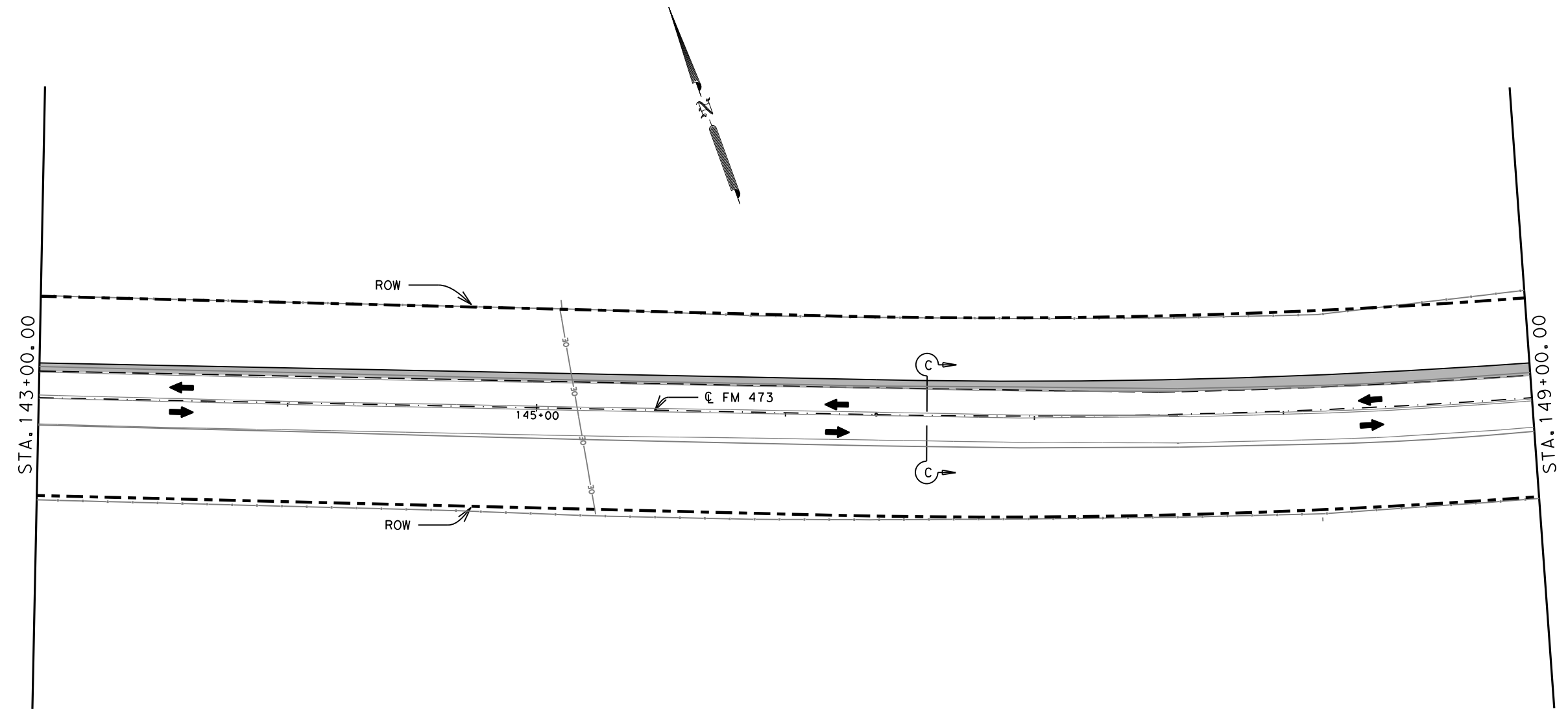
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		148

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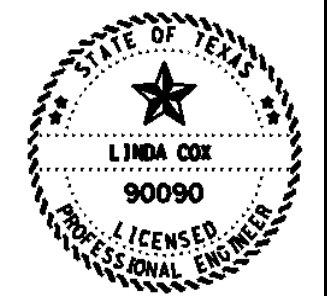
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021

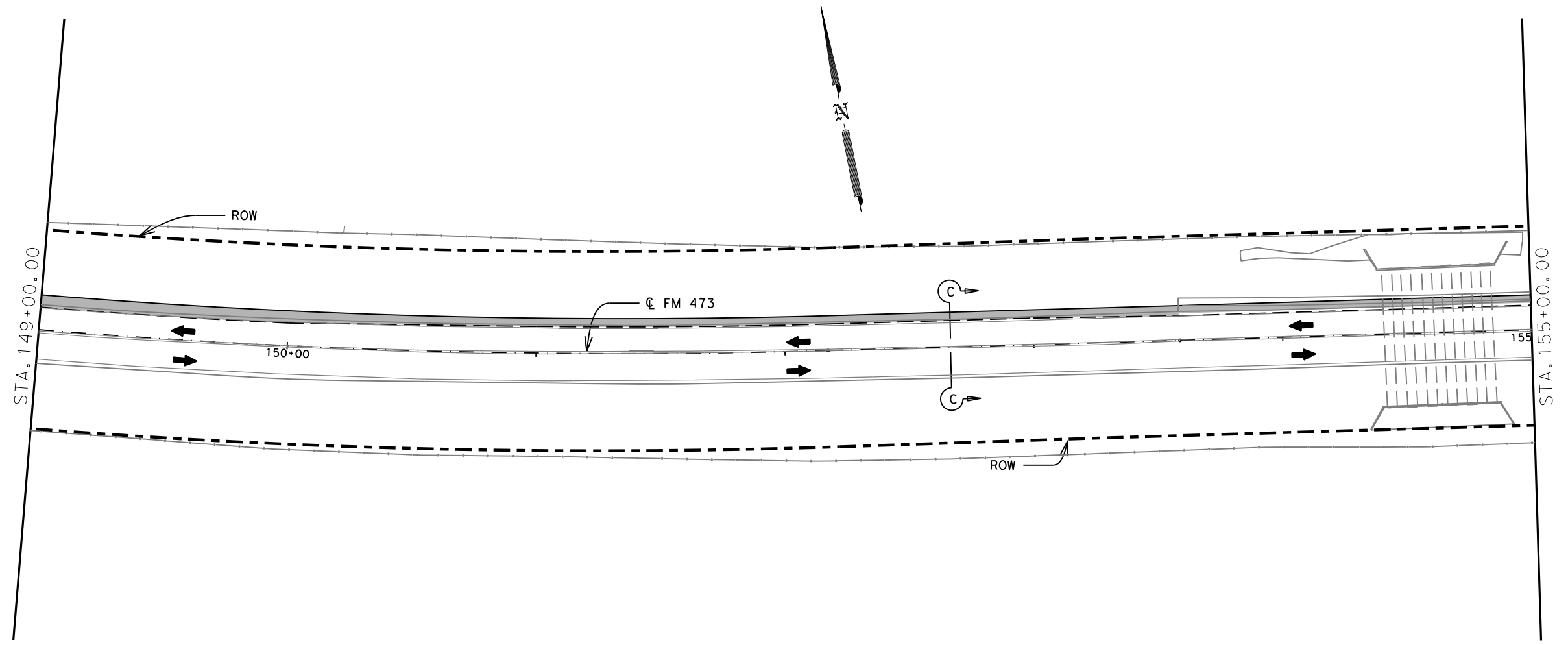


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		149

DN: C&S: DM: C&S:



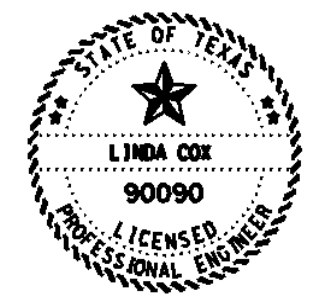
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021

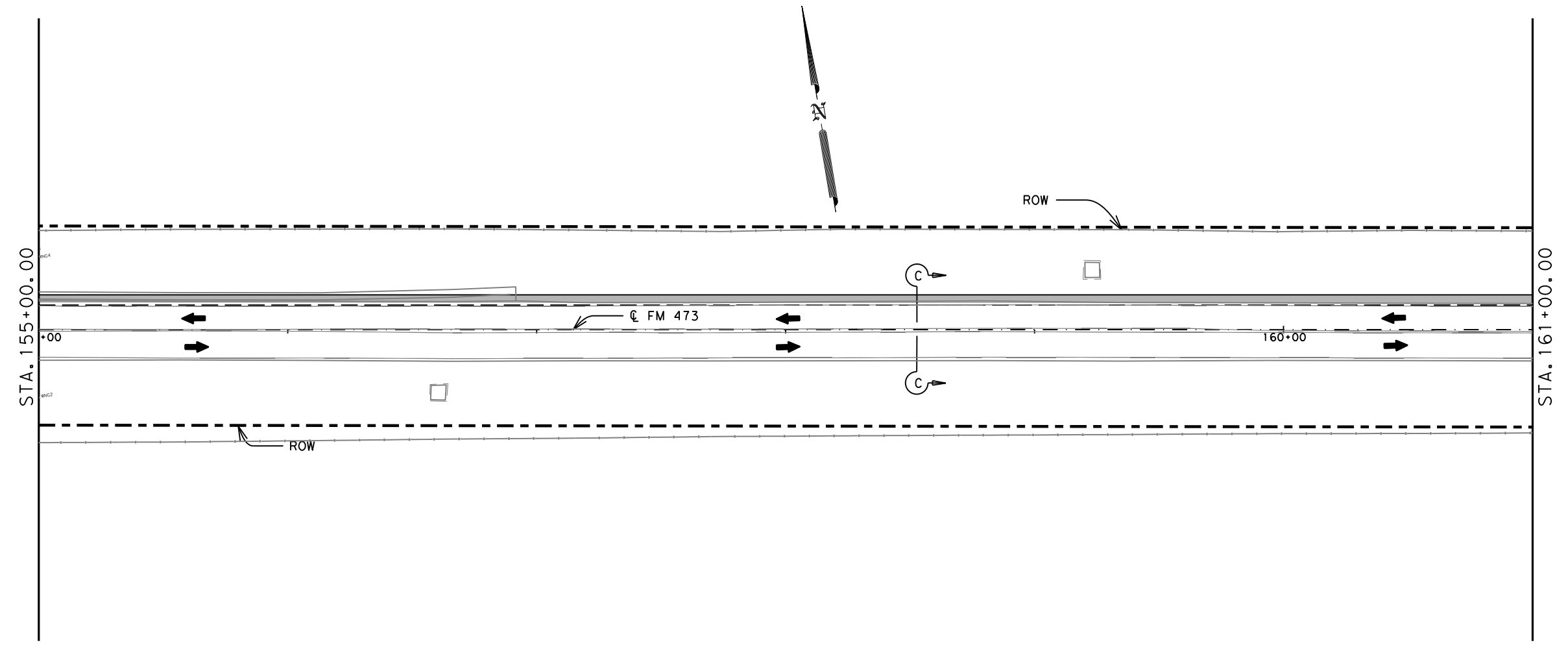


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		150

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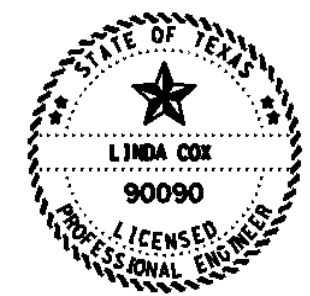
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

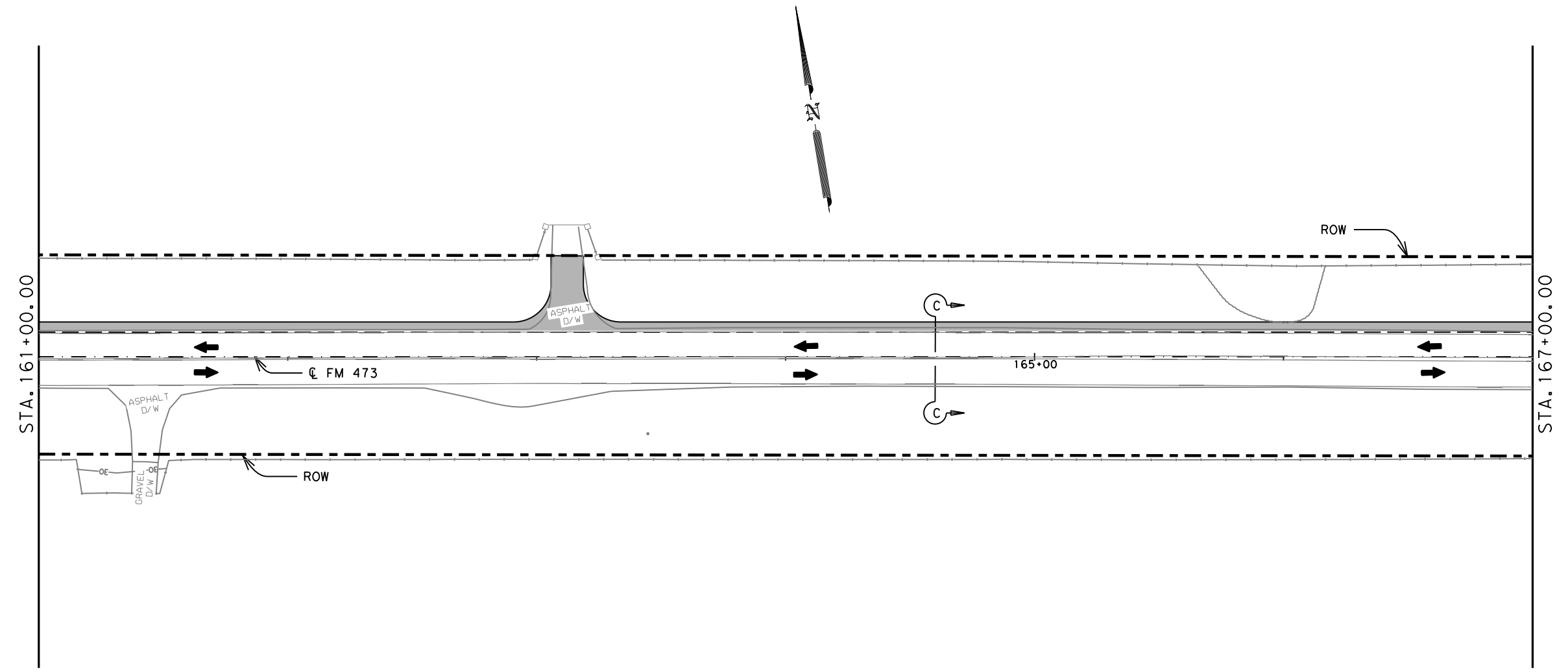


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		151

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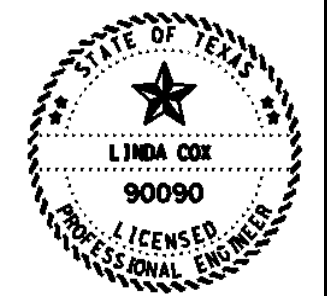


NOTE:  
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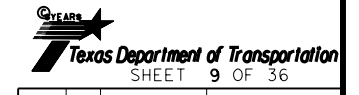
**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



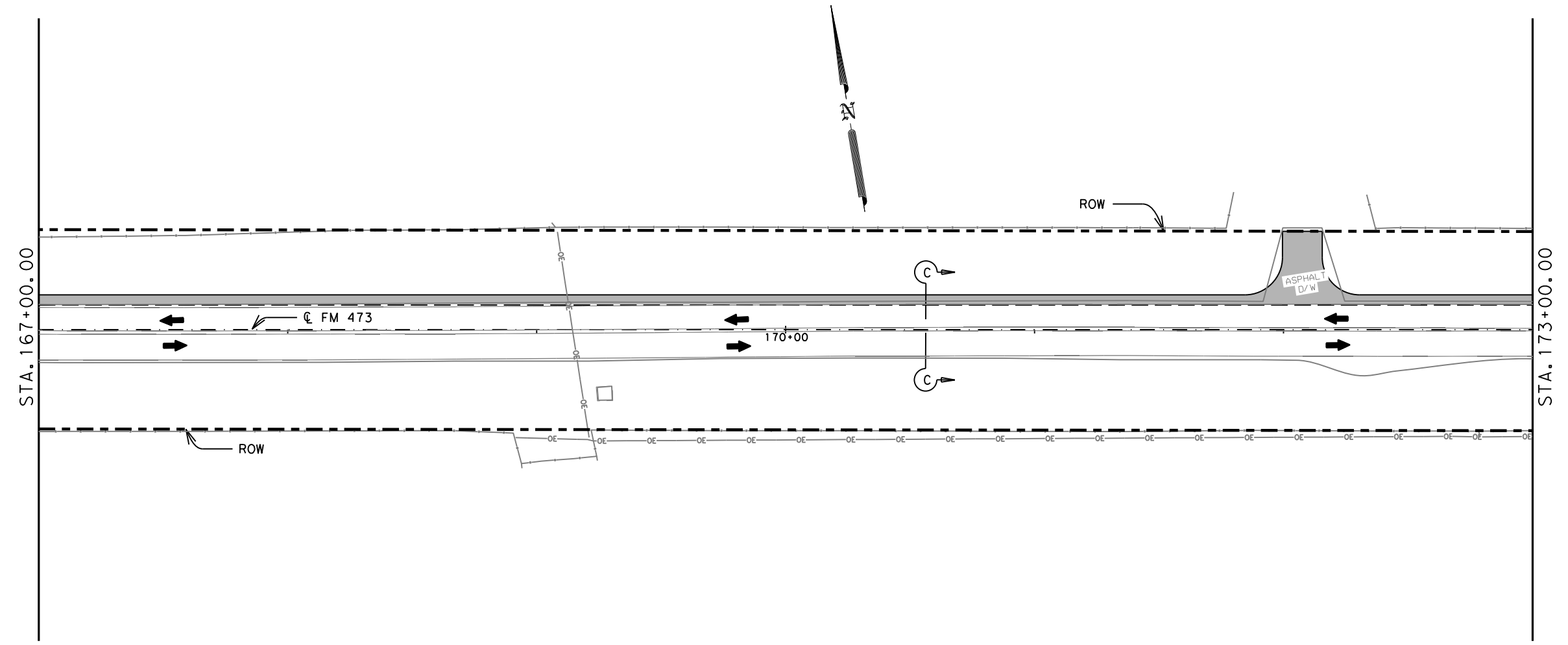
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		152

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DN: C&S: DM: C&S:



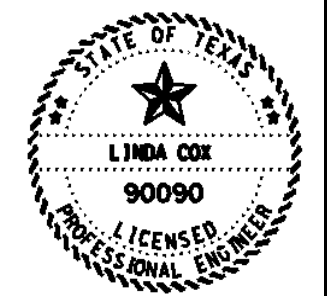
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2 -WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021

0 50  
 SCALE IN FEET

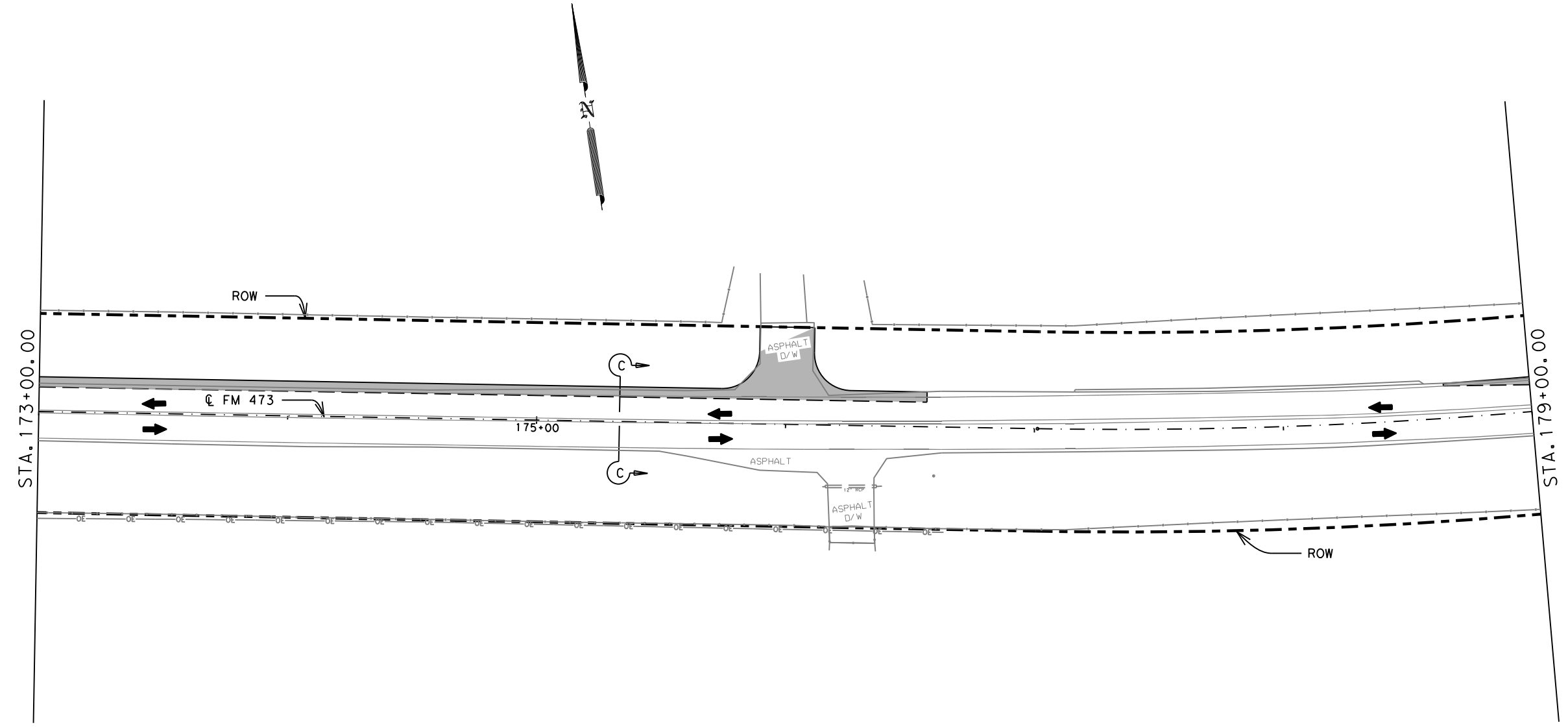
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		153



DN: C&G: DM: C&G: C&G:



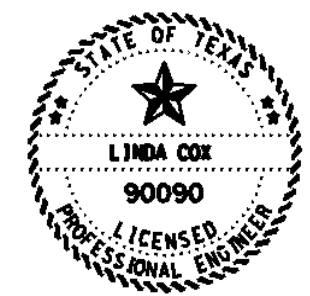
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021

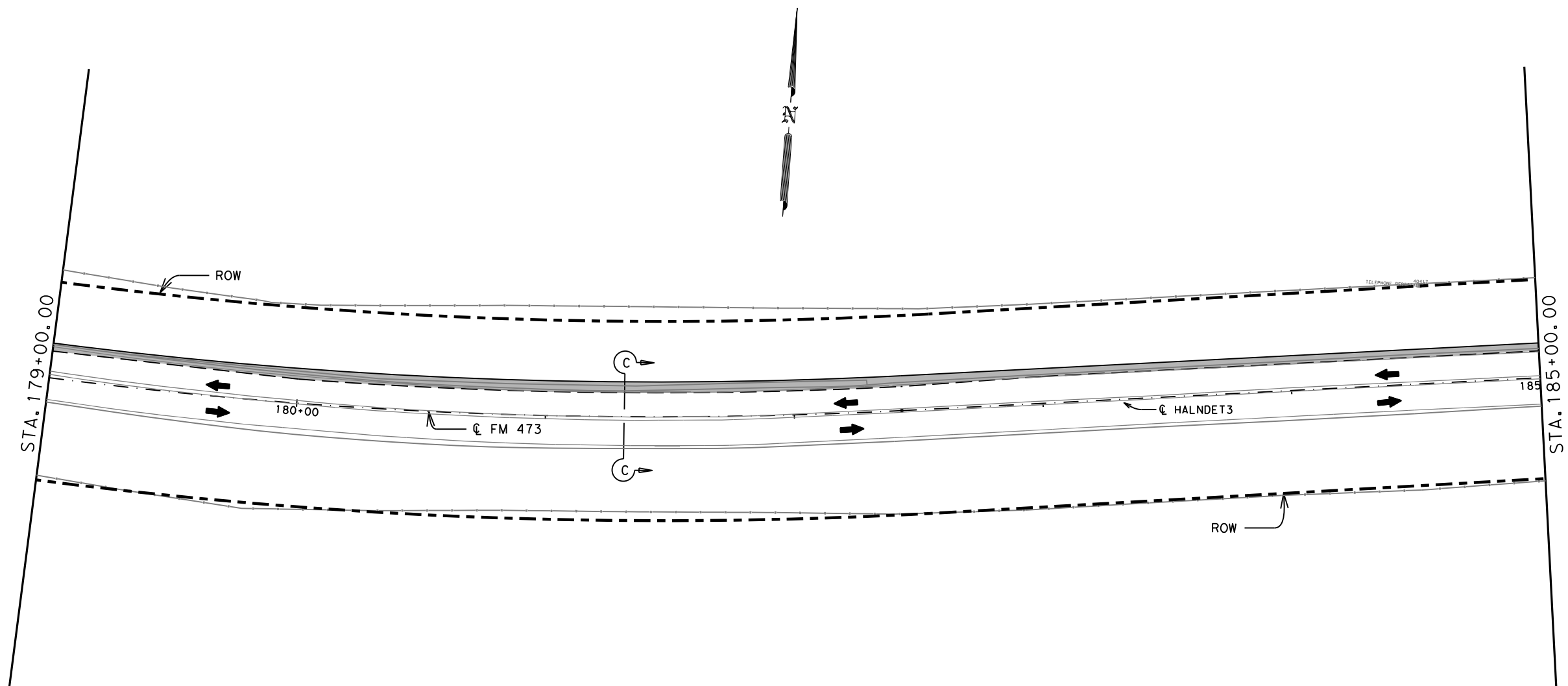


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		154

DN: C&S: DM: C&S:

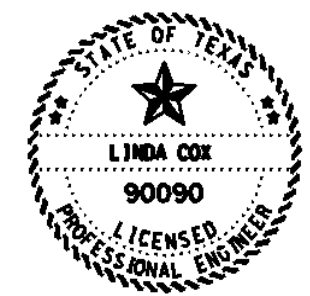


NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



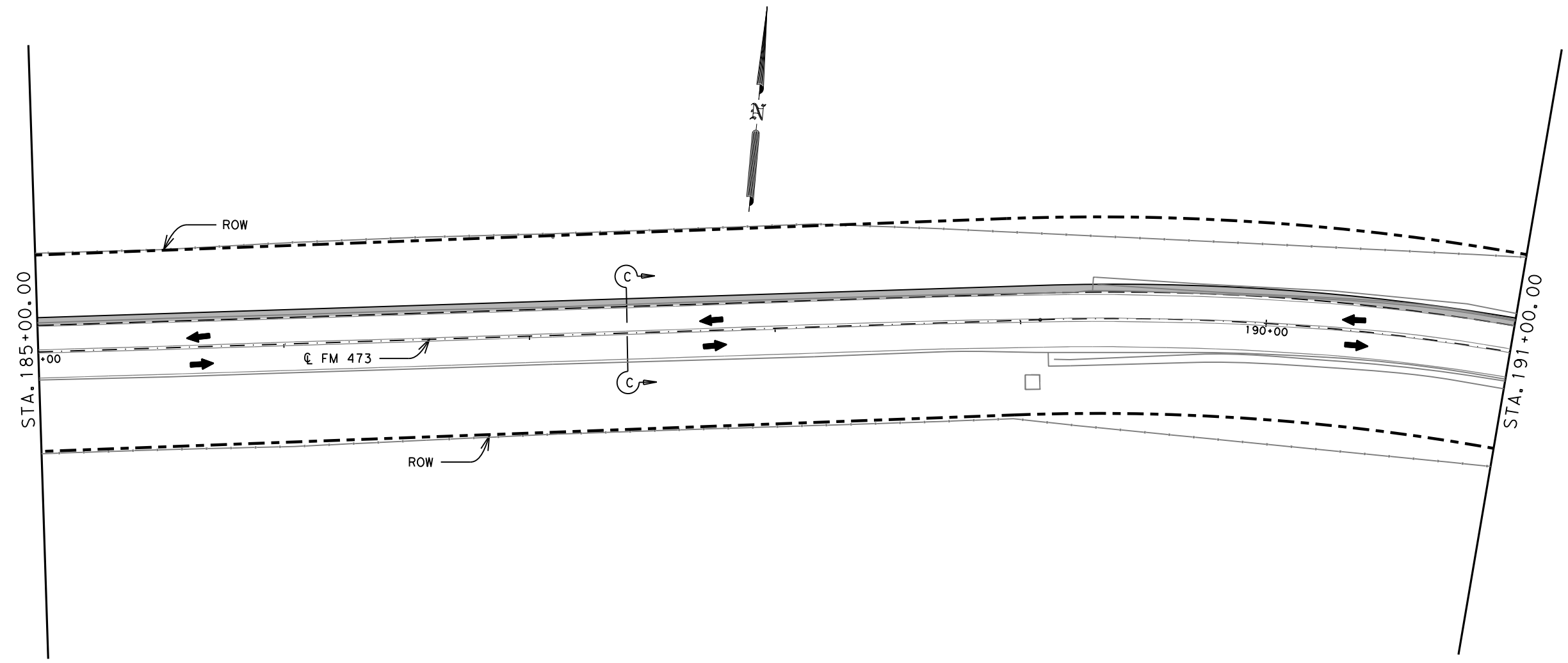
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		155

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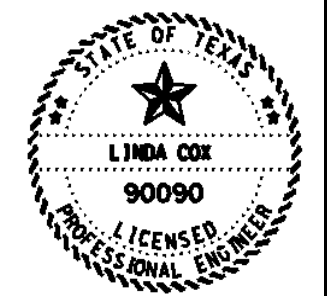


NOTE:  
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**LEGEND**  
 TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 CONSTRUCTION AREA



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04/29/2021



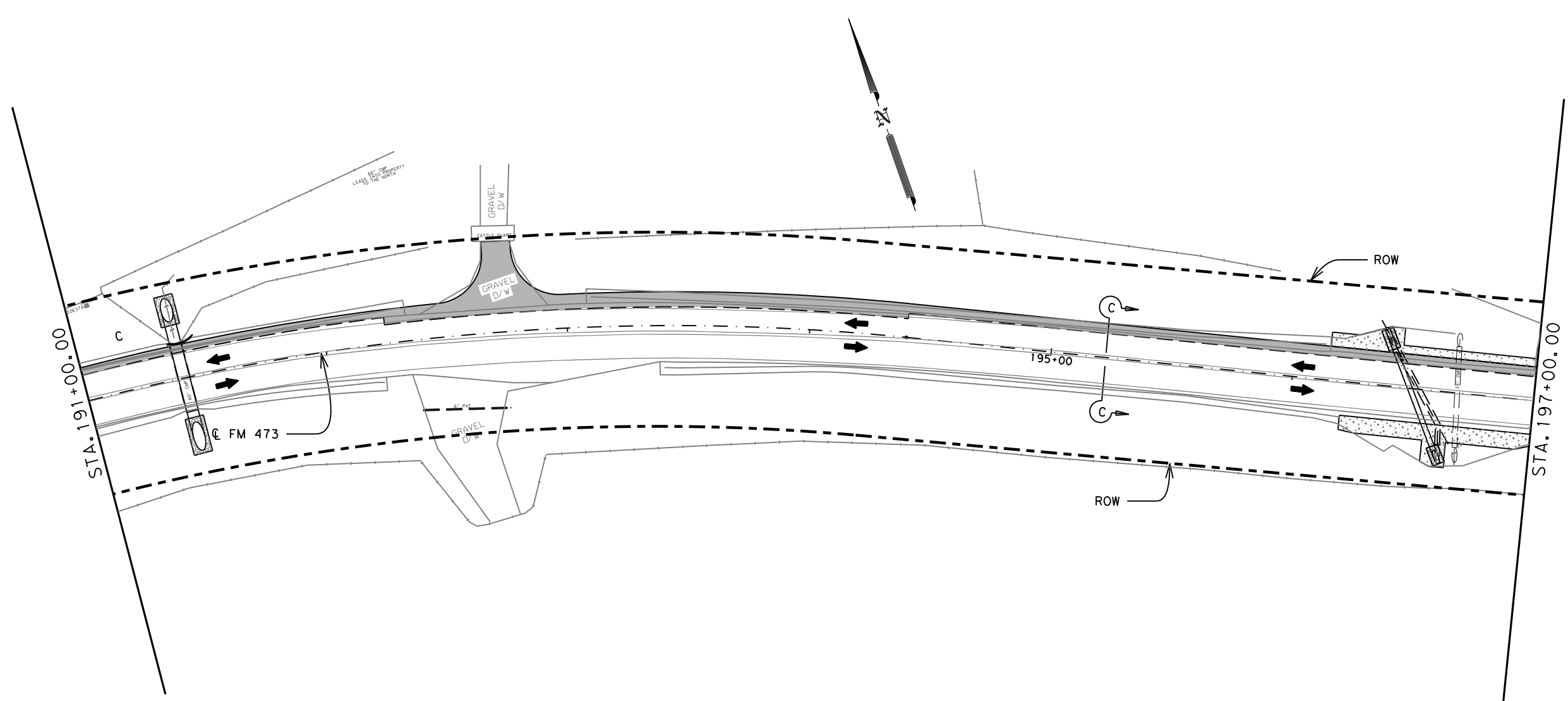
RM 473  
TCP LAYOUTS  
PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	156

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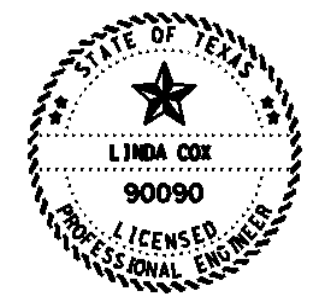
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



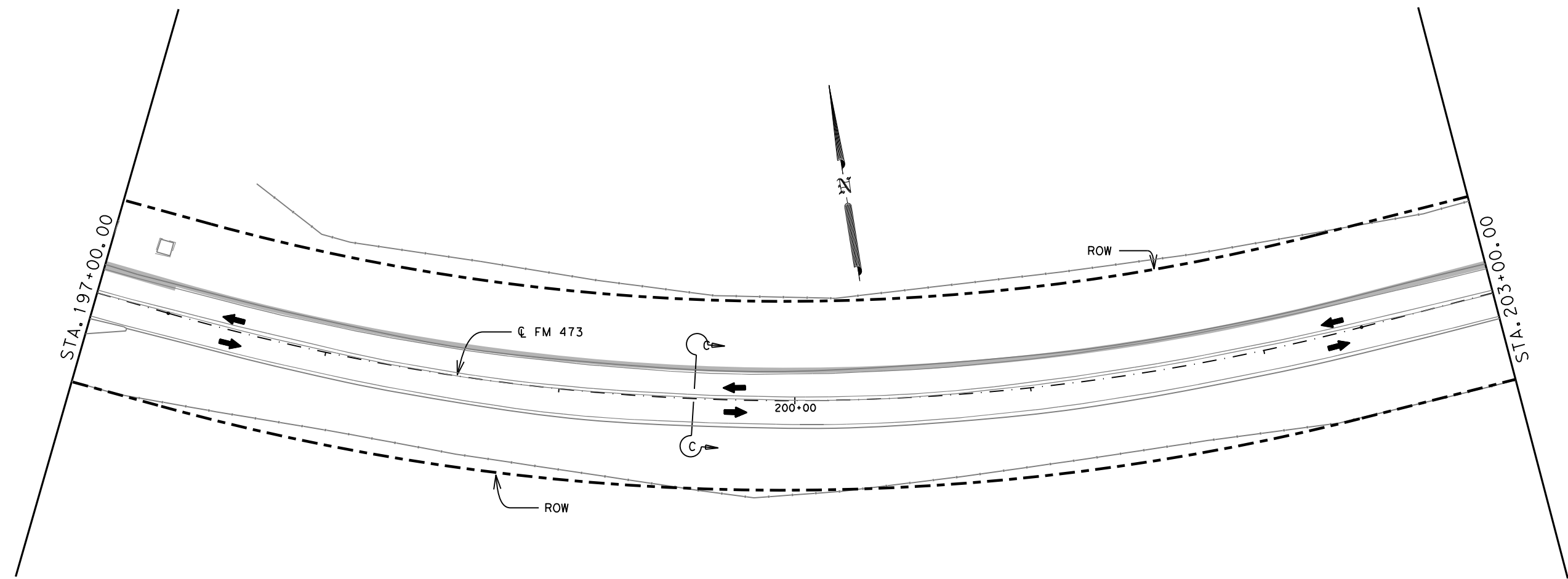
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		157

DN: C&S: DM: C&S:

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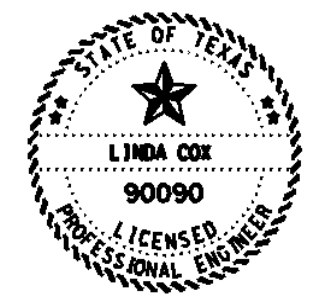


NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021

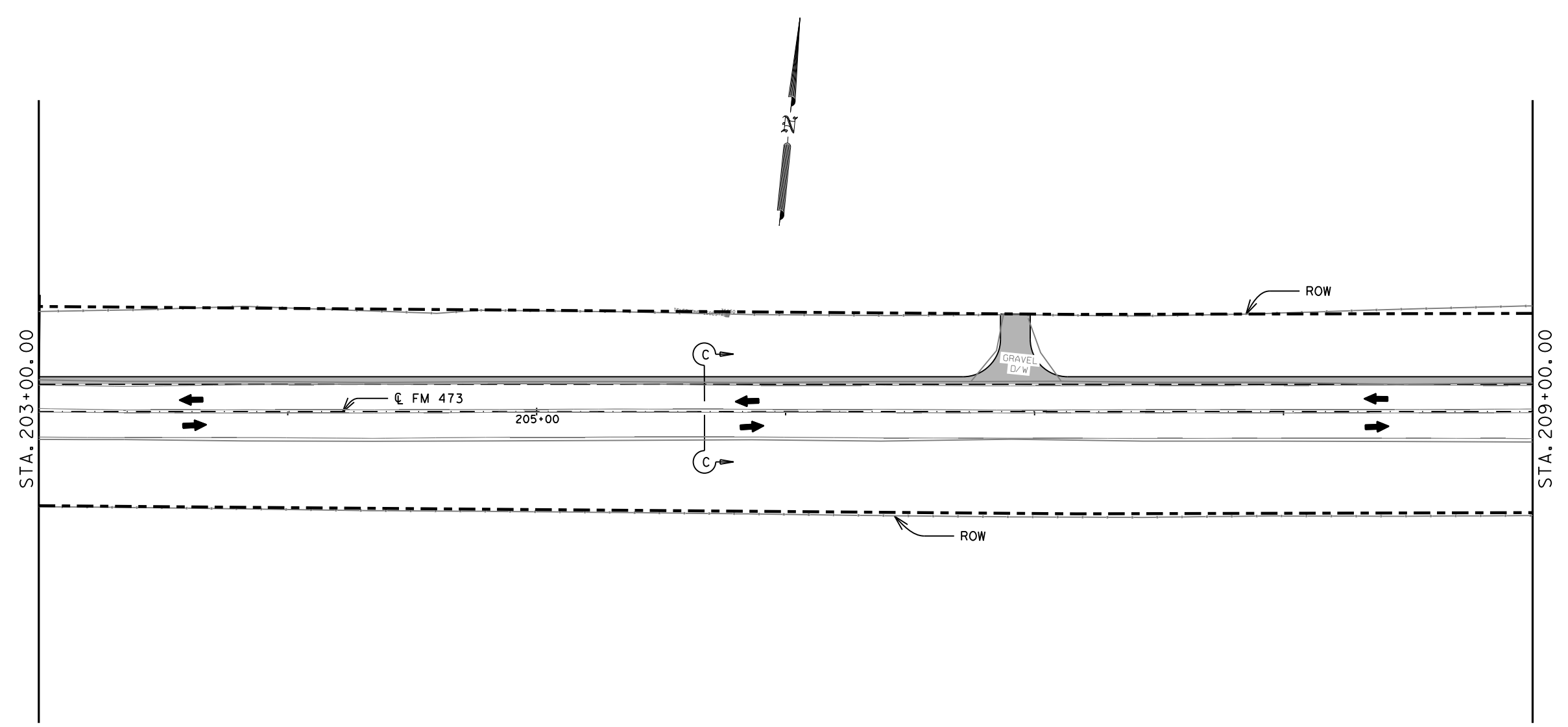


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		158

DN: C&S: DM: C&S:



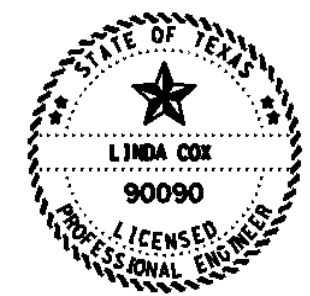
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

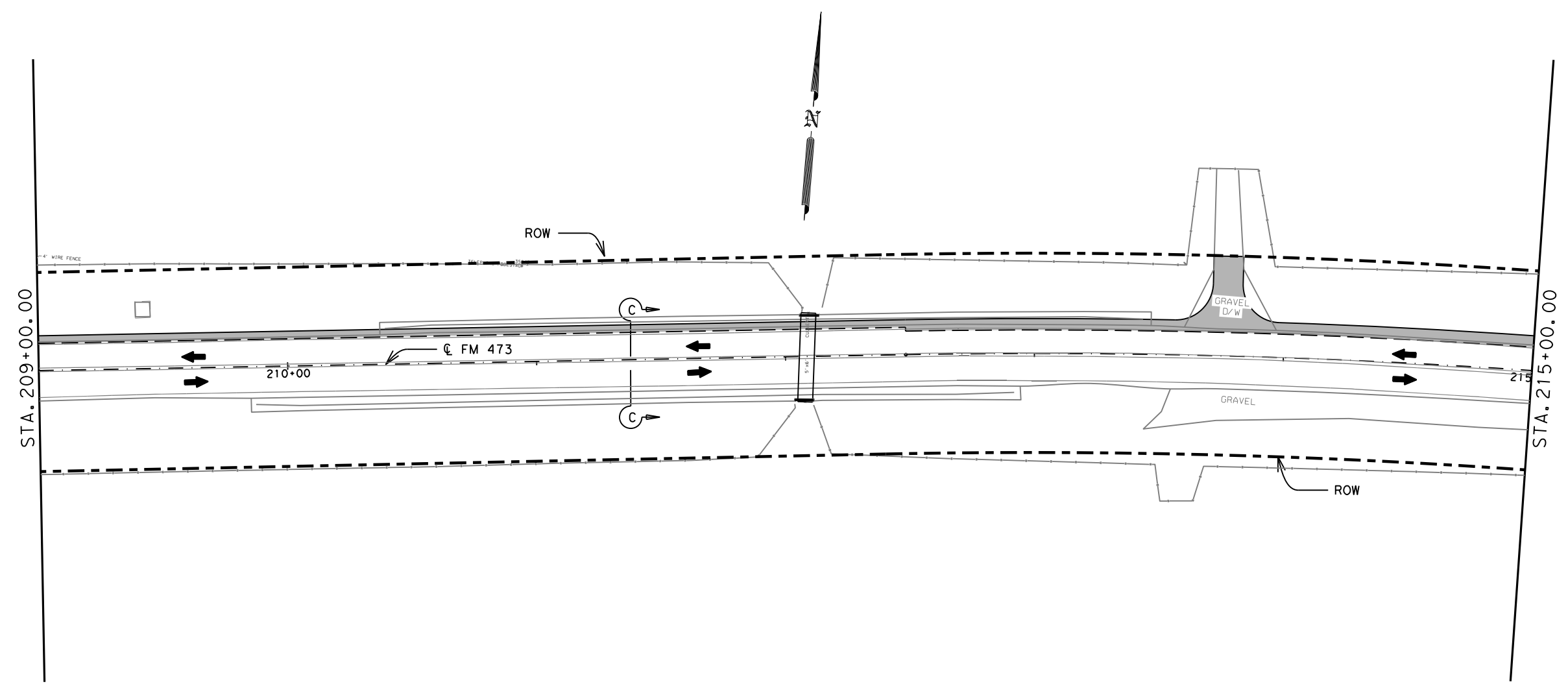


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		159

DN: C&S: DM: C&S: C&S:

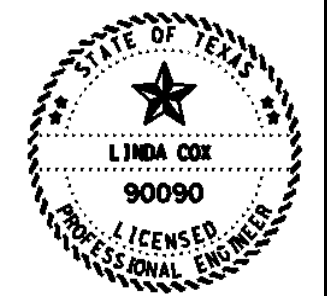


NOTE:  
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**LEGEND**  
 TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 CONSTRUCTION AREA



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04/29/2021



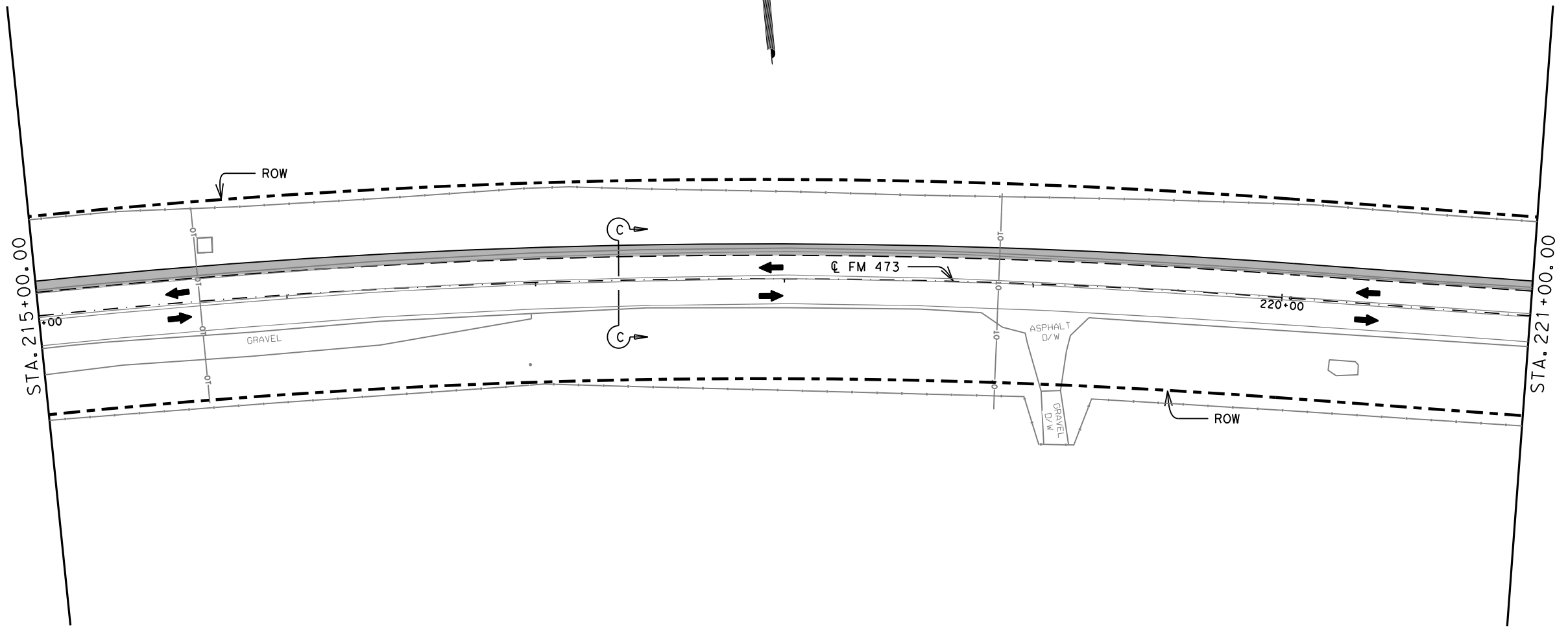
RM 473  
TCP LAYOUTS  
PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		160

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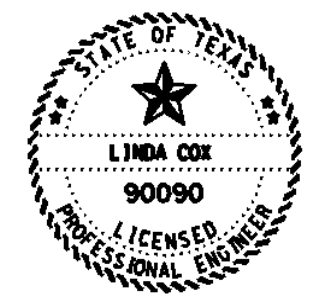
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



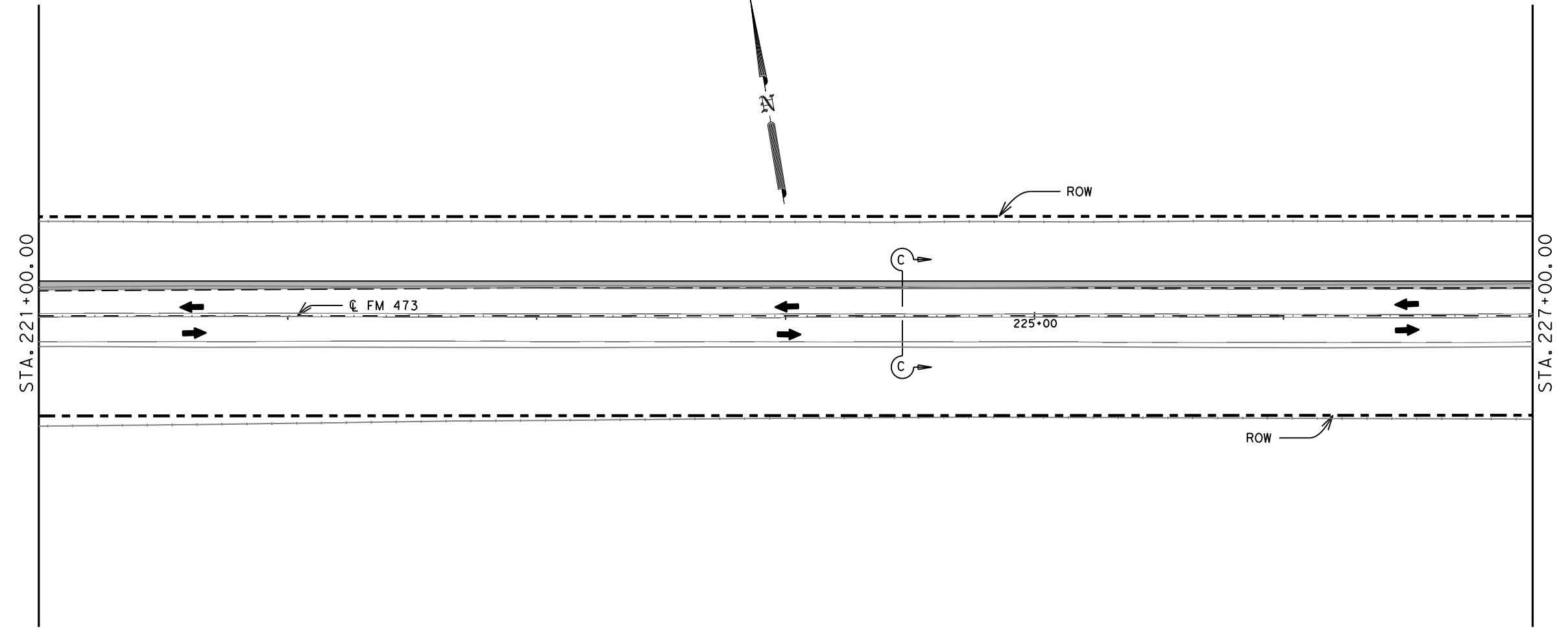
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		161



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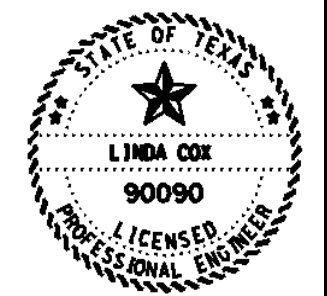


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



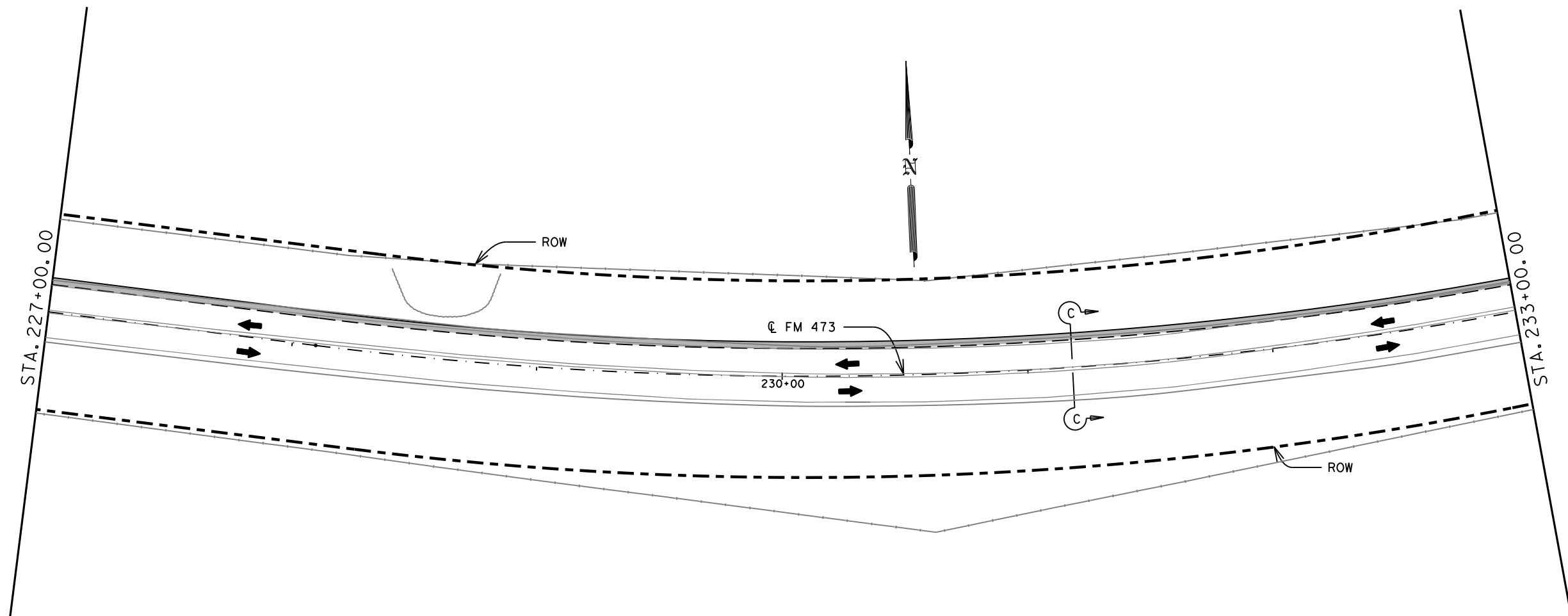
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		162

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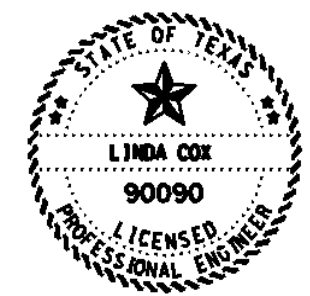


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



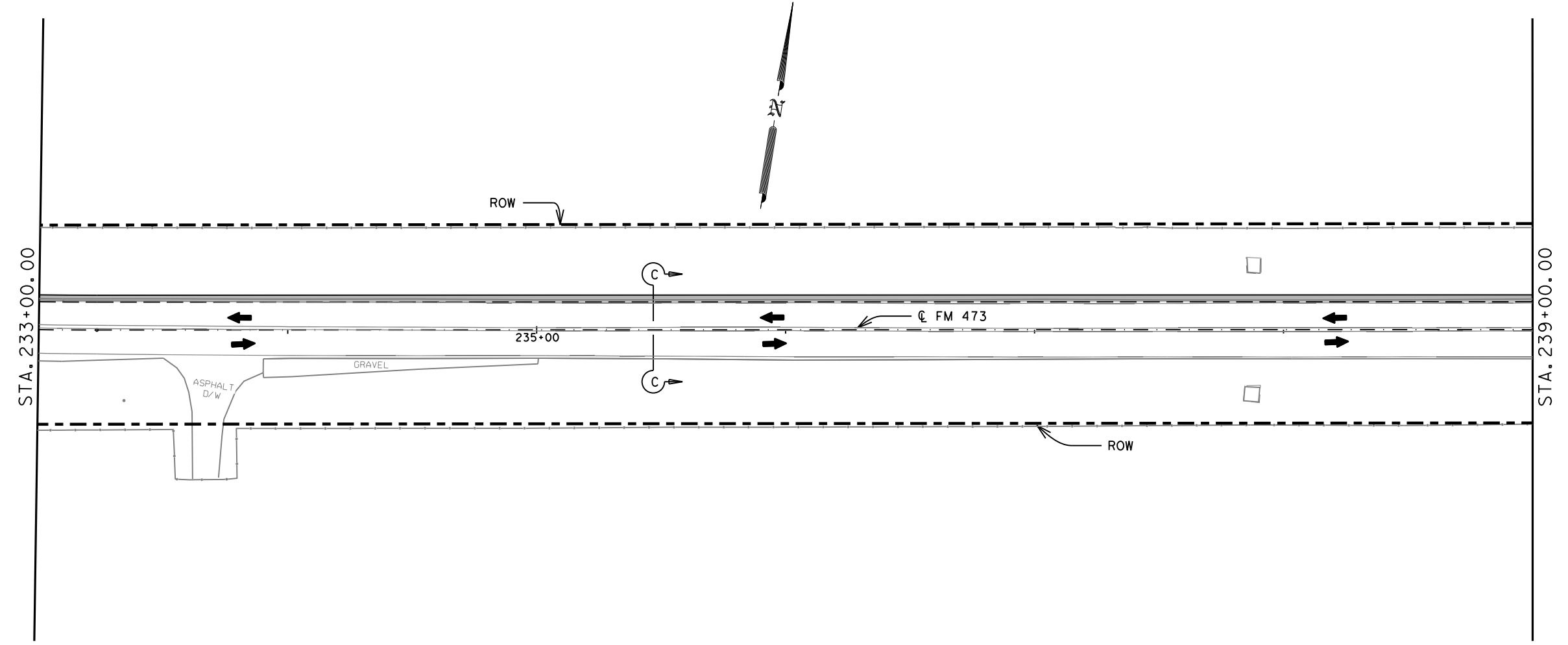
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		163

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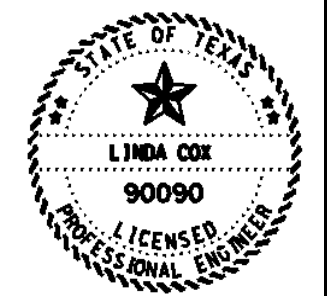


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



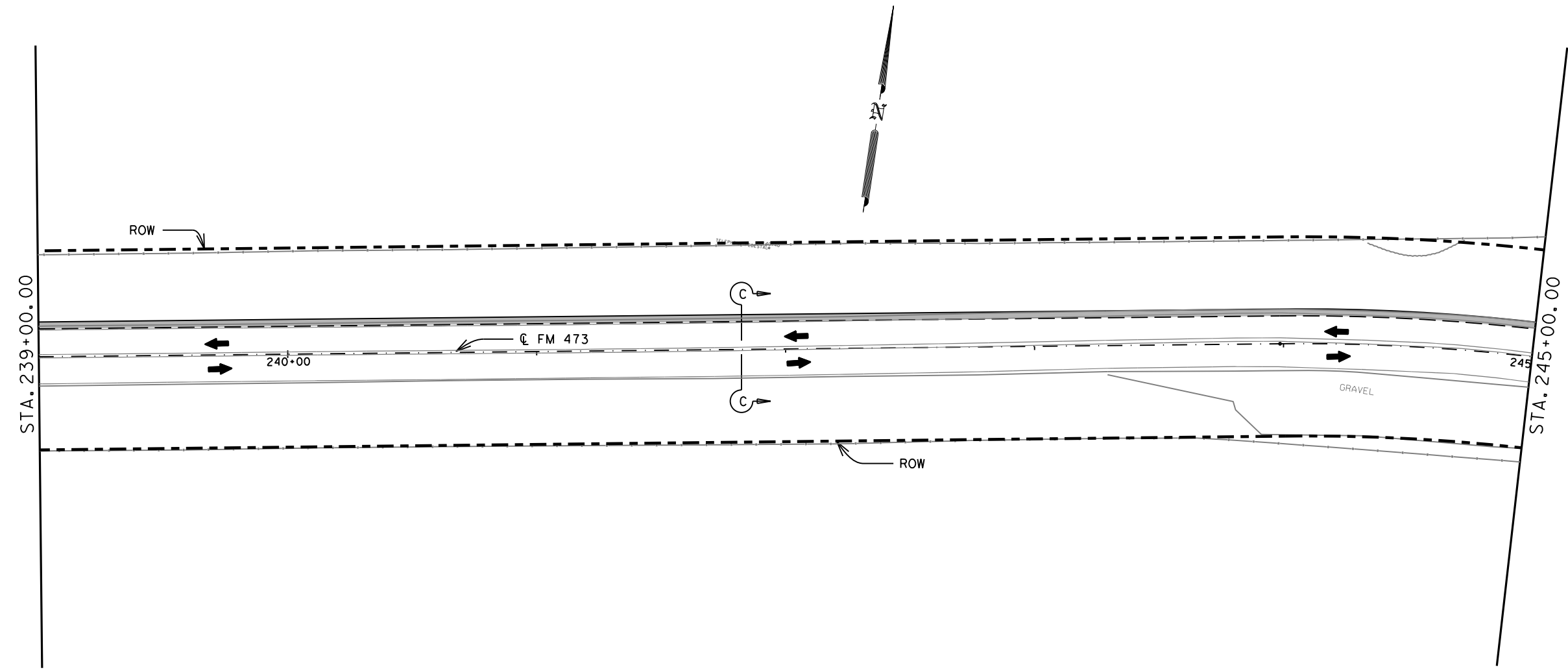
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		164

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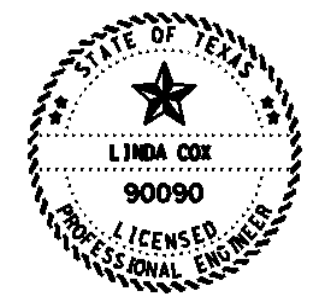
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

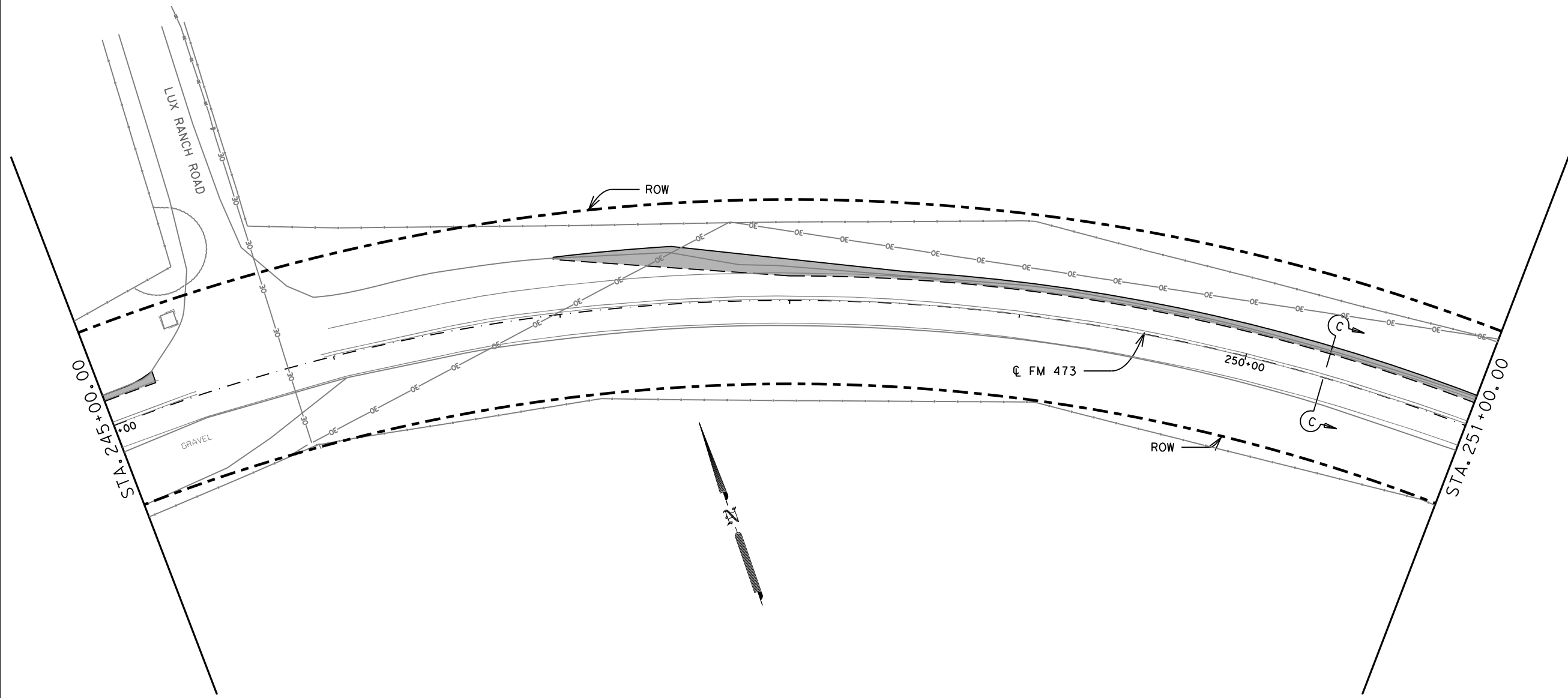


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		165

DN: C&S: DM: C&S: C&S:



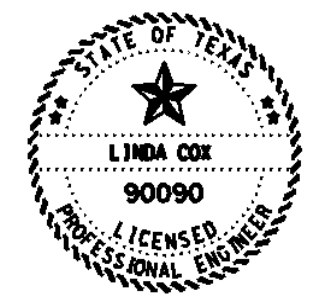
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

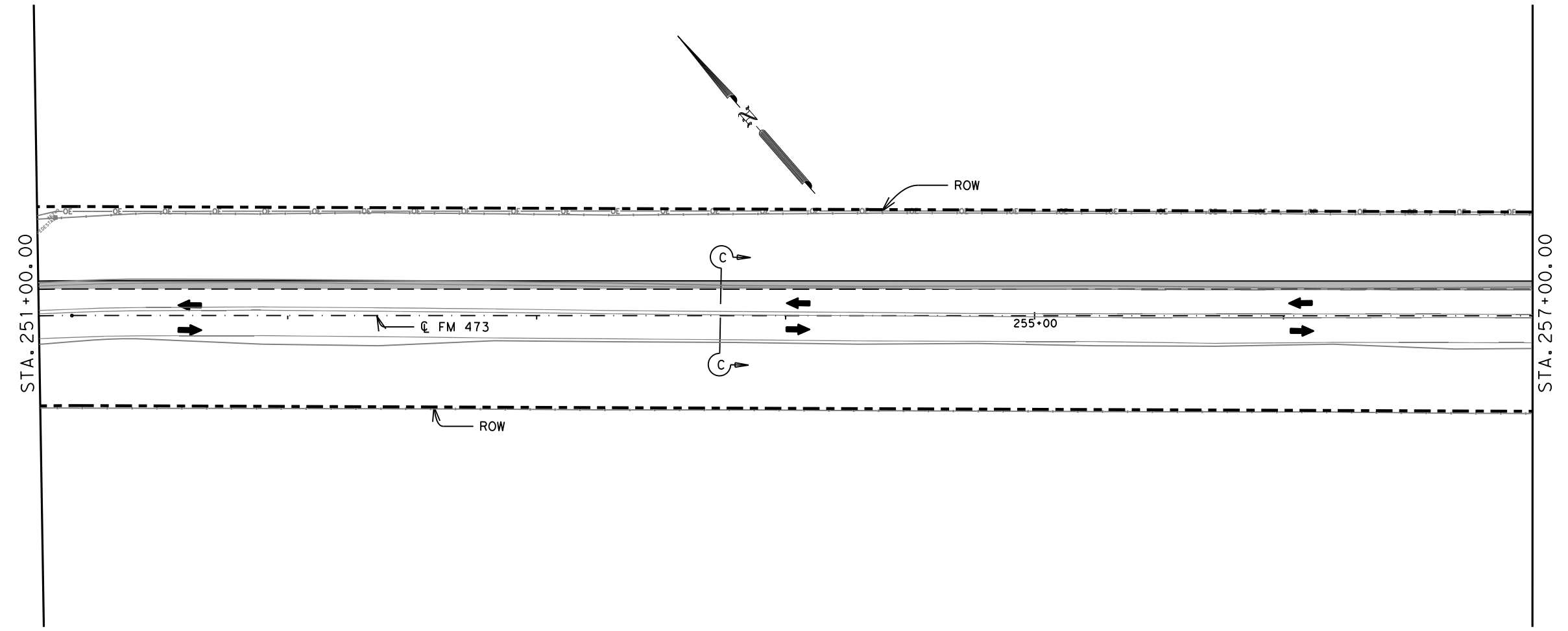


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	166

DN: C&S: DM: C&S:



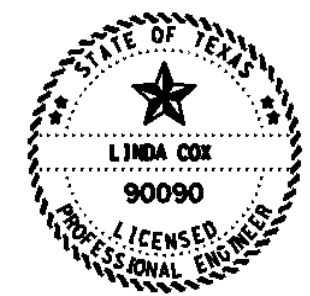
NOTE:  
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 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA

DATE: 4/27/2021 8:51:50 AM  
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*Linda Cox, P.E.*  
 04/29/2021

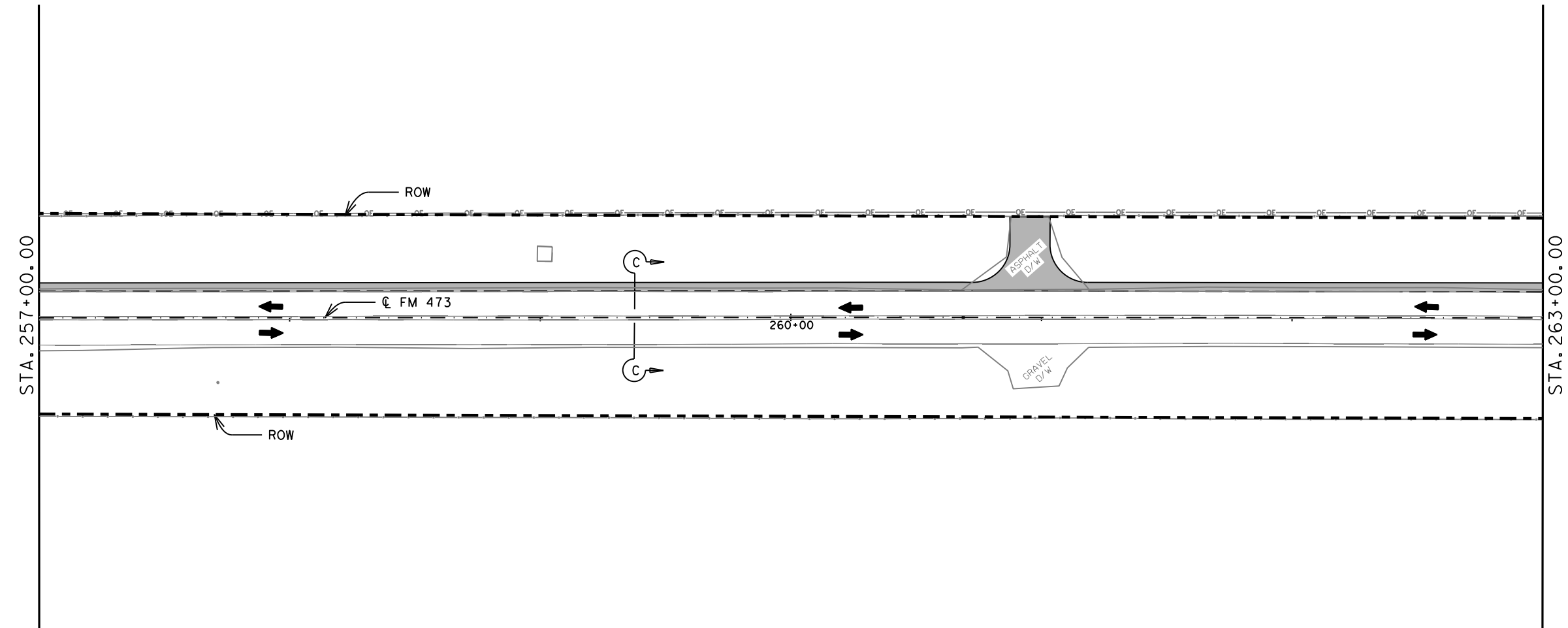


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		167

DN: C&G: DM: C&G: CK: C&G:



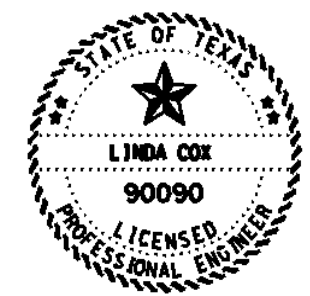
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

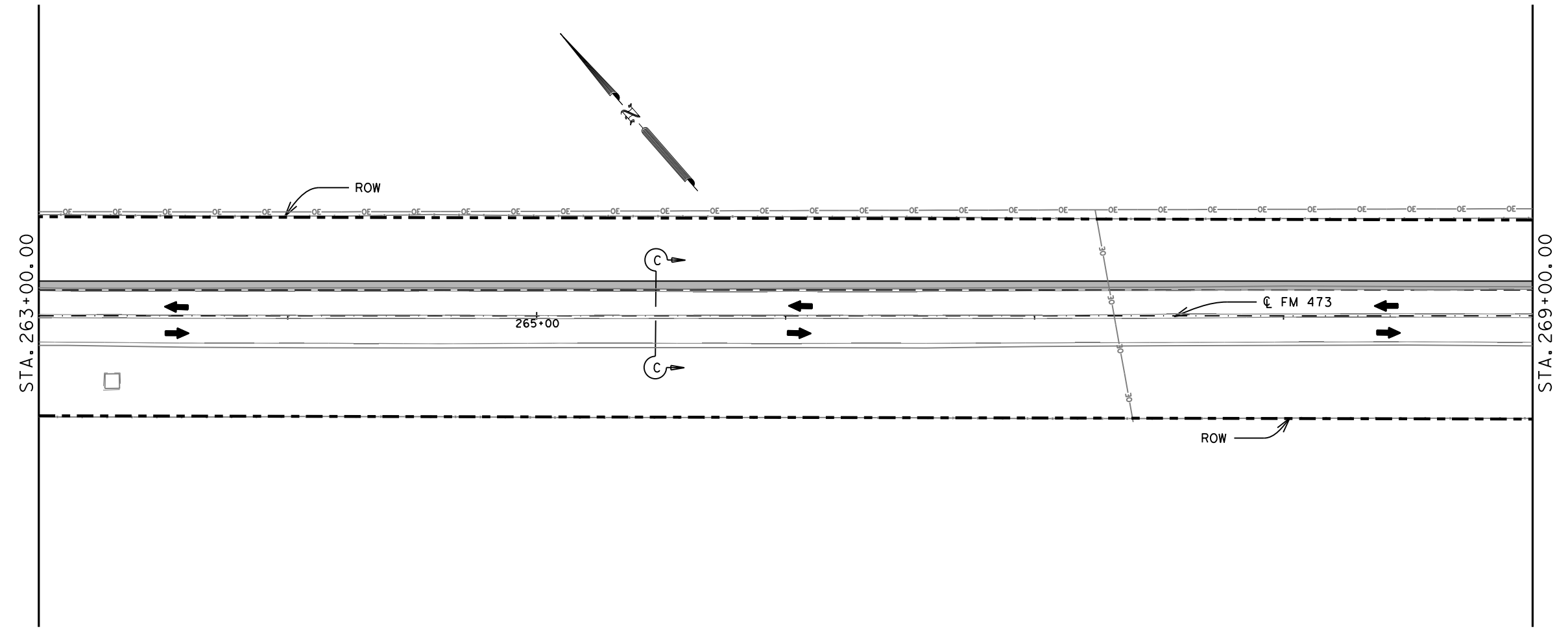


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		168

DN: C&G: DM: C&G: C&G:



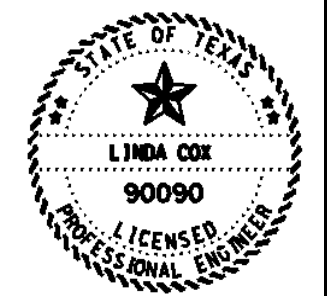
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



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 04/29/2021



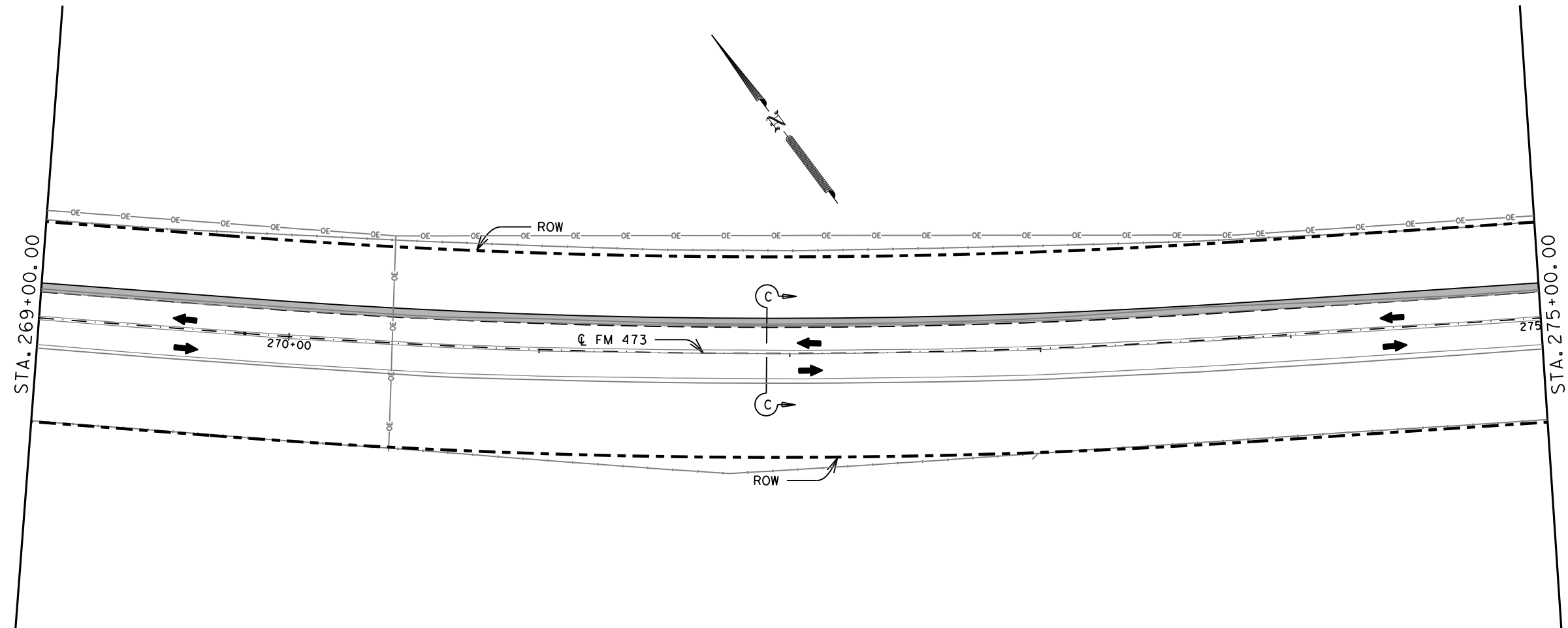
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		169



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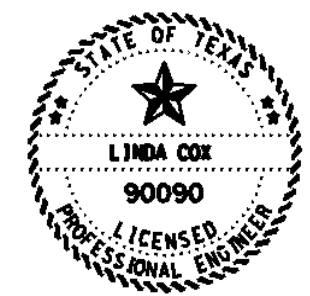
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

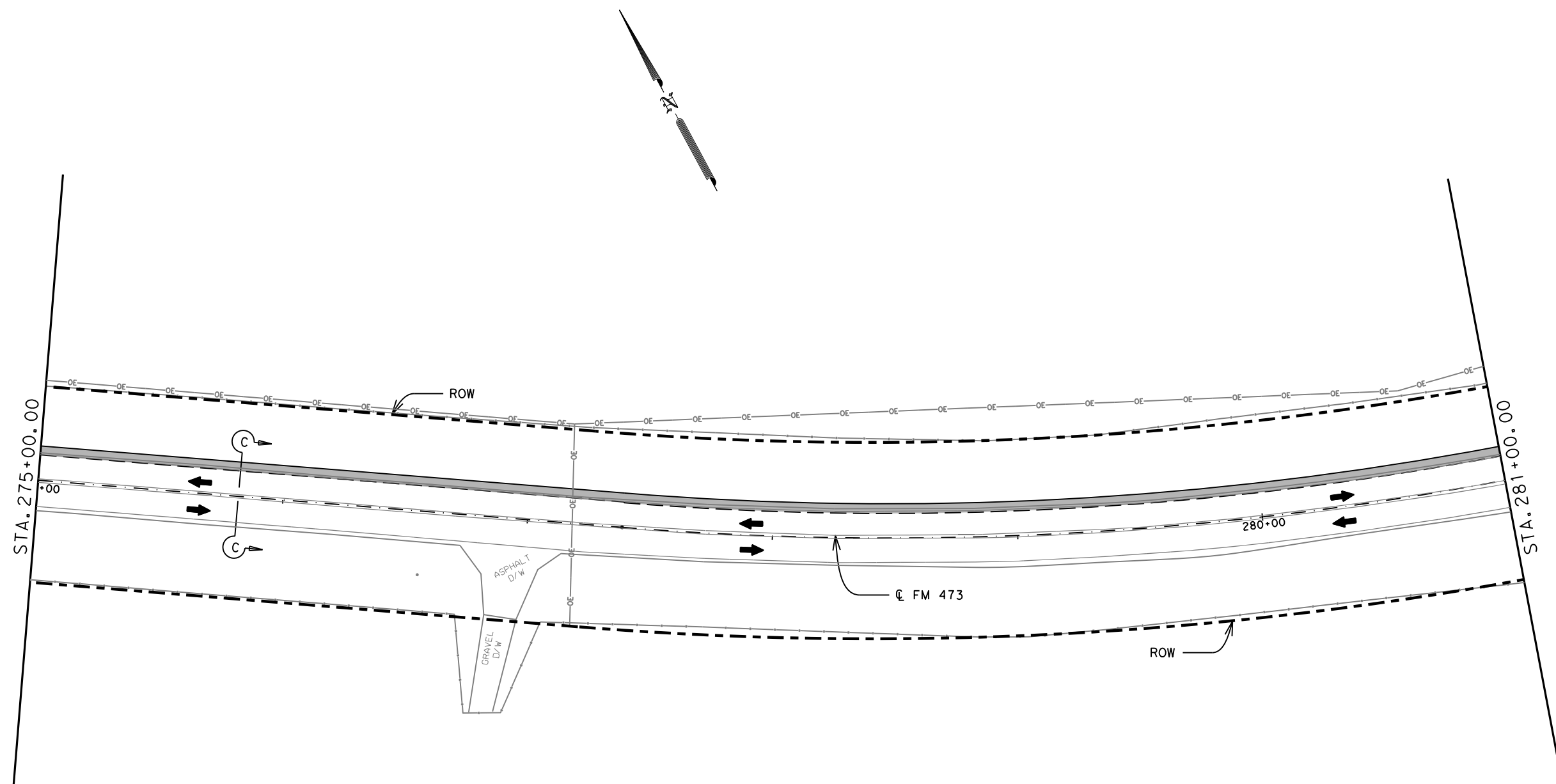


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		170

DN: C&S: DM: C&S: CK:



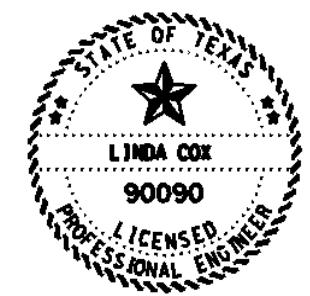
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



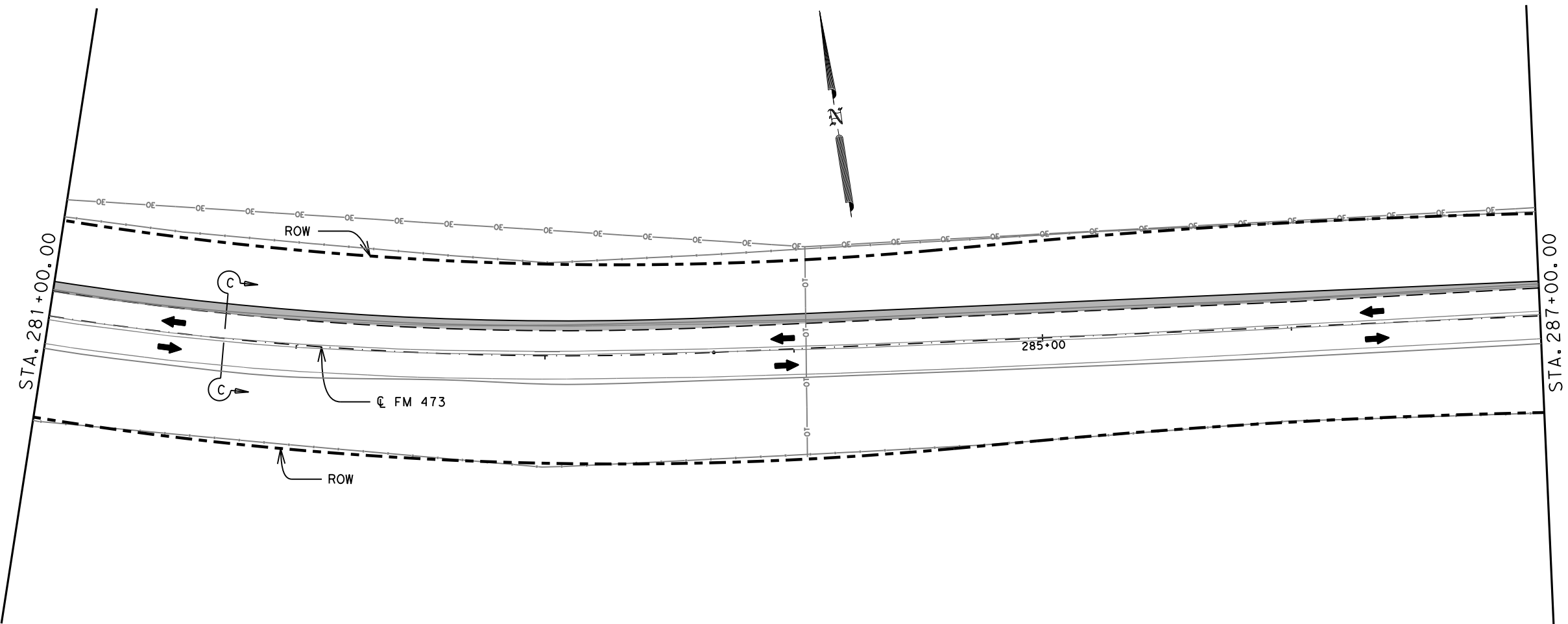
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE III

		SHEET 28 OF 36	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		171

DN: C&G: DM: C&G:



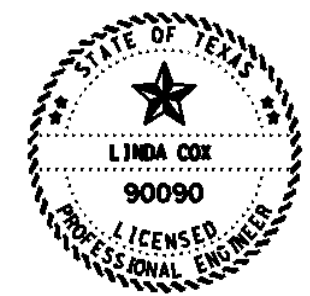
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



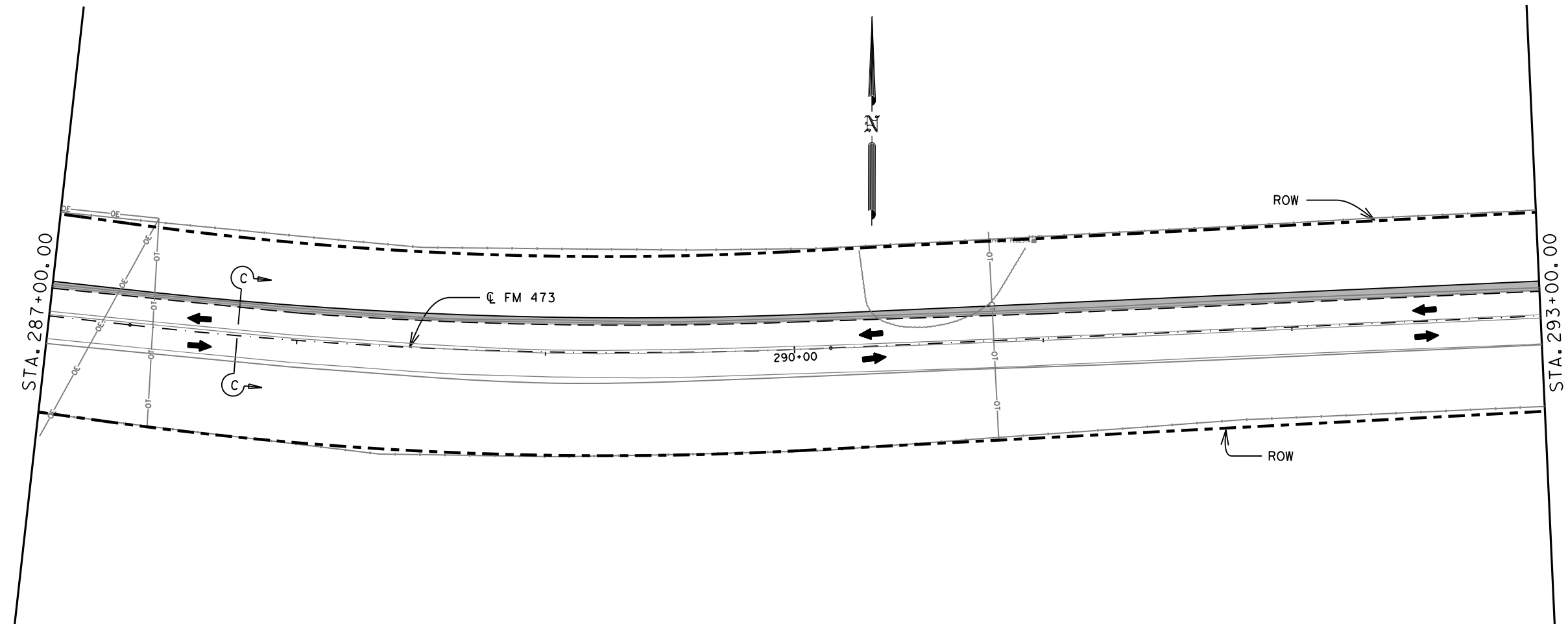
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		172

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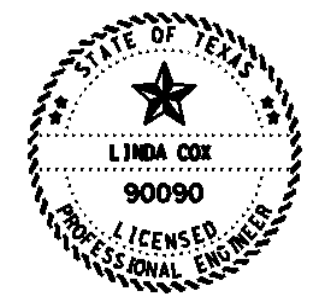


NOTE:  
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 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

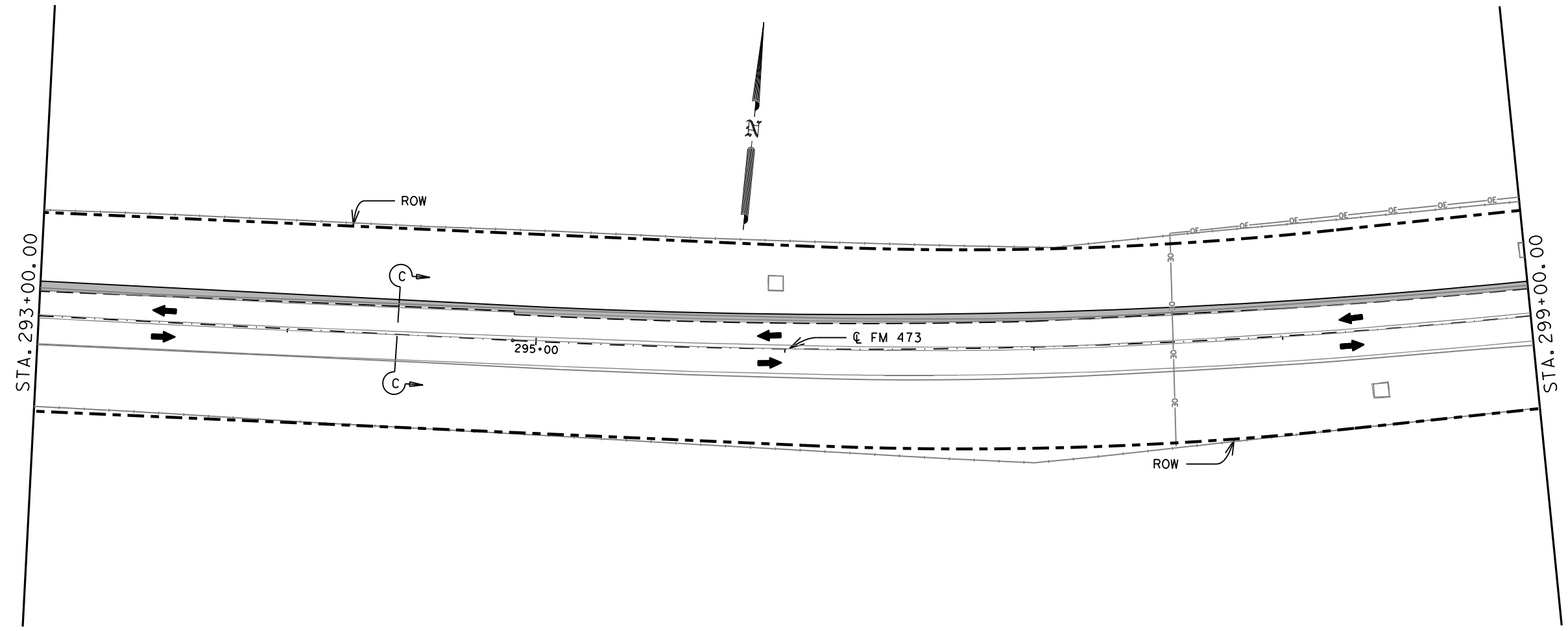


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		173

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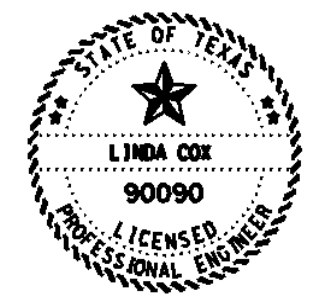
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NOTE:  
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 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



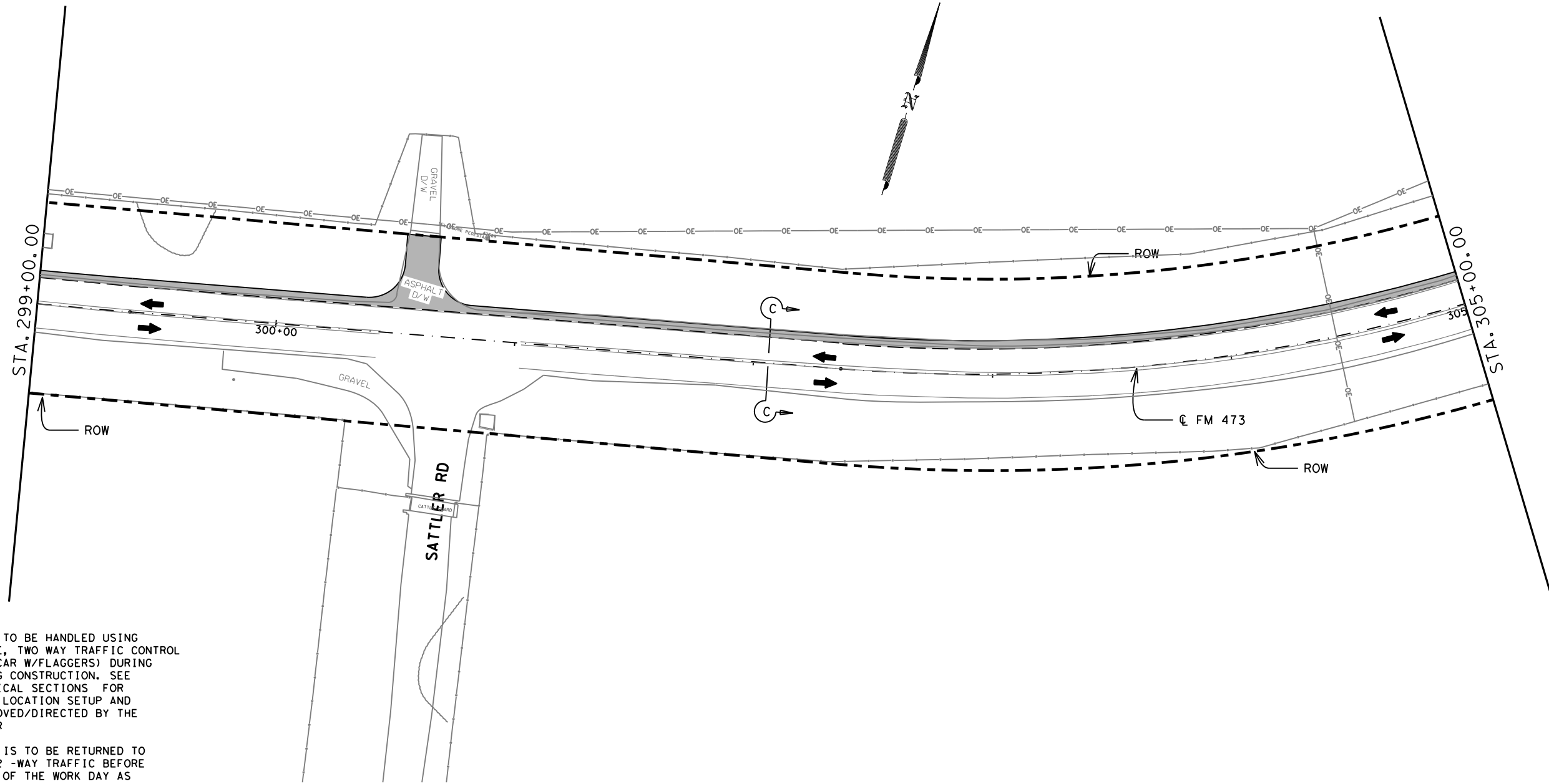
RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		174

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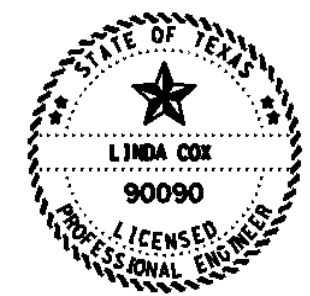


NOTE:  
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 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

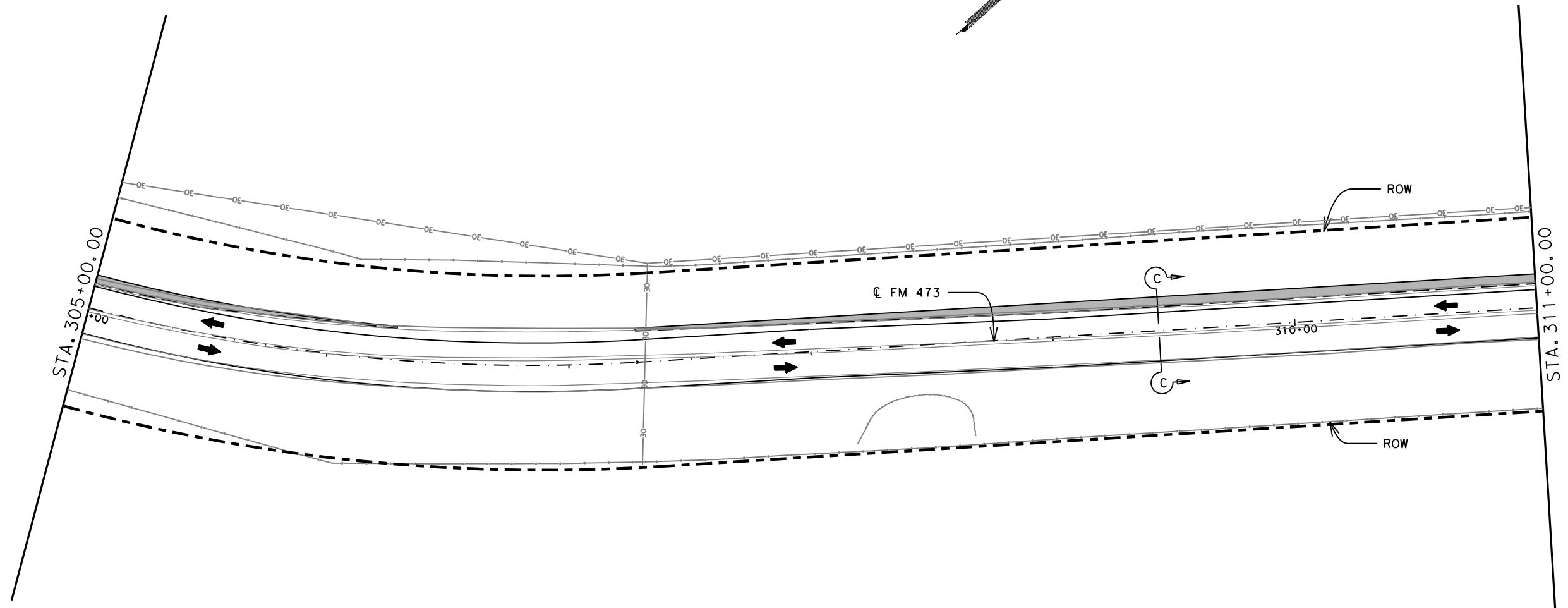


RM 473  
 TCP LAYOUTS  
 PHASE III

Texas Department of Transportation		SHEET 32 OF 36	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		175

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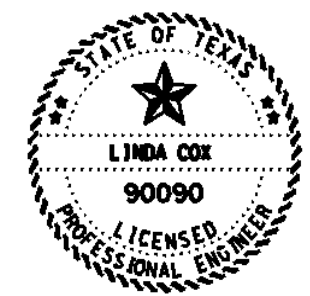


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

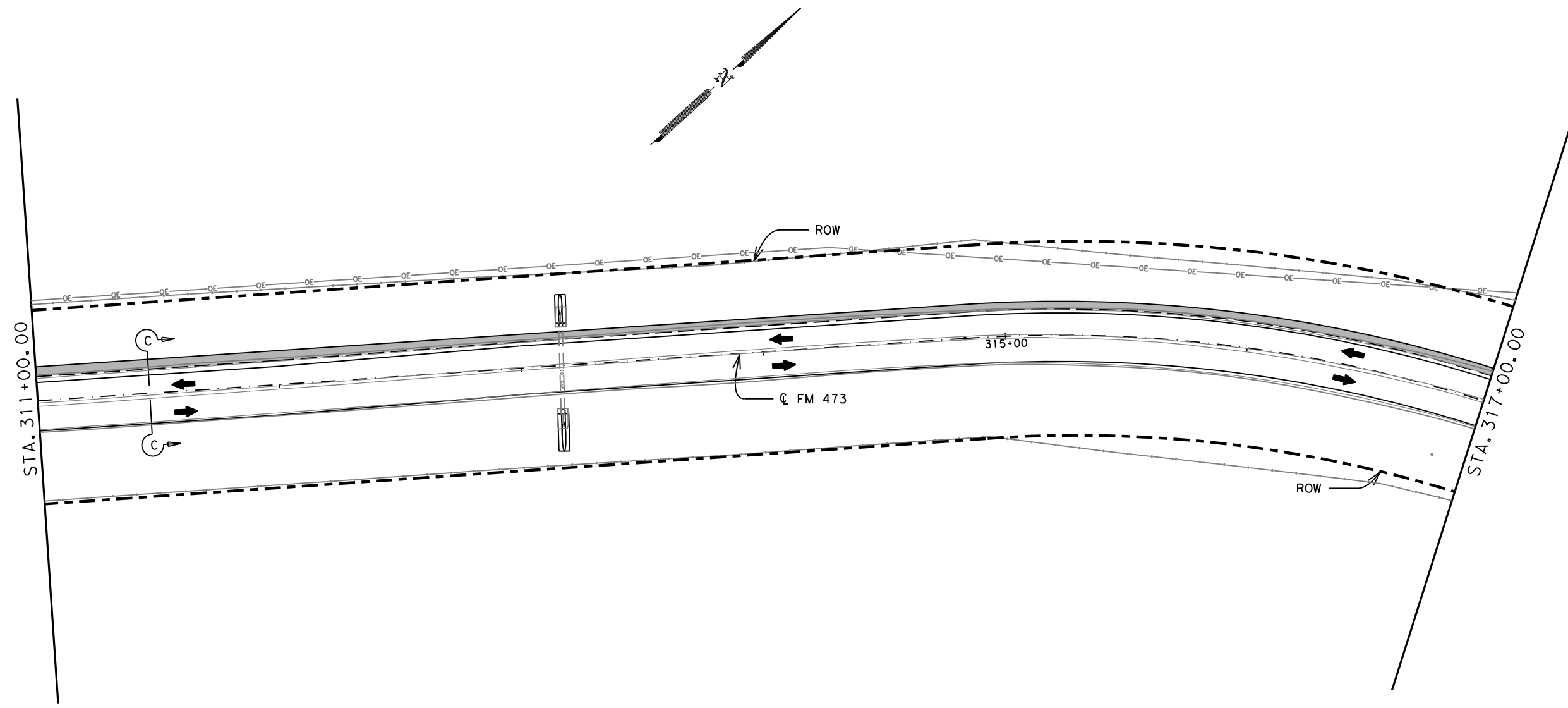


RM 473  
 TCP LAYOUTS  
 PHASE III



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	176

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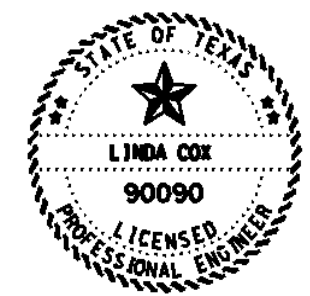


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 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE III

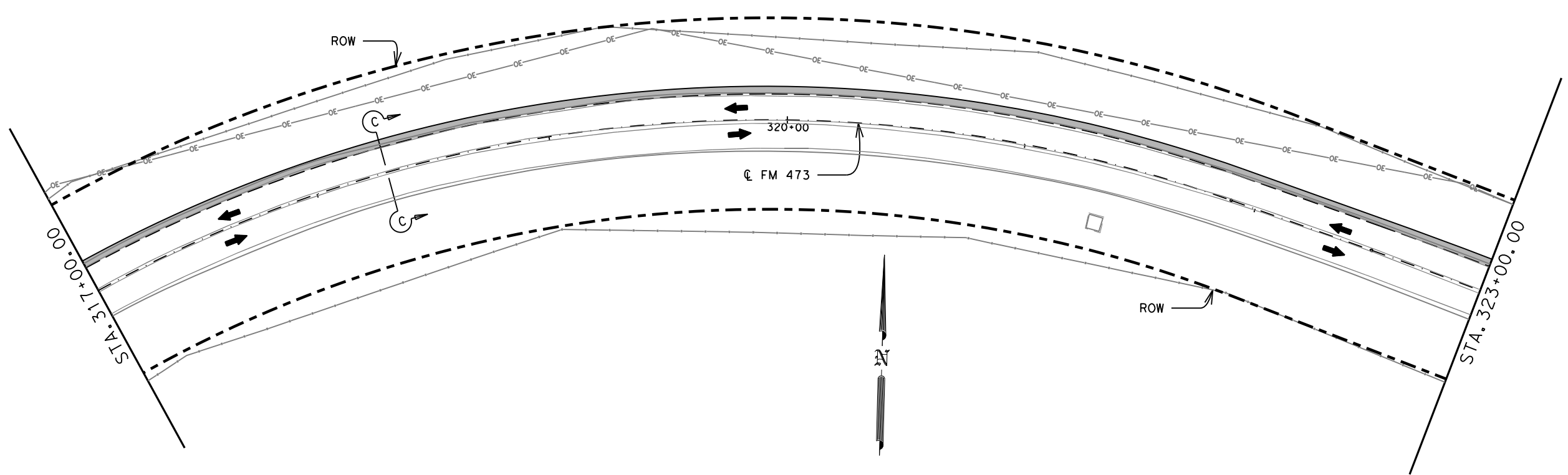


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		177

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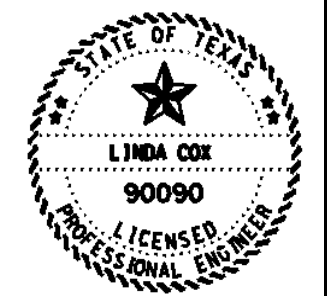
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NOTE:  
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 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



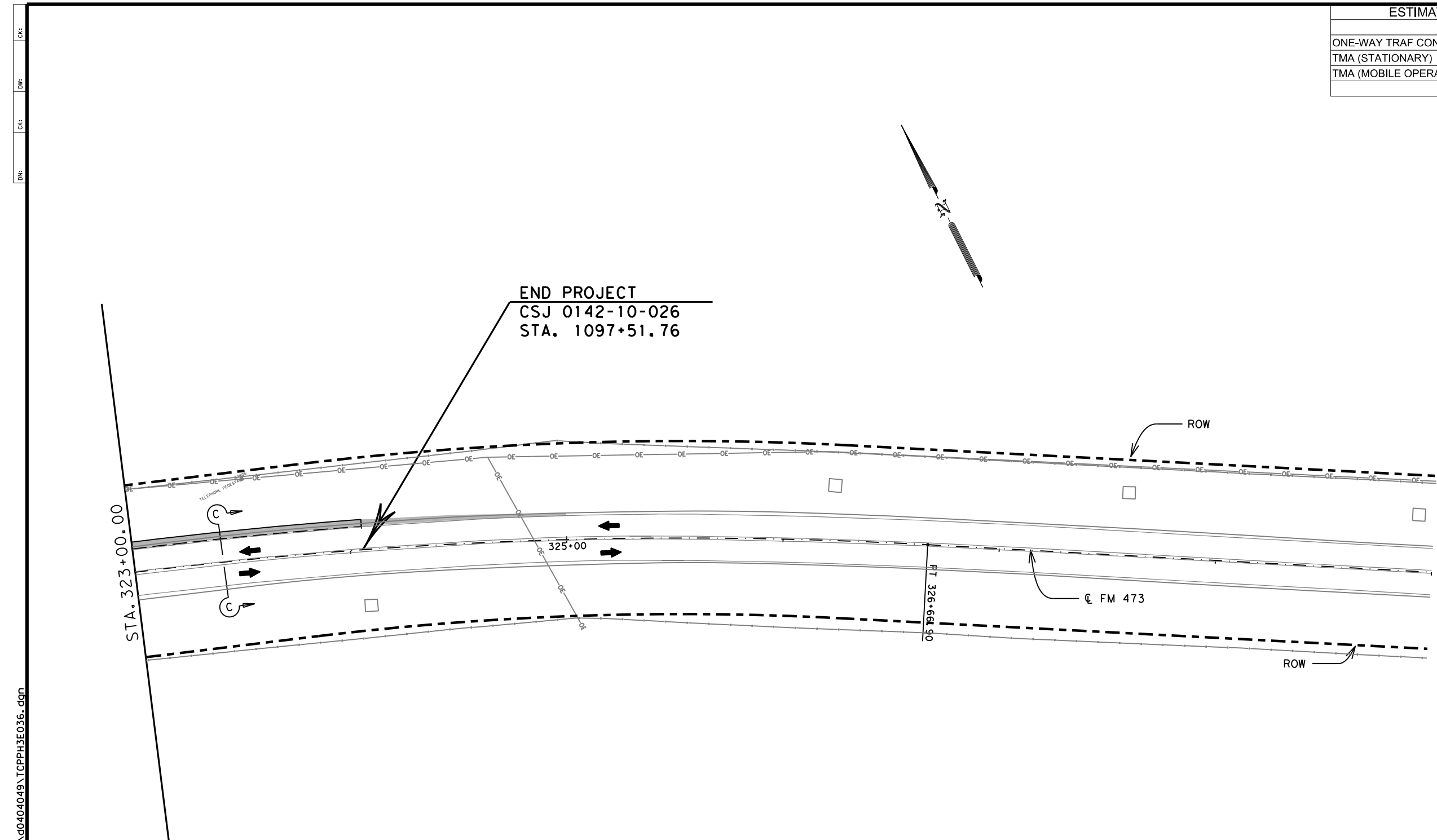
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE III

		SHEET 35 OF 36	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		178

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ONE-WAY TRAF CONT (PILOT CAR)	250	HR
TMA (STATIONARY)	22	DAY
TMA (MOBILE OPERATION)	10	DAY



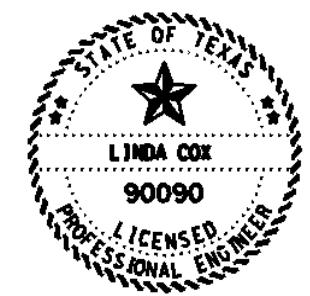
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NOTE:  
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 → TRAFFIC DIRECTION/LOCATION AT END OF WORK DAY  
 ■ CONSTRUCTION AREA



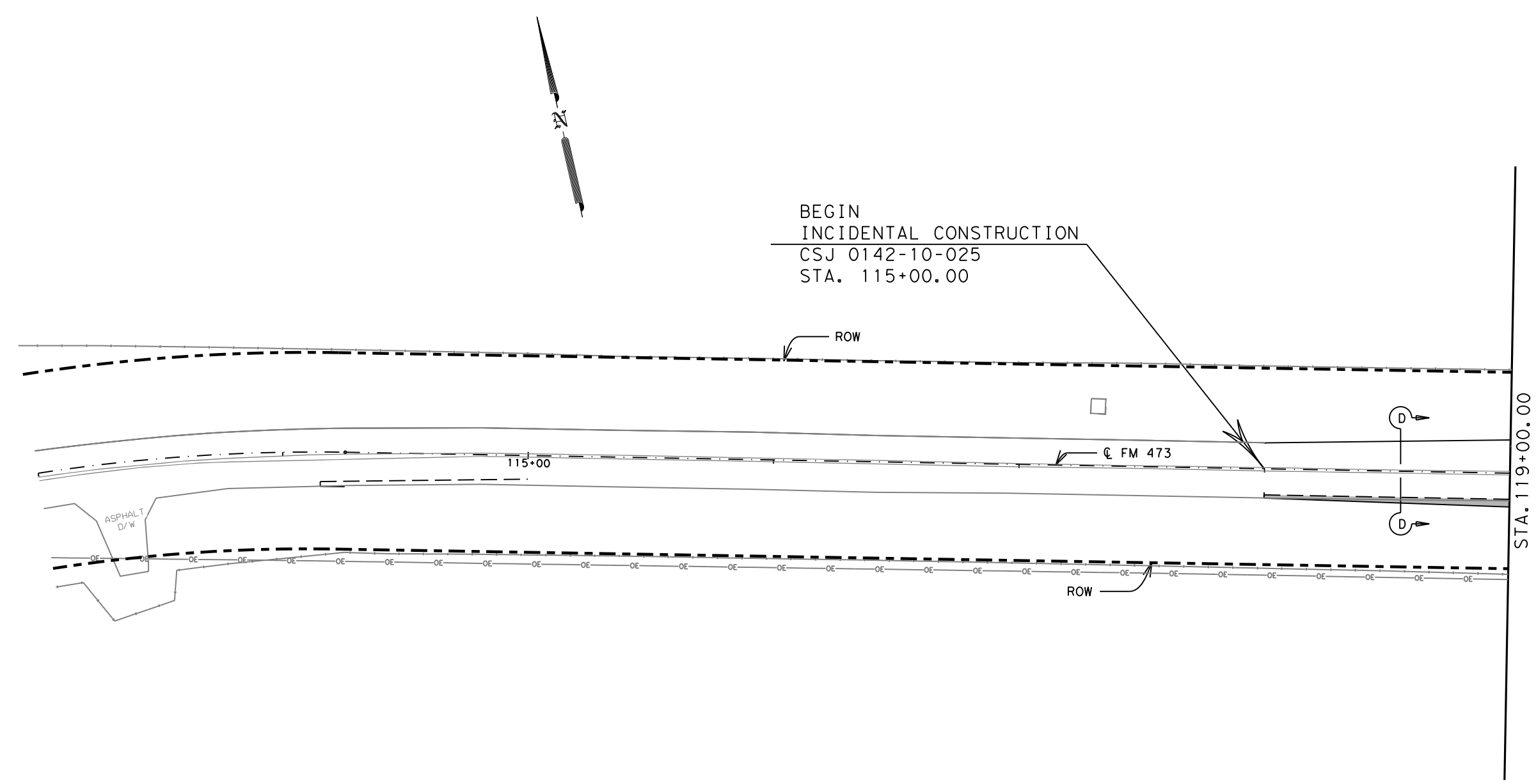
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE III

Texas Department of Transportation		SHEET 36 OF 36	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		179

DN: C/S: DM: C/S:



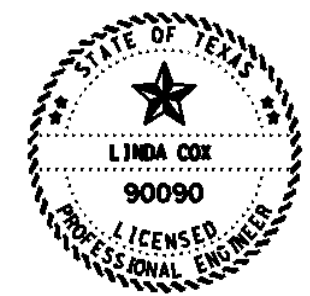
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

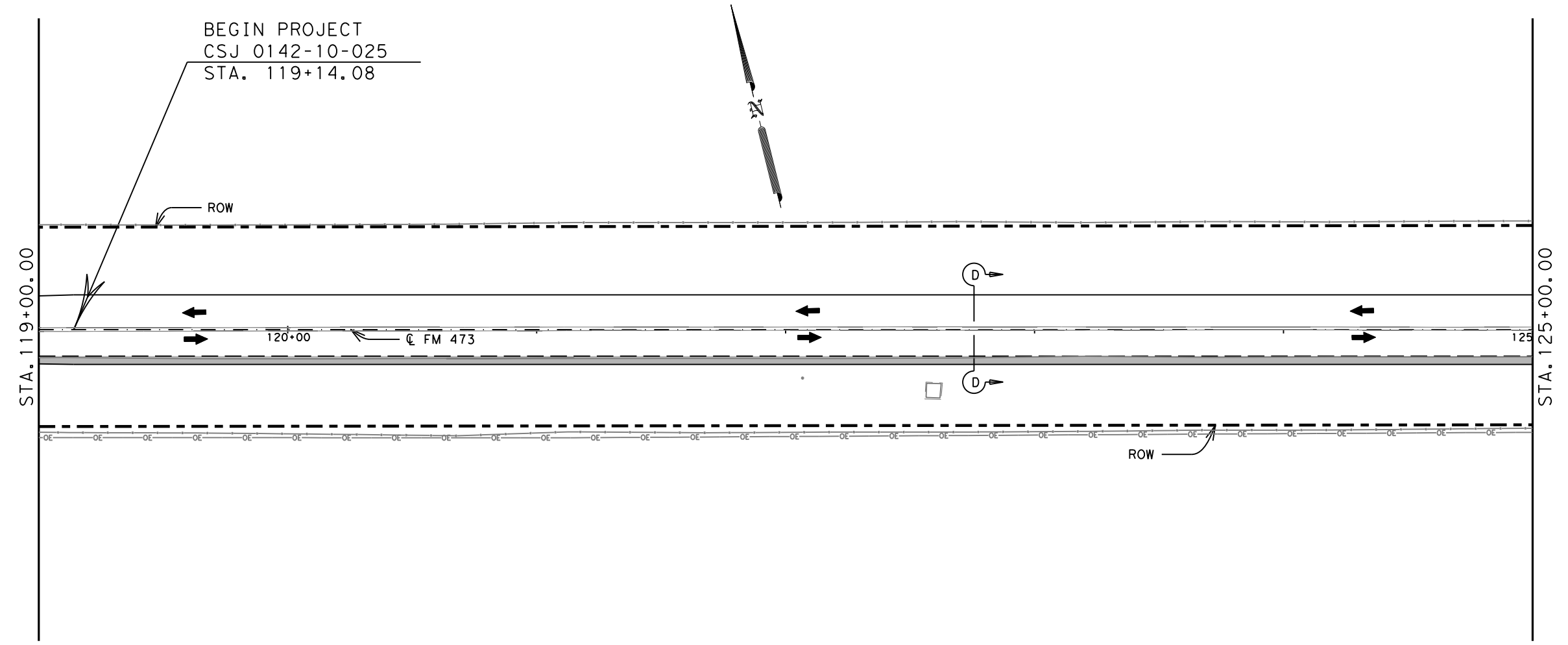


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		180

DN: C&G: DW: C&G:



BEGIN PROJECT  
CSJ 0142-10-025  
STA. 119+14.08

STA. 119+00.00

STA. 125+00.00

ROW

←  
→

120+00

C FM 473

125+00

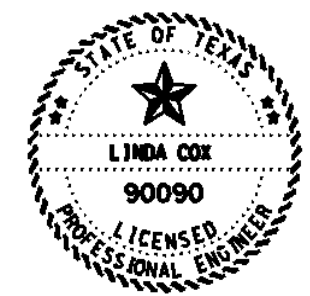
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NOTE:  
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ONE LANE, TWO WAY TRAFFIC CONTROL  
(PILOT CAR W/FLAGGERS) DURING  
WIDENING CONSTRUCTION. SEE  
TCP TYPICAL SECTIONS FOR  
TRAFFIC LOCATION SETUP AND  
AS APPROVED/DIRECTED BY THE  
ENGINEER

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2 LANE 2 -WAY TRAFFIC BEFORE  
THE END OF THE WORK DAY AS  
SHOWN ON THE TCP TYPICAL  
SECTIONS OR AS APPROVED/DIRECTED  
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CUTBACK AS SHOWN ON THE  
PLAN SHEETS, OR A MINIMUM  
OF 1 FOOT TO REACH GOOD  
ROADWAY MATERIAL  
AS APPROVED/DIRECTED  
BY THE ENGINEER.

**LEGEND**  
→ TRAFFIC DIRECTION/LOCATION  
■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
04/29/2021

0 50  
SCALE IN FEET

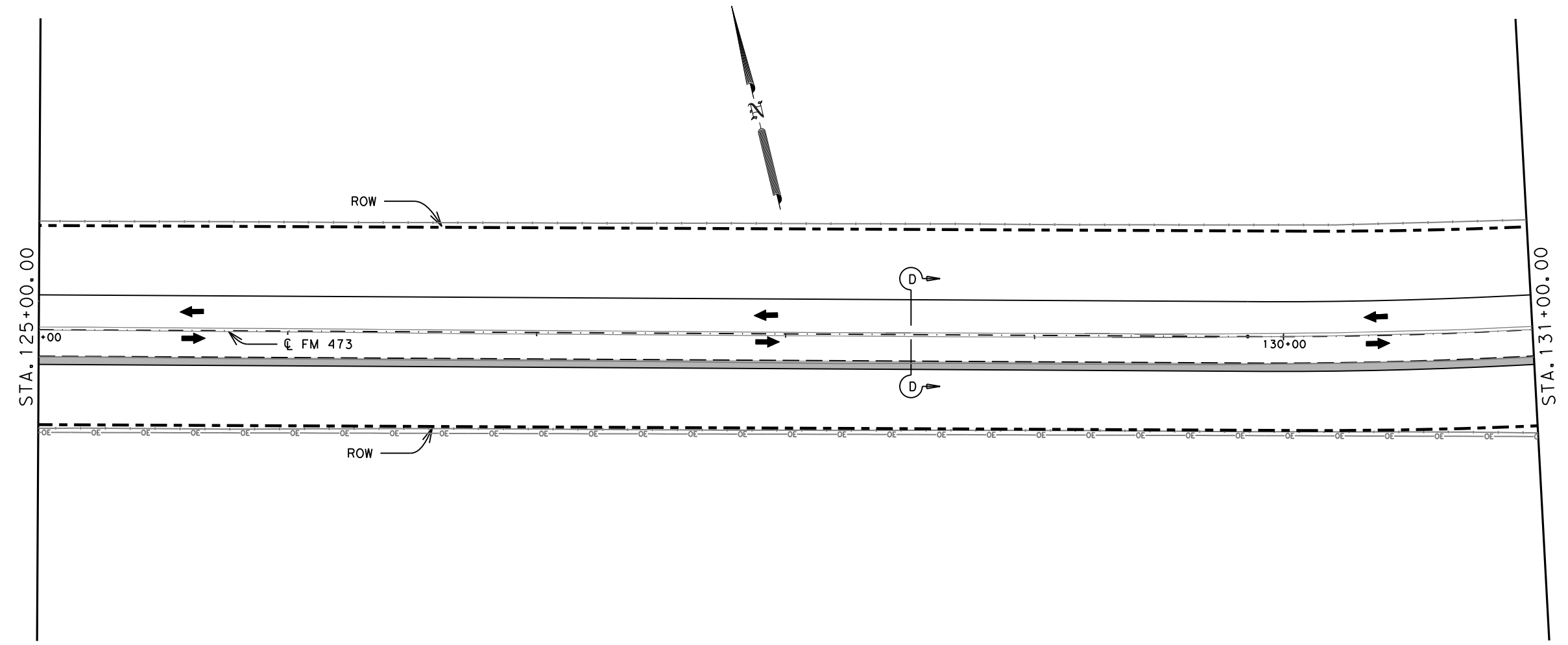
RM 473  
TCP LAYOUTS  
PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		181

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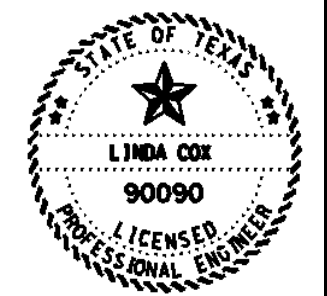
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2-WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

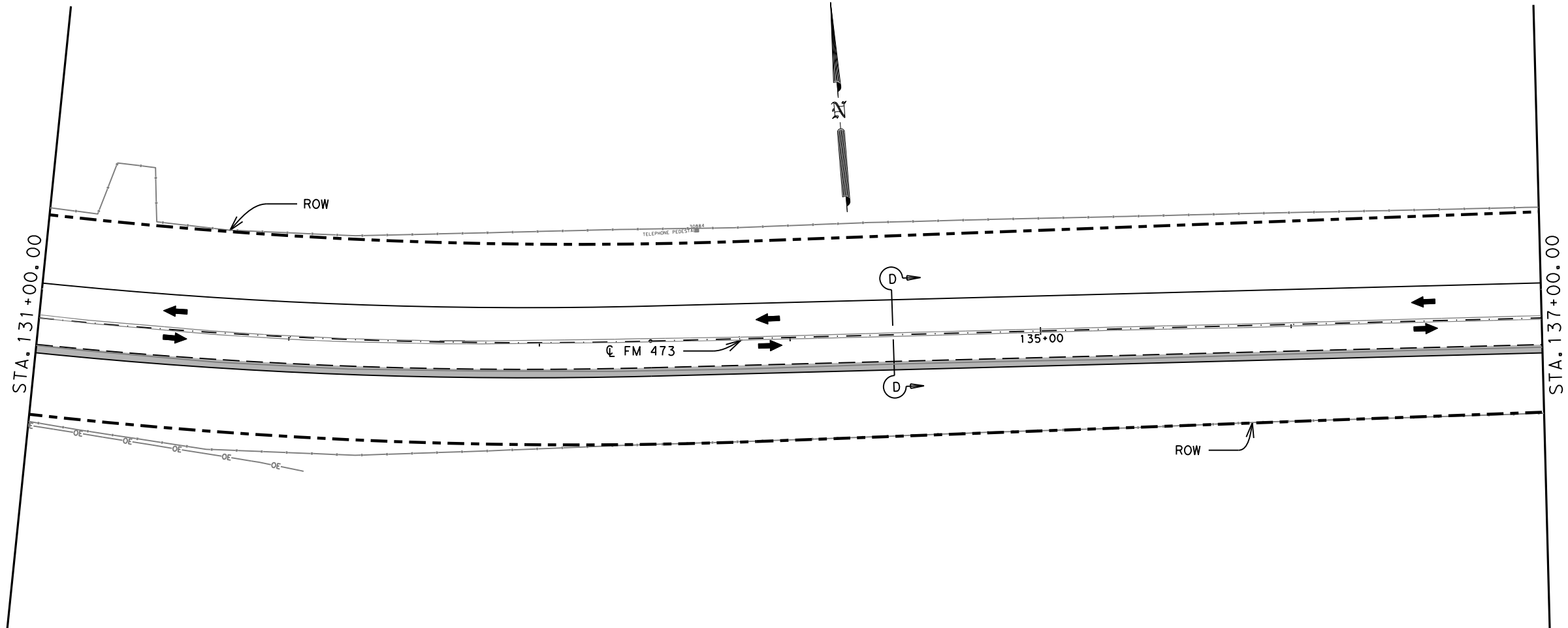


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		182

DN: C&S: DM: C&S:



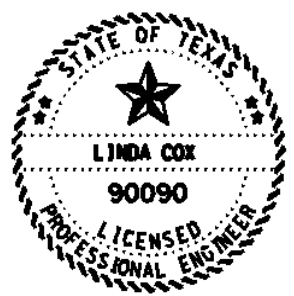
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

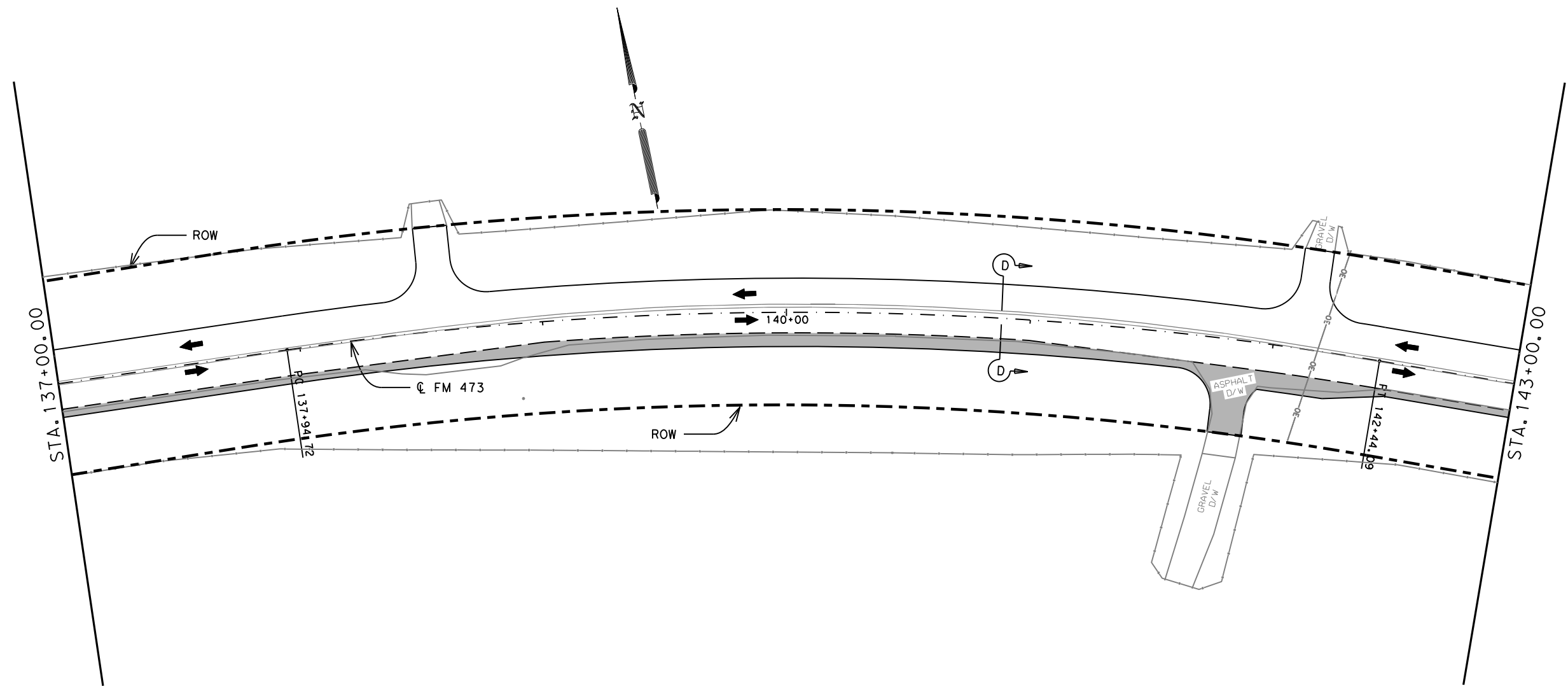


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		183

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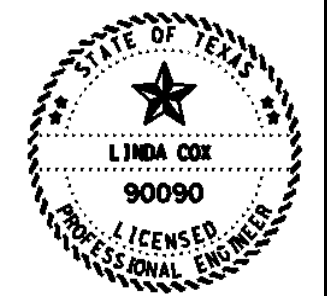


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



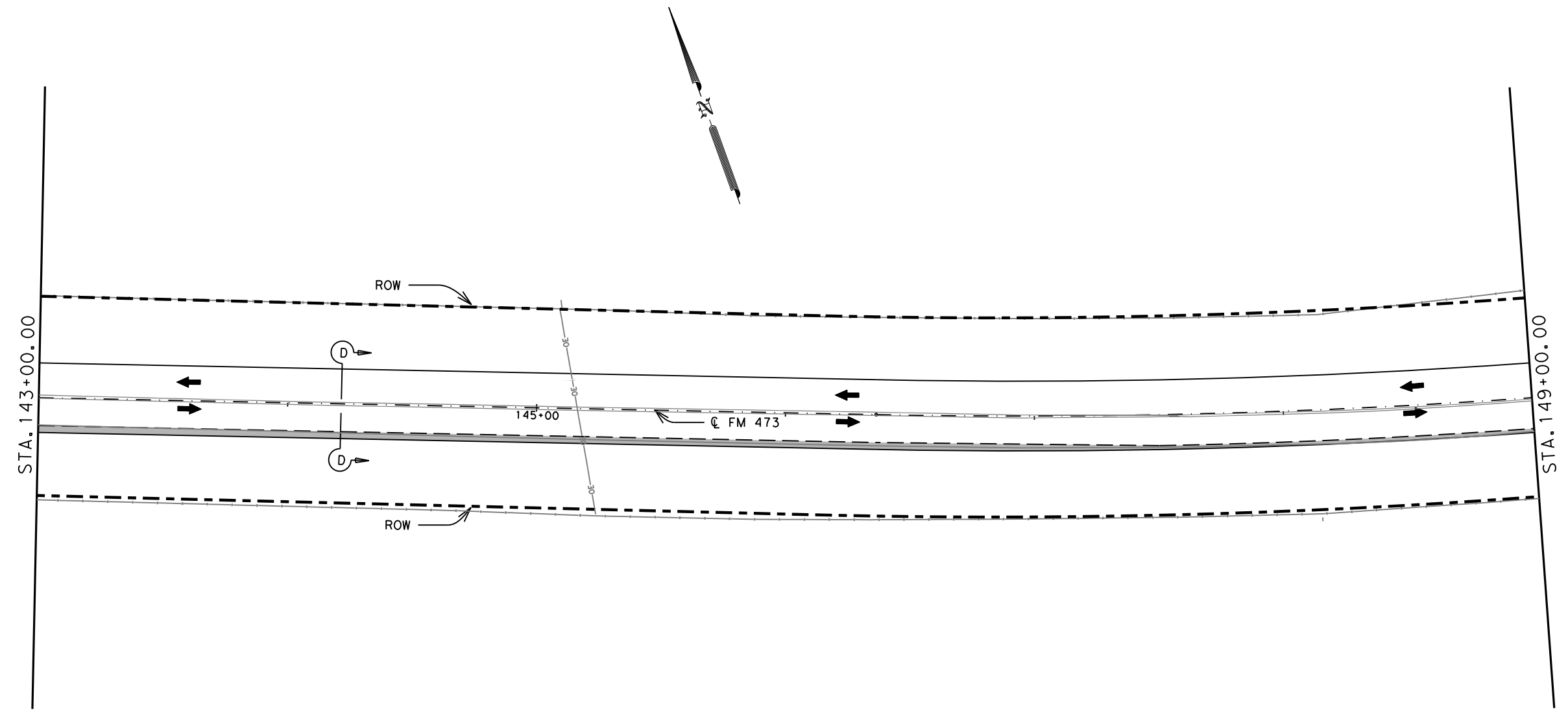
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	184

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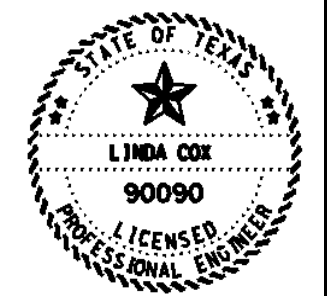
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



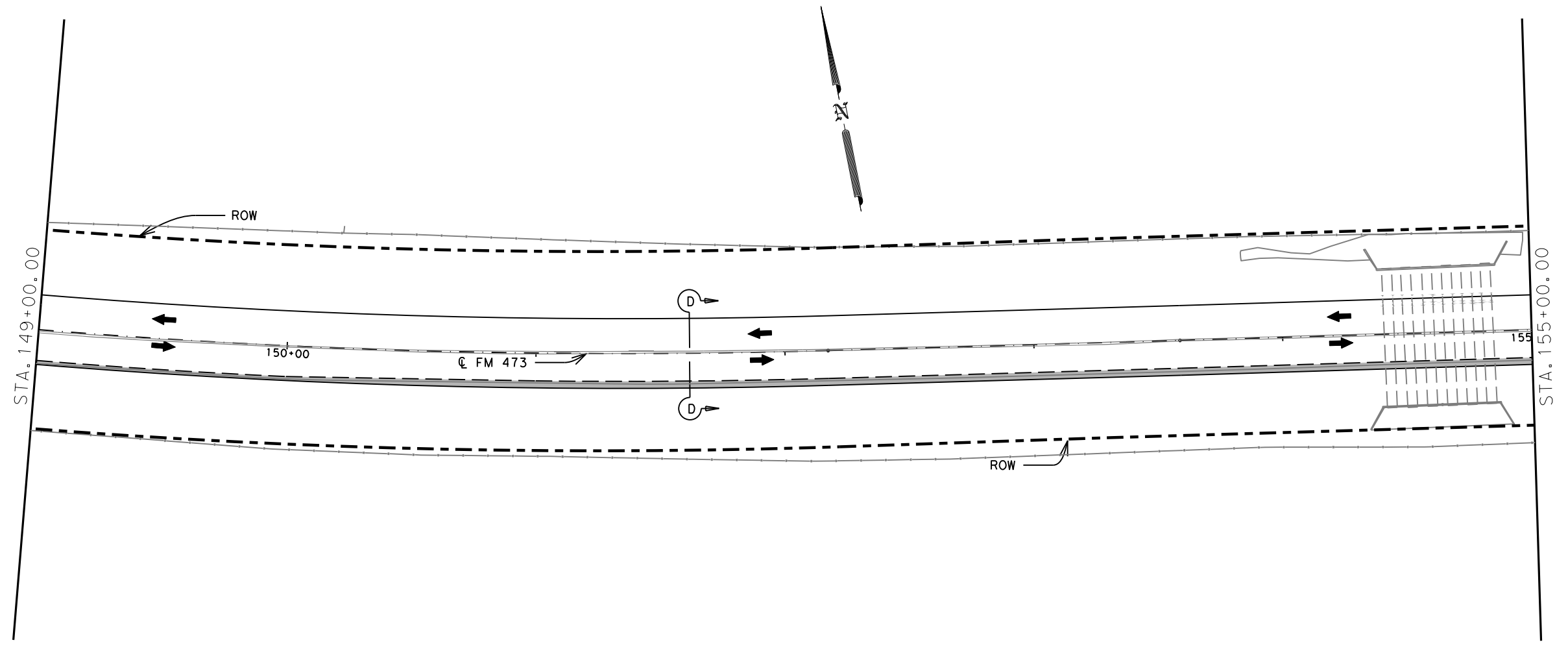
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		185



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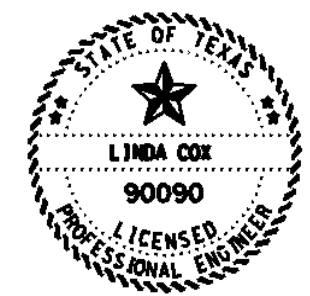
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

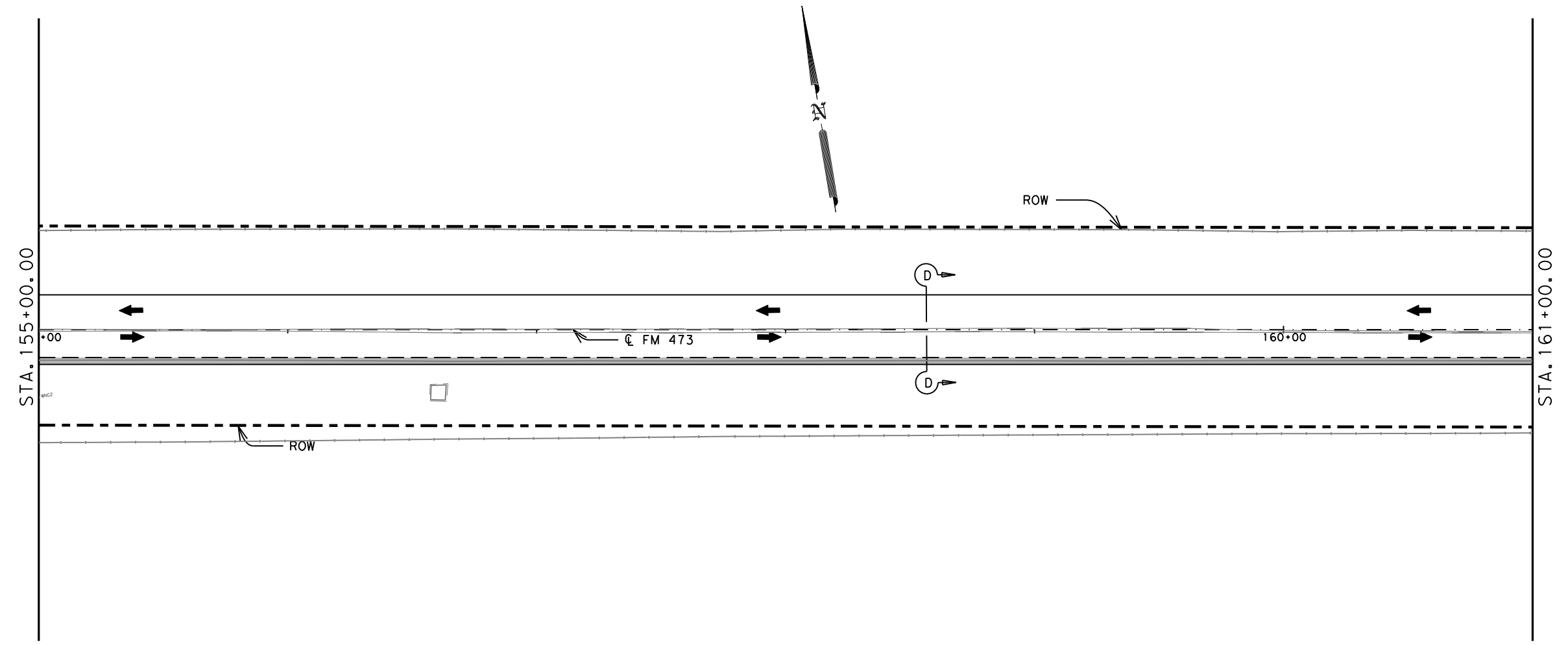


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		186

DN: C&S: DM: C&S:



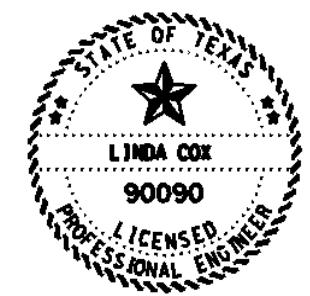
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

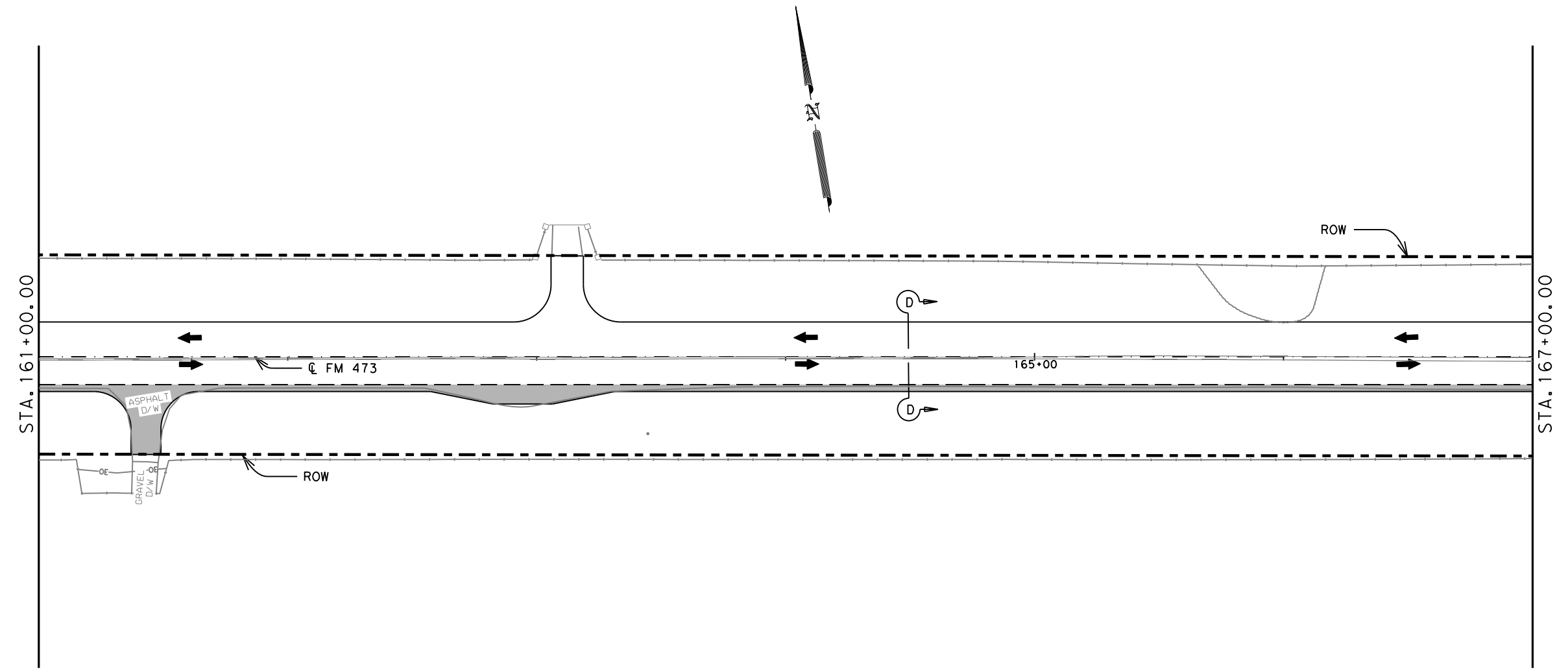


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		187

DN: C&S: DM: C&S: CK:



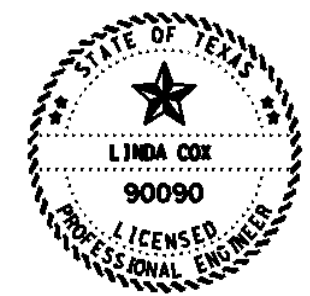
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

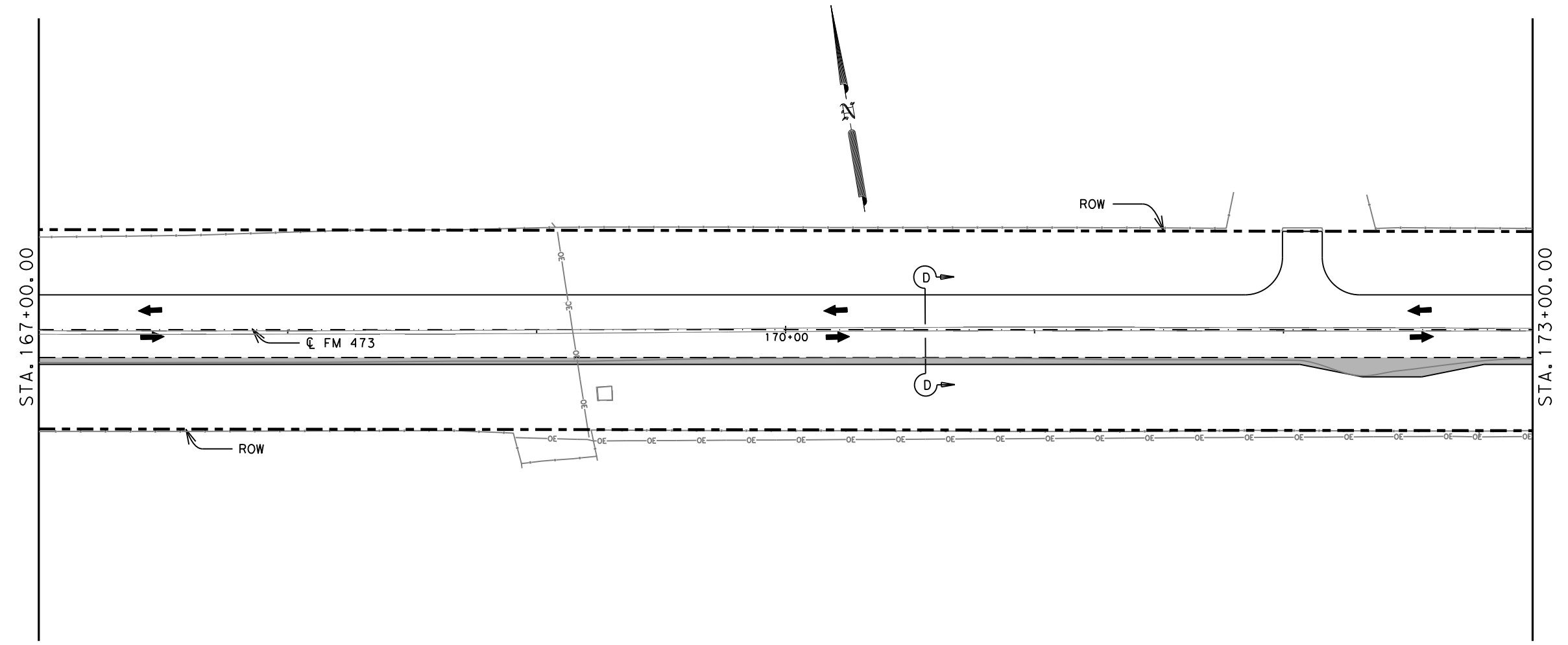


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		188

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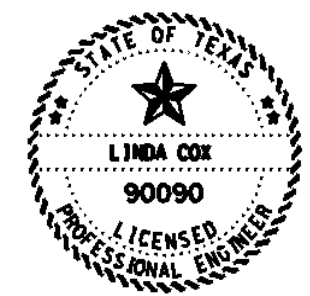


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



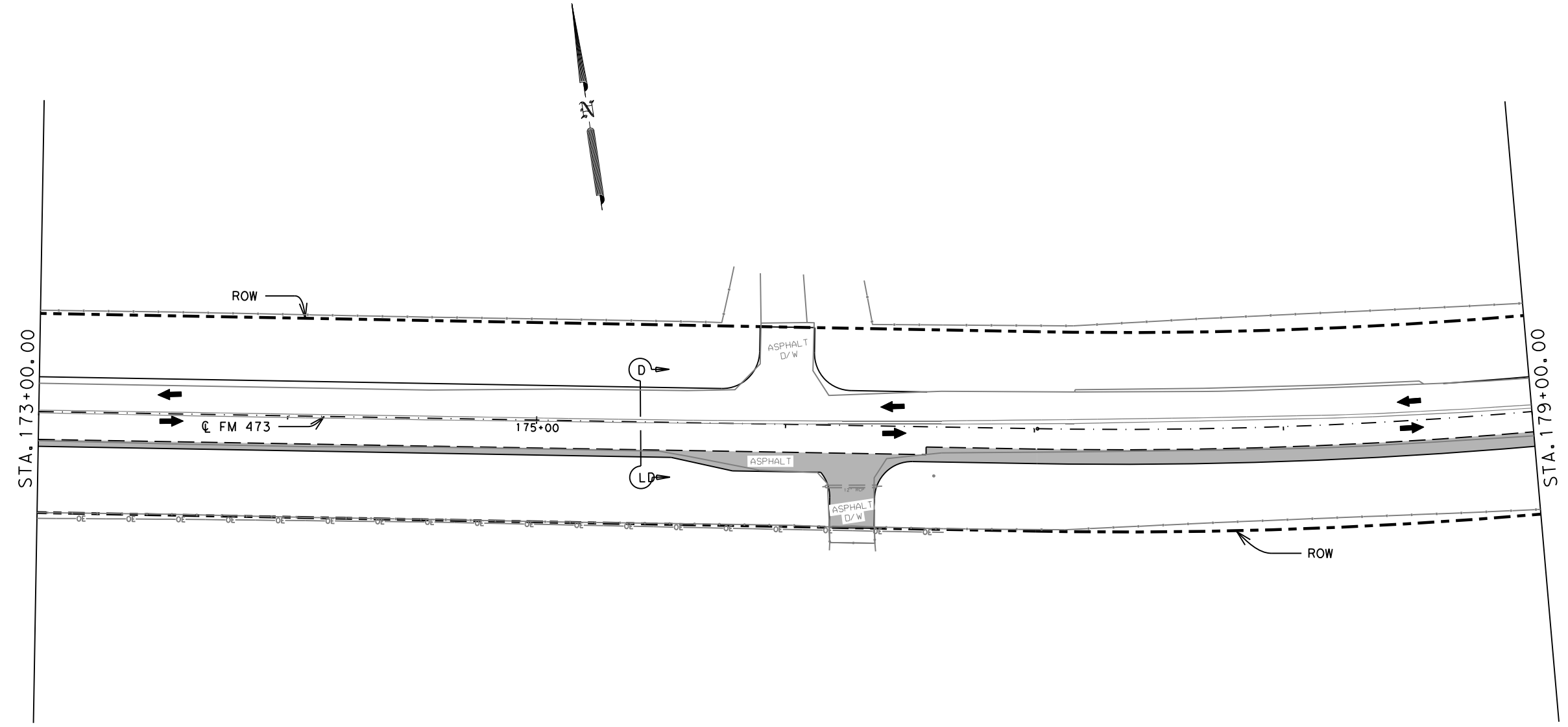
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		189

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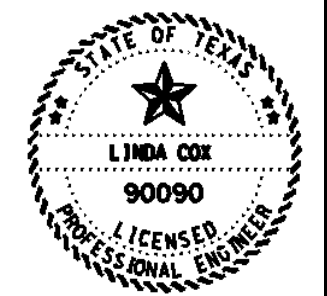
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NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



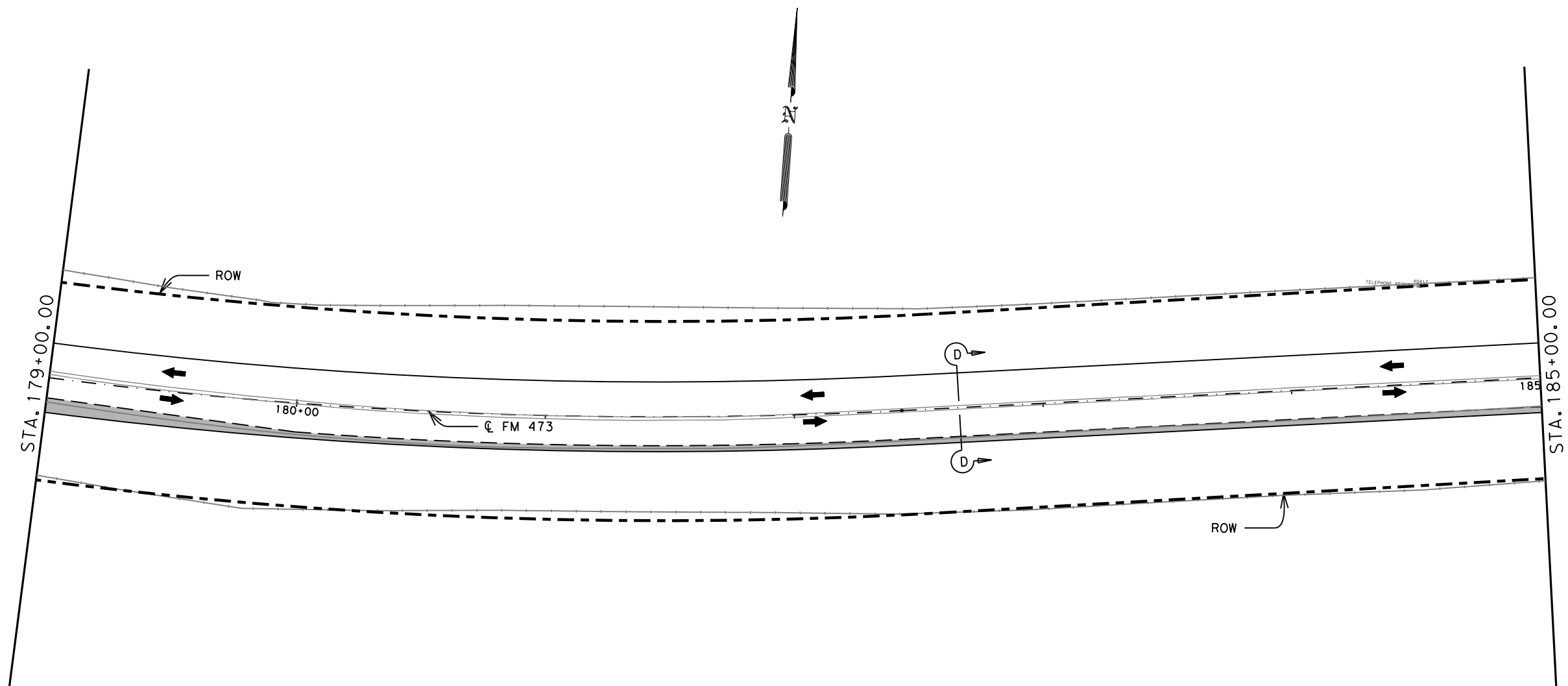
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE IV

		SHEET 11 OF 36	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		190

DN: Ck: DM: Ck: DN:

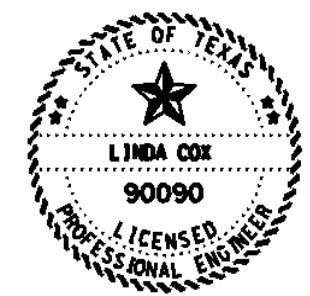


NOTE:  
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**LEGEND**  
 TRAFFIC DIRECTION/LOCATION  
 CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



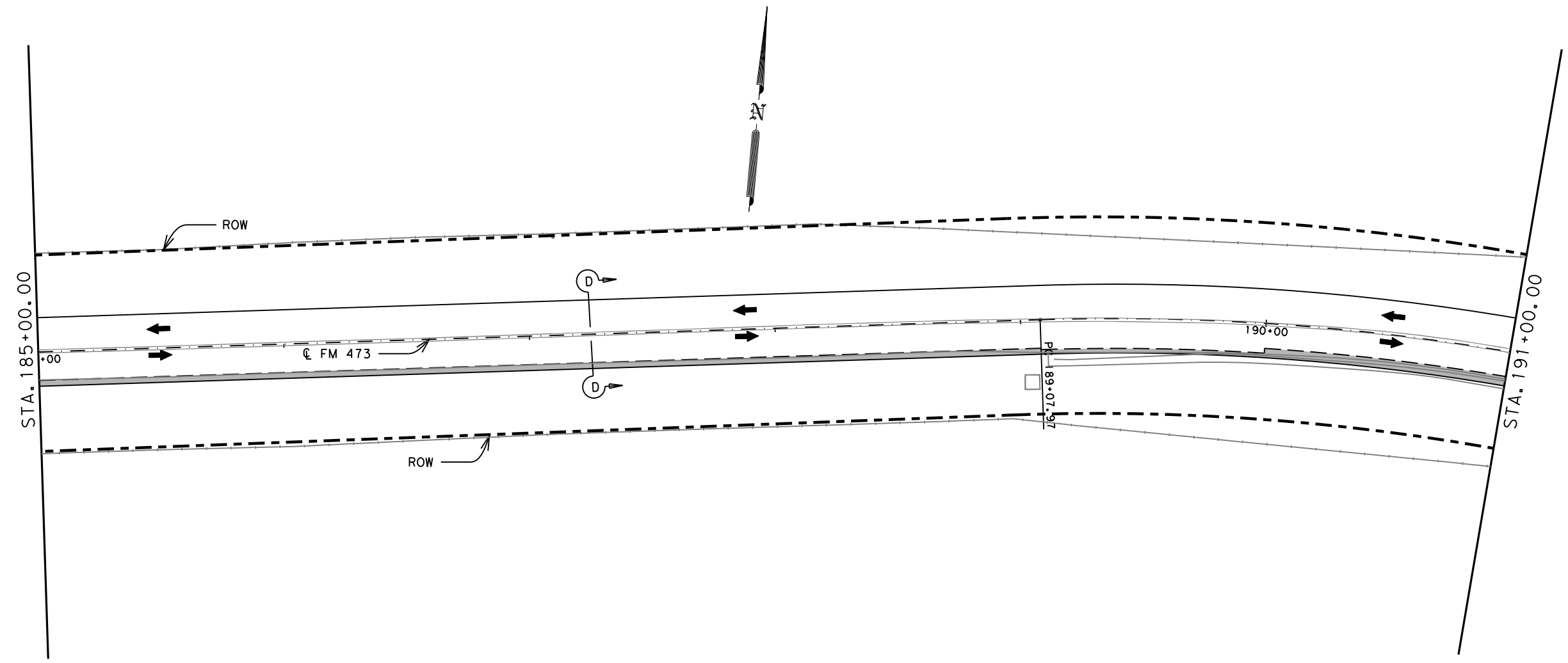
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		191

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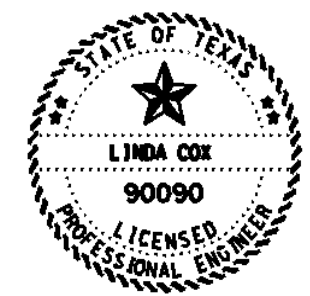
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

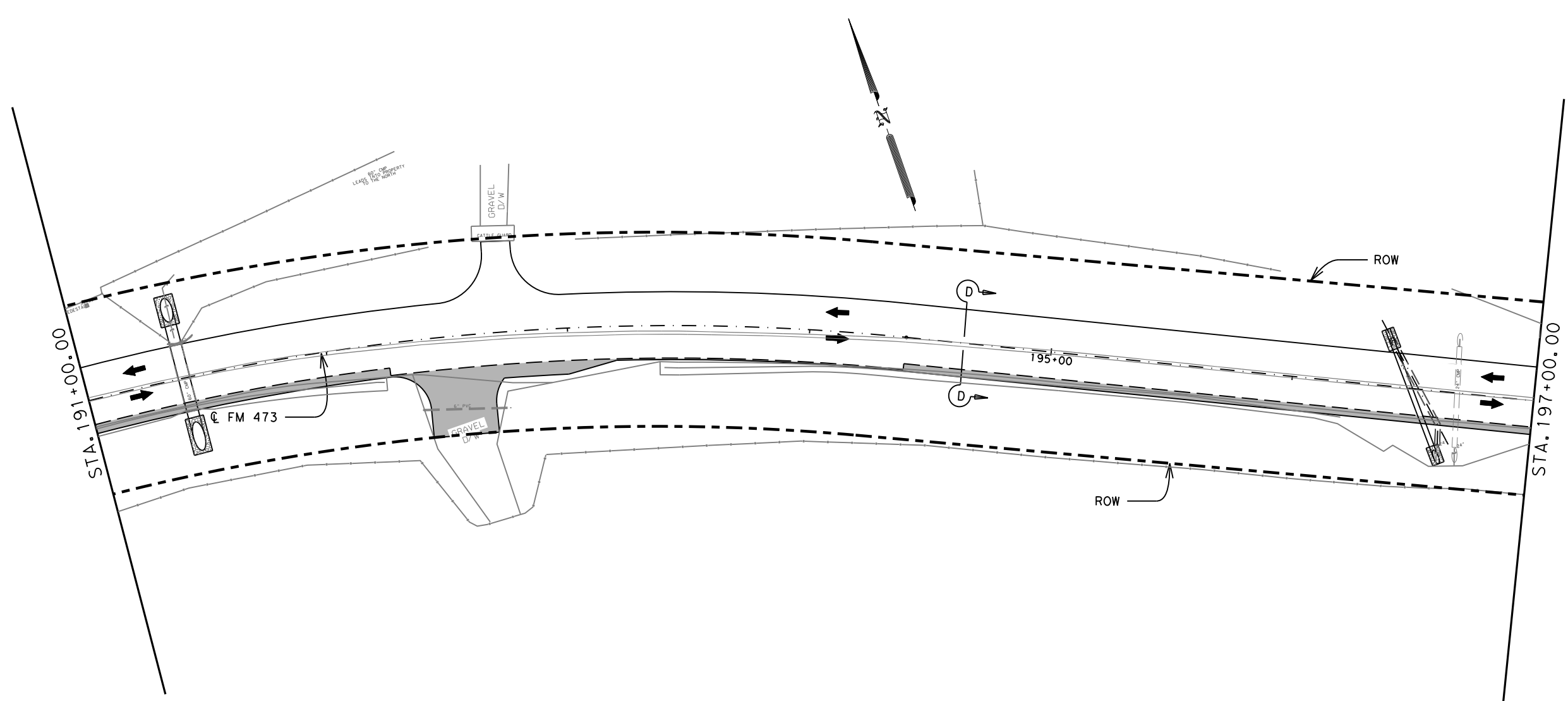


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		192

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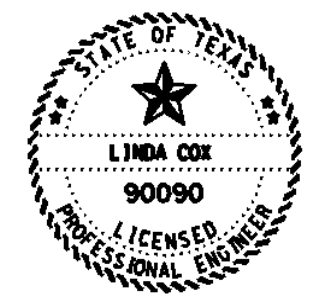
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE IV

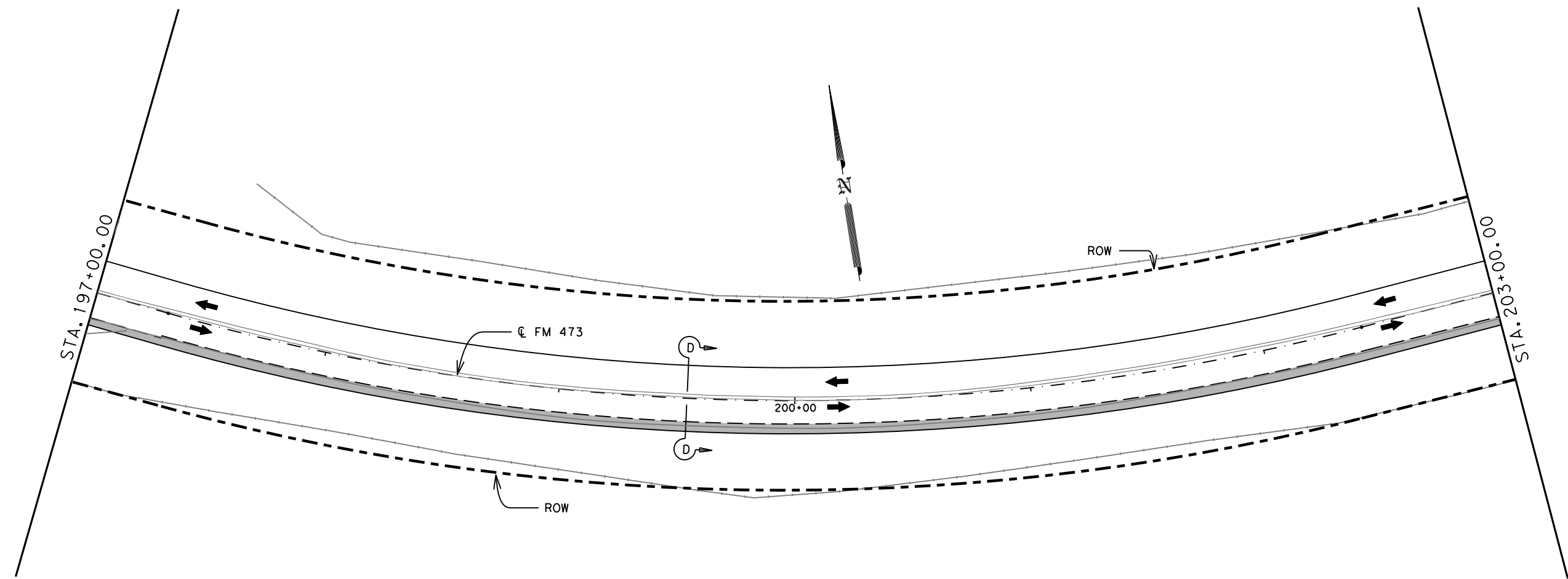


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		193



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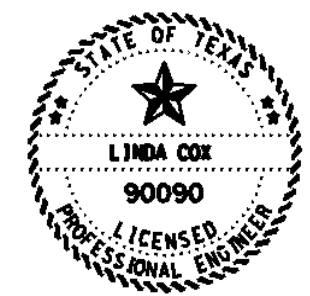


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**LEGEND**  
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 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

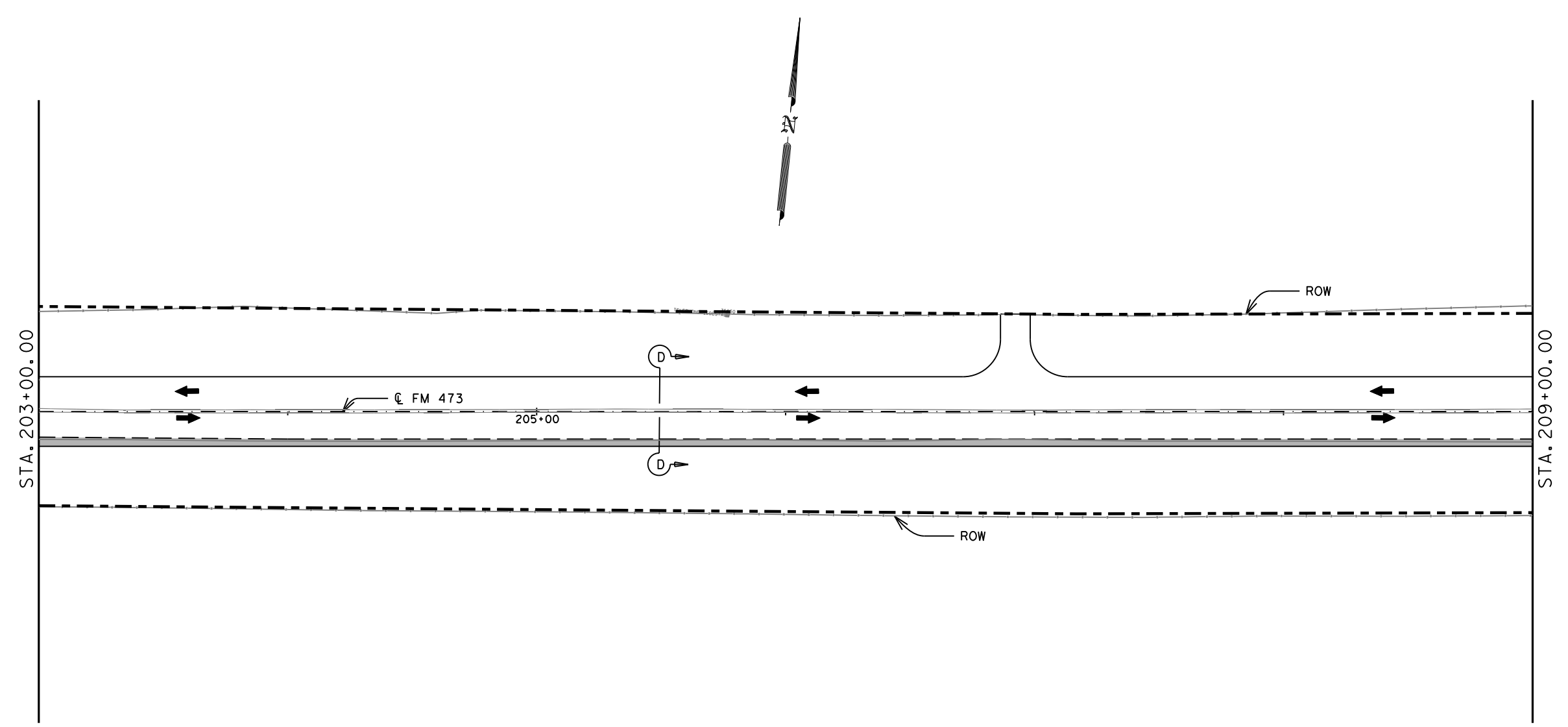


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		194

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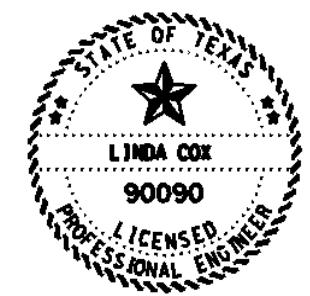
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

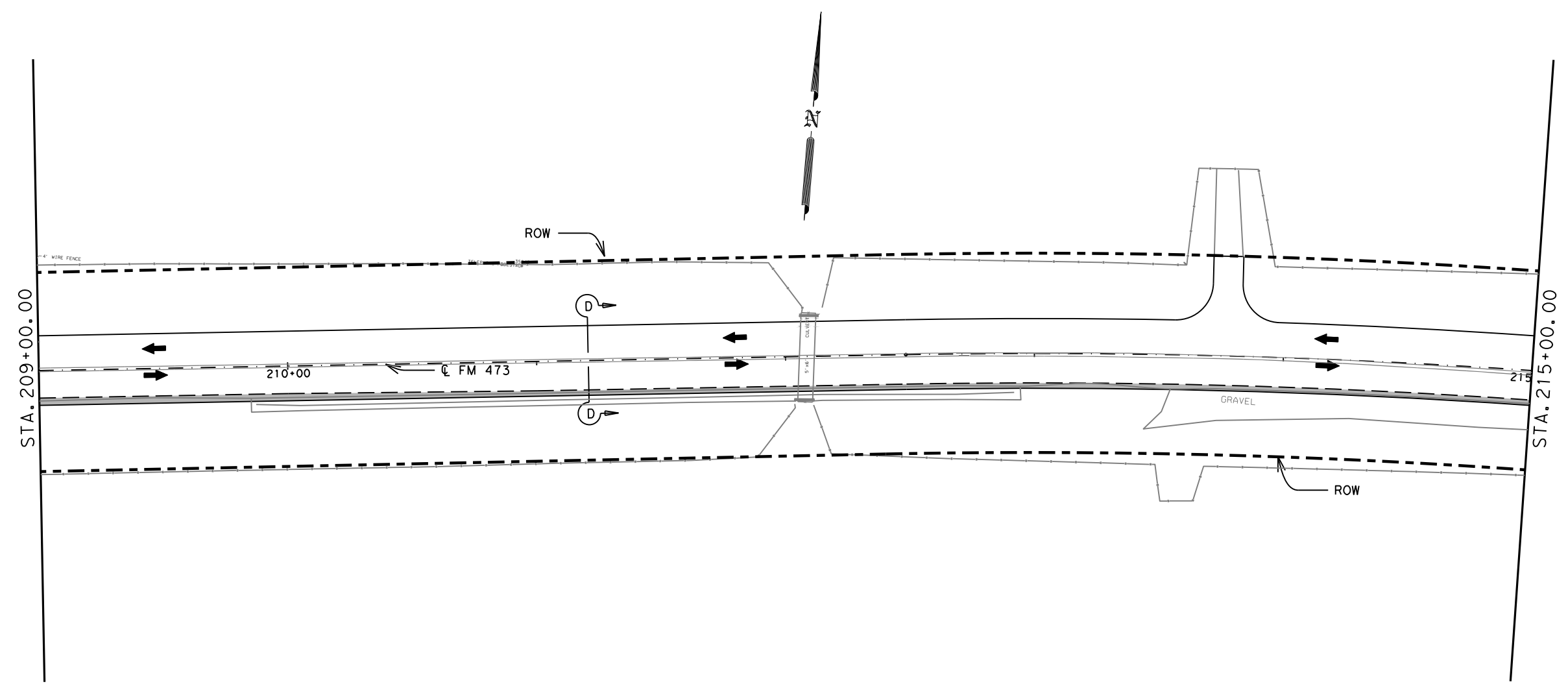


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		195

DN: C&S: DM: C&S:

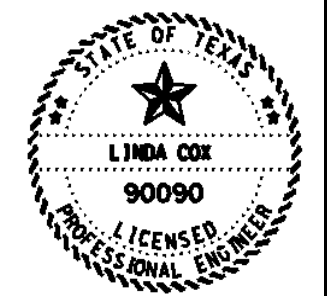


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE IV

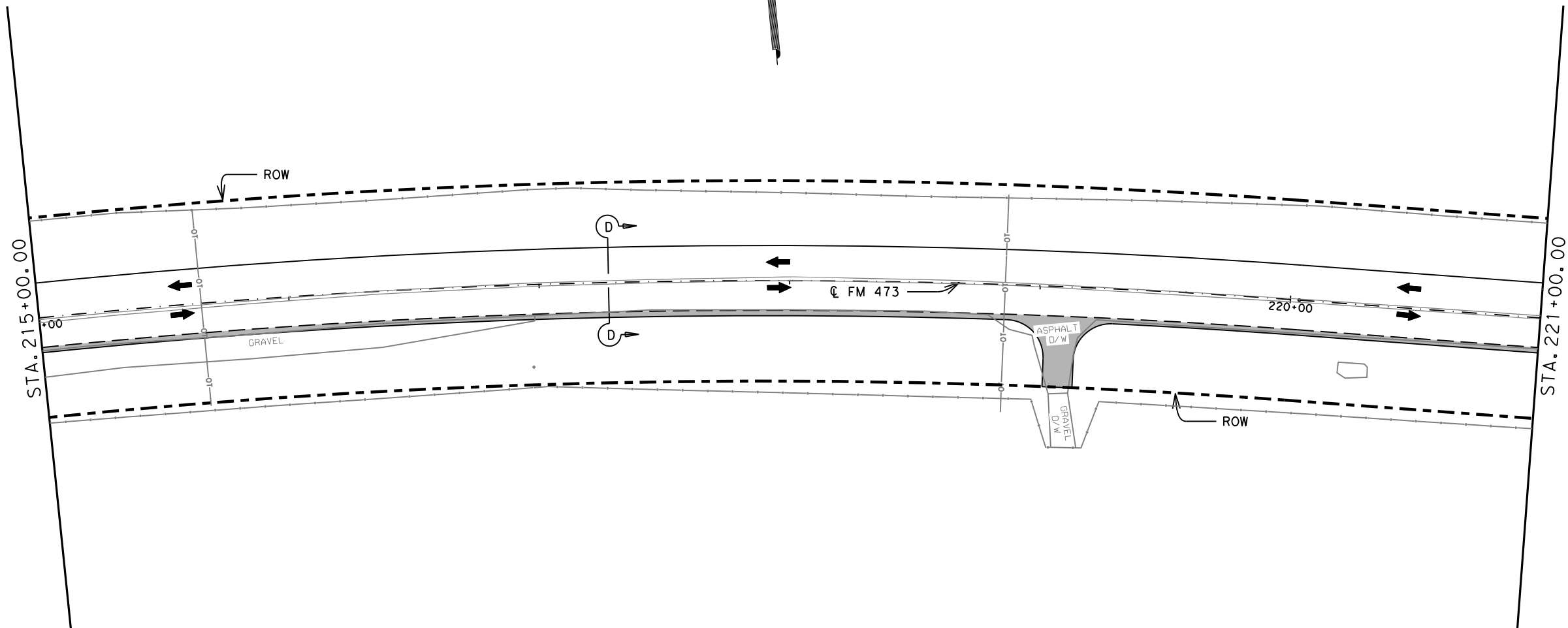


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		196

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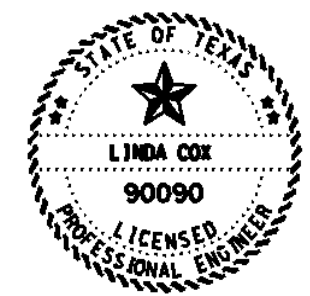


NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2-WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



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 04/29/2021

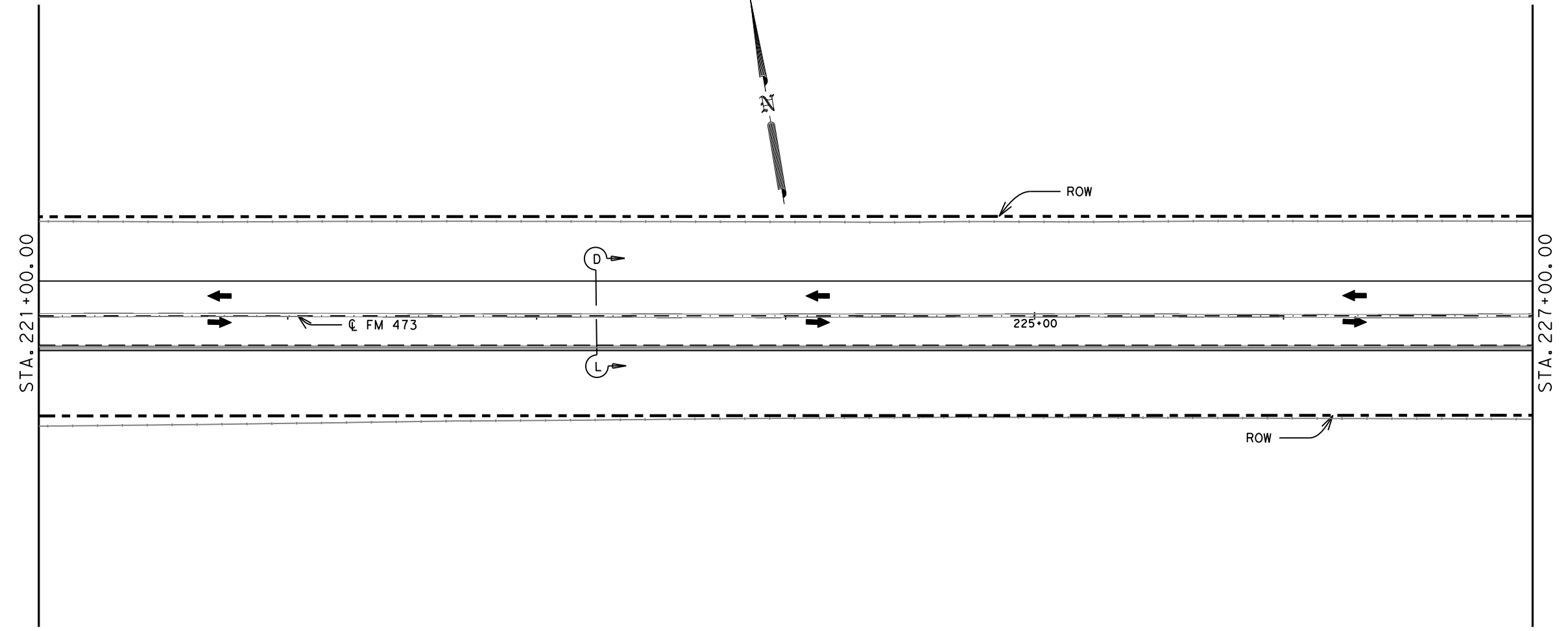


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		197

DN: C&S: DM: C&S:



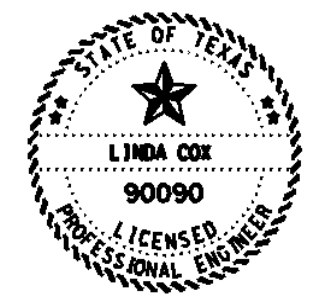
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

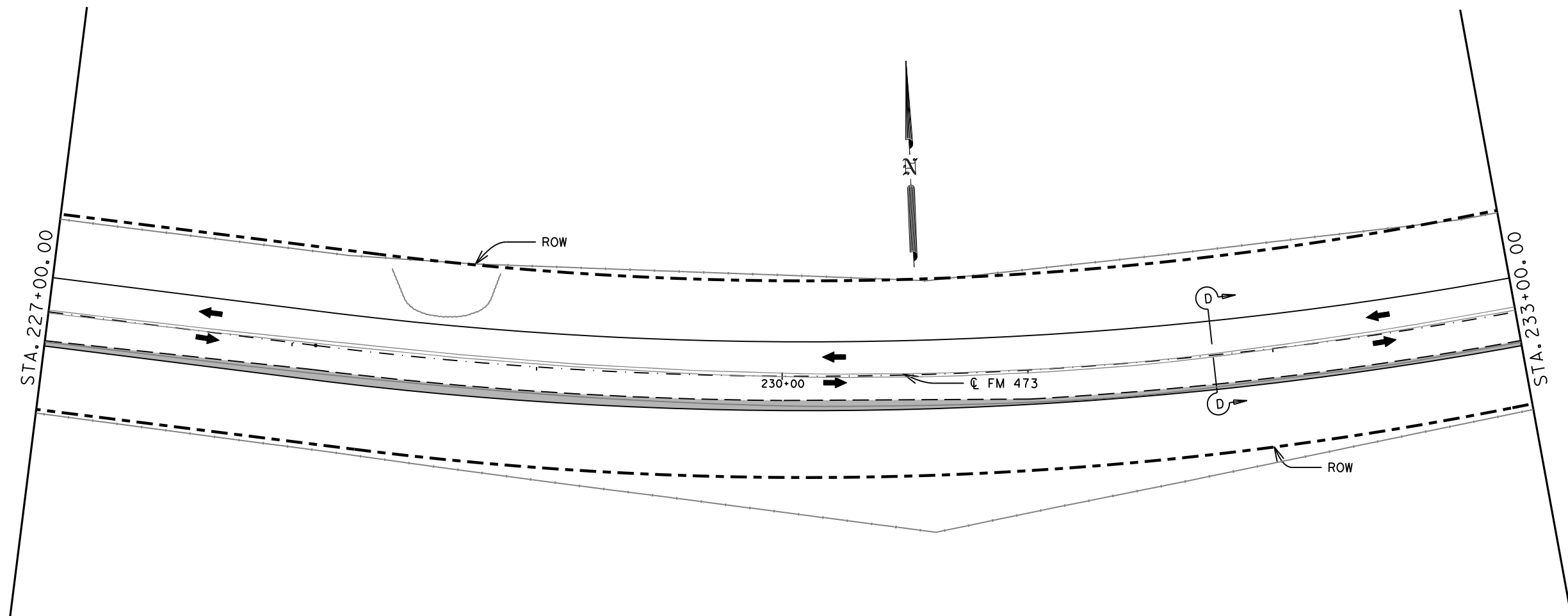


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		198

DN: C&S: DW: C&S:

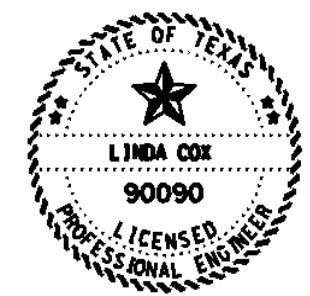


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



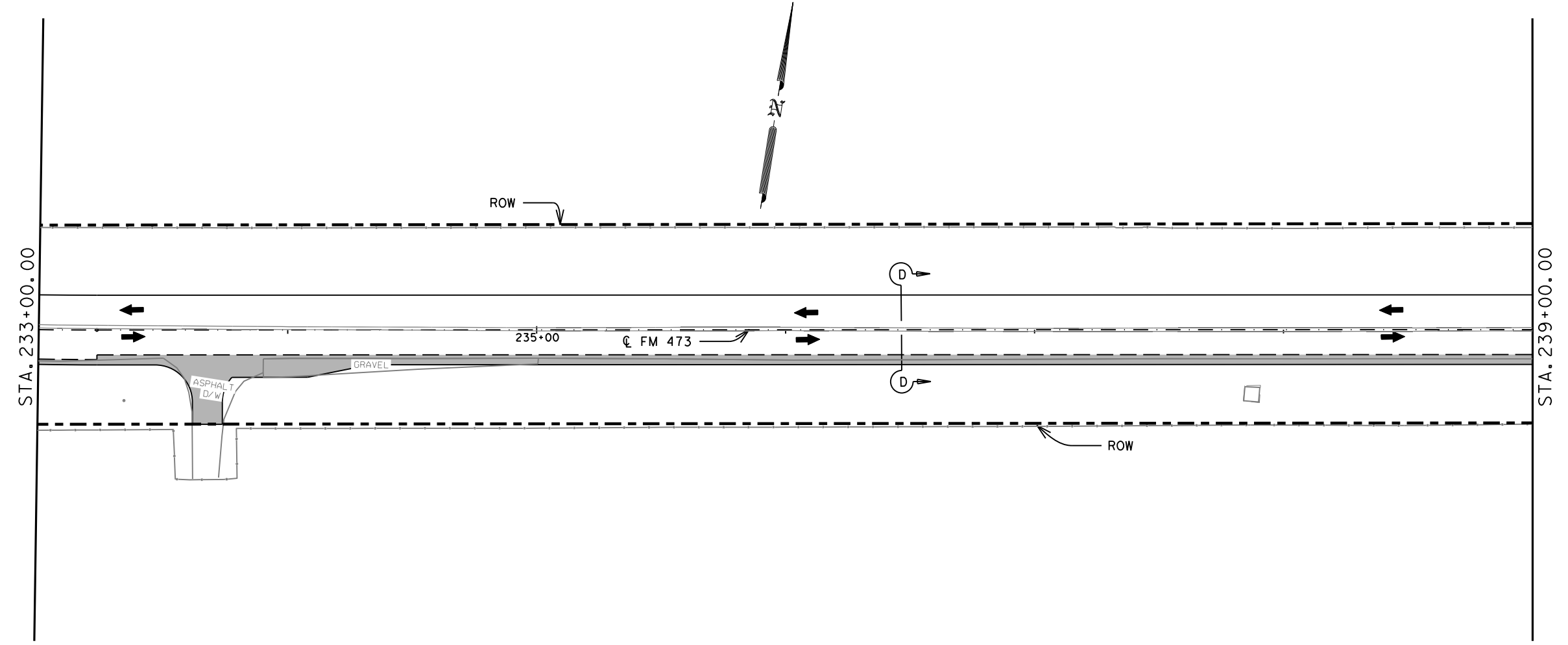
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		199

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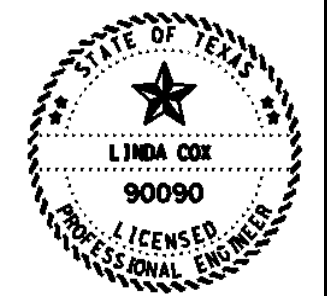


NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



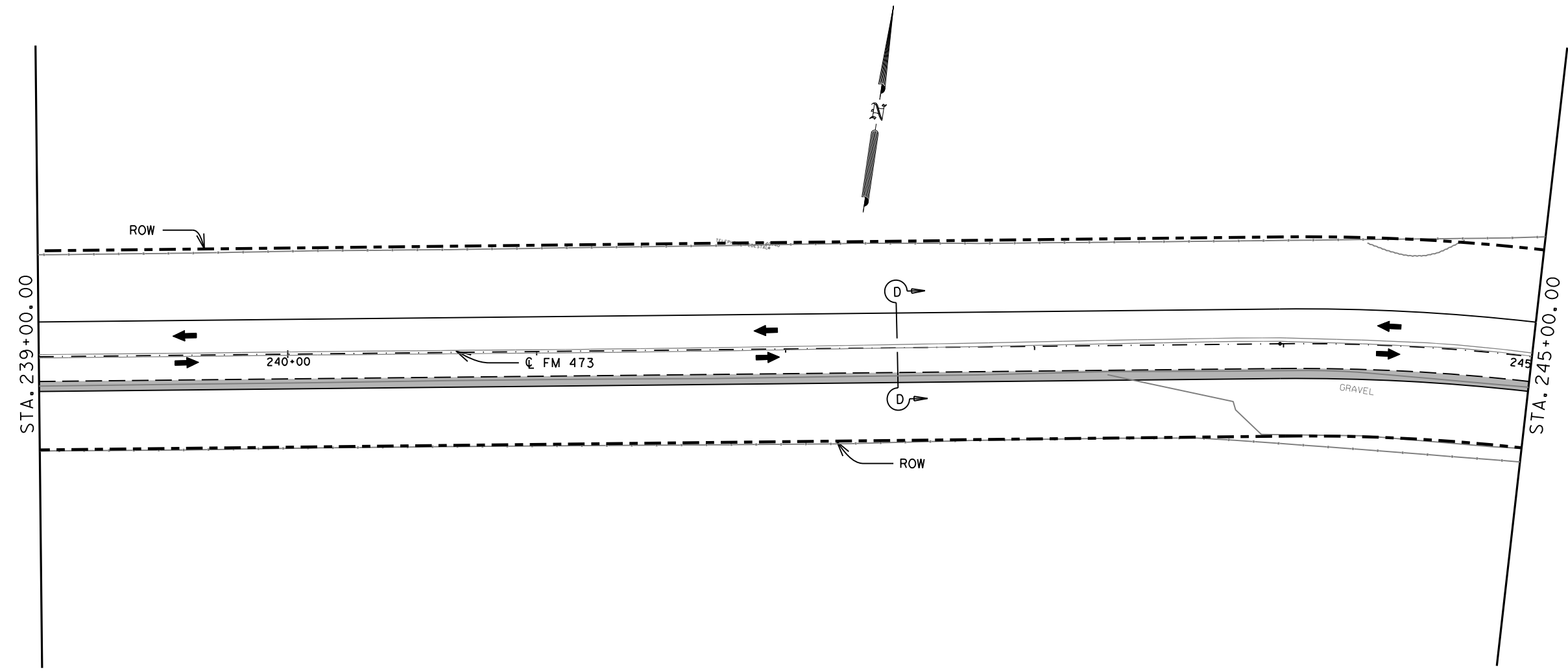
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	200

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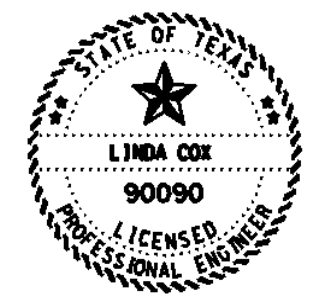
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NOTE:  
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 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



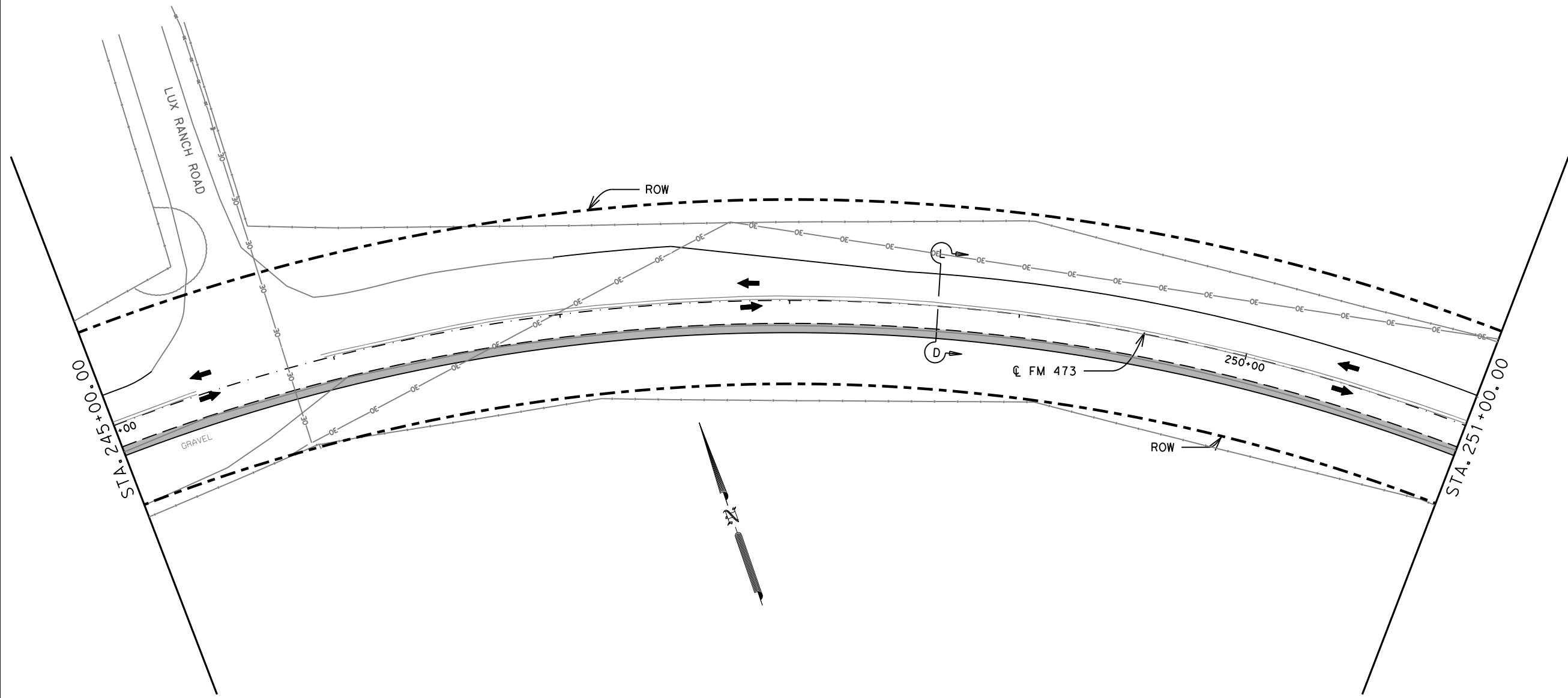
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		201



DN: C&S: DM: C&S: DN:



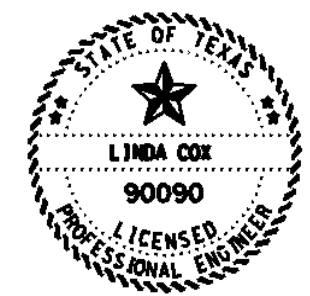
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 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

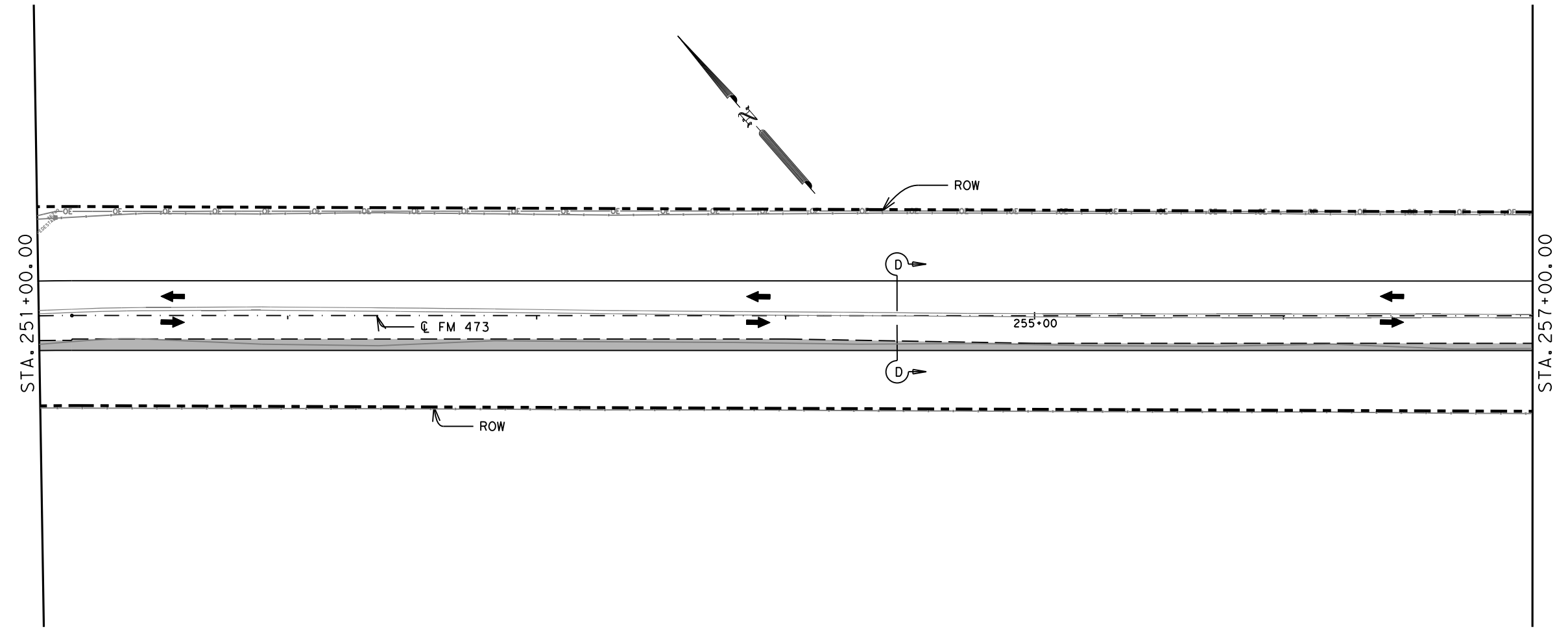


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		202

DN: C&S: DM: C&S:



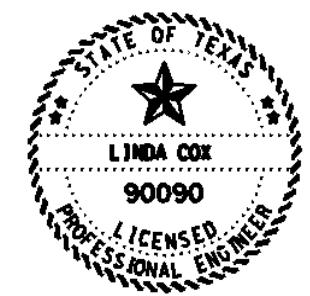
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



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 04/29/2021

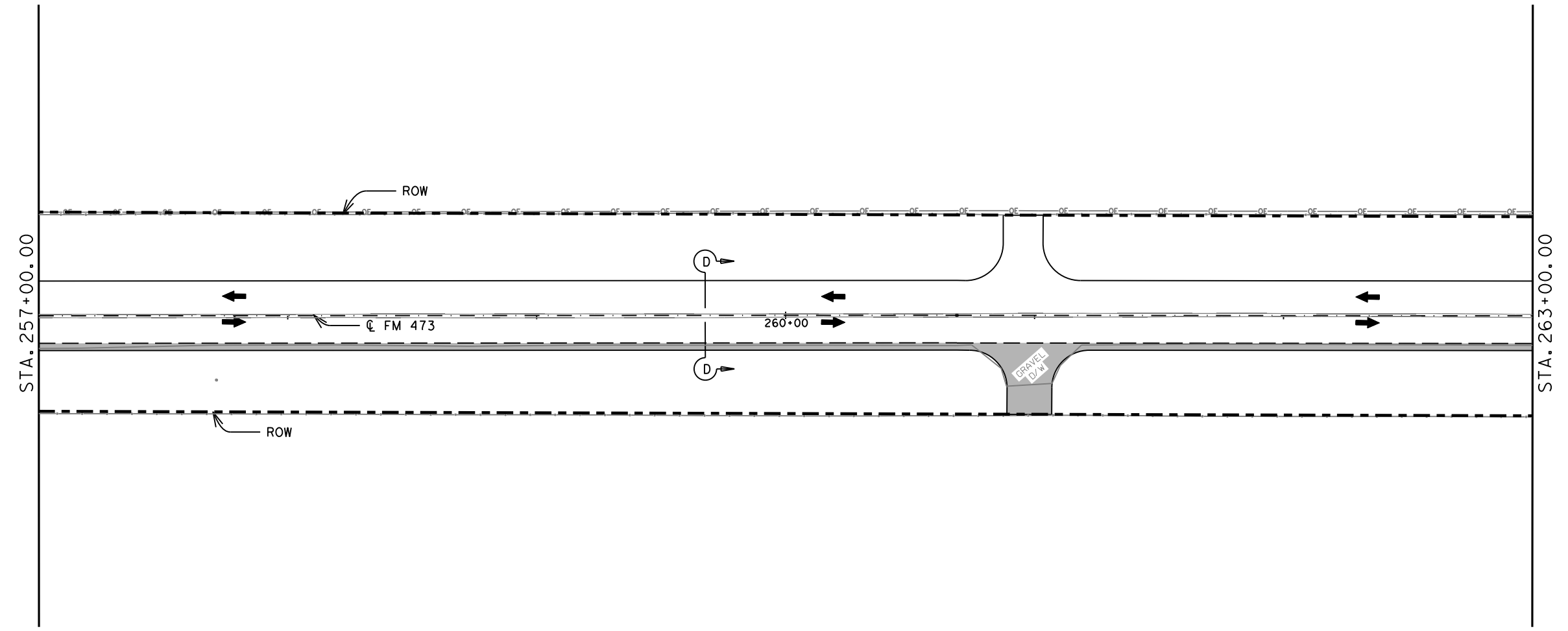


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		203

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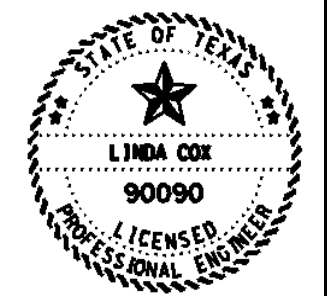
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NOTE:  
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 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

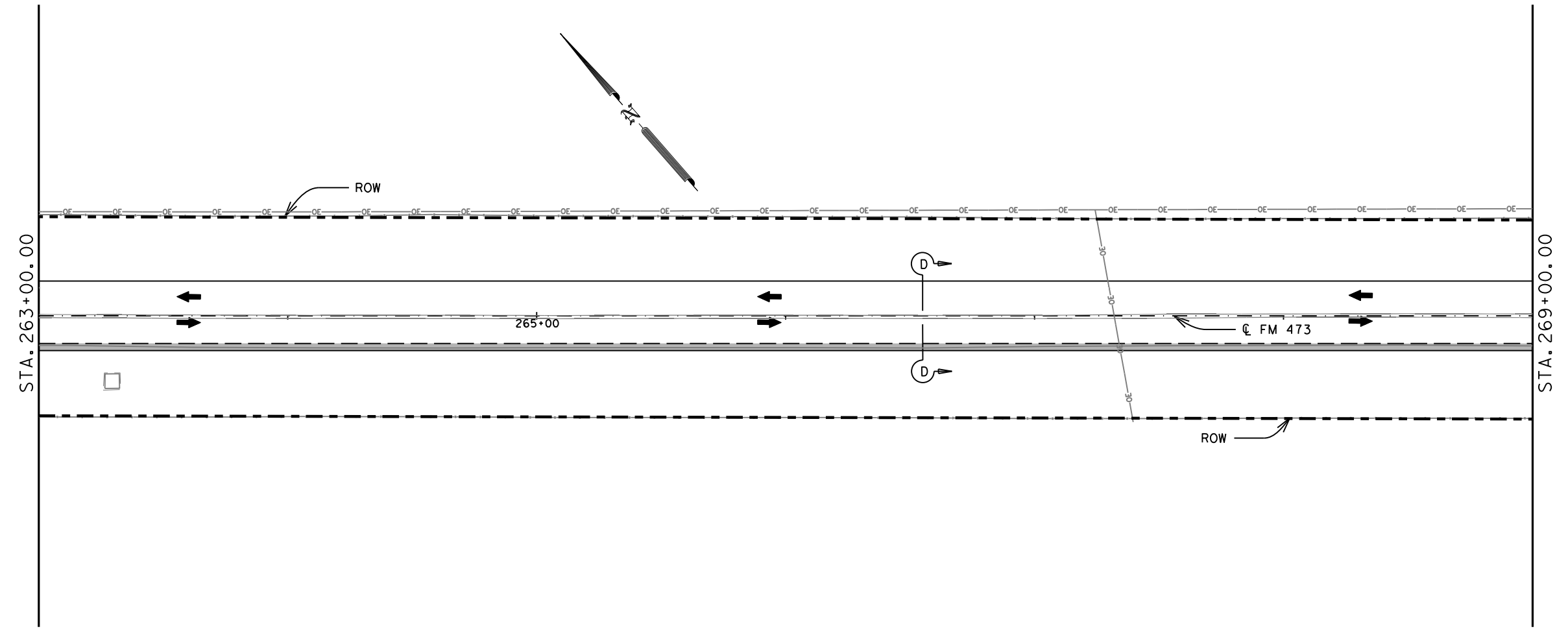


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		204

DN: Ck: DM: Ck:



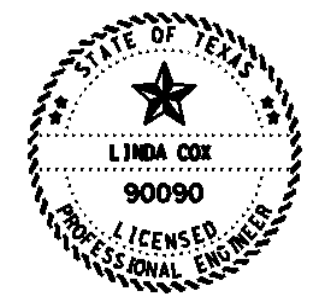
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

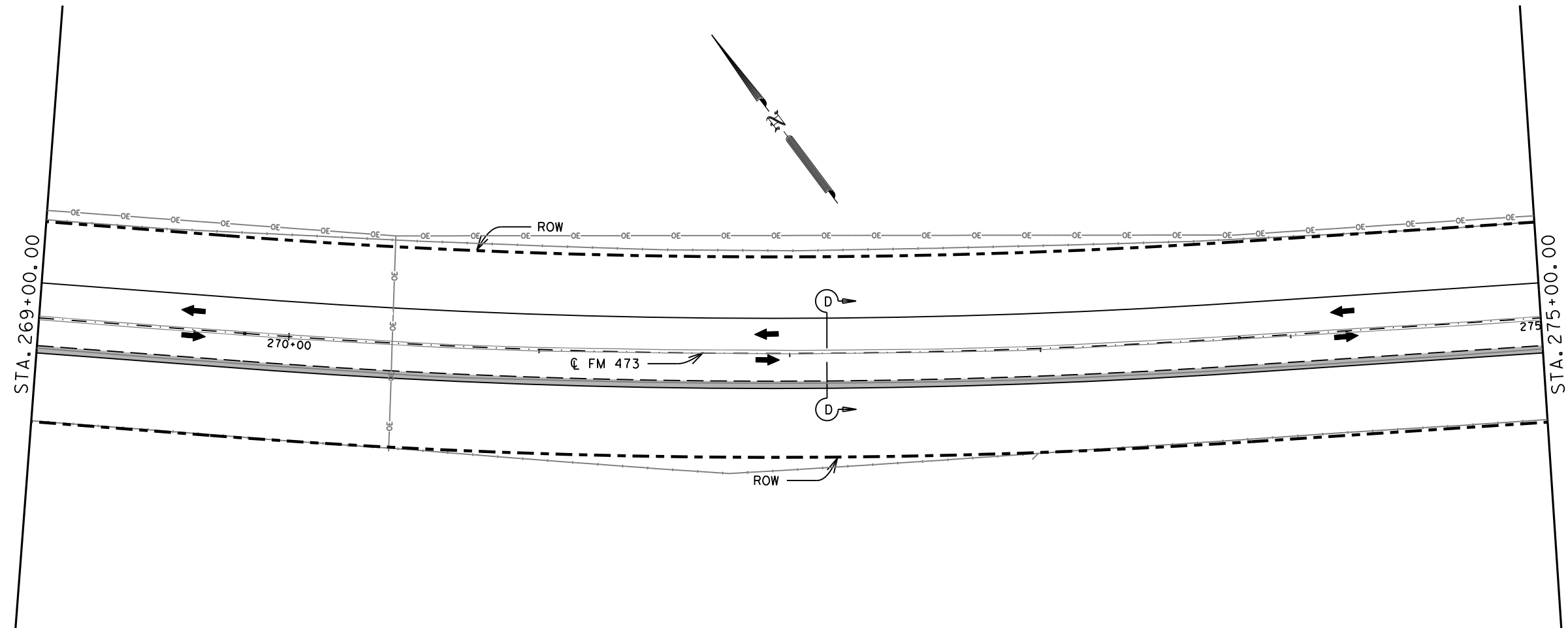


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		205

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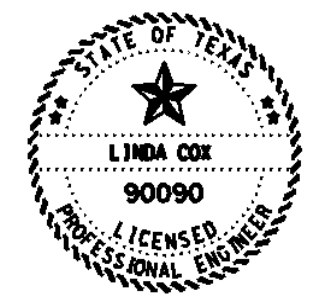
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

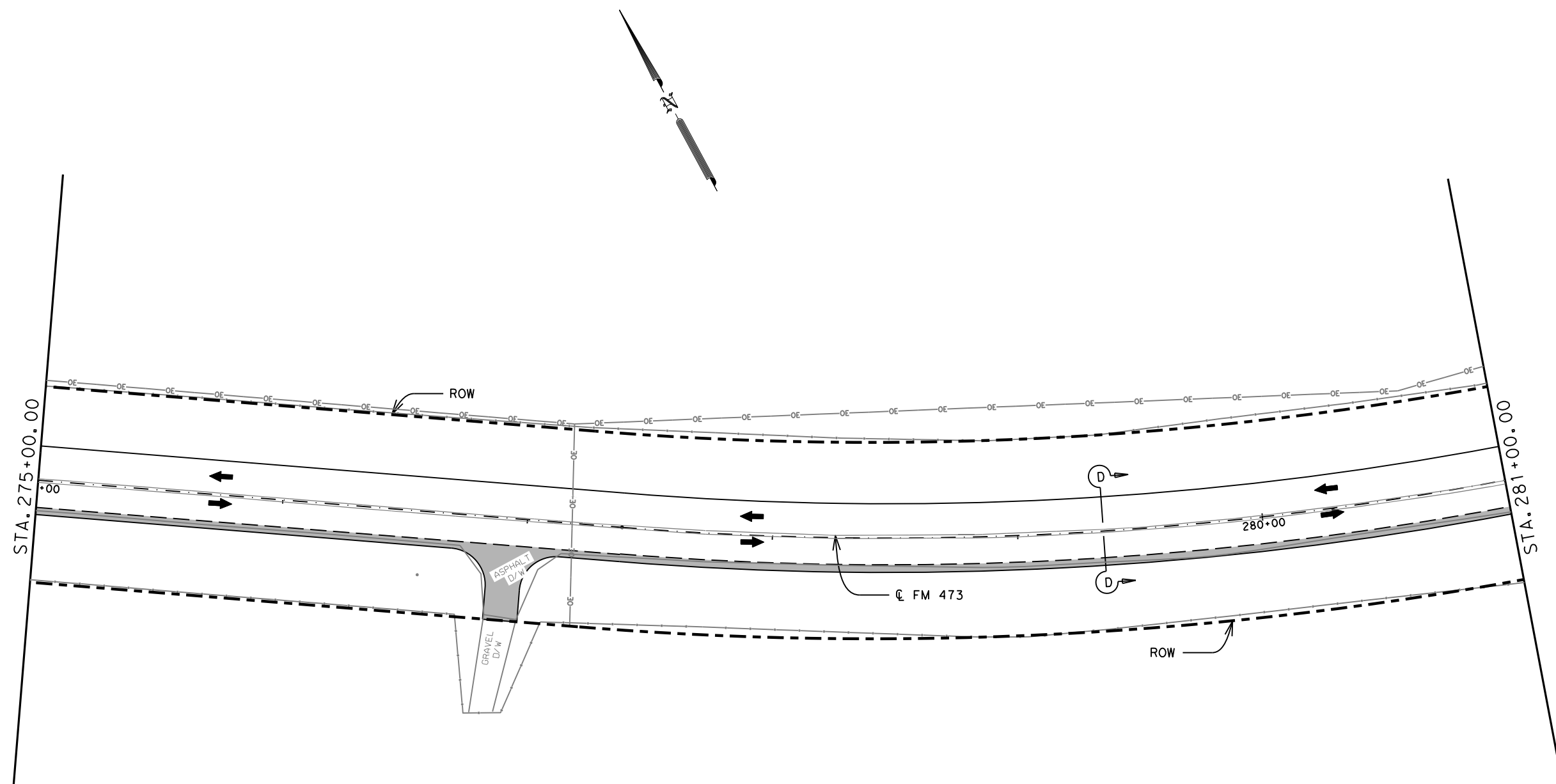


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		206

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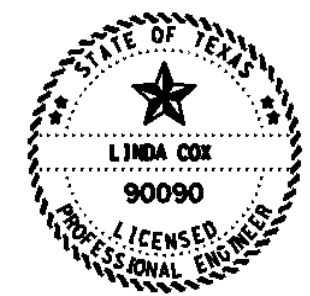
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NOTE:  
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**LEGEND**  
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 ■ CONSTRUCTION AREA



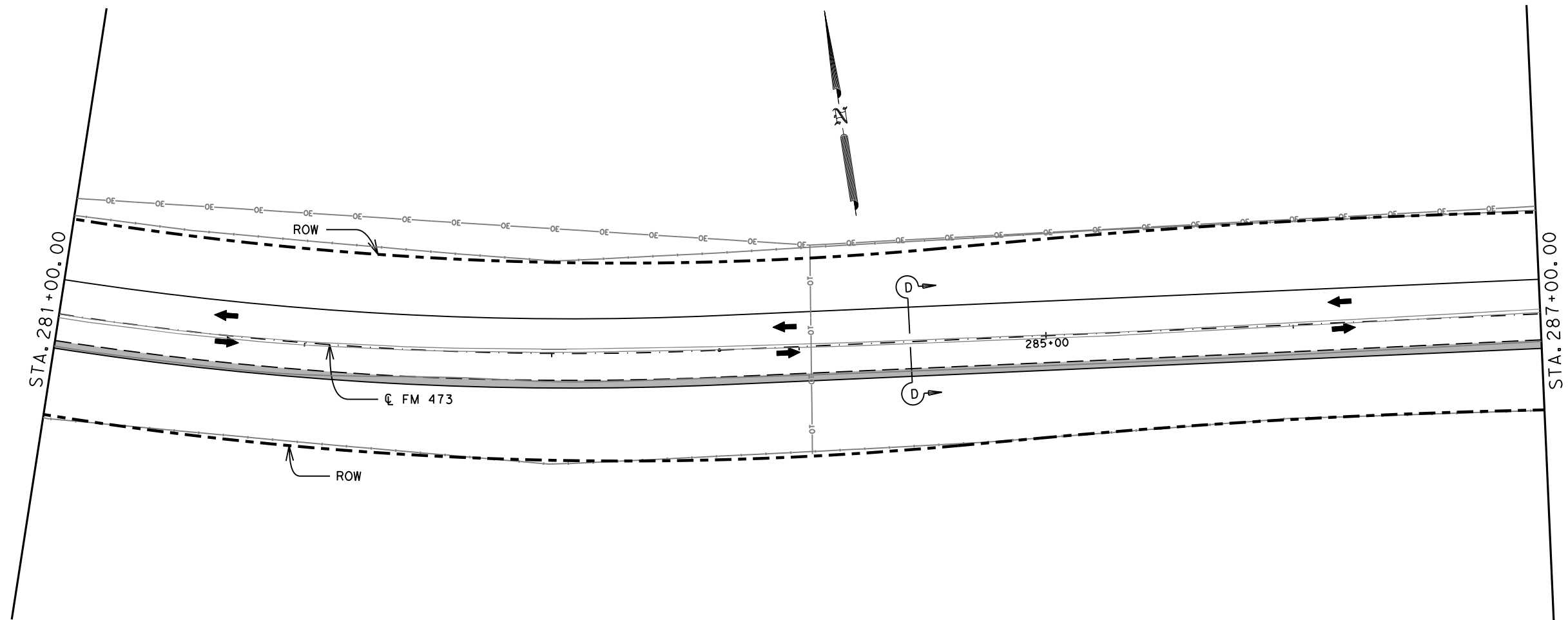
*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE IV

Texas Department of Transportation		SHEET 28 OF 36	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		207

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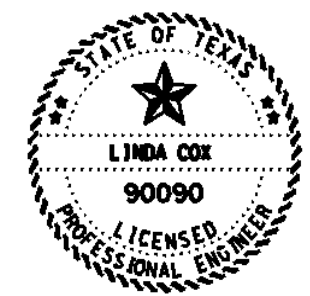
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



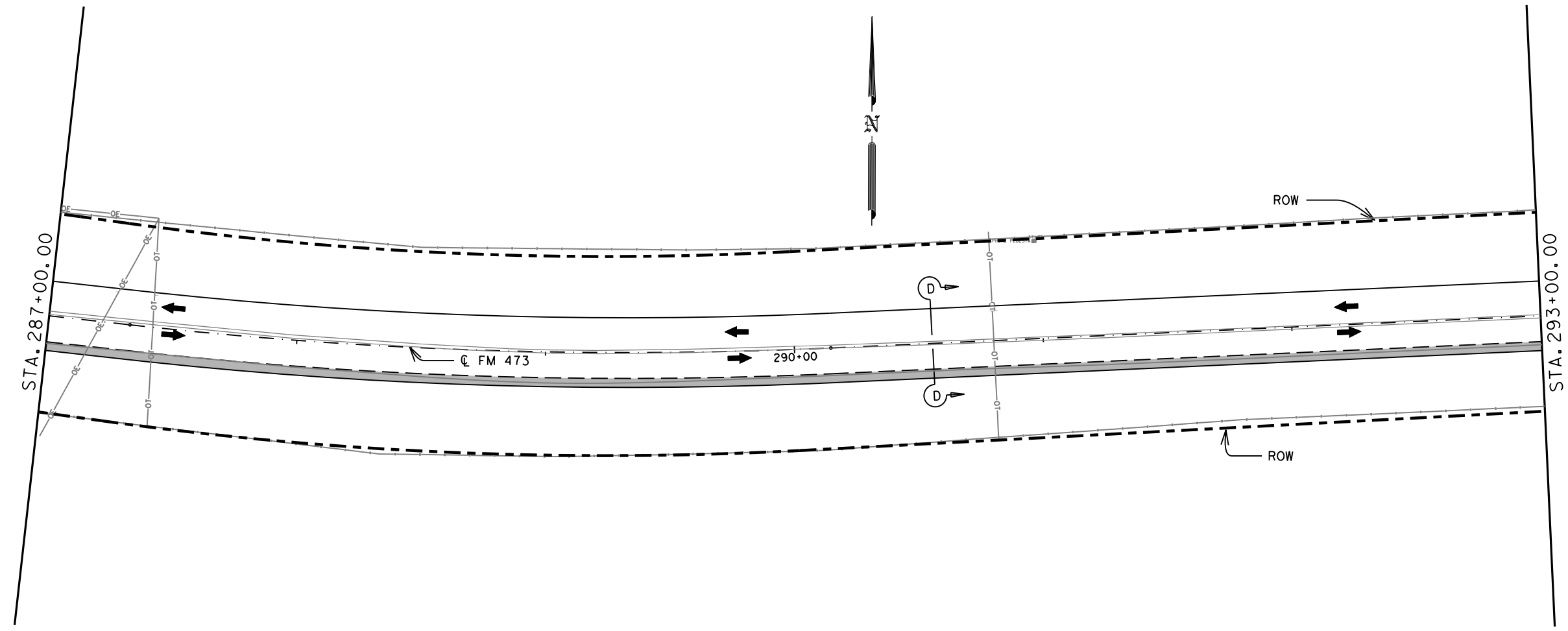
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		208

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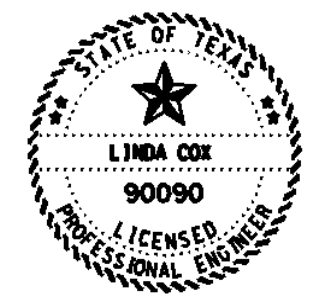


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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



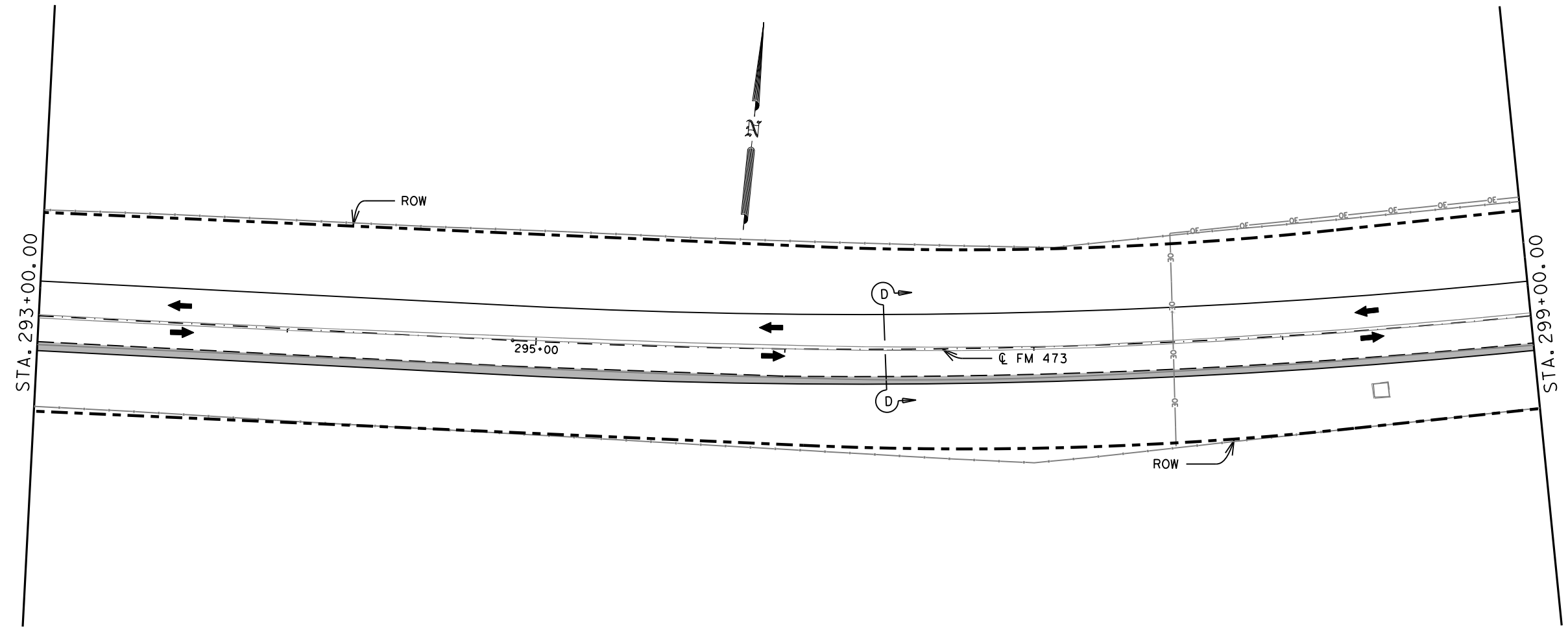
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		209



DN: C&S: DM: C&S:



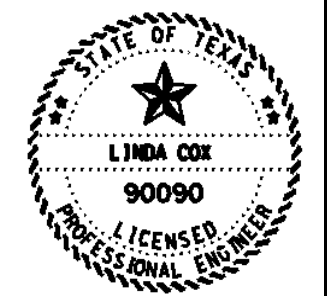
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NOTE:  
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

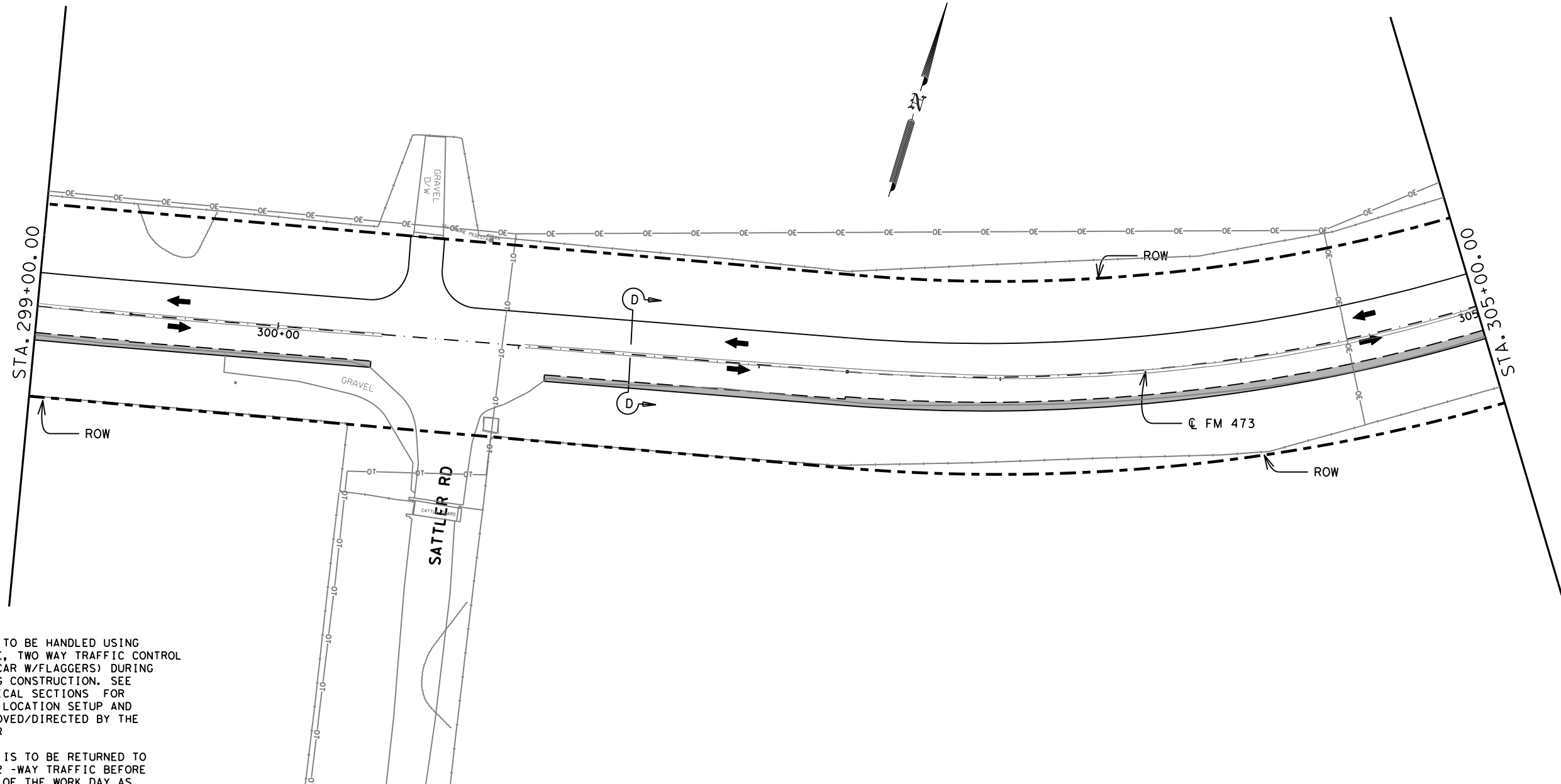


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		210

DN: C&S: DM: C&S: C&S:

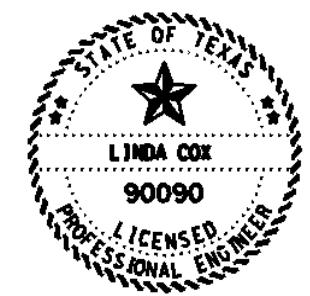
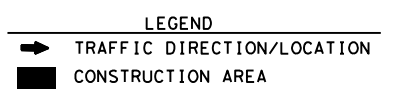


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NOTE:  
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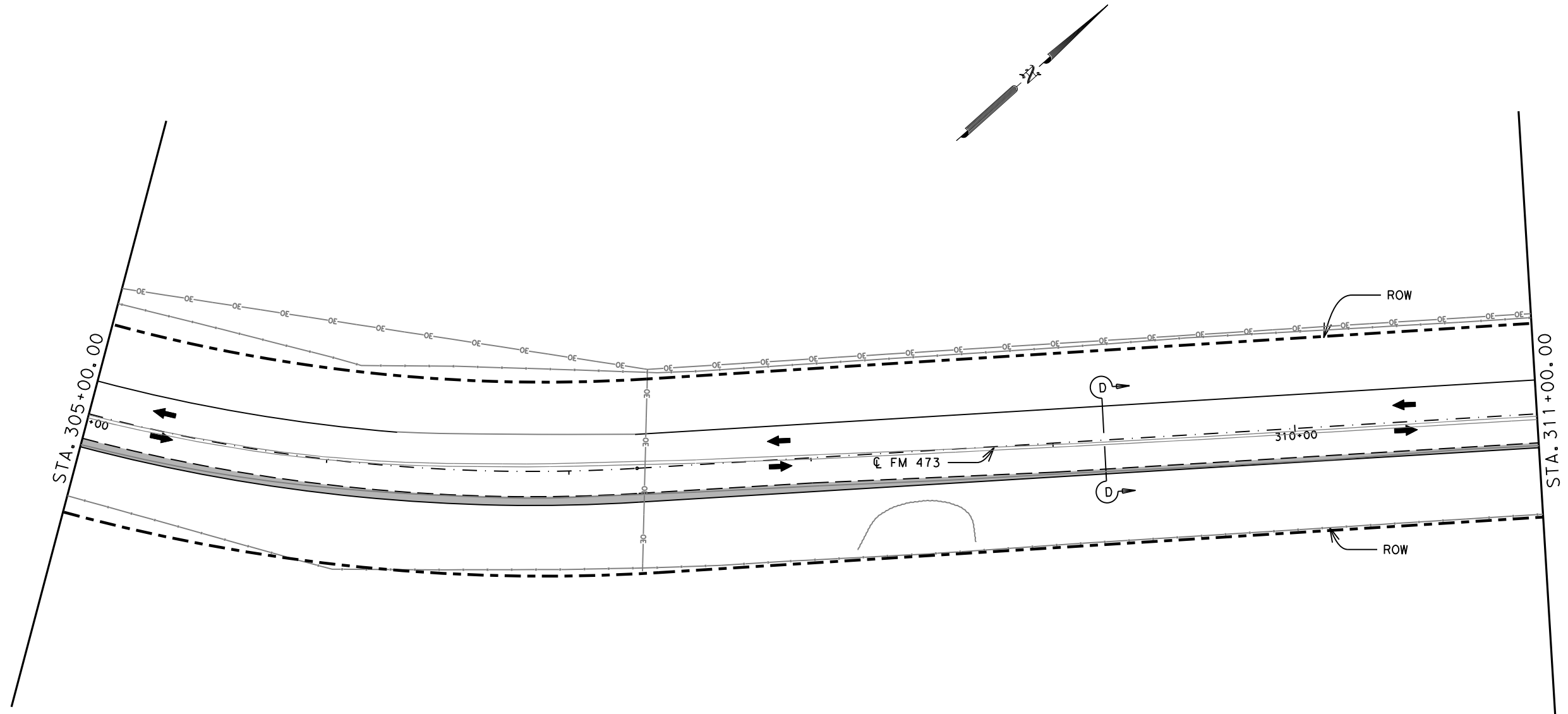
RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	211

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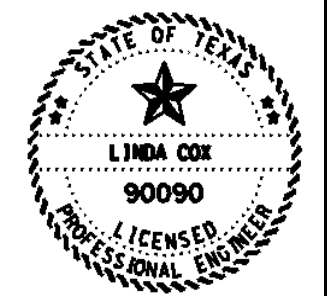


NOTE:  
 TRAFFIC TO BE HANDLED USING ONE LANE, TWO WAY TRAFFIC CONTROL (PILOT CAR W/FLAGGERS) DURING WIDENING CONSTRUCTION. SEE TCP TYPICAL SECTIONS FOR TRAFFIC LOCATION SETUP AND AS APPROVED/DIRECTED BY THE ENGINEER

TRAFFIC IS TO BE RETURNED TO 2 LANE 2-WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

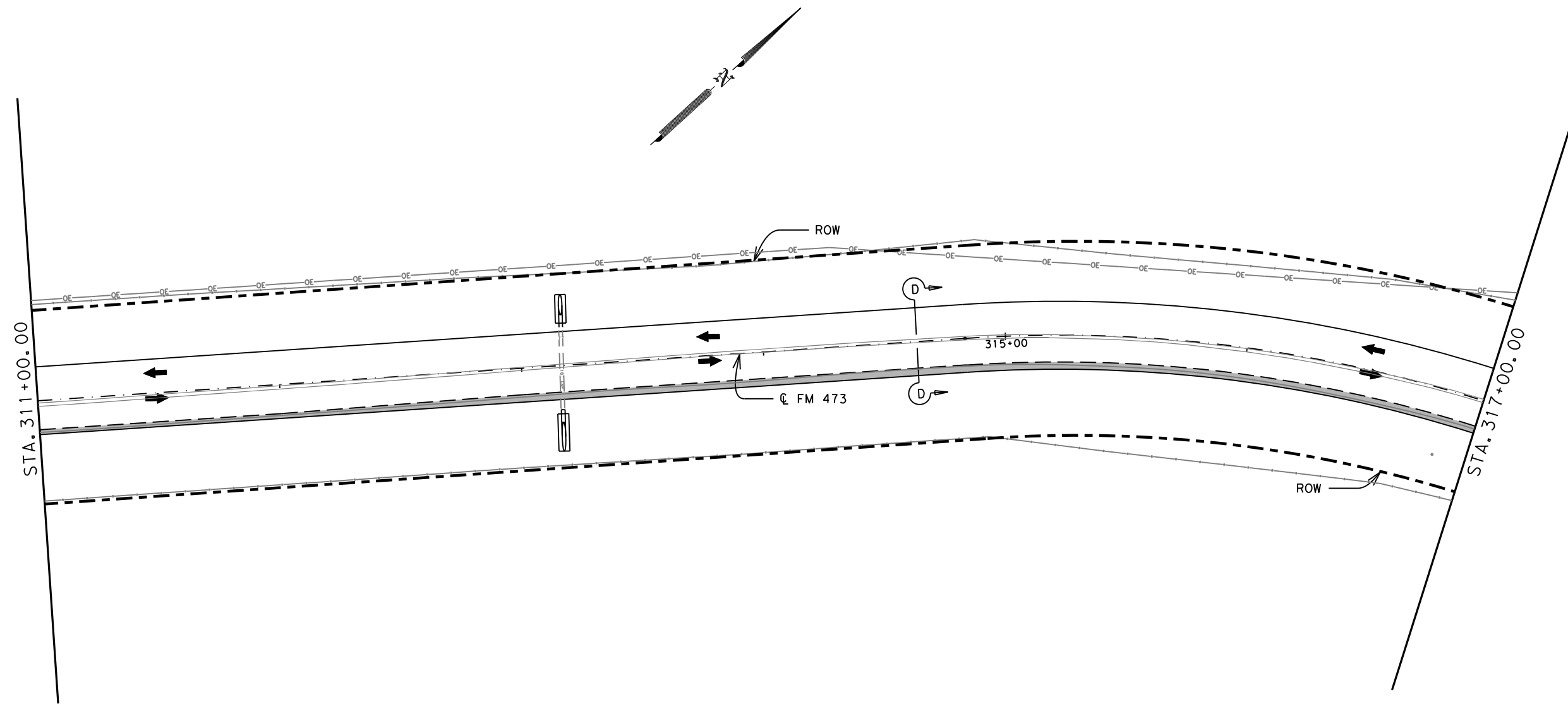


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		212

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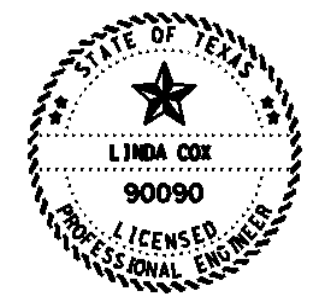
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**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

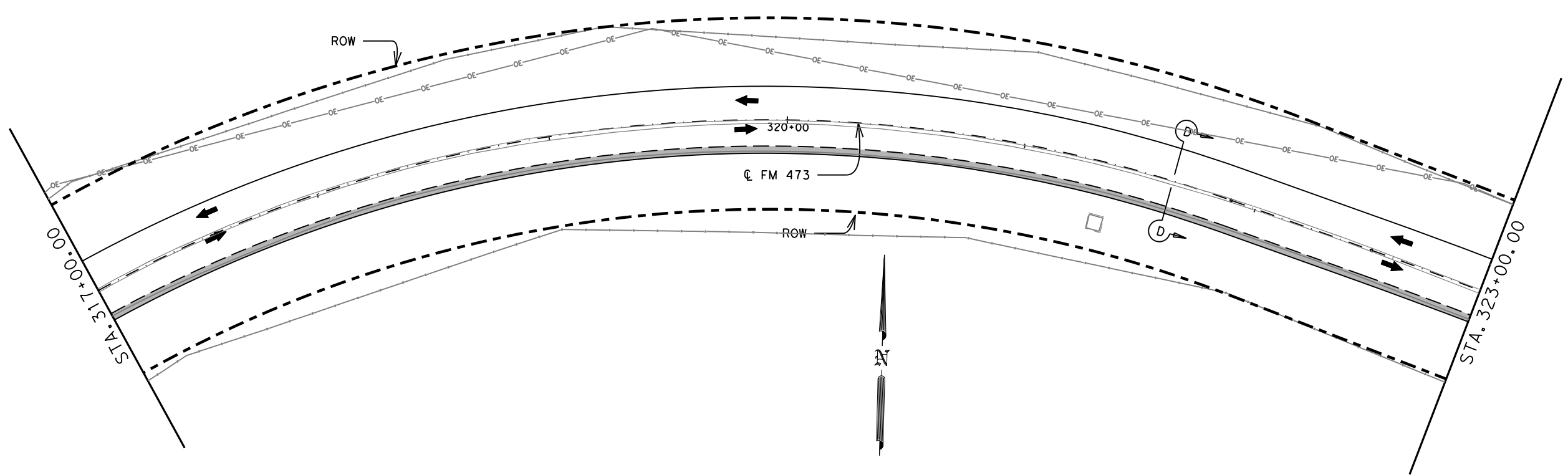


RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
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SAT	KENDALL		213

DN: C&S: DM: C&S: C&S:



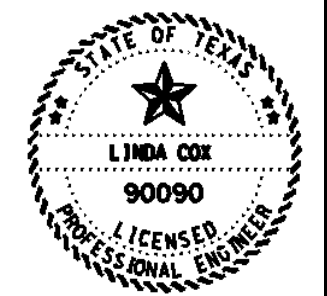
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TRAFFIC IS TO BE RETURNED TO 2 LANE 2 -WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 → TRAFFIC DIRECTION/LOCATION  
 ■ CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021

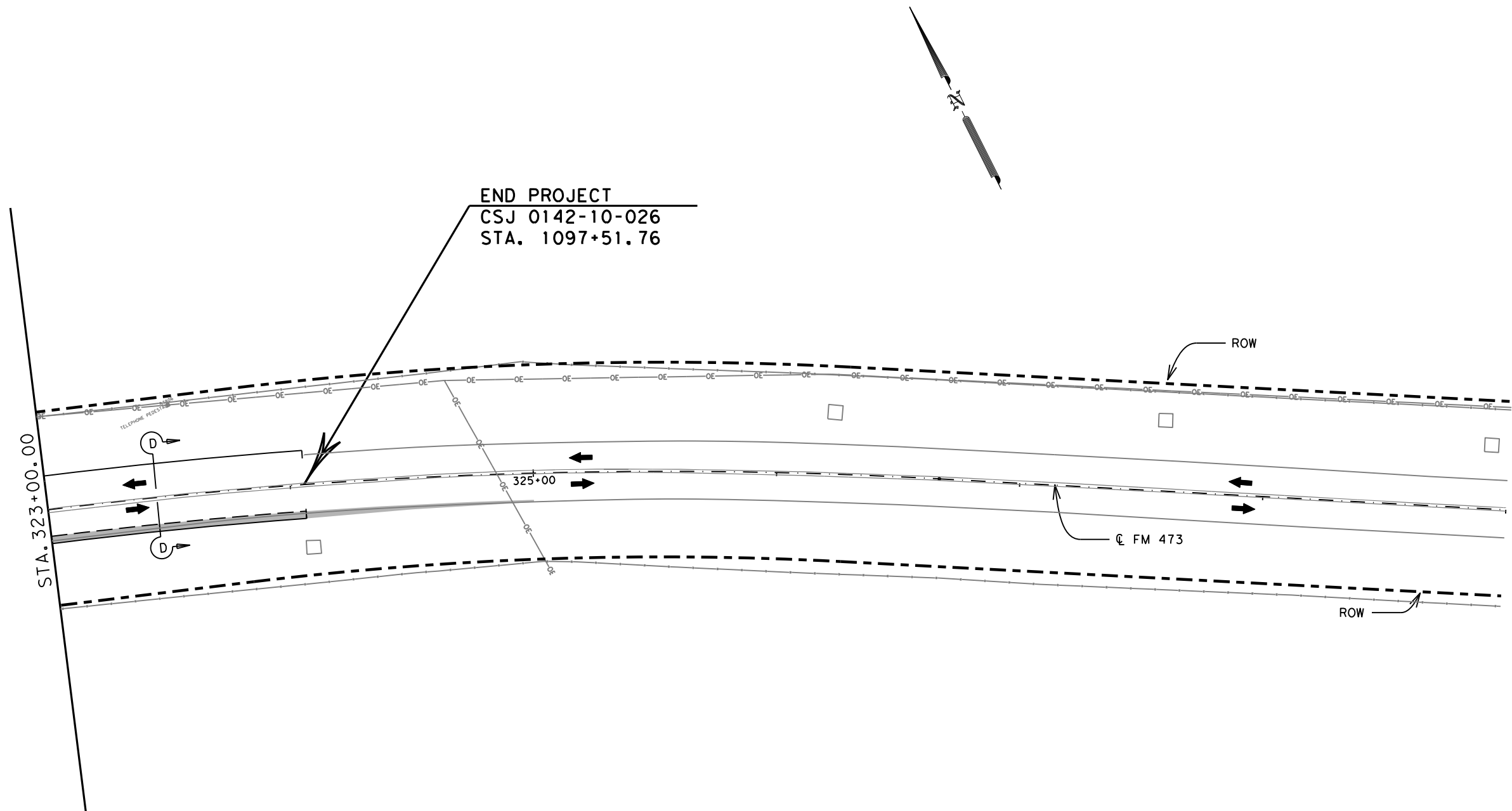


TCP LAYOUTS  
 PHASE IV

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		214

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ONE-WAY TRAF CONT (PILOT CAR)	250	HR
TMA (STATIONARY)	20	DAY
TMA (MOBILE OPERATION)	16	DAY

DWG: [ ]  
 CHK: [ ]  
 DWF: [ ]  
 CDS: [ ]  
 DWS: [ ]



**END PROJECT**  
 CSJ 0142-10-026  
 STA. 1097+51.76

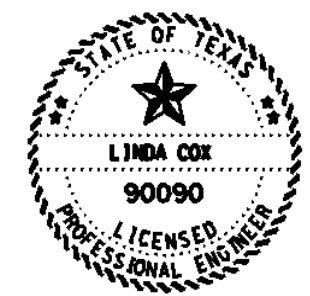
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NOTE:  
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TRAFFIC IS TO BE RETURNED TO 2 LANE 2 -WAY TRAFFIC BEFORE THE END OF THE WORK DAY AS SHOWN ON THE TCP TYPICAL SECTIONS OR AS APPROVED/DIRECTED BY THE ENGINEER

EXISTING PAVEMENT IS TO BE CUTBACK AS SHOWN ON THE PLAN SHEETS, OR A MINIMUM OF 1 FOOT TO REACH GOOD ROADWAY MATERIAL AS APPROVED/DIRECTED BY THE ENGINEER.

**LEGEND**  
 TRAFFIC DIRECTION/LOCATION  
 CONSTRUCTION AREA



*Linda Cox, P.E.*  
 04/29/2021



RM 473  
 TCP LAYOUTS  
 PHASE IV



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	215

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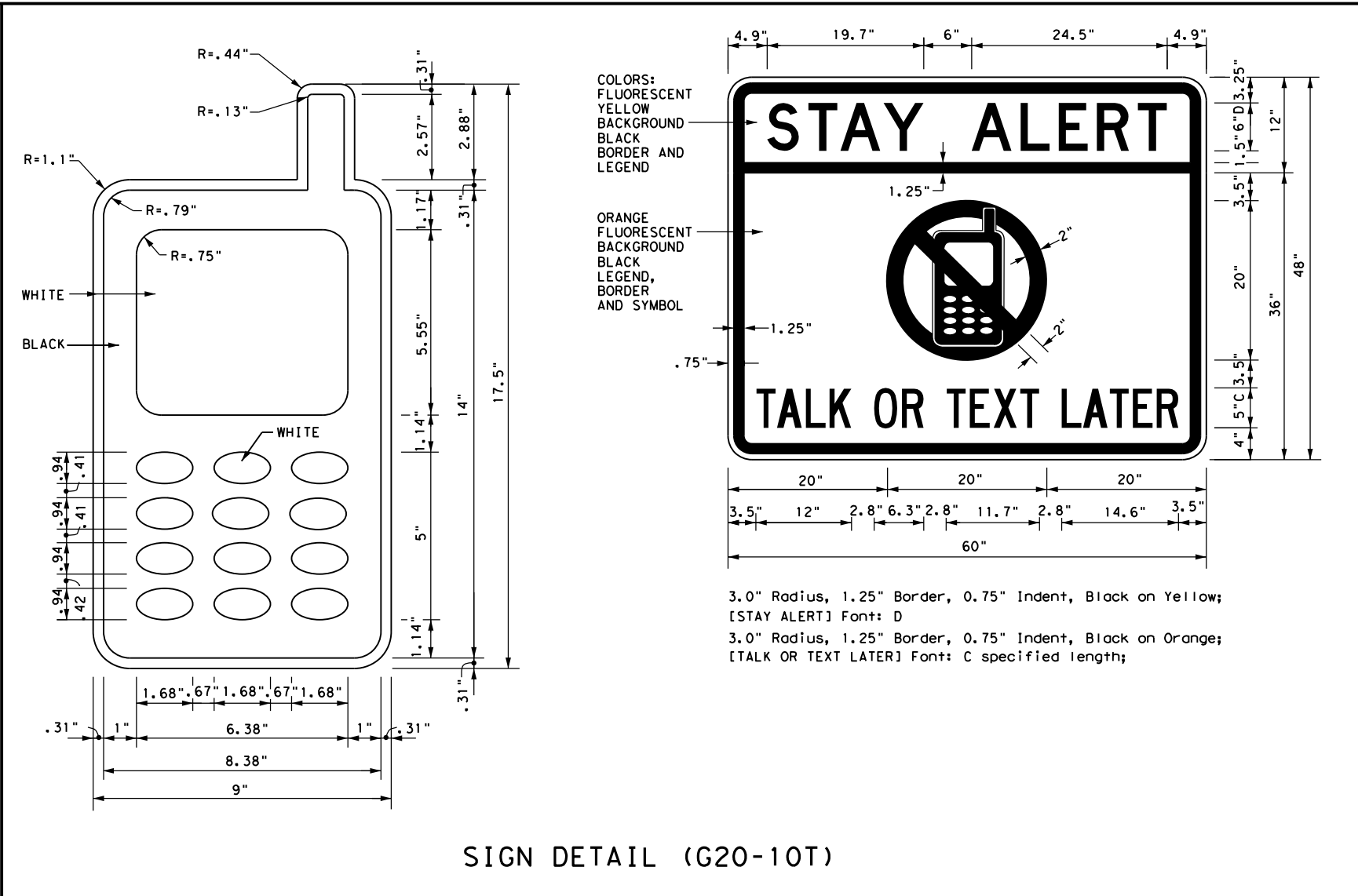
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**BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:**

- The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
- The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
- Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.
- When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
- The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
- All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
- The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
- As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
- Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
- The Engineer has the final decision on the location of all traffic control devices.
- Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

**WORKER SAFETY APPAREL NOTES:**

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



Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation  
 Traffic Operations Division - TE  
 Phone (512) 416-3118

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

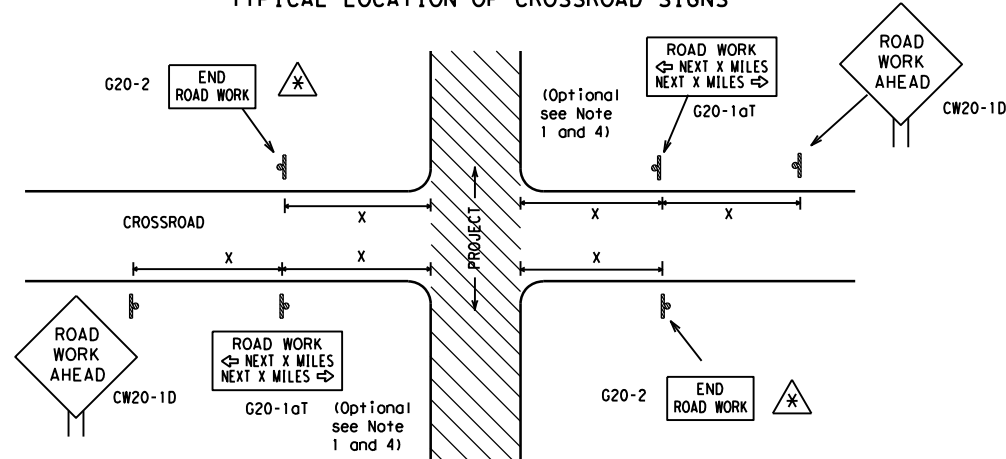
SHEET 1 OF 12

		<i>Traffic Operations Division Standard</i>	
<b>BARRICADE AND CONSTRUCTION          GENERAL NOTES          AND REQUIREMENTS</b>			
<b>BC (1) - 14</b>			
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© TxDOT November 2002	CONT: 0142	SECT: 09	JOB: 044, Etc
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4-03	5-10	8-14	RM 473
9-07	7-13		
	DIST: SAT	COUNTY: KENDALL	SHEET NO.: 216

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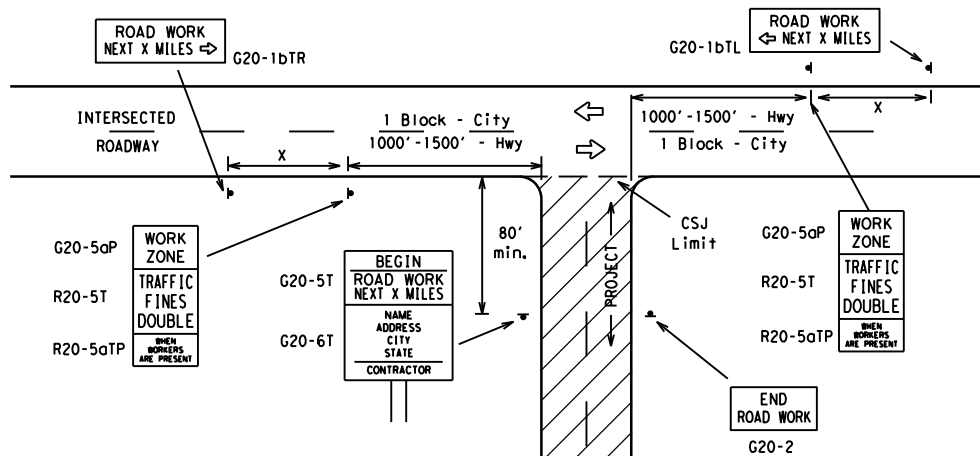
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TYPICAL LOCATION OF CROSSROAD SIGNS



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

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

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

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING<sup>1,5,6</sup>

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

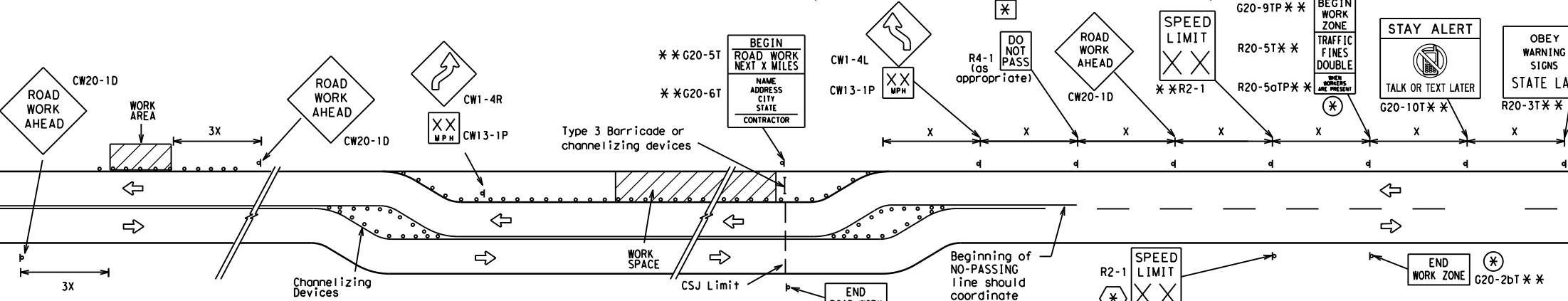
\* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

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

GENERAL NOTES

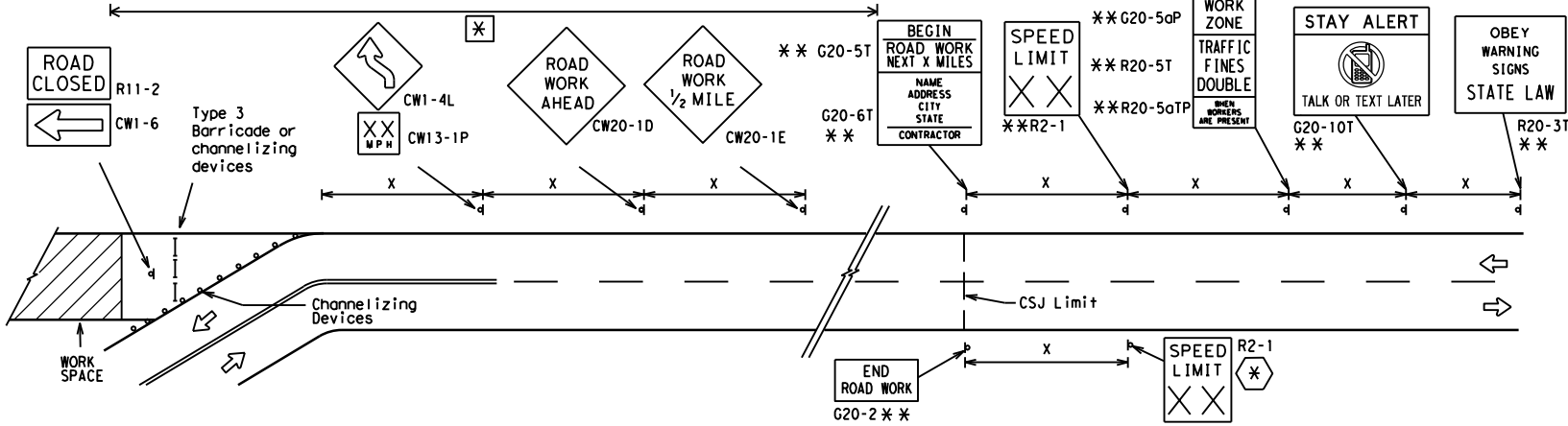
- Special or larger size signs may be used as necessary.
- Distance between signs should be increased as required to have 1500 feet advance warning.
- Distance between signs should be increased as required to have 1/2 mile or more advance warning.
- 36" x 36" "ROAD WORK AHEAD" (CW20-1D) signs may be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

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

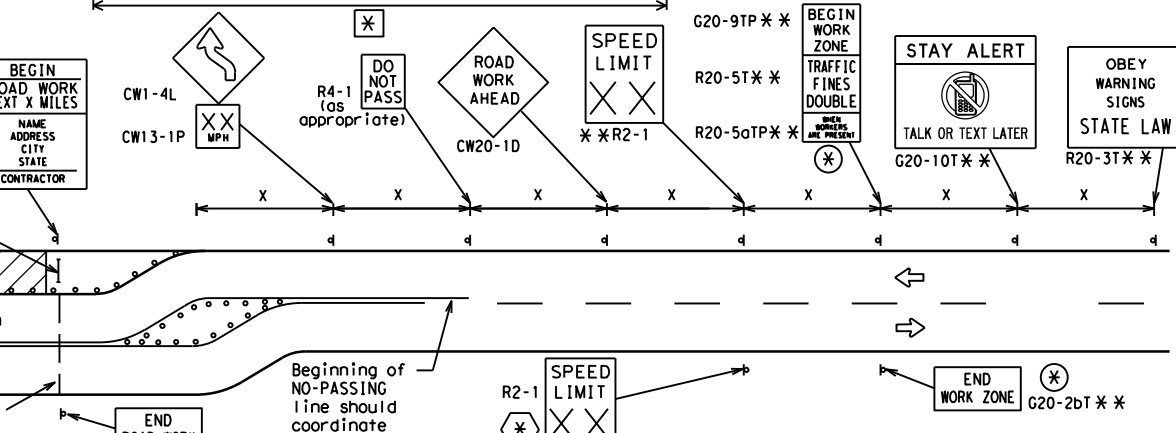


When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD" (CW20-1D) signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing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

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



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT 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.
- \*\* Required CSJ Limit signing. See Note 10 on BC(1). TRAFFIC FINES DOUBLE signs will not be required on projects consisting solely of mobile operations work.
- ⊗ 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 Operations Division Standard

**BARRICADE AND CONSTRUCTION PROJECT LIMIT**

**BC(2) - 14**

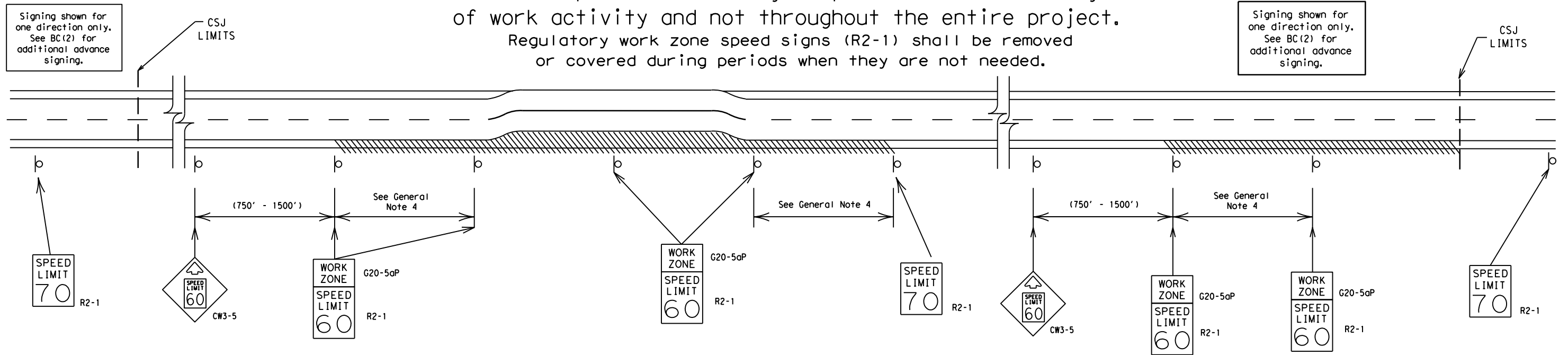
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© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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9-07 8-14	DIST	COUNTY	SHEET NO.	
7-13	SAT	KENDALL	217	



# TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

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

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project. Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



## GUIDANCE FOR USE:

### LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

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

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

- rough road or damaged pavement surface
- substantial alteration of roadway geometrics (diversions)
- construction detours
- grade
- width
- other conditions readily apparent to the driver

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

### SHORT TERM WORK ZONE SPEED LIMITS

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

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

### GENERAL NOTES

- Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
- Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- Frequency of work zone speed limit signs should be:
 

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

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SHEET 3 OF 12



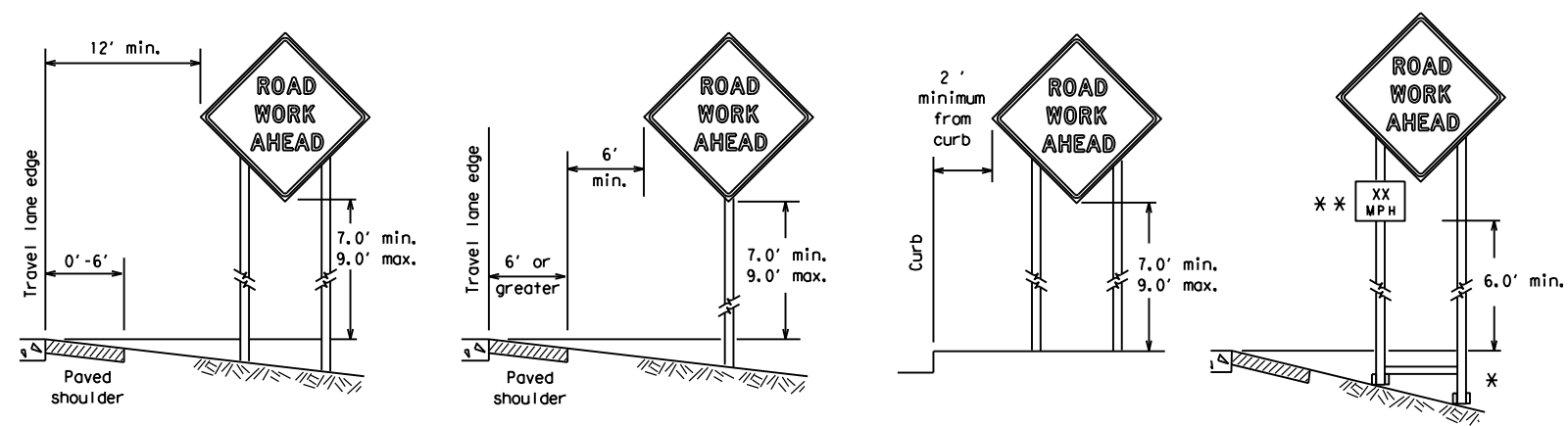
## BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC (3) - 14

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© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY				
REVISIONS		0142	09	044, E+c	RM 473				
9-07	8-14	DIST	COUNTY	SHEET NO.					
7-13		SAT	KENDALL	218					

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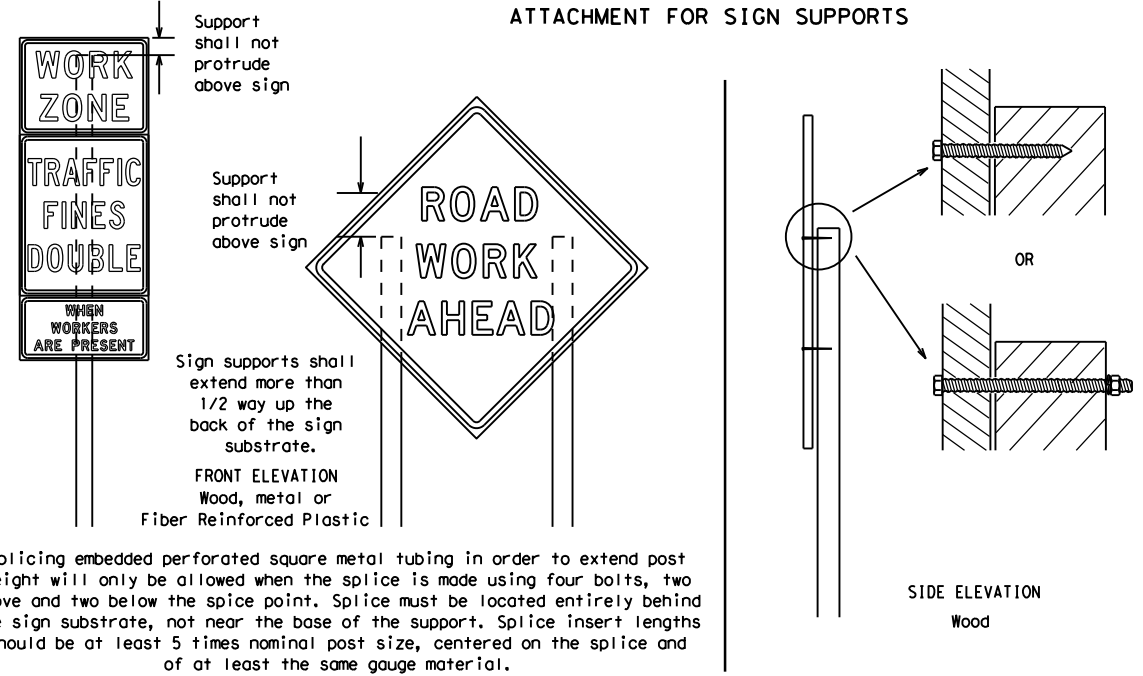
**TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS**



\* 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**



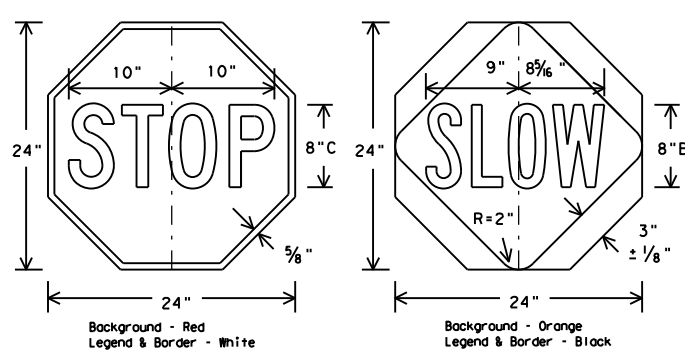
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

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 splice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

**STOP/SLOW PADDLES**

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



**CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS**

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

**GENERAL NOTES FOR WORK ZONE SIGNS**

- Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
  - Wooden sign posts shall be painted white.
  - Barricades shall NOT be used as sign supports.
  - All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
  - The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
  - The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
  - The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
  - Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
  - The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.
- DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)**
- The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
    - Long-term stationary - work that occupies a location more than 3 days.
    - Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
    - Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
    - Short, duration - work that occupies a location up to 1 hour.
    - Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

**SIGN MOUNTING HEIGHT**

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

**SIZE OF SIGNS**

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

**SIGN SUBSTRATES**

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

**REFLECTIVE SHEETING**

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

**SIGN LETTERS**

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

**REMOVING OR COVERING**

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

**SIGN SUPPORT WEIGHTS**

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

**FLAGS ON SIGNS**

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



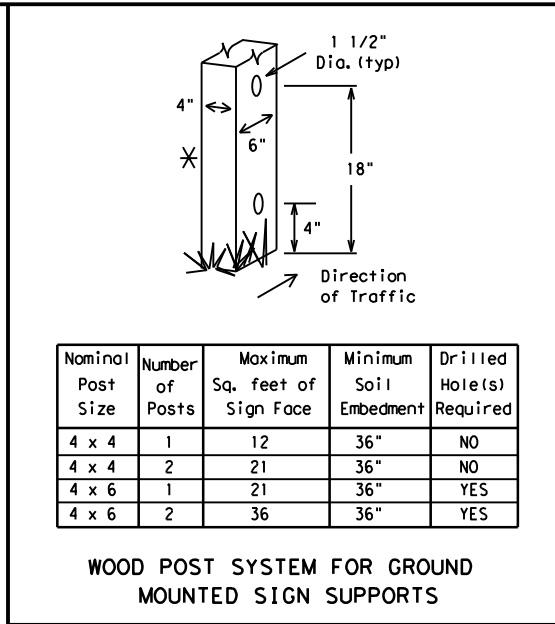
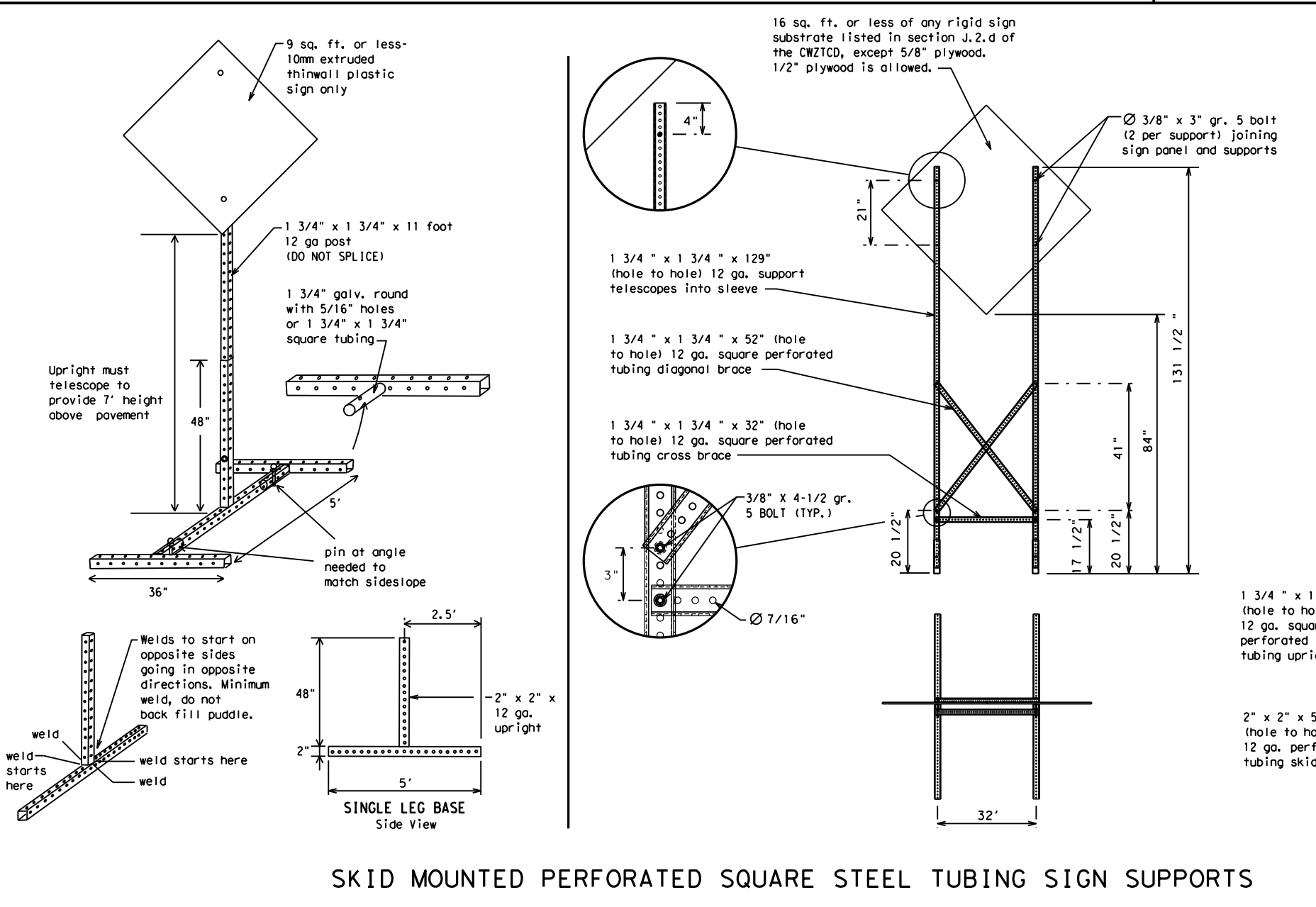
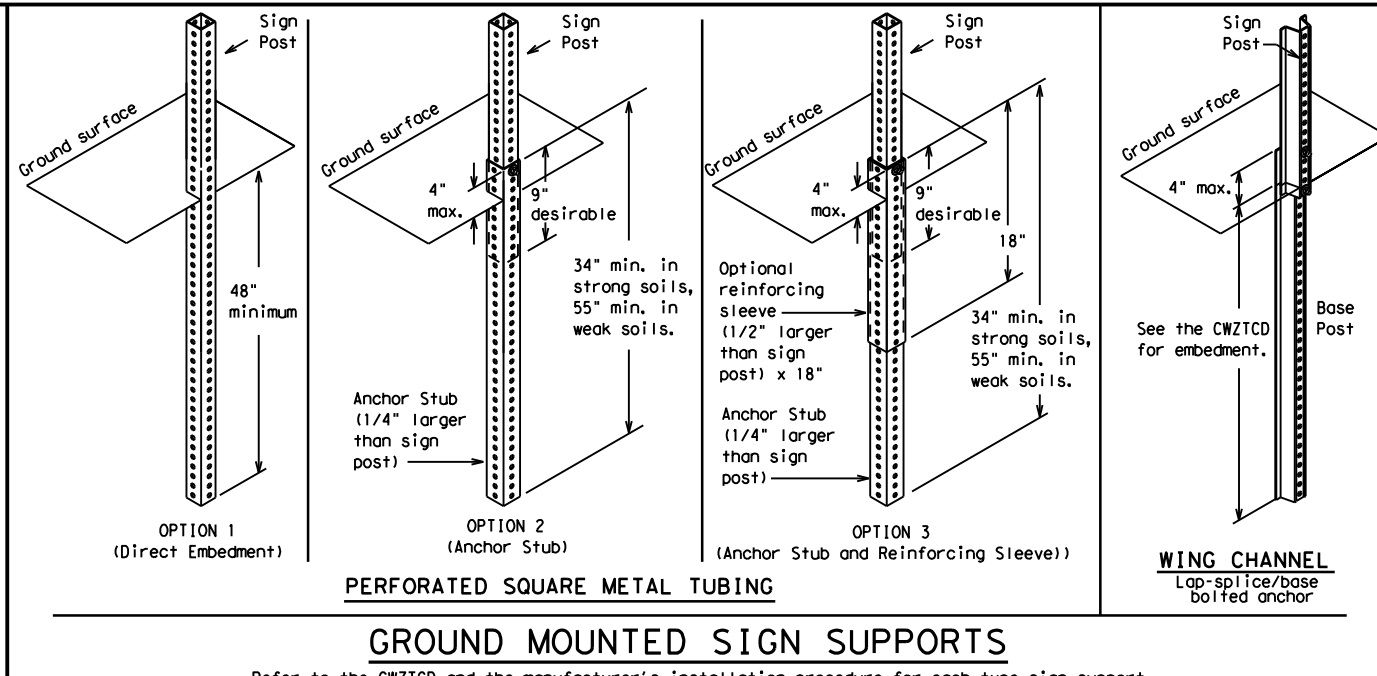
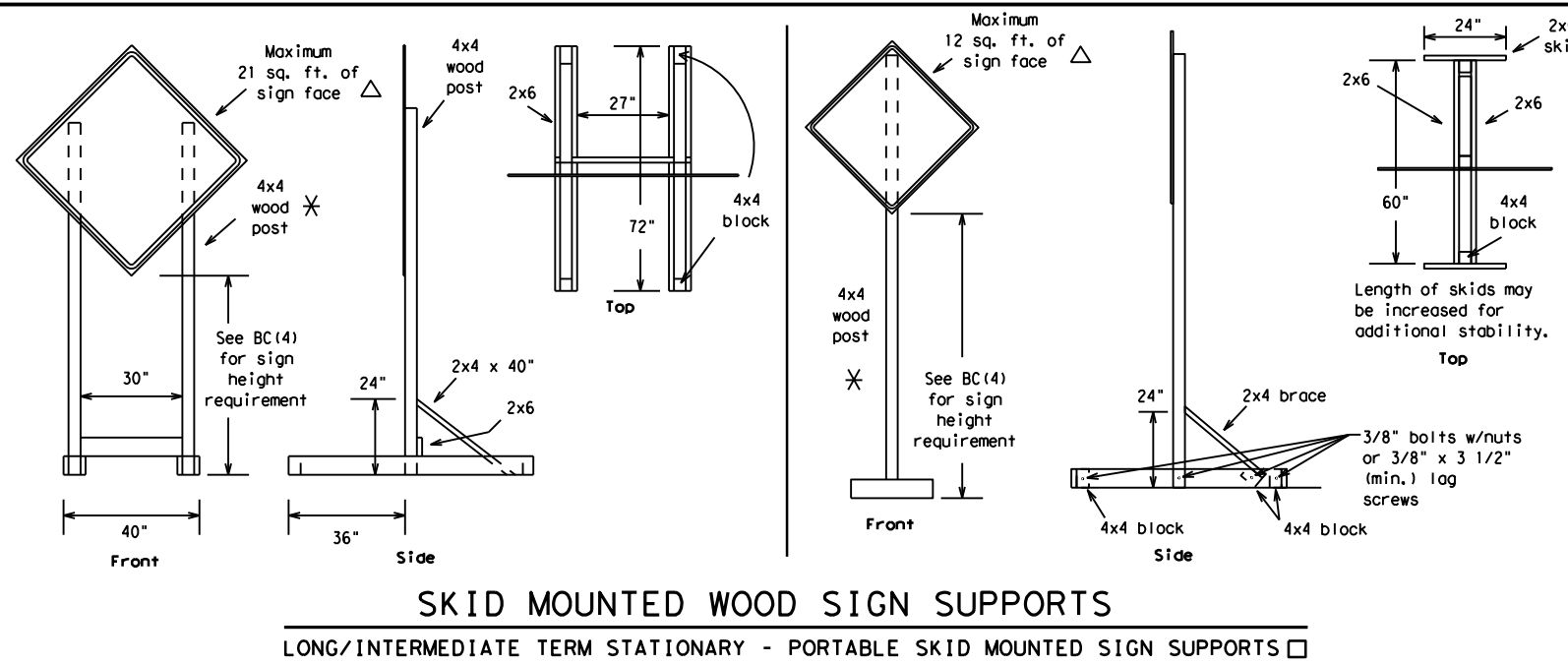
**BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES**

**BC (4) - 14**

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REVISIONS		0142	09	044, Etc	RM 473				
9-07	8-14	DIST	COUNTY	SHEET NO.					
7-13		SAT	KENDALL	219					

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

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

**GENERAL NOTES**

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

See BC(4) for definition of "Work Duration."  
 ✖ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.  
 △ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

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

# RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

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

## PORTABLE CHANGEABLE MESSAGE SIGNS

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

## Phase 1: Condition Lists

### Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE
ROAD CLOSED AT SH XXX
ROAD CLSD AT FM XXXX
RIGHT X LANES CLOSED
CENTER LANE CLOSED
NIGHT LANE CLOSURES
VARIOUS LANES CLOSED
EXIT CLOSED
MALL DRIVEWAY CLOSED
XXXXXXXX BLVD CLOSED

### Other Condition List

FRONTAGE ROAD CLOSED
SHOULDER CLOSED XXX FT
RIGHT LN CLOSED XXX FT
RIGHT X LANES OPEN
DAYTIME LANE CLOSURES
I-XX SOUTH EXIT CLOSED
EXIT XXX CLOSED X MILE
RIGHT LN TO BE CLOSED
X LANES CLOSED TUE - FRI

ROADWORK XXX FT
FLAGGER XXXX FT
RIGHT LN NARROWS XXXX FT
MERGING TRAFFIC XXXX FT
LOOSE GRAVEL XXXX FT
DETOUR X MILE
ROADWORK PAST SH XXXX
BUMP XXXX FT
TRAFFIC SIGNAL XXXX FT

ROAD REPAIRS XXXX FT
LANE NARROWS XXXX FT
TWO-WAY TRAFFIC XX MILE
CONST TRAFFIC XXX FT
UNEVEN LANES XXXX FT
ROUGH ROAD XXXX FT
ROADWORK NEXT FRI-SUN
US XXX EXIT X MILES
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
DETOUR NEXT X EXITS
USE EXIT XXX
STAY ON US XXX SOUTH
TRUCKS USE US XXX N
WATCH FOR TRUCKS
EXPECT DELAYS
REDUCE SPEED XXX FT
USE OTHER ROUTES
STAY IN LANE *

FORM X LINES RIGHT
USE XXXXX RD EXIT
USE EXIT I-XX NORTH
USE I-XX E TO I-XX N
WATCH FOR TRUCKS
EXPECT DELAYS
PREPARE TO STOP
END SHOULDER USE
WATCH FOR WORKERS

### Location List

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXXX TO XXXXXX
US XXX TO FM XXXX

### Warning List

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

### \*\* Advance Notice List

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

\*\* See Application Guidelines Note 6.

## APPLICATION GUIDELINES

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

## WORDING ALTERNATIVES

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

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

## FULL MATRIX PCMS SIGNS

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

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

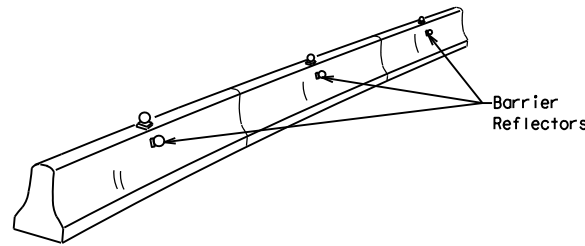
Roadway designation # IH-number, US-number, SH-number, FM-number

<h3>BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)</h3>			
<h2>BC (6) - 14</h2>			
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© TxDOT	November 2002	CONT:	SECT:
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7-13		SAT:	KENDALL
		CR:	TxDOT
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		JOB:	HIGHWAY
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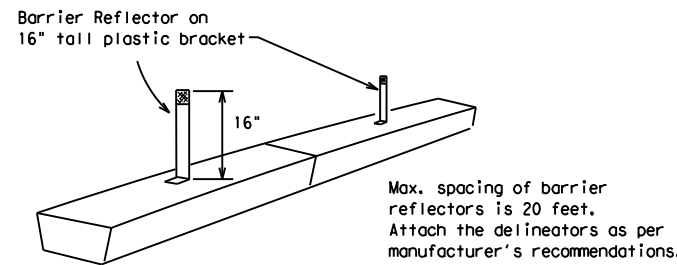
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- Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
- Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.

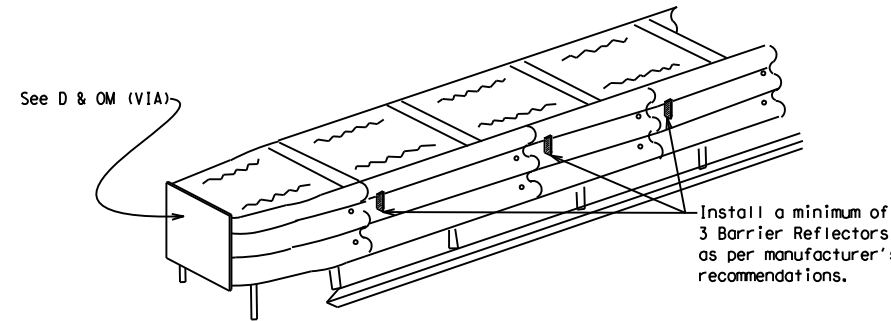


**CONCRETE TRAFFIC BARRIER (CTB)**



**LOW PROFILE CONCRETE BARRIER (LPCB)**

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



**DELINEATION OF END TREATMENTS**

**END TREATMENTS FOR CTB'S USED IN WORK ZONES**

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

**BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS**

**WARNING LIGHTS**

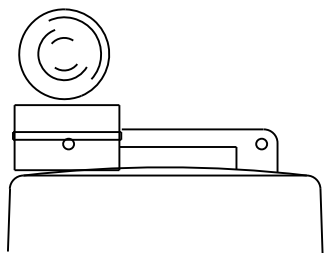
- Warning lights shall meet the requirements of the TMUTCD.
- Warning lights shall NOT be installed on barricades.
- Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet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

**WARNING LIGHTS MOUNTED ON PLASTIC DRUMS**

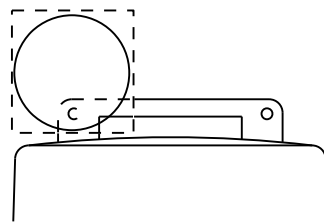
- Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
- Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
- A series of sequential flashing warning lights placed on channelizing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

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

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



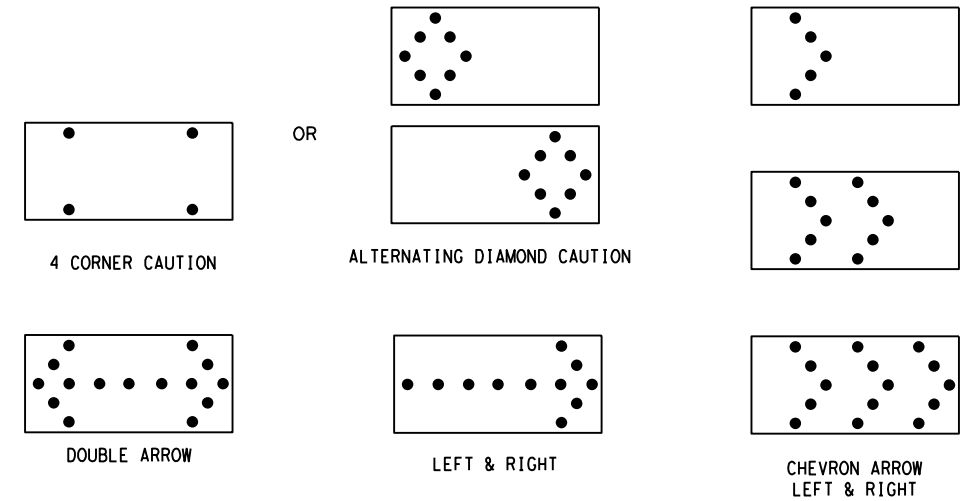
Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



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

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

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



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

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

**ATTENTION**  
 Flashing Arrow Boards shall be equipped with automatic dimming devices.

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

**FLASHING ARROW BOARDS**

SHEET 7 OF 12

**TRUCK-MOUNTED ATTENUATORS**

- Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350) or the Manual for Assessing Safety Hardware (MASH).
- Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
- Refer to the CWZTCD for a list of approved TMAs.
- TMAs are required on freeways unless otherwise noted in the plans.
- A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
- The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.



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

**BC (7) - 14**

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**GENERAL NOTES**

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

**GENERAL DESIGN REQUIREMENTS**

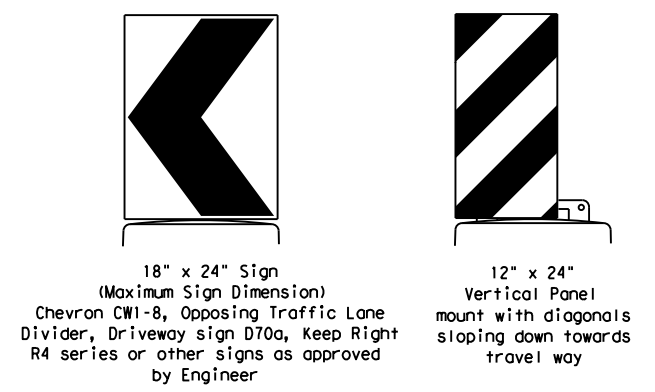
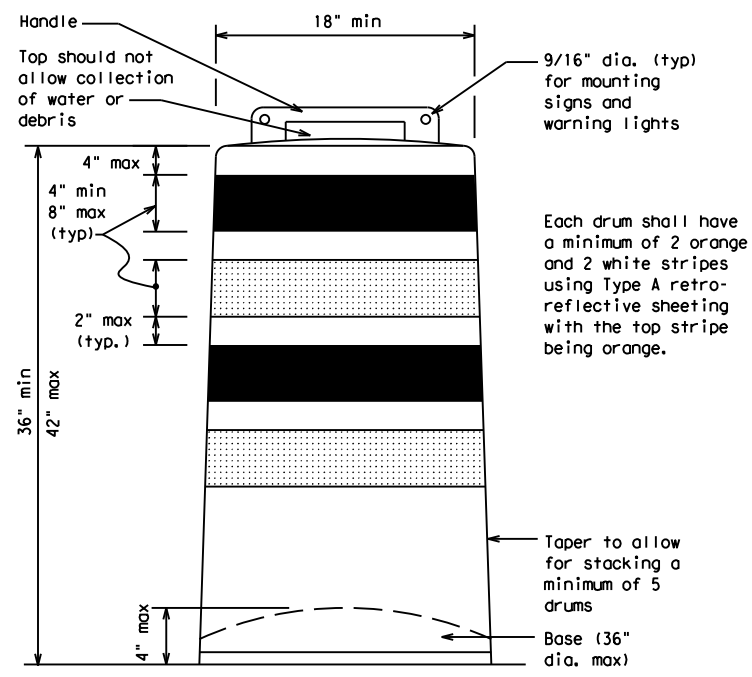
- Pre-qualified plastic drums shall meet the following requirements:
- Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
  - The body and base shall lock together in such a manner that the body separates from the base when impacted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

**RETROREFLECTIVE SHEETING**

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

**BALLAST**

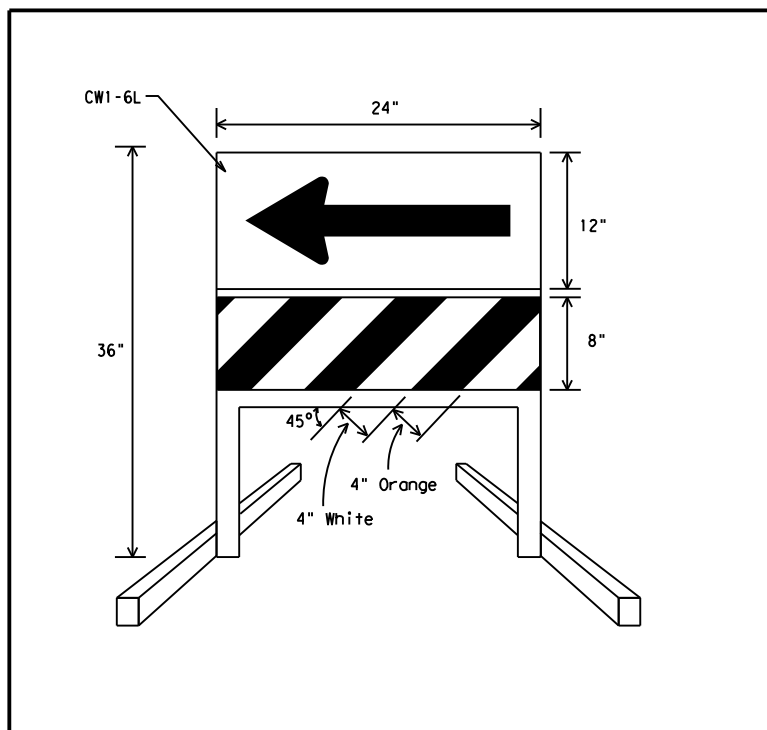
- Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other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



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

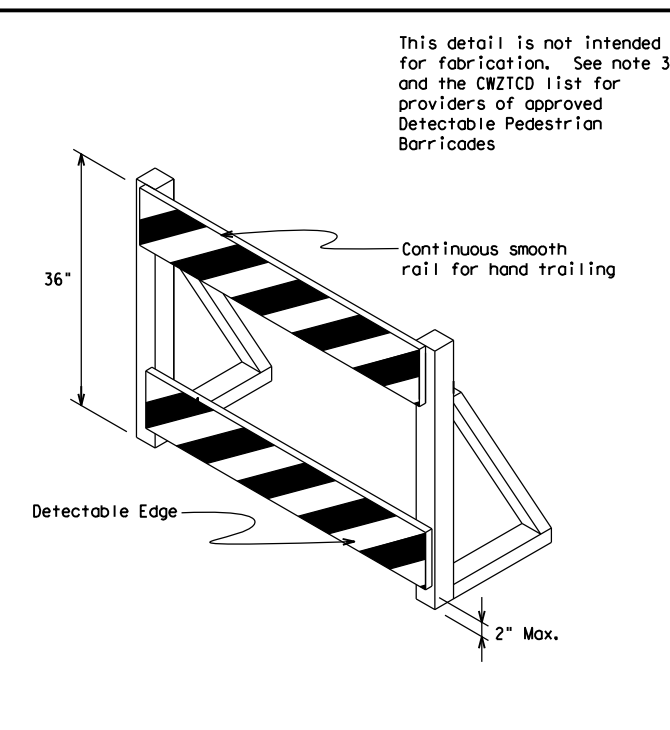
**SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS**

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



**DIRECTION INDICATOR BARRICADE**

- The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
- If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
- The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CWI-6) sign in the size shown with a black arrow on a background of Type B<sub>FL</sub> or Type C<sub>FL</sub> Orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheetting types shall be as per DMS 8300.
- Double arrows on the Direction Indicator Barricade will not be allowed.
- Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.



**DETECTABLE PEDESTRIAN BARRICADES**

- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
- Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
- Warning lights shall not be attached to detectable pedestrian barricades.
- Detectable pedestrian barricades may 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.

SHEET 8 OF 12



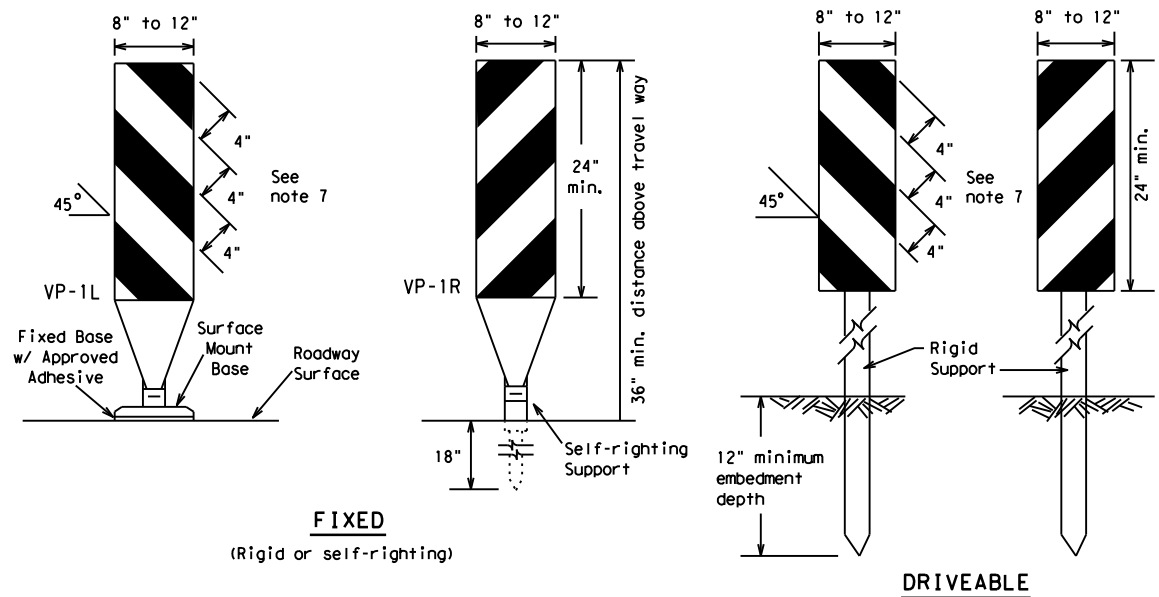
**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

**BC (8) - 14**

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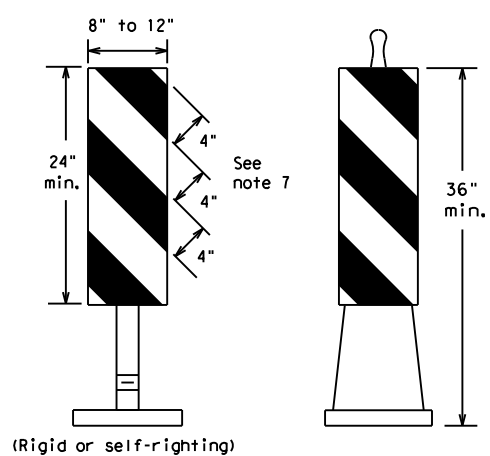
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**FIXED**  
(Rigid or self-righting)

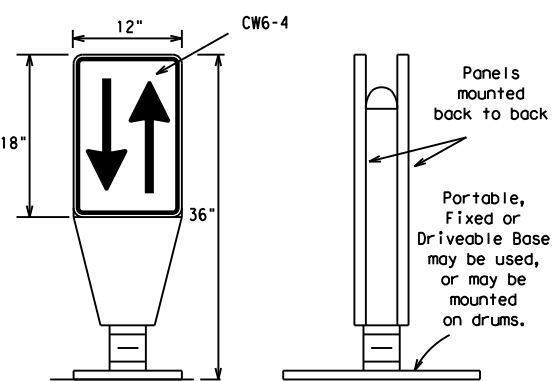
**DRIVEABLE**



**PORTABLE**

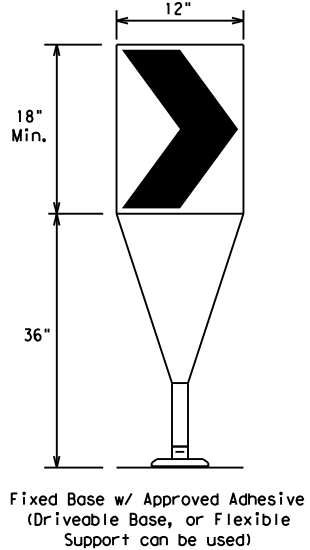
**VERTICAL PANELS (VPs)**

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



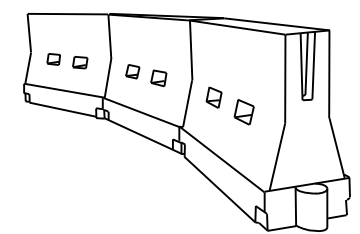
**OPPOSING TRAFFIC LANE DIVIDERS (OTLD)**

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



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

**CHEVRONS**



**LONGITUDINAL CHANNELIZING DEVICES (LCD)**

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

**WATER BALLASTED SYSTEMS USED AS BARRIERS**

- Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
- Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
- Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
- When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

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

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

**GENERAL NOTES**

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

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

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

**SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS**

SHEET 9 OF 12



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

**BC (9) - 14**

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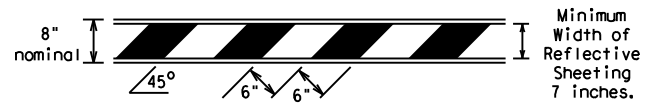
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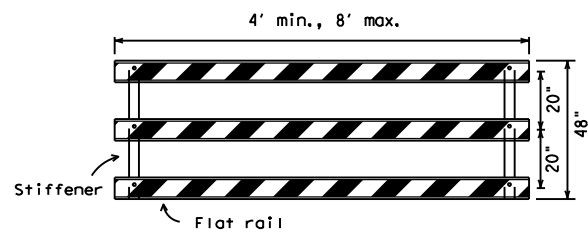
**TYPE 3 BARRICADES**

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 conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

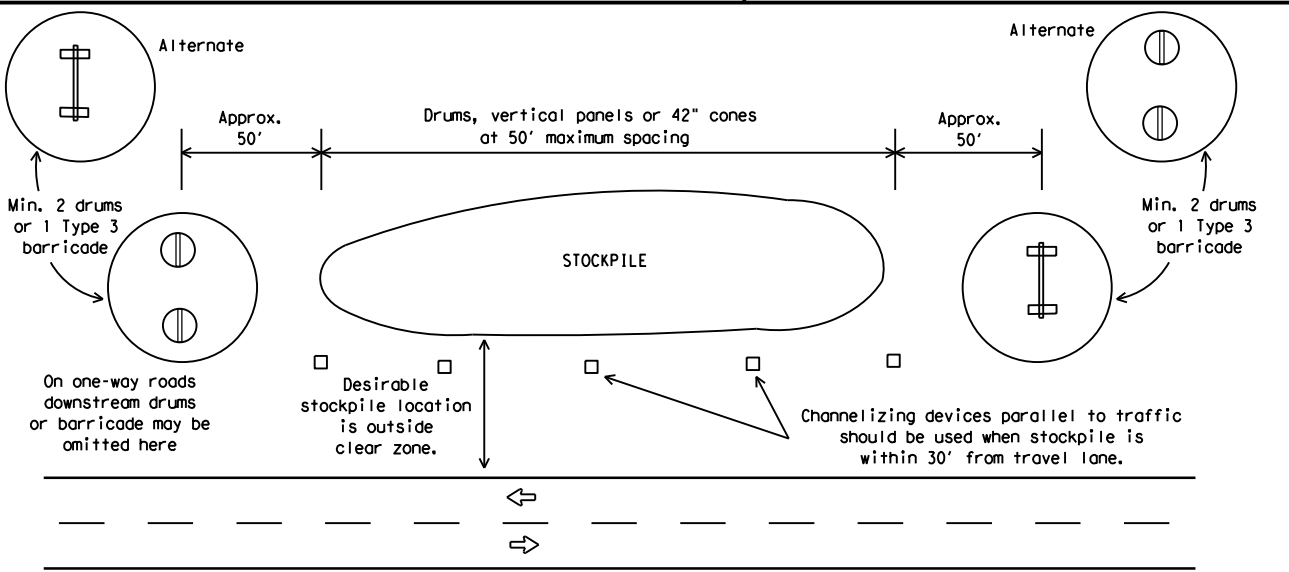


**TYPICAL STRIPING DETAIL FOR BARRICADE RAIL**



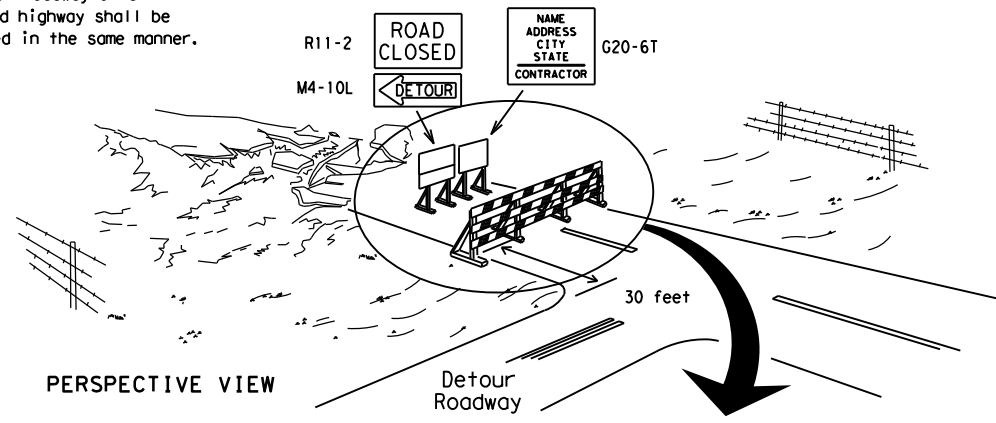
Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

**TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES**



**TRAFFIC CONTROL FOR MATERIAL STOCKPILES**

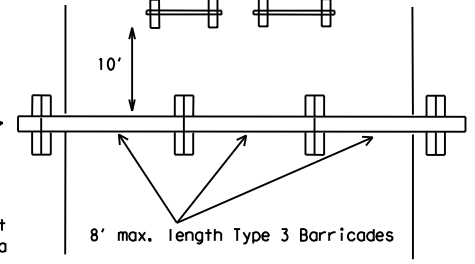
Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

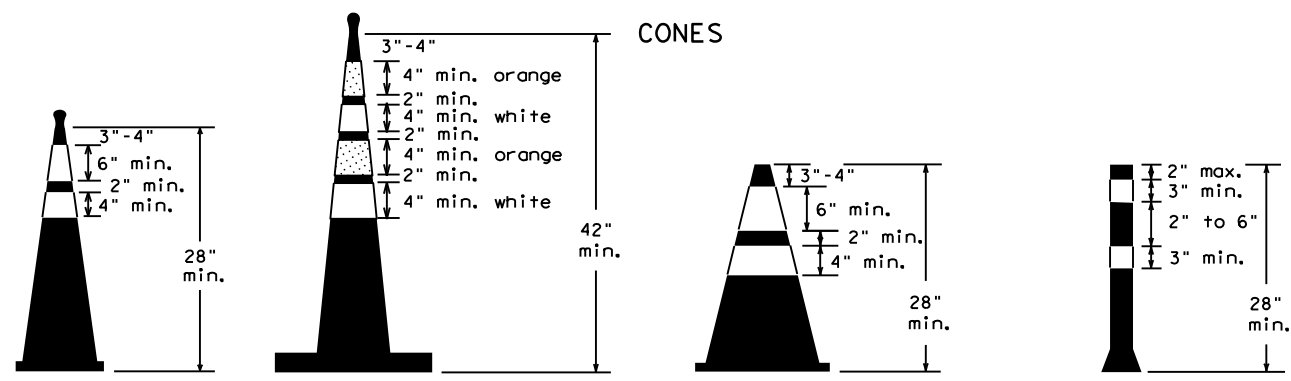
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.

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.



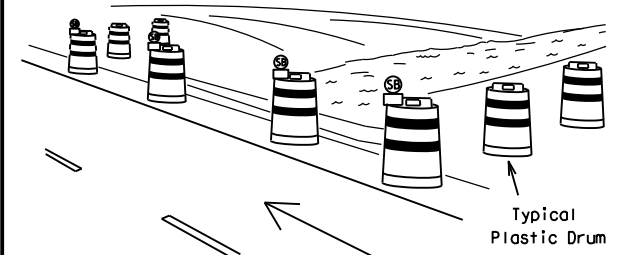
PLAN VIEW

**TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION**

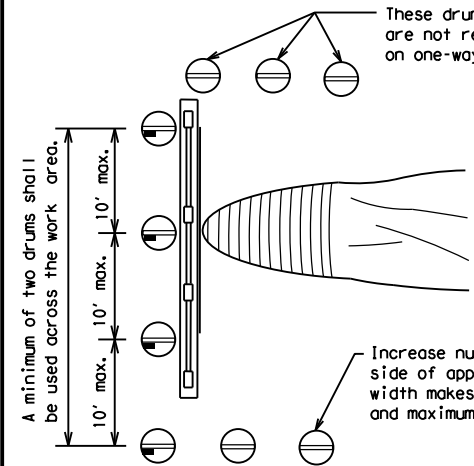


28" Cones shall have a minimum weight of 9 1/2 lbs.  
 42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

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 used at night 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.
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.



PERSPECTIVE VIEW



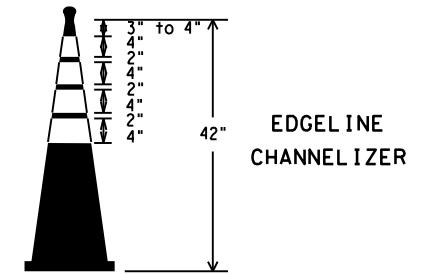
PLAN VIEW

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

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

**CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS**

THIS DEVICE SHALL NOT BE USED ON PROJECTS LET AFTER MARCH 2014.



EDGE LINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

SHEET 10 OF 12



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

BC (10) - 14

FILE: bc-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
9-07 8-14	DIST	COUNTY	SHEET NO.	
7-13	SAT	KENDALL	225	



## WORK ZONE PAVEMENT MARKINGS

### GENERAL

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

### RAISED PAVEMENT MARKERS

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

### PREFABRICATED PAVEMENT MARKINGS

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

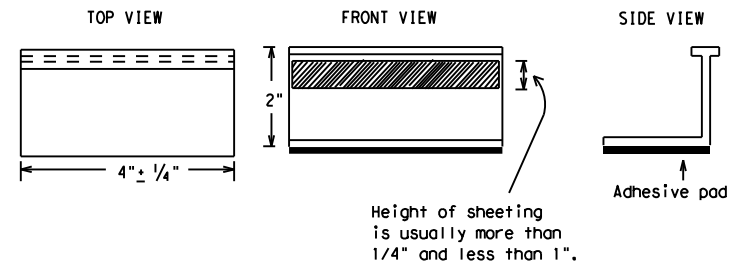
### MAINTAINING WORK ZONE PAVEMENT MARKINGS

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

### REMOVAL OF PAVEMENT MARKINGS

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

## Temporary Flexible-Reflective Roadway Marker Tabs



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

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

### RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

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

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

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

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

SHEET 11 OF 12



## BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11) - 14

FILE: bc-14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT	
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY	
REVISIONS		0142	09	044, Etc	RM 473
2-98	9-07	DIST	COUNTY	SHEET NO.	
1-02	7-13	SAT	KENDALL	226	
11-02	8-14				

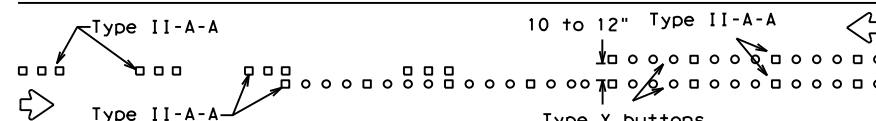
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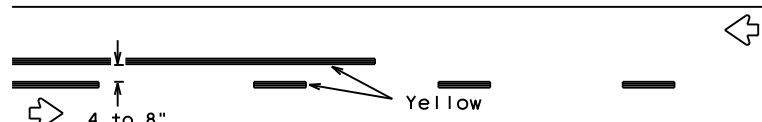
## PAVEMENT MARKING PATTERNS



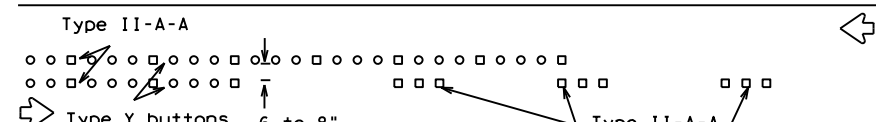
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



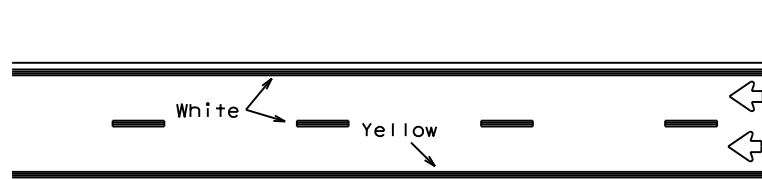
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



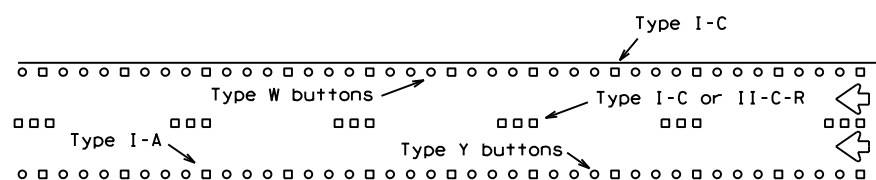
RAISED PAVEMENT MARKERS - PATTERN B

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.

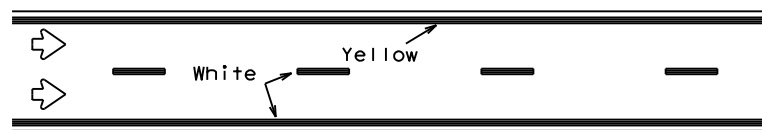
## CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



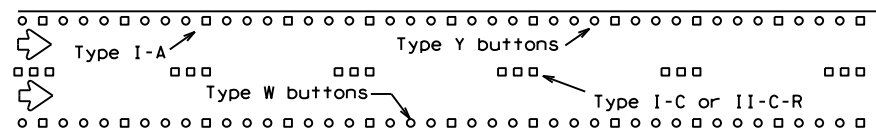
REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS



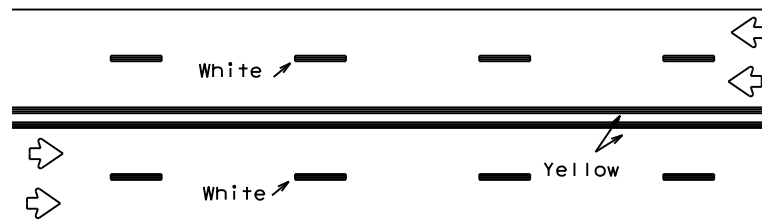
REFLECTORIZED PAVEMENT MARKINGS



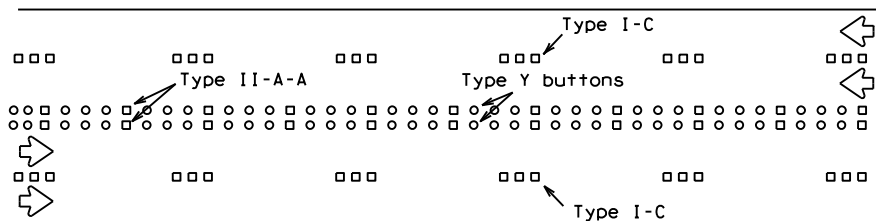
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectORIZED pavement markings.

## EDGE & LANE LINES FOR DIVIDED HIGHWAY



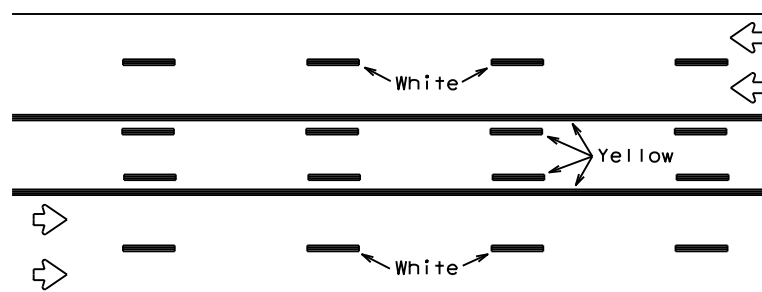
REFLECTORIZED PAVEMENT MARKINGS



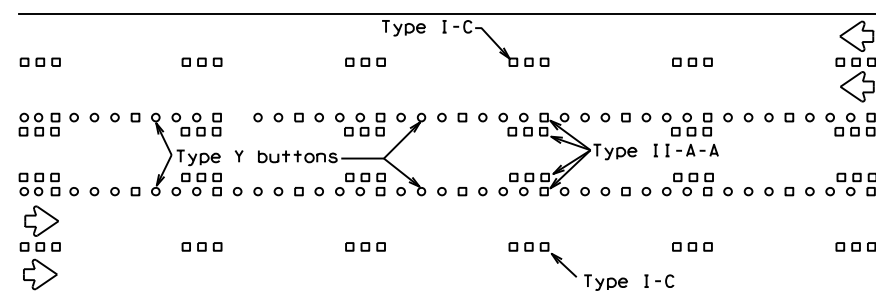
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectORIZED pavement markings.

## LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS

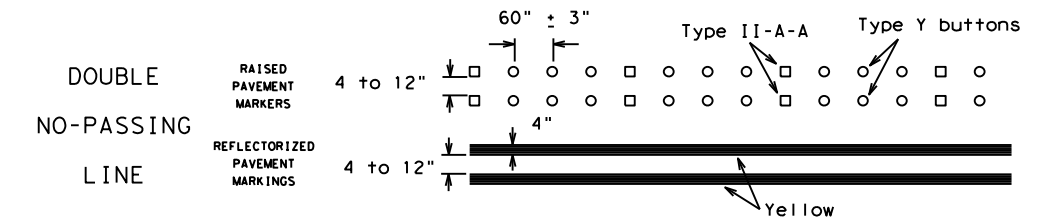


RAISED PAVEMENT MARKERS

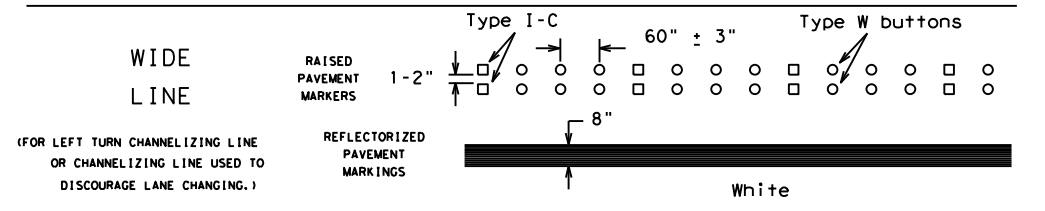
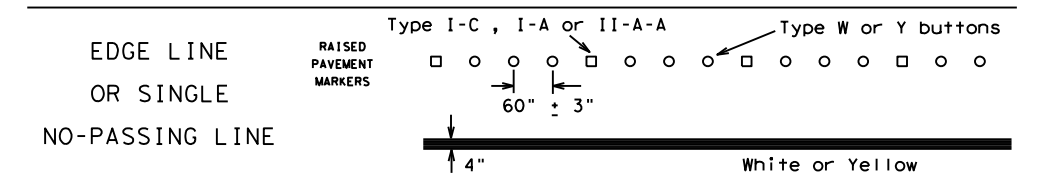
Prefabricated markings may be substituted for reflectORIZED pavement markings.

## TWO-WAY LEFT TURN LANE

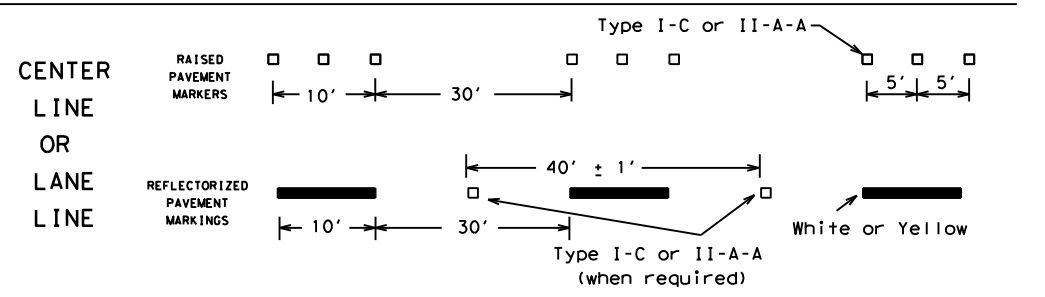
## STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS



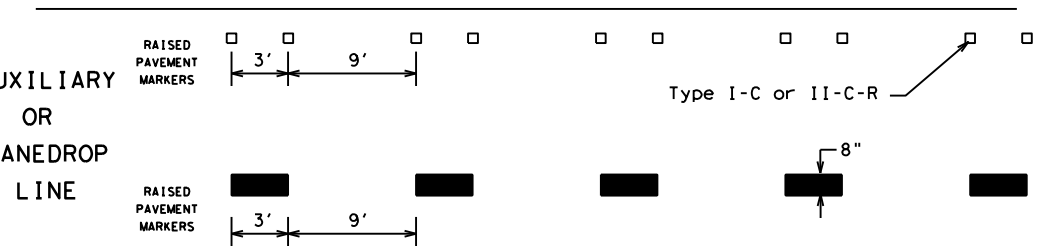
### SOLID LINES



### BROKEN LINES

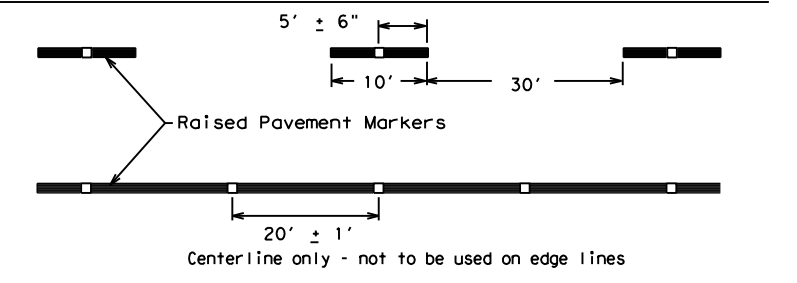


### AUXILIARY OR LANEDROP LINE



### REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

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



SHEET 12 OF 12



## BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC (12) - 14

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

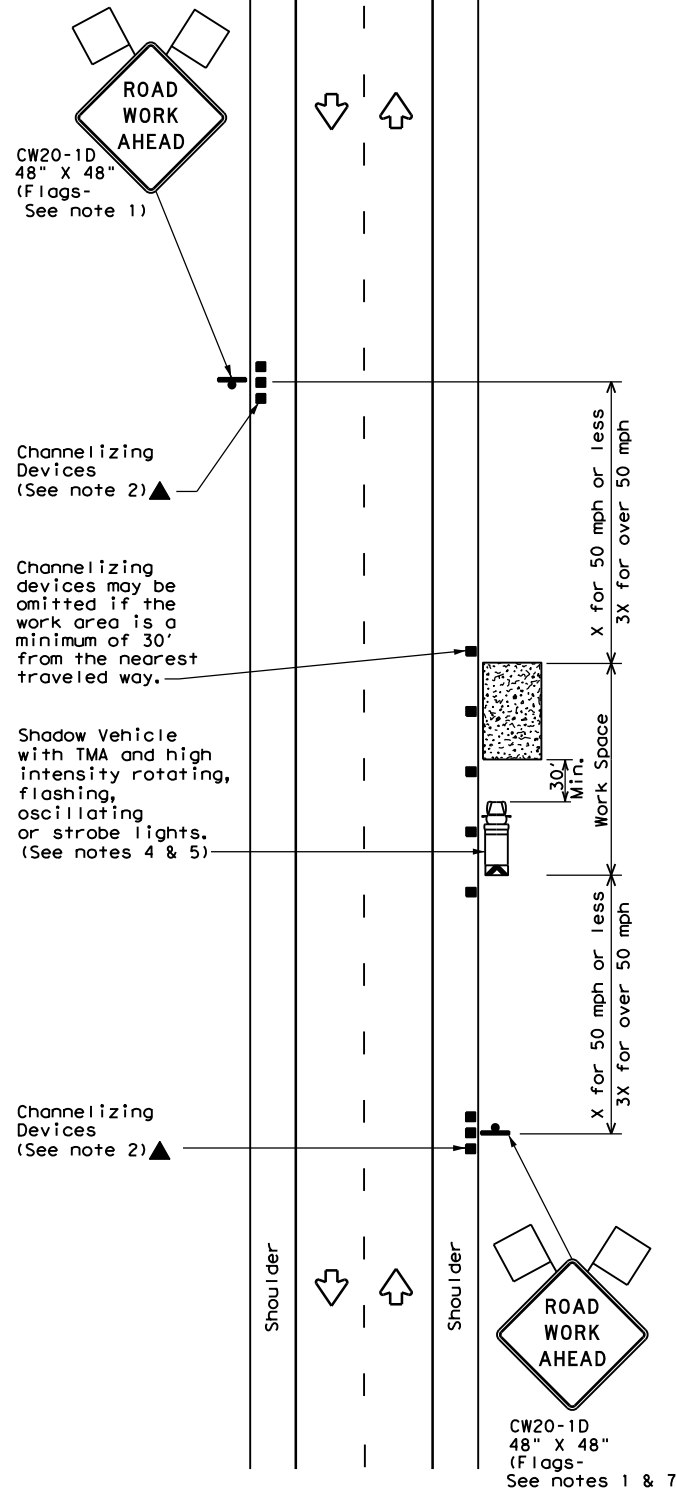
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REVISIONS	0142	09	044, Etc	RM 473
1-97 9-07	DIST	COUNTY	SHEET NO.	
2-98 7-13	SAT	KENDALL	227	
11-02 8-14				

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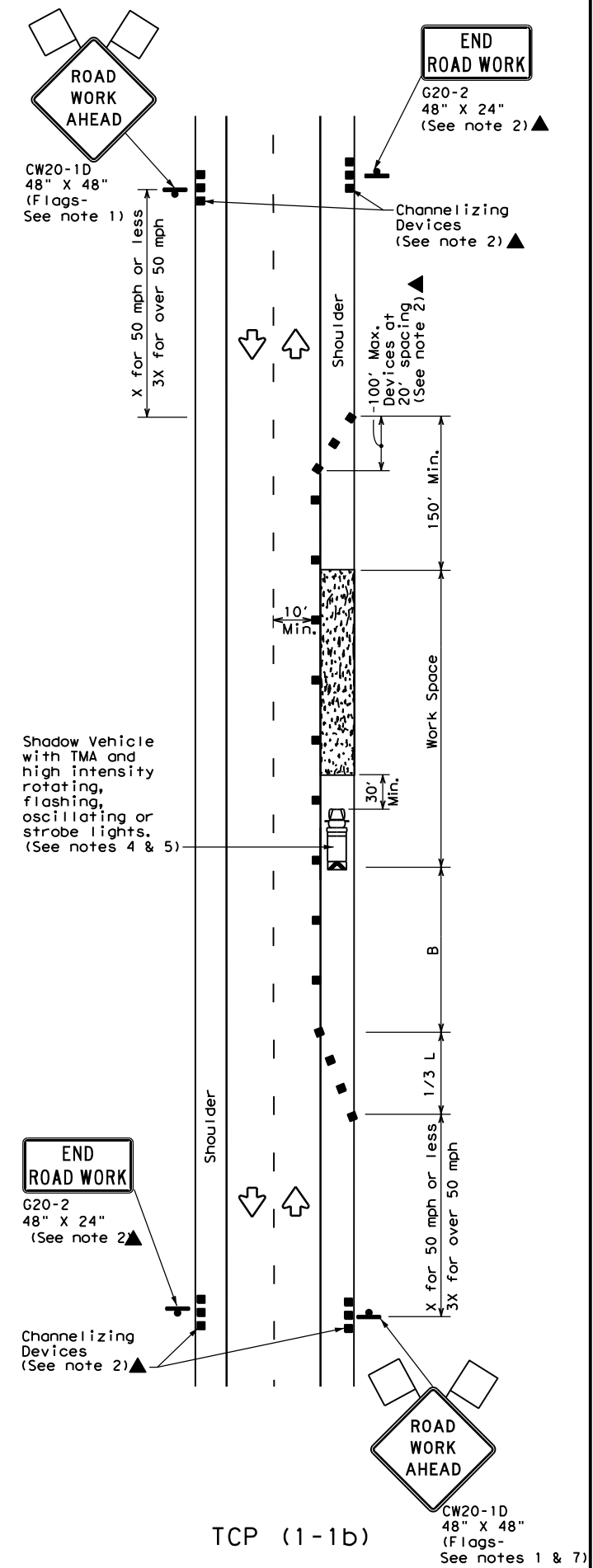
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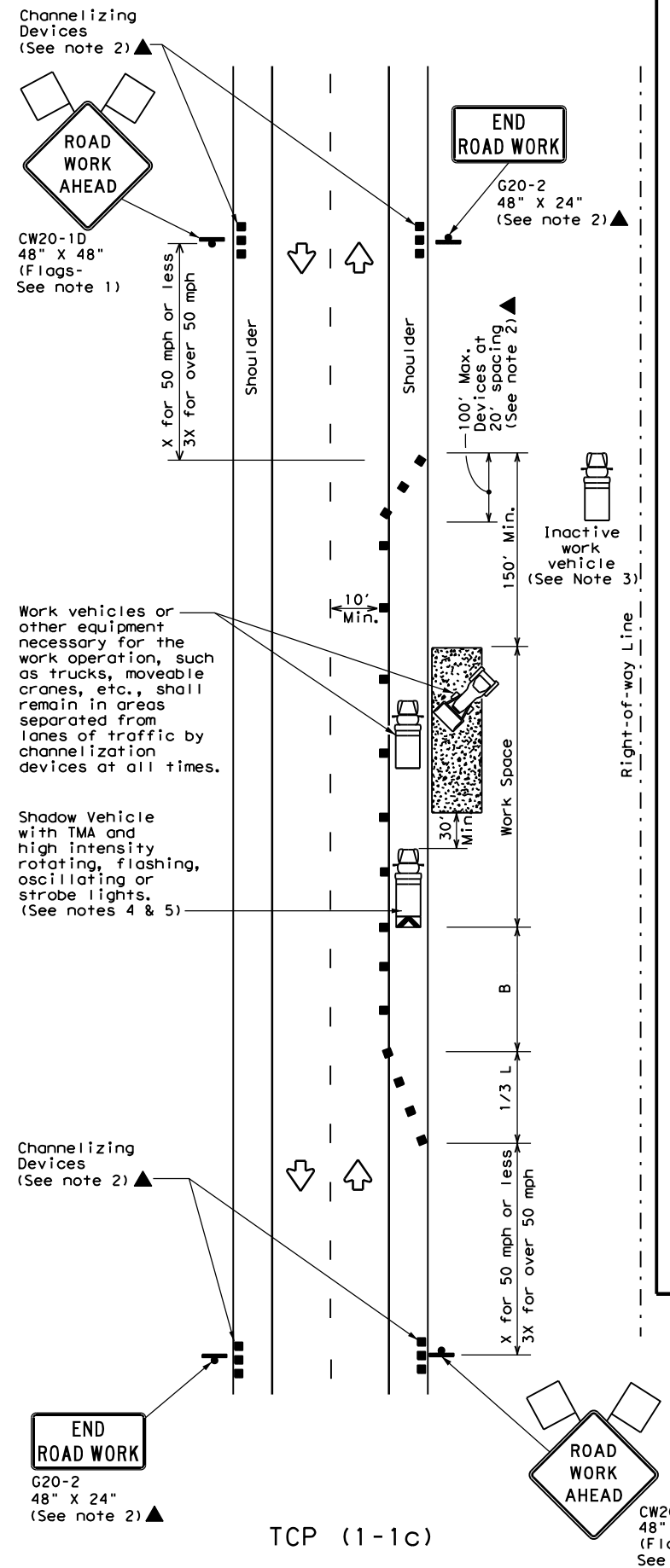
TCP (1-1a)

**WORK SPACE NEAR SHOULDER**  
 Conventional Roads



TCP (1-1b)

**WORK SPACE ON SHOULDER**  
 Conventional Roads



TCP (1-1c)

**WORK VEHICLES ON SHOULDER**  
 Conventional Roads

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

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

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

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

- GENERAL NOTES**
- Flags attached to signs where shown are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
  - 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.
  - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
  - See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
  - CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.



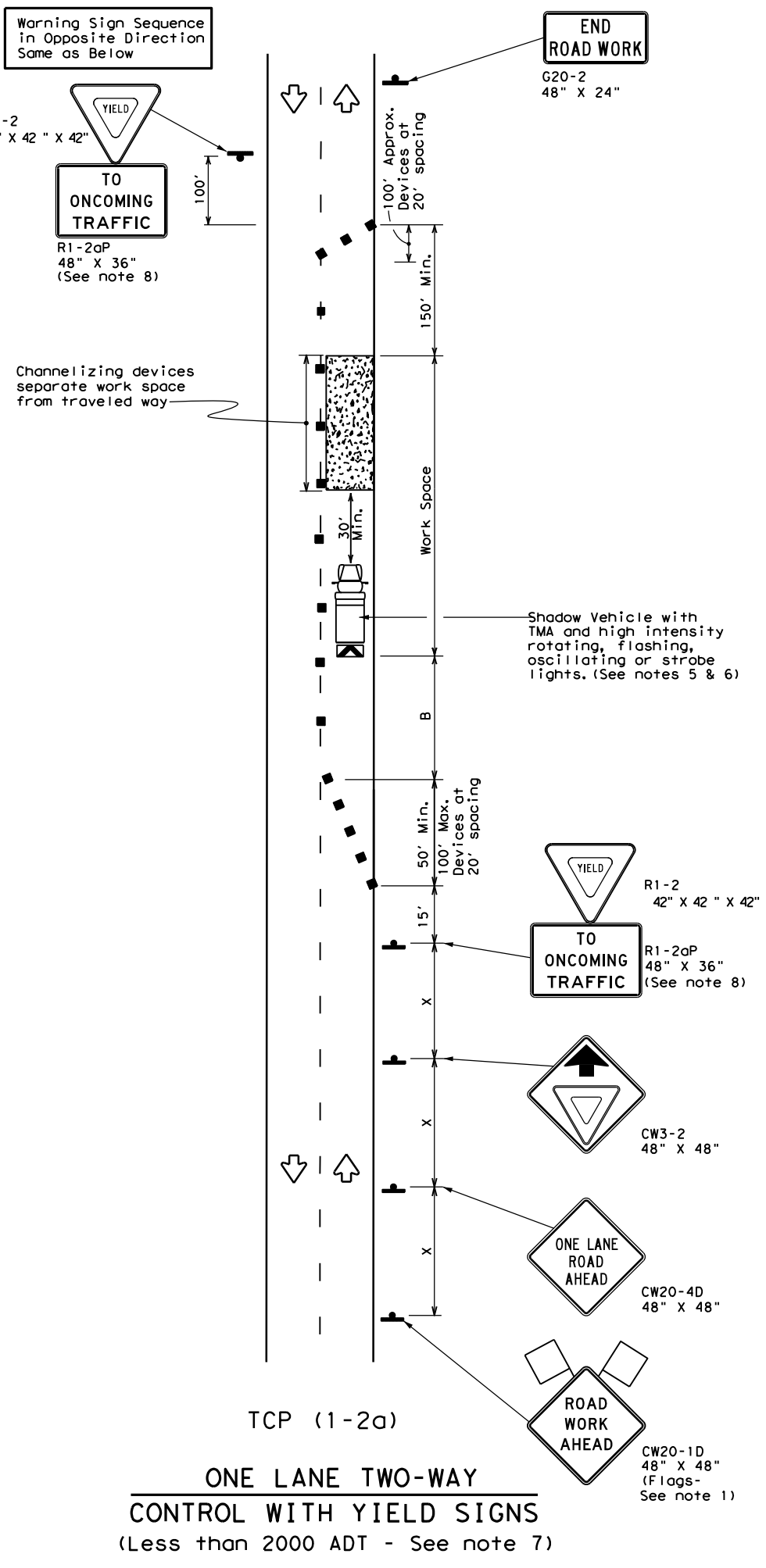
**TRAFFIC CONTROL PLAN**  
**CONVENTIONAL ROAD**  
**SHOULDER WORK**

TCP (1-1) - 18

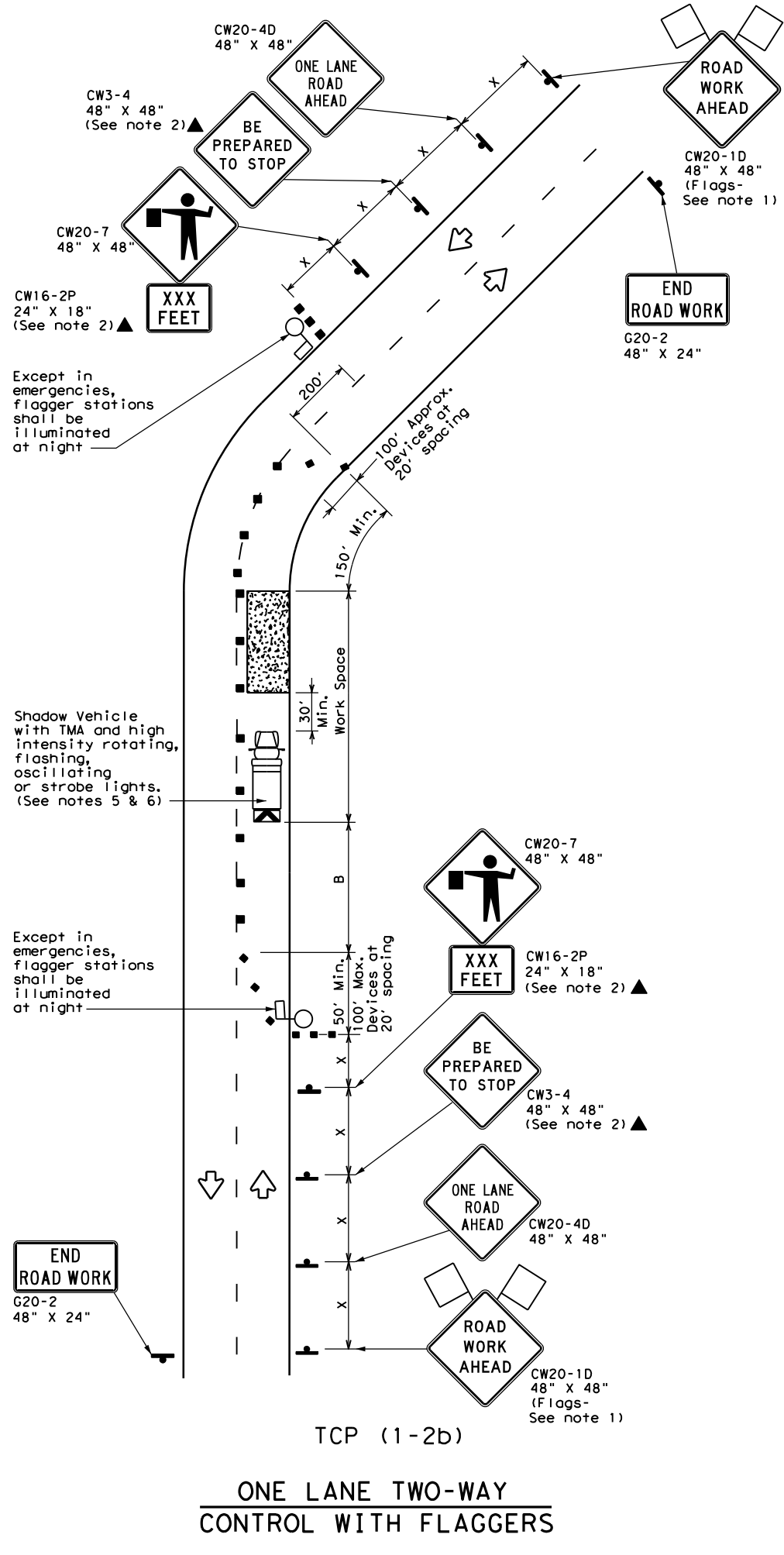
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2-94 4-98	DIST	COUNTY	SHEET NO.	
8-95 2-12	SAT	KENDALL	228	
1-97 2-18				

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**TCP (1-2a)**  
**ONE LANE TWO-WAY CONTROL WITH YIELD SIGNS**  
 (Less than 2000 ADT - See note 7)



**TCP (1-2b)**  
**ONE LANE TWO-WAY CONTROL WITH FLAGGERS**

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

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

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

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

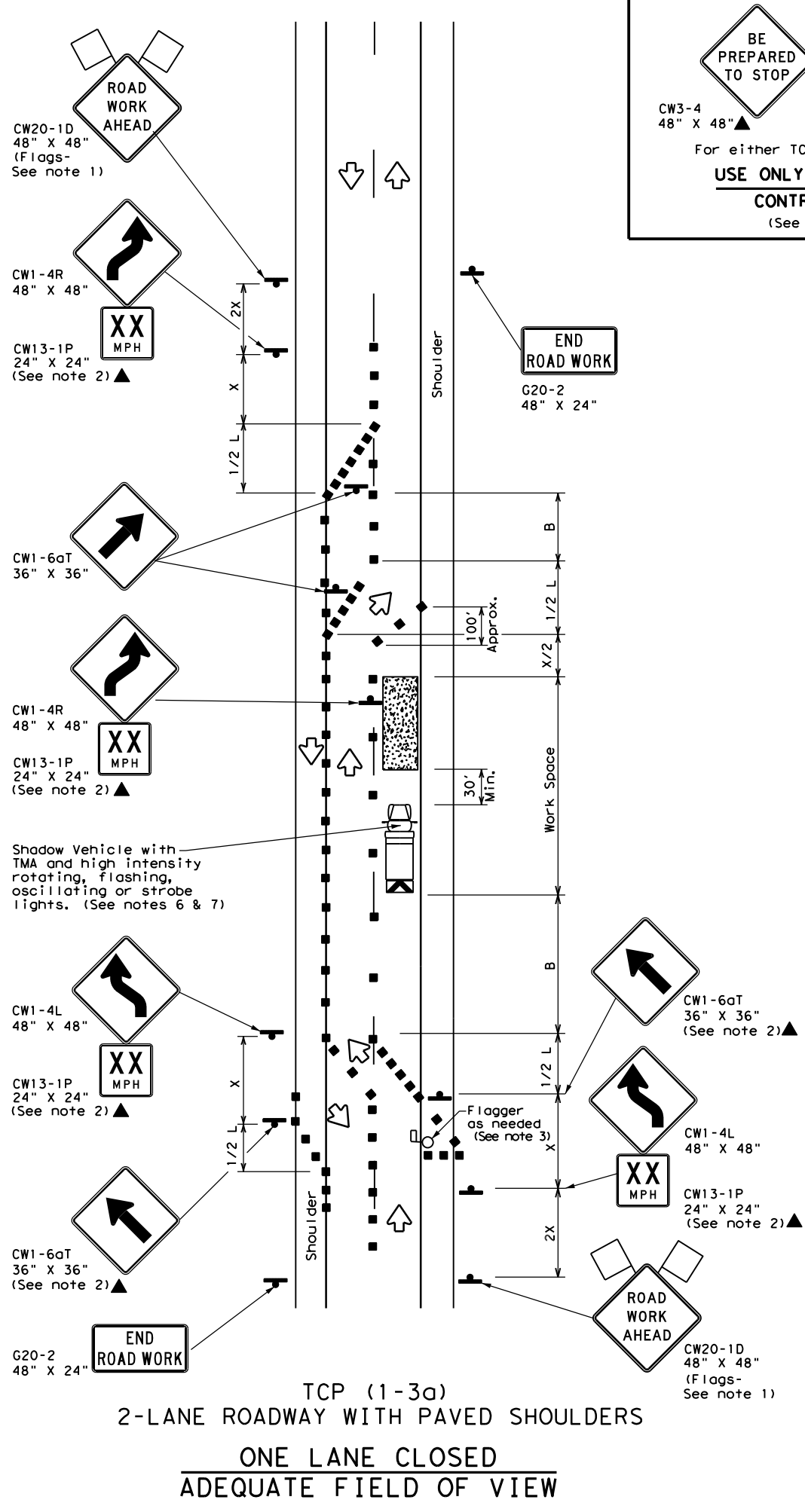
**GENERAL NOTES**

- Flags attached to signs where shown are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
  - Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
  - 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.
  - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
- TCP (1-2a)**
- R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
  - R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.
- TCP (1-2b)**
- Flaggers should use two-way radios or other methods of communication to control traffic.
  - Length of work space should be based on the ability of flaggers to communicate.
  - 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).
  - Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
  - Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

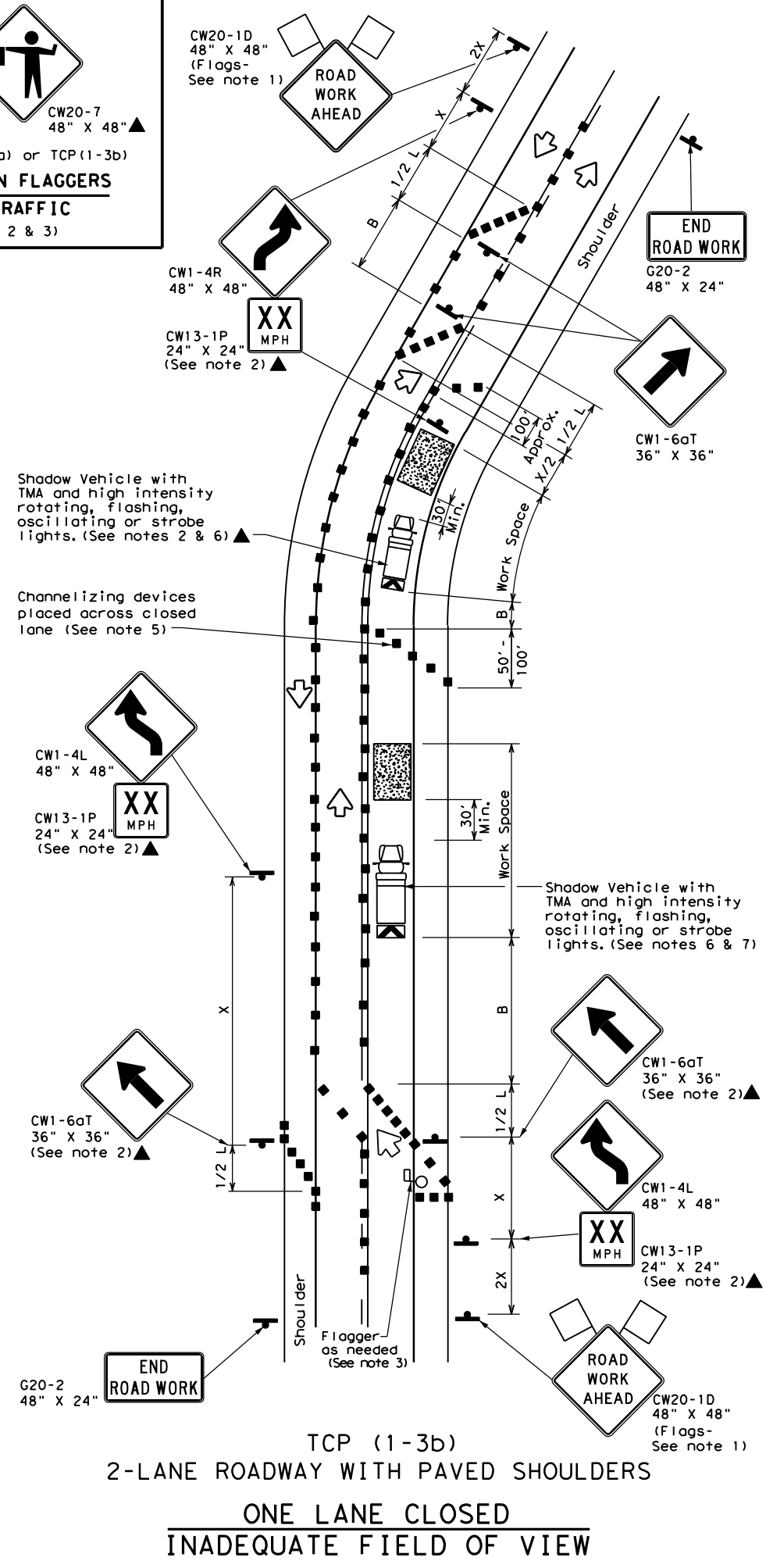
<b>TRAFFIC CONTROL PLAN</b> <b>ONE-LANE TWO-WAY</b> <b>TRAFFIC CONTROL</b>			
<b>TCP (1-2) - 18</b>			
FILE: tcp1-2-18.dgn	DN:	CK:	DW:
© TxDOT December 1985	CON: 0142	SECT: 09	JOB: 044, E+C
REVISIONS:			RM 473
4-90 4-98			
2-94 2-12			
1-97 2-18			
	DIST: SAT	COUNTY: KENDALL	SHEET NO.: 229

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DATE: 4/26/2021 5:43:13 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark\_narendorf\d0239898\tcp1-3-18.dgn



**BE PREPARED TO STOP**  
 CW3-4 48" X 48"  
 CW20-7 48" X 48"  
 For either TCP(1-3a) or TCP(1-3b)  
**USE ONLY WHEN FLAGGERS CONTROL TRAFFIC**  
 (See Notes 2 & 3)



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

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

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

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

- GENERAL NOTES**
- Flags attached to signs where shown are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Additional flaggers may be positioned in advance of traffic queues to alert traffic to reduce speed.
  - DO NOT PASS, PASS WITH CARE and construction regulatory speed zone signs may be installed downstream of the ROAD WORK AHEAD signs.
  - When the work zone is made up of several work spaces, channelizing devices should be placed laterally across the closed lane to re-emphasize closure. Laterally placed channelizing devices should be repeated every 500 to 1000 feet in urban areas and every 1/4 to 1/2 mile in rural areas.
  - 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.
  - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
  - Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20', or 15' if posted speed are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the area of conflicting markings not the entire work zone.

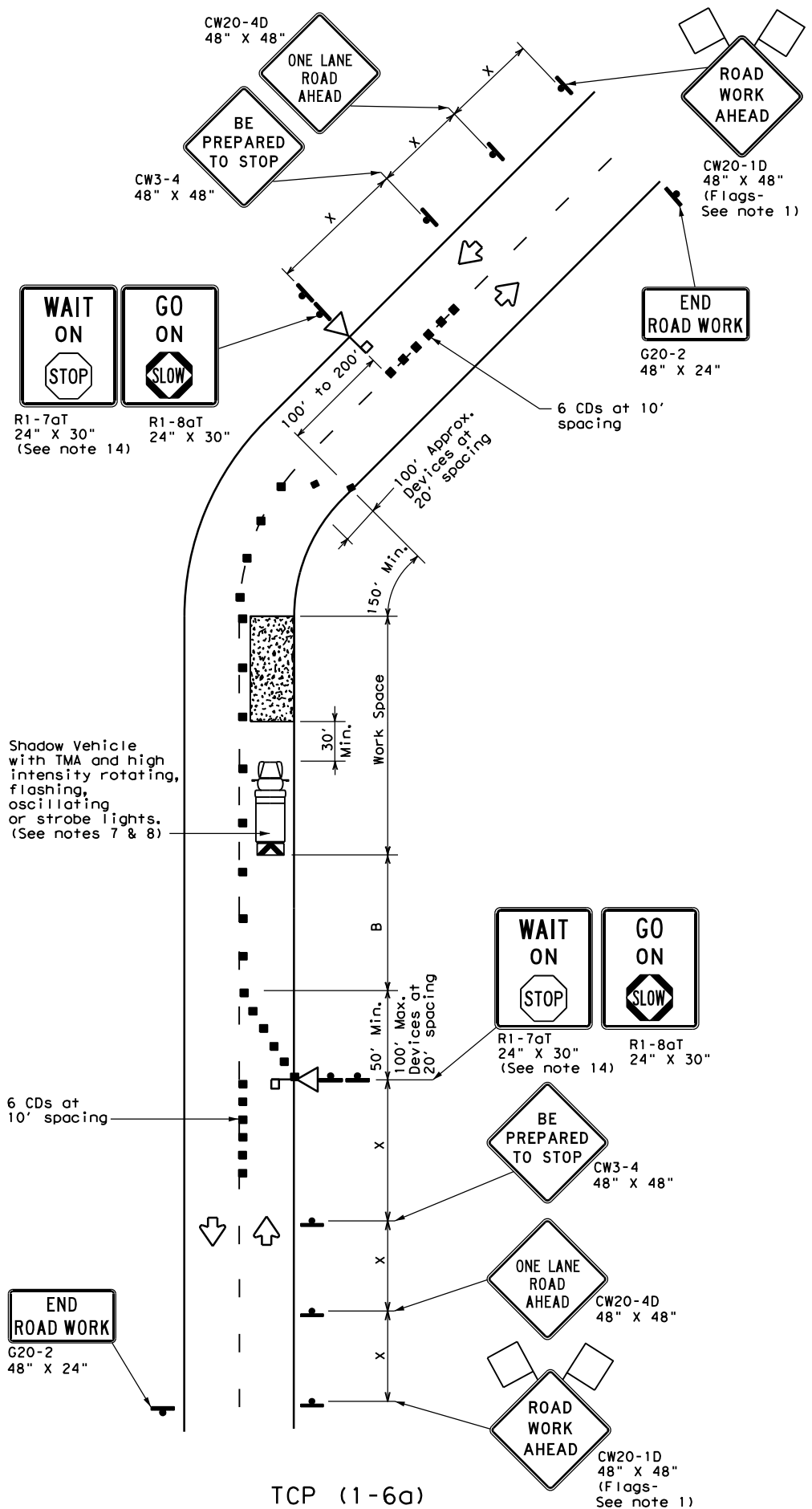
**Texas Department of Transportation** Traffic Operations Division Standard

**TRAFFIC CONTROL PLAN**  
**TRAFFIC SHIFTS ON**  
**TWO LANE ROADS**  
**TCP (1-3) - 18**

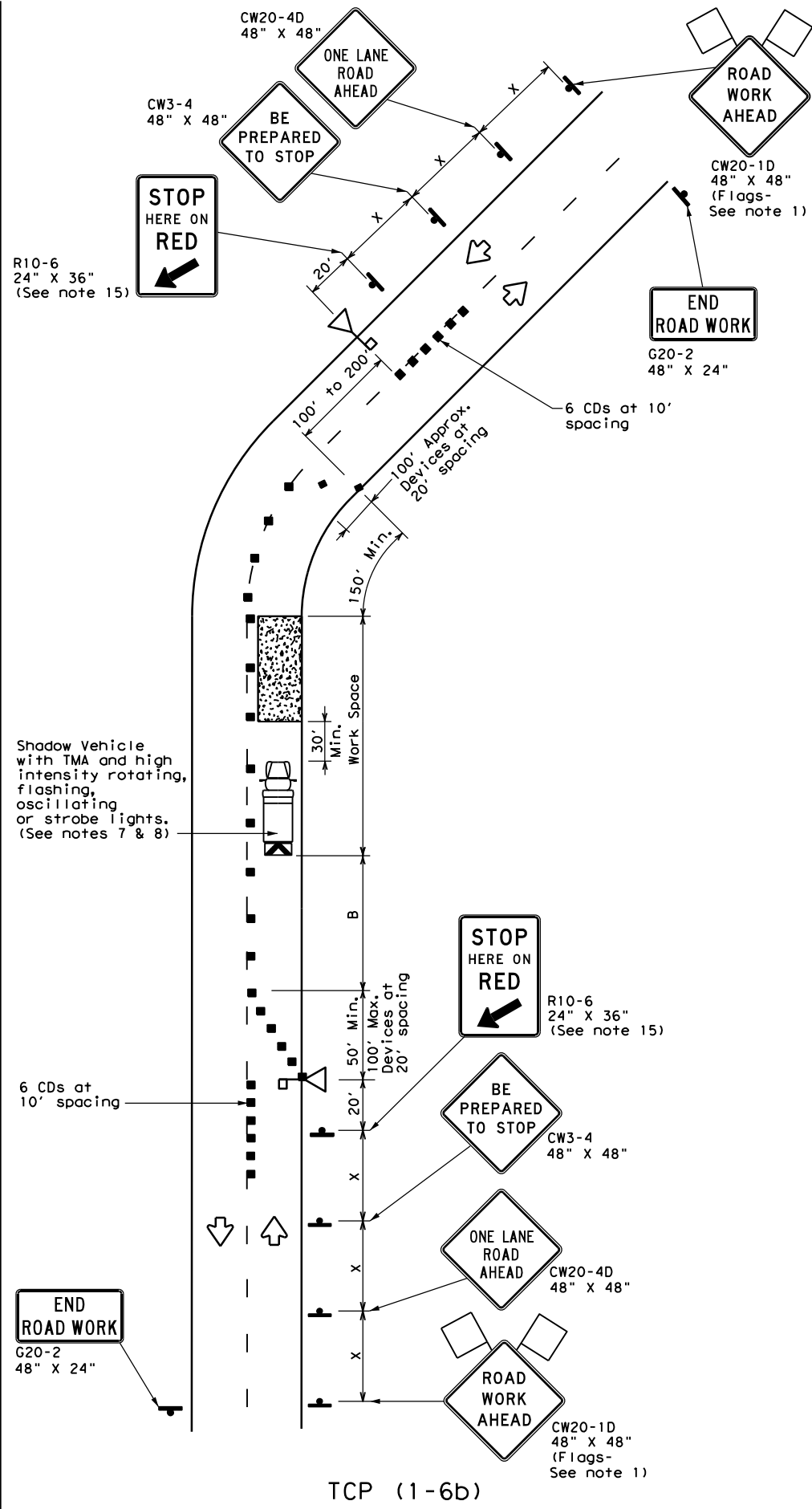
FILE: tcp1-3-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
2-94 4-98				
8-95 2-12				
1-97 2-18				
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	230	

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DATE: 4/26/2021 5:43:23 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark.narendorf\d0239898\tcp1-6-18.dgn



TCP (1-6a)  
 ONE LANE TWO-WAY CONTROL WITH STOP/SLOW AFADs



TCP (1-6b)  
 ONE LANE TWO-WAY CONTROL WITH RED/YELLOW LENS AFADs

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

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

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

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

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
- AFADs shall only be used in situations where there is one lane of approaching traffic in the direction to be controlled.
- Adequate stopping sight distance must be provided to each AFAD location for approaching traffic. (See table above).
- Each AFAD shall be operated by a qualified/certified flagger. Flaggers operating AFADs shall not leave them unattended while they are in use.
- One flagger may operate two AFADs only when the flagger has an unobstructed view of both AFADs and of the approaching traffic in both directions.
- When pilot cars are used, a flagger controlling traffic shall be located on each approach. AFADs shall not be operated by the pilot car operator.
- All AFADs shall be equipped with gate arms with an orange or fluorescent red-orange flag attached to the end of the gate arm. The flag shall be a minimum of 16" square.
- 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.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
- Flaggers should use two-way radios or other methods of communication to control traffic.
- Length of work space should be based on the ability of flaggers to communicate.
- If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the AFAD.
- Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
- The R1-7aT "WAIT ON STOP" sign and the R1-8aT "GO ON SLOW" sign shall be installed at the AFAD location on separate supports or they may be fabricated as one 48" x 30" sign. They shall not obscure the face of the STOP/SLOW AFAD.
- The R10-6 "STOP HERE ON RED" arrow sign shall be offset so as not to obscure the lenses of the AFAD.

Texas Department of Transportation  
 Traffic Operations Division Standard

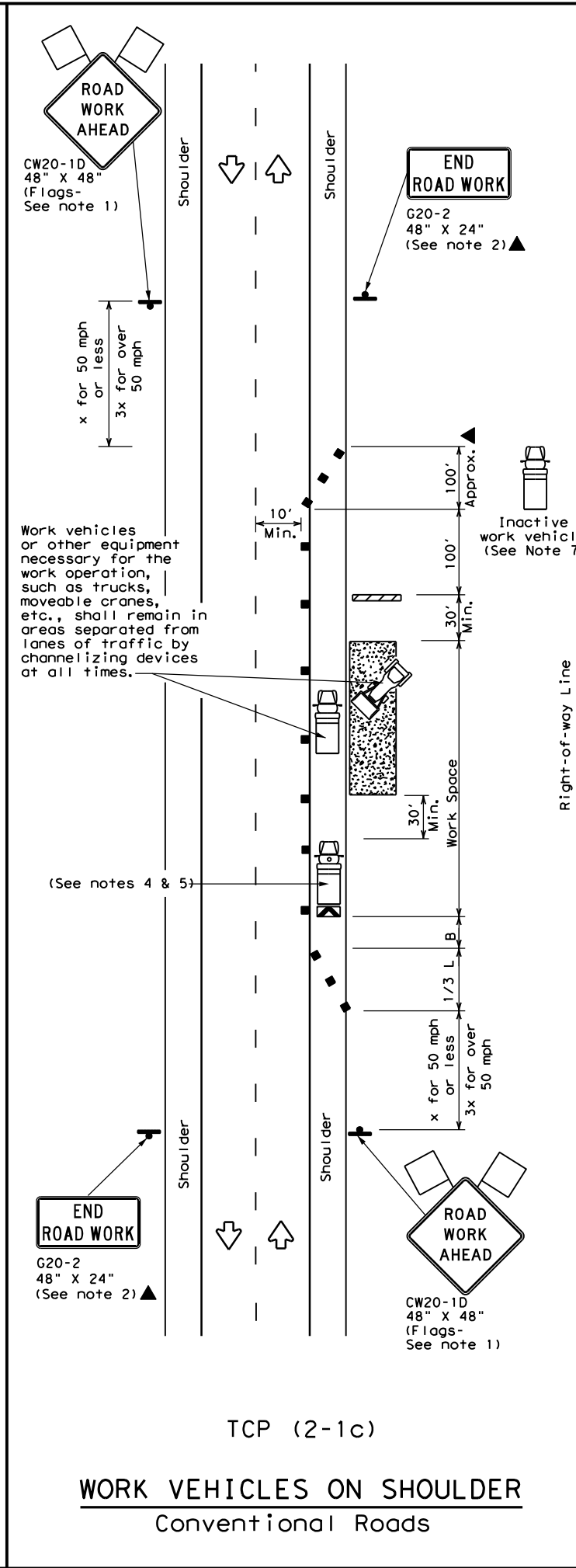
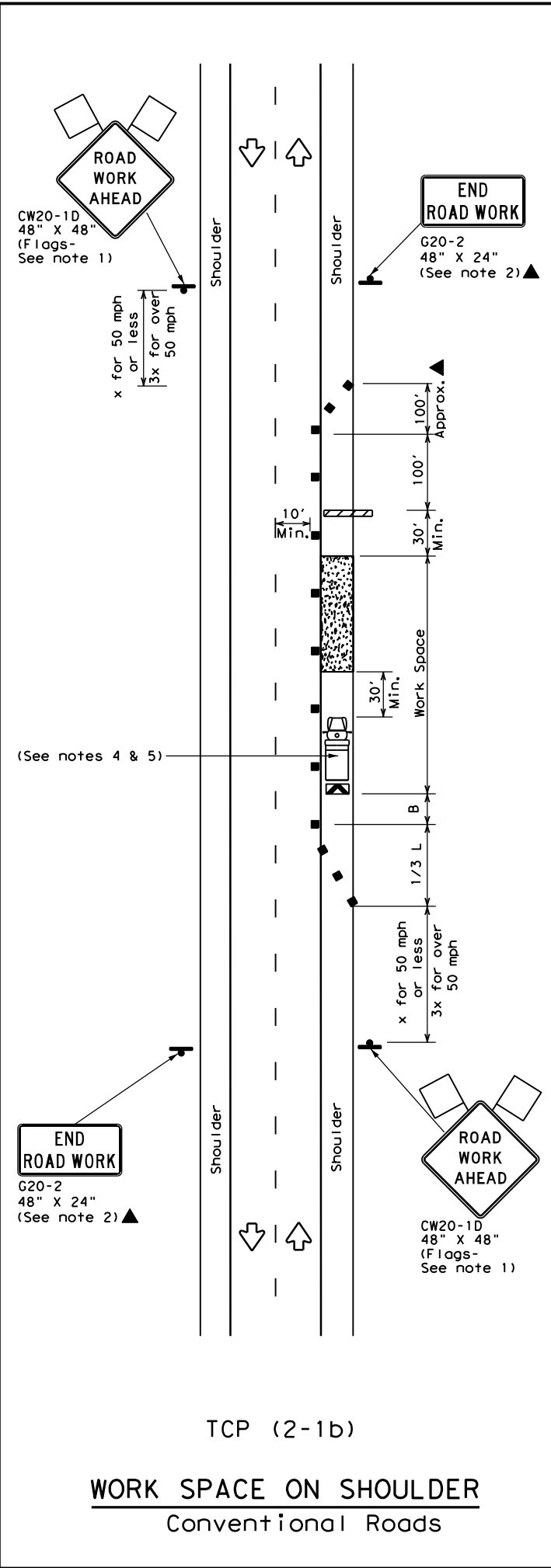
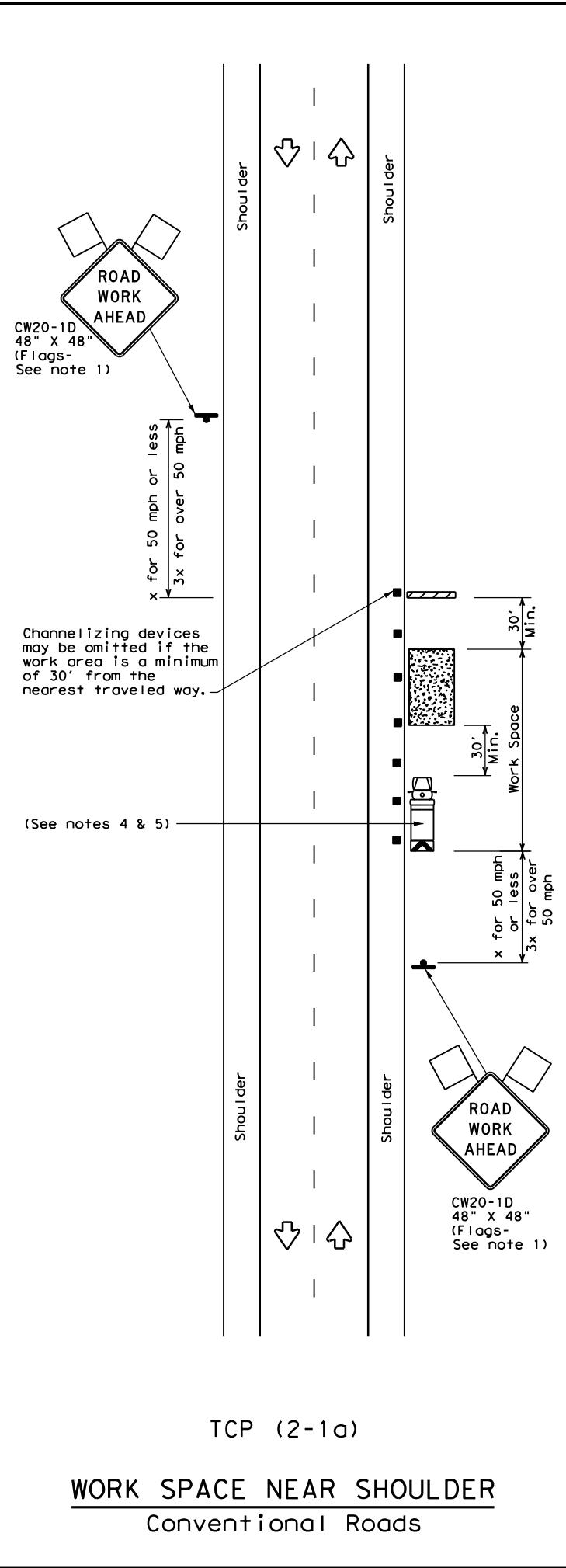
### TRAFFIC CONTROL PLAN AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADs)

#### TCP (1-6) - 18

FILE:	tcp1-6-18.dgn	DN:	CK:	DW:	CK:
© TxDOT	February 2012	CONT	SECT	JOB	HIGHWAY
2-18	REVISIONS	0142	09	044, Etc	RM 473
		DIST	COUNTY	SHEET NO.	
		SAT	KENDALL	231	

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DATE: 4/26/2021 5:43:31 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark\_narendorf\d0239898\tcp2-1-18.dgn



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

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

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

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

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



**TRAFFIC CONTROL PLAN  
 CONVENTIONAL ROAD  
 SHOULDER WORK**

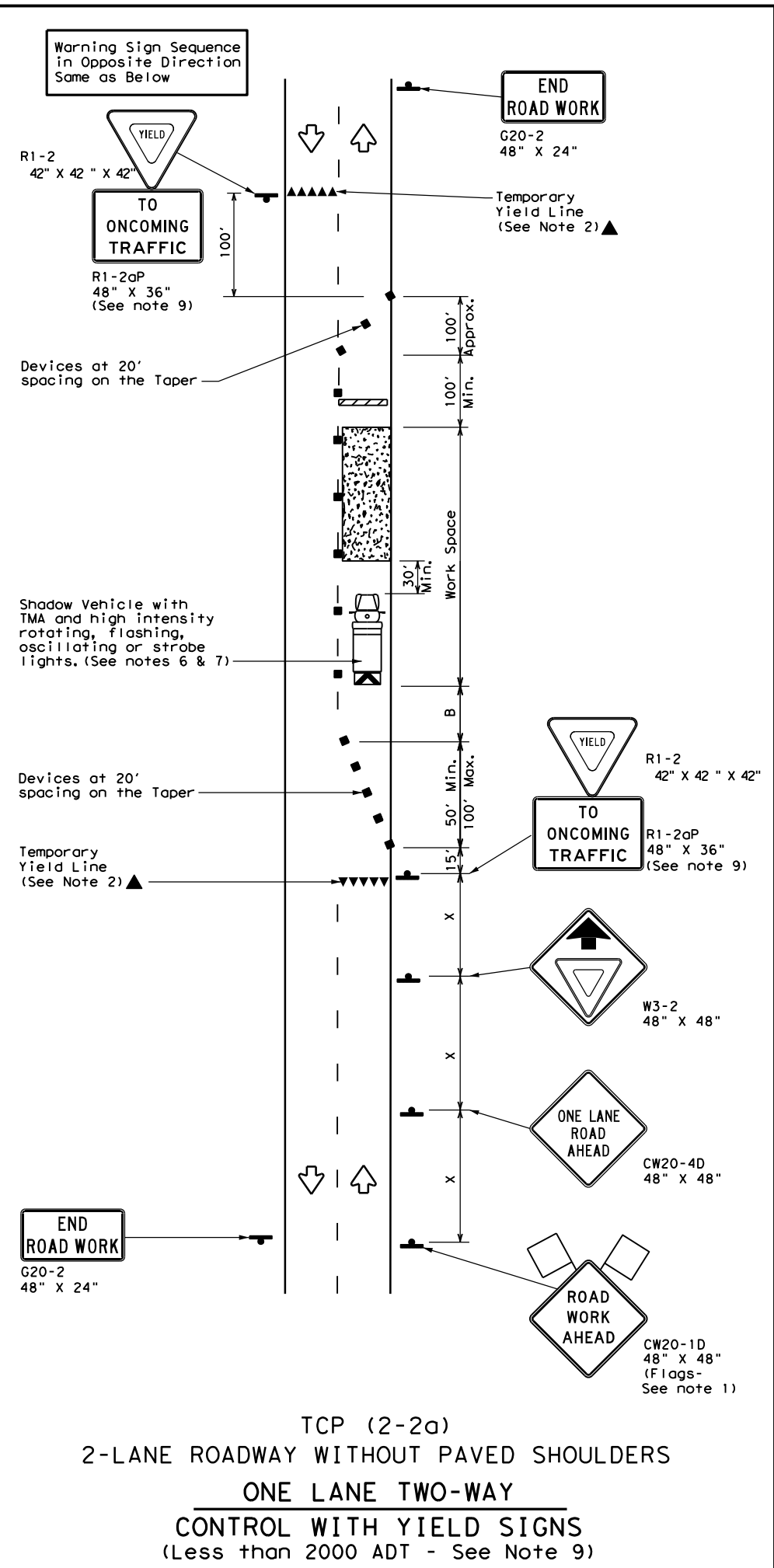
**TCP (2-1) - 18**

FILE: tcp2-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
2-94 4-98	DIST	COUNTY	SHEET NO.	
8-95 2-12	SAT	KENDALL	232	
1-97 2-18				

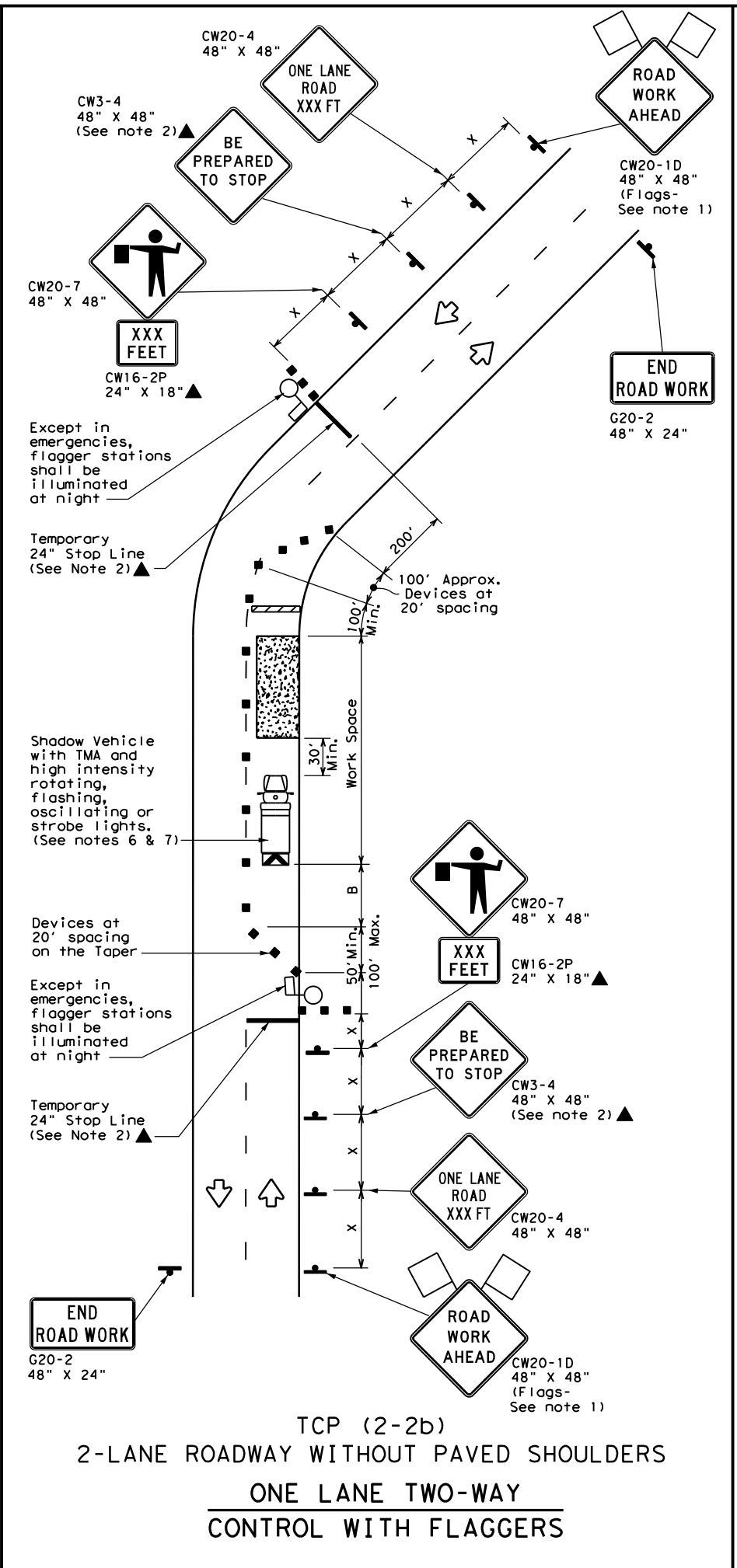


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DATE: 4/26/2021 5:43:40 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark\_narendor\0239898\tcp2-2-18.dgn



TCP (2-2a)  
 2-LANE ROADWAY WITHOUT PAVED SHOULDERS  
 ONE LANE TWO-WAY  
 CONTROL WITH YIELD SIGNS  
 (Less than 2000 ADT - See Note 9)



TCP (2-2b)  
 2-LANE ROADWAY WITHOUT PAVED SHOULDERS  
 ONE LANE TWO-WAY  
 CONTROL WITH FLAGGERS

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

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

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

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

GENERAL NOTES

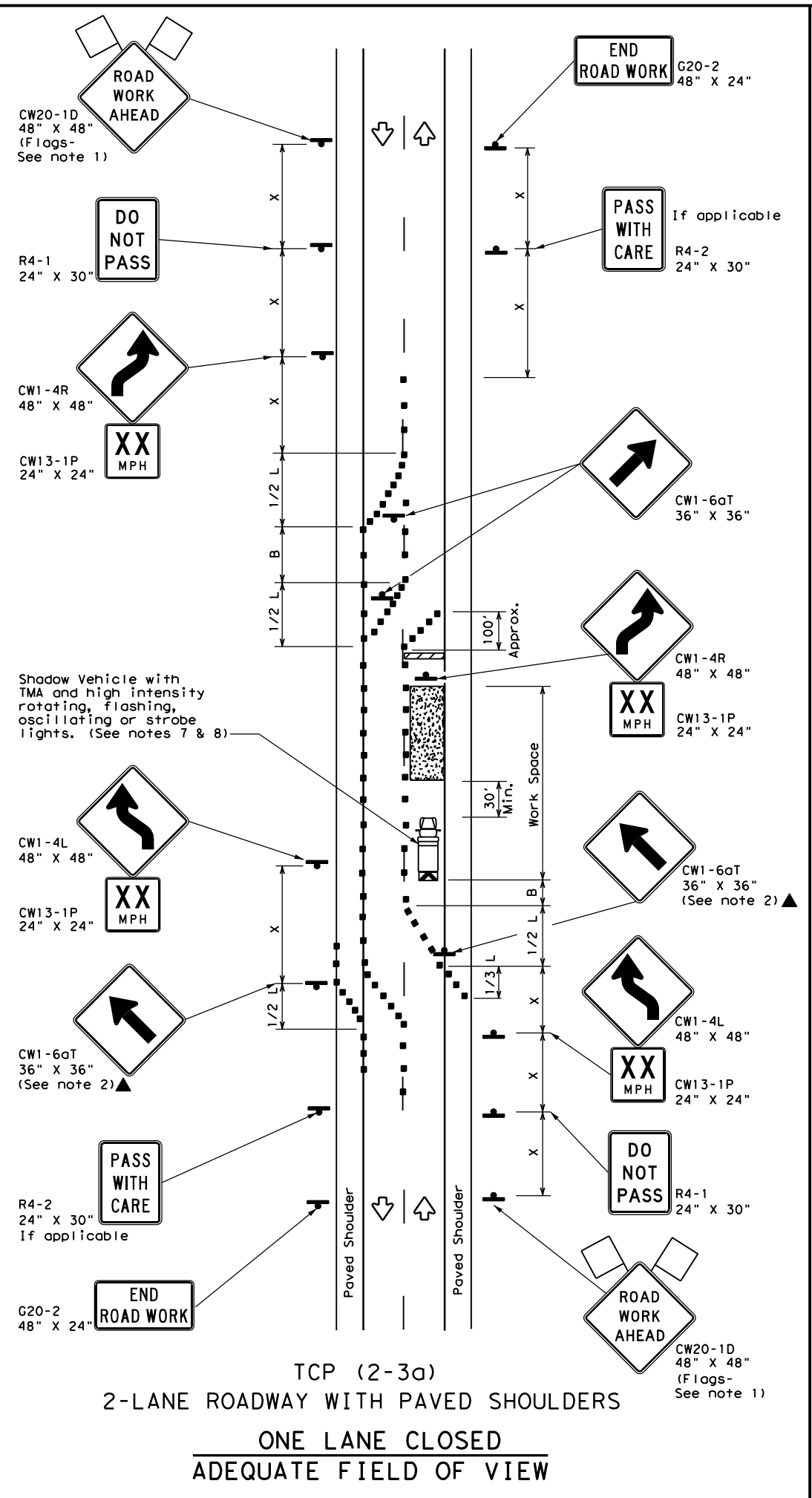
- Flags attached to signs where shown, are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
  - Flaggers should use two-way radios or other methods of communication to control traffic.
  - Length of work space should be based on the ability of flaggers to communicate.
  - 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.
  - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
- TCP (2-2a)
- The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
  - The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.
- TCP (2-2b)
- Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
  - If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
  - Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

		Traffic Operations Division Standard	
<b>TRAFFIC CONTROL PLAN</b> <b>ONE-LANE TWO-WAY</b> <b>TRAFFIC CONTROL</b>			
<b>TCP (2-2) - 18</b>			
FILE:	tcp2-2-18.dgn	DN:	CK:
© TxDOT	December 1985	CONT	SECT
REVISIONS		0142	09
8-95	3-03	JOB	
1-97	2-12	044, Etc	
4-98	2-18	RM 473	
DIST		COUNTY	SHEET NO.
SAT		KENDALL	233

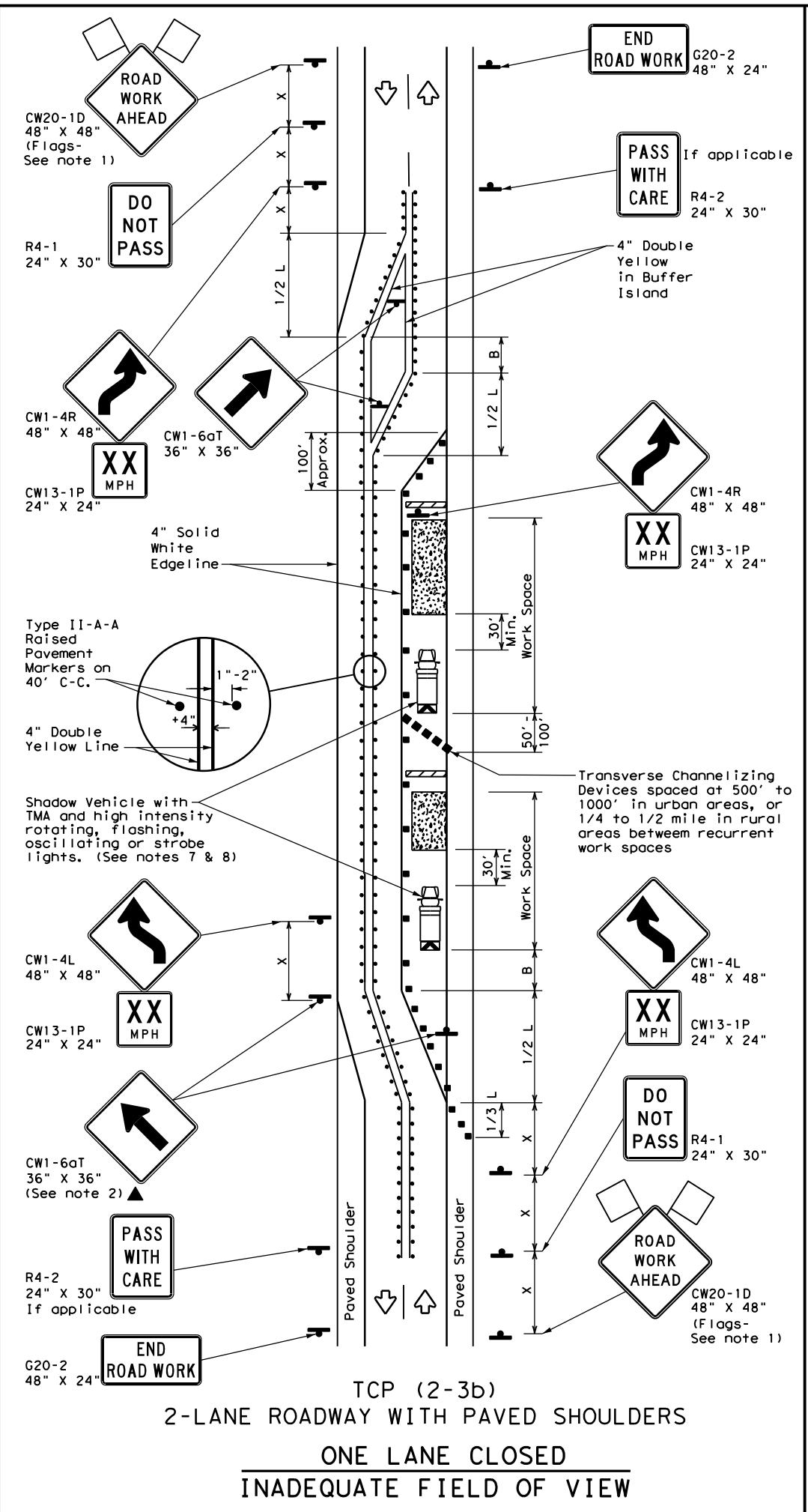


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DATE: 4/26/2021 5:43:50 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark\_narendorf\d0239898\tcp2-3-18.dgn



TCP (2-3a)  
 2-LANE ROADWAY WITH PAVED SHOULDERS  
 ONE LANE CLOSED  
 ADEQUATE FIELD OF VIEW



TCP (2-3b)  
 2-LANE ROADWAY WITH PAVED SHOULDERS  
 ONE LANE CLOSED  
 INADEQUATE FIELD OF VIEW

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Raised Pavement Markers Ty II-AA
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed * X	Formula L = WS <sup>2</sup> / 60	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS <sup>2</sup> / 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	L = WS	600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75	L = WS	750'	825'	900'	75'	150'	900'	540'
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
			✓	✓
				TCP (2-3b) ONLY

- GENERAL NOTES**
- Flags attached to signs where shown, are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
  - When work space will be in place less than three days existing pavement markings may remain in place. Channelizing devices shall be used to separate traffic.
  - Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Flagger should be positioned at end of traffic queue.
  - The R4-1 "DO NOT PASS," R4-2 "PASS WITH CARE" and construction regulatory speed zone signs may be installed within CW20-1D "ROAD WORK AHEAD" signs. Proper spacing of signs shall be maintained.
  - Conflicting pavement marking shall be removed for long term projects.
  - 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.
  - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
- TCP (2-3a)**
- Conflicting pavement markings shall be removed for long-term projects. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter device spacing is intended for the area of the conflicting markings, not the entire work zone.

Texas Department of Transportation  
 Traffic Operations Division Standard

## TRAFFIC CONTROL PLAN TRAFFIC SHIFTS ON TWO-LANE ROADS

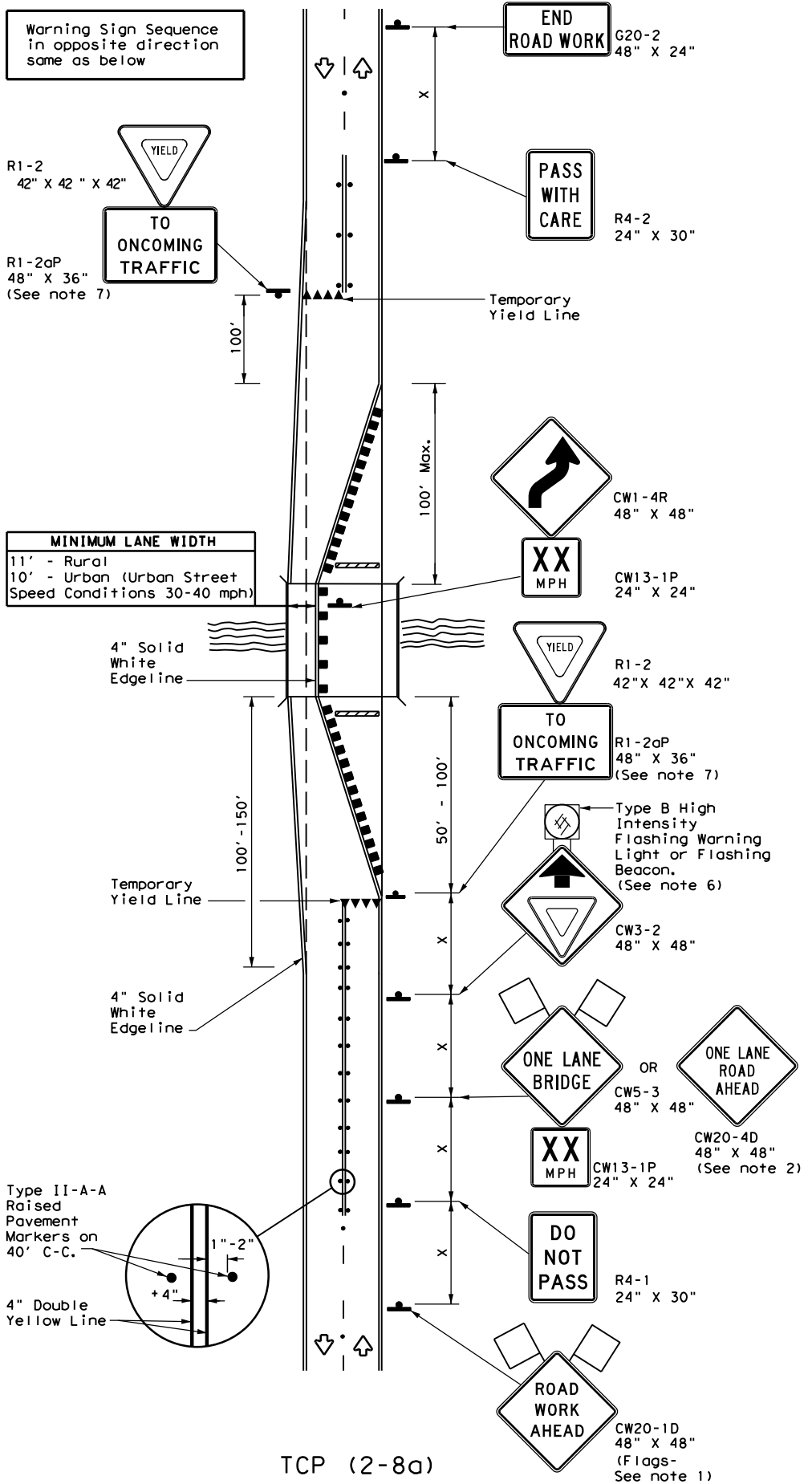
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FILE: tcp(2-3)-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
8-95 3-03	DIST	COUNTY	SHEET NO.	
1-97 2-12	SAT	KENDALL	234	
4-98 2-18				

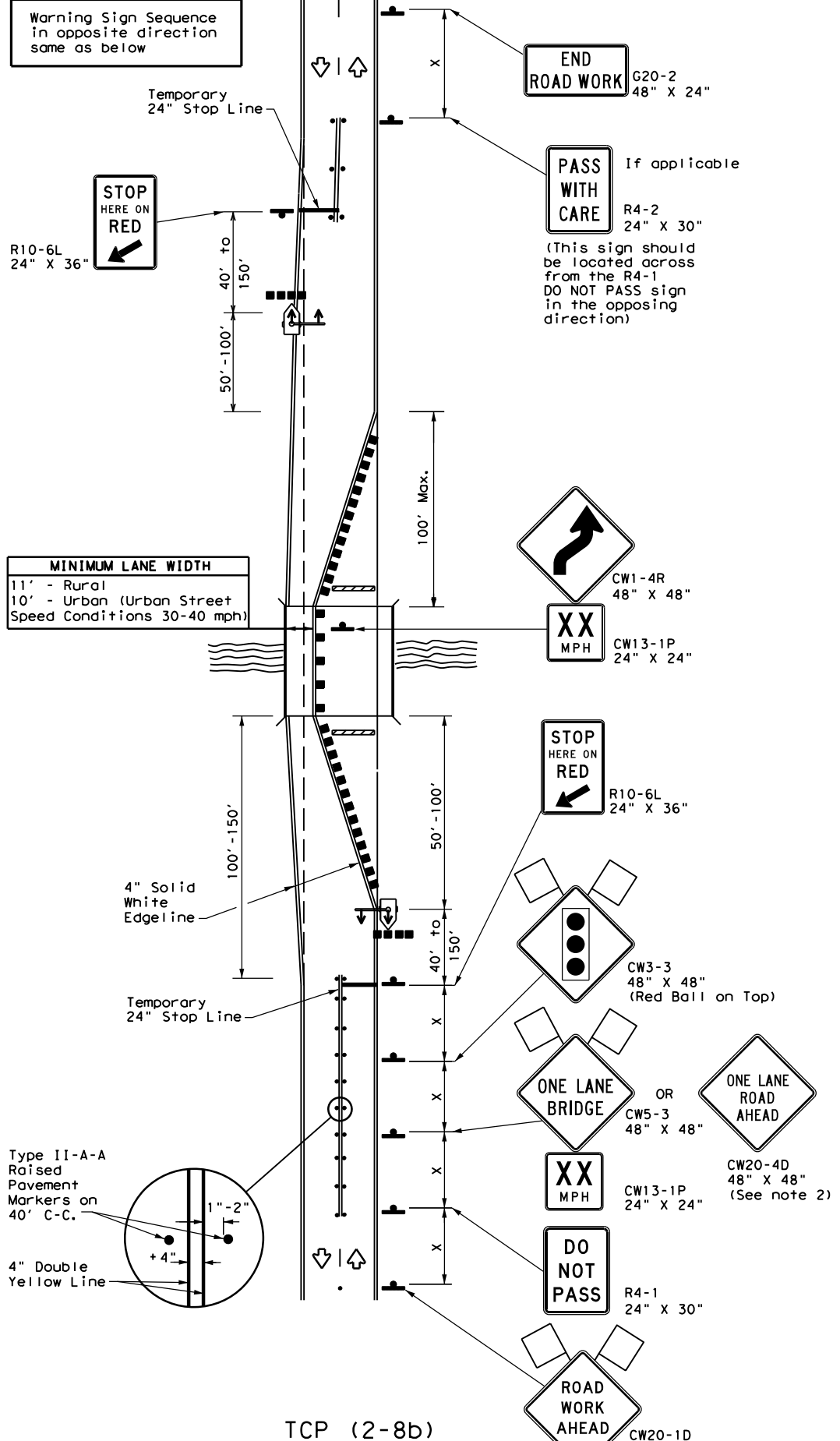
163

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DATE: 4/26/2021 5:43:59 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark\_narendorf\d0239898\tcp2-8-18.dgn



TCP (2-8a)  
**ONE LANE TWO-WAY**  
**TRAFFIC CONTROL WITH YIELD SIGNS**  
 (Less Than 2000 ADT-See Note 5)



TCP (2-8b)  
**ONE LANE TWO-WAY**  
**TRAFFIC CONTROL WITH TRAFFIC SIGNAL**

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Sign		Traffic Flow
	Flag		Flagger
	Raised Pavement Markers Ty II-AA		Temporary or Portable Traffic Signal

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	L = WS <sup>2</sup> / 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	L = WS	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	L = WS	750'	825'	900'	75'	150'	900'	540'	820'

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

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

- GENERAL NOTES**
- Flags attached to signs where shown are REQUIRED.
  - When this TCP is used at a location which does not involve a bridge, a 48" x 48" CW20-4D "ONE LANE ROAD AHEAD" signs should be used in lieu of the CW5-3 "ONE LANE BRIDGE" signs. The CW13-1P Advisory Speed Plaque is required with either warning sign.
  - Raised pavement markers shall be placed 40 feet c-c on centerline between DO NOT PASS signs and stop or yield lines.
  - For intermediate term situations, when it is not feasible to remove and restore pavement markings, the channelization must be made dominant by using a very close spacing. This is especially important in locations of conflicting information, such as where traffic is directed over a double yellow centerline. In such locations a maximum channelizing device spacing of 20 feet is recommended. The 20 foot channelizing device spacing recommendation is intended for the area of conflicting information and not the entire work zone.
- TCP (2-8a)**
- Traffic control by CW3-2 "YIELD AHEAD" symbol signs for one lane two-way traffic control operations should be limited to work spaces less than 400 feet long and roadways with less than 2000 ADT. Otherwise, portable traffic signals should be used.
  - If power is available, a flashing beacon should be attached to the CW3-2 "YIELD AHEAD" symbol sign for emphasis.
  - The R1-2 "YIELD" and R1-2aP "TO ONCOMING TRAFFIC" signs and other regulatory signs shall be installed at 7 foot minimum mounting height.
- TCP (2-8b)**
- A list of approved Portable Traffic Signals can be found in the "Compliant Work Zone Traffic Control Devices" list.
  - Portable traffic signals should be located to provide adequate stopping sight distance for approaching motorist (See table above).

**Texas Department of Transportation**  
 Traffic Operations Division Standard

**TRAFFIC CONTROL PLAN**  
**LONG TERM ONE-LANE**  
**TWO-WAY CONTROL**

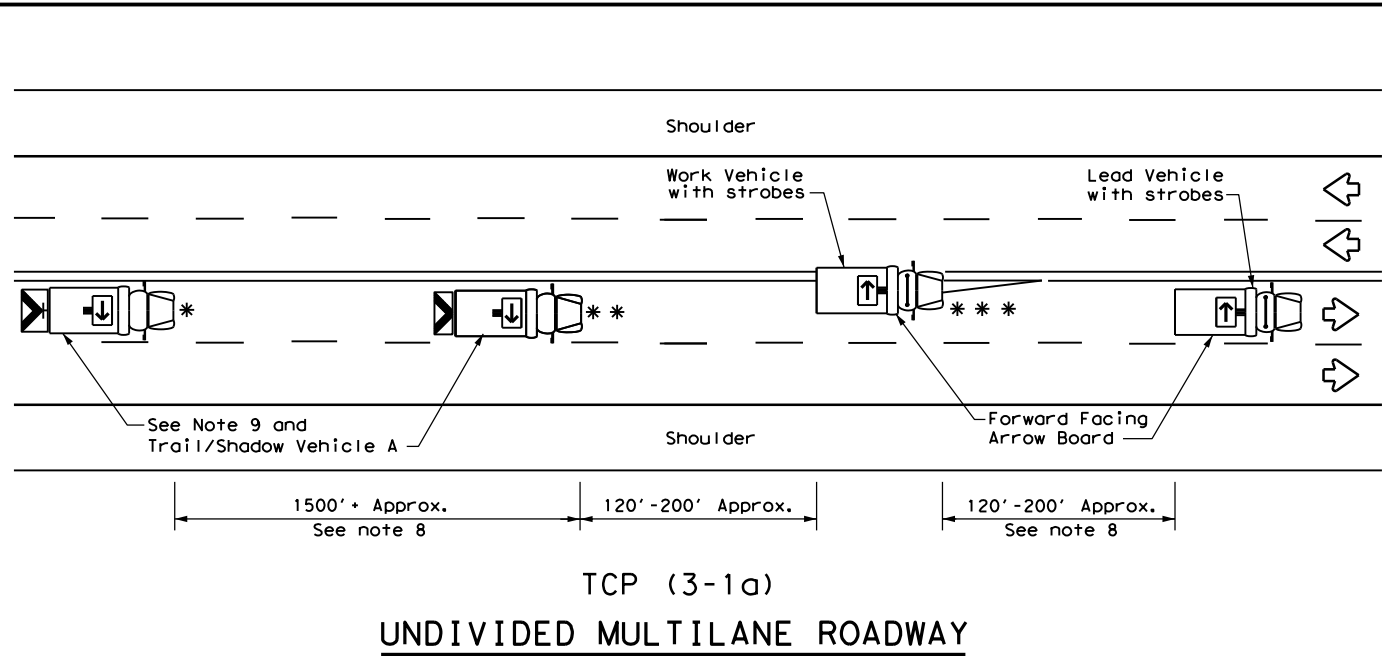
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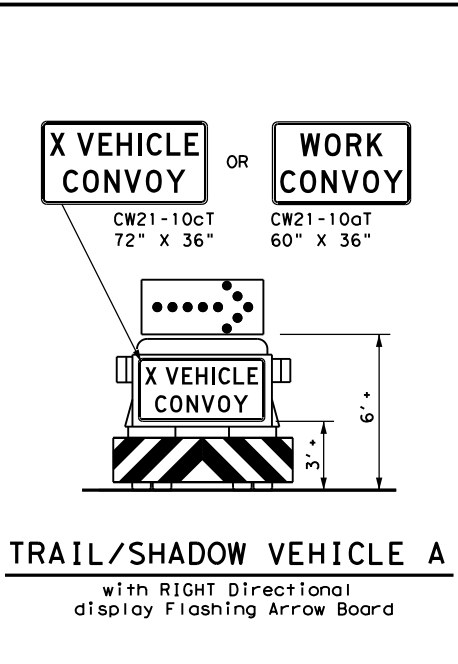
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TCP (3-1a)  
 UNDIVIDED MULTILANE ROADWAY



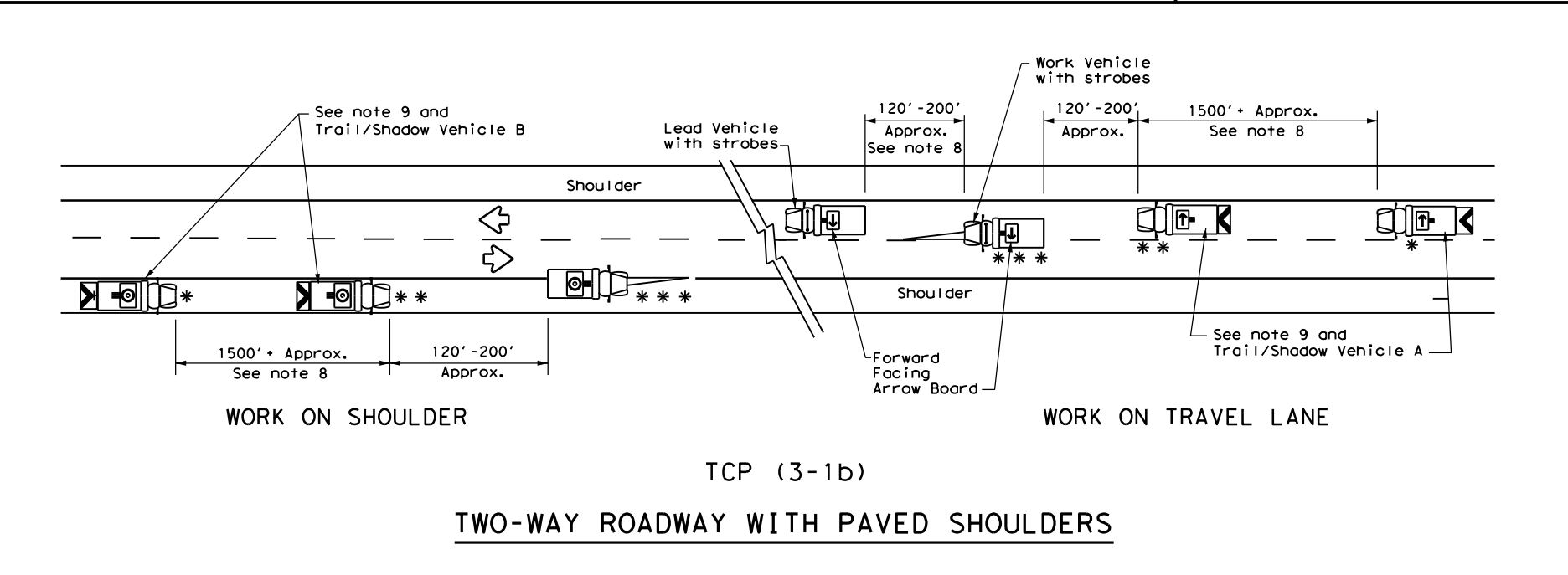
TRAIL/SHADOW VEHICLE A  
 with RIGHT Directional display Flashing Arrow Board

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)

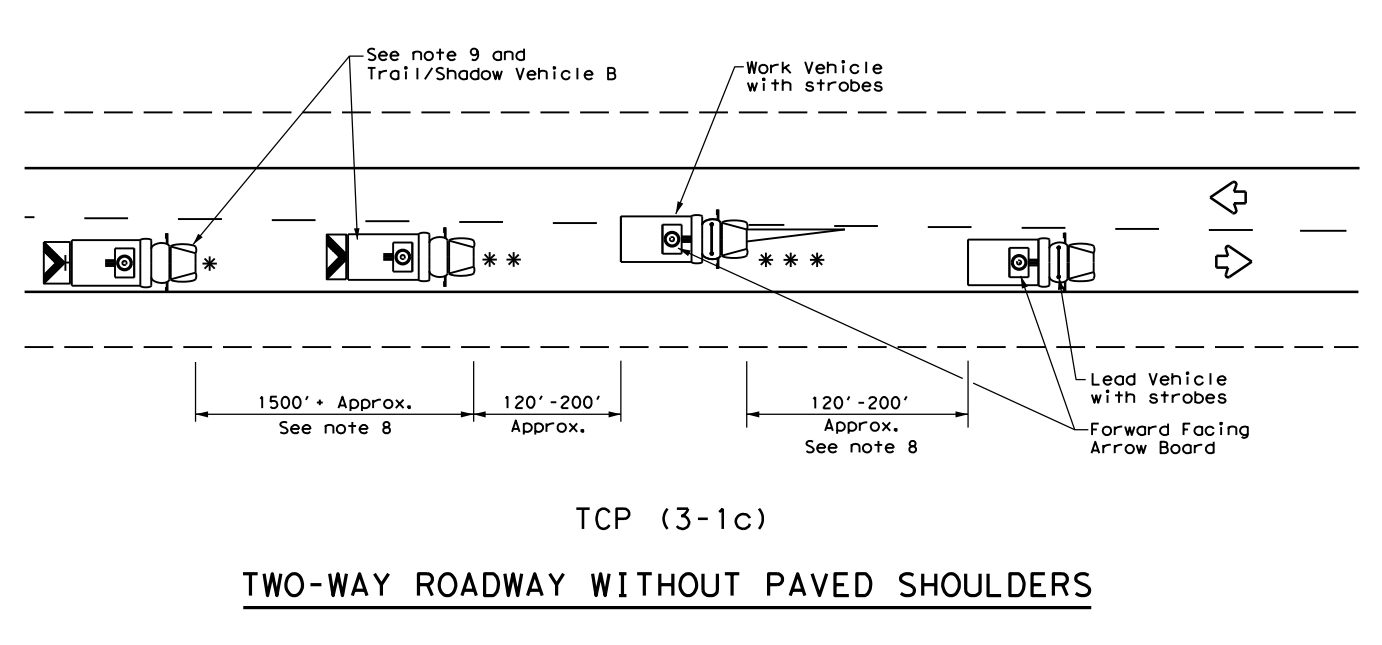
TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
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GENERAL NOTES

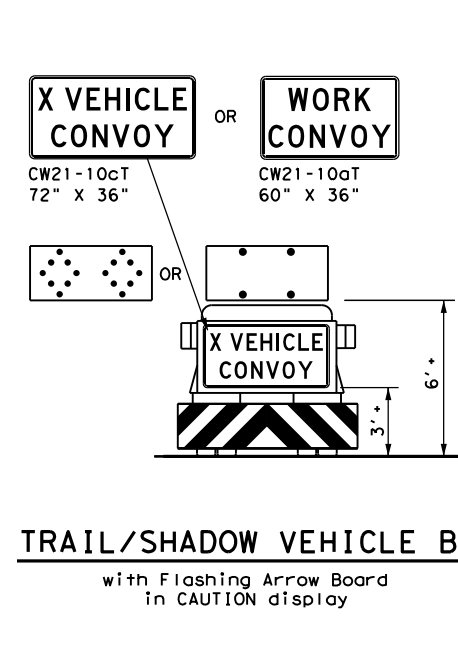
1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used the WORK vehicle must be equipped with an arrow board. The Engineer will determine if the LEAD VEHICLE and/or TRAIL VEHICLE are required based on prevailing roadway conditions, traffic 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.



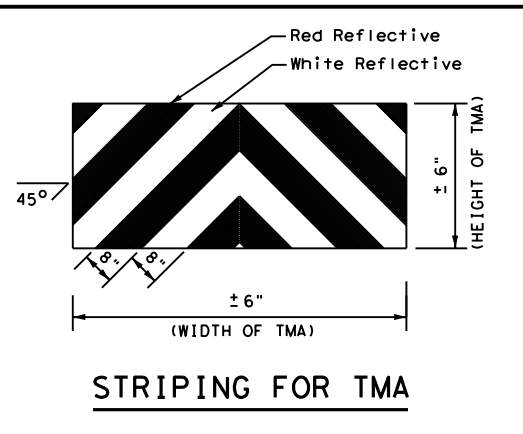
TCP (3-1b)  
 TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)  
 TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B  
 with Flashing Arrow Board in CAUTION display



Texas Department of Transportation  
 Traffic Operations Division Standard

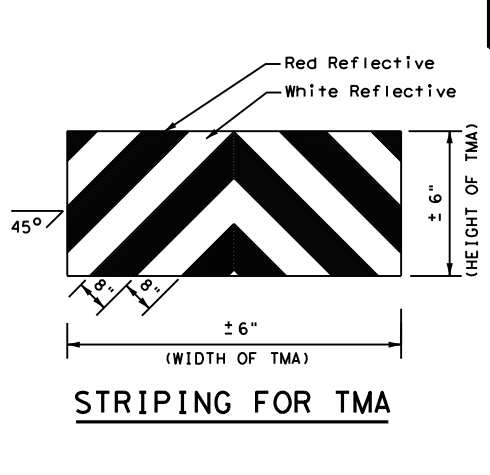
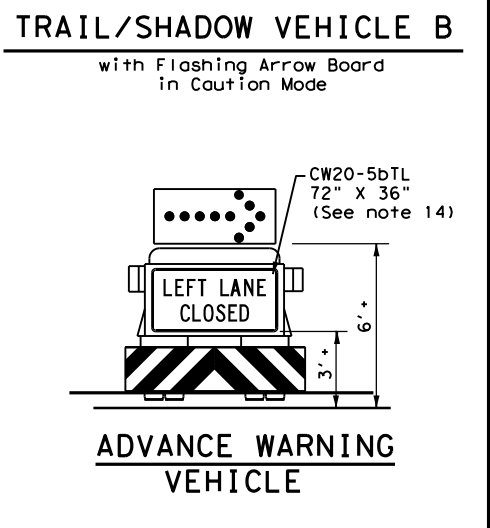
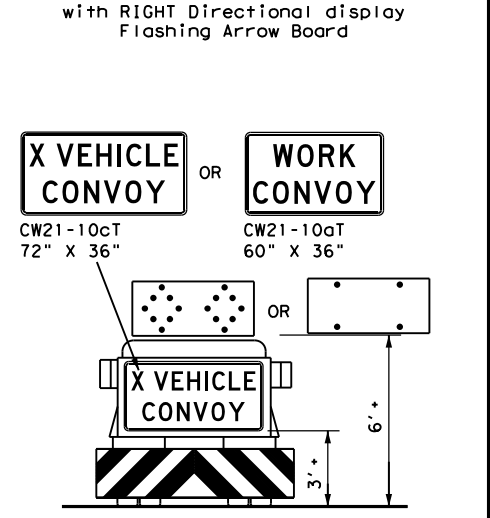
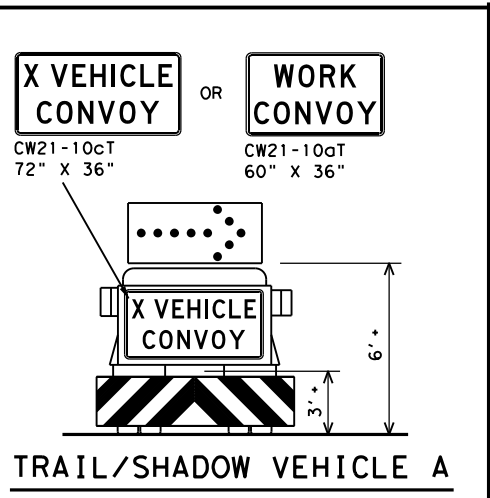
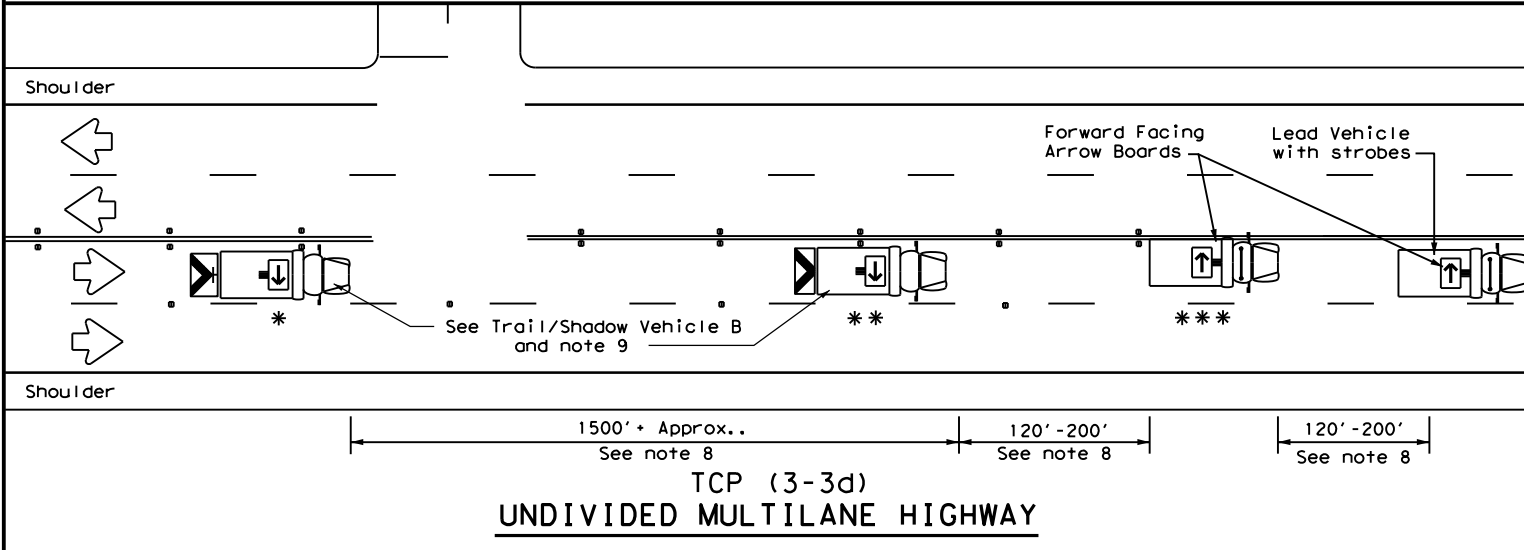
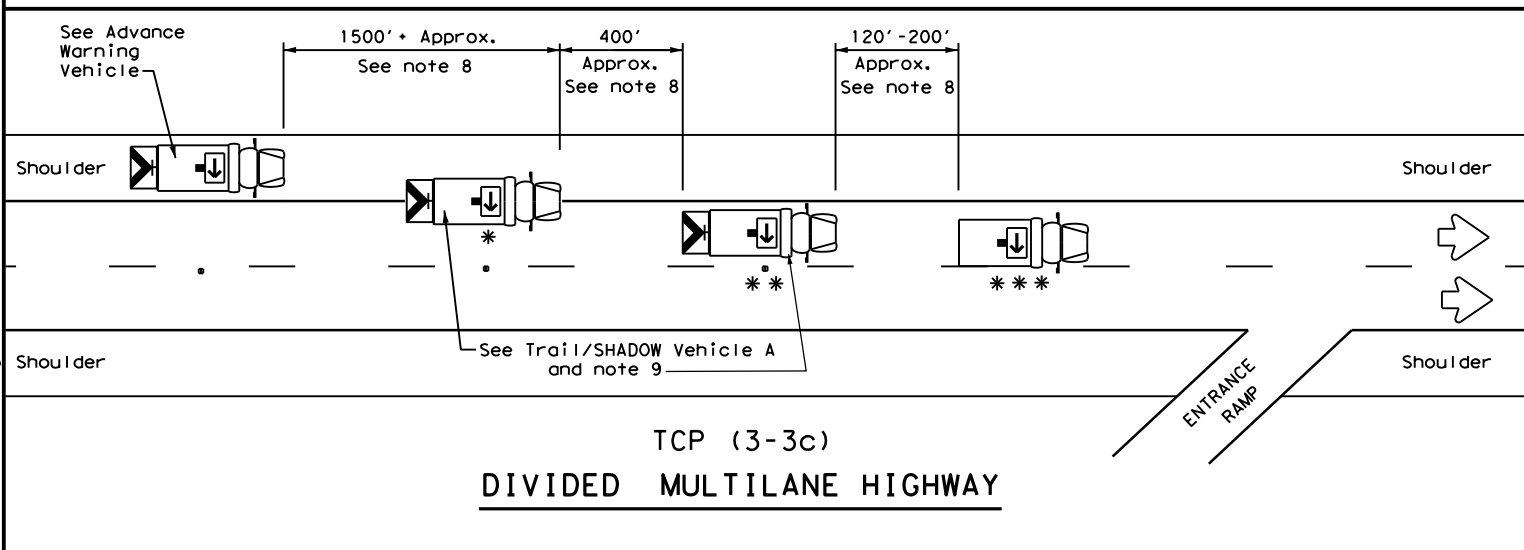
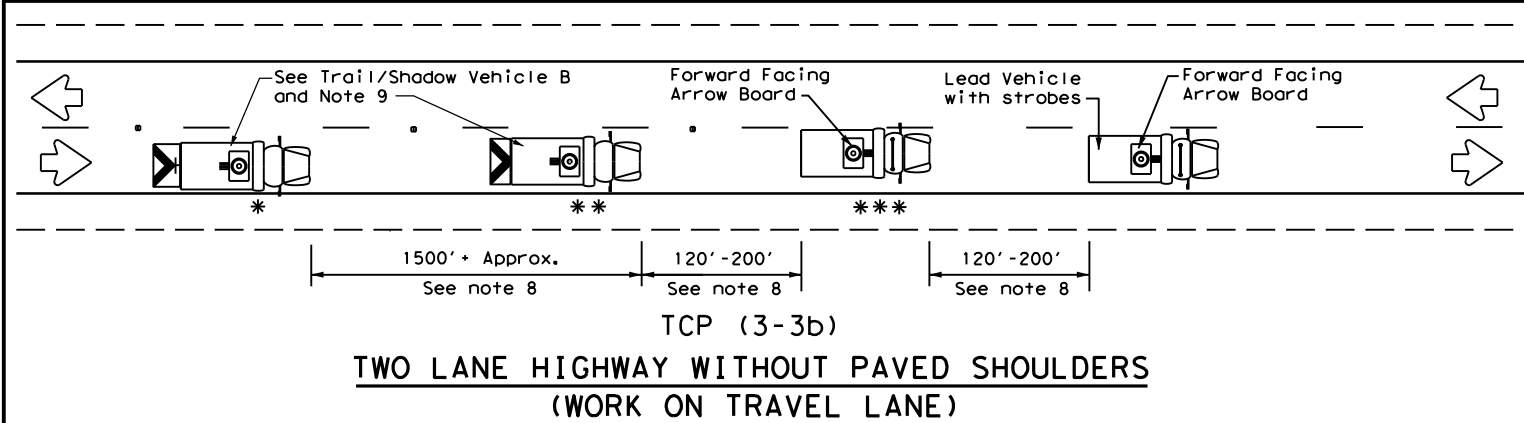
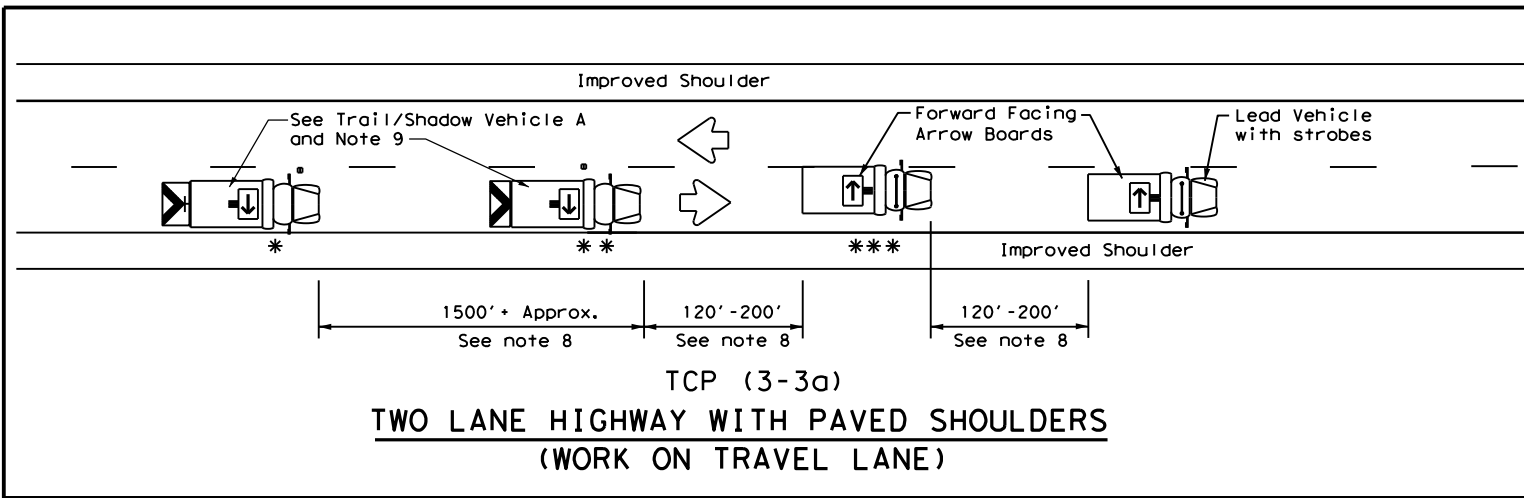
**TRAFFIC CONTROL PLAN  
 MOBILE OPERATIONS  
 UNDIVIDED HIGHWAYS**

**TCP (3-1) - 13**

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REVISIONS		DIST:	COUNTY	SHEET NO.:					
2-94	4-98	SAT:	KENDALL	236					
8-95	7-13								
1-97									

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LEGEND		
* Trail Vehicle	ARROW BOARD DISPLAY	
** Shadow Vehicle		
*** Work Vehicle		RIGHT Directional
		LEFT Directional
		Double Arrow
		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**GENERAL NOTES**

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

Texas Department of Transportation

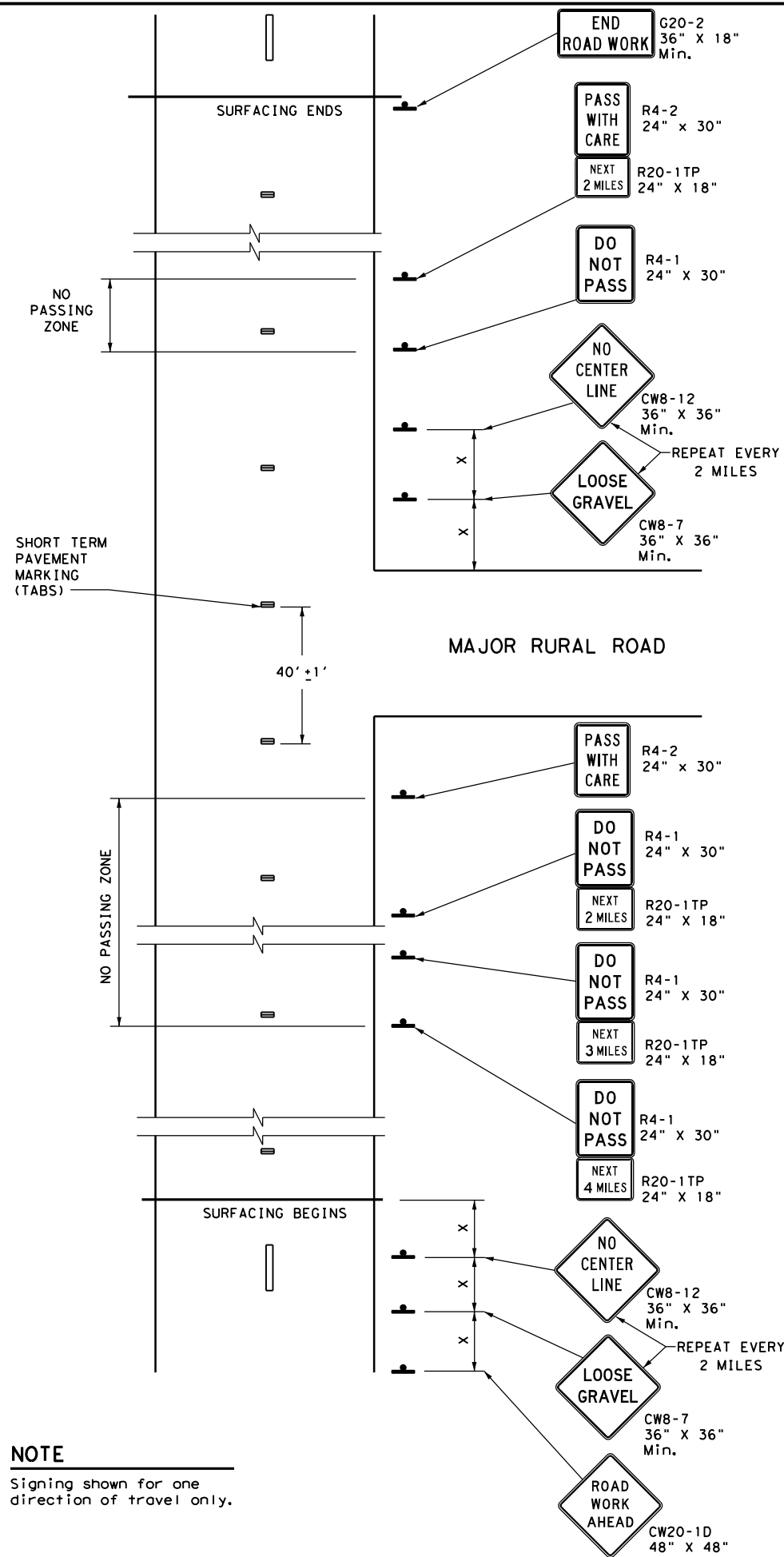
Traffic Operations Division Standard

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

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© TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
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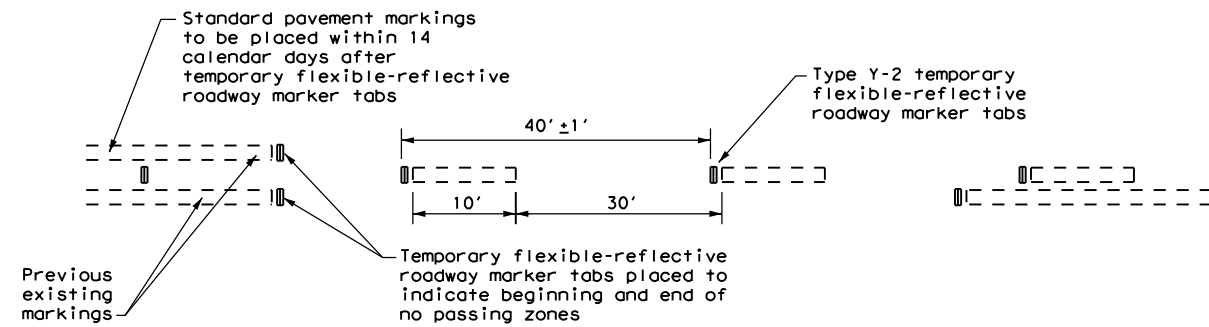
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**NOTE**  
 Signing shown for one direction of travel only.

**NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS**



**TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS**  
 For seal coat, micro-surface or similar operations

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

- 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.
- At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-1TP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is 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.
- Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshield 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 days 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.
- R4-1 and R4-2 are to remain in place until standard pavement markings are installed.

**"NO CENTER LINE" SIGN (CW8-12)**

- Center line markings are yellow pavement markings that delineate the separation of travel lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line markings.
- At the time construction activity obliterates the existing center line markings (low volume roads may not have an existing centerline), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately 2 mile intervals within the work area, beyond major intersections and other locations deemed necessary by the Engineer.
- The NO CENTER LINE signs are to remain in place until standard pavement markings are installed.

**"LOOSE GRAVEL" SIGN (CW8-7)**

- 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 2 miles in rural areas and closer in urban areas.
- The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

**PAVEMENT MARKINGS**

- Temporary markings for surfacing projects shall be Temporary Flexible-reflective Roadway Marker Tabs 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 (2) days before the surfacing is applied. After the surfacing is rolled and swept, the cover over the reflective strip shall be removed.
- Tabs shall not be used to simulate edge lines.
- Tab placement for overlay/inlay operations shall be as shown on the WZ(STPM) standard sheet.

**COORDINATION OF SIGN LOCATIONS**

- 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.
- Where possible the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed in the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) and the TRAFFIC FINES DOUBLE (R20-5T) sign, and 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 signs will then be repeated as described above.

Posted Speed *	Minimum Sign Spacing "X" Distance
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**

- The traffic control devices detailed on this sheet will be furnished and erected as directed by the Engineer on sections of roadway where tabs must be placed prior to the surfacing operation which will cover or obliterate the existing pavement markings.
- 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.
- Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Long-Term / Intermediate-Term Work Zone Sign Supports.
- When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
- Signs on divided highways, freeways and expressways will be placed on both right and left sides of the roadway based on roadway conditions as directed by the Engineer.



**TRAFFIC CONTROL DETAILS FOR SURFACING OPERATIONS**

**TCP (7-1) - 13**

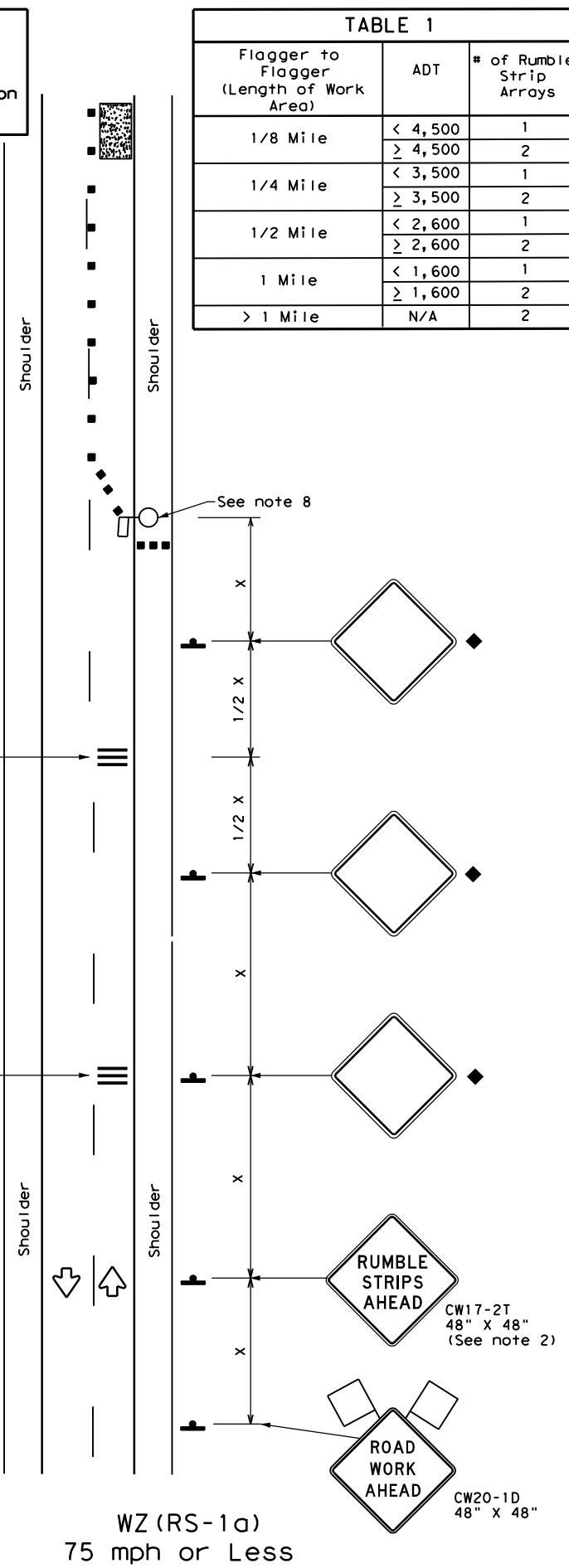
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1-97	7-13	SAT:	KENDALL	238					

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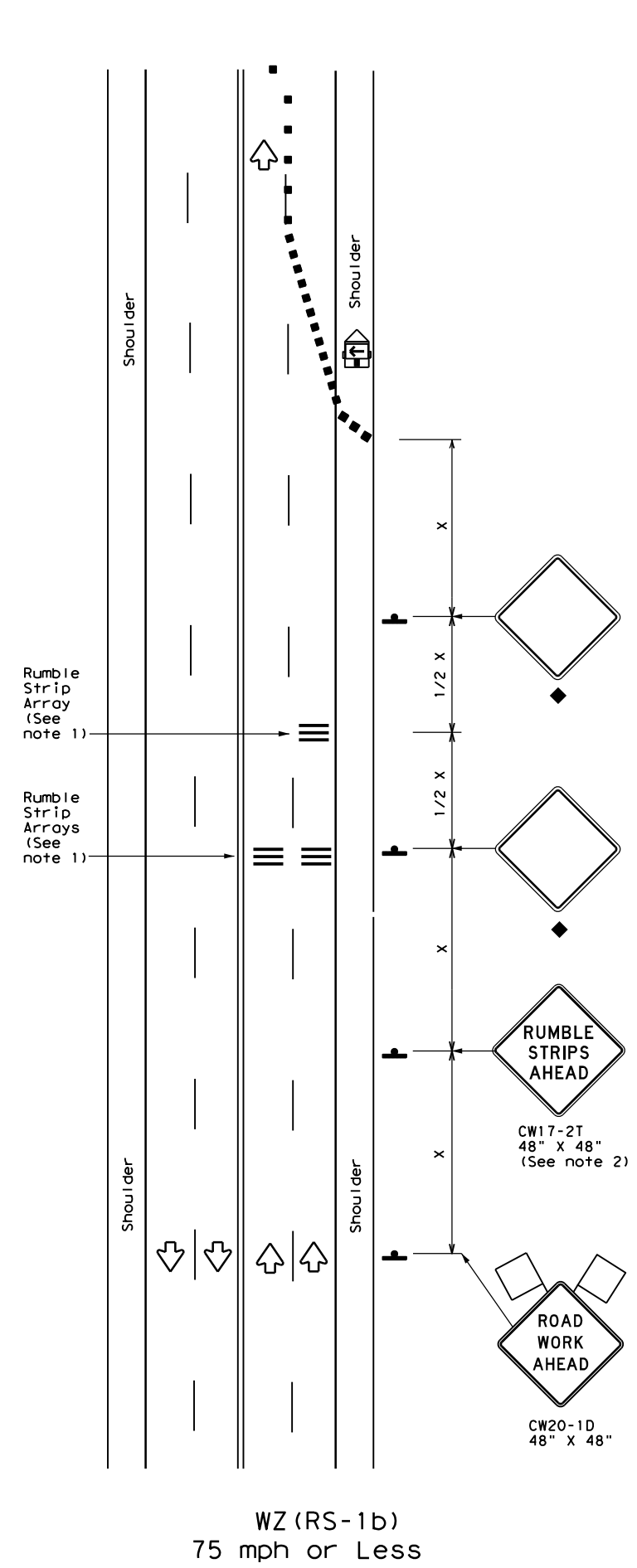
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Warning sign and rumble strip sequence in opposite direction is same as below

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



WZ (RS-1a)  
75 mph or Less  
RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



WZ (RS-1b)  
75 mph or Less  
RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

GENERAL NOTES

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

Speed	Approximate distance between strips in an Array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
> 55 MPH	20'

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS <sup>2</sup> / 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)

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

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

Texas Department of Transportation  
 Traffic Operations Division Standard

## TEMPORARY RUMBLE STRIPS

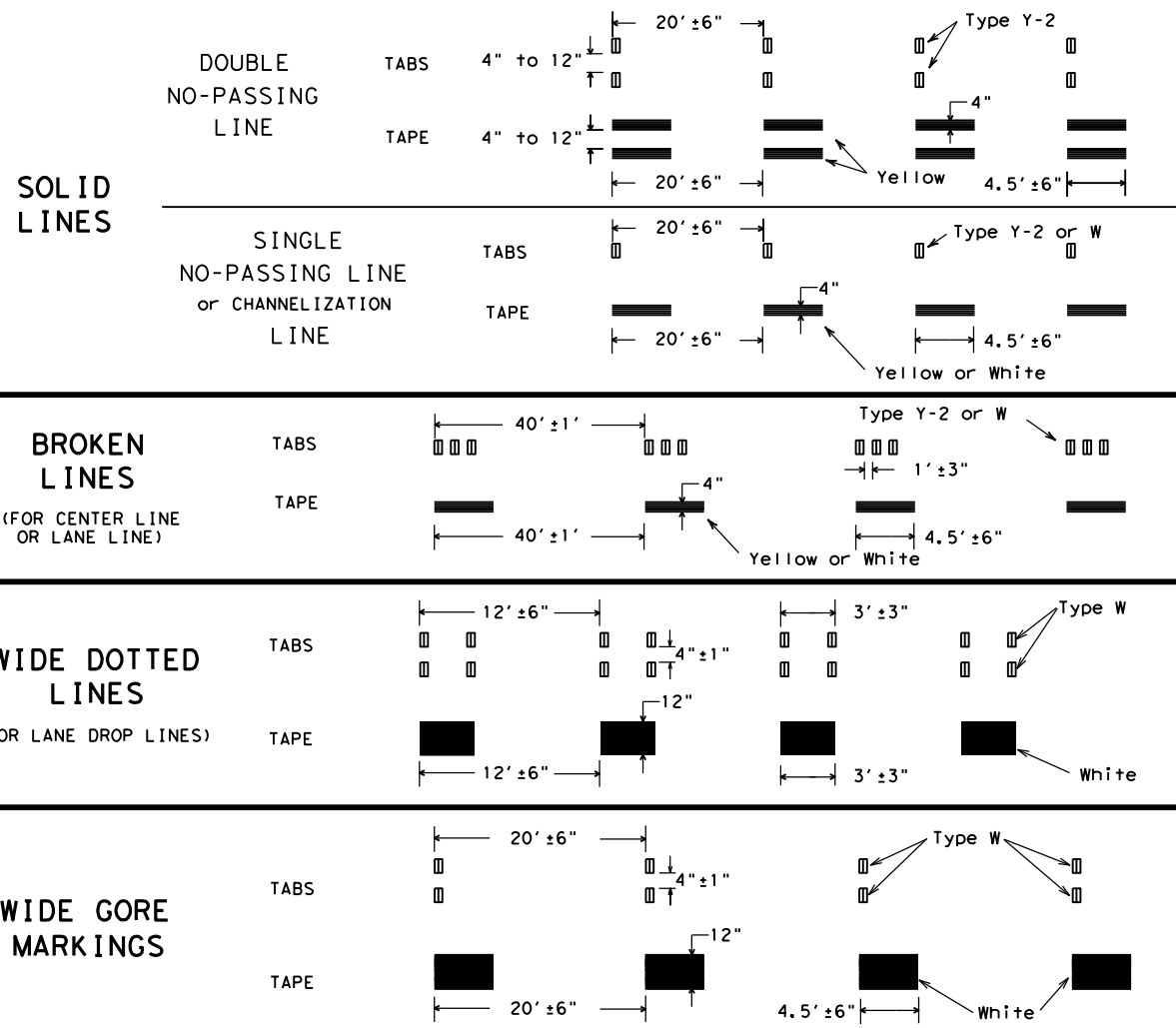
### WZ (RS) - 16

FILE: wzrs16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
2-14	DIST	COUNTY	SHEET NO.	
4-16	SAT	KENDALL	239	

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## WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS



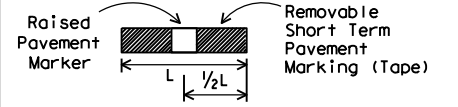
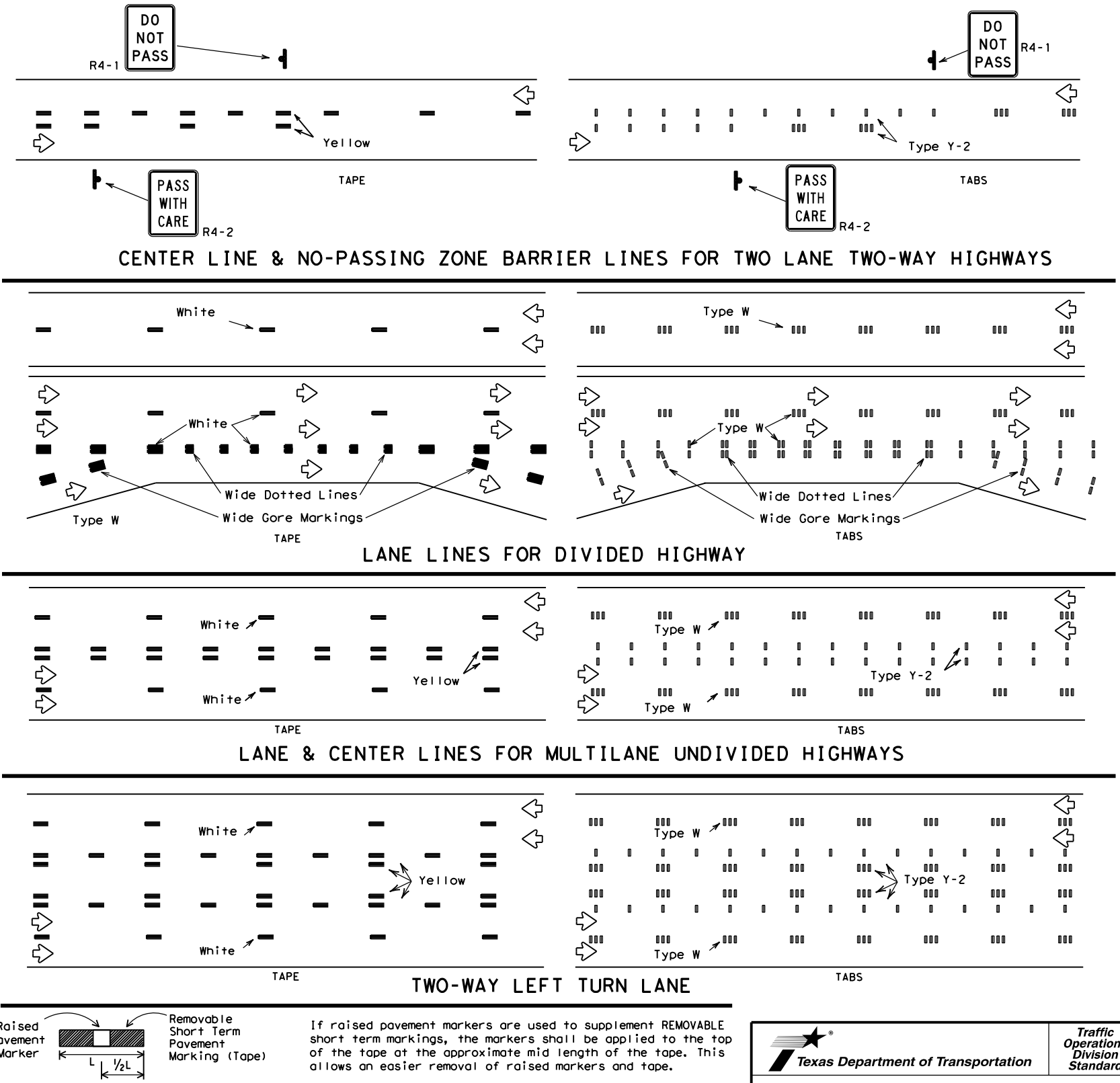
### NOTES:

- Short term pavement markings may be prefabricated markings (stick down tape) or temporary flexible-reflective roadway marker tabs unless otherwise specified elsewhere in plans.
- Short term pavement markings shall NOT be used to simulate edge lines.
- 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.
- Temporary flexible-reflective roadway marker tabs will require normal maintenance replacement when used on roadways with an ADT per lane of up to 7500 vehicles with no more than 10% truck mix. When roadways exceed these values, additional maintenance replacement of devices should be planned.
- No segment of roadway open to traffic shall remain without permanent pavement markings for a period greater than 14 calendar days. 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.
- For two lane, two-way roadways, DO NOT PASS signs shall be erected to mark the beginning of sections where passing is prohibited and PASS WITH CARE signs shall be erected to mark the beginning of sections where passing is permitted. Signs shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and may be used to indicate the limits of no-passing zones for up to 14 calendar days. Permanent pavement markings should then be placed.
- For low volume two lane, two-way roadways of 4000 ADT or less, no-passing lines may be omitted when approved by the Engineer. DO NOT PASS and PASS WITH CARE signs shall be erected (see note 6).
- 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 allowed for this purpose.

### TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

- Temporary flexible-reflective roadway marker tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with 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).
- Tabs shall meet requirements of Departmental Material Specification DMS-8242.
- 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.
- 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 3.

## WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS



### PREFABRICATED PAVEMENT MARKINGS

- Temporary Removable Prefabricated Pavement Markings shall meet the requirements of DMS-8241.
- Non-removable Prefabricated Pavement Markings shall meet the requirements of either DMS-8240 "Permanent Prefabricated Pavement Markings" or DMS-8243 "Temporary Construction-Grade Prefabricated Pavement Markings."

### RAISED PAVEMENT MARKERS

- All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and DMS-4200.

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

- DMSs referenced above can be found along with embedded links to their respective MPLs at the following website:  
[http://www.txdot.gov/business/contractors\\_consultants/material\\_specifications/default.htm](http://www.txdot.gov/business/contractors_consultants/material_specifications/default.htm)



## WORK ZONE SHORT TERM PAVEMENT MARKINGS

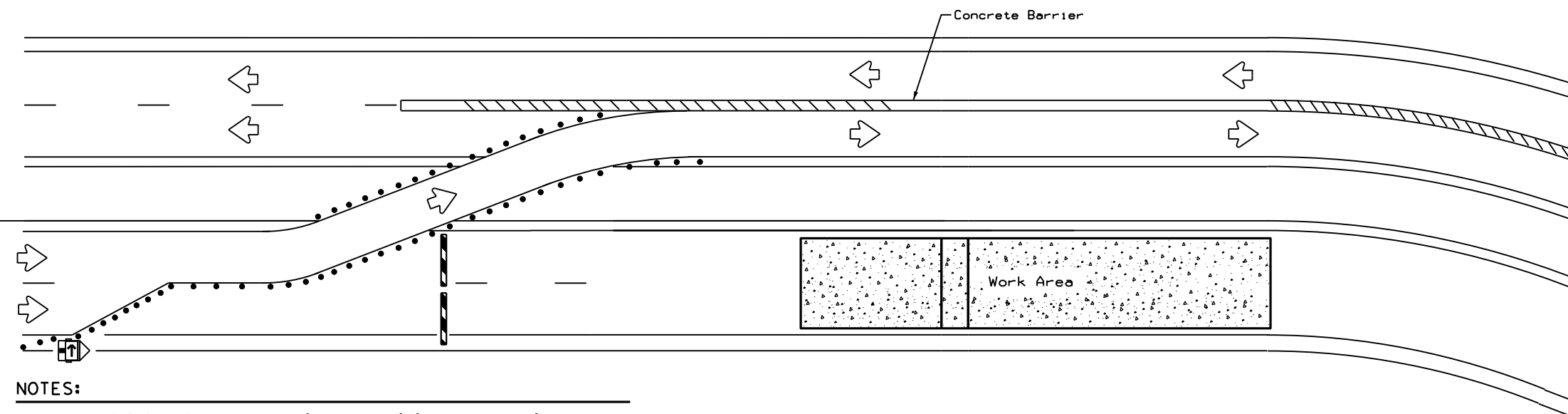
### WZ (STPM) - 13

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REVISIONS		DIST:		COUNTY:		SHEET NO.:			
1-97		SAT:		KENDALL					240
3-03									
7-13									



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**NOTES:**

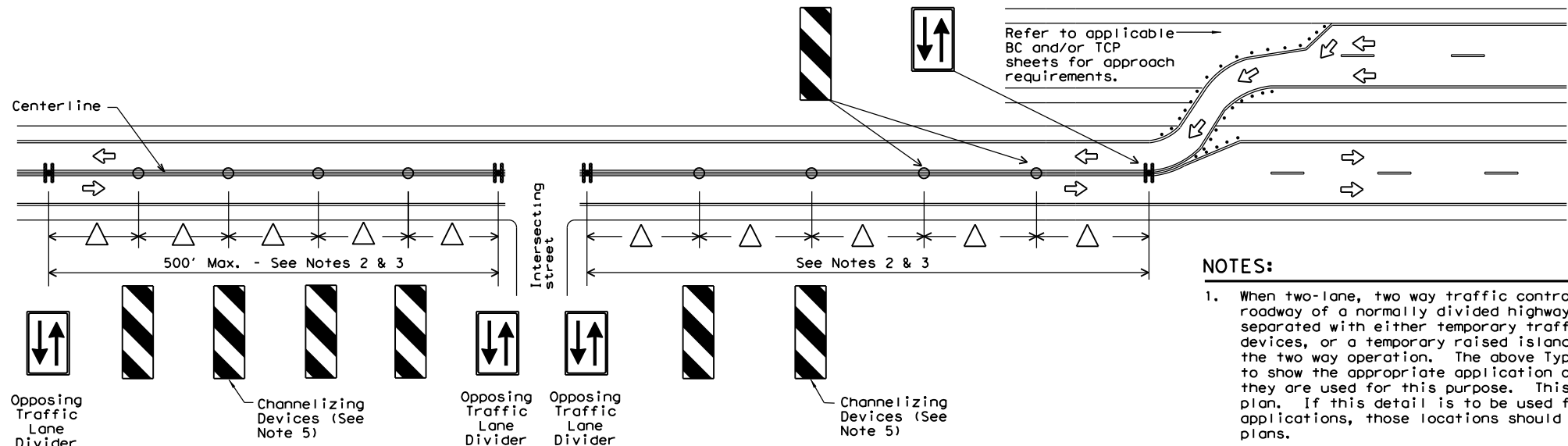
1. Length of Safety Glare screen will be specified elsewhere in the plans.
2. The cumulative nominal length of the modular safety glare screen units shall equal the length of the individual sections of temporary concrete traffic barrier on which they are installed so the joint between barrier sections will not be spanned by any one safety glare screen unit.
3. Screen Panel/blades will be designed such that reflective sheeting conforming with Departmental Material Specification DMS-8300, Sign Face Materials, Type B or C Yellow, minimum size of 2 inches by 12 inches can be attached to the edge of the panel/blade. The sheeting shall be attached to one glare screen panel/blade per section of concrete barrier not to exceed a spacing of 30 feet. Barrier reflectors are not necessary when panel/blades are installed with reflective sheeting as described.
4. Payment for these devices will be under statewide Special Specification "Modular Glare Screens for Headlight Barrier."
5. This detail is only intended to show types of locations where Glare Screens would be appropriate. Required signing and other devices shall be as shown elsewhere in the plans.

**BARRIER DELINEATION WITH MODULAR GLARE SCREENS**

LEGEND	
	Type 3 Barricade
	Channelizing Devices
	Trailer Mounted Flashing Arrow Board
	Sign
	Safety glare screen

DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
DELINEATORS AND OBJECT MARKERS	DMS-8600
MODULAR GLARE SCREENS FOR HEADLIGHT BARRIER	DMS-8610

Only pre-qualified products shall be used. A copy of the Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:  
<http://www.txdot.gov/business/resources/producer-list.html>



**NOTES:**

1. When two-lane, two way traffic control must be maintained on one roadway of a normally divided highway, opposing traffic shall be separated with either temporary traffic barriers, channelizing devices, or a temporary raised island throughout the length of the two way operation. The above Typical Application is intended to show the appropriate application of channelizing devices when they are used for this purpose. This is not a traffic control plan. If this detail is to be used for other types of roads or applications, those locations should be stated elsewhere in the plans.
2. Space devices according to the Tangent Spacing shown on the Device Spacing table on BC(9) but not exceeding 100'.
3. Every fifth device should be an OTLD except when spaced closer to accommodate an intersection. An OTLD should be the first device on each side of intersecting streets or roads.
4. Locations where surface mount bases with adhesives or self-righting devices will be required in order to maintain them in their proper position should be noted elsewhere in the plans.
5. Channelizing devices are to be vertical panels, 42" cones or tubular markers that are at least 36" tall. Tubular markers used to separate traffic should have a rubber base weighing at least 30 pounds. Tubular markers that are 42" tall or more shall have four bands of reflective material as detailed for 42" cones on BC(10). Tubular markers less than 42" but at least 36" tall shall have three bands of 3" wide white reflective material spaced 2" apart. Reflective material shall meet DMS-8300, Type A.

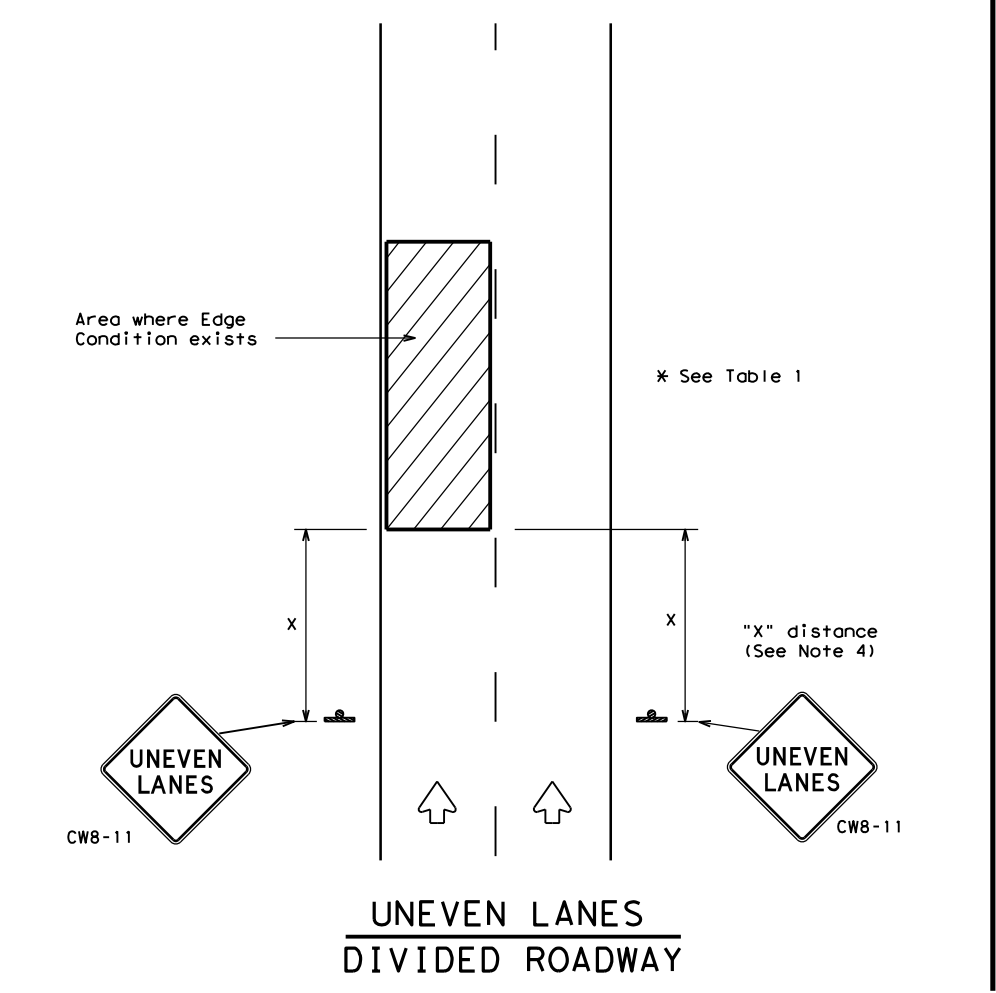
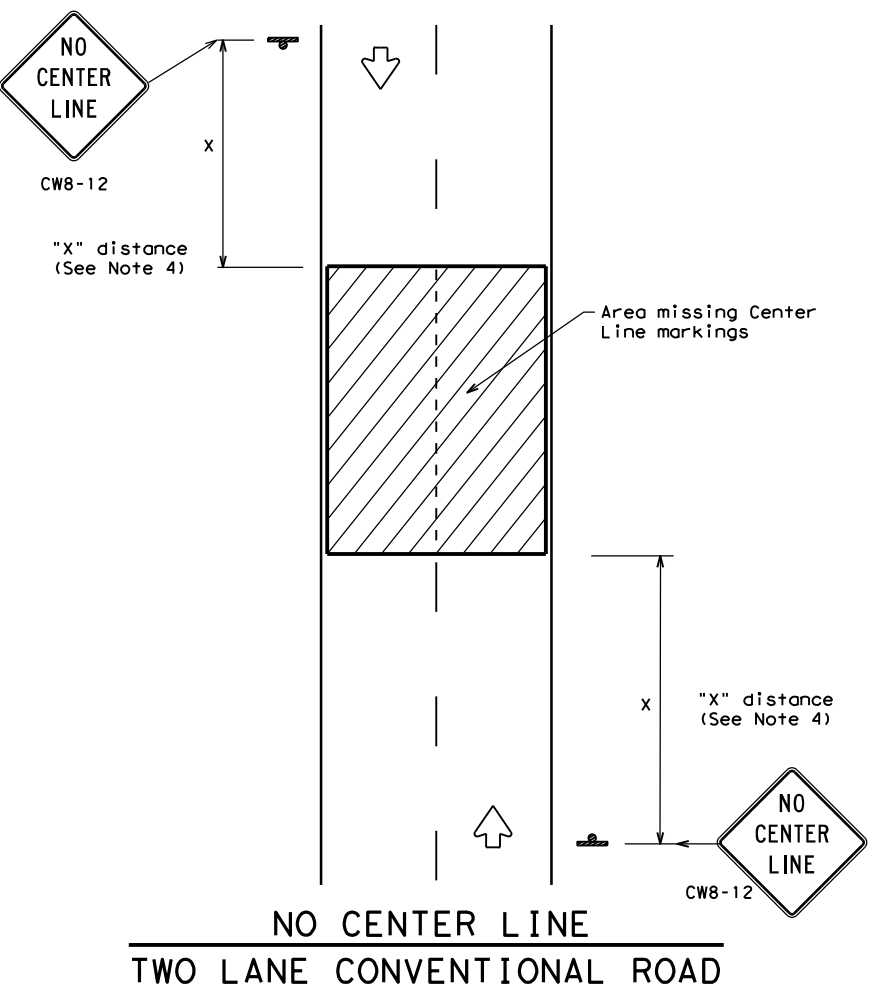
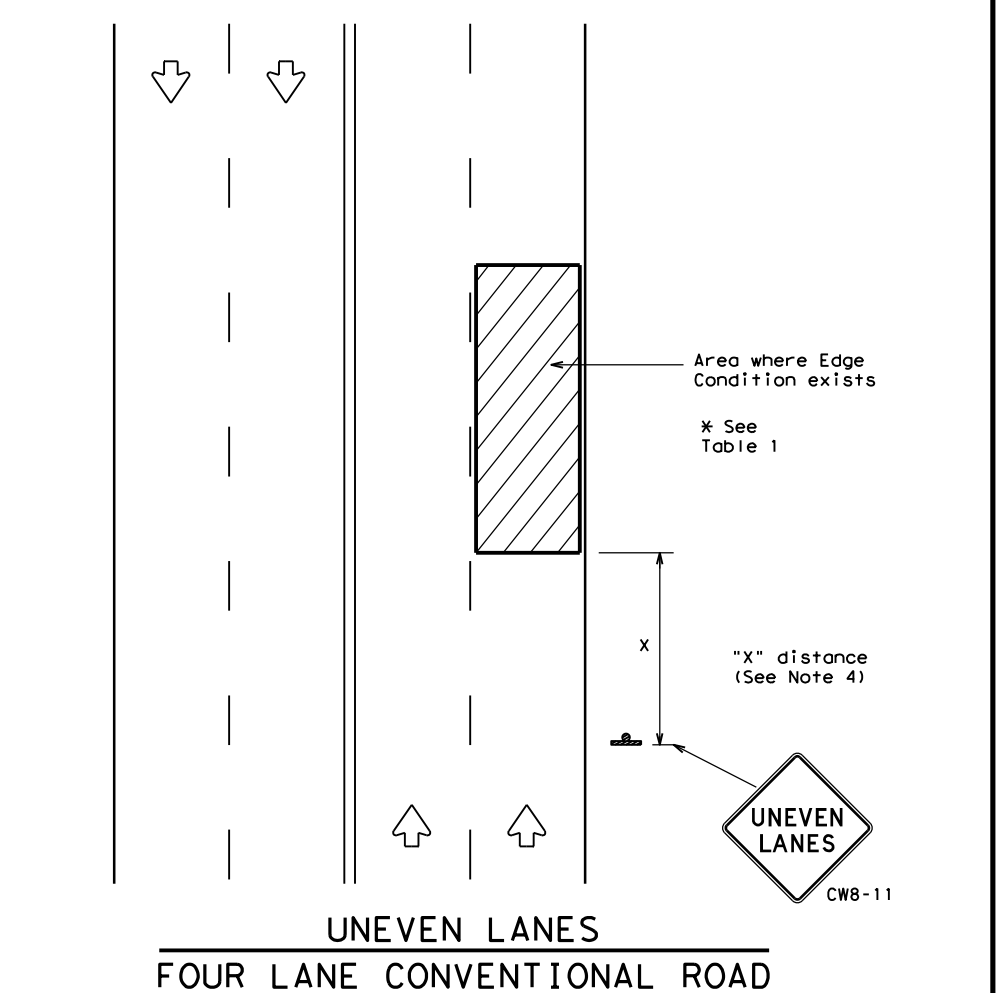
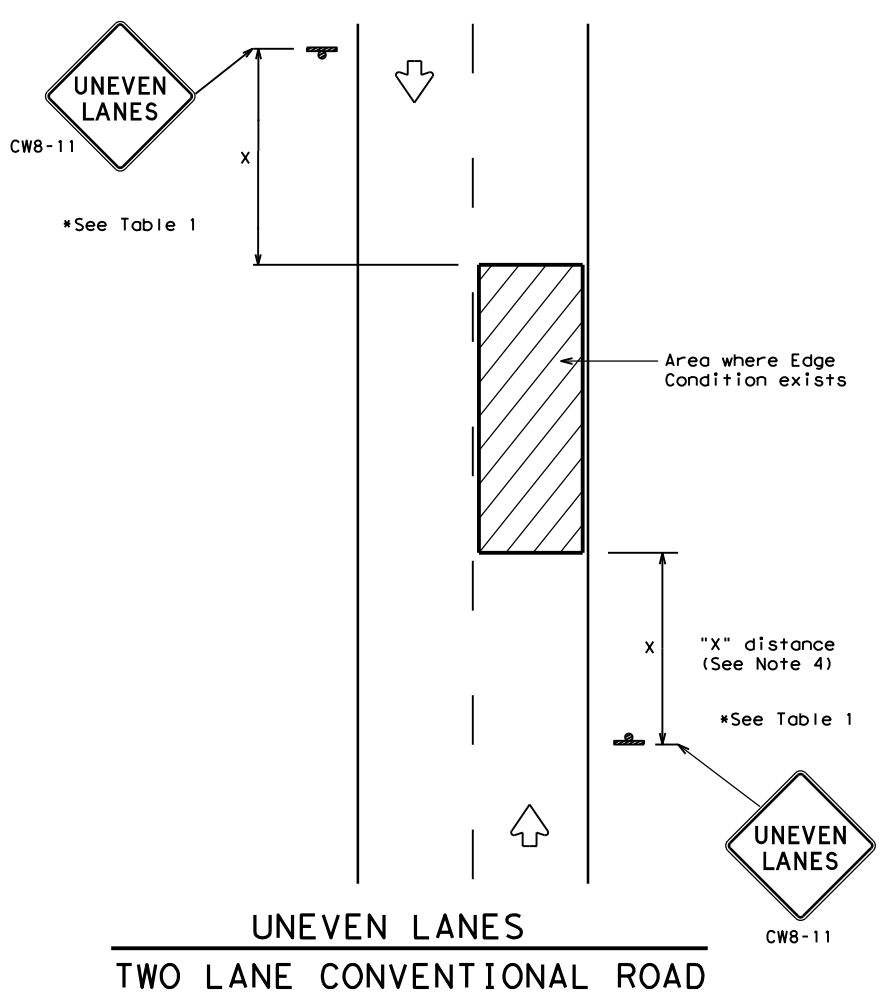
**VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS (OTLD) SEPARATING TWO-WAY TRAFFIC ON NORMALLY DIVIDED HIGHWAYS**

		Traffic Operations Division Standard	
<b>TRAFFIC CONTROL PLAN TYPICAL DETAILS</b>			
<b>WZ (TD) - 17</b>			
FILE:	wztd-17.dgn	DN:	TxDOT
© TxDOT	February 1998	CONT:	0142 09
REVISIONS		SECT:	JOB
4-98	2-17		044, Etc
3-03		DIST:	COUNTY
7-13		SAT:	KENDALL
			SHEET NO.
			241



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DEPARTMENTAL MATERIAL SPECIFICATIONS	
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY (REMOVABLE) PREFABRICATED PAVEMENT MARKINGS	DMS-8241
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B <sub>FL</sub> OR TYPE C <sub>FL</sub> SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

**GENERAL NOTES**

- If spalling or holes occur, ROUGH ROAD (CW8-8) signs should be placed in advance of the condition and be repeated every two miles where the condition persists.
- UNEVEN LANES (CW8-11) signs shall be installed in advance of the condition and repeated every mile. Signs installed along the uneven lane condition may be supplemented with the NEXT XX MILES (CW7-3aP) plaque or Advisory Speed (CW13-1P) plaque.
- NO CENTER LINE (CW8-12) signs and temporary pavement markings as per the WZ(STPM) standard shall be installed if yellow centerlines separating two way traffic are obscured or obliterated. Repeat NO CENTER LINE signs every two miles where the center line markings are not in place. The signs and markings shall remain in place until permanent pavement markings are installed.
- Signs shall be spaced at the distances recommended as per BC standards.
- Additional signs may be required as directed by the Engineer. Signs shall remain in place until final surface is applied. Signs shall be considered subsidiary to Item 502 "BARRICADES, SIGNS AND TRAFFIC HANDLING."
- Signs shall be fabricated and mounted on supports as shown on the BC standards and/or listed on the "Compliant Work Zone Traffic Control Devices" list.
- Short term markings shall not be used to simulate edge lines.
- All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition.

Edge Condition	Edge Height (D)	* Warning Devices
①	Less than or equal to: 1/4" (maximum-planing) 1/2" (typical-overlay)	Sign: CW8-11
②	Less than or equal to 3"	Sign: CW8-11
③	Distance "D" may be a maximum of 3" if uneven lanes with edge condition 2 or 3 are open to traffic after work operations cease. Uneven lanes should not be open to traffic when "D" is greater than 3".	

TRAFFIC CONTROL DURING PLANING, OVERLAY AND LEVELING OPERATIONS ARE SHOWN ELSEWHERE IN THE PLANS.

MINIMUM WARNING SIGN SIZE	
Conventional roads	36" x 36"
Freeways/expressways, divided roadways	48" x 48"



**SIGNING FOR UNEVEN LANES**

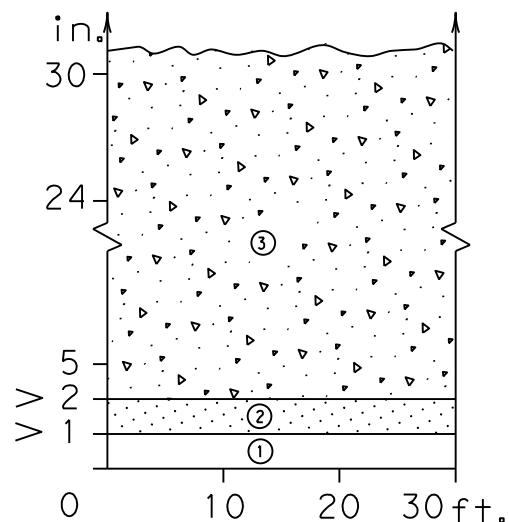
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© TxDOT	APRIL 1992	CONT	SECT	JOB
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8-95 2-98 7-13	DIST	COUNTY	SHEET NO.	
1-97 3-03	SAT	KENDALL	242	

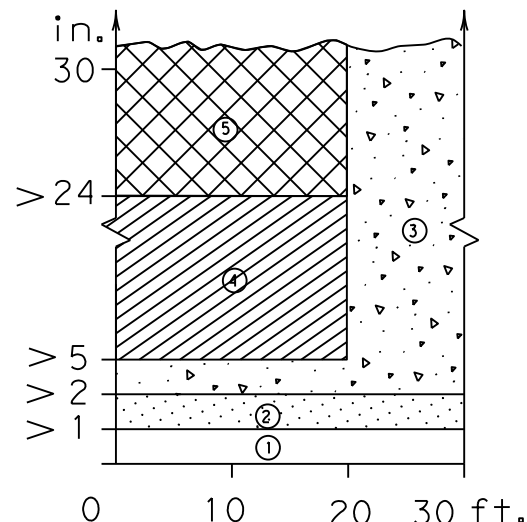
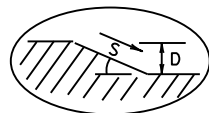
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### DEFINITION OF TREATMENT ZONES FOR VARIOUS EDGE CONDITIONS

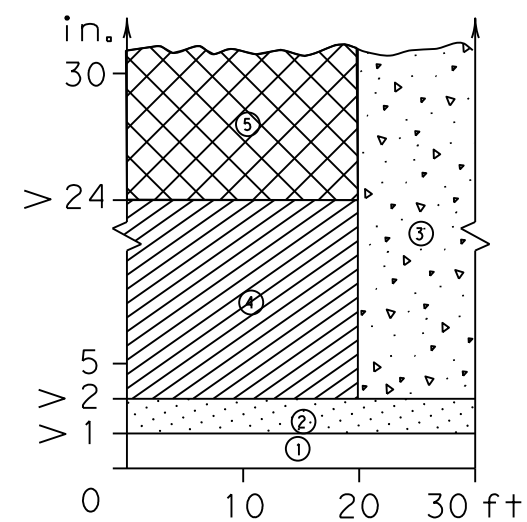
Edge Height (D) in Inches versus Lateral Clearance (Y) in Feet



Edge Condition I  
S = (3:1) (or flatter)



Edge Condition II  
S = ((2.99):1) to (1:1)



Edge Condition III  
S is steeper than (1:1)

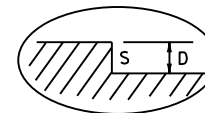
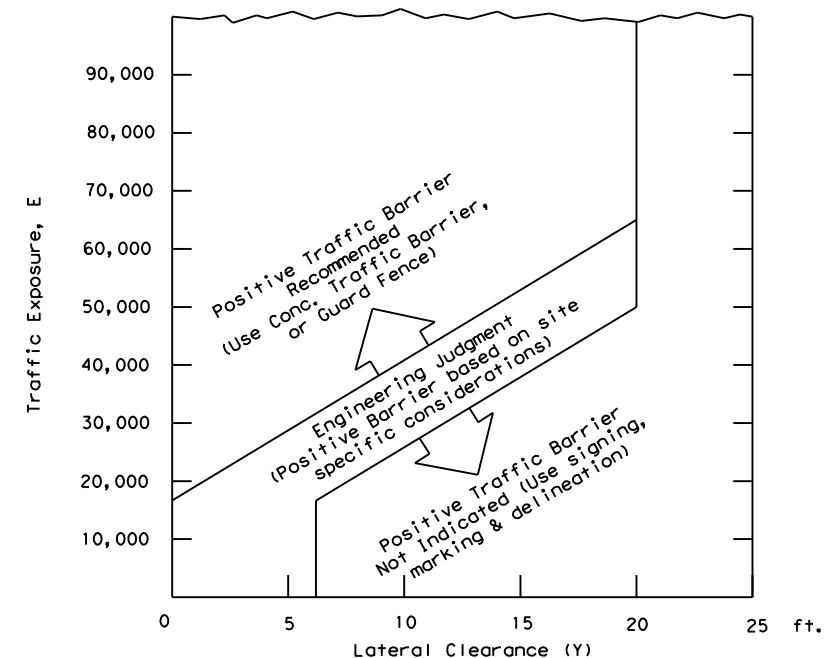


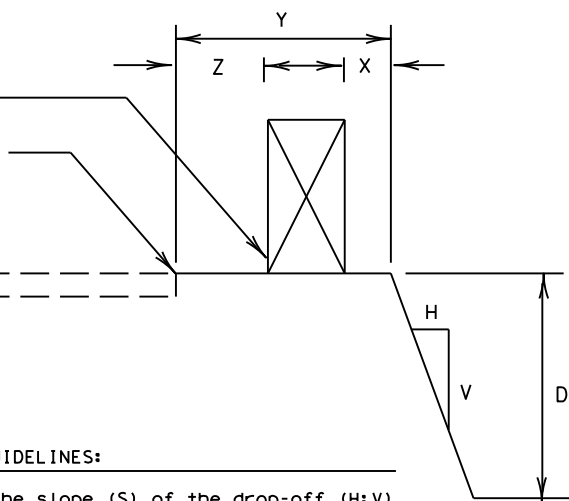
FIGURE-1: CONDITIONS INDICATING USE OF POSITIVE BARRIER FOR ZONE 5 ( [Cross-hatched symbol] )



- E = ADT x T  
Where ADT is that portion of the average daily traffic volume traveling within 20 feet (generally two adjacent lanes) of the edge dropoff condition; and, T is the duration time in years of the dropoff condition.
- Figure-1 provides a practical approach to the use of positive barriers for the protection of vehicles from pavement drop-offs. Other factors, such as the presence of heavy machinery, construction workers, or the mix and volume of traffic may make the use of positive barriers appropriate, even when the edge condition alone may not justify the use of a barrier.
- An approved end treatment should be provided for any positive barrier end located within a lateral offset of 20 feet from the edge of the travel lane.

Zone	Treatment Types Guidelines:
①	No treatment.
②	CW 8-11 "Uneven Lanes" signs.
③	CW 8-9a "Shoulder Drop-Off" or CW 8-11 signs plus vertical panels.
④	CW 8-9a or CW 8-11, signs plus drums. Where restricted space precludes the use of drums, use vertical panels. An edge fill may be provided to change the edge slope to that of the preferable Edge Condition I.
⑤	Check indications (Figure-1) for positive barrier. Where positive barrier is not indicated, the treatment shown above for Zone- 4 may be used after consideration of other applicable factors.

Warning Device or Traffic Barrier  
4" White Edge Line or Edge of Lanes being used for maintenance of traffic.



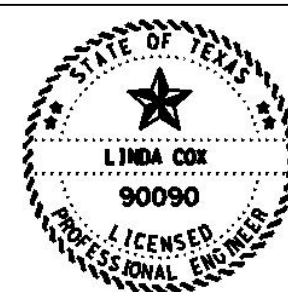
**FACTORS CONSIDERED IN THE GUIDELINES:**

- The "Edge Condition" is the slope (S) of the drop-off (H:V). The "Edge Height" is the depth of the drop-off "D".
- Distance "X" is to be the maximum practical under job conditions. Two feet minimum for high speed conditions. Distance "Y" is the lateral clearance from edge of travel lane to edge of dropoff. Distance "Z" does not have a minimum.
- In addition to the factors considered in the guidelines, each construction zone drop-off situation should be analyzed individually, taking into account other variables, such as: traffic mix, posted speed in the construction zone, horizontal curvature, and the practicality of the treatment options.
- The conditions for indicating the use of positive or protective barriers are given by Zone-5 and Figure-1. Traffic barriers are primarily applicable for high speed conditions. Urban areas with speeds of 30 mph or less may have a lesser need for signing, delineation, and barriers. Right-angled edges, however, with "D" greater than 2 inches and located within a lateral offset of 6 feet, may indicate a higher level of treatment.
- If the distance "Y" must be less than 3 feet, the use of a positive barrier may not be feasible. In such a case, consider either: 1) narrowing the lanes to a desired 11 to 12 feet or 10 foot minimum (see CW20-8 sign), or 2) provide an edge slope such as Edge Condition I.

**Edge Condition Notes:**

- Edge Condition I: Most vehicles are able to traverse an edge condition with a slope rate of (3 to 1) or flatter. The slope must be constructed with a compacted material capable of supporting vehicles.
- Edge Condition II: Most vehicles are able to traverse an edge condition with a slope between (2.99 to 1) and (1 to 1) so long as "D" does not exceed 5 inches. Under-carriage drag on most automobiles will occur when "D" exceeds 6 inches. As "D" exceeds 24 inches, the possibility for rollover is greater in most vehicles.
- Edge Condition III: When slopes are greater than (1 to 1) and where "D" is greater than 2 inches, a more difficult control factor may exist for some vehicles, if not properly treated. For example, where "D" is greater than 2 inches and up to 24 inches different types of vehicles may experience different steering control at different edge heights. Automobiles might experience more steering control differential when "D" is greater than 2 inches and up to 5 inches. Trucks, particularly those with high loads, have more steering control differential when "D" is greater than 5 inches and up to 24 inches. When "D" exceeds 24 inches, the possibility of rollover is greater for most vehicles.
- Milling or overlay operations that result in Edge Condition III should not be in place without appropriate warning treatments, and these conditions should not be left in place for extended periods of time.

These guidelines apply to temporary traffic control areas or work zones where continuous pavement edges or drop-offs exists parallel and adjacent to a lane used by traffic. The edge conditions may be present between shoulders and travel lanes, between adjacent or opposing travel lanes, or at intermediate points across the width of the paved surface. Due to the variability in construction operations, tolerances in the variables may be allowed by the engineer. These guidelines do not apply to short term operations. These guidelines do not constitute a rigid standard or policy; rather, they are guidance to be used in conjunction with engineering judgement. These guidelines may be updated on the Design Division's on-line manuals.



Linda Cox, P.E.

05/25/2021

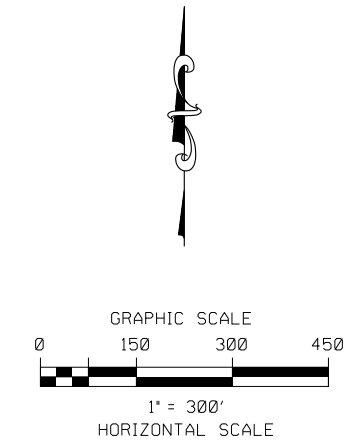
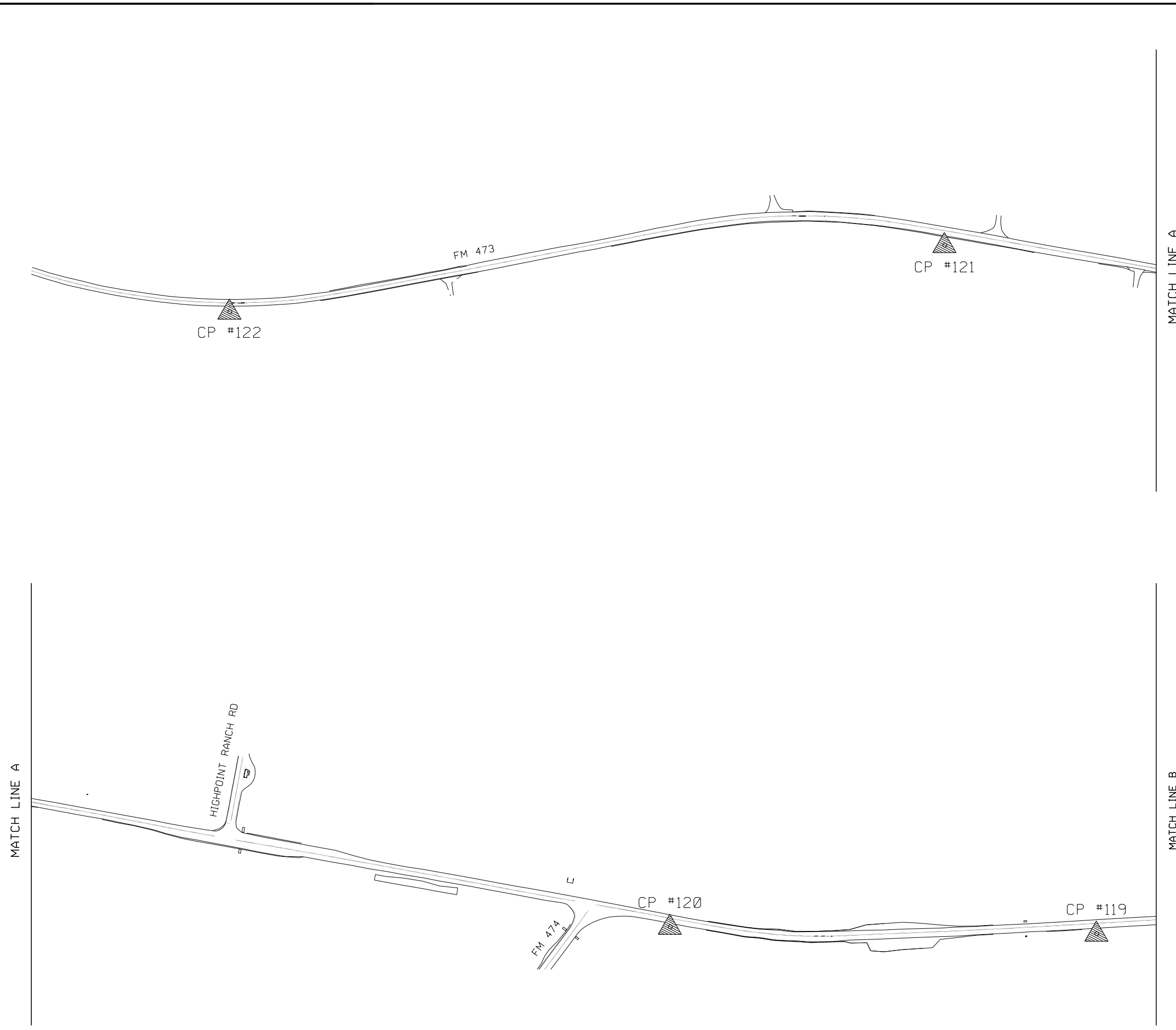
Texas Department of Transportation  
Traffic Operations Division

## TREATMENT FOR VARIOUS EDGE CONDITIONS

© TxDOT August 2000		DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
REVISONS					
03-01	0142	09	044, Etc	RM	473
08-01 correct typos					
DIST			COUNTY	SHEET NO.	
SAT			KENDALL	243	

DATE:  
FILE:

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- NOTES:
1. ALL COORDINATES SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83), 2011 ADJUSTMENT. ALL COORDINATES SHOWN HERE ON ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY THE COMBINED ADJUSTMENT FACTOR OF 1.00014.
  2. HORIZONTAL VALUES WERE ESTABLISHED FROM TXDOT REAL TIME NETWORK. VERTICAL VALUES WERE ESTABLISHED FROM HOLDING A GPS ELEVATION BASED ON GEOID 12B, NAVD88 DATUM AND DIGITAL DIFFERENTIAL LEVELING FROM TXDOT PRIMARY CONTROL POINT NU33361667.
  3. THIS CONTROL WAS PERFORMED IN APRIL 2019.



*Ray D. Weger*  
04/08/19  
RAY D. WEGER, R.P.L.S. #4711

**GD**  
GONZALEZ DE LA GARZA  
ENGINEERS CONTRACTORS SURVEYORS  
4800 FREDERICKSBURG RD. SUITE 200SL  
SAN ANTONIO, TX 78229  
P:210-208-9400 F:210-208-9401  
TBPE No. F-10015 - TBPLS No. 10193922

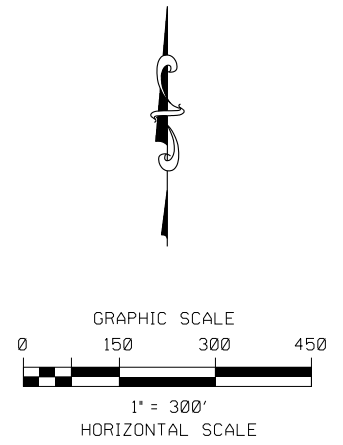
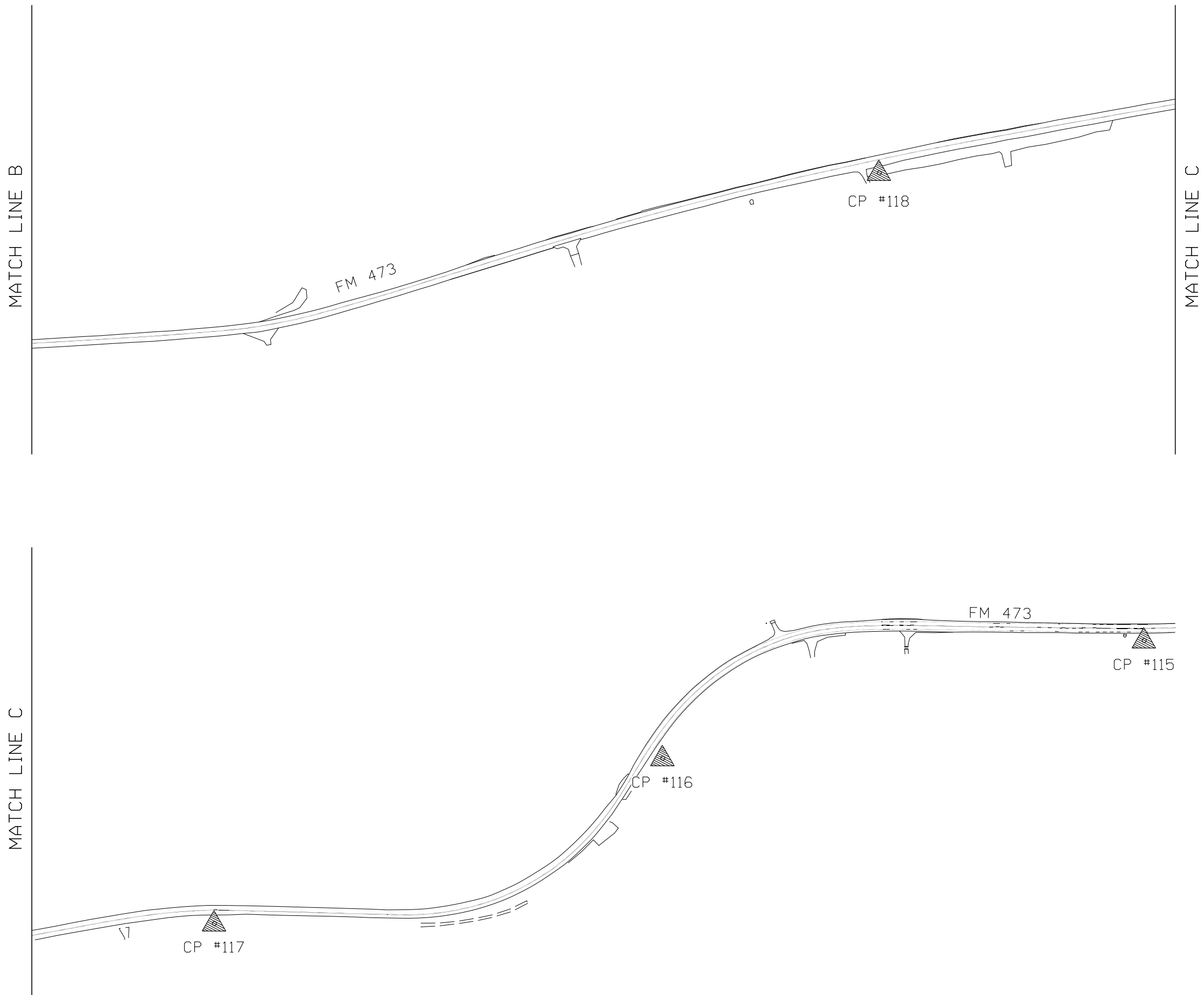


FM 473  
CONTROL  
INDEX

SHEET 1 OF 3

FED. RD. DIV. NO.	FEDERAL AID PROJECT		SHEET NO.
			244
STATE	DIST.	COUNTY	
TEXAS	15	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044	473

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- NOTES:
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  2. HORIZONTAL VALUES WERE ESTABLISHED FROM TXDOT REAL TIME NETWORK. VERTICAL VALUES WERE ESTABLISHED FROM HOLDING A GPS ELEVATION BASED ON GEOID 12B, NAVD88 DATUM AND DIGITAL DIFFERENTIAL LEVELING FROM TXDOT PRIMARY CONTROL POINT NU33361667.
  3. THIS CONTROL WAS PERFORMED IN APRIL 2019.



*Ray D. Weger*  
04/08/19  
RAY D. WEGER, R.P.L.S. #4711

**GD**  
GONZALEZ DE LA GARZA  
ENGINEERS CONTRACTORS SURVEYORS  
4800 FREDERICKSBURG RD. SUITE 200SL  
SAN ANTONIO, TX 78229  
P:210-208-9400 F:210-208-9401  
TBPE No. F-10015 - TBPLS No. 10193922

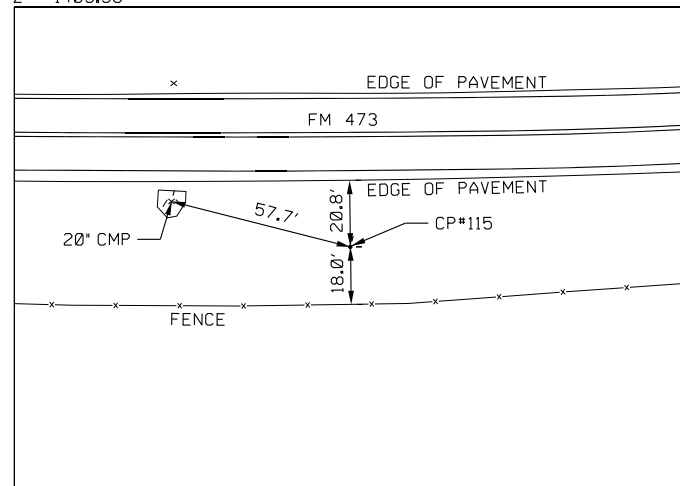


FM 473  
CONTROL  
INDEX

SHEET 2 OF 3

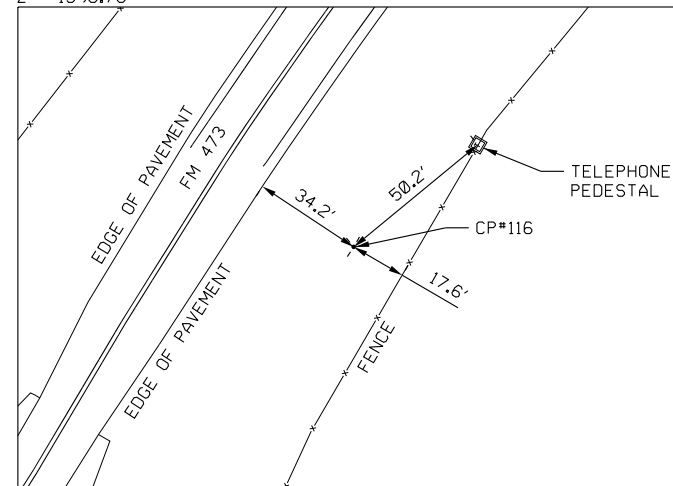
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				245
STATE	DIST.	COUNTY		
TEXAS	15	KENDALL		
CONT.	SECT.	JOB	HIGHWAY NO.	
0142	10	026	473	

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 Z = 1403.58



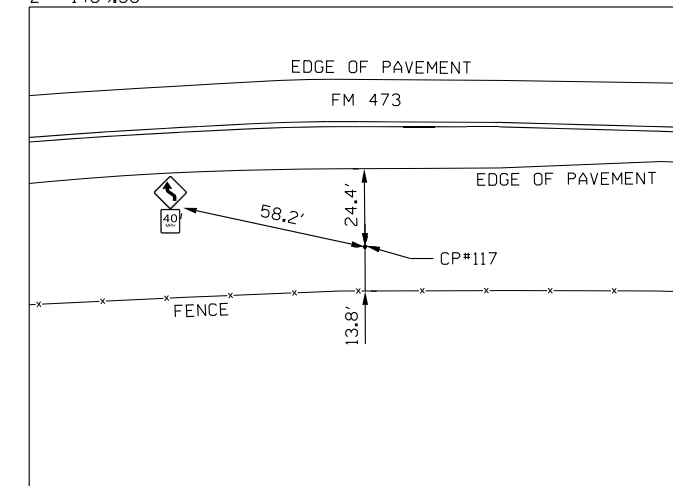
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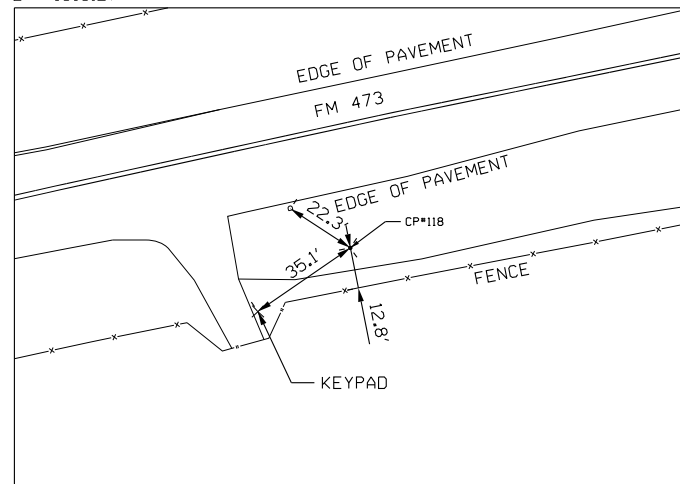
CONTROL POINT 116 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 0.77 MILES WEST OF THE INTERSECTION OF ESSER RD. AND FM 473 AND 48.4' SOUTH OF CENTERLINE.

CP#117  
 Y = 13906110.17  
 X = 2089734.06  
 Z = 1489.56



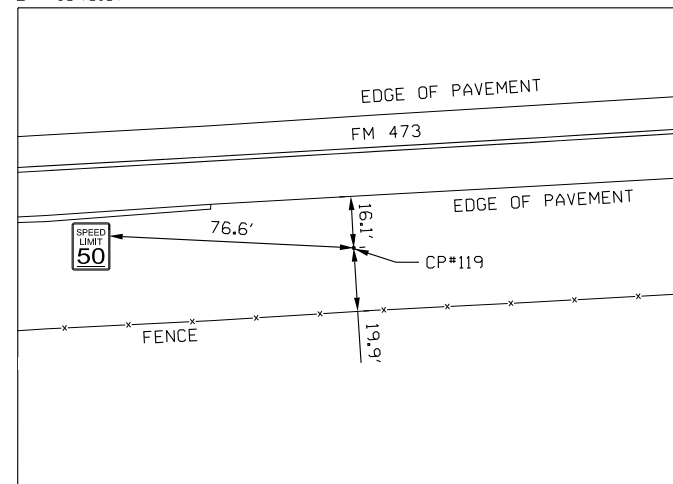
CONTROL POINT 117 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1.06 MILES EAST OF THE INTERSECTION OF FM 474 AND FM 473 AND 38.2' SOUTH OF CENTERLINE.

CP#118  
 Y = 13905875.54  
 X = 2088344.47  
 Z = 1516.27



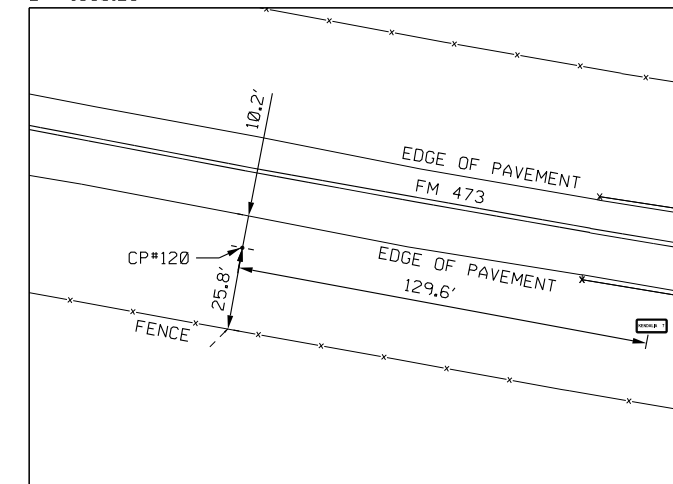
CONTROL POINT 118 IS A 1/2" IRON ROD W/CAP LOCATED 0.79 MILES EAST OF THE INTERSECTION OF FM 474 AND FM 473 AND 38.1' SOUTH OF CENTERLINE

CP#119  
 Y = 13905339.86  
 X = 2085710.41  
 Z = 1590.67



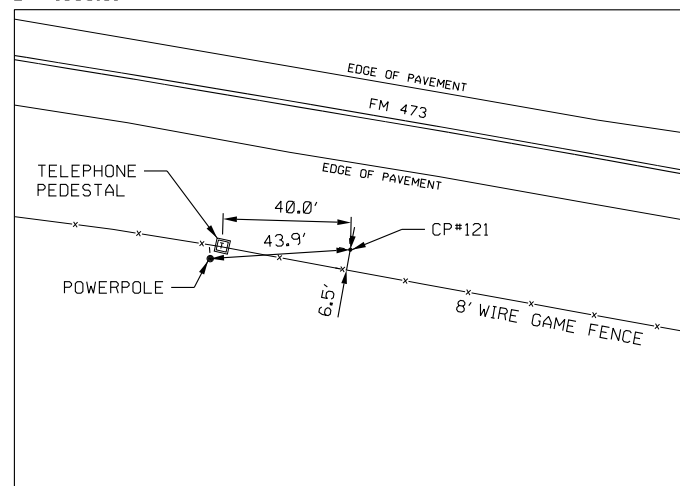
CONTROL POINT 119 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1500' EAST OF THE INTERSECTION OF FM 474 AND FM 473 AND 30.2' SOUTH OF CENTERLINE.

CP#120  
 Y = 13905360.08  
 X = 2084451.53  
 Z = 1560.25



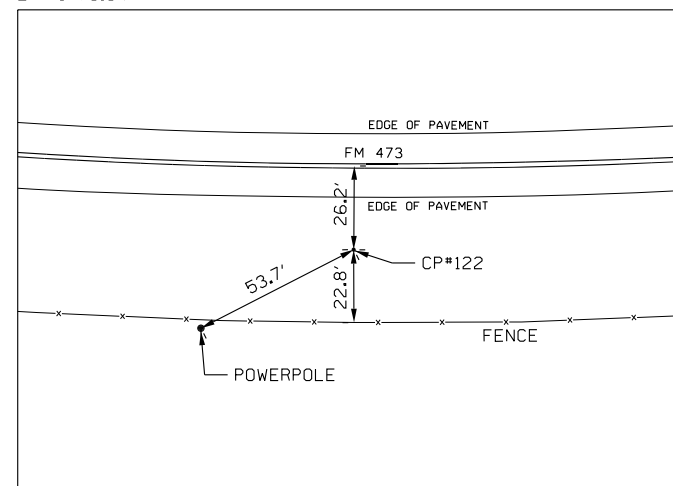
CONTROL POINT 120 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 235' EAST OF THE INTERSECTION OF FM 474 AND FM 473 AND 24.5' SOUTH OF CENTERLINE.

CP#121  
 Y = 13905796.73  
 X = 2081941.84  
 Z = 1500.61

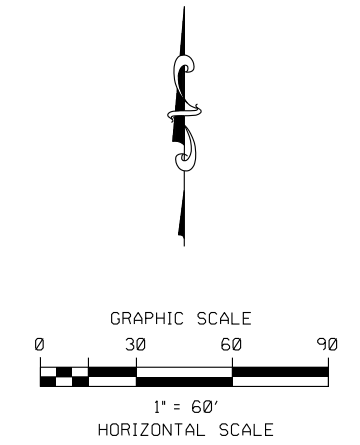


CONTROL POINT 121 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1225' WEST OF THE INTERSECTION OF HIGHPOINT RANCH RD. AND FM 473 AND 41.9' SOUTH OF CENTERLINE.

CP#122  
 Y = 13905600.22  
 X = 2079831.54  
 Z = 1478.59



CONTROL POINT 122 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1517' EAST OF THE INTERSECTION OF 7 SISTERS DR AND FM 473 AND 26.2' SOUTH OF CENTERLINE.



NOTES:

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- HORIZONTAL VALUES WERE ESTABLISHED FROM TXDOT REAL TIME NETWORK. VERTICAL VALUES WERE ESTABLISHED FROM HOLDING A GPS ELEVATION BASED ON GEOID 12B, NAVD88 DATUM AND DIGITAL DIFFERENTIAL LEVELING FROM TXDOT PRIMARY CONTROL POINT NU33361667.
- THIS CONTROL WAS PERFORMED IN APRIL 2019.



*Ray D. Weger*  
 04/08/19  
 RAY D. WEGER, R.P.L.S. #4711

**GD**  
 GONZALEZ DE LA GARZA  
 ENGINEERS CONTRACTORS SURVEYORS  
 4800 FREDERICKSBURG RD. SUITE 200SL  
 SAN ANTONIO, TX 78229  
 P:210-208-9400 F:210-208-9401  
 TBPE No. F-10015 - TBPLS No. 10193922



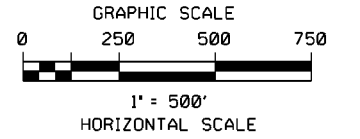
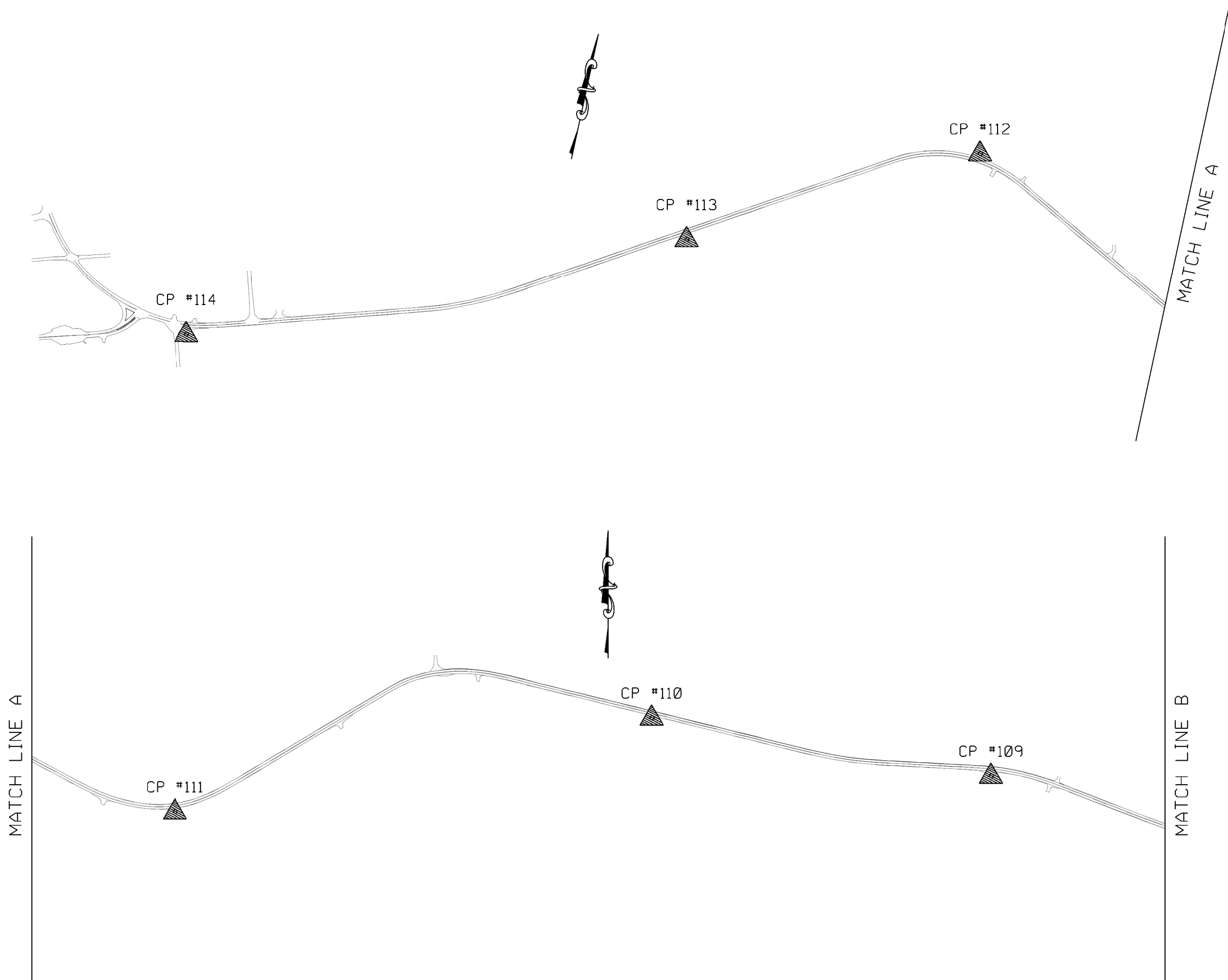
FM 473  
 CONTROL  
 DETAIL

SHEET 3 OF 3

FED. RD. DIV. NO.	FEDERAL AID PROJECT		SHEET NO.
			246
STATE	DIST.	COUNTY	
TEXAS	15	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	10	026	473

5/1/2019 1:38:10 PM S:\TxDot San Antonio Survey Contract (2018-2020)\FM 473 (Kendall County)\Control\FM 473 Control Detail.WEST.dgn

6/14/2019 10:17:28 AM S:\TxDot\San Antonio Survey Contract (2018-2020)\FM 473 (Kendall County)\Control\Control East\FM 473 Control Index East.dgn

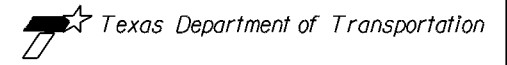


- NOTES:
1. ALL COORDINATES SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83), 2011 ADJUSTMENT. ALL COORDINATES SHOWN HERE ON ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY THE COMBINED ADJUSTMENT FACTOR OF 1.00014.
  2. HORIZONTAL VALUES WERE ESTABLISHED FROM TXDOT REAL TIME NETWORK. VERTICAL VALUES WERE ESTABLISHED FROM HOLDING A GPS ELEVATION BASED ON GEOID 12B, NAVD88 DATUM AND DIGITAL DIFFERENTIAL LEVELING FROM TXDOT PRIMARY CONTROL POINT NUS4931537, NU50381552 AND NU45791562.
  3. THIS CONTROL WAS PERFORMED IN APRIL 2019.



*Ray D. Weger*  
 04/18/19  
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 SAN ANTONIO, TX 78229  
 P:210-208-9400 F:210-208-9401  
 TBPE No. F-10015 - TBPLS No. 10193922



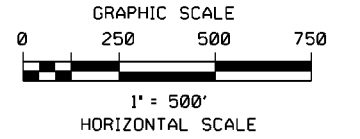
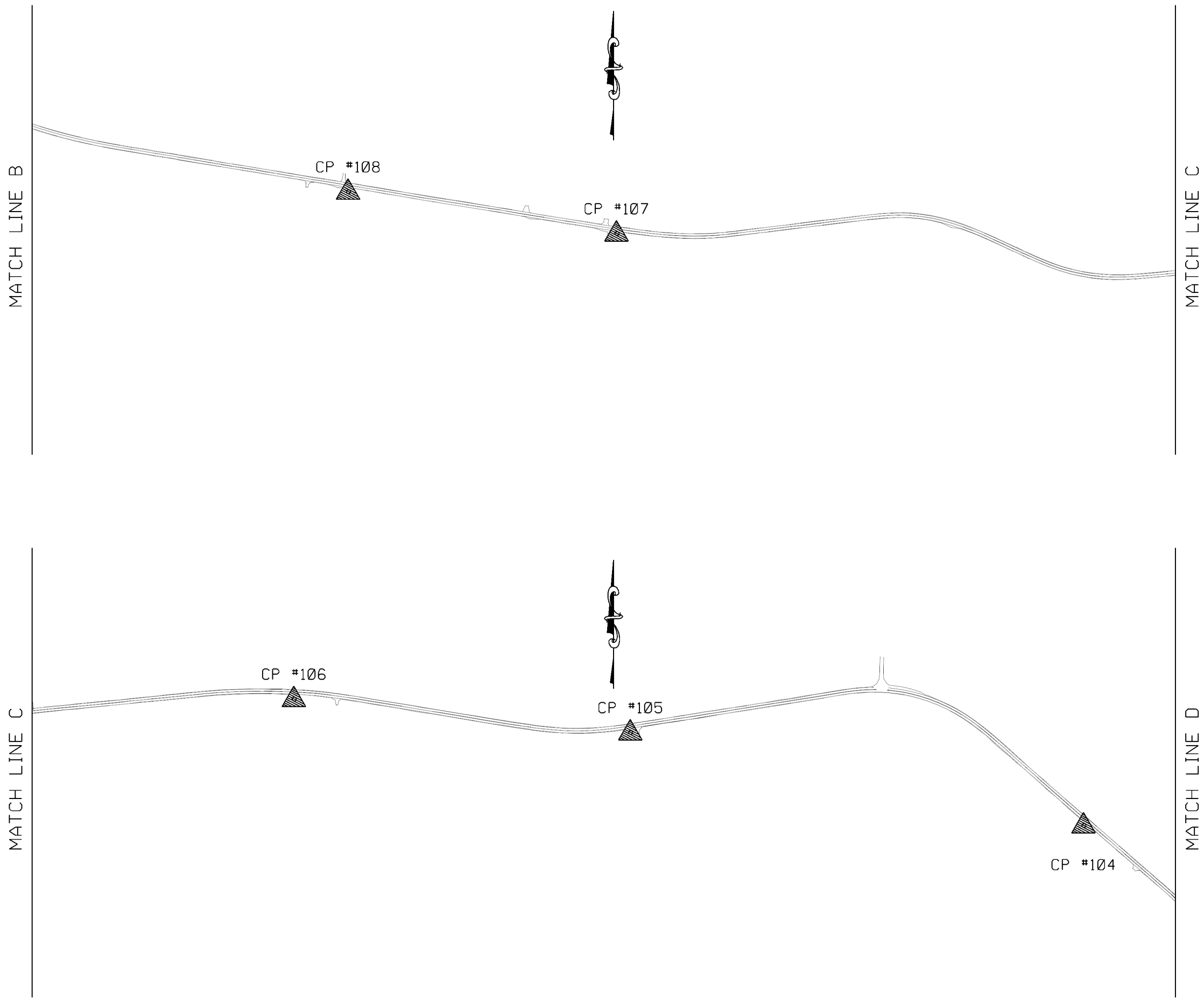
FM 473  
 CONTROL  
 INDEX

SHEET 1 OF 5

FED. RD. DIV. NO.	FEDERAL AID PROJECT			SHEET NO.
				247
STATE	DIST.	COUNTY		
TEXAS	15	KENDALL		
CONT.	SECT.	JOB	HIGHWAY NO.	
0142	10	025	473	



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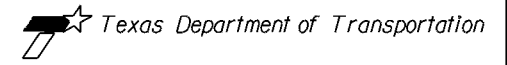


- NOTES:
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  3. THIS CONTROL WAS PERFORMED IN APRIL 2019.



*Ray D. Weger*  
 04/18/19  
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 SAN ANTONIO, TX 78229  
 P:210-208-9400 F:210-208-9401  
 TBPE No. F-10015 - TBPLS No. 10193922

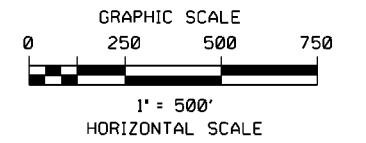
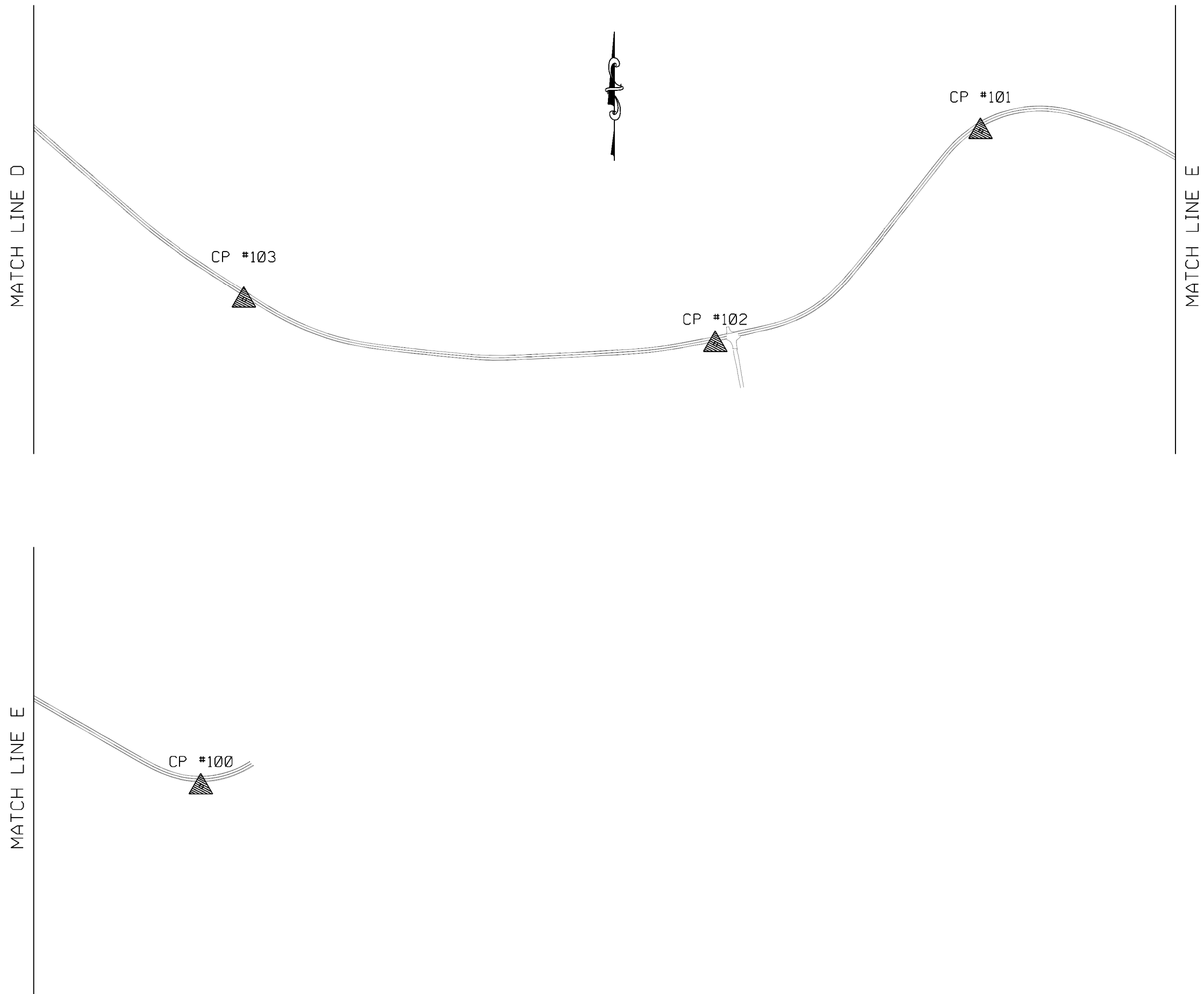


FM 473  
 CONTROL  
 INDEX

SHEET 2 OF 5

FED. RD. DIV. NO.	FEDERAL AID PROJECT			SHEET NO.
				248
STATE	DIST.	COUNTY		
TEXAS	15	KENDALL		
CONT.	SECT.	JOB	HIGHWAY NO.	
0142	10	025	473	

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 S:\TxDot\San Antonio Survey Contract (2018-2020)\FM 473 (Kendall County)\Control\Control East\FM 473 Control Index East.dgn



NOTES:

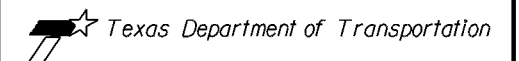
1. ALL COORDINATES SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83), 2011 ADJUSTMENT. ALL COORDINATES SHOWN HERE ON ARE SURFACE AND MAY BE CONVERTED TO GRID BY DIVIDING BY THE COMBINED ADJUSTMENT FACTOR OF 1.00014.
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3. THIS CONTROL WAS PERFORMED IN APRIL 2019.



*Ray D. Weger*  
 04/18/19

RAY D. WEGER, R.P.L.S. #4711

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 SAN ANTONIO, TX 78229  
 P:210-208-9400 F:210-208-9401  
 TBPE No. F-10015 - TBPLS No. 10193922



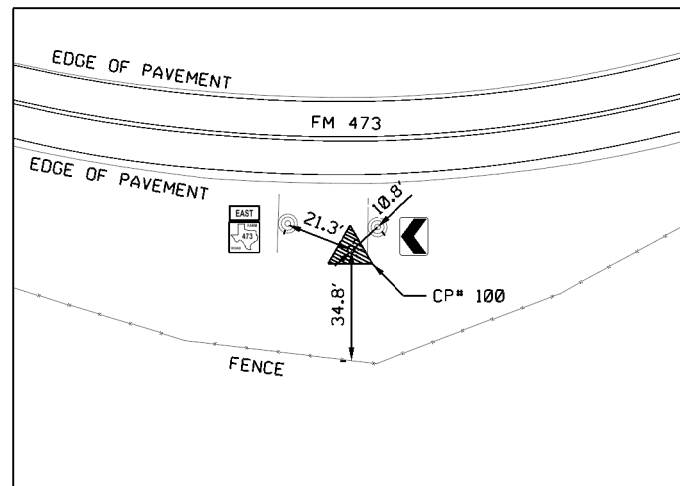
FM 473  
 CONTROL  
 INDEX

SHEET 3 OF 5

FED. RD. DIV. NO.	FEDERAL AID PROJECT			SHEET NO.
				249
STATE	DIST.	COUNTY		
TEXAS	15	KENDALL		
CONT.	SECT.	JOB	HIGHWAY NO.	
0142	10	025	473	

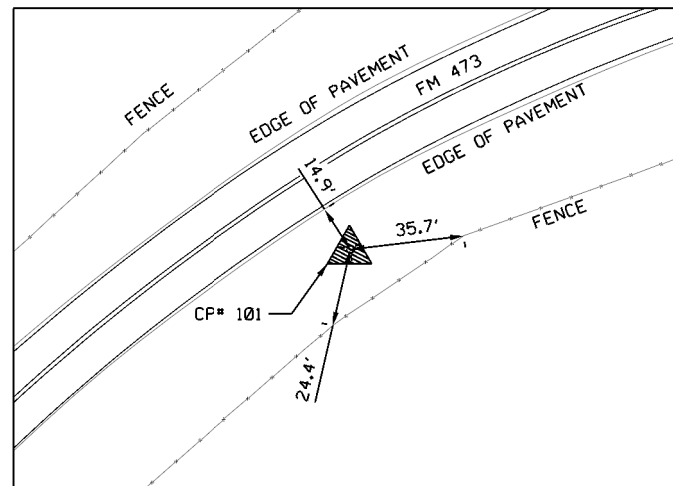


CP#100  
 Y = 13900699.72  
 X = 2147650.22  
 Z = 1362.91



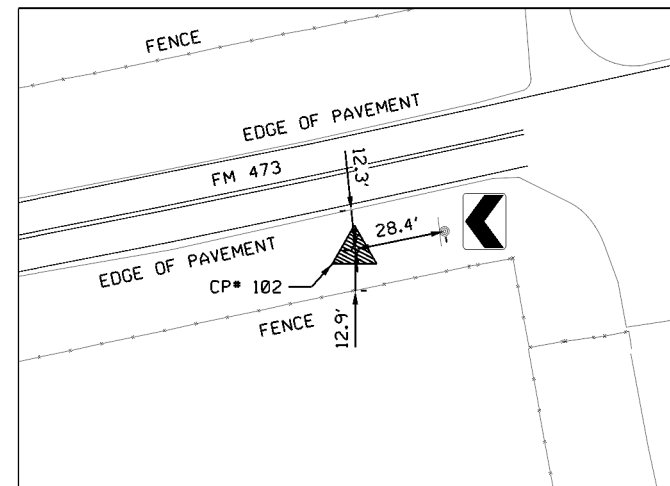
CONTROL POINT 100 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 3,500' EAST OF THE INTERSECTION OF SATTLER RD AND FM 473 AND 32.9' SOUTH OF CENTERLINE.

CP#101  
 Y = 13901251.30  
 X = 2145893.91  
 Z = 1368.63



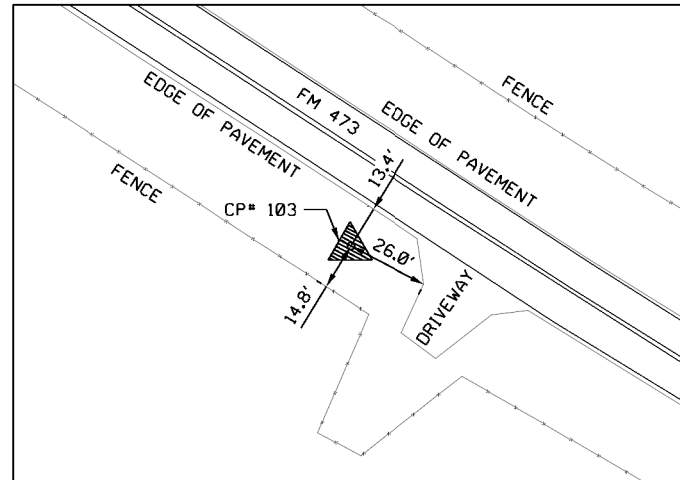
CONTROL POINT 101 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1,612' EAST OF THE INTERSECTION OF SATTLER RD AND FM 473 AND 25.0' SOUTHWEST OF CENTERLINE.

CP#102  
 Y = 13900217.52  
 X = 2144608.53  
 Z = 1388.78



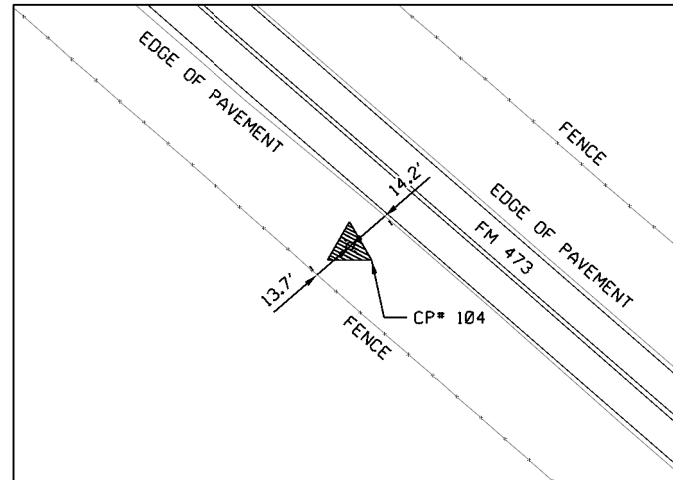
CONTROL POINT 102 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 73' SOUTHWEST OF THE INTERSECTION OF SATTLER RD AND FM 473 AND 23.6' SOUTH OF CENTERLINE.

CP#103  
 Y = 13900432.41  
 X = 2142325.32  
 Z = 1424.22



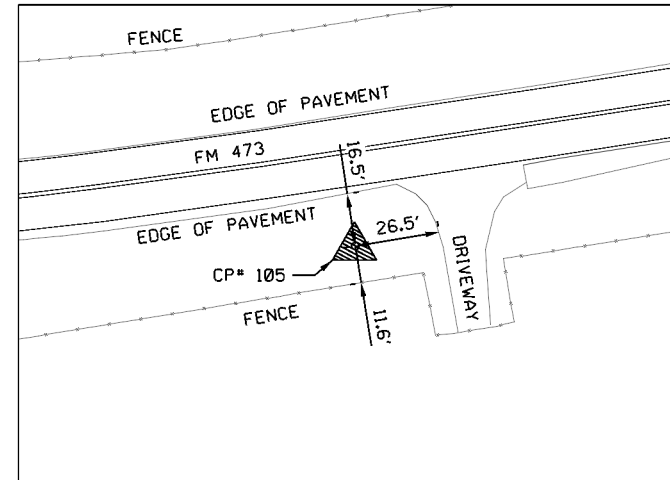
CONTROL POINT 103 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 2,860' EAST OF THE INTERSECTION OF LUX RANCH RD AND FM 473 AND 23.9' SOUTHWEST OF CENTERLINE.

CP#104  
 Y = 13901620.64  
 X = 2140860.23  
 Z = 1412.42



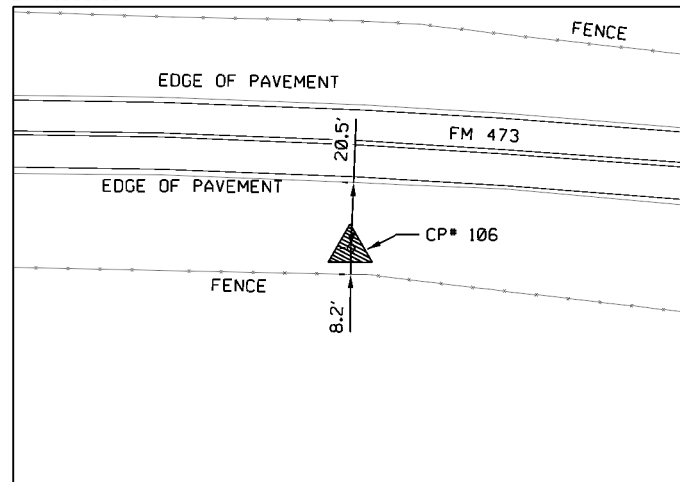
CONTROL POINT 104 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 940' EAST OF THE INTERSECTION OF RANCH RD. AND FM 473 AND 25.2' NORTHEAST OF CENTERLINE.

CP#105  
 Y = 13902069.12  
 X = 2138668.45  
 Z = 1409.06



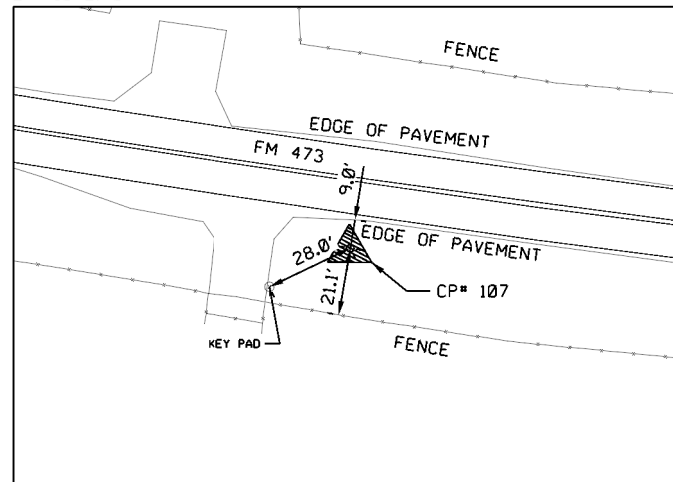
CONTROL POINT 105 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 3.67 MILES EAST OF THE INTERSECTION OF EDGE FALLS AND FM 473 AND 27.5' OF CENTERLINE.

CP#106  
 Y = 13902230.32  
 X = 2137040.11  
 Z = 1358.23



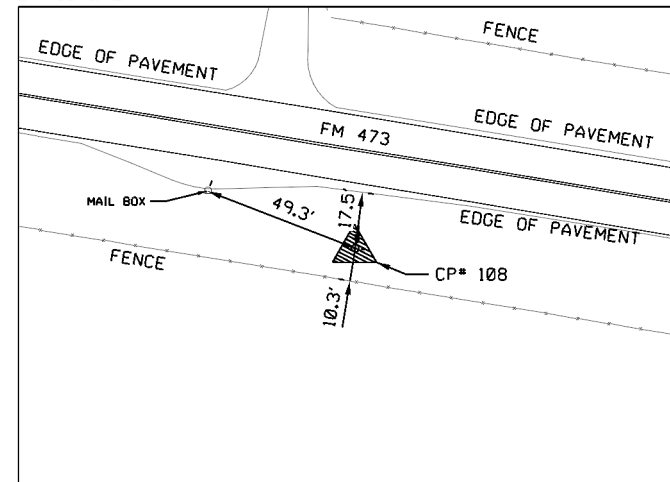
CONTROL POINT 106 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 3.35 MILES EAST OF THE INTERSECTION OF EDGE FALLS AND FM 473 AND 32.9' SOUTH OF CENTERLINE.

CP#107  
 Y = 13902362.82  
 X = 2133068.49  
 Z = 1372.76

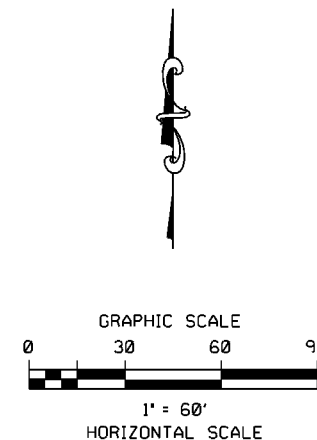


CONTROL POINT 107 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 2.64 MILES EAST OF THE INTERSECTION OF EDGE FALLS AND FM 473 AND 21.5' SOUTH OF CENTERLINE.

CP#108  
 Y = 13902564.90  
 X = 2131768.79  
 Z = 1371.42



CONTROL POINT 108 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 2.26 MILES EAST OF THE INTERSECTION OF EDGE FALLS RD AND FM 473 AND 30.3' SOUTH OF CENTERLINE.



NOTES:

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3. THIS CONTROL WAS PERFORMED IN APRIL 2019.

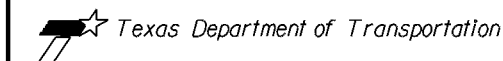


*Ray D. Weger*  
 04/18/19

RAY D. WEGER, R.P.L.S. #4711



4800 FREDERICKSBURG RD., SUITE 200SL  
 SAN ANTONIO, TX 78229  
 P: 210-208-9400 F: 210-208-9401  
 TBPE No. F-10015 - TBPLS No. 10193922

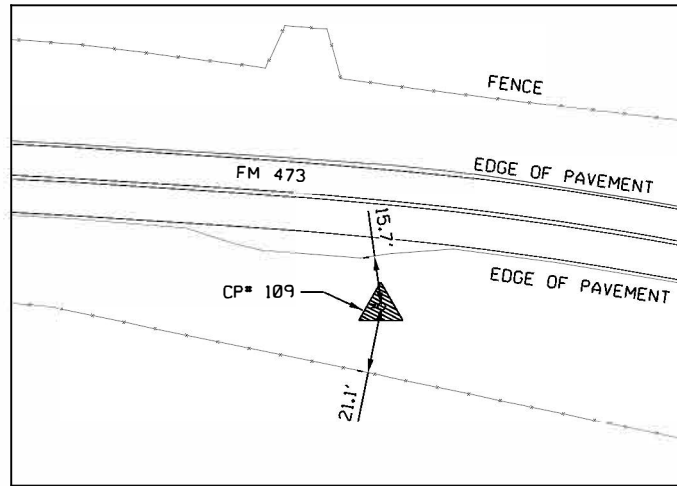


FM 473  
 CONTROL  
 DETAIL

SHEET 4 OF 5

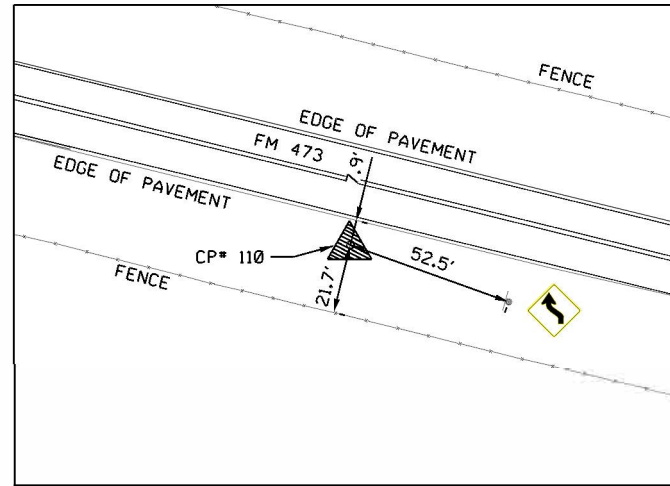
FED. RD. DIV. NO.	FEDERAL AID PROJECT		SHEET NO.
			250
STATE	DIST.	COUNTY	
TEXAS	15	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	10	025	473

CP#109  
 Y = 13903126.45  
 X = 2129389.04  
 Z = 1383.66



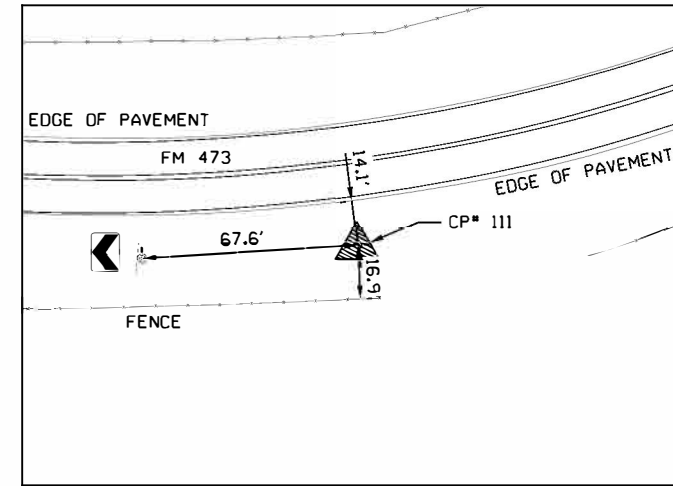
CONTROL POINT 109 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1.9 MILES EAST OF THE INTERSECTION OF EDGE FALLS RD AND FM 473 AND 32.3' SOUTH OF CENTERLINE.

CP#110  
 Y = 13903409.33  
 X = 2127733.15  
 Z = 1349.00



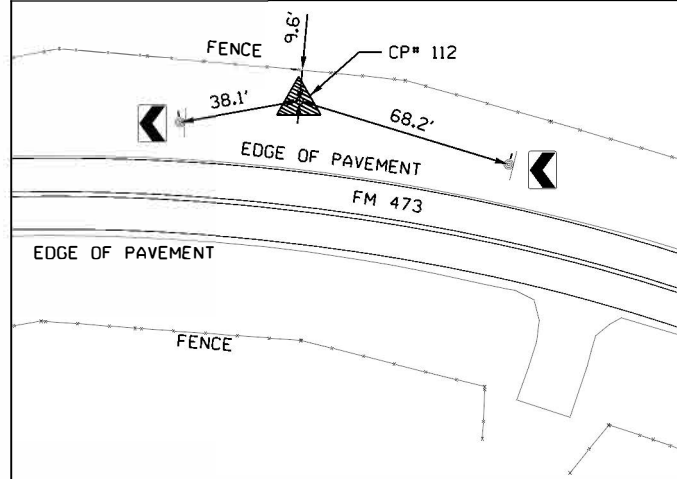
CONTROL POINT 110 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1.53 MILES EAST OF THE INTERSECTION OF EDGE FALLS RD AND FM 473 AND 20.0' SW OF CENTERLINE.

CP#111  
 Y = 13902952.66  
 X = 2125404.68  
 Z = 1355.90



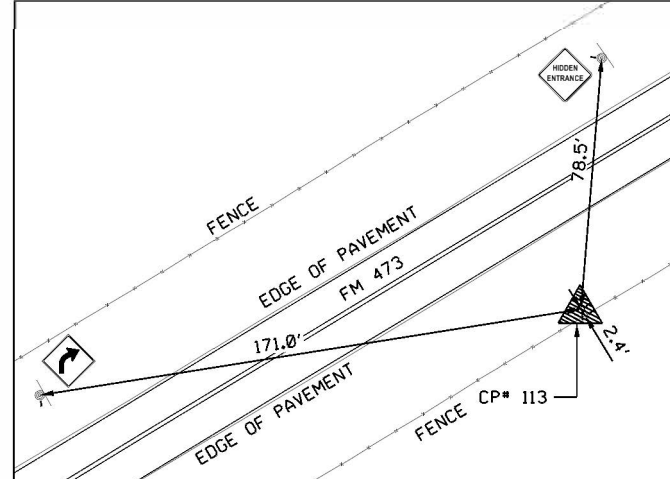
CONTROL POINT 111 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1.13 MILES EAST OF THE INTERSECTION OF EDGE FALLS RD AND FM 473 AND 26.0' SOUTH OF CENTERLINE.

CP#112  
 Y = 13903744.41  
 X = 2123665.96  
 Z = 1405.70



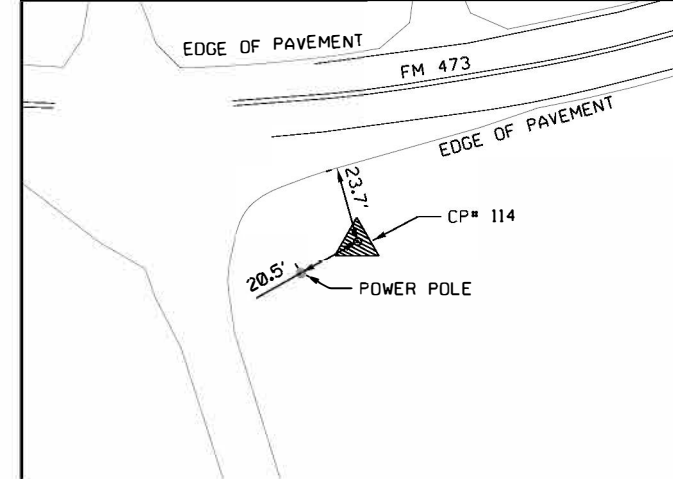
CONTROL POINT 112 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 0.78 MILES EAST OF THE INTERSECTION OF EDGE FALLS RD AND FM 473 AND 33.5' NORTH OF CENTERLINE.

CP#113  
 Y = 13903033.20  
 X = 2122354.17  
 Z = 1456.20

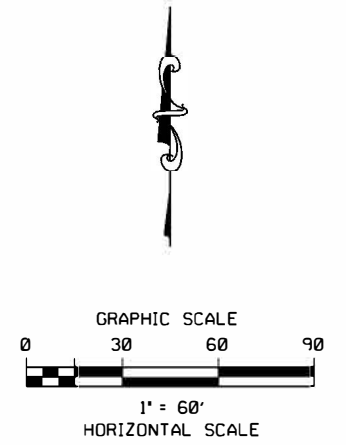


CONTROL POINT 113 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 1500' EAST OF THE INTERSECTION OF EDGE FALLS RD AND FM 473 AND 37.0' SE OF CENTERLINE.

CP#114  
 Y = 13902063.03  
 X = 2120064.68  
 Z = 1385.55



CONTROL POINT 114 IS A 1/2" IRON ROD W/CAP LOCATED APPROXIMATELY 78' SE OF THE INTERSECTION OF EDGE FALLS RD AND FM 473 AND 46.0' SOUTH OF FM 473 CENTERLINE.



NOTES:

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- THIS CONTROL WAS PERFORMED IN APRIL 2019.



*Ray D. Weger*  
 04/18/19

RAY D. WEGER, R.P.L.S. #4711

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 4800 FREDERICKSBURG RD. SUITE 200SL  
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 TBPE No. F-10015 - TBPLS No. 10193922



FM 473  
 CONTROL  
 DETAIL

SHEET 5 OF 5

FED. RD. DIV. NO.	FEDERAL AID PROJECT			SHEET NO.
				251
STATE	DIST.	COUNTY		
TEXAS	15	KENDALL		
CONT.	SECT.	JOB	HIGHWAY NO.	
0142	10	025	473	

CLFM473W ~ HORZ ALIGNMENT DATA

\* 1 Describe Chain CLFM473W

Chain CLFM473W contains:  
 51 CUR CLFM473W\_3 CUR CLFM473W\_6 CUR CLFM473W\_9 52 CUR CLFM473W\_14 CUR CLFM473W\_17 CUR CLFM473W\_20 CUR CLFM473W\_23 CUR CLFM473W\_26 CUR CLFM473W\_29 53

Beginning chain CLFM473W description  
 Feature: Geom\_Centerline

Point 51 X 2,079,245.6170 Y 13,905,721.1020 Sta 964+65.23

Course from 51 to PC CLFM473W\_3 S 72° 31' 16.43" E Dist 20.4919

Curve Data  
 \*-----\*

Curve CLFM473W\_3  
 P.I. Station 969+69.08 X 2,079,726.2026 Y 13,905,569.7697  
 Delta = 28° 24' 17.95" (LT)  
 Degree = 3° 00' 00.00"  
 Tangent = 483.3573  
 Length = 946.8332  
 Radius = 1,909.8600  
 External = 60.2160  
 Long Chord = 937.1666  
 Mid. Ord. = 58.3755  
 P.C. Station 964+85.72 X 2,079,265.1628 Y 13,905,714.9472  
 P.T. Station 974+32.56 X 2,080,200.7977 Y 13,905,661.3875  
 C.C. X 2,079,838.7937 Y 13,907,536.6258  
 Back = S 72° 31' 16.44" E  
 Ahead = N 79° 04' 25.61" E  
 Chord Bear = S 86° 43' 25.41" E

Course from PT CLFM473W\_3 to PC CLFM473W\_6 N 79° 04' 25.61" E Dist 982.7938

Curve Data  
 \*-----\*

Curve CLFM473W\_6  
 P.I. Station 987+72.34 X 2,081,516.2979 Y 13,905,915.3373  
 Delta = 21° 10' 30.98" (RT)  
 Degree = 3° 00' 00.00"  
 Tangent = 356.9940  
 Length = 705.8426  
 Radius = 1,909.8600  
 External = 33.0785  
 Long Chord = 701.8324  
 Mid. Ord. = 32.5153  
 P.C. Station 984+15.35 X 2,081,165.7755 Y 13,905,847.6710  
 P.T. Station 991+21.19 X 2,081,867.5956 Y 13,905,851.8183  
 C.C. X 2,081,527.7794 Y 13,903,972.4328  
 Back = N 79° 04' 25.61" E  
 Ahead = S 79° 45' 03.41" E  
 Chord Bear = N 89° 39' 41.10" E

Course from PT CLFM473W\_6 to PC CLFM473W\_9 S 79° 45' 03.41" E Dist 2,742.6744

Curve Data  
 \*-----\*

Curve CLFM473W\_9  
 P.I. Station 1020+76.32 X 2,084,775.5682 Y 13,905,326.0209  
 Delta = 12° 41' 41.54" (LT)  
 Degree = 3° 00' 00.00"  
 Tangent = 212.4511  
 Length = 423.1626  
 Radius = 1,909.8600  
 External = 11.7801  
 Long Chord = 422.2975  
 Mid. Ord. = 11.7079  
 P.C. Station 1018+63.87 X 2,084,566.5070 Y 13,905,363.8217  
 P.T. Station 1022+87.03 X 2,084,987.8258 Y 13,905,335.0872  
 C.C. X 2,084,906.3232 Y 13,907,243.2073  
 Back = S 79° 45' 03.41" E  
 Ahead = N 87° 33' 15.05" E  
 Chord Bear = S 86° 05' 54.18" E

Course from PT CLFM473W\_9 to 52 N 87° 33' 15.05" E Dist 381.1752

Point 52 X 2,085,368.6538 Y 13,905,351.3537 Sta 1026+68.20

CLFM473W ~ HORZ ALIGNMENT DATA (CONT)

Course from 52 to PC CLFM473W\_14 N 86° 44' 39.87" E Dist 955.6035

Curve Data  
 \*-----\*

Curve CLFM473W\_14  
 P.I. Station 1038+78.51 X 2,086,577.0025 Y 13,905,420.0870  
 Delta = 13° 49' 50.45" (LT)  
 Degree = 2° 43' 42.13"  
 Tangent = 254.6984  
 Length = 506.9210  
 Radius = 2,100.0000  
 External = 15.3892  
 Long Chord = 505.6911  
 Mid. Ord. = 15.2772  
 P.C. Station 1036+23.81 X 2,086,322.7151 Y 13,905,405.6226  
 P.T. Station 1041+30.73 X 2,086,820.4594 Y 13,905,494.9202  
 C.C. X 2,086,203.4556 Y 13,907,502.2335  
 Back = N 86° 44' 39.87" E  
 Ahead = N 72° 54' 49.42" E  
 Chord Bear = N 79° 49' 44.65" E

Course from PT CLFM473W\_14 to PC CLFM473W\_17 N 72° 54' 49.42" E Dist 477.6088

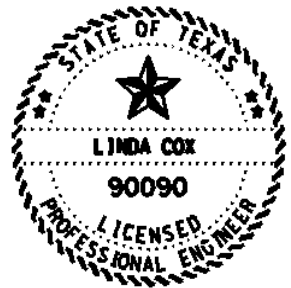
Curve Data  
 \*-----\*

Curve CLFM473W\_17  
 P.I. Station 1053+39.11 X 2,087,975.5063 Y 13,905,849.9562  
 Delta = 6° 41' 29.79" (RT)  
 Degree = 0° 27' 30.12"  
 Tangent = 730.7719  
 Length = 1,459.8822  
 Radius = 12,500.0000  
 External = 21.3429  
 Long Chord = 1,459.0526  
 Mid. Ord. = 21.3065  
 P.C. Station 1046+08.34 X 2,087,276.9882 Y 13,905,635.2471  
 P.T. Station 1060+68.22 X 2,088,694.2850 Y 13,905,981.8076  
 C.C. X 2,090,949.6295 Y 13,893,686.9541  
 Back = N 72° 54' 49.42" E  
 Ahead = N 79° 36' 19.21" E  
 Chord Bear = N 76° 15' 34.31" E

Course from PT CLFM473W\_17 to PC CLFM473W\_20 N 79° 36' 19.21" E Dist 748.0668

Curve Data  
 \*-----\*

Curve CLFM473W\_20  
 P.I. Station 1070+18.36 X 2,089,628.8366 Y 13,906,153.2399  
 Delta = 12° 04' 47.11" (RT)  
 Degree = 3° 00' 00.00"  
 Tangent = 202.0784  
 Length = 402.6585  
 Radius = 1,909.8600  
 External = 10.6610  
 Long Chord = 401.9132  
 Mid. Ord. = 10.6018  
 P.C. Station 1068+16.29 X 2,089,430.0747 Y 13,906,116.7794  
 P.T. Station 1072+18.94 X 2,089,830.8276 Y 13,906,147.2976  
 C.C. X 2,089,774.6661 Y 13,904,238.2635  
 Back = N 79° 36' 19.21" E  
 Ahead = S 88° 18' 53.69" E  
 Chord Bear = N 85° 38' 42.76" E



Linda Cox, P.E.

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RM 473  
 HORIZONTAL  
 ALIGNMENT DATA

Texas Department of Transportation		SHEET 1 OF 6	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		252

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CLFM473W ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473W\_20 to PC CLFM473W\_23 S 88° 18' 53.69" E Dist 446.5274

Curve Data  
\*-----\*

Curve CLFM473W\_23  
 P.I. Station 1080+81.89 X 2,090,693.3988 Y 13,906,121.9218  
 Delta = 60° 20' 58.66" (LT)  
 Degree = 7° 59' 59.89"  
 Tangent = 416.4170  
 Length = 754.3732  
 Radius = 716.2000  
 External = 112.2597  
 Long Chord = 719.9815  
 Mid. Ord. = 97.0481  
 P.C. Station 1076+65.47 X 2,090,277.1619 Y 13,906,134.1670  
 P.T. Station 1084+19.85 X 2,090,909.9556 Y 13,906,477.5990  
 C.C. X 2,090,298.2226 Y 13,906,850.0573  
 Back = S 88° 18' 53.69" E  
 Ahead = N 31° 20' 07.65" E  
 Chord Bear = N 61° 30' 36.98" E

Course from PT CLFM473W\_23 to PC CLFM473W\_26 N 31° 20' 07.65" E Dist 169.6378

Curve Data  
\*-----\*

Curve CLFM473W\_26  
 P.I. Station 1090+06.36 X 2,091,214.9720 Y 13,906,978.5643  
 Delta = 59° 15' 22.65" (RT)  
 Degree = 7° 48' 59.81"  
 Tangent = 416.8784  
 Length = 758.0814  
 Radius = 733.0000  
 External = 110.2536  
 Long Chord = 724.7449  
 Mid. Ord. = 95.8382  
 P.C. Station 1085+89.48 X 2,090,998.1754 Y 13,906,622.4930  
 P.T. Station 1093+47.56 X 2,091,631.8282 Y 13,906,974.2588  
 C.C. X 2,091,624.2579 Y 13,906,241.2979  
 Back = N 31° 20' 07.65" E  
 Ahead = S 89° 24' 29.69" E  
 Chord Bear = N 60° 57' 48.98" E

Course from PT CLFM473W\_26 to PC CLFM473W\_29 S 89° 24' 29.69" E Dist 757.9117

Curve Data  
\*-----\*

Curve CLFM473W\_29  
 P.I. Station 1104+98.70 X 2,092,782.9011 Y 13,906,962.3701  
 Delta = 16° 34' 20.54" (LT)  
 Degree = 2° 07' 19.44"  
 Tangent = 393.2226  
 Length = 780.9547  
 Radius = 2,700.0000  
 External = 28.4838  
 Long Chord = 778.2352  
 Mid. Ord. = 28.1865  
 P.C. Station 1101+05.48 X 2,092,389.6994 Y 13,906,966.4312  
 P.T. Station 1108+86.43 X 2,093,160.9276 Y 13,907,070.6291  
 C.C. X 2,092,417.5846 Y 13,909,666.2872  
 Back = S 89° 24' 29.69" E  
 Ahead = N 74° 01' 09.76" E  
 Chord Bear = N 82° 18' 20.04" E

Course from PT CLFM473W\_29 to 53 N 74° 01' 09.76" E Dist 302.0250

Point 53 X 2,093,451.2808 Y 13,907,153.7802 Sta 1111+88.46

Ending chain CLFM473W description



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RM 473  
 HORIZONTAL  
 ALIGNMENT DATA

Texas Department of Transportation SHEET 2 OF 6			
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		253



CLFM473E ~ HORZ ALIGNMENT DATA

\* 1 Describe Chain CLFM473E

Chain CLFM473E contains:

38 CUR CLFM473E\_3 CUR CLFM473E\_6 39 CUR CLFM473E\_11 CUR CLFM473E\_14 CUR CLFM473E\_17 CUR CLFM473E\_20 CUR CLFM473E\_23 CUR CLFM473E\_26 40 CUR CLFM473E\_31 CUR CLFM473E\_34 CUR CLFM473E\_37 CUR CLFM473E\_40 CUR CLFM473E\_43 CUR CLFM473E\_46 41 CUR CLFM473E\_51 CUR CLFM473E\_54 CUR CLFM473E\_57 CUR CLFM473E\_60 CUR CLFM473E\_63 CUR CLFM473E\_66 CUR CLFM473E\_69 CUR CLFM473E\_72 42

Beginning chain CLFM473E description

Feature: Geom\_Centerline

Point 38 X 2,119,255.0851 Y 13,902,534.3206 Sta 28+24.50

Course from 38 to PC CLFM473E\_3 S 35° 07' 25.11" E Dist 96.9930

Curve Data

Curve CLFM473E\_3  
P.I. Station 35+11.37 X 2,119,650.2717 Y 13,901,972.5197  
Delta = 71° 27' 35.22" (LT)  
Degree = 6° 59' 14.24"  
Tangent = 589.8787  
Length = 1,022.7110  
Radius = 820.0000  
External = 190.1272  
Long Chord = 957.7023  
Mid. Ord. = 154.3412  
P.C. Station 29+21.49 X 2,119,310.8893 Y 13,902,454.9888  
P.T. Station 39+44.20 X 2,120,215.6146 Y 13,902,140.8776  
C.C. X 2,119,981.5775 Y 13,902,926.7699  
Back = S 35° 07' 25.11" E  
Ahead = N 73° 24' 59.68" E  
Chord Bear = S 70° 51' 12.71" E

Course from PT CLFM473E\_3 to PC CLFM473E\_6 N 73° 24' 59.68" E Dist 975.9159

Curve Data

Curve CLFM473E\_6  
P.I. Station 51+65.42 X 2,121,386.0423 Y 13,902,489.4286  
Delta = 14° 38' 14.25" (LT)  
Degree = 2° 59' 59.20"  
Tangent = 245.3084  
Length = 487.9456  
Radius = 1,910.0000  
External = 15.6885  
Long Chord = 486.6198  
Mid. Ord. = 15.5607  
P.C. Station 49+20.12 X 2,121,150.9374 Y 13,902,419.4148  
P.T. Station 54+08.06 X 2,121,595.8244 Y 13,902,616.5808  
C.C. X 2,120,605.8022 Y 13,904,249.9687  
Back = N 73° 24' 59.68" E  
Ahead = N 58° 46' 45.43" E  
Chord Bear = N 66° 05' 52.55" E

Course from PT CLFM473E\_6 to 39 N 58° 46' 45.43" E Dist 1,299.0788

Point 39 X 2,122,706.7666 Y 13,903,289.9404 Sta 67+07.14

Course from 39 to PC CLFM473E\_11 N 58° 56' 03.96" E Dist 647.3022

Curve Data

Curve CLFM473E\_11  
P.I. Station 77+15.65 X 2,123,570.6320 Y 13,903,810.3495  
Delta = 59° 06' 36.60" (RT)  
Degree = 8° 59' 40.66"  
Tangent = 361.2061  
Length = 657.1719  
Radius = 637.0000  
External = 95.2833  
Long Chord = 628.4133  
Mid. Ord. = 82.8852  
P.C. Station 73+54.44 X 2,123,261.2311 Y 13,903,623.9604  
P.T. Station 80+11.61 X 2,123,889.4260 Y 13,903,640.5253  
C.C. X 2,123,589.9349 Y 13,903,078.3206  
Back = N 58° 56' 03.96" E  
Ahead = S 61° 57' 19.44" E  
Chord Bear = N 88° 29' 22.26" E

CLFM473E ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473E\_11 to PC CLFM473E\_14 S 61° 57' 19.44" E Dist 1,241.0226

Curve Data

Curve CLFM473E\_14  
P.I. Station 96+42.62 X 2,125,328.9187 Y 13,902,873.6955  
Delta = 58° 56' 57.01" (LT)  
Degree = 8° 18' 13.45"  
Tangent = 389.9793  
Length = 709.9114  
Radius = 690.0000  
External = 102.5805  
Long Chord = 679.0117  
Mid. Ord. = 89.3039  
P.C. Station 92+52.64 X 2,124,984.7300 Y 13,903,057.0477  
P.T. Station 99+62.55 X 2,125,663.5302 Y 13,903,073.9926  
C.C. X 2,125,309.1396 Y 13,903,666.0292  
Back = S 61° 57' 19.44" E  
Ahead = N 59° 05' 43.55" E  
Chord Bear = N 88° 34' 12.06" E

Course from PT CLFM473E\_14 to PC CLFM473E\_17 N 59° 05' 43.55" E Dist 892.9472

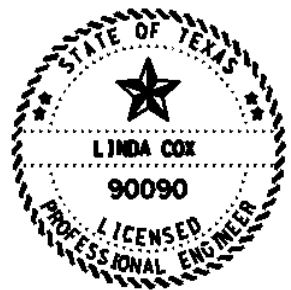
Curve Data

Curve CLFM473E\_17  
P.I. Station 111+55.91 X 2,126,687.4656 Y 13,903,686.9162  
Delta = 44° 44' 14.40" (RT)  
Degree = 7° 50' 55.45"  
Tangent = 300.4174  
Length = 569.9941  
Radius = 730.0000  
External = 59.3989  
Long Chord = 555.6245  
Mid. Ord. = 54.9294  
P.C. Station 108+55.50 X 2,126,429.7003 Y 13,903,532.6189  
P.T. Station 114+25.49 X 2,126,979.1702 Y 13,903,615.0898  
C.C. X 2,126,804.6354 Y 13,902,906.2615  
Back = N 59° 05' 43.55" E  
Ahead = S 76° 10' 02.04" E  
Chord Bear = N 81° 27' 50.75" E

Course from PT CLFM473E\_17 to PC CLFM473E\_20 S 76° 10' 02.04" E Dist 1,560.1043

Curve Data

Curve CLFM473E\_20  
P.I. Station 131+65.51 X 2,128,668.7311 Y 13,903,199.0692  
Delta = 10° 45' 45.82" (LT)  
Degree = 2° 59' 59.20"  
Tangent = 179.9214  
Length = 358.7840  
Radius = 1,910.0000  
External = 8.4555  
Long Chord = 358.2567  
Mid. Ord. = 8.4183  
P.C. Station 129+85.59 X 2,128,494.0279 Y 13,903,242.0864  
P.T. Station 133+44.38 X 2,128,848.3942 Y 13,903,189.4332  
C.C. X 2,128,950.6874 Y 13,905,096.6920  
Back = S 76° 10' 02.04" E  
Ahead = S 86° 55' 47.86" E  
Chord Bear = S 81° 32' 54.95" E



Linda Cox, P.E.

04/28/2021

RM 473  
HORIZONTAL  
ALIGNMENT DATA

CONT		SECT	JOB	HIGHWAY
0142	09		044, Etc	RM 473
DIST		COUNTY		SHEET NO.
SAT		KENDALL		254

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CLFM473E ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473E\_20 to PC CLFM473E\_23 S 86° 55' 47.86" E Dist 450.3389

Curve Data  
\*-----\*

Curve CLFM473E\_23  
 P.I. Station = 140+21.27 X 2,129,524.3110 Y 13,903,153.1813  
 Delta = 17° 58' 47.72" (RT)  
 Degree = 4° 00' 03.97"  
 Tangent = 226.5493  
 Length = 449.3742  
 Radius = 1,432.0000  
 External = 17.8098  
 Long Chord = 447.5326  
 Mid. Ord. = 17.5911  
 P.C. Station = 137+94.72 X 2,129,298.0868 Y 13,903,165.3146  
 P.T. Station = 142+44.09 X 2,129,735.7421 Y 13,903,071.8089  
 C.C. = X 2,129,221.3937 Y 13,901,735.3697  
 Back = S 86° 55' 47.86" E  
 Ahead = S 68° 57' 00.15" E  
 Chord Bear = S 77° 56' 24.00" E

Course from PT CLFM473E\_23 to PC CLFM473E\_26 S 68° 57' 00.15" E Dist 392.3479

Curve Data  
\*-----\*

Curve CLFM473E\_26  
 P.I. Station = 149+27.88 X 2,130,373.9026 Y 13,902,826.2034  
 Delta = 11° 37' 00.93" (LT)  
 Degree = 1° 59' 59.47"  
 Tangent = 291.4436  
 Length = 580.8891  
 Radius = 2,865.0000  
 External = 14.7855  
 Long Chord = 579.8946  
 Mid. Ord. = 14.7096  
 P.C. Station = 146+36.44 X 2,130,101.9077 Y 13,902,930.8847  
 P.T. Station = 152+17.33 X 2,130,661.4053 Y 13,902,778.4373  
 C.C. = X 2,131,130.9637 Y 13,905,604.6963  
 Back = S 68° 57' 00.15" E  
 Ahead = S 80° 34' 01.08" E  
 Chord Bear = S 74° 45' 30.61" E

Course from PT CLFM473E\_26 to 40 S 80° 34' 01.08" E Dist 141.4159

Point 40 X 2,130,800.9090 Y 13,902,755.2600 Sta 153+58.74

Course from 40 to PC CLFM473E\_31 S 80° 40' 21.30" E Dist 2,342.4762

Curve Data  
\*-----\*

Curve CLFM473E\_31  
 P.I. Station = 179+74.06 X 2,133,381.6433 Y 13,902,331.3804  
 Delta = 16° 15' 32.49" (LT)  
 Degree = 2° 59' 59.20"  
 Tangent = 272.8371  
 Length = 542.0074  
 Radius = 1,910.0000  
 External = 19.3885  
 Long Chord = 540.1907  
 Mid. Ord. = 19.1937  
 P.C. Station = 177+01.22 X 2,133,112.4136 Y 13,902,375.6008  
 P.T. Station = 182+43.23 X 2,133,652.4862 Y 13,902,364.3076  
 C.C. = X 2,133,421.9788 Y 13,904,260.3473  
 Back = S 80° 40' 21.30" E  
 Ahead = N 83° 04' 06.21" E  
 Chord Bear = S 88° 48' 07.55" E

CLFM473E ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473E\_31 to PC CLFM473E\_34 N 83° 04' 06.21" E Dist 664.7435

Curve Data  
\*-----\*

Curve CLFM473E\_34  
 P.I. Station = 191+81.08 X 2,134,583.4831 Y 13,902,477.4918  
 Delta = 31° 55' 07.13" (RT)  
 Degree = 5° 59' 58.41"  
 Tangent = 273.1082  
 Length = 532.0166  
 Radius = 955.0000  
 External = 38.2840  
 Long Chord = 525.1638  
 Mid. Ord. = 36.8084  
 P.C. Station = 189+07.97 X 2,134,312.3710 Y 13,902,444.5319  
 P.T. Station = 194+39.99 X 2,134,831.0293 Y 13,902,362.1273  
 C.C. = X 2,134,427.6247 Y 13,901,496.5121  
 Back = N 83° 04' 06.21" E  
 Ahead = S 65° 00' 46.66" E  
 Chord Bear = S 80° 58' 20.23" E

Course from PT CLFM473E\_34 to PC CLFM473E\_37 S 65° 00' 46.67" E Dist 291.3565

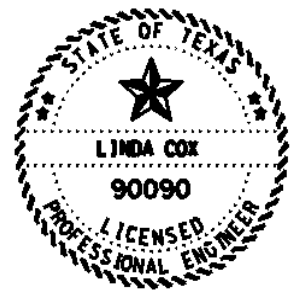
Curve Data  
\*-----\*

Curve CLFM473E\_37  
 P.I. Station = 199+93.22 X 2,135,332.4813 Y 13,902,128.4345  
 Delta = 30° 40' 08.19" (LT)  
 Degree = 5° 59' 58.41"  
 Tangent = 261.8761  
 Length = 511.1867  
 Radius = 955.0000  
 External = 35.2546  
 Long Chord = 505.1058  
 Mid. Ord. = 33.9994  
 P.C. Station = 197+31.34 X 2,135,095.1159 Y 13,902,239.0544  
 P.T. Station = 202+42.53 X 2,135,593.0707 Y 13,902,154.3617  
 C.C. = X 2,135,498.5205 Y 13,903,104.6697  
 Back = S 65° 00' 46.66" E  
 Ahead = N 84° 19' 05.14" E  
 Chord Bear = S 80° 20' 50.76" E

Course from PT CLFM473E\_37 to PC CLFM473E\_40 N 84° 19' 05.14" E Dist 1,005.8347

Curve Data  
\*-----\*

Curve CLFM473E\_40  
 P.I. Station = 216+28.16 X 2,136,971.8926 Y 13,902,291.5466  
 Delta = 15° 06' 09.43" (RT)  
 Degree = 1° 59' 59.47"  
 Tangent = 379.7949  
 Length = 755.1866  
 Radius = 2,865.0000  
 External = 25.0639  
 Long Chord = 753.0023  
 Mid. Ord. = 24.8465  
 P.C. Station = 212+48.37 X 2,136,593.9637 Y 13,902,253.9448  
 P.T. Station = 220+03.55 X 2,137,346.5652 Y 13,902,229.3808  
 C.C. = X 2,136,877.6144 Y 13,899,403.0209  
 Back = N 84° 19' 05.14" E  
 Ahead = S 80° 34' 45.43" E  
 Chord Bear = S 88° 07' 50.14" E



Linda Cox, P.E.

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RM 473  
 HORIZONTAL  
 ALIGNMENT DATA

Texas Department of Transportation		SHEET 4 OF 6	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		255

CLFM473E ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473E\_40 to PC CLFM473E\_43 S 80° 34' 45.43" E Dist 806.0429

Curve Data  
\*-----\*

Curve CLFM473E\_43  
 P.I. Station 230+68.71 X 2,138,397.3546 Y 13,902,055.0334  
 Delta = 18° 23' 52.17" (LT)  
 Degree = 3° 34' 51.55"  
 Tangent = 259.1123  
 Length = 513.7642  
 Radius = 1,600.0000  
 External = 20.8452  
 Long Chord = 511.5599  
 Mid. Ord. = 20.5771  
 P.C. Station 228+09.59 X 2,138,141.7370 Y 13,902,097.4456  
 P.T. Station 233+23.36 X 2,138,653.2930 Y 13,902,095.4652  
 C.C. X 2,138,403.6292 Y 13,903,675.8664  
 Back = S 80° 34' 45.43" E  
 Ahead = N 81° 01' 22.40" E  
 Chord Bear = S 89° 46' 41.51" E

Course from PT CLFM473E\_43 to PC CLFM473E\_46 N 81° 01' 22.40" E Dist 1,075.2452

Curve Data  
\*-----\*

Curve CLFM473E\_46  
 P.I. Station 247+80.51 X 2,140,092.5949 Y 13,902,322.8389  
 Delta = 49° 59' 59.89" (RT)  
 Degree = 6° 59' 44.96"  
 Tangent = 381.9057  
 Length = 714.7119  
 Radius = 819.0000  
 External = 84.6664  
 Long Chord = 692.2483  
 Mid. Ord. = 76.7338  
 P.C. Station 243+98.60 X 2,139,715.3672 Y 13,902,263.2464  
 P.T. Station 251+13.32 X 2,140,380.7228 Y 13,902,072.1712  
 C.C. X 2,139,843.1639 Y 13,901,454.2785  
 Back = N 81° 01' 22.40" E  
 Ahead = S 48° 58' 37.71" E  
 Chord Bear = S 73° 58' 37.65" E

Course from PT CLFM473E\_46 to 41 S 48° 58' 37.71" E Dist 955.4664

Point 41 X 2,141,101.5723 Y 13,901,445.0412 Sta 260+68.78

Course from 41 to PC CLFM473E\_51 S 48° 53' 31.96" E Dist 913.5520

Curve Data  
\*-----\*

Curve CLFM473E\_51  
 P.I. Station 271+81.26 X 2,141,939.7958 Y 13,900,713.6117  
 Delta = 8° 07' 39.03" (LT)  
 Degree = 2° 02' 46.60"  
 Tangent = 198.9262  
 Length = 397.1850  
 Radius = 2,800.0000  
 External = 7.0575  
 Long Chord = 396.8521  
 Mid. Ord. = 7.0397  
 P.C. Station 269+82.33 X 2,141,789.9100 Y 13,900,844.4012  
 P.T. Station 273+79.52 X 2,142,106.6666 Y 13,900,605.3261  
 C.C. X 2,143,630.8475 Y 13,902,954.1284  
 Back = S 48° 53' 31.96" E  
 Ahead = S 57° 01' 10.99" E  
 Chord Bear = S 52° 57' 21.48" E

CLFM473E ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473E\_51 to PC CLFM473E\_54 S 57° 01' 10.99" E Dist 359.1377

Curve Data  
\*-----\*

Curve CLFM473E\_54  
 P.I. Station 280+59.06 X 2,142,676.7040 Y 13,900,235.4184  
 Delta = 26° 42' 09.12" (LT)  
 Degree = 4° 14' 38.87"  
 Tangent = 320.4022  
 Length = 629.1636  
 Radius = 1,350.0000  
 External = 37.5005  
 Long Chord = 623.4851  
 Mid. Ord. = 36.4869  
 P.C. Station 277+38.66 X 2,142,407.9320 Y 13,900,409.8294  
 P.T. Station 283+67.82 X 2,142,995.1849 Y 13,900,200.3829  
 C.C. X 2,143,142.8050 Y 13,901,542.2877  
 Back = S 57° 01' 10.99" E  
 Ahead = S 83° 43' 20.12" E  
 Chord Bear = S 70° 22' 15.55" E

Course from PT CLFM473E\_54 to PC CLFM473E\_57 S 83° 43' 20.12" E Dist 364.8633

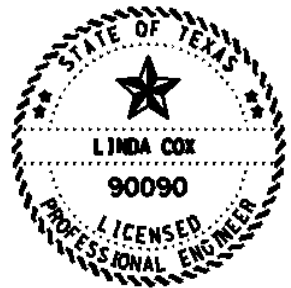
Curve Data  
\*-----\*

Curve CLFM473E\_57  
 P.I. Station 288+73.94 X 2,143,498.2695 Y 13,900,145.0397  
 Delta = 8° 58' 27.33" (LT)  
 Degree = 3° 10' 59.16"  
 Tangent = 141.2562  
 Length = 281.9347  
 Radius = 1,800.0000  
 External = 5.5341  
 Long Chord = 281.6465  
 Mid. Ord. = 5.5171  
 P.C. Station 287+32.68 X 2,143,357.8603 Y 13,900,160.4858  
 P.T. Station 290+14.62 X 2,143,639.3693 Y 13,900,151.6852  
 C.C. X 2,143,554.6871 Y 13,901,949.6921  
 Back = S 83° 43' 20.12" E  
 Ahead = N 87° 18' 12.55" E  
 Chord Bear = S 88° 12' 33.78" E

Course from PT CLFM473E\_57 to PC CLFM473E\_60 N 87° 18' 12.55" E Dist 475.9898

Curve Data  
\*-----\*

Curve CLFM473E\_60  
 P.I. Station 297+15.25 X 2,144,339.2206 Y 13,900,184.6466  
 Delta = 9° 30' 43.18" (LT)  
 Degree = 2° 07' 19.44"  
 Tangent = 224.6373  
 Length = 448.2422  
 Radius = 2,700.0000  
 External = 9.3287  
 Long Chord = 447.7277  
 Mid. Ord. = 9.2966  
 P.C. Station 294+90.61 X 2,144,114.8320 Y 13,900,174.0784  
 P.T. Station 299+38.85 X 2,144,558.7776 Y 13,900,232.1507  
 C.C. X 2,143,987.8087 Y 13,902,871.0888  
 Back = N 87° 18' 12.55" E  
 Ahead = N 77° 47' 29.37" E  
 Chord Bear = N 82° 32' 50.96" E



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RM 473  
 HORIZONTAL  
 ALIGNMENT DATA

		SHEET 5 OF 6	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		256

CLFM473E ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473E\_60 to PC CLFM473E\_63 N 77° 47' 29.37" E Dist 297.7682

Curve Data  
\*-----\*

Curve CLFM473E\_63  
 P.I. Station 304+92.53 X 2,145,099.9322 Y 13,900,349.2366  
 Delta = 39° 20' 06.54" (LT)  
 Degree = 8° 00' 07.93"  
 Tangent = 255.9081  
 Length = 491.5540  
 Radius = 716.0000  
 External = 44.3584  
 Long Chord = 481.9574  
 Mid. Ord. = 41.7706  
 P.C. Station 302+36.62 X 2,144,849.8116 Y 13,900,295.1197  
 P.T. Station 307+28.17 X 2,145,259.0861 Y 13,900,549.6336  
 C.C. X 2,144,698.3991 Y 13,900,994.9270  
 Back = N 77° 47' 29.37" E  
 Ahead = N 38° 27' 22.83" E  
 Chord Bear = N 58° 07' 26.10" E

Course from PT CLFM473E\_63 to PC CLFM473E\_66 N 38° 27' 22.83" E Dist 755.1557

Curve Data  
\*-----\*

Curve CLFM473E\_66  
 P.I. Station 318+87.54 X 2,145,980.1181 Y 13,901,457.5143  
 Delta = 69° 44' 48.01" (RT)  
 Degree = 9° 52' 42.90"  
 Tangent = 404.2124  
 Length = 706.0392  
 Radius = 580.0000  
 External = 126.9566  
 Long Chord = 663.2464  
 Mid. Ord. = 104.1575  
 P.C. Station 314+83.33 X 2,145,728.7311 Y 13,901,140.9827  
 P.T. Station 321+89.37 X 2,146,364.1020 Y 13,901,331.2444  
 C.C. X 2,146,182.9188 Y 13,900,780.2702  
 Back = N 38° 27' 22.83" E  
 Ahead = S 71° 47' 49.16" E  
 Chord Bear = N 73° 19' 46.83" E

Course from PT CLFM473E\_66 to PC CLFM473E\_69 S 71° 47' 49.16" E Dist 62.2515

Curve Data  
\*-----\*

Curve CLFM473E\_69  
 P.I. Station 324+59.97 X 2,146,621.1663 Y 13,901,246.7110  
 Delta = 11° 36' 24.66" (RT)  
 Degree = 2° 47' 41.70"  
 Tangent = 208.3552  
 Length = 415.2843  
 Radius = 2,050.0000  
 External = 10.5611  
 Long Chord = 414.5746  
 Mid. Ord. = 10.5069  
 P.C. Station 322+51.62 X 2,146,423.2381 Y 13,901,311.7980  
 P.T. Station 326+66.90 X 2,146,801.9519 Y 13,901,143.1328  
 C.C. X 2,145,782.8492 Y 13,899,364.3889  
 Back = S 71° 47' 49.16" E  
 Ahead = S 60° 11' 24.51" E  
 Chord Bear = S 65° 59' 36.84" E

CLFM473E ~ HORZ ALIGNMENT DATA (CONT)

Course from PT CLFM473E\_69 to PC CLFM473E\_72 S 60° 11' 24.51" E Dist 694.3181

Curve Data  
\*-----\*

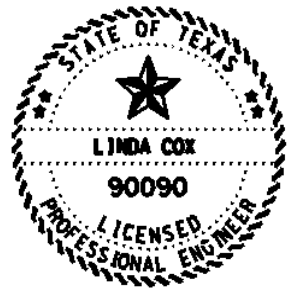
Curve CLFM473E\_72  
 P.I. Station 336+29.43 X 2,147,637.1206 Y 13,900,664.6364  
 Delta = 58° 54' 11.53" (LT)  
 Degree = 12° 03' 44.17"  
 Tangent = 268.2127  
 Length = 488.3261  
 Radius = 475.0000  
 External = 70.4934  
 Long Chord = 467.1038  
 Mid. Ord. = 61.3836  
 P.C. Station 333+61.22 X 2,147,404.3978 Y 13,900,797.9711  
 P.T. Station 338+49.55 X 2,147,871.4925 Y 13,900,795.0504  
 C.C. X 2,147,640.5314 Y 13,901,210.1191  
 Back = S 60° 11' 24.51" E  
 Ahead = N 60° 54' 23.96" E  
 Chord Bear = S 89° 38' 30.28" E

Course from PT CLFM473E\_72 to 42 N 60° 54' 23.96" E Dist 228.6121

Point 42 X 2,148,071.2603 Y 13,900,906.2094 Sta 340+78.16

Ending chain CLFM473E description

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RM 473  
 HORIZONTAL  
 ALIGNMENT DATA

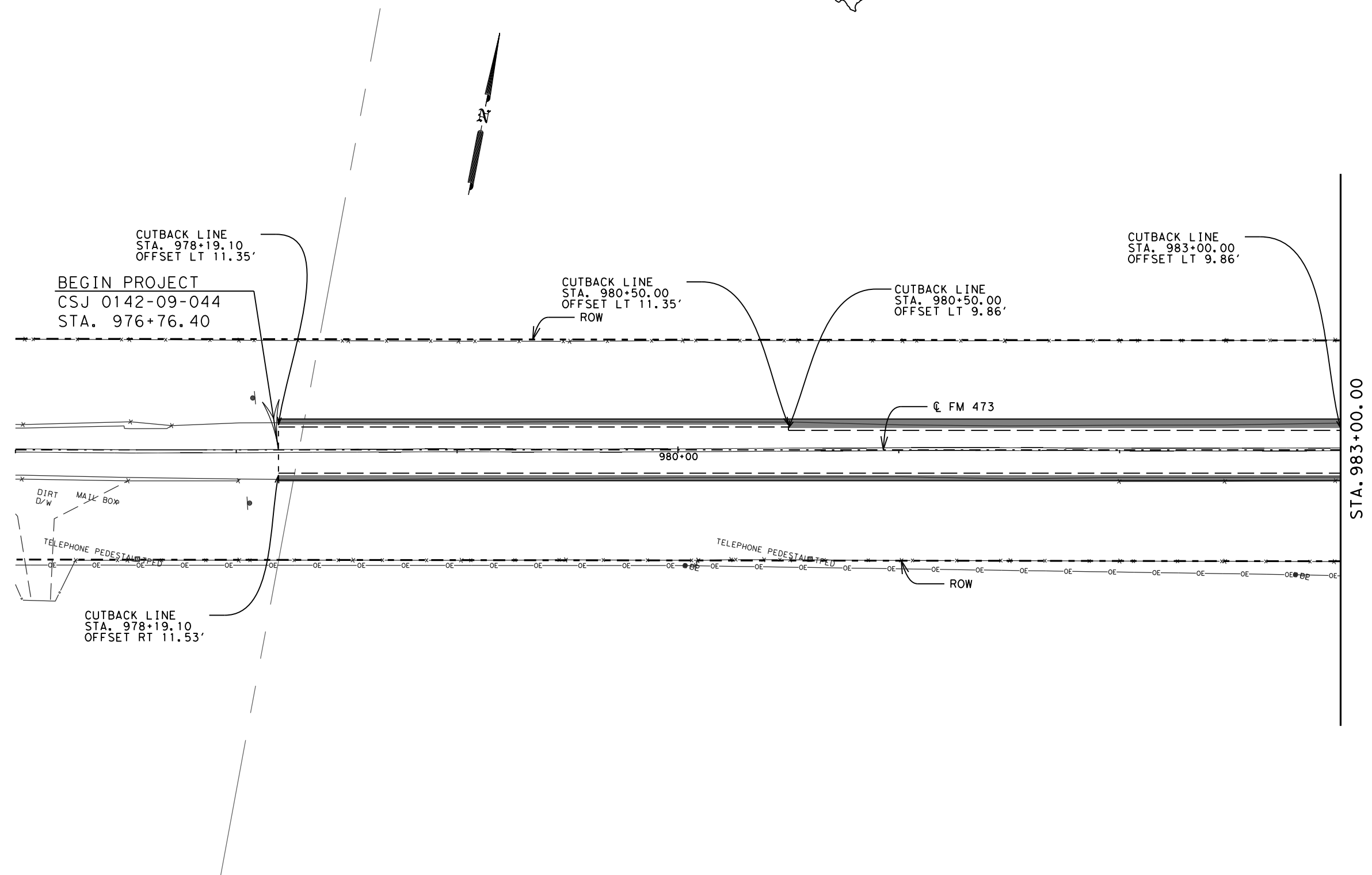
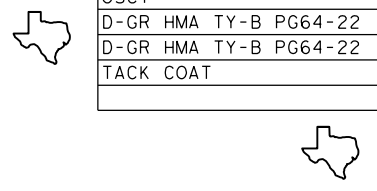
Texas Department of Transportation			
SHEET 6 OF 6			
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		257



Cks:  
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Dns:

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
OSCT	1496.1	SY
D-GR HMA TY-B PG64-22	502.09	SY
D-GR HMA TY-B PG64-22	462.01	SY
TACK COAT	1496.1	SY

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6.24	STA



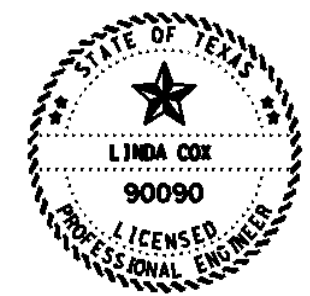
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

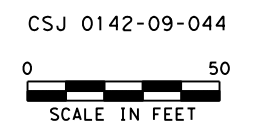
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
■	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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# RM 473 PLAN SHEETS



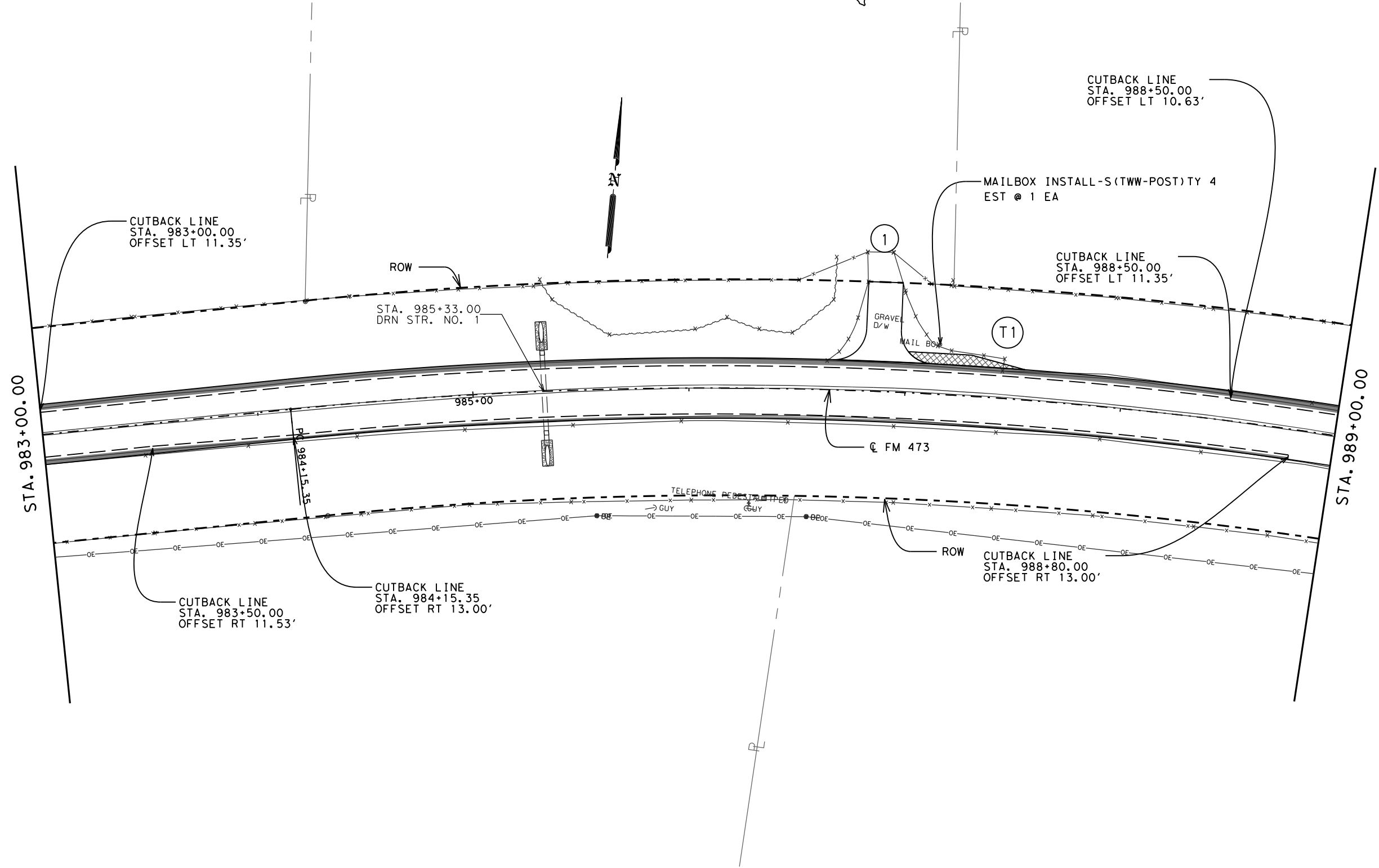
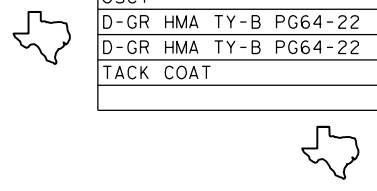
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0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	258	

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ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
OSCT	1866.5	SY
D-GR HMA TY-B PG64-22	488.88	SY
D-GR HMA TY-B PG64-22	439.7	SY
TACK COAT	1866.5	SY

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA

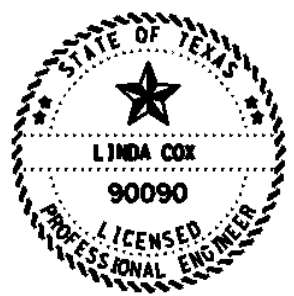


NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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CSJ 0142-09-044



RM 473  
PLAN SHEETS

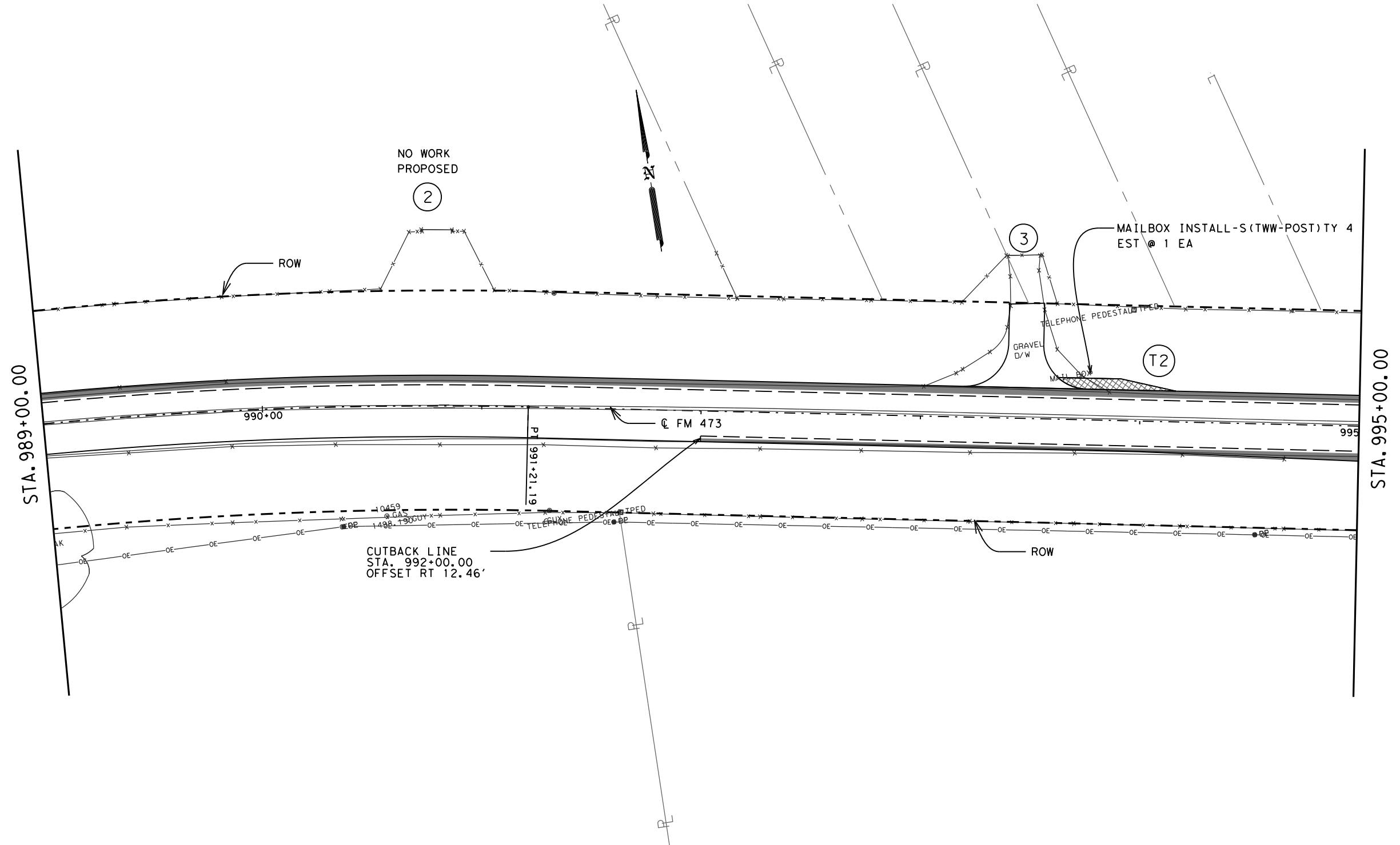


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	259	

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Dwf:

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
OSCT	1877.6	SY
D-GR HMA TY-B PG64-22	463.11	SY
D-GR HMA TY-B PG64-22	425.54	SY
TACK COAT	1877.6	SY

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA



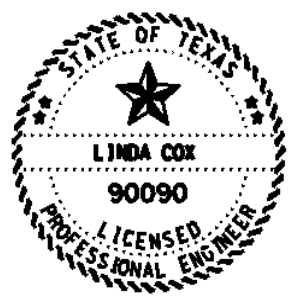
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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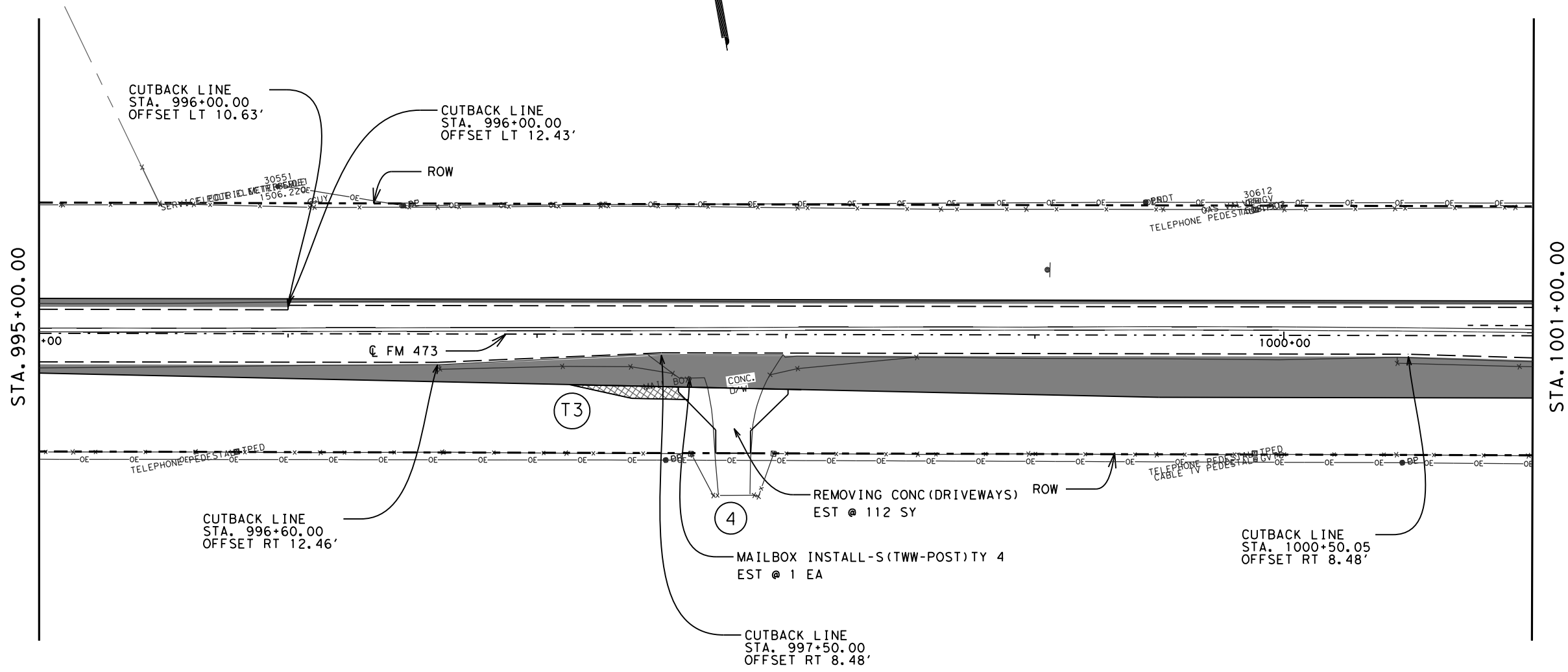
RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		260

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
OSCT	2374.9	SY
D-GR HMA TY-B PG64-22	1140	SY
D-GR HMA TY-B PG64-22	1090	SY
TACK COAT	2374.9	SY

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (DRIVEWAYS)	112	SY
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA



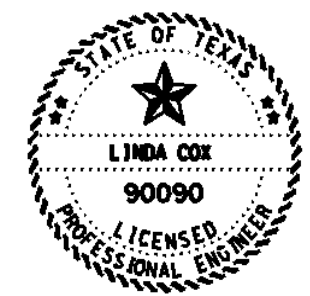
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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RM 473  
 PLAN SHEETS



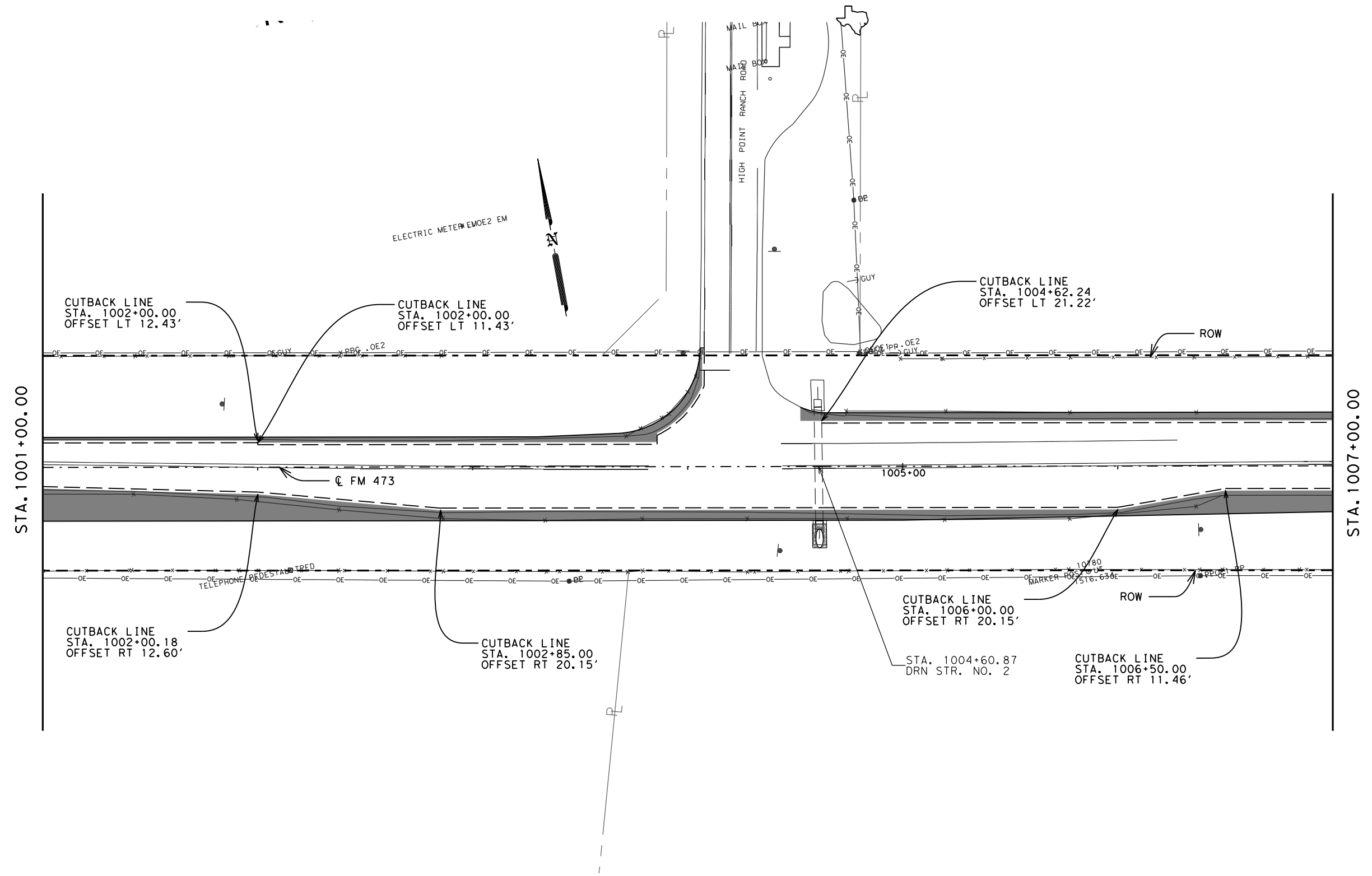
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0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		261

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ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
OSCT	3170.5	SY
D-GR HMA TY-B PG64-22	961.13	SY
D-GR HMA TY-B PG64-22	910.04	SY
TACK COAT	3170.5	SY

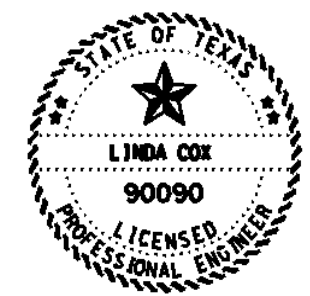
ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



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CSJ 0142-09-044



# RM 473 PLAN SHEETS



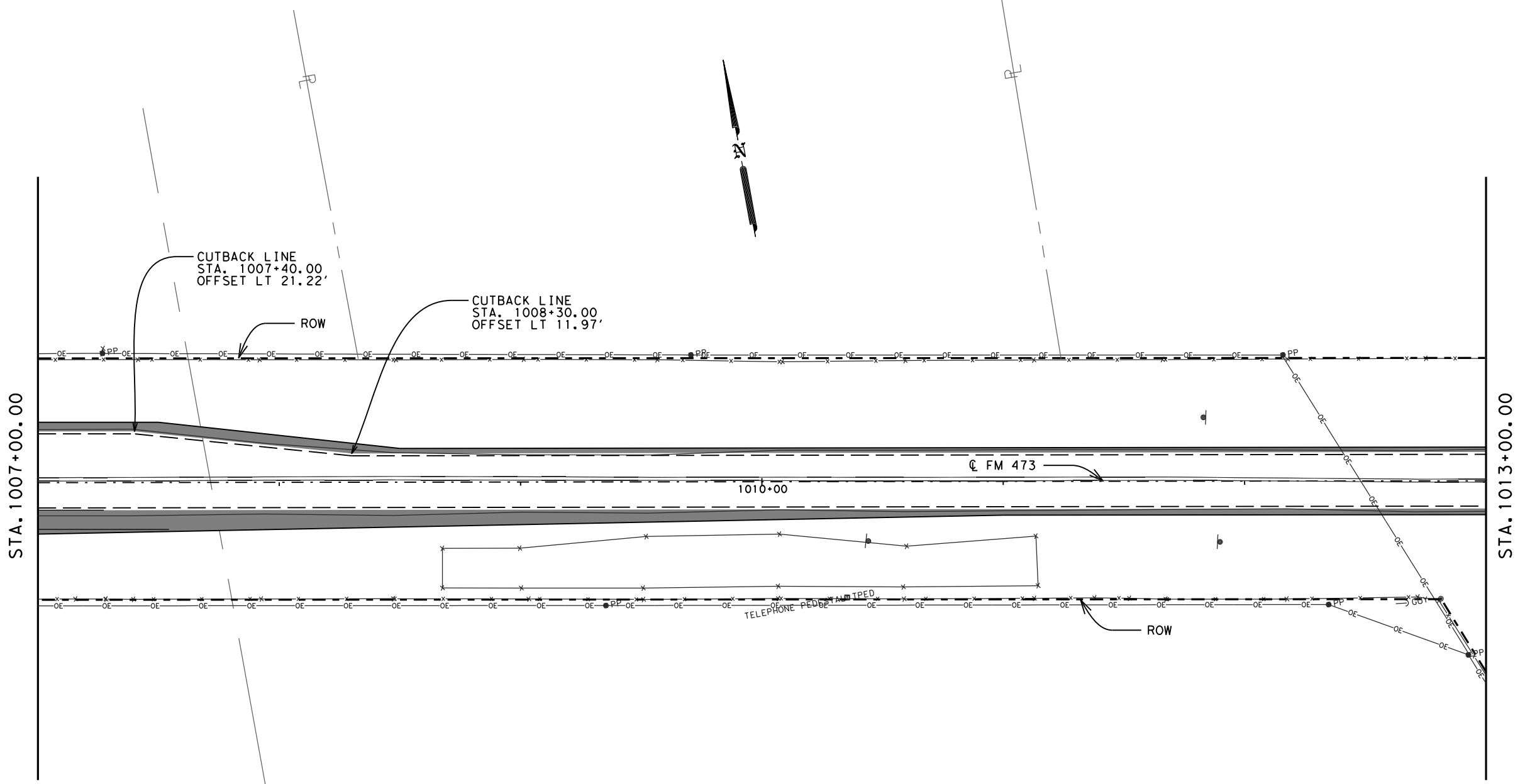
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0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	262	

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ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
OSCT	2152.2	SY
D-GR HMA TY-B PG64-22	736.4	SY
D-GR HMA TY-B PG64-22	686.01	SY
TACK COAT	2152.2	SY

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

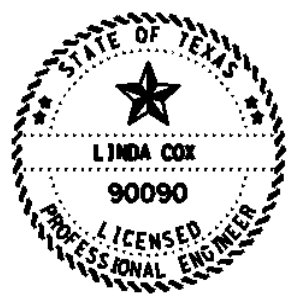


NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER

RM 473  
PLAN SHEETS



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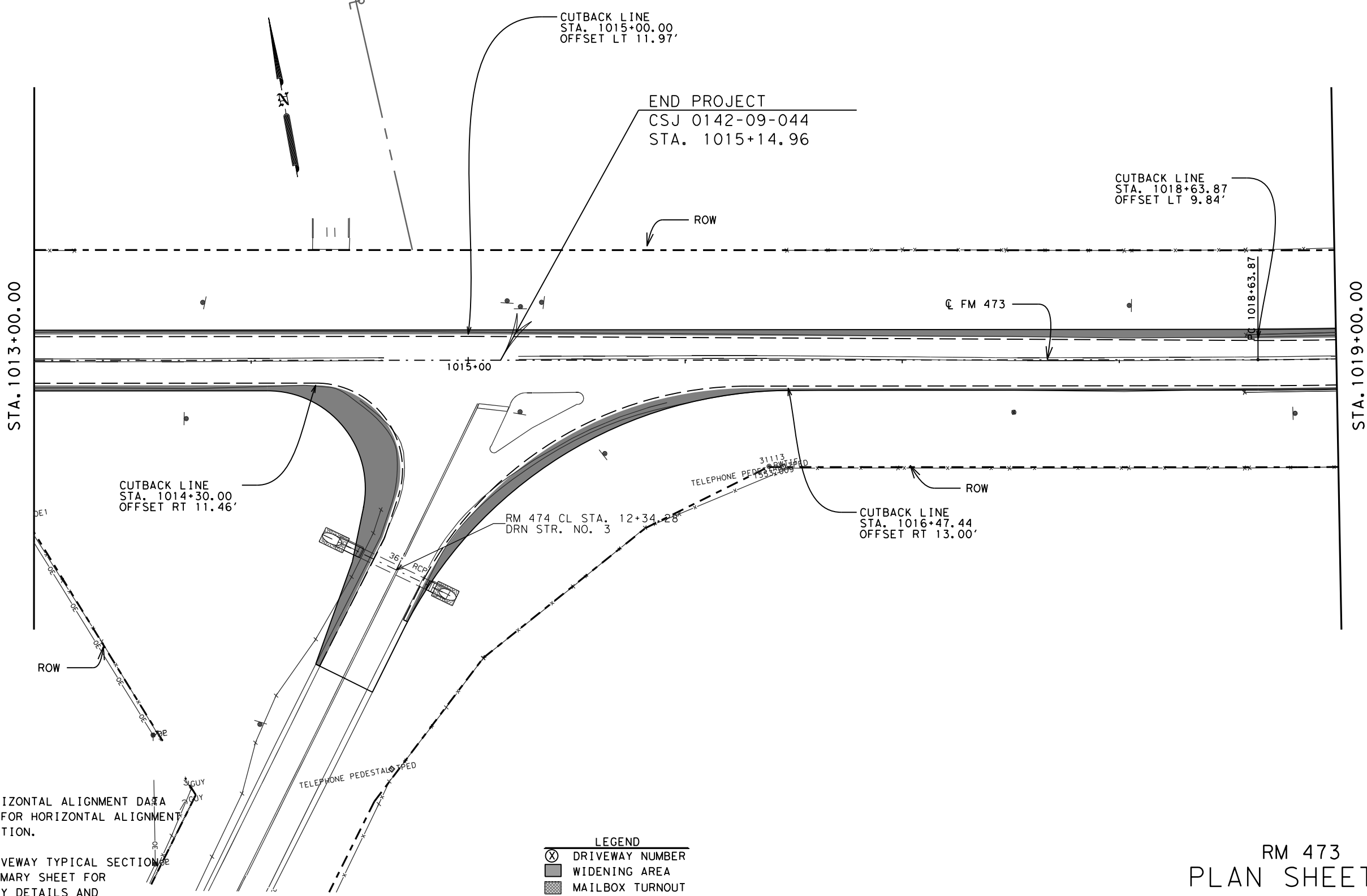
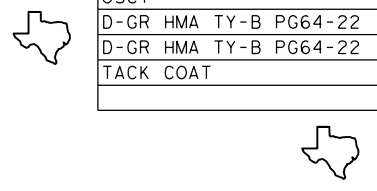
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0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		263

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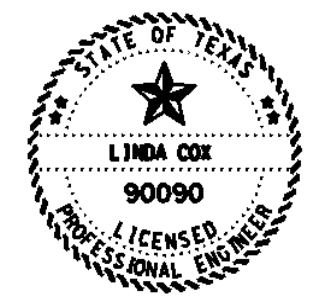
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DESCRIPTION	QUAN	UNIT
OSCT	1136.7	SY
D-GR HMA TY-B PG64-22	354.3	SY
D-GR HMA TY-B PG64-22	334.13	SY
TACK COAT	1136.7	SY

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	2.15	STA
FLEXIBLE PAVEMENT STRUCTURE REPAIR (7")	1500	SY

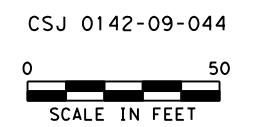


NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



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# RM 473 PLAN SHEETS

CSJ 0142-09-044

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		264

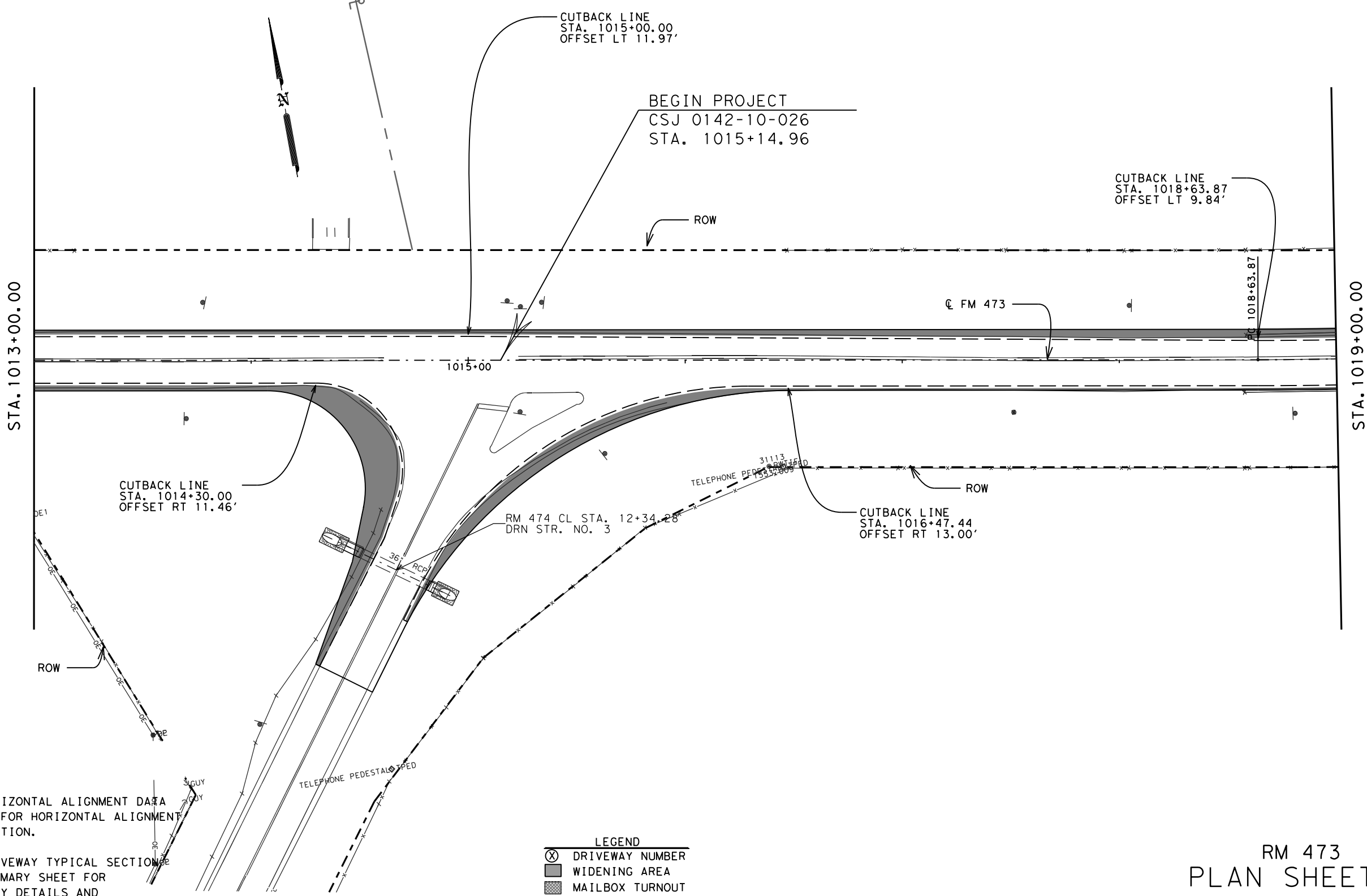
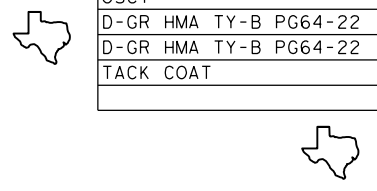


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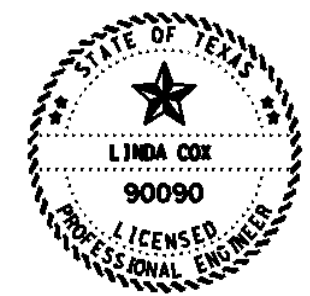
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1748.9	SY
D-GR HMA TY-B PG64-22	442.43	SY
D-GR HMA TY-B PG64-22	405.92	SY
TACK COAT	1748.9	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	3.85	STA



NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-026  
0 50  
SCALE IN FEET

RM 473  
PLAN SHEETS

Texas Department of Transportation		SHEET 8 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		265

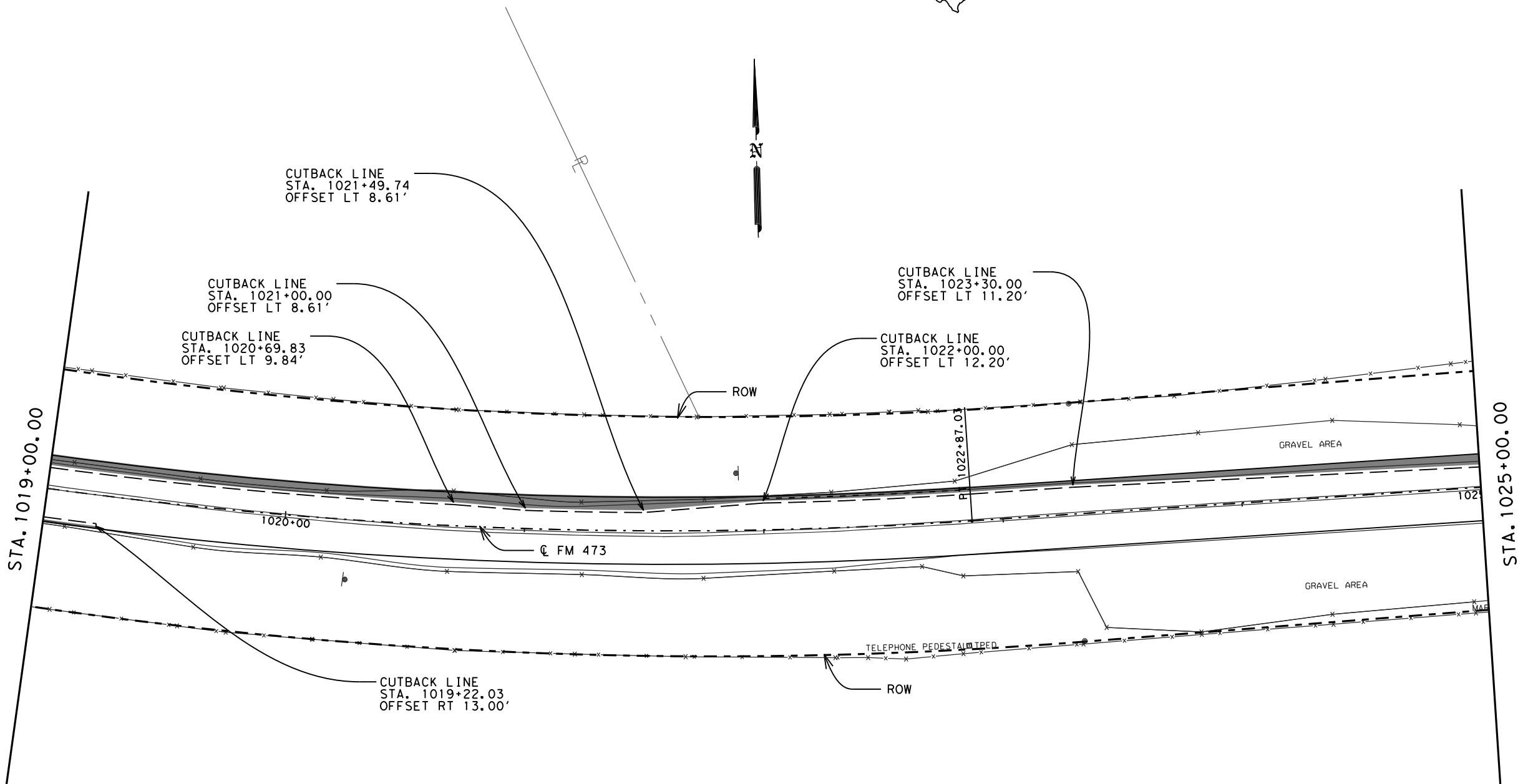


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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	351.22	SY
D-GR HMA TY-B PG64-22	325.41	SY
TACK COAT	1866.7	SY

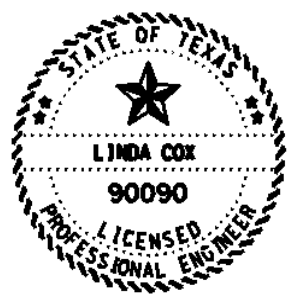
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



NOTE:  
SEE HORIZONTAL ALIGNMENT DATA  
SHEETS FOR HORIZONTAL ALIGNMENT  
INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
AND SUMMARY SHEET FOR  
DRIVEWAY DETAILS AND  
QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



Linda Cox, P.E.  
04/28/2021

CSJ 0142-10-026



RM 473  
PLAN SHEETS



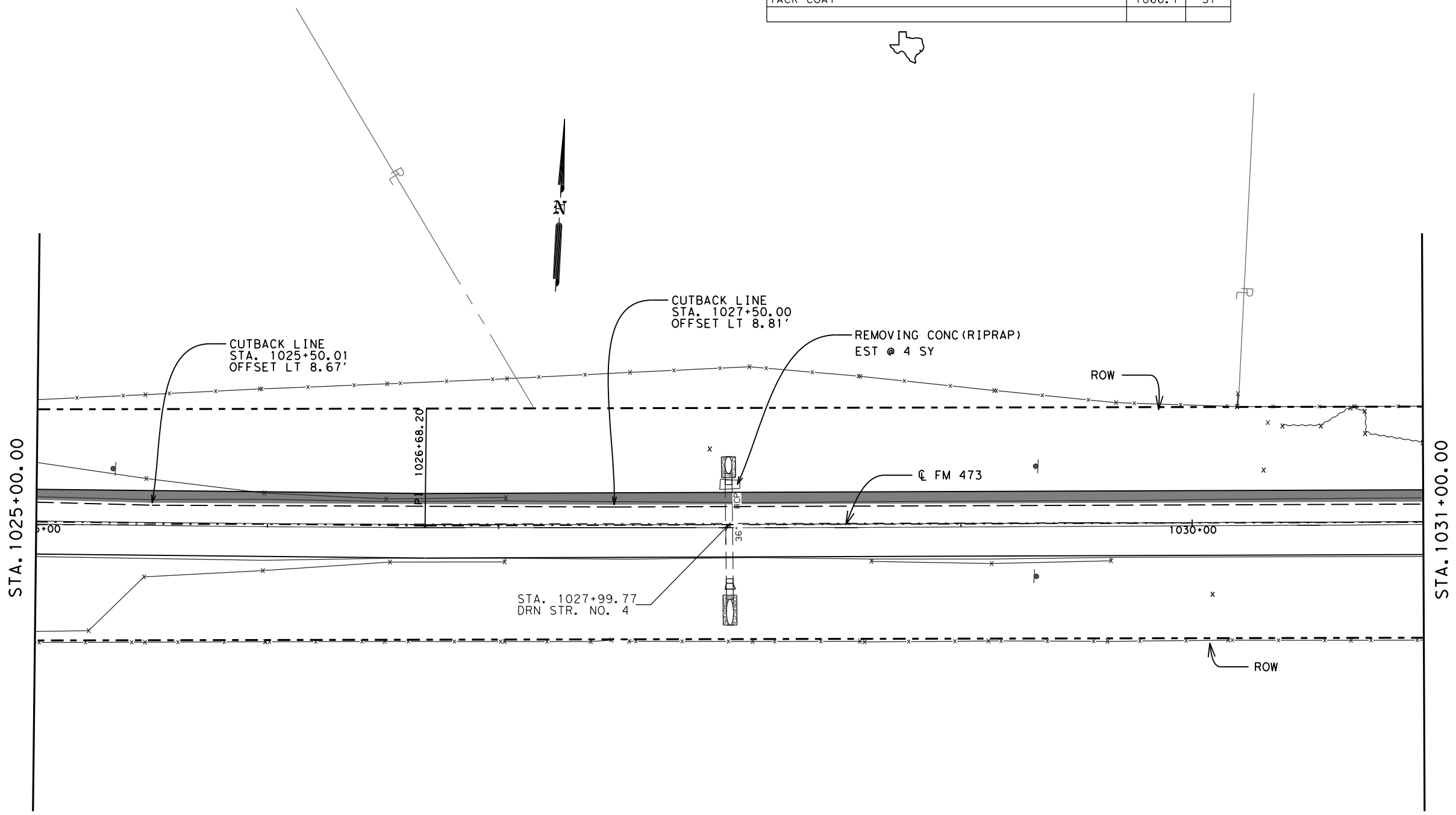
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		266

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	454.87	SY
D-GR HMA TY-B PG64-22	430	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	4	SY

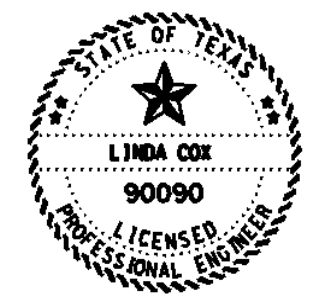


NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
[Hatched Box]	WIDENING AREA
[Stippled Box]	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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PLAN SHEETS



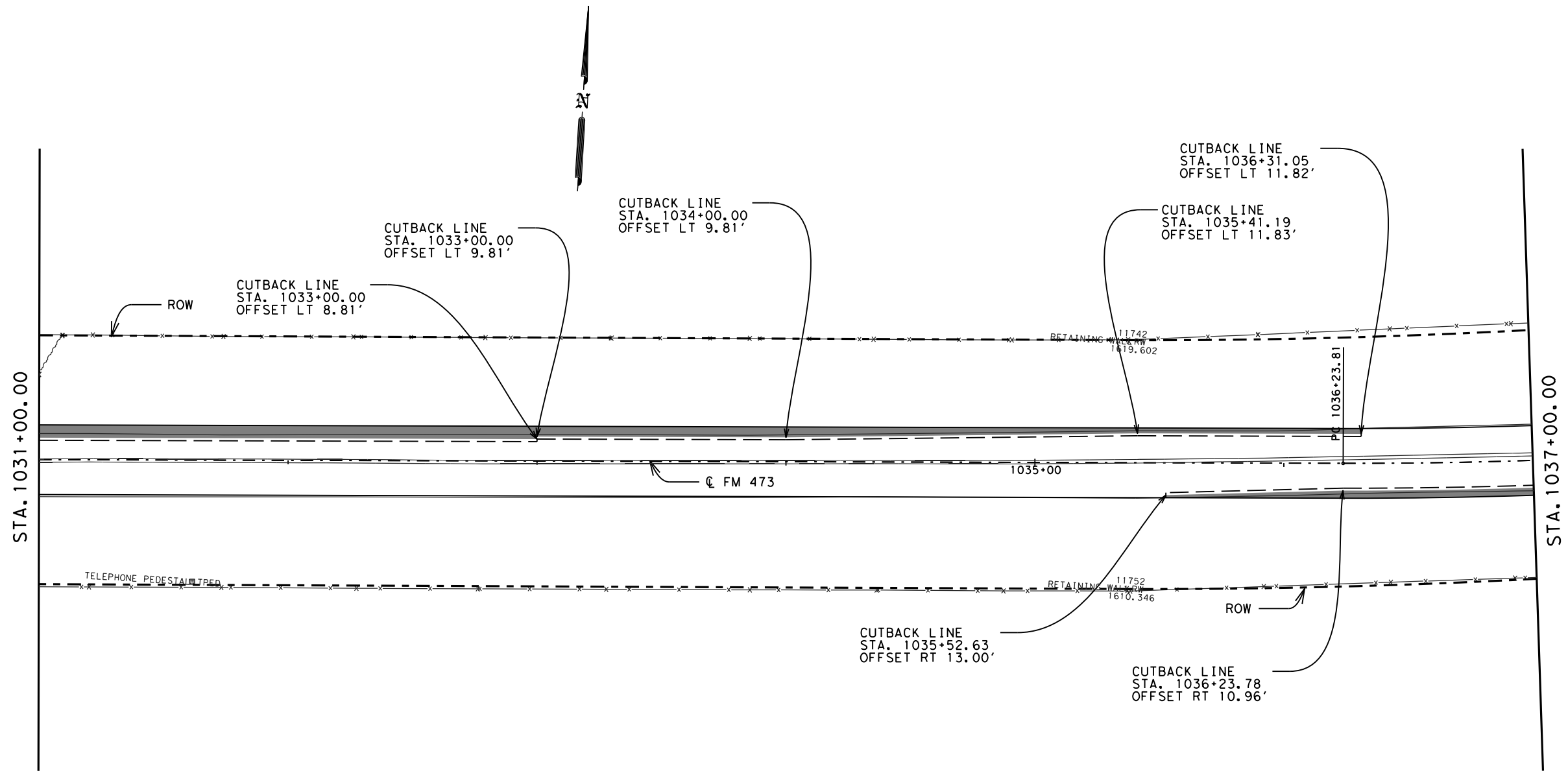
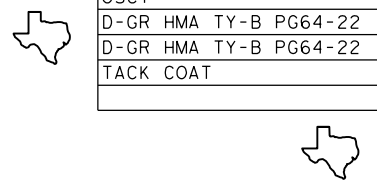
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	267

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	432.32	SY
D-GR HMA TY-B PG64-22	378.95	SY
TACK COAT	1866.7	SY

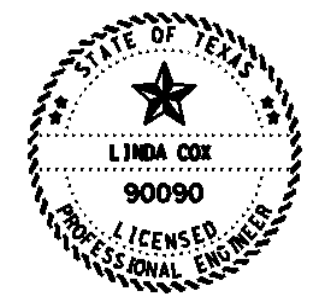
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



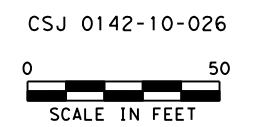
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021



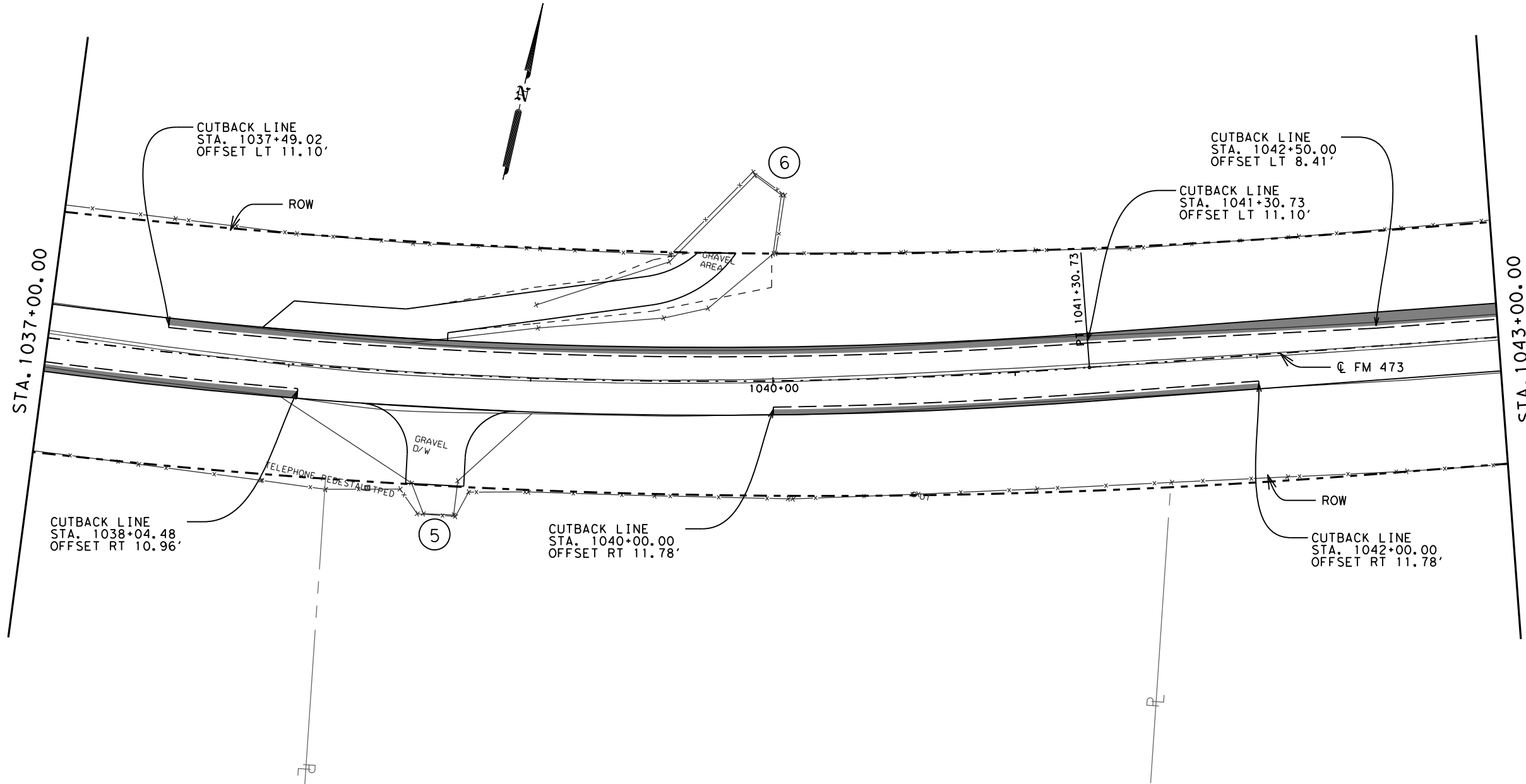
RM 473  
 PLAN SHEETS

Texas Department of Transportation		SHEET 11 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		268

Cks:  
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Dwf:

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	478.77	SY
D-GR HMA TY-B PG64-22	425.11	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



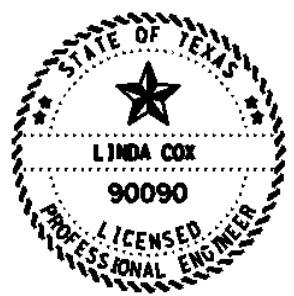
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
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CSJ 0142-10-026



RM 473  
 PLAN SHEETS

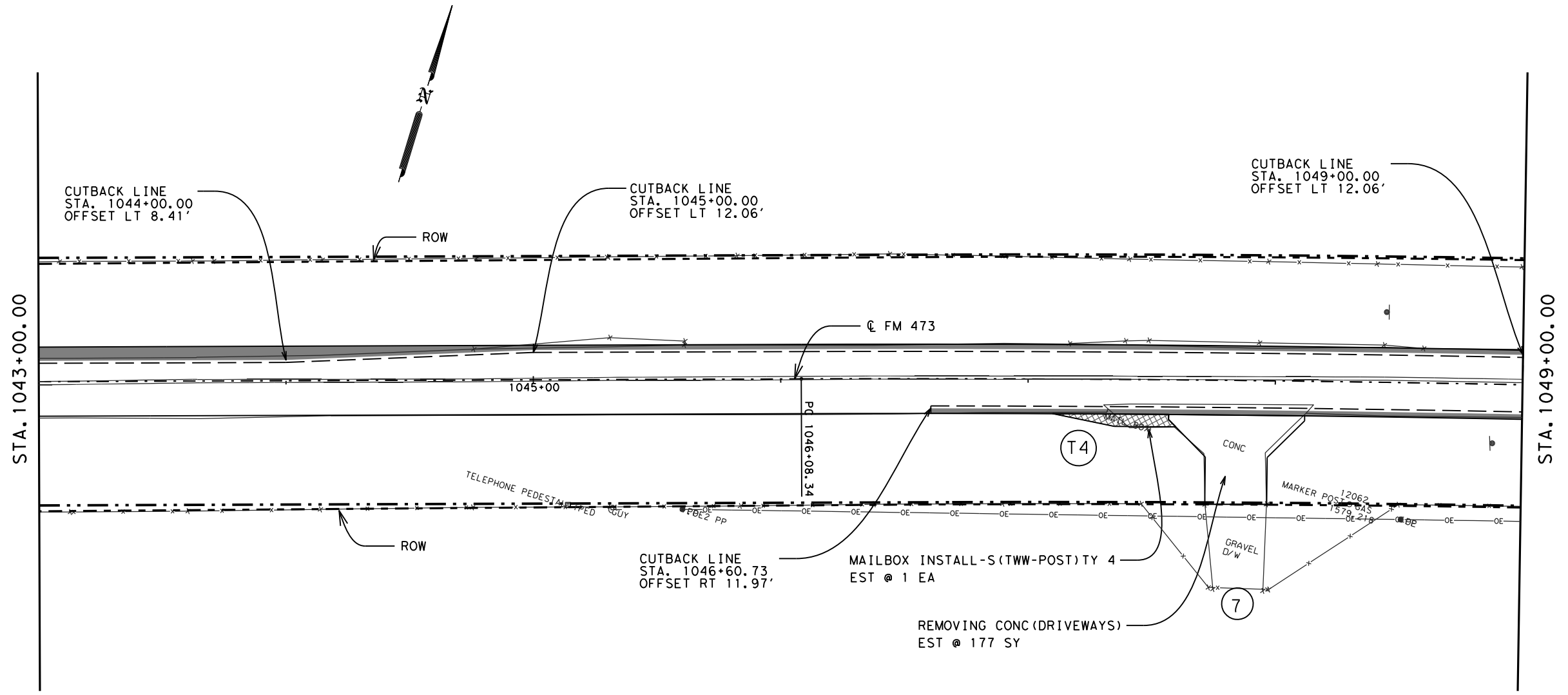
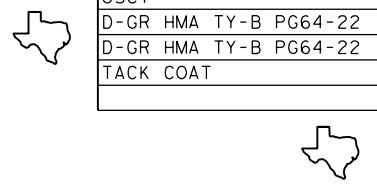


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		269

CKE:  
DWF:  
CKE:  
DWF:

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	407.39	SY
D-GR HMA TY-B PG64-22	372.41	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (DRIVEWAYS)	177	SY
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA



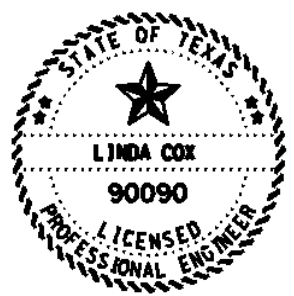
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



Linda Cox, P.E.  
04/28/2021

CSJ 0142-10-026



RM 473  
PLAN SHEETS

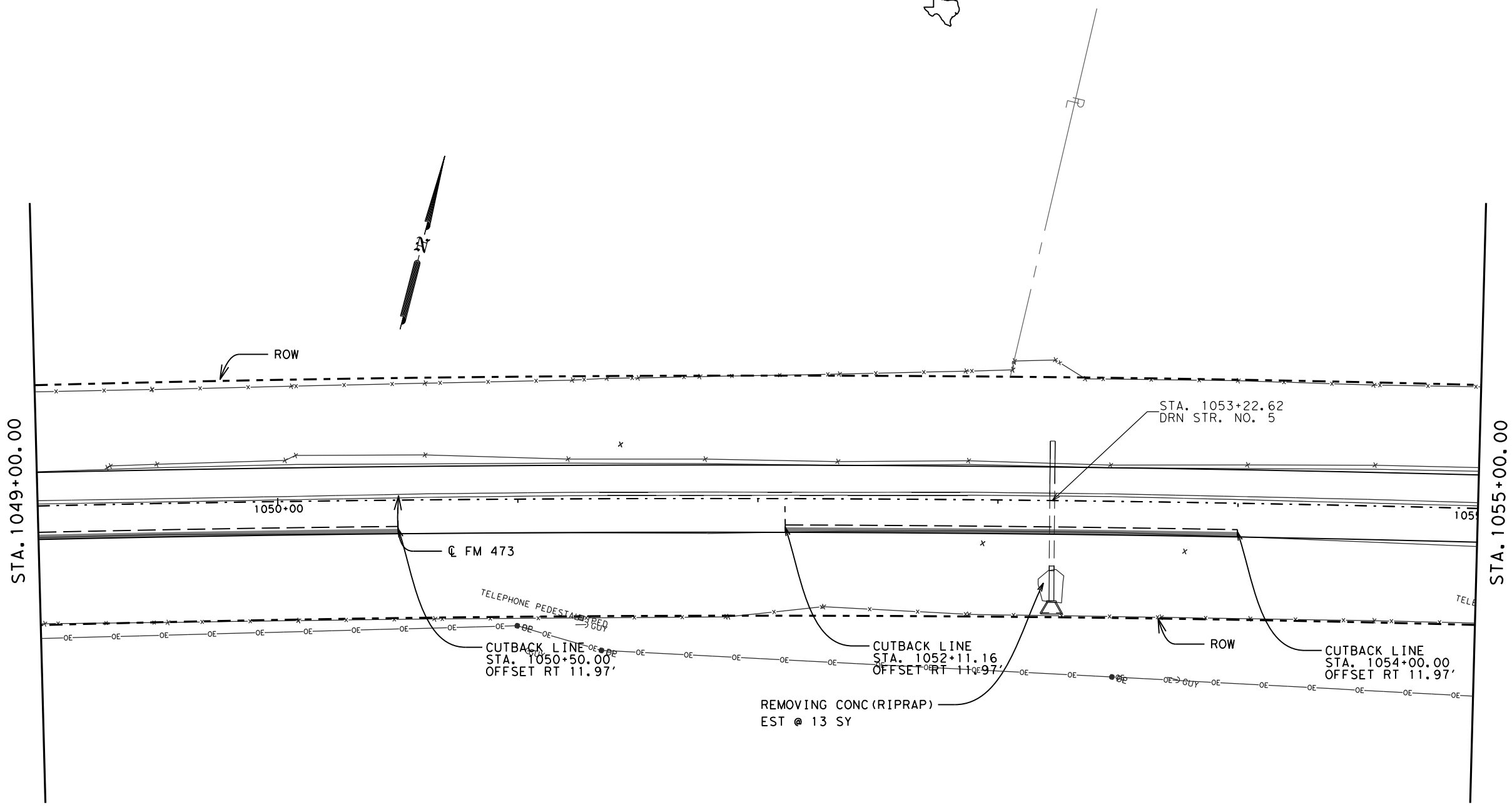
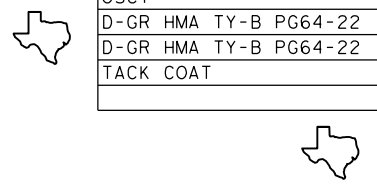


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		270

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 CS: \_\_\_\_\_  
 DN: \_\_\_\_\_

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.4	SY
D-GR HMA TY-B PG64-22	209.82	SY
D-GR HMA TY-B PG64-22	189.01	SY
TACK COAT	1866.4	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	13	SY



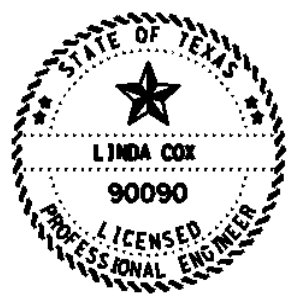
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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 04/28/2021

CSJ 0142-10-026



# RM 473 PLAN SHEETS



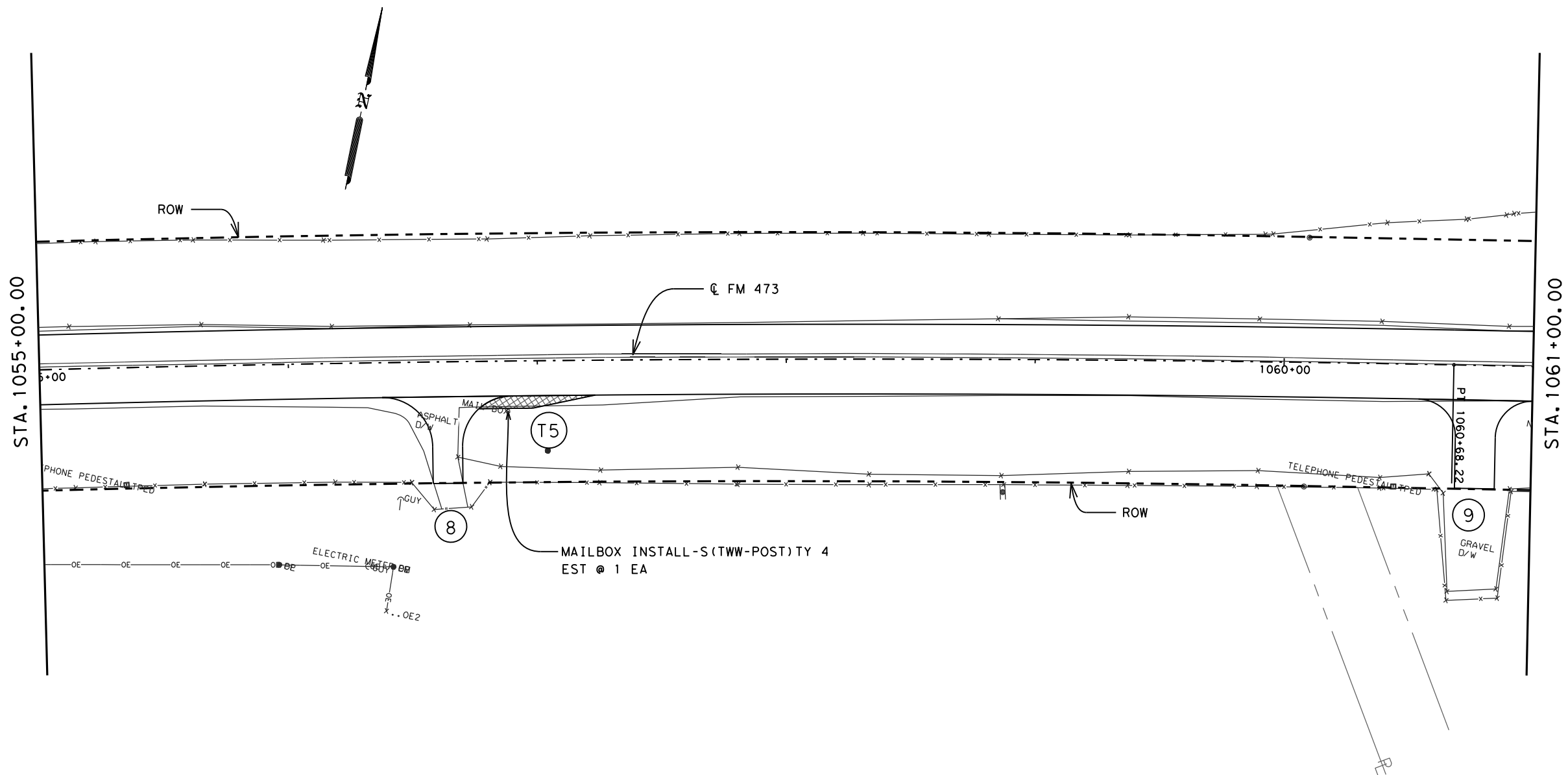
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		271

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 DWF: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 DW: \_\_\_\_\_



ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.4	SY
TACK COAT	1866.4	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA



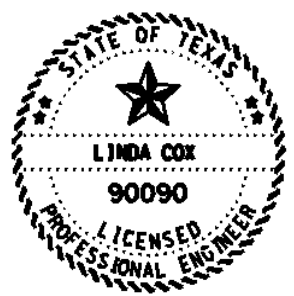
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

**LEGEND**

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



RM 473  
 PLAN SHEETS

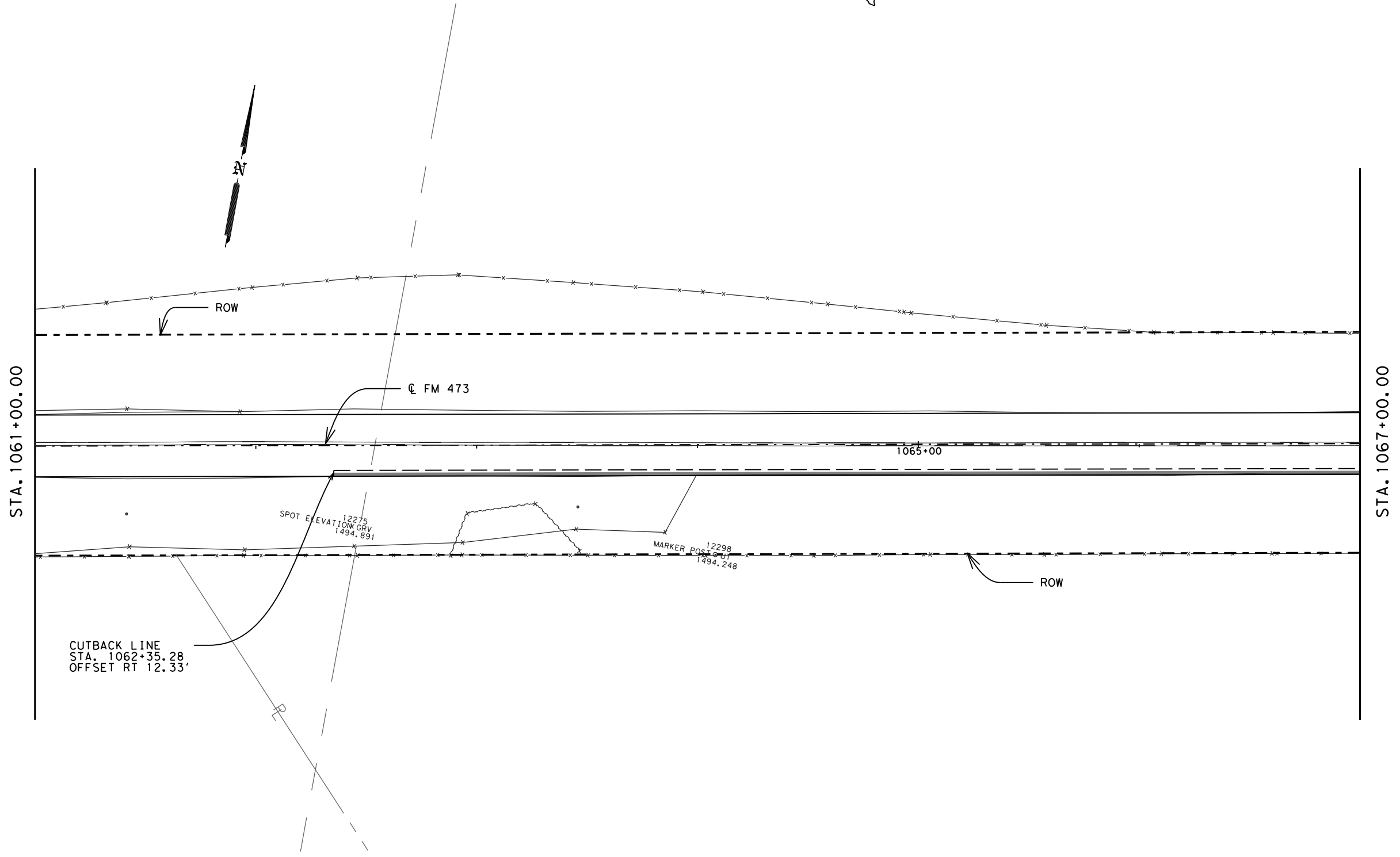


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	272	

Ck:  
Dk:  
Ck:  
Dk:

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	176.45	SY
D-GR HMA TY-B PG64-22	157.1	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



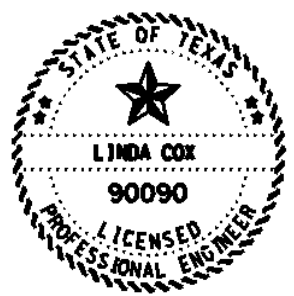
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



RM 473  
 PLAN SHEETS



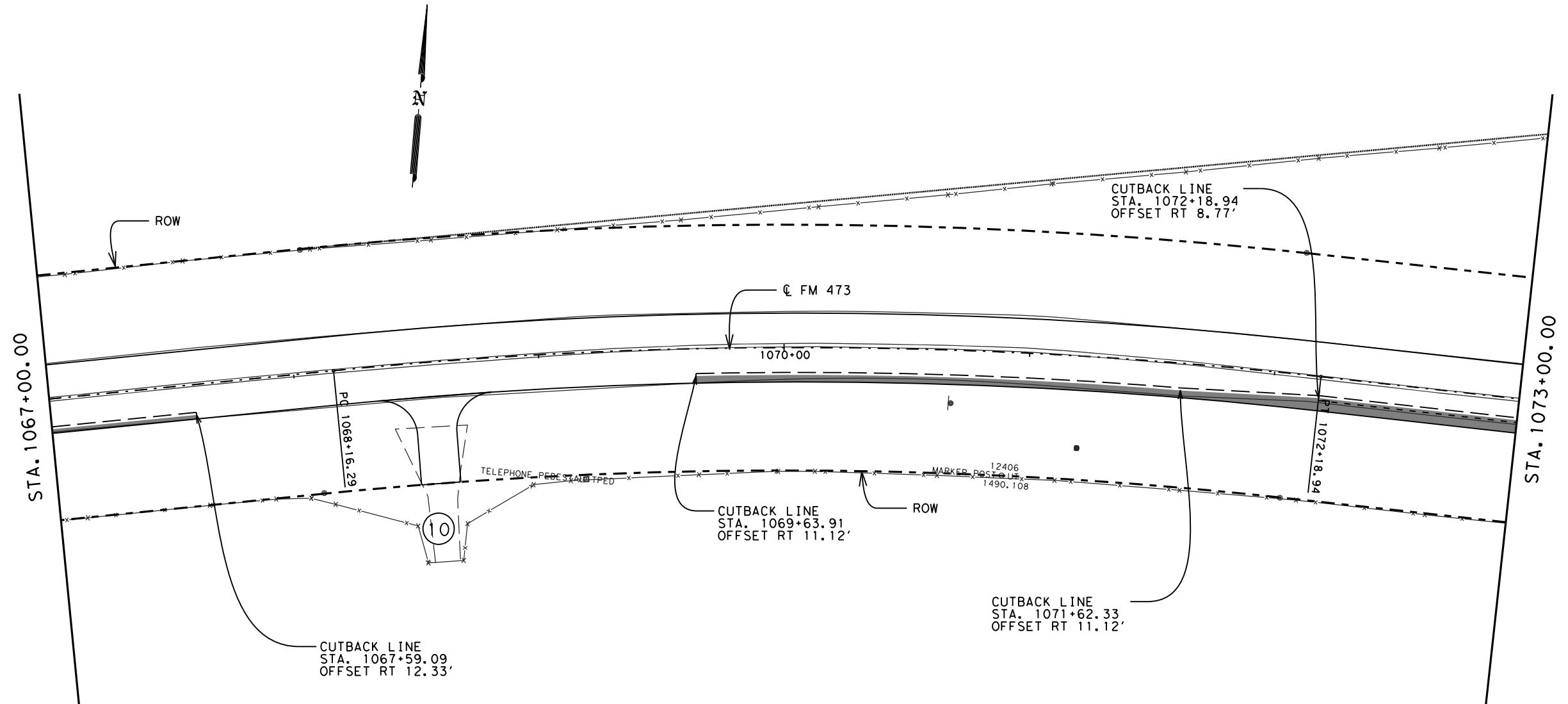
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	273



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Dwf:  
Cks:  
Dwf:

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1867	SY
D-GR HMA TY-B PG64-22	222.05	SY
D-GR HMA TY-B PG64-22	205.66	SY
TACK COAT	1867	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



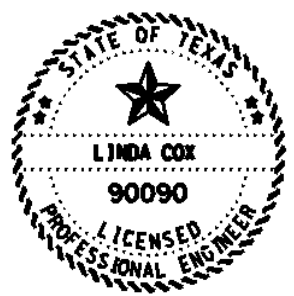
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



RM 473  
 PLAN SHEETS

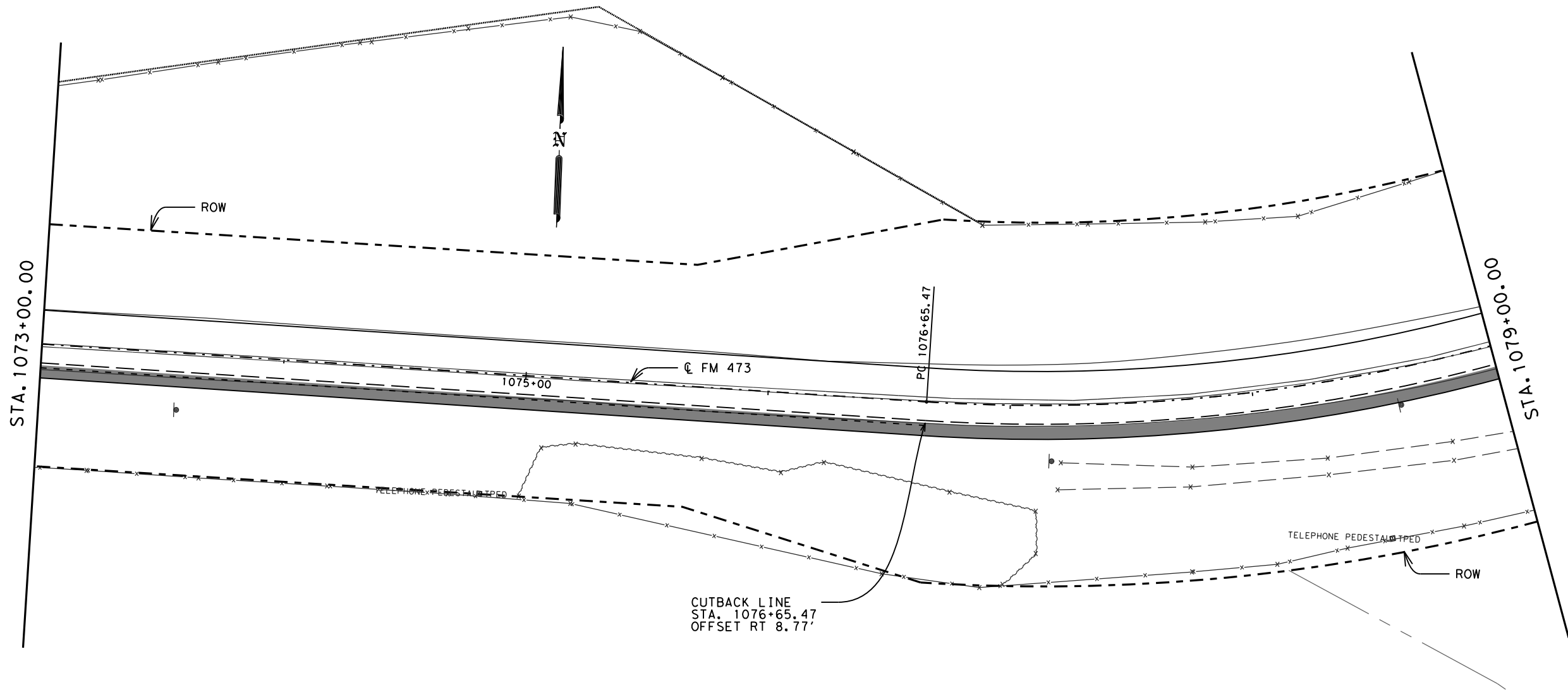


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		274

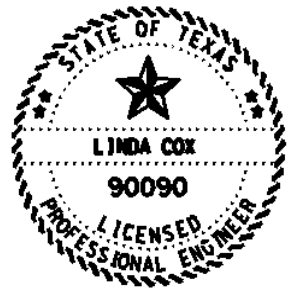
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 CS: \_\_\_\_\_  
 DN: \_\_\_\_\_

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1867.2	SY
D-GR HMA TY-B PG64-22	483.16	SY
D-GR HMA TY-B PG64-22	442.96	SY
TACK COAT	1867.2	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



CUTBACK LINE  
 STA. 1076+65.47  
 OFFSET RT 8.77'



*Linda Cox, P.E.*

04/28/2021

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# RM 473 PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		275

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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

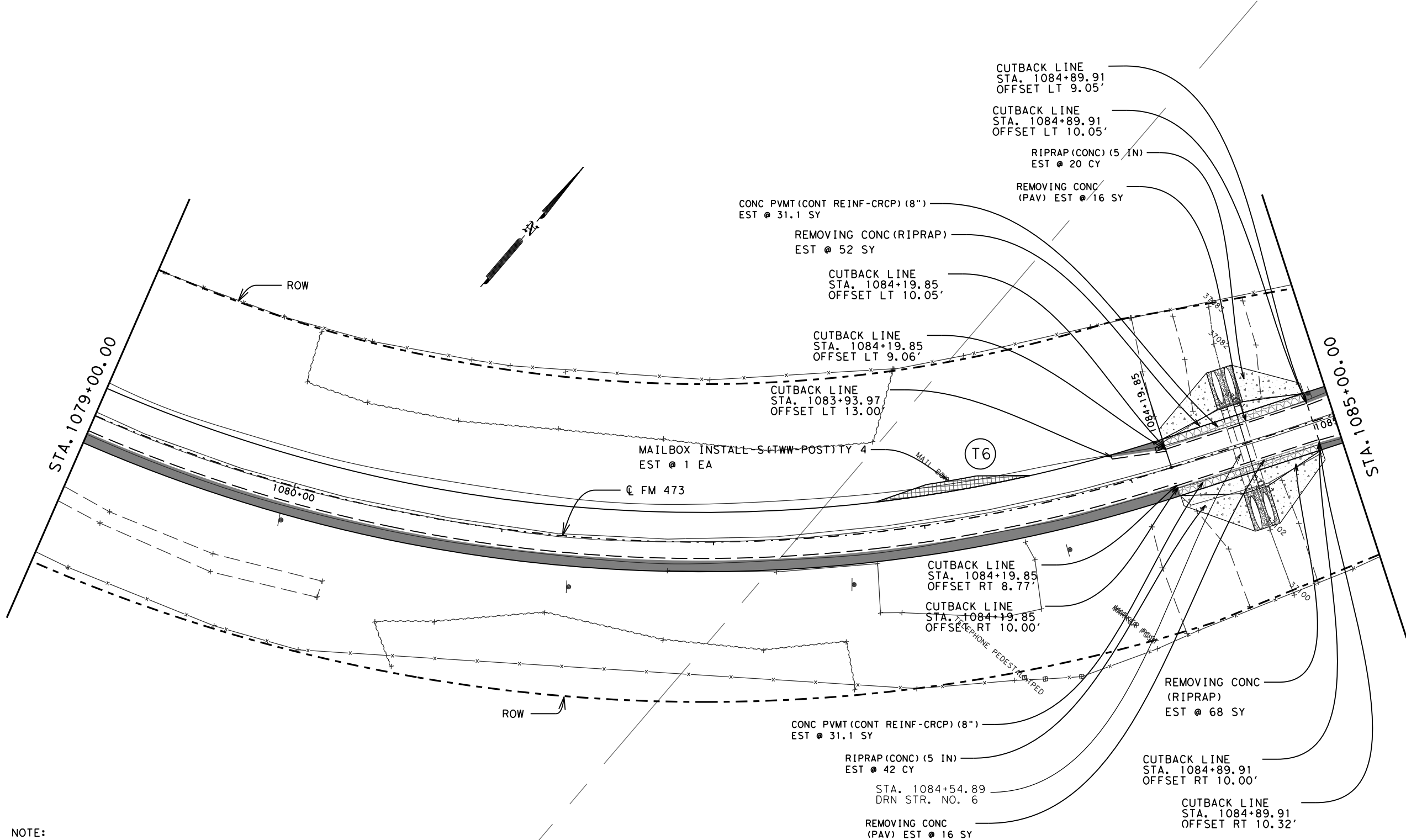
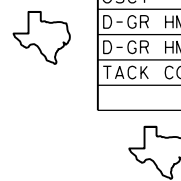
(X)	DRIVEWAY NUMBER
(■)	WIDENING AREA
(■)	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER

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 DWF:

DATE: 4/26/2021 5:49:31 PM   
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1867.2	SY
D-GR HMA TY-B PG64-22	536.2	SY
D-GR HMA TY-B PG64-22	506.4	SY
TACK COAT	1867.2	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOV CONC (PAV)	32	SY
REMOVING CONC (RIPRAP)	120	SY
CONC PVMT (CONT REINF - CRCP) (8")	62.2	SY
RIPRAP (CONC) (5 IN)	62	CY
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA

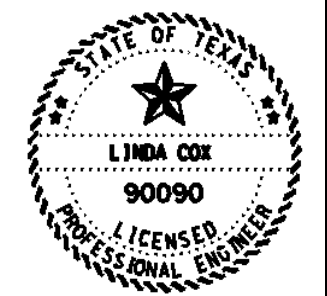


NOTE:   
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

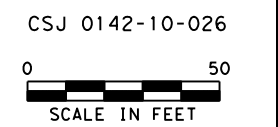
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



Linda Cox, P.E.   
 04/28/2021



RM 473   
 PLAN SHEETS

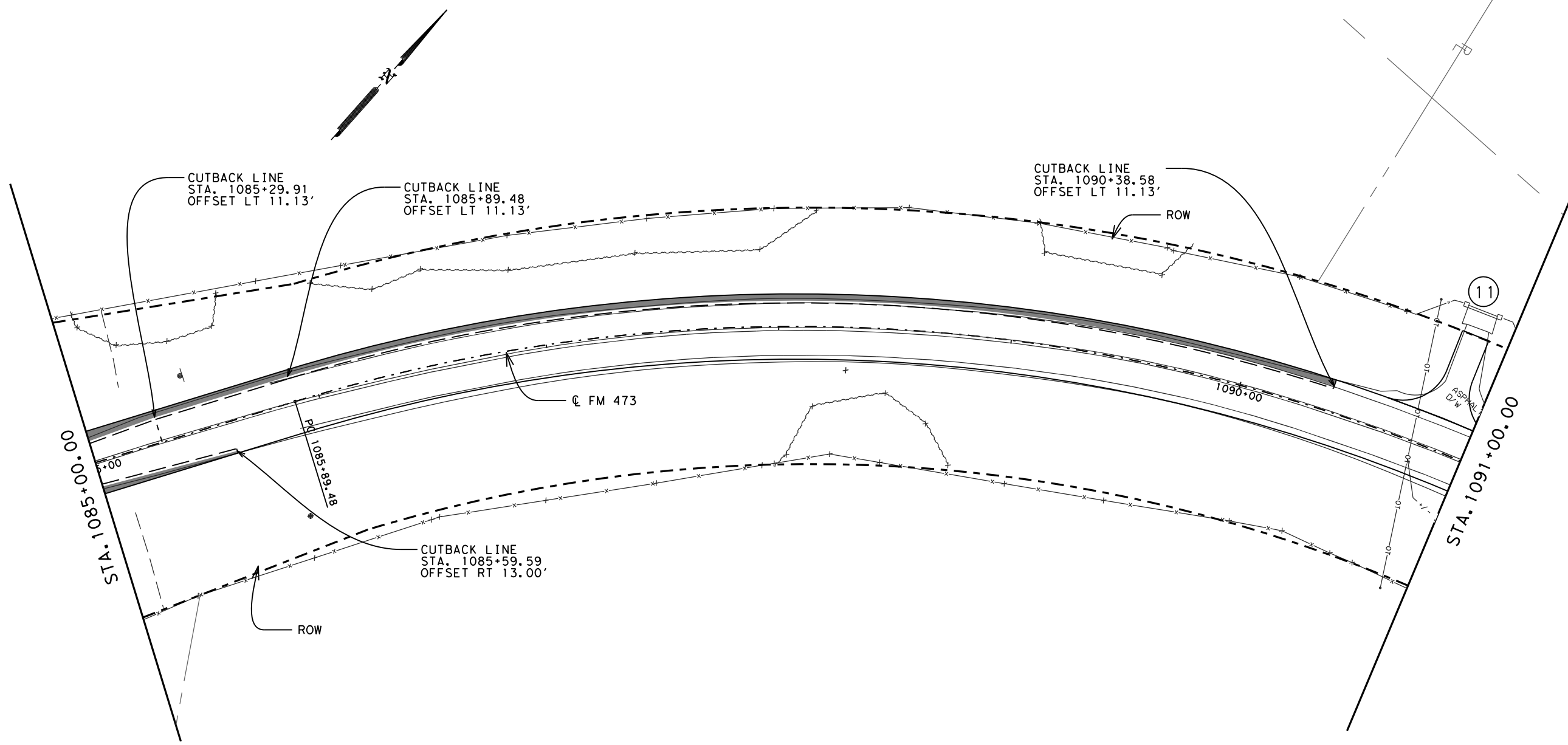
CSJ 0142-10-026		RM 473	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	276	

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Cks:  
Dwf:

DATE: 4/26/2021 5:49:40 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1867.8	SY
D-GR HMA TY-B PG64-22	308.77	SY
D-GR HMA TY-B PG64-22	283.51	SY
TACK COAT	1867.8	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

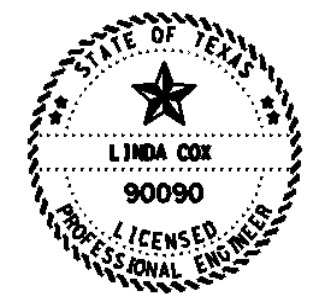


NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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04/28/2021

CSJ 0142-10-026



# RM 473 PLAN SHEETS

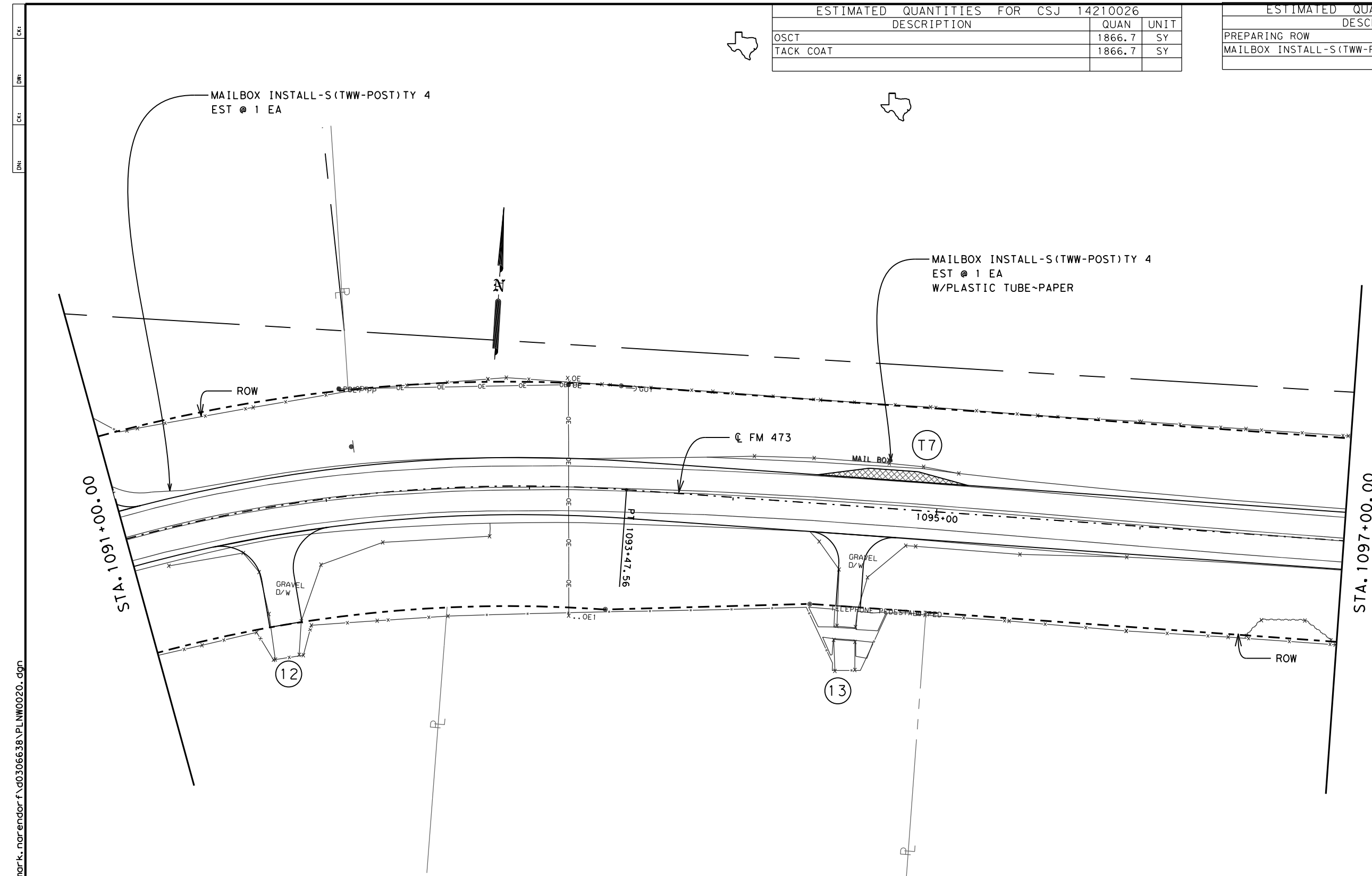


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	277



ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
MAILBOX INSTALL-S(TWW-POST)TY 4	2	EA



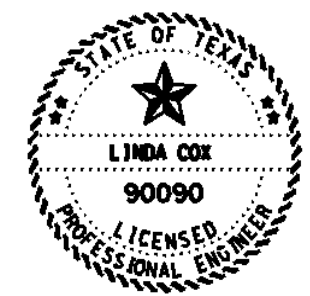
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

**LEGEND**

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-026



# RM 473 PLAN SHEETS



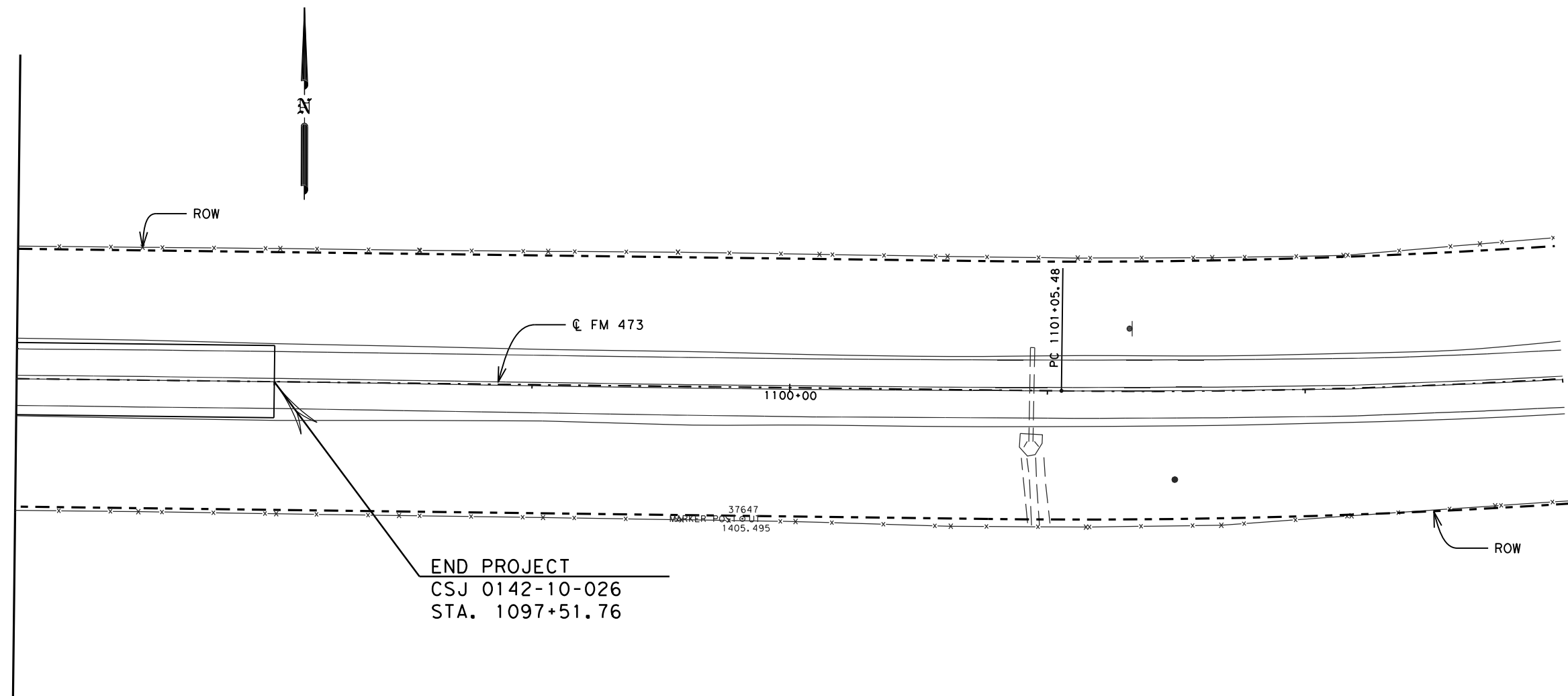
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	278

Cks:  
Dwf:  
Cks:  
Dwf:



ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
OSCT	309.54	SY
TACK COAT	309.54	SY

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	1	STA
FLEXIBLE PAVEMENT STRUCTURE REPAIR (7")	1500	SY

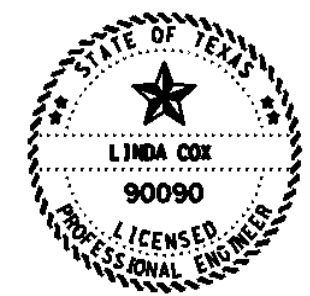


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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



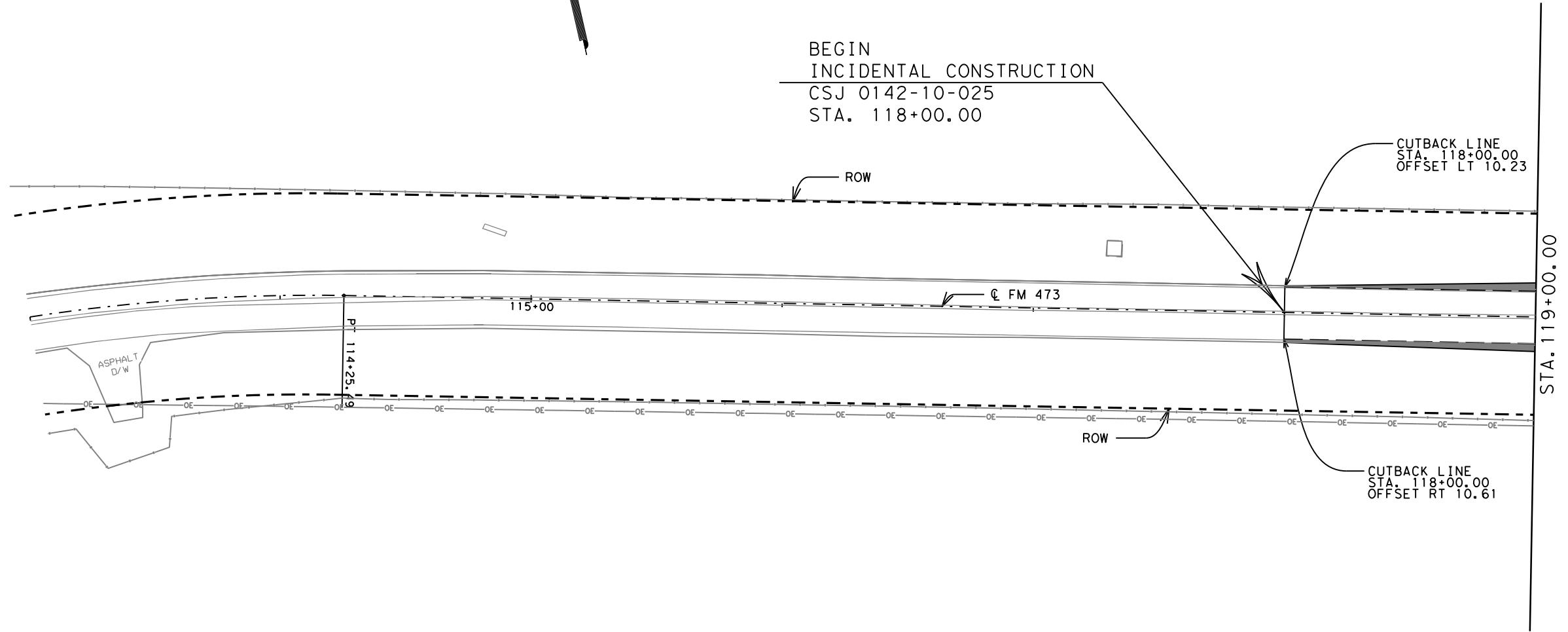
# RM 473 PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	279

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	260.37	SY
D-GR HMA TY-B PG64-22	67.64	SY
D-GR HMA TY-B PG64-22	59.3	SY
TACK COAT	260.37	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	1	STA



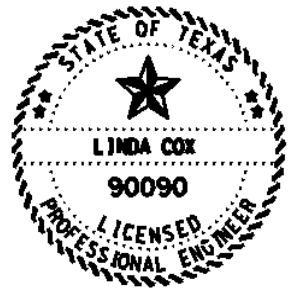
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	DRIVEWAY NUMBER
	WIDENING AREA
	MAILBOX TURNOUT
	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025



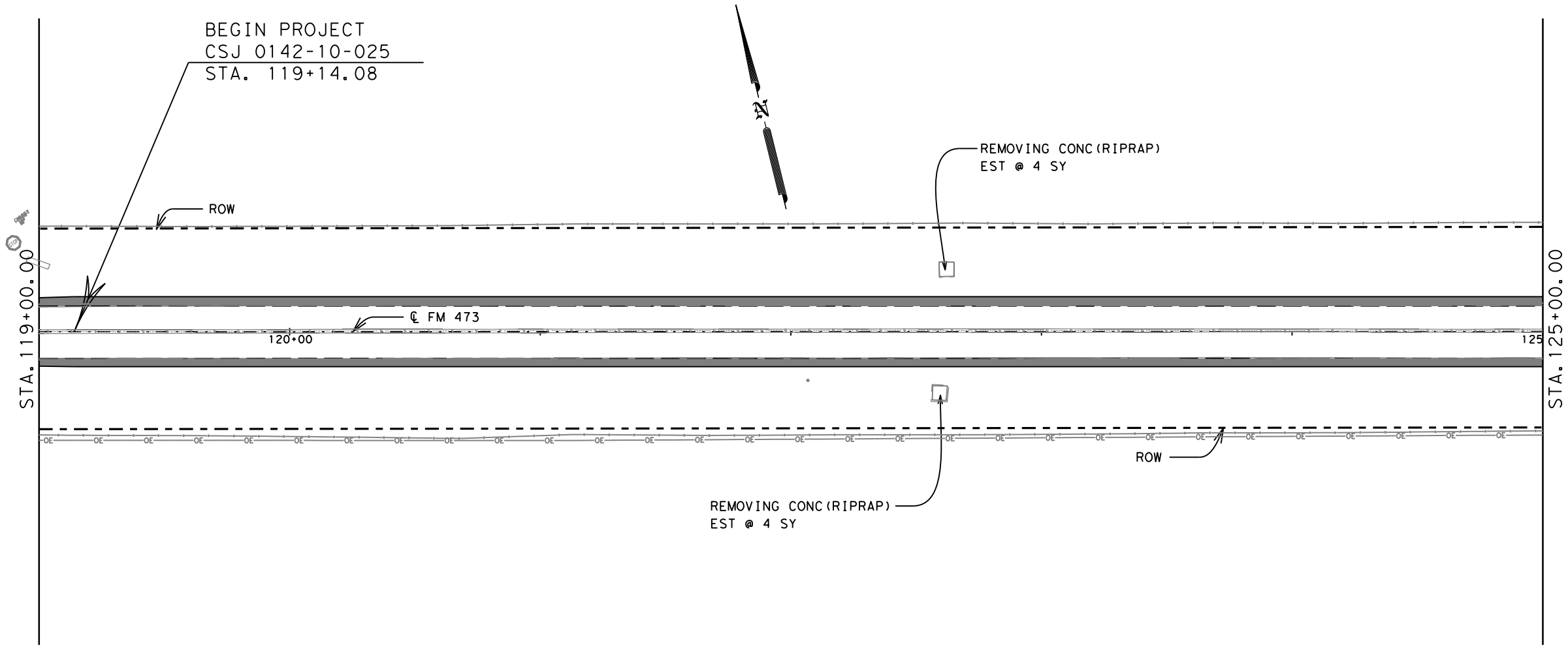
RM 473  
PLAN SHEETS

		Texas Department of Transportation	
SHEET 23 OF 58			
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		280



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	710.61	SY
D-GR HMA TY-B PG64-22	660.61	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	8	SY

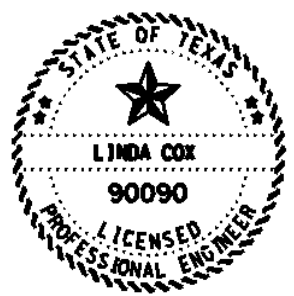


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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



# RM 473 PLAN SHEETS

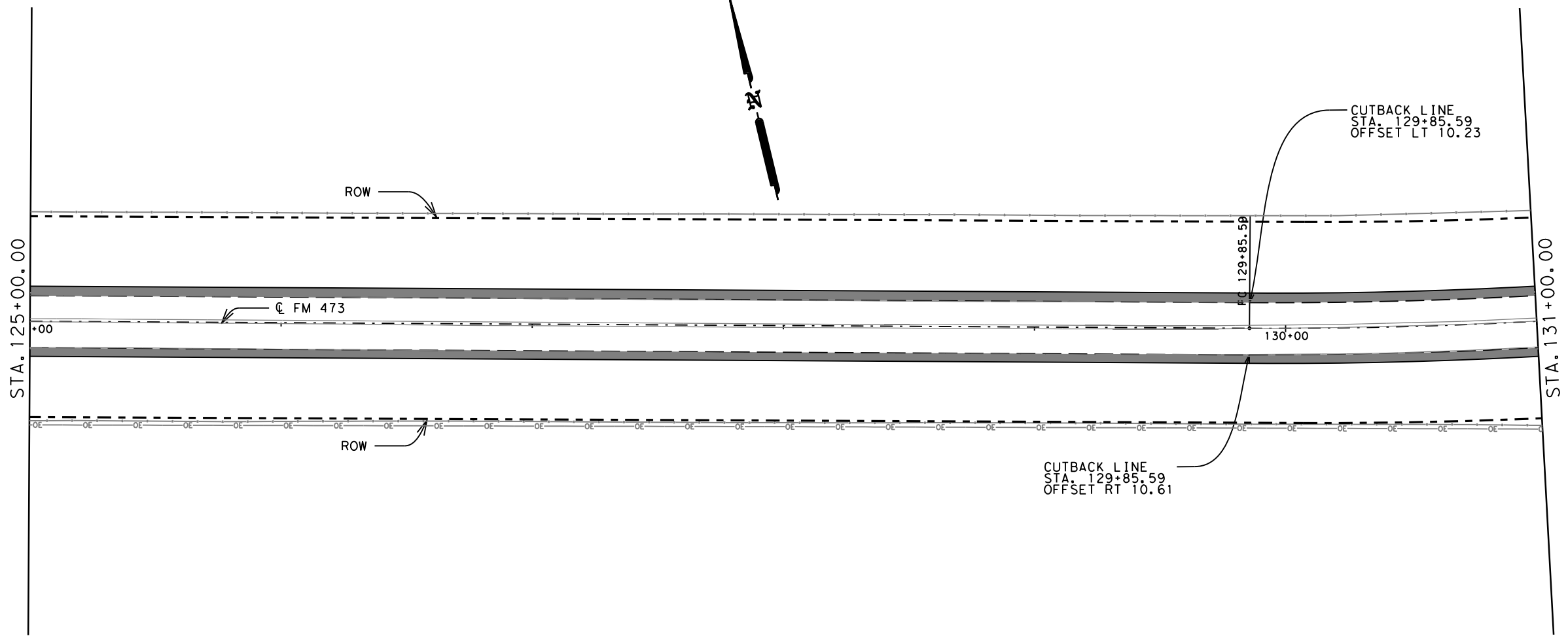


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	281



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	710.58	SY
D-GR HMA TY-B PG64-22	660.59	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

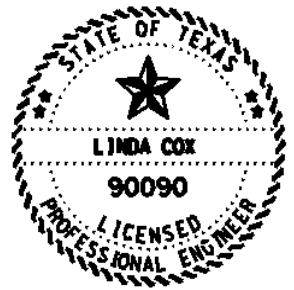


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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



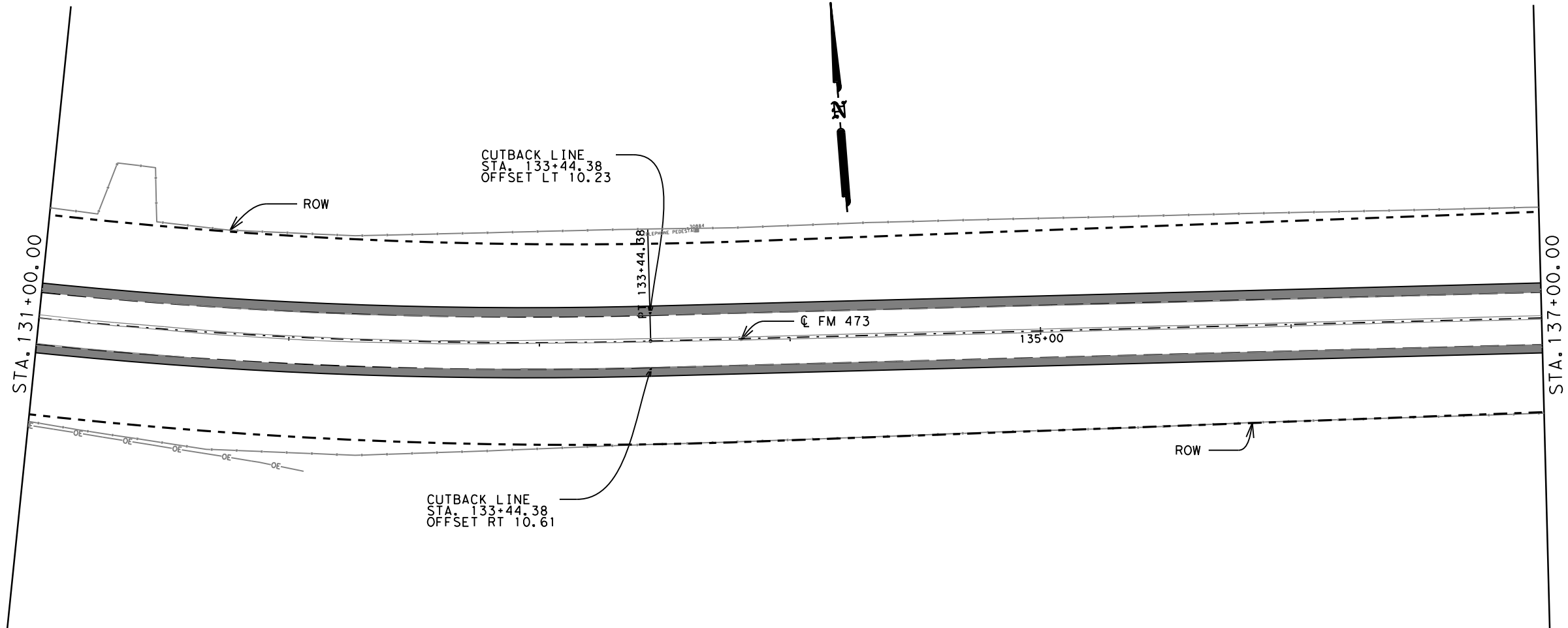
RM 473  
 PLAN SHEETS

Texas Department of Transportation		SHEET 25 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		282

CKE:  
DWF:  
CKE:  
DWF:

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	710.56	SY
D-GR HMA TY-B PG64-22	660.56	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



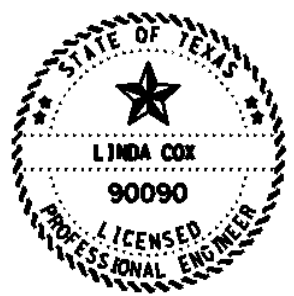
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
■	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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04/28/2021

CSJ 0142-10-025



RM 473  
PLAN SHEETS



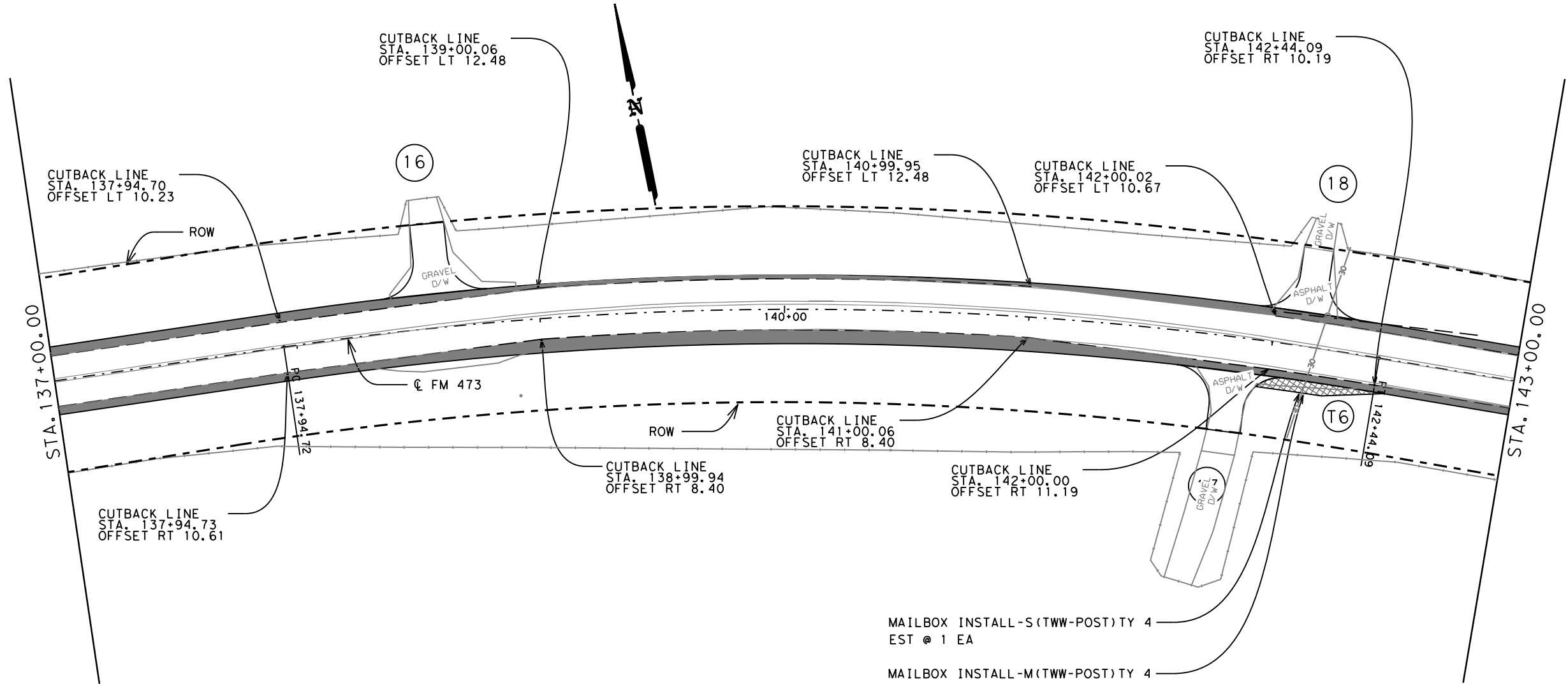
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		283

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	691.93	SY
D-GR HMA TY-B PG64-22	663.85	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA
MAILBOX INSTALL - M (TWW-POST) TY 4	1	EA

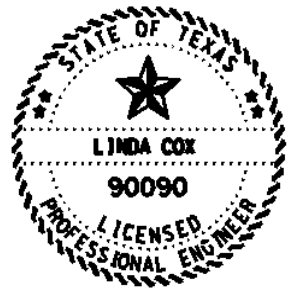


Ck: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 DW: \_\_\_\_\_



MAILBOX INSTALL-S(TWW-POST)TY 4  
EST @ 1 EA

MAILBOX INSTALL-M(TWW-POST)TY 4  
EST @ 1 EA  
W/PLASTIC TUBES-PAPER



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04/28/2021

CSJ 0142-10-025



# RM 473 PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		284

DATE: 4/26/2021 5:50:43 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

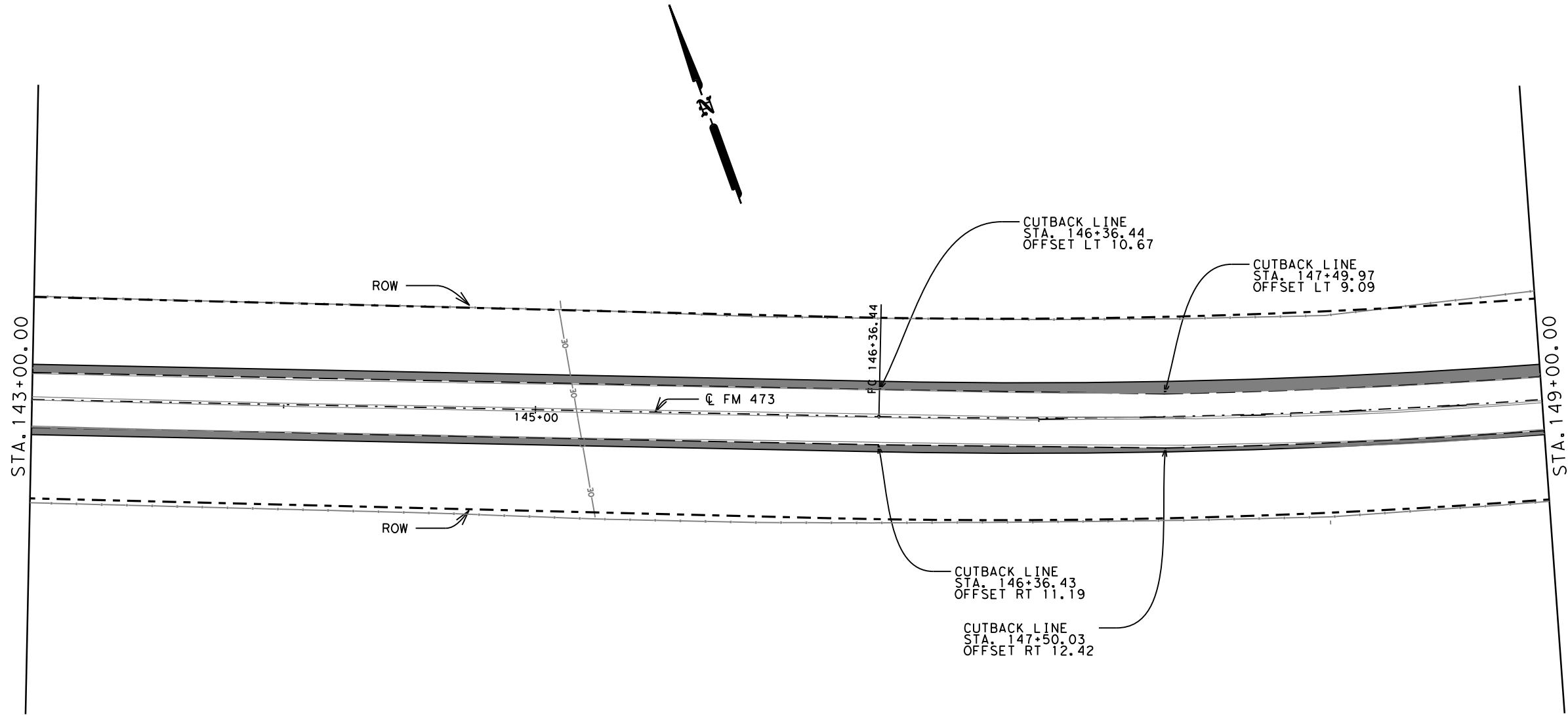
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	650.36	SY
D-GR HMA TY-B PG64-22	600.35	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

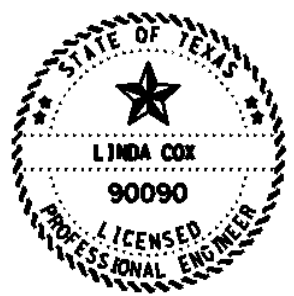


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PLAN SHEETS



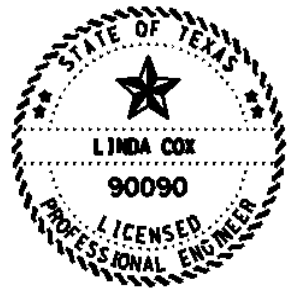
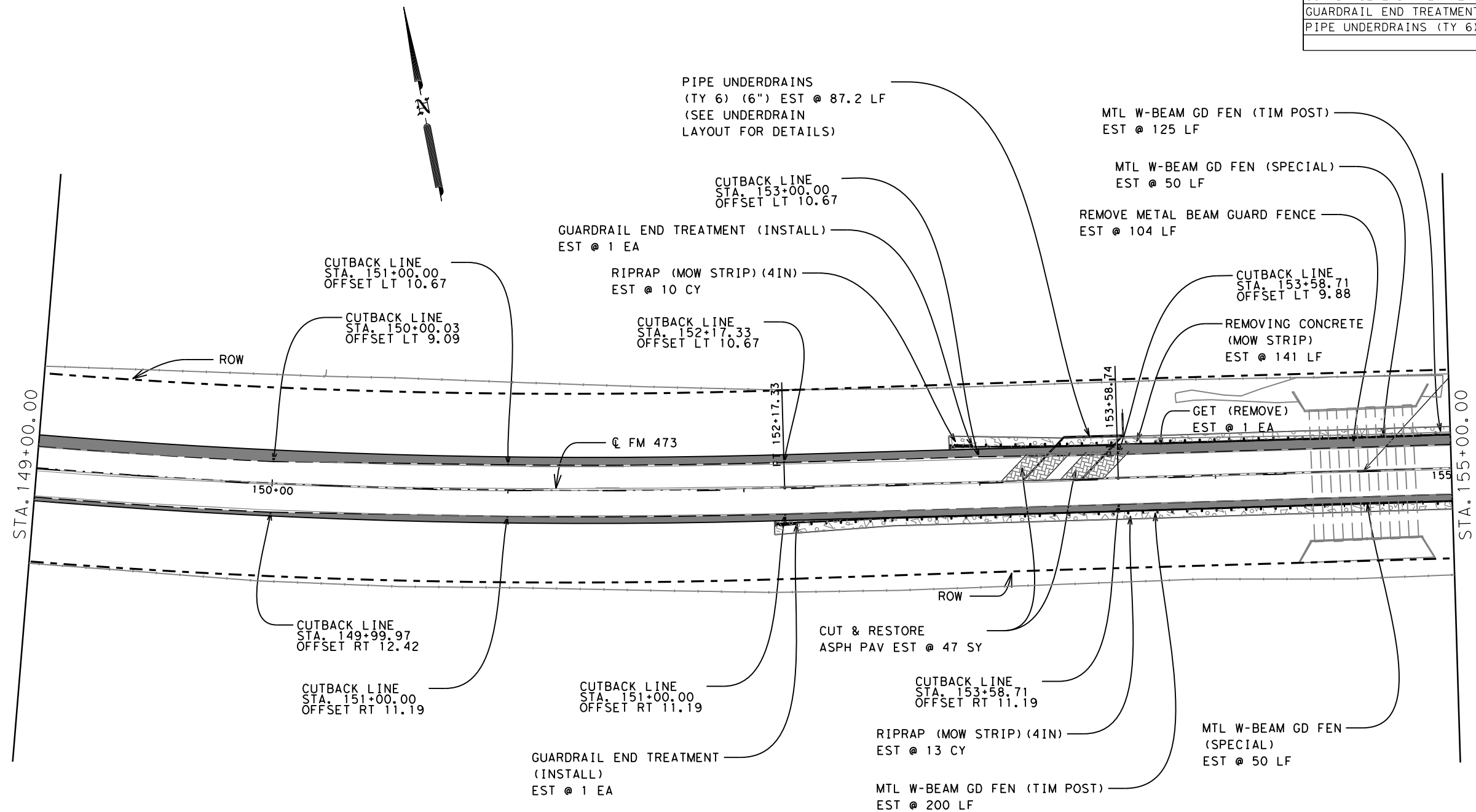
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	285	

CKE:  
DWF:  
CKE:  
DWF:



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	663.35	SY
D-GR HMA TY-B PG64-22	613.35	SY
TACK COAT	1866.7	SY

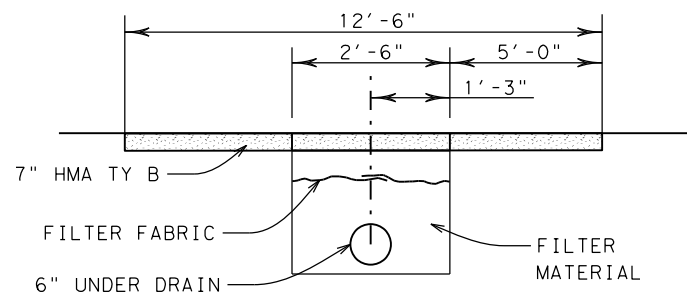
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONCRETE (MOW STRIP)	141	LF
CUT & RESTORE ASPH PAVING	47	SY
RIPRAP (MOW STRIP) (4 IN)	23	CY
MTL W-BEAM GD FEN (TIM POST)	325	LF
MTL W-BEAM GD FEN (SPECIAL)	100	LF
REMOVE METAL BEAM GUARD FENCE	104	LF
GUARDRAIL END TREATMENT (INSTALL)	2	EA
GUARDRAIL END TREATMENT (REMOVE)	1	EA
PIPE UNDERDRAINS (TY 6) (6")	87.2	LF



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CUT & RESTORE TYPICAL SECTION

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER

RM 473  
PLAN SHEETS

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

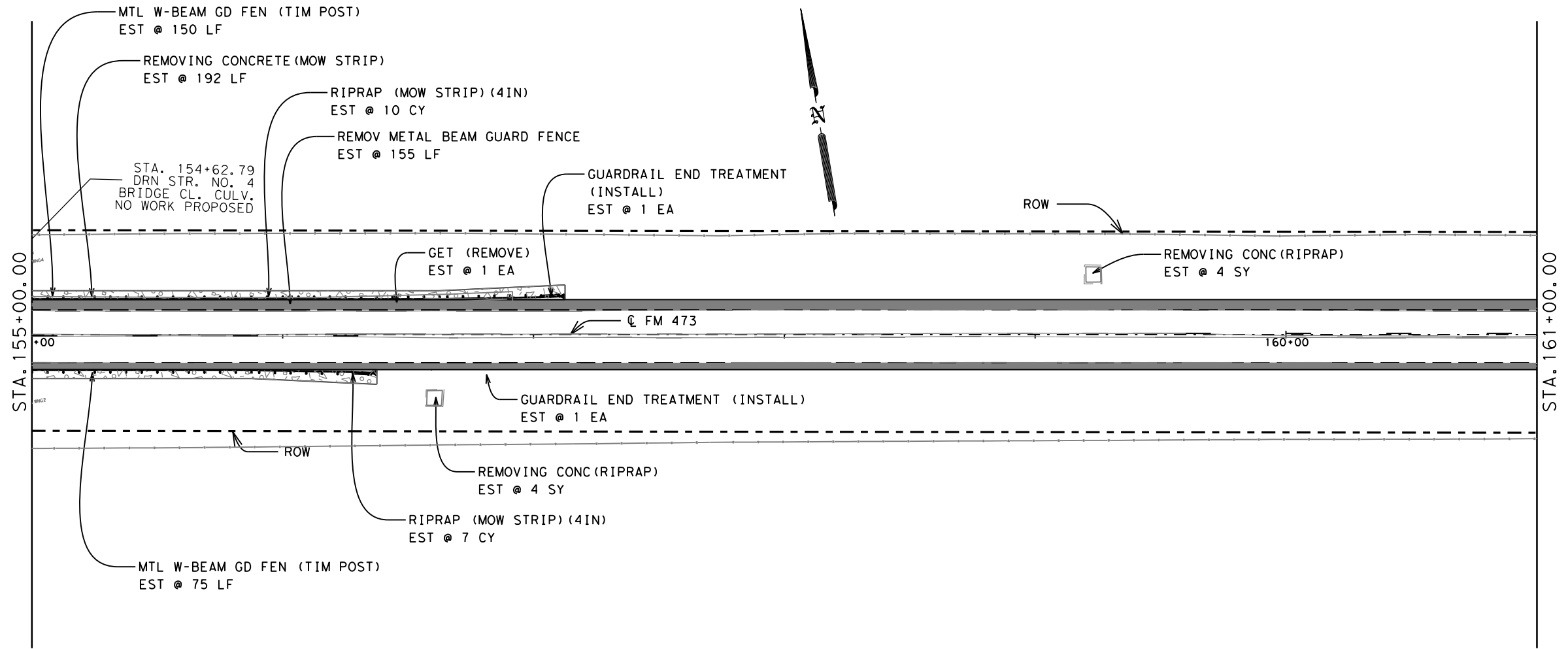
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	286

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	696.1	SY
D-GR HMA TY-B PG64-22	646.1	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	8	SY
REMOVING CONCRETE (MOW STRIP)	192	LF
RIPRAP (MOW STRIP) (4 IN)	17	CY
MTL W-BEAM GD FEN (TIM POST)	225	LF
REMOVE METAL BEAM GUARD FENCE	155	LF
GUARDRAIL END TREATMENT (INSTALL)	2	EA
GUARDRAIL END TREATMENT (REMOVE)	1	EA



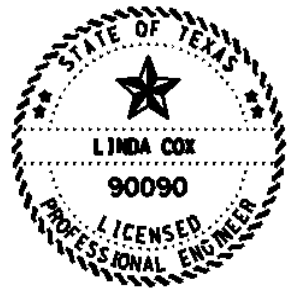
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
■	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



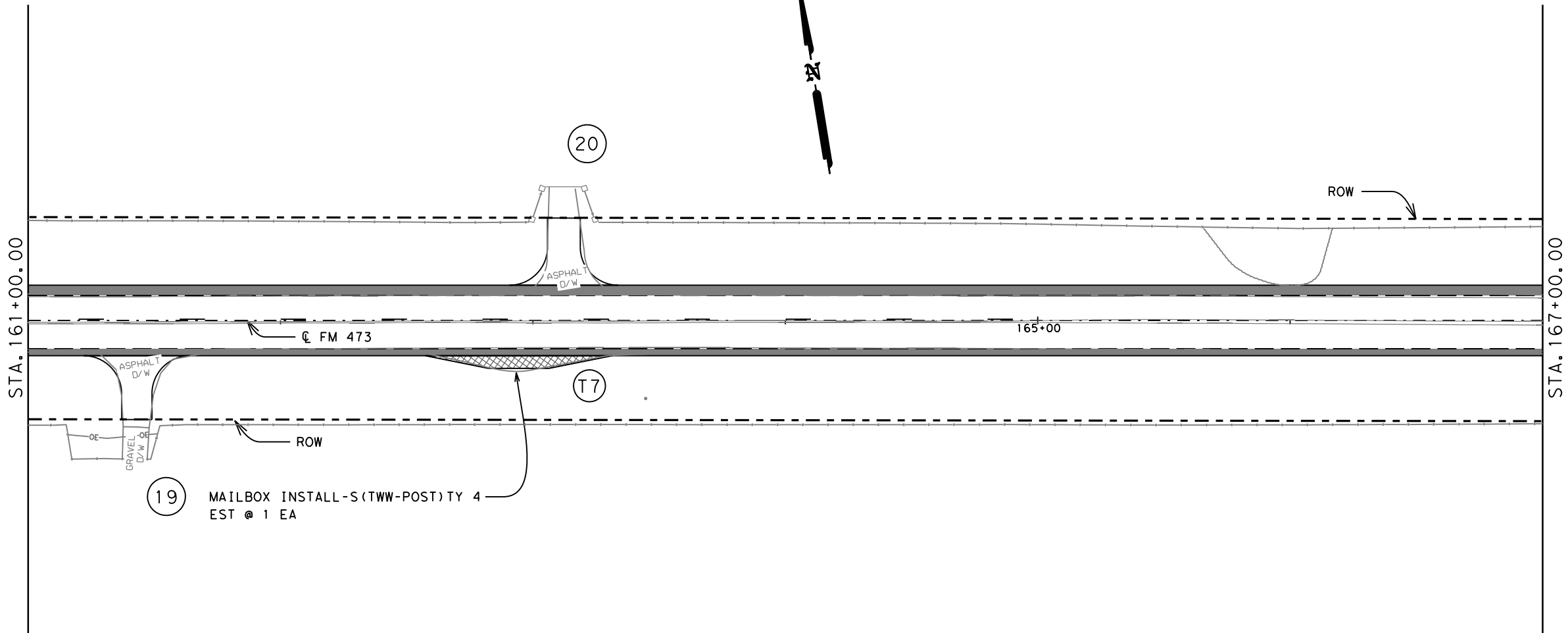
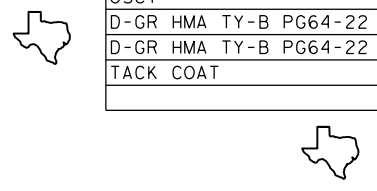
RM 473  
PLAN SHEETS

Texas Department of Transportation		SHEET 30 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		287

Ck: \_\_\_\_\_  
 Dk: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dk: \_\_\_\_\_

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	696.1	SY
D-GR HMA TY-B PG64-22	646.1	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA



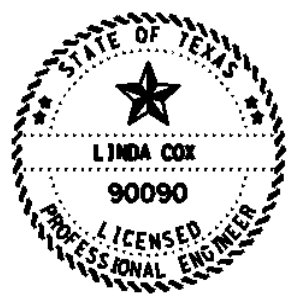
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



RM 473  
 PLAN SHEETS

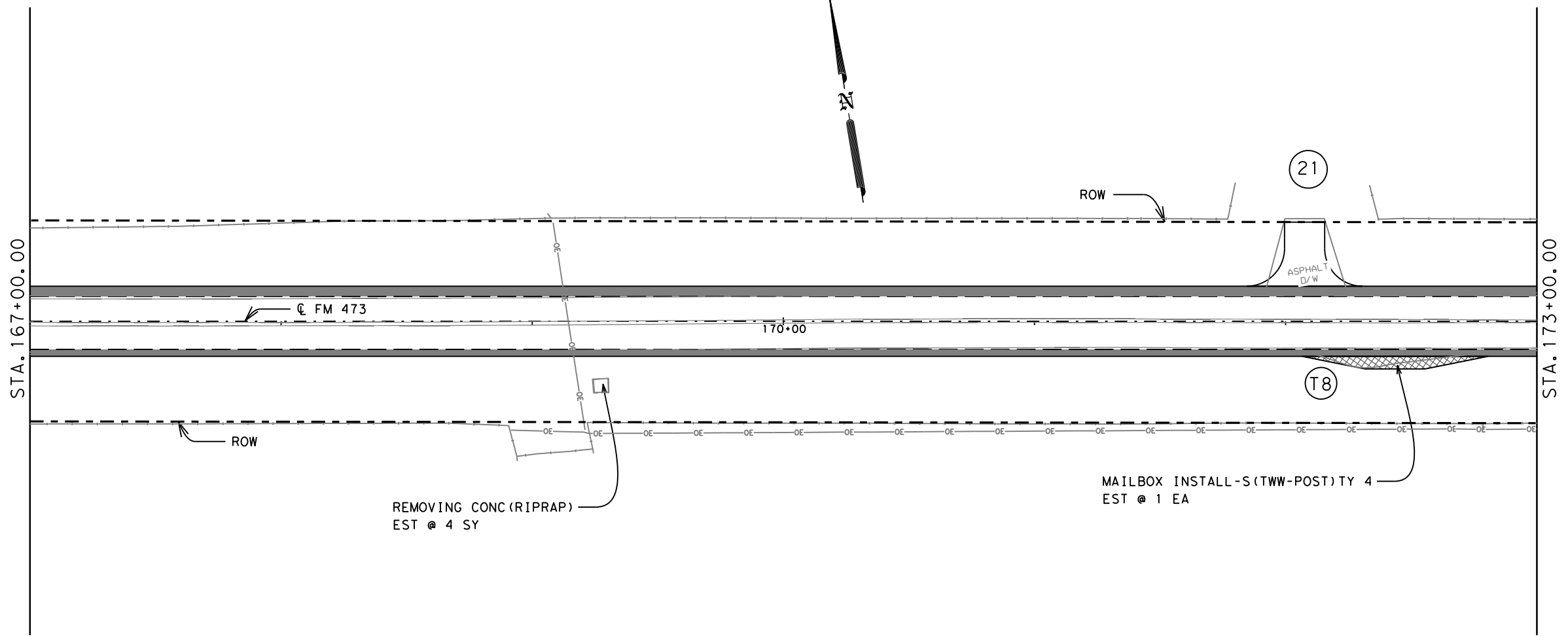


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		288

CKE:  
DWF:  
CKE:  
DWF:

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	696.1	SY
D-GR HMA TY-B PG64-22	646.1	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	4	SY
MAILBOX INSTALL-S(TWW-POST)TY 4	1	EA



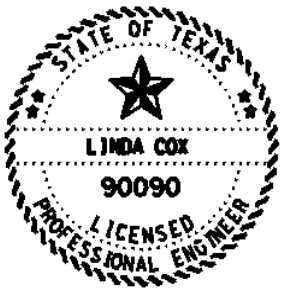
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*

04/28/2021

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RM 473  
PLAN SHEETS

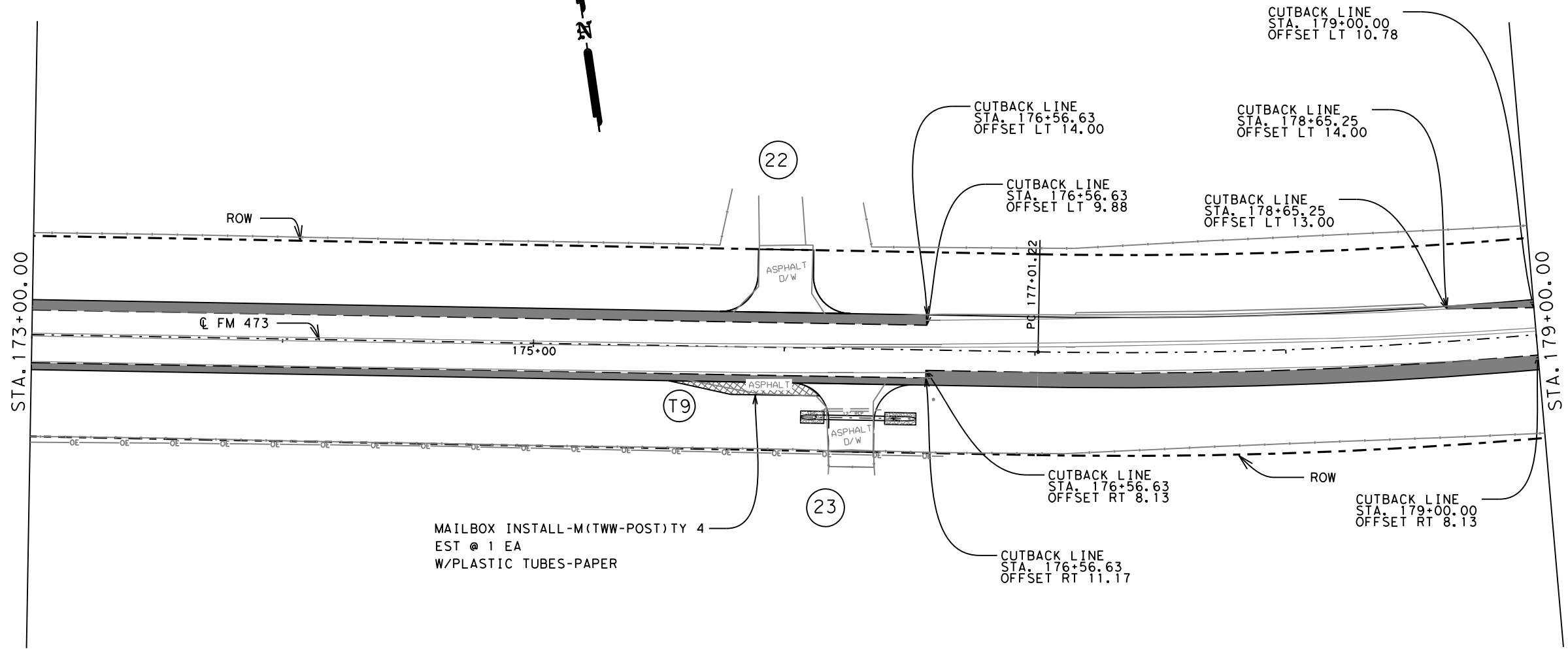


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	289	

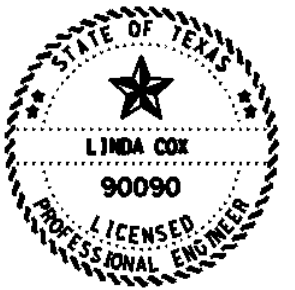


ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	635.3	SY
D-GR HMA TY-B PG64-22	593.9	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
MAILBOX INSTALL - M (TWW-POST) TY 4	1	EA



MAILBOX INSTALL-M(TWW-POST)TY 4  
EST @ 1 EA  
W/PLASTIC TUBES-PAPER



*Linda Cox, P.E.*

04/28/2021

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RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	290

DATE: 4/26/2021 5:51:29 PM  
FILE: c:\txdot\pw\_online\online\txdot4\mark\_narendor\0306603\PLNE0025(111).dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

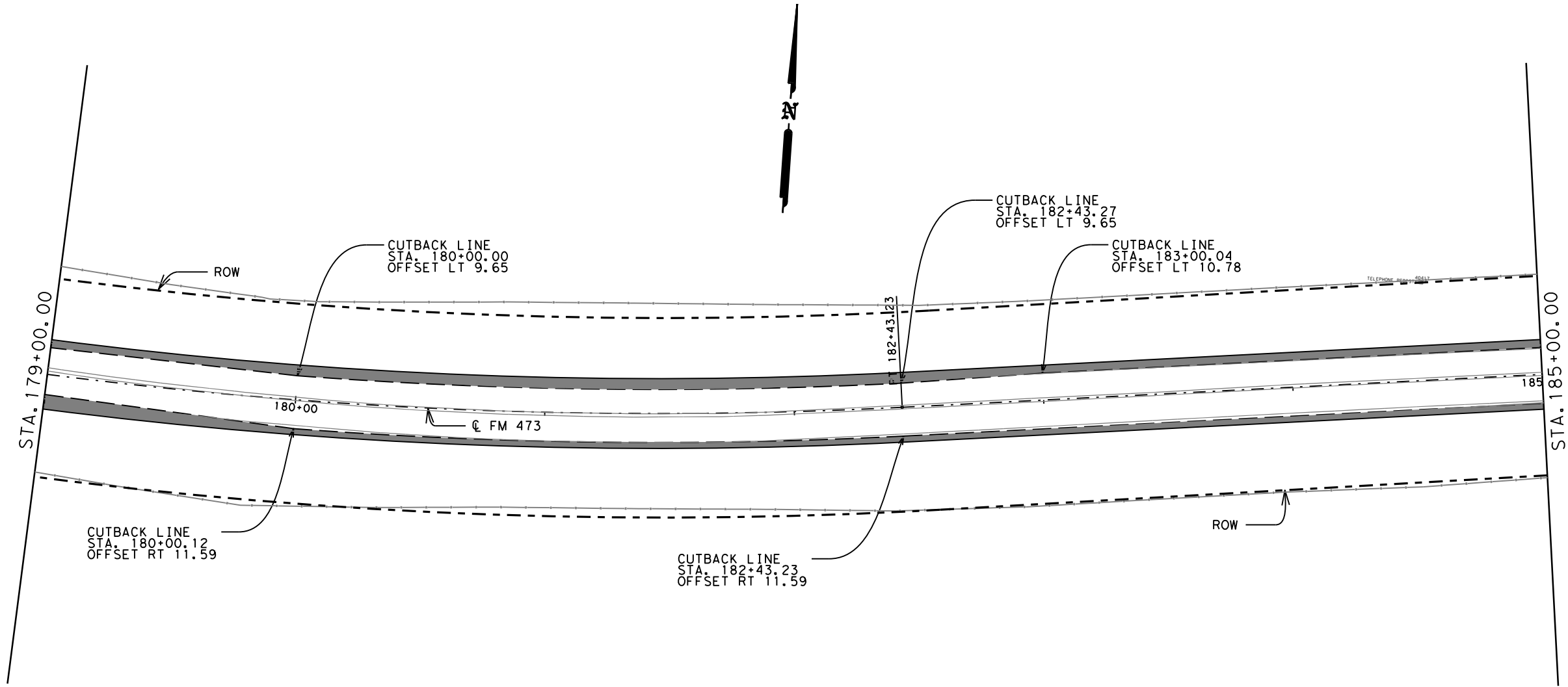
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	668.19	SY
D-GR HMA TY-B PG64-22	618.14	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

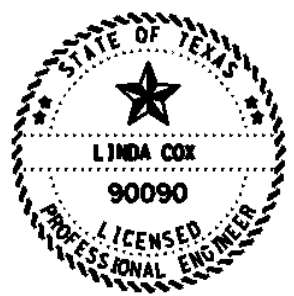


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



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CSJ 0142-10-025



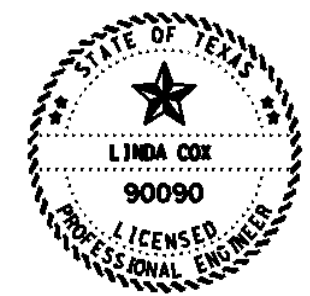
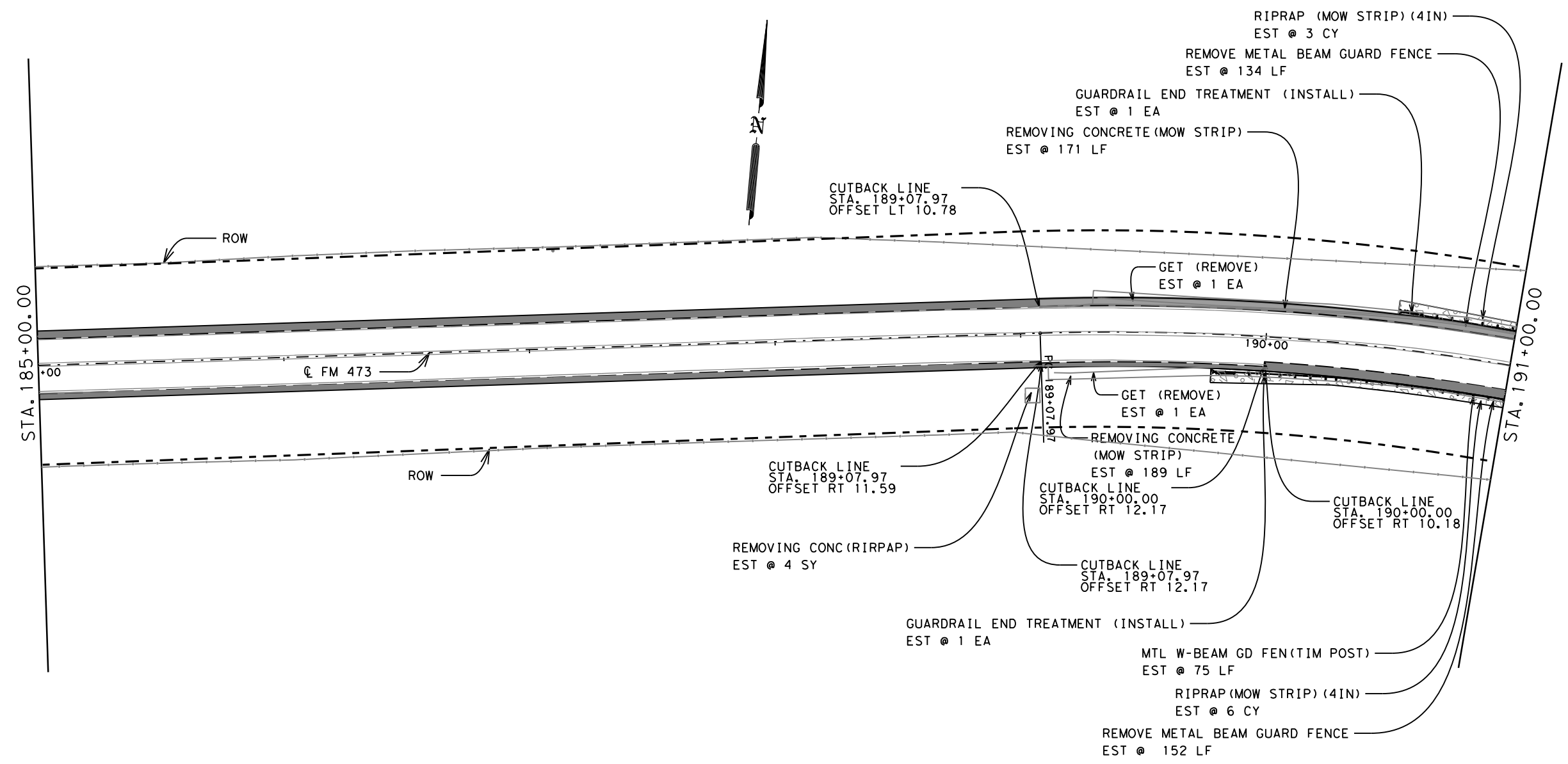
# RM 473 PLAN SHEETS



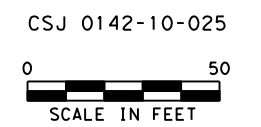
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	291

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	618.19	SY
D-GR HMA TY-B PG64-22	568.19	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIRPAP)	4	SY
REMOVING CONC (DRIVEWAYS)	177	SY
REMOVING CONCRETE (MOW STRIP)	360	LF
RIPRAP (MOW STRIP) (4 IN)	9	CY
MTL W-BEAM GD FEN (TIM POST)	75	LF
REMOVE METAL BEAM GUARD FENCE	286	LF
GUARDRAIL END TREATMENT (INSTALL)	2	EA
GUARDRAIL END TREATMENT (REMOVE)	2	EA



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# RM 473 PLAN SHEETS

Texas Department of Transportation SHEET 35 OF 58			
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		292

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
■	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER

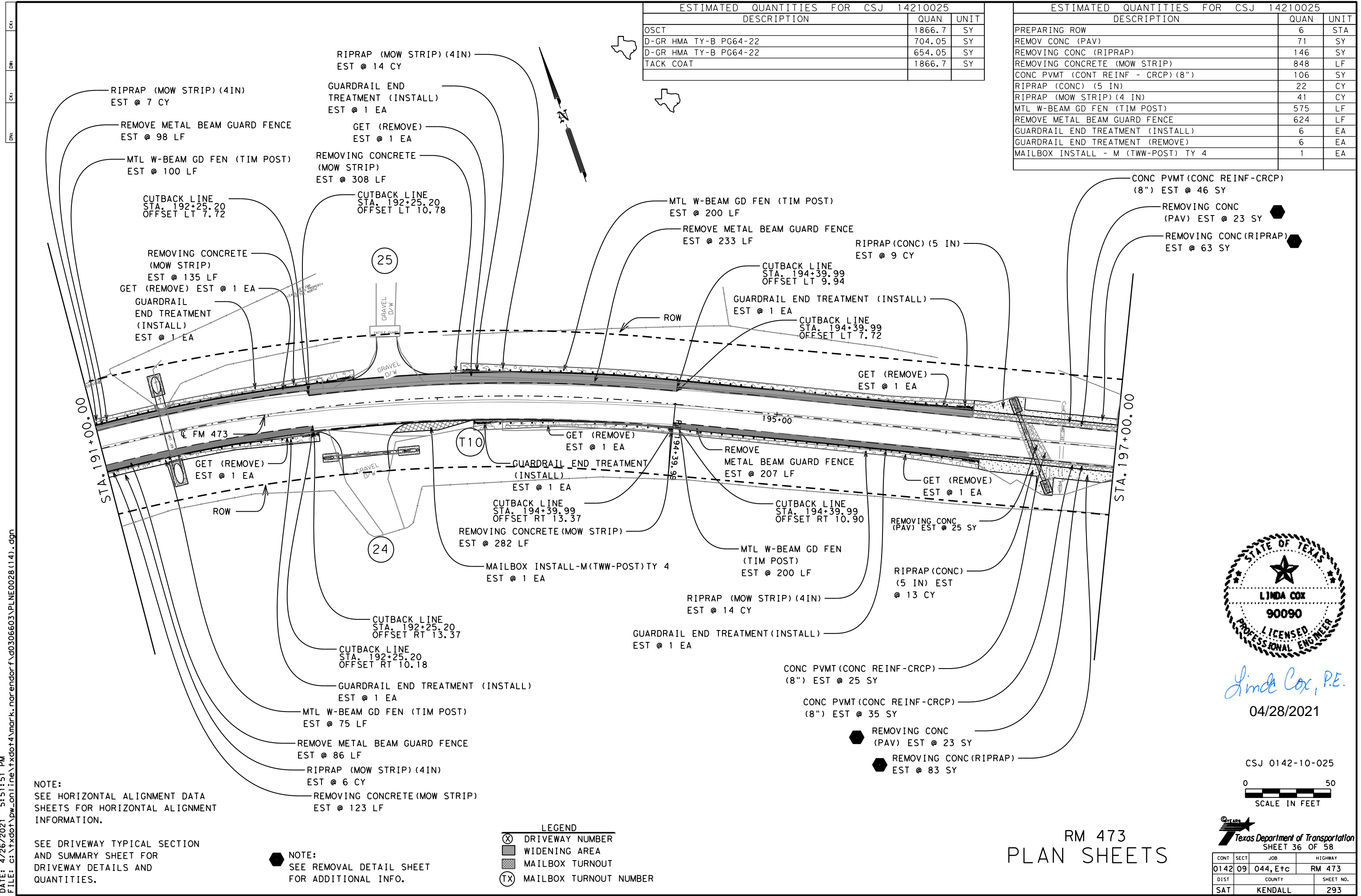
NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	704.05	SY
D-GR HMA TY-B PG64-22	654.05	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOV CONC (PAV)	71	SY
REMOVING CONC (RIPRAP)	146	SY
REMOVING CONCRETE (MOW STRIP)	848	LF
CONC PVMT (CONC REINF - CRCP) (8")	106	SY
RIPRAP (CONC) (5 IN)	22	CY
RIPRAP (MOW STRIP) (4 IN)	41	CY
MTL W-BEAM GD FEN (TIM POST)	575	LF
REMOVE METAL BEAM GUARD FENCE	624	LF
GUARDRAIL END TREATMENT (INSTALL)	6	EA
GUARDRAIL END TREATMENT (REMOVE)	6	EA
MAILBOX INSTALL - M (TWW-POST) TY 4	1	EA



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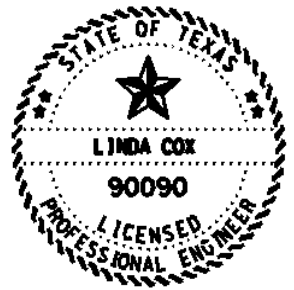
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SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SEE REMOVAL DETAIL SHEET FOR ADDITIONAL INFO.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
■	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*

04/28/2021

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# RM 473 PLAN SHEETS

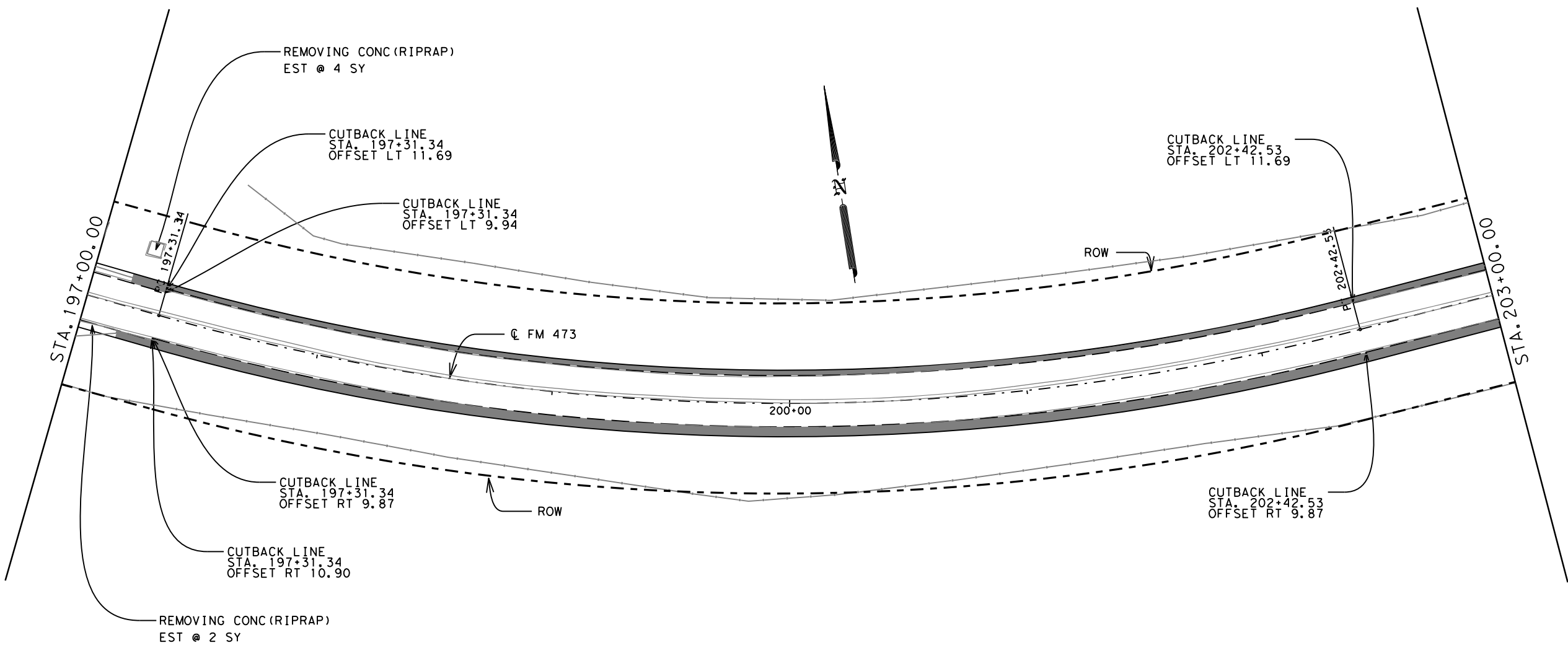
Texas Department of Transportation		SHEET 36 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		293

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	667.16	SY
D-GR HMA TY-B PG64-22	617.16	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	6	SY



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 Dk: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dk: \_\_\_\_\_



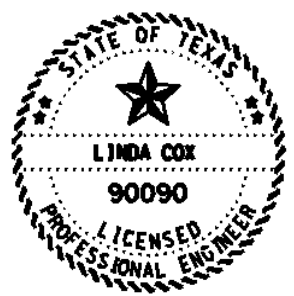
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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04/28/2021

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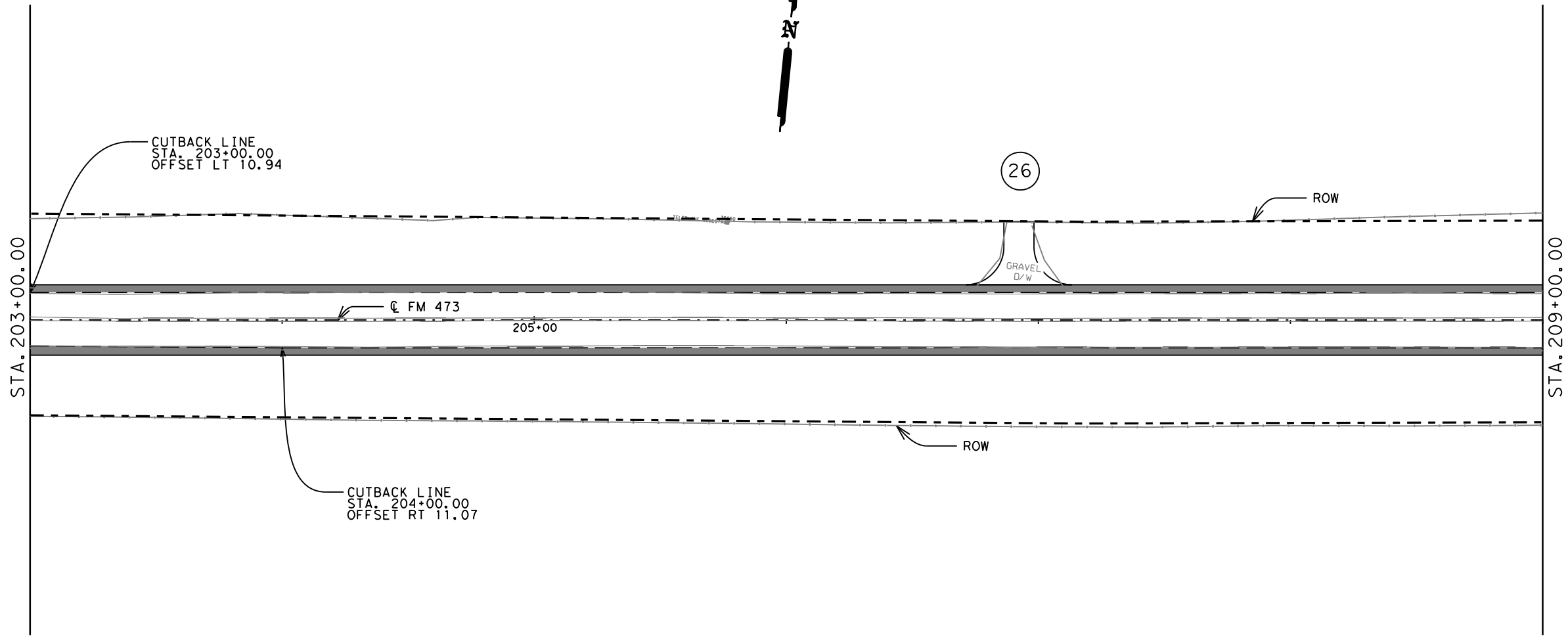
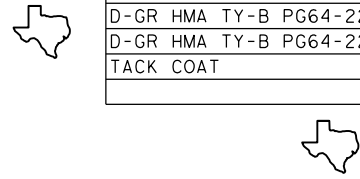
# RM 473 PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	294

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	636.72	SY
D-GR HMA TY-B PG64-22	586.72	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

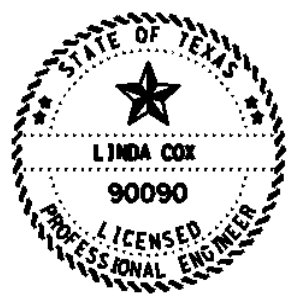


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



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RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	295

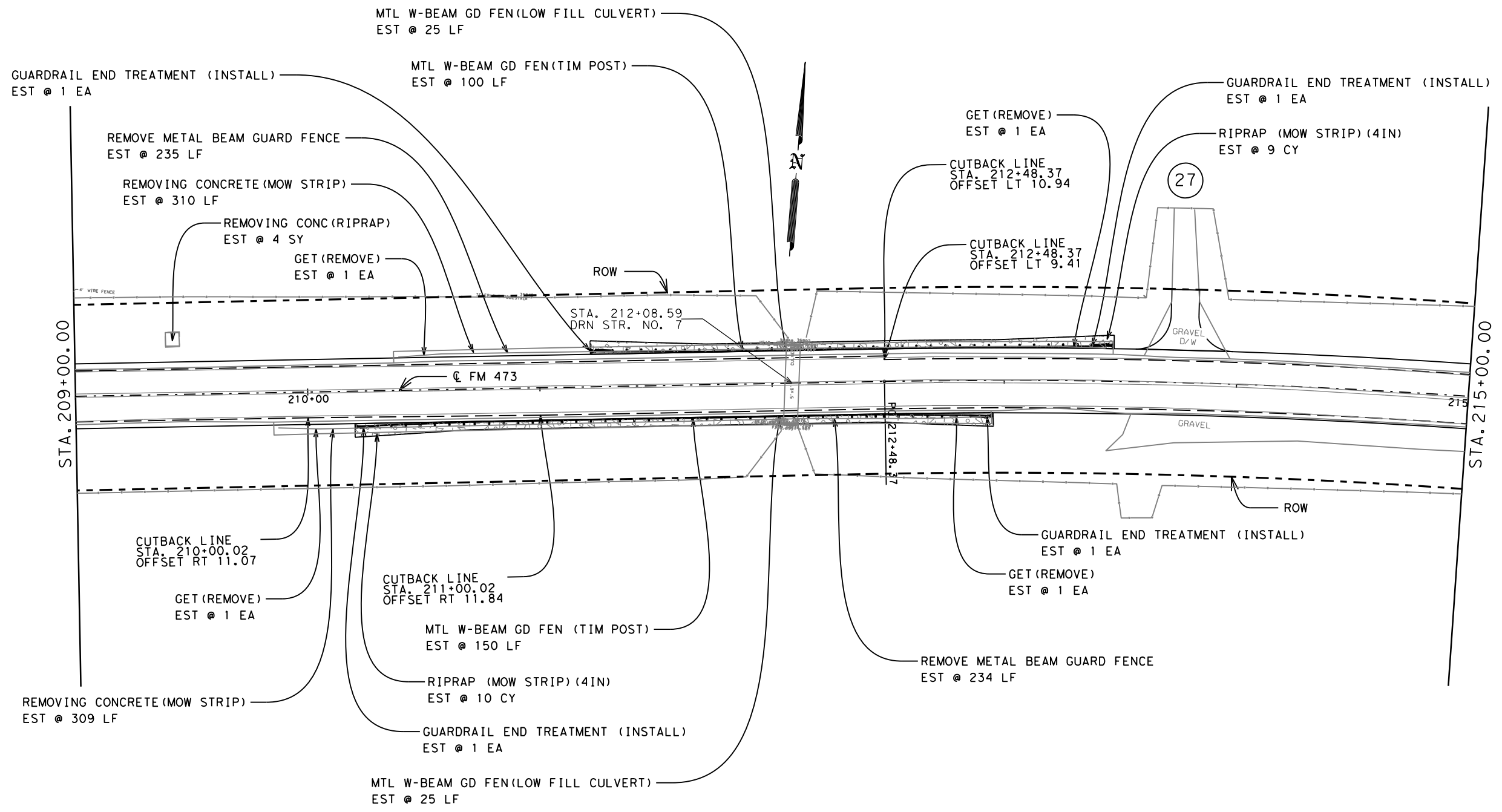
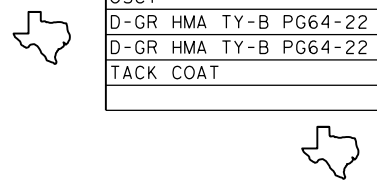


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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	637.03	SY
D-GR HMA TY-B PG64-22	587.02	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONCRETE (MOW STRIP)	619	LF
RIPRAP (MOW STRIP) (4 IN)	25	CY
MTL W-BEAM GD FEN (TIM POST)	250	LF
MTL W-BEAM GD FEN (LOW FILL CULVERT)	50	LF
REMOVE METAL BEAM GUARD FENCE	469	LF
GUARDRAIL END TREATMENT (INSTALL)	4	EA
GUARDRAIL END TREATMENT (REMOVE)	4	EA

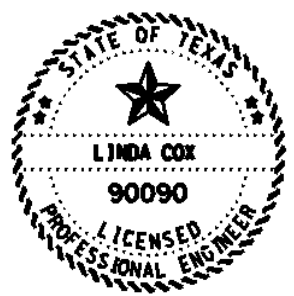


NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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 04/28/2021

CSJ 0142-10-025



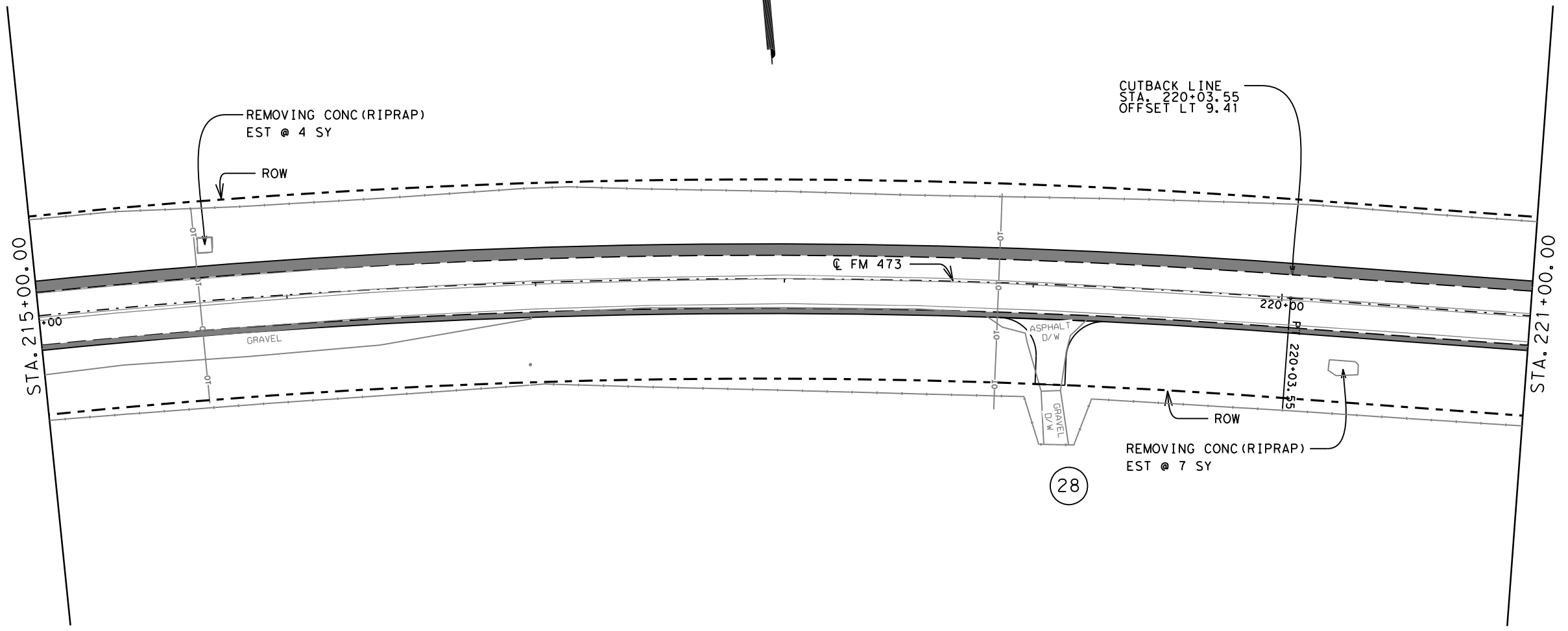
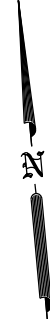
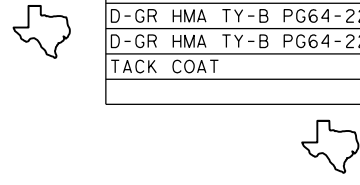
RM 473  
 PLAN SHEETS

Texas Department of Transportation		SHEET 39 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		296

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	680.75	SY
D-GR HMA TY-B PG64-22	630.76	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	11	SY

Ck:   
 Dk:   
 Ck:   
 Dk:



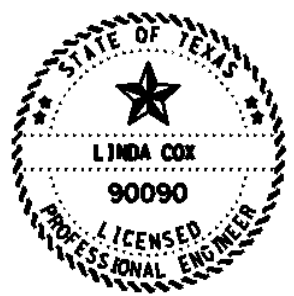
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



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 04/28/2021

CSJ 0142-10-025



# RM 473 PLAN SHEETS

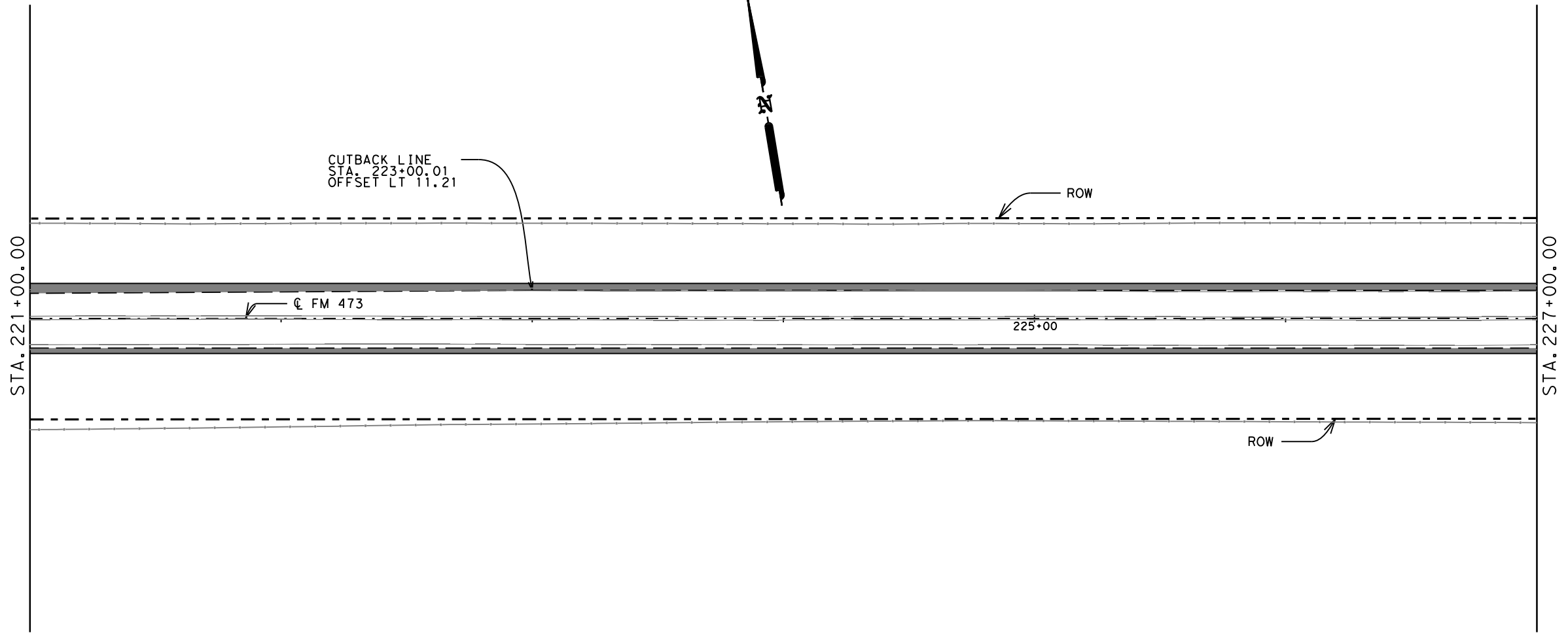


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	297



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	682.33	SY
D-GR HMA TY-B PG64-22	527.37	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

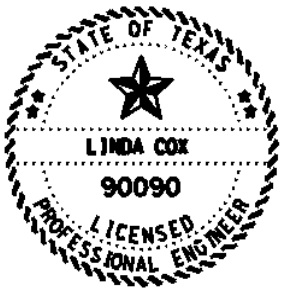


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



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04/28/2021

CSJ 0142-10-025



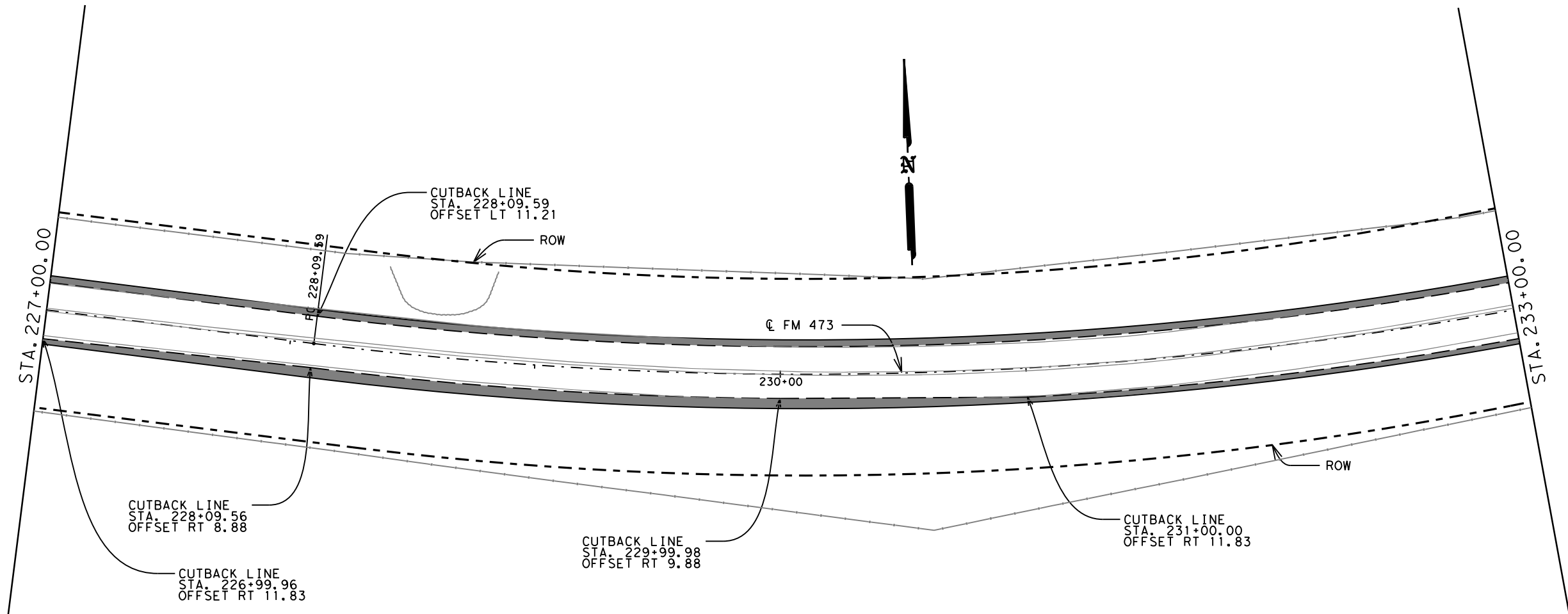
RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		298

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	633.81	SY
D-GR HMA TY-B PG64-22	583.8	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



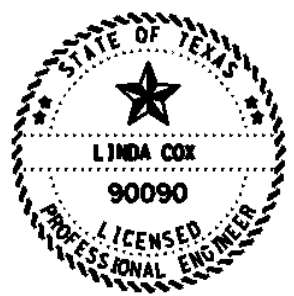
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	DRIVEWAY NUMBER
	WIDENING AREA
	MAILBOX TURNOUT
	MAILBOX TURNOUT NUMBER



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04/28/2021

CSJ 0142-10-025



# RM 473 PLAN SHEETS



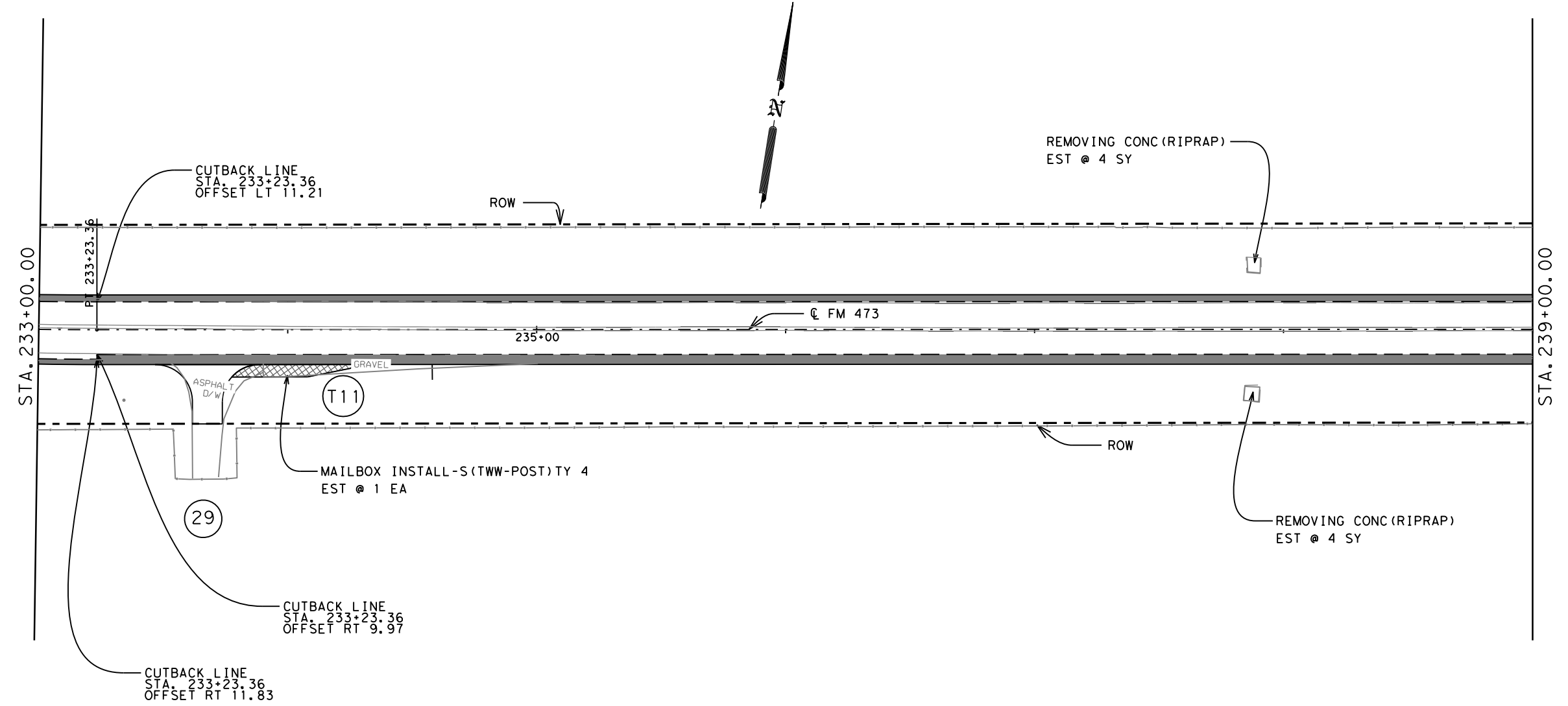
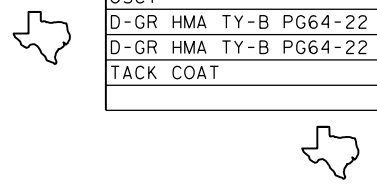
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		299

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DWF:

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	683.13	SY
D-GR HMA TY-B PG64-22	633.13	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	8	SY
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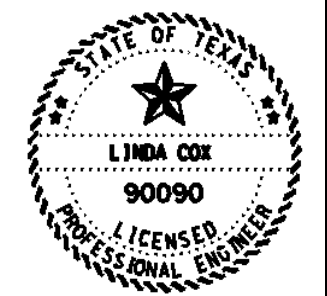


NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

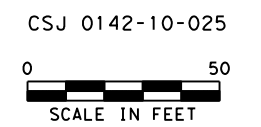
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

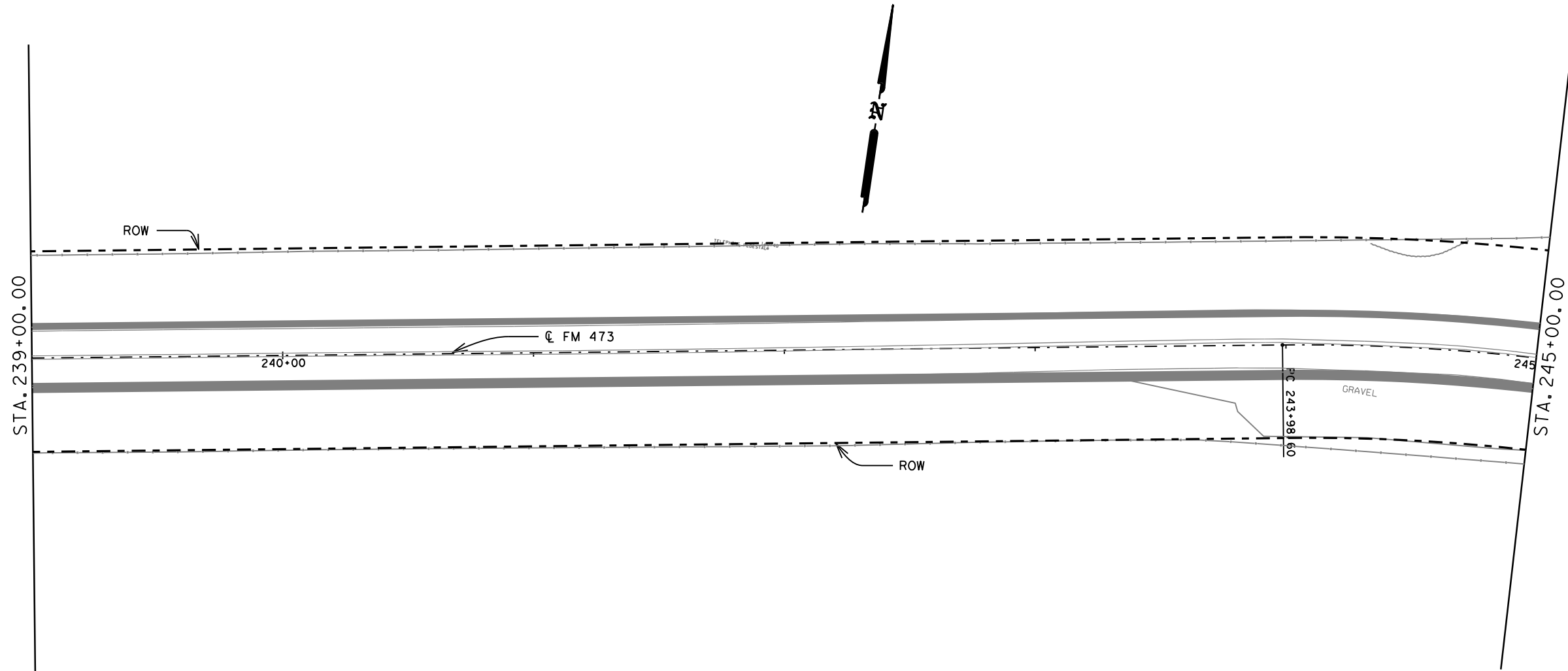


RM 473  
PLAN SHEETS

Texas Department of Transportation		SHEET 43 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		300

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	687.82	SY
D-GR HMA TY-B PG64-22	637.81	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



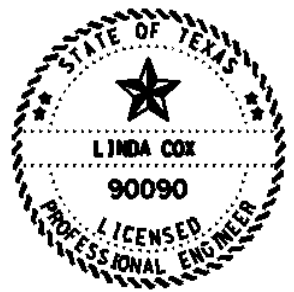
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

**LEGEND**

	DRIVEWAY NUMBER
	WIDENING AREA
	MAILBOX TURNOUT
	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025

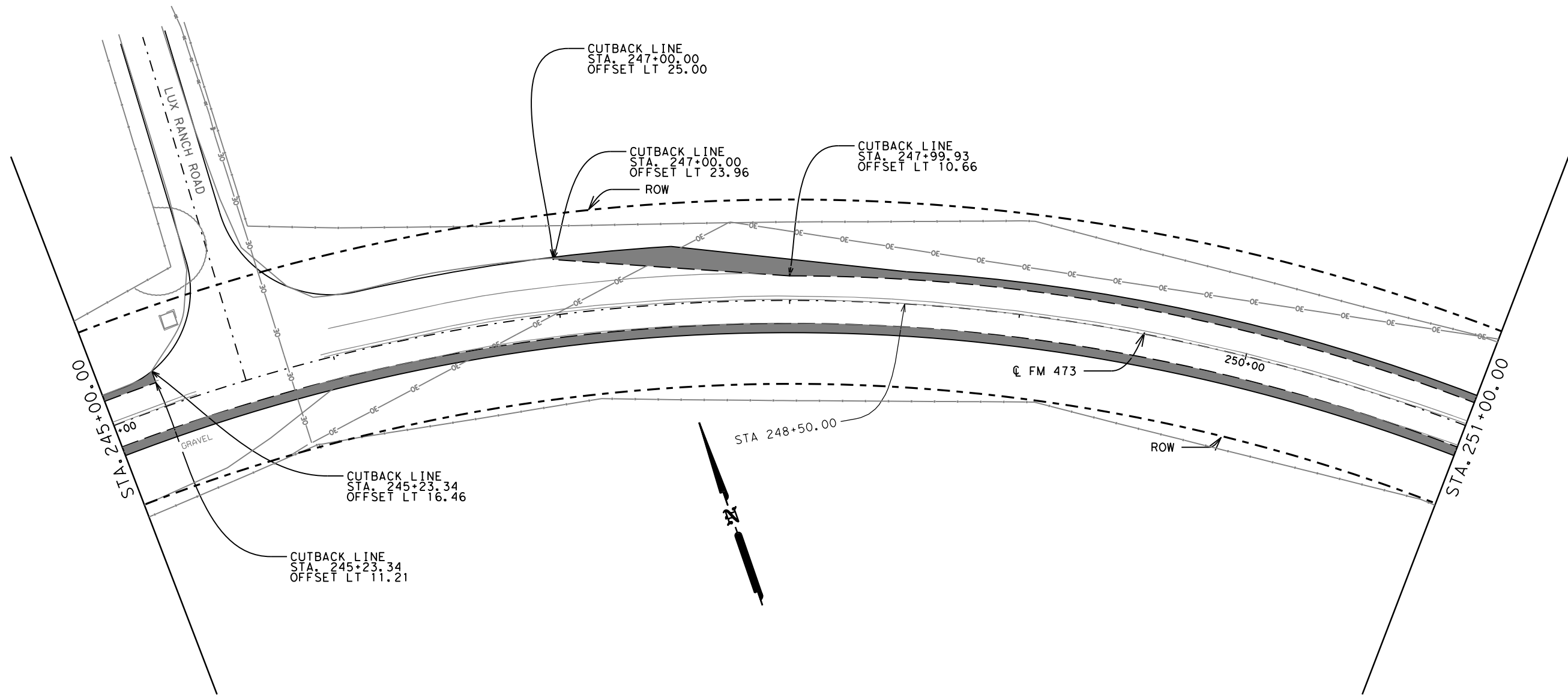


RM 473  
 PLAN SHEETS

 Texas Department of Transportation SHEET 44 OF 58		CONTRACT	JOB	HIGHWAY
		0142 09	044, Etc	RM 473
DISTRICT	COUNTY	SHEET NO.		
SAT	KENDALL	301		

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	2332.9	SY
D-GR HMA TY-B PG64-22	672.68	SY
D-GR HMA TY-B PG64-22	630.09	SY
TACK COAT	2332.9	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



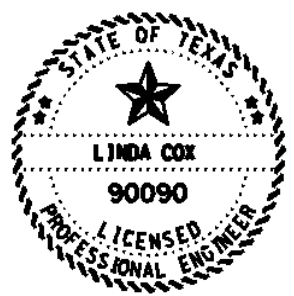
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	DRIVEWAY NUMBER
	WIDENING AREA
	MAILBOX TURNOUT
	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



# RM 473 PLAN SHEETS

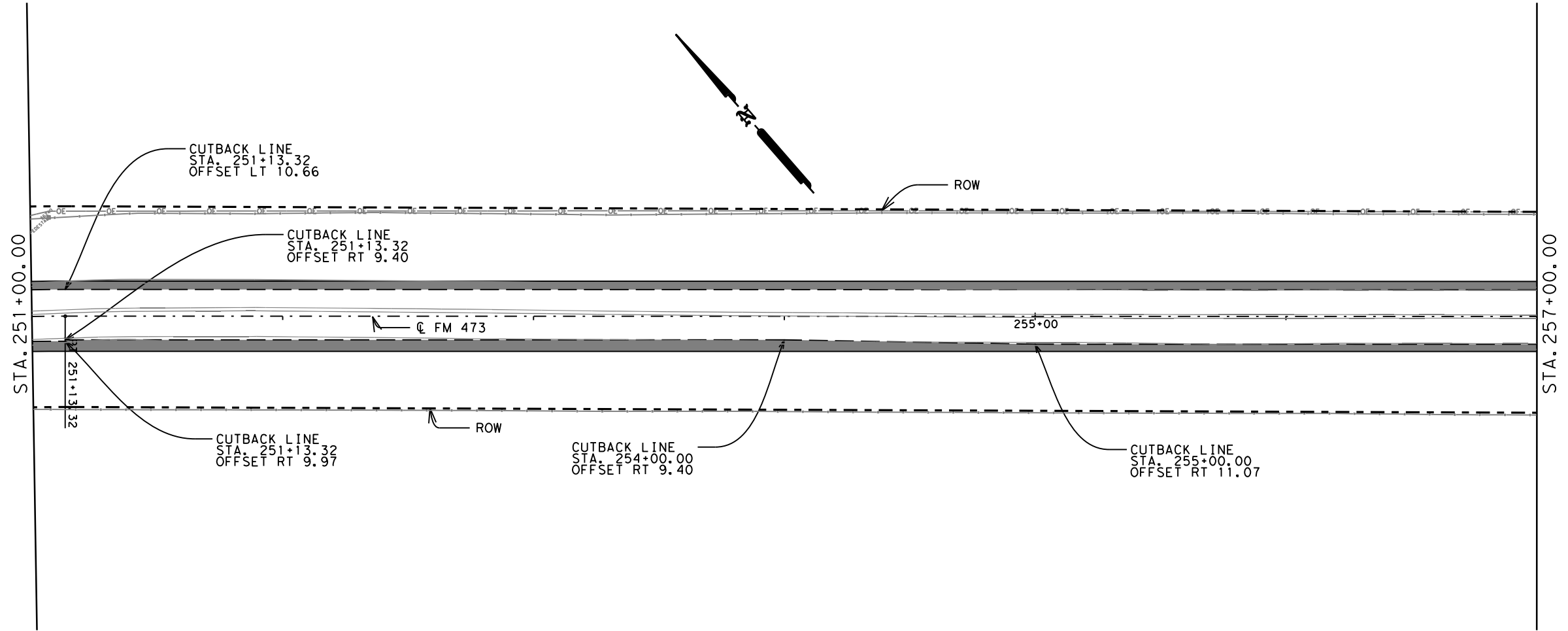


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	302

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 DWF: \_\_\_\_\_  
 CCK: \_\_\_\_\_  
 DNE: \_\_\_\_\_

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	715.85	SY
D-GR HMA TY-B PG64-22	665.85	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



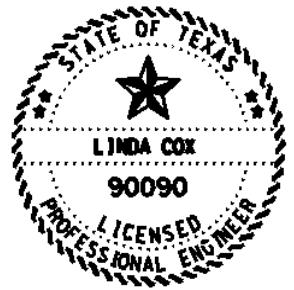
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025

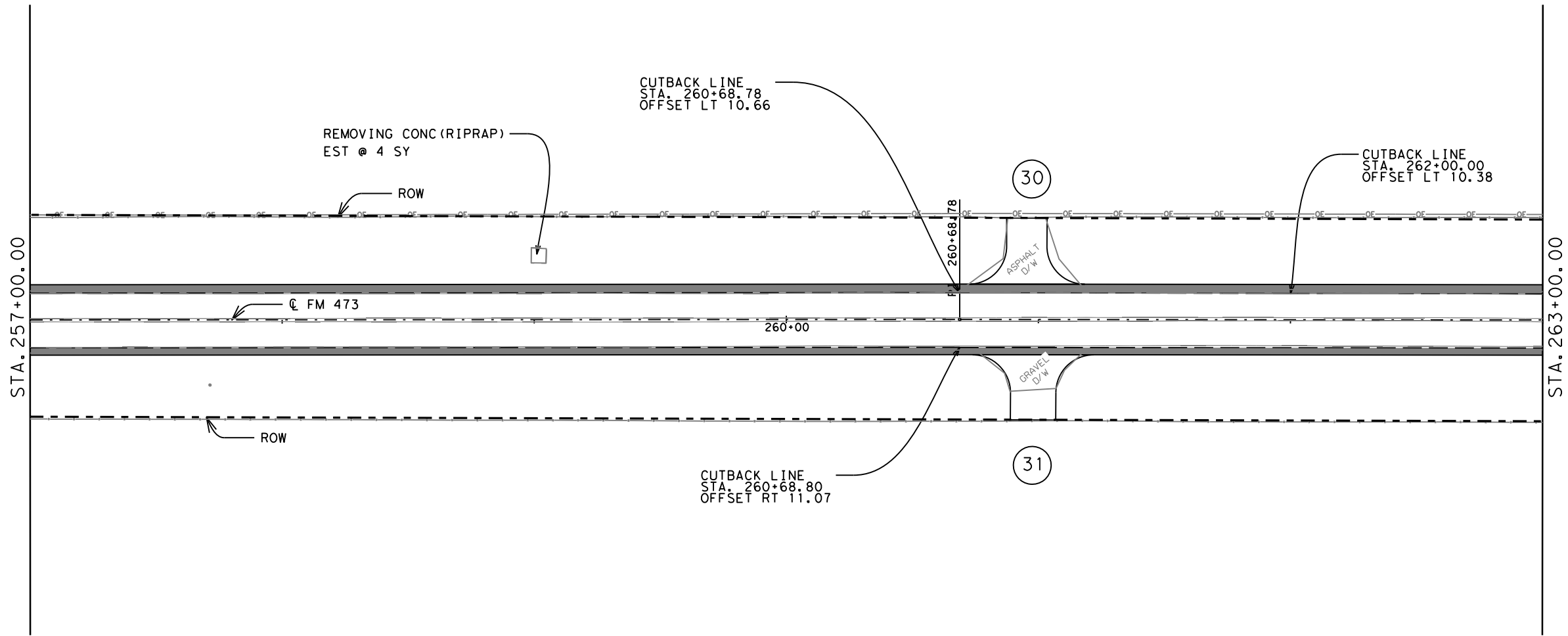


RM 473  
 PLAN SHEETS

Texas Department of Transportation		SHEET 46 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		303

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	656.18	SY
D-GR HMA TY-B PG64-22	606.18	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	4	SY



CUTBACK LINE  
STA. 260+68.80  
OFFSET RT 11.07

REMOVING CONC (RIPRAP)  
EST @ 4 SY

CUTBACK LINE  
STA. 260+68.78  
OFFSET LT 10.66

CUTBACK LINE  
STA. 262+00.00  
OFFSET LT 10.38

STA. 257+00.00

STA. 263+00.00

ROW

ROW

FM 473

260+00

30

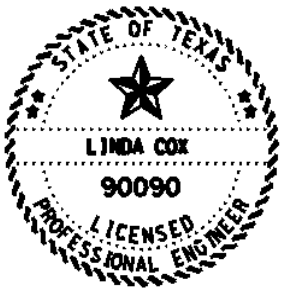
31

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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA  
SHEETS FOR HORIZONTAL ALIGNMENT  
INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
AND SUMMARY SHEET FOR  
DRIVEWAY DETAILS AND  
QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



Linda Cox, P.E.

04/28/2021

CSJ 0142-10-025



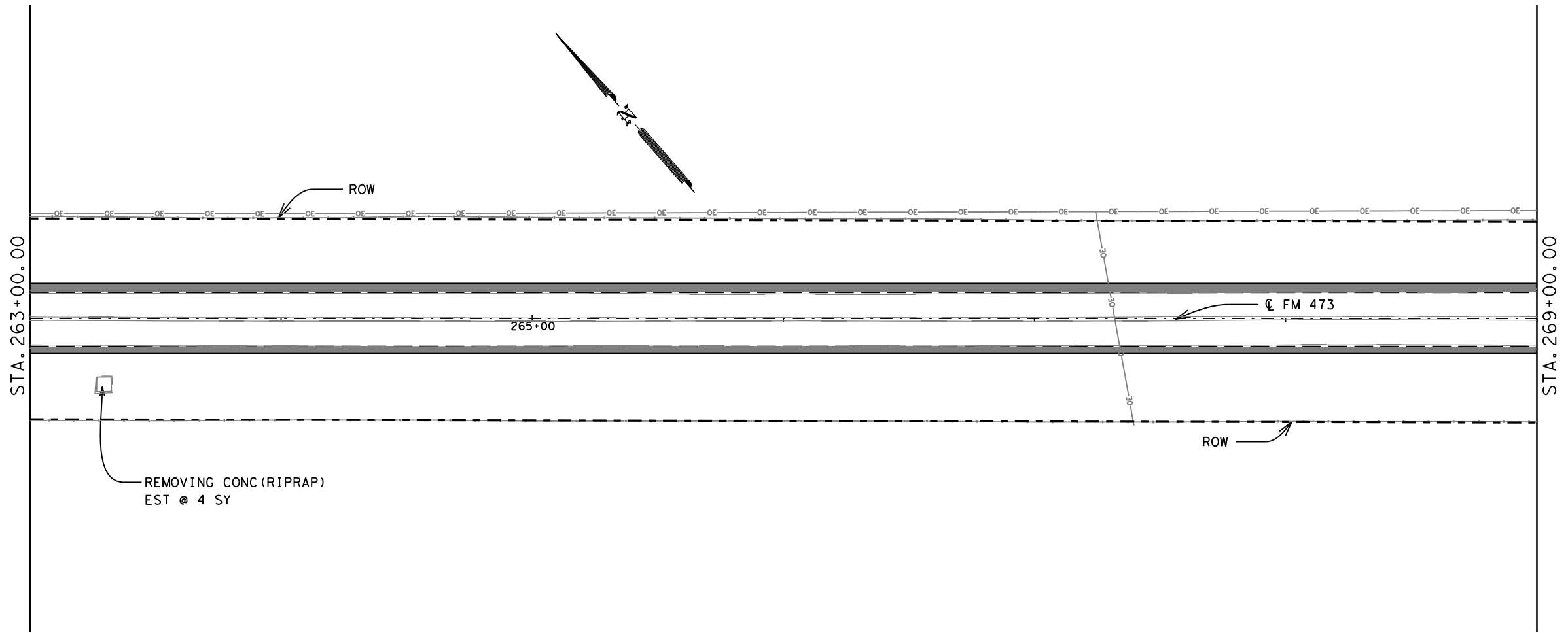
RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	304

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	668.53	SY
D-GR HMA TY-B PG64-22	618.52	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	4	SY

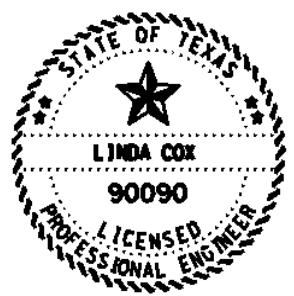


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

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# RM 473 PLAN SHEETS

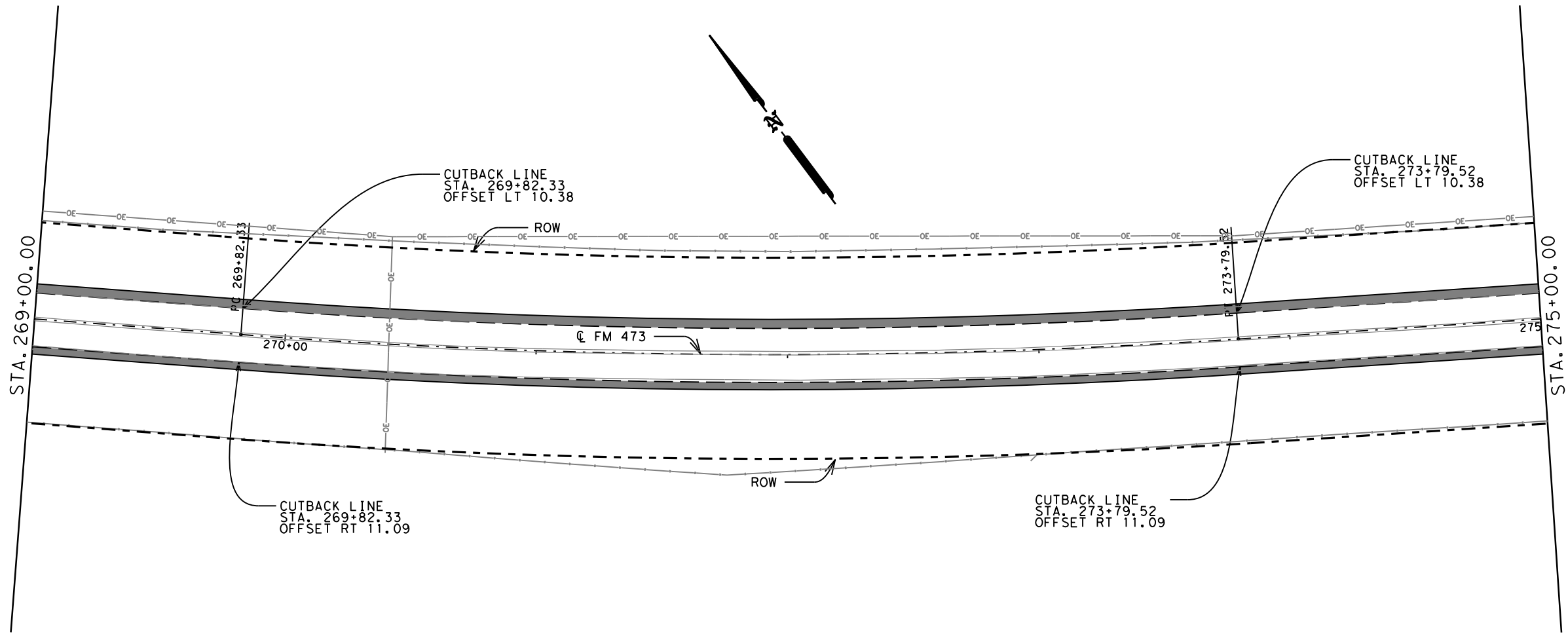


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	305



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	668.42	SY
D-GR HMA TY-B PG64-22	618.42	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

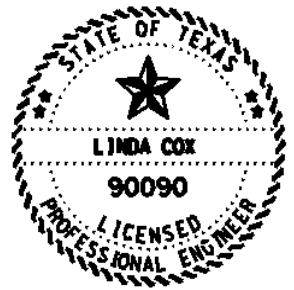


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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*

04/28/2021

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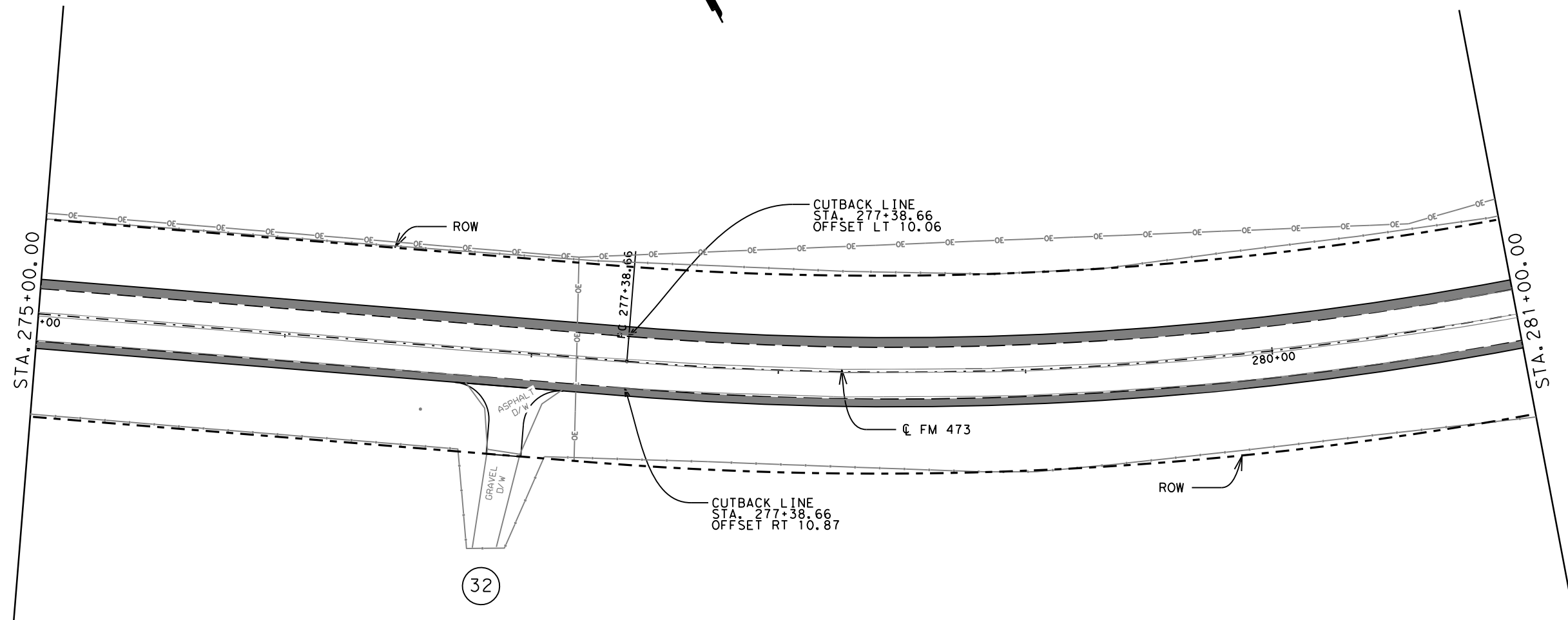


# RM 473 PLAN SHEETS

Texas Department of Transportation		SHEET 49 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		306

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	689.86	SY
D-GR HMA TY-B PG64-22	639.86	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

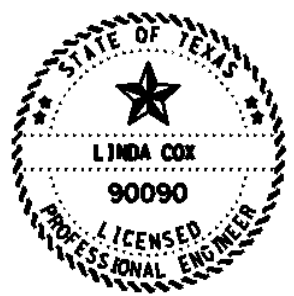


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
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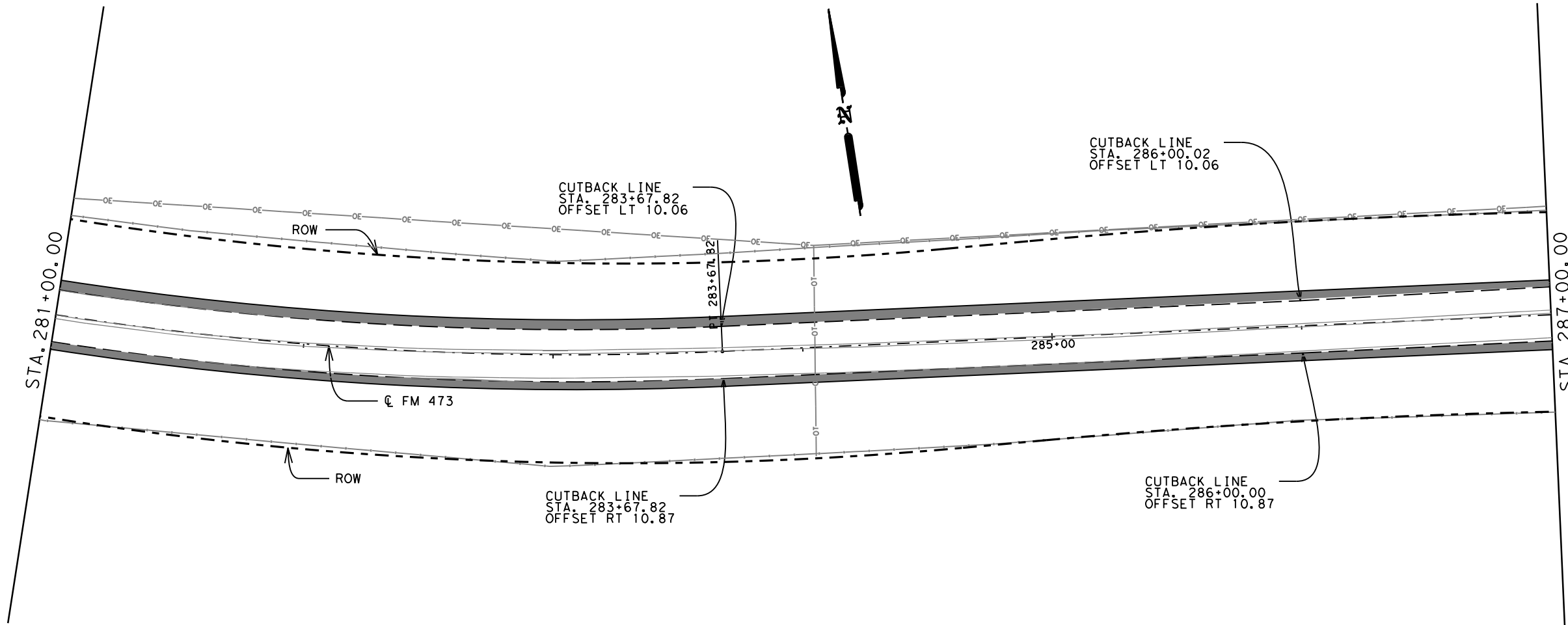
RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	307

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	700.08	SY
D-GR HMA TY-B PG64-22	650.08	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



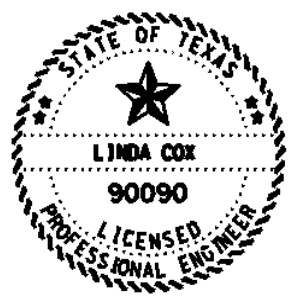
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	DRIVEWAY NUMBER
	WIDENING AREA
	MAILBOX TURNOUT
	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



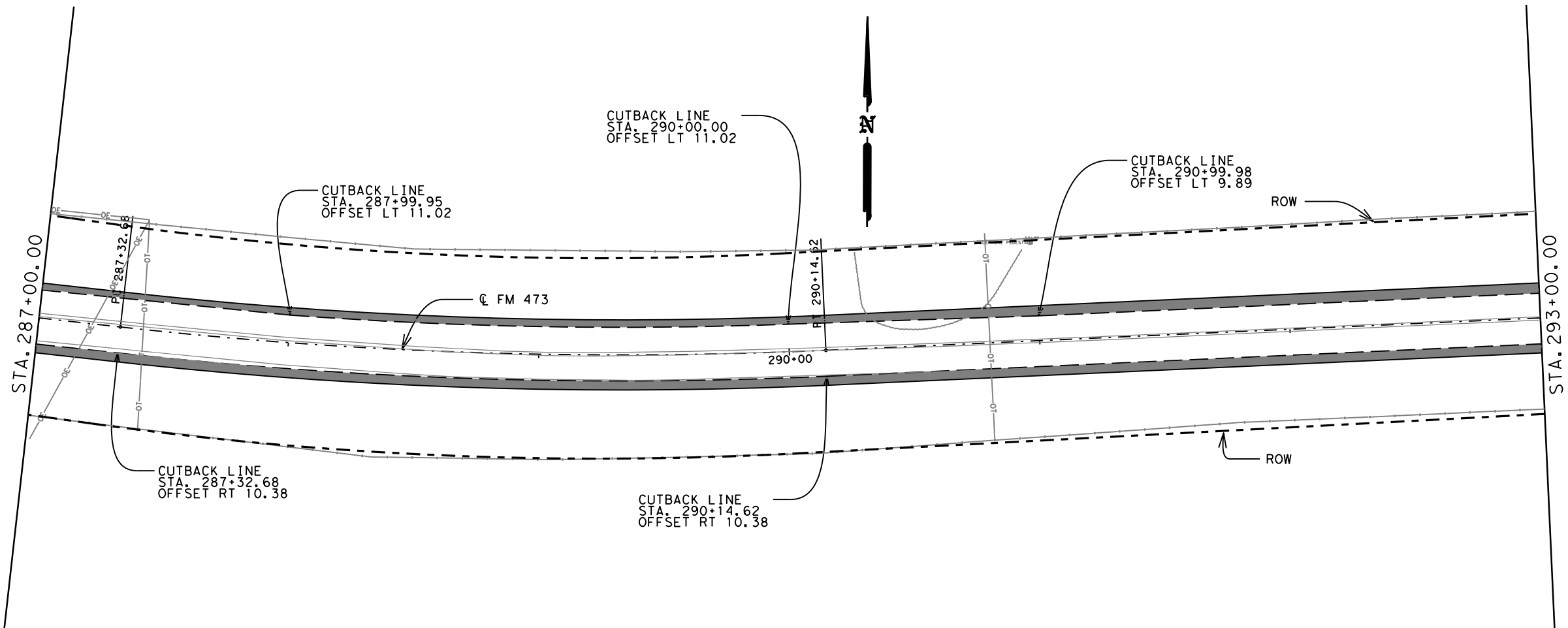
RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		308

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	699.55	SY
D-GR HMA TY-B PG64-22	649.6	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA

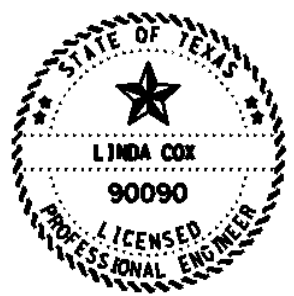


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



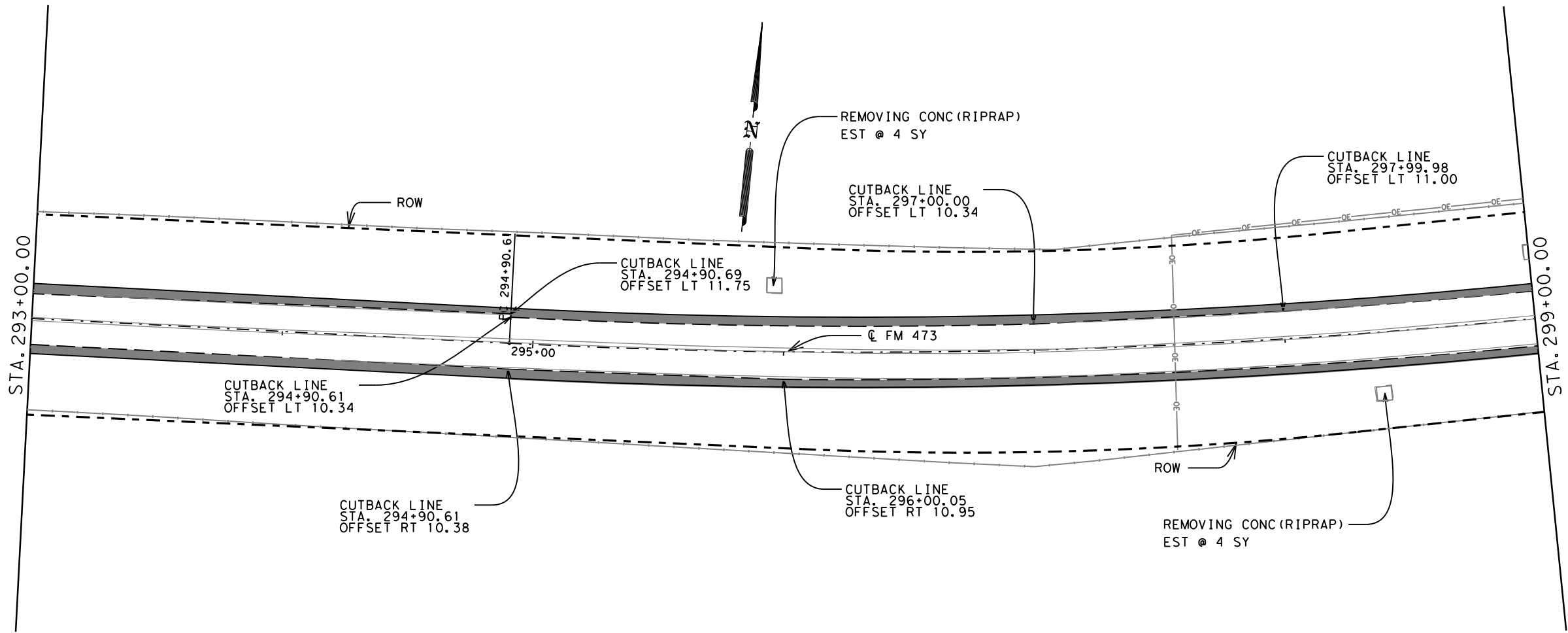
RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	309

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	675.88	SY
D-GR HMA TY-B PG64-22	625.89	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	8	SY



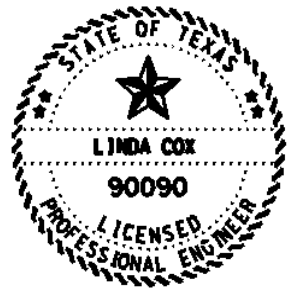
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	DRIVEWAY NUMBER
	WIDENING AREA
	MAILBOX TURNOUT
	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025



# RM 473 PLAN SHEETS



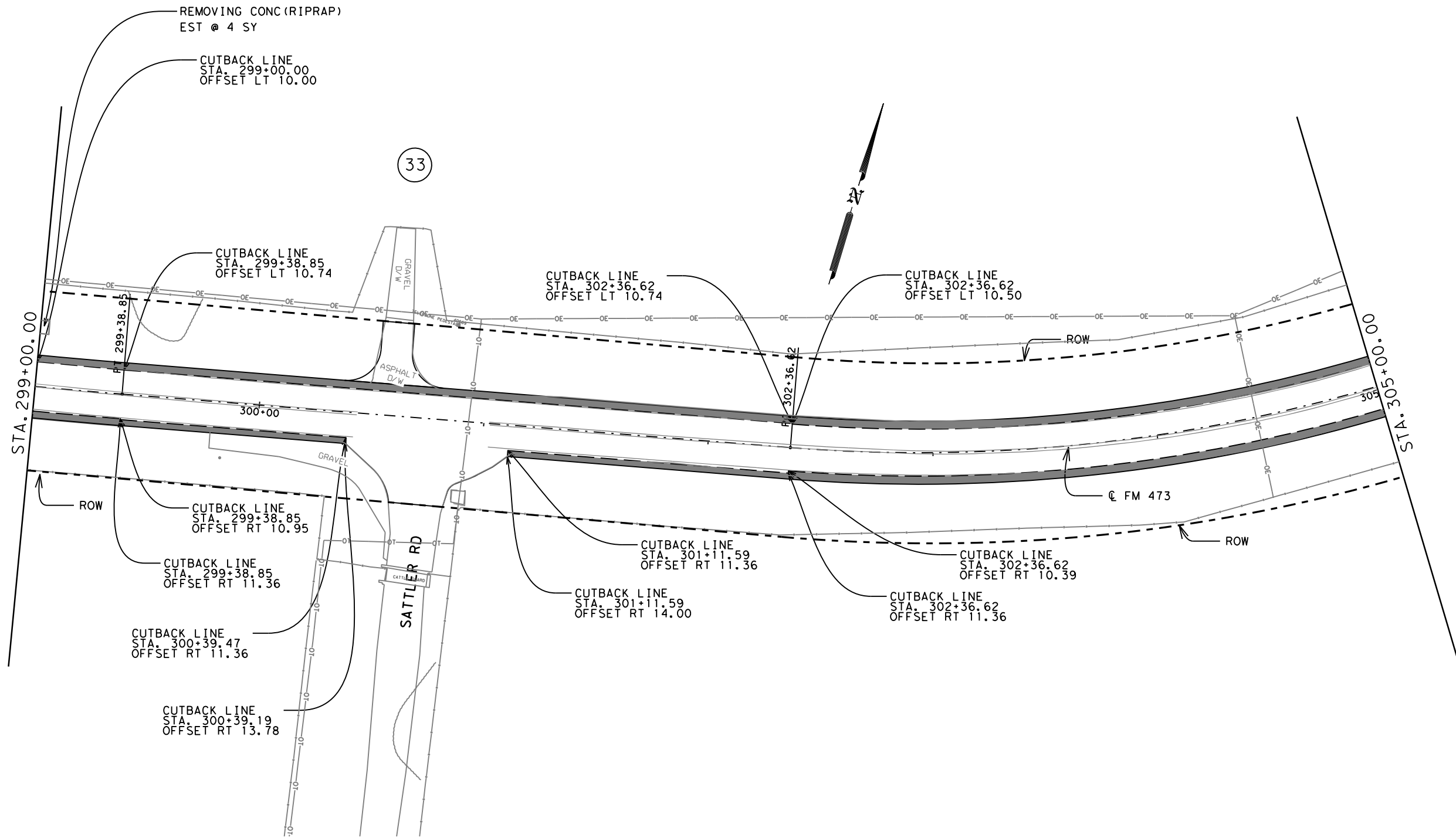
SHEET 53 OF 58	
CONT	SECT
0142	09
JOB	
044, Etc	
HIGHWAY	
RM 473	
DIST	COUNTY
SAT	KENDALL
SHEET NO.	
310	

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1982.2	SY
D-GR HMA TY-B PG64-22	628.15	SY
D-GR HMA TY-B PG64-22	581.16	SY
TACK COAT	1982.2	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	4	SY



Ck: \_\_\_\_\_  
 Dk: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dk: \_\_\_\_\_



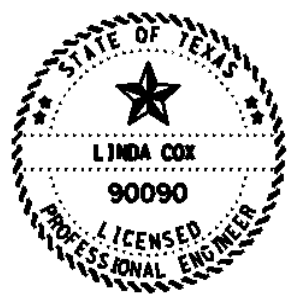
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
(■)	WIDENING AREA
(■)	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



# RM 473 PLAN SHEETS



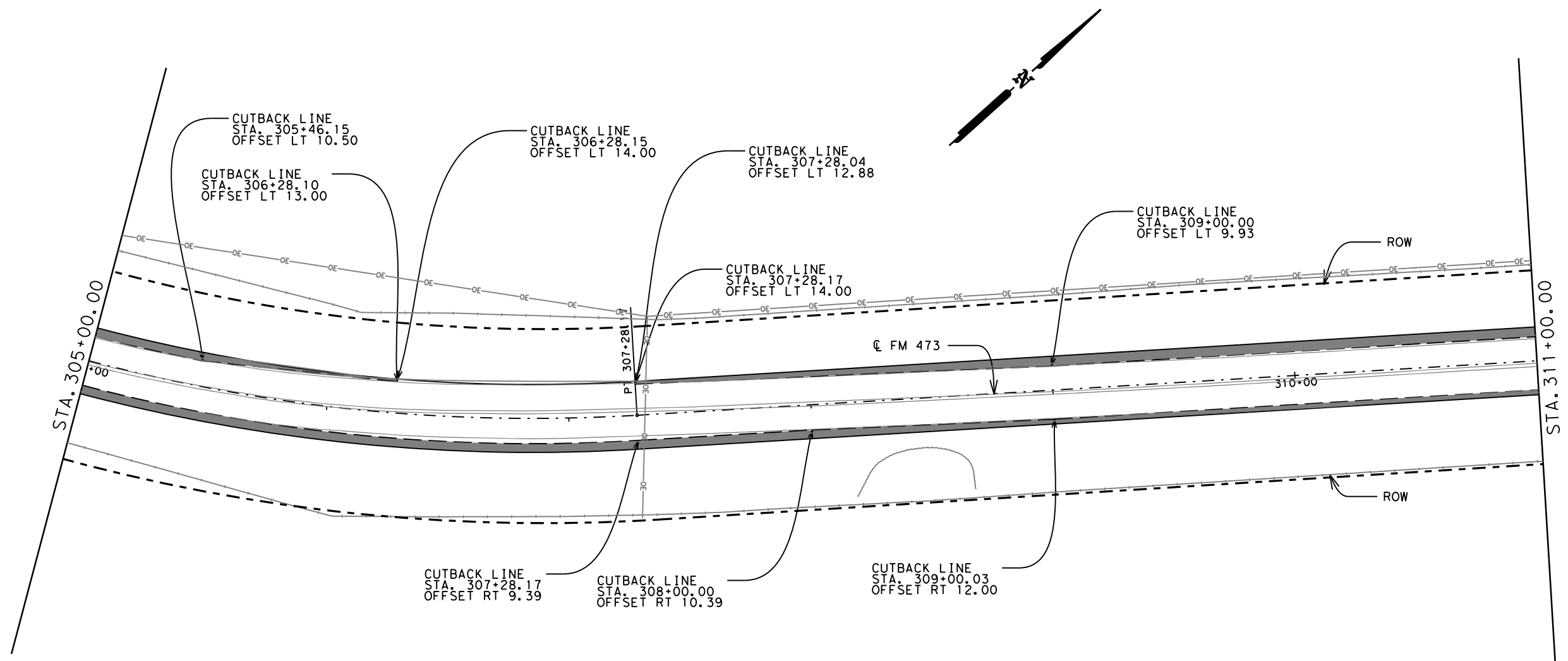
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	311

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	576.33	SY
D-GR HMA TY-B PG64-22	536.77	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



Ck: \_\_\_\_\_  
 Dk: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dk: \_\_\_\_\_



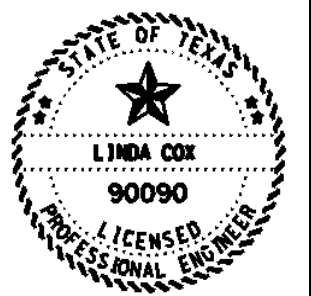
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

(X)	DRIVEWAY NUMBER
■	WIDENING AREA
▨	MAILBOX TURNOUT
(TX)	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



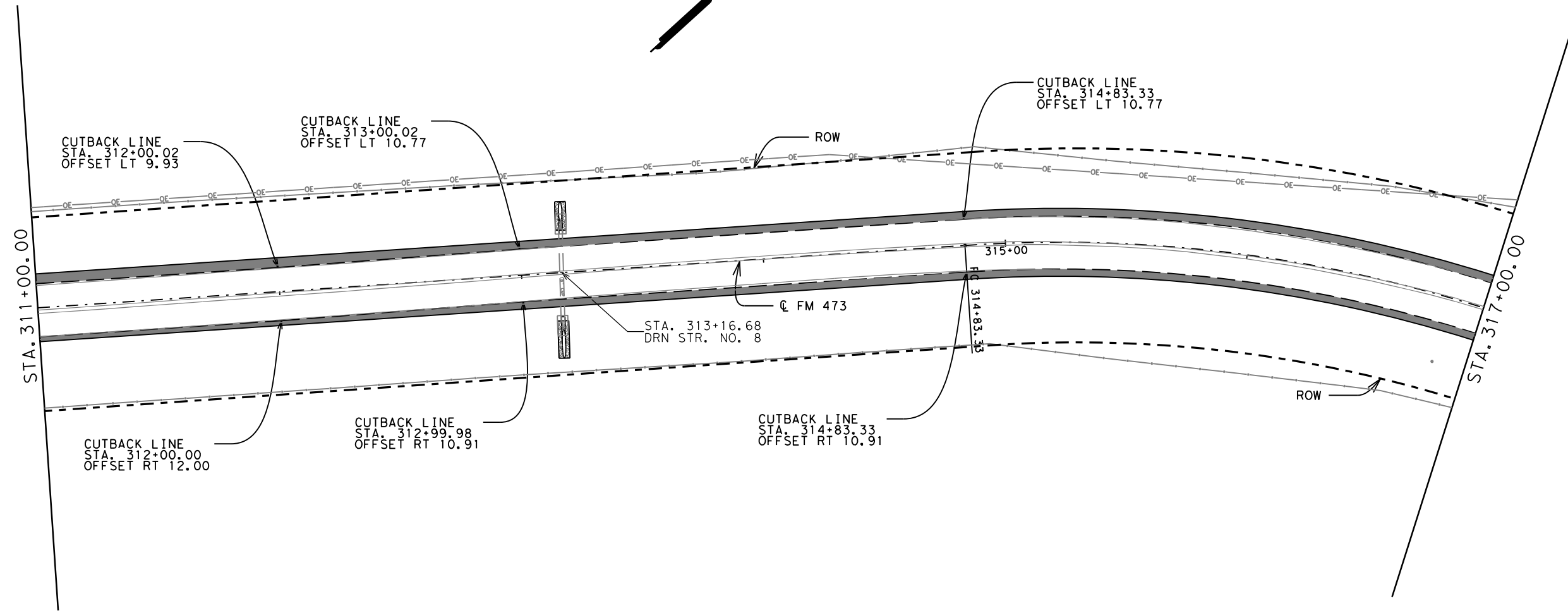
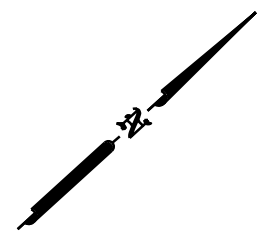
RM 473  
PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	312

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	648.7	SY
D-GR HMA TY-B PG64-22	598.7	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA



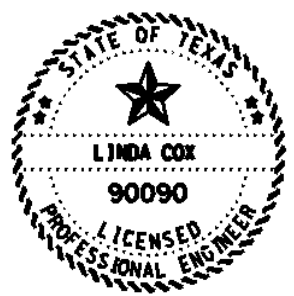
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	DRIVEWAY NUMBER
	WIDENING AREA
	MAILBOX TURNOUT
	MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



## RM 473 PLAN SHEETS

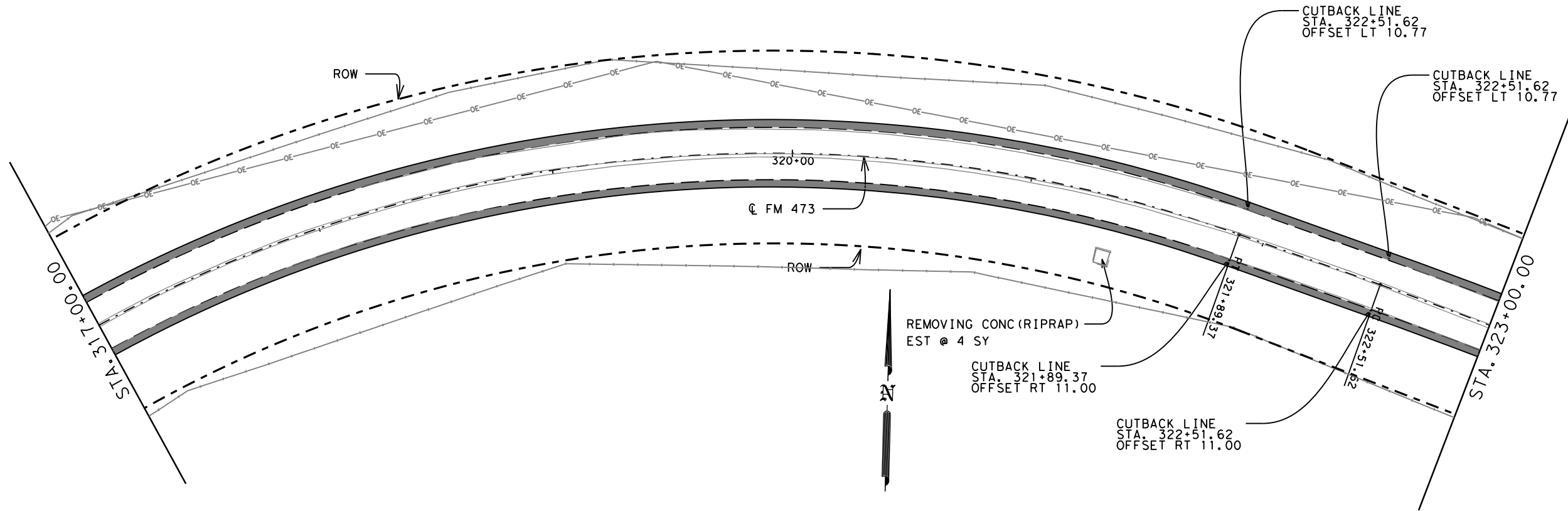


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	313	



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	1866.7	SY
D-GR HMA TY-B PG64-22	649.06	SY
D-GR HMA TY-B PG64-22	599.58	SY
TACK COAT	1866.7	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	6	STA
REMOVING CONC (RIPRAP)	4	SY

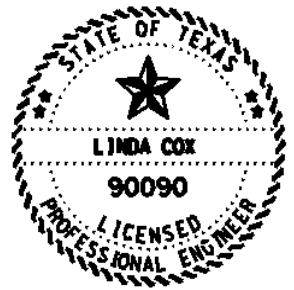


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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND**
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025

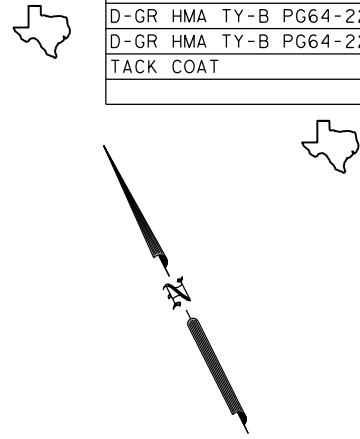


# RM 473 PLAN SHEETS

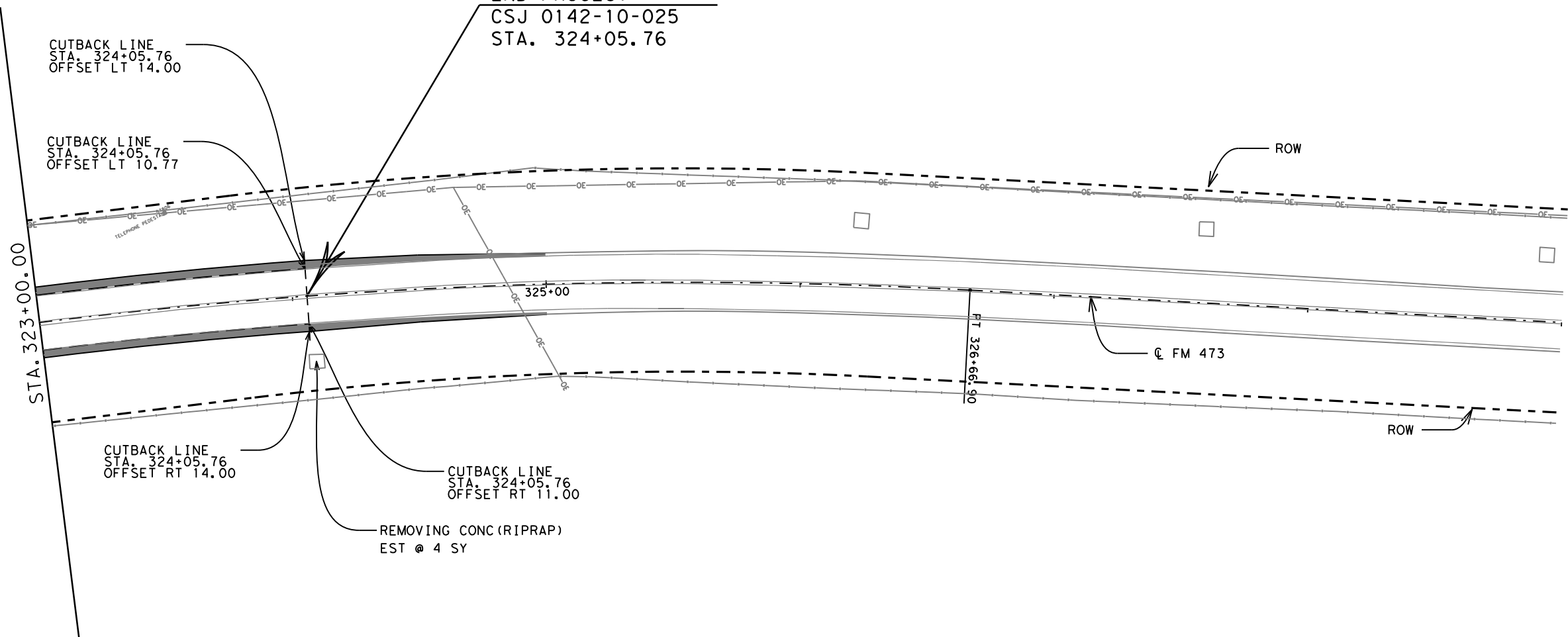
Texas Department of Transportation		SHEET 57 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		314

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
OSCT	329.03	SY
D-GR HMA TY-B PG64-22	114.39	SY
D-GR HMA TY-B PG64-22	105.57	SY
TACK COAT	329.03	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
PREPARING ROW	1.06	STA
REMOVING CONC (RIPRAP)	4	SY
FLEXIBLE PAVEMENT STRUCTURE REPAIR (7")	3000	SY



END PROJECT  
CSJ 0142-10-025  
STA. 324+05.76

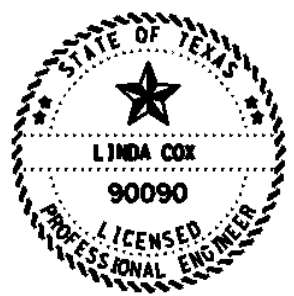


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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

- LEGEND
- (X) DRIVEWAY NUMBER
  - WIDENING AREA
  - ▨ MAILBOX TURNOUT
  - (TX) MAILBOX TURNOUT NUMBER



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



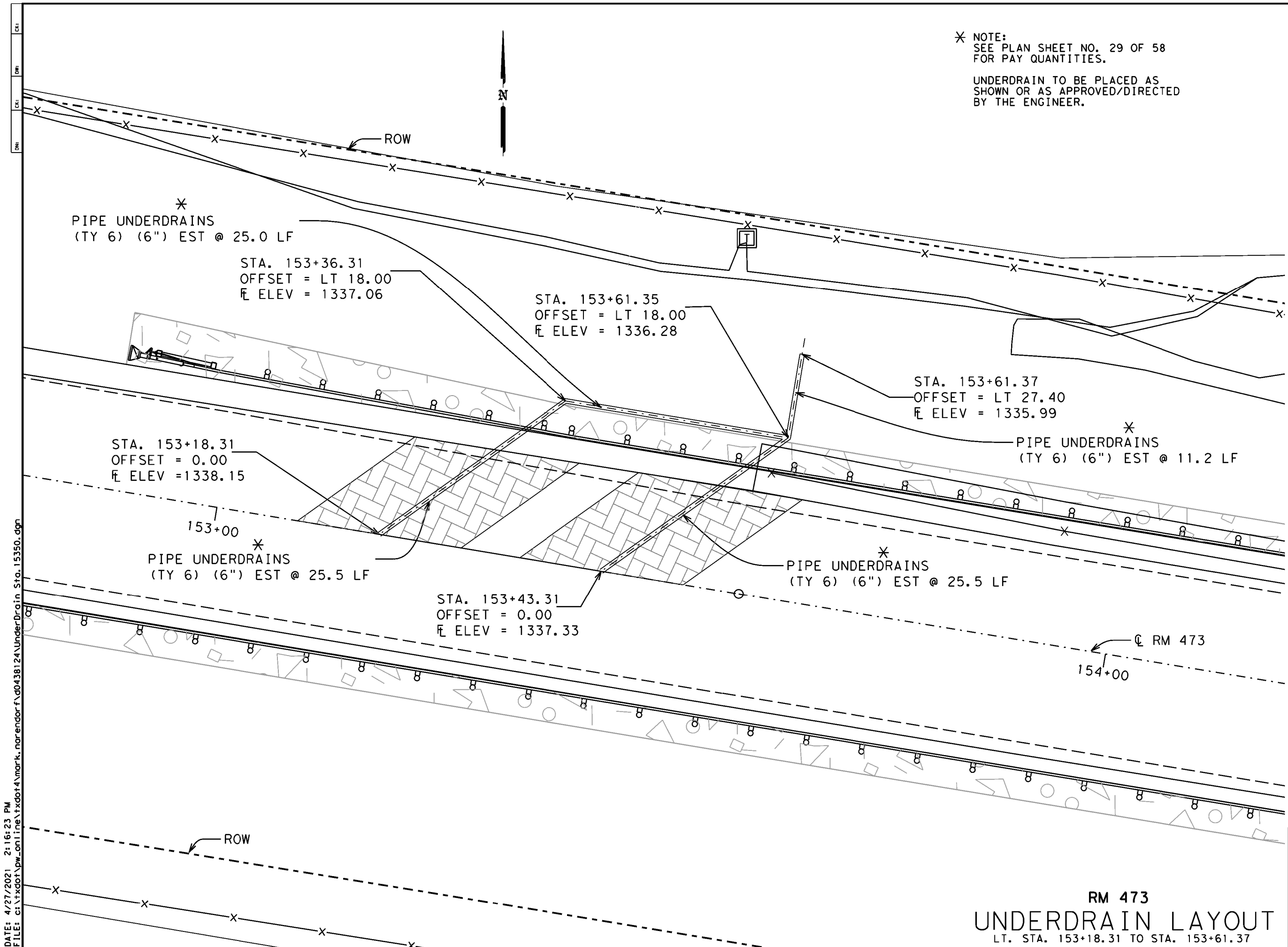
# RM 473 PLAN SHEETS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	315

\* NOTE:  
SEE PLAN SHEET NO. 29 OF 58  
FOR PAY QUANTITIES.

UNDERDRAIN TO BE PLACED AS  
SHOWN OR AS APPROVED/DIRECTED  
BY THE ENGINEER.



\*  
PIPE UNDERDRAINS  
(TY 6) (6") EST @ 25.0 LF

STA. 153+36.31  
OFFSET = LT 18.00  
F ELEV = 1337.06

STA. 153+61.35  
OFFSET = LT 18.00  
F ELEV = 1336.28

STA. 153+61.37  
OFFSET = LT 27.40  
F ELEV = 1335.99

\*  
PIPE UNDERDRAINS  
(TY 6) (6") EST @ 11.2 LF

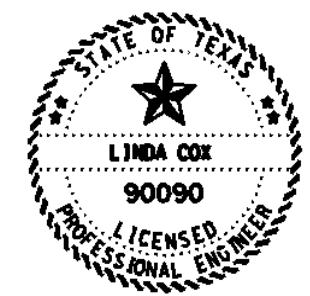
STA. 153+18.31  
OFFSET = 0.00  
F ELEV = 1338.15

\*  
PIPE UNDERDRAINS  
(TY 6) (6") EST @ 25.5 LF

\*  
PIPE UNDERDRAINS  
(TY 6) (6") EST @ 25.5 LF

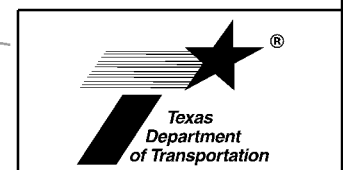
STA. 153+43.31  
OFFSET = 0.00  
F ELEV = 1337.33

RM 473  
154+00



*Linda Cox, P.E.*

04/28/2021

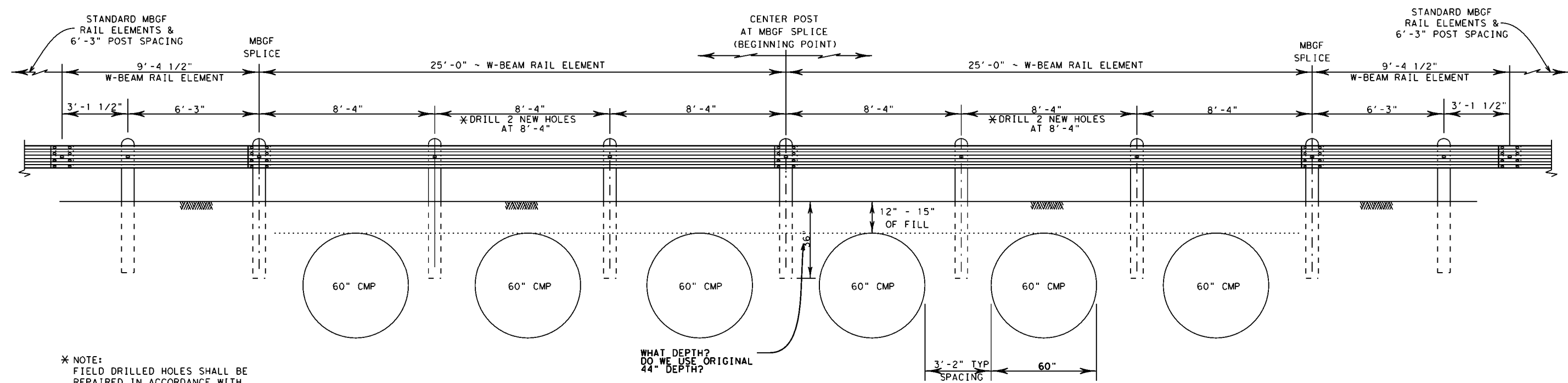


RM 473  
**UNDERDRAIN LAYOUT**  
LT. STA. 153+18.31 TO STA. 153+61.37

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		316

DATE: 4/27/2021 2:16:23 PM  
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CRG  
DME  
CCK  
DME



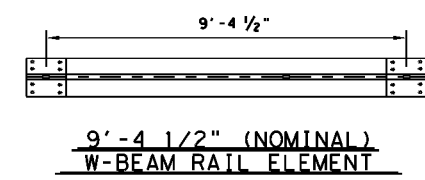
\* NOTE:  
FIELD DRILLED HOLES SHALL BE REPAIRED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FLAME CUTTING OF HOLES IN THE GUARDRAIL SHALL NOT BE PERMITTED.

WHAT DEPTH? DO WE USE ORIGINAL 44" DEPTH?

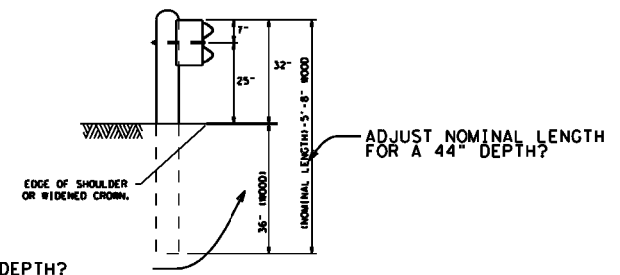
**ELEVATION VIEW**  
50'-0" OF MODIFIED MBSF

**GENERAL NOTES**

1. THE BASIS OF THIS GUARDRAIL DESIGN AND POST SPACING IS FROM TEXAS TRANSPORTATION INSTITUTE REPORT 1147-1F, "OPTIMIZATION OF STRONG POST W-BEAM GUARDRAIL" (1988).
2. THE TYPE OF POST (ROUND WOOD POST, RECTANGULAR WOOD POST, OR STEEL POST) WILL BE SHOWN ELSEWHERE IN THE PLANS. THE EXACT POSITION OF TRANSITIONS SHALL BE SHOWN ELSEWHERE IN THE PLANS OR AS APPROVED/DIRECTED BY THE ENGINEER.
3. RAIL ELEMENTS SHALL MEET ALL REQUIREMENTS OF AASHTO M-180 EXCEPT AS MODIFIED ON THE PLANS.
4. BUTTON HEAD POST BOLTS (A307) SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 5/8" X 1 1/4" WITH A 5/8" DOUBLE RECESSED NUT. GALVANIZED FITTINGS (BOLTS, NUTS, AND WASHER'S) SHALL BE IN ACCORDANCE WITH ITEM 442, "METAL FOR STRUCTURES". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM REQUIRING CONSTRUCTION OF TRANSITION.
5. WHERE SOLID ROCK IS ENCOUNTERED OR WHERE SHOWN ON THE PLANS, THE DIAMETER OF THE HOLES SHALL BE APPROXIMATELY 12 INCHES, THE BACKFILLING SHALL BE WITH A CONHESIANEISS MATERIAL, AND EMBEDMENT DEPTH SHALL BE 1'-6" OR MORE AS APPROVED/DIRECTED BY THE ENGINEER.
6. POSTS SHALL NOT BE SET FULL DEPTH IN CONCRETE.
7. UNLESS OTHRWISE DIRECTED BY THE ENGINEER, A COMPOSITE MATERIAL POST AND/OR BLOCKOUT FROM THE DEPARTMENT APPROVED LIST OF SUPPLIERS MAY BE SUBSTITUTED FOR A POST AND/OR BLOCKOUT OF SIMILAR DIMENSIONS. THE LIST OF APPROVED SUPPLIERS OF POSTS AND BLOCKOUTS WILL BE MAINTAINED BY THE CONSTRUCTION DIVISION, TXDOT.
8. REFER TO MBSF STANDARD SHEET FOR ADDITIONAL DETAILS NOT SHOWN.

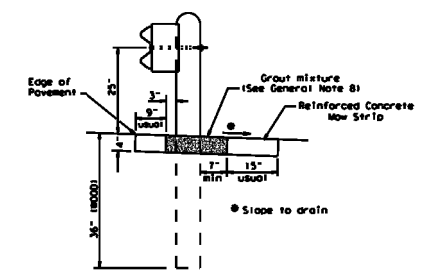


**9'-4 1/2" (NOMINAL) W-BEAM RAIL ELEMENT**

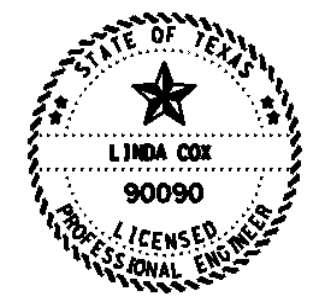


WHAT DEPTH? DO WE USE ORIGINAL 44" DEPTH?

**TYPICAL MBSF POST INSTALLATION**  
SEE MBSF STANDARD



**TYPICAL MBSF POST INSTALLATION W/MOW STRIP**  
SEE GF (31)MS-19 STANDARD



*Linda Cox, P.E.*  
04/28/2021

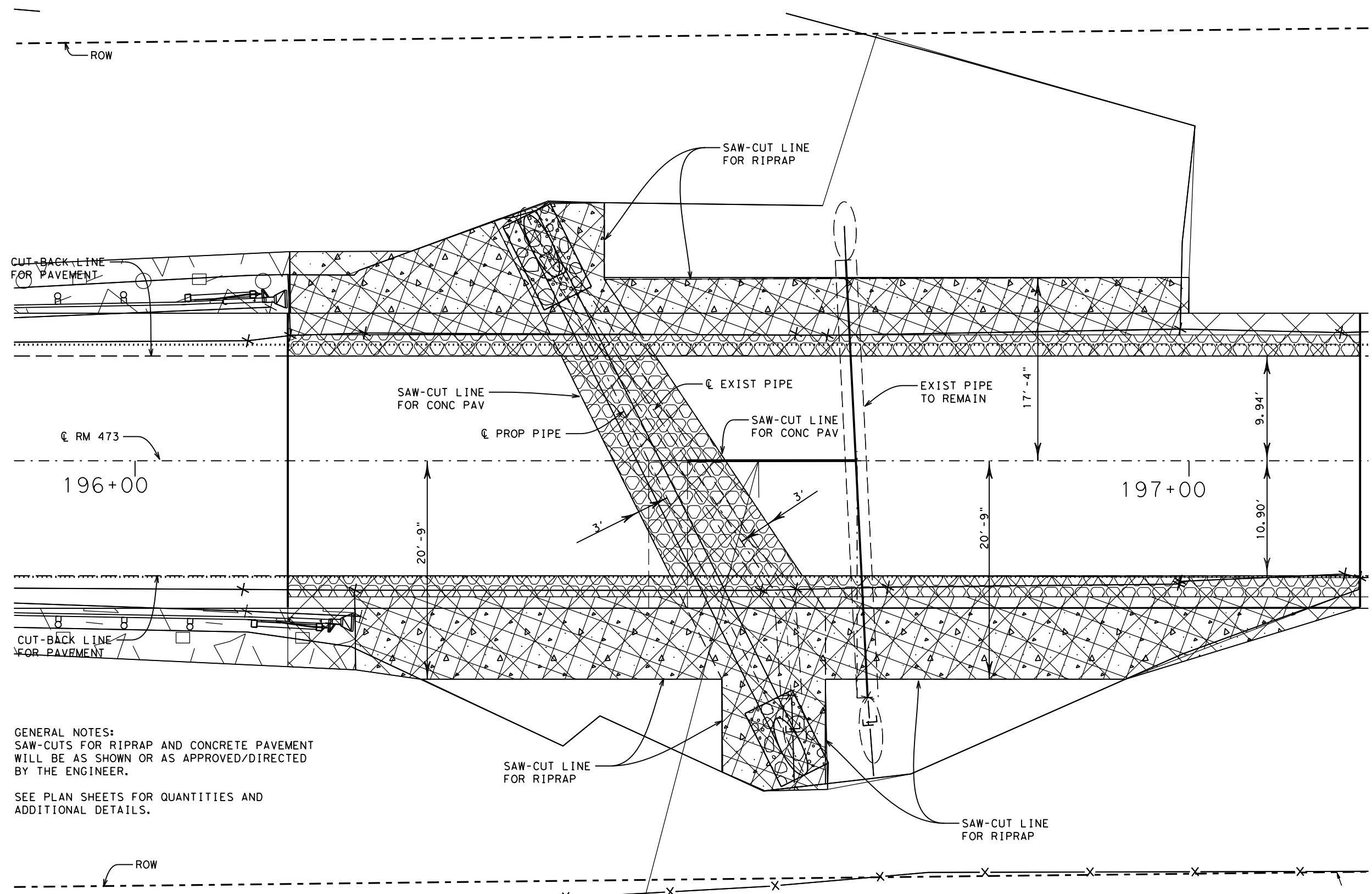
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CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		317

**MBSF (MOD) ~ DETAIL**  
AT STRUCTURE STA. 154+62.79

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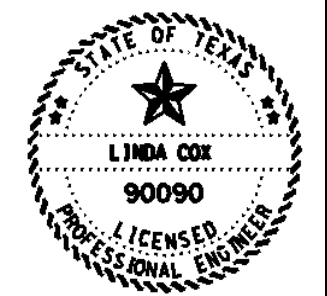
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GENERAL NOTES:  
 SAW-CUTS FOR RIPRAP AND CONCRETE PAVEMENT  
 WILL BE AS SHOWN OR AS APPROVED/DIRECTED  
 BY THE ENGINEER.  
 SEE PLAN SHEETS FOR QUANTITIES AND  
 ADDITIONAL DETAILS.

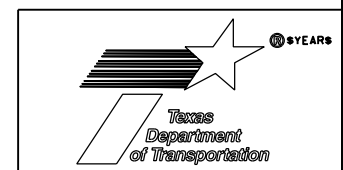
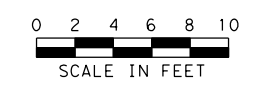
**LEGEND**

	AREA OF CONC PAV REMOVAL
	AREA OF RIPRAP CONC REMOVAL



*Linda Cox, P.E.*

04/28/2021



# REMOVAL DETAIL SHEET

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		318

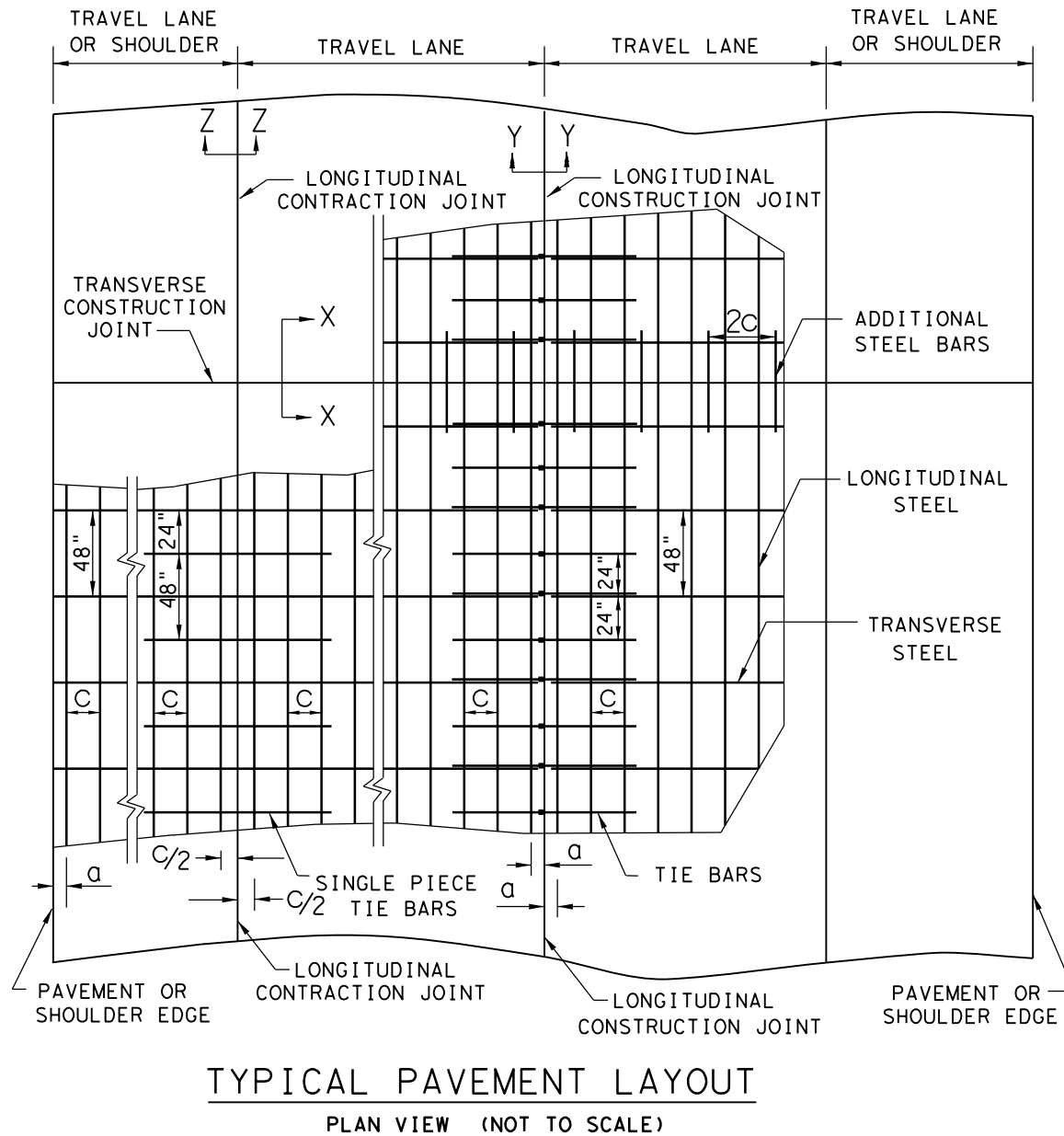


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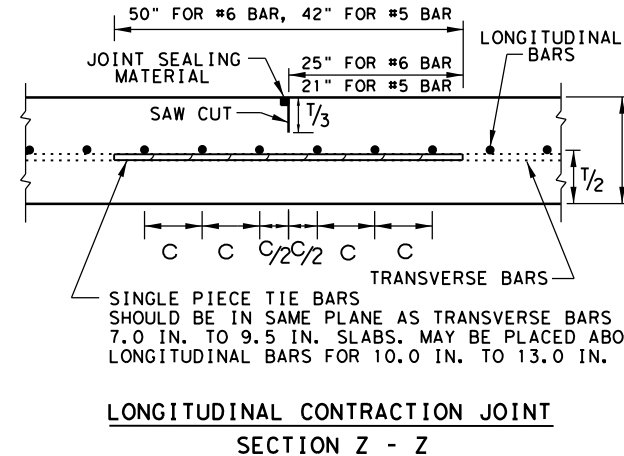
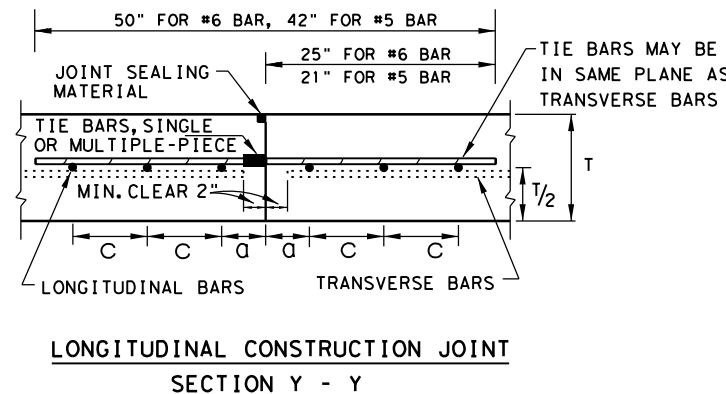
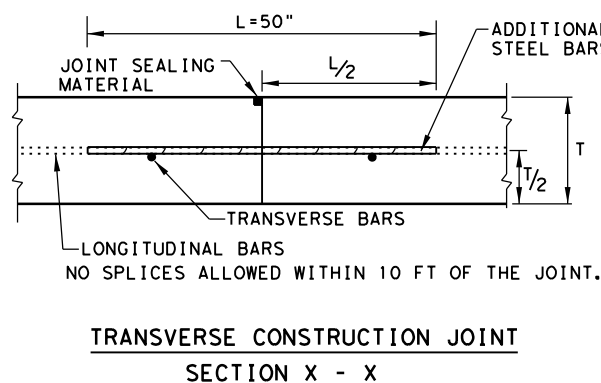
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SLAB THICKNESS AND BAR SIZE		REGULAR STEEL BARS	FIRST SPACING AT EDGE OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT (SECTION X-X)	
T (IN.)	BAR SIZE	SPACING C (IN.)	SPACING a (IN.)	SPACING 2 x C (IN.)	LENGTH L (IN.)
7.0	#5	6.5	3 TO 4	13	50
7.5	#5	6.0	3 TO 4	12	50
8.0	#6	9.0	3 TO 4	18	50
8.5	#6	8.5	3 TO 4	17	50
9.0	#6	8.0	3 TO 4	16	50
9.5	#6	7.5	3 TO 4	15	50
10.0	#6	7.0	3 TO 4	14	50
10.5	#6	6.75	3 TO 4	13.5	50
11.0	#6	6.5	3 TO 4	13	50
11.5	#6	6.25	3 TO 4	12.5	50
12.0	#6	6.0	3 TO 4	12	50
12.5	#6	5.75	3 TO 4	11.5	50
13.0	#6	5.5	3 TO 4	11	50

SLAB THICKNESS (IN.)	TRANSVERSE STEEL		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Z-Z)		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Y-Y)	
	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
7.0 - 7.5	#5	48	#5	48	#5	24
8.0 - 13.0	#5	48	#6	48	#6	24



1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
2. USE COARSE AGGREGATES WITH A RATED COEFFICIENT OF THERMAL EXPANSION (COTE) OF NOT MORE THAN  $5.5 \times 10^{-6}$  IN/IN/°F AS LISTED IN THE CONCRETE RATED SOURCE QUALITY CATALOG (CRSQC).
3. ALL THE REINFORCING STEEL AND TIE BARS SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 (GRADE 60) OR ASTM A 996 (GRADE 60) OR ABOVE. STEEL BAR SIZES AND SPACINGS SHALL CONFORM TO TABLE NO.1 AND TABLE NO.2.
4. STEEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1 IN. HORIZONTALLY AND +/- 0.5 IN. VERTICALLY. CALCULATED AVERAGE BAR SPACING (CONCRETE PLACEMENT WIDTH / NUMBER OF LONGITUDINAL BARS) SHALL CONFORM TO TABLE NO.1
5. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
6. THE SAW CUT DEPTH FOR THE LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLAB THICKNESS (T/3).
7. WHEN TYING CONCRETE GUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED. PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF GUTTER TO THE END OF TIE BAR.
8. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN.10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
9. OMIT TIE BARS LOCATED WITHIN 18-IN. OF THE TRANSVERSE CONSTRUCTION JOINTS (SECTION X-X). USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL FORMED JOINTS.
10. LONGITUDINAL REINFORCING STEEL SPLICES SHALL BE A MINIMUM OF 25 IN. STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT.
11. THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."

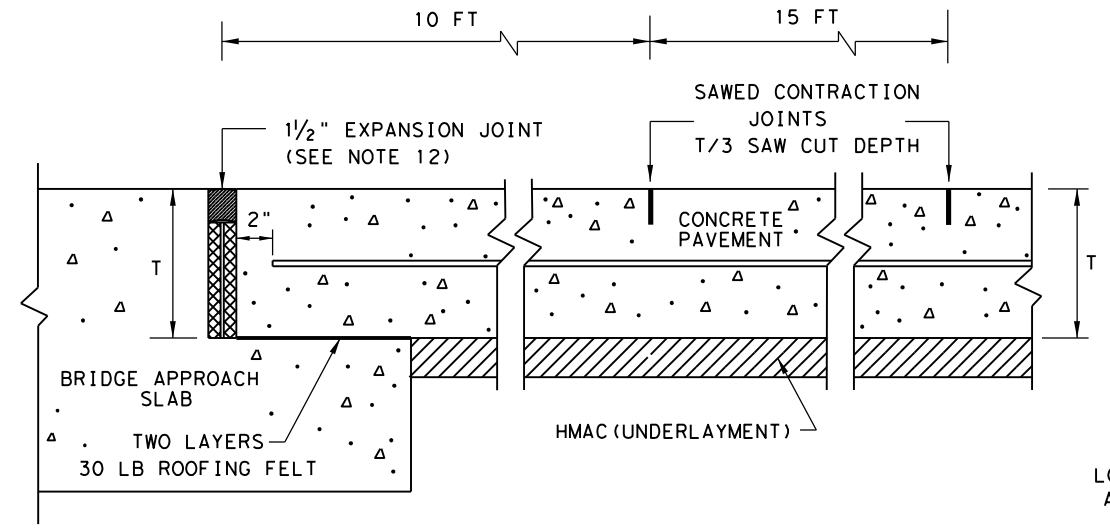


SHEET 1 OF 2

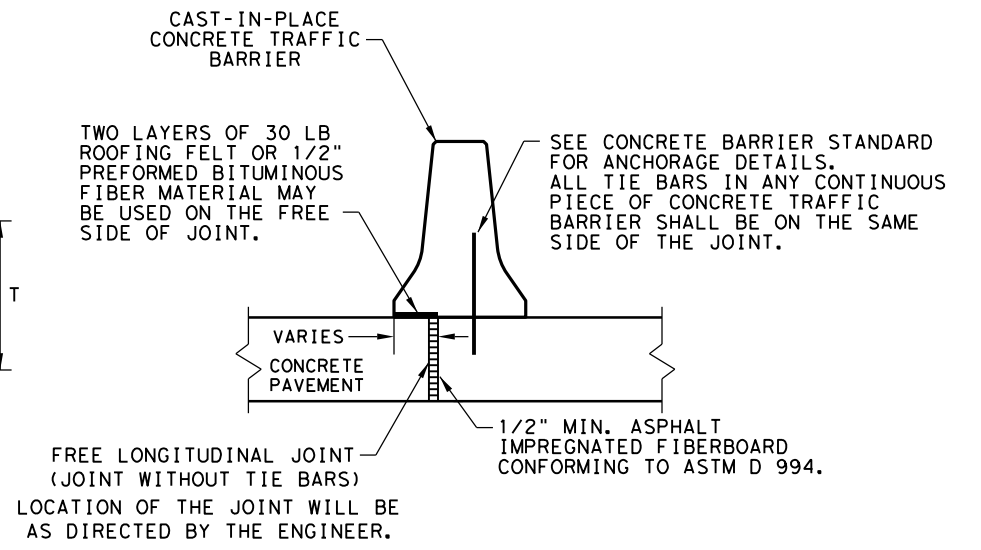
		Design Division Standard		
<b>CONTINUOUSLY REINFORCED CONCRETE PAVEMENT</b> <b>ONE LAYER STEEL BAR PLACEMENT</b> <b>T - 7 to 13 INCHES</b> <b>CRCP (1) - 20</b>				
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© TxDOT: APRIL 2020	CONT	SECT	JOB	HIGHWAY
10/10/2011 ADD GN #12	0142	09	044, Etc	RM 473
04/09/2013 REMOVE 6" AND 6.5" ADD CTE REQUIREMENTS	DIST	COUNTY	SHEET NO.	
05/05/2017 COTE AS RATED 4.3	SAT	KENDALL	319	

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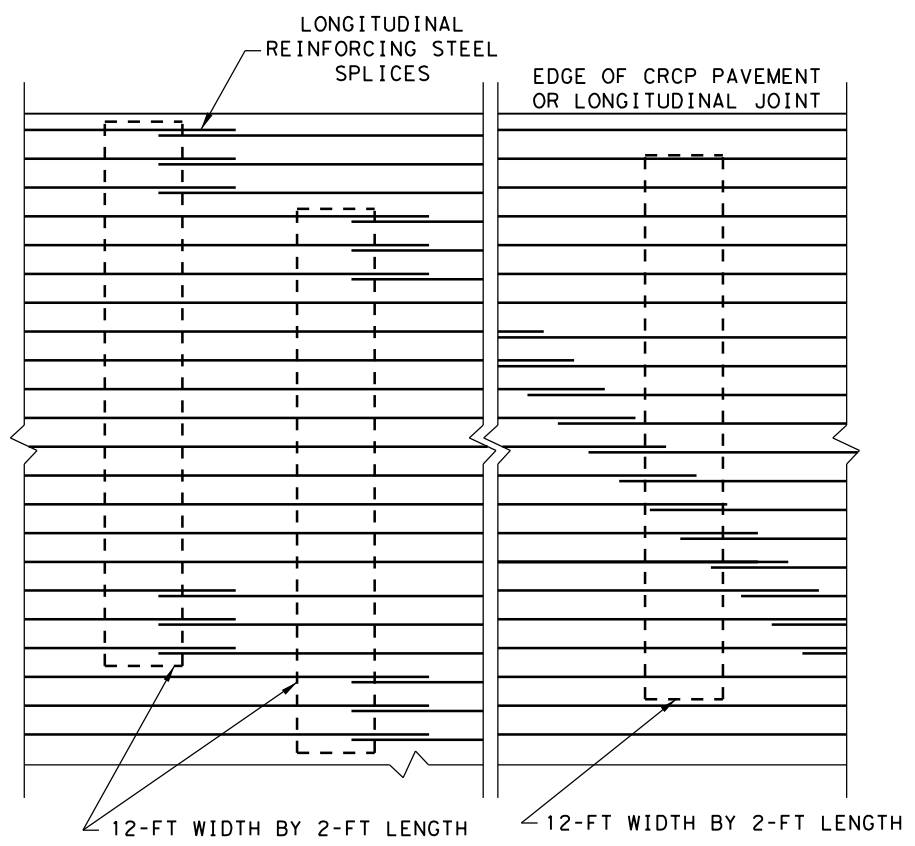
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**TRANSVERSE EXPANSION JOINT DETAIL  
AT BRIDGE APPROACH**

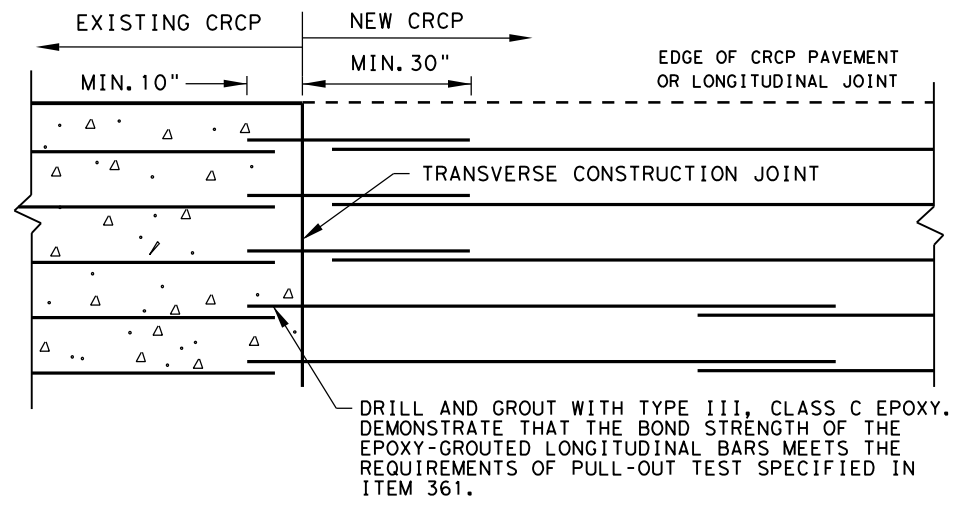


**FREE LONGITUDINAL JOINT DETAIL**

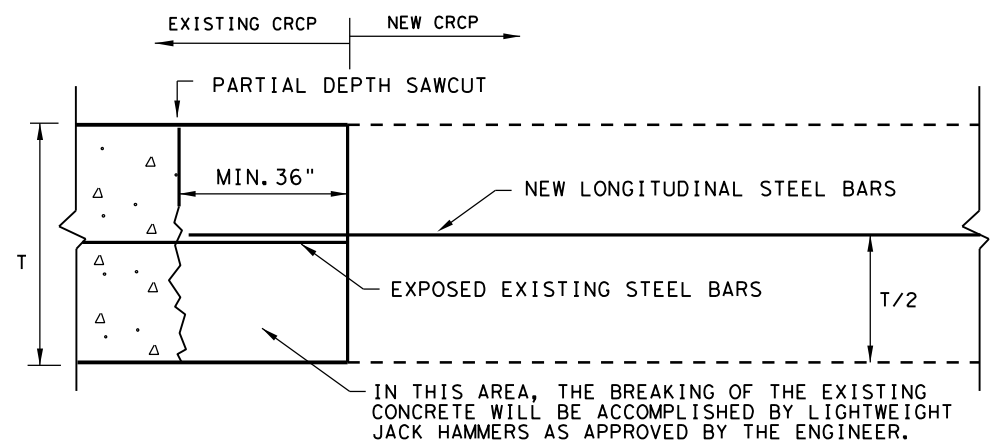


STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT. ANY OTHER LAP CONFIGURATION MEETING THIS REQUIREMENT WILL BE ALLOWED.

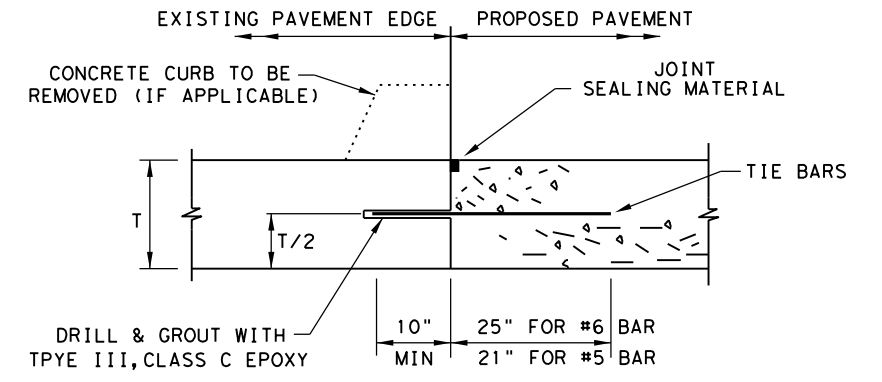
**EXAMPLES OF LAP CONFIGURATION  
PLAN VIEW (NOT TO SCALE)**



**OPTION A: DRILL AND EPOXY  
PLAN VIEW (NOT TO SCALE)**



**OPTION B: BREAKBACK AND LAP  
TRANSVERSE TIE JOINT DETAIL  
EXISTING CRCP TO NEW CRCP**



1. BEFORE WIDENING WORK, DEMONSTRATE THAT THE BOND STRENGTH OF THE EPOXY-GROUTED TIE BARS MEETS THE REQUIREMENTS OF PULL-OUT TEST SPECIFIED IN ITEM 361.
2. SPACE TIE BARS AT 24" SPACING. USE #6 TIE BARS FOR 8" AND THICKER SLABS, USE #5 TIE BARS FOR LESS THAN 8" THICK SLABS.

**LONGITUDINAL WIDENING JOINT DETAIL**

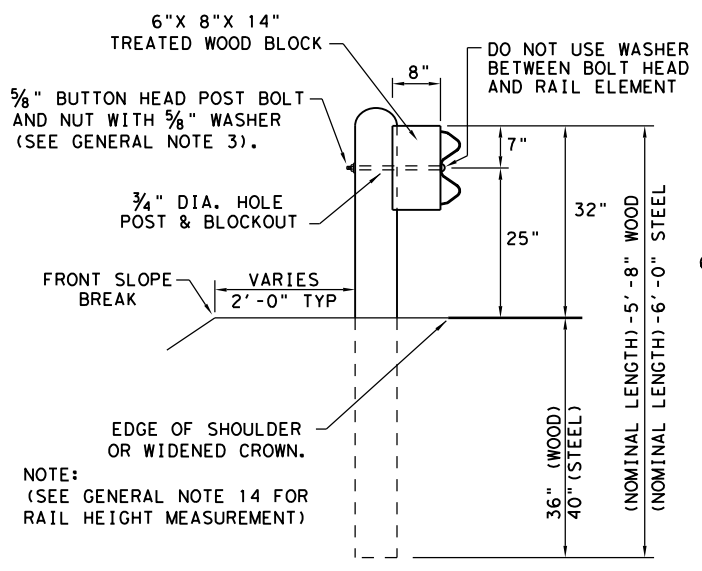
SHEET 2 OF 2



**CONTINUOUSLY REINFORCED  
CONCRETE PAVEMENT  
ONE LAYER STEEL BAR PLACEMENT  
T - 7 to 13 INCHES  
CRCP (1) - 20**

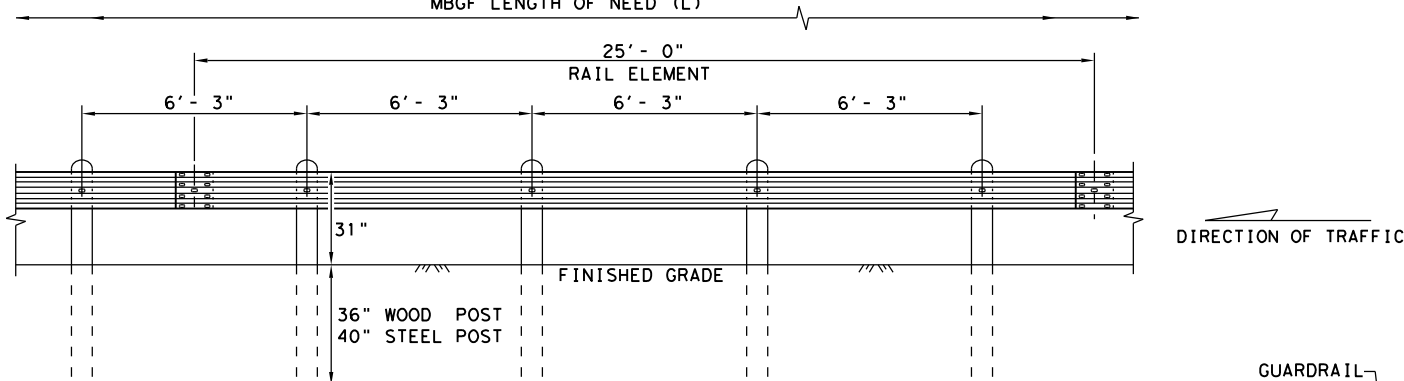
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© TxDOT: APRIL 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
03/16/2020 REMOVED TABLE 1A	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	320	

DATE: 4/26/2021  
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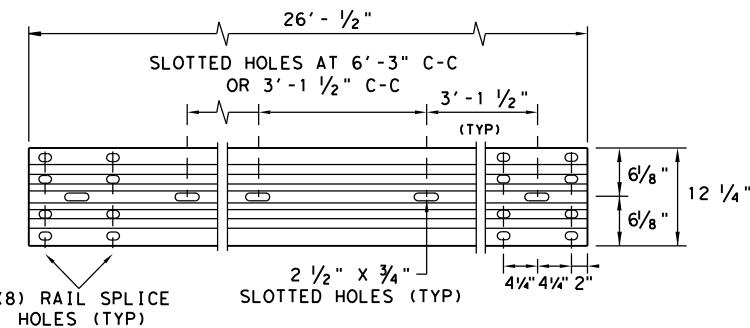
**TYPICAL POST PLACEMENT**

NOTE: \*\* "WOOD" INDICATES DIMENSIONS FOR BOTH ROUND AND RECTANGULAR WOOD POST SYSTEMS.



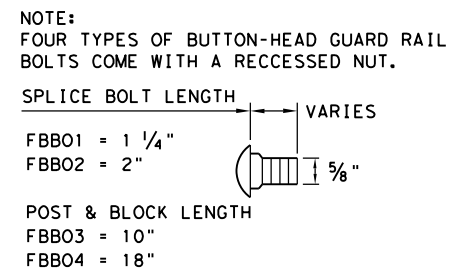
**ELEVATION MID-SPAN RAIL SPLICE**

SHOWING A 25' - 0" SECTION OF W-BEAM RAIL. (SEE GENERAL NOTE 2)



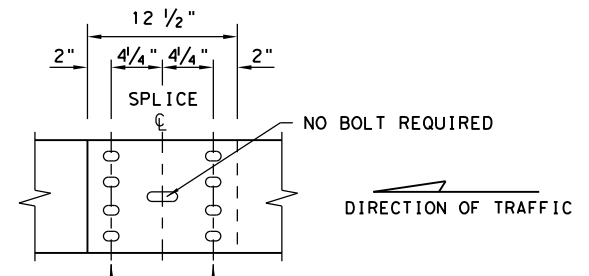
**ELEVATION 25' - 0" (NOM.) W-BEAM SECTION**

NOTES: SEE GENERAL NOTE 2 FOR ALLOWABLE RAIL TYPES. SEE RAIL SPLICE DETAIL FOR REQUIRED HARDWARE.



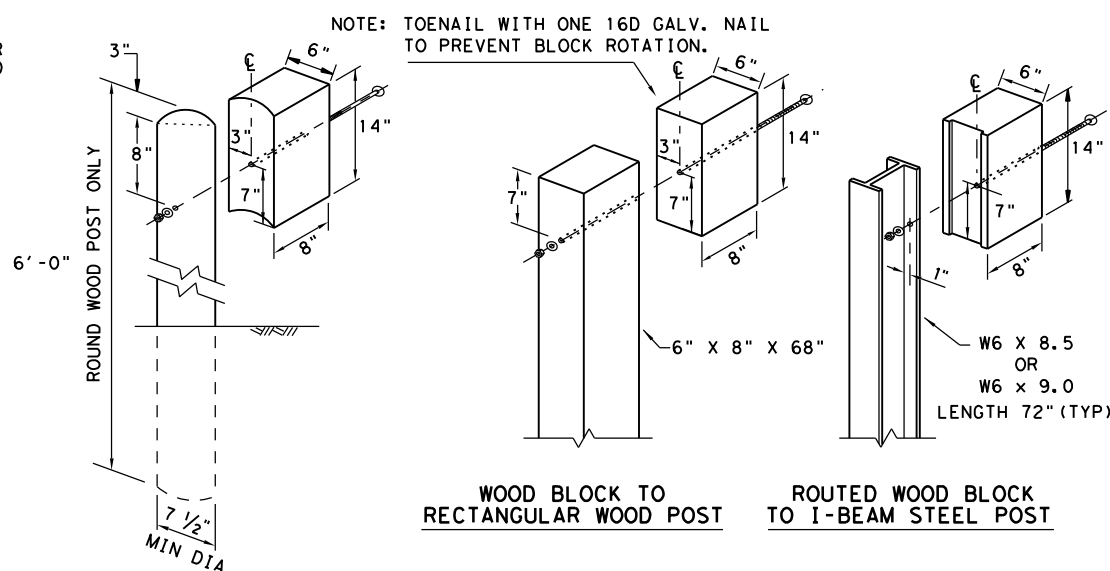
**BUTTON HEAD BOLT**

NOTE: SEE GENERAL NOTE 3 FOR SPLICE & POST BOLT DETAILS.



**MID-SPAN RAIL SPLICE DETAIL**

NOTE: GF(31), MID-SPAN RAIL SPLICES ARE REQUIRED WITH 6'-3" POST SPACINGS.

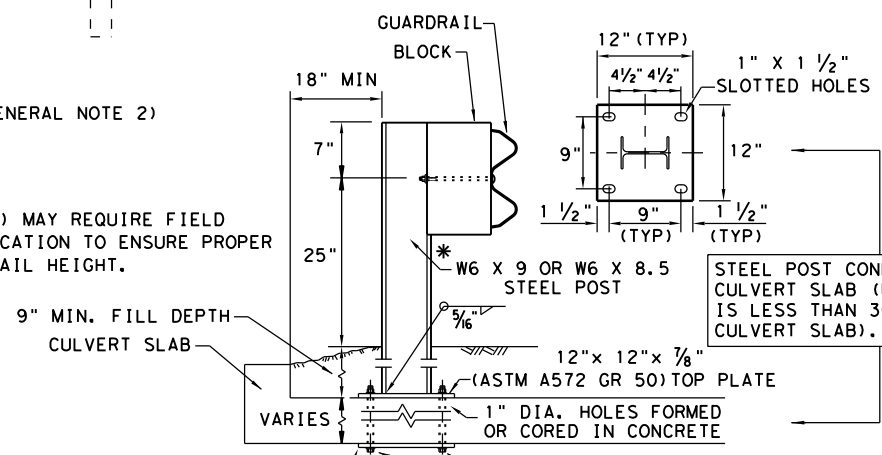


**WOOD BLOCK TO RECTANGULAR WOOD POST**      **ROUTED WOOD BLOCK TO I-BEAM STEEL POST**

**GENERAL NOTES**

1. THE TYPE OF POST (ROUND WOOD POST, RECTANGULAR WOOD POST, OR STEEL POST) WILL BE AS SHOWN IN THE PLANS. THE EXACT POSITION OF MBGF SHALL BE SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. STEEL POSTS TO BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING."
2. RAIL ELEMENTS SHALL MEET THE REQUIREMENTS OF ITEM 540, "METAL BEAM GUARD FENCE" EXCEPT AS MODIFIED IN THE PLANS. THE CONTRACTOR MAY FURNISH RAIL ELEMENTS OF 25'-0", OR 12'-6" (NOM.) LENGTHS. RAIL ELEMENTS MAY HAVE SLOTTED HOLES AT 3'-1 1/2" C-C OR 6'-3" C-C. A SPECIAL LENGTH OF RAIL MAY BE MANUFACTURED TO ACCOMMODATE THE DOWNSTREAM ANCHOR TERMINAL (DAT) AND THE TRANSITION SECTIONS OF GUARDRAIL.
3. BUTTON HEAD "POST BOLTS & NUTS" SHALL MEET THE REQUIREMENTS OF (ASTM A307), AND SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND 5/8" WASHER (FWC16G) AND NOT MORE THAN 1" BEYOND IT. TRIM REMAINING BOLT LENGTH TO MEET REQUIRED LENGTH.
4. FITTINGS (BOLTS, NUTS, AND WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING." FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
5. CROWN SHALL BE WIDENED TO ACCOMMODATE THE METAL BEAM GUARD FENCE.
6. THE LATERAL APPROACH TO THE GUARD FENCE, SHALL HAVE A MAXIMUM SLOPE OF 1V:10H.
7. IF SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY THE ENGINEER, THE GUARD FENCE MAY BE FLARED AT A RATE OF 25:1 OR FLATTER.
8. UNLESS OTHERWISE SHOWN IN THE PLANS, GUARD FENCE PLACED IN THE VICINITY OF CURBS SHALL BE POSITIONED SO THAT THE FACE OF CURB IS LOCATED DIRECTLY BELOW OR BEHIND THE FACE OF THE RAIL. RAIL PLACED OVER CURBS SHALL BE INSTALLED SO THAT THE POST BOLT IS LOCATED APPROXIMATELY 25 INCHES ABOVE THE GUTTER PAN OR EDGE OF SHOULDER.
9. APPLICATIONS IN SOLID ROCK ARE ONLY ALLOWED WITH STEEL POSTS. IF SOLID ROCK IS ENCOUNTERED WITHIN 0 TO 18" OF THE FINISHED GRADE, DRILL A 24" DIA. HOLE, 24" INTO THE ROCK. IF SOLID ROCK IS ENCOUNTERED BELOW 18", DRILL A 12" DIA. HOLE, 12" INTO THE ROCK OR TO THE STANDARD EMBEDMENT DEPTH, WHICHEVER MAYBE LESS. ANY EXCESS POST LENGTH, AFTER MEETING THESE DEPTHS, MAY BE FIELD CUT TO ENSURE PROPER GUARDRAIL MOUNTING HEIGHT. BACKFILL WITH COARSE AGGREGATE MATERIAL.
10. POSTS SHALL NOT BE SET IN CONCRETE, OF ANY DEPTH.
11. SPECIAL FABRICATION WILL BE REQUIRED AT INSTALLATION LOCATIONS HAVING A CURVATURE OF LESS THAN 150 FT. RADIUS.
12. UNLESS OTHERWISE SHOWN IN THE PLANS, A COMPOSITE MATERIAL BLOCK THAT MEETS THE REQUIREMENTS OF DMS-7210, "COMPOSITE MATERIAL POSTS AND BLOCKS FOR METAL BEAM GUARD FENCE" MAY BE SUBSTITUTED FOR BLOCKS OF SIMILAR DIMENSIONS. THE CONSTRUCTION DIVISION, TXDOT MAINTAINS A MATERIAL PRODUCER LIST (MPL) FOR PRODUCERS OF MATERIALS CONFORMING TO DMS-7210 ONLY PRODUCERS ON THE MPL MAY FURNISH COMPOSITE MATERIAL BLOCKS.
13. FOR THE LOW FILL CULVERT OPTION, POSTS LOCATED PARTIALLY OR WHOLLY BETWEEN PRECAST BOX CULVERT UNITS, THE USE OF A CAST-IN-PLACE CONCRETE CLOSURE BETWEEN BOXES IS REQUIRED. THE LENGTH OF THE CAST-IN-PLACE CONCRETE CLOSURE SHALL ACCOMMODATE THE PLACEMENT OF THE LOW FILL CULVERT OPTION. SEE CONCRETE CLOSURE DETAILS ON BRIDGE STANDARD SCP-MD.
14. GUARDRAIL HEIGHT MEASUREMENT: WHEN THE GUARDRAIL IS LOCATED ABOVE PAVEMENT, MEASURE THE HEIGHT FROM THE PAVEMENT TO THE TOP OF THE W-BEAM RAIL. WHEN THE GUARDRAIL IS LOCATED UP TO 2 FT. OFF OF THE EDGE OF PAVEMENT OR FOR A PAVEMENT OVERLAY, USE A 10-FOOT STRAIGHTEDGE TO EXTEND THE PAVEMENT/SHOULDER SLOPE TO THE BACK OF RAIL, MEASURE FROM THE BOTTOM OF STRAIGHTEDGE TO THE TOP OF RAIL. FOR GUARDRAIL LOCATED DOWN A 10:1 SLOPE, MEASURE FROM THE NOMINAL TERRAIN.

\* POST(S) MAY REQUIRE FIELD MODIFICATION TO ENSURE PROPER GUARDRAIL HEIGHT.



**LOW FILL CULVERT POST**

NOTE: TWO INSTALLATION OPTIONS.

1. **BOLT-THROUGH OPTION:** REQUIRES A 6" MIN. SLAB THICKNESS. 5/8" DIA (ASTM A449) HEAVY HEX BOLTS WITH TWO HARDENED WASHER EACH AND HEAVY HEX NUTS. NOTE: BOLT LENGTH = SLAB PLUS 2 1/4" MIN.
2. **EPOXY ANCHOR OPTION:** THIS OPTION MAY ONLY BE USED IF THE CULVERT SLAB IS 9" MIN. THICK. THREADED ANCHOR RODS MUST BE 5/8" DIA. ASTM A449 OR A193 GRADE B7 WITH HEAVY HEX NUT, AND ONE HARDENED WASHER EACH. EMBED ANCHOR RODS 6" WITH HILTI HIT RE 500 EPOXY ADHESIVE. OTHER TYPE III CLASS C EPOXY ADHESIVES MEETING THE REQUIREMENTS OF DMS-6100, "EPOXIES AND ADHESIVES", MAY BE USED IF IT CAN BE DEMONSTRATED THAT THEY MEET OR EXCEED THE STRENGTH OF HILTI HIT RE 500 WITH THE SAME EMBEDMENT DEPTH AND THREADED ROD DIA. FOLLOW THE MANUFACTURER'S REQUIREMENTS FOR INSTALLING EPOXIED THREADED RODS. EXTEND RODS 1/4" MIN. BEYOND NUT.

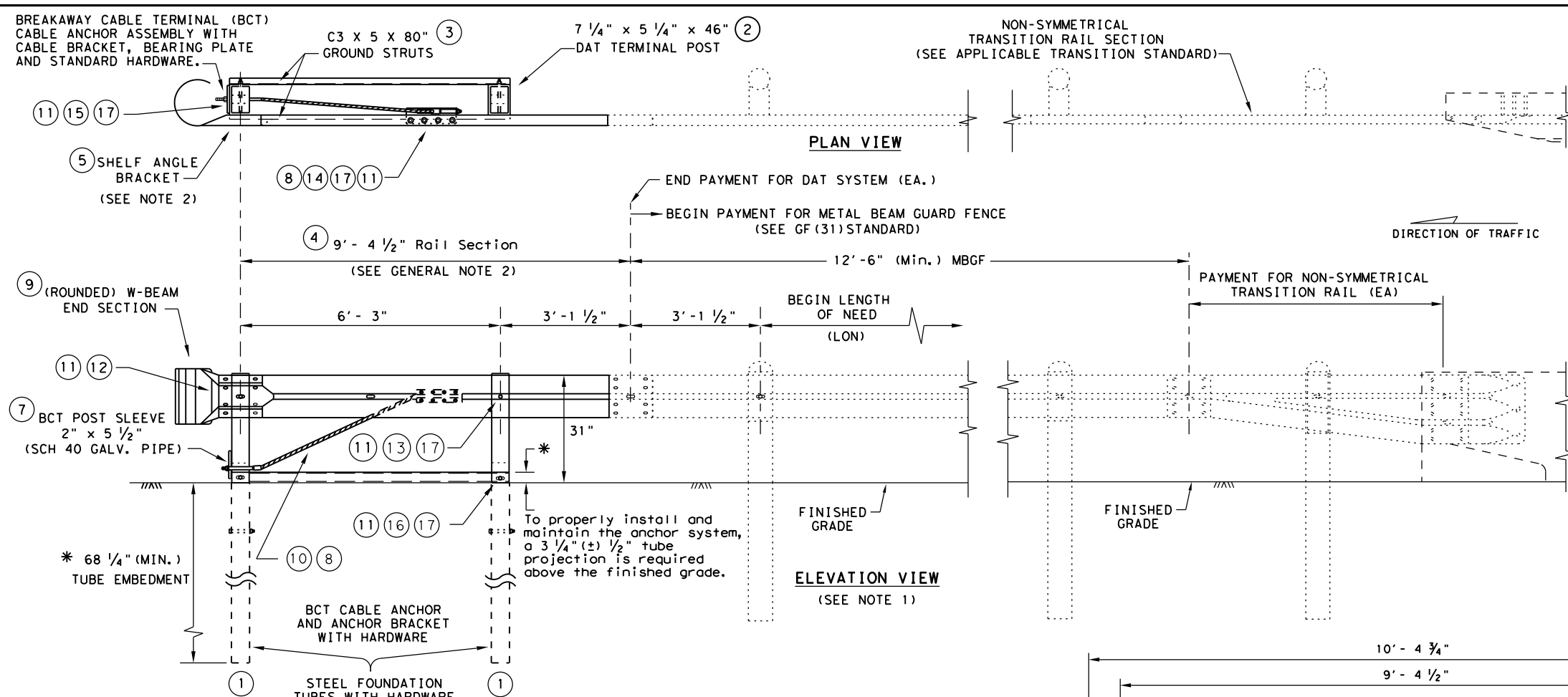
NOTE: CULVERTS OF 25 FT. OR LESS, SEE GF(31)LS STANDARD FOR "LONG SPAN" OPTION.

NOTE: TRANSITIONS TO BRIDGE RAILS OR TRAFFIC BARRIERS. SEE GF(31)TL3 TR STANDARD FOR HIGH-SPEED TL-3 TRANSITIONS. SEE GF(31)TL2 TR STANDARD FOR LOW-SPEED TL-2 TRANSITIONS.

		<b>Design Division Standard</b>	
<b>METAL BEAM GUARD FENCE</b> <b>TL-3 MASH COMPLIANT</b> <b>GF(31)-19</b>			
FILE: gcf3119.dgn	DN: TxDOT	CK: KM	DW: VP
©TXDOT: NOVEMBER 2019	CONT	SECT	JOB
REVISIONS	0142	09	044, E+c
	DIST	COUNTY	SHEET NO.
	SAT	KENDALL	321



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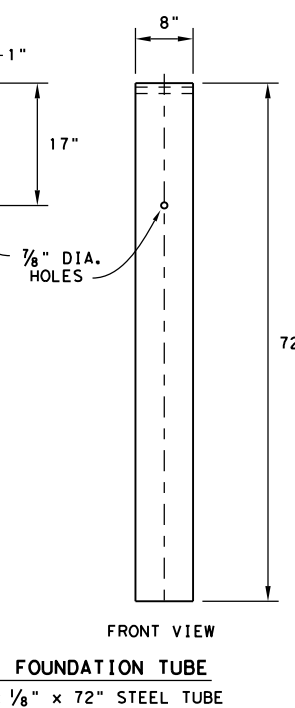
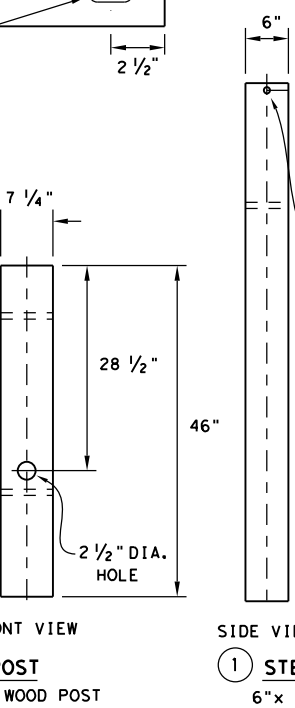
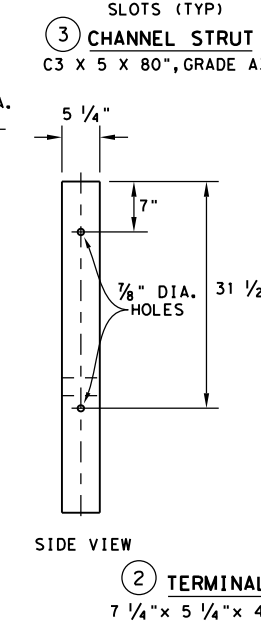
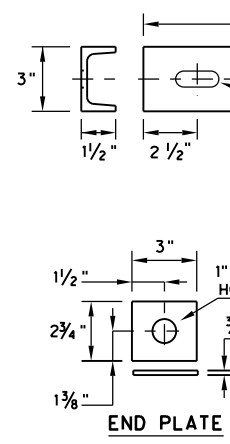
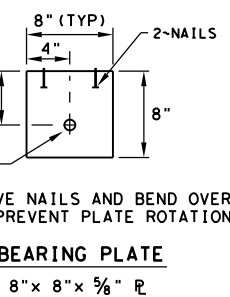
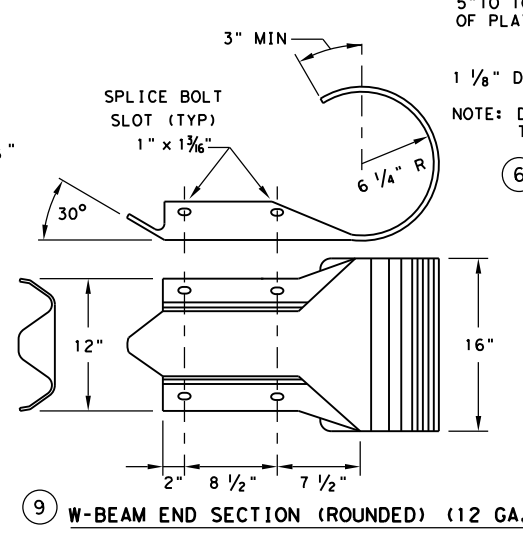
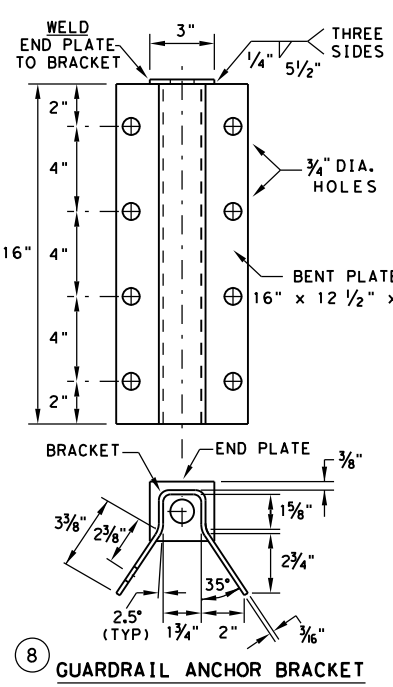
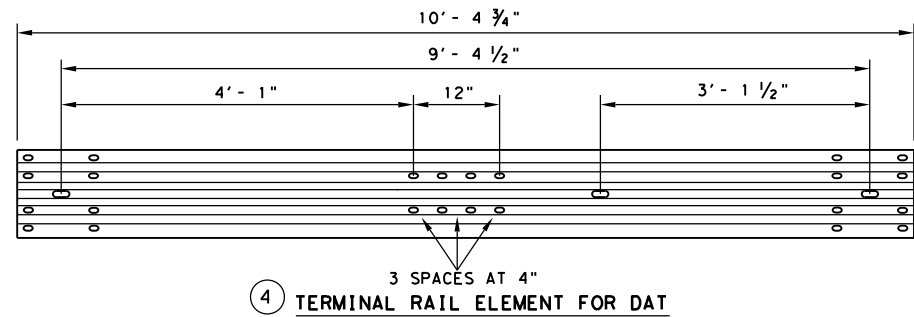
- ### GENERAL NOTES
1. THE DETAIL SHOWN IS THE MINIMUM LENGTH OF NEED (LON) FOR A DOWNSTREAM ANCHOR TERMINAL (DAT) CONNECTED TO A CONCRETE RAIL.
  2. THE RAIL SECTION AT THE END POST IS SUPPORTED BY THE SHELF ANGLE BRACKET. THE RAIL ELEMENT IS NOT ATTACHED TO THE END POST.
  3. THE FOUNDATION TUBES SHALL NOT PROJECT MORE THAN 3 3/4" ABOVE THE FINISHED GRADE.
  4. ALL HARDWARE FOR DAT SHALL BE ASTM A307 UNLESS OTHERWISE SHOWN.
  5. REFER TO GF(31) SHEET FOR TERMINAL CONNECTION DETAILS.

#### MOW STRIP INSTALLATION

IF A MOW STRIP IS REQUIRED WITH THE DAT INSTALLATION THE LEAVE-OUT AREA AROUND THE STEEL FOUNDATION TUBES AND THE TWO CHANNEL STRUTS MAY BE OMITTED. THIS WILL REQUIRE A FULL POUR AT THE FOUNDATION TUBES.

**DOWNSTREAM ANCHOR TERMINAL (DAT)**  
 NOTE: ONLY FOR DOWNSTREAM USE, WHEN LOCATED OUTSIDE THE HORIZONTAL CLEARANCE AREA OF OPPOSING TRAFFIC.

#	(DAT) PARTS LIST	QTY
1	STEEL FOUNDATION TUBE	2
2	DAT TERMINAL POST	2
3	CHANNEL STRUT	2
4	TERMINAL RAIL ELEMENT	1
5	SHELF ANGLE BRACKET	1
6	BCT BEARING PLATE	1
7	BCT POST SLEEVE	1
8	GUARDRAIL ANCHOR BRACKET	1
9	(ROUNDED) W-BEAM END SECTION	1
10	BCT CABLE ANCHOR	1
11	RECESSED NUT, GUARDRAIL	20
12	1 1/4" BUTTON HEAD BOLT	4
13	10" BUTTON HEAD BOLT	2
14	5/8" X 2" HEX HEAD BOLT	8
15	5/8" X 8" HEX HEAD BOLT	4
16	5/8" X 10" HEX HEAD BOLT	2
17	5/8" FLAT WASHER	18



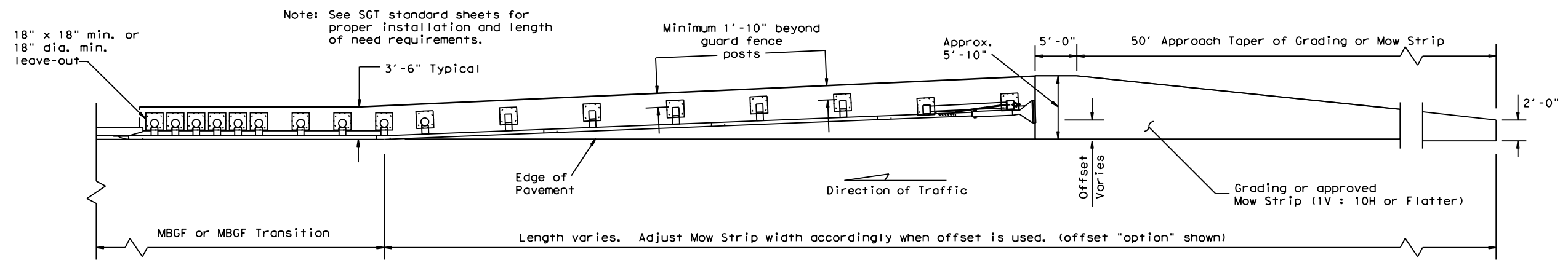
Design Division Standard

## METAL BEAM GUARD FENCE (DOWNSTREAM ANCHOR TERMINAL) TL-3 MASH COMPLIANT GF(31)DAT-19

FILE: gf31dat19.dgn	DN: TXDOT	CK: KM	DW: VP	CK: CGL/AG
© TXDOT: NOVEMBER 2019	CONT: 0142	SECT: 09	JOB: 044, Etc	HIGHWAY: RM 473
REVISIONS	DIST: SAT	COUNTY: KENDALL	SHEET NO. 322	

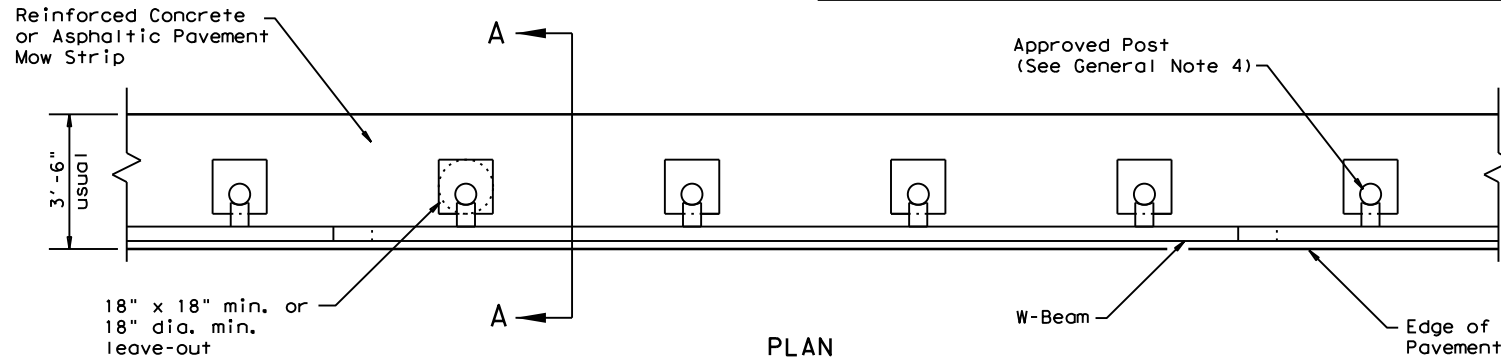
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DISCLAIMER: THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.  
 DATE: 4/26/2021  
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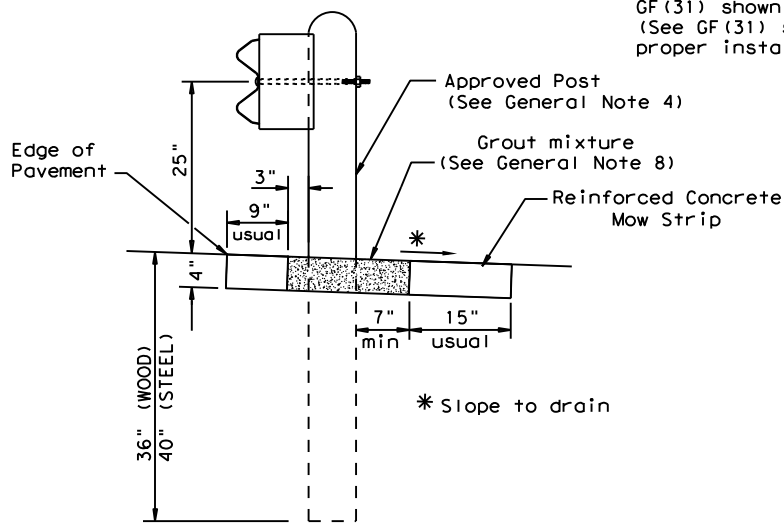
**GRADING AND MOW STRIP AT GUARDRAIL END TREATMENTS**

Note: Site Condition(s)  
 Site conditions may exist where grading is required for the proper installation of metal guard fence and end treatments.  
 Approach grading or mow strip may be decreased or eliminated, as directed by the Engineer.



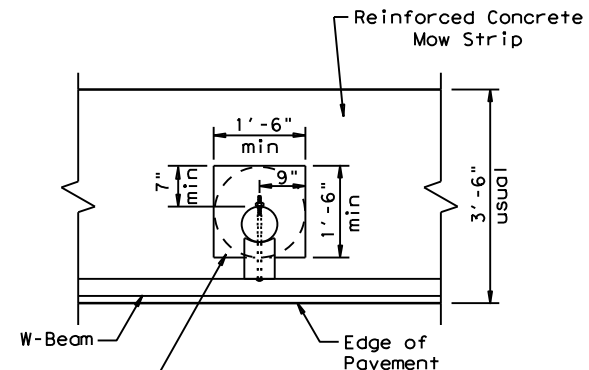
**PLAN**

GF(31) shown with Mow Strip  
 (See GF(31) standard sheet for proper installation)



**SECTION A-A**

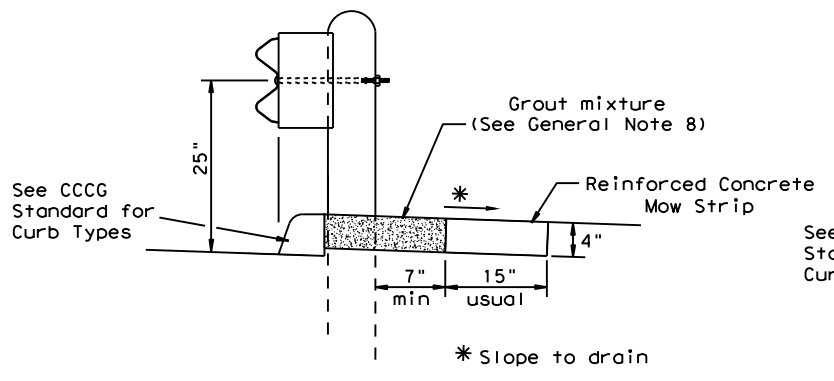
Typical



**MOW STRIP DETAIL**

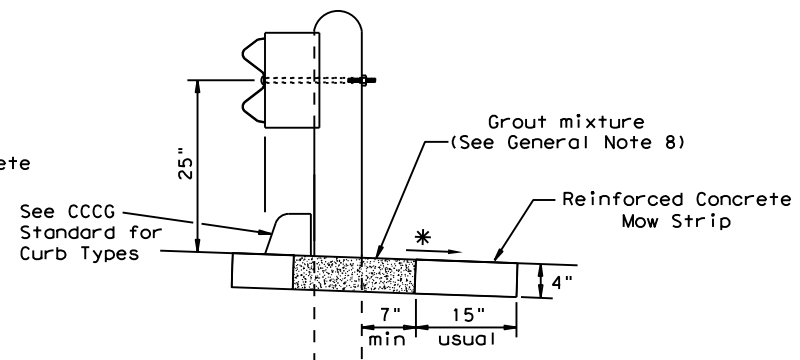
Reinforced Concrete Mow Strip with 18" x 18" Square or 18" Dia. minimum leave-out.

- GENERAL NOTES**
1. This mow strip design is for use with metal beam guard fence, guard fence transitions, and guard fence end treatments. See applicable GF(31) MBGF or GF(31) Transition Standard sheet for additional information.
  2. Mow strips shall be reinforced concrete with (wire mesh or synthetic fiber), as shown on the plans and will be paid for under the pertinent bid item. Reinforced concrete shall be placed in accordance with Item 432, "Riprap." The use of the synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Material Producer List (MPL), maintained by TxDOT, Construction Division.
  3. The leave-out behind the post shall be a minimum of 7".
  4. Only steel (W6 x 8.5 or W6 x 9.0), or 7 1/2" Dia. round wood posts are acceptable for use in the mow strip. See GF(31) Standard for additional details.
  5. Other curb placement options may be used. Curbs are not considered part of the mow strip and will be paid for under other pertinent bid item.
  6. Thickness of the mow strip will be 4".
  7. The limits of payment for reinforced concrete will include leave-outs for the posts.
  8. The leave-outs shall be filled with a Grout mixture consisting of: 2719 pounds sand, 188 pounds Type 1 or II cement, and 550 pounds of water per cubic yard, with a 28-day compressive strength of approximately 230 psi or less. Provide grout with a consistency that will flow into and completely fill all voids. Due to auger size, larger leave-out dimensions are acceptable from both an impact performance and maintenance repair standpoint (Suggested Maximum leave-out of 20"). Payment for furnishing and placing the grout mixture will be subsidiary to the pay item of riprap mow strip.



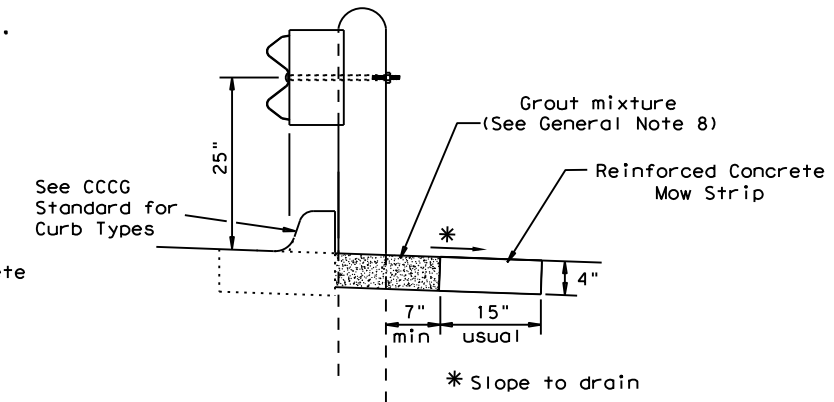
**CURB OPTION (1)**

This option will increase the post embedment throughout the system.



**CURB OPTION (2)**

Curb shown on top of mow strip

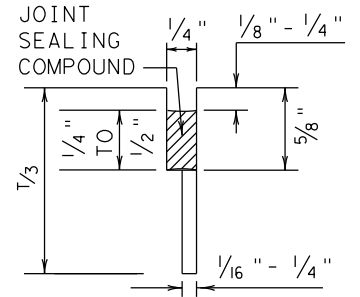


**CURB OPTION (3)**

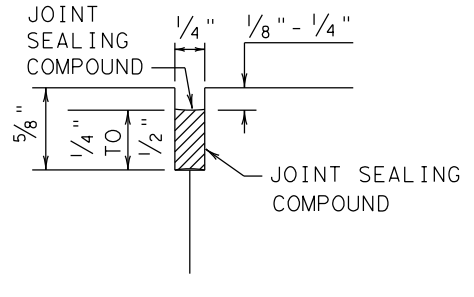
		<b>Design Division Standard</b>	
<b>METAL BEAM GUARD FENCE (MOW STRIP)</b> <b>TL-3 MASH COMPLIANT</b> <b>GF (31) MS-19</b>			
FILE: gf31ms19.dgn	DN: TXDOT	CK: KM	DW: VP
© TXDOT: NOVEMBER 2019	CONT	SECT	JOB
REVISIONS	0142	09	044, Etc
	DIST	COUNTY	SHEET NO.
	SAT	KENDALL	323

DATE: 4/26/2021  
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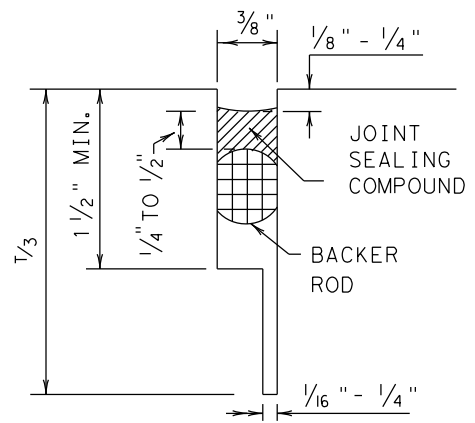
METHOD B: JOINT SEALING COMPOUND



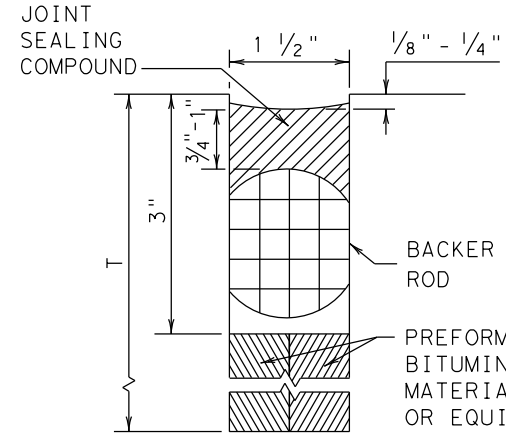
LONGITUDINAL SAWED CONTRACTION JOINT



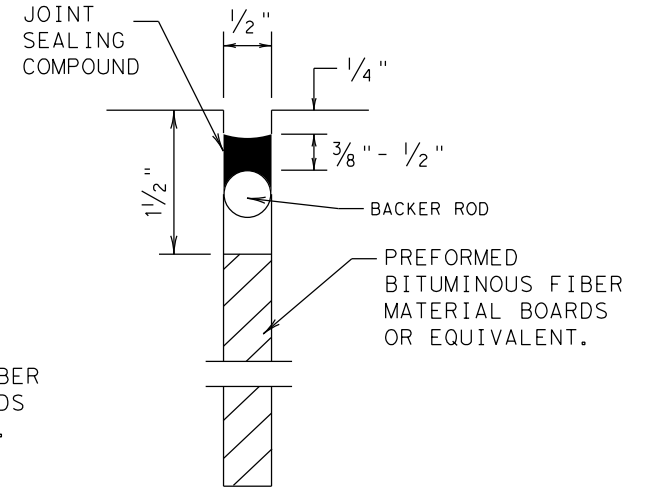
LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT



TRANSVERSE SAWED CONTRACTION JOINT

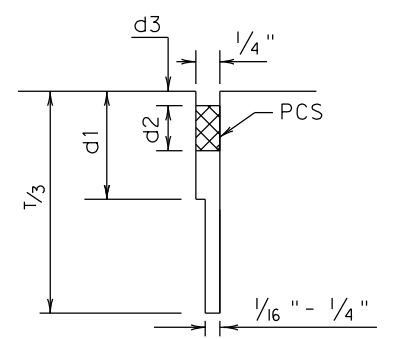


TRANSVERSE FORMED EXPANSION JOINT

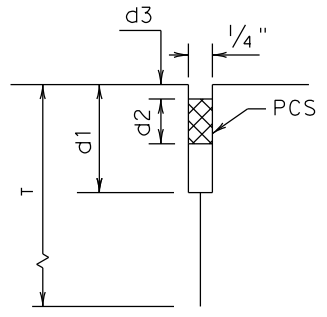


FORMED ISOLATION JOINT

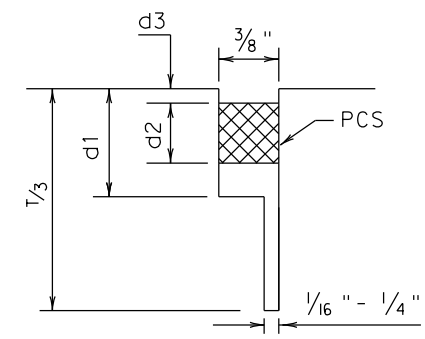
METHOD A: PREFORMED COMPRESSION SEALS (PCS) (DMS-6310 CLASS 6)



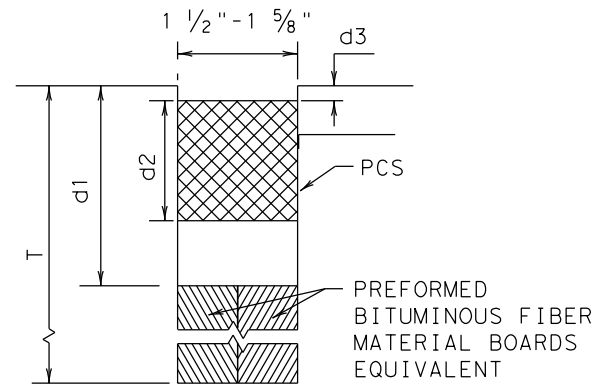
LONGITUDINAL SAWED CONTRACTION JOINT



LONGITUDINAL CONSTRUCTION JOINT



TRANSVERSE SAWED CONTRACTION JOINT



TRANSVERSE FORMED EXPANSION JOINT

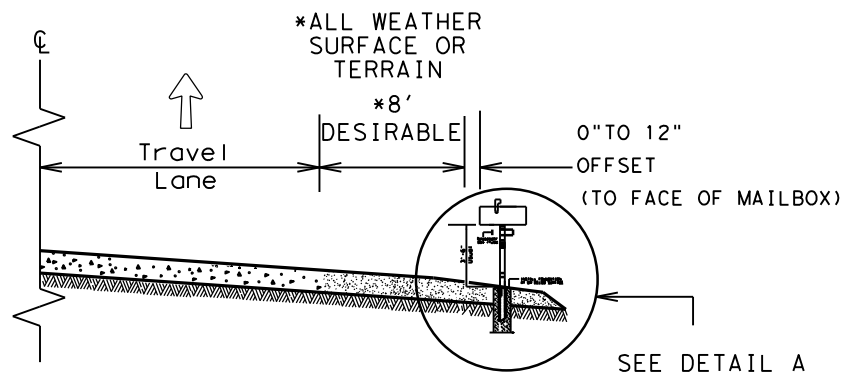
GENERAL NOTES

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

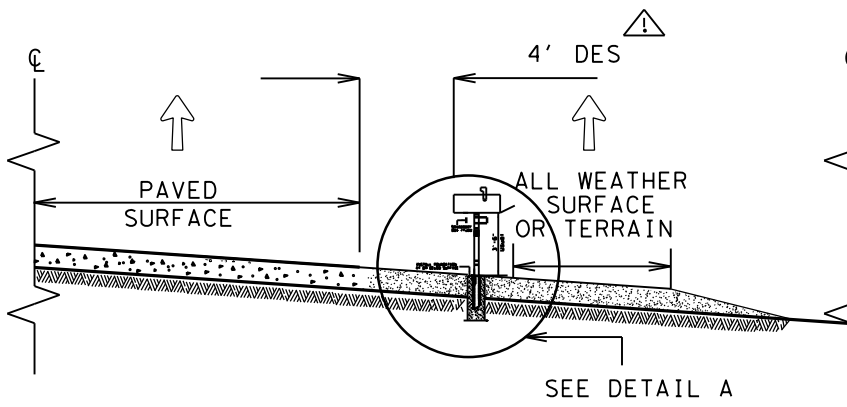
		<b>Design Division Standard</b>	
<b>CONCRETE PAVING DETAILS</b> <b>JOINT SEALS</b> <b>JS-14</b>			
FILE: js14.dgn	DN: TxDOT	DN: HC	CK: AN
© TxDOT: DECEMBER 2014	CONT: 0142	SECT: 09	JOB: 044, E+c
REVISIONS		HIGHWAY: RM 473	
DIST: SAT	COUNTY: KENDALL	SHEET NO.: 324	

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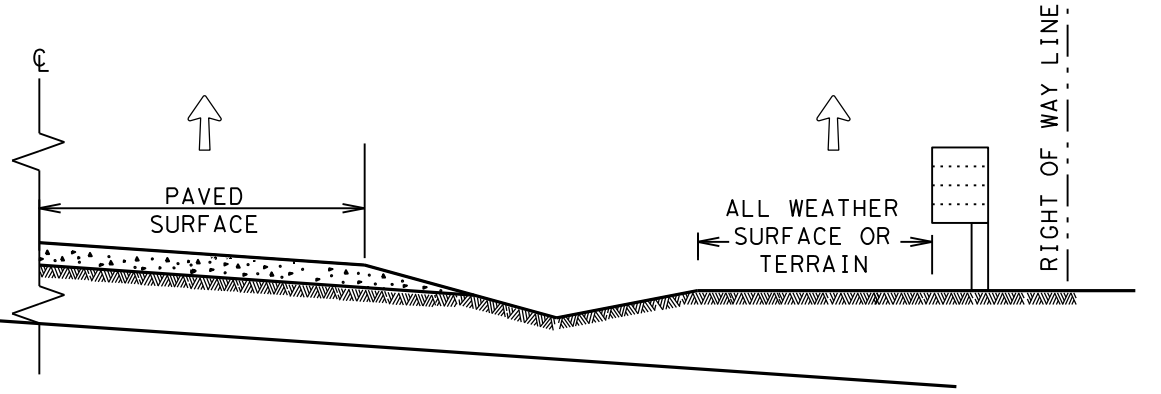
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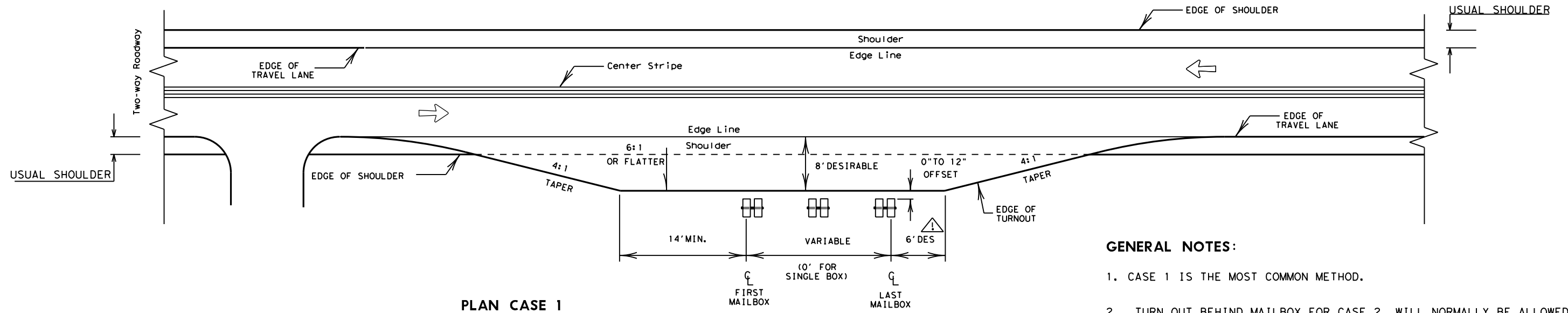
CASE 1. OFF TRAVEL WAY DELIVERY



CASE 2. BACK SIDE DELIVERY



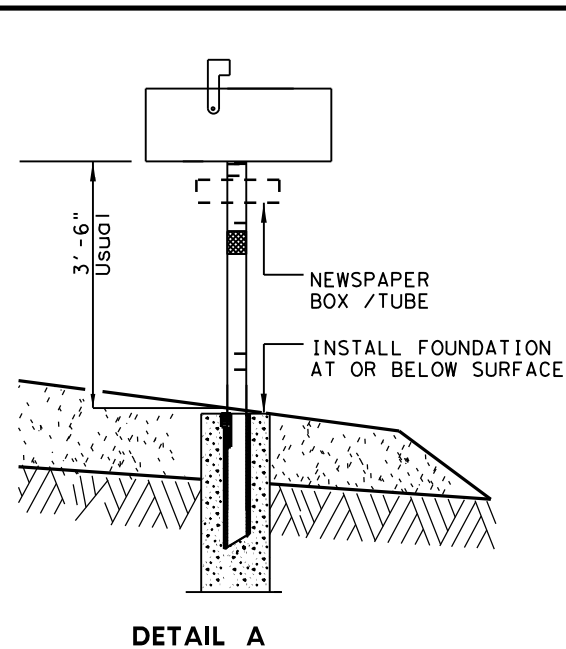
CASE 3. DELIVERY NEAR RIGHT OF WAY LINE



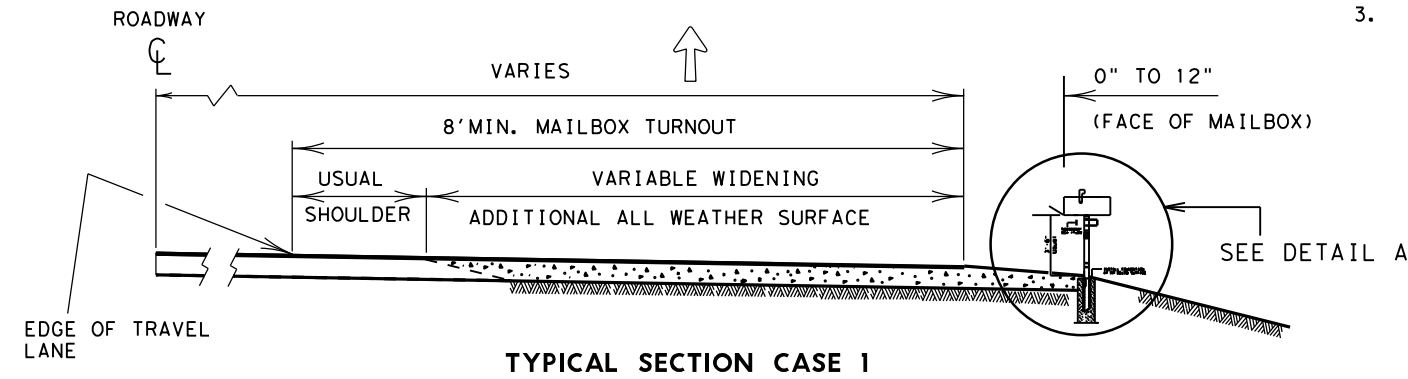
PLAN CASE 1

**GENERAL NOTES:**

1. CASE 1 IS THE MOST COMMON METHOD.
2. TURN OUT BEHIND MAILBOX FOR CASE 2 WILL NORMALLY BE ALLOWED FOR NATURAL TERRAIN THAT WILL SERVE AS AN ALL WEATHER SURFACE.
3. ALL WEATHER DRIVEWAYS FOR CASE 3 MAILBOXES LOCATED AT THE RIGHT OF WAY LINE SHOULD NORMALLY BE PLACED IN CONJUNCTION WITH COUNTY ROADS OR OTHER CONNECTING COMMUNITY ROADS OR STREETS. IF THE NUMBER OF MAILBOXES EXCEEDS FOUR, A COMMUNITY MAIL BOX SHOULD BE ENCOURAGED AT THESE LOCATIONS.



DETAIL A



TYPICAL SECTION CASE 1

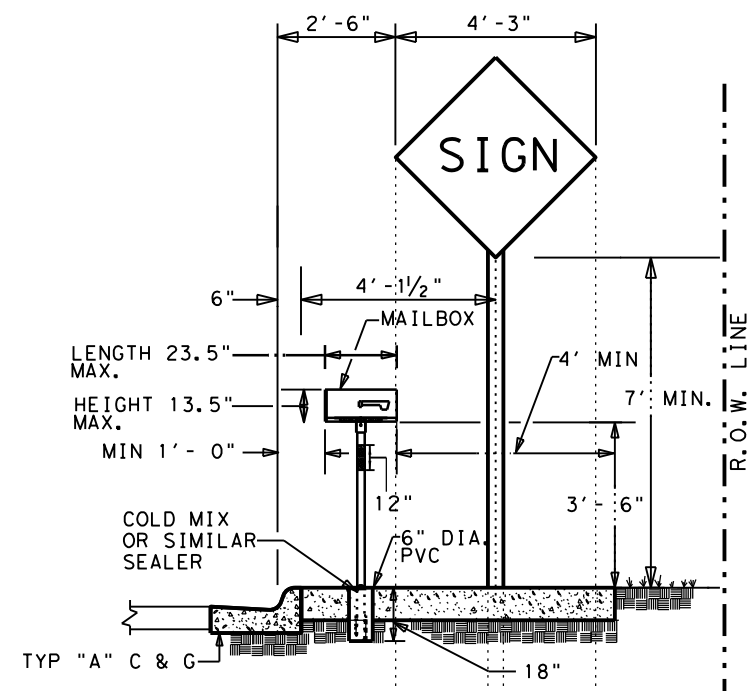
↑ MAIL DELIVERY VEHICLE TRAVEL DIRECTION

SHEET 1 OF 3

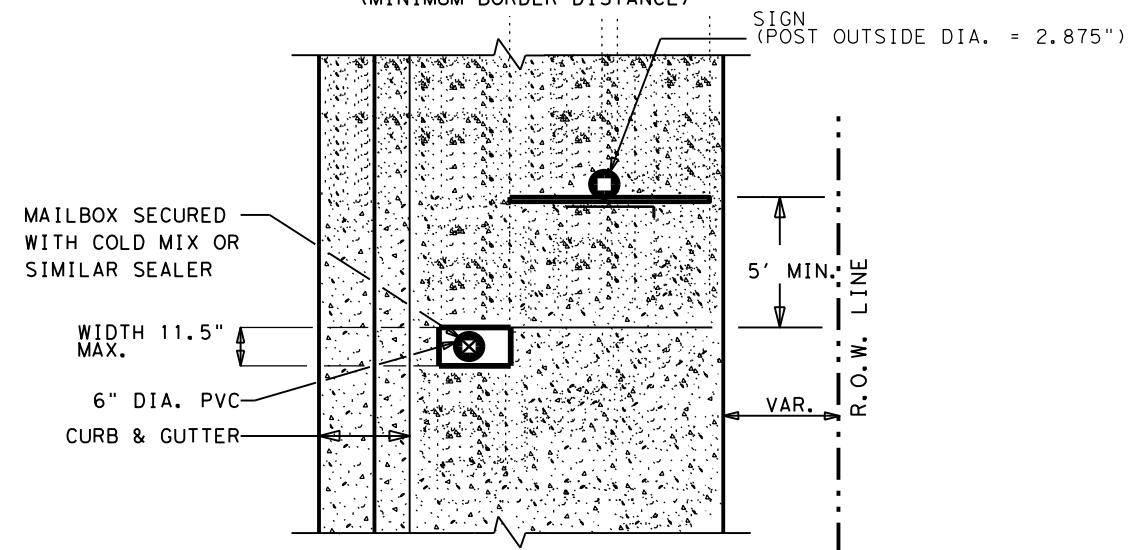
		Maintenance Division Standard	
<i>Guideline</i> <b>MAILBOX SIDE ROAD PLACEMENT AND TURNOUTS MB-14(2)</b>			
FILE: MB14(2).DGN	DN: JEO	CK:	DW: JEO
© TxDOT MAY 2014	CONT	SECT	JOB
REVISIONS	0142	09	044, Etc
DECEMBER 2012-NEW TxDOT TITLE BLOCK	DIST	COUNTY	SHEET NO.
	SAT	KENDALL	325

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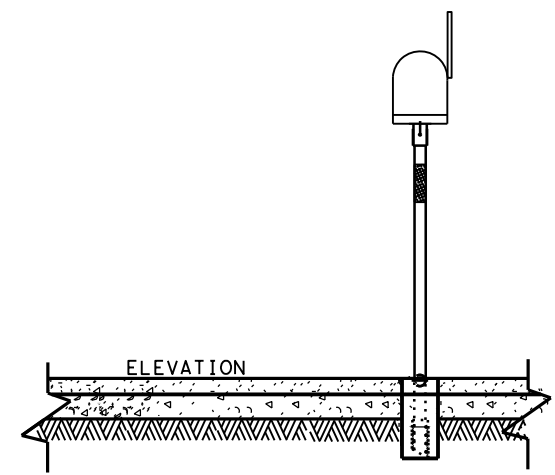
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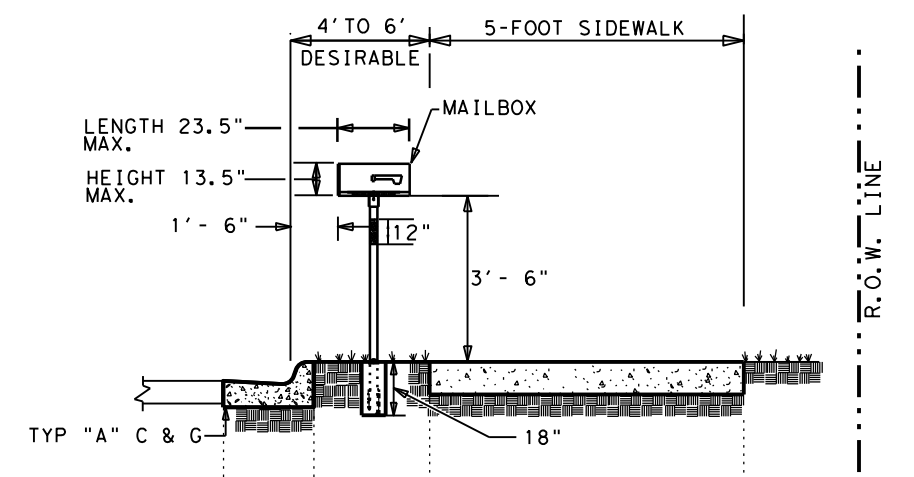
MAILBOX SIDEWALK INSTALLATION RELATIVE TO ANY OTHER OBSTRUCTION SUCH AS A SIGN (MINIMUM BORDER DISTANCE)



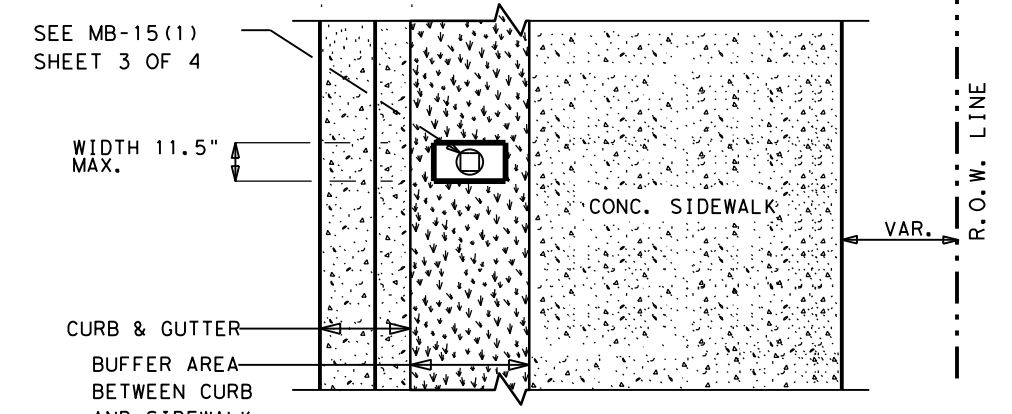
PLAN VIEW



ELEVATION



MAILBOX SIDEWALK INSTALLATION (DESIRABLE BORDER DISTANCE)



PLAN VIEW

SHEET 2 OF 3

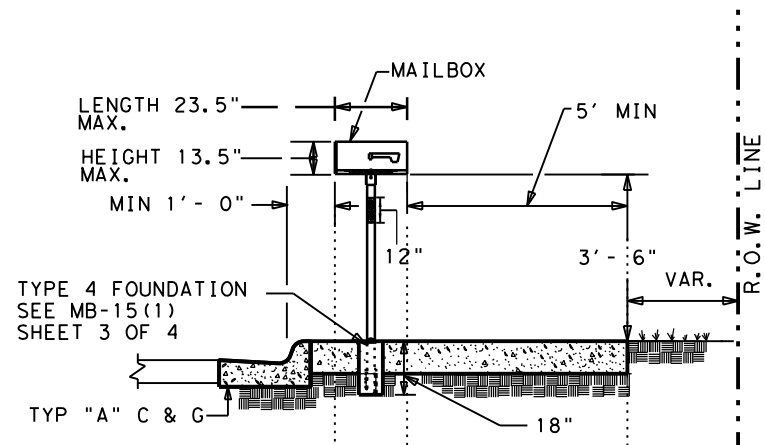
Texas Department of Transportation  
 Maintenance Division Standard

**SINGLE MAILBOX PLACEMENT  
 BEHIND CURBS WITH OR WITHOUT  
 SIDEWALKS  
 MB-14(2A)**

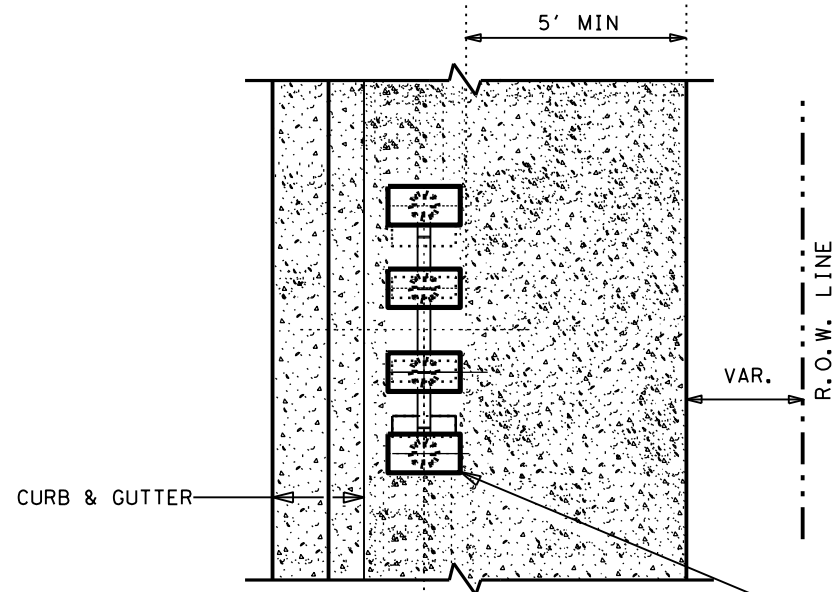
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© TxDOT MAY 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	326	

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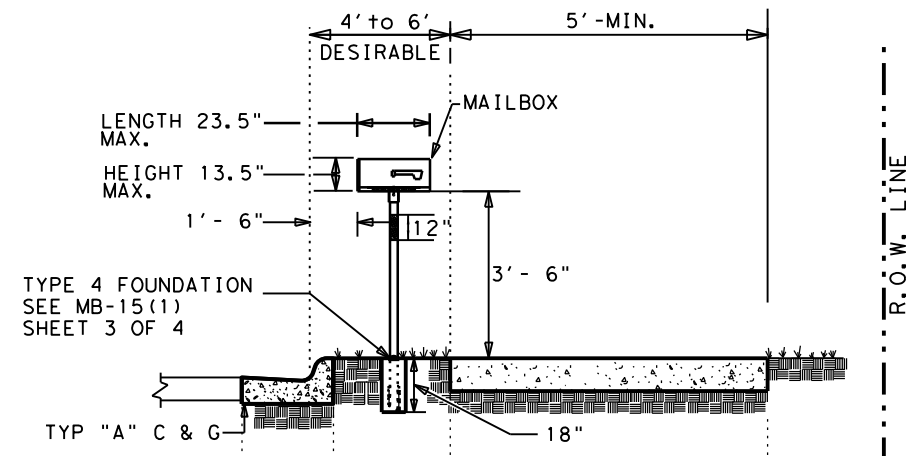
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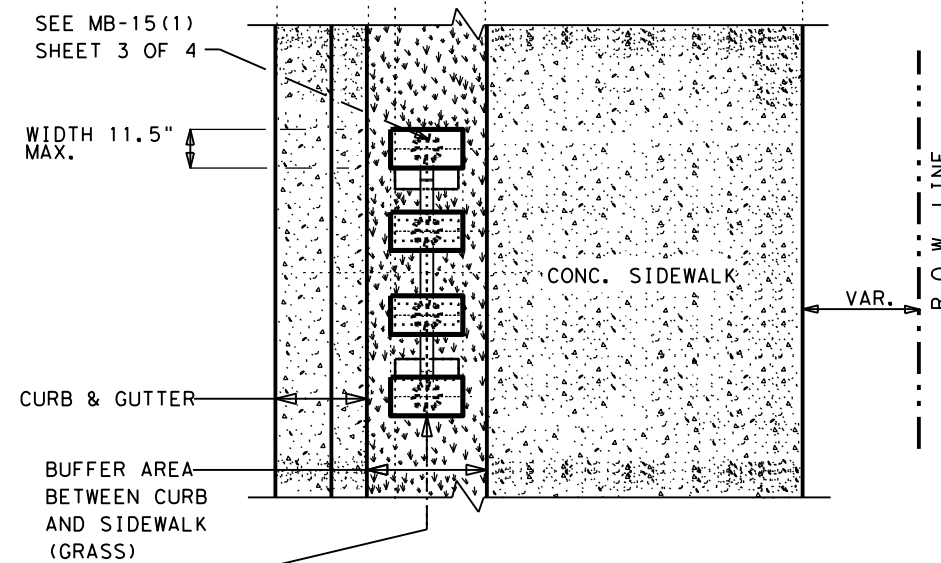
MAILBOX SIDEWALK INSTALLATION RELATIVE TO ANY OTHER OBSTRUCTION SUCH AS A SIGN (MINIMUM BORDER DISTANCE)



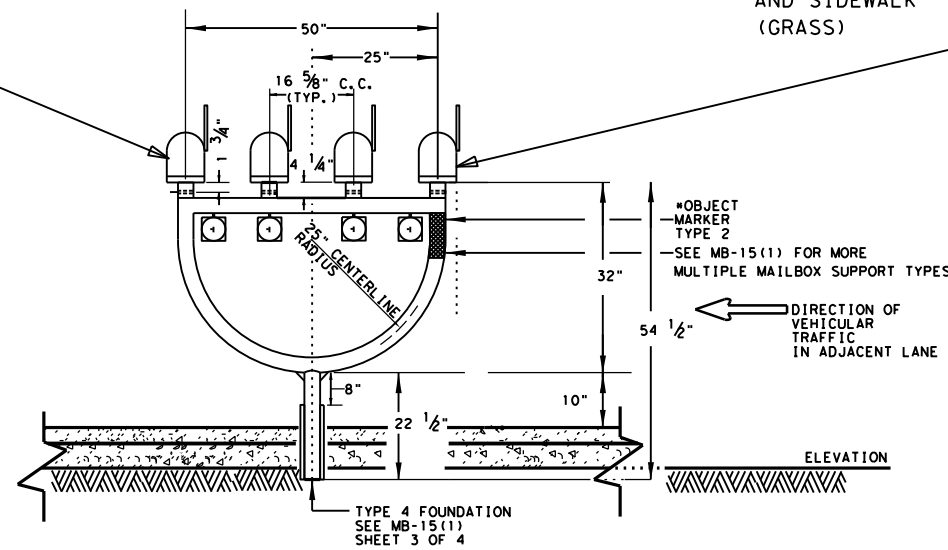
PLAN VIEW



MAILBOX SIDEWALK INSTALLATION (DESIRABLE BORDER DISTANCE)



PLAN VIEW



\*OBJECT MARKER TYPE 2  
 SEE MB-15(1) FOR MORE MULTIPLE MAILBOX SUPPORT TYPES  
 DIRECTION OF VEHICULAR TRAFFIC IN ADJACENT LANE

TYPE 4 FOUNDATION  
 SEE MB-15(1)  
 SHEET 3 OF 4

SHEET 3 OF 3



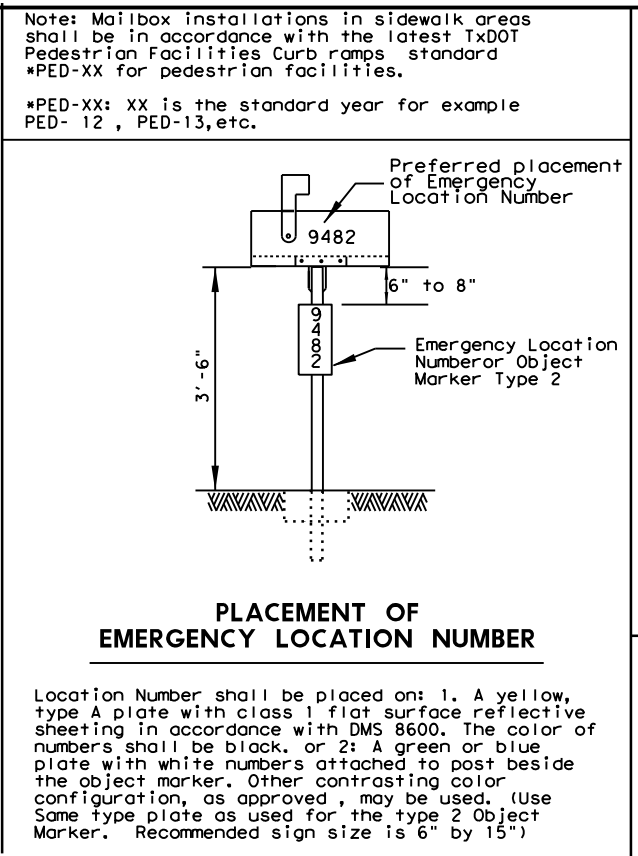
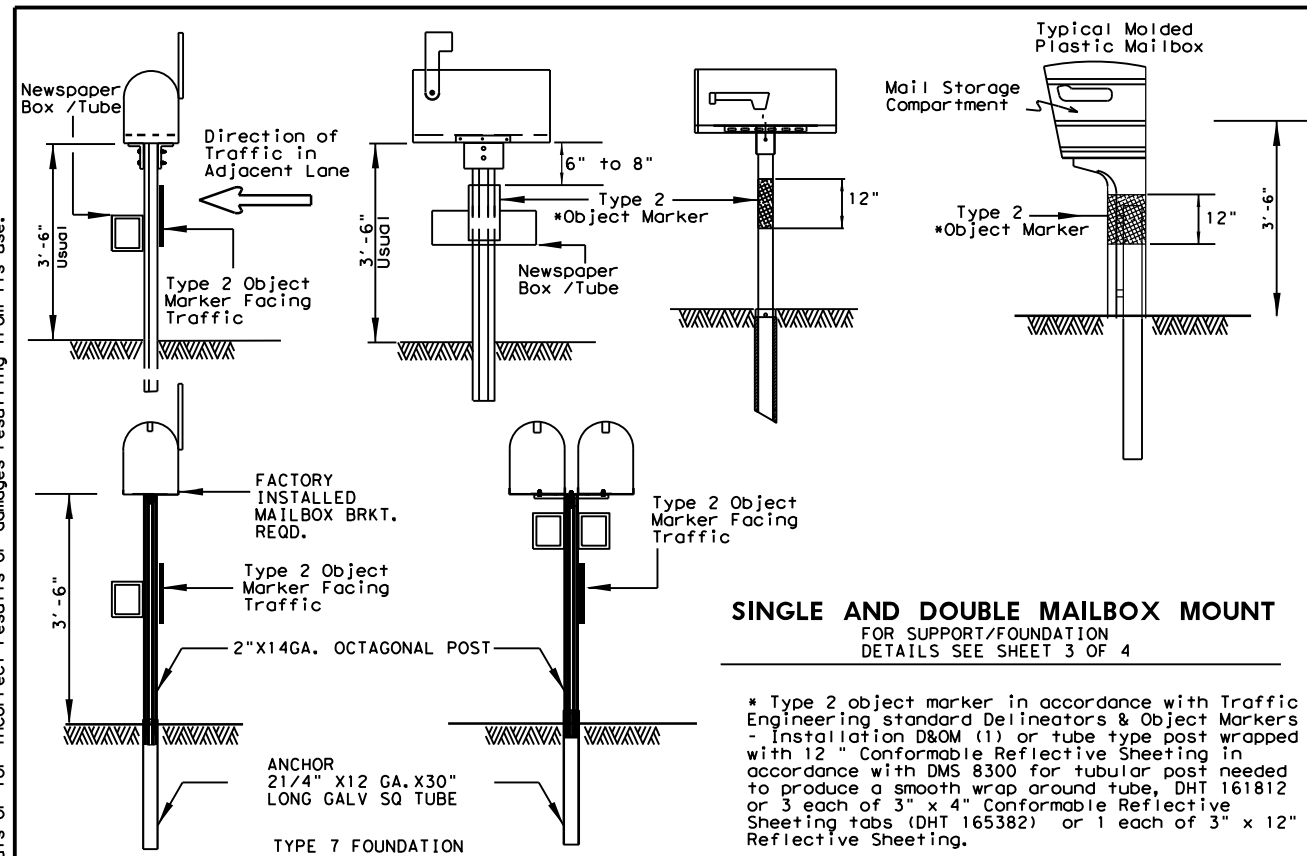
MULTIPLE MAILBOX PLACEMENT BEHIND CURBS WITH OR WITHOUT SIDEWALKS

MB-14(2B)

FILE: MB-14(2A)	DN:	CK:	DW:	CK:
© TxDOT MAY 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	327	

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**TYPICAL MAILBOX SIZE**

SIZE	LENGTH	WIDTH	HEIGHT	LIGHT WEIGHT MATERIAL	
				SHEET METAL	**PLASTIC
SMALL	19 1/2	6	7	5	5
MEDIUM	22 1/2	8	11 1/2	7	7
LARGE	23 1/2*	11 1/2*	13 1/2*	10	10

\* Maximum allowed dimensions for mailbox  
 \*\* Excluding Molded Plastic on 4 X 4 Post

**LOCKABLE ARCHITECTURAL MAILBOX SIZE (INCHES)**

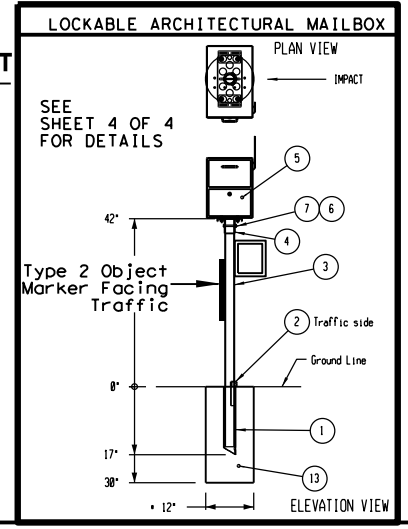
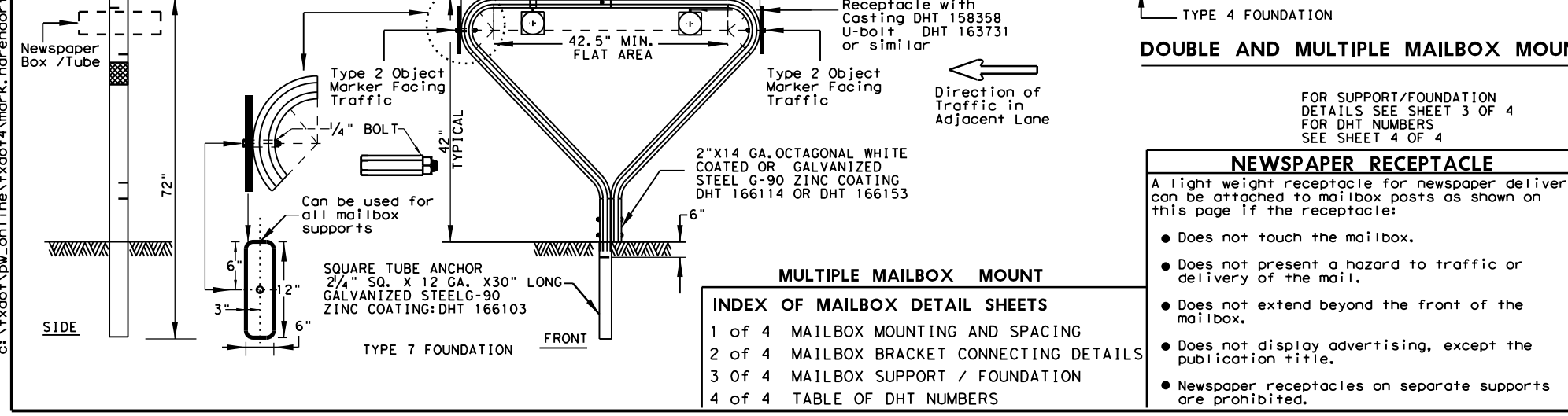
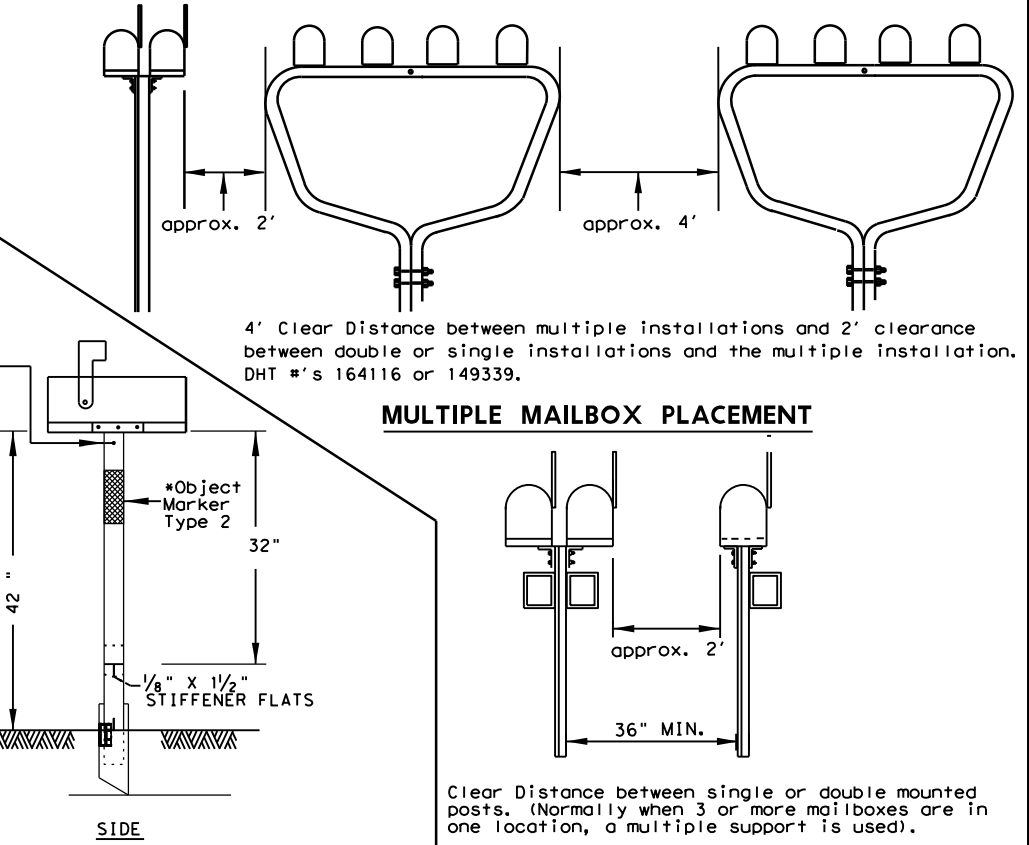
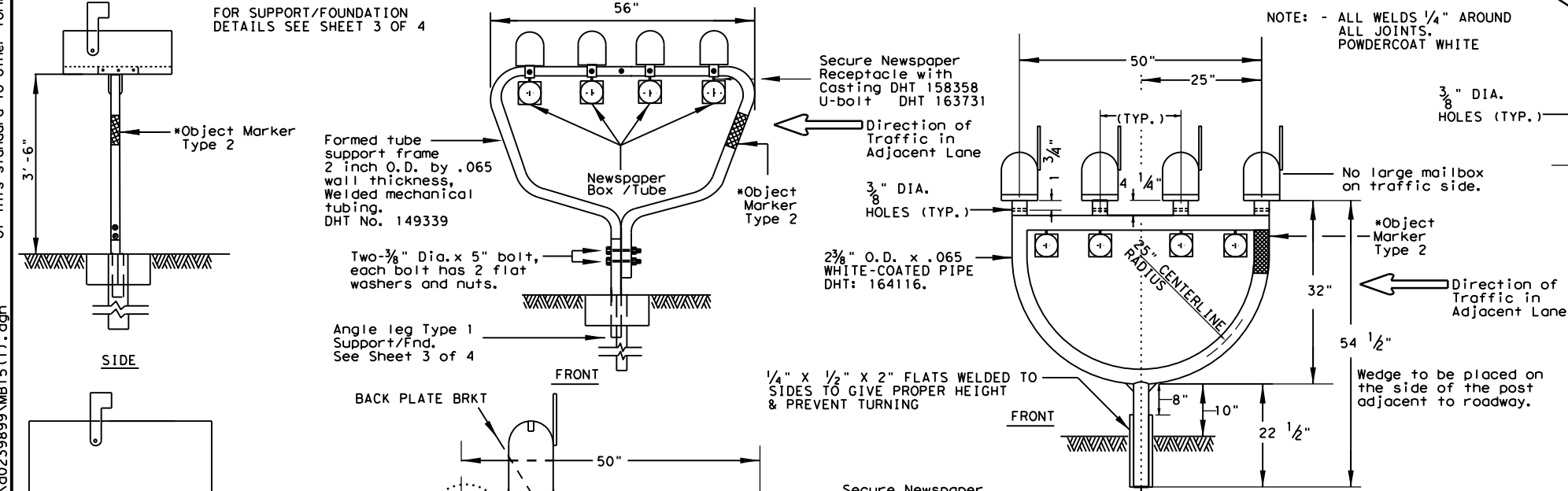
VIEW	TOP	BOTTOM	FRONT SIDE	BACK SIDE	WEIGHT (POUNDS)
SIDE	18	15	18.3	15	22.4
BACK	11 1/2	11 1/2		15	

SEE TOP RIGHT CORNER OF SHEET 2 OF 4

Mailboxes shall be made of light weight sheet metal or light weight plastic. Lockable architectural mailboxes shall meet the requirements of the above table.

Heavy steel, cast iron or decorative mailboxes shall not be used on the state highway system.

**MAILBOX SIZES**



SHEET 1 OF 4

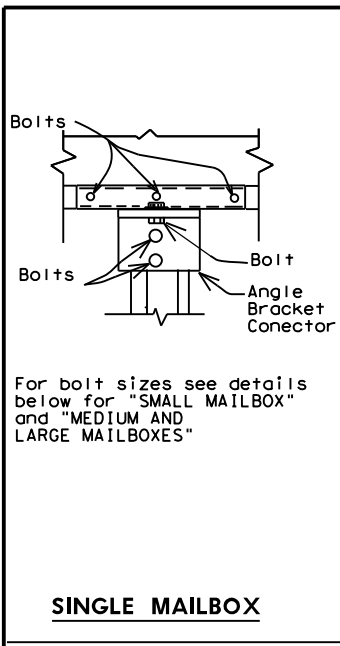
Texas Department of Transportation  
 Maintenance Division Standard

**MAILBOX MOUNTING AND SPACING MB-15(1)**

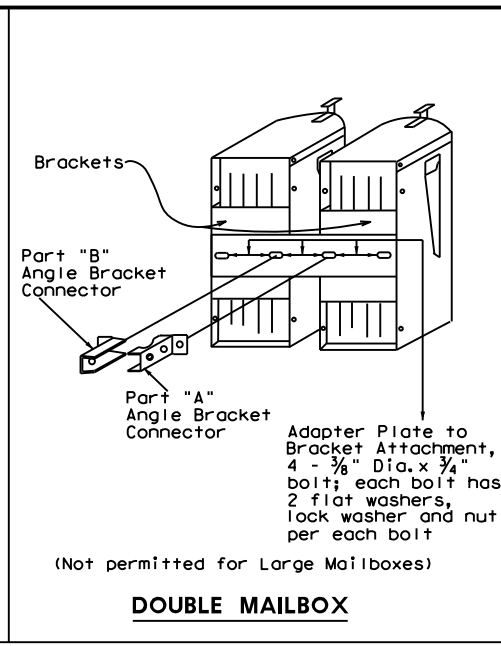
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© TxDOT APRIL 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS:	0142	09	044, Etc	RM 473
Added additional newspaper receptacle for double mailbox support	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	328	

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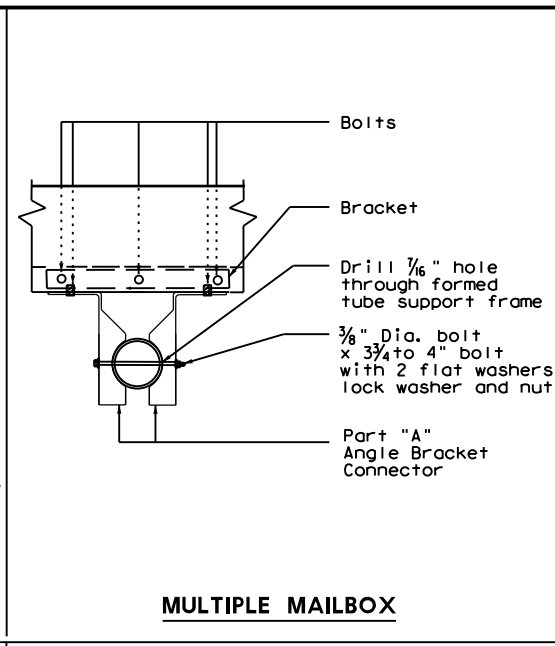
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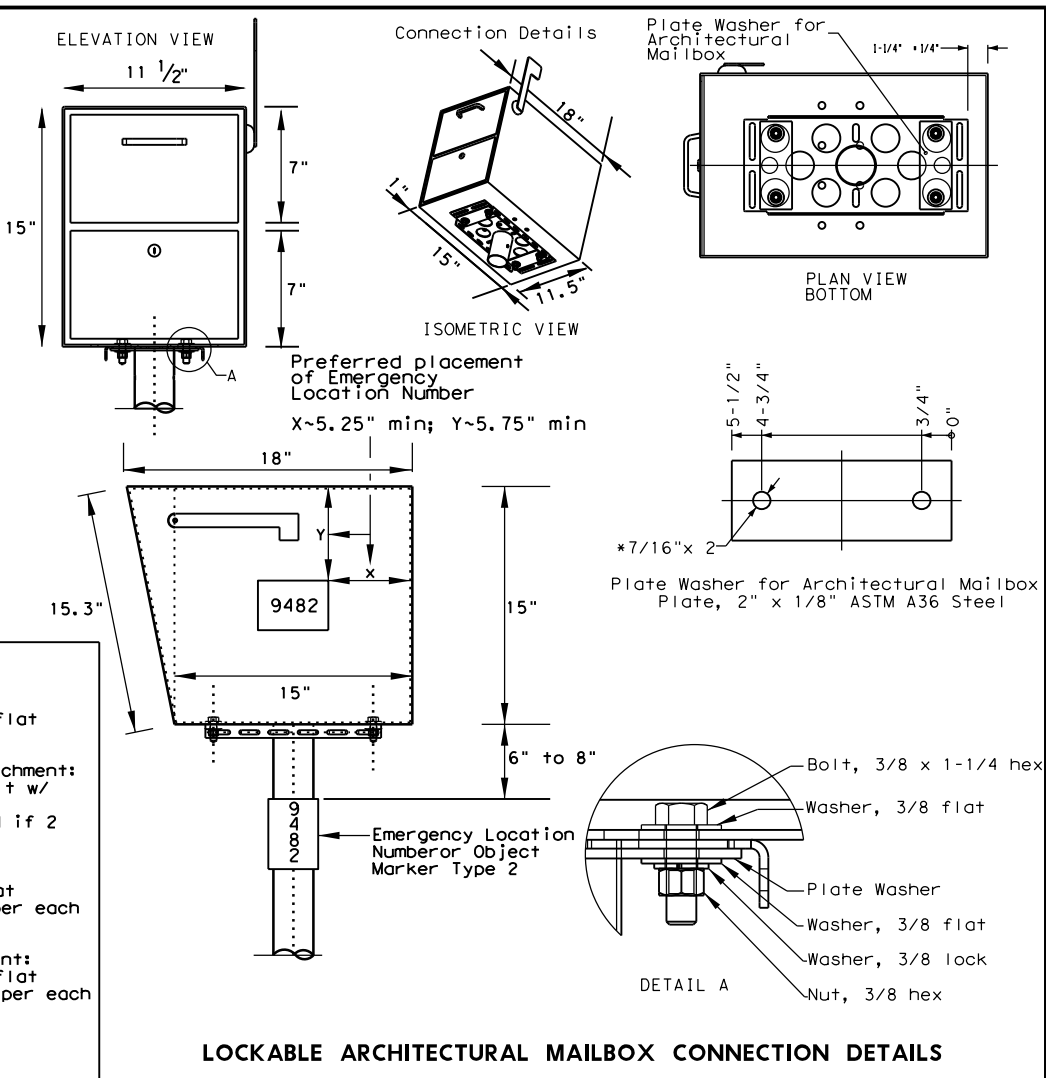
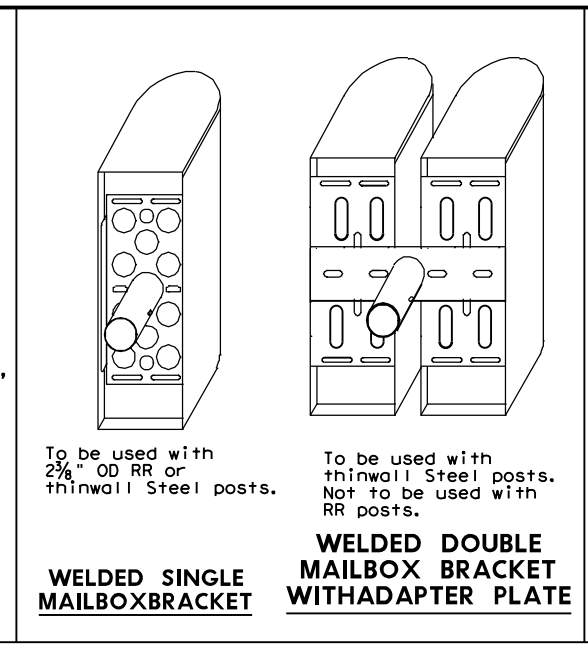
**SINGLE MAILBOX**



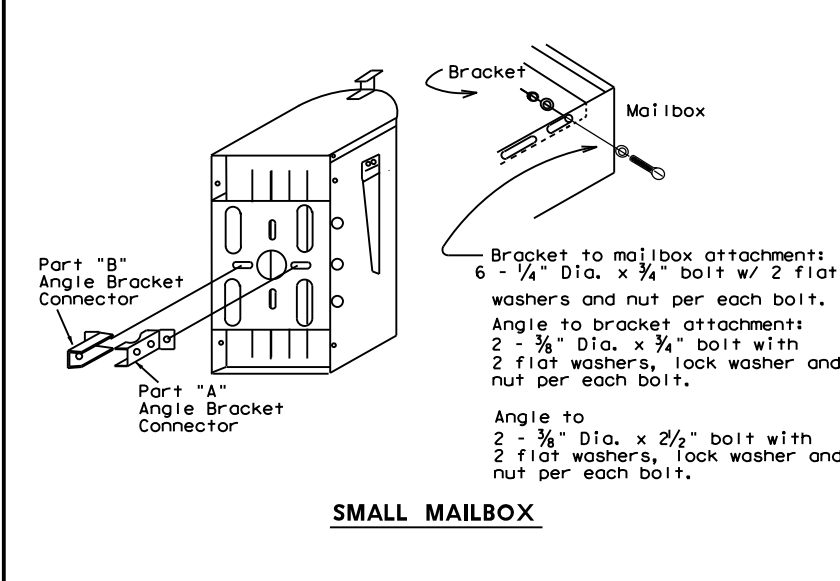
**DOUBLE MAILBOX**



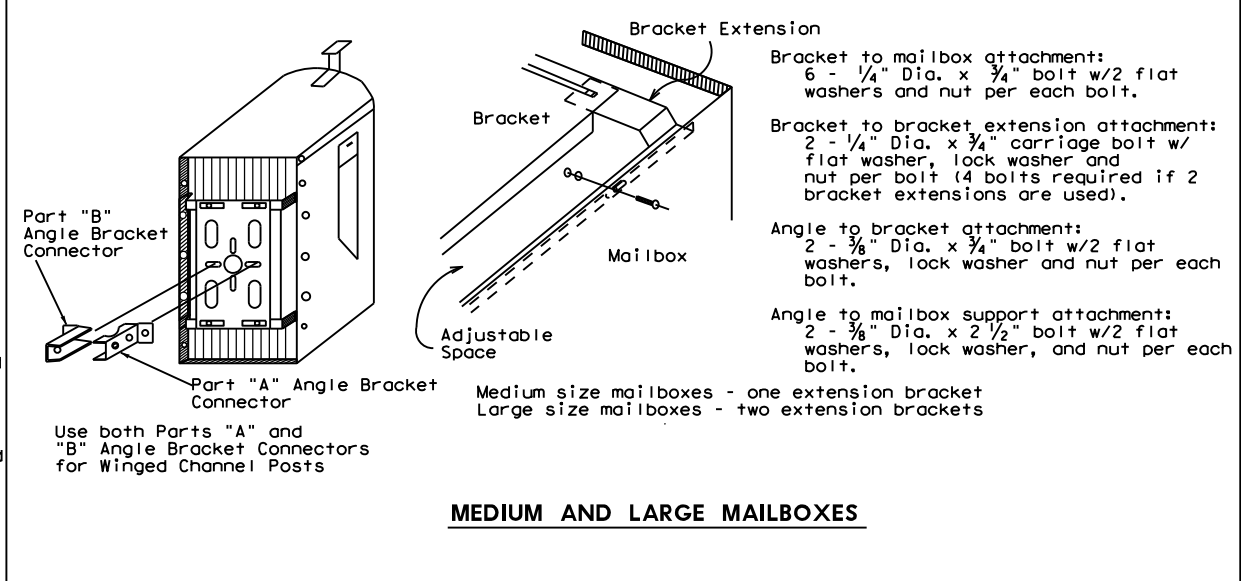
**MULTIPLE MAILBOX**



**LOCKABLE ARCHITECTURAL MAILBOX CONNECTION DETAILS**



**SMALL MAILBOX**

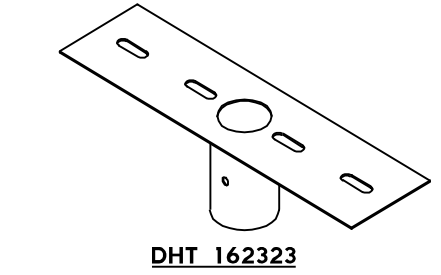


**MEDIUM AND LARGE MAILBOXES**

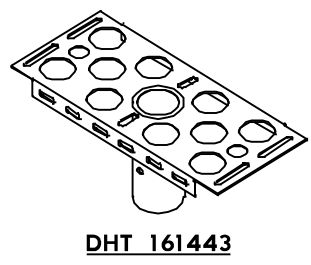
**GENERAL NOTES**

1. Connecting hardware detailed on this sheet is for the hardware that the Department stocks at the Regional Warehouses. This hardware is available to the contractor only when so stated elsewhere in the plans or specification.
2. Hardware for mounting mailboxes to the support/foundation furnished by industry should be used when shown on the Maintenance Divisions "Approved Products List." Only mailbox hardware that have been crash tested in accordance with NCHRP Report 350, will be on the approved list.
3. Hardware furnished by industry shall be erected in accordance with the manufacturer's recommendation.
4. Bracket and bracket extension shall be constructed of 14 gauge galvanized steel sheet metal.
5. The angles, brackets and adapter plates shall be constructed of 12 gauge galvanized steel sheet metal.
6. Items with evidence of damage to the galvanized coating or wet storage stains (white rust) will not be accepted.

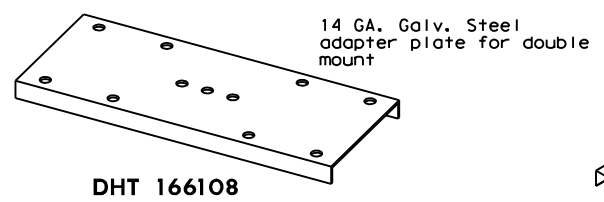
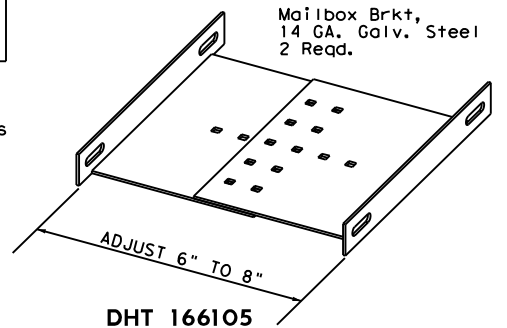
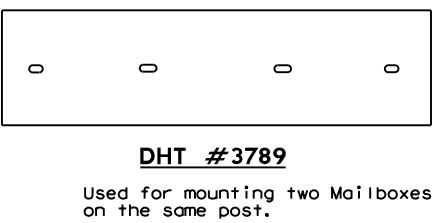
SHEET 2 OF 4



For use with galvanized thinwall steel posts DHT # 143426 or powder-coated thinwall steel post DHT # 162911.

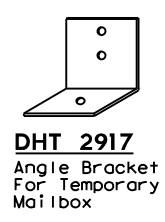
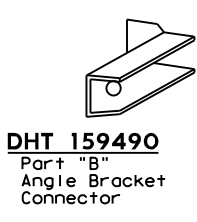
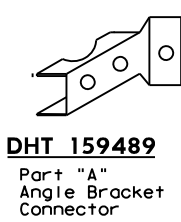
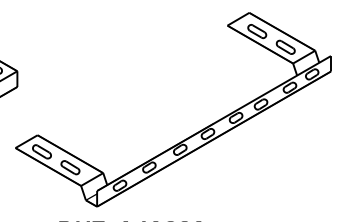
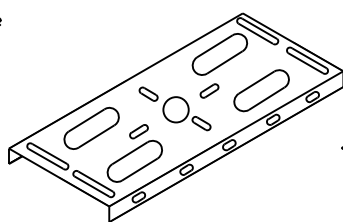


For use with RCR post DHT # 161442 or galvanized thinwall steel post DHT # 143426 or powder-coated thinwall steel post. DHT # 162911.



**HARDWARE AT TXDOT REGIONAL WAREHOUSES**

Brackets and adapter plate shown in this section should be available to the Contractor when stated elsewhere in plans or specifications.



See Table of Applicable DHT Numbers on sheet 4 of 4 for DHT description and unit of measure.

Texas Department of Transportation  
Maintenance Division Standard

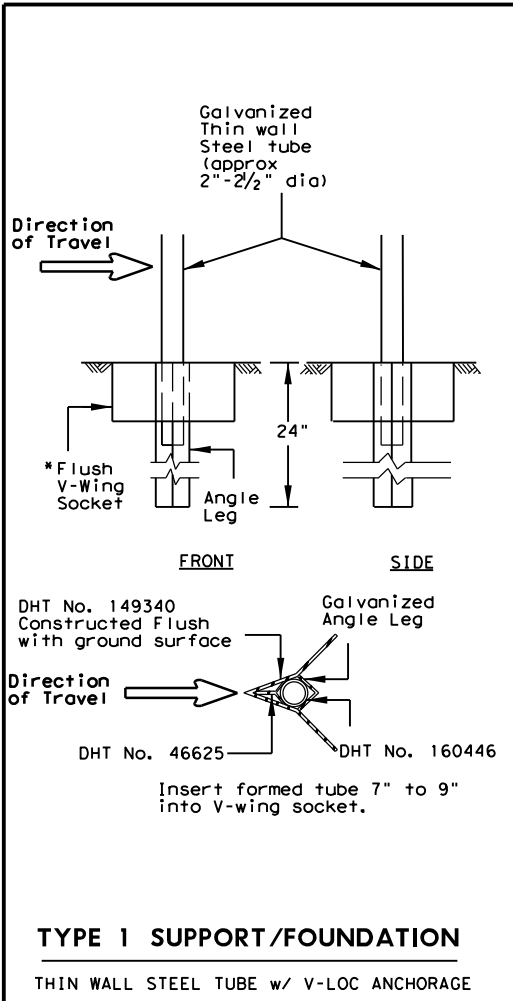
**MAILBOX BRACKET CONNECTING DETAILS MB-15(1)**

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© TxDOT APRIL 2015	CONT	SECT	JOB	HIGHWAY
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	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	329	

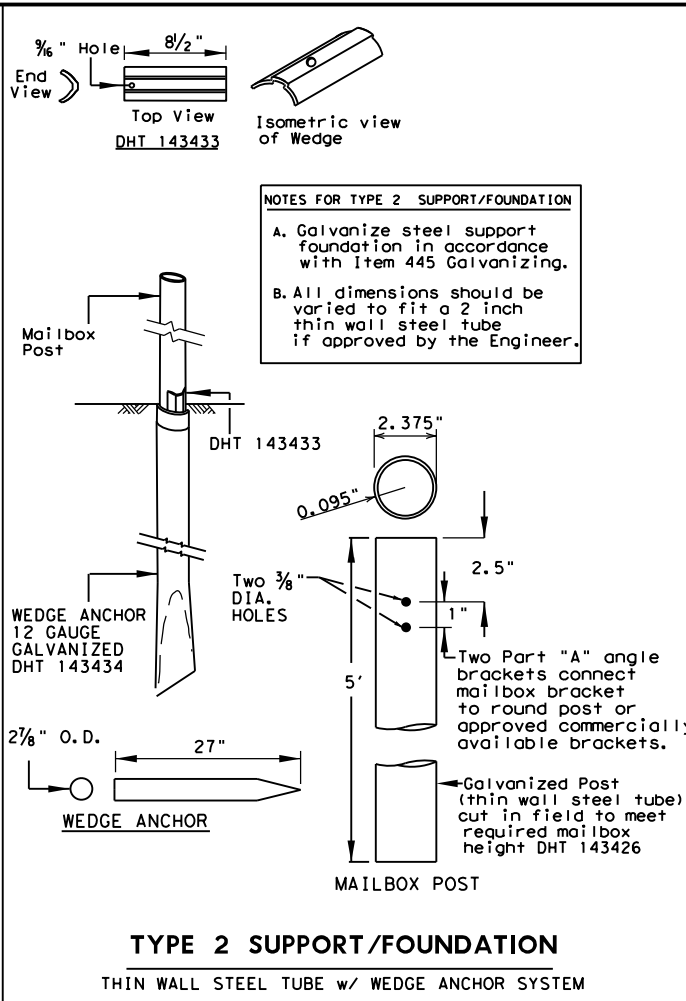


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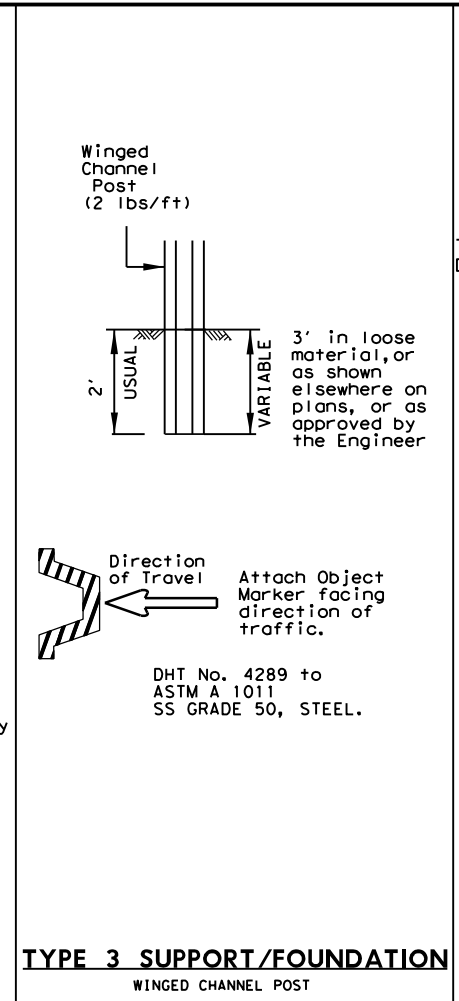
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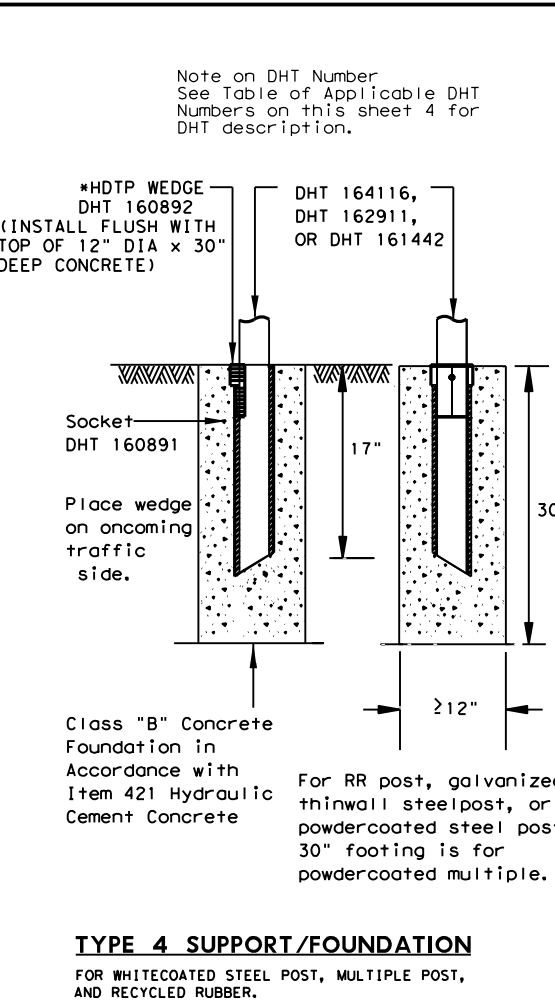
**TYPE 1 SUPPORT/FOUNDATION**  
 THIN WALL STEEL TUBE w/ V-LOC ANCHORAGE



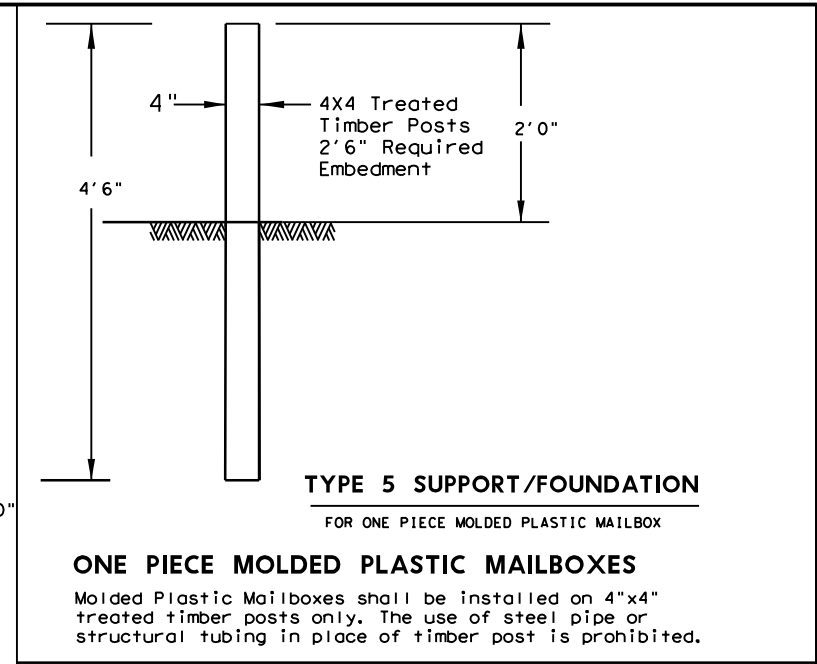
**TYPE 2 SUPPORT/FOUNDATION**  
 THIN WALL STEEL TUBE w/ WEDGE ANCHOR SYSTEM



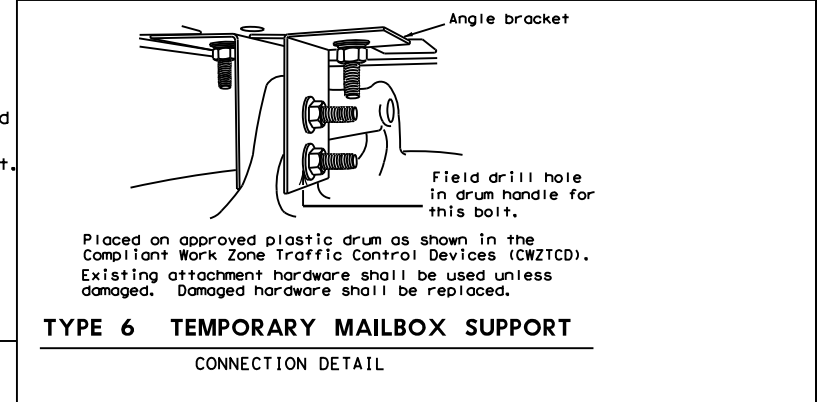
**TYPE 3 SUPPORT/FOUNDATION**  
 WINGED CHANNEL POST



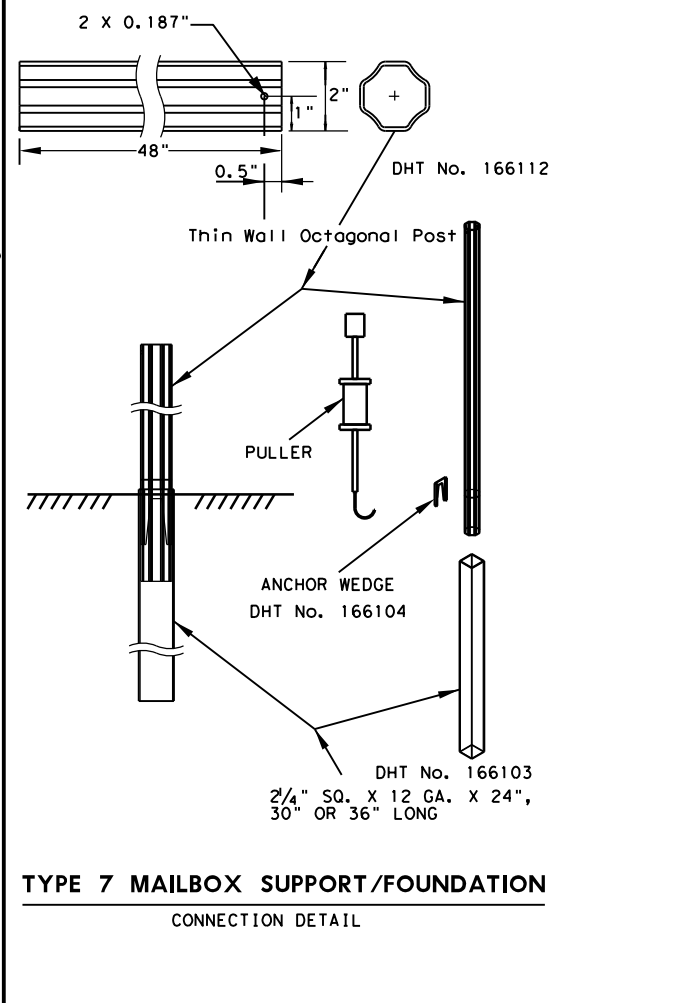
**TYPE 4 SUPPORT/FOUNDATION**  
 FOR WHITECOATED STEEL POST, MULTIPLE POST, AND RECYCLED RUBBER.



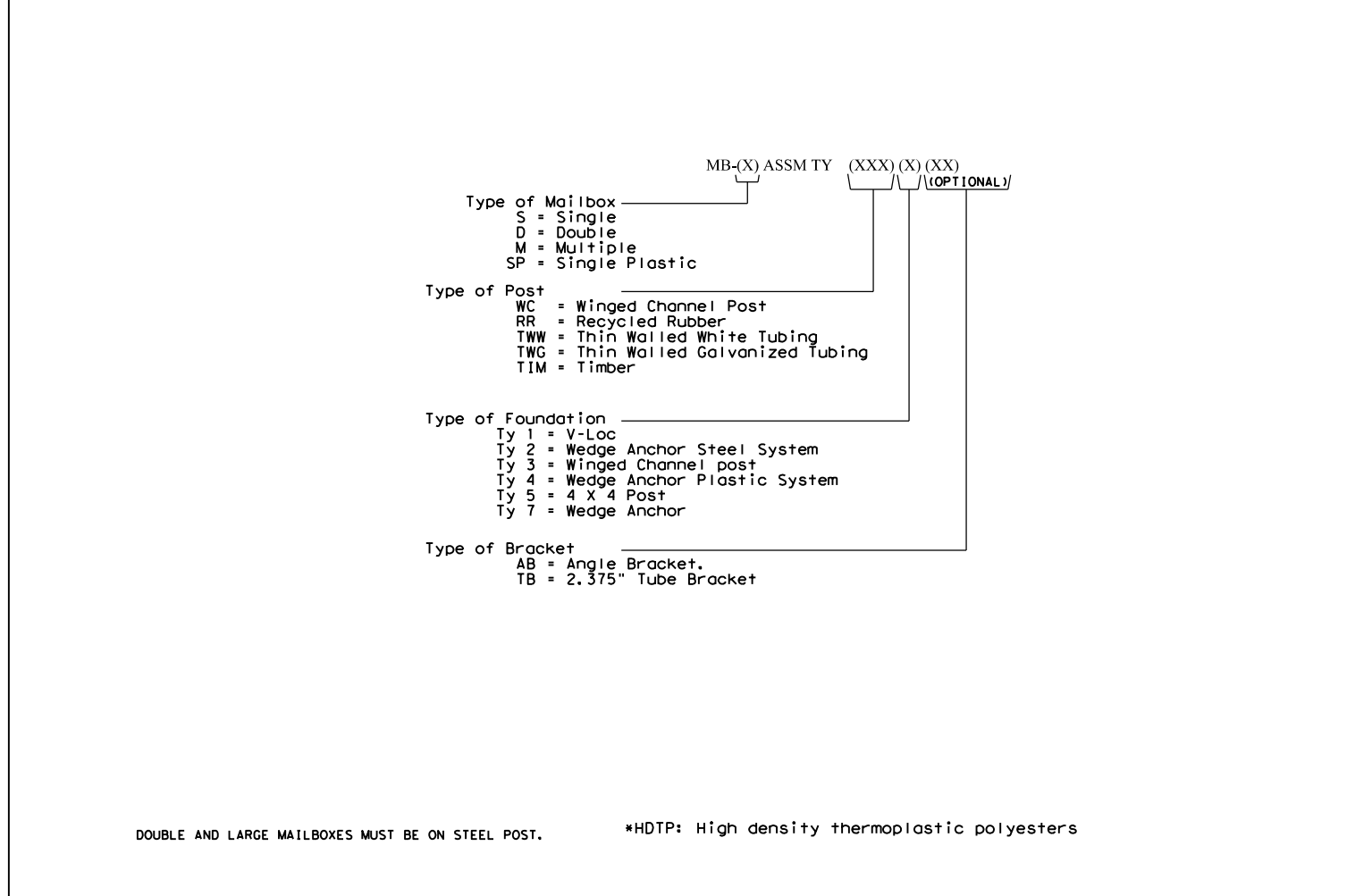
**TYPE 5 SUPPORT/FOUNDATION**  
 FOR ONE PIECE MOLDED PLASTIC MAILBOXES  
 Molded Plastic Mailboxes shall be installed on 4"x4" treated timber posts only. The use of steel pipe or structural tubing in place of timber post is prohibited.



**TYPE 6 TEMPORARY MAILBOX SUPPORT**  
 CONNECTION DETAIL



**TYPE 7 MAILBOX SUPPORT/FOUNDATION**  
 CONNECTION DETAIL



DOUBLE AND LARGE MAILBOXES MUST BE ON STEEL POST.

\*HFTP: High density thermoplastic polyesters

- GENERAL NOTES**
- Erect post plumb or vertical.
  - When galvanized part is required, galvanize in accordance with Item 445.
  - type 1, 2, 3, 4 or 7 supports or foundation can be used for single or double mailbox installations. The RCR post should be used only for a single installation with a small mailbox. The Type 5 support/foundation is used for the single molded plastic mailbox. The Type 4 support/foundation is used for the 2.375" O.D. RR post, thin wall steel post, and white multiple mailbox post.
  - The Type 1 or type 7 support/foundation can be used for a multiple mailbox mount.
  - The Type 4 support should be used with thin wall steel pipe for the medium, large and double mailbox installations.
  - Use a concrete footing as shown or when directed. Concrete footing will be required when soils do not hold the support/foundations in a stable condition.



**MAILBOX SUPPORT AND FOUNDATION**  
**MB-15(1)**

FILE:MB14(1).DGN	DN: JEO	CK:	DW: JEO	CK:
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REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	330	

LOCKABLE ARCHITECTURAL MAILBOX

SINGLE-MOUNT INSTALLATION PARTS			
#	PART NAME	PART/DHT #	QTY
1	SOCKET, TYPE 4 FOUNDATION	160891	1
2	WEDGE FOR TYPE 4 FOUNDATION	160892	1
3	THIN-WALL WHITE STEEL TUBE 2.375 OD	162911	1
4	BRACKET FOR ATTACHING MAILBOX	161443	1
5	ARCHITECTURAL MAILBOX	SEE NOTE	1
6	NUT, 5/16" HEX	NUT, 5/16" HEX	1
7	BOLT, 5/16 X 3 HEX	GRADE 5	1
8	PLATE WASHER FOR ARCHITECTURAL MAILBOX	SEE SEE SHEET 2	2
9	WASHER, 3/8 FLAT		8
10	WASHER, 3/8 LOCK		4
11	NUT, 3/8 HEX		4
12	BOLT, 3/8 X 1-1/4 HEX	GRADE 5	4
13	CONCRETE, CLASS B (2000 PSI)		1

LOCKABLE ARCHITECTURAL MAILBOX DETAILS

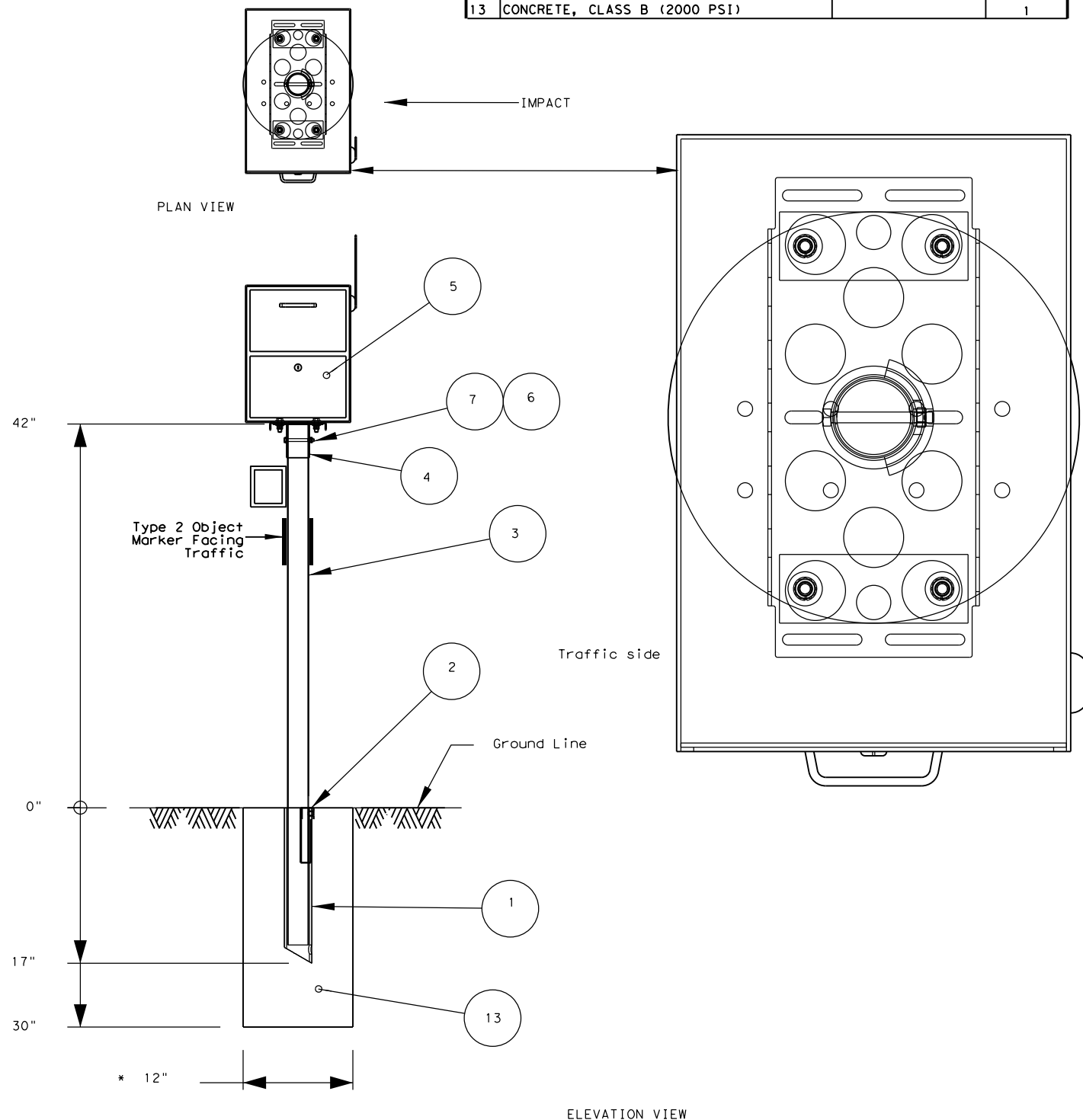


TABLE OF APPLICABLE DHT NUMBERS	
DHT NUMBER	DESCRIPTION
FOUNDATIONS	
46625	WEDGE FOR V-WING SOCKET FOR TYPE 1 FOUNDATION
149340	V-WING SOCKET FOR TYPE 1 FOUNDATION
143433	WEDGE FOR TYPE 2 FOUNDATION
143434	ANCHOR FOR TYPE 2 FOUNDATION
166103	ANCHOR FOR TYPE 7 FOUNDATION
160891	SOCKET FOR TYPE 4 FOUNDATION
160892	WEDGE FOR TYPE 4 FOUNDATION
166104	WEDGE FOR TYPE 7 FOUNDATION
POSTS	
4289	WINGED CHANNEL MAILBOX POST
149339	MULTIPLE MAILBOX POST (GALVANIZED TUBING)
164116	MULTIPLE MAILBOX POST (WHITE COATED)
166114	MULTIPLE MAILBOX POST (WHITE COATED OCTAGONAL)
166153	MULTIPLE MAILBOX POST (GALVANIZED OCTAGONAL)
161442	RECYCLED RUBBER POST. FOR SMALL MAILBOX ONLY
143426	THIN-WALL GALVANIZED STEEL TUBE 2.375" OUTER DIAMETER
162911	THINWALL WHITE STEEL TUBE 2.375" OUTER DIAMETER
	SINGLE OR DOUBLE THIN-WALL MAILBOX POST GALVANIZED
166152	2" OCTAGONAL
	SINGLE OR DOUBLE THIN-WALL MAILBOX POST WHITECOATED
166112	2" OCTAGONAL
REFLECTIVE SHEETING	
161812	REFLECTIVE SHEETING FOR EMERGENCY LOCATION NUMBER PANEL
CONNECTING HARDWARE	
2917	ANGLE BRACKET USED FOR TEMPORARY MAILBOX SUPPORT
166105	BRACKET FOR SINGLE MOUNTING OF MAILBOXES (MOUNTING KIT)
3789	PLATE FOR DOUBLE MOUNTING OF MAILBOXES
166108	BRACKET FOR DOUBLE MOUNTING OF MAILBOXES (MOUNTING KIT)
166111	BRACKET FOR MULTIPLE MOUNTING OF MAILBOXES (MOUNTING KIT)
148939	BRACKET FOR ATTACHING SMALL OR MEDIUM SIZE MAIL BOX
148938	EXTENDER TO BRACKET FOR ATTACHING LARGE MAILBOX
159489	ANGLE BRACKET PART A
159490	ANGLE BRACKET PART B
	BRACKET FOR DOUBLE MOUNTING OF MAILBOXES ON THINWALL
162323	STEEL POST, GALVANIZED OR POWDERCOATED.
	BRACKET FOR ATTACHING MAILBOX TO RECYCLED RUBBER POST
161443	AND TO MULTIPLE WHITE MAILBOX POST
158358	CASTING (NEWSPAPER RECEPTACLE BRACKET)
163731	U-BOLT (NEWSPAPER RECEPTACLE BRACKET)
160698	BOLT; HEX HEAD, GALV; 3/8"DIA X 3/4"L HD, W/2-FLAT WASHERS
163750	BOLT; HEX HEAD, GALV; 3/8" X 1-1/2, 16 NC, W/WASHERS
160701	BOLT; HEX HEAD, GALV; 3/8"DIA X 2-1/2"L, HD, W/2-FLAT WASHERS
163730	BOLT; HEX HEAD, GALV; 3/8" X 3-1/2", NC, W/NUT, 2 FLAT WASHERS
160699	BOLT; HEX HEAD, GALV; 3/8"DIA X 3-3/4"L HD, W/2-FLAT WASHERS
160700	BOLT; HEX HEAD, GALV; 3/8"DIA X 4"L HD, W/2-FLAT WASHERS

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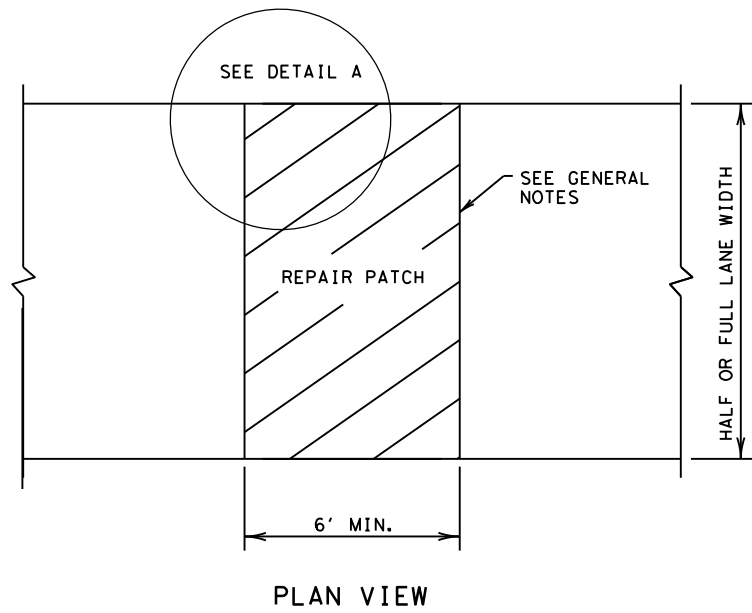
**DHT NUMBERS  
TABLE  
MB-15(1)**

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© TxDOT APRIL 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	331	

DATE: 4/26/2021  
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TABLE NO.1 STEEL BAR SIZE AND SPACING						
TYPE PAVEMENT	SLAB THICKNESS AND BAR SIZE		LONGITUDINAL*		TRANSVERSE*	
			REGULAR BARS	TIEBARS	BARS	TIEBARS
	T (IN.)	BAR SIZE	SPACING (IN.)	SPACING (IN.)	SPACING (IN.)	SPACING (IN.)
CRCP	6.0	#5	7.5	7.5	24	24
	6.5		7.0	7.0		
	7.0		6.5	6.5		
	7.5		6.0	6.0		
	8.0	#6	9.0	9.0	24	24
	8.5		8.5	8.5		
	9.0		8.0	8.0		
	9.5		7.5	7.5		
	10.0		7.0	7.0		
	10.5		6.75	6.75		
	11.0	6.5	6.5			
	11.5	6.25	6.25			
	≥12.0	6.0	6.0			
JRCP	<8.0	#5	24.0	12.0	24	24
	≥8.0	#6	24.0	12.0	24	24
CPCD	<8.0	#5	NONE	12.0	NONE	24
	≥8.0	#6	NONE	12.0	NONE	24

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

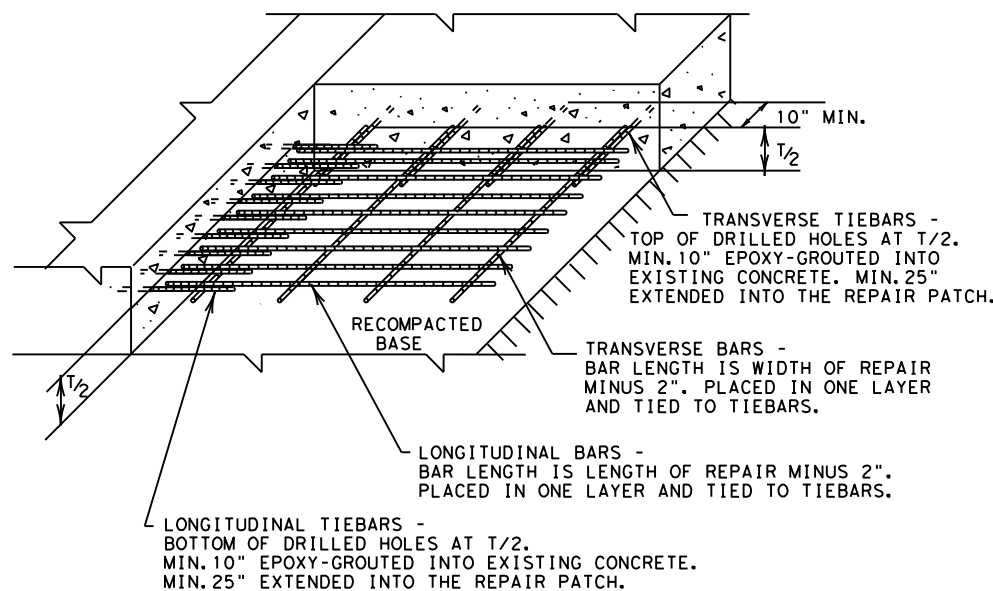


PLAN VIEW

FULL-DEPTH REPAIR OF CRCP, JRCP, AND CPCD

GENERAL NOTES

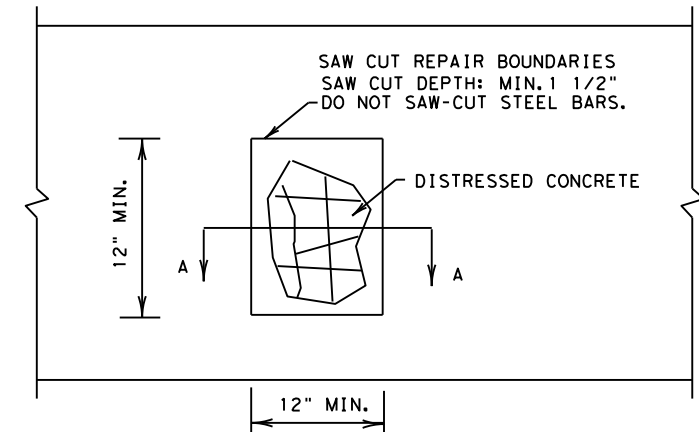
- ITEM 361, "REPAIR OF CONCRETE PAVEMENT" SHALL GOVERN FOR THIS WORK.
- MULTIPLE PIECE TIEBARS SHALL BE USED WHEN THE REPAIR AREA MUST BE PLACED IN TWO STAGES DUE TO SEQUENCE OF CONSTRUCTION.
- FULL DEPTH SAW CUTS SHALL BE MADE AROUND THE PERIMETER OF THE AREA TO BE REPAIRED. THE CUT SHALL BE MADE AT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



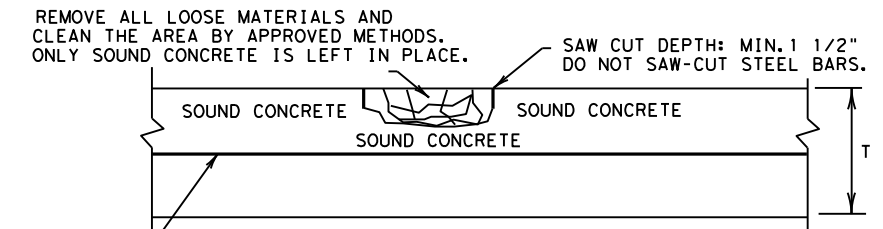
DETAIL A  
GROUTED TIEBARS & REINFORCEMENT

GENERAL NOTES

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



PLAN VIEW



LONGITUDINAL STEEL BARS:

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

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

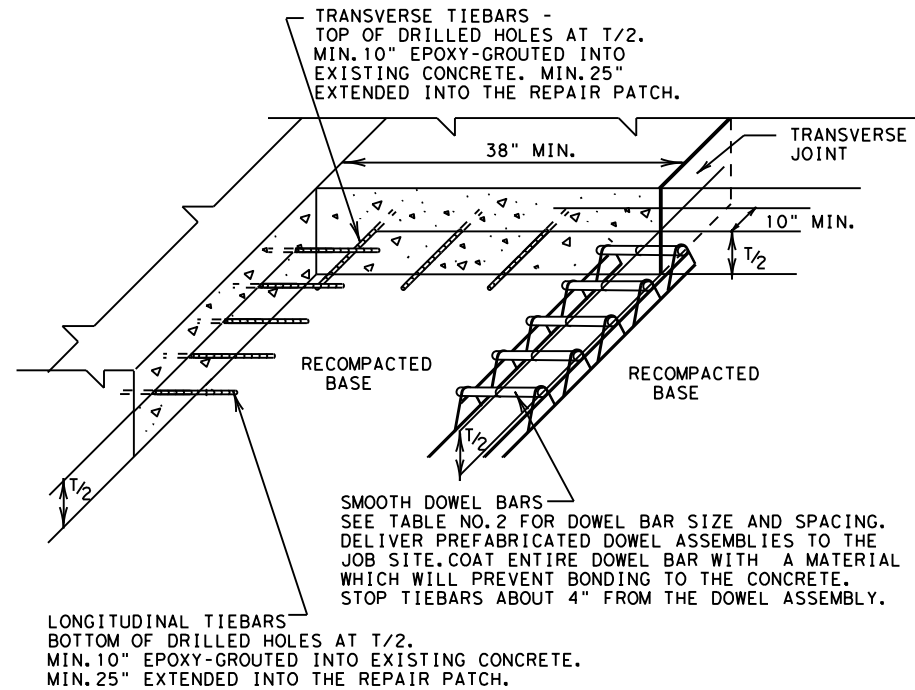
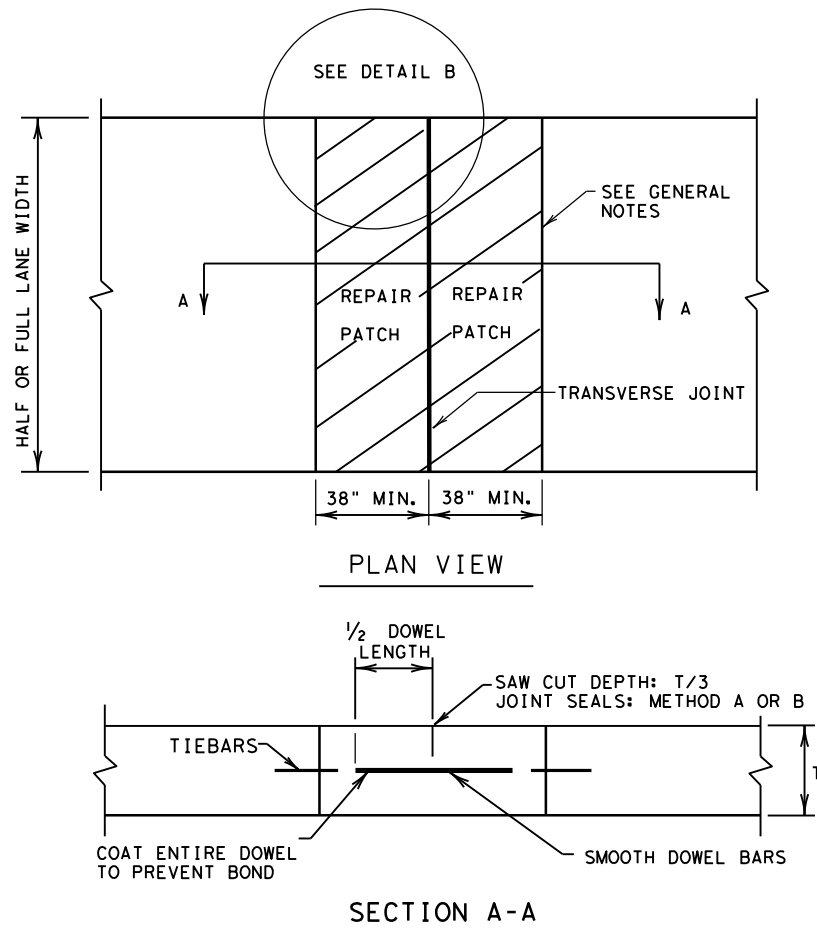
SECTION A-A  
HALF-DEPTH REPAIR

SHEET 1 OF 2

				Design Division Standard	
<b>REPAIR OF CONCRETE PAVEMENT</b>					
<b>REPCP-14</b>					
FILE: repcp14.dgn	DN: TxDOT	DN: HC	DW: HC	CK: AN	
© TxDOT: DECEMBER 2014	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0142	09	044, E+c	RM 473	
	DIST	COUNTY	SHEET NO.		
	SAT	KENDALL	332		

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DETAIL B  
 GROUTED TIEBARS & DOWELS

GENERAL NOTES

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

TABLE NO. 2 DOWELS (SMOOTH BARS)			
PAVEMENT THICKNESS (INCHES)	SIZE AND DIA.	LENGTH (IN.)	SPACING (IN.)
<10	#8 (1 IN.)	18.0	12.0
≥10	#10 (1 1/4 IN.)		

REPAIR OF TRANSVERSE JOINT OF CPCD

SHEET 2 OF 2



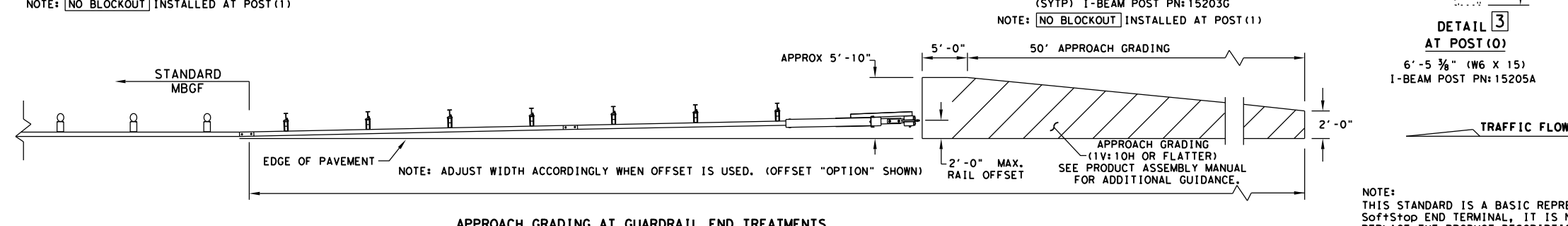
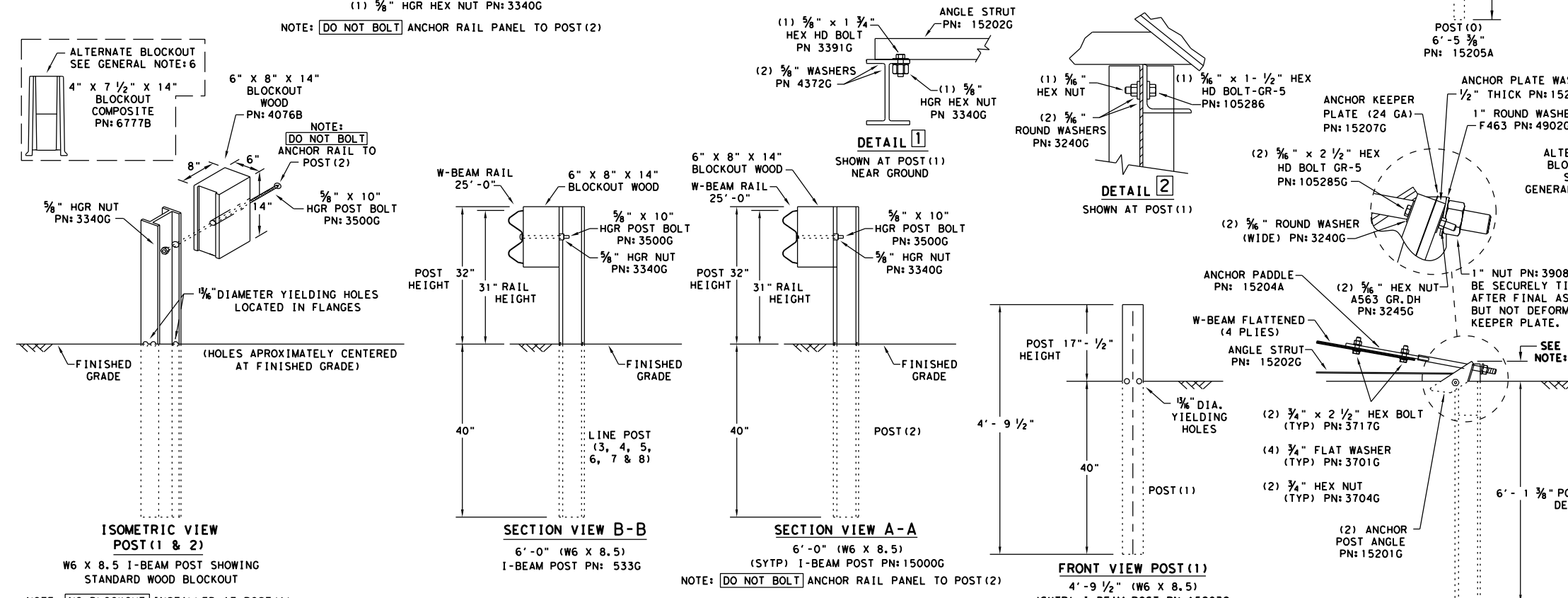
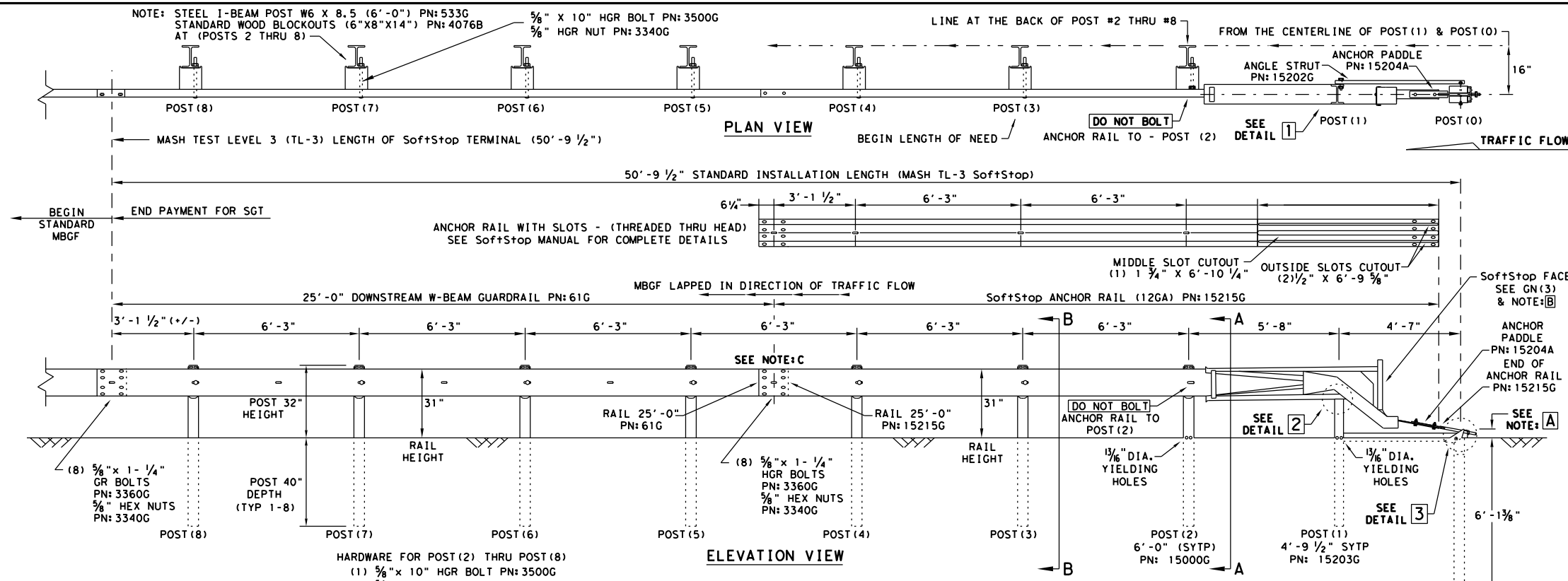
REPAIR OF CONCRETE PAVEMENT

REPCP - 14

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© TxDOT: DECEMBER 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, E+c	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	333	

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- GENERAL NOTES**
- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: TRINITY HIGHWAY AT 1(888)323-6374, 2525 N. STEMMONS FREEWAY, DALLAS, TX 75207
  - FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE SoftStop END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL. PN:620237B
  - APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
  - FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TxDOT'S LATEST ROADWAY MOW STRIP STANDARD.
  - HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
  - A COMPOSITE MATERIAL BLOCKOUT THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
  - IF SOLID ROCK IS ENCOUNTERED SEE THE MANUFACTURER'S INSTALLATION MANUAL AND REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
  - POSTS SHALL NOT BE SET IN CONCRETE.
  - IT IS ACCEPTABLE TO INSTALL THE SoftStop IMPACT HEAD PARALLEL TO THE GRADE LINE OR WITH AN UPWARD TILT.
  - DO NOT ATTACH THE SoftStop SYSTEM DIRECTLY TO A RIGID BARRIER.
  - UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE SoftStop SYSTEM BE CURVED.
  - A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCRoACHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.

**NOTE: A** THE INSTALLATION HEIGHT OF FULLY ASSEMBLED ANCHOR POST WILL VARY FROM 3-3/4" MIN. TO 4" MAX. ABOVE FINISHED GRADE.

**NOTE: B** PART PN:5852B RIGHT-SIDE (HIGH INTENSITY REFLECTIVE SHEETING) PART PN:5851B LEFT-SIDE (HIGH INTENSITY REFLECTIVE SHEETING)

**NOTE: C** W-BEAM SPLICE LOCATED BETWEEN LINE POST (4) AND LINE POST (5) GUARDRAIL PANEL 25'-0" PN:61G ANCHOR RAIL 25'-0" PN:15215G LAP GUARDRAIL IN DIRECTION OF TRAFFIC FLOW.

PART	QTY	MAIN SYSTEM COMPONENTS
620237B	1	PRODUCT DESCRIPTION ASSEMBLY MANUAL (LATEST REV.)
15208A	1	SoftStop HEAD (SEE MANUAL FOR RIGHT-LEFT APPROACH)
15215G	1	SoftStop ANCHOR RAIL (12GA) WITH CUTOUT SLOTS
61G	1	SoftStop DOWNSTREAM W-BEAM RAIL (12GA) (25'-0")
15205A	1	POST #0 - ANCHOR POST (6'-5 3/8")
15203G	1	POST #1 - (SYTP) (4'-9 1/2")
15000G	1	POST #2 - (SYTP) (6'-0")
533G	6	POST #3 THRU #8 - I-BEAM (W6 X 8.5) (6'-0")
4076B	7	BLOCKOUT - WOOD (ROUTED) (6" X 8" X 14")
6777B	7	BLOCKOUT - COMPOSITE (4" X 7 1/2" X 14")
15204A	1	ANCHOR PADDLE
15207G	1	ANCHOR KEEPER PLATE (24 GA)
15206G	1	ANCHOR PLATE WASHER (1/2" THICK)
15201G	2	ANCHOR POST ANGLE (10" LONG)
15202G	1	ANGLE STRUT
HARDWARE		
4902G	1	1" ROUND WASHER F436
3908G	1	1" HEAVY HEX NUT A563 GR.DH
3717G	2	3/4" X 2 1/2" HEX BOLT A325
3701G	4	3/4" ROUND WASHER F436
3704G	2	3/4" HEAVY HEX NUT A563 GR.DH
3360G	16	5/8" X 1 1/4" W-BEAM RAIL SPLICE BOLTS HGR
3340G	25	5/8" W-BEAM RAIL SPLICE NUTS HGR
3500G	7	5/8" X 10" HGR POST BOLT A307
3391G	1	5/8" X 1 3/4" HEX HD BOLT A325
4489G	1	5/8" X 9" HEX HD BOLT A325
4372G	4	5/8" WASHER F436
105285G	2	5/8" X 2 1/2" HEX HD BOLT GR-5
105286G	1	5/8" X 1 1/2" HEX HD BOLT GR-5
3240G	6	5/8" ROUND WASHER (WIDE)
3245G	3	5/8" HEX NUT A563 GR.DH
5852B	1	HIGH INTENSITY REFLECTIVE SHEETING - SEE NOTE: B

**Texas Department of Transportation** Design Division Standard

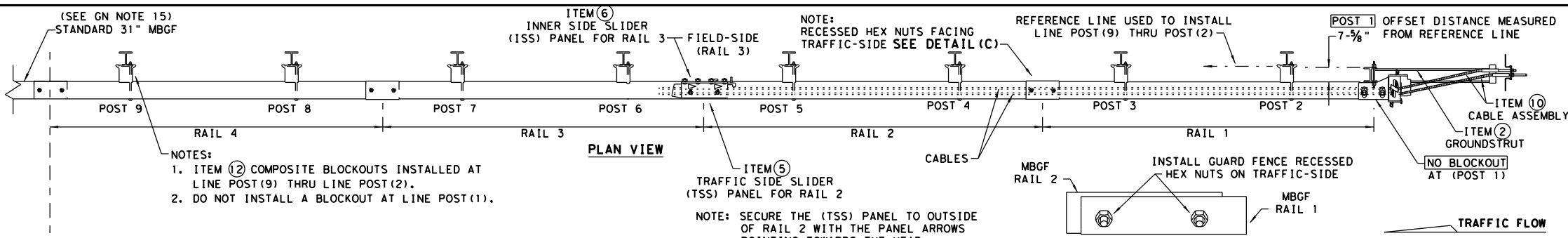
**TRINITY HIGHWAY  
SOFTSTOP END TERMINAL  
MASH - TL-3  
SGT (10S) 31-16**

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©TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, E+C	RM 473
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NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE SoftStop END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

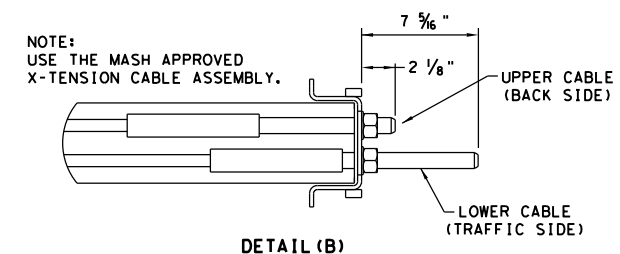
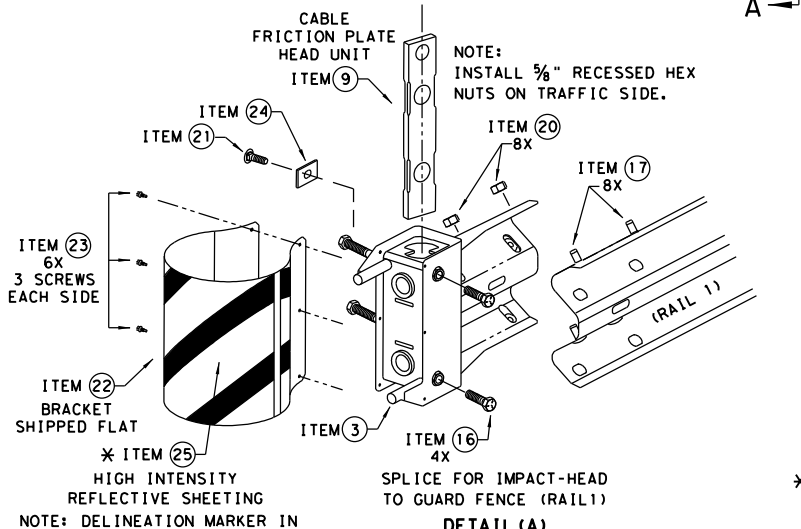
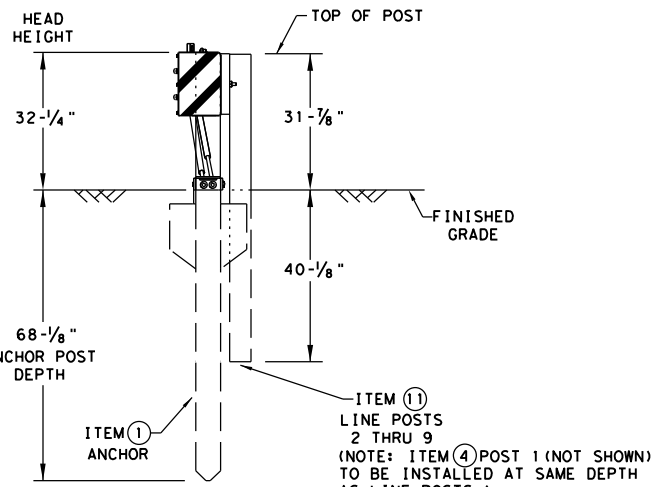
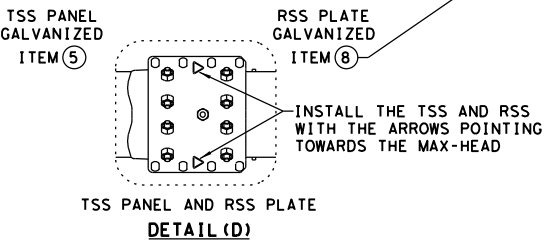
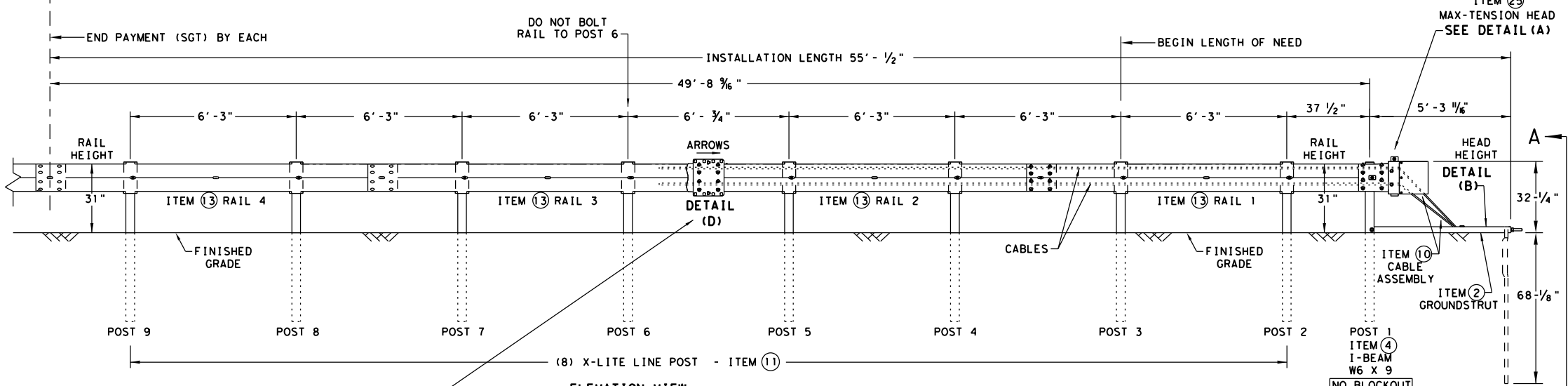
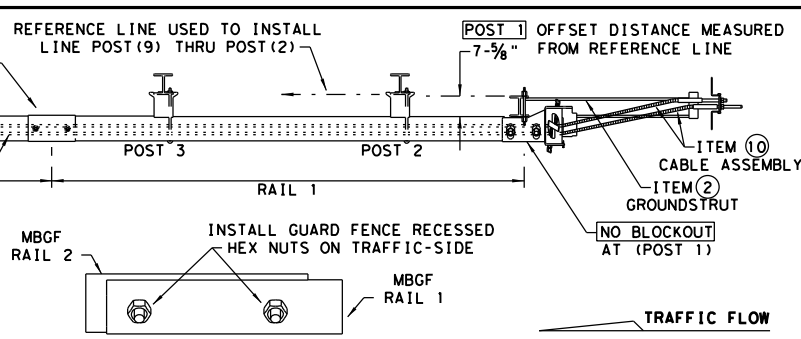
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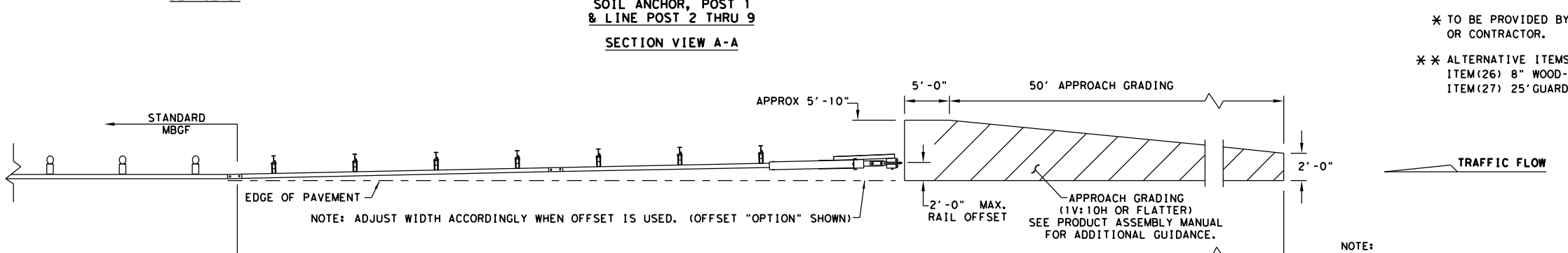
- NOTES:
- ITEM ② COMPOSITE BLOCKOUTS INSTALLED AT LINE POST (9) THRU LINE POST (2).
  - DO NOT INSTALL A BLOCKOUT AT LINE POST (1).

NOTE: SECURE THE (TSS) PANEL TO OUTSIDE OF RAIL 2 WITH THE PANEL ARROWS POINTING TOWARDS THE HEAD.



- GENERAL NOTES**
- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: LINDSAY TRANSPORTATION SOLUTIONS (LTS) - BARRIER SYSTEMS, INC. AT (707) 374-6800
  - FOR INSTALLATION, REPAIR, & MAINTENANCE REFER TO THE: MAX-TENSION INSTALLATION INSTRUCTION MANUAL. P/N MANMAX REV D (ECN 3516).
  - APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
  - FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TxDOT'S LATEST ROADWAY MOW STRIP STANDARD.
  - ALL STEEL COMPONENTS ARE GALVANIZED PER ASTM A123 OR EQUIVALENT UNLESS OTHERWISE STATED.
  - SYSTEM SHOWN USING STEEL WIDE FLANGE POST WITH COMPOSITE BLOCKOUTS.
  - COMPOSITE MATERIAL BLOCKOUT THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
  - REFER TO INSTALLATION MANUAL FOR SPECIFIC PANEL LAPPING GUIDANCE.
  - IF SOLID ROCK IS ENCOUNTERED SEE THE MANUFACTURER'S INSTALLATION MANUAL FOR INSTALLATION GUIDANCE.
  - POSTS SHALL NOT BE SET IN CONCRETE.
  - A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POST TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST.
  - MAX-TENSION SYSTEM SHALL NEVER BE INSTALLED WITHIN A CURVED SECTION OF GUARDRAIL.
  - IF A DELINEATION MARKER IS REQUIRED, MARKER SHALL BE IN ACCORDANCE WITH TEXAS MUTCD.
  - THE SYSTEM IS SHOWN WITH 12'-6" MBGF PANELS, 25'-0" MBGF PANELS ARE ALSO ALLOWED.
  - A MINIMUM OF 12'-6" OF 12GA. MBGF IS REQUIRED IMMEDIATELY DOWNSTREAM OF THE MAX-TENSION SYSTEM.

ITEM #	PART NUMBER	DESCRIPTION	QTY
1	BSI-1610060-00	SOIL ANCHOR - GALVANIZED	1
2	BSI-1610061-00	GROUND STRUT - GALVANIZED	1
3	BSI-1610062-00	MAX-TENSION IMPACT HEAD	1
4	BSI-1610063-00	W6x9 I-BEAM POST 6FT.-GALVANIZED	1
5	BSI-1610064-00	TSS PANEL - TRAFFIC SIDE SLIDER	1
6	BSI-1610065-00	ISS PANEL - INNER SIDE SLIDER	1
7	BSI-1610066-00	TOOTH - GEOMET	1
8	BSI-1610067-00	RSS PLATE - REAR SIDE SLIDER	1
9	B061058	CABLE FRICTION PLATE - HEAD UNIT	1
10	BSI-1610069-00	CABLE ASSEMBLY - MASH X-TENSION	2
11	BSI-1012078-00	X-LITE LINE POST-GALVANIZED	8
12	B090534	8" W-BEAM COMPOSITE-BLOCKOUT XT110	8
13	BSI-4004386	12'-6" W-BEAM GUARD FENCE PANELS 12GA.	4
14	BSI-1102027-00	X-LITE SQUARE WASHER	1
15	BSI-2001886	5/8" X 7" THREAD BOLT HH (GR.5)GEOMET	1
16	BSI-2001885	3/4" X 3" ALL-THREAD BOLT HH (GR.5)GEOMET	4
17	4001115	5/8" X 1 1/4" GUARD FENCE BOLTS (GR.2)MGAL	48
18	2001840	5/8" X 10" GUARD FENCE BOLTS MGAL	8
19	2001636	5/8" WASHER F436 STRUCTURAL MGAL	2
20	4001116	5/8" RECESSED GUARD FENCE NUT (GR.2)MGAL	59
21	BSI-2001888	5/8" X 2" ALL THREAD BOLT (GR.5)GEOMET	1
22	BSI-1701063-00	DELINEATION MOUNTING (BRACKET)	1
23	BSI-2001887	1/4" X 3/4" SCREW SD HH 410SS	7
24	4002051	GUARDRAIL WASHER RECT AASHTO FWRO3	1
25	SEE NOTE BELOW	HIGH INTENSITY REFLECTIVE SHEETING	1
26	4002337	8" W-BEAM TIMBER-BLOCKOUT, PDB01B	8
27	BSI-4004431	25' W-BEAM GUARDRAIL PANEL, 8-SPACE, 12GA.	2
28	MANMAX Rev-(D)	MAX-TENSION INSTALLATION INSTRUCTIONS	1



NOTE: TxDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

APPROACH GRADING AT GUARDRAIL END TREATMENTS

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE MAX-TENSION END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

- \* TO BE PROVIDED BY DISTRIBUTOR OR CONTRACTOR.
- \*\* ALTERNATIVE ITEMS NOT SHOWN. ITEM (26) 8" WOOD-BLOCKOUTS ITEM (27) 25' GUARD FENCE PANELS

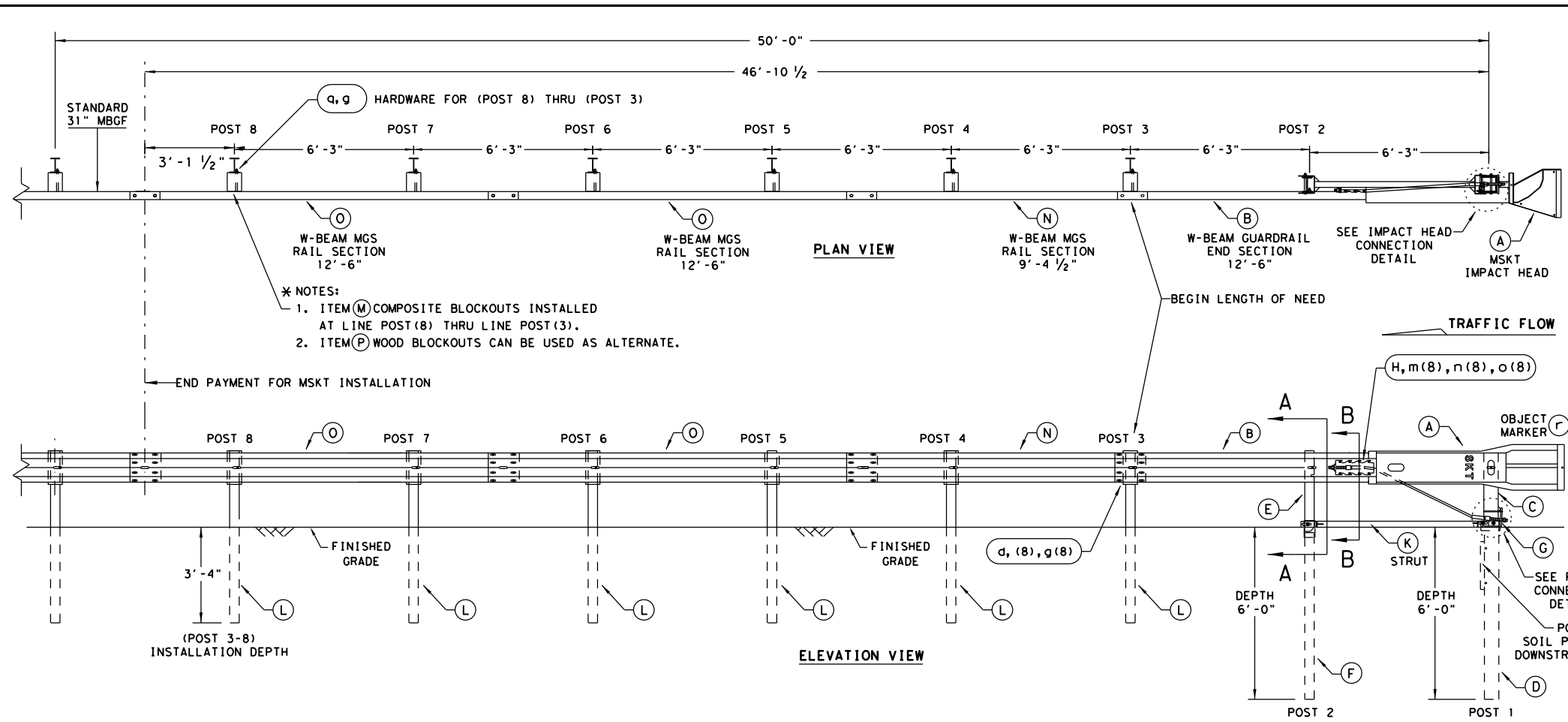
**Texas Department of Transportation**

**Design Division Standard**

**MAX-TENSION END TERMINAL**  
**MASH - TL-3**  
**SGT (11S) 31-18**

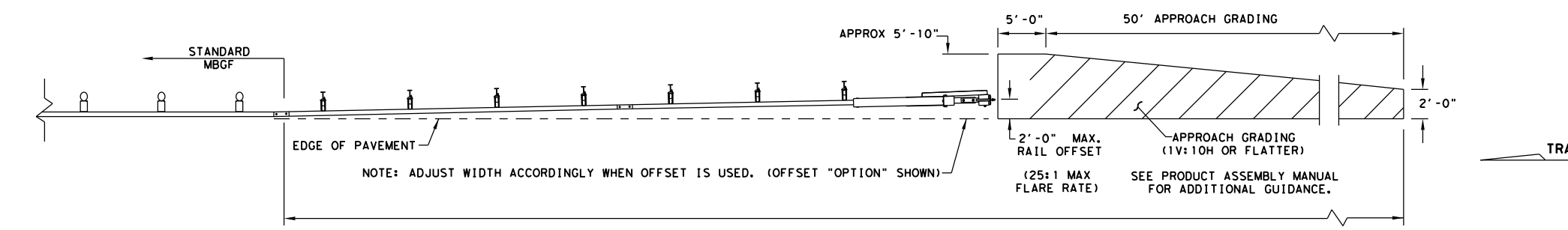
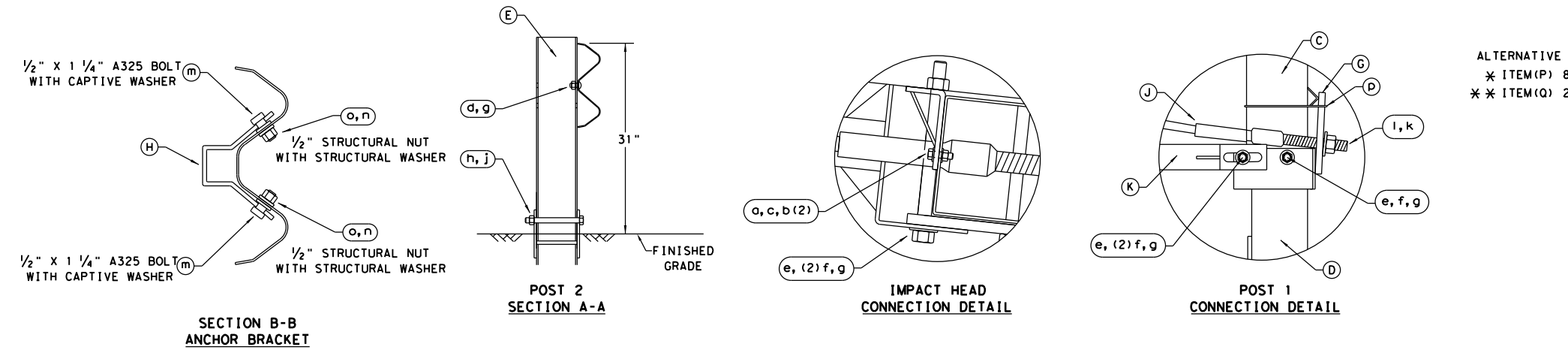
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© TxDOT: FEBRUARY 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY		SHEET NO.
	SAT	KENDALL		335

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- GENERAL NOTES**
- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: ROAD SYSTEMS, INC. (432)263-2435. 3616 OLD HOWARD COUNTY AIRPORT, BIG SPRING, TX 79720
  - FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE: MSKT END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL (PUBLICATION-062717).
  - APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
  - FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
  - HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
  - SYSTEM SHOWN USING STEEL WIDE FLANGE POSTS WITH COMPOSITE BLOCKOUTS.
  - A COMPOSITE MATERIAL BLOCKOUTS THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
  - IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, & REFER TO THE LATEST ROADWAY MOW STRIP STANDARD FOR INSTALLATION GUIDANCE.
  - POSTS SHALL NOT BE SET IN CONCRETE.
  - SYSTEM MUST BE ATTACHED TO STANDARD 31" MBGF.
  - UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE MSKT SYSTEM BE CURVED.
  - A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCRANCHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
  - THE SYSTEM IS SHOWN WITH TWO 12'-6" MBGF PANELS, ONE 25'-0" MBGF PANEL IS ALSO ALLOWED IN ITS PLACE.
  - A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POSTS 3-8 TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST. SPECIAL DRIVING CAP TO BE USED ON LOWER POSTS 1 & 2 TO PREVENT DAMAGE TO THE WELDED PLATES.

ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM NUMBERS
A	1	MSKT IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Go.	SF1303
C	1	POST 1 - TOP (6" X 6" X 1/8" TUBE)	MTPHP1A
D	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
E	1	POST 2 - ASSEMBLY TOP	UHP2A
F	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	GROUND STRUT	MS785
L	6	W6X9 OR W6X8.5 STEEL POST	P621
M	6	COMPOSITE BLOCKOUTS	CBSP-14
N	1	W-BEAM MGS RAIL SECTION (9'-4 1/2")	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P	6	WOOD BLOCKOUT 6" X 8" X 14"	P675
Q	1	W-BEAM MGS RAIL SECTION (25'-0")	G1209
SMALL HARDWARE			
o	2	5/8" x 1" HEX BOLT (GRD 5)	B5160104A
b	4	5/8" WASHER	W0516
c	2	5/8" HEX NUT	N0516
d	25	5/8" Dia. x 1 1/4" SPLICE BOLT (POST 2)	B580122
e	2	5/8" Dia. x 9" HEX BOLT (GRD A449)	B580904A
f	3	5/8" WASHER	W050
g	33	5/8" Dia. H.G.R NUT	N050
h	1	3/4" Dia. x 8 1/2" HEX BOLT (GRD A449)	B340854A
j	1	3/4" Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	1/2" x 1 1/4" A325 BOLT WITH CAPTIVE WASHER	SB12A
n	8	1/2" STRUCTURAL NUTS	N012A
o	8	1 1/8" O.D. x 3/8" I.D. STRUCTURAL WASHERS	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	6	5/8" x 10" H.G.R. BOLT	B581002
r	1	OBJECT MARKER 18" X 18"	E3151



NOTE: TXDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

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Design Division Standard

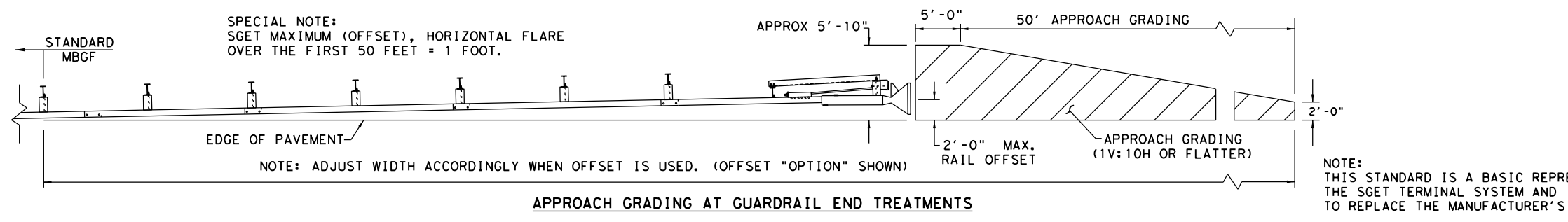
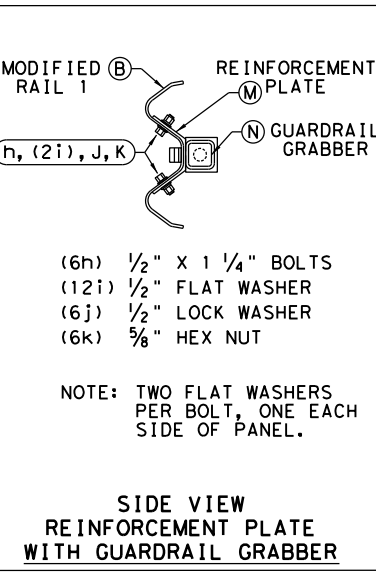
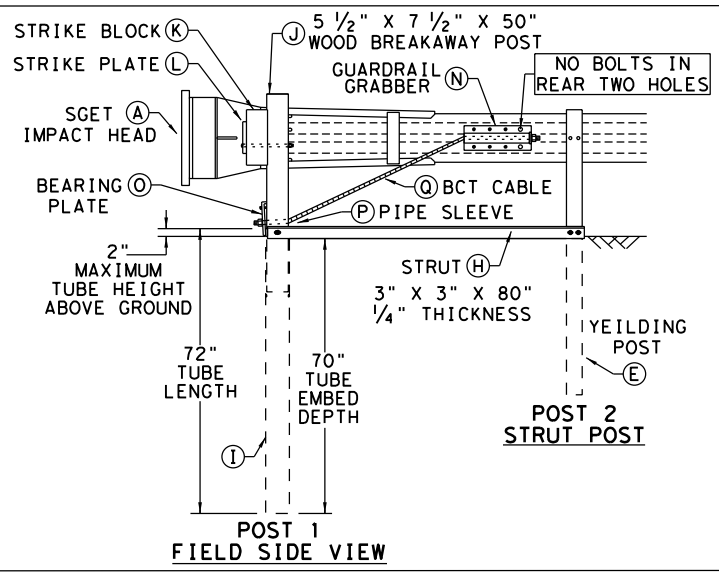
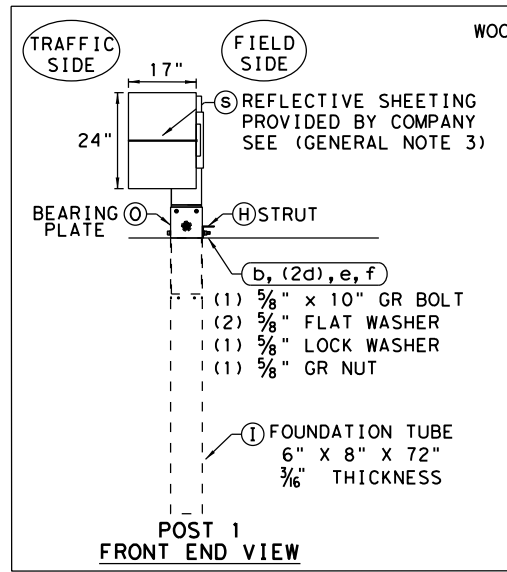
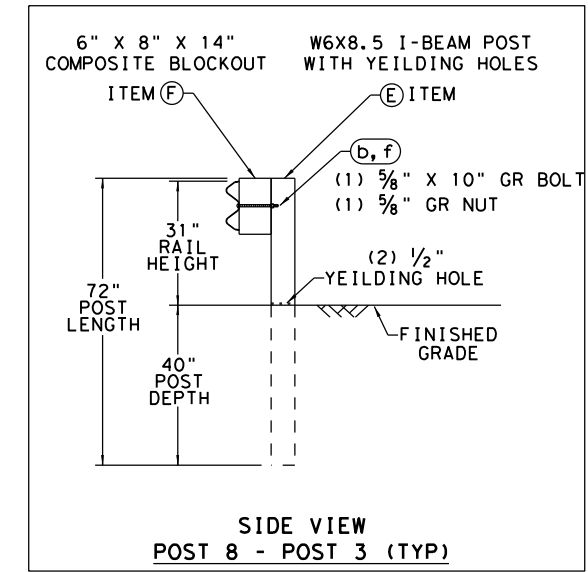
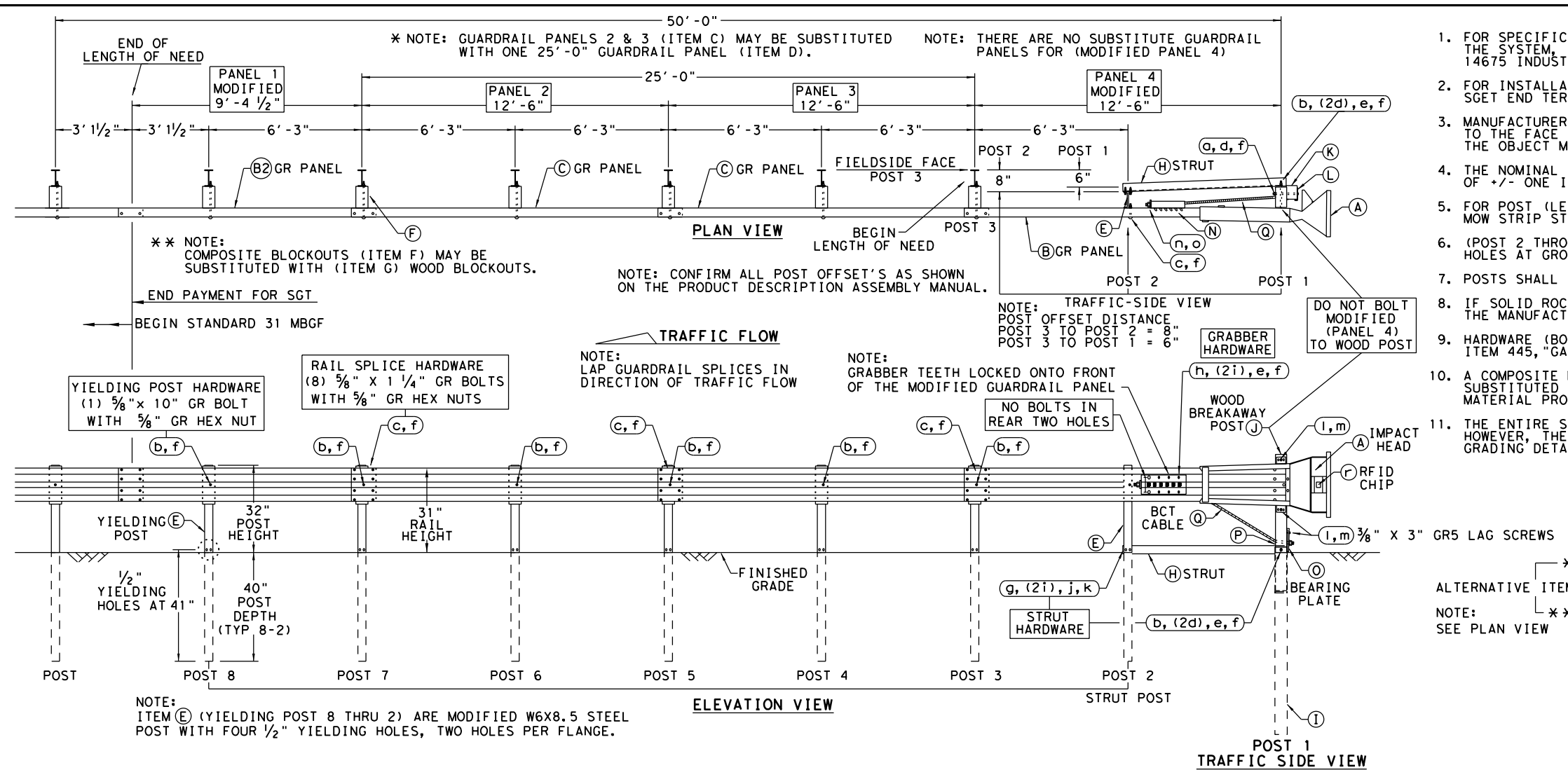
## SINGLE GUARDRAIL TERMINAL

### MSKT-MASH-TL-3

### SGT (12S) 31-18

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© TXDOT: APRIL 2018	CONT SECT	JOB	HIGHWAY	
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	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	336	

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- ### GENERAL NOTES
- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: SPIG INDUSTRY, INC. AT 1(267) 644-9510. 14675 INDUSTRIAL PARK RD; BRISTOL, VA 24202
  - FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE MANUFACTURER'S; SGET END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL.
  - MANUFACTURER WILL APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" TO THE FACE PLATE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. THE OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
  - THE NOMINAL HEIGHT OF THE GUARDRAIL BEAM IS 31 INCHES WITH A TOLERANCE OF +/- ONE INCH.
  - FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
  - (POST 2 THROUGH POST 8) ARE MODIFIED STEEL-YIELDING POSTS WITH YIELDING HOLES AT GROUND LEVEL. THERE ARE NO SUBSTITUTE POSTS.
  - POSTS SHALL NOT BE SET IN CONCRETE.
  - IF SOLID ROCK IS ENCOUNTERED FOR ANY OF THE POSTS IN THE SYSTEM, CONTACT THE MANUFACTURER FOR SPECIFIC INSTALLATION GUIDANCE.
  - HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
  - A COMPOSITE MATERIAL BLOCKOUT THAT MEETS DMS-7210 REQUIREMENTS MAY BE SUBSTITUTED FOR AN APPROVED WOOD BLOCKOUT. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
  - THE ENTIRE SYSTEM MUST BE INSTALLED IN A STRAIGHT LINE WITHOUT ANY CURVE. HOWEVER, THE SYSTEM CAN BE OFFSET BY TWO FEET AS SHOWN ON THE APPROACH GRADING DETAIL TO HELP OFF-SET THE IMPACT HEAD FROM SHOULDER OF THE ROAD.

ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM #
A	1	SGET IMPACT HEAD	SIH1A
B	1	MODIFIED GUARDRAIL PANEL 12'-6" 12GA	126SPZGP
B2	1	MODIFIED GUARDRAIL PANEL 9'-4 1/2" 12GA	GP94
C	2	STANDARD GUARDRAIL PANEL 12'-6" 12GA	GP126
D	1	STANDARD GUARDRAIL PANEL 25'-0" 12GA	GP25
E	7	MODIFIED YIELDING I-BEAM POST W6x8.5	YP6MOD
F	6	COMPOSITE BLOCKOUT 6" X 8" X 14"	CBO8
G	6	WOOD BLOCKOUT 6" X 8" X 14"	WBO8
H	1	STRUT 3" X 3" X 80" X 1/4" A36 ANGLE	STR80
I	1	FOUNDATION TUBE 6" X 8" X 72" X 3/16"	FNDT6
J	1	WOOD BREAKAWAY POST 5 1/2" X 7 1/2" X 50"	WBRK50
K	1	WOOD STRIKE BLOCK	WSBK14
L	1	STRIKE PLATE 1/4" A36 BENT PLATE	SPLT8
M	1	REINFORCEMENT PLATE 12 GA. GR55	REPLT17
N	1	GUARDRAIL GRABBER 2 1/2" X 2 1/2" X 16 1/2"	GGR17
O	1	BEARING PLATE 8" X 8 5/8" X 5/8" A36	BPLT8
P	1	PIPE SLEEVE 4 1/4" X 2 3/8" O.D. (2 1/8" I.D.)	PSLV4
Q	1	BCT CABLE 3/4" X 81" LENGTH	CBL81
SMALL HARDWARE			
o	1	5/8" X 12" GUARDRAIL BOLT 307A HDG	12GRBLT
b	7	5/8" X 10" GUARDRAIL BOLT 307A HDG	10GRBLT
c	33	5/8" X 1 1/4" GR SPlice BOLTS 307A HDG	1GRBLT
d	3	5/8" FLAT WASHER F436 A325 HDG	58FW436
e	1	5/8" LOCK WASHER HDG	58LW
f	39	5/8" GUARDRAIL HEX NUT HDG	58HN563
g	2	1/2" X 2" STRUT BOLT A325 HDG	2BLT
h	6	1/2" X 1 1/4" PLATE BOLT A325 HDG	125BLT
i	16	1/2" FLAT WASHER F436 A325 HDG	12FWF436
j	8	1/2" LOCK WASHER HDG	12LW
k	8	1/2" HEX NUT A563 HDG	12HN563
l	4	3/8" X 3" HEX LAG SCREW GR5 HDG	38LS
m	4	3/8" FLAT WASHER F436 A325 HDG	38FW844
n	2	1" FLAT WASHER F436 A325 HDG	1FWF436
o	2	1" HEX NUT A563HDG	1HN563
p	1	18" TO 24" LONG ZIP TIE RATED 175-200LB	ZPT18
q	1	1 1/2" X 4" SCH-40 PVC PIPE	PSPCR4
r	1	RFID CHIP RATED MIL-STD-810F	RFID810F
s	1	IMPACT HEAD REFLECTIVE SHEETING	RS30M

Design Division Standard

**SPIG INDUSTRY, LLC**  
**SINGLE GUARDRAIL TERMINAL**  
**SGET - TL-3 - MASH**  
**SGT (15) 31-20**

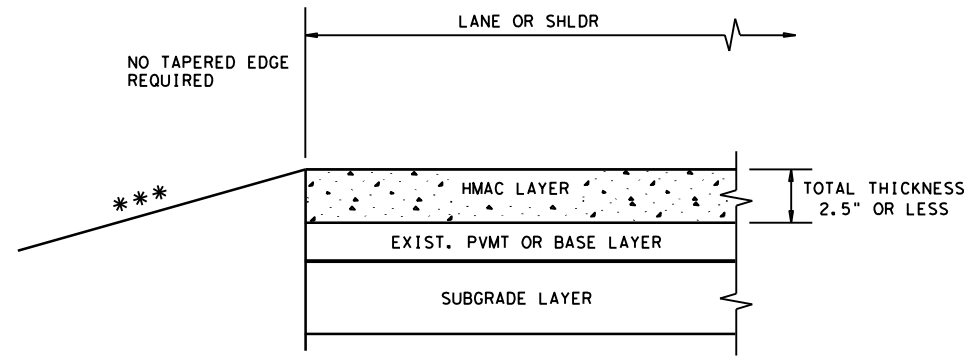
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© TXDOT: APRIL 2020	CONT: 0142	SECT: 09	JOB: 044, Etc	HIGHWAY: RM 473
REVISIONS				
	DIST: SAT	COUNTY: KENDALL	SHEET NO. 337	

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE SGET TERMINAL SYSTEM AND IS NOT INTENDED TO REPLACE THE MANUFACTURER'S ASSEMBLY MANUAL.



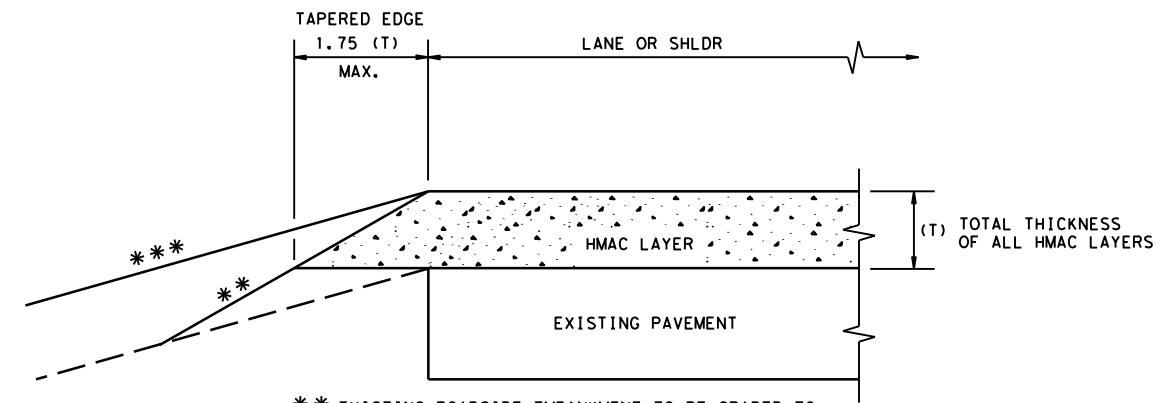
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/26/2021  
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\*\*\* SEE TYPICAL SECTION FOR ROADSIDE DETAILS

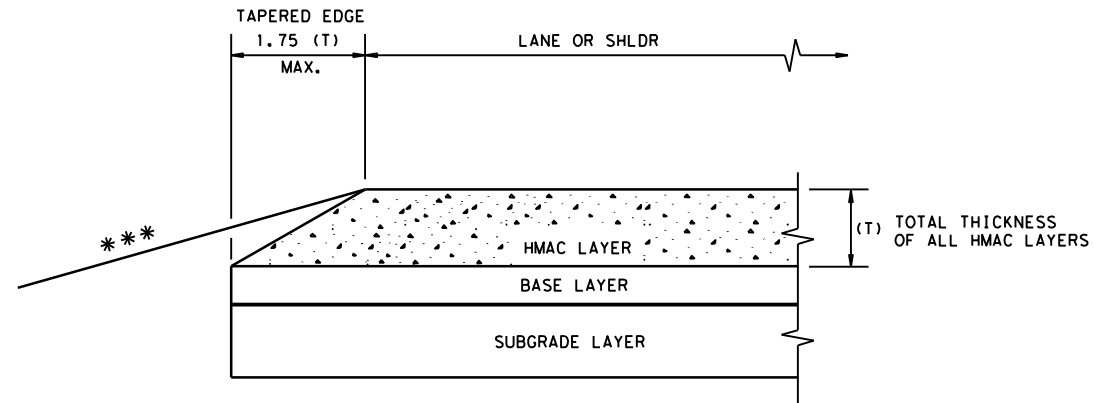
**CONDITION - 1**  
 THIN HMAC SURFACES OR HMAC OVERLAY  
 WITH THICKNESS OF 2.5" OR LESS



\*\* EXISTING ROADSIDE EMBANKMENT TO BE GRADED TO PRODUCE A SMOOTH LEVEL SURFACE FOR PLACEMENT OF TAPERED EDGE. THIS WORK IS SUBSIDIARY TO THE VARIOUS BID ITEMS.

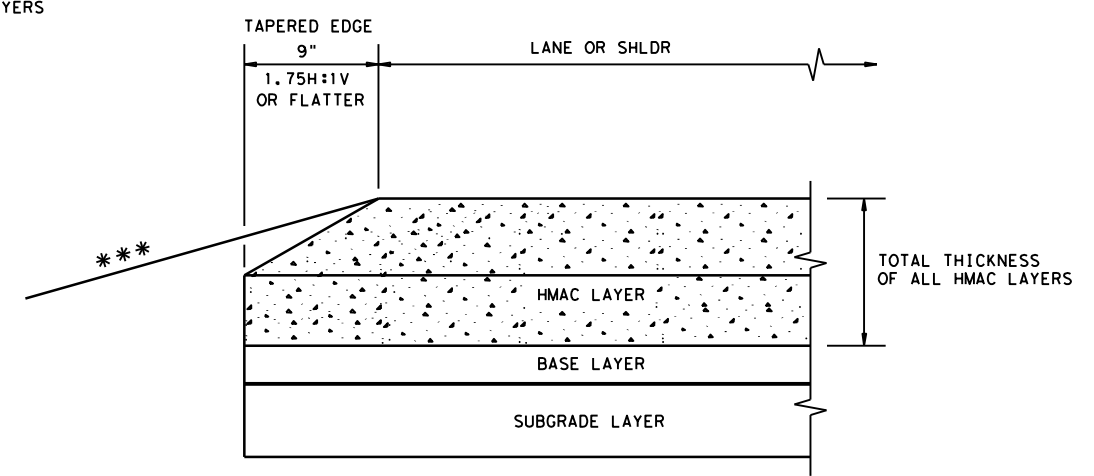
\*\*\* SEE TYPICAL SECTION FOR ROADSIDE DETAILS

**CONDITION - 2**  
 OVERLAY OF EXISTING PAVEMENT  
 HMAC THICKNESS 2.5" TO 5"



\*\*\* SEE TYPICAL SECTION FOR ROADSIDE DETAILS

**CONDITION - 3**  
 NEW OR RECONSTRUCTED PAVEMENT  
 HMAC THICKNESS 2.5" TO 5"



\*\*\* SEE TYPICAL SECTION FOR ROADSIDE DETAILS

**CONDITION - 4**  
 NEW OR RECONSTRUCTED PAVEMENT  
 HMAC THICKNESS 5" OR GREATER

**GENERAL NOTES**

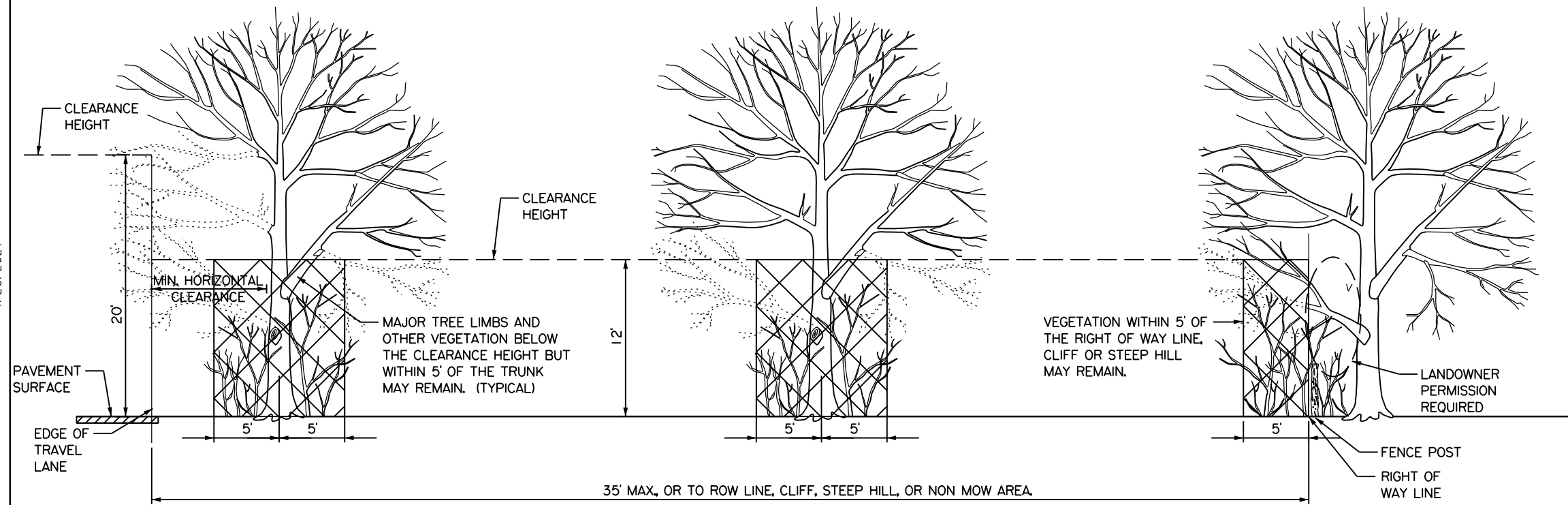
1. UNLESS OTHERWISE SHOWN IN THE PLANS, A VERTICAL EDGE IS PERMISSIBLE FOR HMAC PLACED GREATER THAN 5" BELOW THE EDGE OF PAVEMENT AND FOR THICKNESS OF HMAC LESS THAN 2.5".
2. FOR FURTHER INFORMATION REGARDING THE ROADSIDE AND PAVEMENT DETAILS, SEE TYPICAL SECTIONS.
3. PAYMENT FOR TAPERED EDGE WILL BE IN ACCORDANCE WITH APPLICABLE ITEMS IN THE CONTRACT.
4. THE SLOPE OF THE TAPERED EDGE SHALL BE 1.75H:1V OR FLATTER.
5. THE TAPERED EDGE SHALL BE PRODUCED BY USE OF A SCREED ATTACHMENT CAPABLE OF PRODUCING A SMOOTH COMPACTED SURFACE. ADDITIONAL COMPACTING EFFORT BEHIND THE SCREED IS NOT REQUIRED.

(NOT TO SCALE)

				Design Division Standard	
<b>TAPERED EDGE DETAILS          HMAC PAVEMENT</b>					
<b>TE (HMAC) - 11</b>					
FILE: tehmoc11.dgn	DN: TxDOT	CK: RL	DW: KB	CK:	
© TxDOT January 2011	CONT	SECT	JOB	HIGHWAY	
REVISIONS		0142	09	044, E+c	RM 473
DIST	COUNTY			SHEET NO.	
SAT	KENDALL			338	

4/26/2021

c:\txdot\pwworking\line\txdot4\mark.narendorf\0239899\satreepruning&removal.dgn



**TREE PRUNING**

**TREE REMOVAL:**

REMOVE ALL DEAD WOODY VEGETATION WITHIN THE ROW. CUT STUMPS FLUSH WITH THE GROUND.

**TREE PRUNING:**

THE OBJECTIVE OF TREE PRUNING IS FOR CROWN RAISING TO ALLOW CLEARANCE FOR MAINTENANCE VEHICLES.

WITH THE EXCEPTION OF WORK WITHIN OR ALONG A CHANNEL OR UNLESS OTHERWISE SHOWN ON THE PLANS, LIMIT WIDTH OF WORK TO 35' FROM THE EDGE OF THE TRAVEL LANE, OR TO ROW LINE, CLIFF, STEEP HILL, OR NON-MOW AREA, WHICHEVER IS LESS. THE ENGINEER WILL DEFINE CLIFFS, STEEP HILLS AND NON-MOW AREAS BASED ON FIELD CONDITIONS. THE ENGINEER MAY DEFINE AREAS TO RESTRICT OR INCREASE TREE PRUNING.

IF ANY TREES IN THE ROW ARE MARKED IN ANY WAY, VERIFY THE MEANING OF THE MARKINGS BEFORE BEGINNING PRUNING OPERATIONS.

WHEN PRUNING OAK TREES, DISINFECT TOOLS BEFORE MOVING FROM ONE TREE TO ANOTHER. USE 70% METHYL ALCOHOL, CHLORINE SOLUTION, OR OTHER APPROVED MATERIAL AS A DISINFECTANT.

TREAT ALL WOUNDS AND CUTS ON ALL OAK SPECIES WITH A COMMERCIAL TREE WOUND DRESSING WITHIN 20 MINUTES OF CREATING THE WOUND.

FLAILING EQUIPMENT IS NOT ALLOWED FOR THIS WORK.

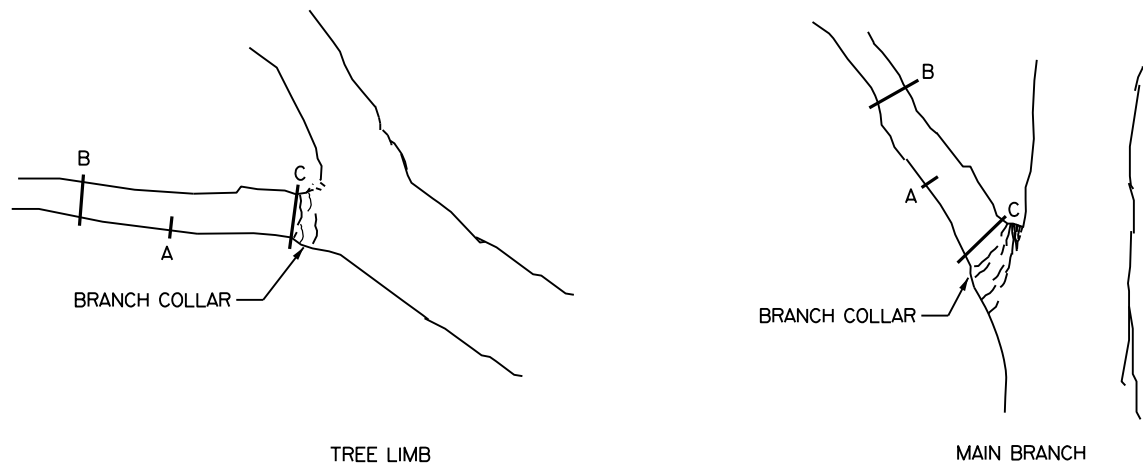
REPAIR DAMAGE TO A PRIVATE FENCE OR OTHER PRIVATE PROPERTY AT CONTRACTOR EXPENSE.

PERFORM TREE PRUNING WITHIN ROW LIMITS. IF POSSIBLE, OBTAIN LANDOWNER PERMISSION AND MAKE PROPER PRUNING CUTS NECESSARY TO MAINTAIN THE HEALTH OF THE TREE.

CUT LIMBS AT A MAJOR FORK IN THE BRANCH OR, IF THE ENTIRE BRANCH IS ENCRoACHING INTO THE AREA TO BE CLEARED, REMOVE THE BRANCH AT THE TRUNK.

DO NOT LEAVE A STUB BEYOND THE BRANCH COLLAR OR CUT THROUGH THE BRANCH COLLAR WHEN MAKING PRUNING CUTS. THE BRANCH COLLAR IS GENERALLY VISIBLE, BUT IF IT IS NOT, MAKE THE FINAL CUT APPROXIMATELY 1/2" FROM THE PARENT BRANCH OR TRUNK, PERPENDICULAR TO THE BRANCH OR LIMB BEING REMOVED.

THIS WORK AND ALL ASSOCIATED MATERIALS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO ITEM 100 - PREPARING RIGHT OF WAY.



- A - STEP 1  
CUT 1/3 WAY THROUGH BOTTOM OF LIMB 8-12" ABOVE MAIN STEM OR TRUNK
- B - STEP 2  
REMOVE LIMB 4-6" BEYOND THE FIRST CUT
- C - STEP 3  
REMOVE STUB WITH A SMOOTH CUT JUST BEYOND THE BRANCH COLLAR OF THE REMOVED LIMB.

**PRUNING CUTS - LIMBS 2" IN DIAMETER AND GREATER**

NOT TO SCALE

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San Antonio District

**TREE PRUNING AND REMOVAL**

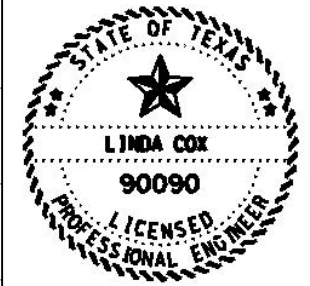
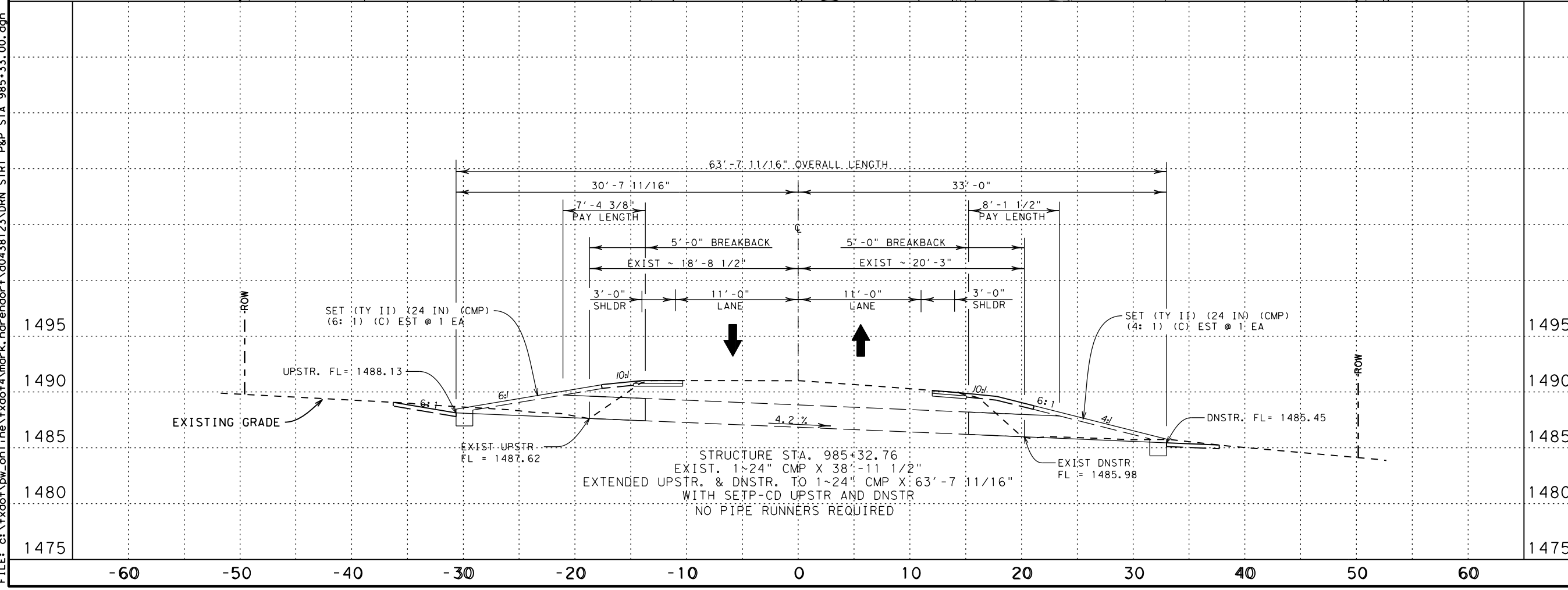
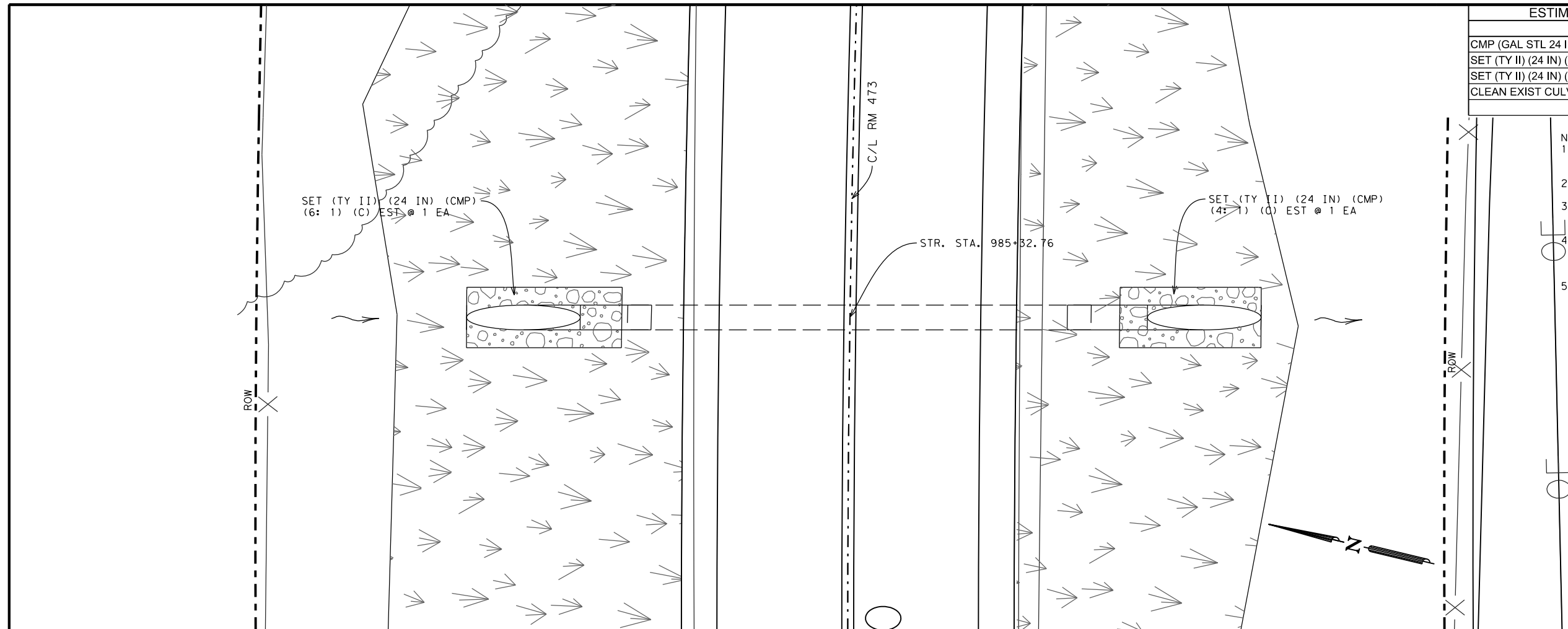
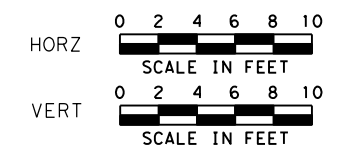
San Antonio District Standard

ORIGINAL DRAWING DATE: 12-18-18		STATE DISTRICT: SAT	FEDERAL AID PROJECT: 6	SHEET: 339
COUNTY: KENDALL		CONTROL SECTION: 0142	JOB: 09	HIGHWAY: 044, ETRM 473

ESTIMATED QUANTITIES FOR CSJ 14209044

DESCRIPTION	QUAN	UNIT
CMP (GAL STL 24 IN)	15.49	LF
SET (TY II) (24 IN) (CMP) (4:1) (C)	1	EA
SET (TY II) (24 IN) (CMP) (6:1) (C)	1	EA
CLEAN EXIST CULVERTS	1	EA

- NOTES:
- 1) ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - 2) TRAFFIC VOLUMES ARE LOW.
  - 3) SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - 4) NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - 5) PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.

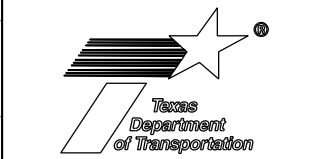


Linda Cox, P.E.

04/28/2021

RM 473  
CULVERT LAYOUT  
STRUCTURE  
STA. 985+32.76

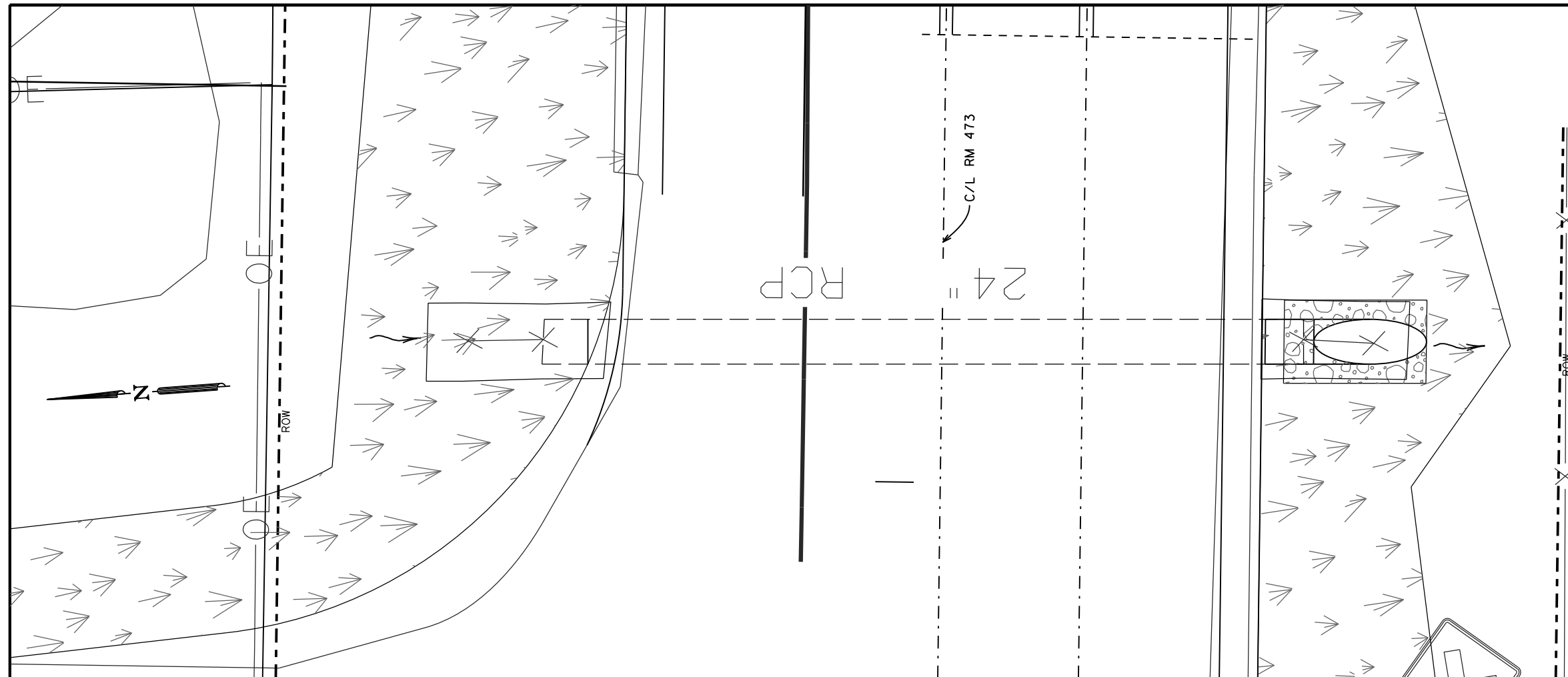
SHEET 1 OF 1



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		340

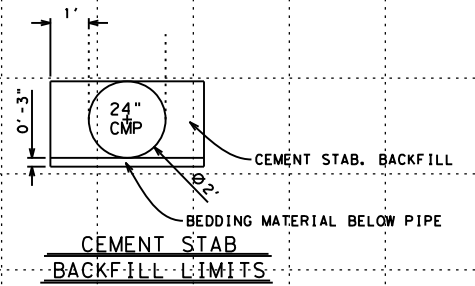
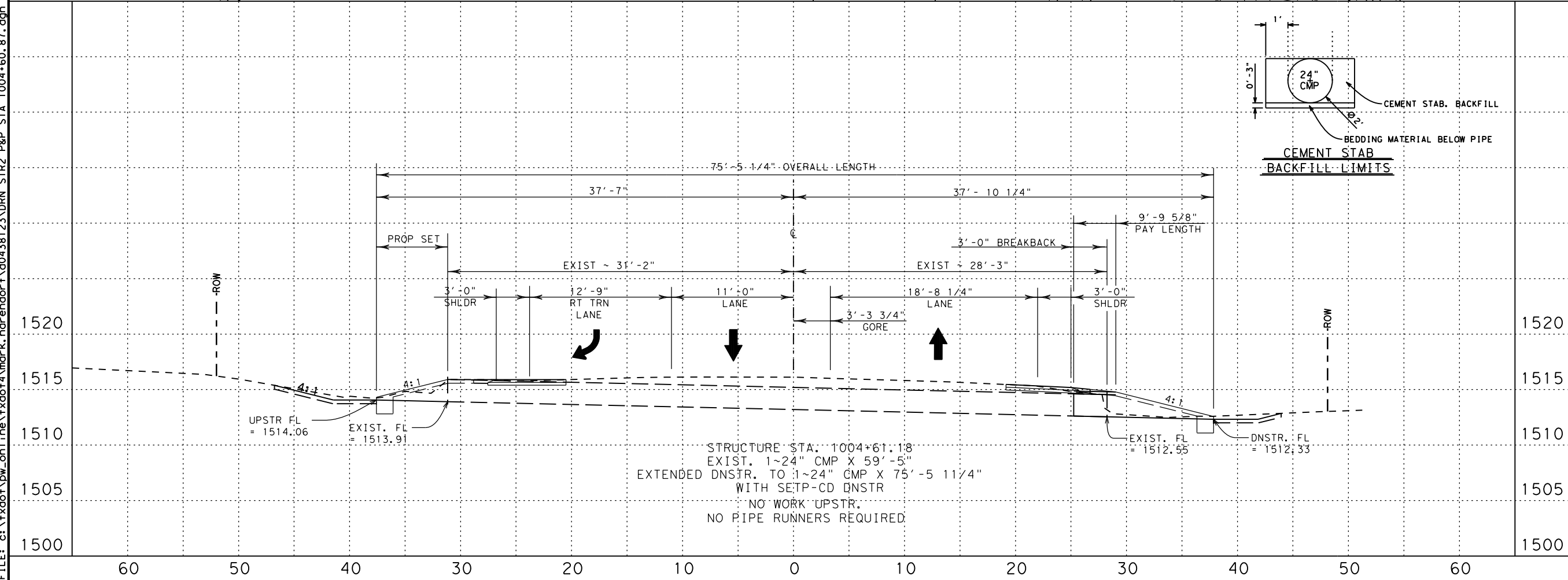
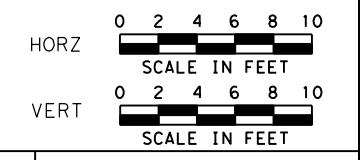
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ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
CEM STABIL BKFL	1	CY
CMP (GAL STL 24 IN)	9.8	LF
SET (TY II) (24 IN) (CMP) (4:1) (C)	2	EA
CLEAN EXIST CULVERTS	1	EA

- NOTES:
- 1) ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - 2) TRAFFIC VOLUMES ARE LOW.
  - 3) SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - 4) NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - 5) PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.



Linda Cox, P.E.  
 04/28/2021

RM 473  
 CULVERT LAYOUT  
 STRUCTURE  
 STA. 1004+61.18

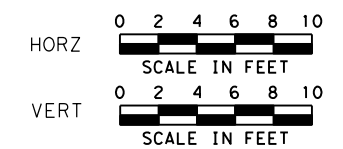
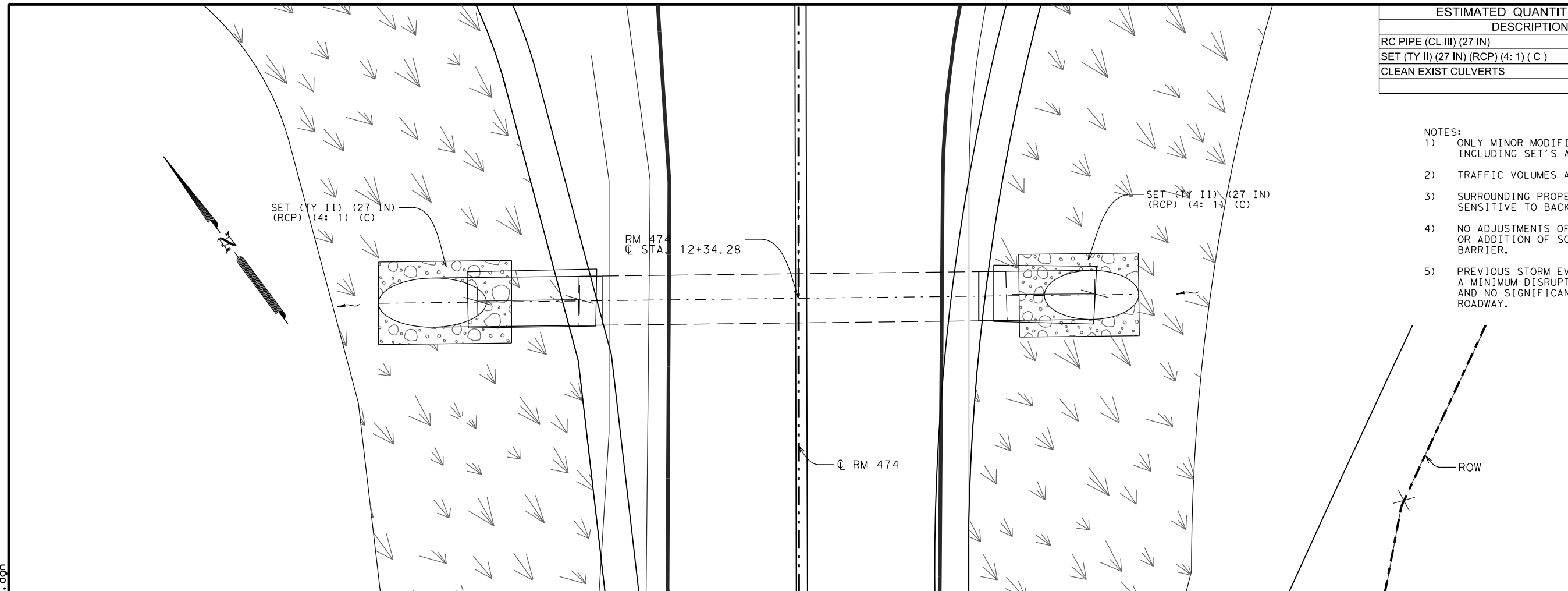
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0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		341

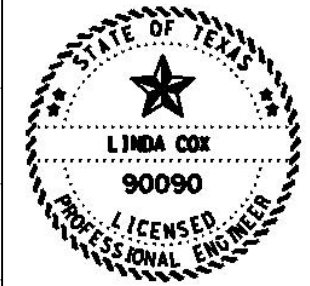
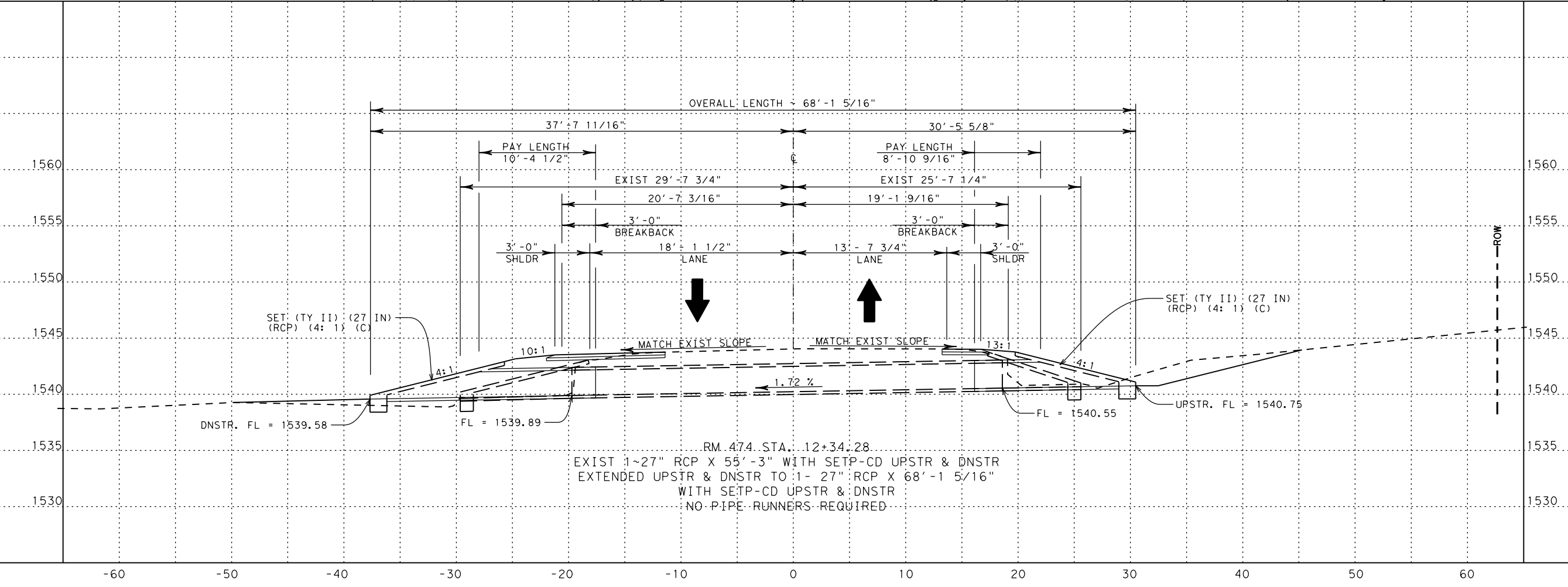
ESTIMATED QUANTITIES FOR CSJ 14209044

DESCRIPTION	QUAN	UNIT
RC PIPE (CL III) (27 IN)	19.26	LF
SET (TY II) (27 IN) (RCP) (4: 1) (C)	2	EA
CLEAN EXIST CULVERTS	1	EA

- NOTES:
- 1) ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - 2) TRAFFIC VOLUMES ARE LOW.
  - 3) SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - 4) NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - 5) PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.



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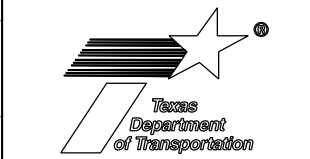


Linda Cox, P.E.

04/28/2021

**RM 473  
CULVERT LAYOUT  
STRUCTURE  
RM 474  
STA. 12+34.28**

SHEET 1 OF 1



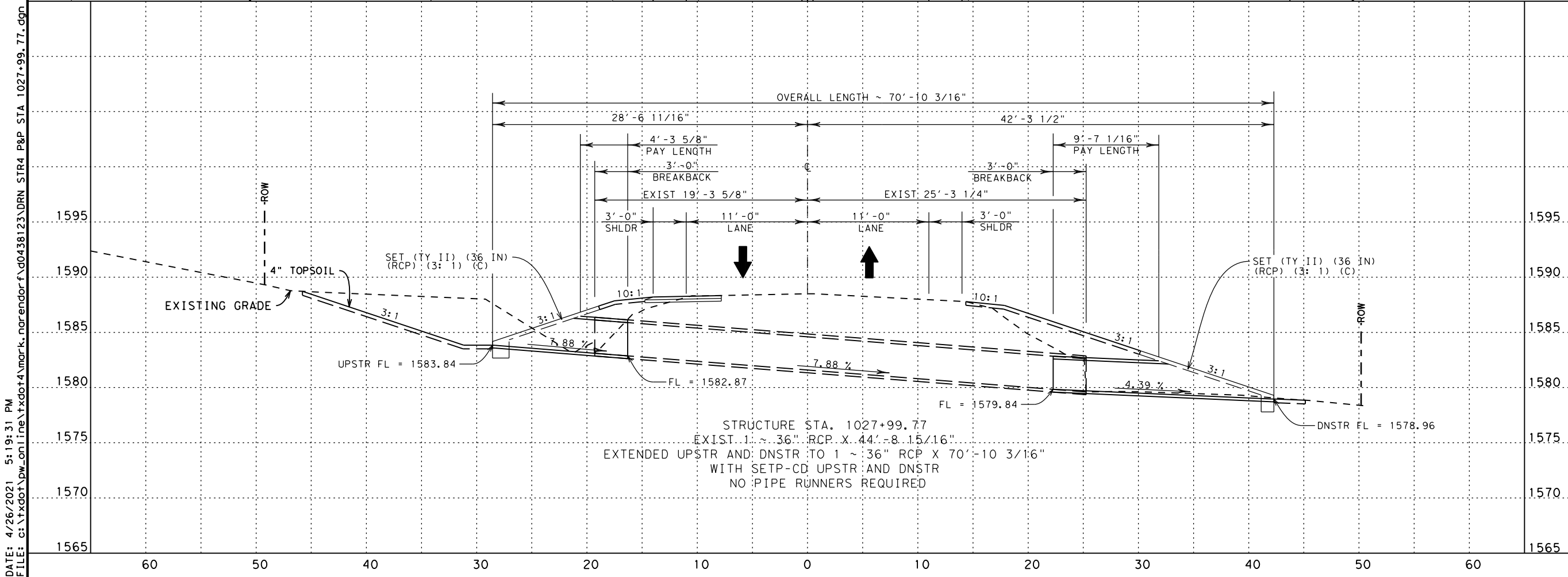
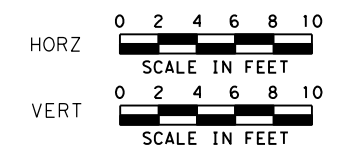
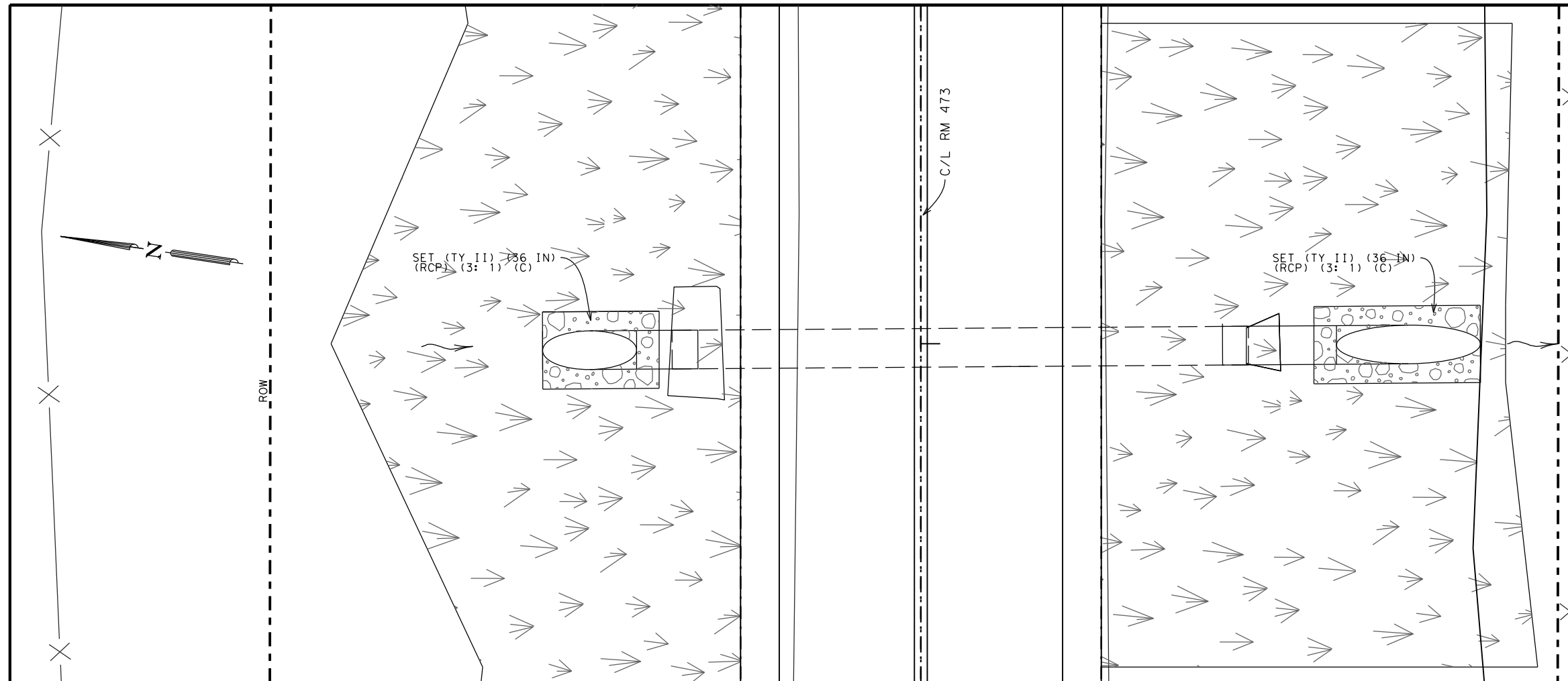
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		342



ESTIMATED QUANTITIES FOR CSJ 14210026

DESCRIPTION	QUAN	UNIT
RC PIPE (CL III)(36 IN)	13.89	LF
SET (TY II) (36 IN) (RCP) (3: 1) (C)	2	EA
CLEAN EXIST CULVERTS	1	EA

- NOTES:
- 1) ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - 2) TRAFFIC VOLUMES ARE LOW.
  - 3) SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - 4) NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - 5) PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.

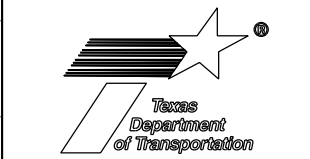


Linda Cox, P.E.

04/28/2021

RM 473  
 CULVERT LAYOUT  
 STRUCTURE  
 STA. 1027+99.77

SHEET 1 OF 1

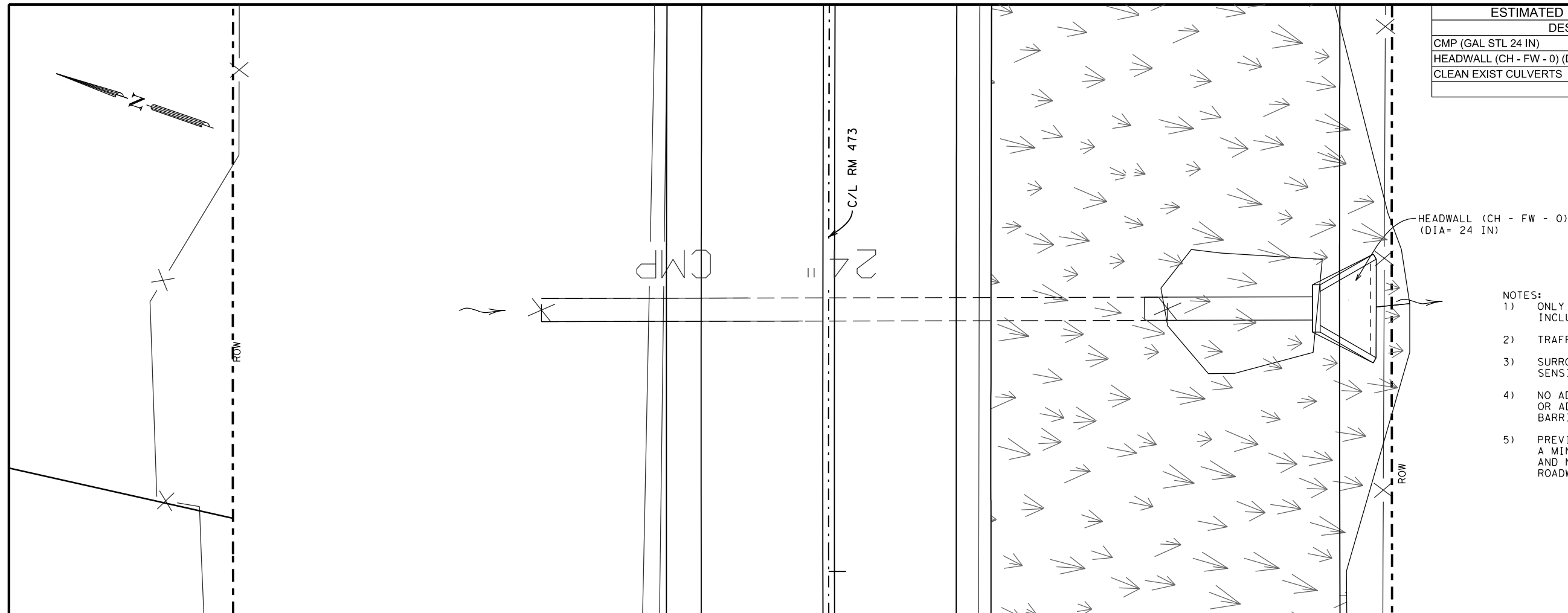


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DIST	COUNTY		SHEET NO.
SAT	KENDALL		343

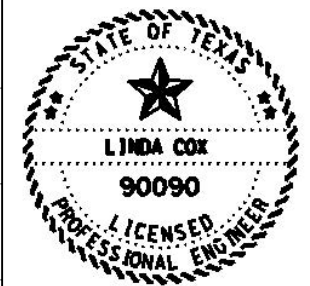
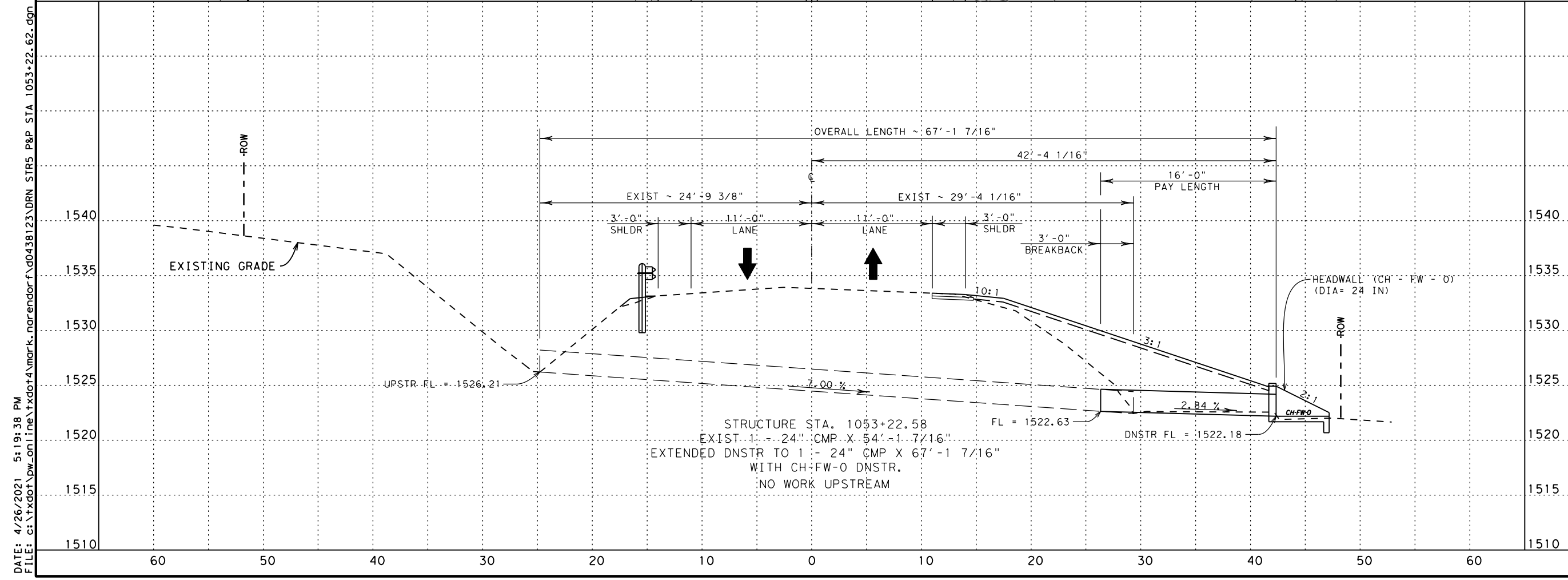
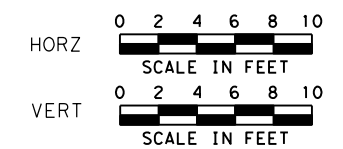
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ESTIMATED QUANTITIES FOR CSJ 14210026

DESCRIPTION	QUAN	UNIT
CMP (GAL STL 24 IN)	16	LF
HEADWALL (CH - FW - 0) (DIA= 24 IN)	1	EA
CLEAN EXIST CULVERTS	1	EA



- NOTES:
- 1) ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - 2) TRAFFIC VOLUMES ARE LOW.
  - 3) SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - 4) NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - 5) PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.

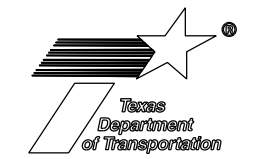


Linda Cox, P.E.

04/28/2021

**RM 473  
CULVERT LAYOUT  
STRUCTURE  
STA. 1053+22.58**

SHEET 1 OF 1

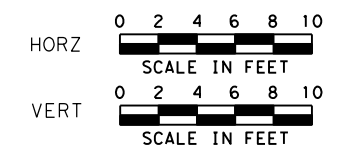
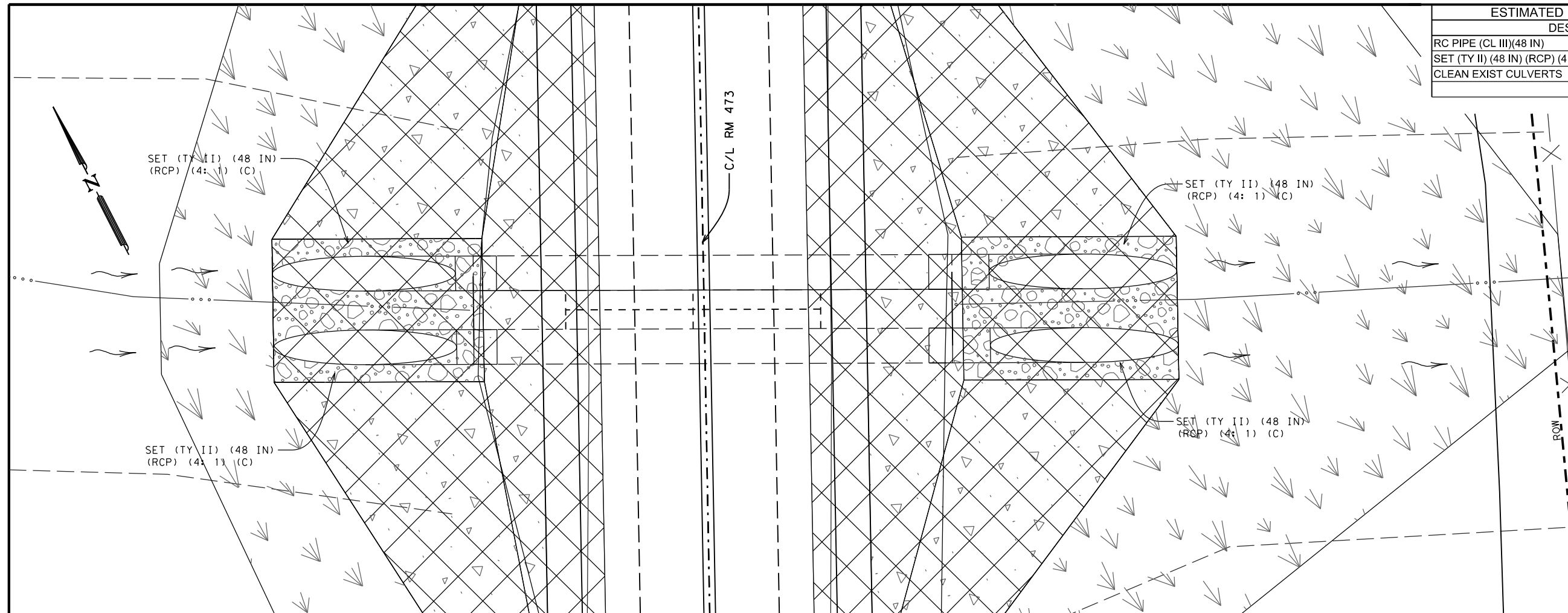


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DIST	COUNTY		SHEET NO.
SAT	KENDALL		344

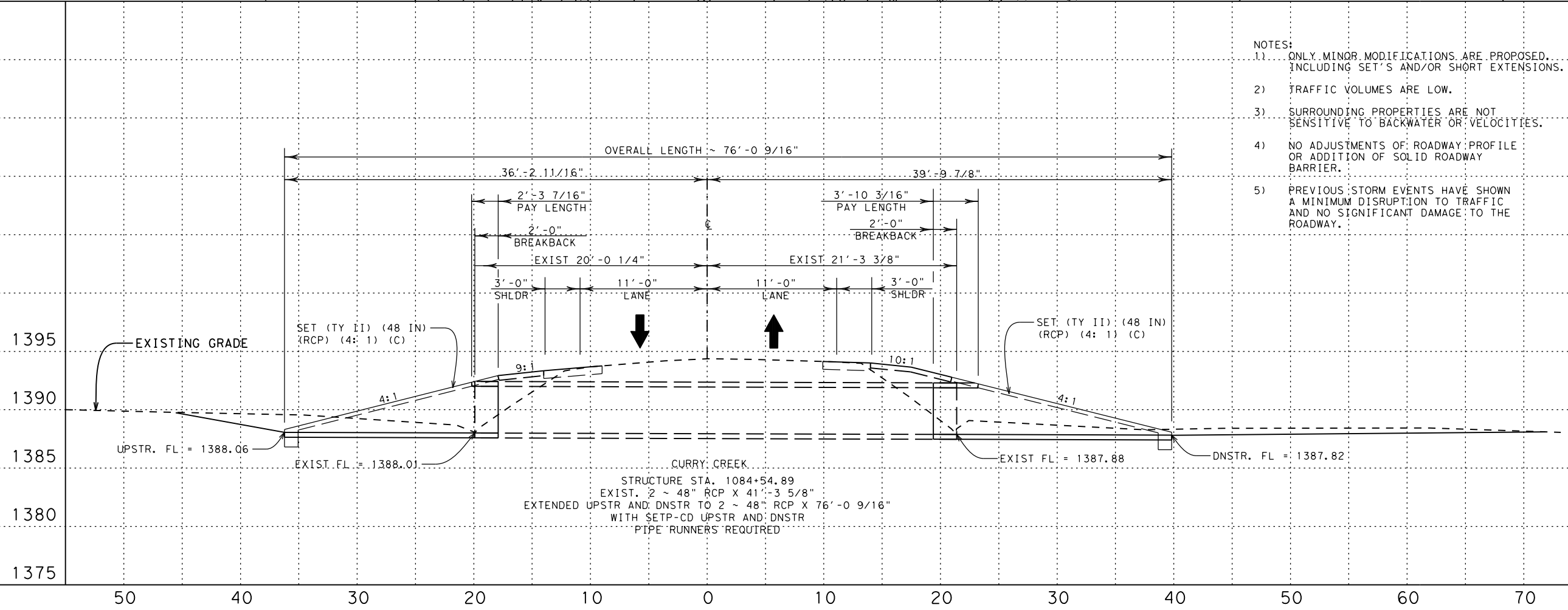
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ESTIMATED QUANTITIES FOR CSJ 14210026

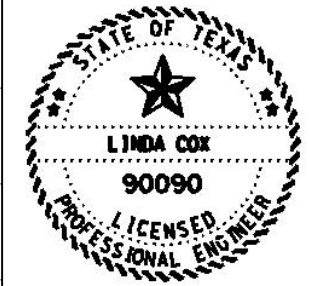
DESCRIPTION	QUAN	UNIT
RC PIPE (CL III)(48 IN)	12.27	LF
SET (TY II) (48 IN) (RCP) (4:1) (C)	4	EA
CLEAN EXIST CULVERTS	2	EA



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- NOTES:
- ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - TRAFFIC VOLUMES ARE LOW.
  - SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.

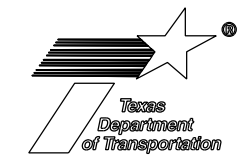


Linda Cox, P.E.

04/28/2021

RM 473  
CULVERT LAYOUT  
STRUCTURE  
STA. 1084+54.89

SHEET 1 OF 1

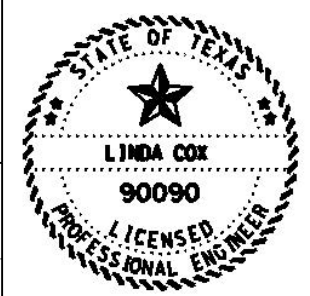
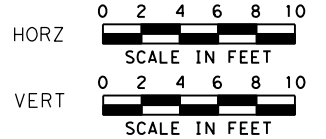
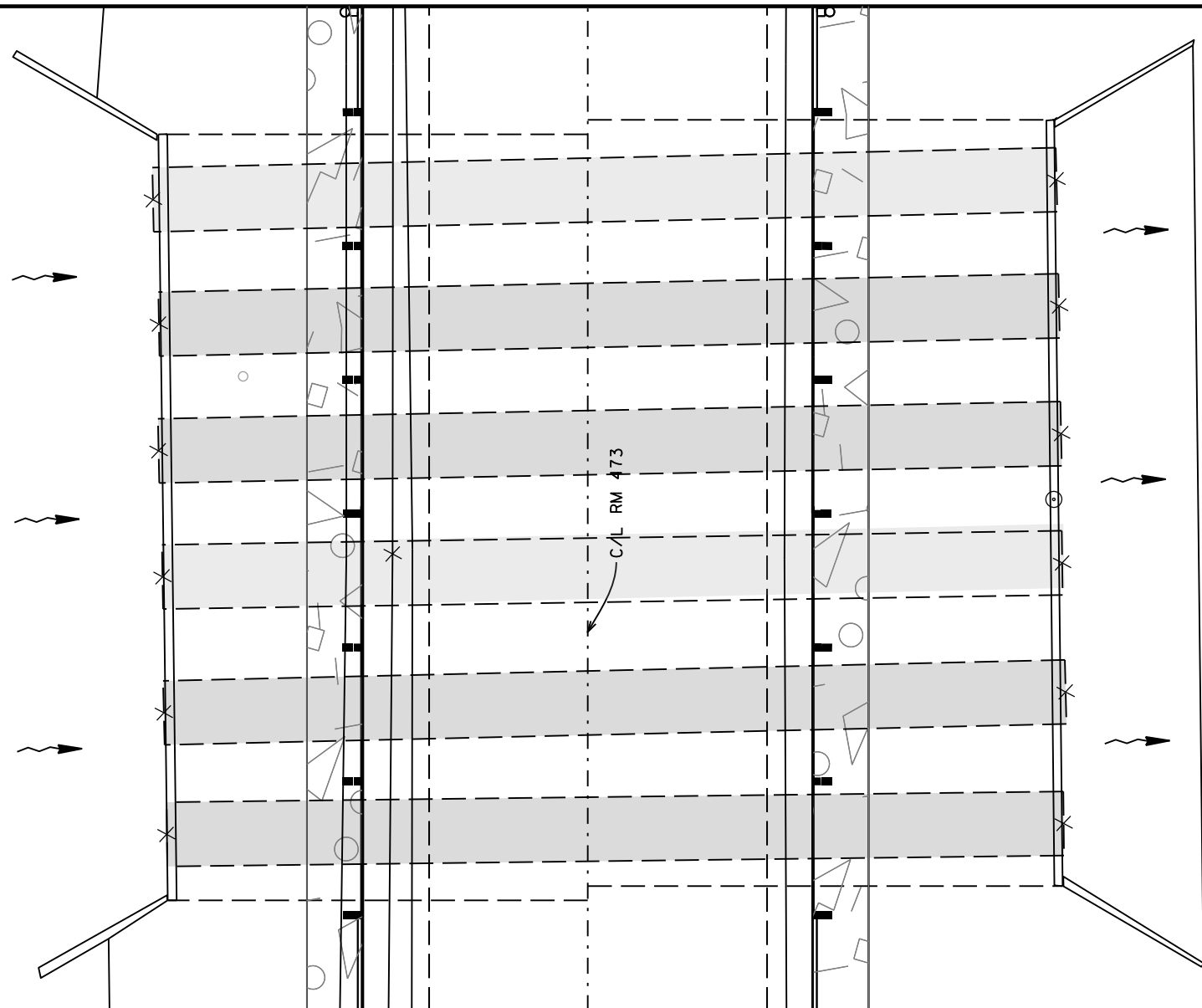


CONT	SECT	JOB	HIGHWAY
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DIST	COUNTY		SHEET NO.
SAT	KENDALL		345



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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
CLEAN EXIST CULVERTS	6	EA



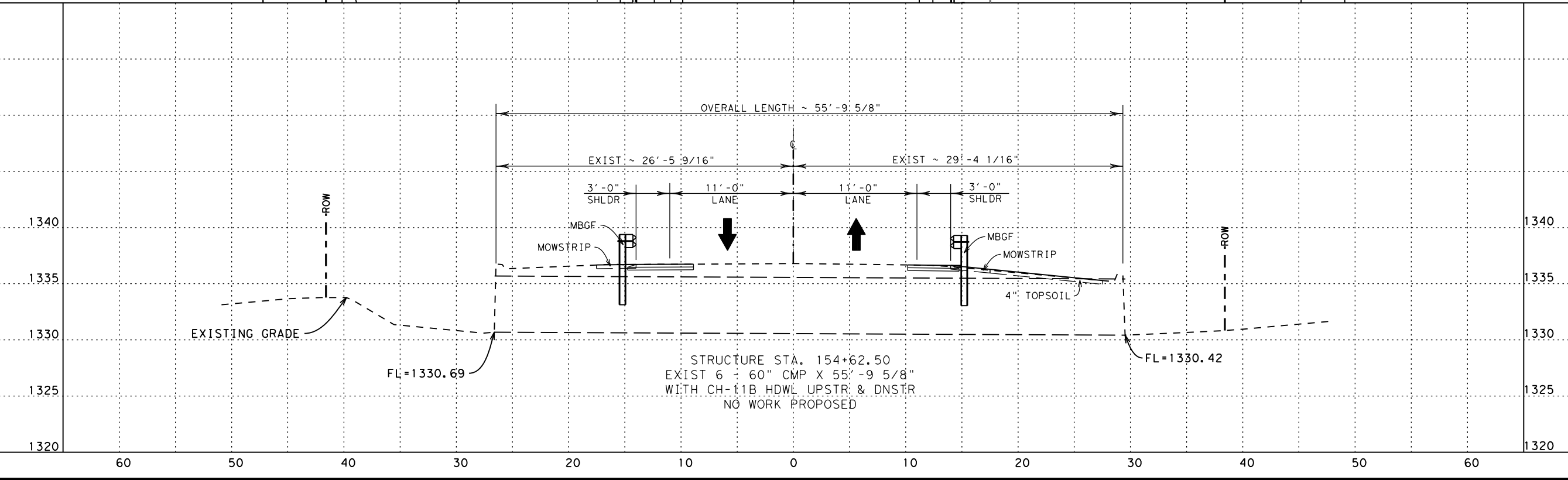
*Linda Cox, P.E.*  
 04/28/2021

**RM 473  
 CULVERT LAYOUT  
 STRUCTURE  
 STA. 154+62.50**

SHEET 1 OF 1

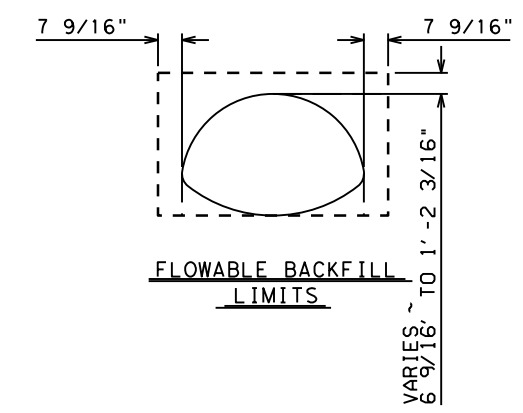
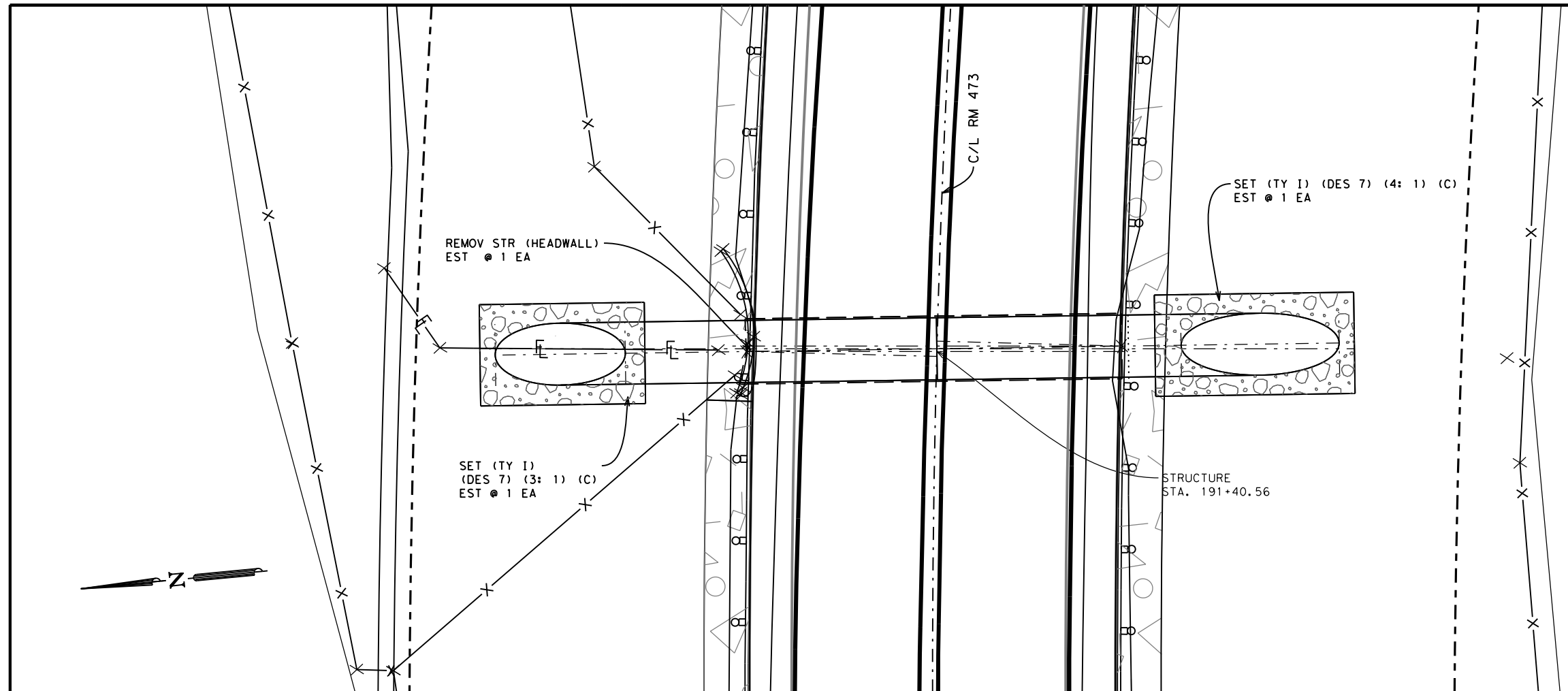


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		346

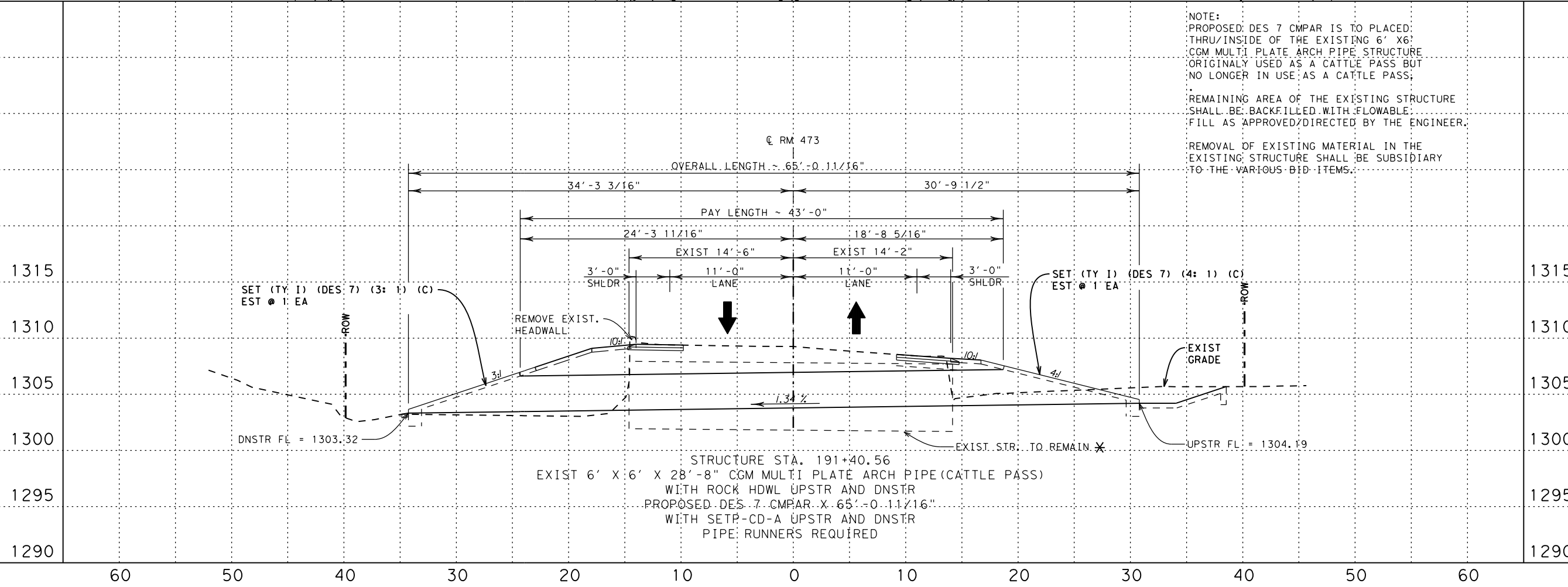


ESTIMATED QUANTITIES FOR CSJ 14210025

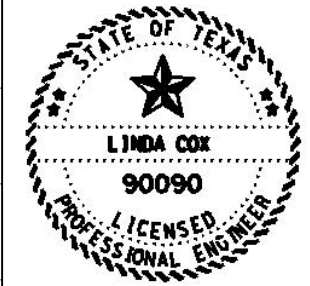
DESCRIPTION	QUAN	UNIT
FLOWABLE BACKFILL	14	CY
CMP AR (GAL STL DES 7)	42.55	LF
SET (TY II)(DES 7)(CMP)(3:1)(C)	1	EA
SET (TY II)(DES 7)(CMP)(4:1)(C)	1	EA
CLEAN EXIST CULVERTS	1	EA
REMOV STR (HEADWALL)	1	EA



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NOTE:  
PROPOSED DES 7 CMPAR IS TO BE PLACED THRU/INSIDE OF THE EXISTING 6' X 6' CGM MULTI PLATE ARCH PIPE STRUCTURE ORIGINALLY USED AS A CATTLE PASS BUT NO LONGER IN USE AS A CATTLE PASS.  
REMAINING AREA OF THE EXISTING STRUCTURE SHALL BE BACKFILLED WITH FLOWABLE BACKFILL AS APPROVED/DIRECTED BY THE ENGINEER.  
REMOVAL OF EXISTING MATERIAL IN THE EXISTING STRUCTURE SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS.

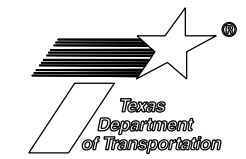


Linda Cox, P.E.

04/28/2021

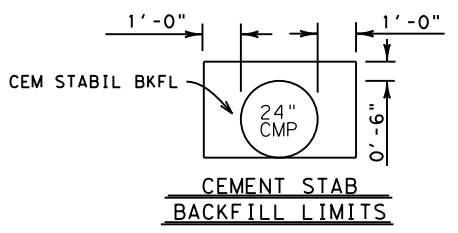
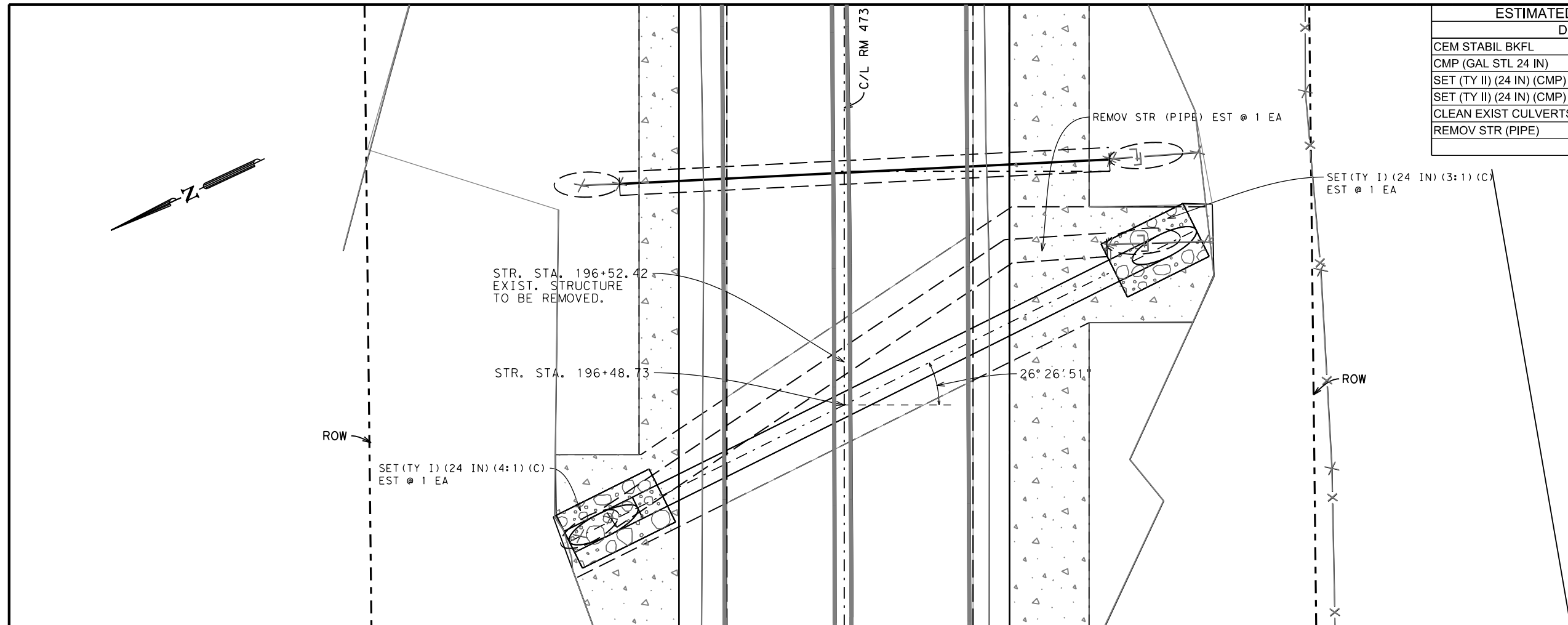
RM 473  
CULVERT LAYOUT  
STRUCTURE  
STA. 191+40.56

SHEET 1 OF 1

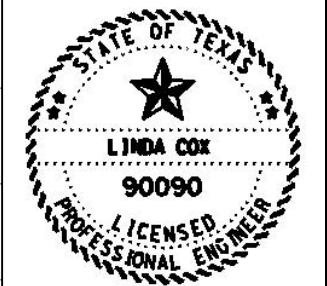
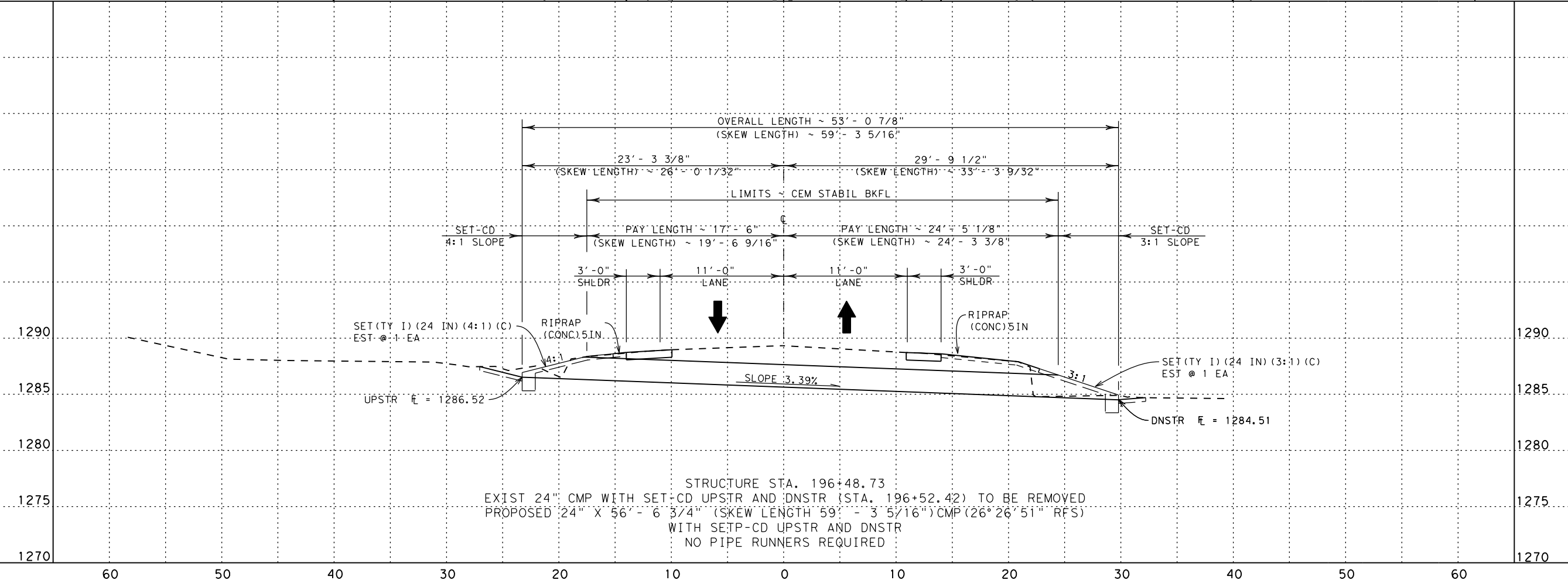


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		347

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
CEM STABIL BKFL	16	CY
CMP (GAL STL 24 IN)	59.3	LF
SET (TY II) (24 IN) (CMP) (3:1)(C)	1	EA
SET (TY II) (24 IN) (CMP) (4:1)(C)	1	EA
CLEAN EXIST CULVERTS	1	EA
REMOV STR (PIPE)	1	EA



DATE: 4/26/2021 5:20:20 PM  
FILE: c:\t\dot\pw\_online\t\dot\4\mark\_norendor\0438124\DRN STR6 P&P STA 196+52.42.dgn



*Linda Cox, P.E.*

04/28/2021

**RM 473  
CULVERT LAYOUT  
STRUCTURE  
STA. 196+68.39  
(SIMMONS CREEK)**

SHEET 1 OF 1

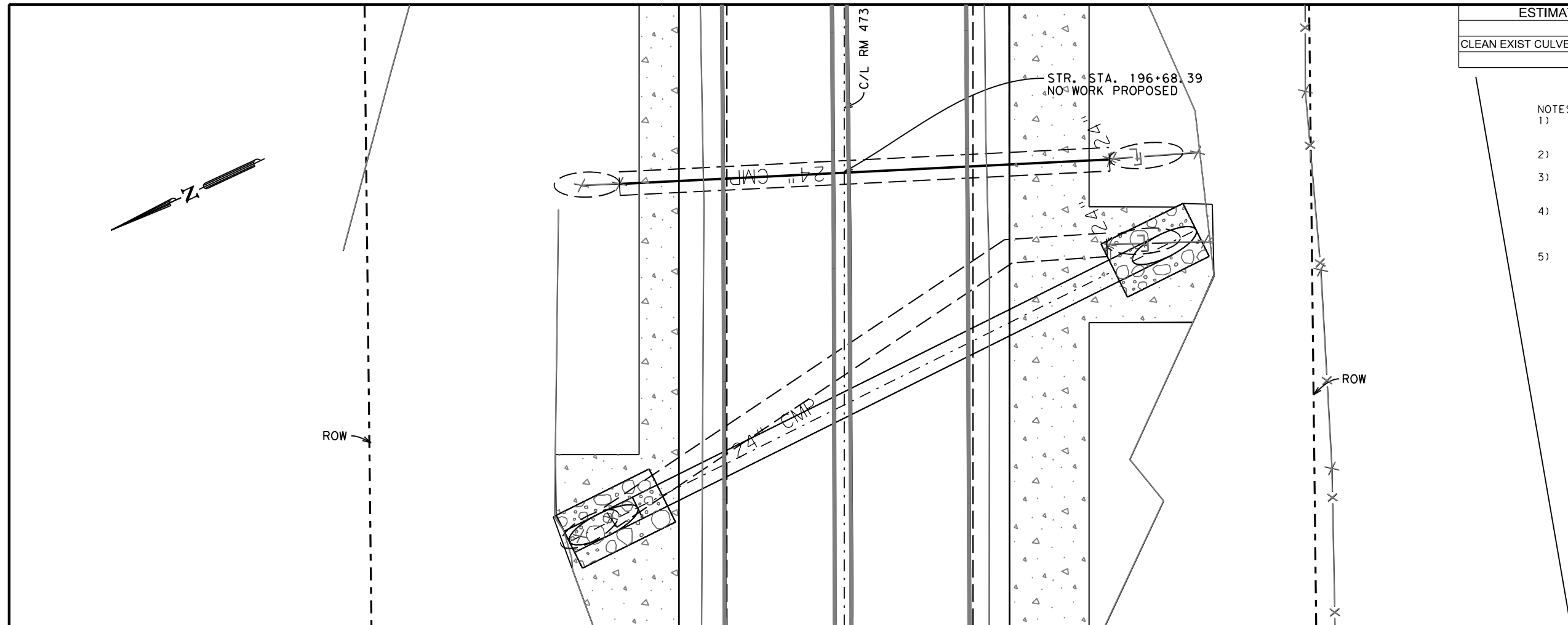
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		348

STRUCTURE STA. 196+48.73  
EXIST 24" CMP WITH SET-CD UPSTR AND DNSTR (STA. 196+52.42) TO BE REMOVED  
PROPOSED 24" X 56'-6 3/4" (SKEW LENGTH 59'-3 5/16") CMP (26°26'51" RFS)  
WITH SET-CD UPSTR AND DNSTR  
NO PIPE RUNNERS REQUIRED

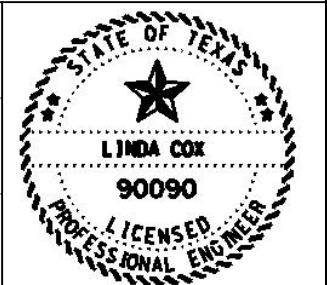
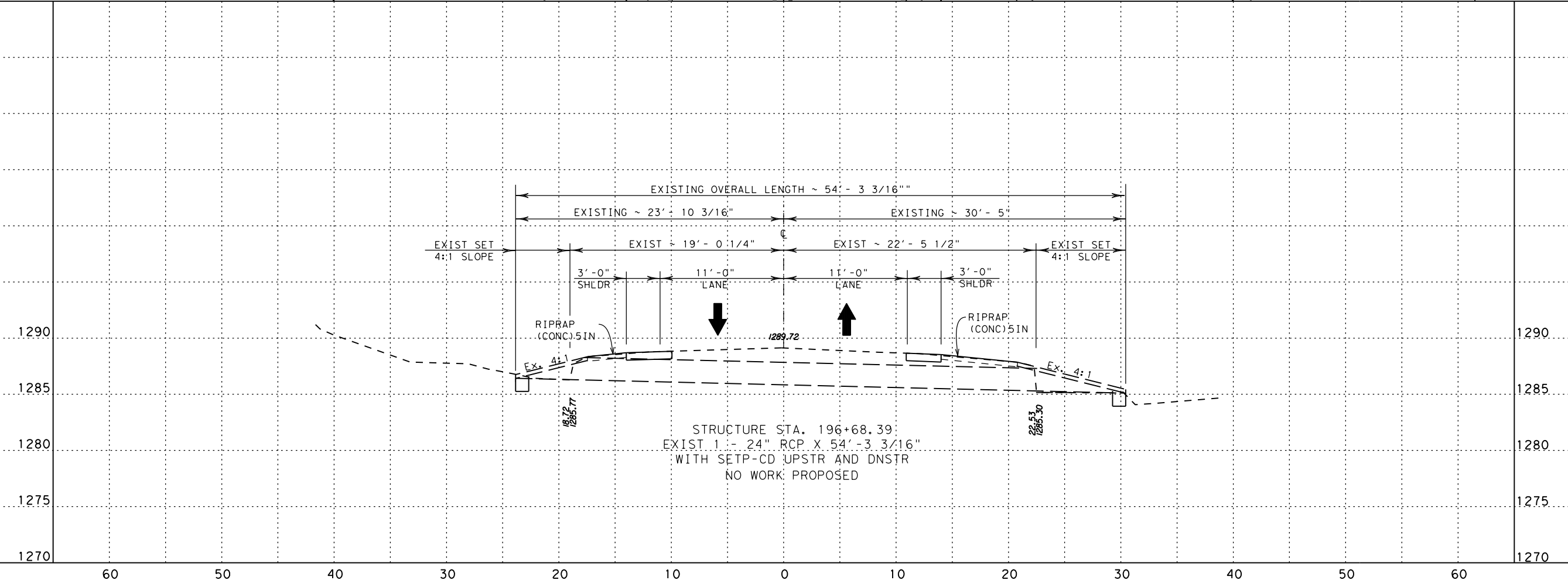
ESTIMATED QUANTITIES FOR CSJ 14210025

DESCRIPTION	QUAN	UNIT
CLEAN EXIST CULVERTS	1	EA

- NOTES:
- 1) ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - 2) TRAFFIC VOLUMES ARE LOW.
  - 3) SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - 4) NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - 5) PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.



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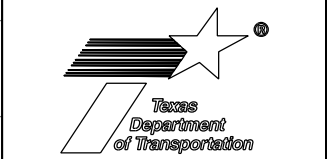


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04/28/2021

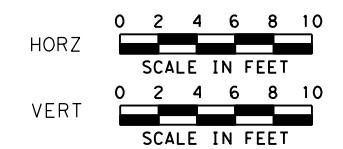
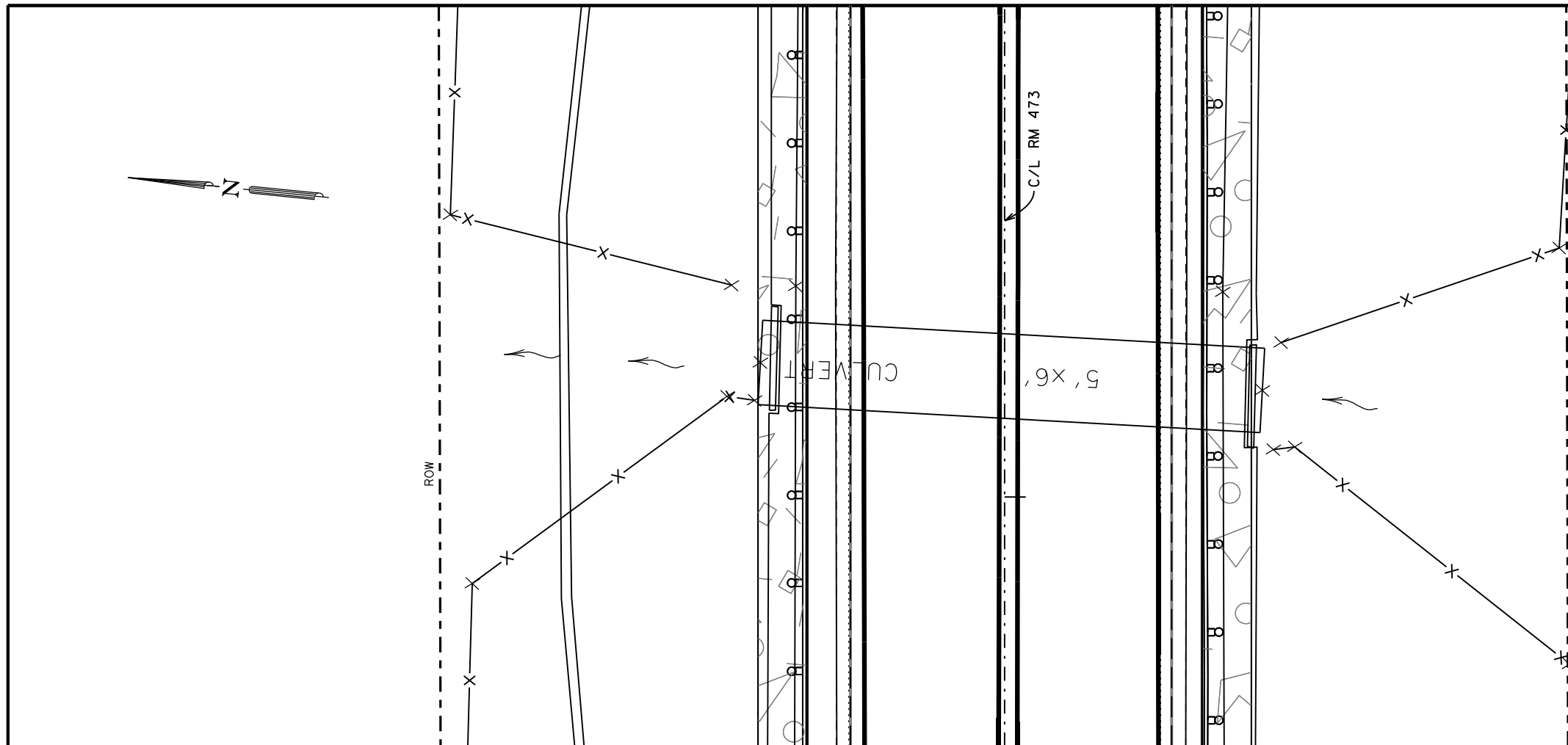
**RM 473**  
**CULVERT LAYOUT**  
 STRUCTURE  
 STA. 196+68.39  
 (SIMMONS CREEK)

SHEET 1 OF 1

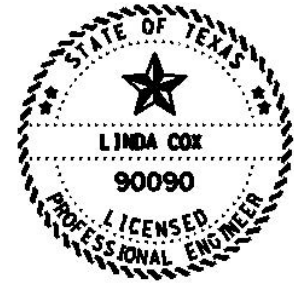
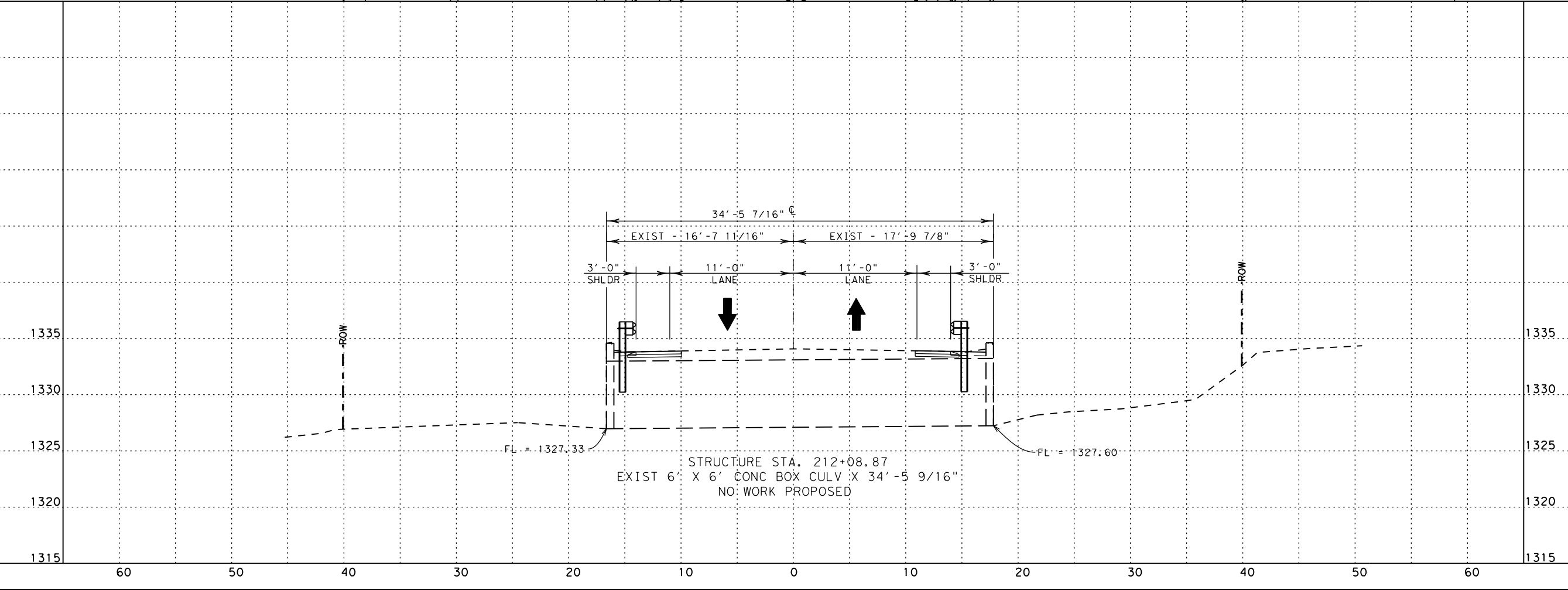


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		349

DESCRIPTION	QUAN	UNIT
CLEAN EXIST CULVERTS	1	EA



DATE: 4/26/2021 5:20:36 PM  
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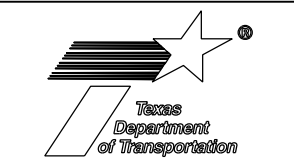


*Linda Cox, P.E.*

04/28/2021

**RM 473  
 CULVERT LAYOUT  
 STRUCTURE  
 STA. 212+08.87**

SHEET 1 OF 1

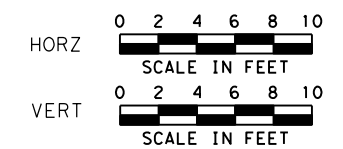
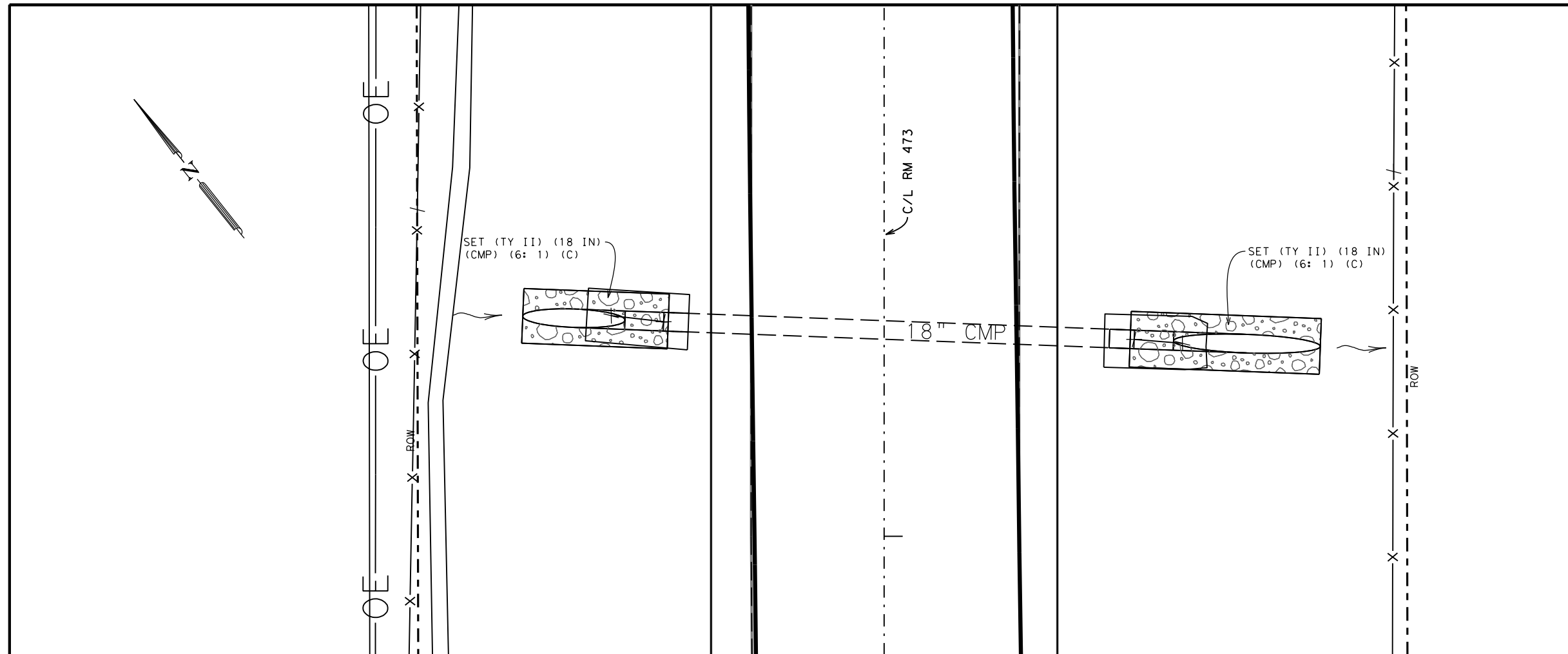


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		350

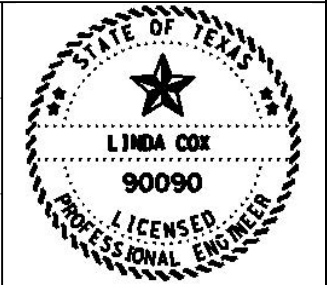
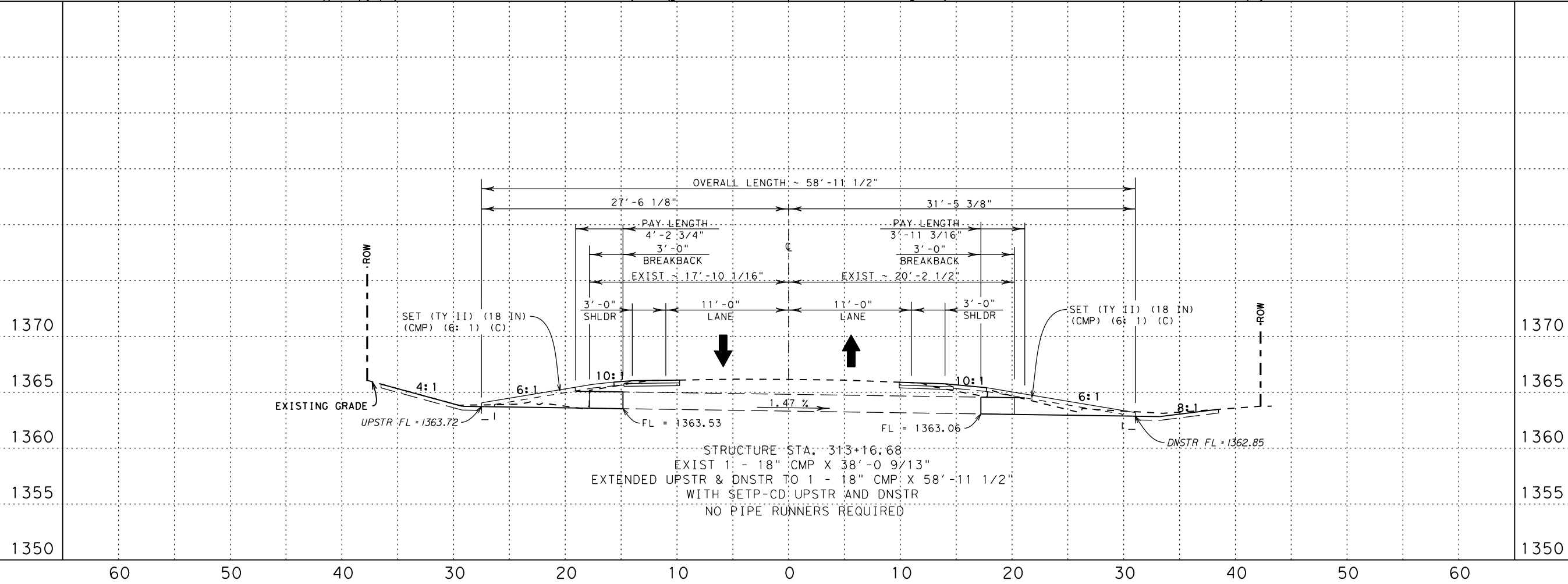


ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
CMP (GAL STL 18 IN)	8.16	LF
SET (TY II) (18 IN) (CMP) (6: 1) (C)	2	EA
CLEAN EXIST CULVERTS	1	EA

- NOTES:
- ONLY MINOR MODIFICATIONS ARE PROPOSED, INCLUDING SET'S AND/OR SHORT EXTENSIONS.
  - TRAFFIC VOLUMES ARE LOW.
  - SURROUNDING PROPERTIES ARE NOT SENSITIVE TO BACKWATER OR VELOCITIES.
  - NO ADJUSTMENTS OF ROADWAY PROFILE OR ADDITION OF SOLID ROADWAY BARRIER.
  - PREVIOUS STORM EVENTS HAVE SHOWN A MINIMUM DISRUPTION TO TRAFFIC AND NO SIGNIFICANT DAMAGE TO THE ROADWAY.



DATE: 4/26/2021 5:20:43 PM  
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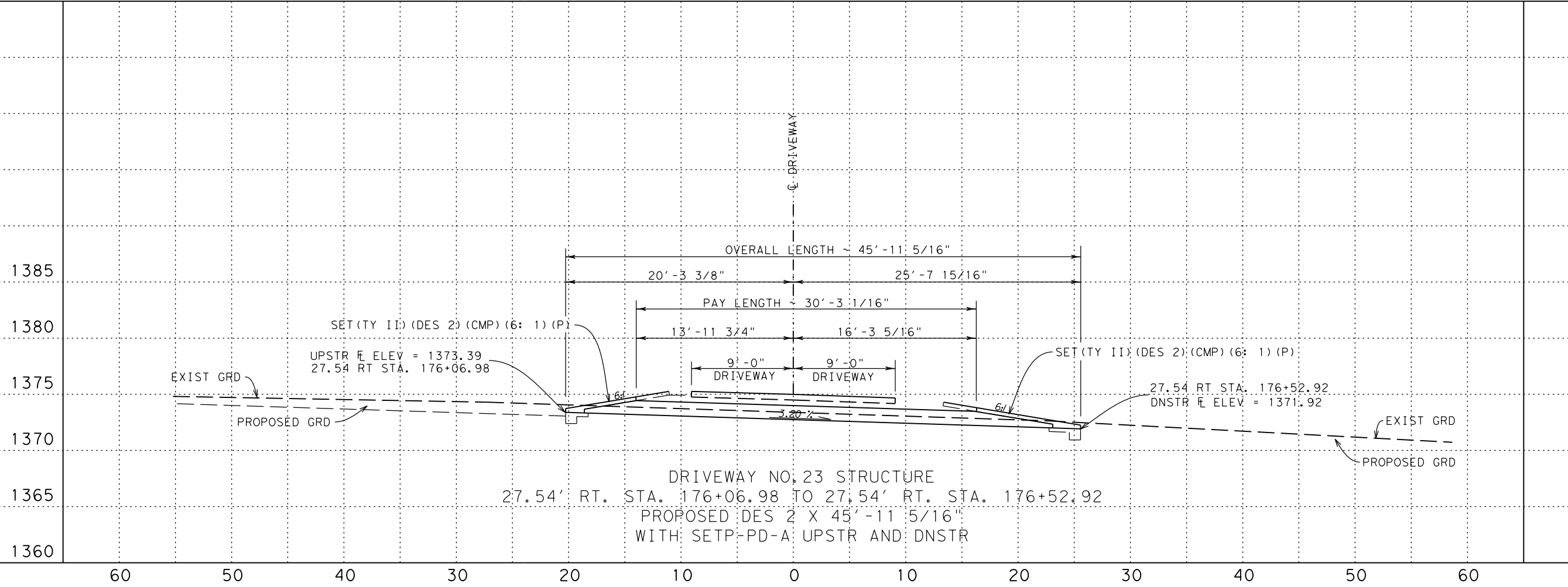
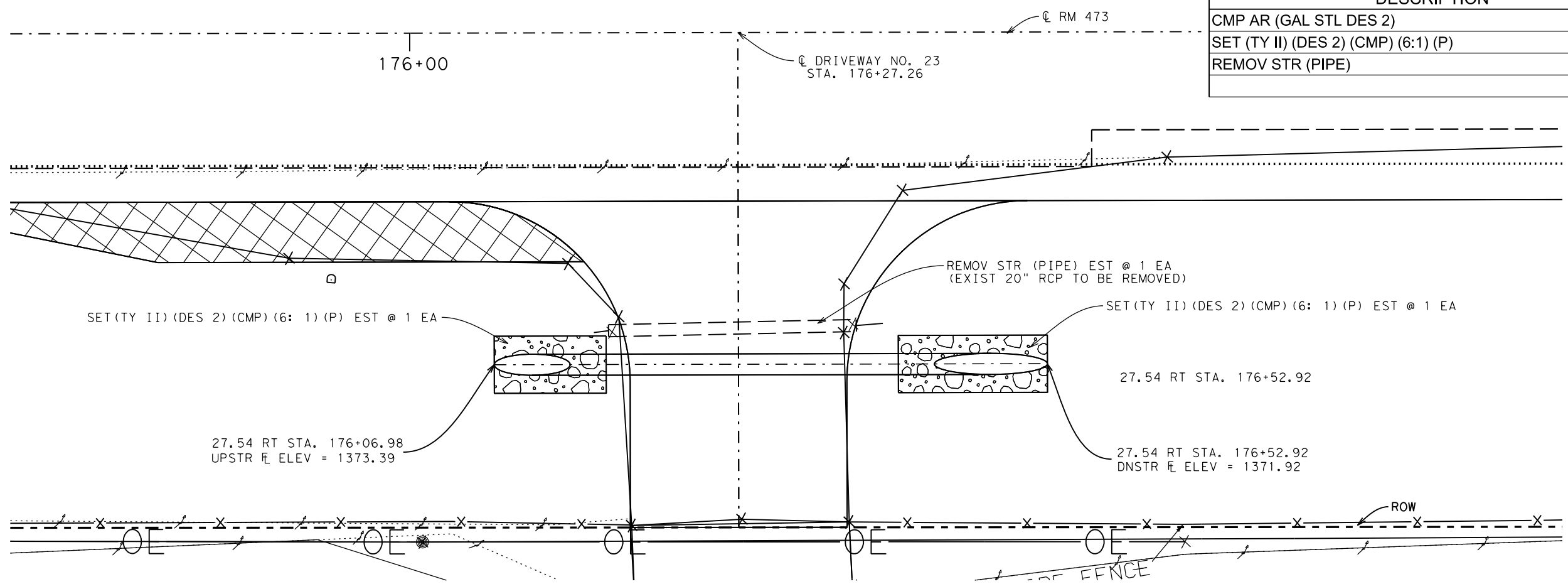
*Linda Cox, P.E.*  
04/27/2021

**RM 473  
CULVERT LAYOUT  
STRUCTURE  
STA. 313+16.68**

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		351

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
CMP AR (GAL STL DES 2)	30.27	LF
SET (TY II) (DES 2) (CMP) (6:1) (P)	2	EA
REMOV STR (PIPE)	1	EA

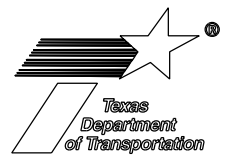


Linda Cox, P.E.

04/27/2021

RM 473  
CULVERT LAYOUT  
DRIVEWAY STRUCTURE  
RIGHT STA. 176+27.26

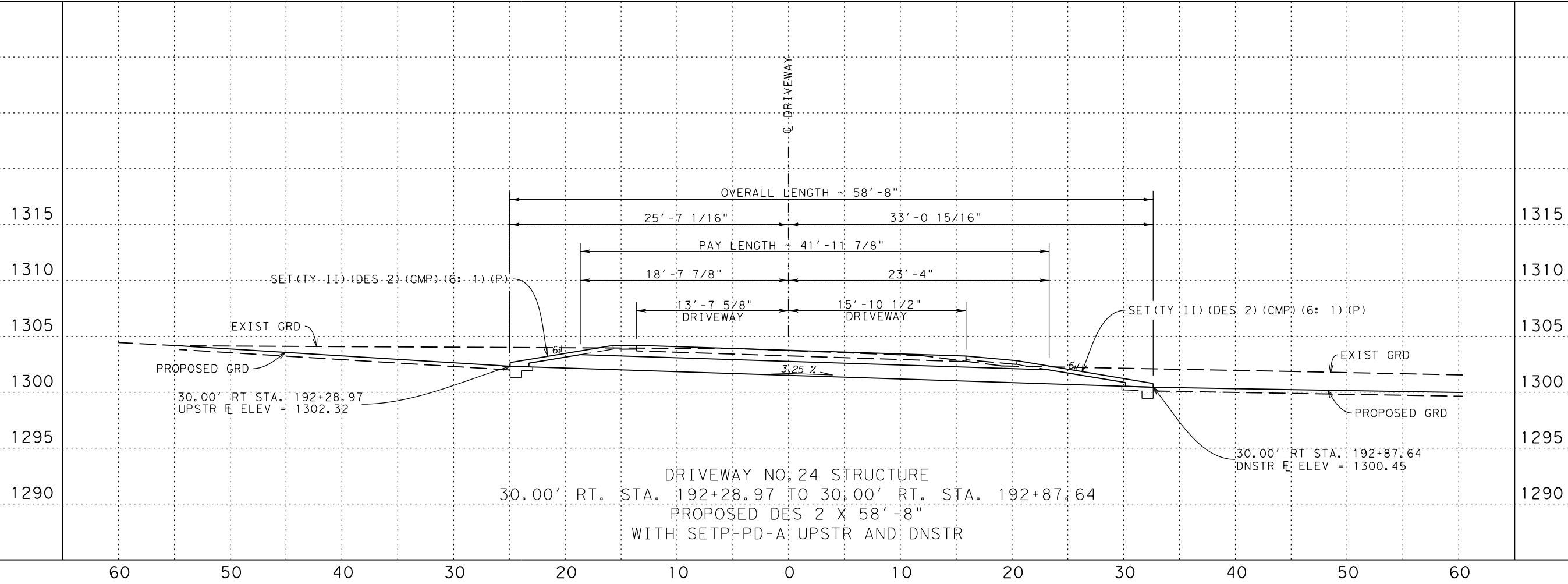
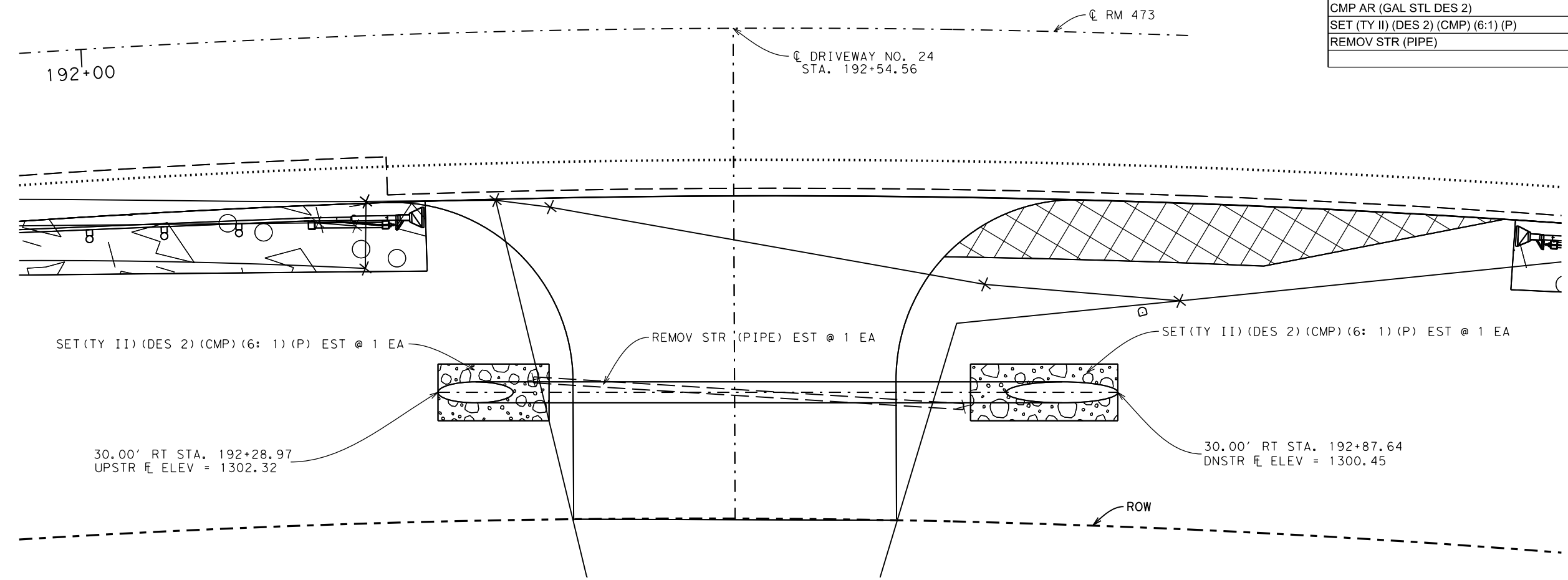
SHEET 1 OF 1



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		352

DATE: 4/26/2021 5:20:51 PM  
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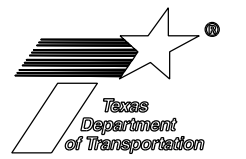
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
CMP AR (GAL STL DES 2)	42	LF
SET (TY II) (DES 2) (CMP) (6:1) (P)	2	EA
REMOV STR (PIPE)	1	EA



Linda Cox, P.E.  
04/27/2021

RM 473  
CULVERT LAYOUT  
DRIVEWAY STRUCTURE  
RIGHT STA. 192+54.56

SHEET 1 OF 1



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		353

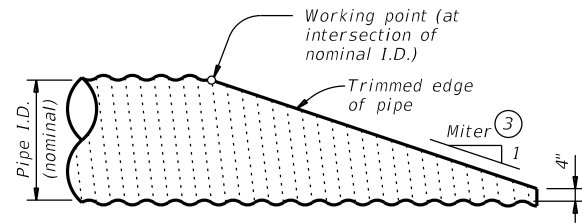
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 DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or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

### CROSS PIPE LENGTHS AND PIPE RUNNER LENGTHS ①②

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Cross Pipe Length	Pipe Runner Length											
			3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
24"	1' - 7"	3' - 5"	N/A	N/A	N/A	5' - 10"	N/A	N/A	N/A	8' - 1"	N/A	N/A	N/A	12' - 9"
27"	1' - 8"	3' - 8"	N/A	N/A	5' - 5"	6' - 11"	N/A	N/A	7' - 7"	9' - 7"	N/A	N/A	11' - 11"	14' - 11"
30"	1' - 10"	3' - 11"	N/A	N/A	6' - 4"	8' - 0"	N/A	N/A	8' - 9"	11' - 0"	N/A	N/A	13' - 8"	17' - 0"
33"	1' - 11"	4' - 2"	6' - 2"	6' - 5"	7' - 3"	9' - 1"	8' - 6"	8' - 10"	10' - 0"	12' - 5"	13' - 3"	13' - 9"	15' - 5"	19' - 2"
36"	2' - 1"	4' - 5"	6' - 11"	7' - 3"	8' - 2"	10' - 2"	9' - 6"	9' - 11"	11' - 2"	13' - 10"	14' - 9"	15' - 3"	17' - 2"	21' - 3"
42"	2' - 4"	4' - 11"	8' - 6"	8' - 10"	9' - 11"	12' - 4"	11' - 7"	12' - 0"	13' - 6"	16' - 8"	17' - 9"	18' - 5"	20' - 8"	25' - 7"
48"	2' - 7"	5' - 5"	10' - 1"	10' - 5"	11' - 9"	N/A	13' - 7"	14' - 2"	15' - 10"	N/A	20' - 9"	21' - 6"	24' - 2"	N/A
54"	3' - 0"	5' - 11"	11' - 8"	12' - 1"	N/A	N/A	15' - 8"	16' - 3"	N/A	N/A	23' - 10"	24' - 8"	N/A	N/A
60"	3' - 3"	6' - 5"	13' - 3"	N/A	N/A	N/A	17' - 9"	N/A	N/A	N/A	26' - 10"	N/A	N/A	N/A



NOTE: All pipe runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

### SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert. Details of reinforced concrete pipe (RCP) culvert are similar.)

### TYPICAL PIPE CULVERT MITERS ③

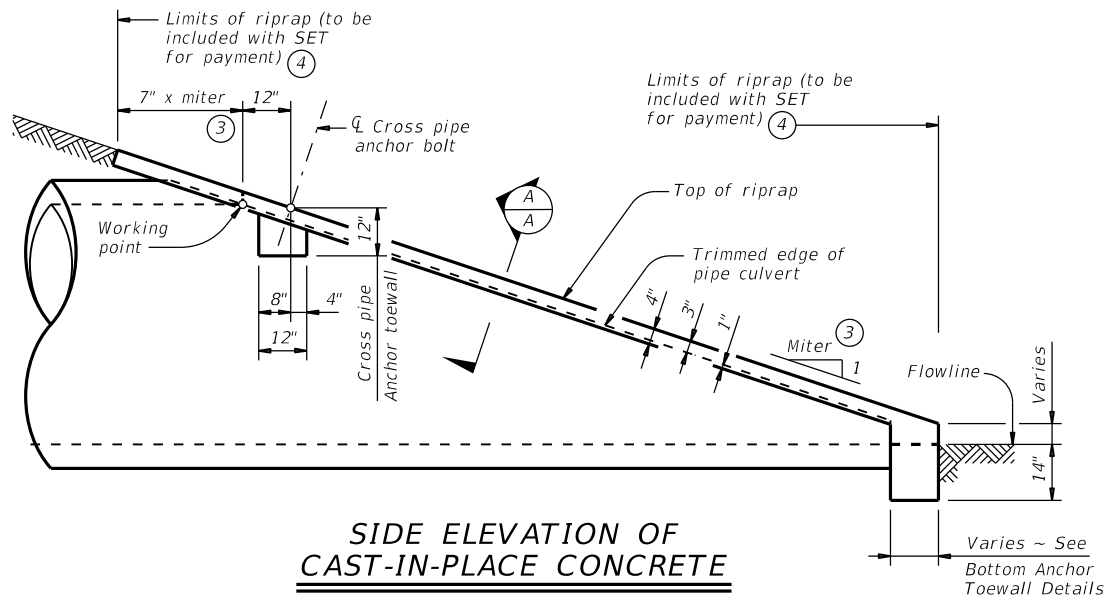
Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

### CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED ②

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (no skew)	Always required
42" thru 60"	Always required	Always required

### STANDARD PIPE SIZES AND MAX PIPE RUNNER LENGTHS ①

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10' - 0"
4" STD	4.500"	4.026"	19' - 8"
5" STD	5.563"	5.047"	34' - 2"

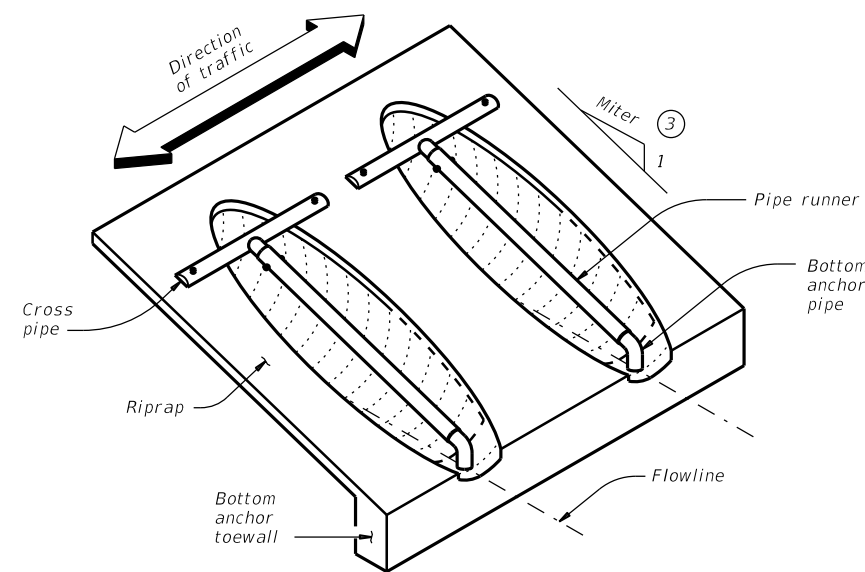


### SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. Pipe runners not shown for clarity.)

### ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) ⑤

Nominal Culvert I.D.	3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A



### ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

① Provide pipe runner of the size shown in the tables. Provide cross pipe of the same size as the pipe runner. Provide cross pipe stub out and bottom anchor pipe of the next smaller size pipe as shown in the Standard Pipe Sizes and Max Pipe Runner Lengths table.

② This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

- For 60" culvert pipes, the skew must not exceed 0°.
- For 54" culvert pipes, the skew must not exceed 15°.
- For 48" culvert pipes, the skew must not exceed 30°.
- For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT Roadway Design Manual.

③ Miter = slope of mitered end of pipe culvert.

④ Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".

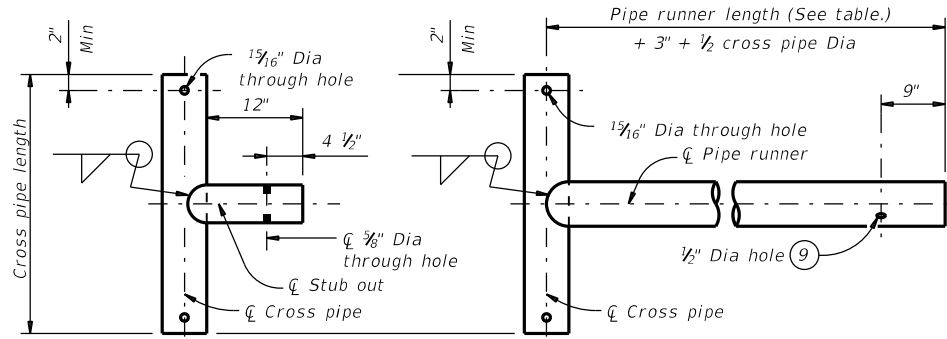
⑤ Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

SHEET 1 OF 2

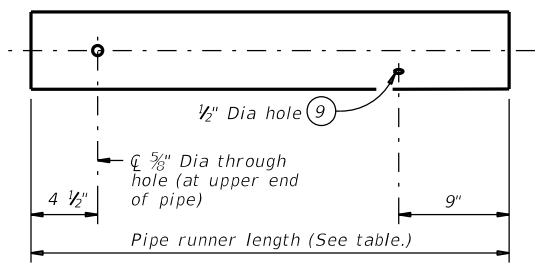
		<b>Bridge Division Standard</b>	
<b>SAFETY END TREATMENT</b> FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II ~ CROSS DRAINAGE			
<b>SETP-CD</b>			
FILE: setpcdse-20.dgn	DN: GAF	CK: CAT	DW: JRP
REVISIONS	0142	09	044, Etc
COUNTY: KENDALL		SHEET NO: 354	

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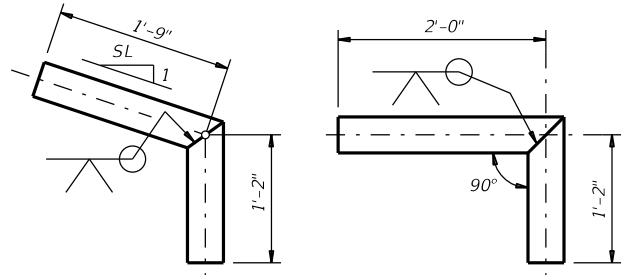


**OPTION A1**                      **OPTION A2**  
**CROSS PIPE AND CONNECTIONS DETAILS**

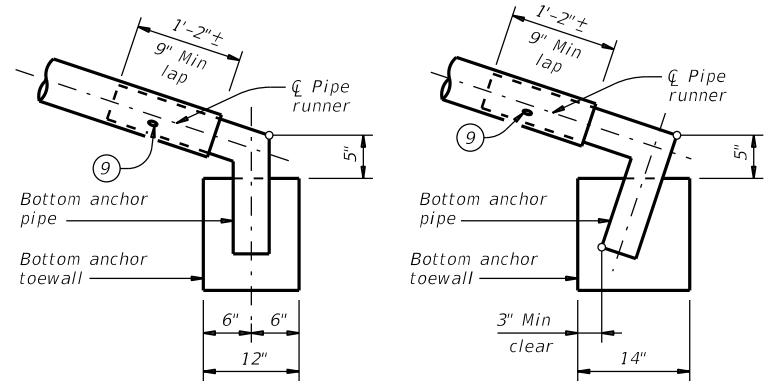


NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

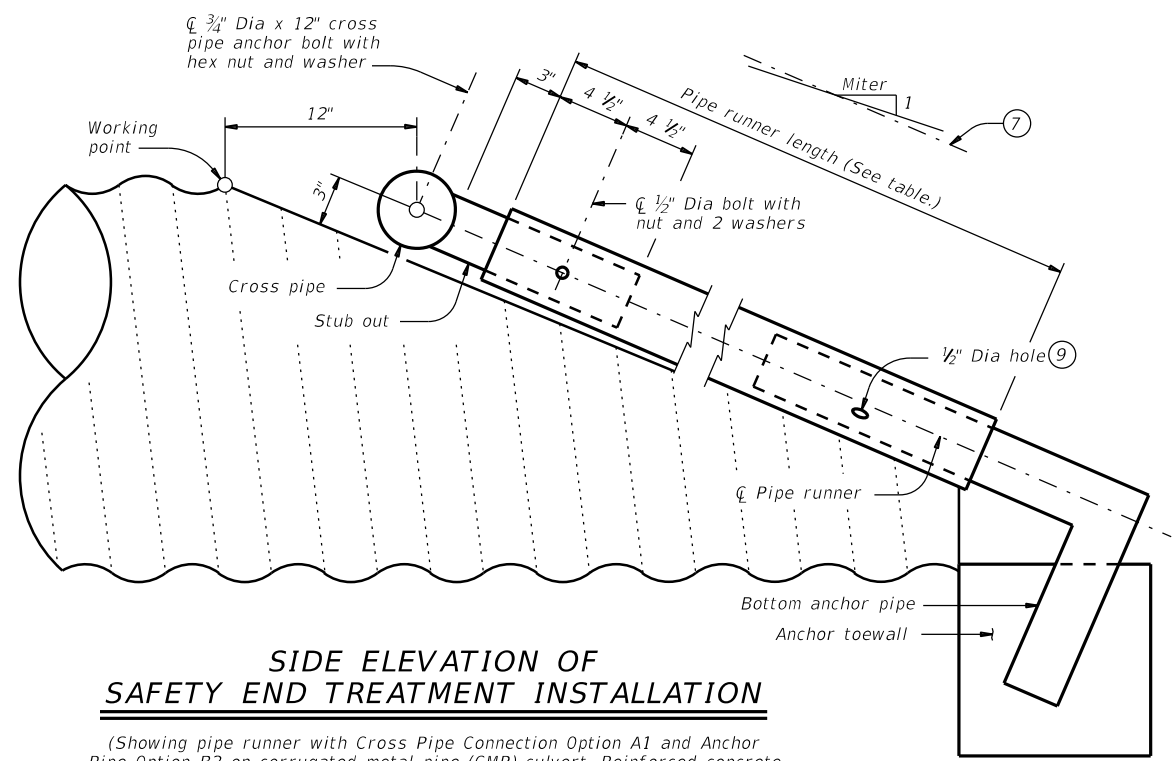
**PIPE RUNNER DETAILS**



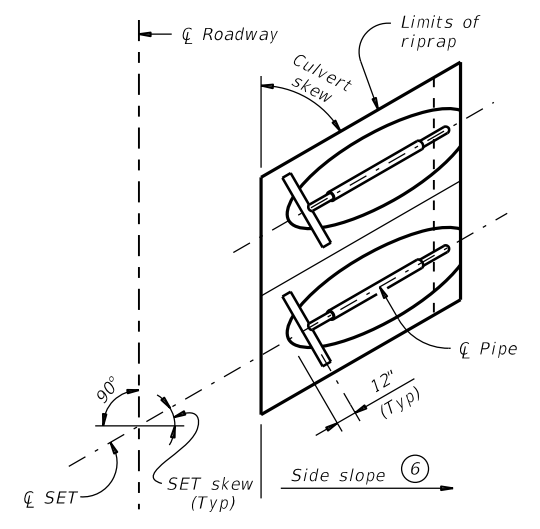
**OPTION B1**                      **OPTION B2**  
**BOTTOM ANCHOR PIPE DETAILS** ⑩



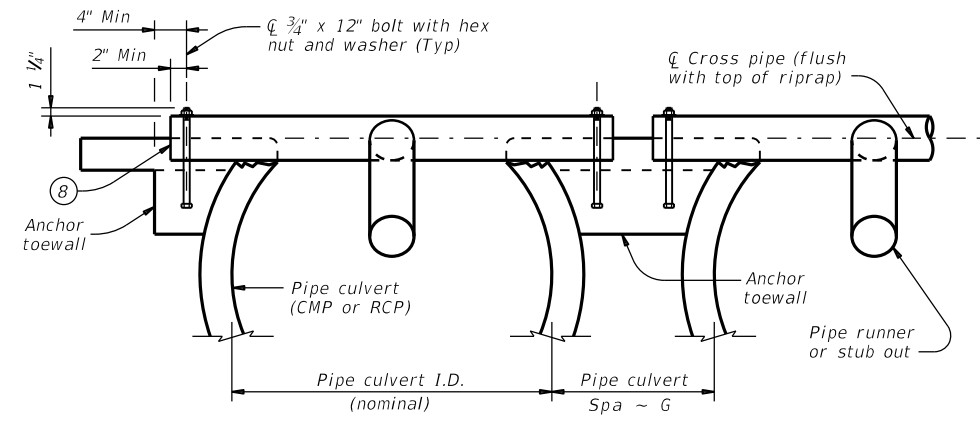
**OPTION B1**                      **OPTION B2**  
**BOTTOM ANCHOR TOEWALL DETAILS**  
 (Culvert and riprap not shown for clarity.)



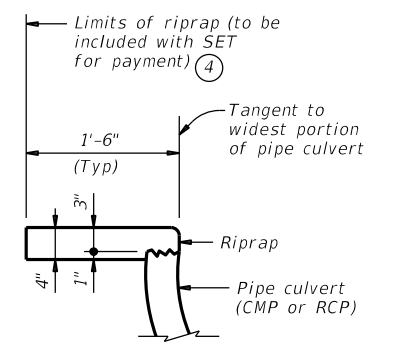
**SIDE ELEVATION OF SAFETY END TREATMENT INSTALLATION**  
 (Showing pipe runner with Cross Pipe Connection Option A1 and Anchor Pipe Option B2 on corrugated metal pipe (CMP) culvert. Reinforced concrete pipe culvert (RCP) details are similar. Riprap not shown for clarity)



**PLAN OF SKEWED INSTALLATION**



**SECTION A-A**  
 SHOWING CROSS PIPE AND ANCHOR TOEWALL



**SHOWING TYPICAL PIPE CULVERT AND RIPRAP**

- ④ Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".
- ⑥ Recommended values of side slope are 3:1, 4:1, and 6:1. All quantities, calculations, and dimensions shown herein are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.
- ⑦ Note that actual slope of pipe runner may vary slightly from side slope of riprap and trimmed culvert pipe edge.
- ⑧ Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.
- ⑨ After installation, inspect the 1/2 inch hole to ensure that the lap of the pipe runner with the bottom anchor pipe is adequate.
- ⑩ At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the runner) may be substituted for the mitered and welded joint in the bottom anchor pipe.

**MATERIAL NOTES:**  
 Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.  
 Provide pipe runners, cross pipes, and anchor pipes conforming to the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.  
 Provide ASTM A307 bolts and nuts.  
 Galvanize all steel components, except concrete reinforcing, after fabrication.  
 Repair galvanizing damaged during transport or construction in accordance with the specifications.

**GENERAL NOTES:**  
 Pipe runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.  
 Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.  
 Payment for riprap and toewall is included in the price bid for each safety end treatment.  
 Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap".

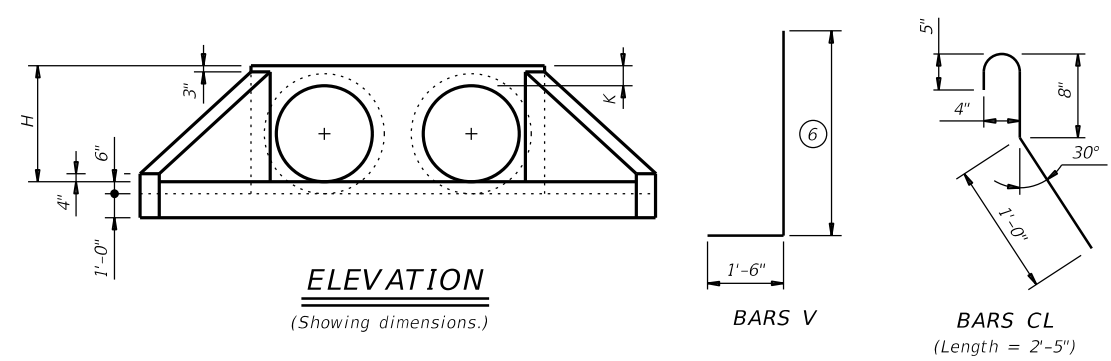
		<b>Bridge Division Standard</b>	
<b>SAFETY END TREATMENT</b> <b>FOR 12" DIA TO 60" DIA</b> <b>PIPE CULVERTS</b> <b>TYPE II ~ CROSS DRAINAGE</b>			
<b>SETP-CD</b>			
FILE: setpcdse-20.dgn	DN: GAF	CK: CAT	DW: JRP
©TxDOT February 2020	CONT SECT	JOB	HIGHWAY
REVISIONS	0142 09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.
	SAT	KENDALL	355

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**TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL (5)**

Slope	Dia of Pipe (D)	Values for One Pipe					Values to be Added for Each Add'l Pipe			
		W	X	Y	L	Reinf (Lbs)	Conc (CY) (1)	X and W	Reinf (Lbs)	Conc (CY) (1)
2:1	12"	4'-7 1/2"	2'-6"	2'-10"	3'-3 1/4"	88	0.6	1'-9"	20	0.2
	15"	5'-5 3/4"	2'-9 1/2"	3'-4"	3'-10 1/4"	103	0.7	2'-2"	24	0.3
	18"	6'-4 1/4"	3'-1"	3'-10"	4'-5"	124	0.9	2'-8"	32	0.3
	21"	7'-2 3/4"	3'-4 1/2"	4'-4"	5'-0"	143	1.1	3'-1"	43	0.4
	24"	8'-2 1/2"	3'-9 1/2"	4'-10"	5'-7"	164	1.3	3'-7"	50	0.5
	27"	9'-1"	4'-1"	5'-4"	6'-2"	179	1.5	3'-11"	56	0.6
	30"	9'-11 1/2"	4'-4 1/2"	5'-10"	6'-8 3/4"	203	1.7	4'-4"	65	0.8
	33"	10'-10"	4'-8"	6'-4"	7'-3 3/4"	224	2.0	4'-8"	71	0.9
	36"	11'-8 1/4"	4'-11 1/2"	6'-10"	7'-10 3/4"	249	2.2	5'-1"	81	1.0
	42"	13'-5 1/4"	5'-6 1/2"	7'-10"	9'-0 1/2"	298	2.8	5'-10"	97	1.3
	48"	15'-9"	6'-1 1/2"	9'-4"	10'-9 1/4"	360	3.8	6'-7"	117	1.7
	54"	17'-5 3/4"	6'-8 1/2"	10'-4"	11'-11 1/4"	427	4.5	7'-6"	151	2.1
60"	19'-2 3/4"	7'-3 1/2"	11'-4"	13'-1"	481	5.3	8'-3"	174	2.5	
66"	20'-11 1/2"	7'-10 1/2"	12'-4"	14'-3"	544	6.2	8'-9"	194	2.9	
72"	22'-8 1/2"	8'-5 1/2"	13'-4"	15'-4 3/4"	601	7.1	9'-4"	213	3.3	
3:1	12"	6'-3"	2'-6"	4'-3"	4'-11"	118	0.8	1'-9"	22	0.2
	15"	7'-5"	2'-9 1/2"	5'-0"	5'-9 1/4"	137	1.1	2'-2"	28	0.3
	18"	8'-6 3/4"	3'-1"	5'-9"	6'-7 3/4"	170	1.3	2'-8"	37	0.5
	21"	9'-8 3/4"	3'-4 1/2"	6'-6"	7'-6"	195	1.6	3'-1"	48	0.6
	24"	11'-0"	3'-9 1/2"	7'-3"	8'-4 1/2"	227	2.0	3'-7"	58	0.7
	27"	12'-2"	4'-1"	8'-0"	9'-2 3/4"	251	2.3	3'-11"	67	0.8
	30"	13'-4"	4'-4 1/2"	8'-9"	10'-1 1/4"	293	2.7	4'-4"	77	1.0
	33"	14'-5 3/4"	4'-8"	9'-6"	10'-11 3/4"	318	3.1	4'-8"	84	1.2
	36"	15'-7 3/4"	4'-11 1/2"	10'-3"	11'-10"	351	3.5	5'-1"	96	1.4
	42"	17'-11 1/2"	5'-6 1/2"	11'-9"	13'-6 3/4"	432	4.5	5'-10"	119	1.7
	48"	21'-1 3/4"	6'-1 1/2"	14'-0"	16'-2"	537	6.1	6'-7"	146	2.3
	54"	23'-5 1/2"	6'-8 1/2"	15'-6"	17'-10 3/4"	630	7.3	7'-6"	186	2.9
60"	25'-9 1/4"	7'-3 1/2"	17'-0"	19'-7 1/2"	719	8.7	8'-3"	219	3.4	
66"	28'-1"	7'-10 1/2"	18'-6"	21'-4 1/4"	811	10.1	8'-9"	242	3.9	
72"	30'-4 3/4"	8'-5 1/2"	20'-0"	23'-1 1/4"	924	11.7	9'-4"	272	4.4	
4:1	12"	7'-10 3/4"	2'-6"	5'-8"	6'-6 1/2"	148	1.1	1'-9"	24	0.3
	15"	9'-4"	2'-9 1/2"	6'-8"	7'-8 1/2"	181	1.5	2'-2"	32	0.4
	18"	10'-9 1/2"	3'-1"	7'-8"	8'-10 1/4"	221	1.9	2'-8"	42	0.5
	21"	12'-2 3/4"	3'-4 1/2"	8'-8"	10'-0"	260	2.3	3'-1"	57	0.7
	24"	13'-9 1/2"	3'-9 1/2"	9'-8"	11'-2"	301	2.8	3'-7"	67	0.9
	27"	15'-3"	4'-1"	10'-8"	12'-3 3/4"	334	3.3	3'-11"	77	1.0
	30"	16'-8 1/4"	4'-4 1/2"	11'-8"	13'-5 3/4"	385	3.8	4'-4"	89	1.3
	33"	18'-1 3/4"	4'-8"	12'-8"	14'-7 1/2"	425	4.5	4'-8"	101	1.4
	36"	19'-7"	4'-11 1/2"	13'-8"	15'-9 1/4"	472	5.1	5'-1"	115	1.7
	42"	22'-5 3/4"	5'-6 1/2"	15'-8"	18'-1"	583	6.5	5'-10"	141	2.1
	48"	26'-6 1/4"	6'-1 1/2"	18'-8"	21'-6 3/4"	730	8.9	6'-7"	175	2.8
	54"	29'-5"	6'-8 1/2"	20'-8"	23'-10 1/4"	875	10.7	7'-6"	226	3.6
60"	32'-3 3/4"	7'-3 1/2"	22'-8"	26'-2"	996	12.7	8'-3"	264	4.3	
66"	35'-2 1/2"	7'-10 1/2"	24'-8"	28'-5 3/4"	1,140	14.9	8'-9"	300	4.9	
72"	38'-1 1/4"	8'-5 1/2"	26'-8"	30'-9 1/2"	1,297	17.3	9'-4"	334	5.6	
6:1	12"	11'-2"	2'-6"	8'-6"	9'-9 3/4"	224	1.9	1'-9"	28	0.4
	15"	13'-2 1/4"	2'-9 1/2"	10'-0"	11'-6 1/2"	268	2.5	2'-2"	37	0.5
	18"	15'-2 1/2"	3'-1"	11'-6"	13'-3 1/4"	330	3.2	2'-8"	50	0.7
	21"	17'-2 3/4"	3'-4 1/2"	13'-0"	15'-0 1/4"	387	3.9	3'-1"	69	0.9
	24"	19'-4 1/2"	3'-9 1/2"	14'-6"	16'-9"	453	4.8	3'-7"	80	1.2
	27"	21'-4 3/4"	4'-1"	16'-0"	18'-5 3/4"	512	5.7	3'-11"	96	1.4
	30"	23'-5 1/4"	4'-4 1/2"	17'-6"	20'-2 1/2"	593	6.7	4'-4"	110	1.7
	33"	25'-5 1/2"	4'-8"	19'-0"	21'-11 1/4"	675	7.8	4'-8"	127	2.0
	36"	27'-5 3/4"	4'-11 1/2"	20'-6"	23'-8"	735	9.0	5'-1"	144	2.3
	42"	31'-6 1/4"	5'-6 1/2"	23'-6"	27'-1 1/2"	922	11.5	5'-10"	179	3.0
	48"	37'-3 1/2"	6'-1 1/2"	28'-0"	32'-4"	1,191	15.9	6'-7"	231	4.0
	54"	41'-4 1/4"	6'-8 1/2"	31'-0"	35'-9 1/2"	1,424	19.2	7'-6"	300	5.0
60"	45'-4 3/4"	7'-3 1/2"	34'-0"	39'-3"	1,631	22.9	8'-3"	353	6.0	

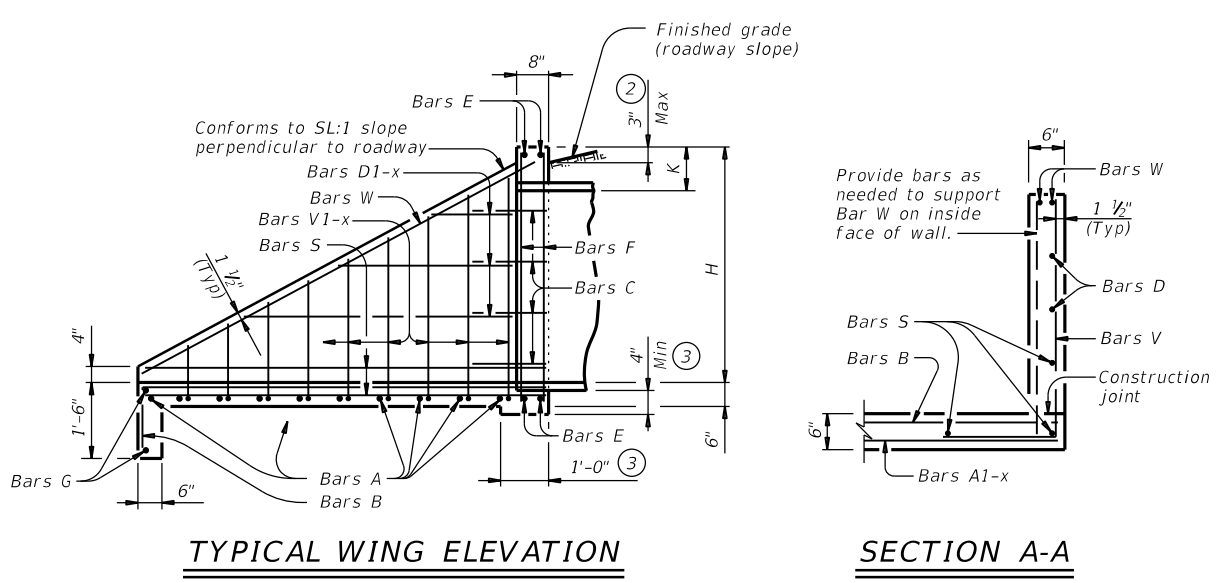
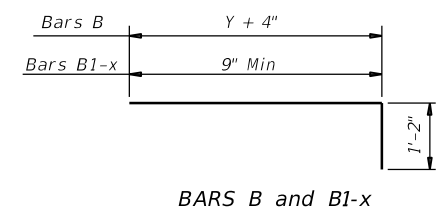
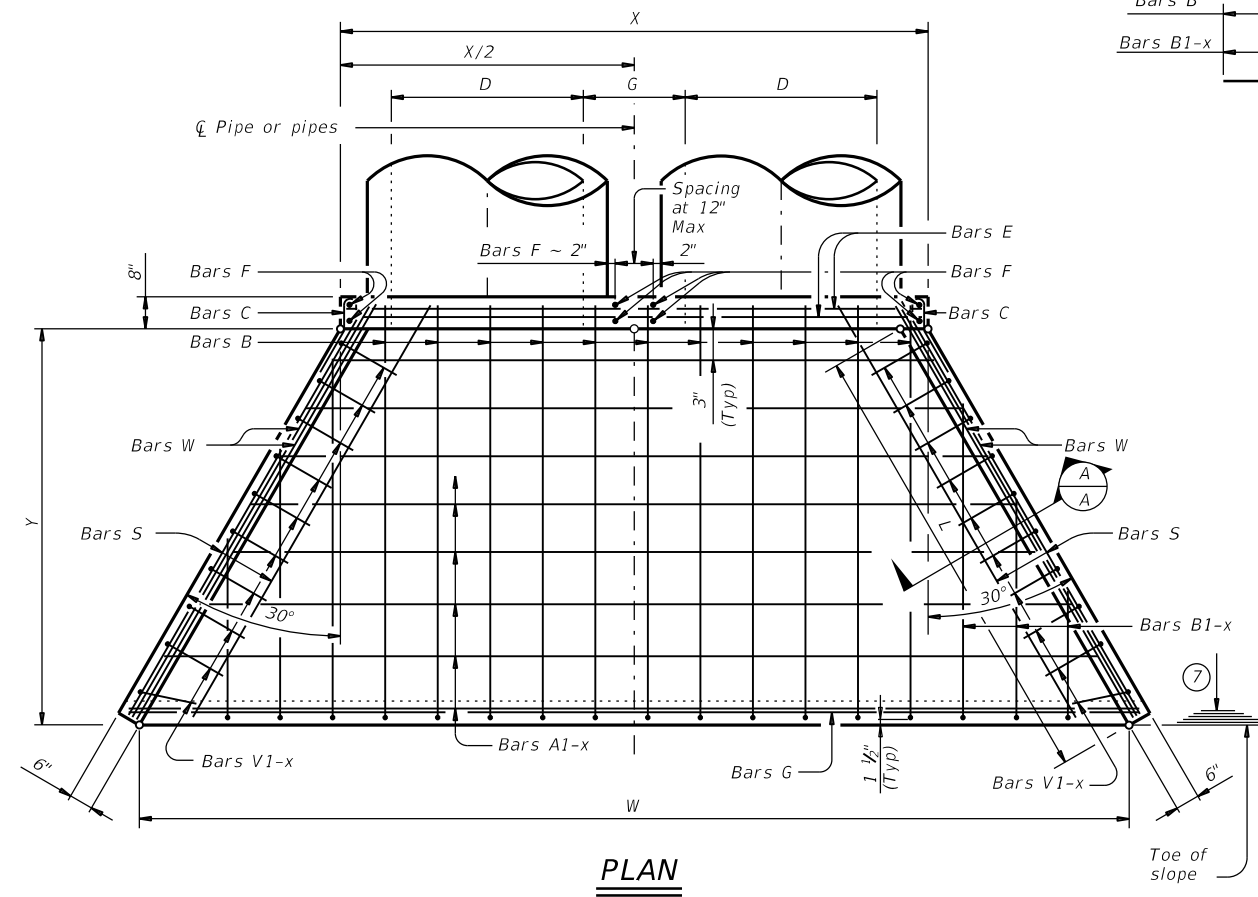


**TABLE OF REINFORCING STEEL (5)**

Bar	Size	Spa	No.
A	#4	1'-0"	~
B	#3	1'-6"	~
C	#4	1'-0"	~
D	#3	1'-0"	~
E	#5	~	4
F	#5	~	~
G	#3	~	2
S	#4	~	6
V	#4	1'-0"	~
W	#5	~	4

**TABLE OF CONSTANT DIMENSIONS**

Dia of Pipe (D)	G	K (4)	H
12"	0'-9"	1'-0"	2'-0"
15"	0'-11"	1'-0"	2'-3"
18"	1'-2"	1'-0"	2'-6"
21"	1'-4"	1'-0"	2'-9"
24"	1'-7"	1'-0"	3'-0"
27"	1'-8"	1'-0"	3'-3"
30"	1'-10"	1'-0"	3'-6"
33"	1'-11"	1'-0"	3'-9"
36"	2'-1"	1'-0"	4'-0"
42"	2'-4"	1'-0"	4'-6"
48"	2'-7"	1'-3"	5'-3"
54"	3'-0"	1'-3"	5'-9"
60"	3'-3"	1'-3"	6'-3"
66"	3'-3"	1'-3"	6'-9"
72"	3'-4"	1'-3"	7'-3"



- Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.
- For vehicle safety, construct curbs no more than 3" above finished grade. Reduce curb heights, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- Provide a 1'-0" footing as shown where required to maintain 4" minimum cover for pipes.
- Dimensions shown are usual and maximum.
- Quantities shown are for one structure end only (one headwall).
- Min Length =  $6" + 3" \times \left( \frac{12 \times H - 7}{12 \times L} \right)$   
 Max Length =  $12 \times H - 3" \times \left( \frac{12 \times H - 7}{12 \times L} \right) - 1"$
- Lengths of wings based on SL:1 slope along this line.

**MATERIAL NOTES:**  
 Provide Grade 60 reinforcing steel.  
 Provide Class C concrete (f'c = 3,600 psi).

**GENERAL NOTES:**  
 Designed according to AASHTO LRFD Bridge Design Specifications.  
 Do not mount bridge rails of any type directly to these culvert headwalls.  
 This standard may not be used for wall heights, H, exceeding the values shown.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

**Bridge Division Standard**

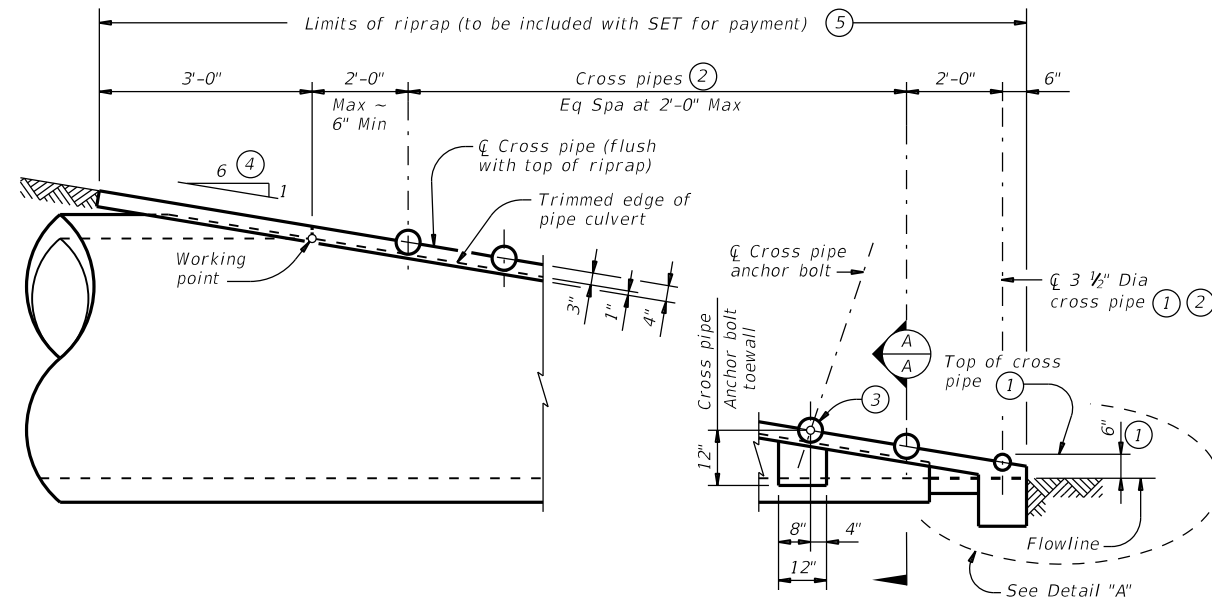
**CONCRETE HEADWALLS WITH FLARED WINGS FOR 0° SKEW PIPE CULVERTS**

**CH-FW-0**

FILE: chfw00se-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
REVISIONS	0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.	
SAT	KENDALL		356	

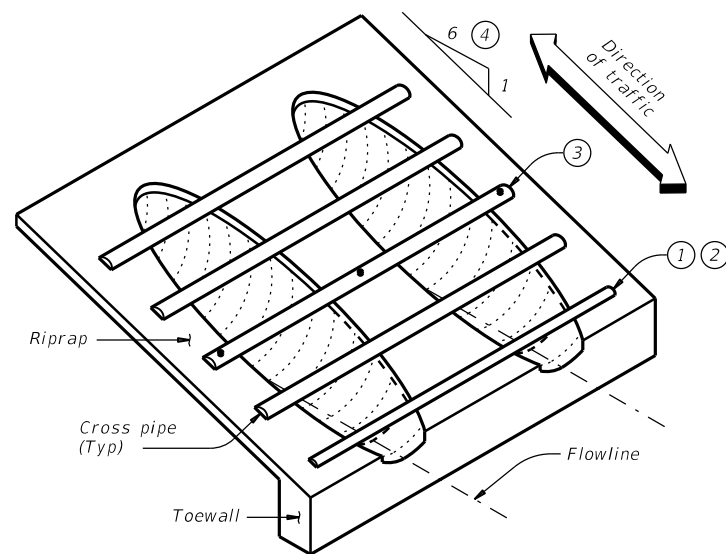
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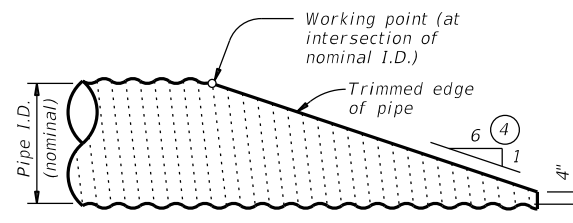


**SIDE ELEVATION OF CAST-IN-PLACE CONCRETE**

(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. pipe runners not shown for clarity.)



**ISOMETRIC VIEW OF TYPICAL INSTALLATION**



NOTE: All cross pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

**SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER**

(Showing corrugated metal pipe (CMP) culvert. Details of reinforced concrete pipe (RCP) culvert are similar.)

**CROSS PIPE LENGTHS AND REQUIRED PIPE SIZES ②**

Corrugated Metal Pipe (CMP) Culverts									
Design	Conc Riprap (CY) ⑥	Pipe Culvert Span	Pipe Culvert Rise	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes
1	0.6	17"	13"	1' - 0"	N/A	2' - 8"	2' - 5"	3 or more pipe culverts	3" Std (3.500" O.D.)
2	0.7	21"	15"	1' - 2"	N/A	3' - 1"	2' - 11"		3 1/2" Std (4.000" O.D.)
3	0.9	28"	20"	1' - 5"	N/A	3' - 9"	3' - 9"		4" Std (4.500" O.D.)
4	1.0	35"	24"	1' - 8"	4' - 4"	4' - 6"	4' - 7"	All pipe culverts	4" Std (4.500" O.D.)
5	1.2	42"	29"	1' - 11"	4' - 11"	5' - 2"	5' - 5"		
6	1.4	49"	33"	2' - 2"	5' - 6"	5' - 11"	6' - 3"	All pipe culverts	5" Std (5.563" O.D.)
7	1.6	57"	38"	2' - 5"	6' - 2"	6' - 8"	7' - 2"		
8	1.8	64"	43"	2' - 10"	6' - 9"	7' - 6"	8' - 2"		
9	1.9	71"	47"	3' - 2"	7' - 4"	8' - 3"	9' - 1"		

Reinforced Concrete Pipe (RCP) Culverts									
Design	Conc Riprap (CY) ⑥	Pipe Culvert Span	Pipe Culvert Rise	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes
1	0.6	22"	13 1/2"	1' - 0"	N/A	3' - 1"	2' - 10"	3 or more pipe culverts	3" Std (3.500" O.D.)
2	0.7	26"	15 1/2"	1' - 2"	N/A	3' - 6"	3' - 4"		3 1/2" Std (4.000" O.D.)
3	0.9	28 1/2"	18"	1' - 5"	N/A	3' - 10"	3' - 9 1/2"		4" Std (4.500" O.D.)
4	1.0	36 1/4"	22 1/2"	1' - 8"	4' - 5"	4' - 7"	4' - 8 1/4"	All pipe culverts	4" Std (4.500" O.D.)
5	1.2	43 3/4"	26 3/8"	1' - 11"	5' - 1"	5' - 4"	5' - 6 3/4"		
6	1.4	51 1/8"	31 5/16"	2' - 2"	5' - 8"	6' - 1"	6' - 5 1/4"	All pipe culverts	5" Std (5.563" O.D.)
7	1.6	58 1/2"	36"	2' - 5"	6' - 4"	6' - 10"	7' - 3 1/2"		
8	1.8	65"	40"	2' - 10"	6' - 10"	7' - 7"	8' - 3"		
9	1.9	73"	45"	3' - 2"	7' - 6"	8' - 5"	9' - 3"		

- ① The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe no more than 6" above the flow line.
- ② Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 #2" standard pipe (4" O.D.) for the first bottom pipe.
- ③ Install the third Cross Pipe from the bottom of the culvert using a bolted connection. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, install all other cross pipes using the bolted connection details.
- ④ Match cross slope as shown elsewhere in the plans. Cross slope of 6:1 or flatter is required for vehicle safety.
- ⑤ Riprap placed beyond the limits shown will be paid as concrete riprap in accordance with Item 432, "Riprap".
- ⑥ Quantities shown are for one end of one pipe culvert. For multiple Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

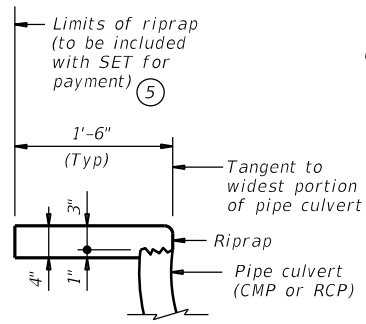
**MATERIAL NOTES:**  
 Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.  
 Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.  
 Provide ASTM A307 bolts and nuts.  
 Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

**GENERAL NOTES:**  
 Pipe runners are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.  
 Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Pipe Runners.  
 Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap".  
 Payment for riprap and toewall is included in the price bid for each safety end treatment.

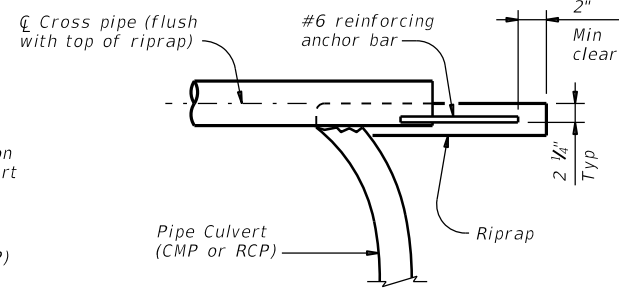
		<b>Bridge Division Standard</b>	
<b>SAFETY END TREATMENT</b> FOR DESIGN 1 TO 9 ARCH PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE			
<b>SETP-PD-A</b>			
FILE: setppase-20.dgn	DN: GAF	CK: TxDOT	DW: JRP
REVISIONS	CONT	SECT	JOB
	0142	09	044, Etc
	DIST	COUNTY	SHEET NO.
	SAT	KENDALL	357

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

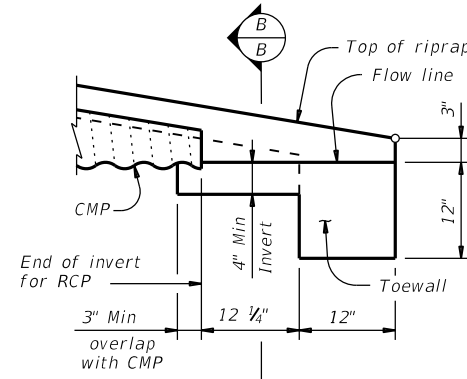
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SHOWING TYPICAL PIPE CULVERT AND RIPRAP

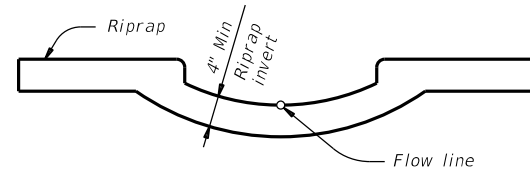


SHOWING CROSS PIPE WITH ANCHOR BAR



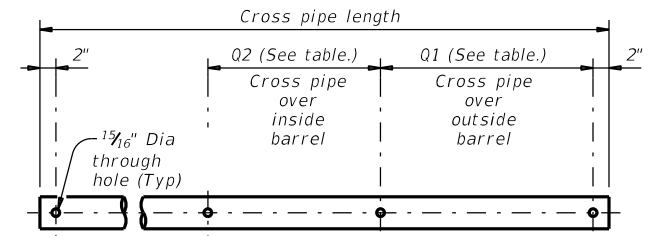
DETAIL "A"

(Showing invert with corrugated metal pipe (CMP) culvert. Reinforced concrete pipe (RCP) culvert details are similar. Cross pipes not shown for clarity.)

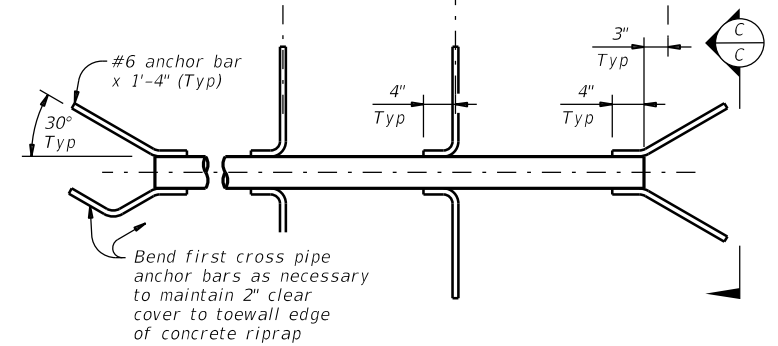


SECTION B-B

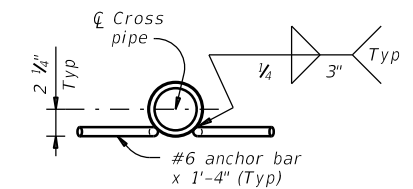
(Cross pipes not shown for clarity.)



PIPE WITH BOLTED ANCHOR

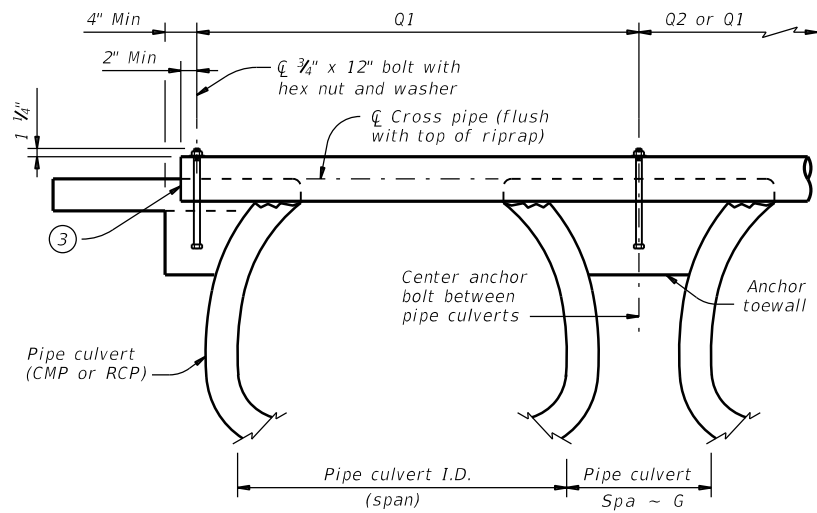


PIPE WITH ANCHOR BARS



SECTION C-C

CROSS PIPE DETAILS



SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

SHEET 2 OF 2

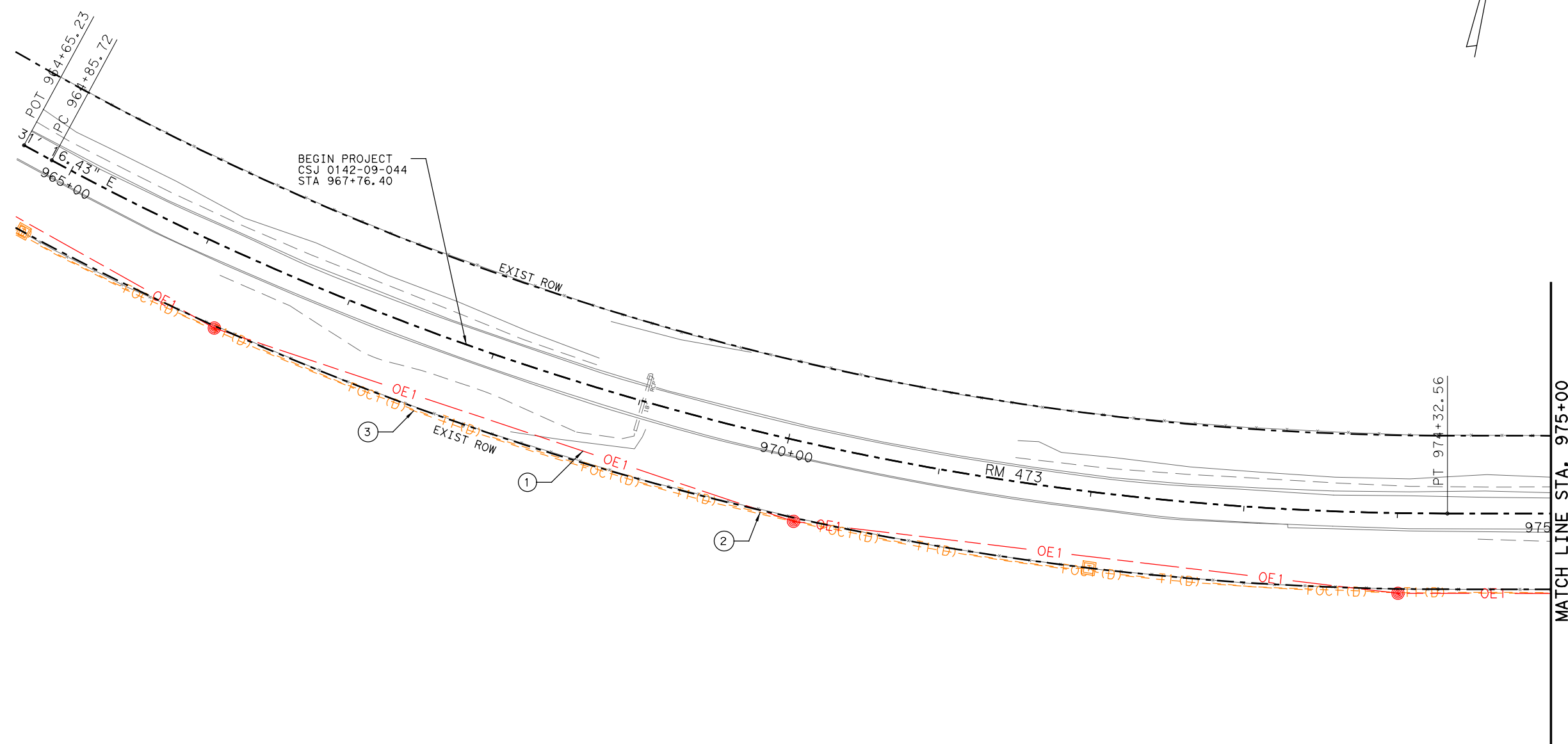


**SAFETY END TREATMENT**  
 FOR DESIGN 1 TO 9  
 ARCH PIPE CULVERTS  
 TYPE II ~ PARALLEL DRAINAGE

**SETP-PD-A**

FILE: setppase-20.dgn	DN: GAF	CK: TxDOT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	358	

DATE: 4/22/2021 1:27:51 PM  
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**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 UNKNOWN ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDANALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

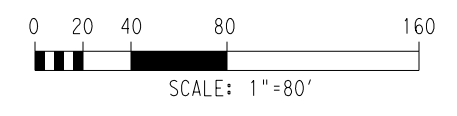
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER  
  
 4/22/2021

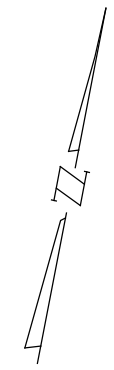
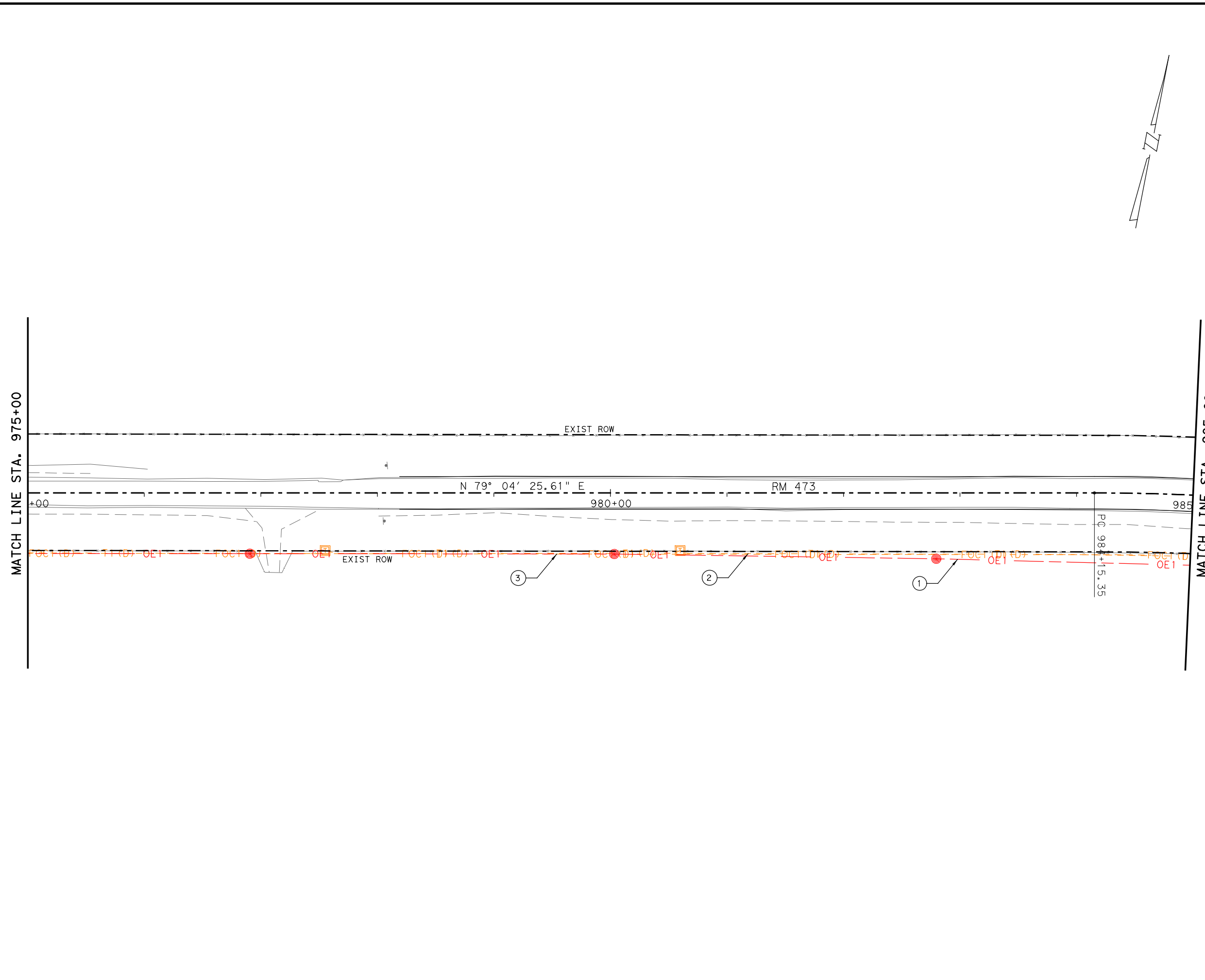
Texas Department of Transportation  
 Costello  
 Engineering and Surveying  
 2101 Chynest Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 635-7788 (713) 778-3500, Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 01 OF 15

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		359	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

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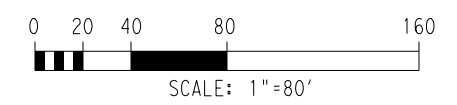
**UTILITY LEGEND**

- COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 UNKNOWN ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**  
 PERDANALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↙
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

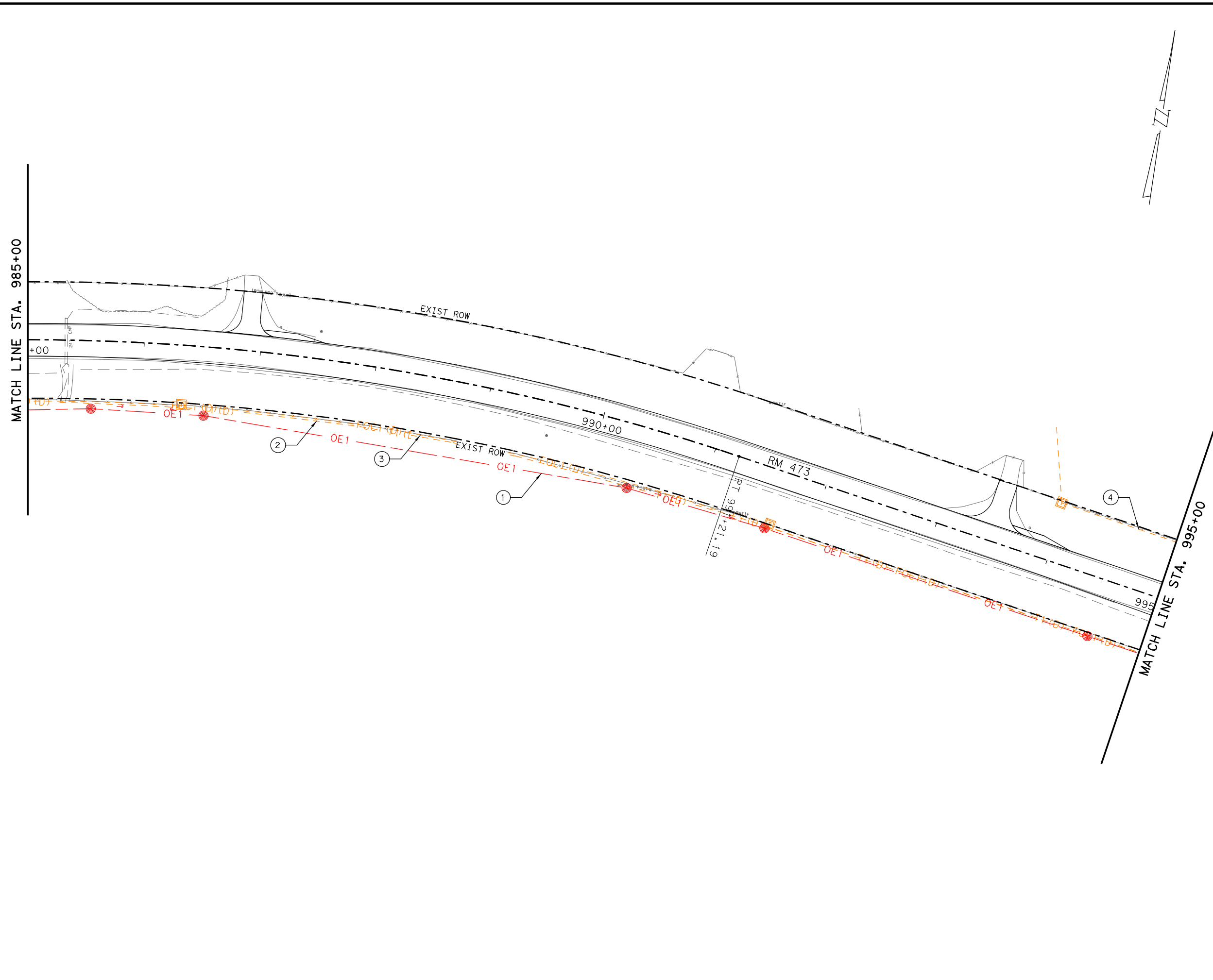


**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 02 OF 15

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 360
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 09/10	JOB 044/026
STREET/ROAD: RM 473		

DATE: 4/22/2021 1:27:53 PM  
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**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---

GUADALUPE VALLEY (FO) --- FOC1 (D) ---

UNKNOWN ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDANALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---

QUALITY LEVEL "B" --- W8 (B) ---

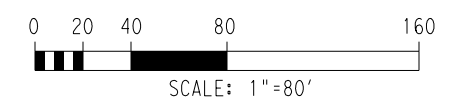
QUALITY LEVEL "C" --- W8 (C) ---

QUALITY LEVEL "D" --- W8 (D) ---

TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS

TRISHA D. FREDERICK

111405

LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021

Texas Department of Transportation

**Costello**

Engineering and Surveying  
 2101 Chynval Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 763-7788 (713) 763-3500; Fax  
 (713) 763-7788  
 TBPFS FIRM REG. No. 280  
 TBPFS FIRM REG. No. 100486

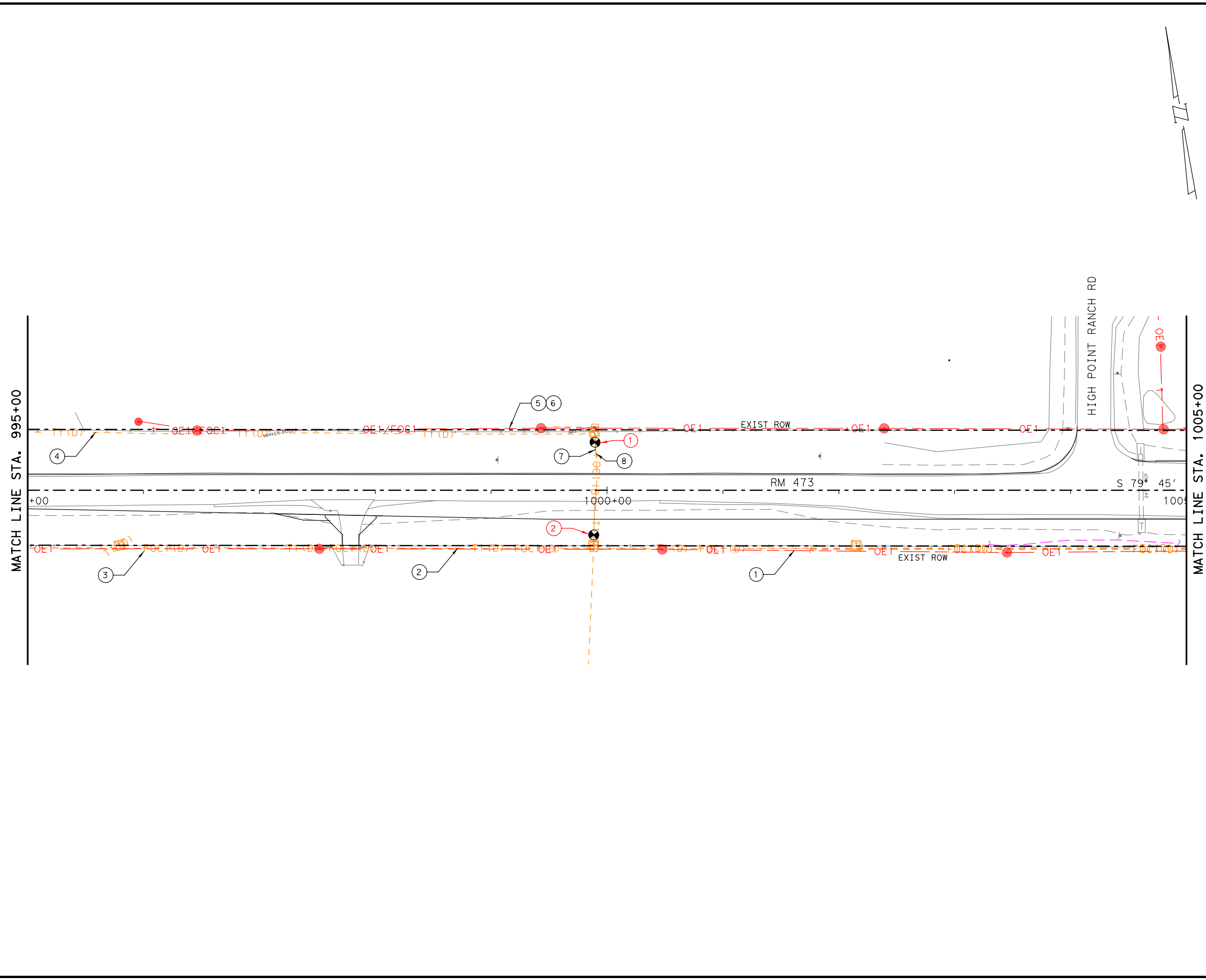
**RM 473**  
**WEST LOCATION**  
**UTILITY LAYOUT**

SHEET 03 OF 15

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		361	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473



DATE: 4/22/2021 1:27:55 PM  
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### UTILITY LEGEND

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 UNKNOWN --- ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDANALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

### QUALITY LEVEL LEGEND

QUALITY LEVEL "A" --- WB (A) ---  
 QUALITY LEVEL "B" --- WB (B) ---  
 QUALITY LEVEL "C" --- WB (C) ---  
 QUALITY LEVEL "D" --- WB (D) ---

TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)

0 20 40 80 160  
 SCALE: 1"=80'

NO.	DATE	REVISION	APPROVED



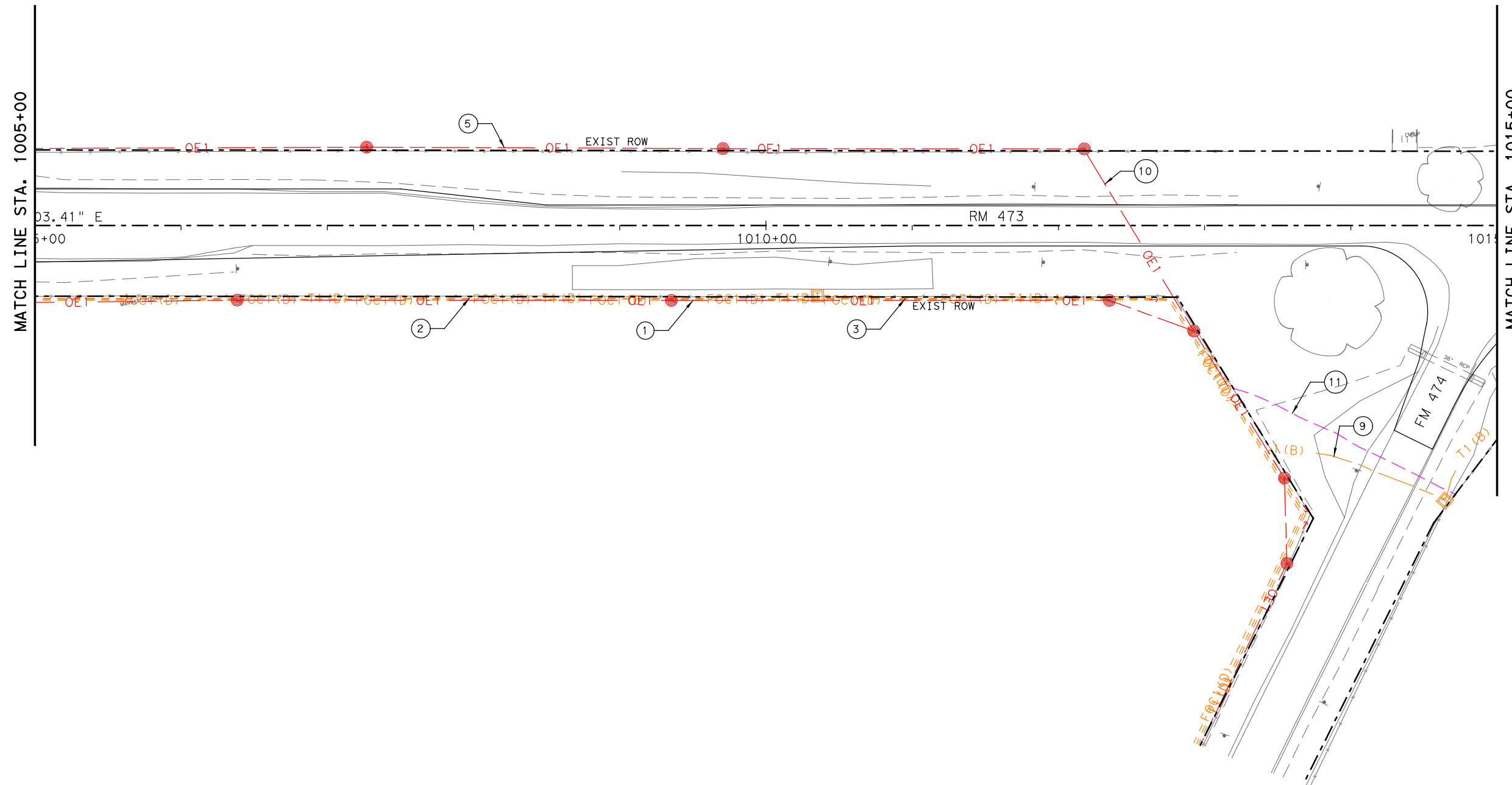
**Costello** Engineering and Surveying  
 2101 Chynvald Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 653-7788 (713) 763-3500, Fax  
 TBPS FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 04 OF 15

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		362	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

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### UTILITY LEGEND

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 UNKNOWN --- ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

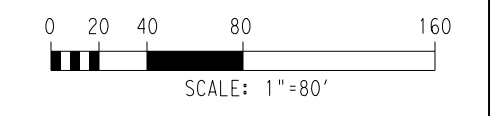
### QUALITY LEVEL LEGEND

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---

TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021

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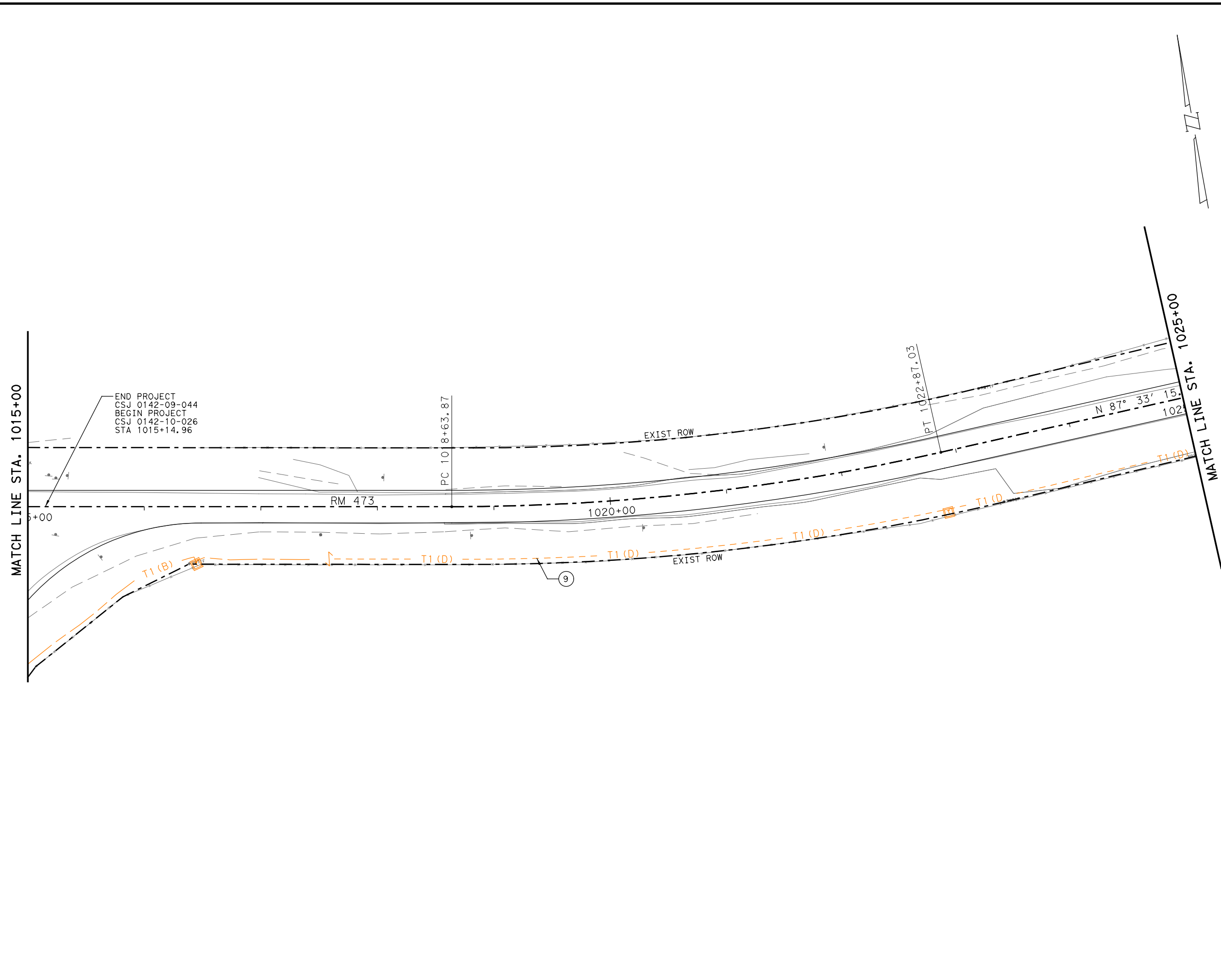
**Costello**  
 Engineering and Surveying  
 2101 Chynvald Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 637-7788 (713) 778-3500, Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 05 OF 15

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		363	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

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**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---

GUADALUPE VALLEY (FO) --- FOC1 (D) ---

UNKNOWN --- ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDANALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↙

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---

QUALITY LEVEL "B" --- W8 (B) ---

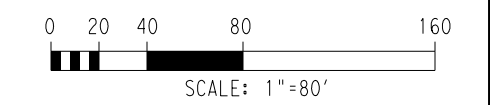
QUALITY LEVEL "C" --- W8 (C) ---

QUALITY LEVEL "D" --- W8 (D) ---

TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS

TRISHA D. FREDERICK

111405

LICENSED PROFESSIONAL ENGINEER

*Trisha D. Frederick* 4/22/2021

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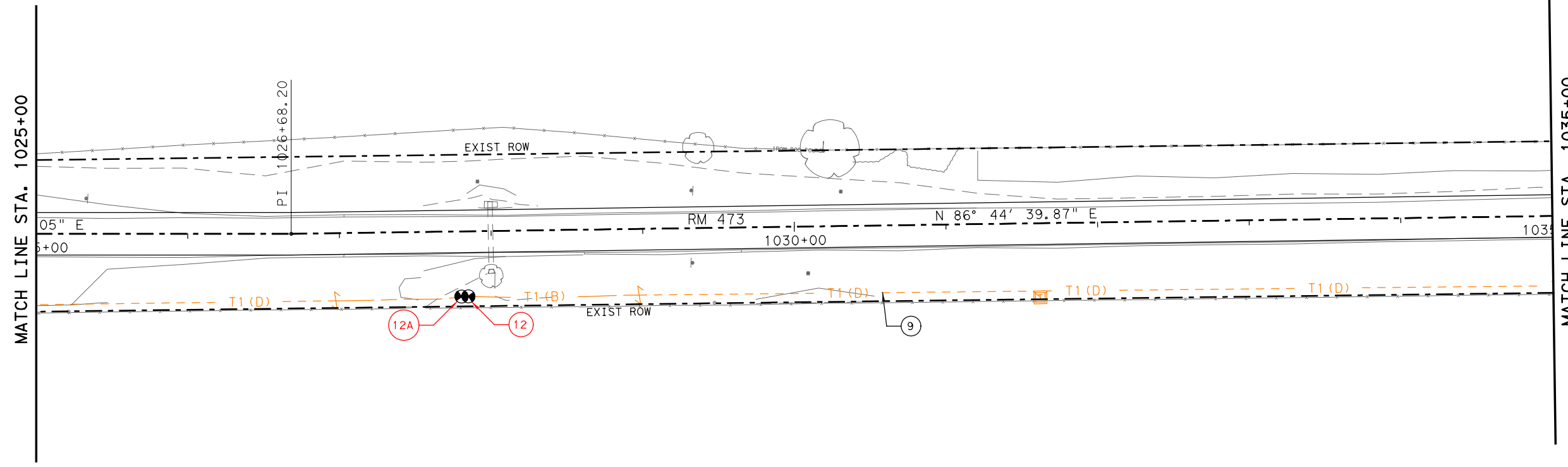
**Costello** Engineering and Surveying  
 2101 Chynoweth Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 763-7788 (713) 763-3500, Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473**  
**WEST LOCATION**  
**UTILITY LAYOUT**

SHEET 06 OF 15

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		364	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

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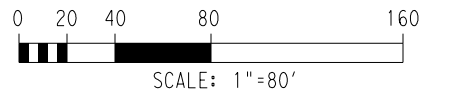
**UTILITY LEGEND**

- COMMUNICATION**
- GUADALUPE VALLEY (TELE) --- T1 (D) ---
  - GUADALUPE VALLEY (FO) --- FOC1 (D) ---
  - UNKNOWN ---
- PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**
- PERDANALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---
  - QUALITY LEVEL "B" --- W8 (B) ---
  - QUALITY LEVEL "C" --- W8 (C) ---
  - QUALITY LEVEL "D" --- W8 (D) ---
- TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

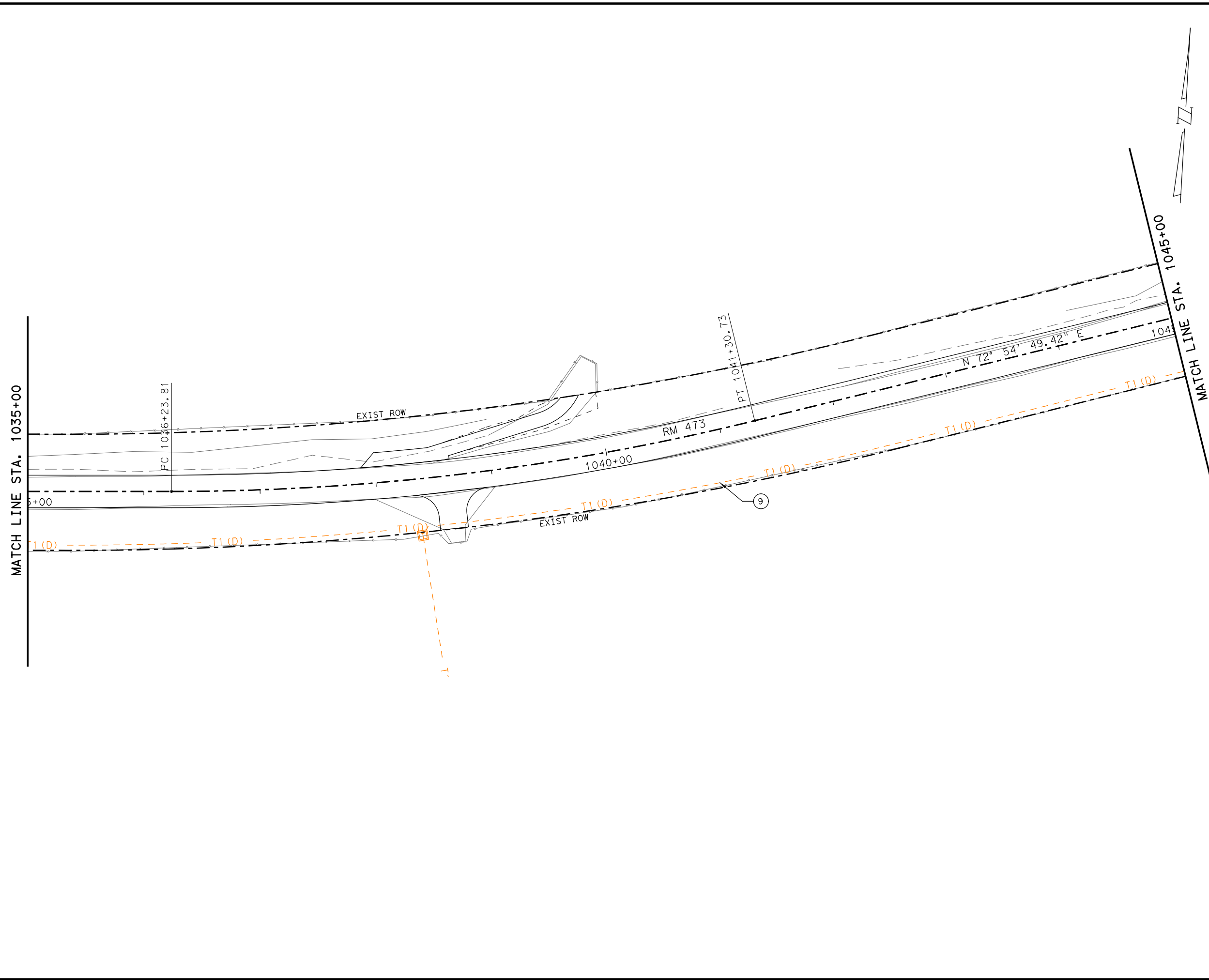


**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 07 OF 15

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 365
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 09/10	JOB 044/026
STREET/ROAD: RM 473		

DATE: 4/22/2021 1:28:00 PM  
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**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 UNKNOWN ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDANALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↙

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)

NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER  
  
 4/22/2021

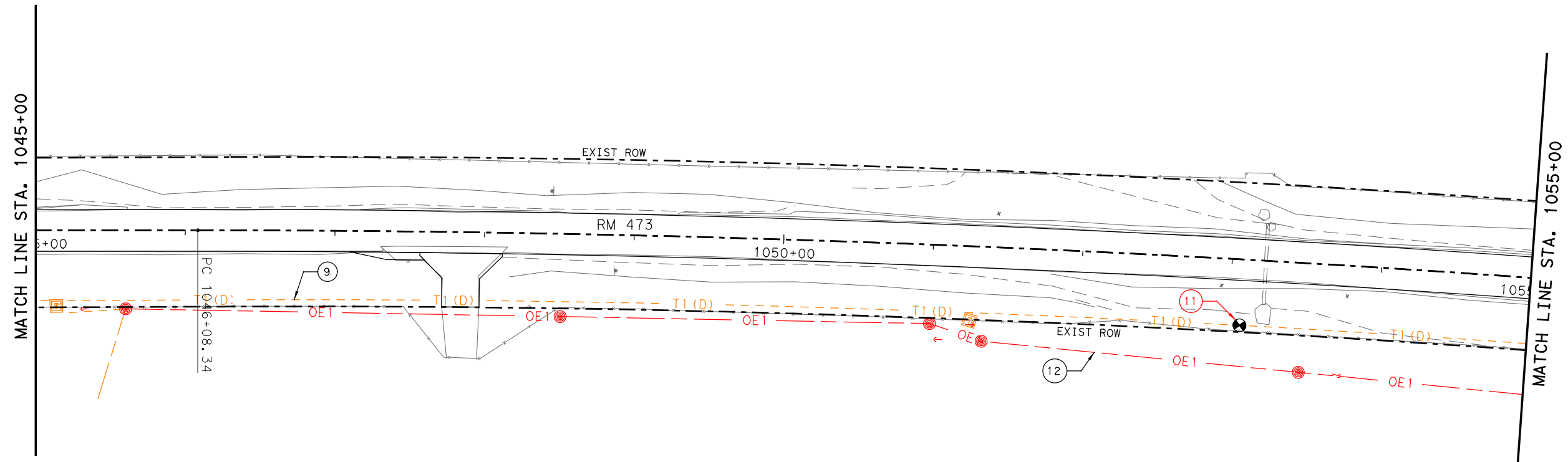
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 Costello  
 Engineering and Surveying  
 2101 Chynoweth Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 635-7788 (713) 778-3500; Fax  
 (713) 635-7788  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 08 OF 15

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		366	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

DATE: 4/22/2021 1:28:01 PM  
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**UTILITY LEGEND**

- COMMUNICATION**
- GUADALUPE VALLEY (TELE) --- T1 (D) ---
  - GUADALUPE VALLEY (FO) --- FOC1 (D) ---
  - UNKNOWN ---
- PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**
- PERDENALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---
  - QUALITY LEVEL "B" --- W8 (B) ---
  - QUALITY LEVEL "C" --- W8 (C) ---
  - QUALITY LEVEL "D" --- W8 (D) ---
- TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)

NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

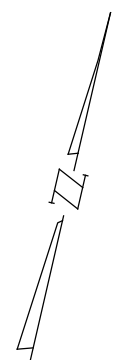
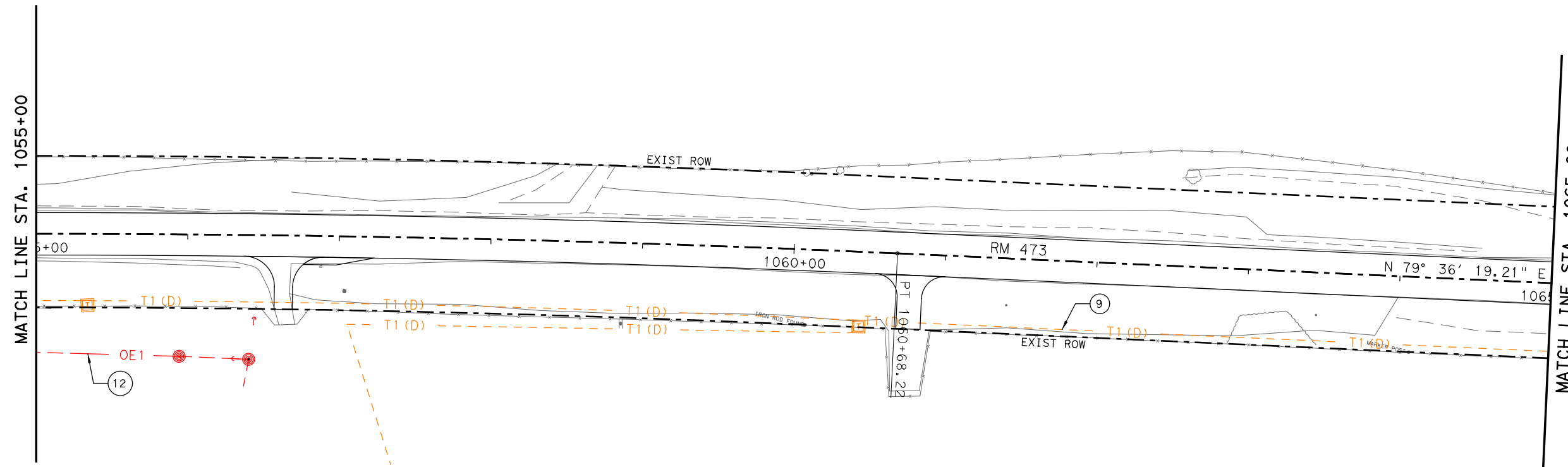


**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 09 OF 15

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			367
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

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**UTILITY LEGEND**

- COMMUNICATION**
- GUADALUPE VALLEY (TELE) --- T1 (D) ---
  - GUADALUPE VALLEY (FO) --- FOC1 (D) ---
  - UNKNOWN ---
- PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**
- PERDENALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---
  - QUALITY LEVEL "B" --- W8 (B) ---
  - QUALITY LEVEL "C" --- W8 (C) ---
  - QUALITY LEVEL "D" --- W8 (D) ---
- TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (circle with crosshair)

NO.	DATE	REVISION	APPROVED



*Trisha D. Frederick*  
 4/22/2021

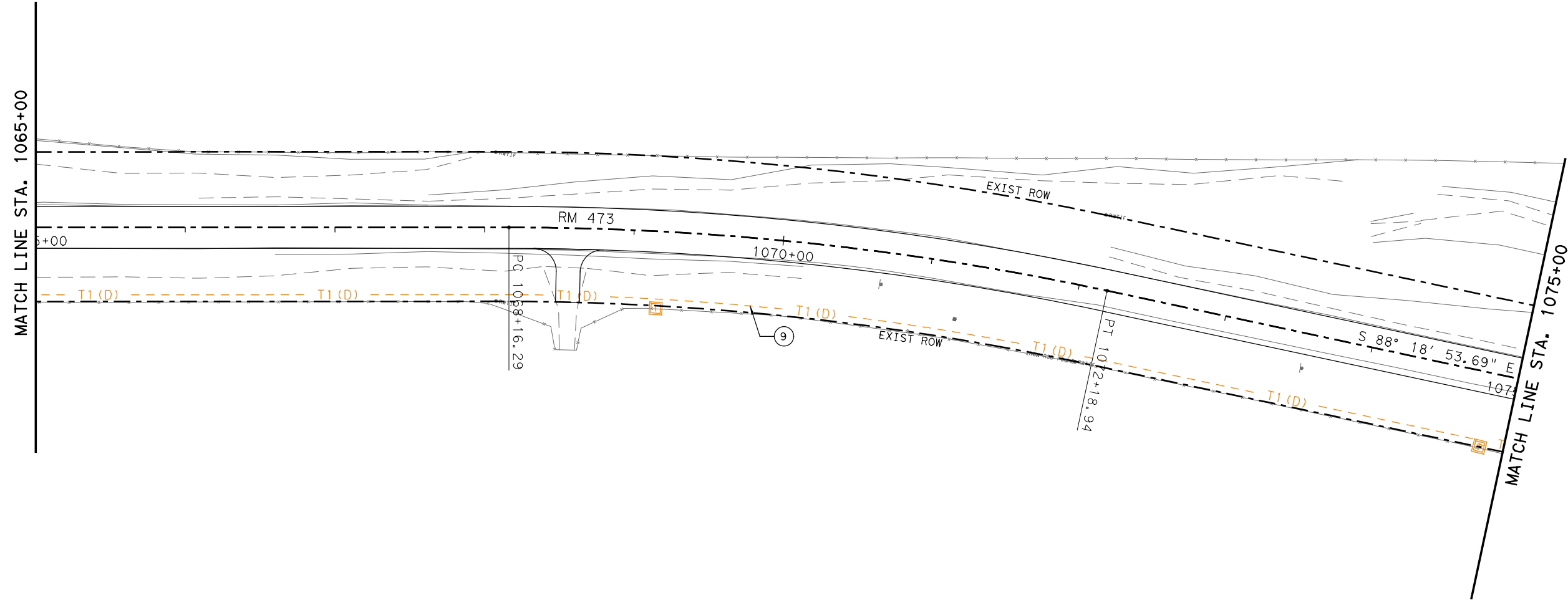


**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 10 OF 15

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			368
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

DATE: 4/22/2021 1:28:04 PM  
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**UTILITY LEGEND**

- COMMUNICATION**
- GUADALUPE VALLEY (TELE) --- T1 (D) ---
  - GUADALUPE VALLEY (FO) --- FOC1 (D) ---
  - UNKNOWN ---
- PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**
- PERDENALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

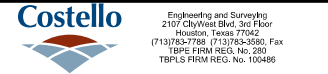
- QUALITY LEVEL "A" --- W8 (A) ---
  - QUALITY LEVEL "B" --- W8 (B) ---
  - QUALITY LEVEL "C" --- W8 (C) ---
  - QUALITY LEVEL "D" --- W8 (D) ---
- TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)

NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021



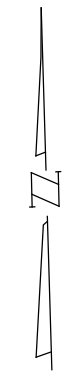
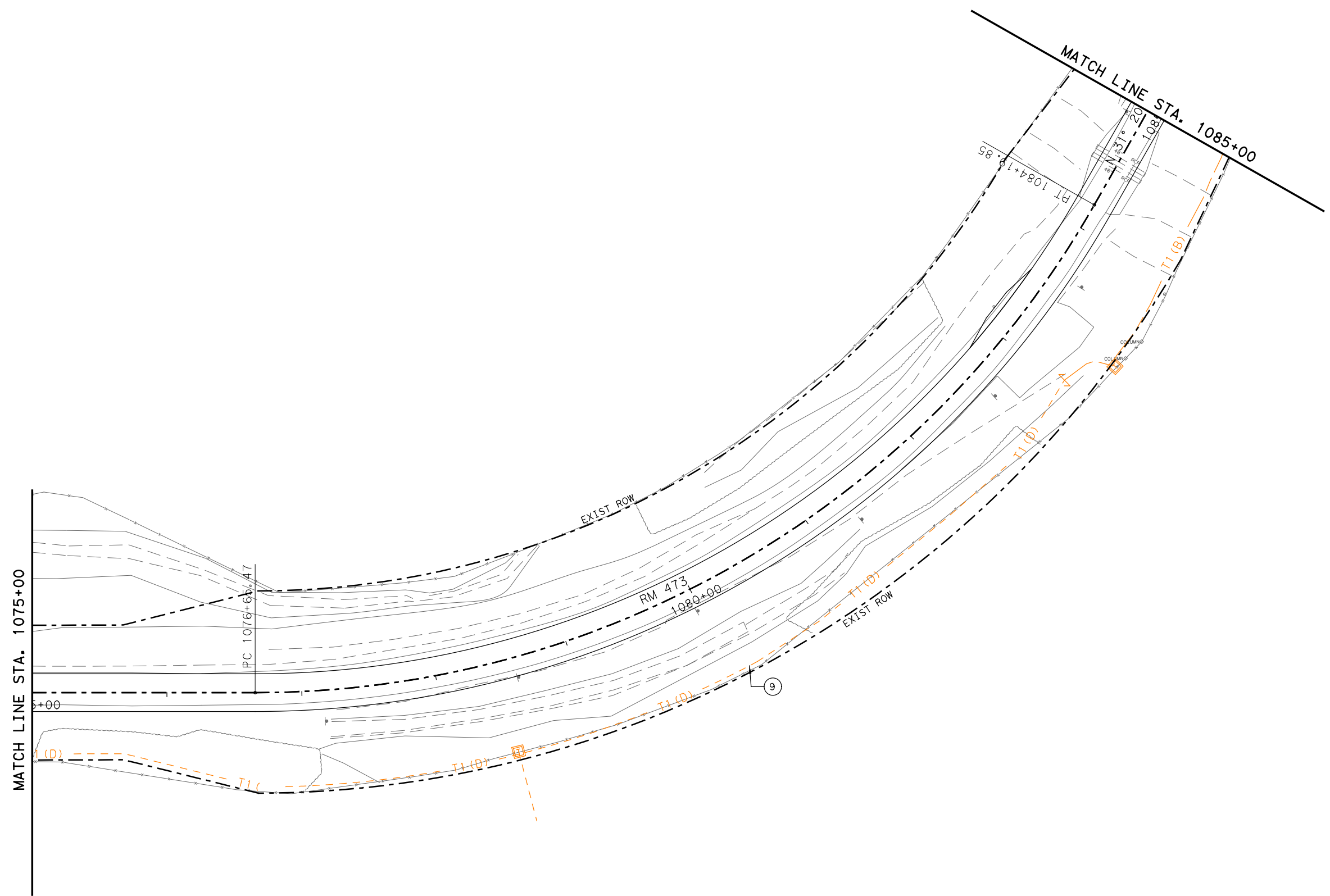
**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 11 OF 15

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 369
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 09/10	JOB 044/026
STREET/ROAD: RM 473		



DATE: 4/22/2021 1:28:05 PM  
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UTILITY LEGEND	
<b>COMMUNICATION</b>	
GUADALUPE VALLEY (TELE)	-- T1 (D) --
GUADALUPE VALLEY (FO)	-- FOC1 (D) --
UNKNOWN	---
PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY	
<b>ELECTRIC</b>	
PERDANALES ELECTRIC	— OE1 —
QUALITY LEVEL CHANGE	↙
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX	⊗
<b>QUALITY LEVEL LEGEND</b>	
QUALITY LEVEL "A"	— W8 (A) —
QUALITY LEVEL "B"	— W8 (B) —
QUALITY LEVEL "C"	— W8 (C) —
QUALITY LEVEL "D"	— W8 (D) —
TYPICAL FOR ALL UTILITIES	
REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS	⊗
TEST HOLE LOCATION	⊗

NO.	DATE	REVISION	APPROVED



*Trisha D. Frederick*  
 4/22/2021



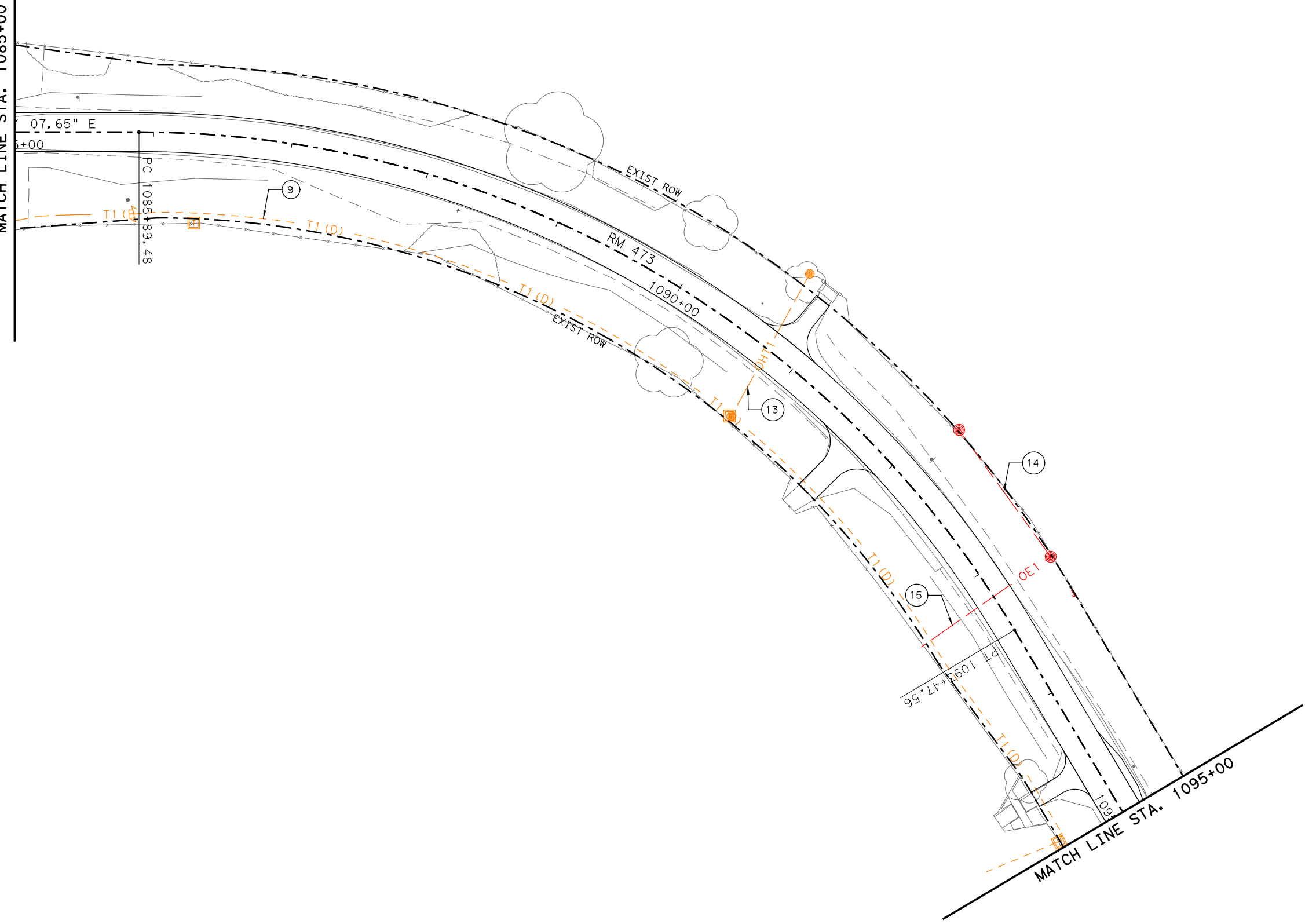
**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 12 OF 15

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		370	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

DATE: 4/22/2021 1:28:06 PM  
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MATCH LINE STA. 1085+00



**UTILITY LEGEND**

- COMMUNICATION**
- GUADALUPE VALLEY (TELE) --- T1 (D) ---
  - GUADALUPE VALLEY (FO) --- FOC1 (D) ---
  - UNKNOWN ---
- PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**
- PERDANALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---
  - QUALITY LEVEL "B" --- W8 (B) ---
  - QUALITY LEVEL "C" --- W8 (C) ---
  - QUALITY LEVEL "D" --- W8 (D) ---
- TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)

NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

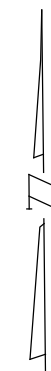
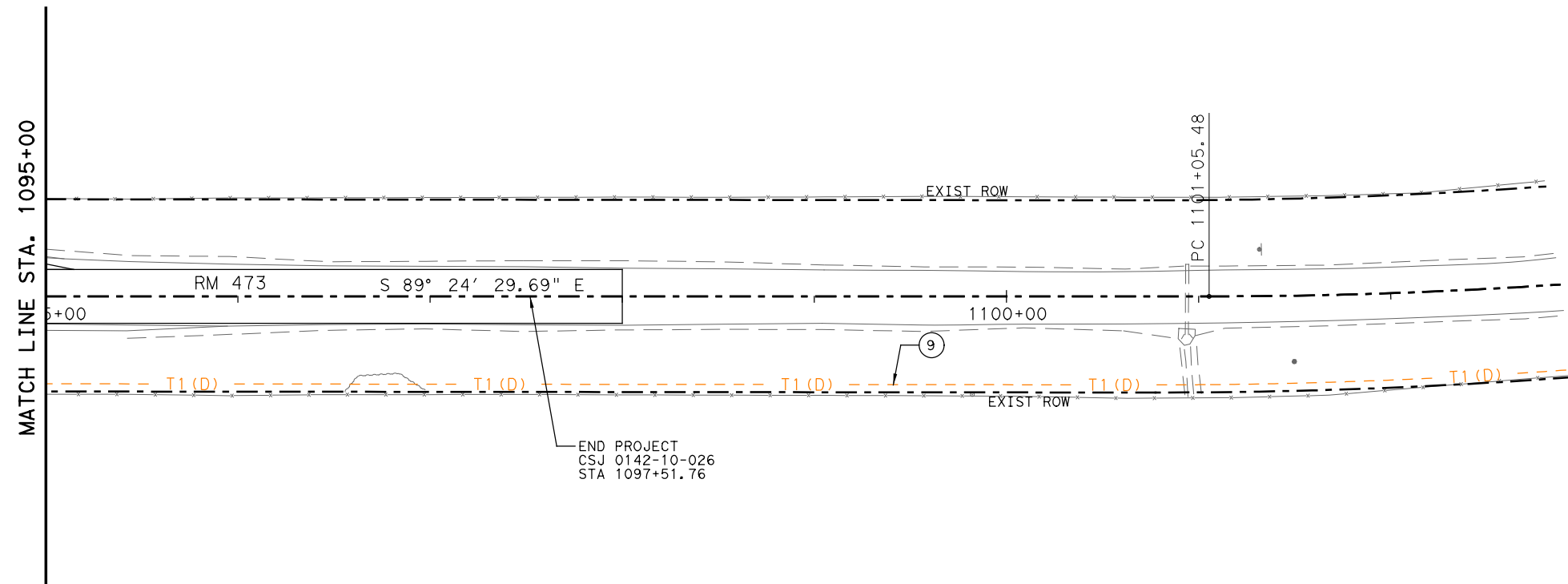


**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 13 OF 15

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			371
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	09/10	044/026	RM 473

DATE: 4/22/2021 1:28:08 PM  
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**UTILITY LEGEND**

- COMMUNICATION**
- GUADALUPE VALLEY (TELE) --- T1 (D) ---
  - GUADALUPE VALLEY (FO) --- FOC1 (D) ---
  - UNKNOWN ---
- PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**
- PERDANALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↙
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---
  - QUALITY LEVEL "B" --- W8 (B) ---
  - QUALITY LEVEL "C" --- W8 (C) ---
  - QUALITY LEVEL "D" --- W8 (D) ---
- TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)

NO.	DATE	REVISION	APPROVED



*Trisha D. Frederick*  
 4/22/2021

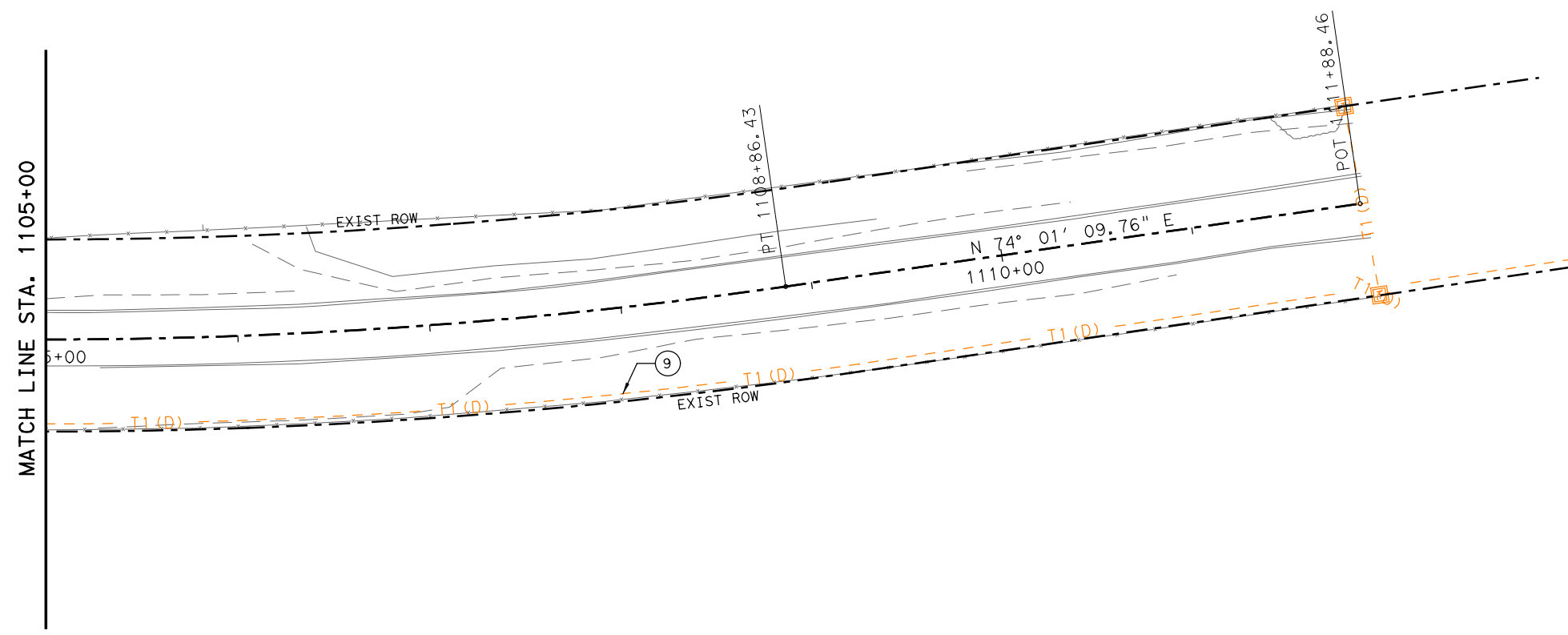


**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 14 OF 15

FED. RD. DIV. NO. 6	PROJECT NO. 044/026	SHEET NO. 372
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 09/10	JOB 044/026
		STREET/ROAD: RM 473

DATE: 4/22/2021 1:28:09 PM  
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**UTILITY LEGEND**

- COMMUNICATION**
- GUADALUPE VALLEY (TELE) --- T1 (D) ---
  - GUADALUPE VALLEY (FO) --- FOC1 (D) ---
  - UNKNOWN ---
- PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**
- PERDANALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---
  - QUALITY LEVEL "B" --- W8 (B) ---
  - QUALITY LEVEL "C" --- W8 (C) ---
  - QUALITY LEVEL "D" --- W8 (D) ---
- TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)

NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

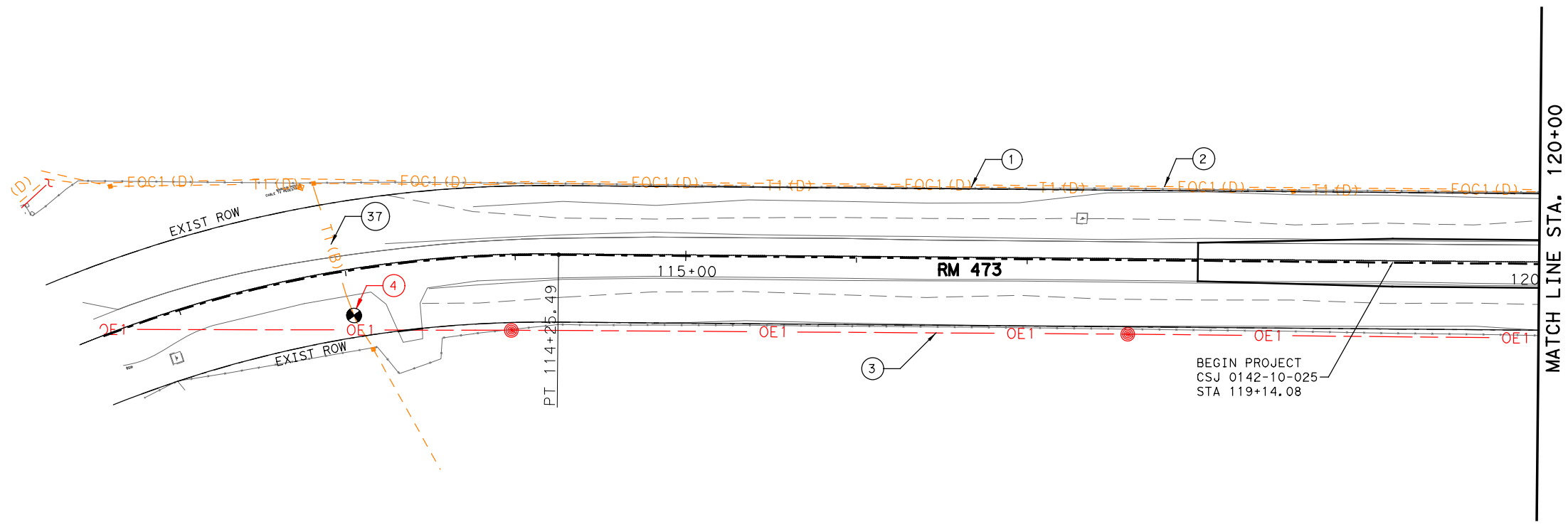


**RM 473  
 WEST LOCATION  
 UTILITY LAYOUT**

SHEET 15 OF 15

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 373
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 09/10	JOB 044/026
STREET/ROAD: RM 473		

DATE: 4/22/2021 12:04:00 PM  
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**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

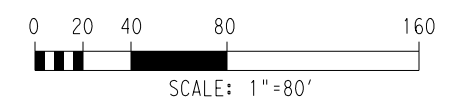
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**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021



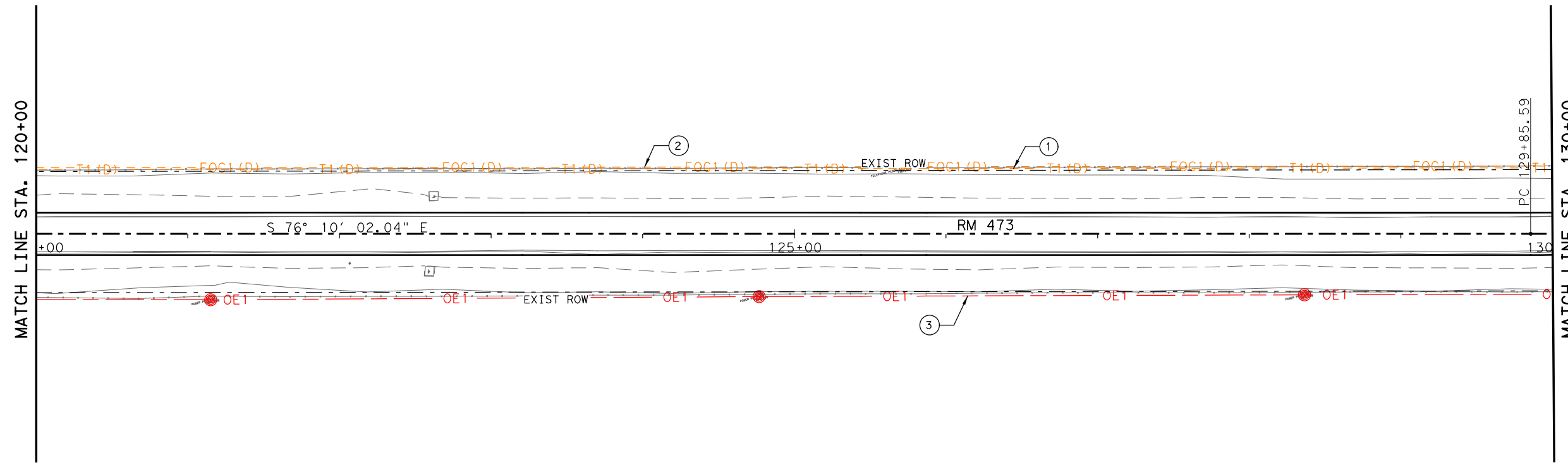
**Costello** Engineering and Surveying  
 2101 Chynest Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 783-7788 (713) 783-3500, Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 1 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		374	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:04:11 PM  
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**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

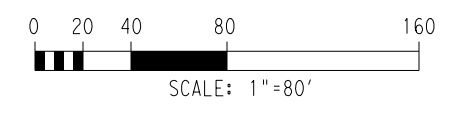
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**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021



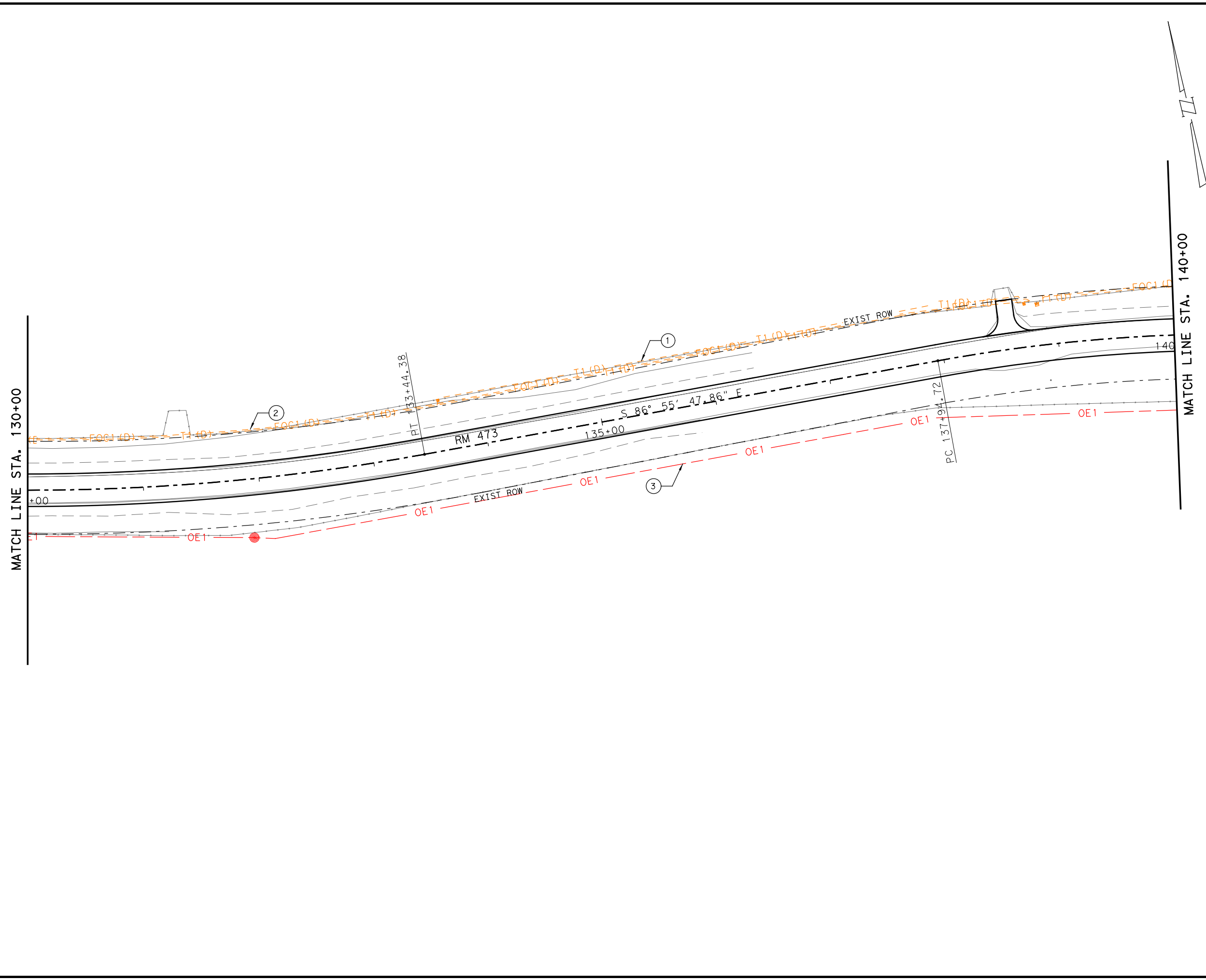
**Costello** Engineering and Surveying  
 2101 Chynest Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 653-7788 (713) 778-3500 Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 2 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		375	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:04:2 PM  
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### UTILITY LEGEND

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

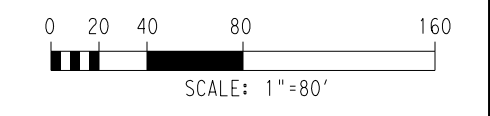
### QUALITY LEVEL LEGEND

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---

TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

TRISHA D. FREDERICK  
111405  
LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021

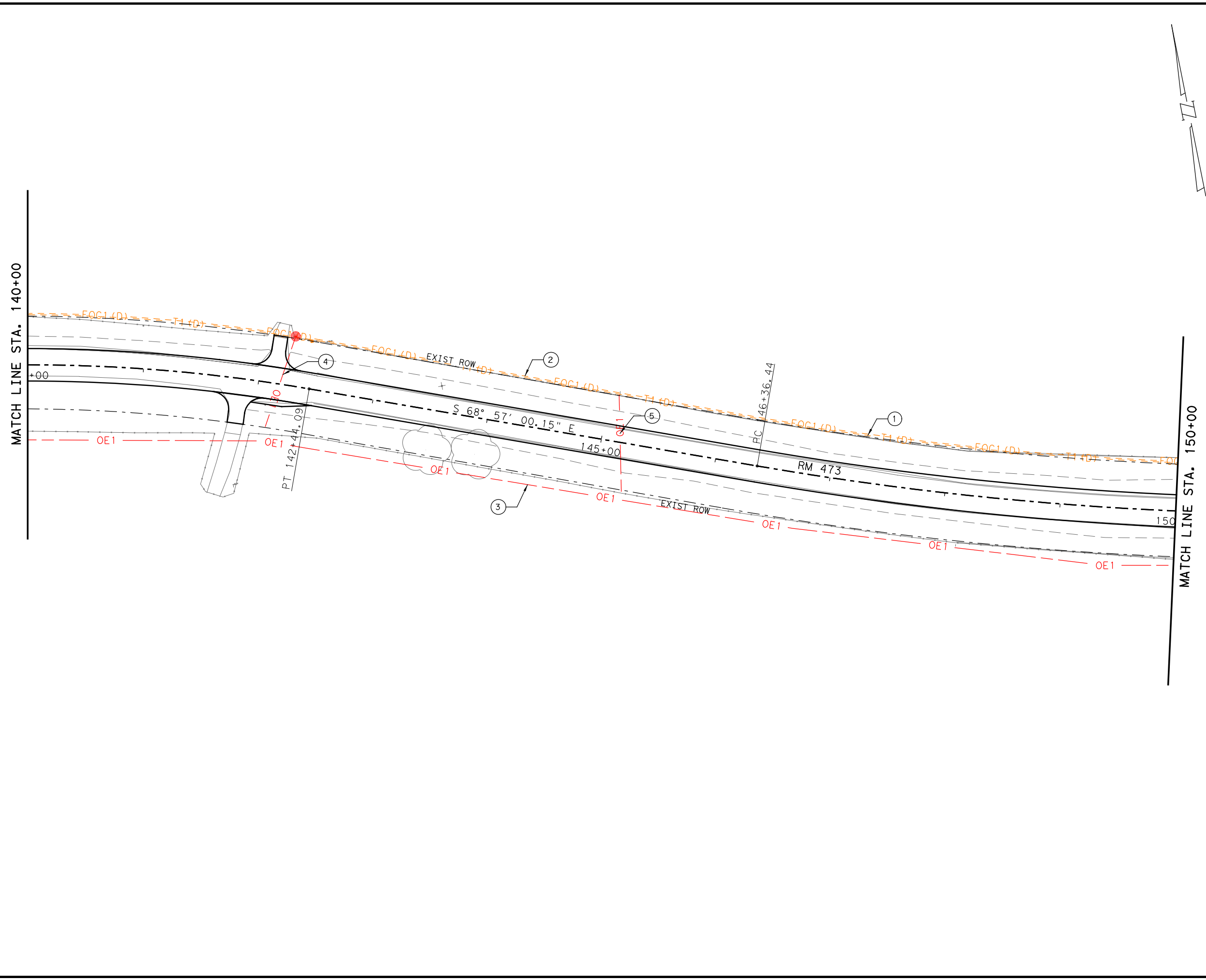


## RM 473 EAST LOCATION UTILITY LAYOUT

SHEET 3 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		376	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:04:4 PM  
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**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

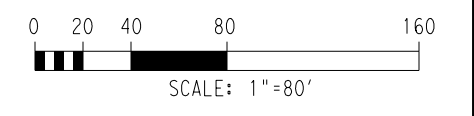
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)

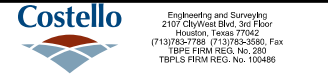
TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

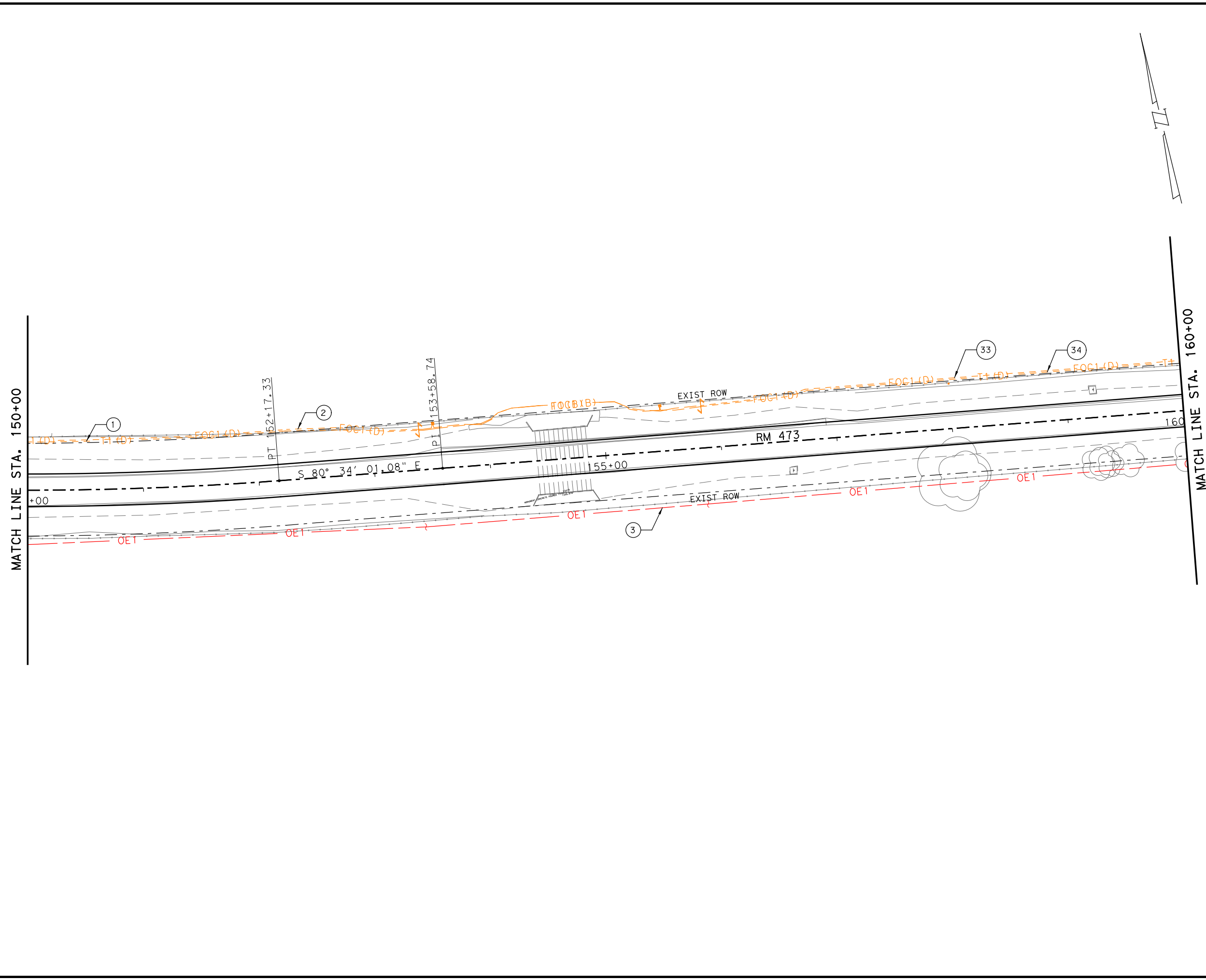


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 4 OF 23			
FED. RD. DIV. NO. 6	PROJECT NO. 377		
STATE TEXAS	DIST. SAT	COUNTY KENDALL	
CONT. 0142	SECT. 10	JOB 025	STREET/ROAD: RM 473



DATE: 4/22/2021 12:04:5 PM  
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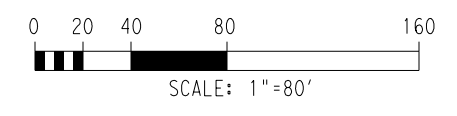
**UTILITY LEGEND**

- COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

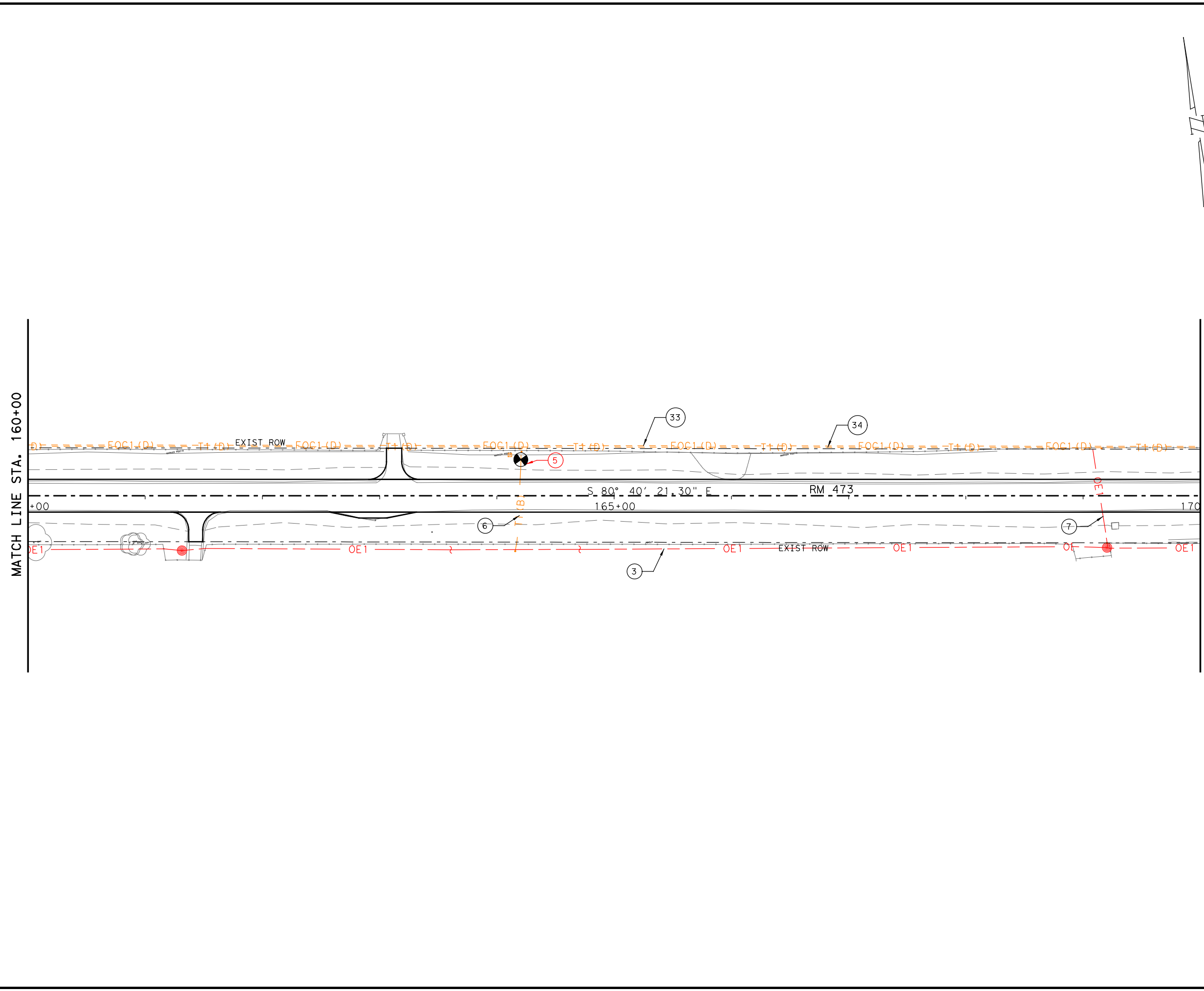


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 5 OF 23

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 378
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		

DATE: 4/22/2021 12:04:17 PM  
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**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↕

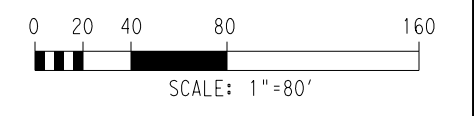
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

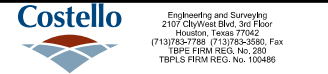
TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

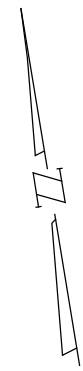
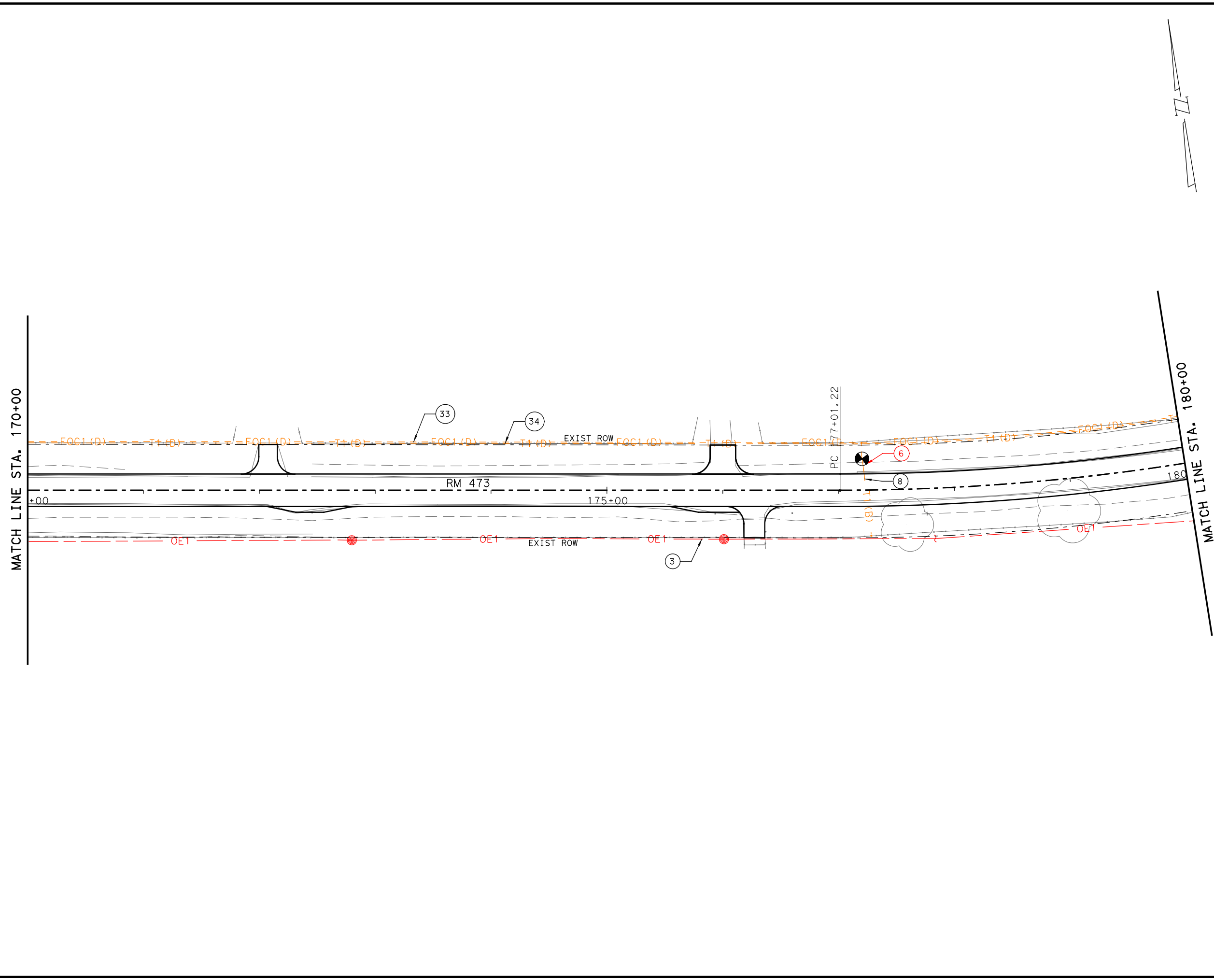


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

FED. RD. DIV. NO.		PROJECT NO.		SHEET NO.	
6				379	
STATE	DIST.	COUNTY			
TEXAS	SAT	KENDALL			
CONT.	SECT.	JOB	STREET/ROAD:		
0142	10	025	RM 473		

SHEET 6 OF 23

DATE: 4/22/2021 12:04:08 PM  
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**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDANALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

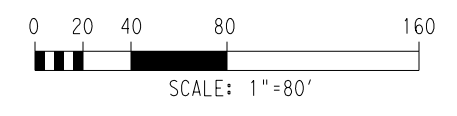
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021

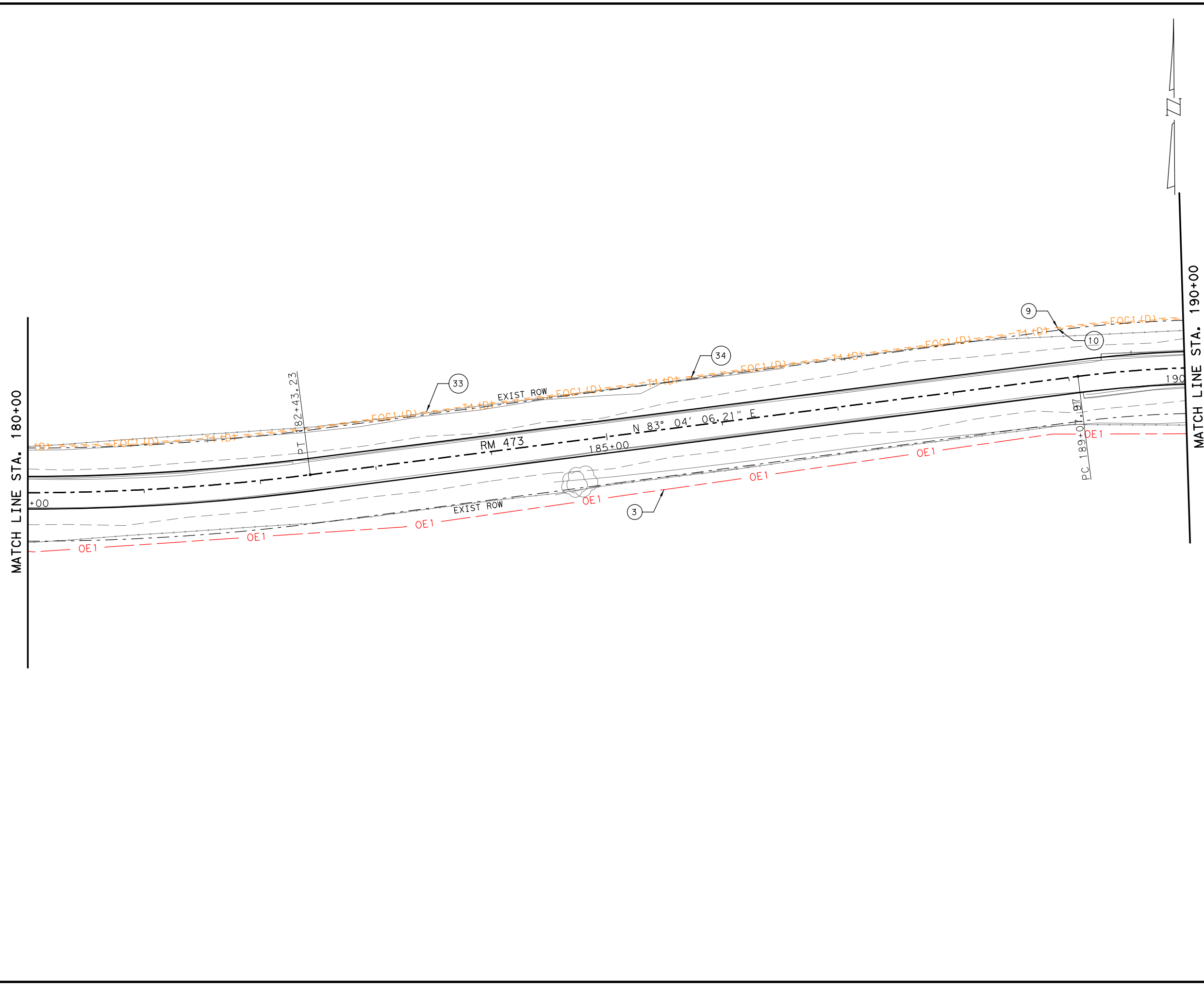


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 7 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		380	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:10:20 PM  
 FILE: T:\TXDOT\2017\1-TXDOT-UE-3671DP5122V-WA 7-RM 473v4-Utility Design Files\MDF\UTILITY\_LAYOUTS\EAST\RM\_473-UTILITY\_LAYOUT\_08.dgn



**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

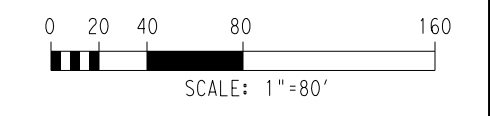
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021



**Costello** Engineering and Surveying  
 2101 Chynest Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 633-7788 (713) 778-3500 Fax  
 TBPS FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

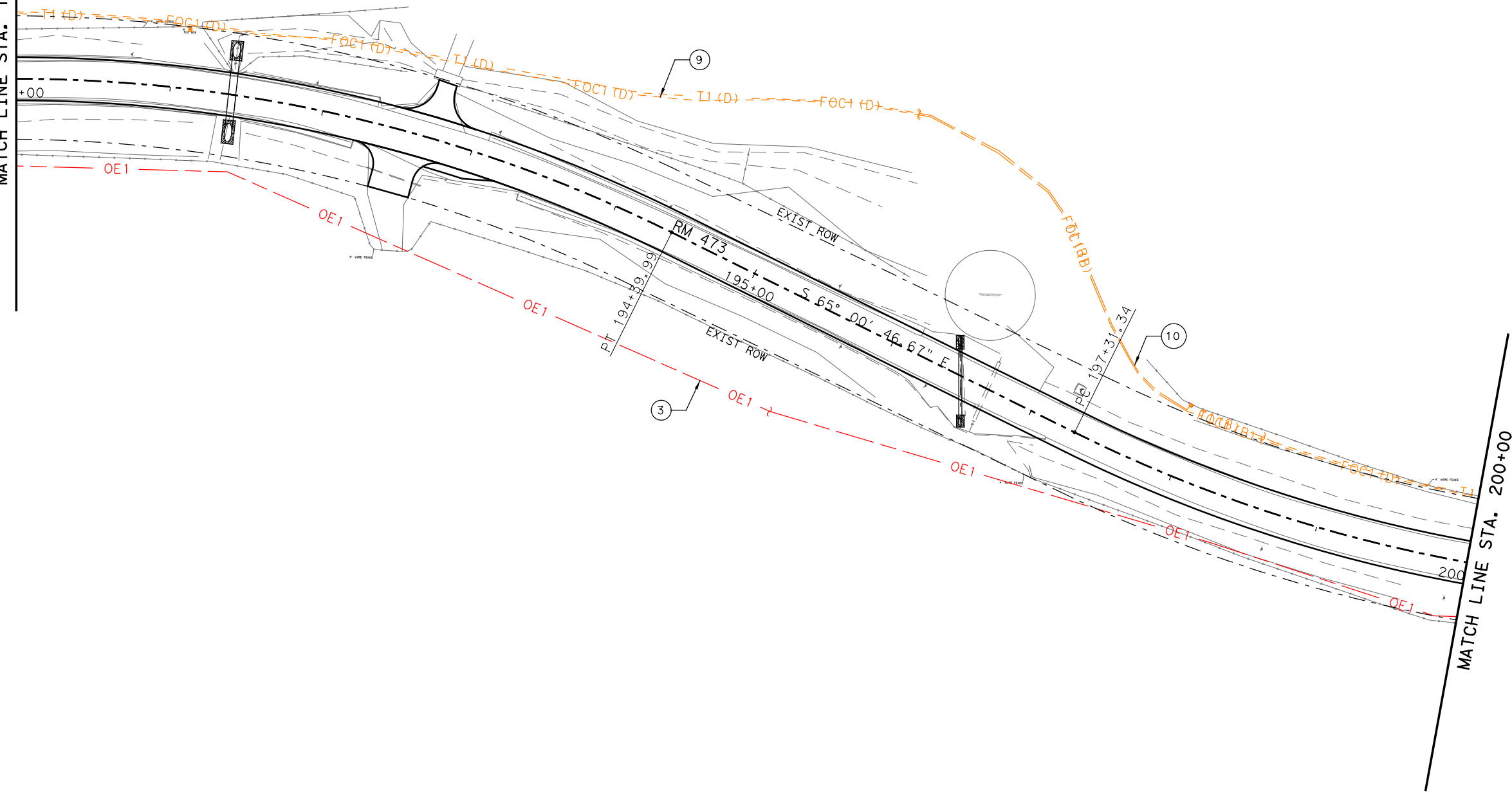
**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 8 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		381	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:02:1 PM  
 FILE: T:\XDOT\2017\17XDOT-UE\_3671DP5122V.WA 7- RM 473v4 - Utility Design Files\MDF\UTILITY\_LAYOUTS\EAST\RM\_473-UTILITY\_LAYOUT\_09.dgn

MATCH LINE STA. 190+00



MATCH LINE STA. 200+00

**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↕

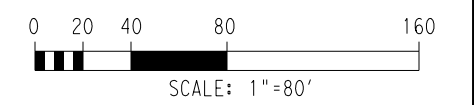
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

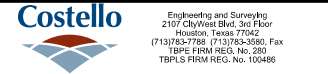
TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021



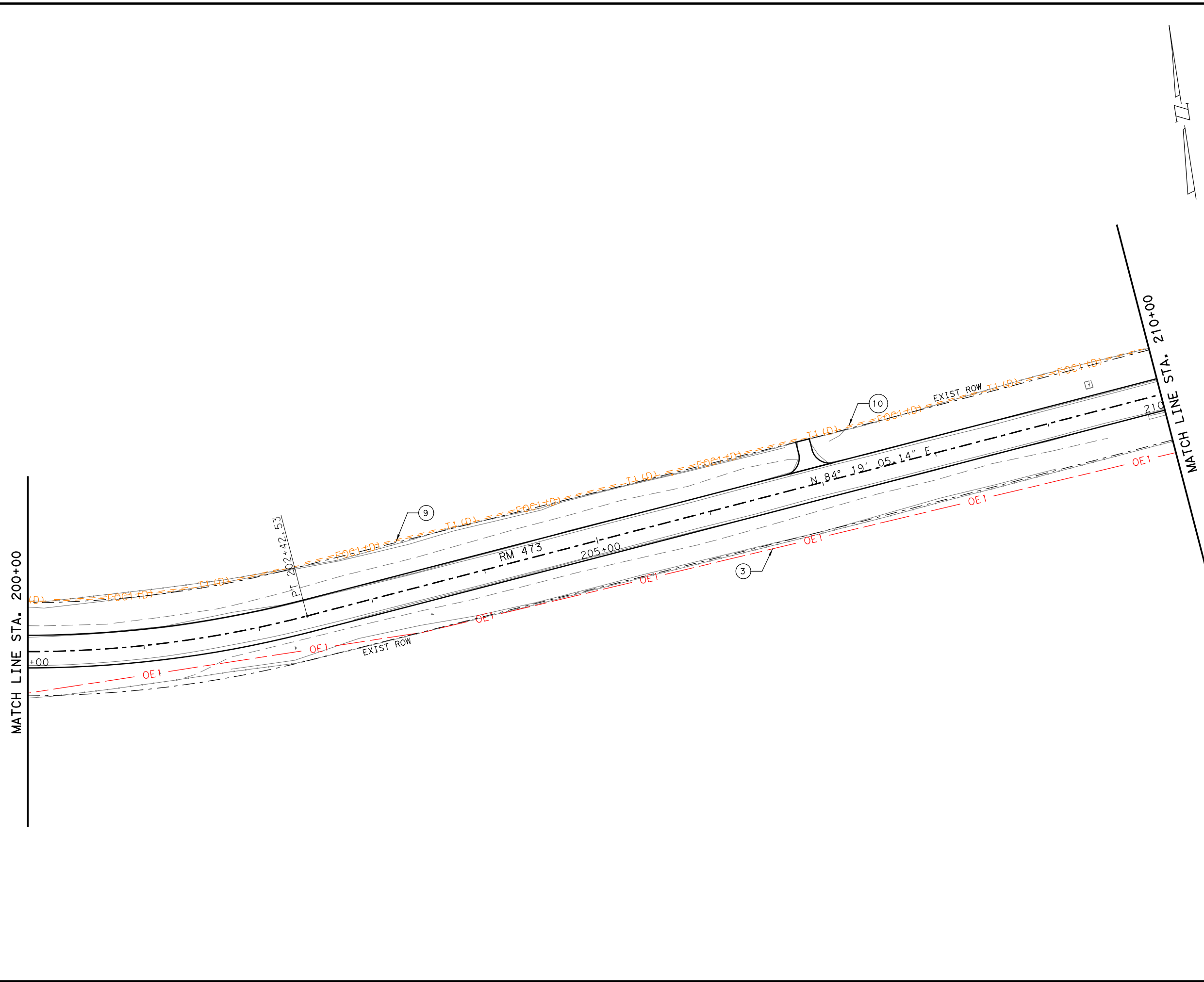
**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 9 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.
6		382

STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:04:22 PM  
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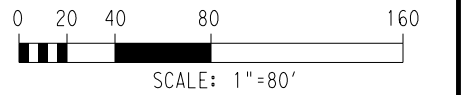
**UTILITY LEGEND**

- COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↕
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

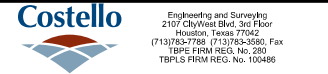
- REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

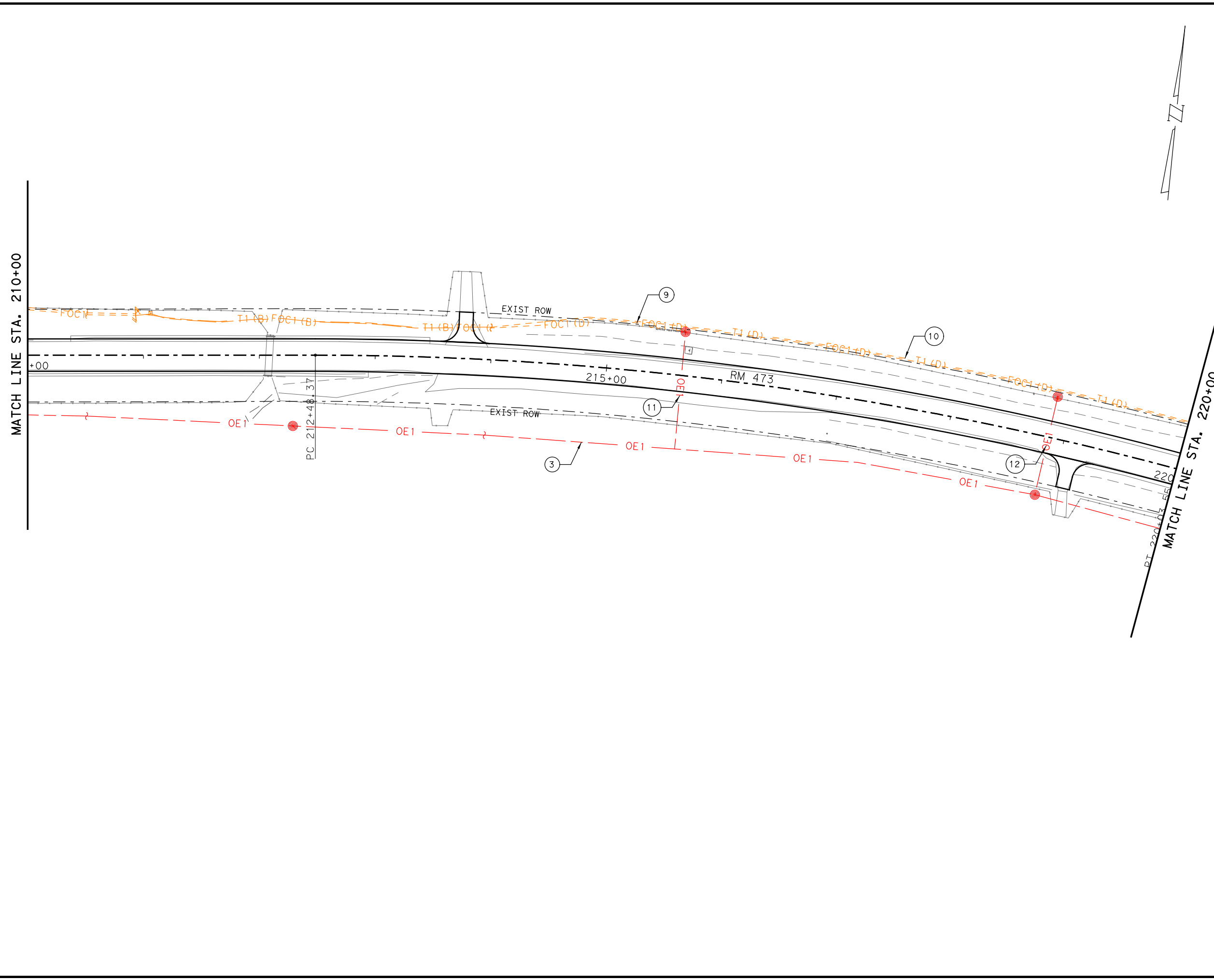


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 10 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		383	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:04:24 PM  
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### UTILITY LEGEND

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

### QUALITY LEVEL LEGEND

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)

0 20 40 80 160  
 SCALE: 1"=80'

NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER  
  
 4/22/2021



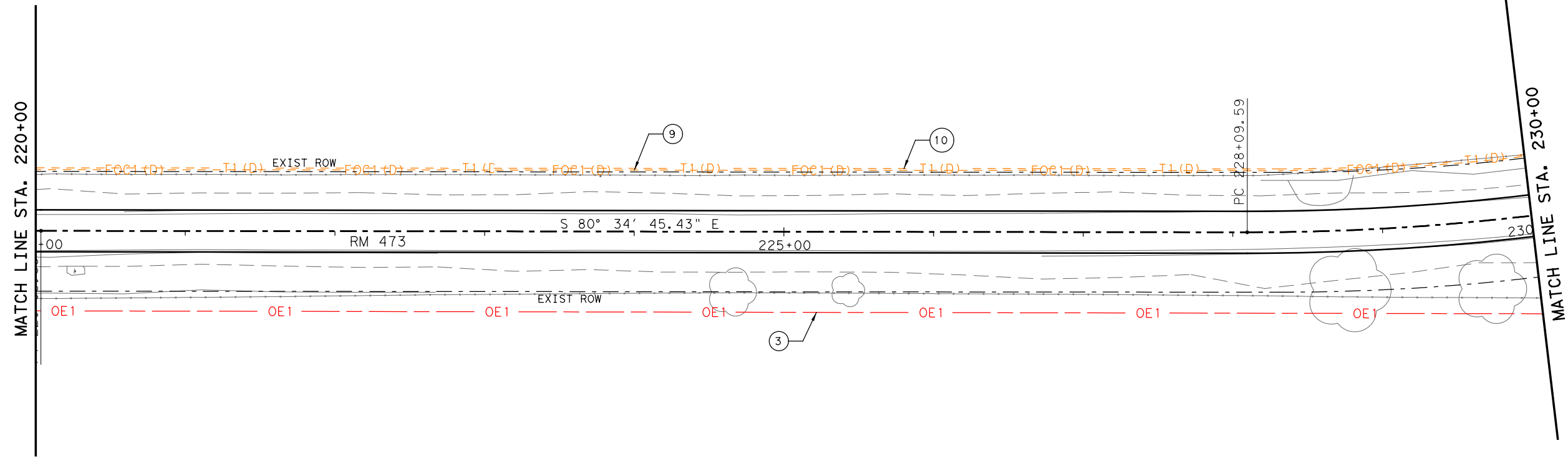
**Costello**  
 Engineering and Surveying  
 2101 Chynval Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 653-7788 (713) 778-3500 Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

## RM 473 EAST LOCATION UTILITY LAYOUT

SHEET 11 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		384	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:04:25 PM  
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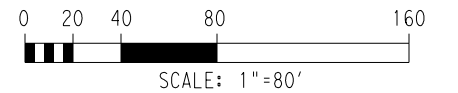
**UTILITY LEGEND**

- COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021



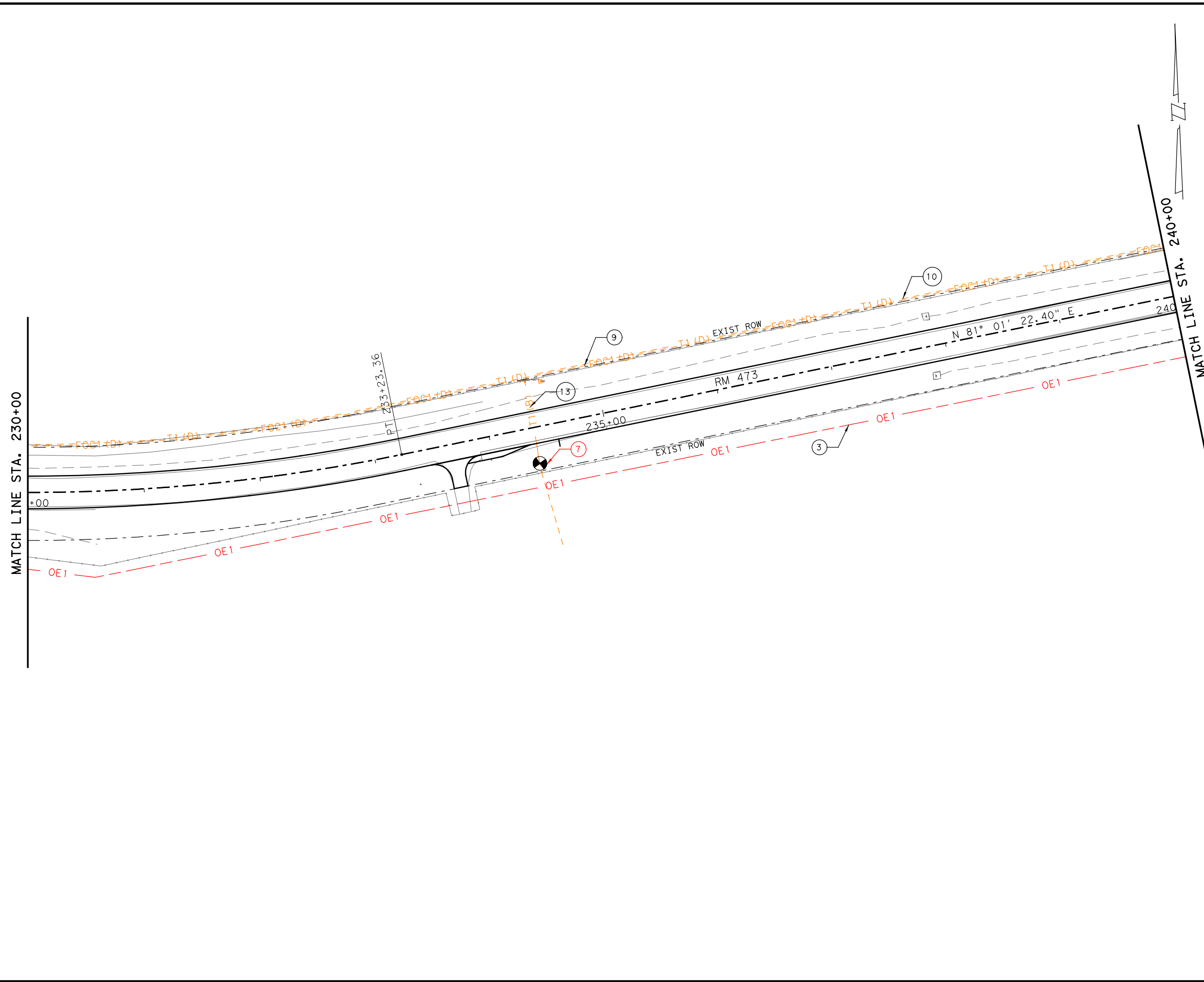
**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 12 OF 23

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 385
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		



DATE: 4/22/2021 12:10:27 PM  
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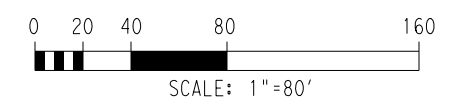
**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---  
 QUALITY LEVEL CHANGE ↕  
 UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**  
 QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)  
 TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



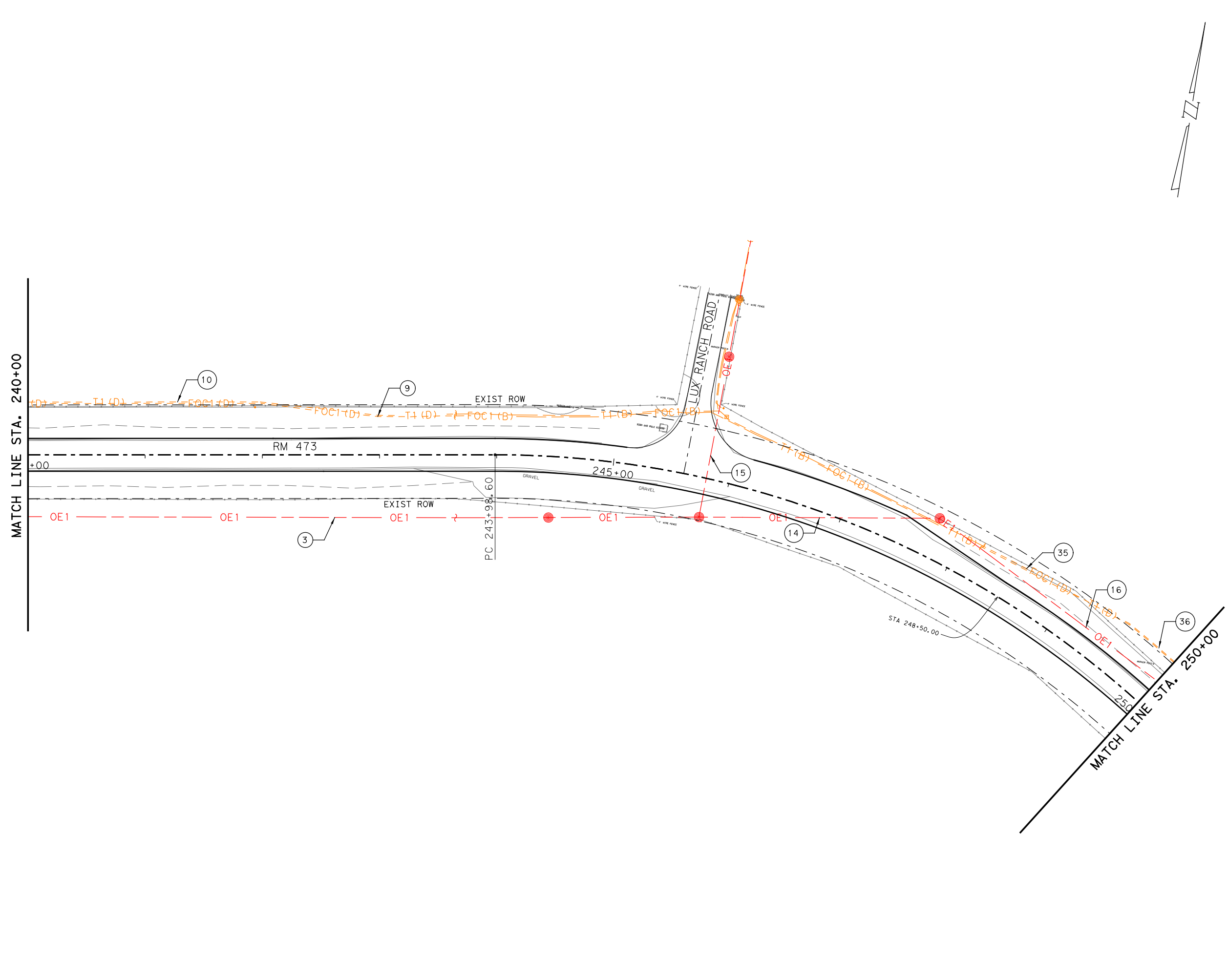
*[Signature]* 4/22/2021



**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 13 OF 23			
FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			386
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:04:28 PM  
 FILE: T:\XDOT\2017\17XDOT-UE\_3671DP5122V.WA 7- RM 473v4 - Utility Design Files\MDF\UTILITY\_LAYOUTS\EAST\RM\_473-UTILITY\_LAYOUT\_14.dgn



**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↕

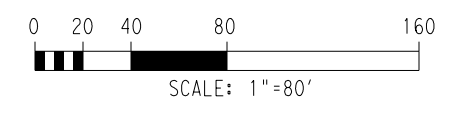
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER

*[Signature]* 4/22/2021



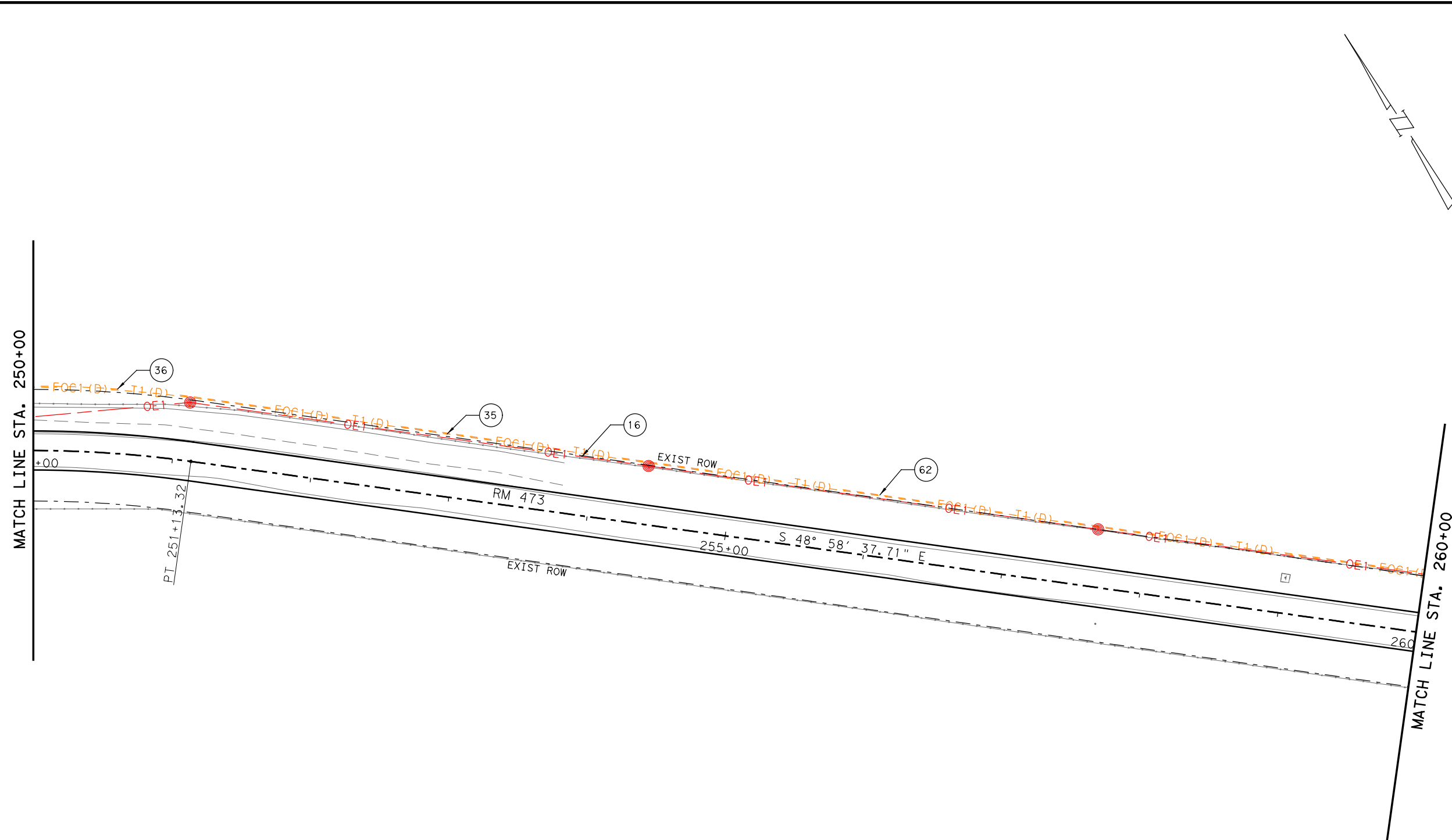
**Costello**  
 Engineering and Surveying  
 2107 Chynoweth Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 833-7788 (713) 778-3550, Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 14 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		387	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:03:30 PM  
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**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

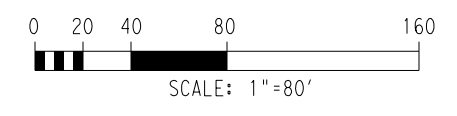
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

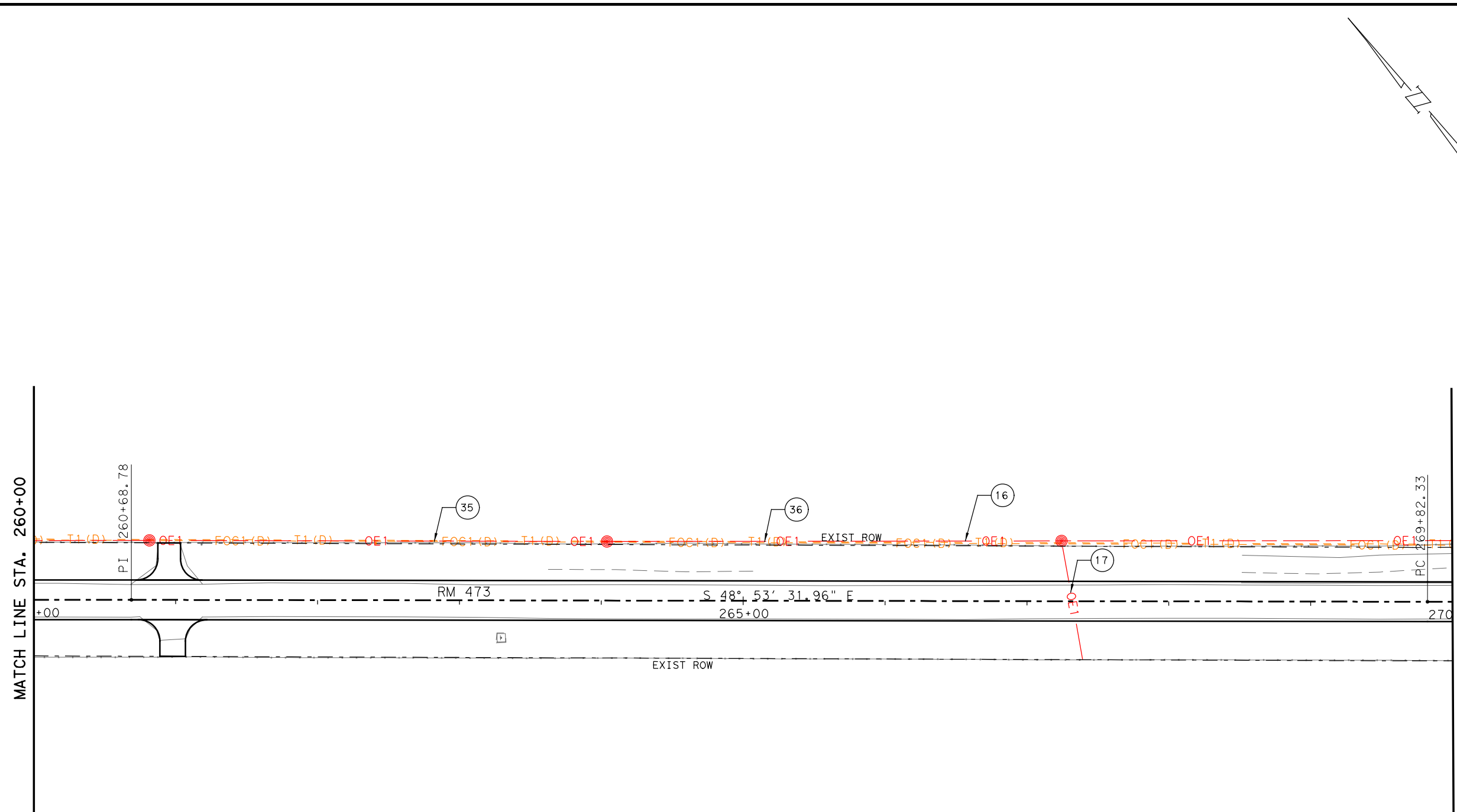


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 15 OF 23

FED. RD. DIV. NO. 6	PROJECT NO. 	SHEET NO. 388
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		

DATE: 4/22/2021 12:03:31 PM  
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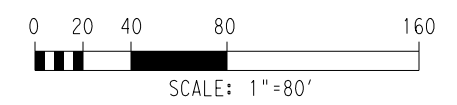
**UTILITY LEGEND**

- COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↴
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

- REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

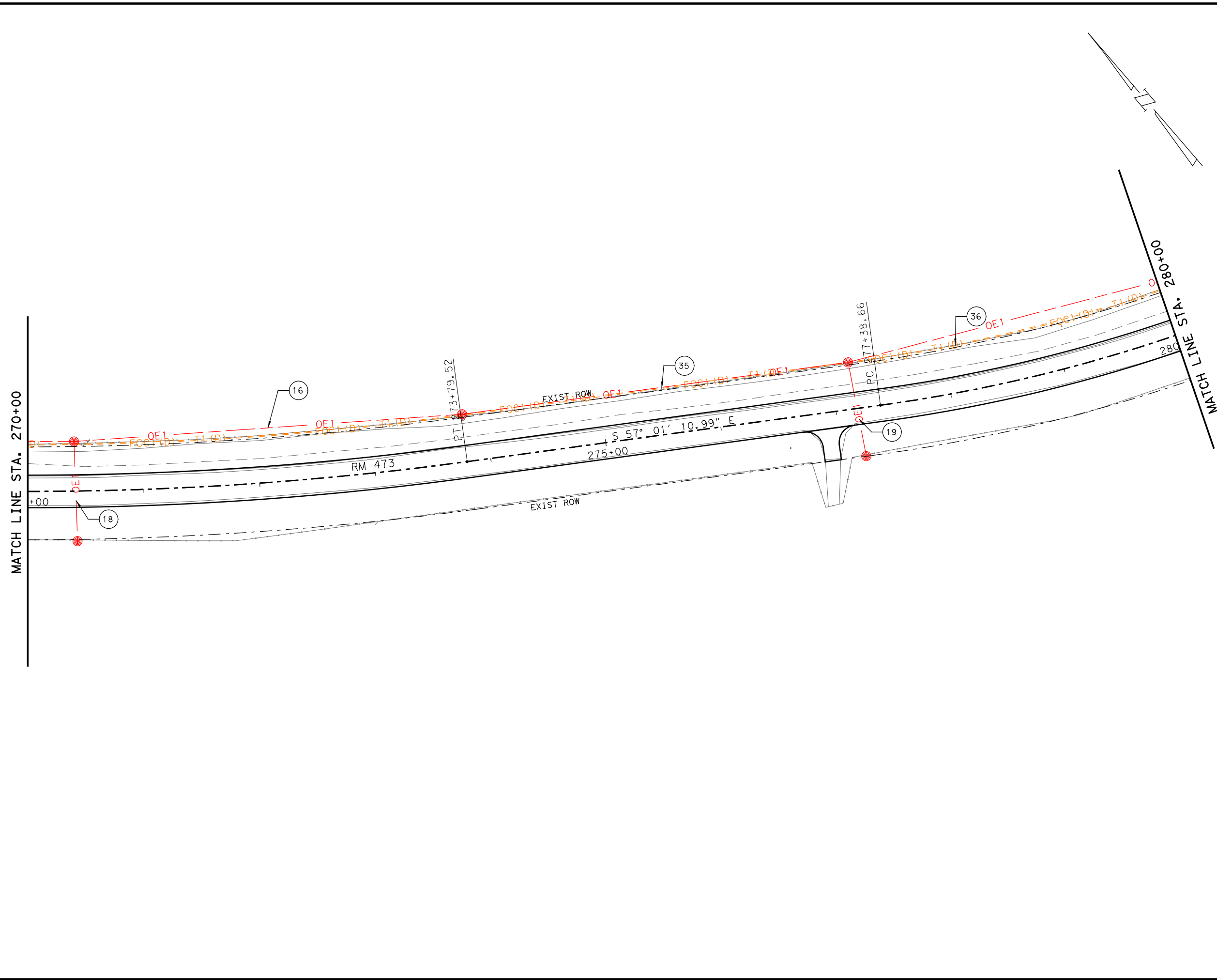


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 16 OF 23

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 389
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		

DATE: 4/22/2021 12:03:32 PM  
 FILE: T:\TXDOT\2017\17-0001-UE\_36-71DP5122V.WA 7- RM 473v4 - Utility Design Files\MDF\UTILITY\_LAYOUTS\EAST\RM\_473-UTILITY\_LAYOUT\_17.dgn



**UTILITY LEGEND**

**COMMUNICATION**

GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---

PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**

PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

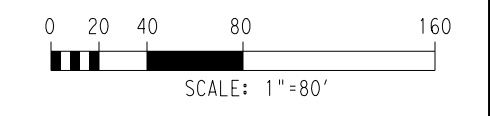
**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---

TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED

Professional Engineer Seal for Trisha D. Frederick, License No. 111405, State of Texas. Includes a signature and the date 4/22/2021.

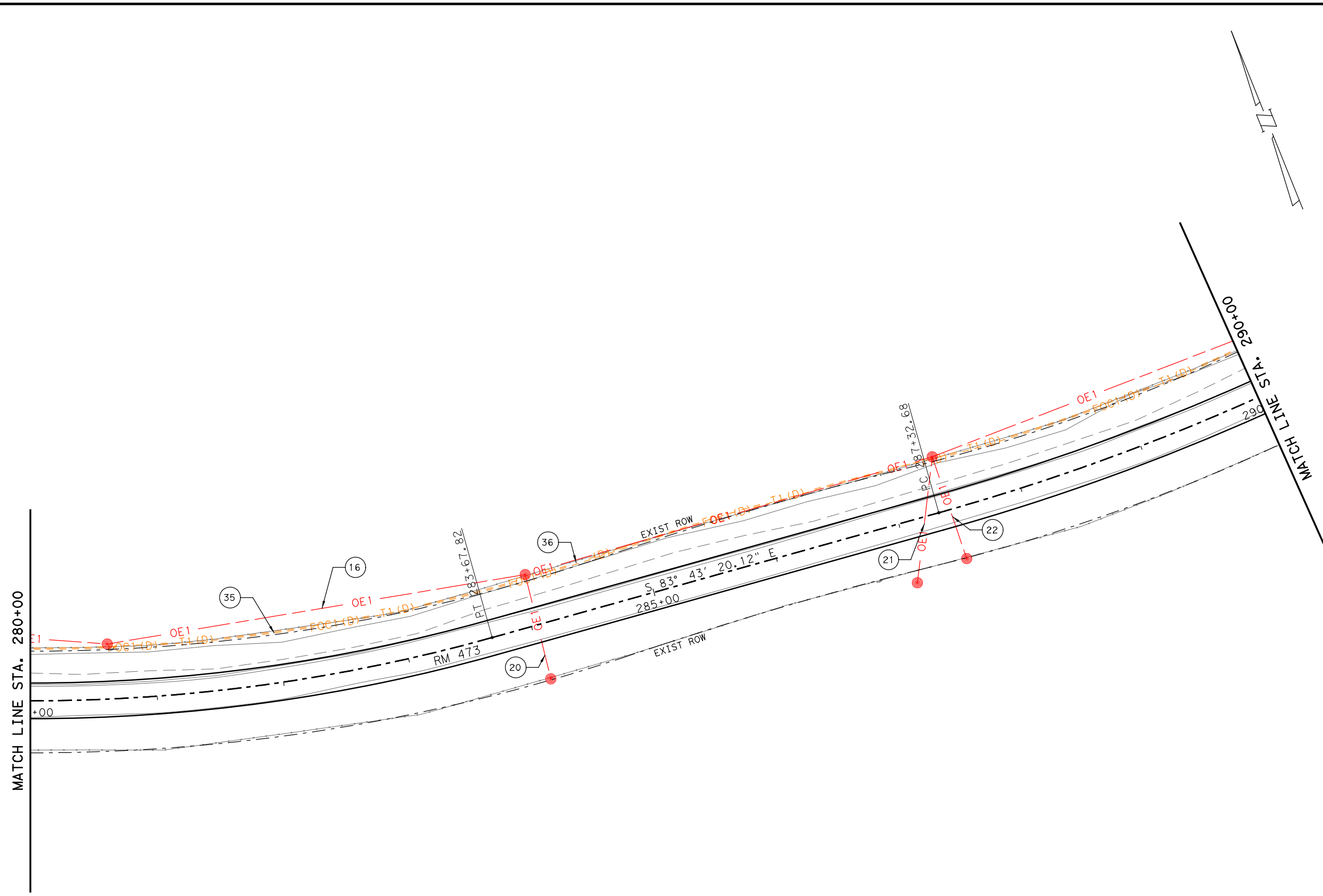


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 17 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		390	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473

DATE: 4/22/2021 12:03:34 PM  
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**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↕

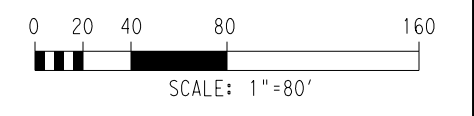
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

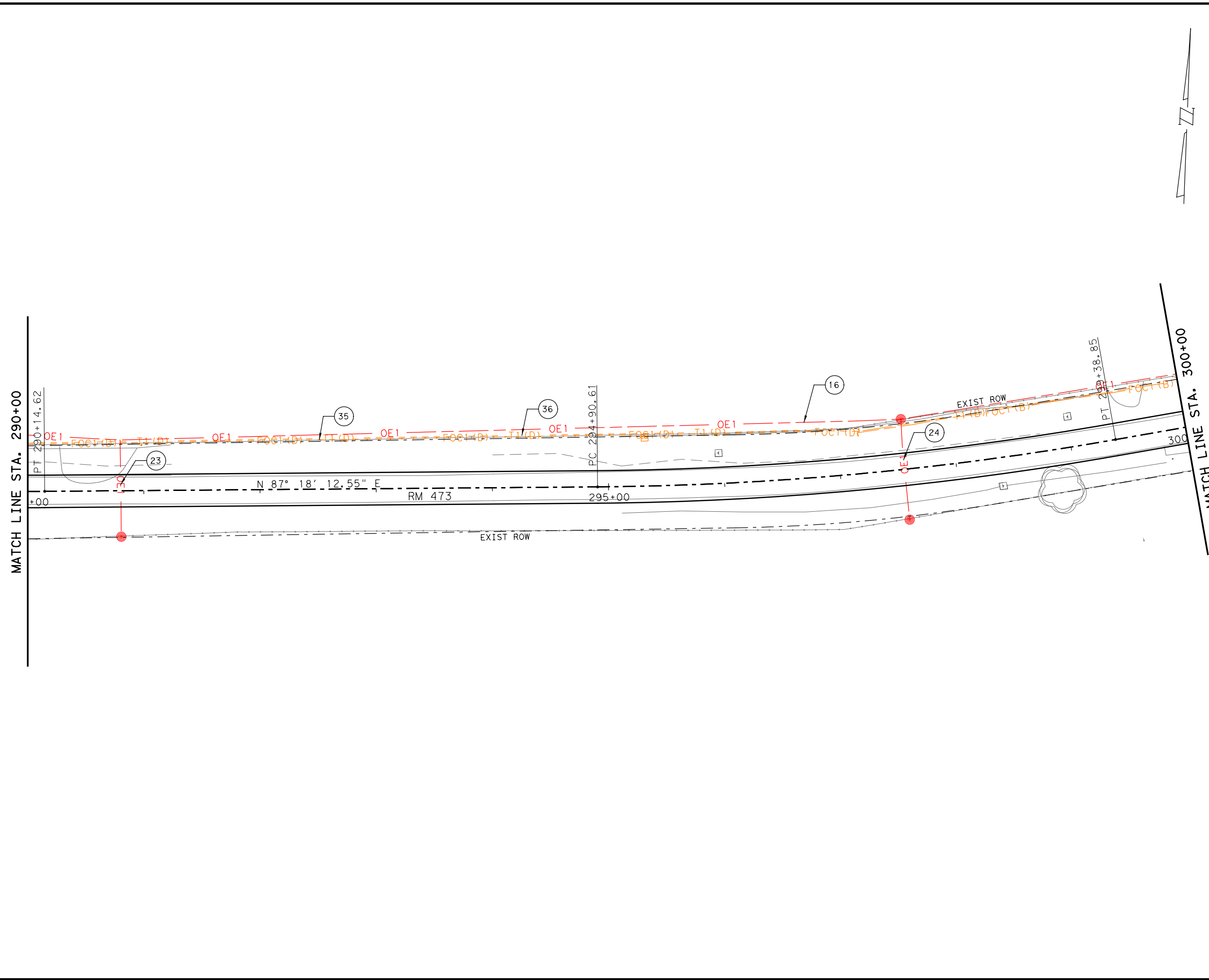


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 18 OF 23

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 391
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		

DATE: 4/22/2021 12:03:35 PM  
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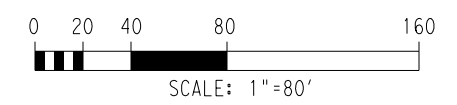
**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---  
 QUALITY LEVEL CHANGE ↕  
 UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**  
 QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)  
 TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021



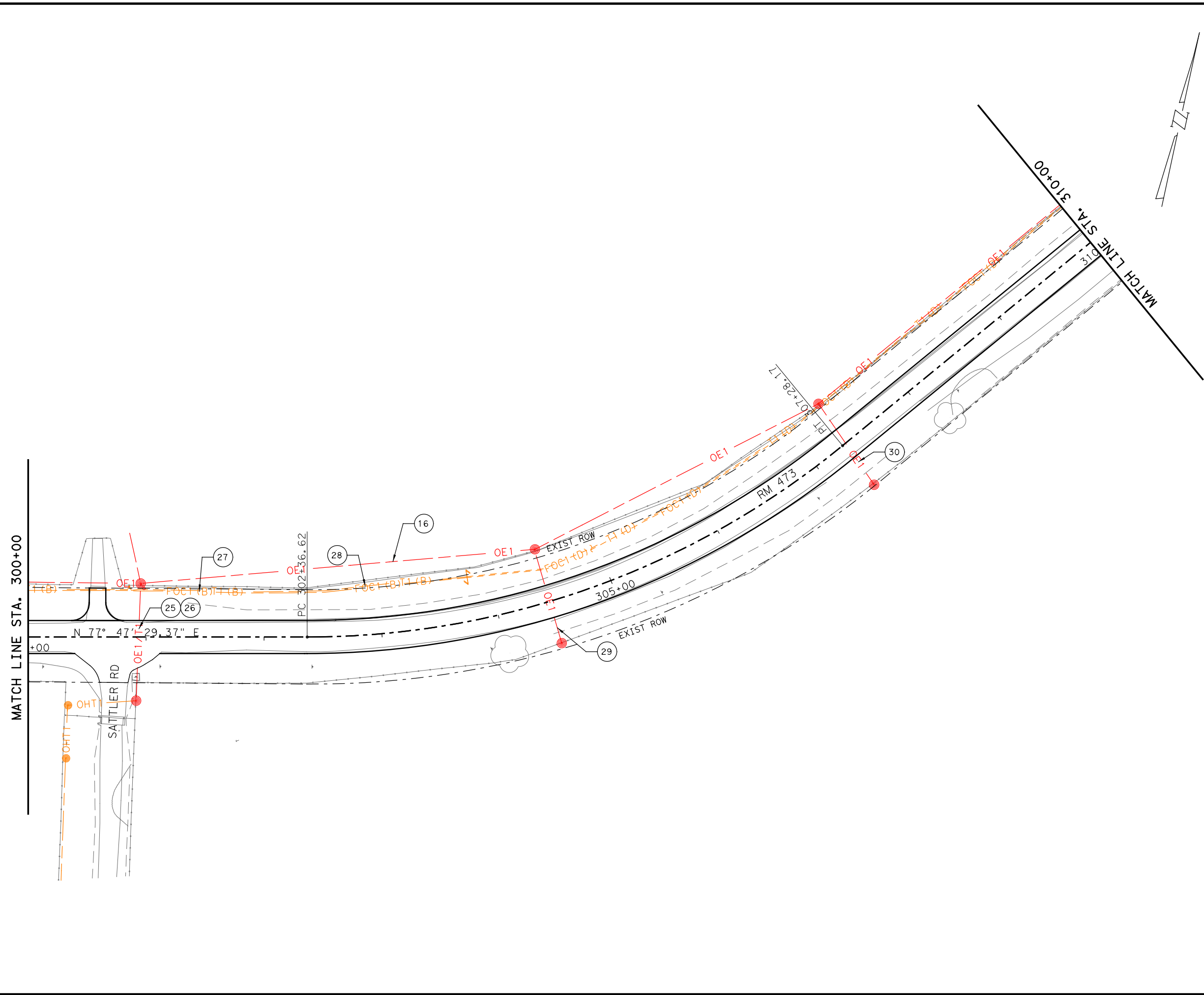
**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 19 OF 23

FED. RD. DIV. NO. 6	PROJECT NO. 	SHEET NO. 392
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		



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### UTILITY LEGEND

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

---

### QUALITY LEVEL LEGEND

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

TEST HOLE LOCATION (Symbol)

0 20 40 80 160  
 SCALE: 1"=80'

NO.	DATE	REVISION	APPROVED

STATE OF TEXAS  
 TRISHA D. FREDERICK  
 111405  
 LICENSED PROFESSIONAL ENGINEER  
  
 4/22/2021



**Costello**  
 Engineering and Surveying  
 2101 Chynest Blvd, 3rd Floor  
 Houston, Texas 77042  
 (713) 653-7788 (713) 7763-3550, Fax  
 TBPE FIRM REG. No. 280  
 TBPLS FIRM REG. No. 100486

**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

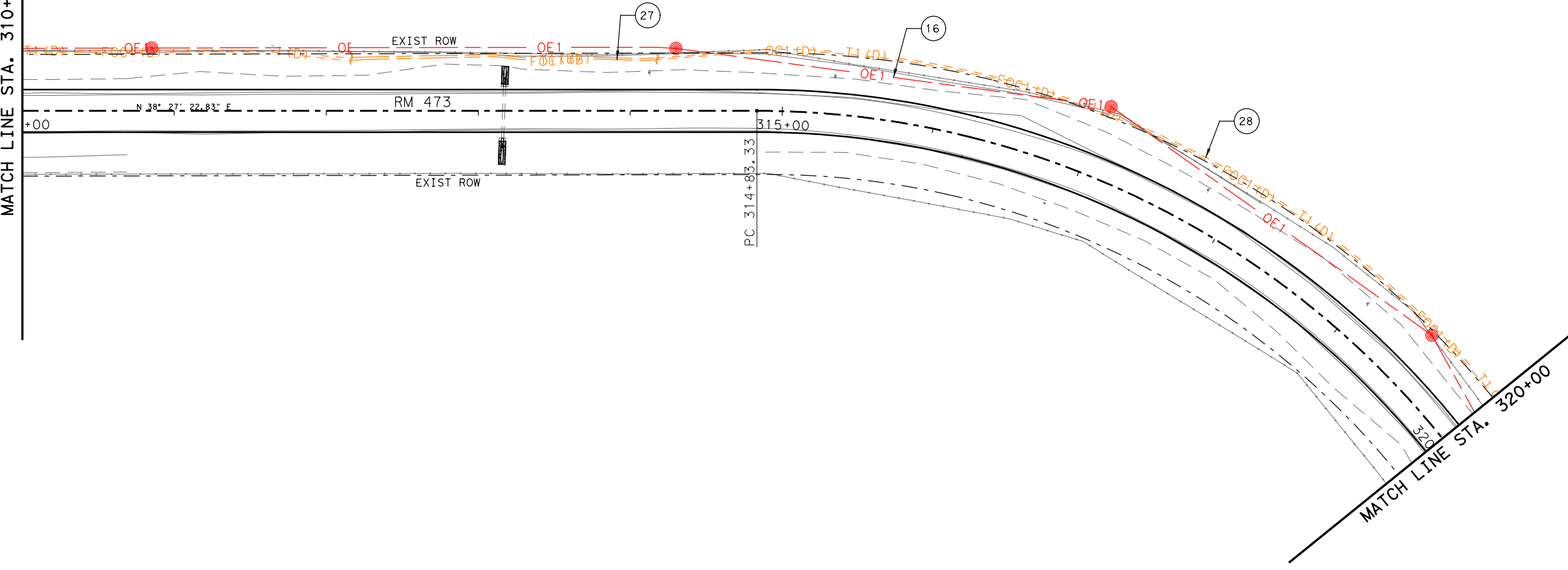
SHEET 20 OF 23

FED. RD. DIV. NO.	PROJECT NO.	SHEET NO.	
6		393	
STATE	DIST.	COUNTY	
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	STREET/ROAD:
0142	10	025	RM 473



DATE: 4/22/2021 12:03:38 PM  
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MATCH LINE STA. 310+00



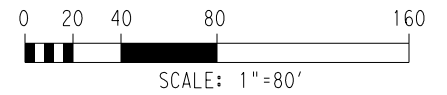
**UTILITY LEGEND**

- COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY
- ELECTRIC**  
 PERDANALES ELECTRIC --- OE1 ---
- QUALITY LEVEL CHANGE ↕
- UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

- QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

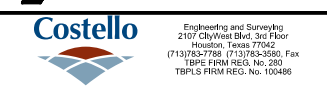
- REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)
- TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

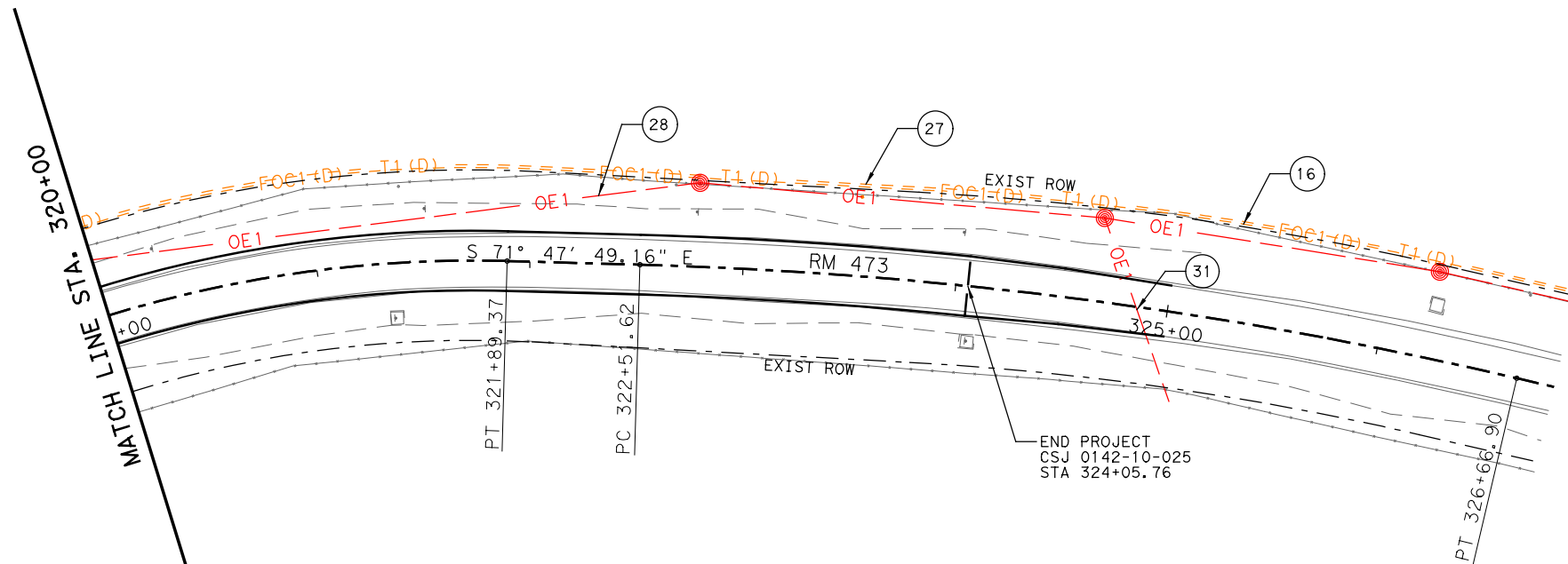


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 21 OF 23

FED. RD. DIV. NO. 6	PROJECT NO. 	SHEET NO. 394
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		

DATE: 4/22/2021 12:04:40 PM  
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**UTILITY LEGEND**

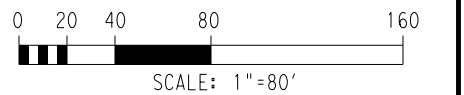
**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---  
 QUALITY LEVEL CHANGE ↕  
 UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- WB (A) ---  
 QUALITY LEVEL "B" --- WB (B) ---  
 QUALITY LEVEL "C" --- WB (C) ---  
 QUALITY LEVEL "D" --- WB (D) ---  
 TYPICAL FOR ALL UTILITIES

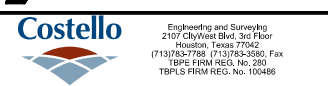
REFERENCE TEST HOLE NO. SEE TEST HOLE DATA SHEETS (XX)  
 TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

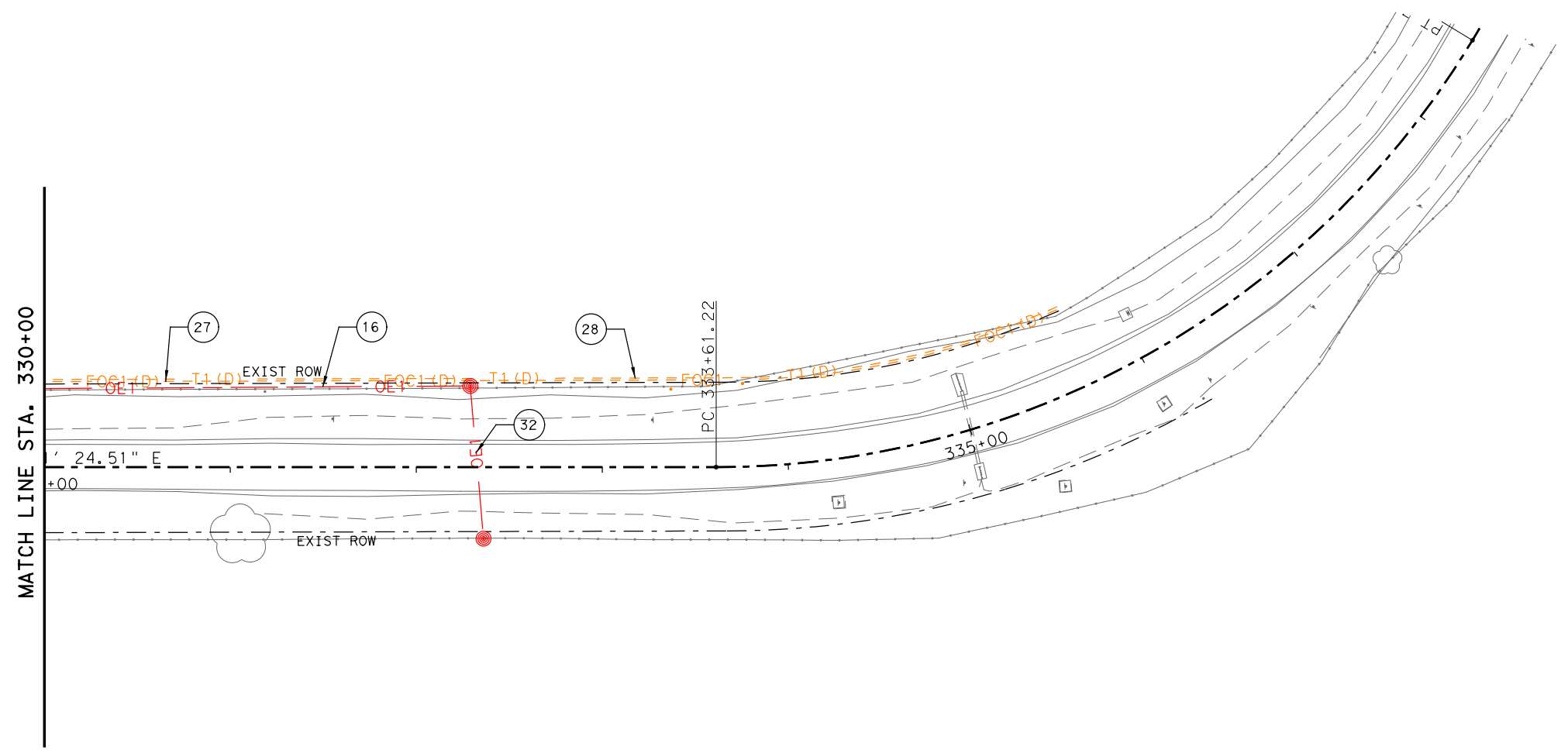


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 22 OF 23

FED. RD. DIV. NO. 6	PROJECT NO. 395	SHEET NO. 22
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		

DATE: 4/22/2021 12:04:11 PM  
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**UTILITY LEGEND**

**COMMUNICATION**  
 GUADALUPE VALLEY (TELE) --- T1 (D) ---  
 GUADALUPE VALLEY (FO) --- FOC1 (D) ---  
 PRECEDING "OH" DESIGNATION ON ABOVE UTILITIES INDICATES OVERHEAD UTILITY

**ELECTRIC**  
 PERDENALES ELECTRIC --- OE1 ---

QUALITY LEVEL CHANGE ↴

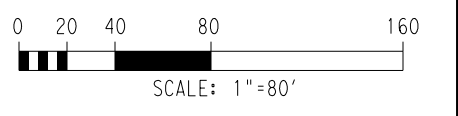
UTILITY CONFLICT LOCATION ID AS REFERENCED IN THE MATRIX (XX)

**QUALITY LEVEL LEGEND**

QUALITY LEVEL "A" --- W8 (A) ---  
 QUALITY LEVEL "B" --- W8 (B) ---  
 QUALITY LEVEL "C" --- W8 (C) ---  
 QUALITY LEVEL "D" --- W8 (D) ---  
 TYPICAL FOR ALL UTILITIES

REFERENCE TEST HOLE No. SEE TEST HOLE DATA SHEETS (XX)

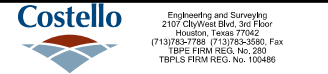
TEST HOLE LOCATION (Symbol)



NO.	DATE	REVISION	APPROVED



*[Signature]* 4/22/2021

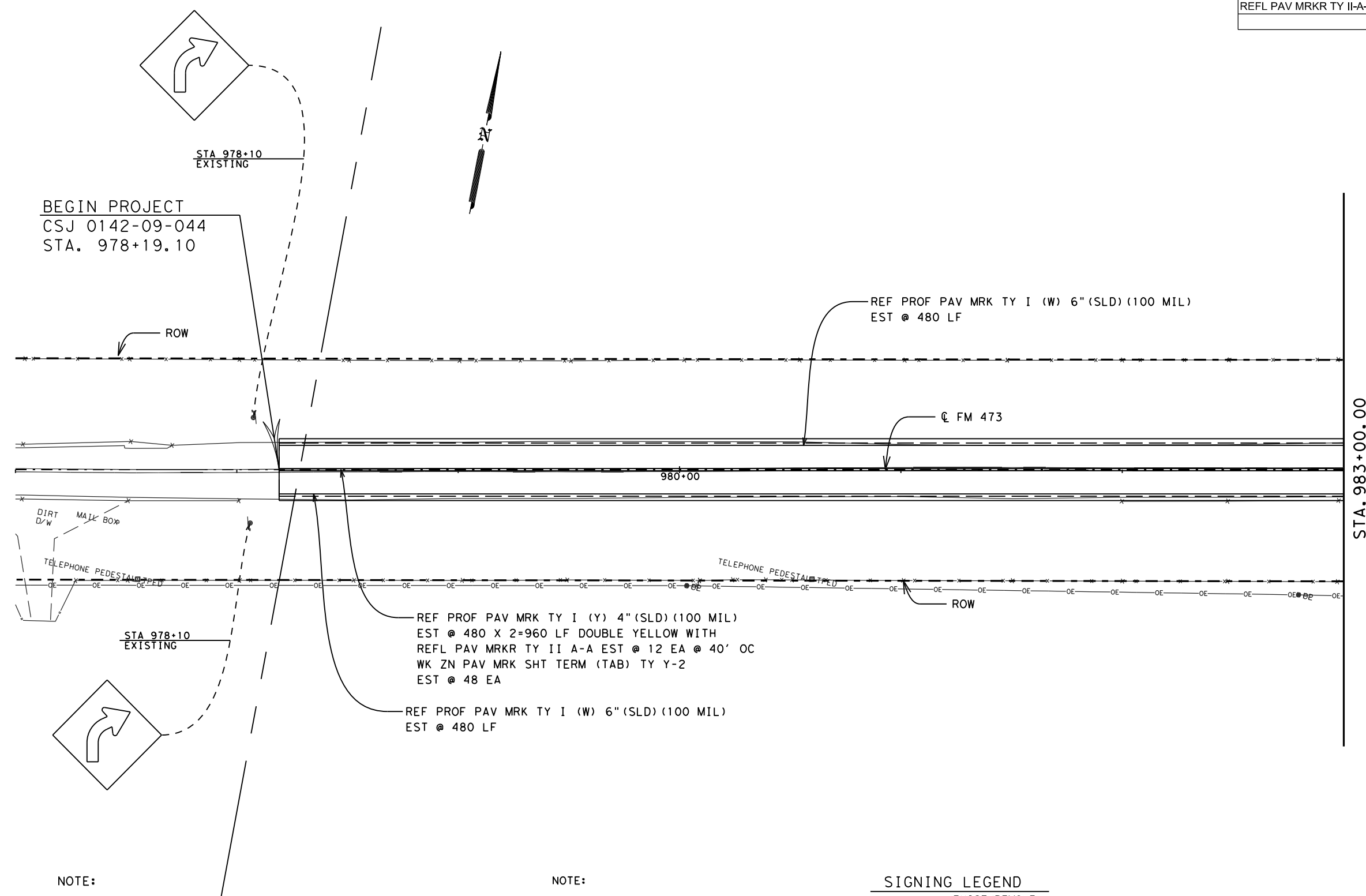


**RM 473  
 EAST LOCATION  
 UTILITY LAYOUT**

SHEET 23 OF 23

FED. RD. DIV. NO. 6	PROJECT NO.	SHEET NO. 396
STATE TEXAS	DIST. SAT	COUNTY KENDALL
CONT. 0142	SECT. 10	JOB 025
STREET/ROAD: RM 473		

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	48	EA
PAVEMENT SEALER 4"	960	LF
PAVEMENT SEALER 6"	960	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	960	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	960	LF
REFL PAV MRKR TY II-A-A	12	EA



**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

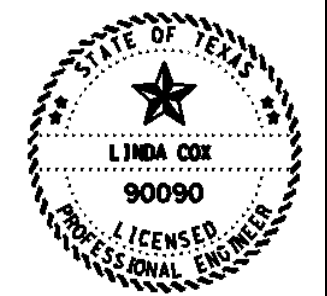
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♀ (OM-2Z) (FLX) (GND/SRF)
- ♀ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-09-044



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

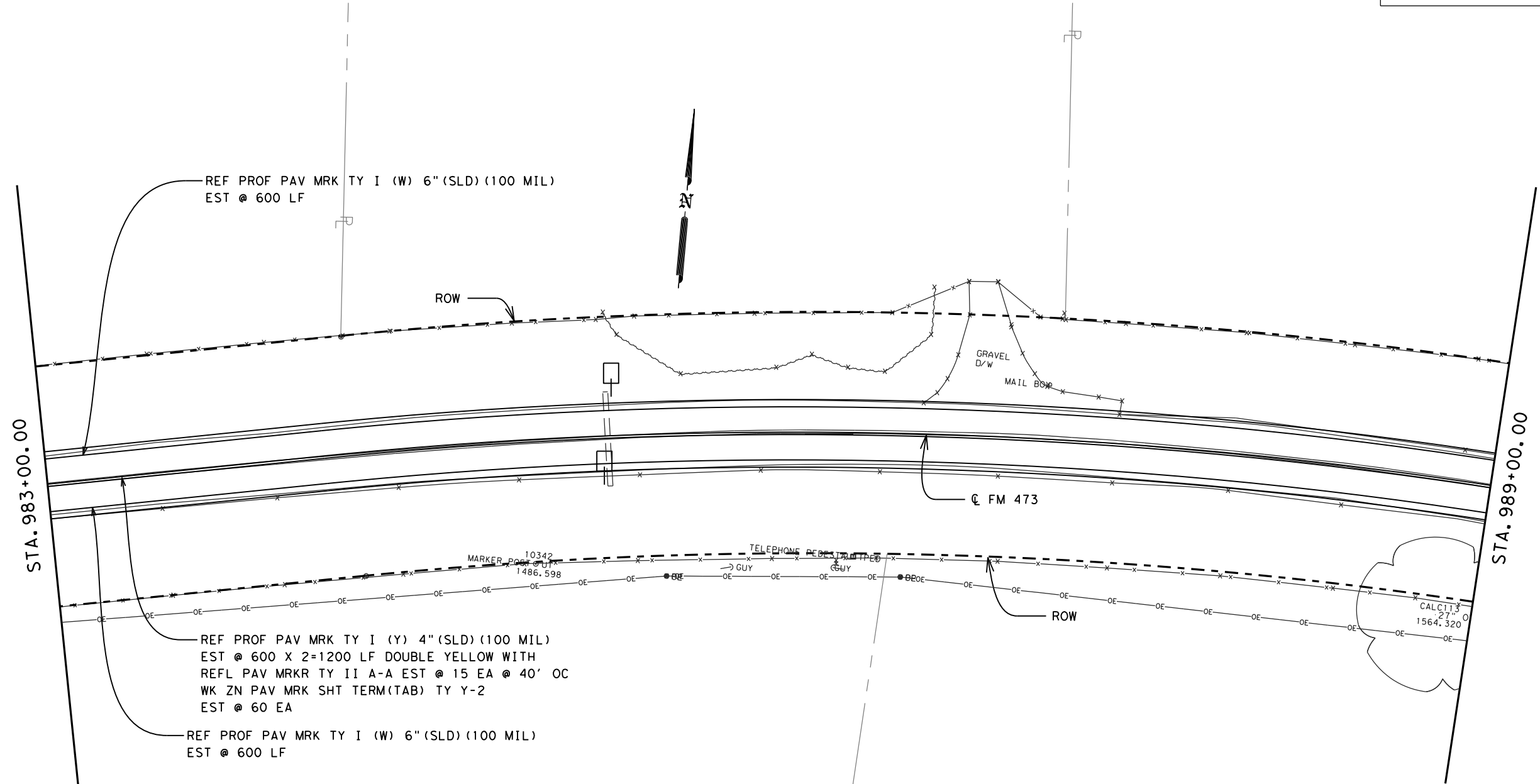


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		397

DATE: 4/26/2021 5:00:43 PM  
FILE: c:\txdot\pw\_online\mark\_nor\endor\_f\0239902\PAV\MRK0001.dgn

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
REMOVE DELIN & OBJECT MARKERS ASSMS	2	EA
INSTR OM ASSM(OM-2Z) (WFLX)GND	2	EA

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
EST @ 600 X 2=1200 LF DOUBLE YELLOW WITH  
REFL PAV MRKR TY II A-A EST @ 15 EA @ 40' OC  
WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
EST @ 60 EA

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF

**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

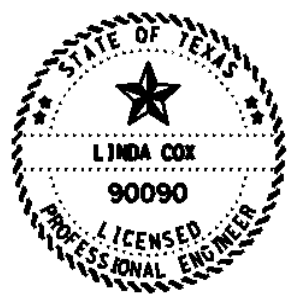
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- (OM-2Z) (FLX) (GND/SRF)
- ⊞ (OM-3R/L) (FLX) (GND/SRF)



Linda Cox, P.E.

04/28/2021

CSJ 0142-09-044



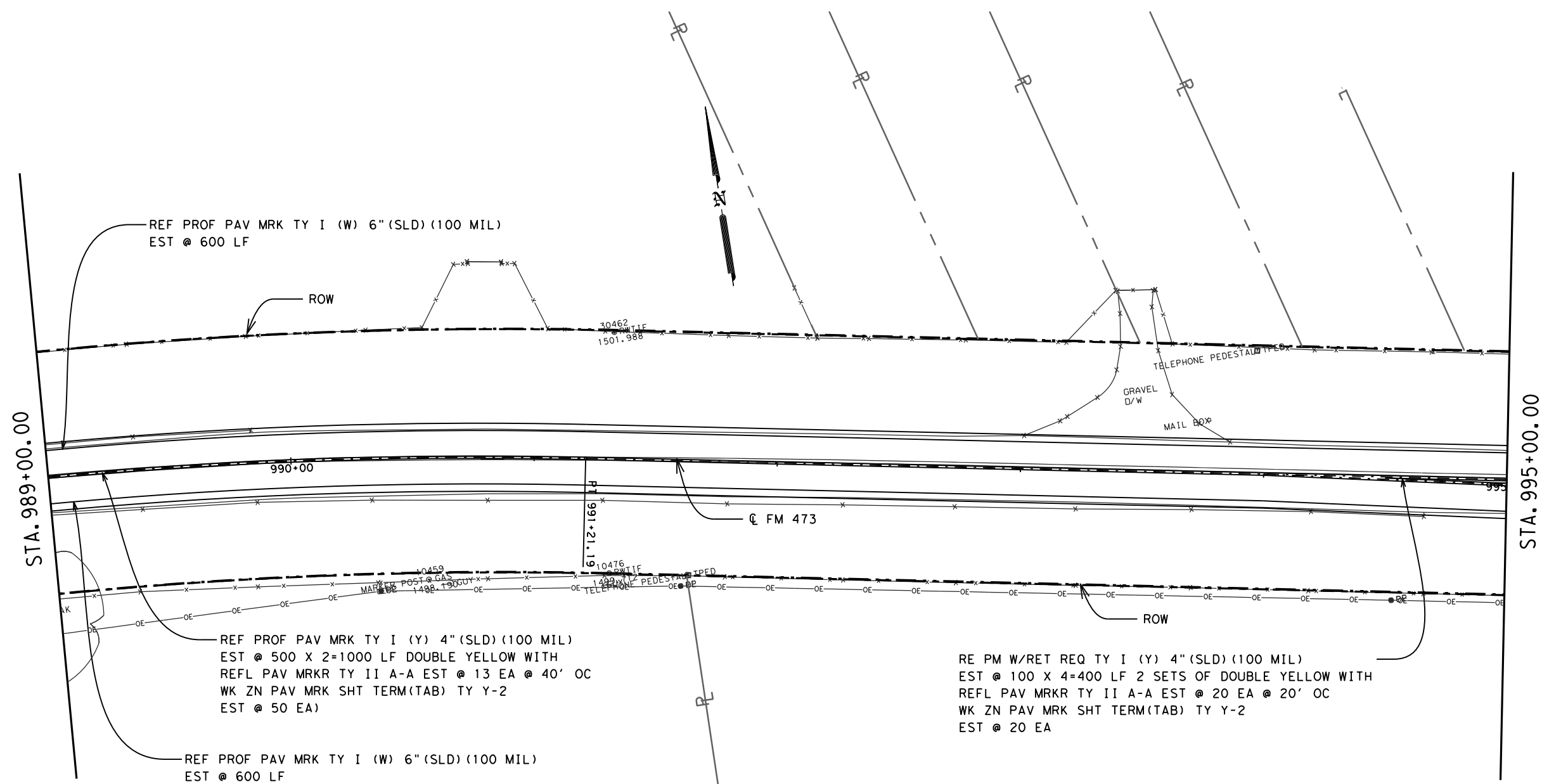
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		398

DATE: 4/26/2021 5:00:53 PM  
FILE: c:\txdot\pw\_online\txdot4\mark\_norendor\0239902\PAVMRK0002.dgn

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	70	EA
PAVEMENT SEALER 4"	1400	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1400	LF
REFL PAV MRKR TY II-A-A	33	EA



**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

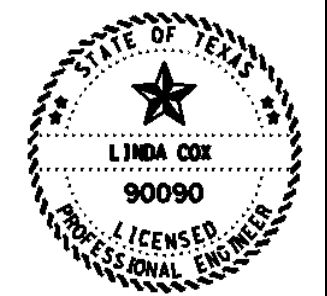
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-09-044



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

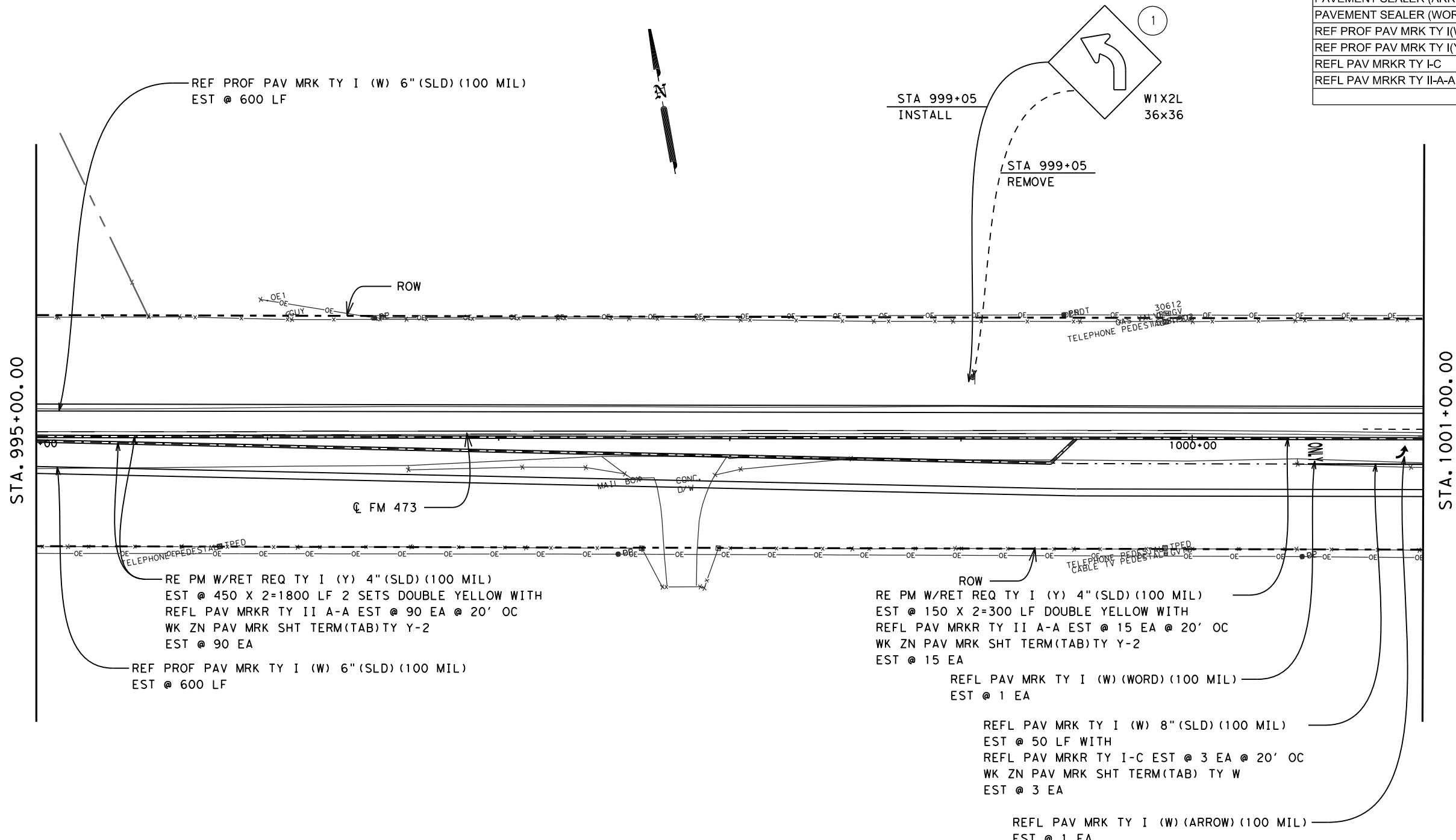
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		399

DATE: 4/26/2021 5:01:03 PM  
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ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	1	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY W	3	EA
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	105	EA
REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	50	LF
REFL PAV MRK TY I (W) (ARROW) (100MIL)	1	EA
REFL PAV MRK TY I (W) (WORD) (100MIL)	1	EA
PAVEMENT SEALER 4"	2100	LF
PAVEMENT SEALER 6"	1200	LF
PAVEMENT SEALER 8"	50	LF
PAVEMENT SEALER (ARROW)	1	EA
PAVEMENT SEALER (WORD)	1	EA
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	2100	LF
REFL PAV MRKR TY I-C	3	EA
REFL PAV MRKR TY II-A-A	105	EA



**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

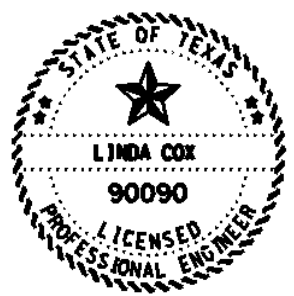
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-09-044



RM 473  
**PAVEMENT MARKING & SIGNING LAYOUTS**



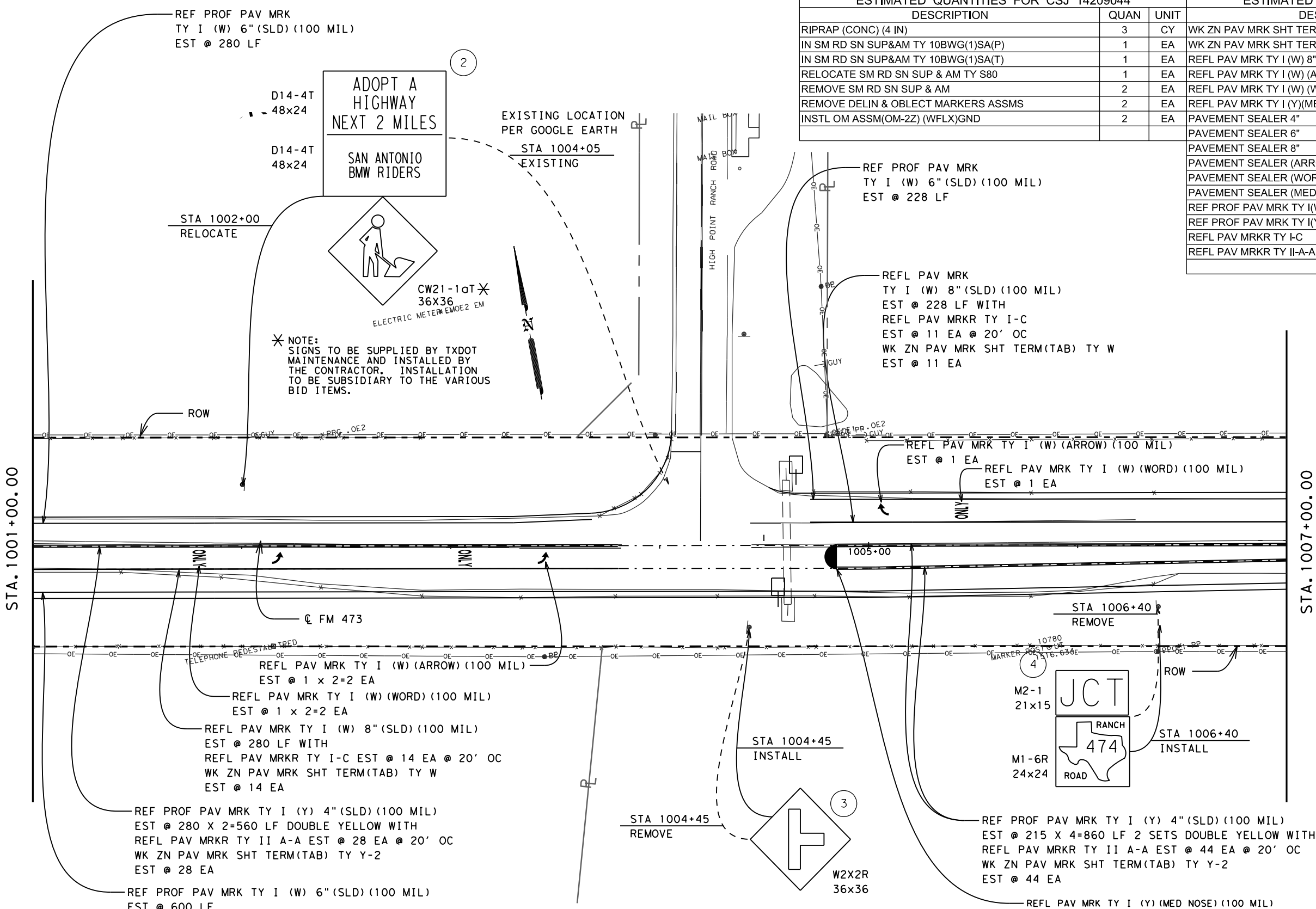
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		400

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DATE: 4/26/2021 5:01:22 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark\_norendor\0239902\PAV\MRK0005.dgn

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	3	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
RELOCATE SM RD SN SUP & AM TY S80	1	EA
REMOVE SM RD SN SUP & AM	2	EA
REMOVE DELIN & OBLCT MARKERS ASSMS	2	EA
INSTR OM ASSM(OM-2Z) (WFLX)GND	2	EA

ESTIMATED QUANTITIES FOR CSJ 14209044			ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT	DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY W	25	EA	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	82	EA
REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	508	LF	REFL PAV MRK TY I (W) (ARROW) (100MIL)	3	EA
REFL PAV MRK TY I (W) (WORD) (100MIL)	3	EA	REFL PAV MRK TY I (Y)(MED NOSE)(100MIL)	1	EA
REFL PAV MRK TY I (Y)(MED NOSE)(100MIL)	1	EA	PAVEMENT SEALER 4"	1420	LF
PAVEMENT SEALER 4"	1420	LF	PAVEMENT SEALER 6"	1108	LF
PAVEMENT SEALER 6"	1108	LF	PAVEMENT SEALER 8"	540	LF
PAVEMENT SEALER 8"	540	LF	PAVEMENT SEALER (ARROW)	3	EA
PAVEMENT SEALER (ARROW)	3	EA	PAVEMENT SEALER (WORD)	3	EA
PAVEMENT SEALER (WORD)	3	EA	PAVEMENT SEALER (MED NOSE)	1	EA
PAVEMENT SEALER (MED NOSE)	1	EA	REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1108	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1108	LF	REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1420	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1420	LF	REFL PAV MRKR TY I-C	25	EA
REFL PAV MRKR TY I-C	25	EA	REFL PAV MRKR TY II-A-A	82	EA
REFL PAV MRKR TY II-A-A	82	EA			



**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

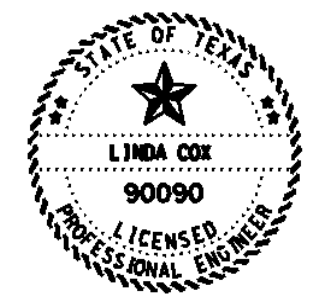
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CTIY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



Linda Cox, P.E.  
 04/28/2021

CSJ 0142-09-044



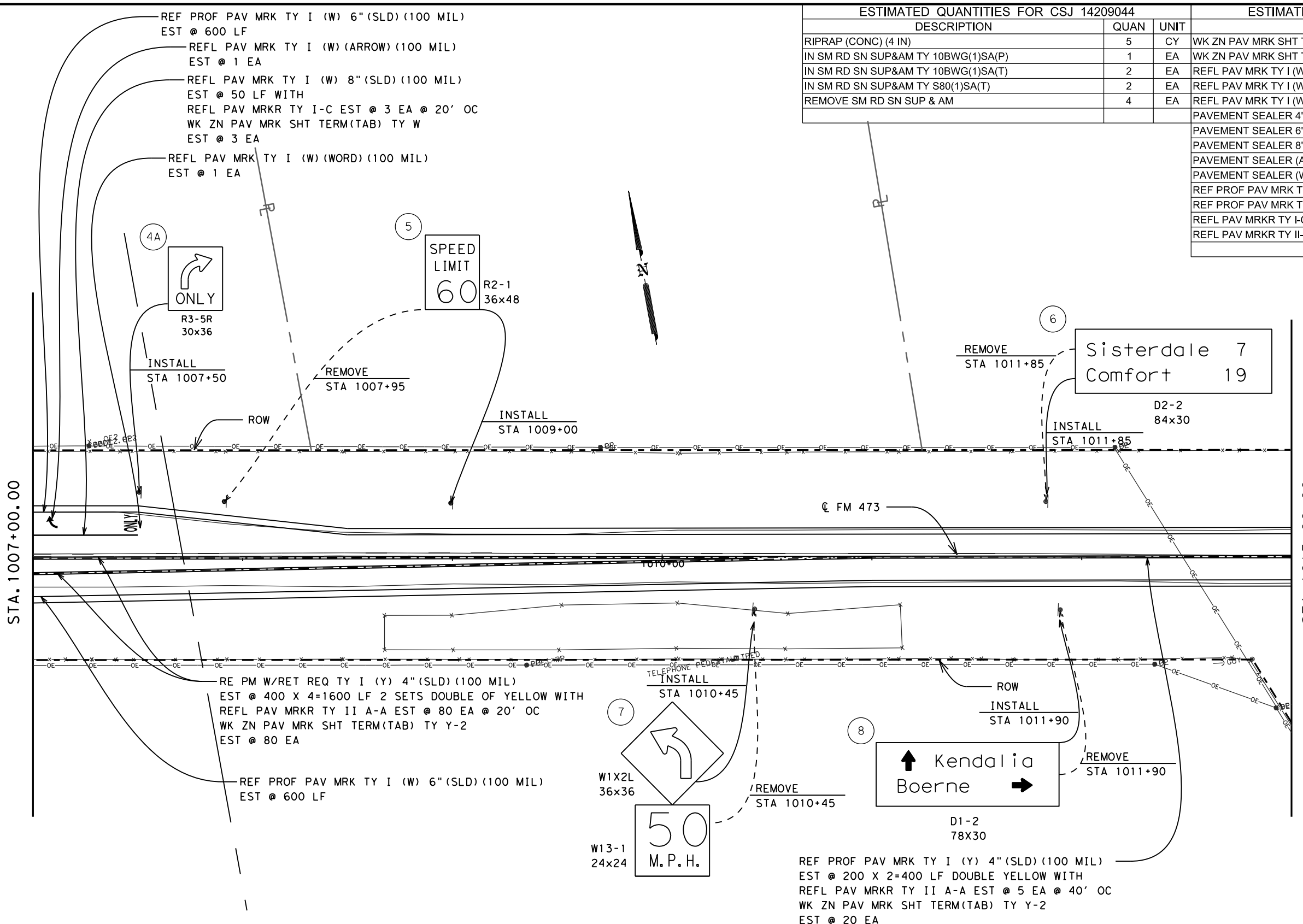
RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS

Texas Department of Transportation		SHEET 5 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY	SHEET NO.	
SAT	KENDALL	401	



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CHK: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 CCK: \_\_\_\_\_  
 DNE: \_\_\_\_\_



ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	5	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	2	EA
IN SM RD SN SUP&AM TY S80(1)SA(T)	2	EA
REMOVE SM RD SN SUP & AM	4	EA

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY W	3	EA
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	100	EA
REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	50	LF
REFL PAV MRK TY I (W) (ARROW) (100MIL)	1	EA
REFL PAV MRK TY I (W) (WORD) (100MIL)	1	EA
PAVEMENT SEALER 4"	2000	LF
PAVEMENT SEALER 6"	1200	LF
PAVEMENT SEALER 8"	50	LF
PAVEMENT SEALER (ARROW)	1	EA
PAVEMENT SEALER (WORD)	1	EA
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	2000	LF
REFL PAV MRKR TY I-C	3	EA
REFL PAV MRKR TY II-A-A	85	EA

**NOTE:**

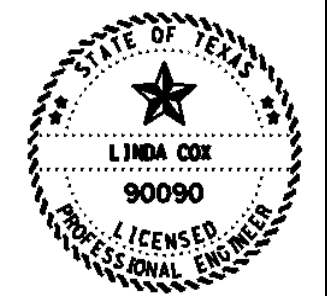
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**NOTE:**

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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-09-044

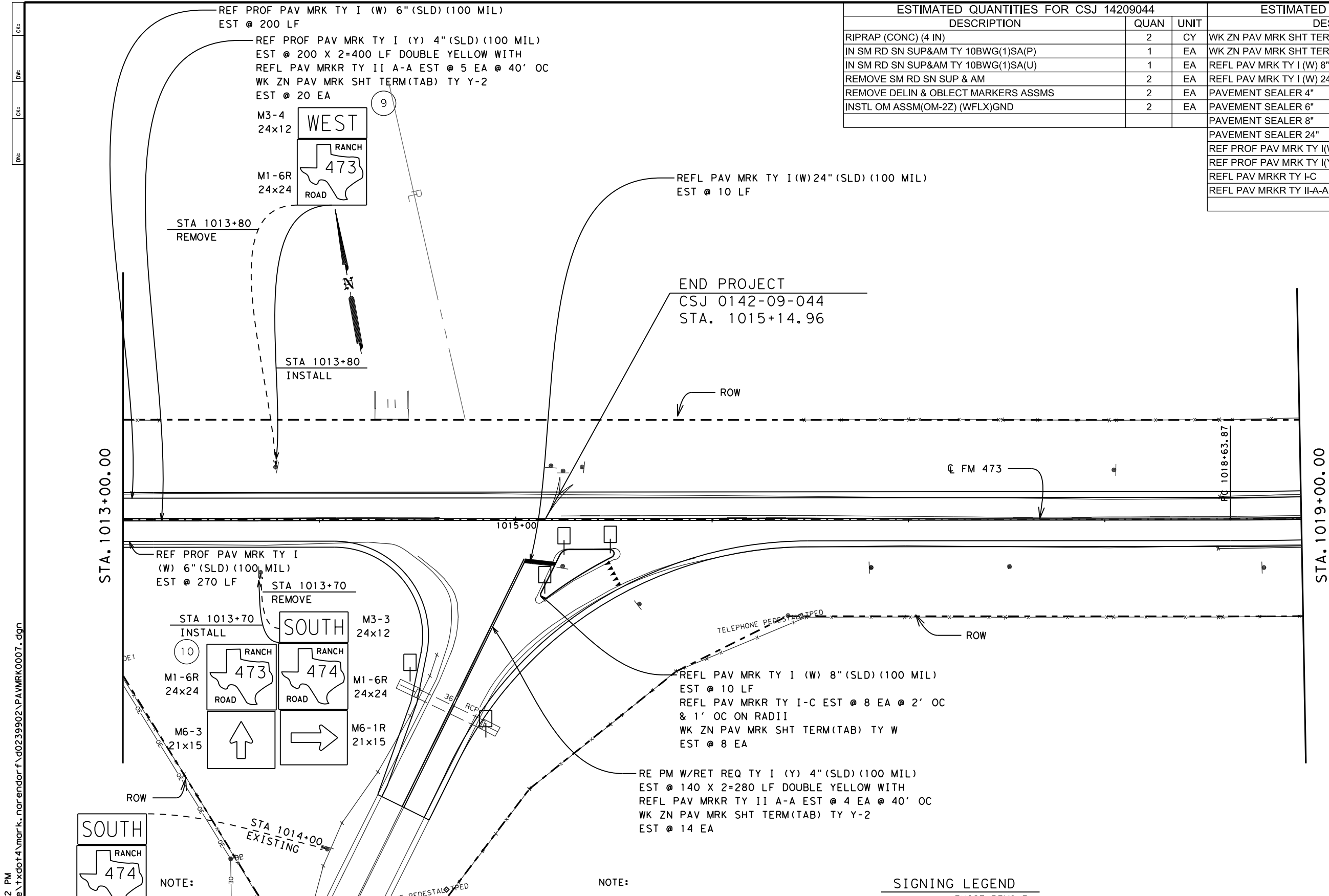


RM 473  
**PAVEMENT MARKING & SIGNING LAYOUTS**

Texas Department of Transportation		SHEET 6 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		402

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(U)	1	EA
REMOVE SM RD SN SUP & AM	2	EA
REMOVE DELIN & OBJECT MARKERS ASSMS	2	EA
IN STL OM ASSM(OM-2Z) (WFLX)GND	2	EA

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY W	8	EA
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	34	EA
REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	10	LF
REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	10	LF
PAVEMENT SEALER 4"	680	LF
PAVEMENT SEALER 6"	570	LF
PAVEMENT SEALER 8"	10	LF
PAVEMENT SEALER 24"	10	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	570	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	680	LF
REFL PAV MRKR TY I-C	8	EA
REFL PAV MRKR TY II-A-A	9	EA

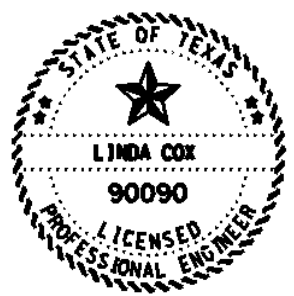


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NOTE:  
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- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊕ (OM-2Z) (FLX) (GND/SRF)
  - ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-09-044  
0 50  
SCALE IN FEET

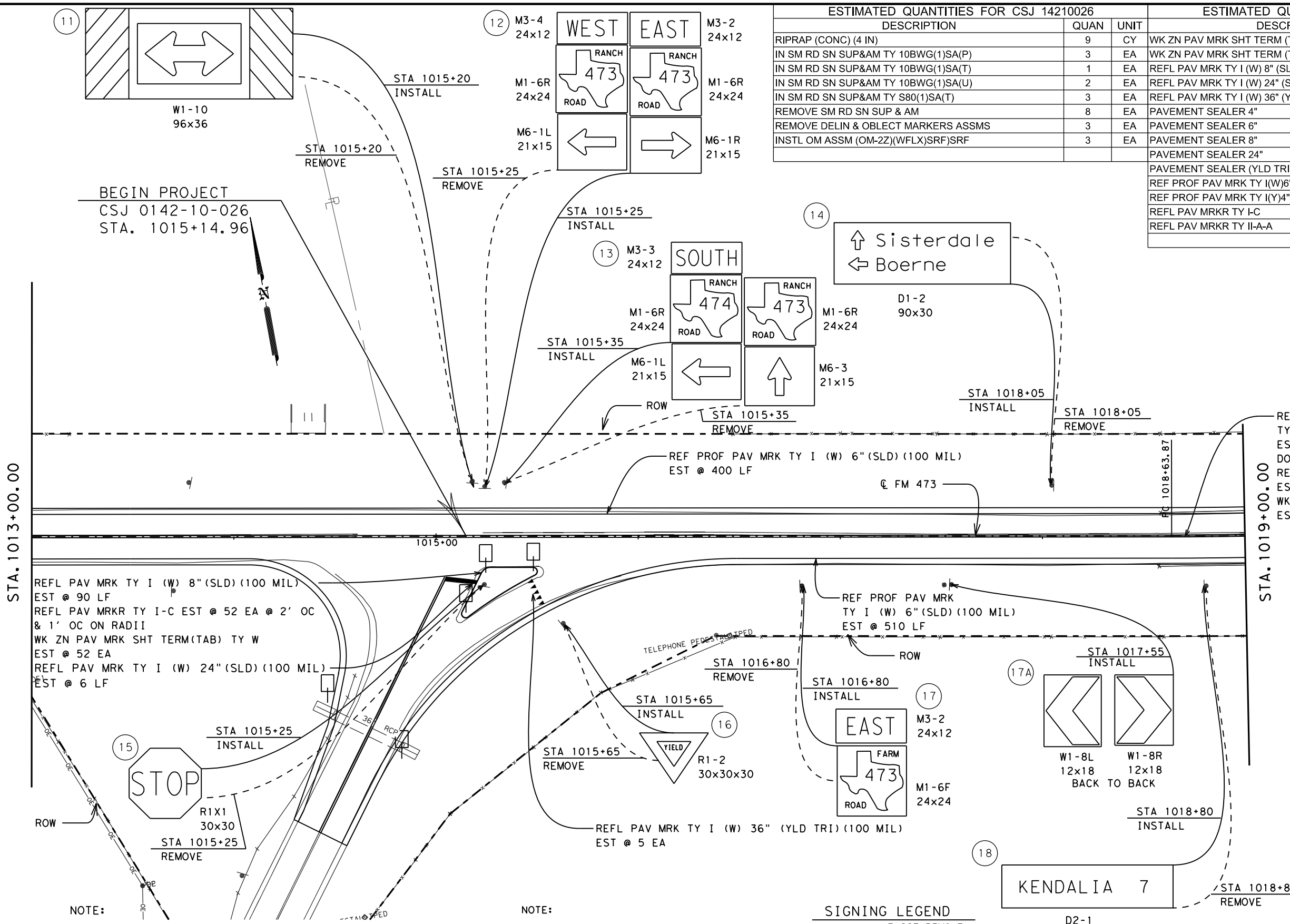
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

Texas Department of Transportation		SHEET 7 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		403

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	9	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	3	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(U)	2	EA
IN SM RD SN SUP&AM TY S80(1)SA(T)	3	EA
REMOVE SM RD SN SUP & AM	8	EA
REMOVE DELIN & OBLCT MARKERS ASSMS	3	EA
INSTR OM ASSM (OM-2Z)(WFLX)SRF	3	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY W	52	EA
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	40	EA
REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	90	LF
REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	6	LF
REFL PAV MRK TY I (W) 36" (YLD TRI)(100 MIL)	5	EA
PAVEMENT SEALER 4"	770	LF
PAVEMENT SEALER 6"	782	LF
PAVEMENT SEALER 8"	90	LF
PAVEMENT SEALER 24"	6	EA
PAVEMENT SEALER (YLD TRI)	5	EA
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	782	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	770	LF
REFL PAV MRKR TY I-C	52	EA
REFL PAV MRKR TY II-A-A	10	EA



STA. 1013+00.00

STA. 1019+00.00

REFL PAV MRK TY I (W) 8" (SLD) (100 MIL)  
 EST @ 90 LF  
 REFL PAV MRKR TY I-C EST @ 52 EA @ 2' OC  
 & 1' OC ON RADII  
 WK ZN PAV MRK SHT TERM(TAB) TY W  
 EST @ 52 EA  
 REFL PAV MRK TY I (W) 24" (SLD) (100 MIL)  
 EST @ 6 LF

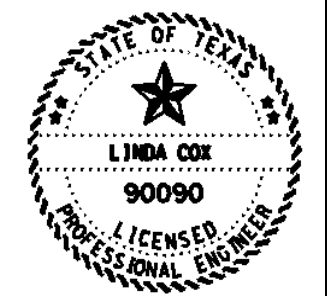
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NOTE:  
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 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

SIGNING LEGEND  
 --- EXIST/REMOVE  
 --- INSTALL  
 ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)  
 ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)  
 ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)  
 □ (OM-2Z) (FLX) (GND/SRF)  
 □ (OM-3R/L) (FLX) (GND/SRF)

KENDALIA 7

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
 EST @ 400 X 2=800 LF  
 DOUBLE YELLOW WITH REFL PAV MRKR TY II A-A  
 EST @ 10 EA @ 40' OC  
 WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
 EST @ 40 EA



Linda Cox, P.E.  
 04/28/2021

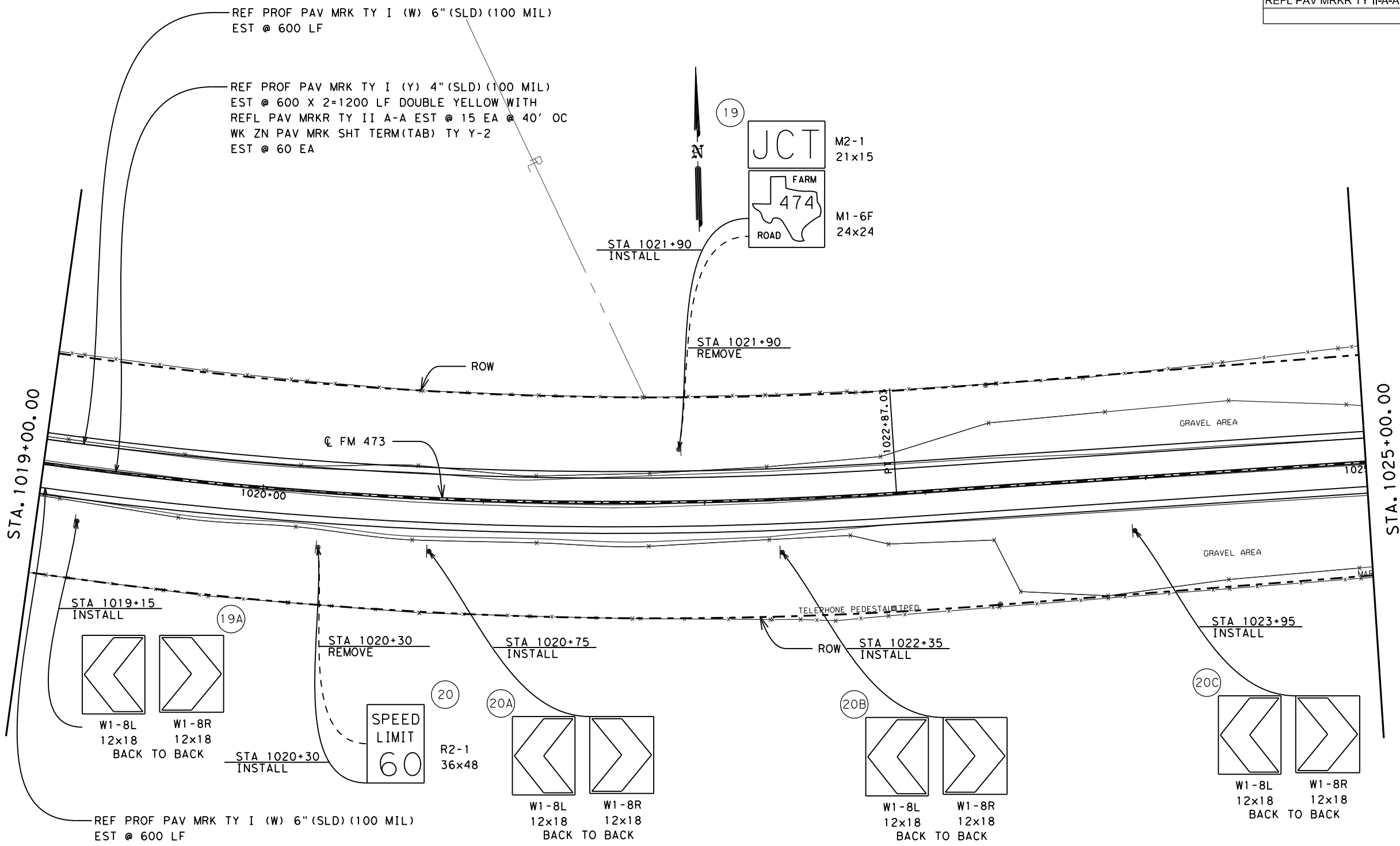
CSJ 0142-10-026  
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 SCALE IN FEET

RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		404

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	6	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	5	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

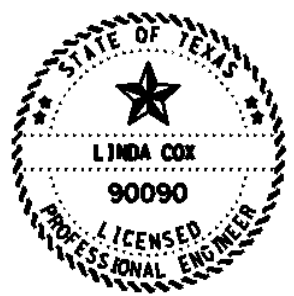
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♂ (OM-2Z) (FLX) (GND/SRF)
- ♂ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-026



RM 473  
**PAVEMENT MARKING & SIGNING LAYOUTS**

Texas Department of Transportation		SHEET 9 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		405

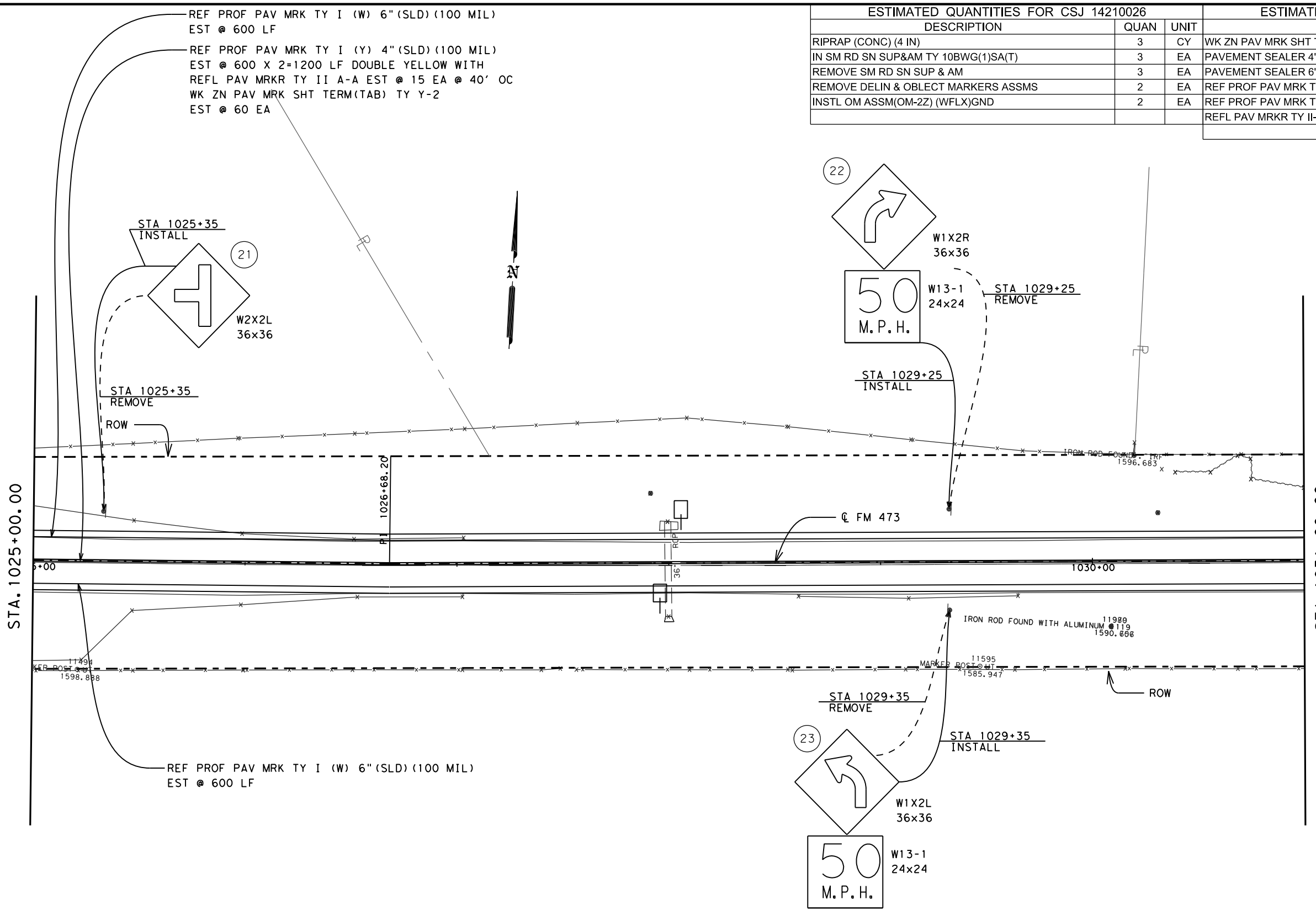
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	3	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	3	EA
REMOVE SM RD SN SUP & AM	3	EA
REMOVE DELIN & OBJECT MARKERS ASSMS	2	EA
IN STL OM ASSM(OM-2Z) (WFLX)GND	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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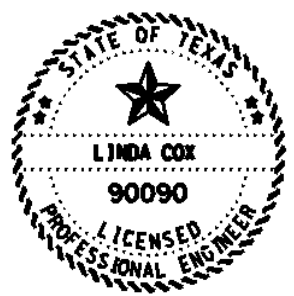
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



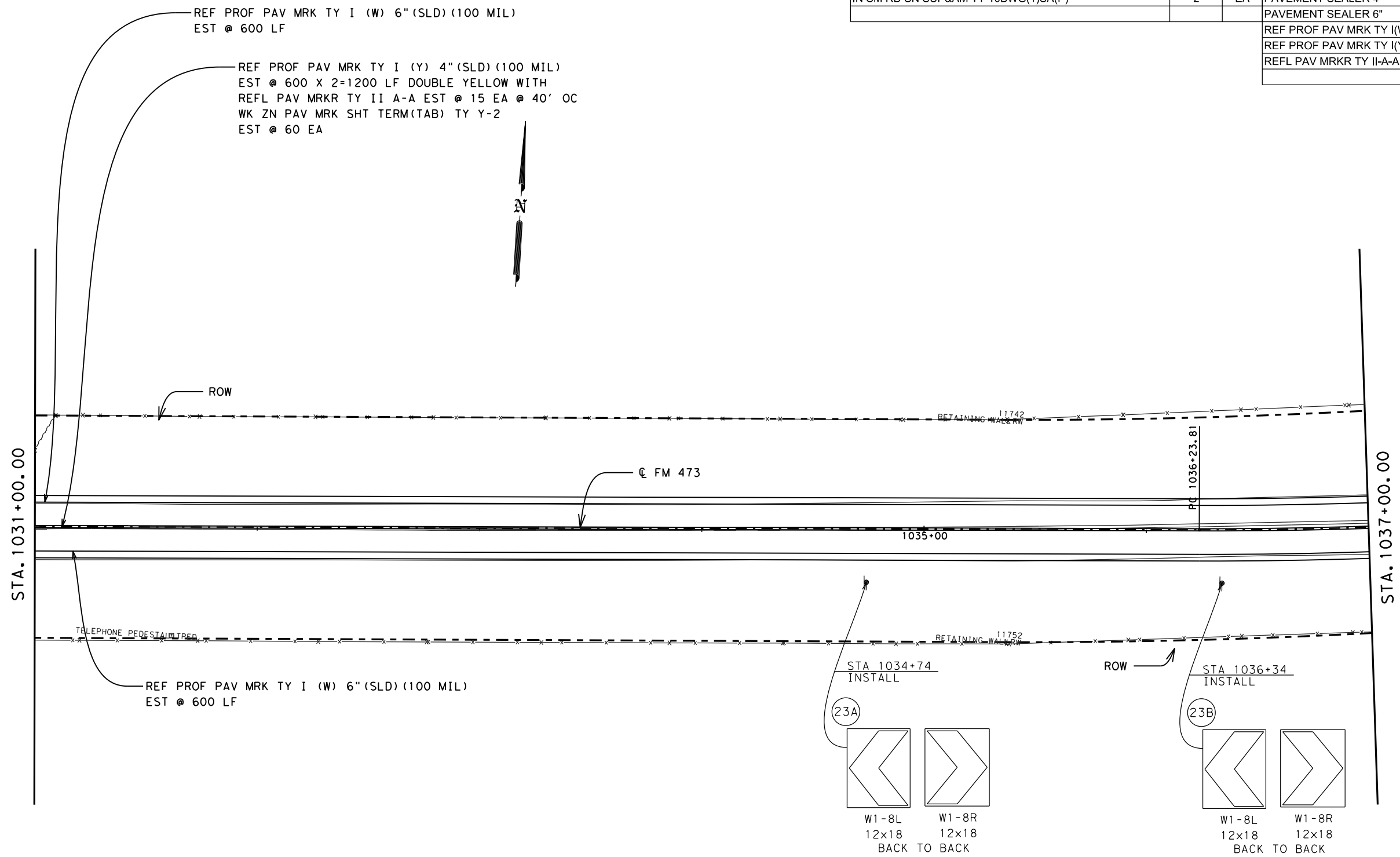
RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		406

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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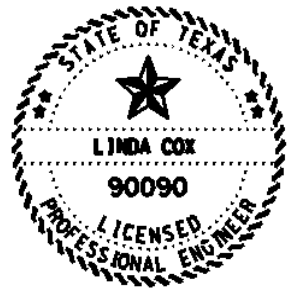
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- EXIST/REMOVE
- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-026



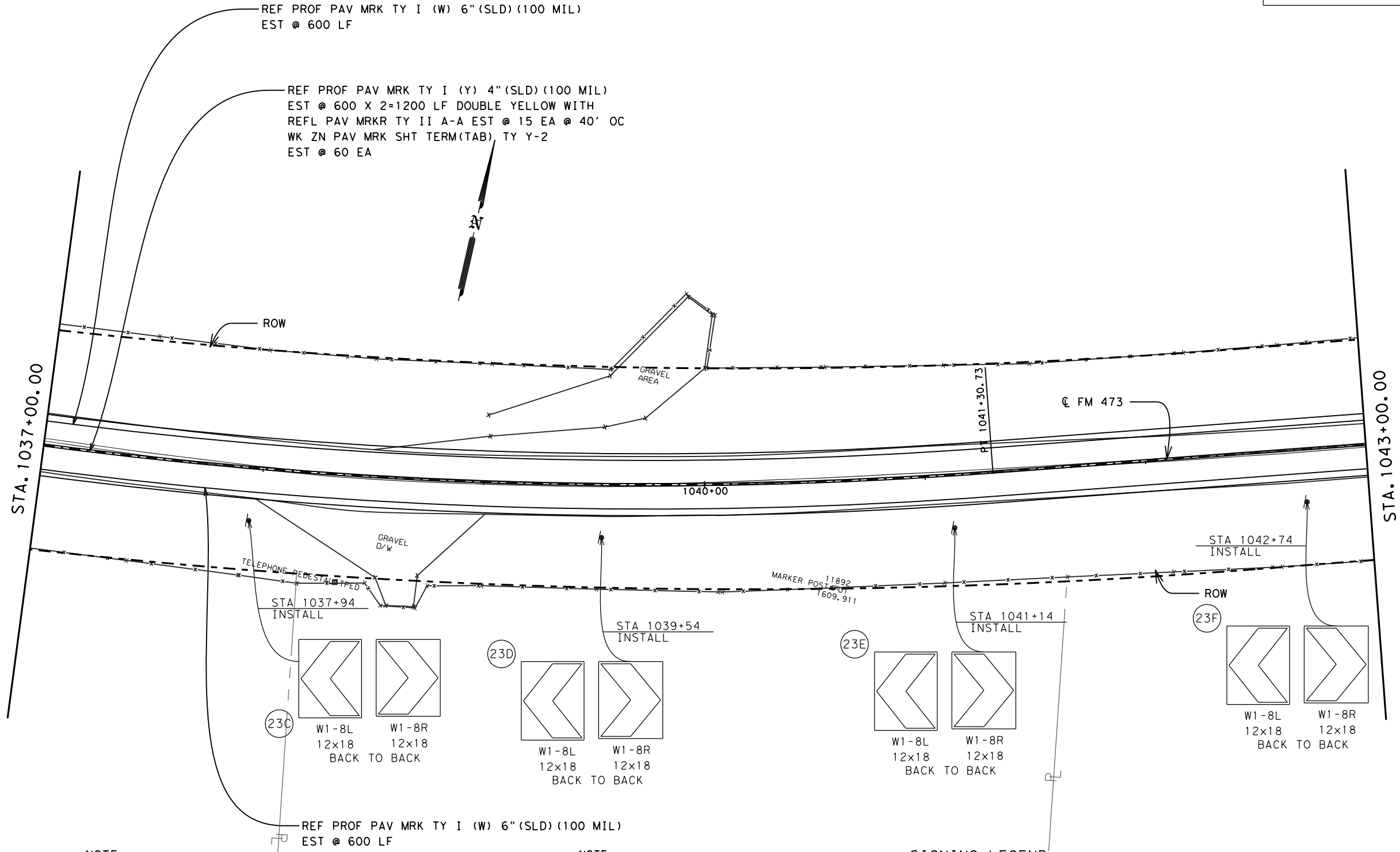
**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**

Texas Department of Transportation		SHEET 11 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		407

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	4	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	4	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

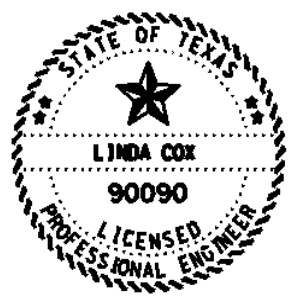
SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**

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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-026



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

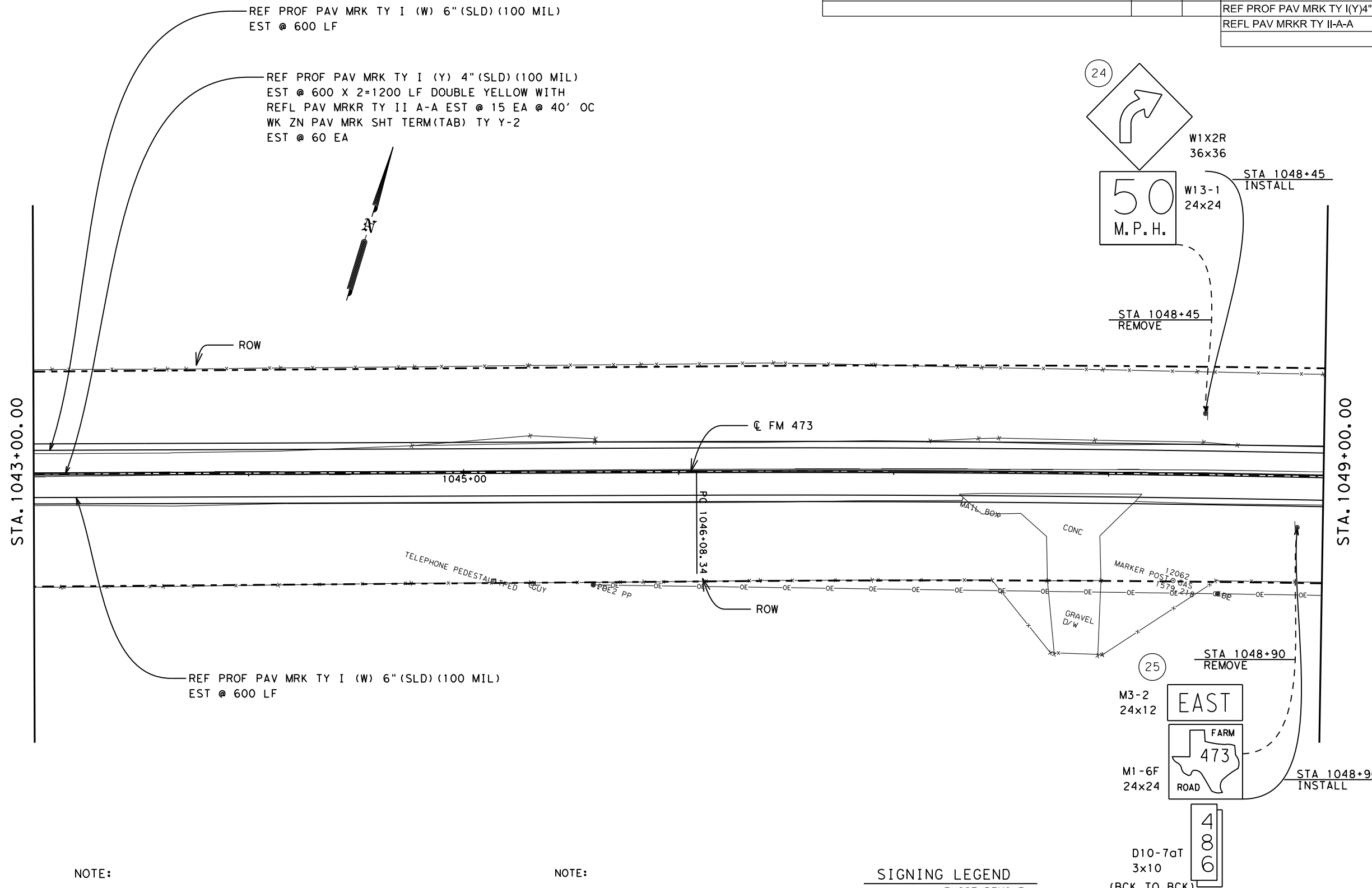


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		408

DATE: 4/26/2021 5:02:33 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

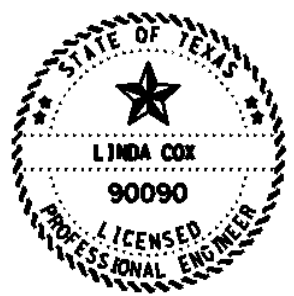
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**NOTE:**

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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-026



**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**



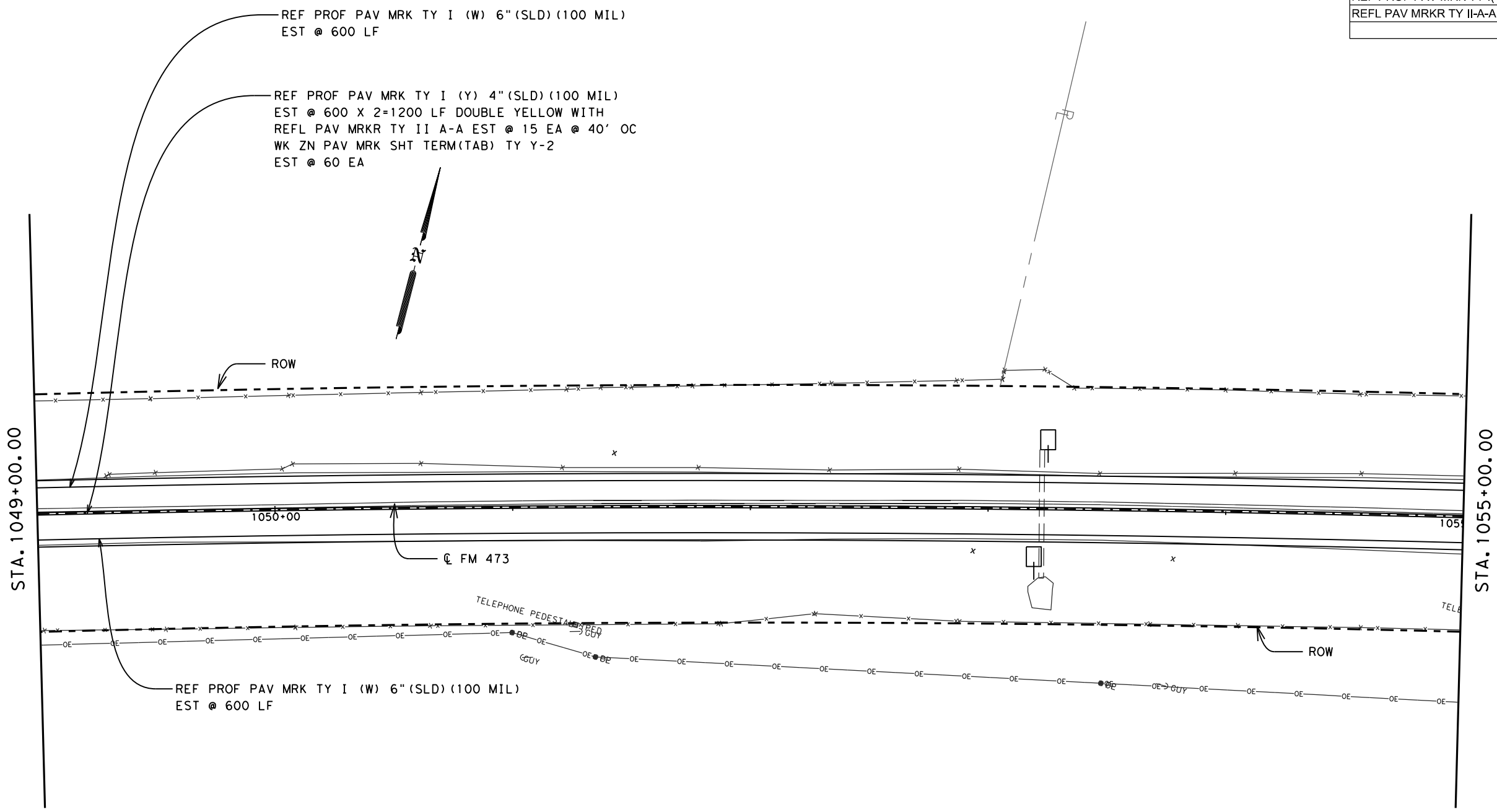
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		409

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
REMOVE DELIN & OBLCT MARKERS ASSMS	2	EA
INSL OM ASSM(OM-2Z) (WFLX)GND	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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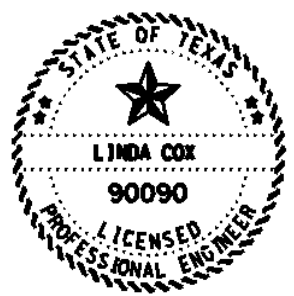
**NOTE:**

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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- (OM-2Z) (FLX) (GND/SRF)
- ⊞ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-026



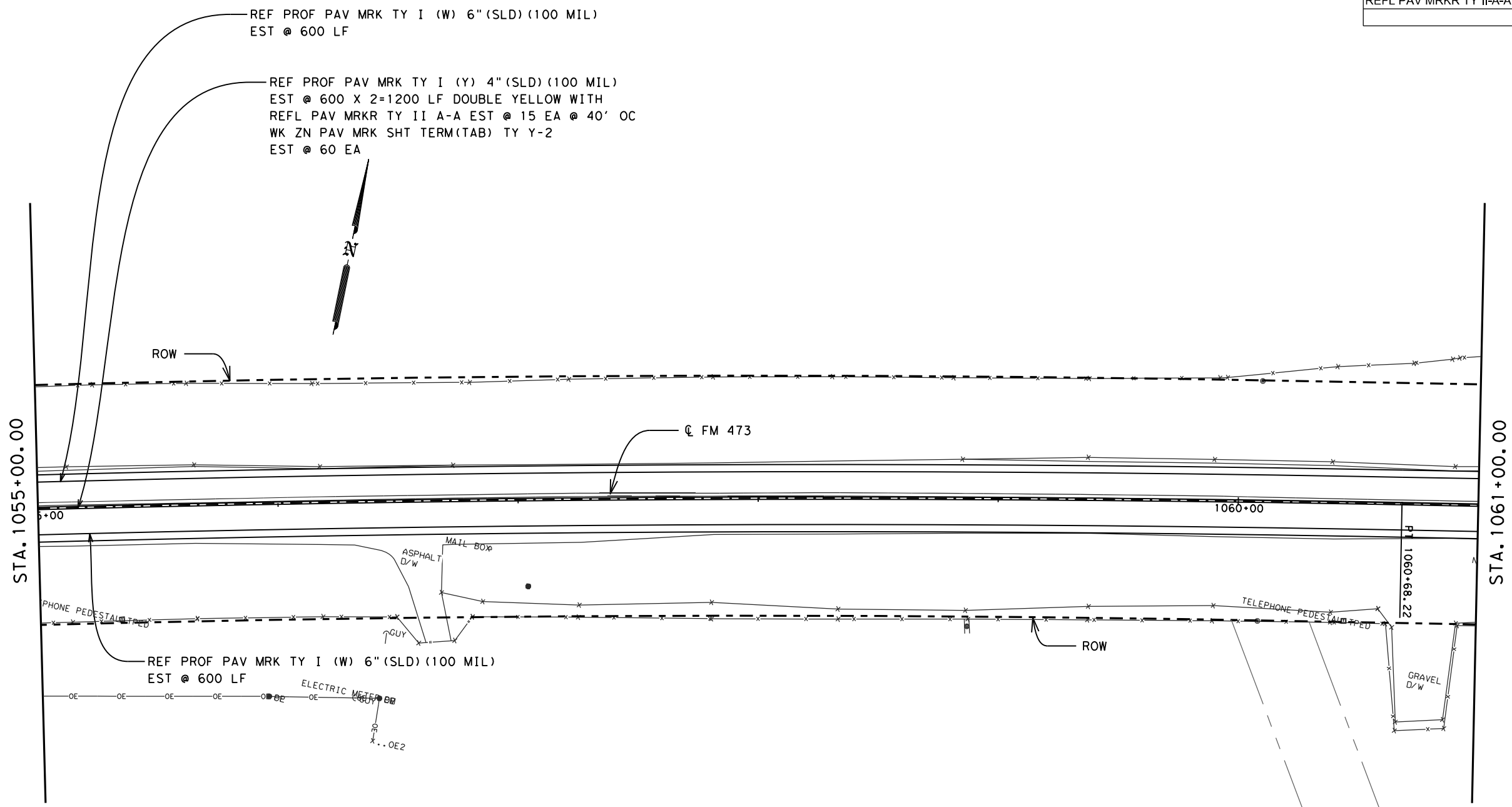
**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		410

DATE: 4/26/2021 5:02:55 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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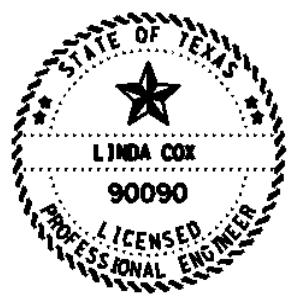
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-026



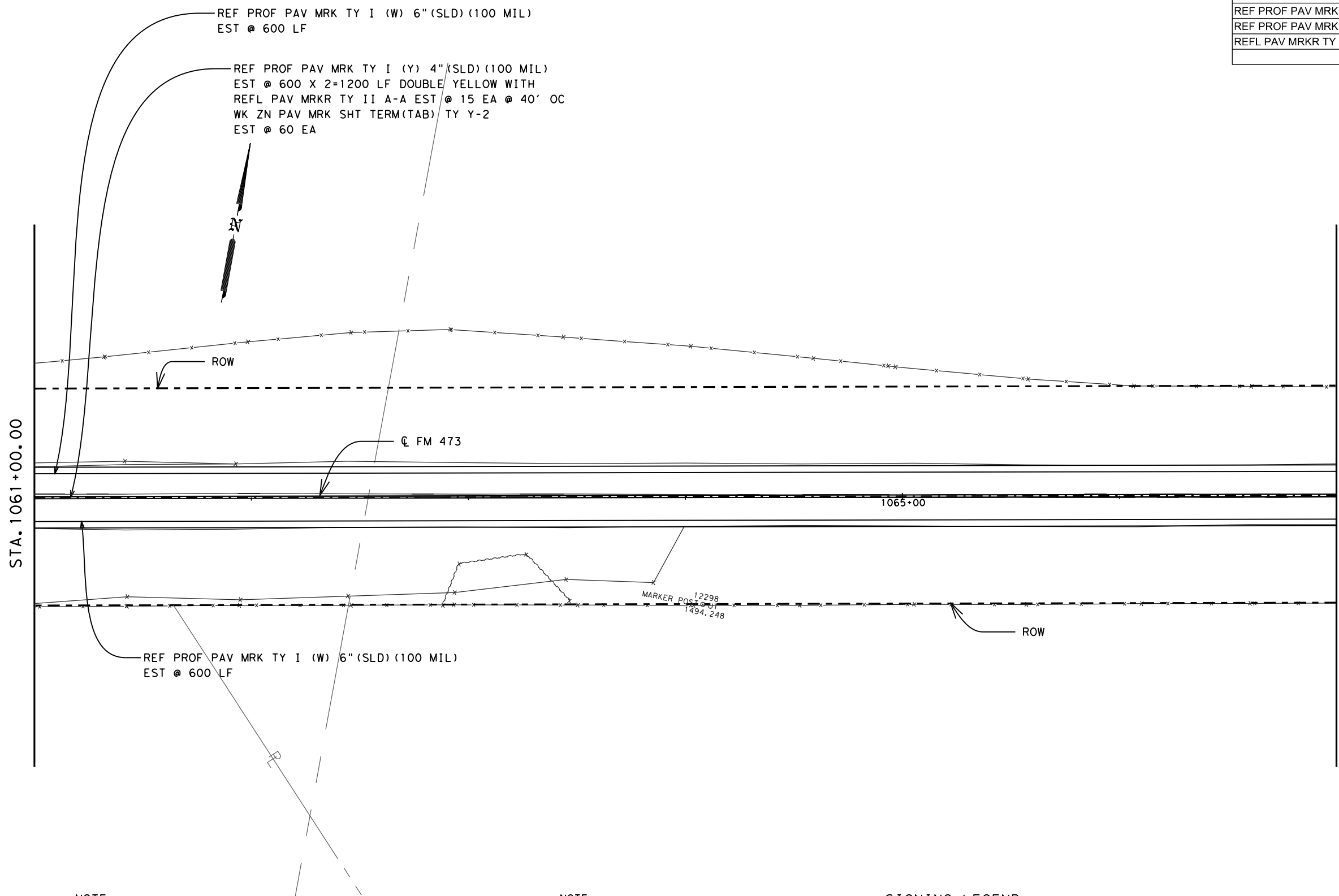
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		411

DATE: 4/26/2021 5:03:07 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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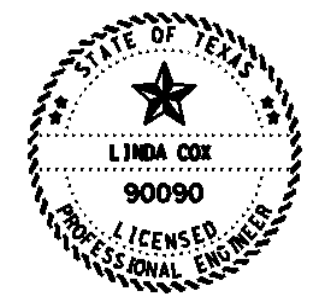
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- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-026



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

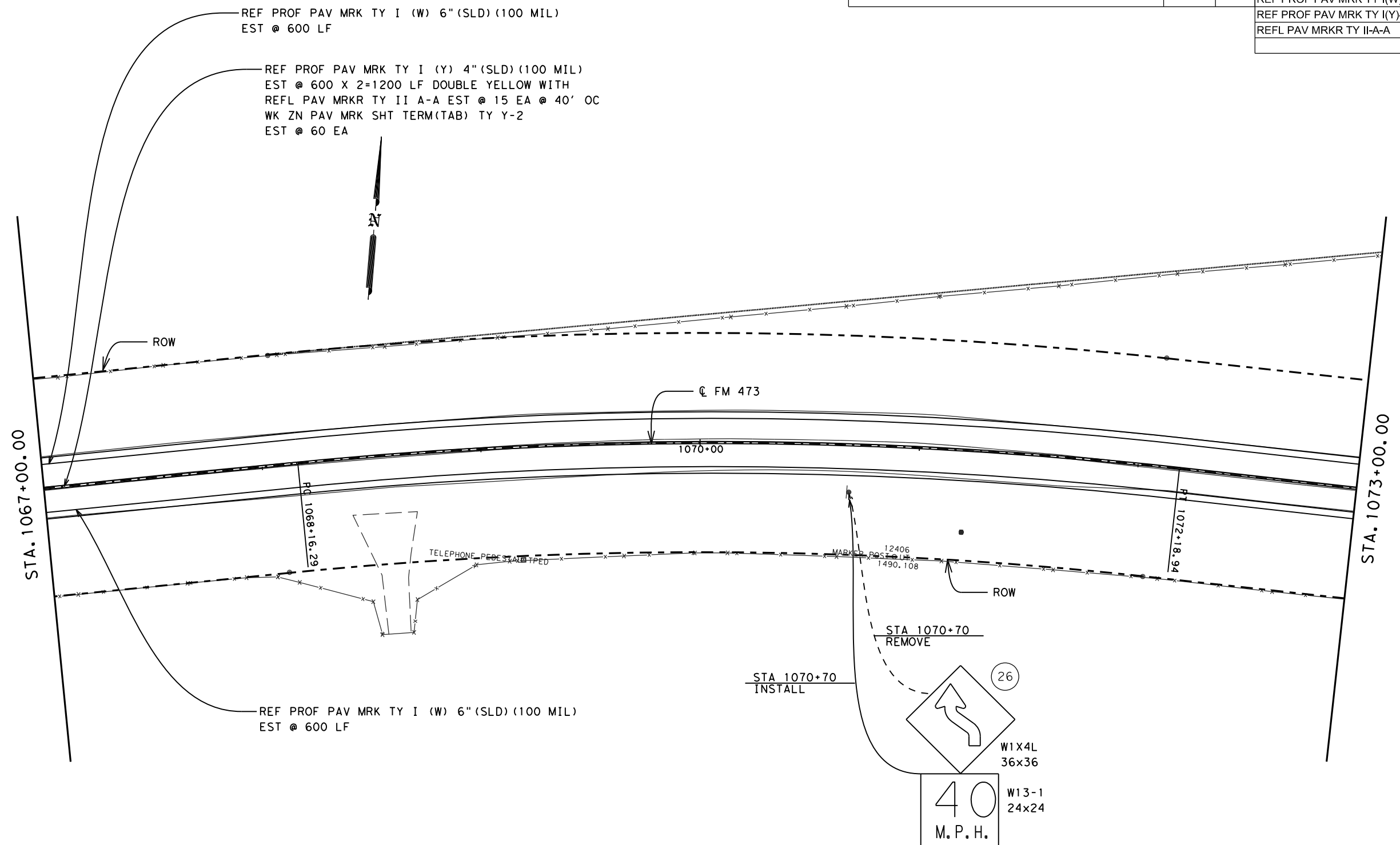


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		412

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	1	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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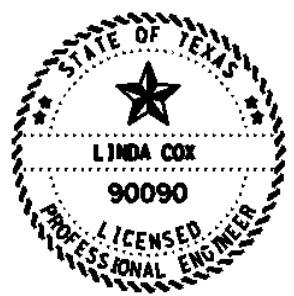
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- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-026

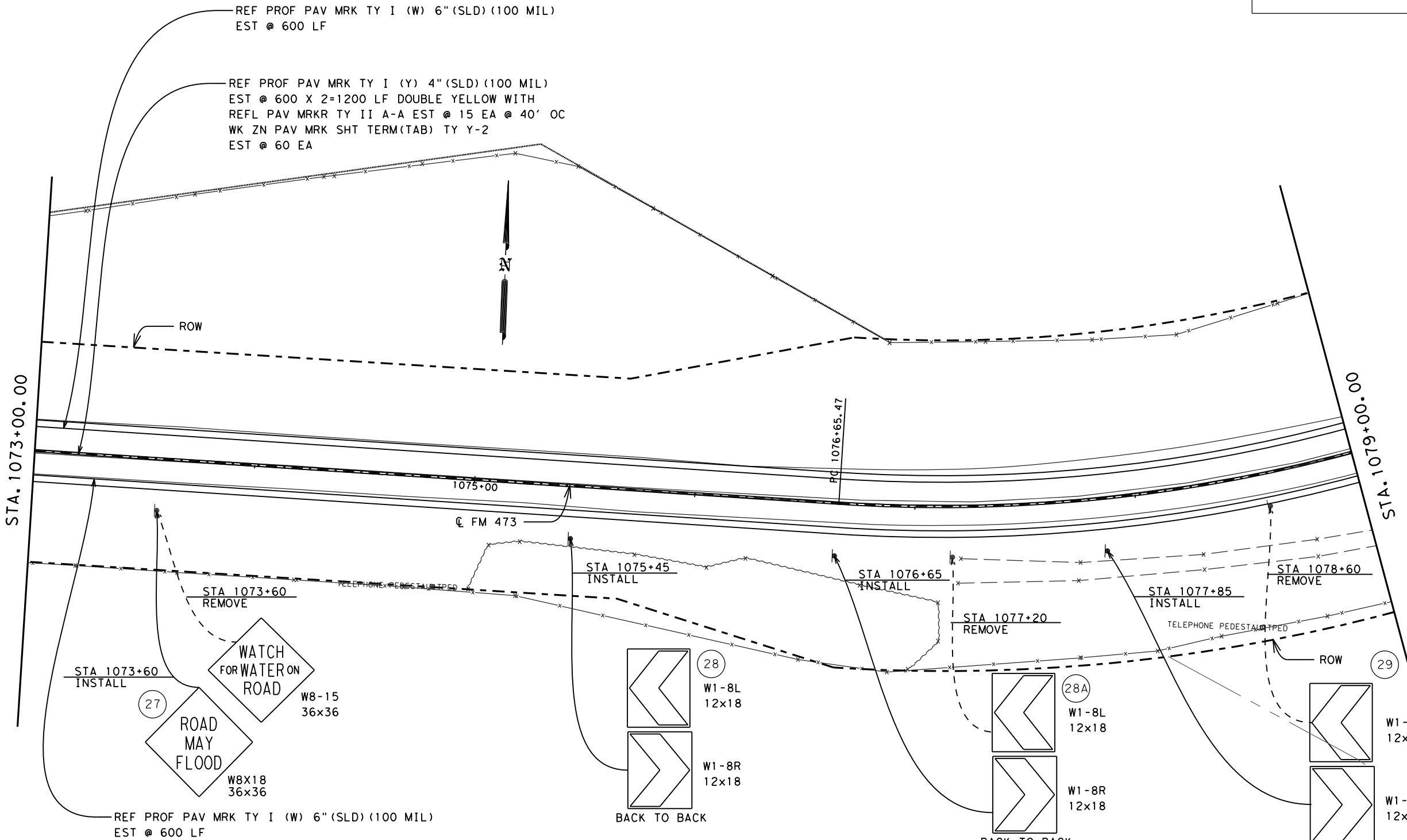


RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

Texas Department of Transportation		SHEET 17 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		413

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	4	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	3	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	3	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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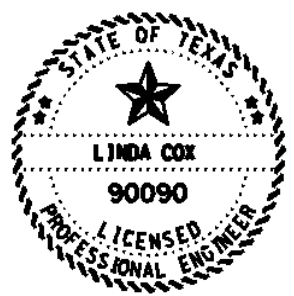
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- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♂ (OM-2Z) (FLX) (GND/SRF)
- ♂ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-026



**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**



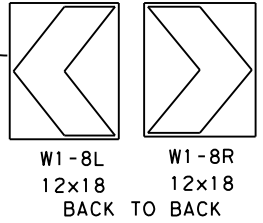
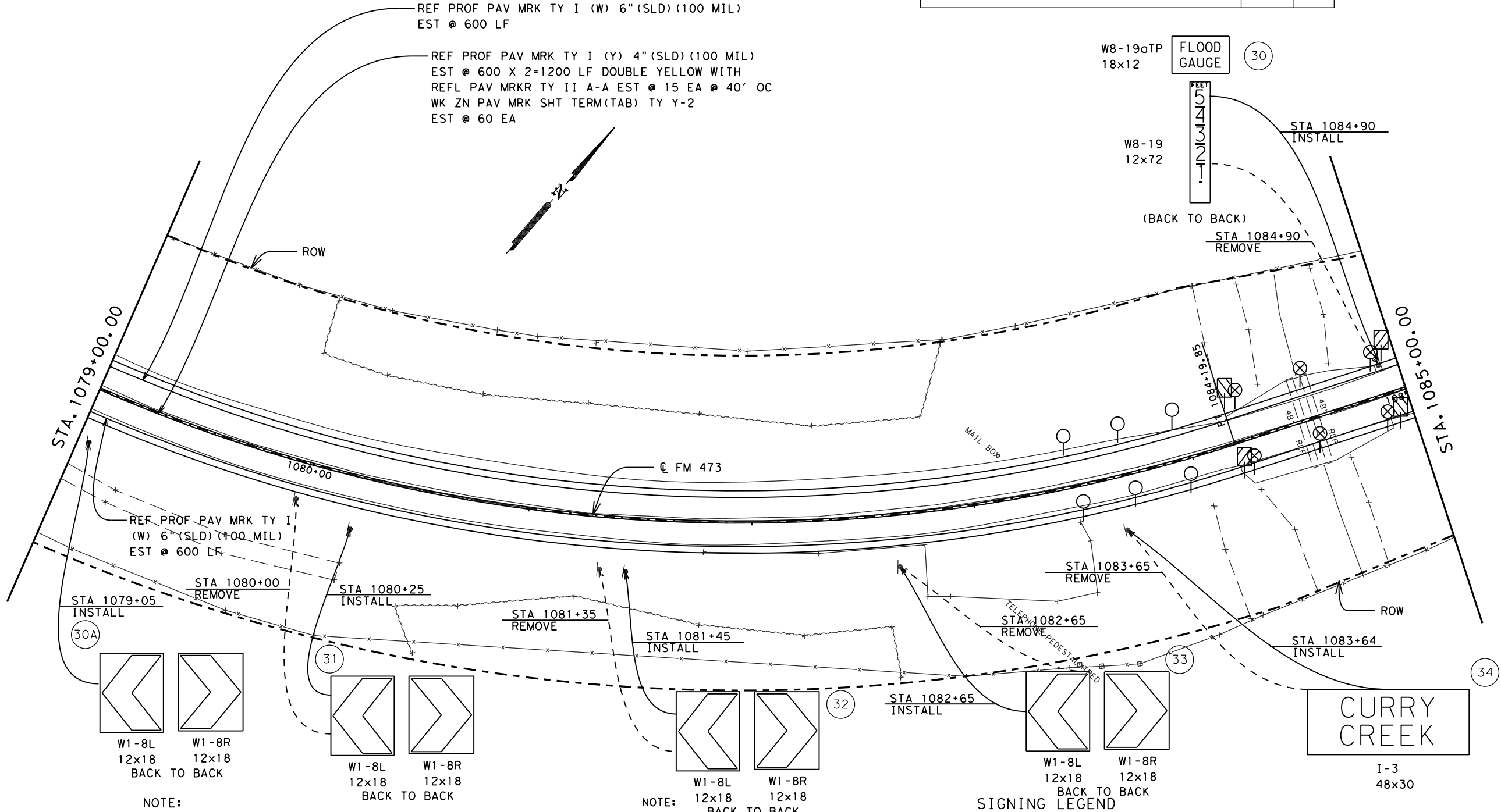
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		414

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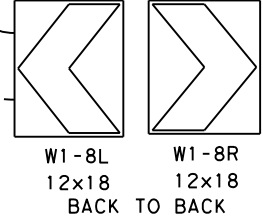
ESTIMATED QUANTITIES FOR CSJ 14210026			ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT	DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	6	CY	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	4	EA	PAVEMENT SEALER 4"	1200	LF
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA	PAVEMENT SEALER 6"	1200	LF
IN SM RD SN SUP&AM TY S80(1)SA(P)	1	EA	REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REMOVE SM RD SN SUP & AM	5	EA	REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REMOVE DELIN & OBJECT MARKERS ASSMS	4	EA	REFL PAV MRKR TY II-A-A	15	EA
INSTR DEL ASSM (D-SW) SZ 1 (WFLX)(GND)	6	EA			
INSTR DEL ASSM (D-SW)SZ 1(WFLX)SRF(BI)	6	EA			
INSTR OM ASSM (OM-3L)(WFLX)GND)GND	2	EA			
INSTR OM ASSM (OM-3R) W(F LX) GND)GND	2	EA			

C&G:  
 DWF:  
 C&G:  
 DWF:



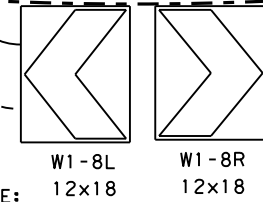
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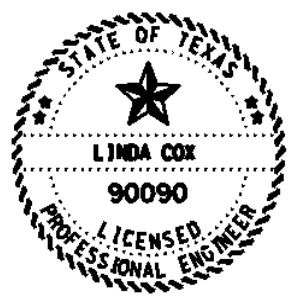


NOTE:

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**SIGNING LEGEND**  
 --- EXIST/REMOVE  
 --- INSTALL

- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
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- ⊕ (OM-3R/L) (FLX) (GND/SRF)



Linda Cox, P.E.  
 04/28/2021

CSJ 0142-10-026



# RM 473 PAVEMENT MARKING & SIGNING LAYOUTS



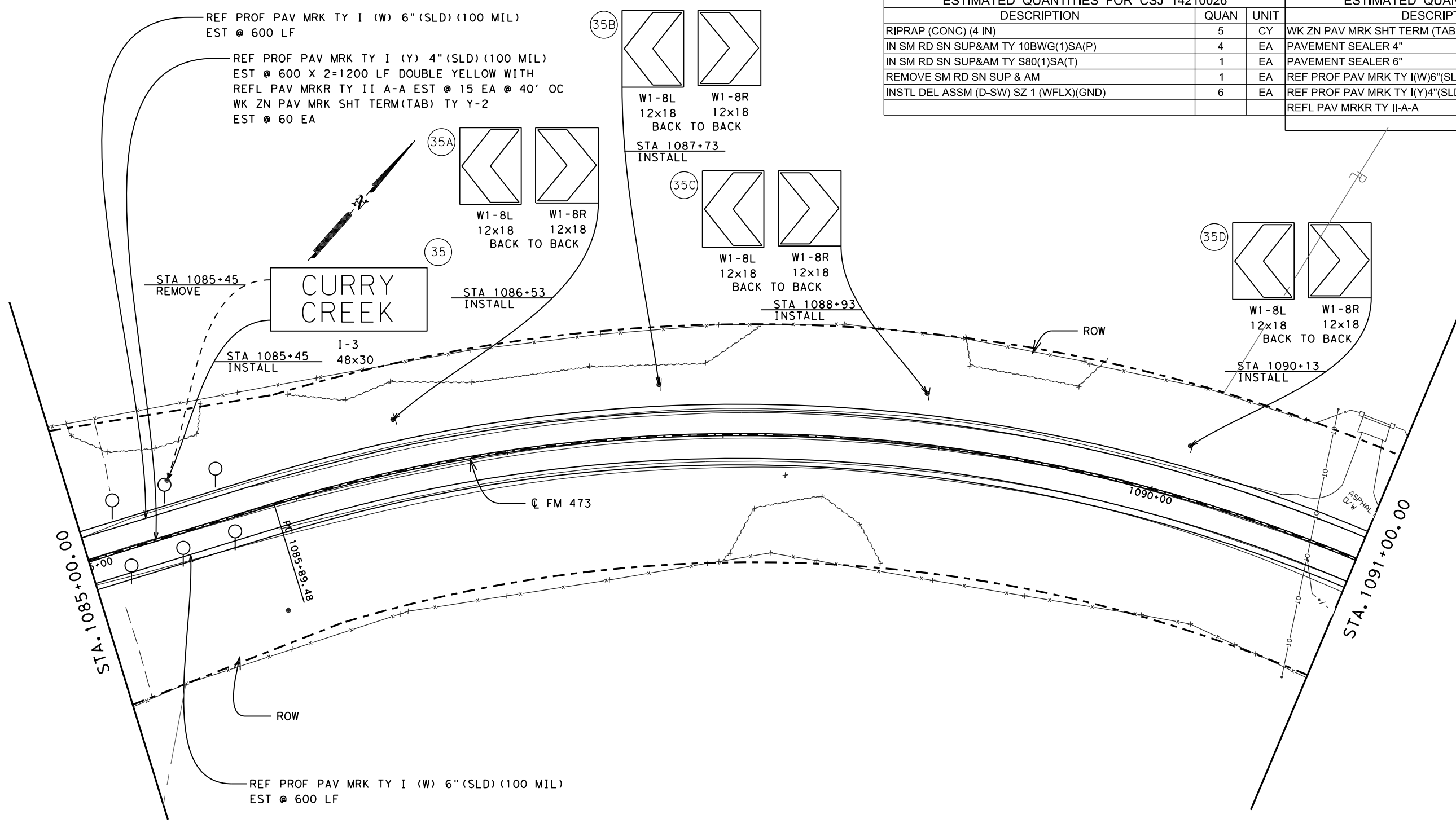
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		415

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DATE: 4/26/2021 5:04:05 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	5	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	4	EA
IN SM RD SN SUP&AM TY S80(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA
INSTR DEL ASSM (D-SW) SZ 1 (WFLX)(GND)	6	EA

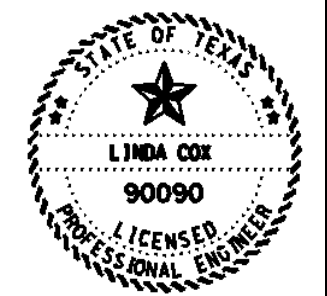
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



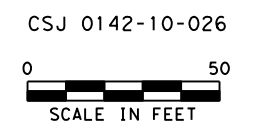
NOTE:  
 SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

NOTE:  
 CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.  
 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊙ (OM-2Z) (FLX) (GND/SRF)
  - ⊙ (OM-3R/L) (FLX) (GND/SRF)



Linda Cox, P.E.  
 04/28/2021



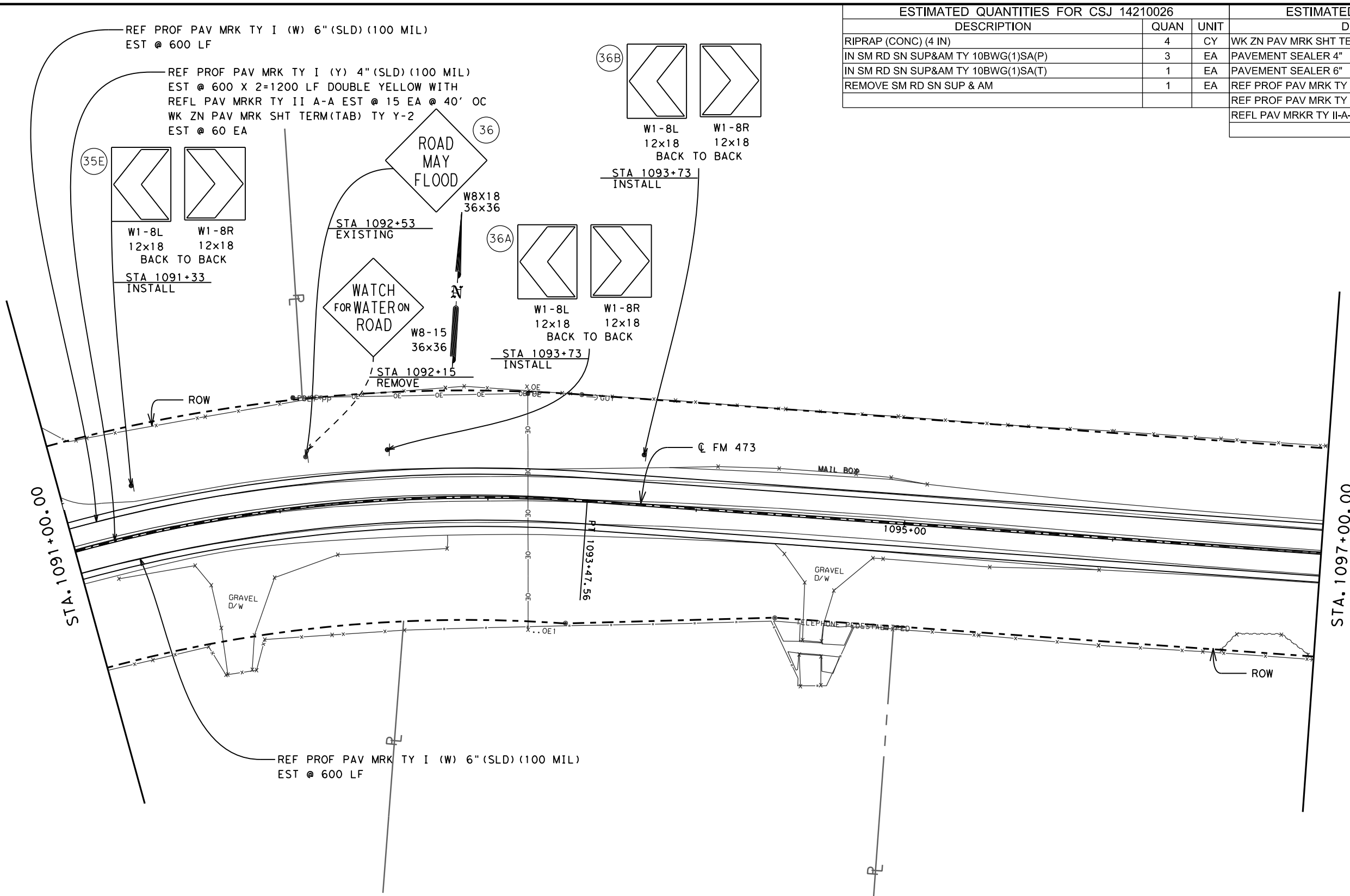
RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS

Texas Department of Transportation		SHEET 20 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		416

DATE: 4/26/2021 5:04:20 PM  
 FILE: c:\t\dot\pw\_online\txdot\4\mark\_norendor\0239902\PAV\MRK0020.dgn

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	4	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	3	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

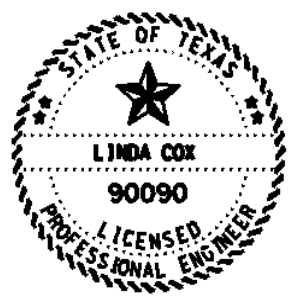
SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**

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 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



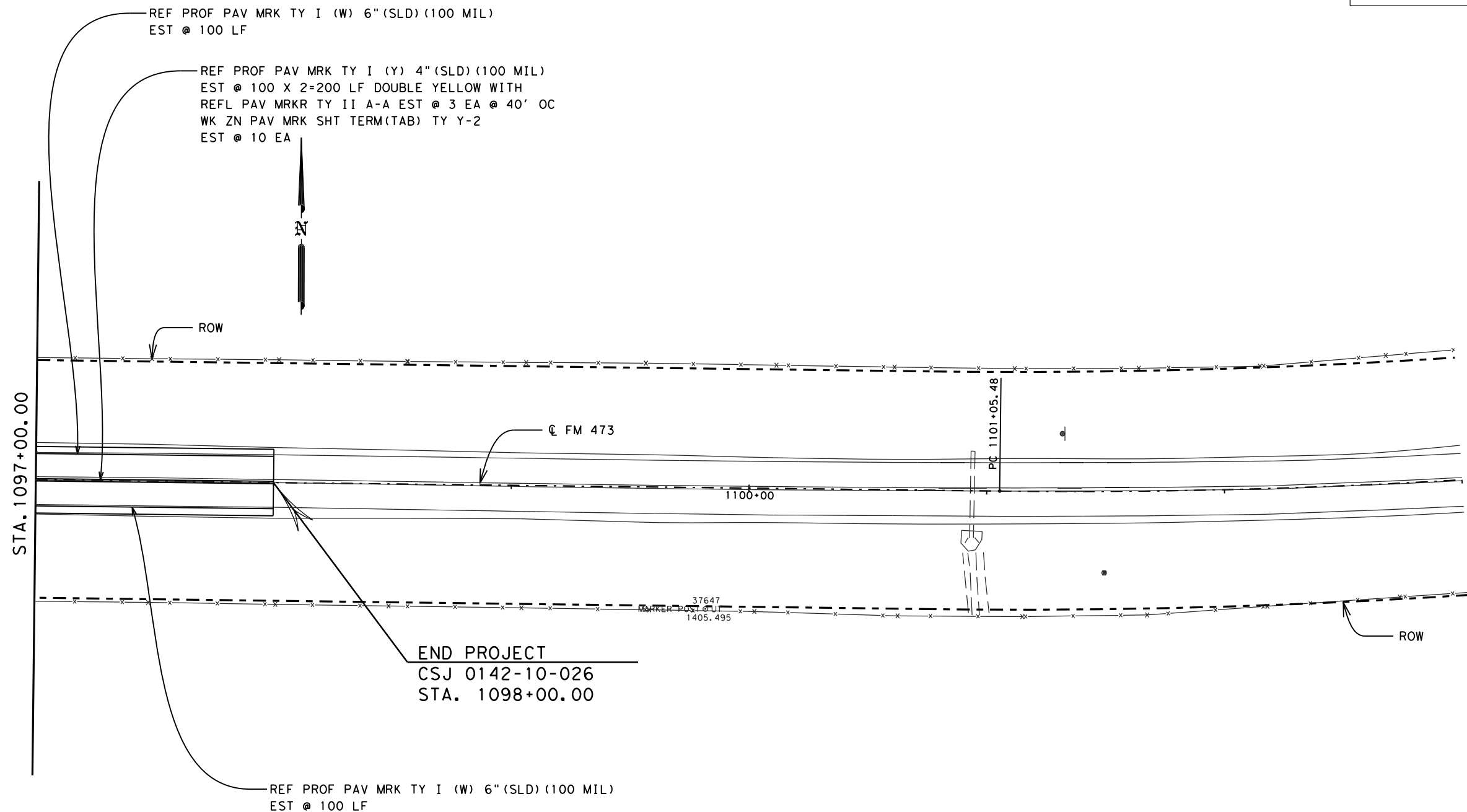
RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		417



ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	10	EA
PAVEMENT SEALER 4"	200	LF
PAVEMENT SEALER 6"	200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	200	LF
REFL PAV MRKR TY II-A-A	3	EA



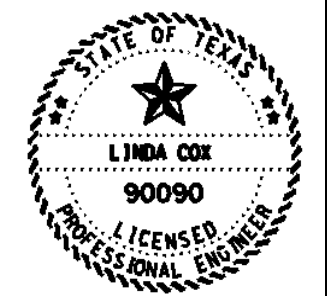
END PROJECT  
 CSJ 0142-10-026  
 STA. 1098+00.00

NOTE:  
 SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

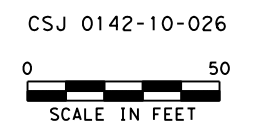
NOTE:  
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 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊙ (OM-2Z) (FLX) (GND/SRF)
  - ⊙ (OM-3R/L) (FLX) (GND/SRF)

RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



Linda Cox, P.E.  
 04/28/2021

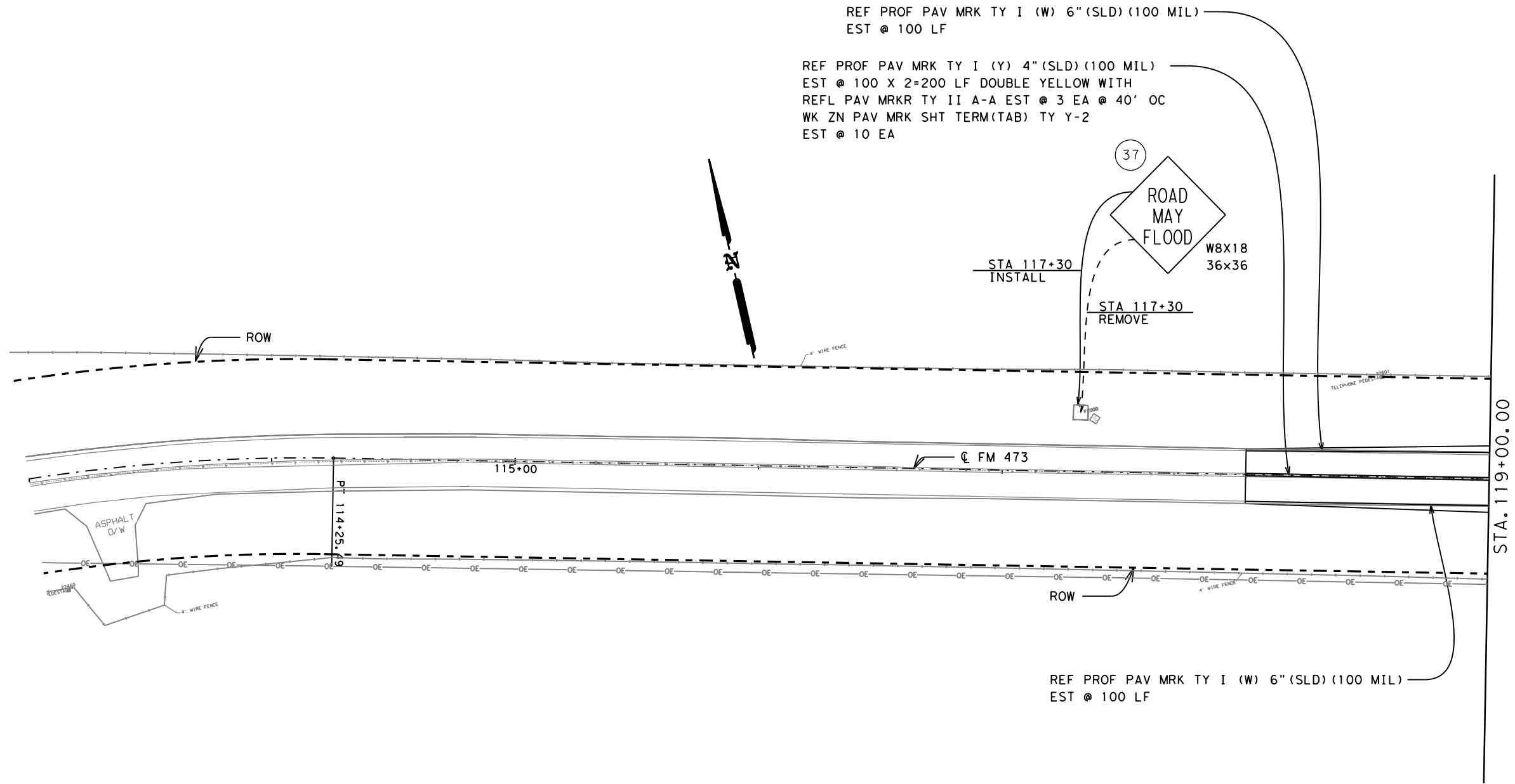


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		418

DATE: 4/26/2021 5:04:30 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	1	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA

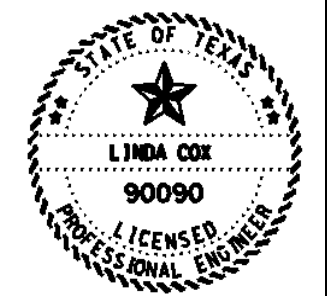
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	10	EA
PAVEMENT SEALER 4"	200	LF
PAVEMENT SEALER 6"	200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	200	LF
REFL PAV MRKR TY II-A-A	3	EA



REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 100 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
EST @ 100 X 2=200 LF DOUBLE YELLOW WITH  
REFL PAV MRKR TY II A-A EST @ 3 EA @ 40' OC  
WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
EST @ 10 EA

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 100 LF



*Linda Cox, P.E.*  
04/28/2021

NOTE:  
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- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊙ (OM-2Z) (FLX) (GND/SRF)
  - ⊙ (OM-3R/L) (FLX) (GND/SRF)

RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

CSJ 0142-10-025

0 50  
SCALE IN FEET

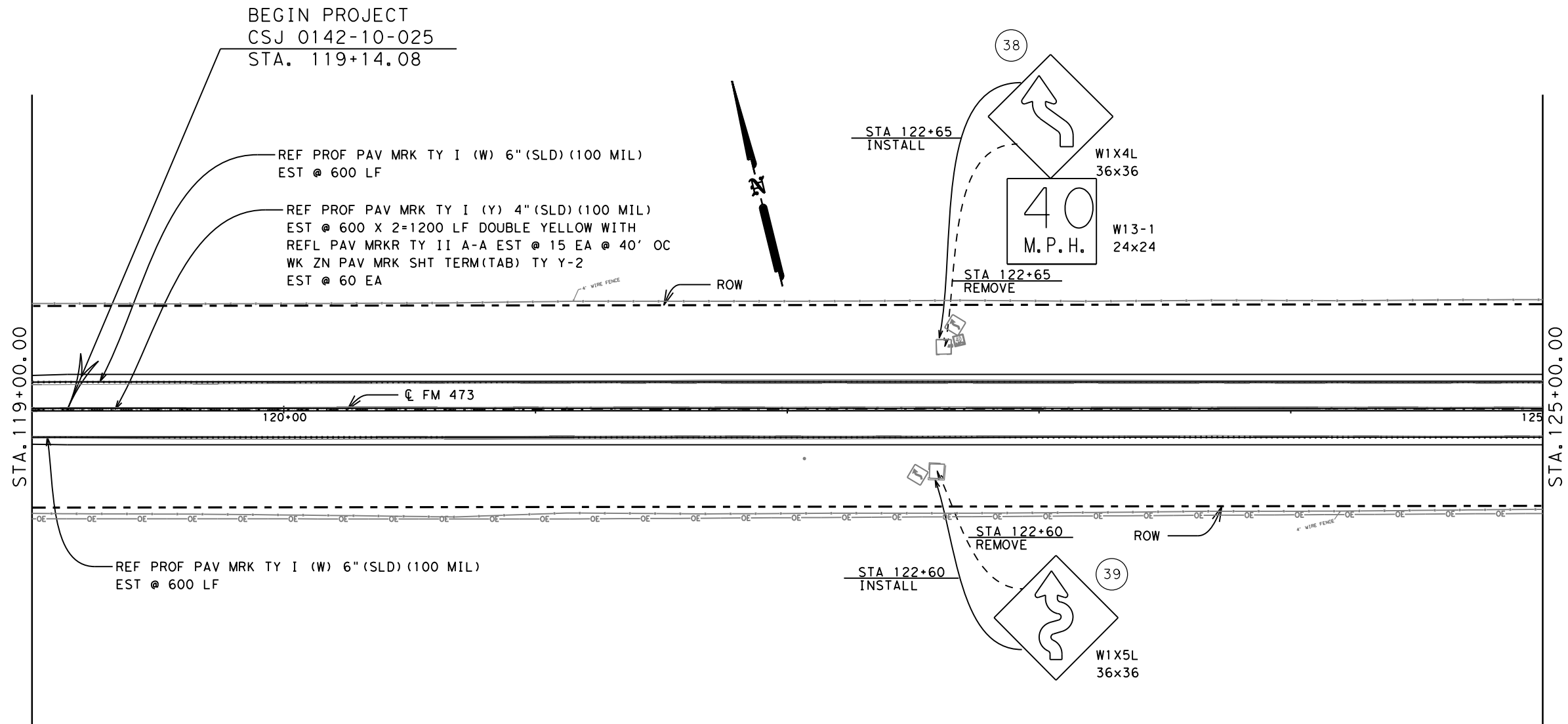
Texas Department of Transportation  
SHEET 23 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		419

DATE: 4/26/2021 5:04:41 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	2	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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**NOTE:**

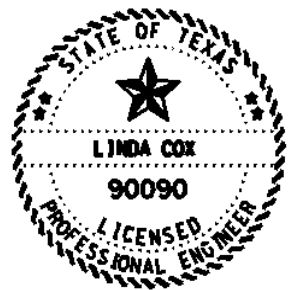
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**SIGNING LEGEND**

--- EXIST/REMOVE  
 \_\_\_\_\_ INSTALL

- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025

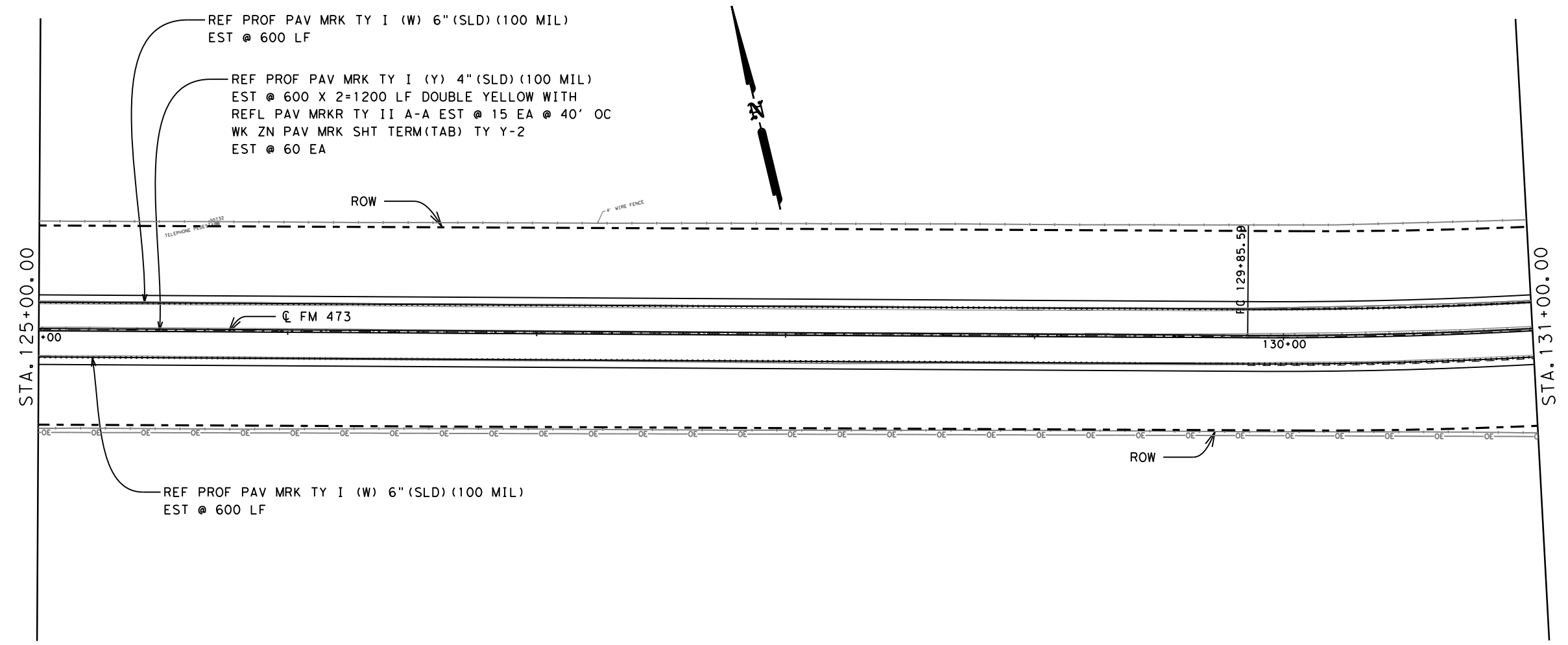


**RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS**

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		420

DATE: 4/26/2021 5:04:51 PM  
 FILE: c:\txdot\pw\_online\mark\_norendor\0239902\PAV\MRK0037(23).dgn

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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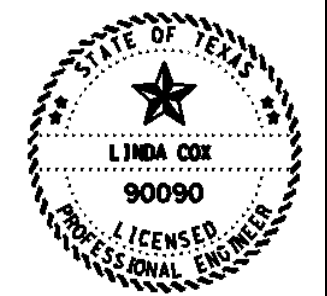
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**SIGNING LEGEND**

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- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)

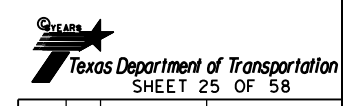


*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

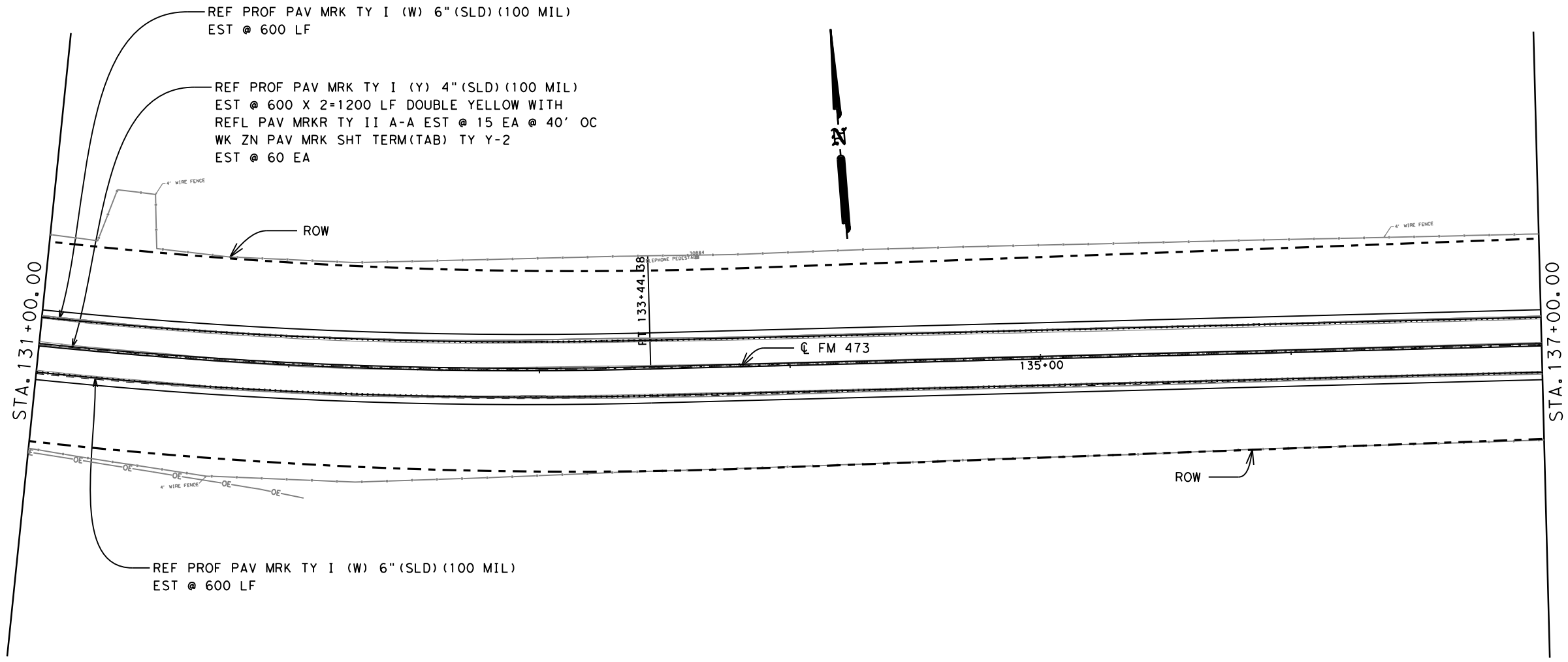


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		421

DATE: 4/26/2021 5:05:03 PM  
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CNS:  
DWF:  
CNS:  
DWF:

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

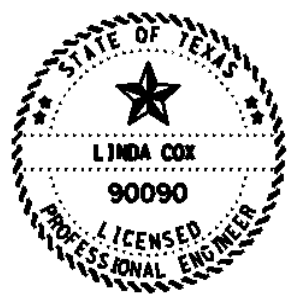
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



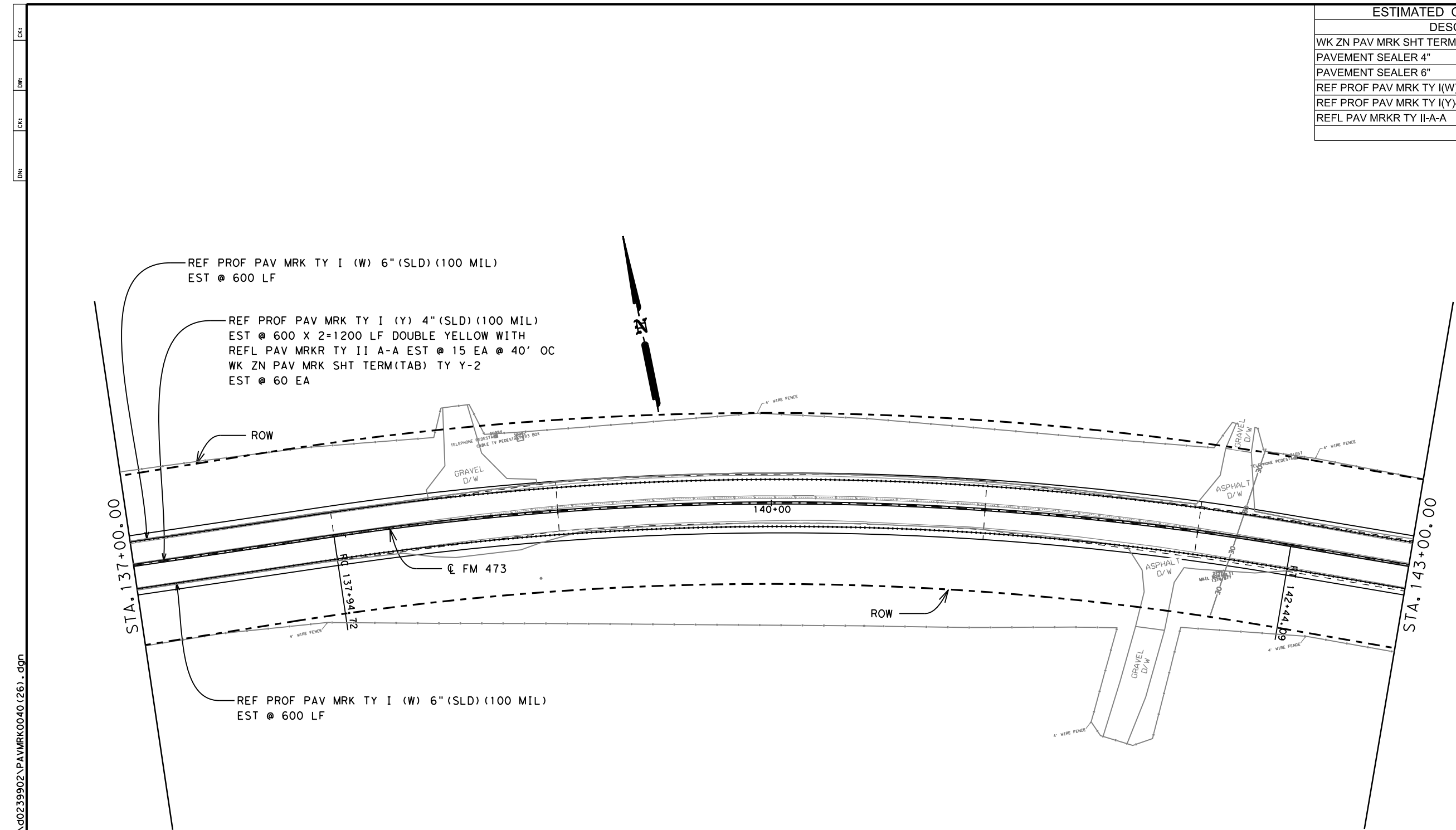
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		422

DATE: 4/26/2021 5:05:13 PM  
FILE: c:\txdot\pw\_online\txdot4\mark\_norendor\0239902\PAV\MRK0039 (25).dgn

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
EST @ 600 X 2=1200 LF DOUBLE YELLOW WITH  
REFL PAV MRKR TY II A-A EST @ 15 EA @ 40' OC  
WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
EST @ 60 EA

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF

**NOTE:**

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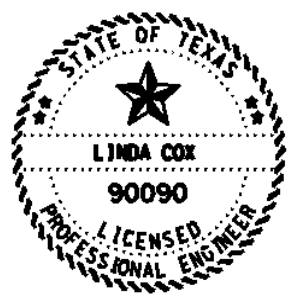
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- (OM-2Z) (FLX) (GND/SRF)
- ⊞ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

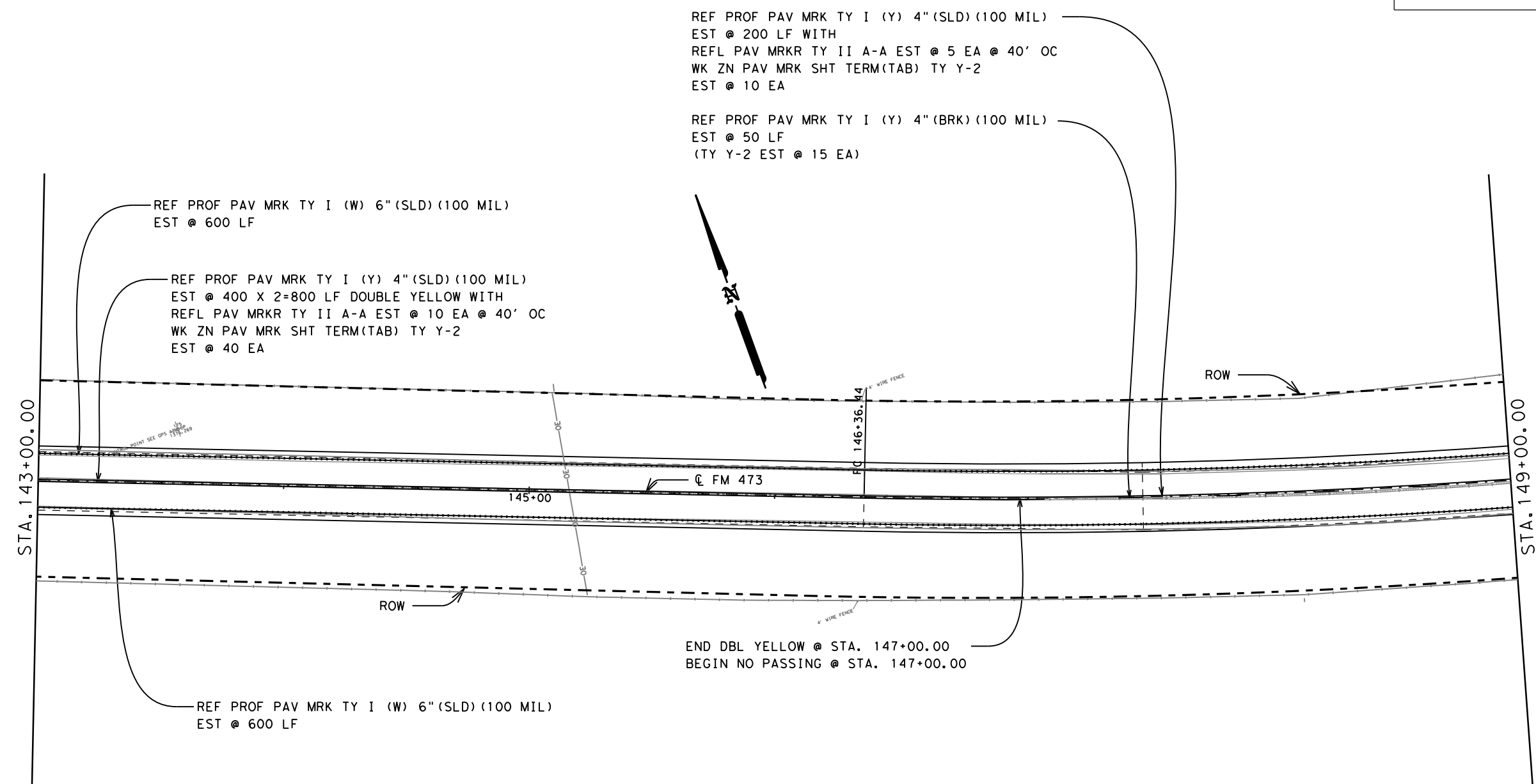


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		423

DATE: 4/26/2021 5:05:20 PM  
FILE: c:\txdot\pw\_online\txdot4\mark\_nor\endor\_f\d0239902\PAV\MRK0040(26).dgn



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	65	EA
PAVEMENT SEALER 4"	1050	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(BRK)(100MIL)	50	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1000	LF
REFL PAV MRKR TY II-A-A	15	EA



REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
 EST @ 200 LF WITH  
 REFL PAV MRKR TY II A-A EST @ 5 EA @ 40' OC  
 WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
 EST @ 10 EA

REF PROF PAV MRK TY I (Y) 4" (BRK) (100 MIL)  
 EST @ 50 LF  
 (TY Y-2 EST @ 15 EA)

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
 EST @ 600 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
 EST @ 400 X 2=800 LF DOUBLE YELLOW WITH  
 REFL PAV MRKR TY II A-A EST @ 10 EA @ 40' OC  
 WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
 EST @ 40 EA

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
 EST @ 600 LF

END DBL YELLOW @ STA. 147+00.00  
 BEGIN NO PASSING @ STA. 147+00.00

**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

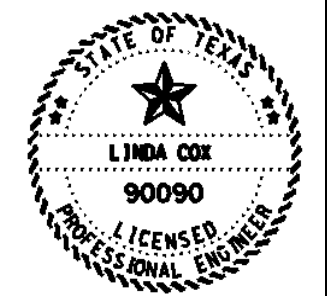
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CTIY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



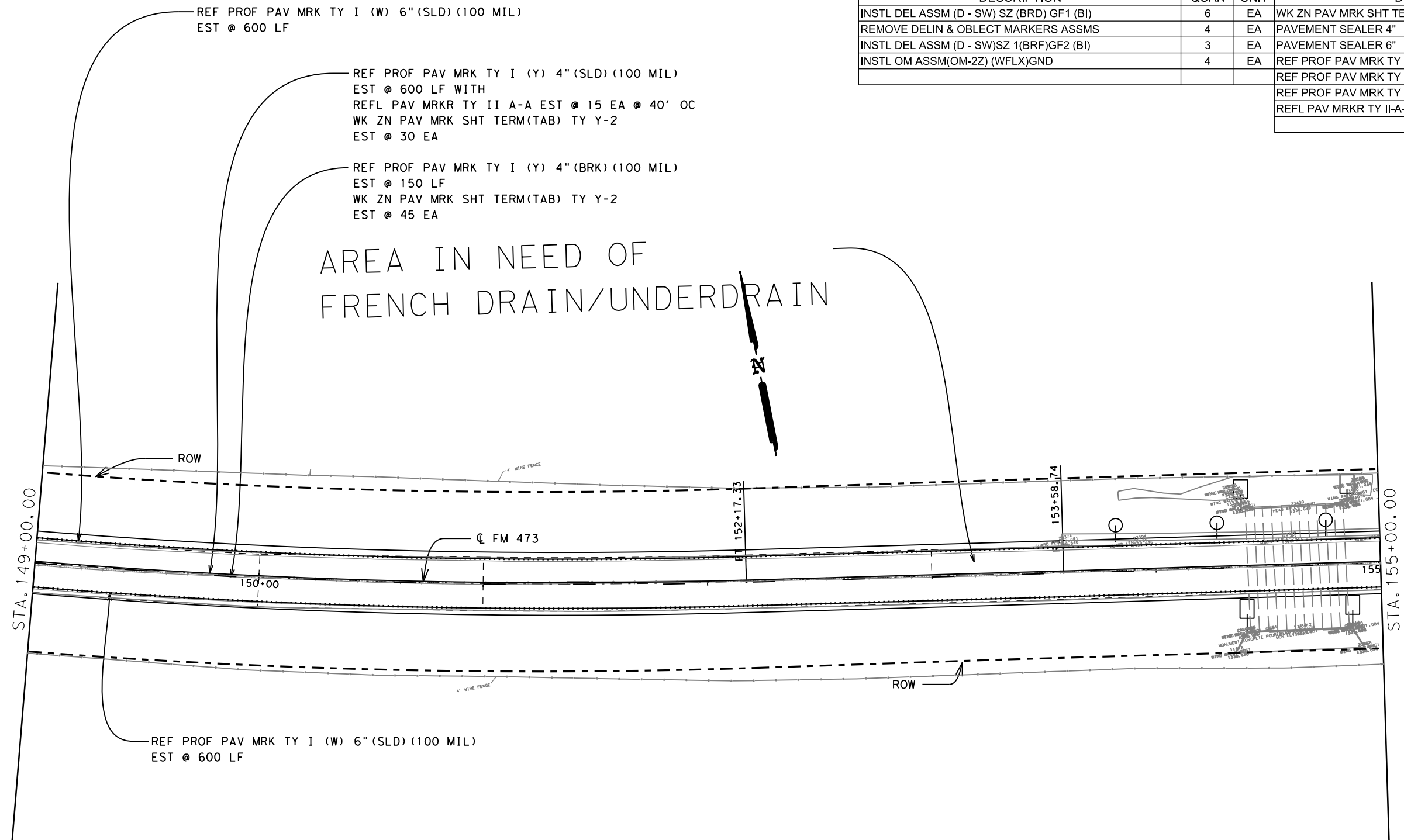
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		424

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DATE: 4/26/2021 5:05:35 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
IN STL DEL ASSM (D - SW) SZ (BRD) GF1 (BI)	6	EA
REMOVE DELIN & OBLECT MARKERS ASSMS	4	EA
IN STL DEL ASSM (D - SW)SZ 1(BRF)GF2 (BI)	3	EA
IN STL OM ASSM(OM-2Z) (WFLX)GND	4	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	75	EA
PAVEMENT SEALER 4"	750	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(BRK)(100MIL)	150	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	600	LF
REFL PAV MRKR TY II-A-A	15	EA



AREA IN NEED OF  
 FRENCH DRAIN/UNDERDRAIN

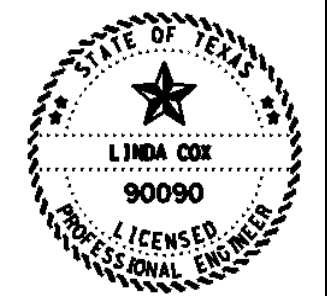
**NOTE:**  
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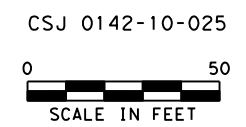
**SIGNING LEGEND**

---	EXIST/REMOVE
---	INSTALL
⊙	(D-SW/SY) SZ 1 (FLX) (GND/SRF)
⊙	(D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
⊙	(D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
⊙	(OM-2Z) (FLX) (GND/SRF)
⊙	(OM-3R/L) (FLX) (GND/SRF)

RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



Linda Cox, P.E.  
 04/28/2021



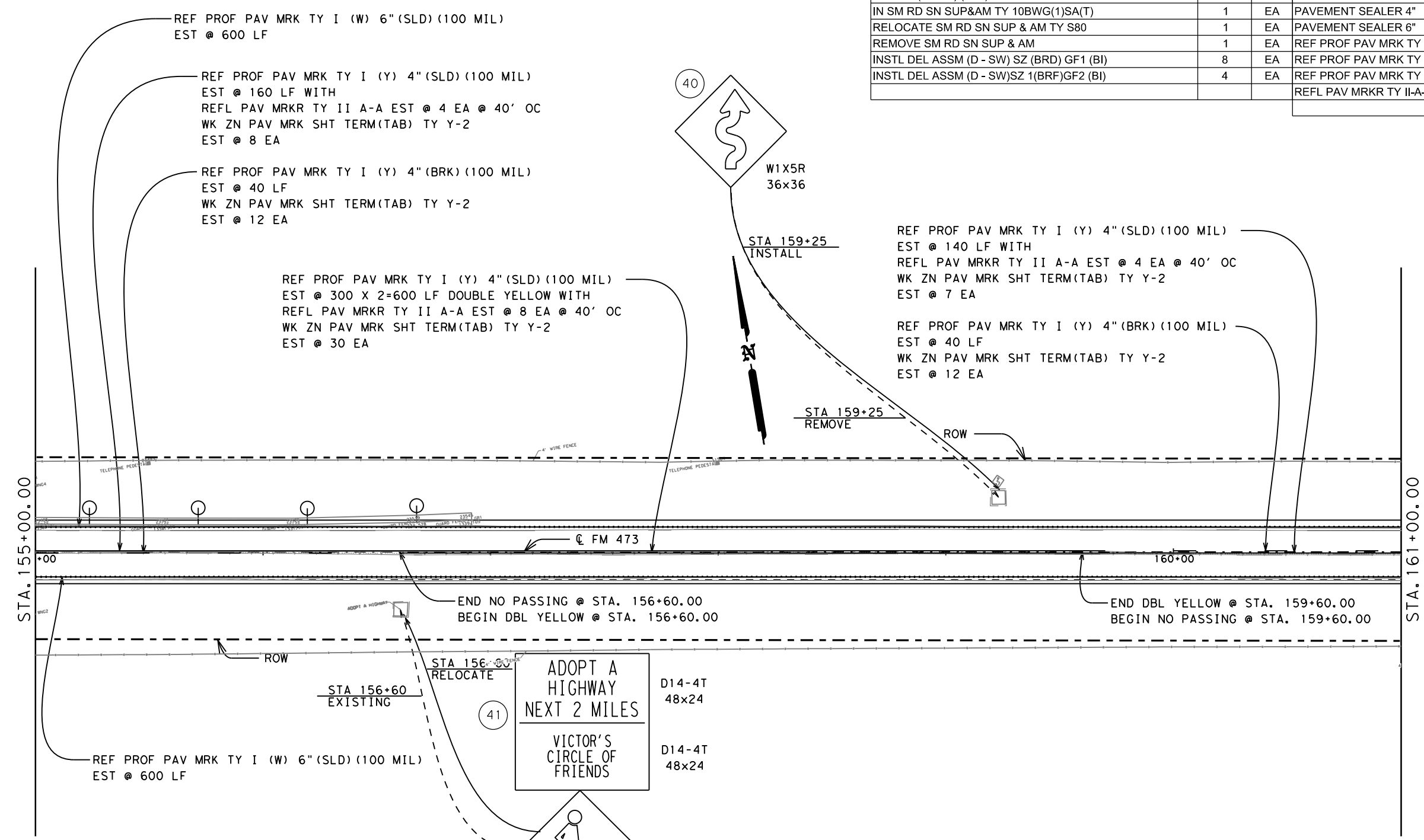
Texas Department of Transportation		SHEET 29 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		425



Cks  
DWF  
Cks  
DWF

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
RELOCATE SM RD SN SUP & AM TY S80	1	EA
REMOVE SM RD SN SUP & AM	1	EA
INSTR DEL ASSM (D - SW) SZ (BRD) GF1 (BI)	8	EA
INSTR DEL ASSM (D - SW)SZ 1(BRF)GF2 (BI)	4	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	69	EA
PAVEMENT SEALER 4"	980	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(BRK)(100MIL)	80	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	900	LF
REFL PAV MRKR TY II-A-A	16	EA



STA. 155+00.00

STA. 161+00.00

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**NOTE:**

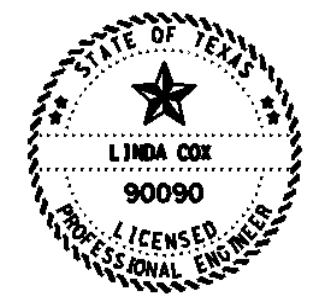
SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♀ (OM-2Z) (FLX) (GND/SRF)
- ♀ (OM-3R/L) (FLX) (GND/SRF)



Linda Cox, P.E.  
04/28/2021

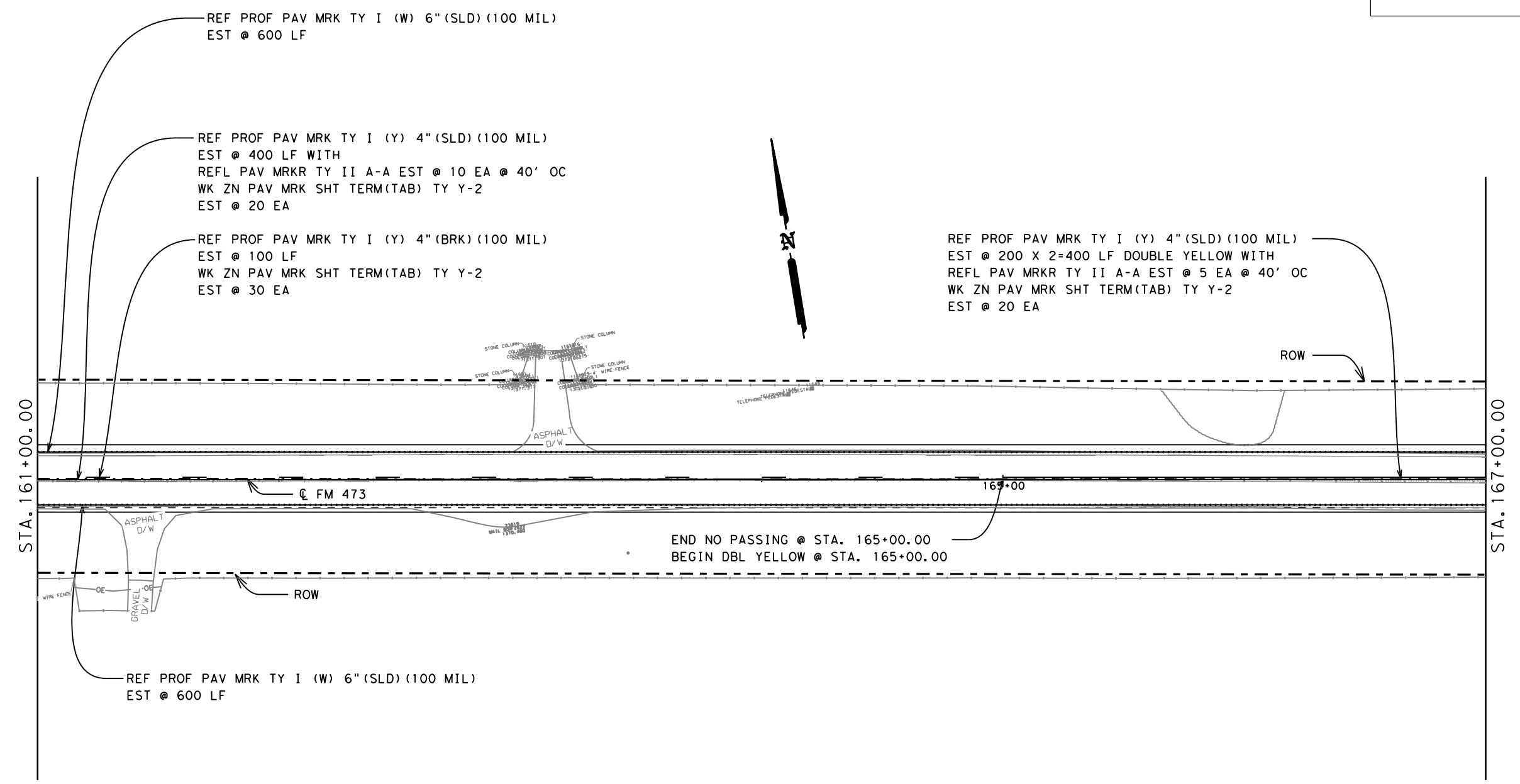
CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

Texas Department of Transportation		SHEET 30 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		426

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	70	EA
PAVEMENT SEALER 4"	900	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(BRK)(100MIL)	100	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	800	LF
REFL PAV MRKR TY II-A-A	15	EA



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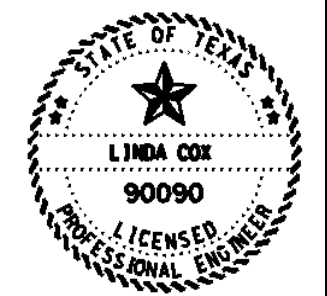
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- INSTALL
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- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



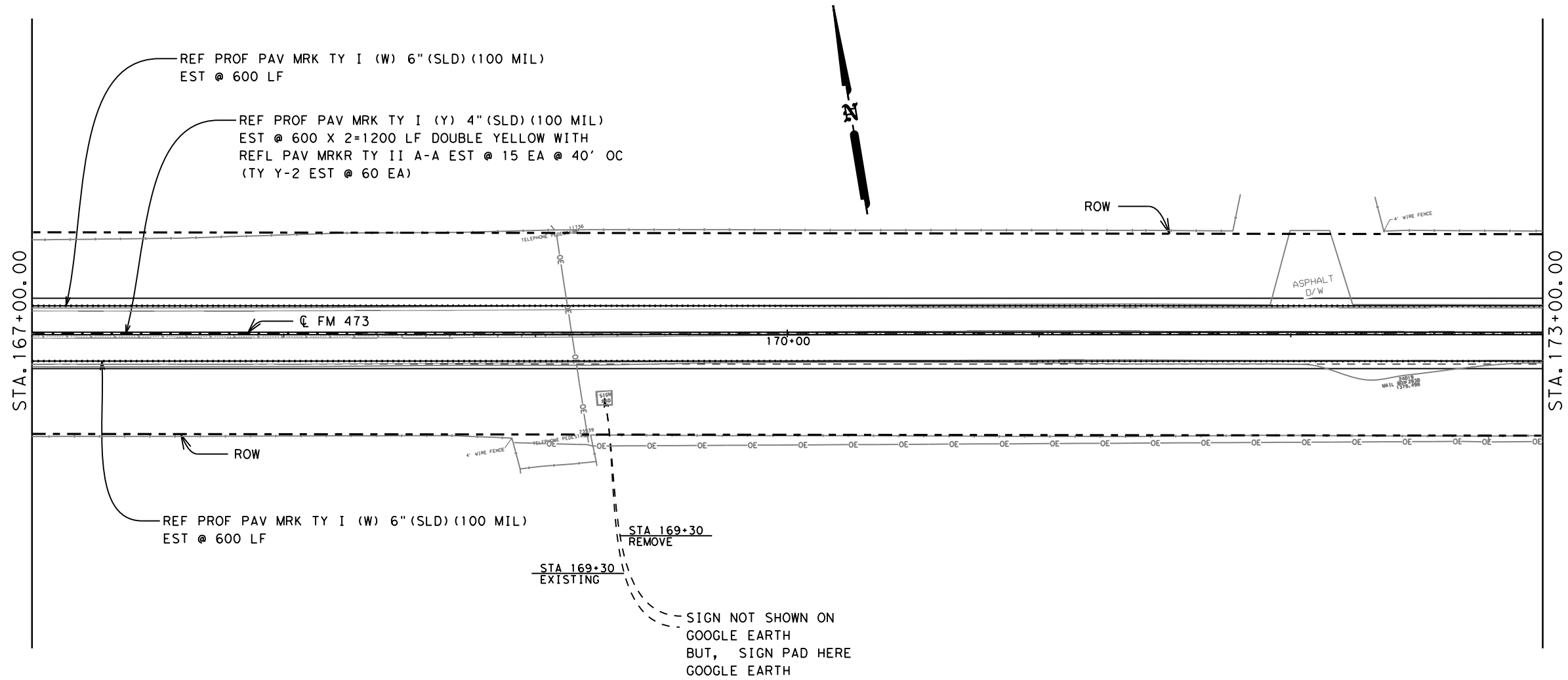
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

Texas Department of Transportation		SHEET 31 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		427

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
REMOVING CONC (RIPRAP)	4	SY

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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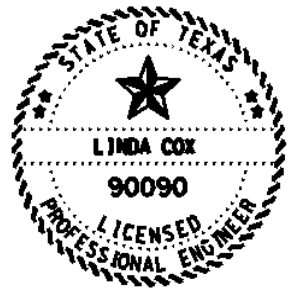
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- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025



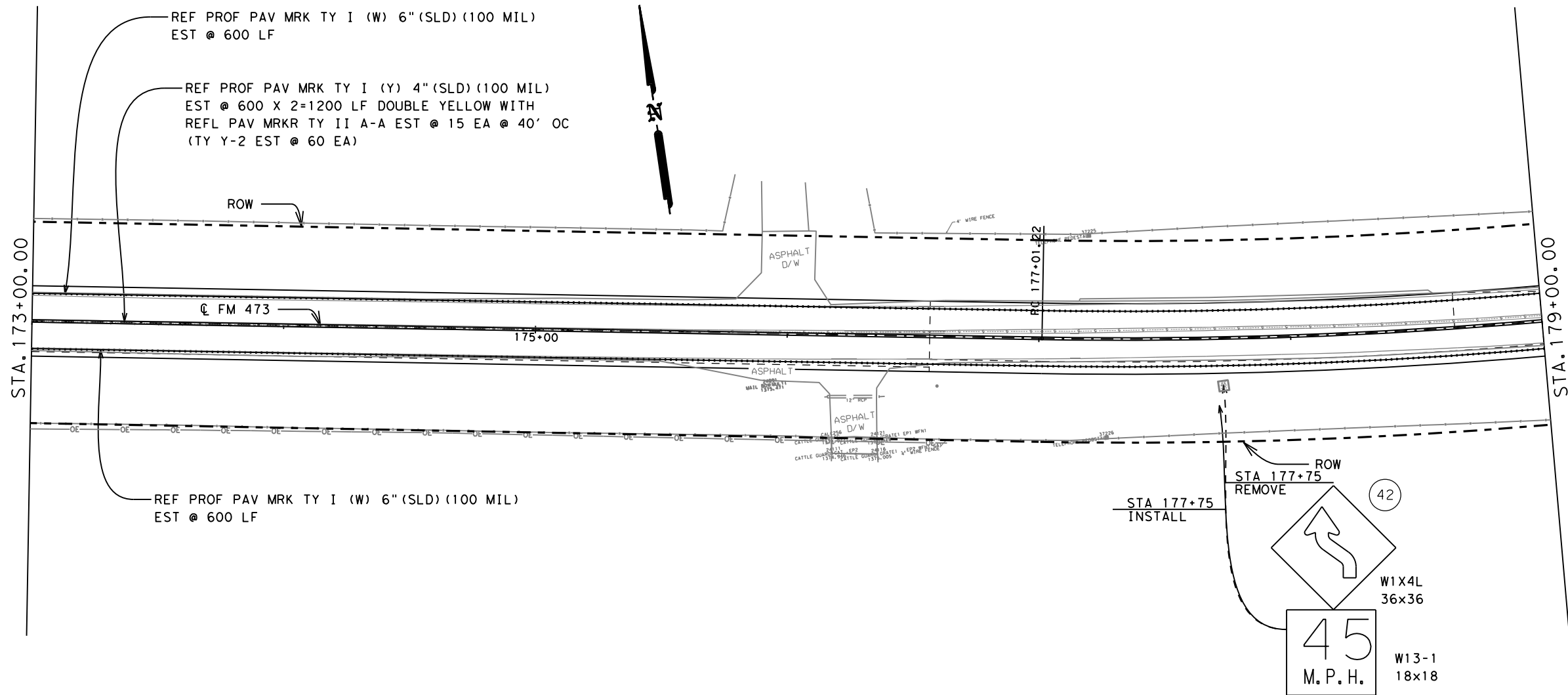
**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**

Texas Department of Transportation		SHEET 32 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		428

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	1	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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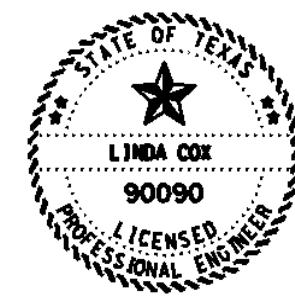
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- INSTALL
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- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025

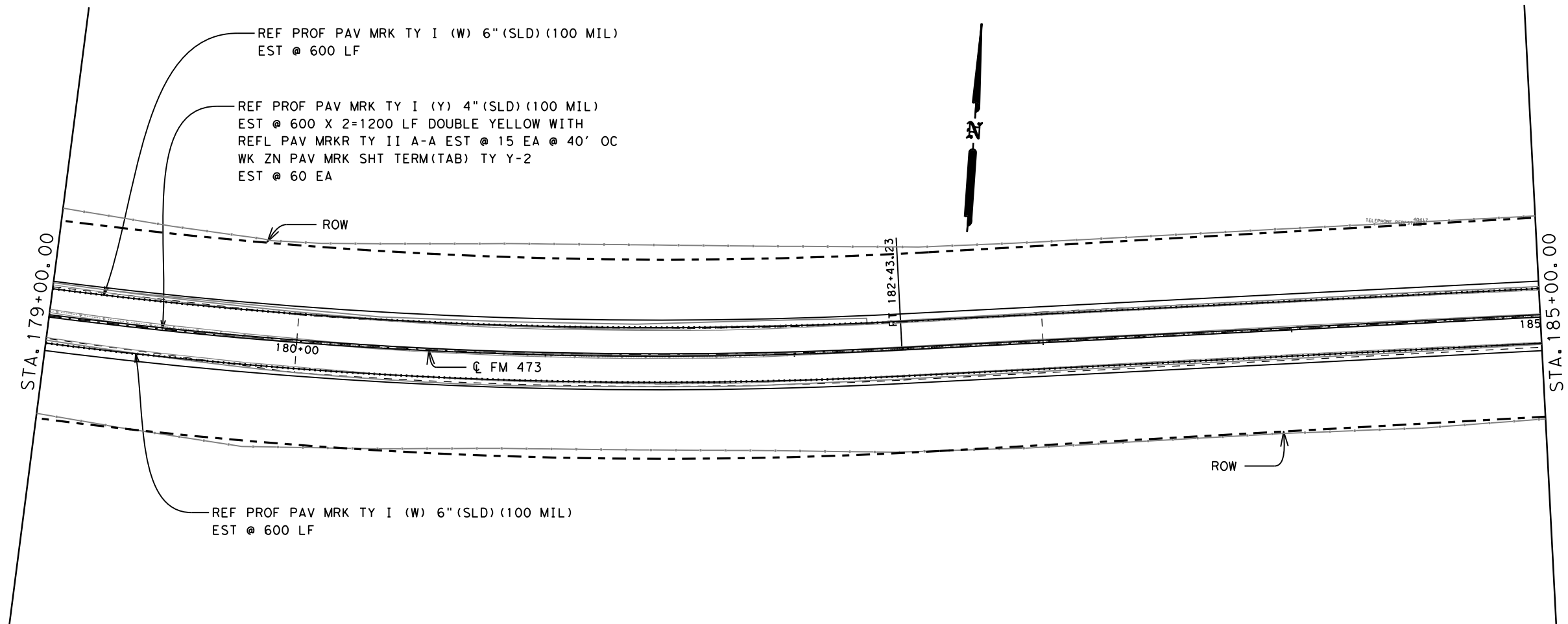


RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		429

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I (W) 6" (SLD) (100MIL)	1200	LF
REF PROF PAV MRK TY I (Y) 4" (SLD) (100MIL)	1200	LF
REFL PAV MRKR TY II A-A	15	EA



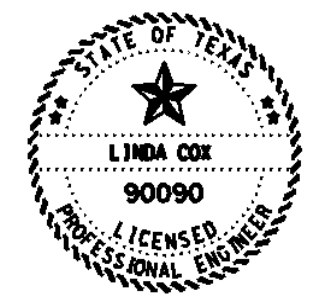
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- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊙ (OM-2Z) (FLX) (GND/SRF)
  - ⊙ (OM-3R/L) (FLX) (GND/SRF)

**RM 473**  
**PAVEMENT MARKING**  
**& SIGNING LAYOUTS**



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025

0 50  
SCALE IN FEET

Texas Department of Transportation  
 SHEET 34 OF 58

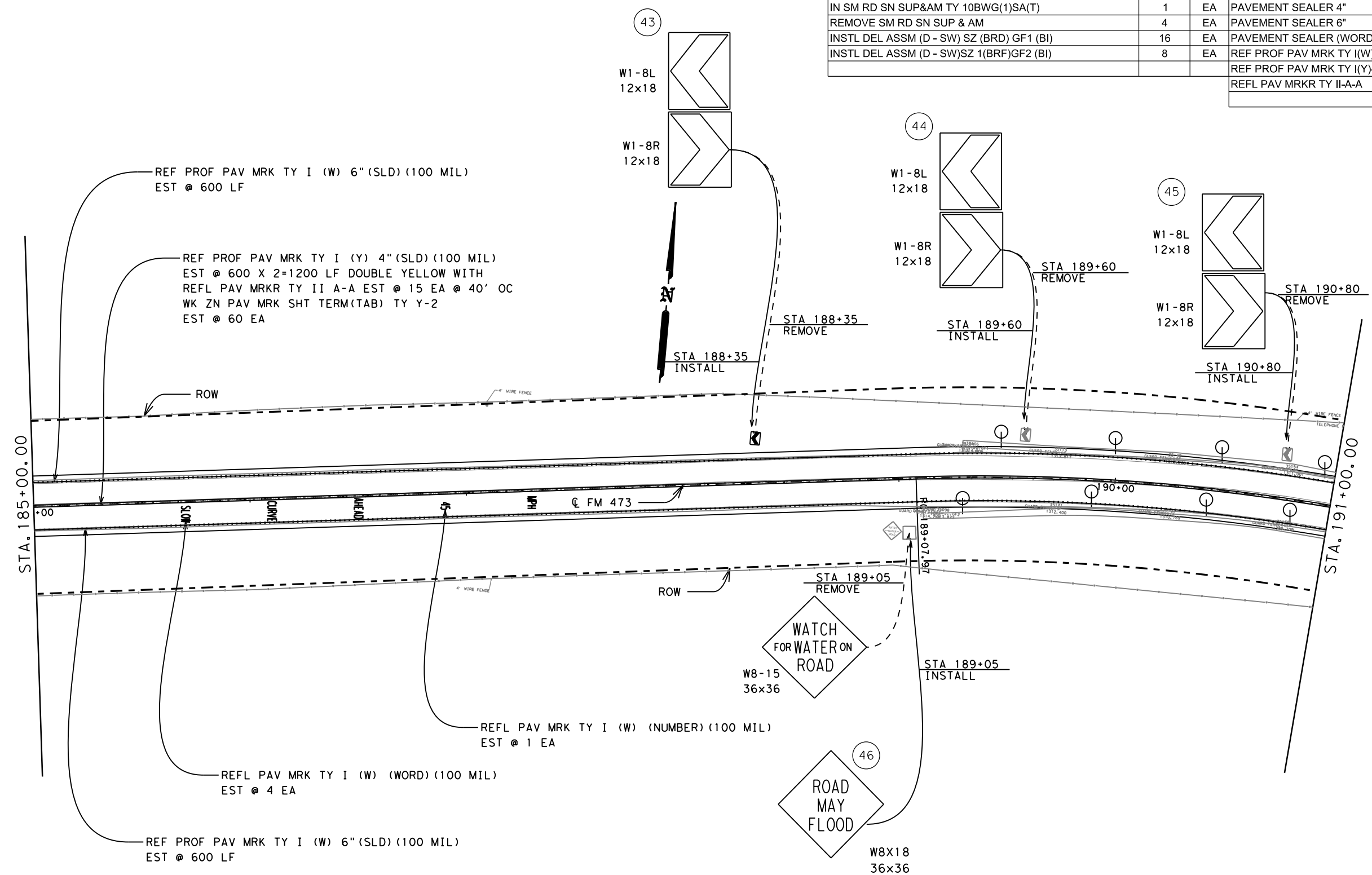
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		430



Cks  
DWF  
Cks  
DWF

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	4	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	3	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	4	EA
INSTR DEL ASSM (D - SW) SZ (BRD) GF1 (BI)	16	EA
INSTR DEL ASSM (D - SW)SZ 1(BRF)GF2 (BI)	8	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
REFL PAV MRK TY I (W) (WORD) (100MIL)	5	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
PAVEMENT SEALER (WORD)	5	EA
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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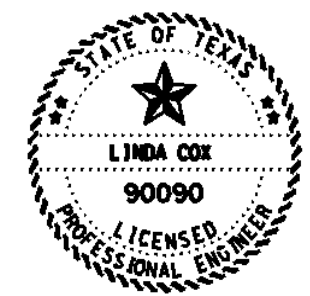
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**SIGNING LEGEND**

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- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



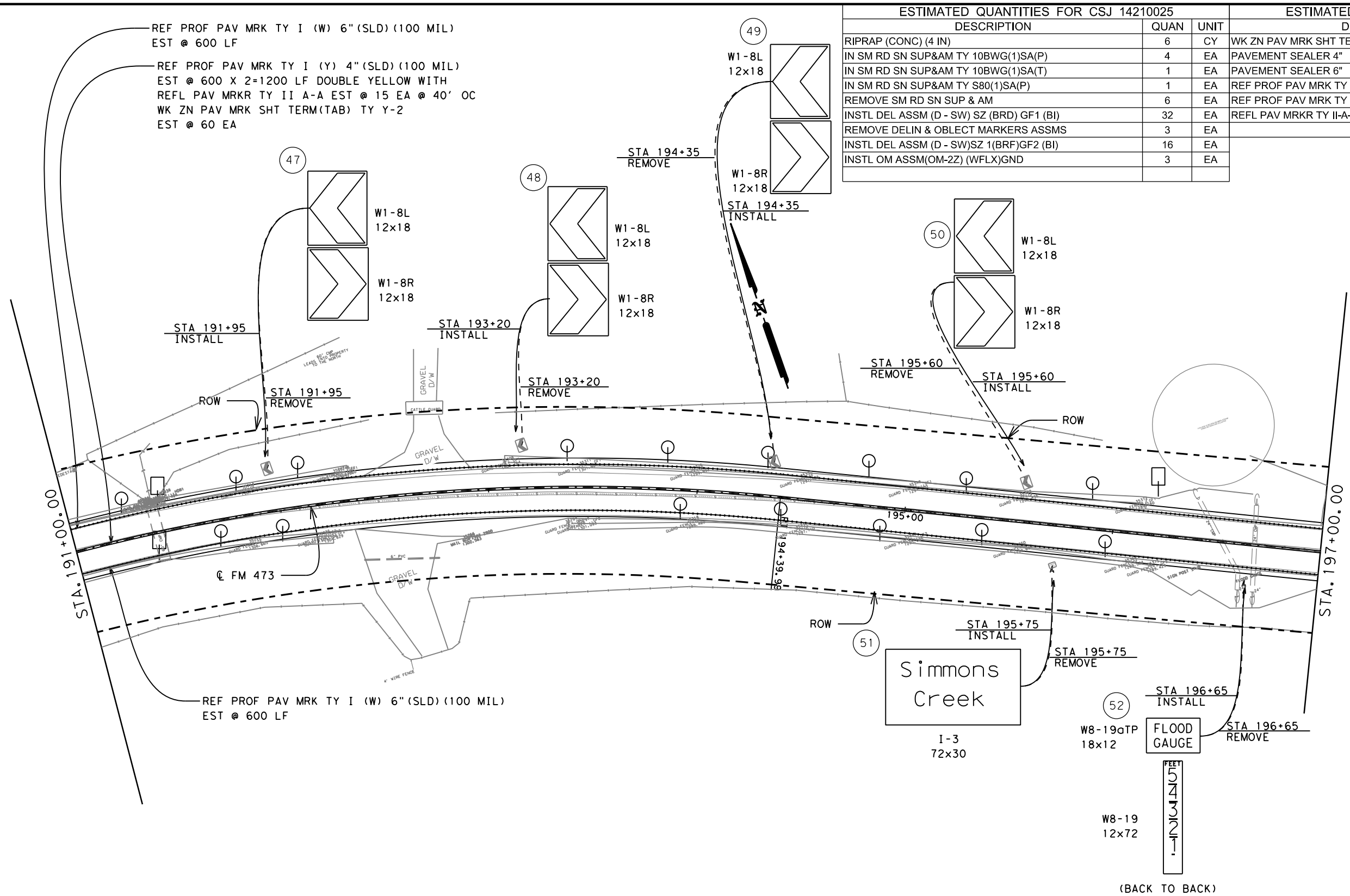
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		431

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	6	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	4	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
IN SM RD SN SUP&AM TY S80(1)SA(P)	1	EA
REMOVE SM RD SN SUP & AM	6	EA
IN STL DEL ASSM (D - SW) SZ (BRD) GF1 (BI)	32	EA
REMOVE DELIN & OBLECT MARKERS ASSMS	3	EA
IN STL DEL ASSM (D - SW)SZ 1(BRF)GF2 (BI)	16	EA
IN STL OM ASSM(OM-2Z) (WFLX)GND	3	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA

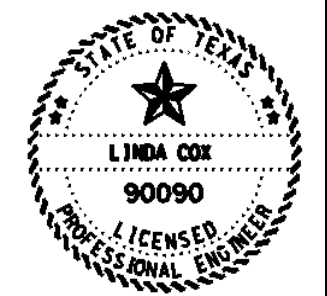


**NOTE:**  
 SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**  
 CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.  
 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ♀ (OM-2Z) (FLX) (GND/SRF)
  - ♀ (OM-3R/L) (FLX) (GND/SRF)

RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



Linda Cox, P.E.  
 04/28/2021

CSJ 0142-10-025

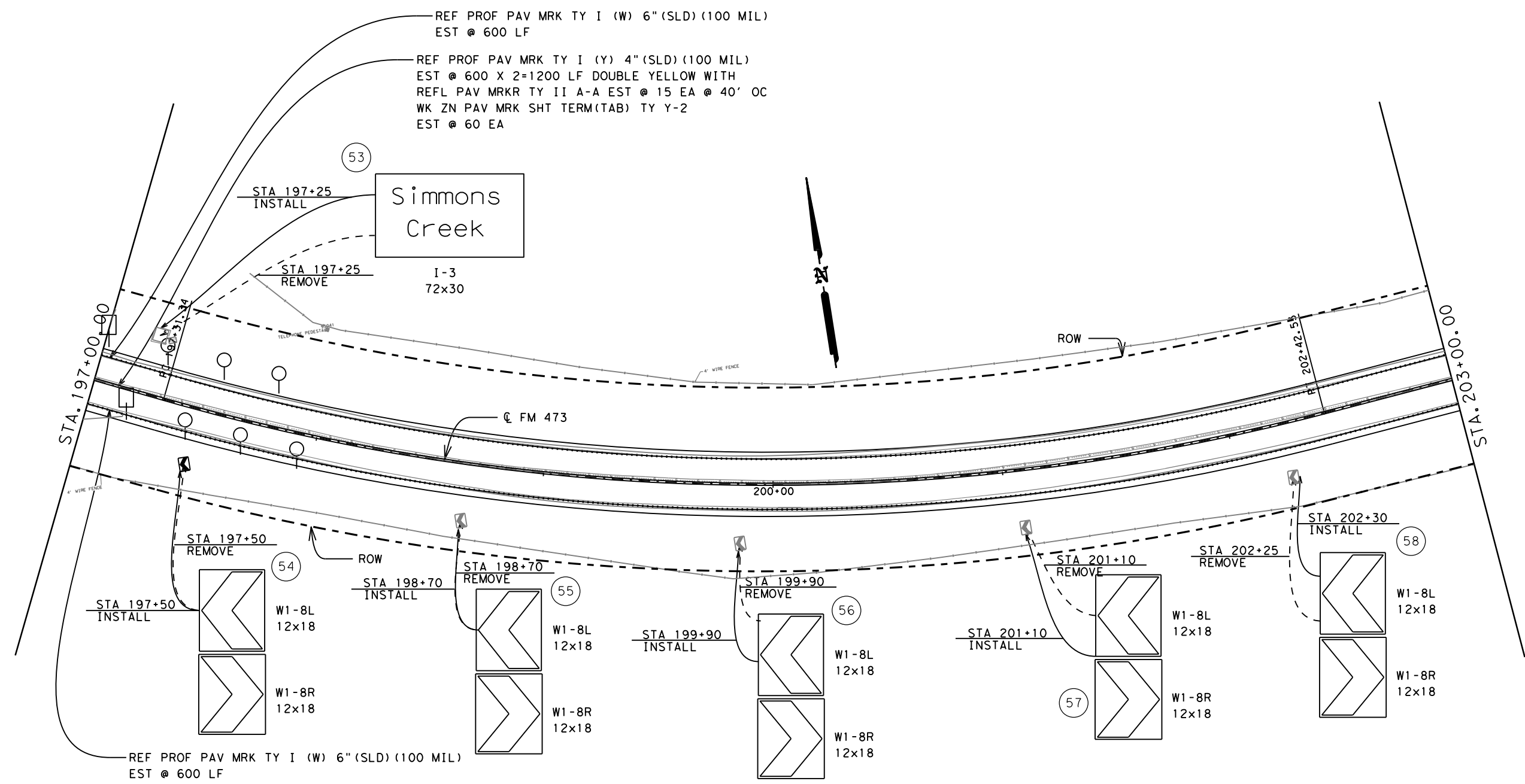
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 SCALE IN FEET

Texas Department of Transportation  
 SHEET 36 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		432

ESTIMATED QUANTITIES FOR CSJ 14210025			ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT	DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	6	CY	WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	5	EA	PAVEMENT SEALER 4"	1200	LF
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA	PAVEMENT SEALER 6"	1200	LF
REMOVE SM RD SN SUP & AM	6	EA	REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REMOVE DELIN & OBJECT MARKERS ASSMS	1	EA	REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
INSTL DEL ASSM (D-SW) SZ 1 (WFLX)(GND)	6	EA	REFL PAV MRKR TY II-A-A	15	EA
INSTL OM ASSM(OM-2Z) (WFLX)GND	2	EA			

CKS: \_\_\_\_\_  
 DMF: \_\_\_\_\_  
 CCK: \_\_\_\_\_  
 DNE: \_\_\_\_\_



**NOTE:**

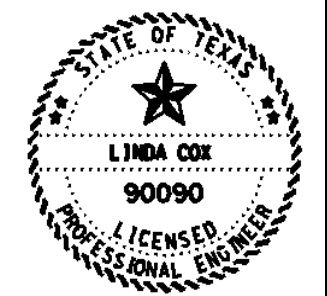
SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**

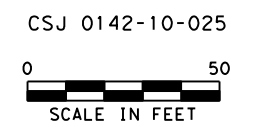
CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

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- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊕ (OM-2Z) (FLX) (GND/SRF)
  - ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021



# RM 473 PAVEMENT MARKING & SIGNING LAYOUTS

Texas Department of Transportation		SHEET 37 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		433

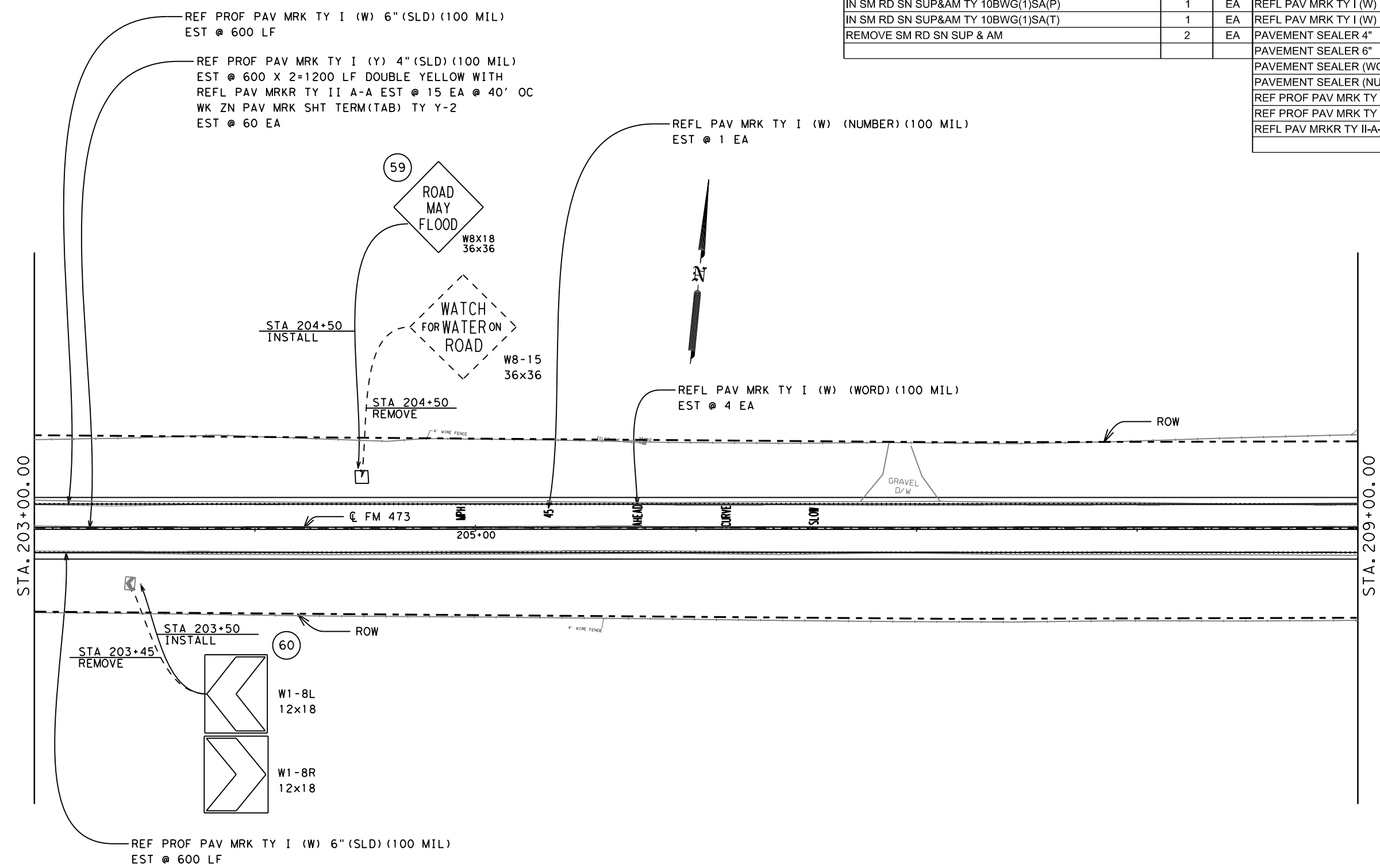
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
REFL PAV MRK TY I (W) (NUMBER) (100MIL)	1	EA
REFL PAV MRK TY I (W) (WORD) (100MIL)	4	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
PAVEMENT SEALER (WORD)	4	EA
PAVEMENT SEALER (NUMBER)	1	EA
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA

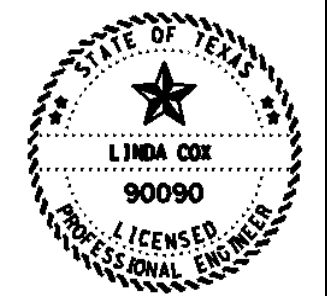


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NOTE:  
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- SIGNING LEGEND
- EXIST/REMOVE
  - INSTALL
  - ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ♀ (OM-2Z) (FLX) (GND/SRF)
  - ♀ (OM-3R/L) (FLX) (GND/SRF)

RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



Linda Cox, P.E.  
 04/28/2021

CSJ 0142-10-025

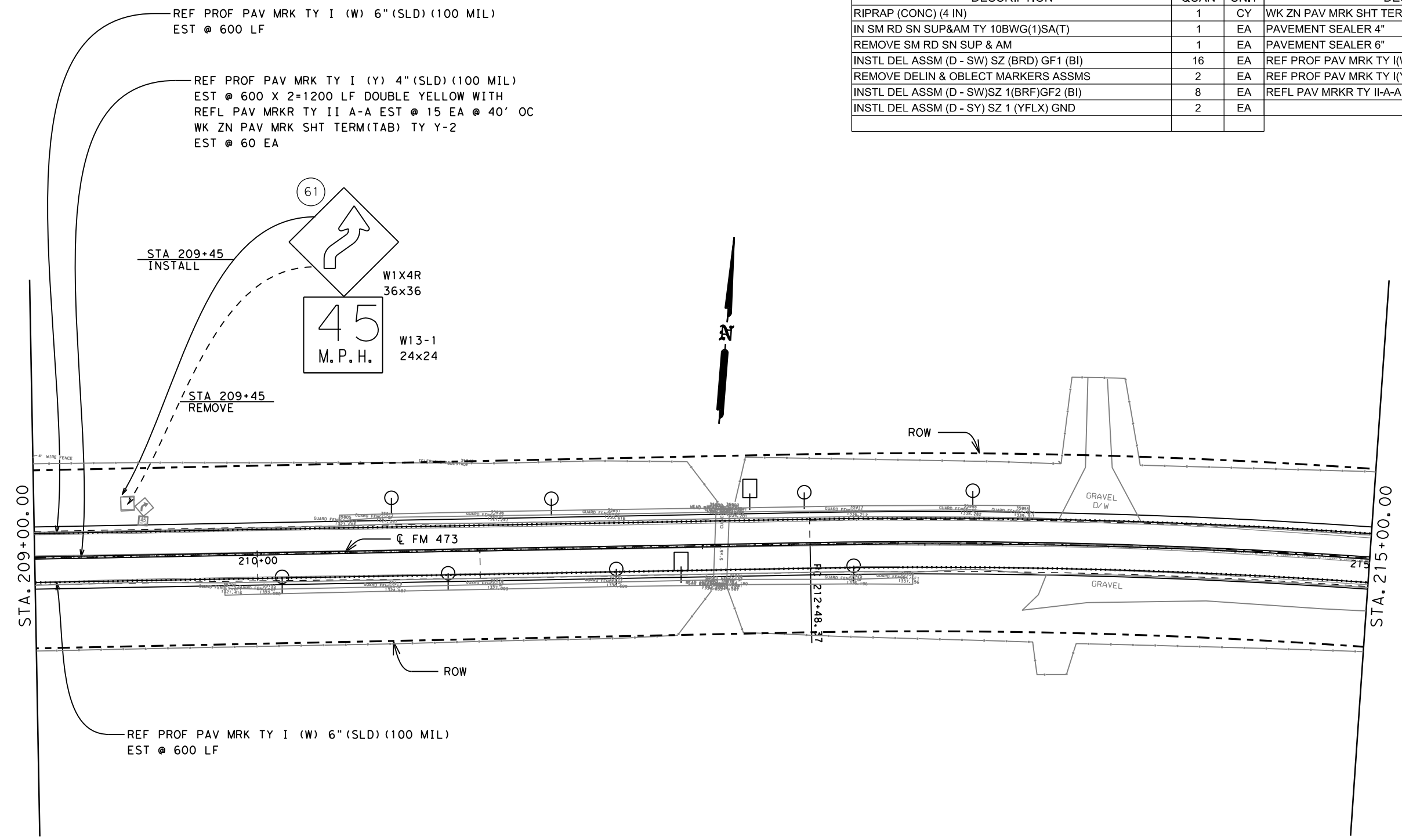
0 50  
 SCALE IN FEET

Texas Department of Transportation  
 SHEET 38 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		434

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	1	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA
INSL DEL ASSM (D - SW) SZ (BRD) GF1 (BI)	16	EA
REMOVE DELIN & OBLECT MARKERS ASSMS	2	EA
INSL DEL ASSM (D - SW)SZ 1(BRF)GF2 (BI)	8	EA
INSL DEL ASSM (D - SY) SZ 1 (YFLX) GND	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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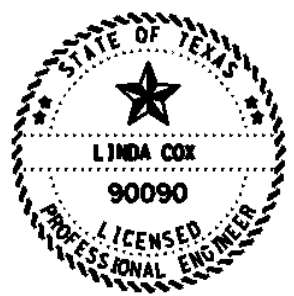
**NOTE:**

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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

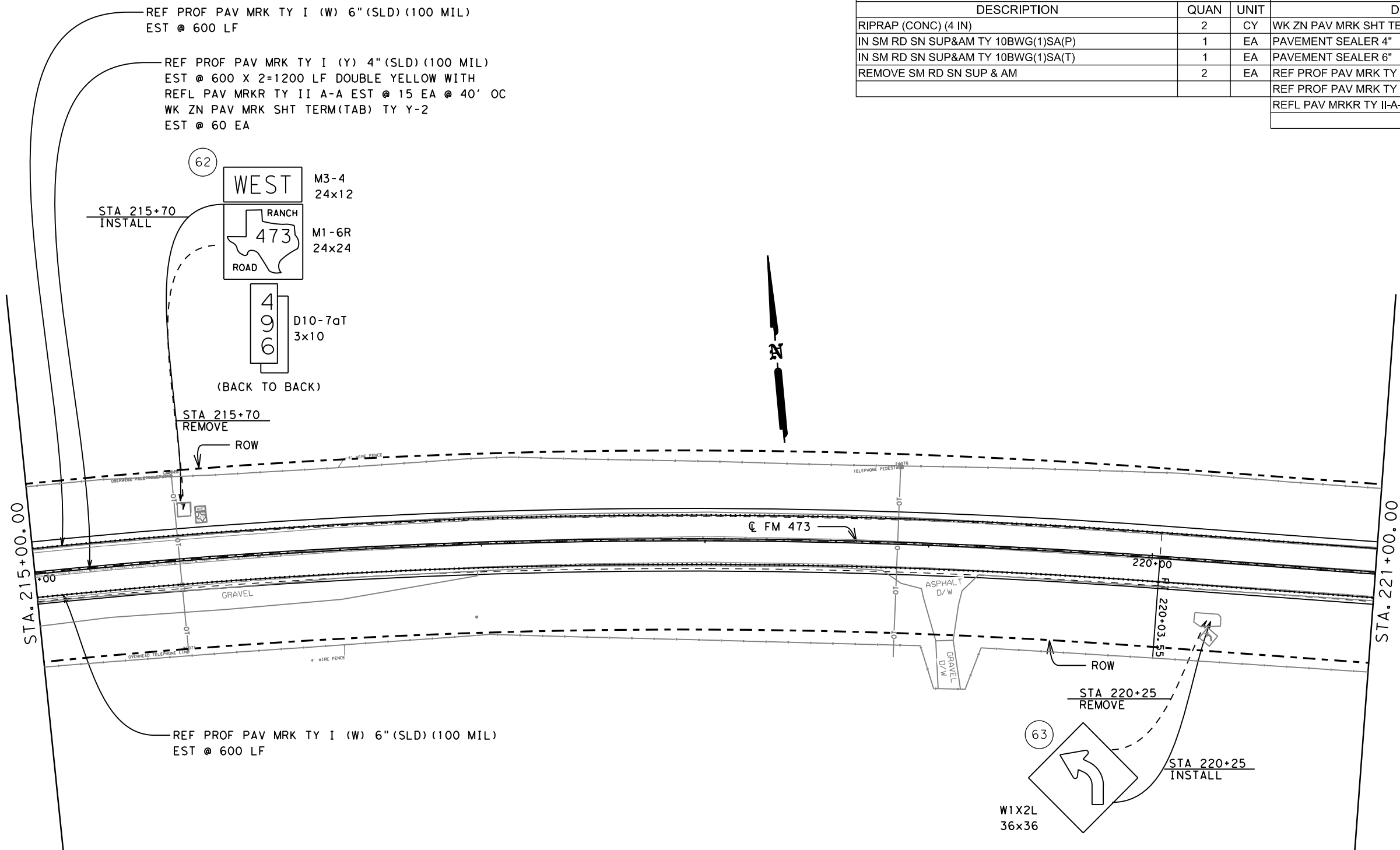


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		435

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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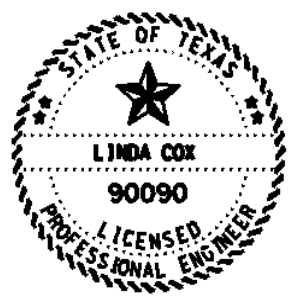
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



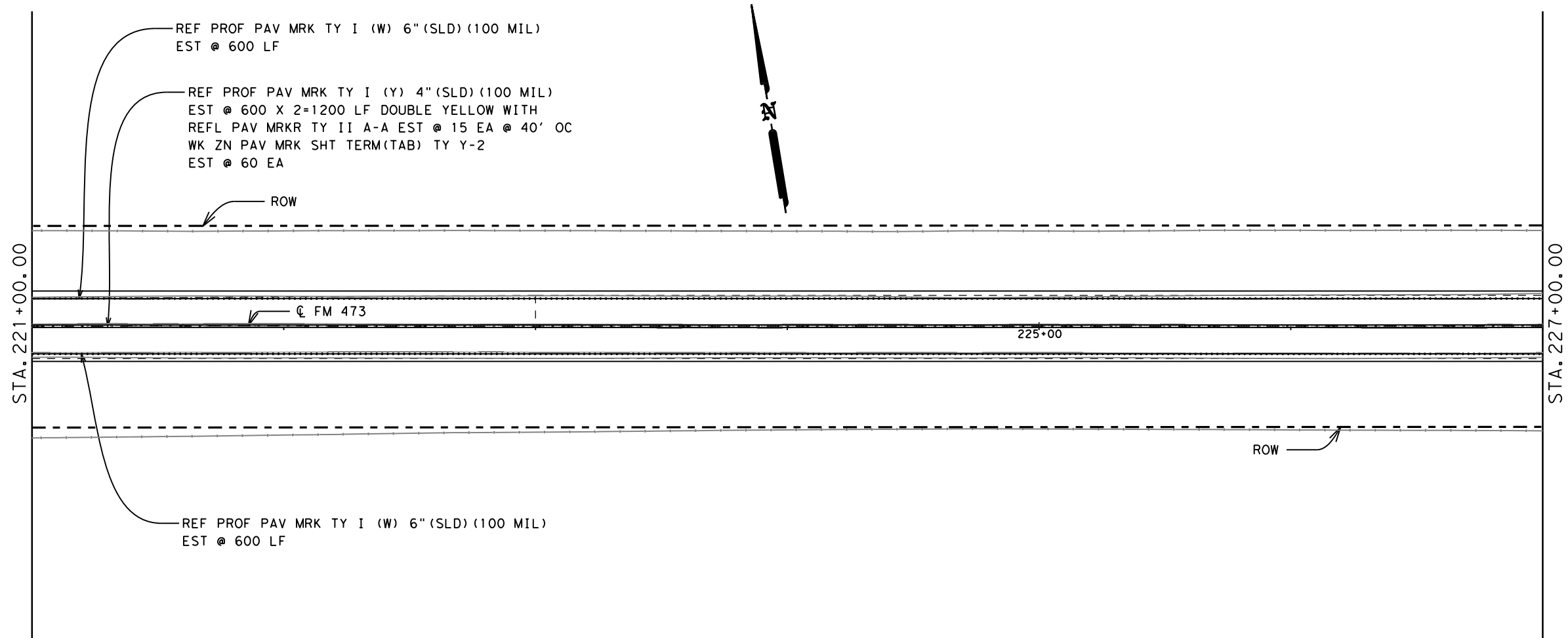
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		436

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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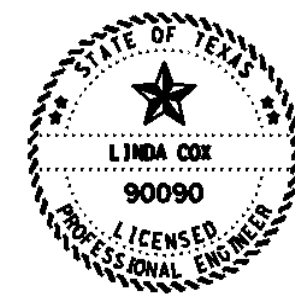
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- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025



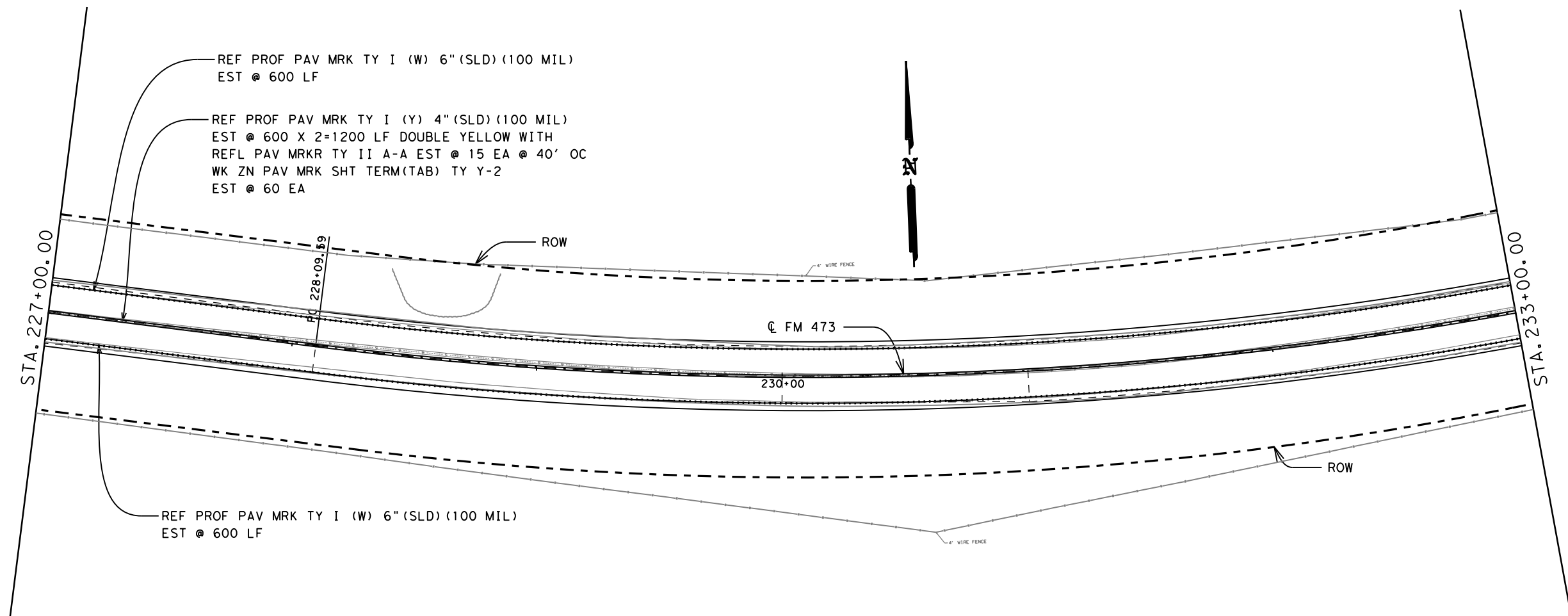
**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**

Texas Department of Transportation		SHEET 41 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		437

DATE: 4/26/2021 5:07:07 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA

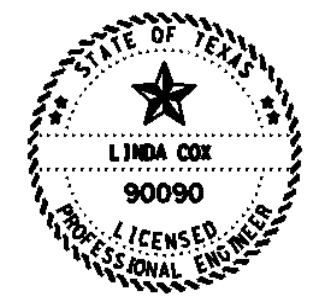
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 Dm: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dm: \_\_\_\_\_



REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
EST @ 600 X 2=1200 LF DOUBLE YELLOW WITH  
REFL PAV MRKR TY II A-A EST @ 15 EA @ 40' OC  
WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
EST @ 60 EA

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



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- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊙ (OM-2Z) (FLX) (GND/SRF)
  - ⊙ (OM-3R/L) (FLX) (GND/SRF)

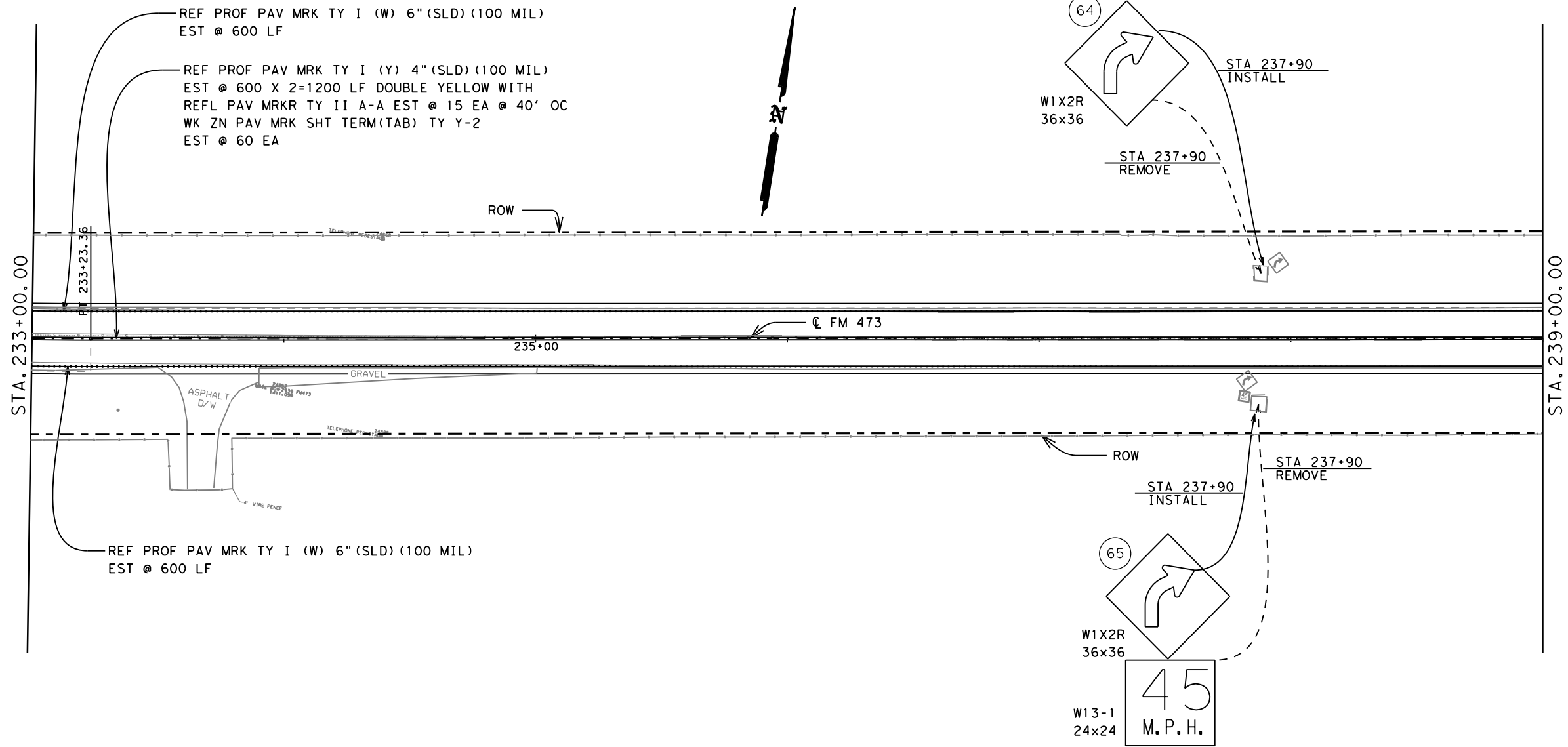
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

Texas Department of Transportation		SHEET 42 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		438

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	2	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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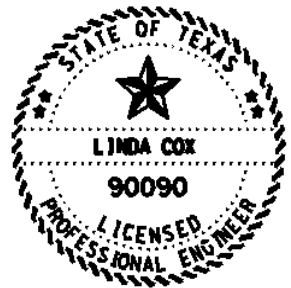
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♂ (OM-2Z) (FLX) (GND/SRF)
- ♂ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025



**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**

Texas Department of Transportation		SHEET 43 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		439

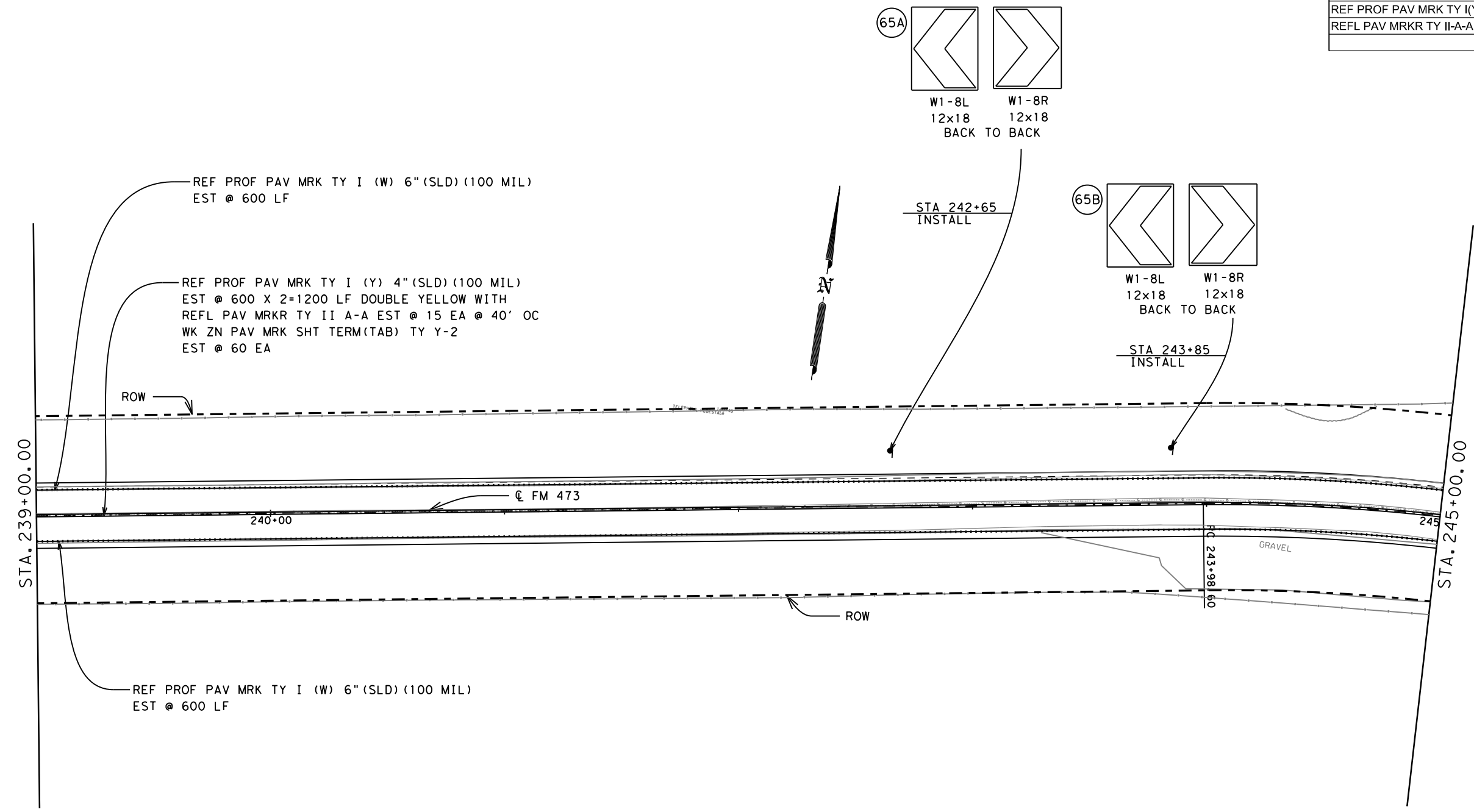
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C&G:  
D&E:  
C&G:  
D&E:

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

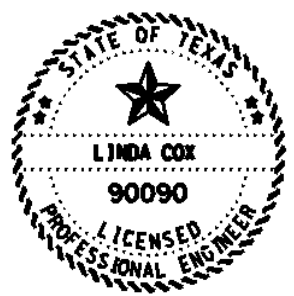
SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.  
  
IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ♂ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♂ (OM-2Z) (FLX) (GND/SRF)
- ♂ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



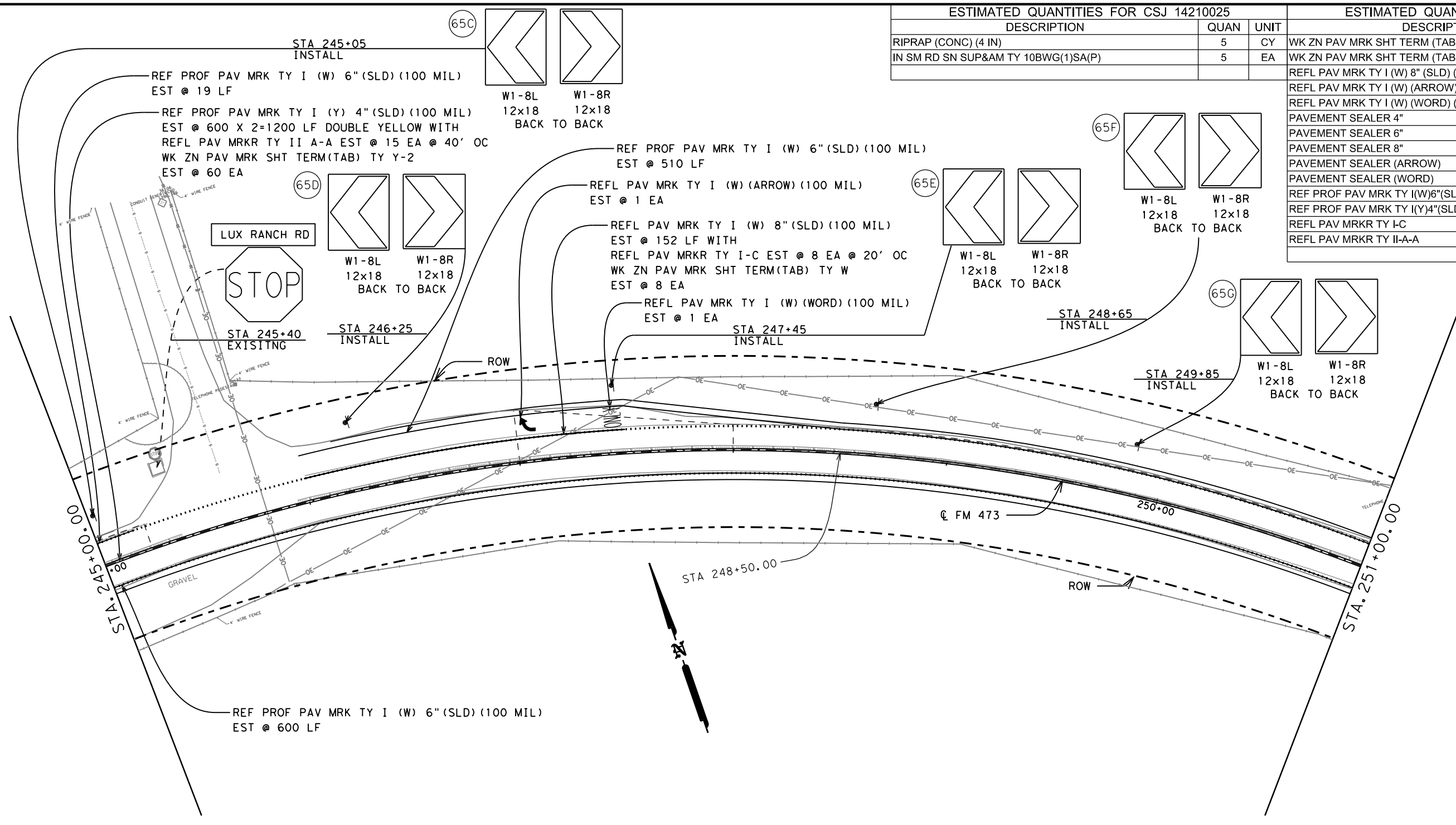
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		440

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DATE: 4/26/2021 5:07:36 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	5	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	5	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY W	8	EA
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	152	LF
REFL PAV MRK TY I (W) (ARROW) (100MIL)	1	EA
REFL PAV MRK TY I (W) (WORD) (100MIL)	1	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1129	LF
PAVEMENT SEALER 8"	152	LF
PAVEMENT SEALER (ARROW)	1	EA
PAVEMENT SEALER (WORD)	1	EA
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1129	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY I-C	8	EA
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

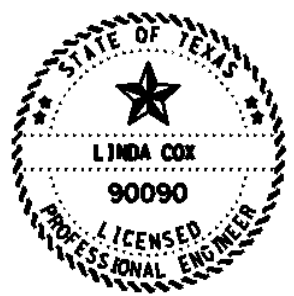
SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**

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 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS

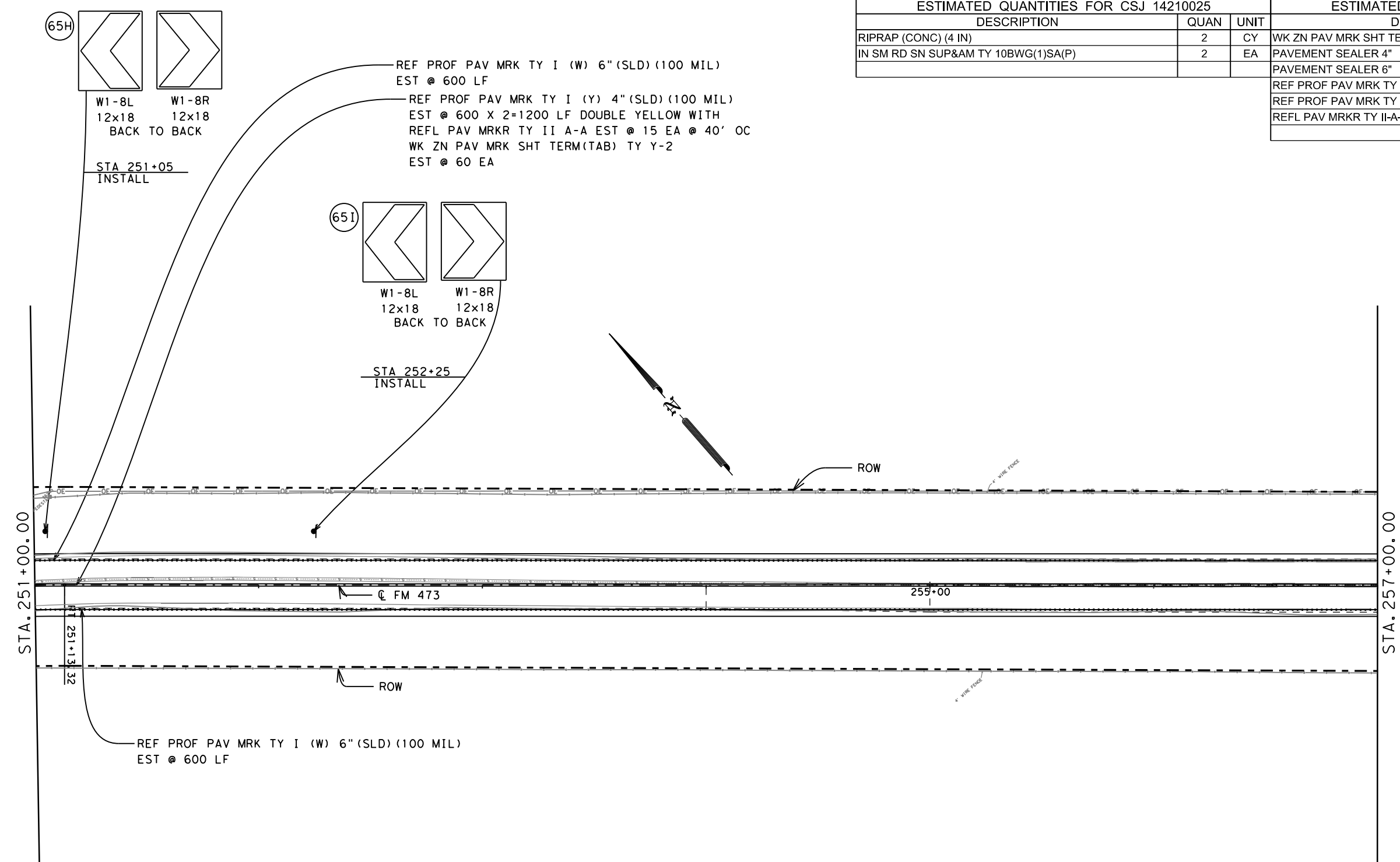
Texas Department of Transportation		SHEET 45 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		441



DATE: 4/26/2021 5:07:43 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

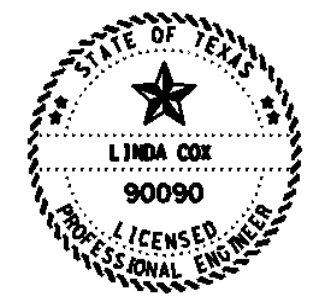
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



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 04/28/2021

CSJ 0142-10-025

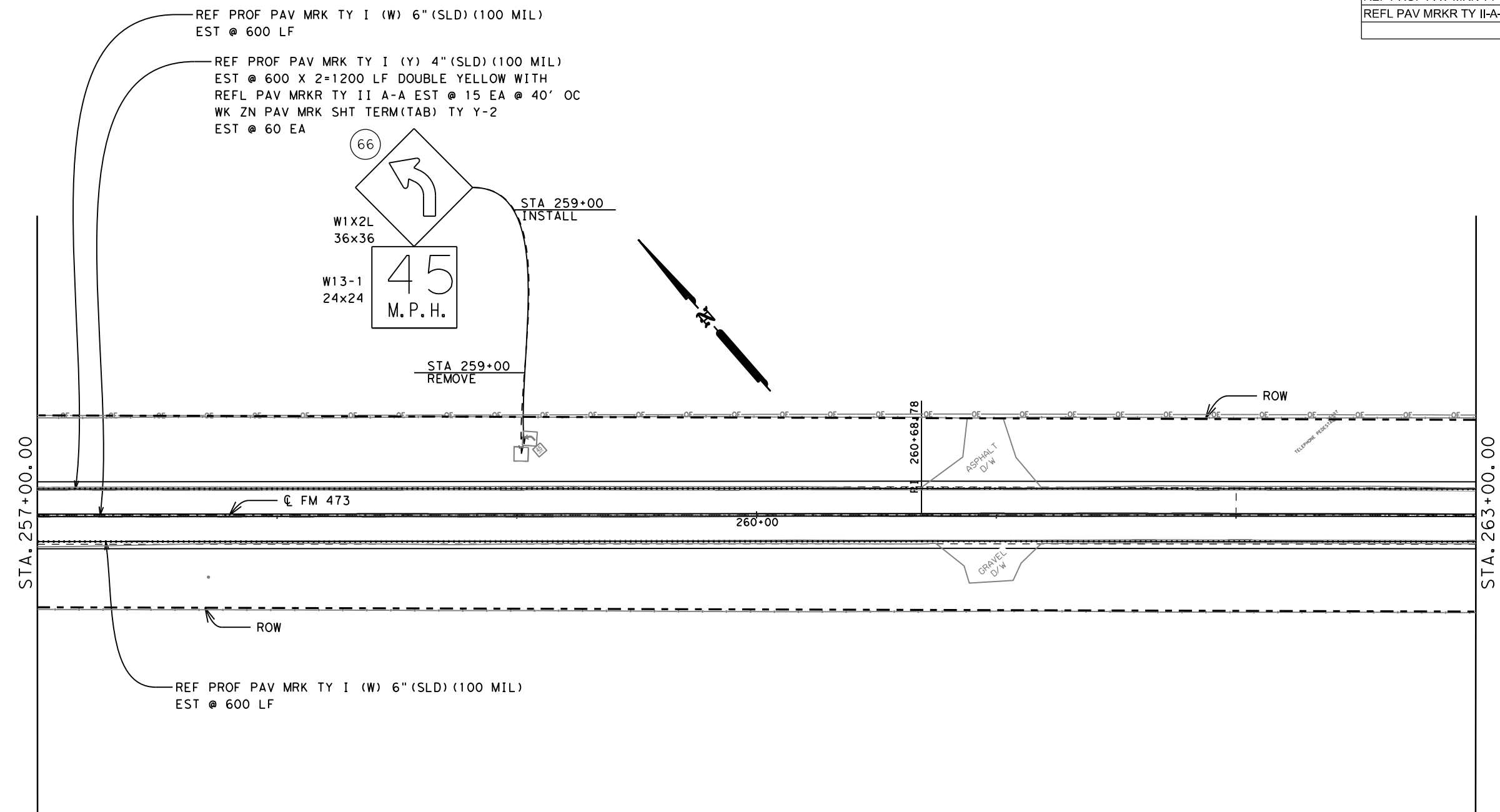


RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS

Texas Department of Transportation		SHEET 46 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		442

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	1	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA

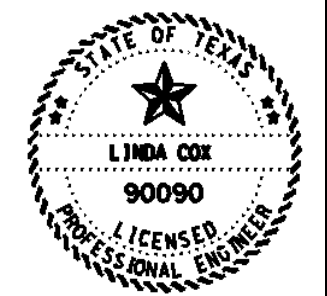


NOTE:  
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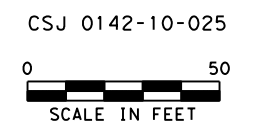
NOTE:  
CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CTIY AND STREET SIGNS.  
  
IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊙ (OM-2Z) (FLX) (GND/SRF)
  - ⊙ (OM-3R/L) (FLX) (GND/SRF)

RM 473  
**PAVEMENT MARKING & SIGNING LAYOUTS**



*Linda Cox, P.E.*  
04/28/2021



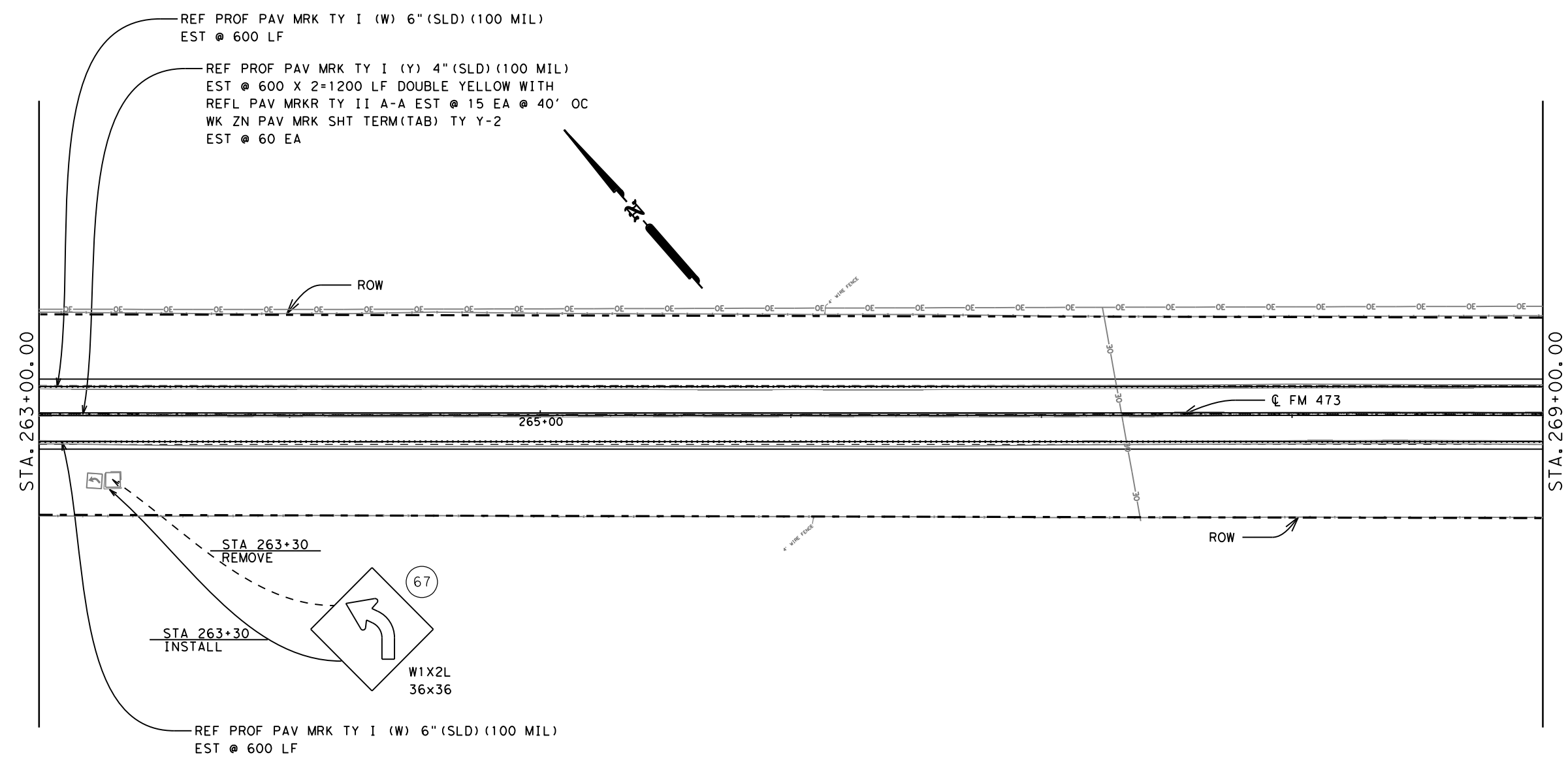
Texas Department of Transportation		SHEET 47 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		443

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Cks:  
DWF:  
Cks:  
DWF:

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	1	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	1	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



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**NOTE:**

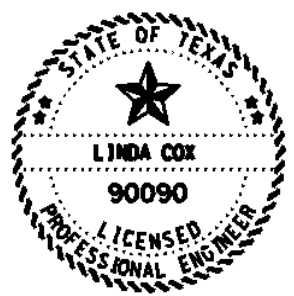
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**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CTIY AND STREET SIGNS.  
  
 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



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 04/28/2021

CSJ 0142-10-025

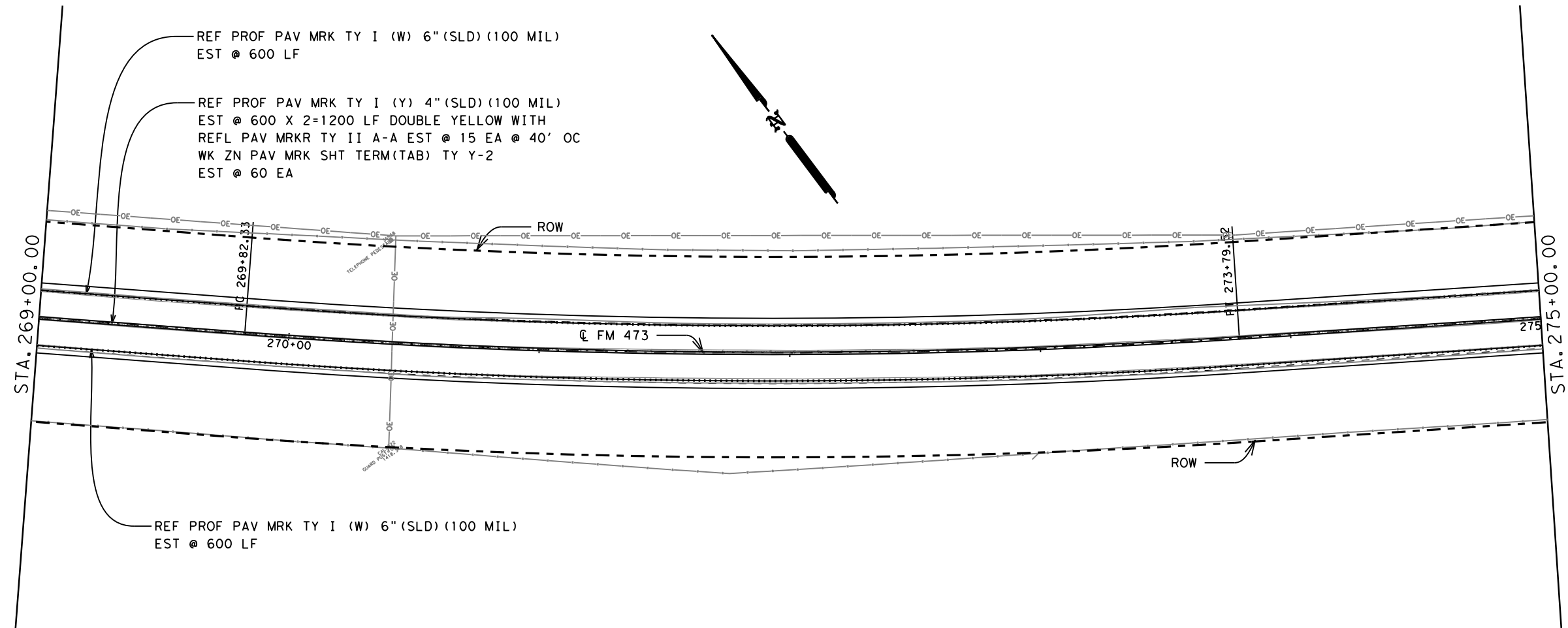


RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		444

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

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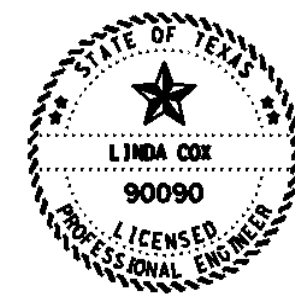
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**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025

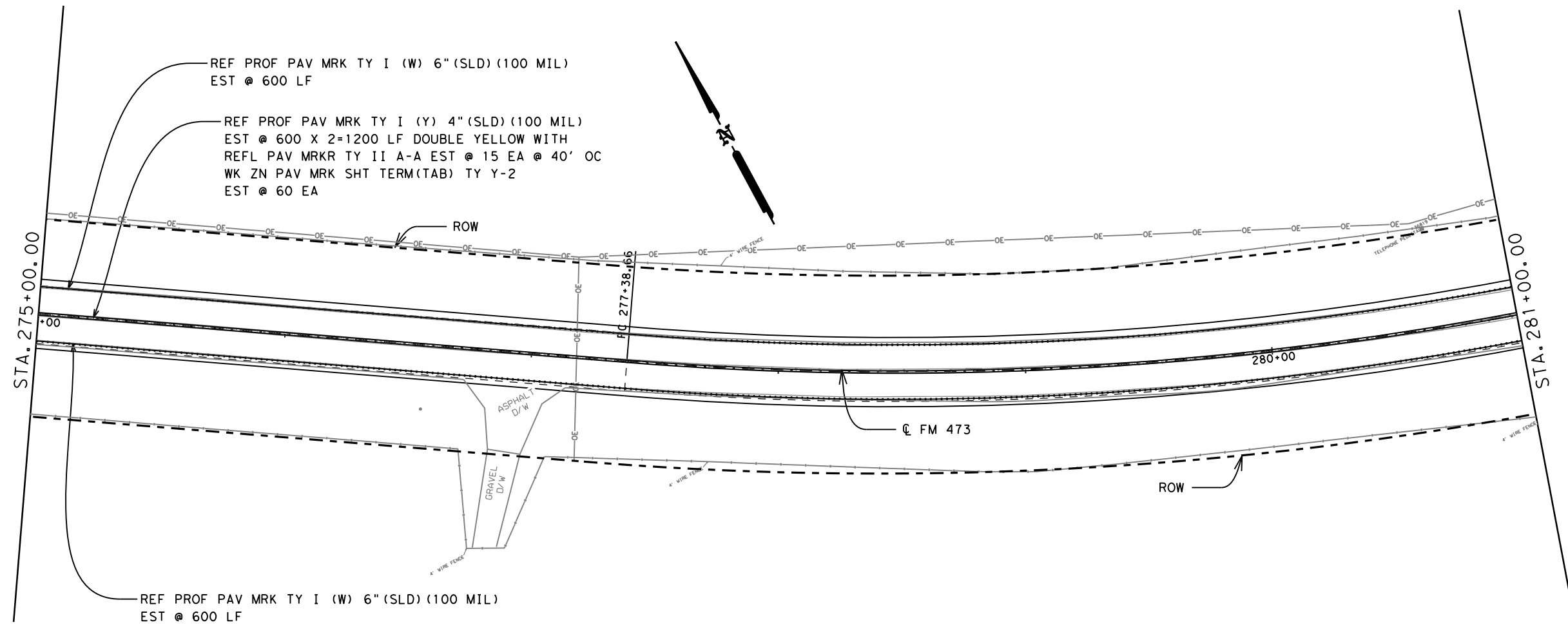


**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		445

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II A-A	15	EA



**NOTE:**

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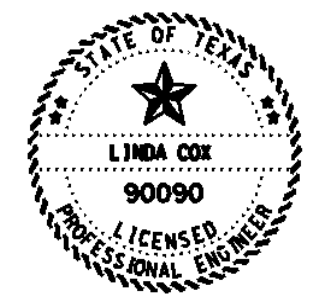
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IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



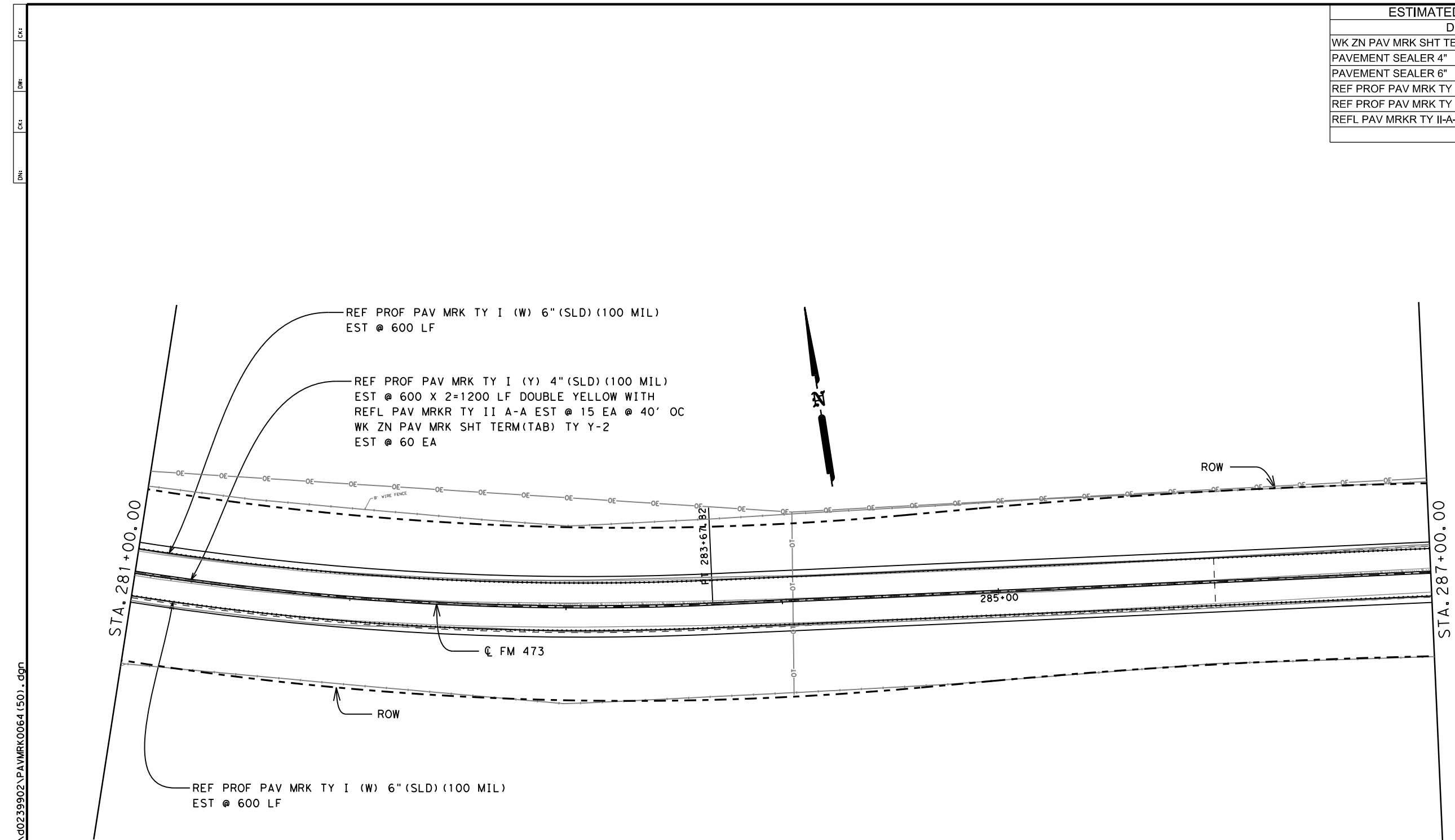
RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		446

DATE: 4/26/2021 5:08:12 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



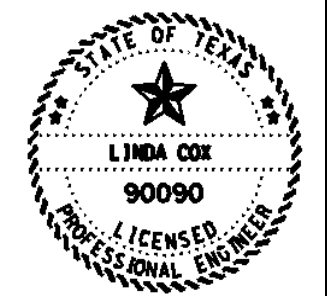
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**NOTE:**  
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**NOTE:**  
 CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CTIY AND STREET SIGNS.  
 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

- SIGNING LEGEND**
- EXIST/REMOVE
  - INSTALL
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
  - ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
  - ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
  - ⊙ (OM-2Z) (FLX) (GND/SRF)
  - ⊙ (OM-3R/L) (FLX) (GND/SRF)

**RM 473**  
**PAVEMENT MARKING**  
**& SIGNING LAYOUTS**



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025

0 50  
 SCALE IN FEET

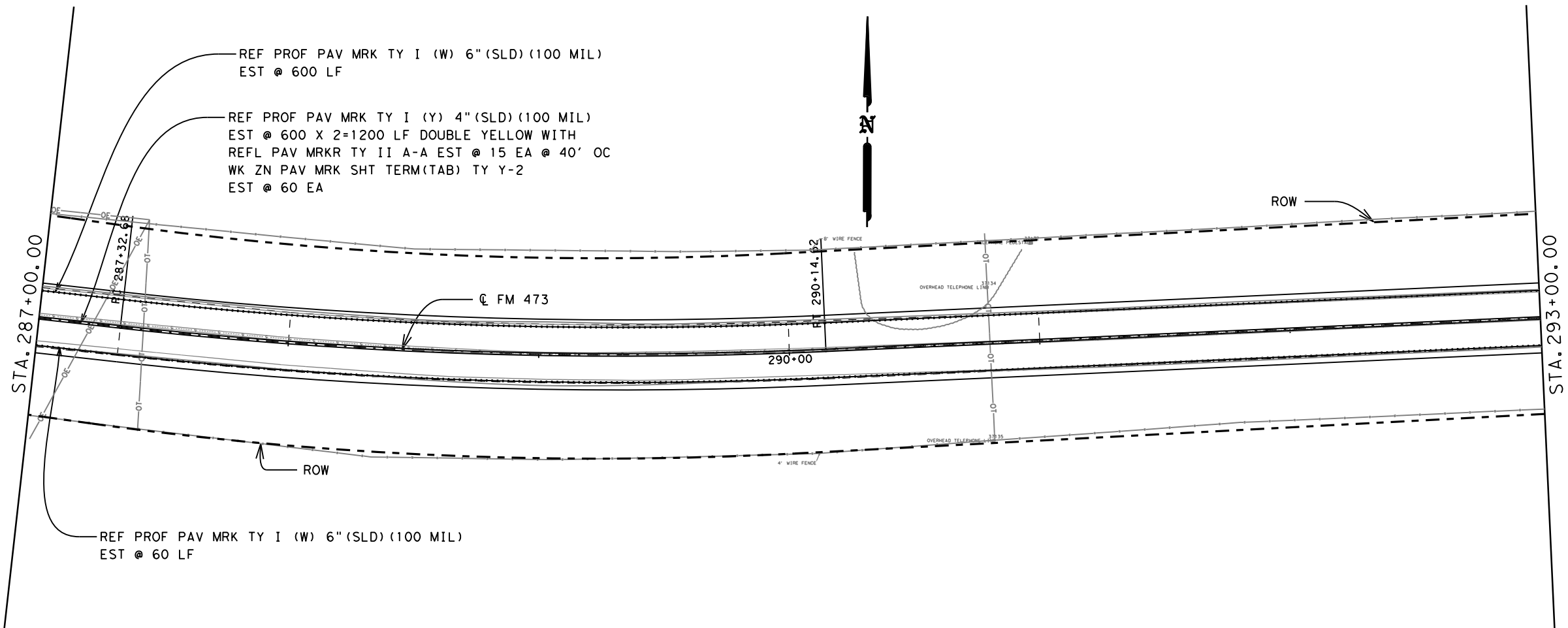
Texas Department of Transportation  
 SHEET 51 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		447



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA

CKS: \_\_\_\_\_  
 DMF: \_\_\_\_\_  
 CCK: \_\_\_\_\_  
 DNF: \_\_\_\_\_



REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
EST @ 600 X 2=1200 LF DOUBLE YELLOW WITH  
REFL PAV MRKR TY II A-A EST @ 15 EA @ 40' OC  
WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
EST @ 60 EA

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 60 LF

**NOTE:**

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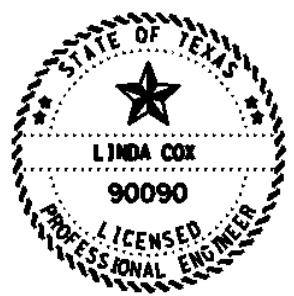
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CTIY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

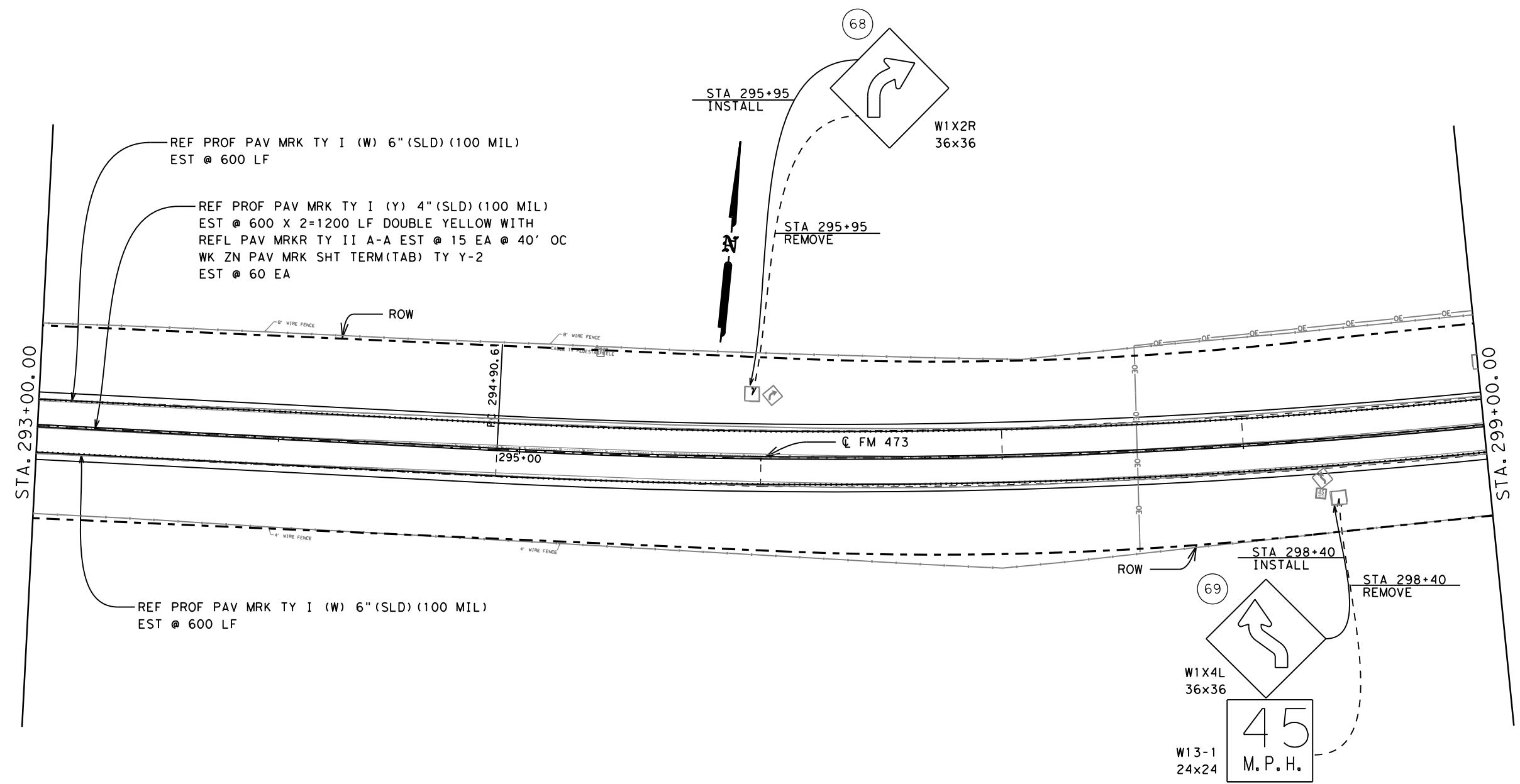


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		448

DATE: 4/26/2021 5:08:27 PM  
 FILE: c:\txdot\pw\_online\line\txdot4\mark\_norendor\0239902\PAVMRK0065 (51) .dgn

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	2	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

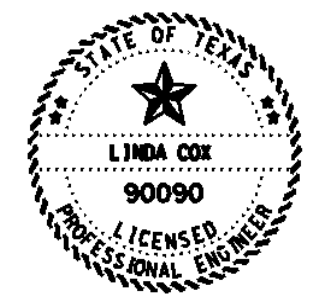
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊙ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊙ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊙ (OM-2Z) (FLX) (GND/SRF)
- ⊙ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*

04/28/2021

CSJ 0142-10-025



**RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS**

Texas Department of Transportation		SHEET 53 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		449

DATE: 4/26/2021 5:08:34 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	6	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	5	EA
RELOCATE SM RD SN SUP & AM TY S80	1	EA
REMOVE SM RD SN SUP & AM	4	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA

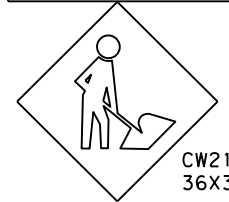
\* NOTE:  
SIGNS TO BE SUPPLIED BY TXDOT  
MAINTENANCE AND INSTALLED BY  
THE CONTRACTOR. INSTALLATION  
TO BE SUBSIDIARY TO THE VARIOUS  
BID ITEMS.

ADOPT A  
HIGHWAY  
NEXT 2 MILES

VICTOR'S  
CIRCLE OF  
FRIENDS

D14-4T  
48x24

D14-4T  
48x24



CW21-1aT  
36x36

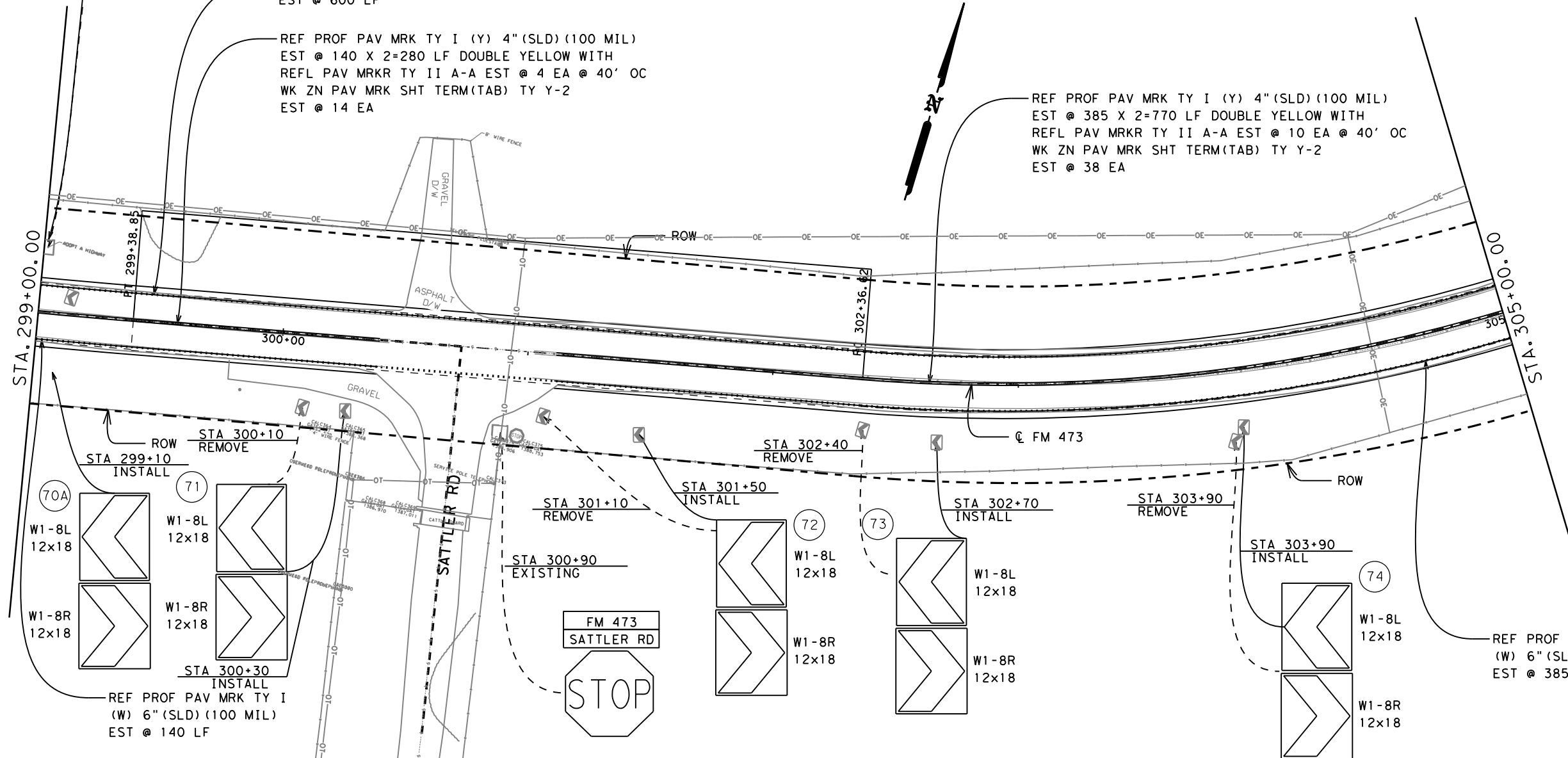
STA 299+00  
RELOCATE

STA 299+00  
EXISTING

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
EST @ 600 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
EST @ 140 X 2=280 LF DOUBLE YELLOW WITH  
REFL PAV MRKR TY II A-A EST @ 4 EA @ 40' OC  
WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
EST @ 14 EA

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
EST @ 385 X 2=770 LF DOUBLE YELLOW WITH  
REFL PAV MRKR TY II A-A EST @ 10 EA @ 40' OC  
WK ZN PAV MRK SHT TERM(TAB) TY Y-2  
EST @ 38 EA



NOTE:

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS  
ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN  
NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET.  
THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING  
SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO  
ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE  
PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS  
LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS  
SHALL BE MADE PER TXDOT STANDARD.

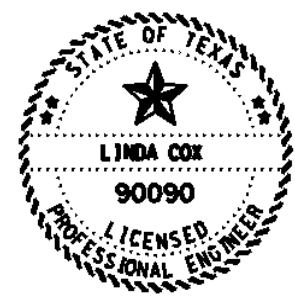
NOTE:

CONTRACTOR'S RESPONSIBILITIES TO  
REMOVE, KEEP, AND RELOCATE ALL  
CTIY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS  
TXDOT CRITERIA AND RELOCATION  
IS NOT NECESSARY PAYMENT WILL  
NOT BE MADE FOR THAT SIGN.

SIGNING LEGEND

- EXIST/REMOVE
- INSTALL
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♂ (OM-2Z) (FLX) (GND/SRF)
- ♂ (OM-3R/L) (FLX) (GND/SRF)



Linda Cox, P.E.

04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

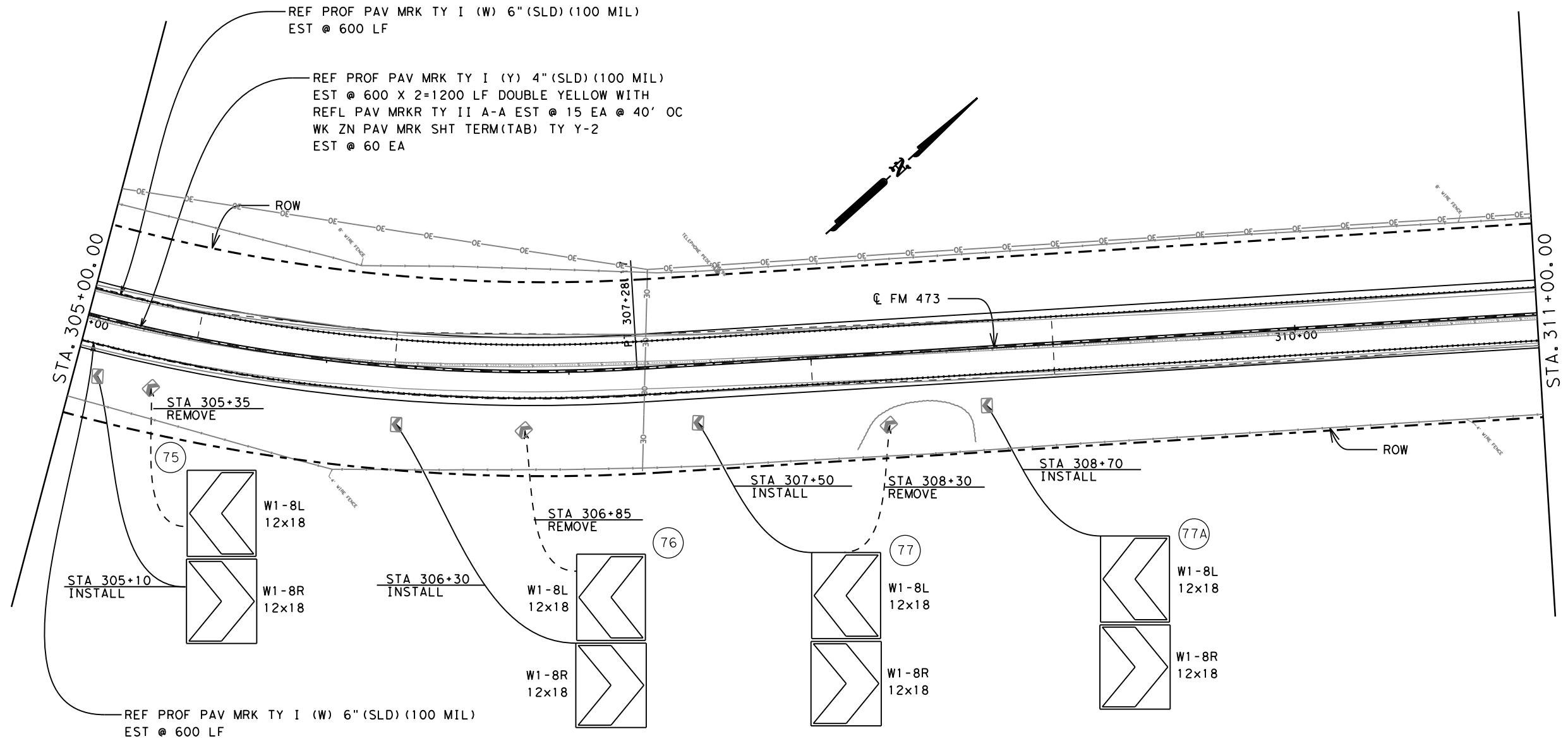
Texas Department of Transportation		SHEET 54 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		450

DATE: 4/26/2021 5:08:41 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	4	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	4	EA
REMOVE SM RD SN SUP & AM	3	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA

CHK: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 CDS: \_\_\_\_\_  
 DWS: \_\_\_\_\_



**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

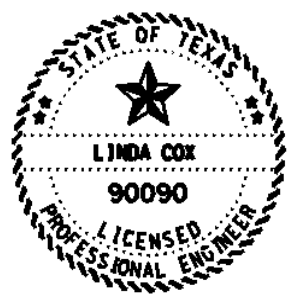
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS



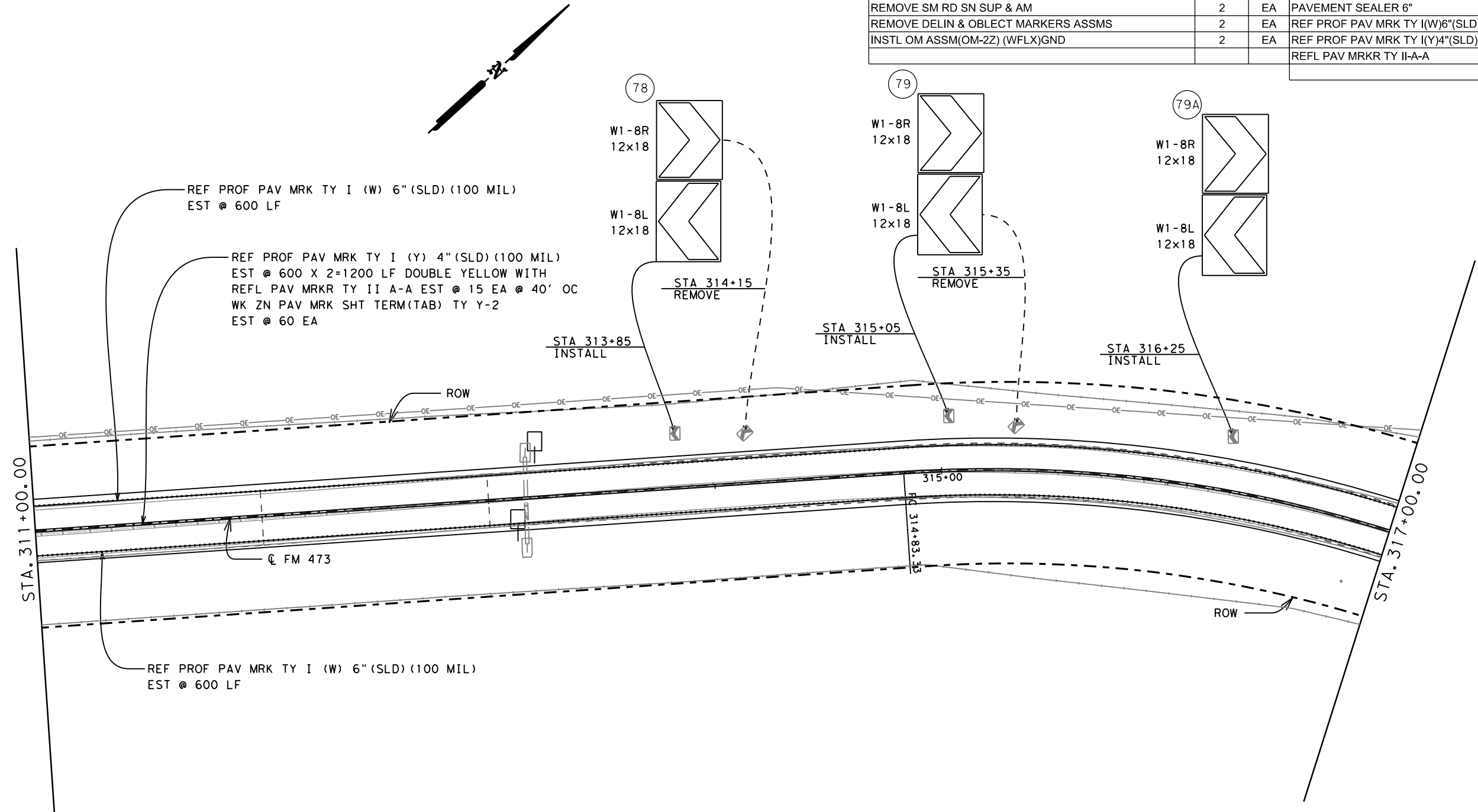
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		451

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Cks  
Dwf  
Cks  
Dwf

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	3	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	3	EA
REMOVE SM RD SN SUP & AM	2	EA
REMOVE DELIN & OBJECT MARKERS ASSMS	2	EA
IN STL OM ASSM(OM-2Z) (WFLX)GND	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



DATE: 4/26/2021 5:08:55 PM  
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**NOTE:**

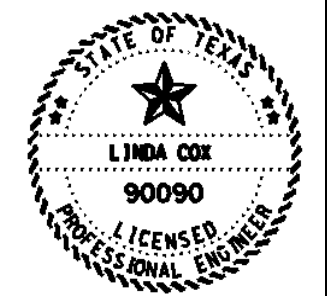
SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.  
  
 IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ⊕ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ⊕ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ⊕ (OM-2Z) (FLX) (GND/SRF)
- ⊕ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



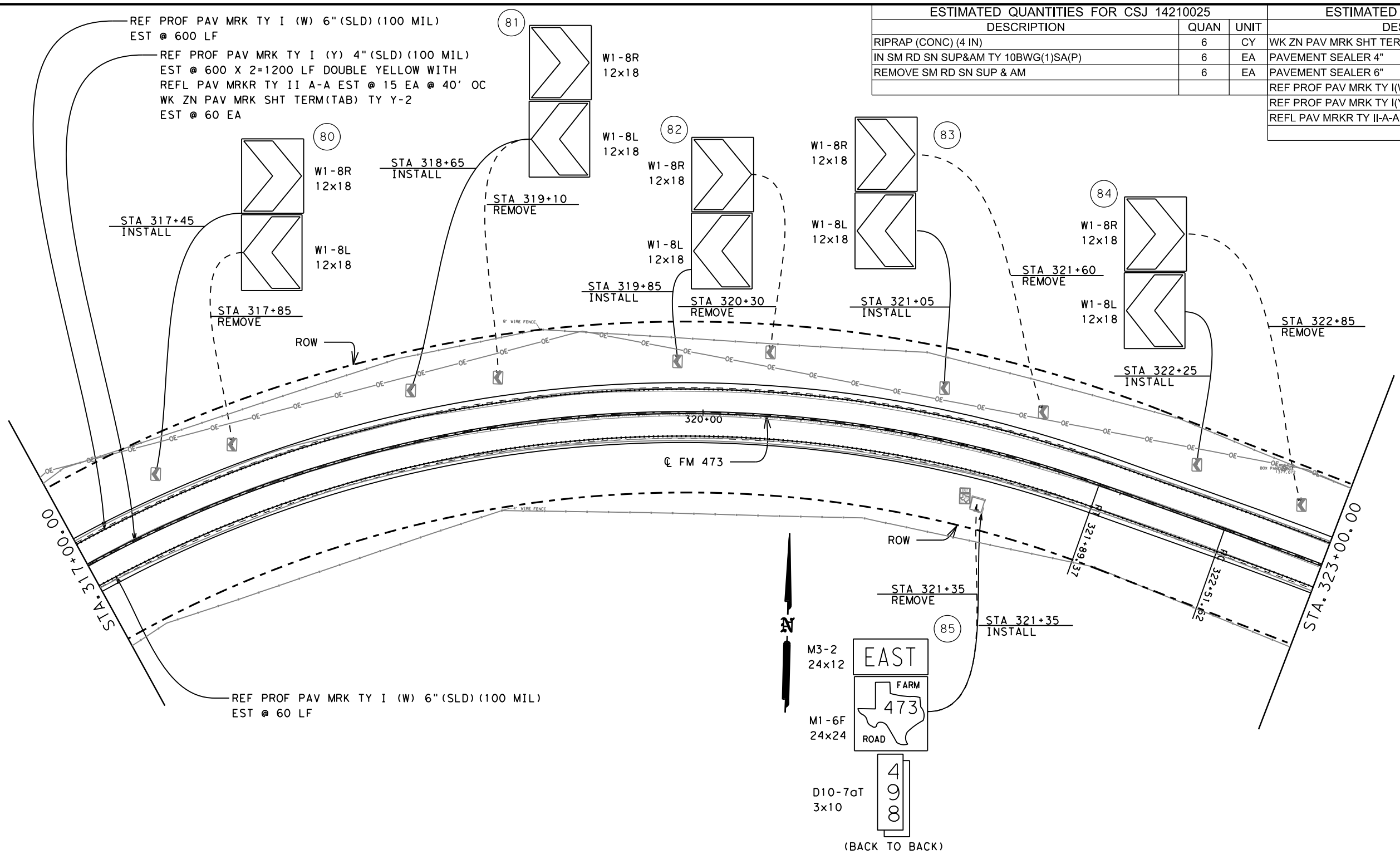
RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS

Texas Department of Transportation		SHEET 56 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		452

DATE: 4/26/2021 5:09:02 PM  
 FILE: c:\t\dot\pw\_online\line\txdot4\mark\_nor\endor f\d0239902\PAV\MRK0070(56).dgn

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	6	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	6	EA
REMOVE SM RD SN SUP & AM	6	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	60	EA
PAVEMENT SEALER 4"	1200	LF
PAVEMENT SEALER 6"	1200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	1200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	1200	LF
REFL PAV MRKR TY II-A-A	15	EA



REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
 EST @ 600 LF

REF PROF PAV MRK TY I (Y) 4" (SLD) (100 MIL)  
 EST @ 600 X 2=1200 LF DOUBLE YELLOW WITH  
 REFL PAV MRKR TY II A-A EST @ 15 EA @ 40' OC  
 WK ZN PAV MRK SHT TERM (TAB) TY Y-2  
 EST @ 60 EA

REF PROF PAV MRK TY I (W) 6" (SLD) (100 MIL)  
 EST @ 60 LF

**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

**NOTE:**

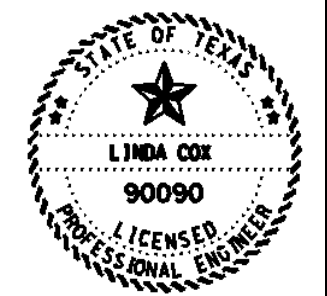
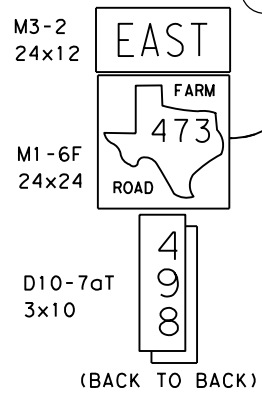
CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

--- EXIST/REMOVE  
 --- INSTALL

♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)  
 ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)  
 ♀ (D-SW) SZ 1 (BRF) GF1 (BI);  
 (BRF) GF2 (BI)  
 □ (OM-2Z) (FLX) (GND/SRF)  
 □ (OM-3R/L) (FLX) (GND/SRF)



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025

0 50  
 SCALE IN FEET

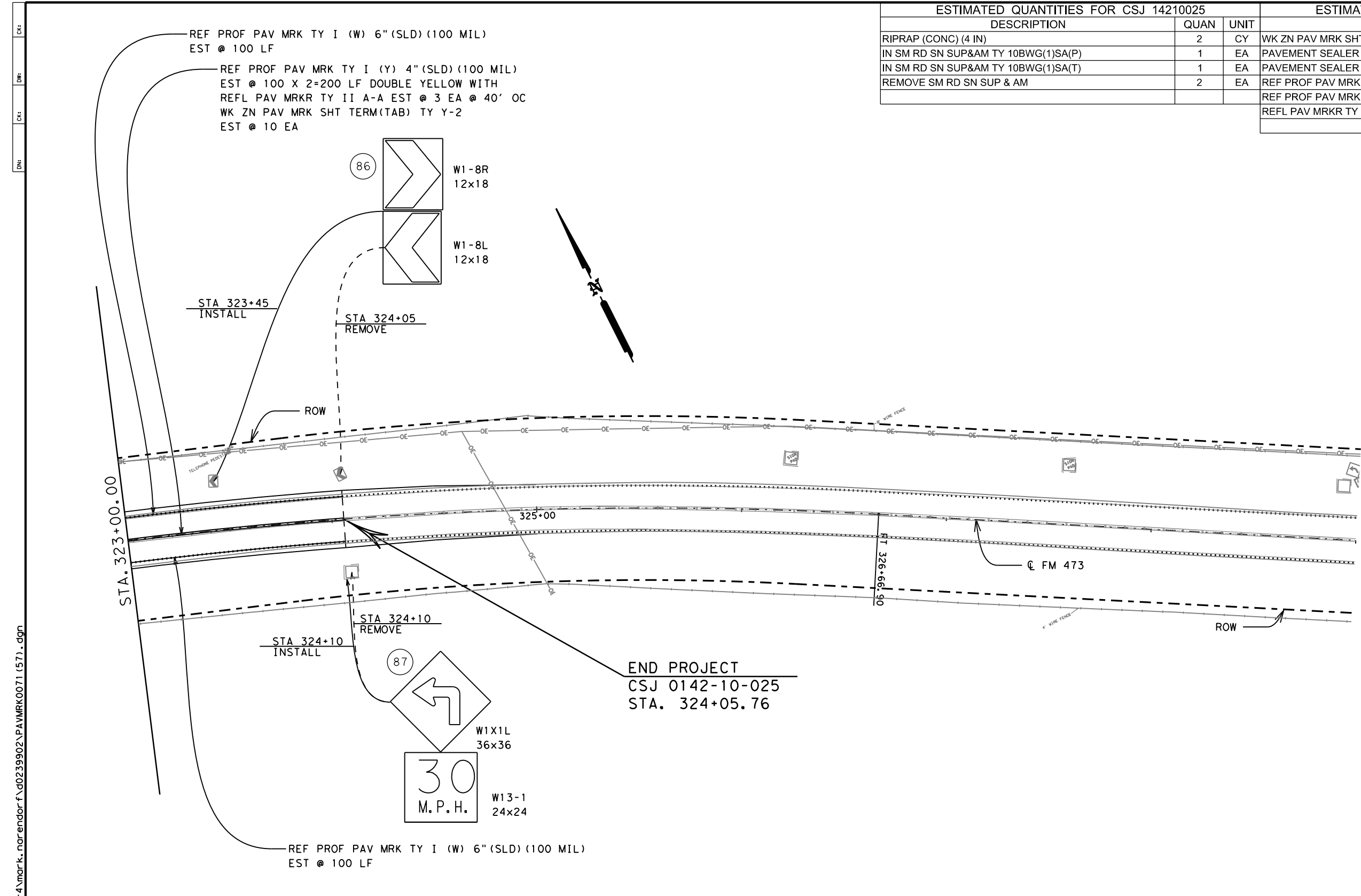
RM 473  
 PAVEMENT MARKING  
 & SIGNING LAYOUTS

Texas Department of Transportation		SHEET 57 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		453



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
RIPRAP (CONC) (4 IN)	2	CY
IN SM RD SN SUP&AM TY 10BWG(1)SA(P)	1	EA
IN SM RD SN SUP&AM TY 10BWG(1)SA(T)	1	EA
REMOVE SM RD SN SUP & AM	2	EA

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
WK ZN PAV MRK SHT TERM (TAB) TY Y-2	10	EA
PAVEMENT SEALER 4"	200	LF
PAVEMENT SEALER 6"	200	LF
REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	200	LF
REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL)	200	LF
REFL PAV MRKR TY II-A-A	3	EA



DATE: 4/26/2021 5:09:09 PM  
 FILE: c:\t\dot\pw\_online\mark\_norendor\0239902\PAV\MRK0071 (57) .dgn

**NOTE:**

SIGN ASSEMBLIES NEW TO THE PROJECT OR INDIVIDUAL SIGNS ADDED TO EXISTING SIGN ASSEMBLIES ARE LABELED BY SIGN NUMBER CORRESPONDING TO THE SMALL SIGN SUMMARY SHEET. THEY ARE TO BE PLACED AT THE STATION SHOWN. EXISTING SIGNS, UNLESS SPECIFICALLY SHOWN TO BE RELOCATED TO ANOTHER STATION LOCATION OR TO BE REMOVED OFF THE PROJECT, ARE TO BE RELOCATED TO THE SAME STATION AS LABELED. OFFSET OR LATERAL PLACEMENT OF ALL SIGNS SHALL BE MADE PER TXDOT STANDARD.

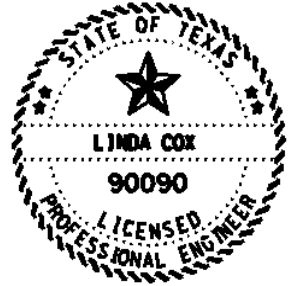
**NOTE:**

CONTRACTOR'S RESPONSIBILITIES TO REMOVE, KEEP, AND RELOCATE ALL CITY AND STREET SIGNS.

IF CURRENT SIGN LOCATION MEETS TXDOT CRITERIA AND RELOCATION IS NOT NECESSARY PAYMENT WILL NOT BE MADE FOR THAT SIGN.

**SIGNING LEGEND**

- EXIST/REMOVE
- INSTALL
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF)
- ♀ (D-SW/SY) SZ 1 (FLX) (GND/SRF) (BI)
- ♀ (D-SW) SZ 1 (BRF) GF1 (BI); (BRF) GF2 (BI)
- ♀ (OM-2Z) (FLX) (GND/SRF)
- ♀ (OM-3R/L) (FLX) (GND/SRF)



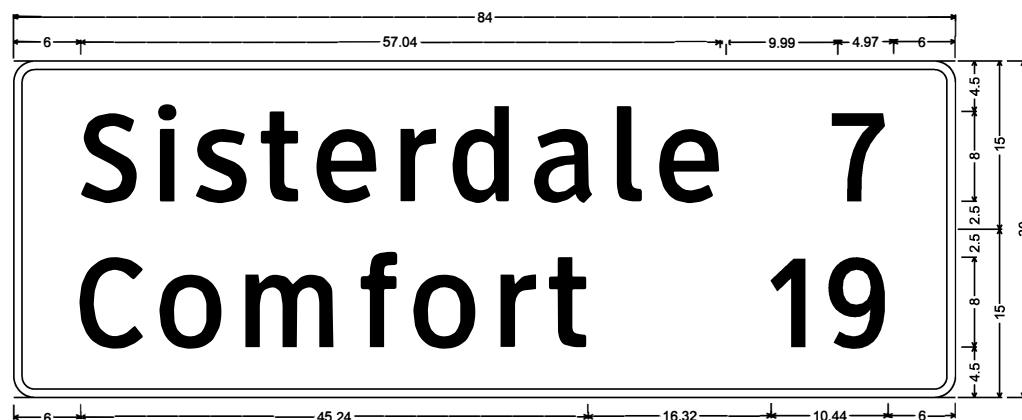
*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



RM 473  
PAVEMENT MARKING  
& SIGNING LAYOUTS

Texas Department of Transportation		SHEET 58 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		454



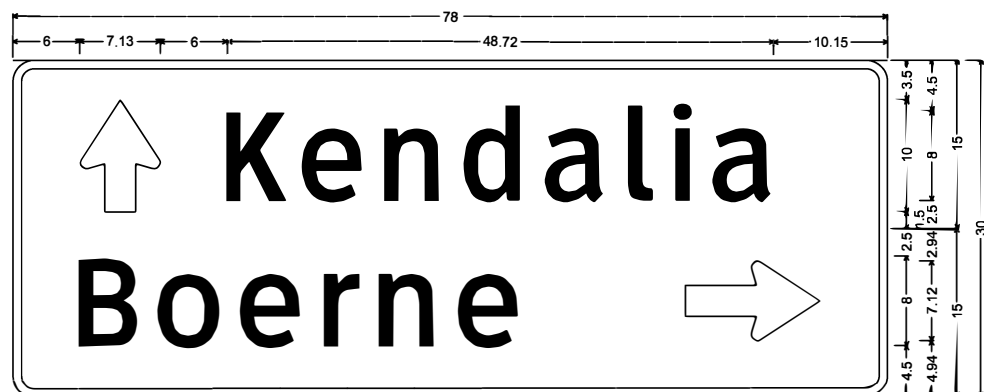
Identifier : D2-2 8in;  
 1.88" Radius, 0.75" Border, White on Green;  
 [Sisterdale] ClearviewHwy-3-W; [7] ClearviewHwy-3-W;  
 1.88" Radius, 0.75" Border, White on Green;  
 [Comfort] ClearviewHwy-3-W; [19] ClearviewHwy-3-W;

SIGN NO. = 6  
 LAYOUT SHEET NO. = 6 OF 71



Identifier : D1-2 8in UP-LT;  
 1.88" Radius, 0.75" Border, White on Green;  
 Standard Arrow Custom 10.00" X 7.13" 90°; [Sisterdale] ClearviewHwy-3-W;  
 1.88" Radius, 0.75" Border, White on Green;  
 Standard Arrow Custom 12.00" X 7.13" 180°; [Boerne] ClearviewHwy-3-W;

SIGN NO. = 14  
 LAYOUT SHEET NO. = 7A OF 71



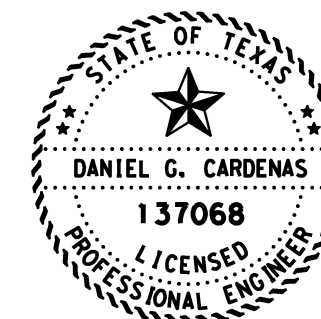
Identifier : D1-2 8in UP-RT;  
 1.88" Radius, 0.75" Border, White on Green;  
 Standard Arrow Custom 10.00" X 7.13" 90°; [Kendalia] ClearviewHwy-3-W;  
 1.88" Radius, 0.75" Border, White on Green;  
 [Boerne] ClearviewHwy-3-W; Standard Arrow Custom 12.00" X 7.13" 0°;

SIGN NO. = 8  
 LAYOUT SHEET NO. = 6 OF 71



Identifier : D2-1 8in;  
 1.50" Radius, 0.50" Border, White on Green;  
 [Kendalia] ClearviewHwy-3-W; [7] ClearviewHwy-3-W;

SIGN NO. = 18  
 LAYOUT SHEET NO. = 7A OF 71



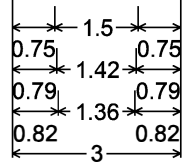
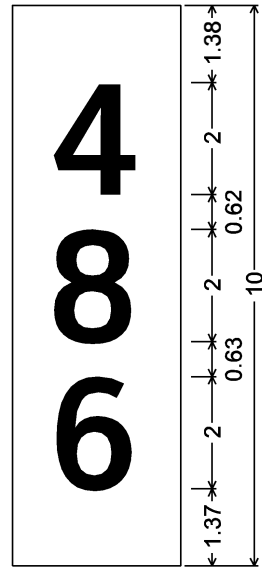
*Daniel G. Cardenas*  
 DANIEL G. CARDENAS, P. E. DATE

Texas Department of Transportation  
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**FM 473  
 SIGN DETAILS**

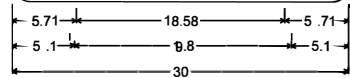
SHEET 1 OF 2

FHWA TEXAS DIVISION	FEDERAL AID PROJECT		SHEET NO.
STATE	DIST.	COUNTY	455
TEXAS	SAT	KENDALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0142	09	044, Etc	RM 473



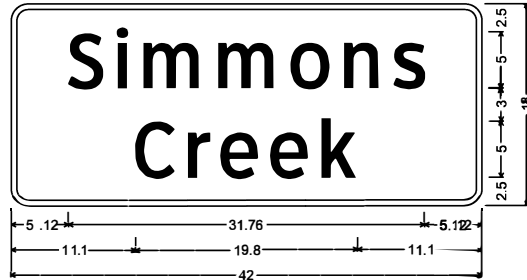
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 [4] ClearviewHwy-4-W;  
 [8] ClearviewHwy-4-W;  
 [6] ClearviewHwy-4-W;

SIGN NO. = 25  
 LAYOUT SHEET NO. = 12 OF 71



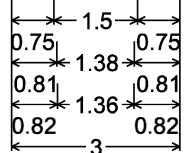
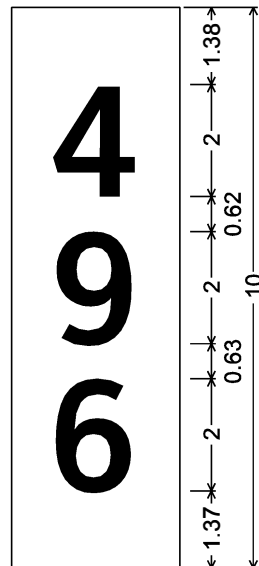
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 1.50" Radius, 0.50" Border, White on Green;  
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 [Creek] ClearviewHwy-3-W;

SIGN NO. = 34 & 35  
 LAYOUT SHEET NO. = 18 & 19 OF 71



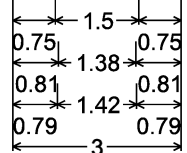
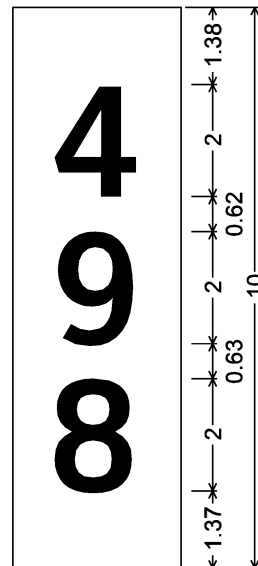
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SIGN NO. = 51 & 53  
 LAYOUT SHEET NO. = 49 & 50 OF 71



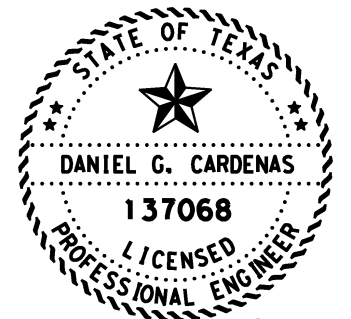
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 [9] ClearviewHwy-4-W;  
 [6] ClearviewHwy-4-W;

SIGN NO. = 62  
 LAYOUT SHEET NO. = 53 OF 71



Identifier : D10-7aT 3in;  
 No border, White on Green;  
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 [9] ClearviewHwy-4-W;  
 [8] ClearviewHwy-4-W;

SIGN NO. = 85  
 LAYOUT SHEET NO. = 70 OF 71



*Daniel G. Cardenas*  
 DANIEL G. CARDENAS, P. E. DATE

<b>FM 473 SIGN DETAILS</b>			
SHEET 2 OF 2			
FHWA TEXAS DIVISION	FEDERAL AID PROJECT		SHEET NO. 456
STATE TEXAS	DIST. SAT	COUNTY KENDALL	
CONT. 0142	SECT. 09	JOB 044, Etc	HIGHWAY NO. RM 473



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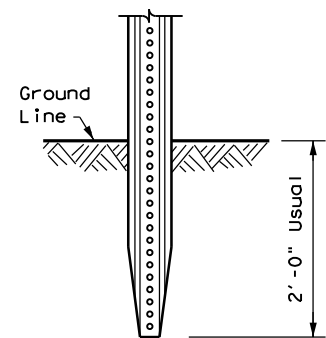
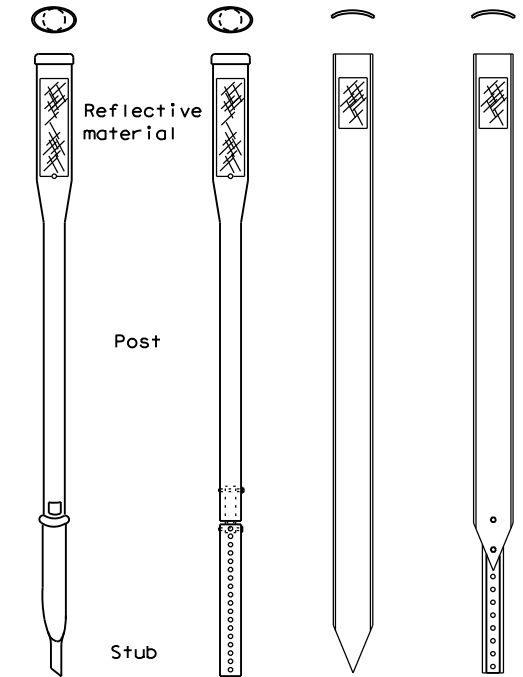
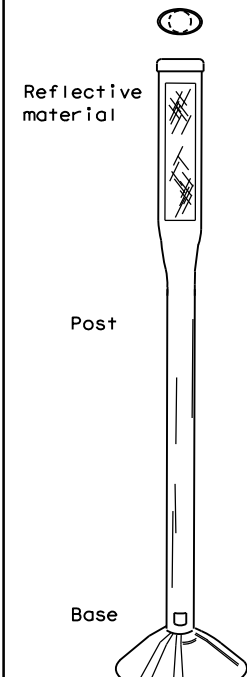
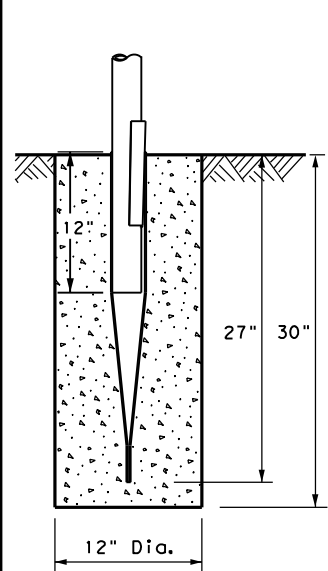
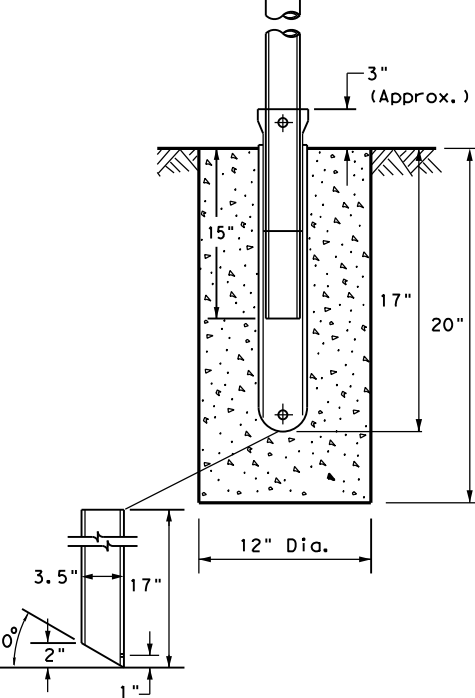
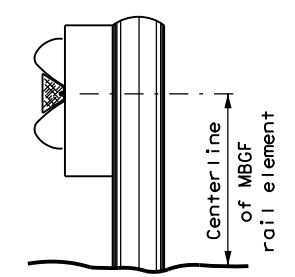
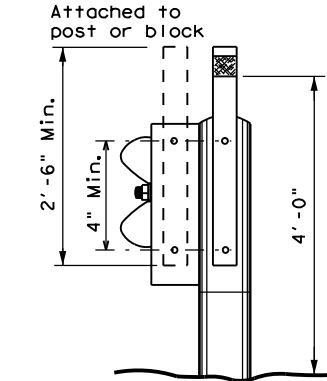
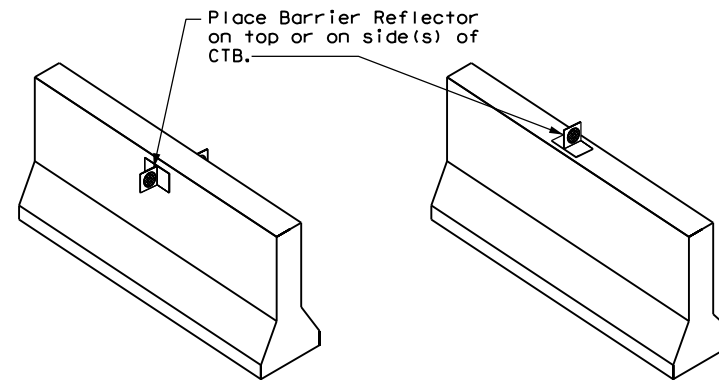
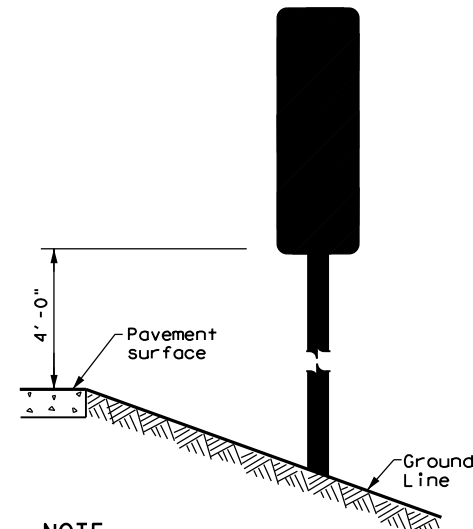
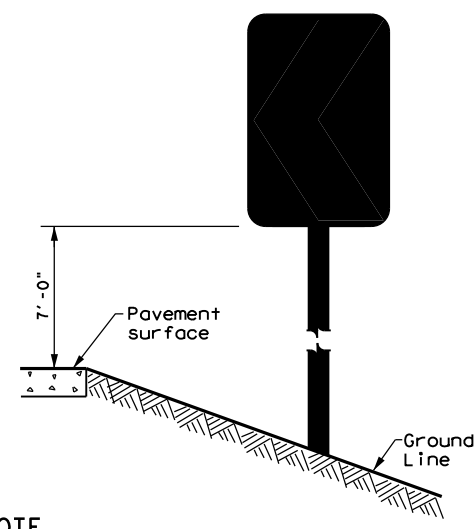
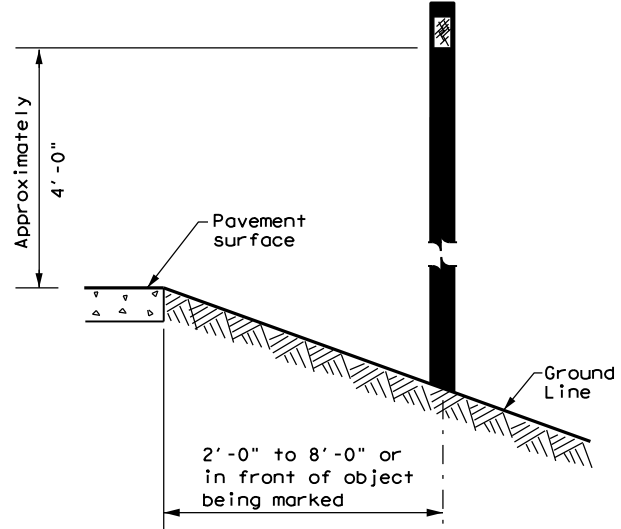
REFLECTOR UNIT SIZES FOR DELINEATORS AND OBJECT MARKERS				DELINEATORS				D & OM DESCRIPTIVE CODES	
DEVICE	SIZE 1	SIZE 2	SIZE 3	SIZE 4	DEVICE	SINGLE	DOUBLE	INSTL DEL ASSM (D-XX)SZ X (XXXX)XXX (XX)	
SHEETING	Yellow, White or Red Type B or C reflective sheeting				SHEETING	Yellow, White or Red Type B or C Reflective Sheeting			
NOTE	1. Size 1 and 4 - Direct applied reflective sheeting for use on flexible post (fix). 2. Size 2 and 3 - For use on wing channel (wc) post only. Use approved metal, plastic or fiberglass backplate with 17/64" mounting holes.				POST TYPE	WC	YFLX, WFLX	WC	YFLX, WFLX
					MOUNT TYPE	GND	GND, SRF	GND	GND, SRF


OBJECT MARKERS								D & OM DESCRIPTIVE CODES		
DEVICE	Type 1 (OM-1)	Type 2 (OM-2)			Type 3 (OM-3)			Type 4 (OM-4)	INSTL OM ASSM (OM-XX) (XXXX)XXX (XX)	
		OM-1	OM-2X	OM-2Y	OM-2Z	OM-3L	OM-3R	OM-3C	OM-4	TYPE OF OBJECT MARKER 1, 2, 3, or 4 NUMBER OF REFLECTORS OR DIRECTION X = 3-Size 2 reflector unit (Type 2 only) Y = 1-Size 3 reflector unit (Type 2 only) Z = 3-Size 1 or 1-Size 4 reflector unit(s) (Type 2 only) L = Left Side (Type 3 Object Marker only) R = Right Side (Type 3 Object Marker only) C = Center (Type 3 Object Marker only) TYPE OF POST WC = Wing Channel Post WFLX = White Flexible Post TWT = Thin Walled Tubing TYPE OF MOUNT GND = Embedded (drivable) SRF = Surface Mount WAS = Wedge Anchor Steel WAP = Wedge Anchor Plastic DIRECTION If Required BI = Bi-Directional
SHEETING	Yellow-Type B <sub>FL</sub> or C <sub>FL</sub> Sheeting	Yellow - Type B or C Sheeting			Alternating acrylic black and retroreflective yellow - Type B <sub>FL</sub> or C <sub>FL</sub> Sheeting			Red -Type B <sub>FL</sub> or C <sub>FL</sub> Sheeting	DEPARTMENTAL MATERIAL SPECIFICATIONS	
POST TYPE	TWT	WC	WC	WFLX	TWT			TWT	FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (EMBEDDED & SURFACE MOUNT TYPES) DMS-4400	
MOUNT TYPE	WAS, WAP	GND	GND	GND, SRF	WAS, WAP			WAS, WAP	SIGN FACE MATERIALS DMS-8300	
									DELINEATORS, OBJECT MARKERS AND BARRIER REFLECTORS DMS-8600	

BARRIER REFLECTORS (BRF)			CHEVRONS				ONE DIRECTION LARGE ARROW		NOTE:		
DEVICE	GF1	GF2	CTB	 W1-8				 W1-6		Delineator and object marker substrates and sign substrates shall be 0.080" Aluminum sign blank to conform to ASTM B-209 Alloy 6061-T6 or approved alternative.	
SHEETING	Yellow, White, Red			SIZE (W x L)	18" x 24" (Conventional)	24" x 30" (Conventional Oversize)	30" x 36" (Expressway)	36" x 48" (Freeway)	SIZE (W x L)	48" x 24" (Conventional)	60" x 30" (Expressway & Freeway)
NOTE	1. Barrier reflectors shall meet the requirements of DMS 8600. 2. Approved Barrier Reflectors are listed on the "Barrier Reflectors" Material Producer List at: www.txdot.gov.			MOUNTING HEIGHT	4'-0" or 7'-0"		7'-0" Only	MOUNTING HEIGHT	7'-0"		 Texas Department of Transportation Traffic Safety Division Standard
				NOTE	1. CHEVRON (W1-8) signs and ONE DIRECTION LARGE ARROW (W1-6) Signs shall be installed per Sign Mounting Details (SMD) Standard Sheets and paid under Item 644 (Small Roadside Sign Assemblies). 2. When there is a need to increase conspicuity, the Texas version of the ONE DIRECTION LARGE ARROW sign (W1-9T) may be used instead of the ONE DIRECTION LARGE ARROW (W1-6).						<b>DELINEATOR &amp; OBJECT MARKER MATERIAL DESCRIPTION</b> <b>D &amp; OM(1)-20</b>
									FILE: dom1-20.dgn    DNE: TXDOT    CK: TXDOT    DW: TXDOT    CR: TXDOT © TXDOT August 2004    CONT: 0142    SECT: 09    JOB: 044, Etc    HIGHWAY: RM 473 REVISIONS: 10-09 3-15    DIST: COUNTY    SHEET NO.: 457 4-10 7-20    SAT: KENDALL		20A

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DATE: 4/26/2021 5:09:49 PM  
 FILE: c:\txdot\pw\_online\txdot4\mark\_narendorf\d0478903\dom2-20.dgn

POST TYPE AND SUPPORT FOUNDATION DETAILS				TYPE OF BARRIER MOUNTS		
WING CHANNEL (WC)	FLEXIBLE POSTS (YFLX, WFLX)		WEDGE ANCHOR SYSTEMS		GUARD FENCE ATTACHMENT	
GND	GND	SRF	WAS	WAP	GF 1	
						
	EMBEDDED	SURFACE MOUNT	STEEL	PLASTIC	GF 2	
<b>NOTES</b> 1. Embedded Wing Channel (WC) post option may be used for Type 2 Object Markers and Delineators only. 2. 1.12 lbs/ft steel per ASTM A 1011 SS Gr. 50, or ASTM A499.		<b>NOTES</b> 1. See "Flexible Delineator and Object Marker Posts" Material Producer List for approved devices. 2. Install per manufacturer's recommendations. 3. Post length may vary to meet field conditions. 4. When using yellow delineators with flexible posts to separate opposing direction of travel, such as centerline or median use, the flexible posts shall be yellow.		<b>NOTE</b> 1. Install per manufacturer's recommendations.		
<b>CONCRETE TRAFFIC BARRIER (CTB)</b>						
						
<b>GENERAL NOTES</b>						
1. Place delineators on a section of roadway at a consistent distance from the edge of pavement. 2. Where a restriction prevents consistent placement from the pavement edge, place the affected object markers in line with the innermost edge of the obstruction. 3. When Type 2 object markers and delineators are more than 8'-0" from the edge of the pavement, it may not be possible to maintain a height of approximately 4'-0". If this is the case, place the object marker or delineator as close to the desired height as possible. 4. Install all delineators, object markers and barrier reflectors in accordance with the manufacturer's recommendation. 5. Barrier reflectors should be installed a minimum of 18 inches above the edge of the pavement surface. 6. Diagonal stripes on Type 3 object markers shall slope down toward the intended travel lane.						
<b>TYPES 1,3, AND 4 OBJECT MARKERS AND CHEVRONS</b>		<b>CHEVRONS AND ONE DIRECTION LARGE ARROW SIGN</b>		<b>DELINEATORS AND TYPE 2 OBJECT MARKERS</b>		
						
<b>NOTE</b> Mounting at 4 feet to the bottom of the chevron is permitted for chevrons that will not exceed a height of 6'-6" to the top of the chevron (sizes 24" x 30" and smaller)		<b>NOTE</b> Chevrons 30" x 36" and larger shall be mounted at a height of 7' to the bottom of the chevron. Chevron sign and ONE DIRECTION LARGE ARROW sign (W1-9T) shall be installed per SMD standard sheets and paid under item 644.		See general notes 1, 2 and 3.		



Traffic Safety Division Standard

## DELINEATOR & OBJECT MARKER INSTALLATION

### D & OM(2) - 20

FILE: dom2-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
10-09 3-15	DIST	COUNTY	SHEET NO.	
4-10 7-20	SAT	KENDALL	458	

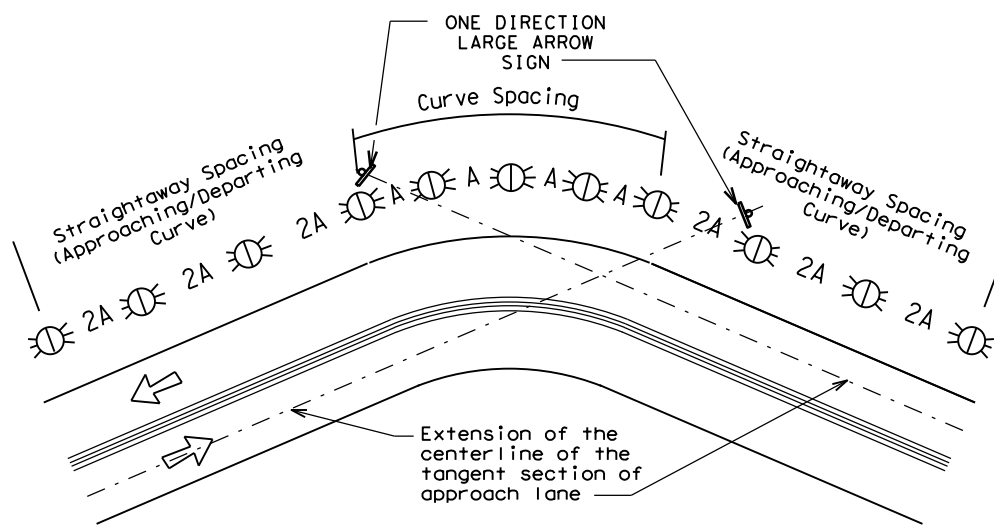
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DATE: 4/26/2021 5:09:56 PM  
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### MINIMUM WARNING DEVICES AT CURVES WITH ADVISORY SPEEDS

Amount by which Advisory Speed is less than Posted Speed	Curve Advisory Speed	
	Turn (30 MPH or less)	Curve (35 MPH or more)
5 MPH & 10 MPH	• RPMs	• RPMs
15 MPH & 20 MPH	• RPMs and One Direction Large Arrow sign	• RPMs and Chevrons; or • RPMs and One Direction Large Arrow sign where geometric conditions or roadside obstacles prevent the installation of chevrons.
25 MPH & more	• RPMs and Chevrons; or • RPMs and One Direction Large Arrow sign where geometric conditions or roadside obstacles prevent the installation of chevrons	• RPMs and Chevrons

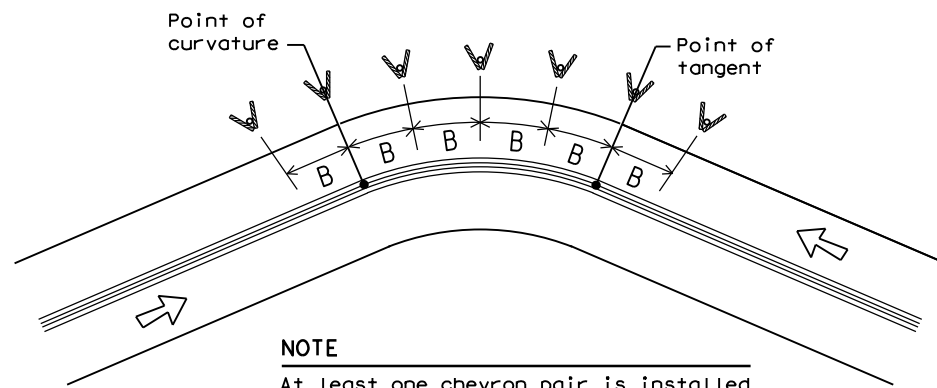
### SUGGESTED SPACING FOR DELINEATORS ON HORIZONTAL CURVES



**NOTE**

ONE DIRECTION LARGE ARROW (W1-6) sign should be located at approximately and perpendicular to the extension of the centerline of the tangent section of approach lane.

### SUGGESTED SPACING FOR CHEVRONS ON HORIZONTAL CURVES



**NOTE**

At least one chevron pair is installed beyond the point of tangent in tangent section.

### DELINEATOR AND CHEVRON SPACING

WHEN DEGREE OF CURVE OR RADIUS IS KNOWN				
Degree of Curve	FEET			
	Radius of Curve	Spacing in Curve	Spacing in Straightaway	Chevron Spacing in Curve
		A	2A	B
1	5730	225	450	—
2	2865	160	320	—
3	1910	130	260	200
4	1433	110	220	160
5	1146	100	200	160
6	955	90	180	160
7	819	85	170	160
8	716	75	150	160
9	637	75	150	120
10	573	70	140	120
11	521	65	130	120
12	478	60	120	120
13	441	60	120	120
14	409	55	110	80
15	382	55	110	80
16	358	55	110	80
19	302	50	100	80
23	249	40	80	80
29	198	35	70	40
38	151	30	60	40
57	101	20	40	40

Curve delineator approach and departure spacing should include 3 delineators spaced at 2A. This spacing should be used during design preparation or when the degree of curve is known.

### DELINEATOR AND CHEVRON SPACING

WHEN DEGREE OF CURVE OR RADIUS IS NOT KNOWN			
Advisory Speed (MPH)	Spacing in Curve	Spacing in Straightaway	Chevron Spacing in Curve
	A	2xA	B
65	130	260	200
60	110	220	160
55	100	200	160
50	85	170	160
45	75	150	120
40	70	140	120
35	60	120	120
30	55	110	80
25	50	100	80
20	40	80	80
15	35	70	40

If the degree of curve is not known, delineator spacing may be determined based on the Advisory Speed of the curve. Use the delineator curve spacing for each Advisory Speed (MPH).

### DELINEATOR AND OBJECT MARKER APPLICATION AND SPACING

CONDITION	REQUIRED TREATMENT	MINIMUM SPACING
Frwy./Exp. Tangent	RPMs	See PM-series and FPM-series standard sheets
Frwy./Exp. Curve	Single delineators on right side	See delineator spacing table
Frwy/Exp. Ramp	Single delineators on at least one side of ramp (should be on outside of curves) (see Detail 3 on D&OM(4))	100 feet on ramp tangents Use delineator spacing table for ramp curves ("straightway spacing" does not apply to ramp curves)
Acceleration/Deceleration Lane	Double delineators (see Detail 3 on D&OM(4))	100 feet (See Detail 3 on D & OM (4))
Truck Escape Ramp	Single red delineators on both sides	50 feet
Bridge Rail (steel or concrete) and Metal Beam Guard Fence	Bi-Directional Delineators when undivided with one lane each direction Single Delineators when multiple lanes each direction	Equal spacing (100' max) but not less than 3 delineators
Concrete Traffic Barrier (CTB) or Steel Traffic Barrier	Barrier reflectors matching the color of the edge line	Equal spacing 100' max
Cable Barrier	Reflectors matching the color of the edge line	Every 5th cable barrier post (up to 100' max)
Guard Rail Terminus/Impact Head	Divided highway - Object marker on approach end Undivided 2-lane highways - Object marker on approach and departure end	Requires reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end See D & OM (5) and D & OM (6)
Bridges with no Approach Rail	Type 3 Object Marker (OM-3) at end of rail and 3 single delineators approaching rail	See D & OM(5)
Reduced Width Approaches to Bridge Rail	Type 2 and Type 3 Object Markers (OM-3) and 3 single delineators approaching bridge	Requires reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end See D & OM (5)
Culverts without MBGF	Type 2 Object Markers	See Detail 2 on D & OM(4)
Crossovers	Double yellow delineators and RPMs	See Detail 1 on D & OM (4)
Pavement Narrowing (lane merge) on Freeways/Expressway	Single delineators adjacent to affected lane for full length of transition	100 feet

**NOTES**

- Unless indicated otherwise, the delineator or barrier reflector color shall conform to the color of the pavement edge line on the side of the road where the delineators or barrier reflectors are placed.
- Barrier reflectors may be used to replace required delineators.
- Single red delineators may be mounted on the back side of delineator posts for wrong way driver applications

LEGEND	
	Bi-directional Delineator
	Delineator
	Sign

Texas Department of Transportation

Traffic Safety Division Standard

## DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

### D & OM(3) -20

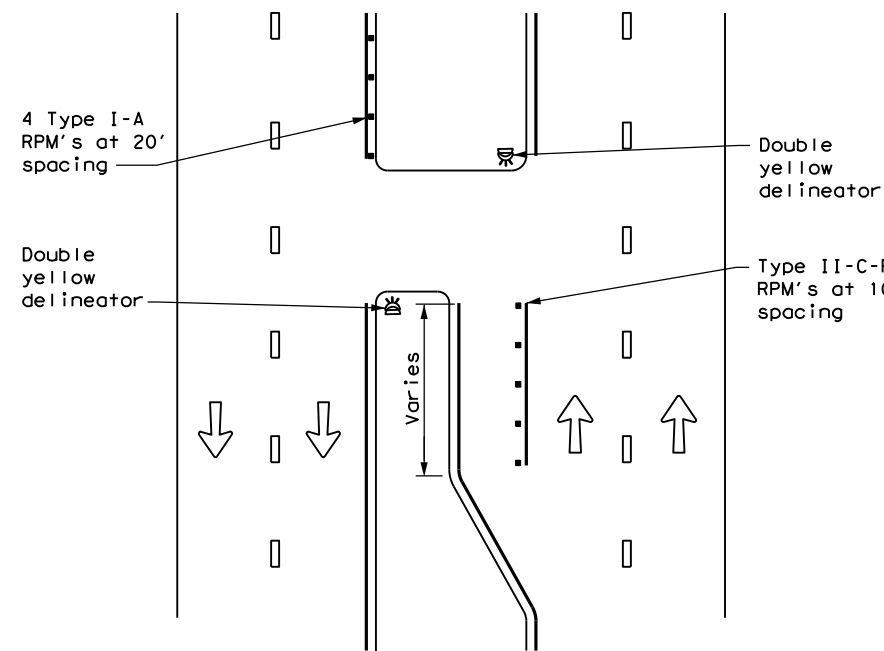
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© TXDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
3-15 8-15	DIST	COUNTY	SHEET NO.	
8-15 7-20	SAT	KENDALL	459	

20C

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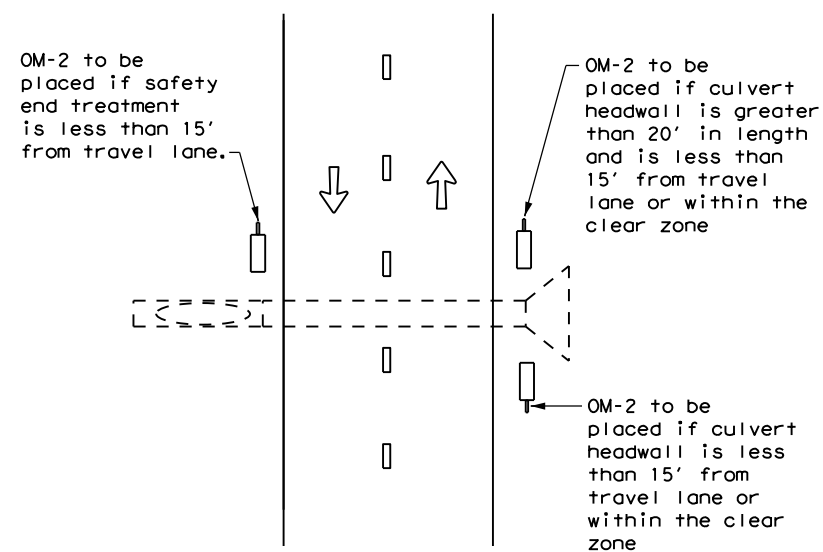
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**CROSSOVERS**



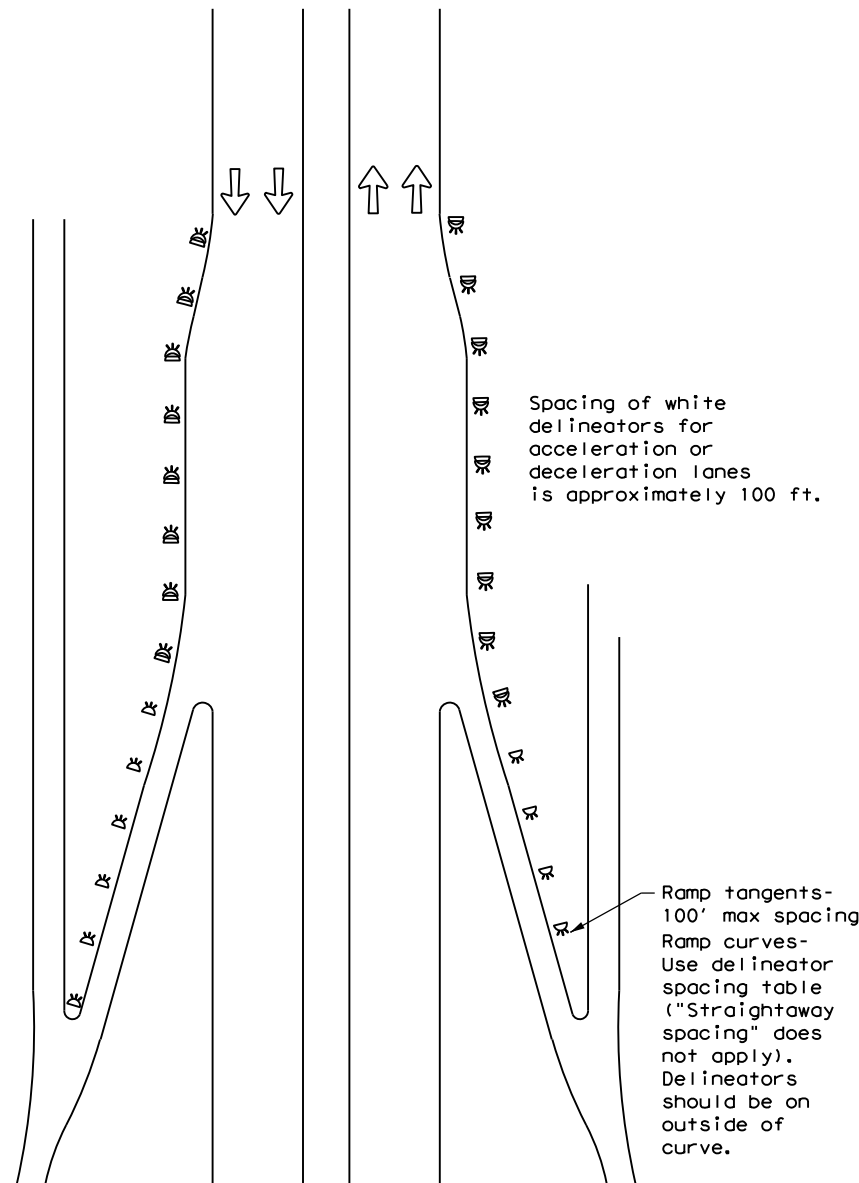
**DETAIL 1**

**FOR CULVERTS WITHOUT MBGF**



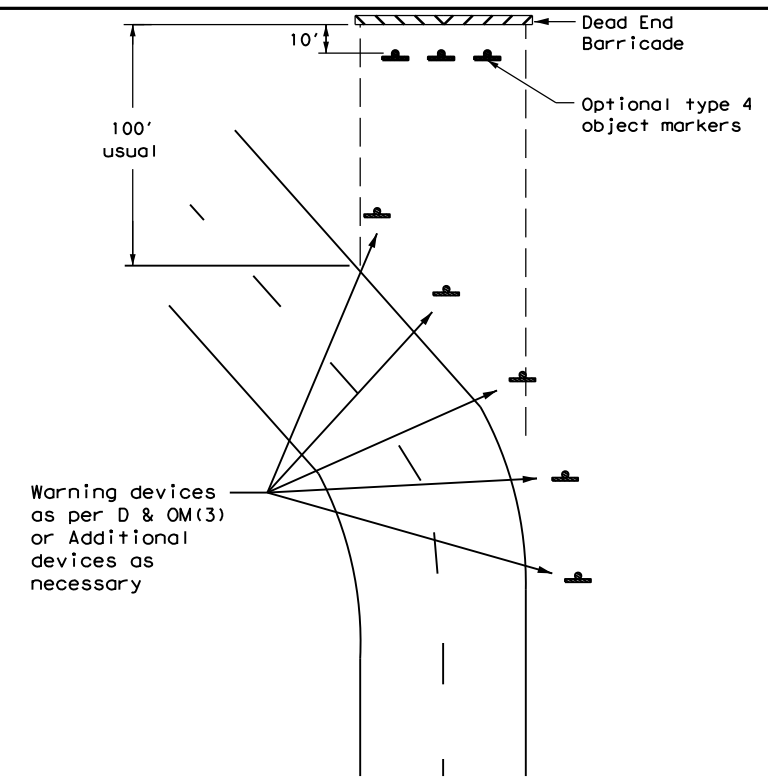
**DETAIL 2**

**FREEWAY DELINEATION FOR RAMPS AND ACCELERATION/DECELERATION LANES**



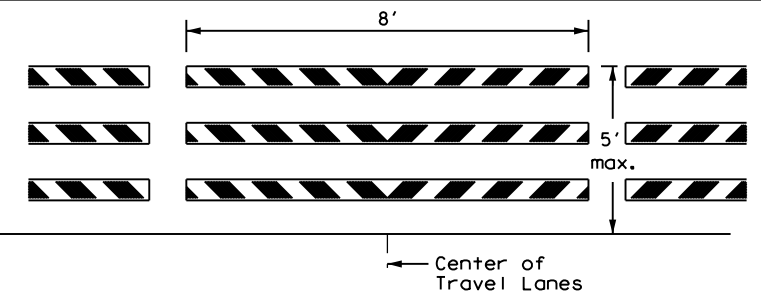
**DETAIL 3**

**TYPICAL APPLICATION OF DEAD END BARRICADE**



**DETAIL 4**

**TYPICAL DEAD END BARRICADE INSTALLATION**



**NOTES**

- Barricade striping shall be red and white reflective sheeting for all permanent road closures.
- Barricade striping is red and white sloping toward the center of the roadway.
- Type 3 Barricade Supports should be anchored to soil or pavement as described in compliant Work Zone Traffic Control Devices List, section D.2.f and D.2.g.

**DETAIL 5**

LEGEND	
	Bidirectional Delineator
	Delineator
	OM-3
	Barricade
	Sign
	OM-2
	Double Delineator

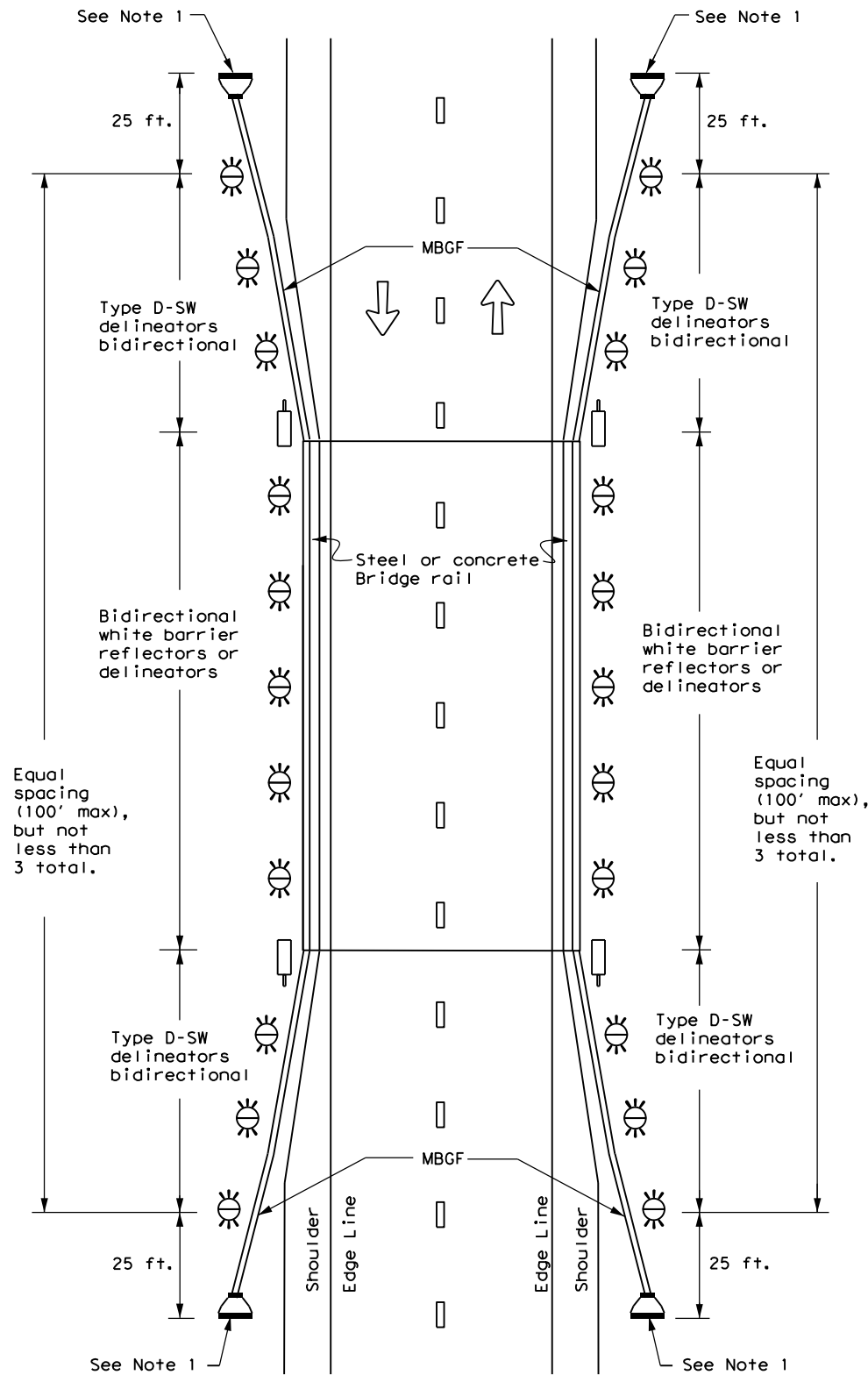


**DELINEATOR & OBJECT MARKER PLACEMENT DETAILS**

**D & OM(4) -20**

FILE: dom4-20.dgn	DN: TXDOT	CK: TXDOT	OW: TXDOT	CR: TXDOT
© TXDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
3-15	DIST	COUNTY	SHEET NO.	
7-20	SAT	KENDALL	460	

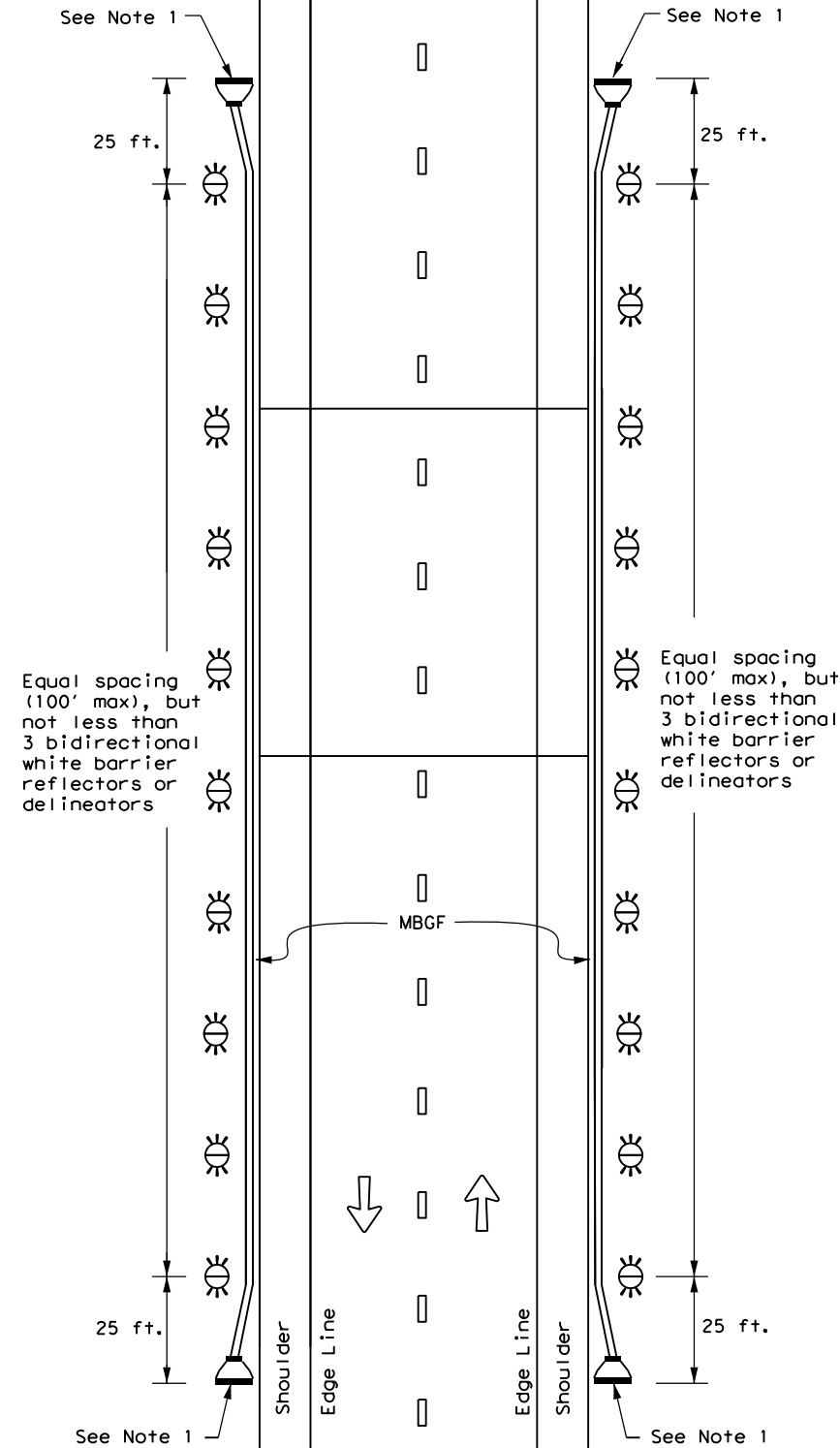
**TWO-WAY, TWO LANE ROADWAY  
WITH REDUCED WIDTH APPROACH RAIL**



**NOTE:**

1. Terminal ends require reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end.

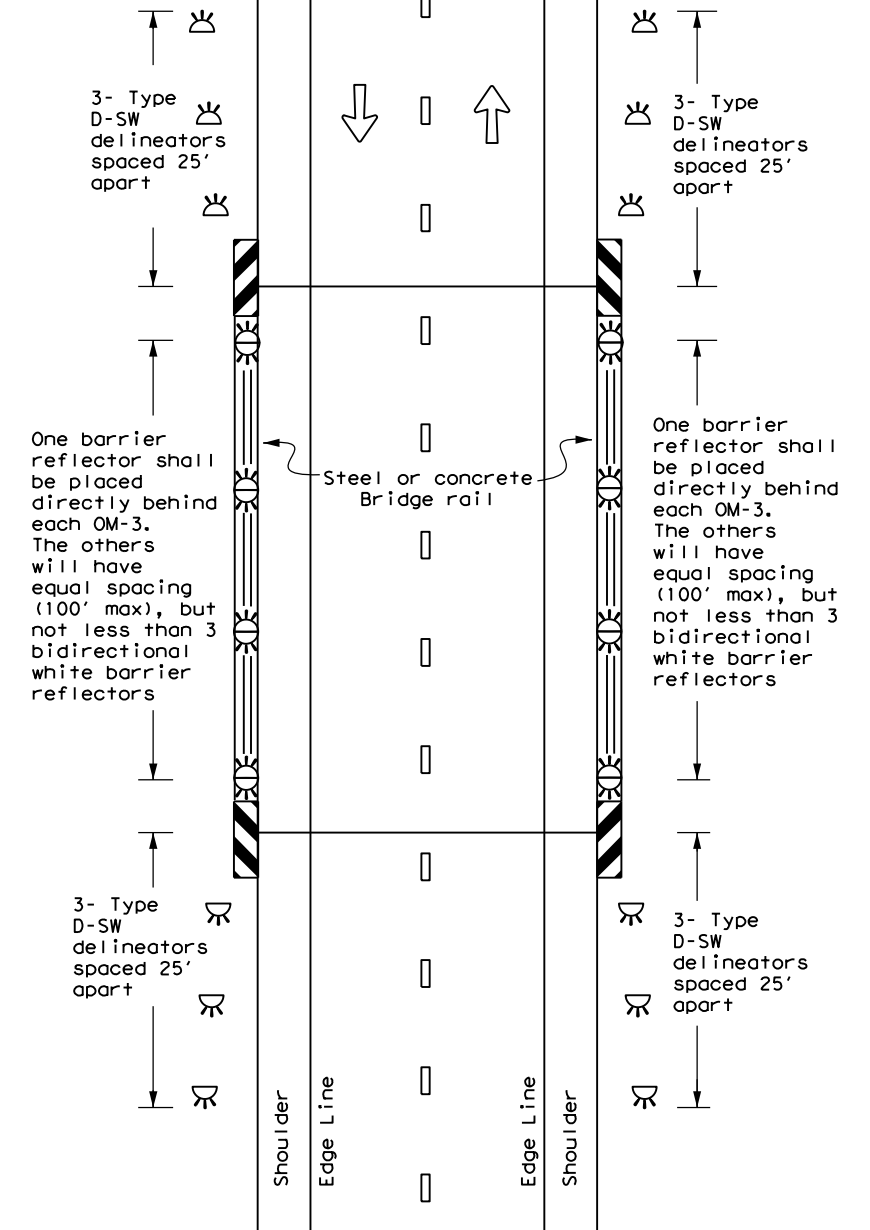
**TWO-WAY, TWO LANE ROADWAY  
WITH METAL BEAM GUARD FENCE (MBGF)**



**NOTE:**

1. Terminal ends require reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end.

**TWO-WAY, TWO LANE ROADWAY  
BRIDGE WITH NO APPROACH RAIL**



**LEGEND**

	Bidirectional Delineator
	Delineator
	OM-3
	OM-2
	Terminal End
	Traffic Flow

**Texas Department of Transportation**  
*Traffic Safety Division Standard*

**DELINEATOR &  
OBJECT MARKER  
PLACEMENT DETAILS**

**D & OM(5) - 20**

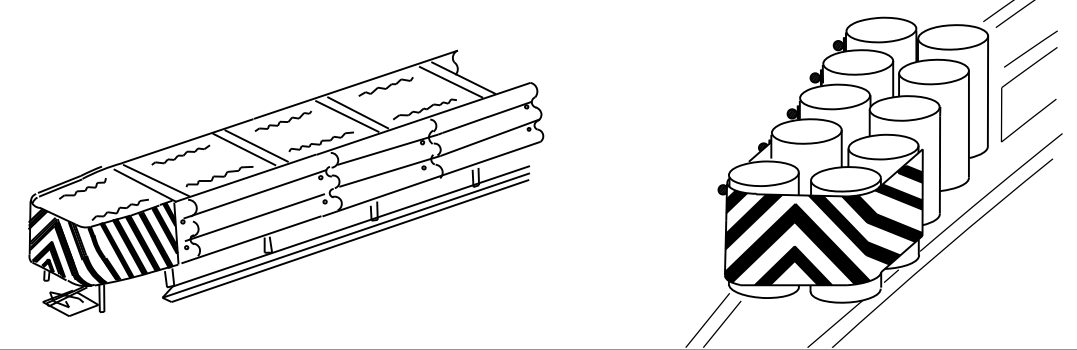
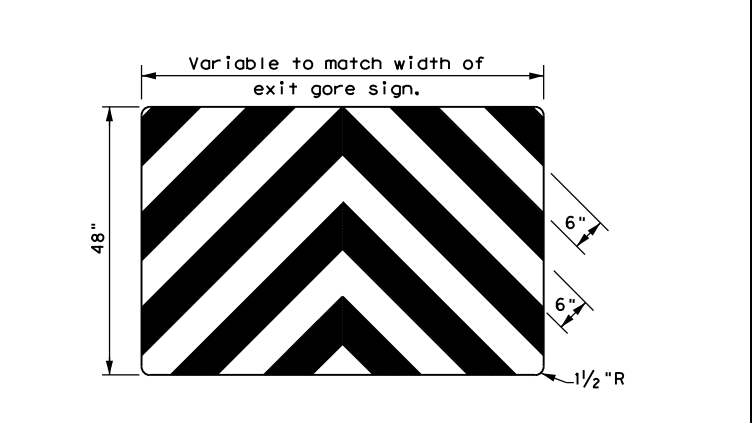
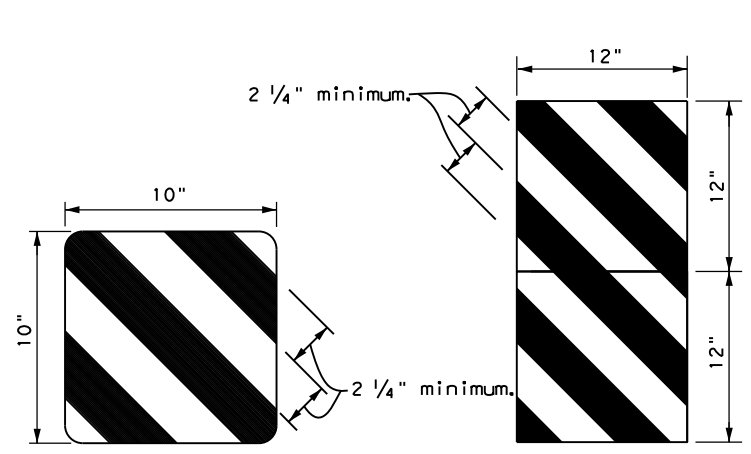
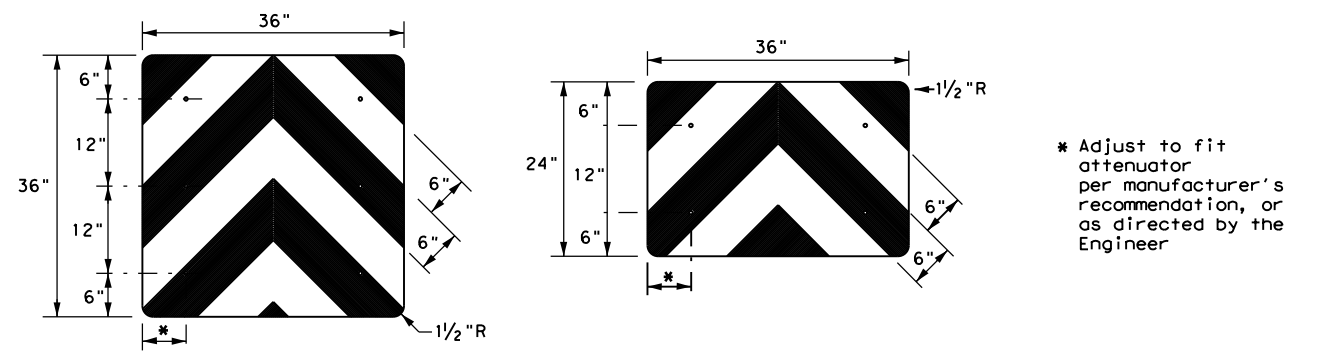
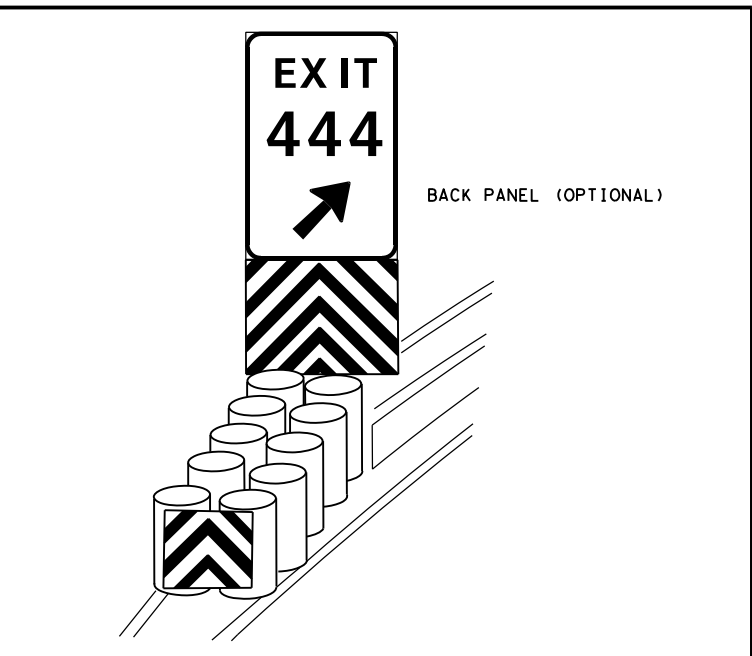
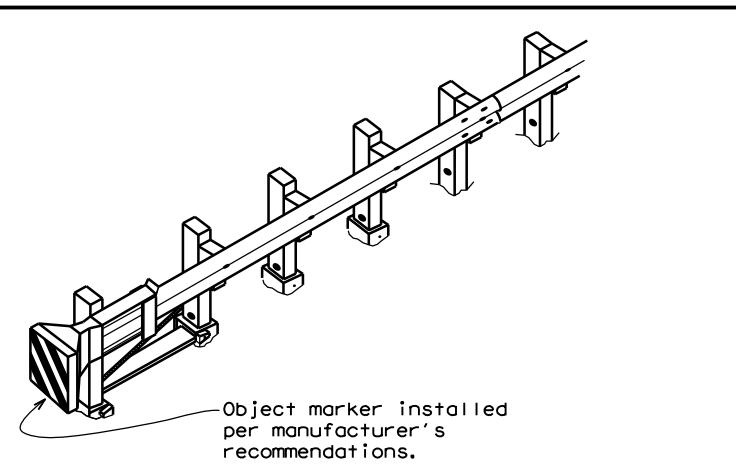
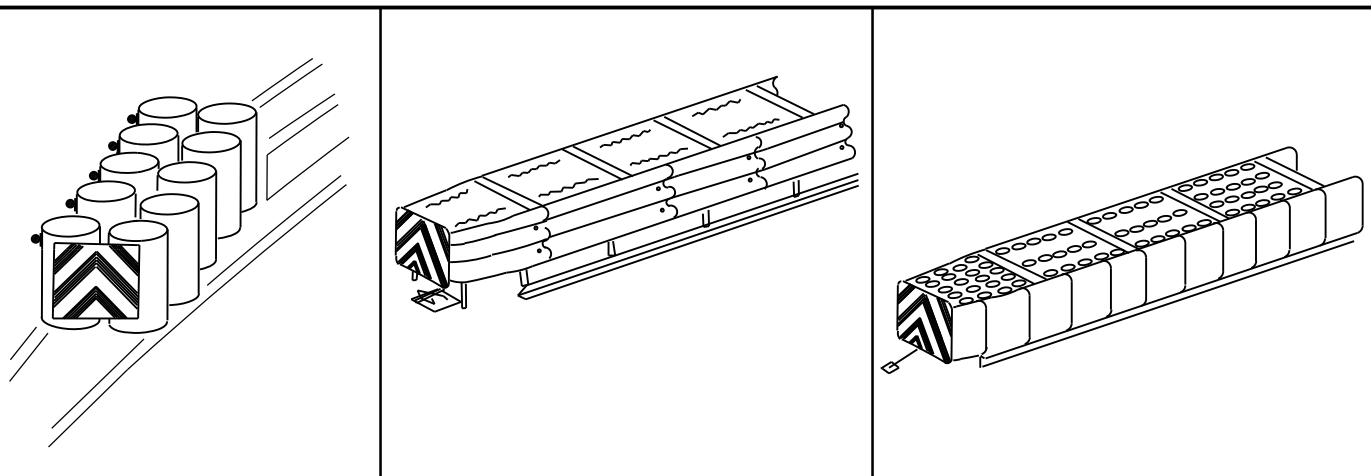
FILE: dom5-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CR: TxDOT
© TxDOT August 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
7-20	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	461	

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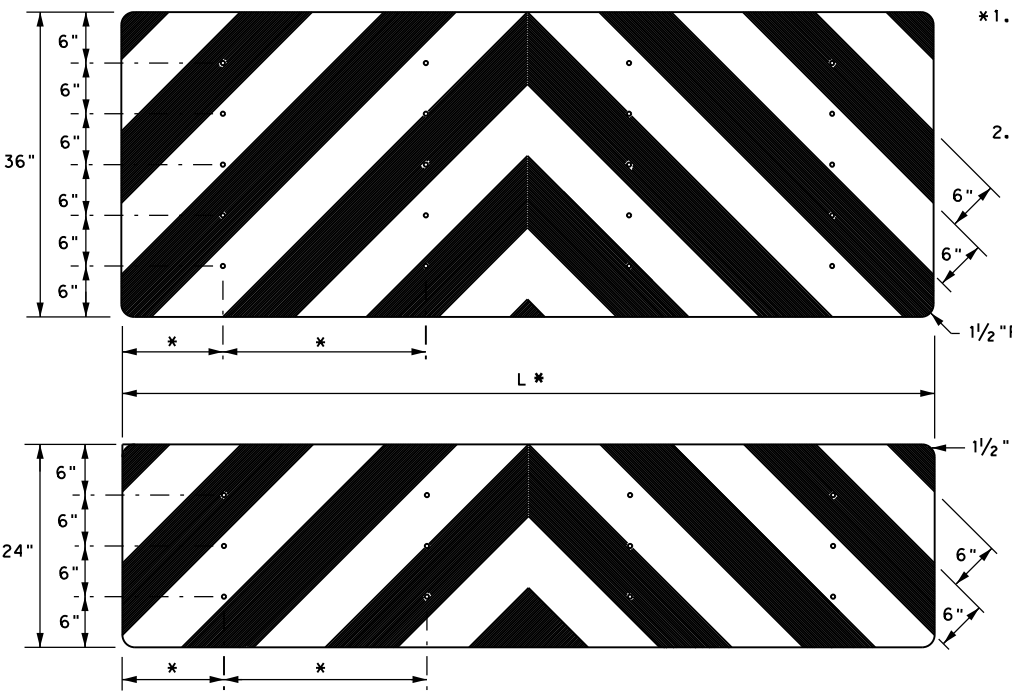
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OBJECT MARKERS SMALLER THAN 3 FT<sup>2</sup>



- NOTES**
- Spacing should be adjusted to attach through centerline of drum, per attenuator manufacturer's recommendation, or as directed by the Engineer.
  - Mounting should be flush with top of attenuator. Minimum size 96" x 24".

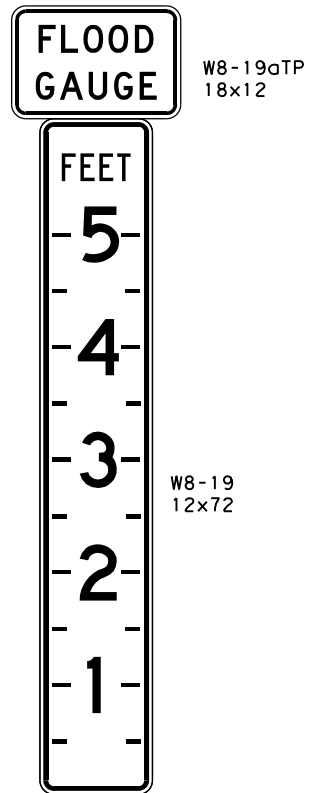
**NOTES**

- Object Markers shall conform to the Texas MUTCD and meet the color and reflectivity requirement of Department Material Specification DMS 8300. Background shall be yellow reflective sheeting (Type B or C) and Chevron shall be black.
- Object Markers may be fabricated from adhesive backed reflective sheeting applied directly to guardrail end treatment, or applied directly to an "end cap" as per the manufacturer's recommendation. Direct applied sheeting shall provide a smooth surface and have no wrinkles, air bubbles, cuts or tears. A radius at the corners is not required for direct applied sheeting.
- Object Marker size may be reduced to fit smaller devices. Width of alternating black and yellow stripes are typically 6". Object Markers smaller than 3ft may have reduced width stripes of a minimum of 2 1/4".
- Pop rivets, screws, or nuts and bolts may be used to attach object markers and reflectors. Holes, slots or other openings may be cut or drilled through object markers to allow cable or other attachments.
- Object Marker at nose of attenuator is subsidiary to the attenuator.
- See D & OM (1-4) for required barrier reflectors.

		<b>Traffic Safety Division Standard</b>	
<b>DELINEATOR &amp; OBJECT MARKER FOR VEHICLE IMPACT ATTENUATORS</b> <b>D &amp; OM(VIA) -20</b>			
FILE: domvia20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT
© TXDOT December 1989	CONT	SECT	JOB
REVISIONS		0142 09	044, Etc
4-92 8-04	DIST		COUNTY
8-95 3-15	SAT		KENDALL
4-98 7-20	SHEET NO.		462
20G			

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DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

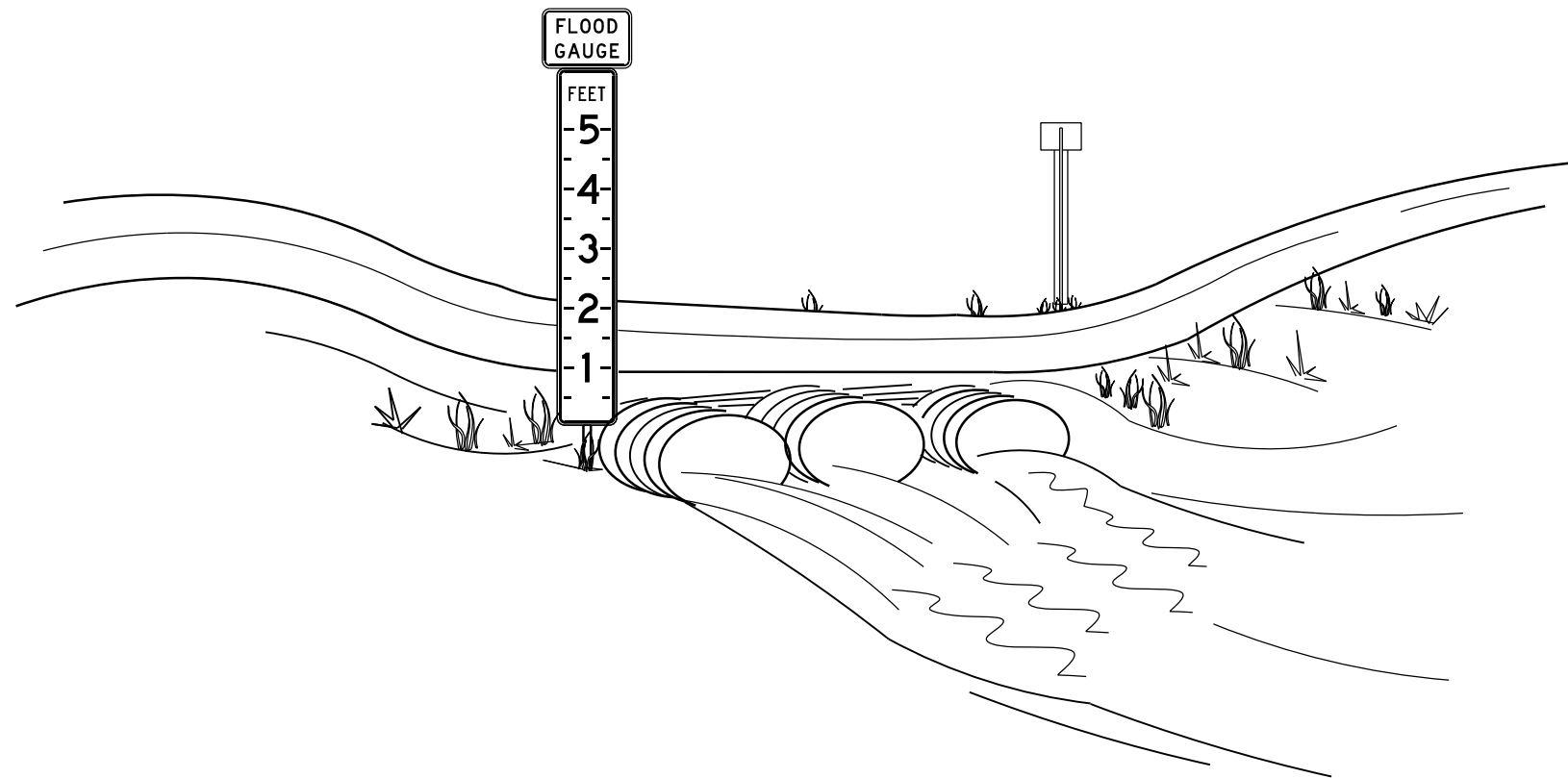
ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLUORESCENT YELLOW	TYPE B <sub>FL</sub> & C <sub>FL</sub> SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM

**GENERAL NOTES**

- Each flood gauge assembly shall consist of the FLOOD GAUGE sign (W8-19aTP) and DEPTH MARKER (W8-19). Two assemblies should be erected, one along each approach, at the low water crossing location on the right side of the roadway.
- The flood gauge assembly should be of sufficient height to register depth of water to a minimum of five (5) Feet above the lowest travel lane pavement surface. Actual height of depth marker required for each location is shown elsewhere in the plans, but should not be in excess of ten (10) feet.
- The flood gauge assembly should be located not more than ten (10) feet from the pavement edge. Consideration should be given to placement with regard to the following factors:
  - Accurate register of depth of water over roadway.
  - Daytime and nighttime visibility of the flood gauge assembly along roadway approaches.
  - Outside the main flow of water during both normal and flood conditions.
- In areas where flood conditions would likely obscure the flood gauge assembly, a second pair of gauges, one on each approach, registering depths greater than shown on the first flood gauge assembly, is recommended.
- The Engineer will approve all flood gauge assembly locations before installation.
- The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral Spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.
- FLOOD GAUGE signs and depth marker shall be mounted in accordance with Standard SMD (series). The recommended mounting is three (3) inch fiberglass reinforced pipe (FRP) pipe as shown on Standard SMD (GEN) and SMD (FRP). ROAD MAY FLOOD sign (W8-18) along the approach roadway may be required in areas where rainfall causes frequent roadway flooding.

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website:  
<http://www.txdot.gov/>

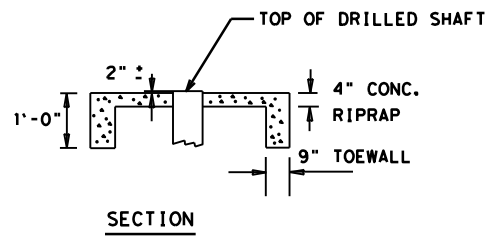
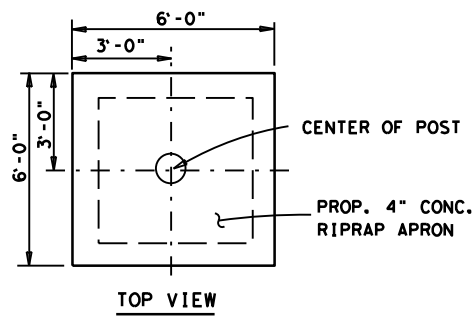
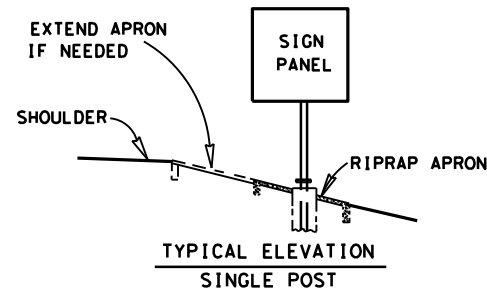


		<b>Texas Department of Transportation</b>		<b>Traffic Operations Division Standard</b>	
<h2>FLOOD GAUGE ASSEMBLY</h2> <h3>FGA-15</h3>					
FILE:	fga-15.dgn	DN:	TxDOT	CK:	TxDOT
© TxDOT	January 1997	CONT:	0142	SECT:	09
REVISIONS		JOB:	044, Etc	HIGHWAY:	RM 473
3-15		DIST:	KENDALL	COUNTY:	
		SAT:		SHEET NO.:	463

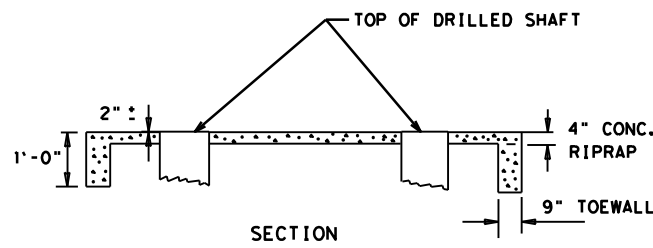
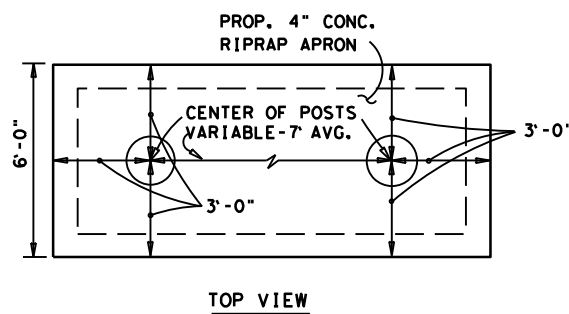
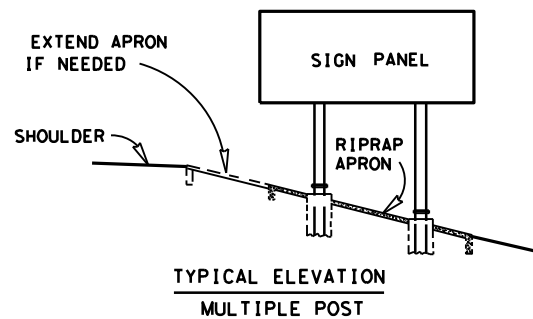


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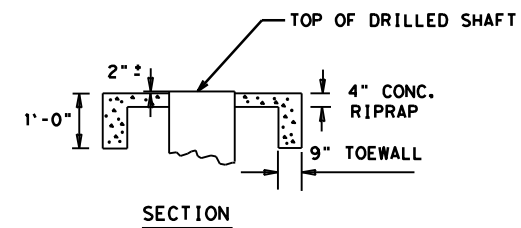
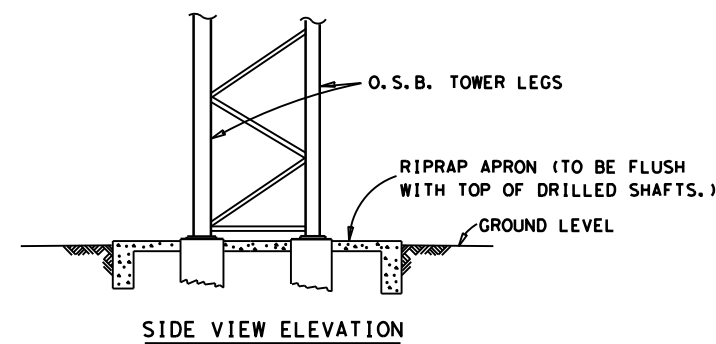
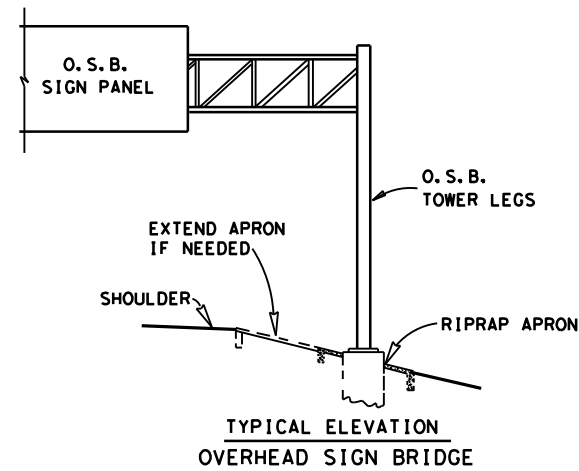
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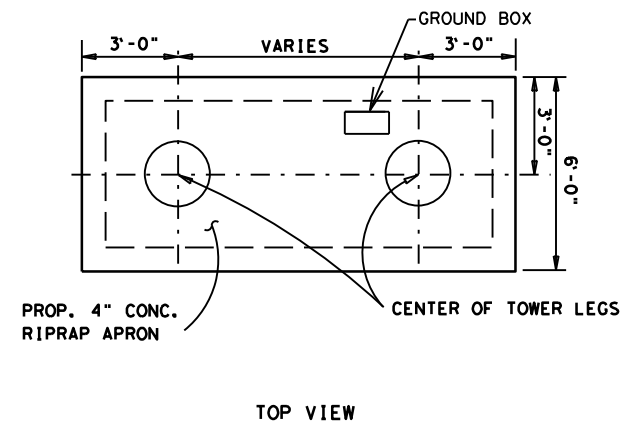
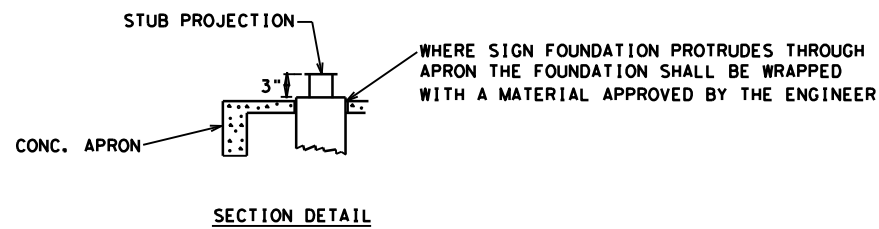
SINGLE POST GROUND MOUNT  
ESTIMATED AT 0.80 CU. YDS. PER SITE



MULTIPLE POST GROUND MOUNT  
ESTIMATED AT 1.5 CU. PER SITE



OVERHEAD SIGN BRIDGE  
ESTIMATED AT 1.5 CU. YDS. PER SITE



NOTES:

1. CLASS "B" CONCRETE RIPRAP TO BE PLACED AS SHOWN IN DETAILS AND APPROVED BY THE ENGINEER. THIS WORK SHALL BE DONE IN ACCORDANCE WITH ITEM 432.
2. SMALL SIGNS AS DIRECTED BY THE ENGINEER.

REV.: 2-17



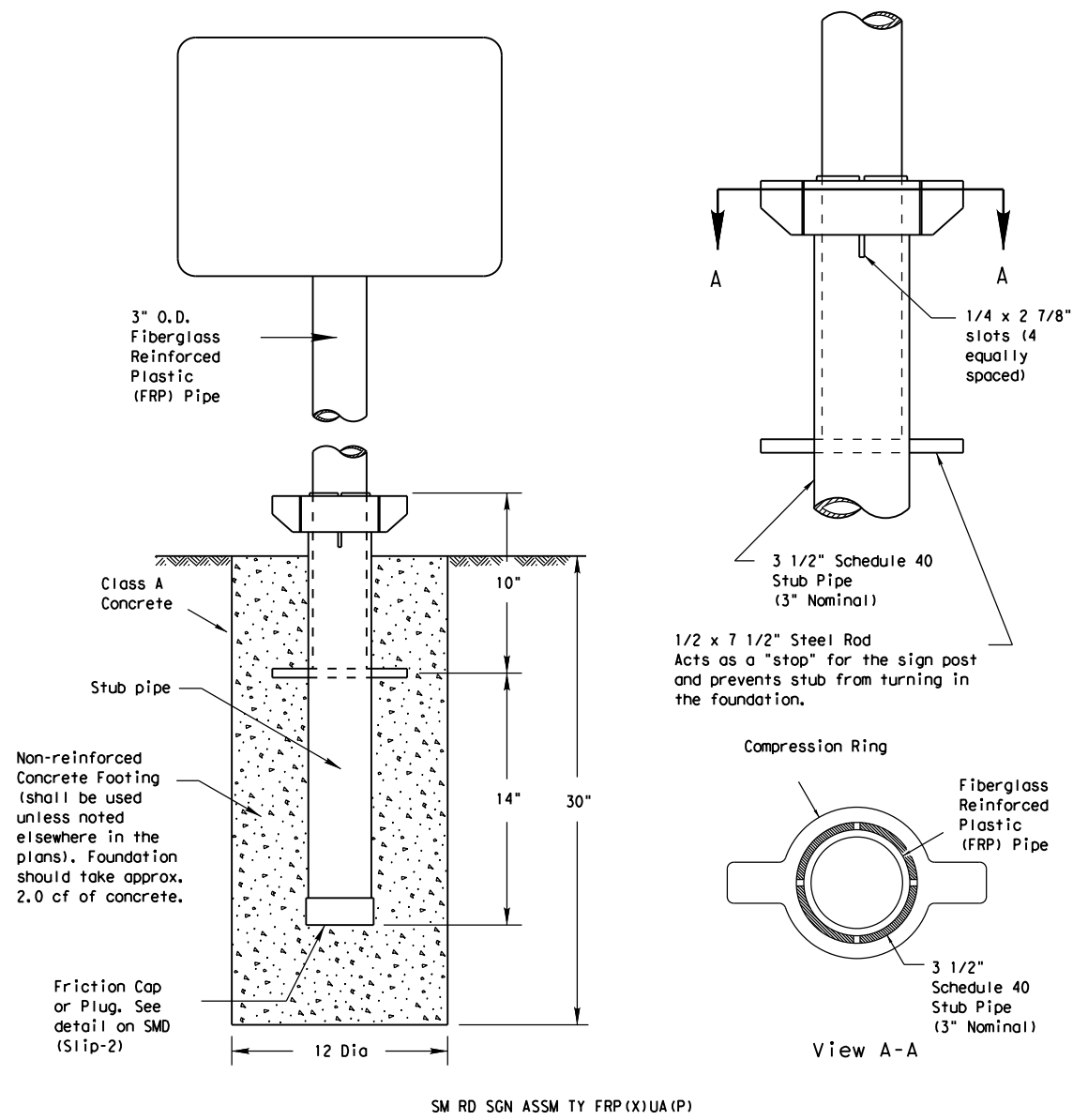
San Antonio District Standard

RIP-RAP APRON DETAILS  
FOR SIGN FOUNDATIONS

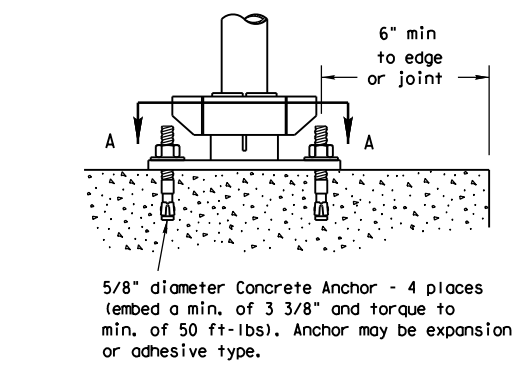
RAD

FHWA TEXAS DIVISION	FEDERAL AID PROJECT		SHEET NO. 464
STATE TEXAS	DIST. SAT	COUNTY KENDALL	
CONT. 0142	SECT. 09	JOB 044, Etc	HIGHWAY NO. RM 473

## Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post

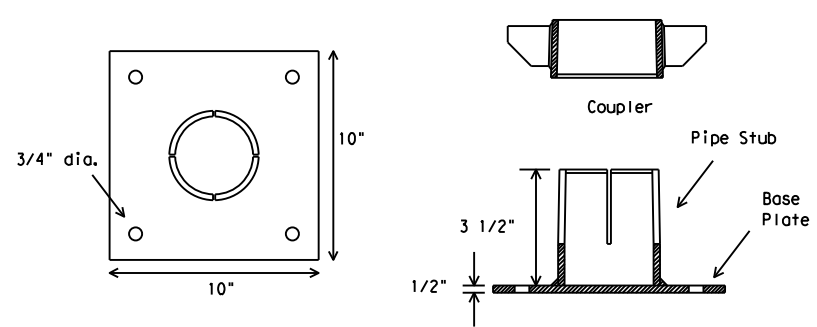


SM RD SGN ASSM TY FRP(X)UA(P)



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxy and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.

### BOLT-DOWN DETAILS



SM RD SGN ASSM TY FRP(X)UB(P)

#### GENERAL NOTES:

1. FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet.
2. All nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
3. See the Traffic Operations Division website for detailed drawings of sign clamps. The website address is:  
<http://www.txdot.gov/publications/traffic.htm>

#### FRP POST REQUIREMENTS

1. Materials shall conform to the requirements of Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color as specified elsewhere in the plans.
2. Thickness of FRP sign support is 0.125" + 0.031", - 0.0".
3. FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:  
Texas Department of Transportation  
Traffic Operations Division  
125 East 11th Street  
Austin, Texas 78701-2483

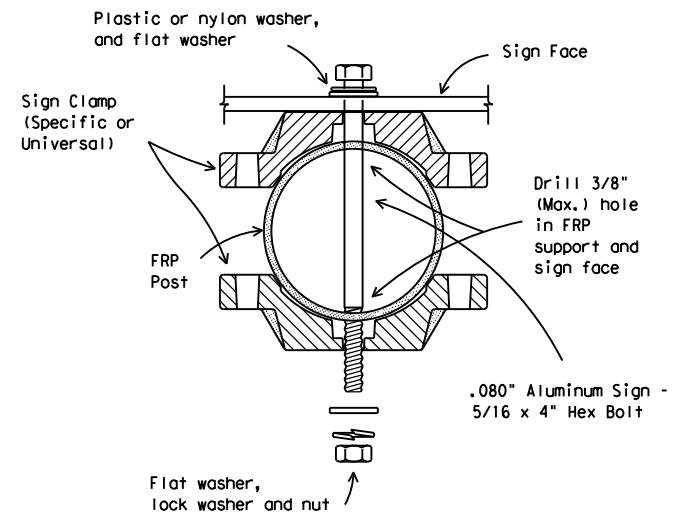
#### UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Insert base post in foundation hole to depths shown and fill hole with concrete. Cut base post from bottom and ensure a minimum of 18" embedment if installed in solid rock.
4. Level and plumb the base post with coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer. Bottom of base post slots shall be above the concrete footing.
5. Attach sign to FRP post.
6. Insert sign post into base post. Lower until the post comes to rest on the steel rod.
7. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
8. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

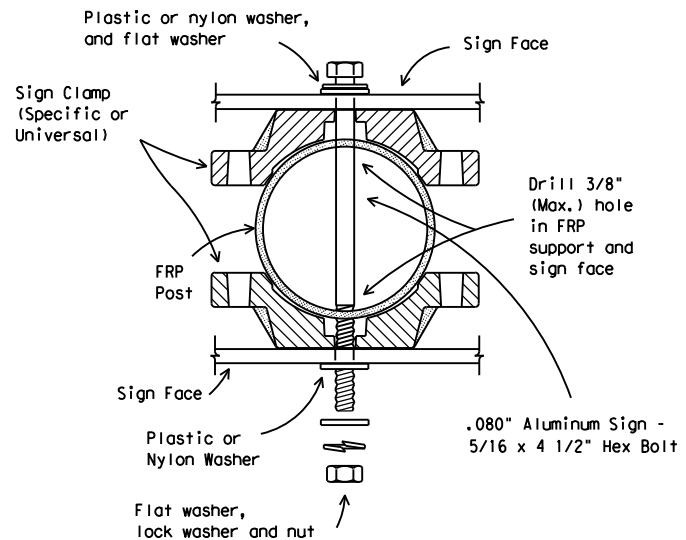
#### BOLT DOWN SIGN SUPPORT

1. Position base plate with coupler on existing concrete.
2. Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
3. Attach sign to FRP post.
4. Insert bottom of sign post into pipe stub.
5. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
6. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

### Typical Sign Mounting Detail for FRP Support with Single Sign



### Typical Sign Mounting Detail for FRP Support with Back-to-Back Signs



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**Texas Department of Transportation**  
Traffic Operations Division

## SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS UNIVERSAL ANCHOR SYSTEM WITH FRP POST

### SMD (FRP) -08

© TxDOT July 2002		DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-08	REVISIONS		CONTRACT	SECTION	JOB
			0142	09	044, Etc
			DIST	COUNTY	HIGHWAY
		SAT	KENDALL	RM 473	SHEET NO. 465

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### SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

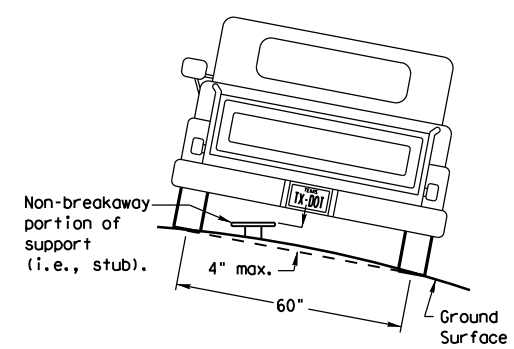
**Post Type**  
 FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))  
 TWT = Thin-Walled Tubing (see SMD(TWT))  
 10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))  
 S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

**Number of Posts (1 or 2)**

**Anchor Type**  
 UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))  
 UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))  
 WS = Wedge Anchor Steel - (see SMD(TWT))  
 WP = Wedge Anchor Plastic (see SMD(TWT))  
 SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))  
 SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

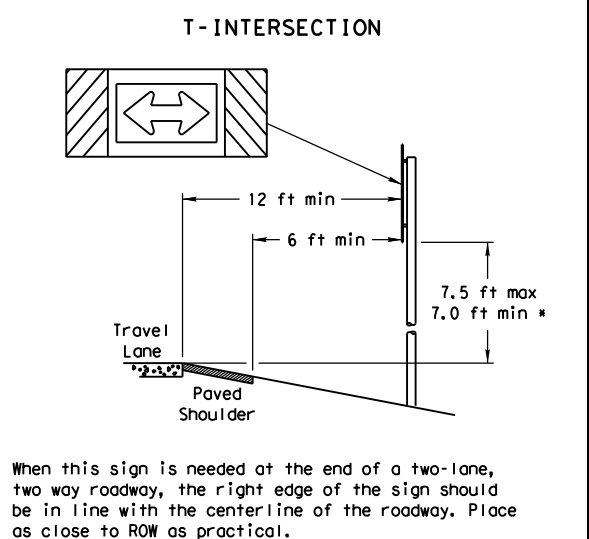
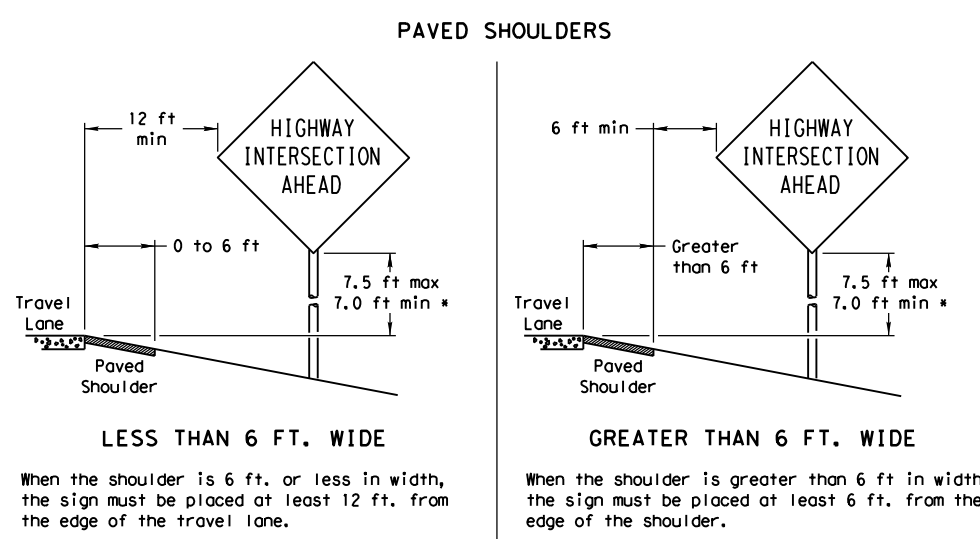
**Sign Mounting Designation**  
 P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))  
 T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))  
 U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))  
 IF REQUIRED  
 1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))  
 BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))  
 WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))  
 EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

### REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT

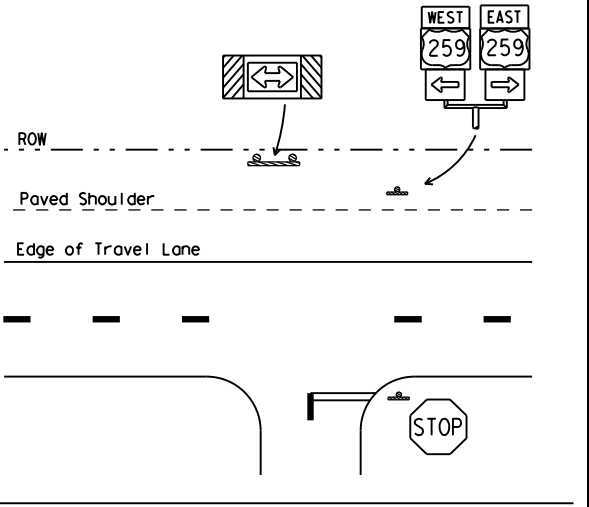
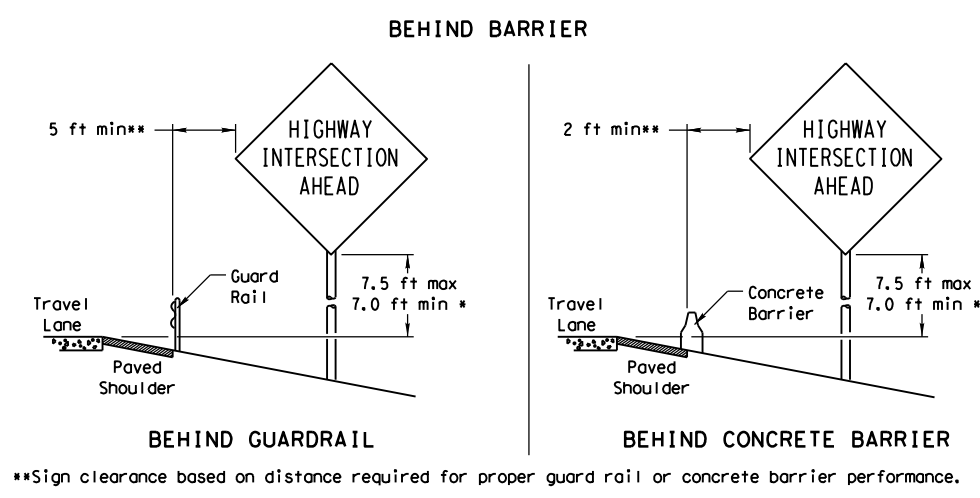
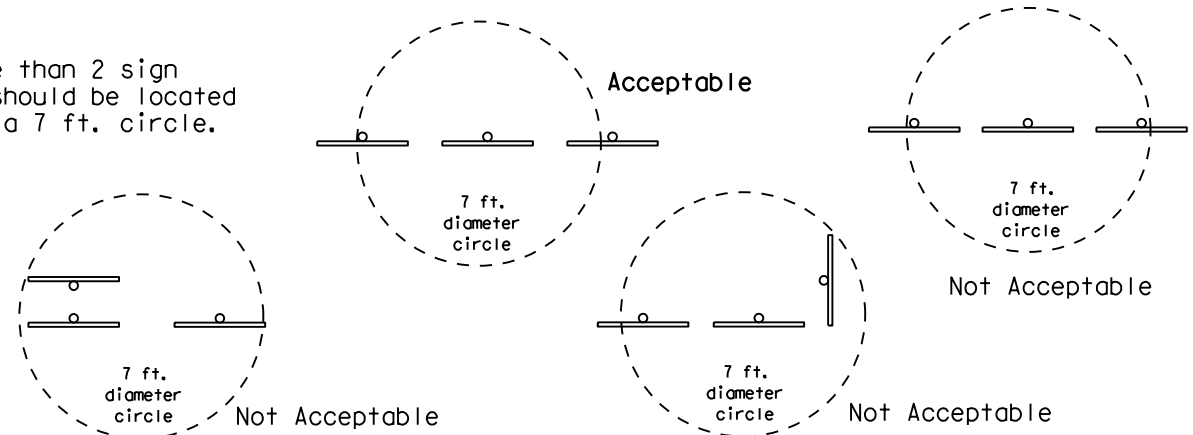


To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

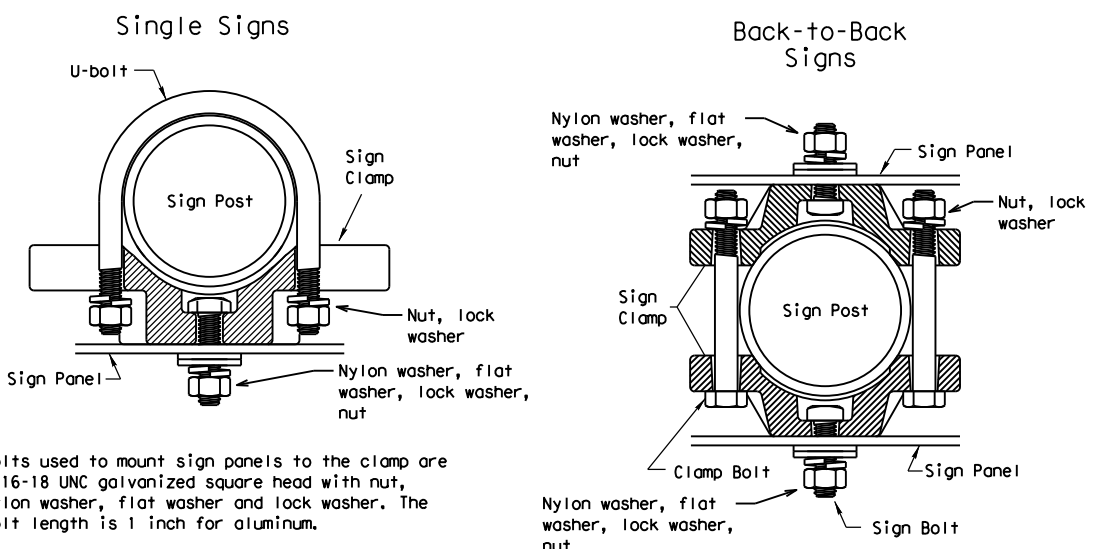
### SIGN LOCATION



No more than 2 sign posts should be located within a 7 ft. circle.



### TYPICAL SIGN ATTACHMENT DETAIL



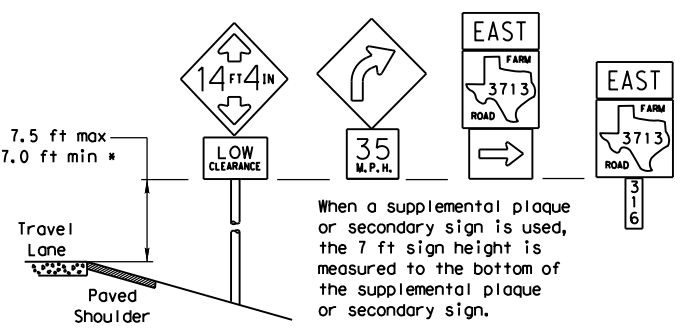
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

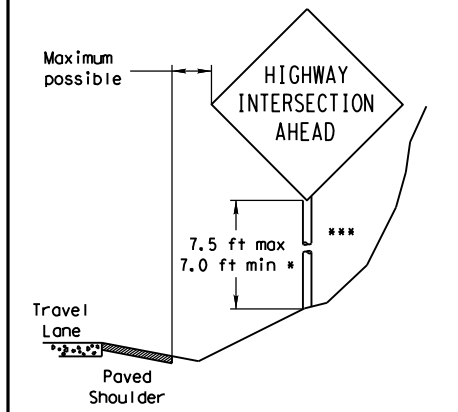
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

### SIGNS WITH PLAQUES



When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

### RESTRICTED RIGHT-OF-WAY (When 6 ft min. is not possible.)

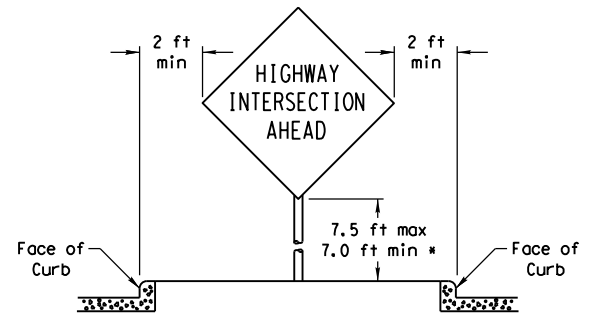


Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

\*\*\* Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

### CURB & GUTTER OR RAISED ISLAND



\* Signs shall be mounted using the following condition that results in the greatest sign elevation:

- (1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or
- (2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:  
<http://www.txdot.gov/publications/traffic.htm>

**Texas Department of Transportation**  
 Traffic Operations Division

## SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD (GEN) - 08

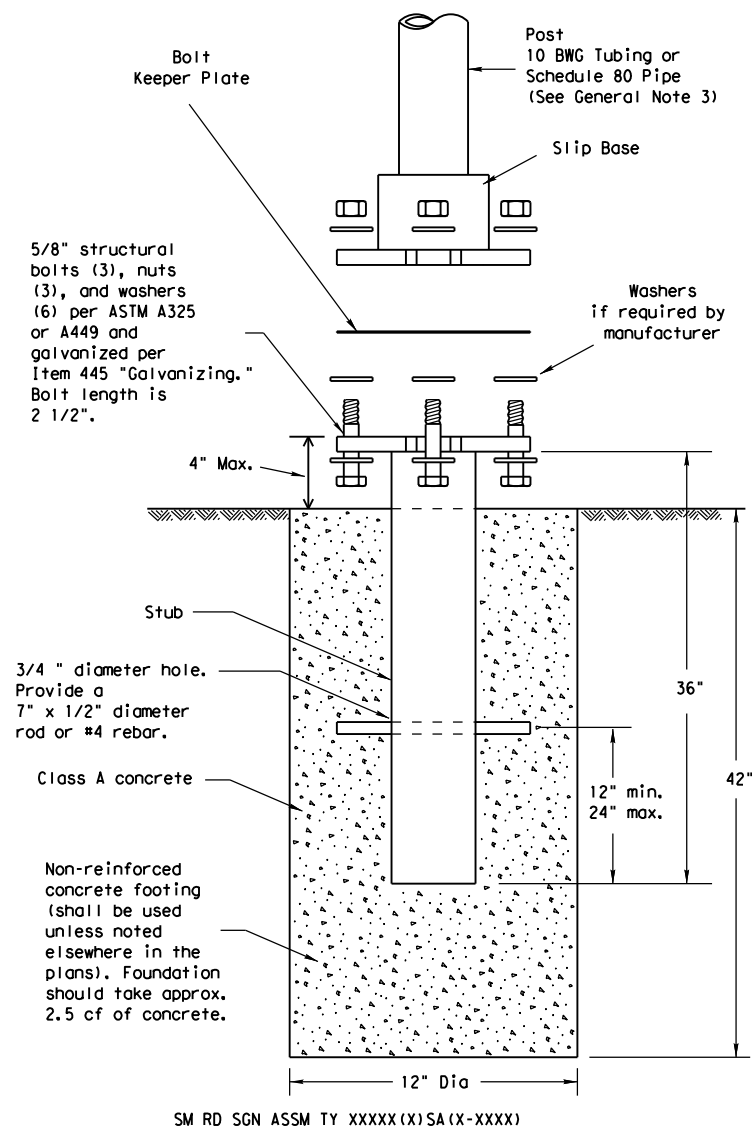
© TxDOT July 2002		DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-08	REVISIONS	CONT	SECT	JOB	HIGHWAY
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## TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



### NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. [http://www.txdot.gov/business/producer\\_list.htm](http://www.txdot.gov/business/producer_list.htm) The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

### GENERAL NOTES:

- Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
- Material used as post with this system shall conform to the following specifications:
  - 10 BWG Tubing (2.875" outside diameter)
    - 0.134" nominal wall thickness
    - Seamless or electric-resistance welded steel tubing or pipe
    - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
    - Other steels may be used if they meet the following:
      - 55,000 PSI minimum yield strength
      - 70,000 PSI minimum tensile strength
      - 20% minimum elongation in 2"
    - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
    - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
    - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
  - Schedule 80 Pipe (2.875" outside diameter)
    - 0.276" nominal wall thickness
    - Steel tubing per ASTM A500 Gr C
    - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
      - 46,000 PSI minimum yield strength
      - 62,000 PSI minimum tensile strength
      - 21% minimum elongation in 2"
    - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
    - Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
    - Galvanization per ASTM A123
- See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: <http://www.txdot.gov/publications/traffic.htm>
- Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

### ASSEMBLY PROCEDURE

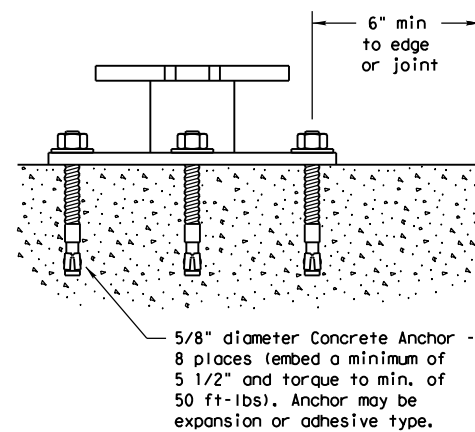
#### Foundation

- Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
- The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
- Push the pipe end of the slip base into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
- Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
- The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

#### Support

- Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
- Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

### CONCRETE ANCHOR

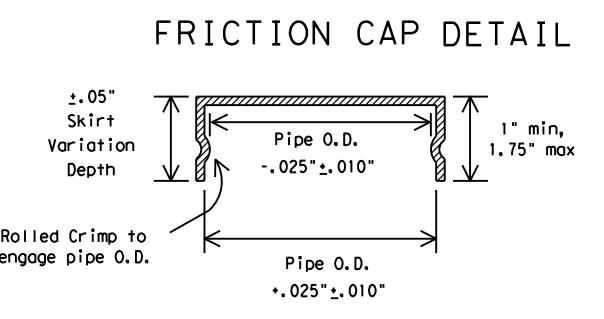
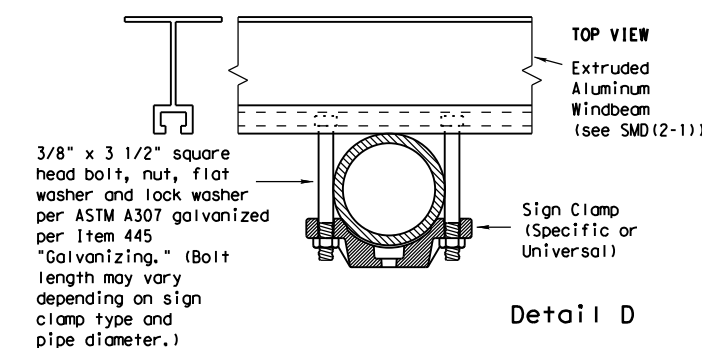
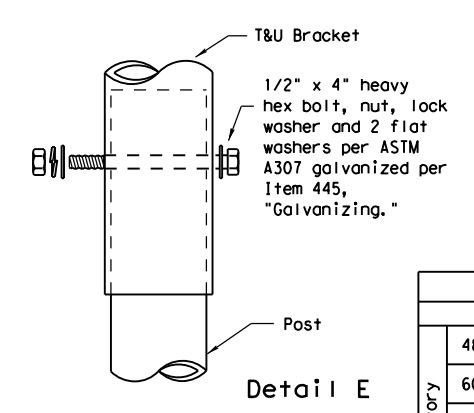
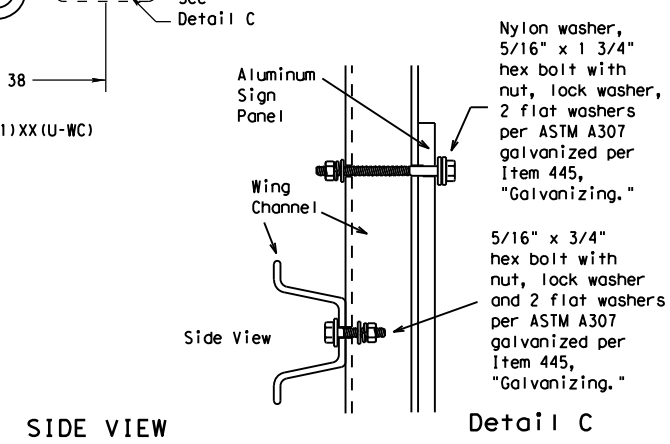
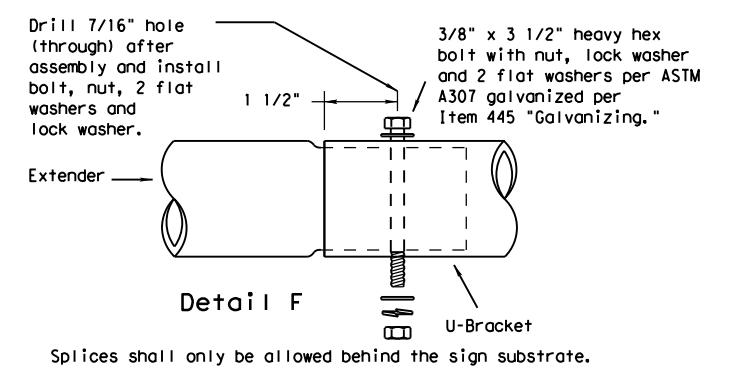
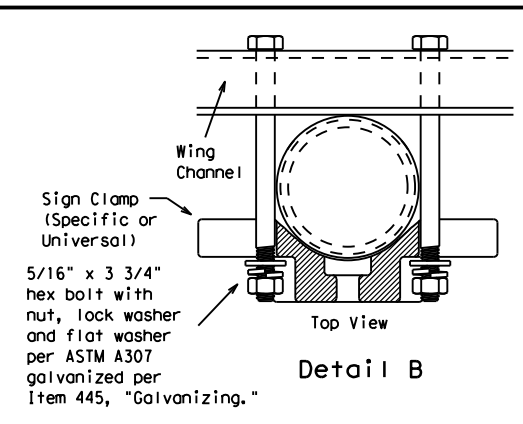
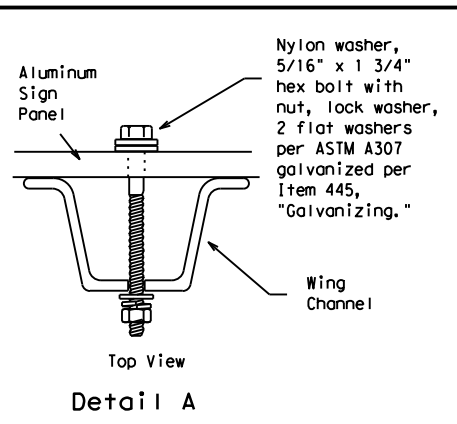
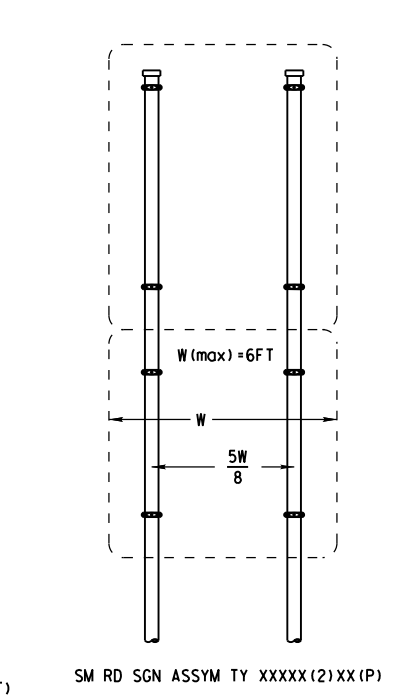
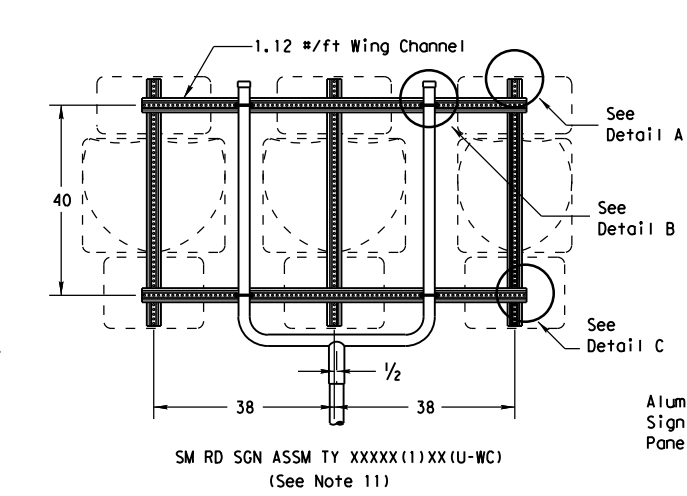
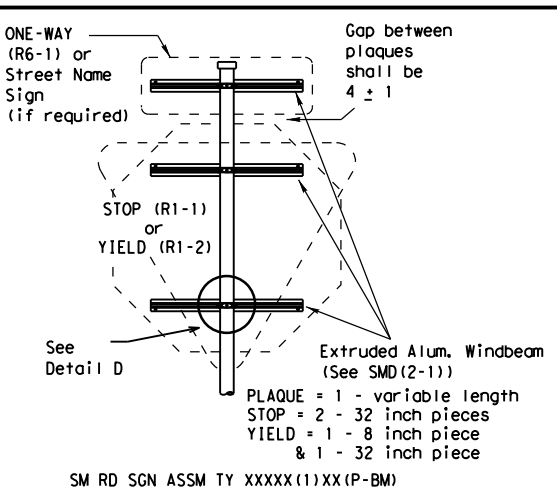
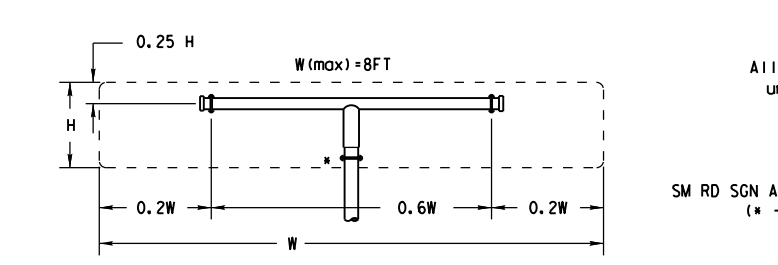
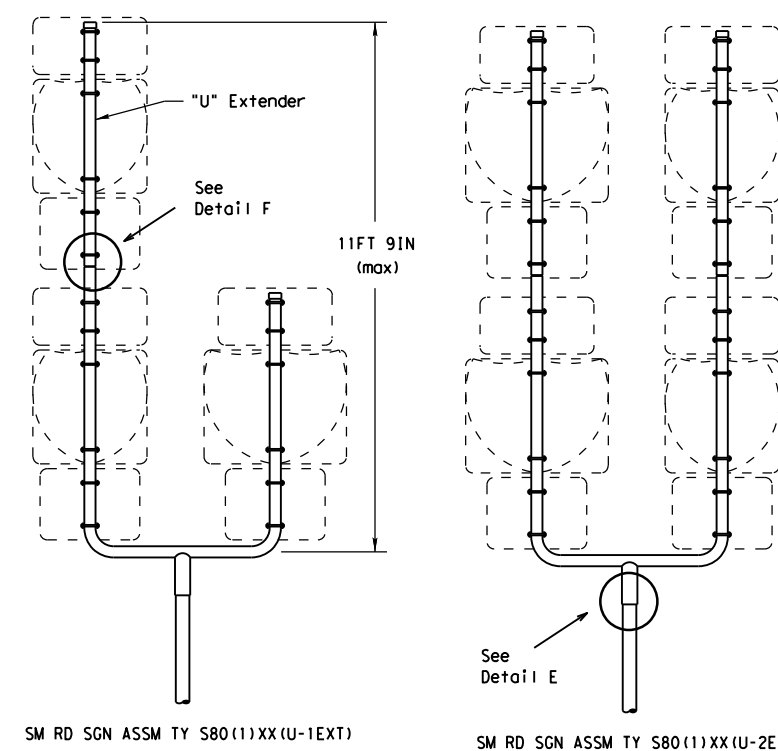
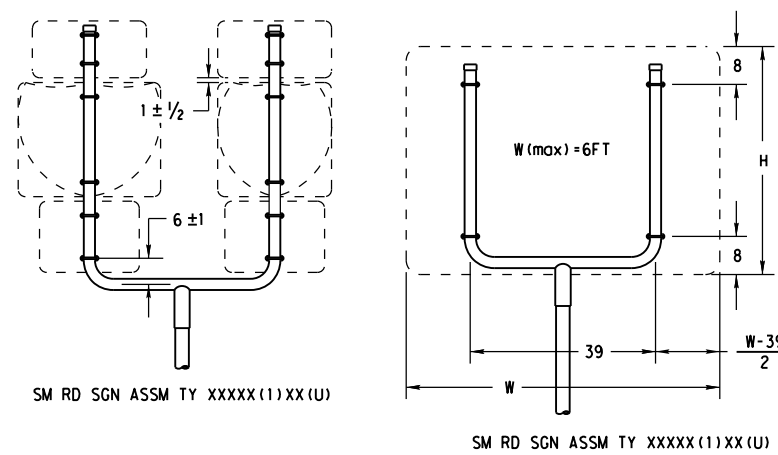
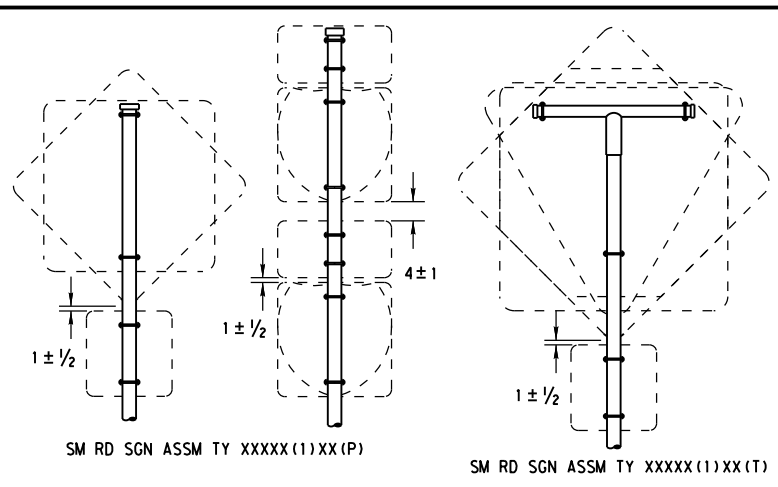


Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxyes and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

		<b>SIGN MOUNTING DETAILS</b> <b>SMALL ROADSIDE SIGNS</b> <b>TRIANGULAR SLIPBASE SYSTEM</b> <b>SMD(SLIP-1)-08</b>				
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9-08	REVISIONS		DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
	CONT	SECT	JOB		HIGHWAY	
	DIST	COUNTY		SHEET NO.		
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All dimensions are in english unless detailed otherwise.

Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes. The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture. Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

- GENERAL NOTES:
1. SIGN SUPPORT # OF POSTS MAX. SIGN AREA
  2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
  3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
  4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
  5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
  6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
  7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
  8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
  9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
  10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
  11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
  12. Post open ends shall be fitted with Friction Caps.
  13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT		
SIGN DESCRIPTION	SUPPORT	
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
Warning	48x60-inch signs	TY S80(1)XX(T)
	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)	

Texas Department of Transportation  
 Traffic Operations Division

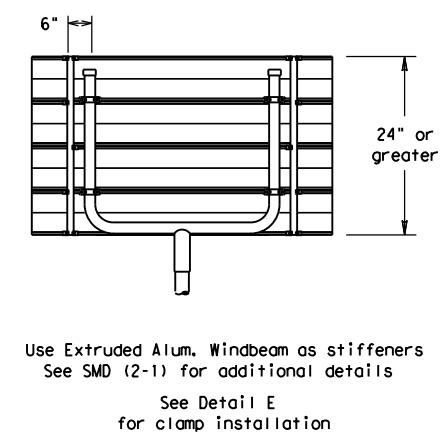
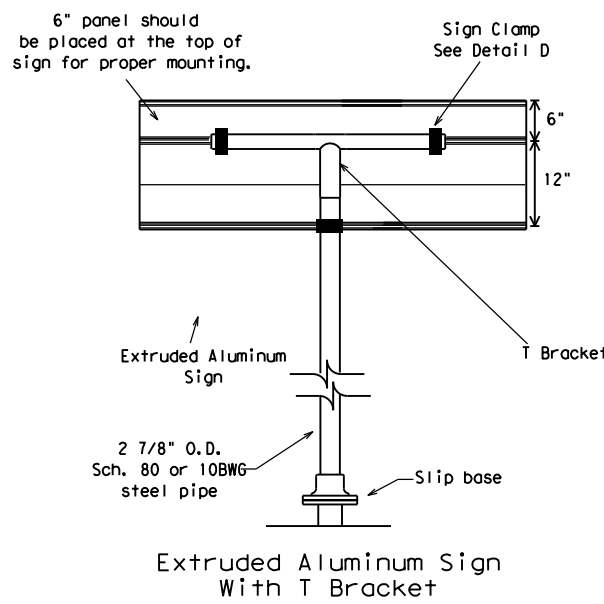
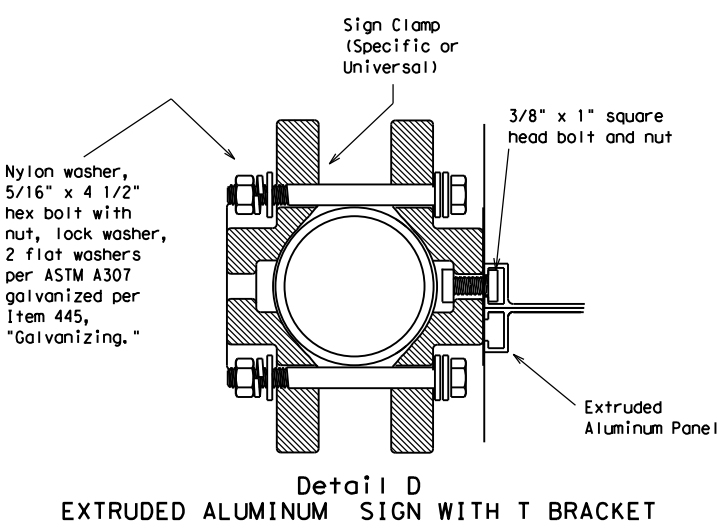
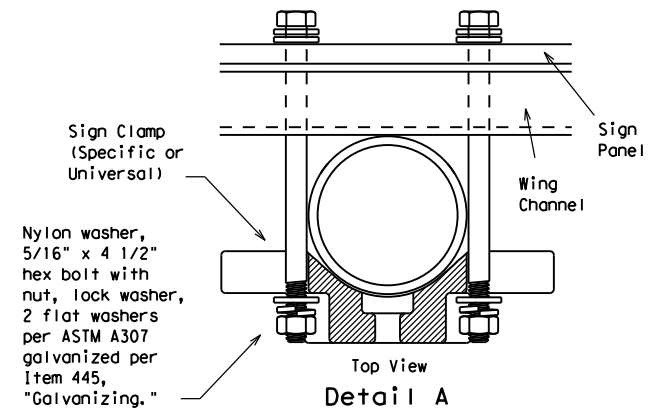
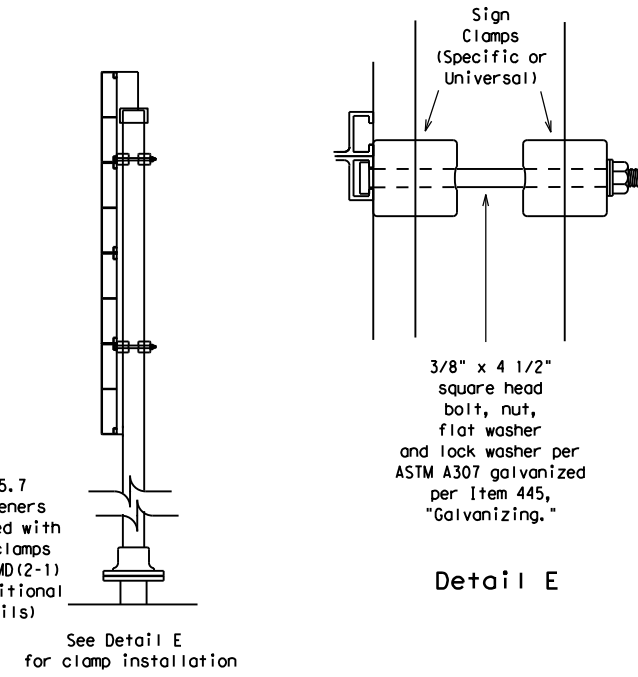
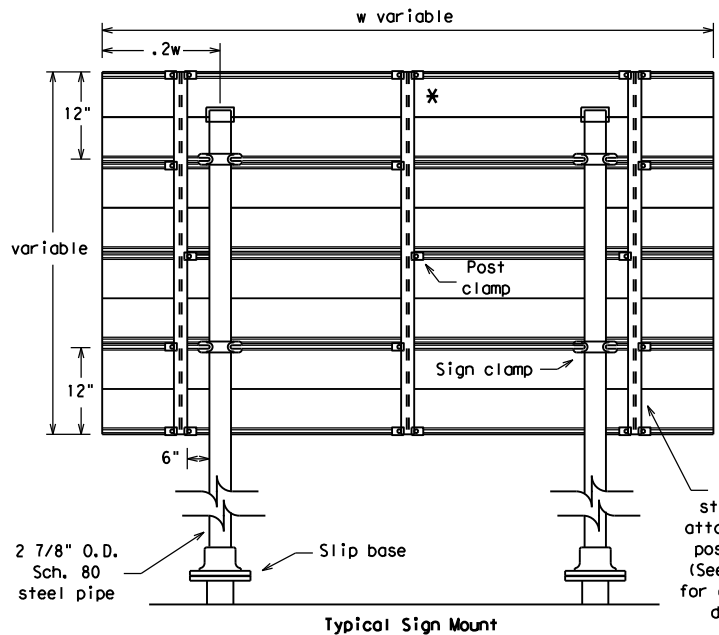
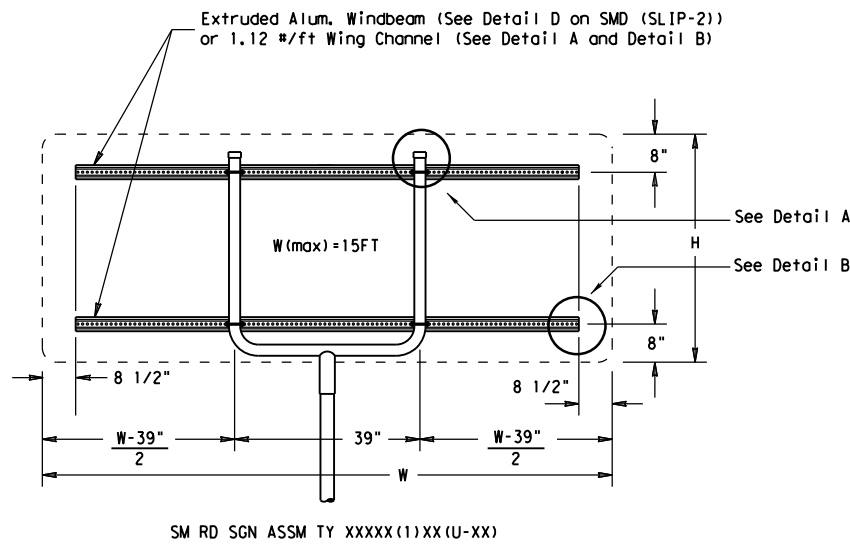
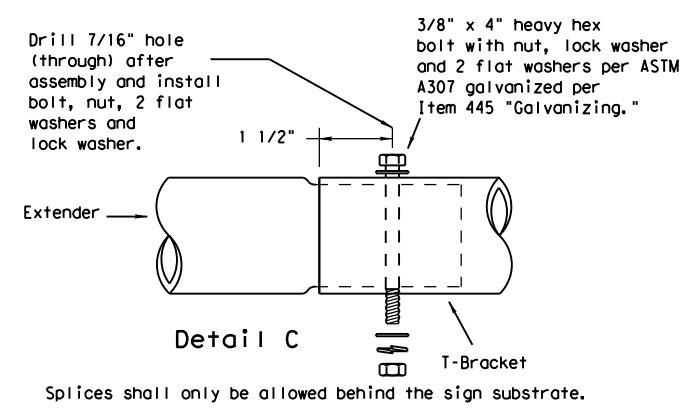
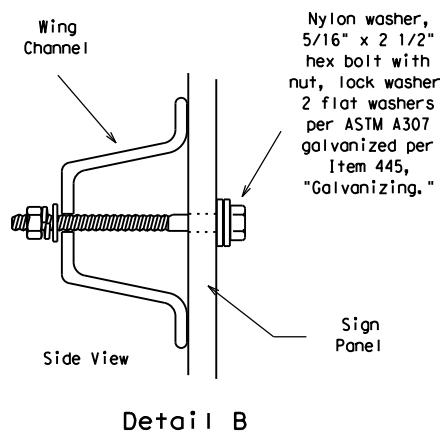
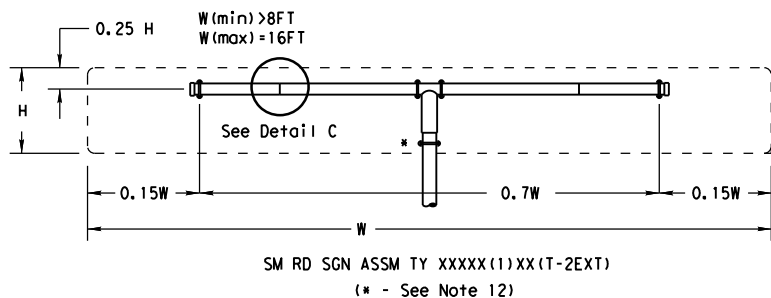
**SIGN MOUNTING DETAILS  
 SMALL ROADSIDE SIGNS  
 TRIANGULAR SLIPBASE SYSTEM**

SMD(SLIP-2) - 08

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9-08	REVISIONS	CON: 0142	SECT: 09	JOB: 044, Etc	HIGHWAY: RM 473
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GENERAL NOTES:

- | SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA |
|--------------|------------|----------------|
| 10 BWG       | 1          | 16 SF          |
| 10 BWG       | 2          | 32 SF          |
| Sch 80       | 1          | 32 SF          |
| Sch 80       | 2          | 64 SF          |
- The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
- Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
- Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
- Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
- For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
- When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
- Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
- Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
- Sign blanks shall be the sizes and shapes shown on the plans.
- Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
- Post open ends shall be fitted with Friction Caps.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
Warning	48x60-inch signs	TY S80(1)XX(T)
	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)



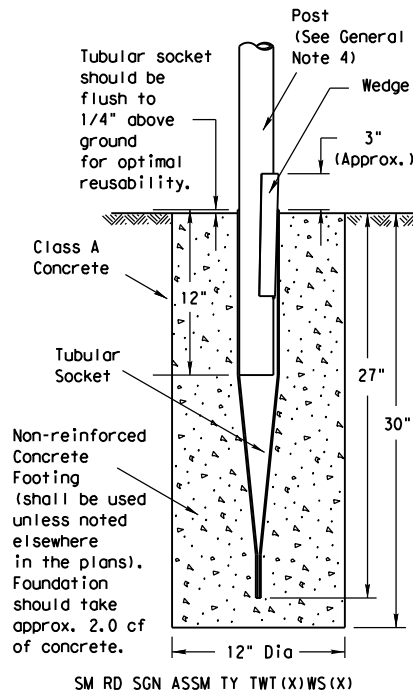
SIGN MOUNTING DETAILS  
 SMALL ROADSIDE SIGNS  
 TRIANGULAR SLIPBASE SYSTEM  
 SMD(SLIP-3) -08

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9-08	REVISIONS	CONT	SECT	JOB	HIGHWAY
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		DIST	COUNTY		SHEET NO.
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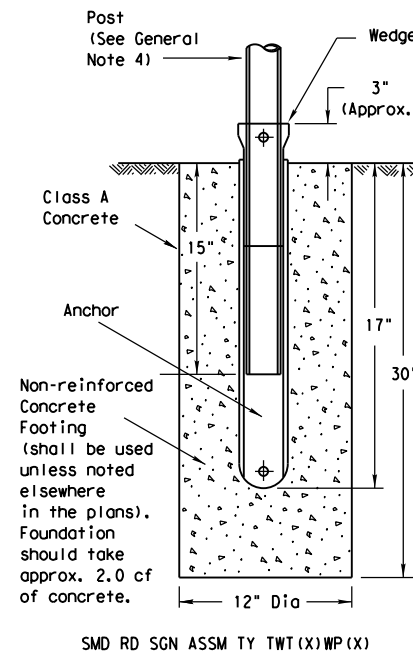
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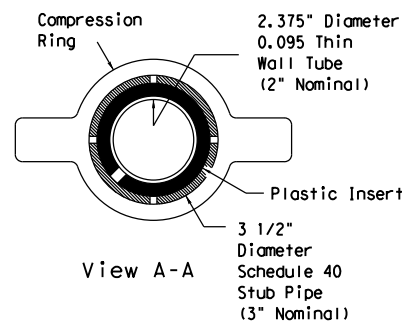
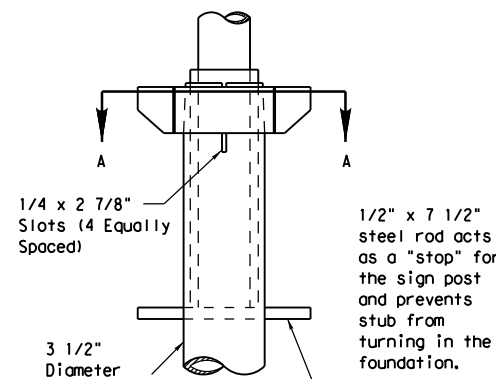
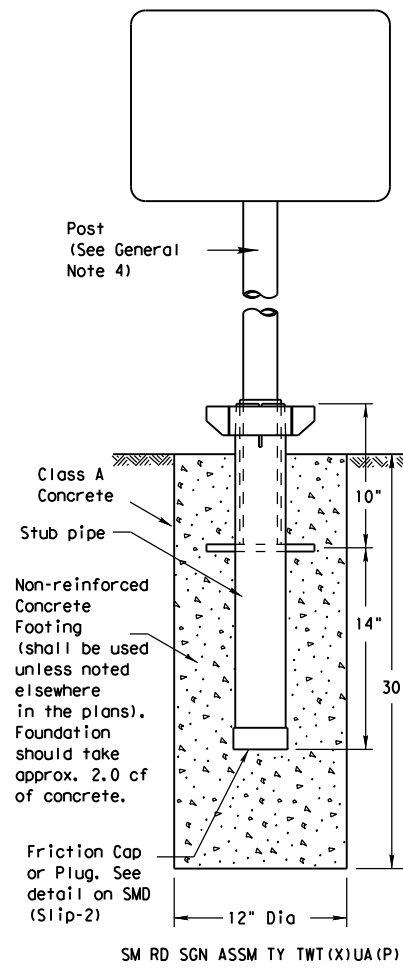
### Wedge Anchor Steel System



### Wedge Anchor High Density Polyethylene (HDPE) System

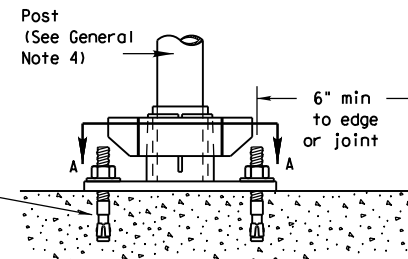


### Universal Anchor System with Thin-Walled Tubing Post

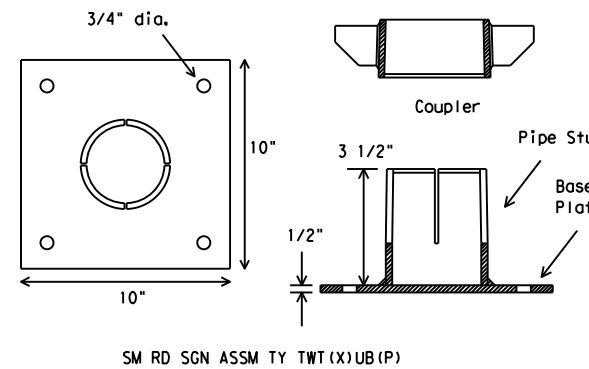


Plastic insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.

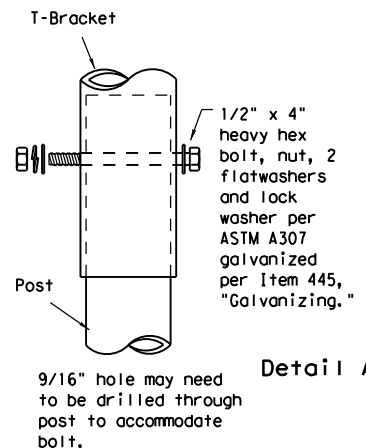
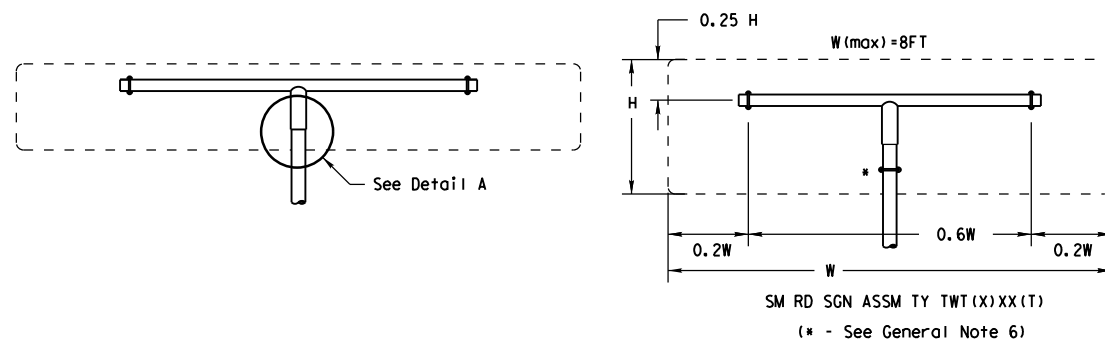
5/8" diameter Concrete Anchor - 4 places (embed a min. of 3 3/8" and torque to min. of 50 ft-lbs). Anchor may be expansion or adhesive type.



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxyes and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.



### Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post



NOTE  
 The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

### GENERAL NOTES:

- The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
- The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
- Except for posts (13 BWG Tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is: [http://www.txdot.gov/business/producer\\_list.htm](http://www.txdot.gov/business/producer_list.htm)
- Material used as post with this system shall conform to the following specifications:  
 13 BWG Tubing (2.375" outside diameter) (TWT)  
 0.095" nominal wall thickness  
 Seamless or electric-resistance welded steel tubing  
 Steel shall be HSLA Gr 55 per ASTM A1011 or ASTM A1008  
 Other steels may be used if they meet the following:  
 55,000 PSI minimum yield strength  
 70,000 PSI minimum tensile strength  
 18% minimum elongation in 2"  
 Wall thickness (uncoated) shall be within the range of .083" to .099"  
 Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"  
 Galvanization per ASTM 123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
- Sign blanks shall be the sizes and shapes shown on the plans.
- Additional sign clamp required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
- Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
- See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is: <http://www.txdot.gov/publications/traffic.htm>

### WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE

- Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
- The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
- Insert tubular socket into concrete until top of socket is approximately 1/4" above the concrete footing.
- Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer.
- Attach the sign to the sign post.
- Insert the sign post into socket and align sign face with roadway.
- Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

### UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE

- Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
- Insert base post in hole to depths shown and backfill hole with concrete.
- Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
- Attach the sign to the sign post.
- Install plastic insert around bottom of post.
- Insert sign post into base post. Lower until the post comes to rest on steel rod.
- Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when optimally installed.
- Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Texas Department of Transportation  
 Traffic Operations Division

## SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST SMD(TWT) - 08

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9-08	REVISIONS	CON: 0142	SECT: 09	JOB: 044, Etc	HIGHWAY: RM 473
		DIST: SAT	COUNTY: KENDALL	SHEET NO. 470	

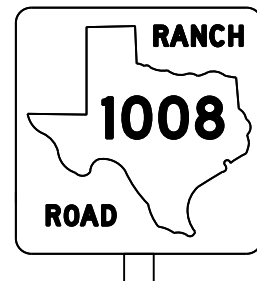
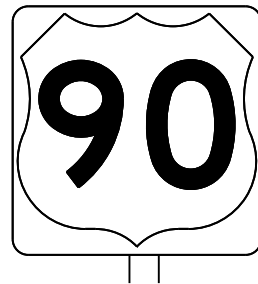
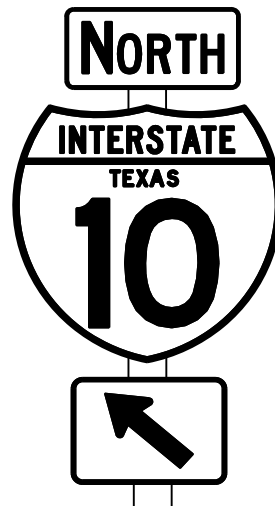


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## REQUIREMENTS FOR INDEPENDENT MOUNTED ROUTE SIGNS

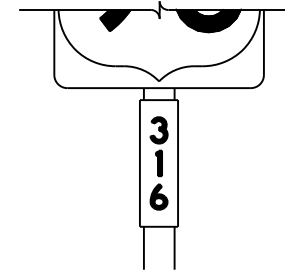
SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE A SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & BORDERS	ALL OTHERS	TYPE B or C SHEETING



TYPICAL EXAMPLES

## REQUIREMENTS FOR BLUE, BROWN & GREEN D AND I SERIES GUIDE SIGNS

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	ALL	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE D SHEETING
LEGEND, SYMBOLS & BORDERS	ALL OTHERS	TYPE B OR C SHEETING



TYPICAL EXAMPLES

## GENERAL NOTES

- Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
- White legend shall use the Clearview Alphabet. The following Clearview fonts shall be used to replace the existing white Federal Highway Administration (FHWA) Standard Highway Alphabets, when not specified in the SHSD, or in the plans.

B	CV-1W
C	CV-2W
D	CV-3W
E	CV-4W
Emod	CV-5WR
F	CV-6W

- Route sign legend (ie. IH, US, SH and FM shields) shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets B, C, D, E, Emod or F).
- Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
- Independent mounted route sign with white or colored legend and borders shall be applied by screening process with transparent color ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof. White legend, symbols and borders on all other signs shall be cut-out white sheeting applied to colored background sheeting.
- Information regarding borders and radii for signs is found in the "Standard Highway Sign Designs for Texas". Dimensions shown and described for borders and corner radii on parent sign are nominal. Borders may vary in width as much as 1/2 inch. Corner radii above 3 inches may vary in width as much as 1 inch. Borders and corner radii within a parent sign must be of matching widths. The sign area outside the corner radius should be trimmed or rounded.
- Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
- Mounting details of roadside signs are shown in the "SMD series" Standard Plan Sheets.

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

<http://www.txdot.gov/>



## TYPICAL SIGN REQUIREMENTS

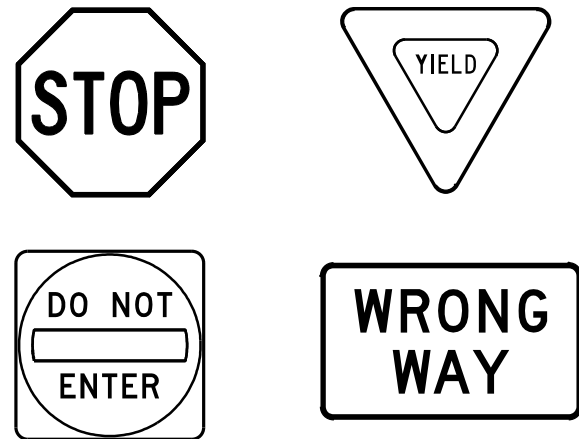
TSR(3) - 13

FILE:	tsr3-13.dgn	DN:	TxDOT	CK:	TxDOT	DW:	TxDOT	CK:	TxDOT
©TxDOT	October 2003	CONT	SECT	JOB	HIGHWAY				
REVISIONS		0142	09	044, Etc	RM 473				
12-03	7-13	DIST	COUNTY		SHEET NO.				
9-08		SAT	KENDALL		471				

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### REQUIREMENTS FOR RED BACKGROUND REGULATORY SIGNS

(STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)



REQUIREMENTS FOR FOUR SPECIFIC SIGNS ONLY

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	WHITE	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE B OR C SHEETING
LEGEND	RED	TYPE B OR C SHEETING

### REQUIREMENTS FOR WHITE BACKGROUND REGULATORY SIGNS

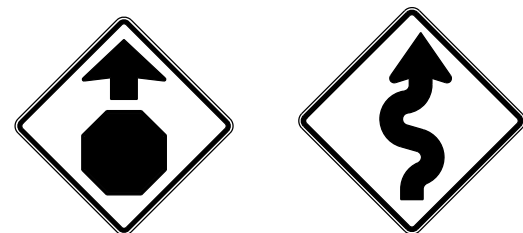
(EXCLUDING STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND, BORDERS AND SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

### REQUIREMENTS FOR WARNING SIGNS



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLOURESCENT YELLOW	TYPE B <sub>FL</sub> OR C <sub>FL</sub> SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

### REQUIREMENTS FOR SCHOOL SIGNS



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	FLOURESCENT YELLOW GREEN	TYPE B <sub>FL</sub> OR C <sub>FL</sub> SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
SYMBOLS	RED	TYPE B OR C SHEETING

### GENERAL NOTES

- Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
- Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets (B, C, D, E, Emod or F).
- Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
- Black legend and borders shall be applied by screening process or cut-out acrylic non-reflective black film to background sheeting, or combination thereof.
- White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof.
- Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
- Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
- Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website:  
<http://www.txdot.gov/>

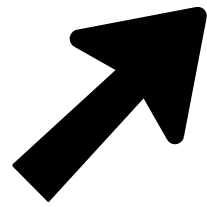
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<h2>TYPICAL SIGN REQUIREMENTS</h2>			
<h3>TSR(4) - 13</h3>			
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© TxDOT	October 2003	CK:	TxDOT
REVISIONS		DW:	TxDOT
12-03	7-13	CONT	SECT
9-08		0142	09
		JOB	HIGHWAY
		044, E+c	RM 473
		DIST	COUNTY
		SAT	KENDALL
		SHEET NO.	472

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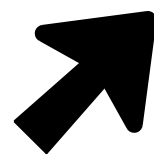
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### ARROW DETAILS

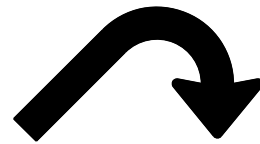
for Large Ground-Mounted and Overhead Guide Signs



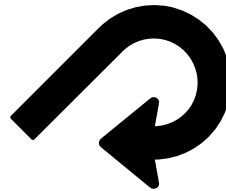
Type A



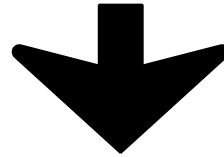
Type B



E-3



E-4



Down Arrow

TYPE	LETTER SIZE	USE
A-1	10.67" U/L and 10" Caps	Single Lane Exits
A-2	13.33" U/L and 12" Caps	
A-3	16" & 20" U/L	
B-1	10.67" U/L and 10" Caps	Multiple Lane Exits
B-2	13.33" U/L and 12" Caps	
B-3	16" & 20" U/L	

CODE	USED ON SIGN NO.
E-3	E5-1aT
E-4	E5-1bT

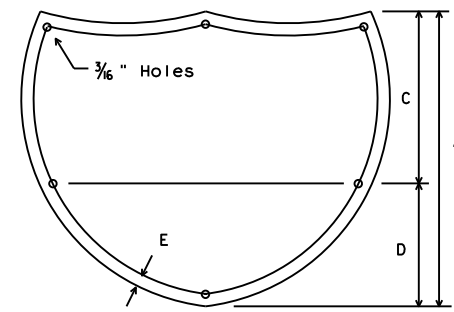
**NOTE**

Arrow dimensions are shown in the "Standard Highway Sign Designs for Texas" manual.

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

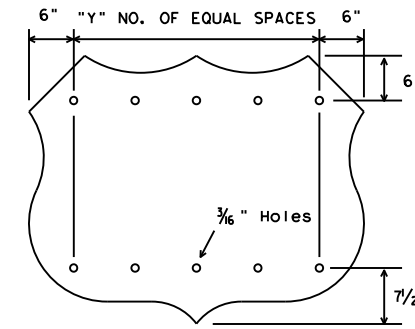
<http://www.txdot.gov/>

### SIGN BLANK PUNCHING DETAILS FOR ATTACHMENTS WHEN SPECIFIED TO BE TYPE A ALUMINUM SIGNS (FOR MOUNTING TO GUIDE SIGN FACE)



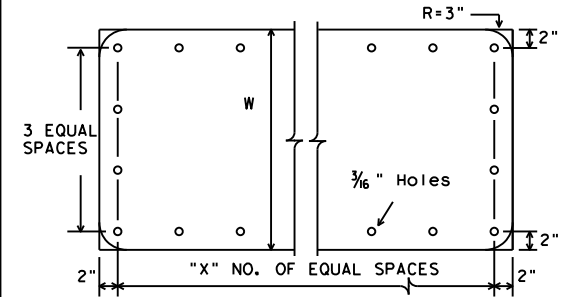
INTERSTATE ROUTE MARKERS

A	C	D	E
36	21	15	1 1/2
48	28	20	1 3/4



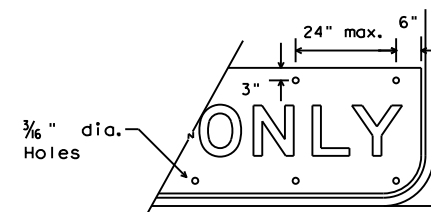
U.S. ROUTE MARKERS

Sign Size	"Y"
24x24	2
30x24	3
36x36	3
45x36	4
48x48	4
60x48	5



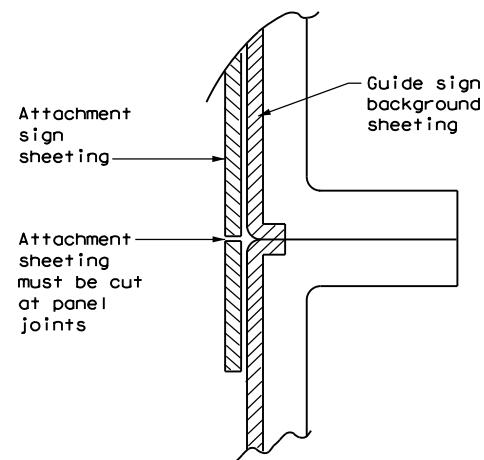
STATE ROUTE MARKERS

No. of Digits	W	X
4	24	4
4	36	5
4	48	6
3	24	3
3	36	4
3	48	5



EXIT ONLY PANEL

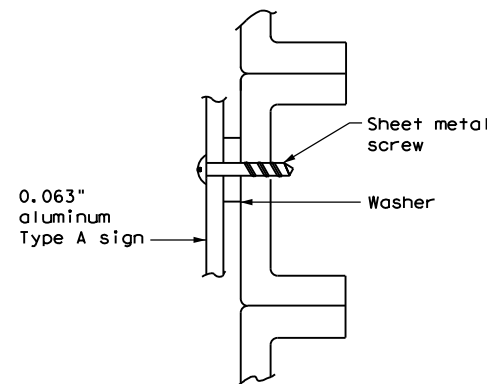
### MOUNTING DETAILS OF ATTACHMENTS TO GUIDE SIGN FACE ("EXIT ONLY" AND "LEFT EXIT" PANELS, ROUTE MARKERS AND OTHER ATTACHMENTS)



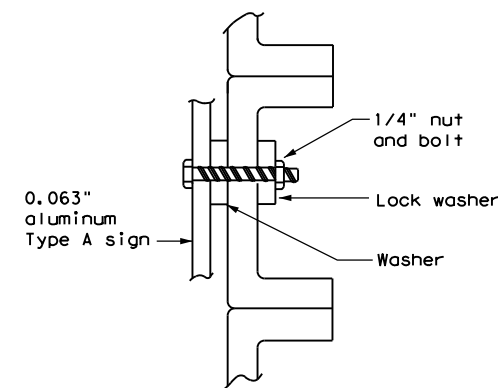
DIRECT APPLIED ATTACHMENT

**NOTE:**

- Sheeting for legend, symbols, and borders must be cut at panel joints.
- Direct applied attachment signs will be subsidiary to "Aluminum Signs" or "Fiberglass Signs".



SCREW ATTACHMENT

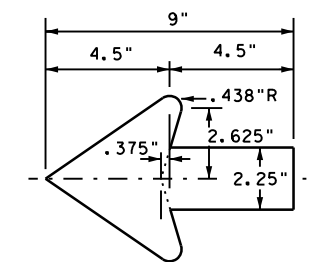


NUT/BOLT ATTACHMENT

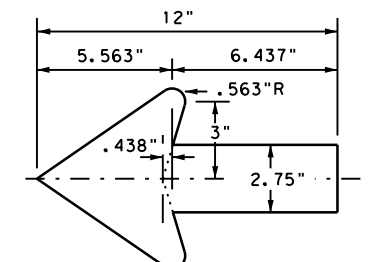
**NOTE:**

Furnish Type A aluminum sign attachments only when specified in the plans. These signs will be paid for under "Aluminum Signs".

### ARROW DETAILS for Destination Signs (Type D)



Standard arrow to be used with 6 inch letters.



Standard arrow to be used with 8 inch letters.



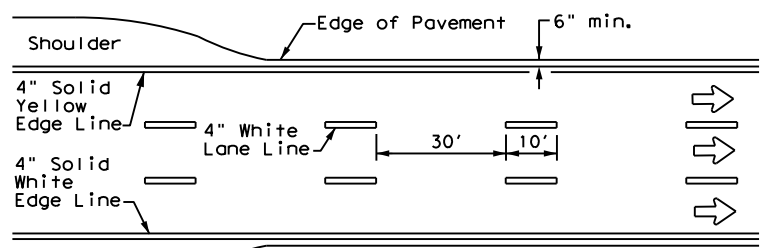
## TYPICAL SIGN REQUIREMENTS

### TSR(5) - 13

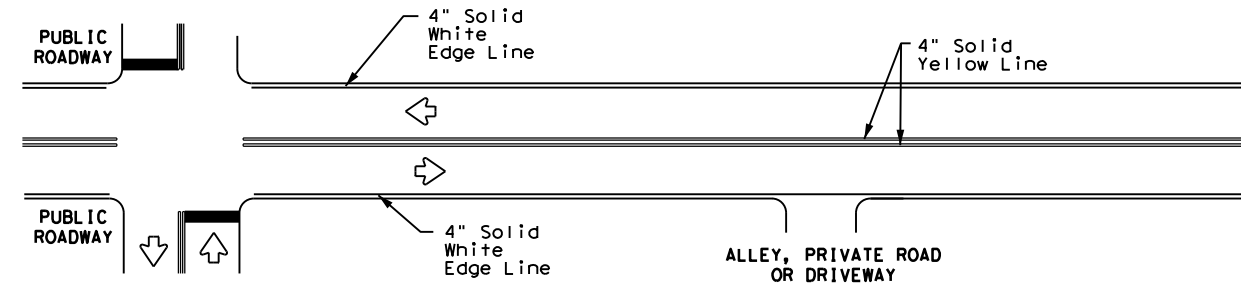
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© TxDOT October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
12-03 7-13	DIST	COUNTY	SHEET NO.	
9-08	SAT	KENDALL	473	

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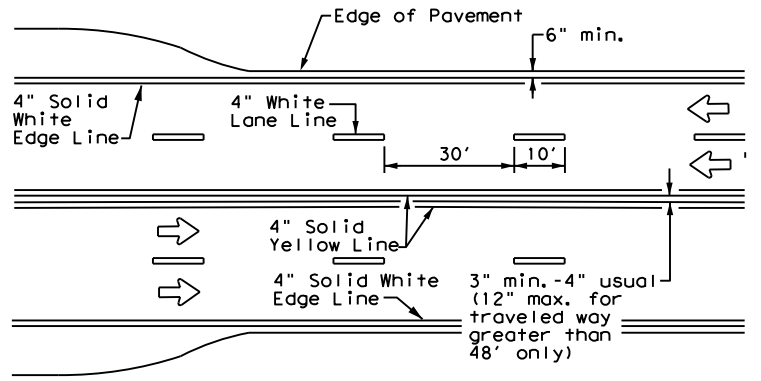
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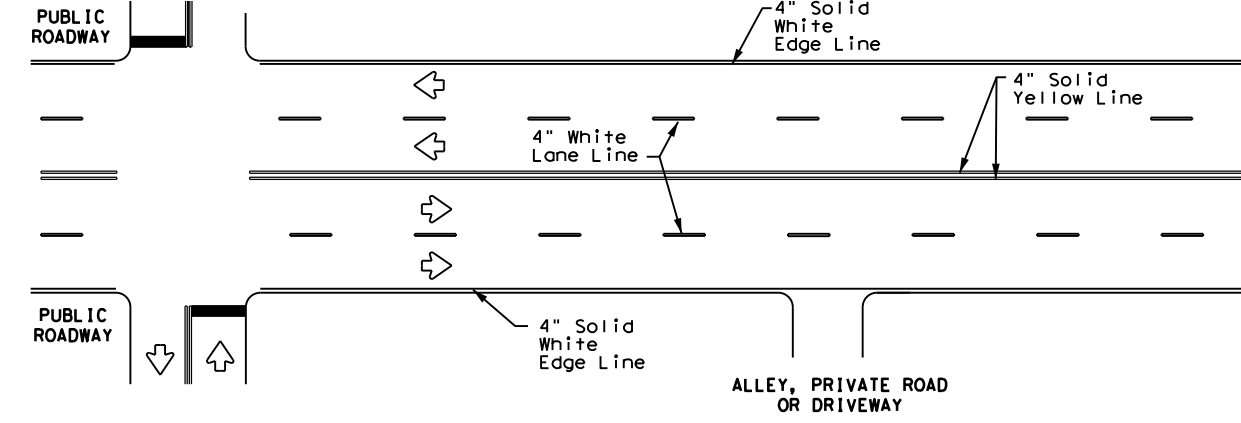
EDGE LINE AND LANE LINES  
 ONE-WAY ROADWAY  
 WITH OR WITHOUT SHOULDERS



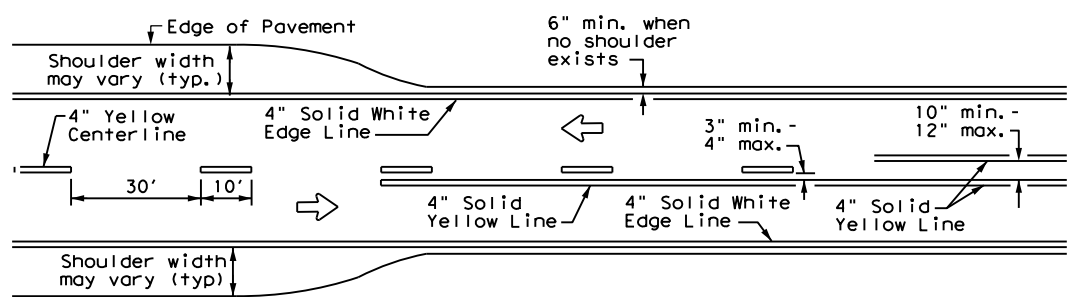
TYPICAL TWO-LANE, TWO-WAY PAVEMENT  
 MARKINGS THROUGH INTERSECTIONS



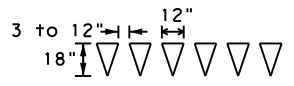
CENTERLINE AND LANE LINES  
 FOUR LANE TWO-WAY ROADWAY  
 WITH OR WITHOUT SHOULDERS



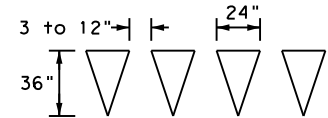
TYPICAL MULTI-LANE, TWO-WAY PAVEMENT  
 MARKINGS THROUGH INTERSECTIONS



TWO LANE TWO-WAY ROADWAY  
 WITH OR WITHOUT SHOULDERS

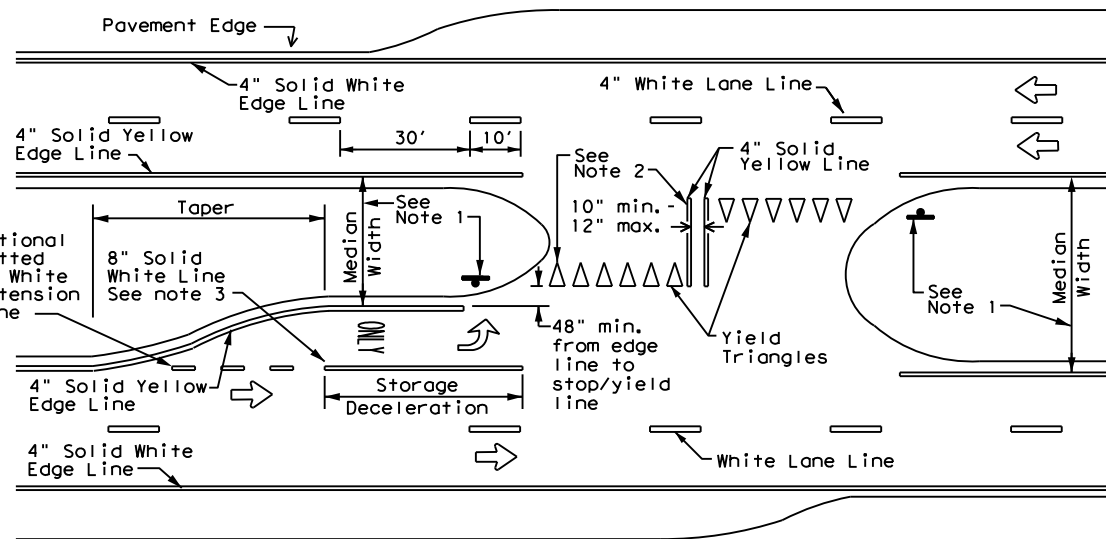


For posted speed on road  
 being marked equal to or  
 less than 40 MPH.



For posted speed on road  
 being marked equal to or  
 greater than 45 MPH.

YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

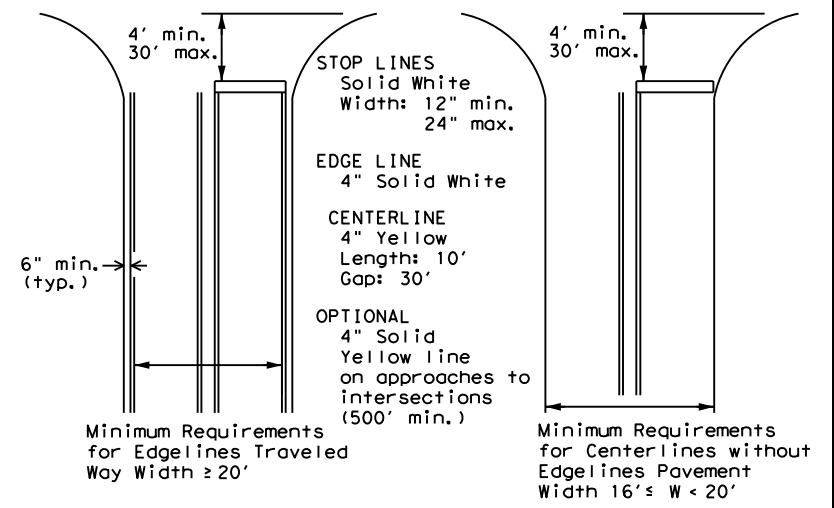
- Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs are optional as determined by the Engineer.
- Install median striping (double yellow centerlines and stop bars/yield triangles) when a 50' or greater median centerline can be placed. Stop bars shall only be used with stop signs. Yield triangles shall only be used with yield signs.
- Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

- Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
- The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to the inside of edgeline 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.



GUIDE FOR PLACEMENT OF STOP LINES,  
 EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths  
 for Undivided Highways



TYPICAL STANDARD  
 PAVEMENT MARKINGS

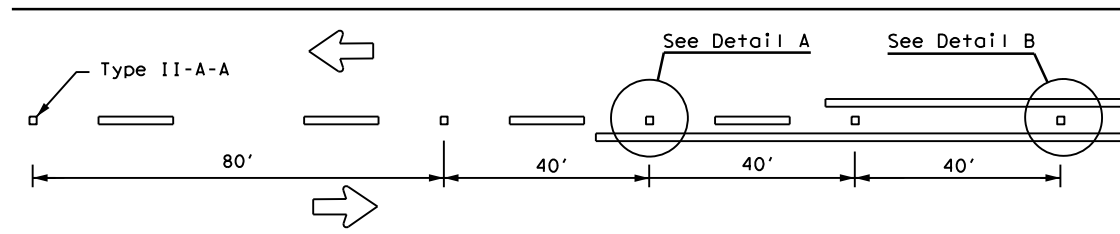
PM(1) - 20

FILE: pml-20.dgn	DN:	CK:	DW:	CK:
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5-00 2-12	DIST	COUNTY		SHEET NO.
8-00 6-20	SAT	KENDALL		474

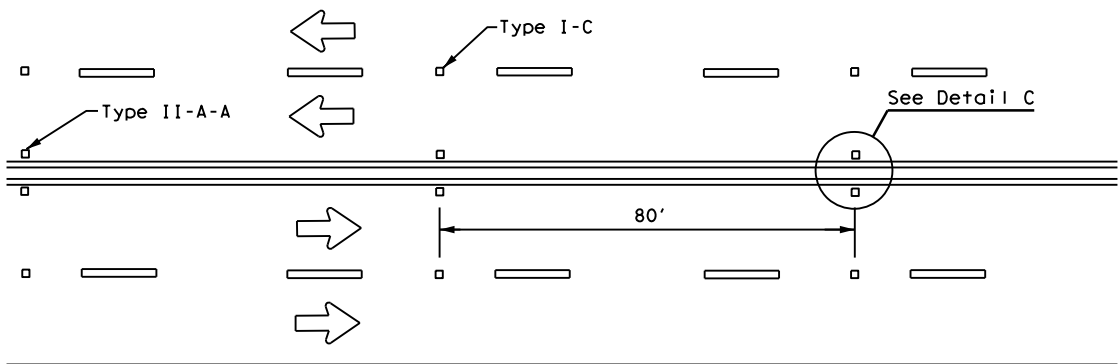
# REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

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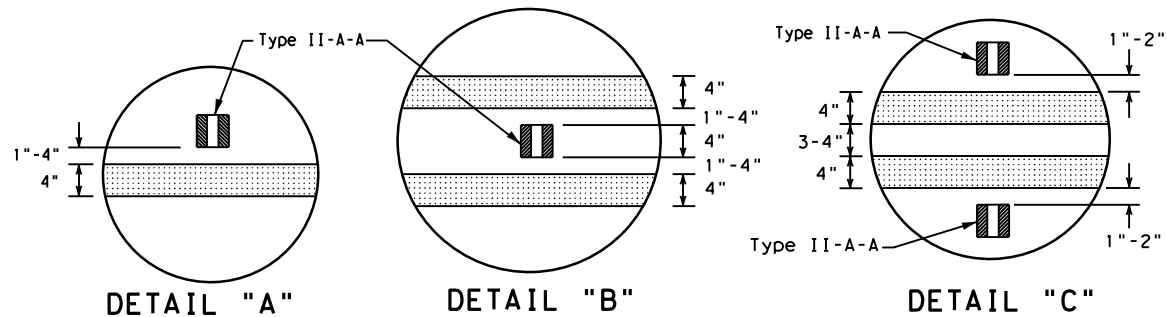
DATE: 4/26/2021 5:11:51 PM  
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CENTERLINE FOR ALL TWO LANE ROADWAYS



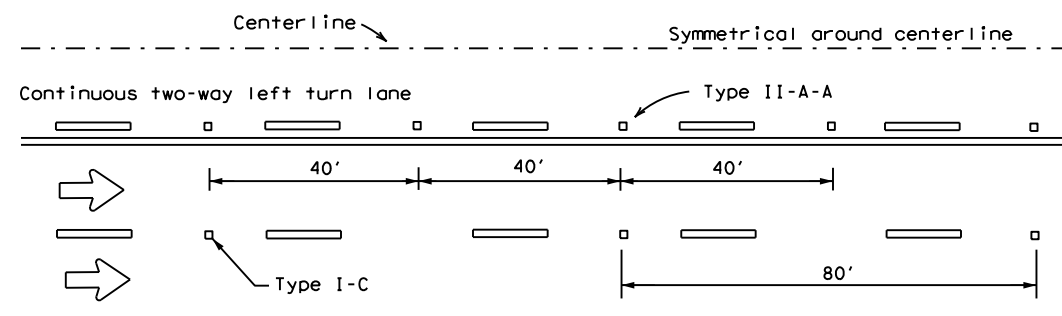
CENTERLINE & LANE LINES  
FOR FOUR LANE TWO-WAY HIGHWAYS



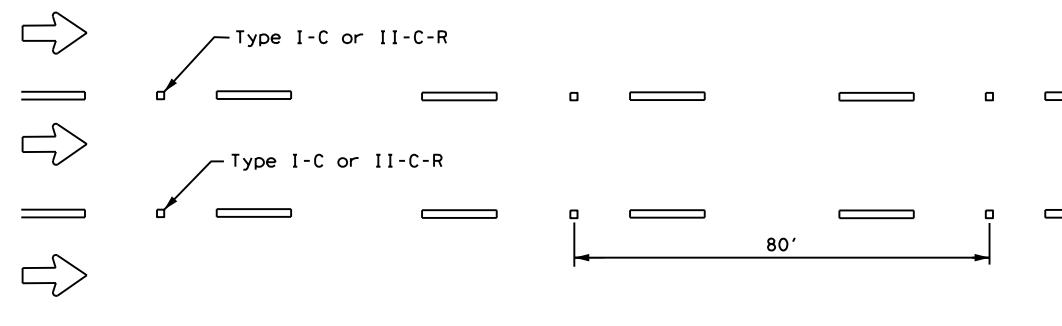
DETAIL "A"

DETAIL "B"

DETAIL "C"

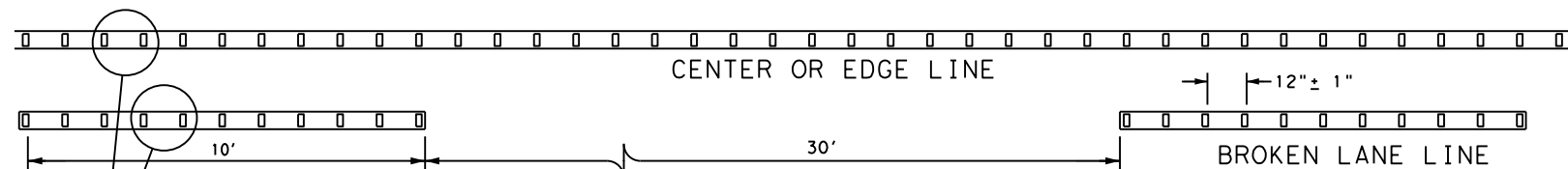


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



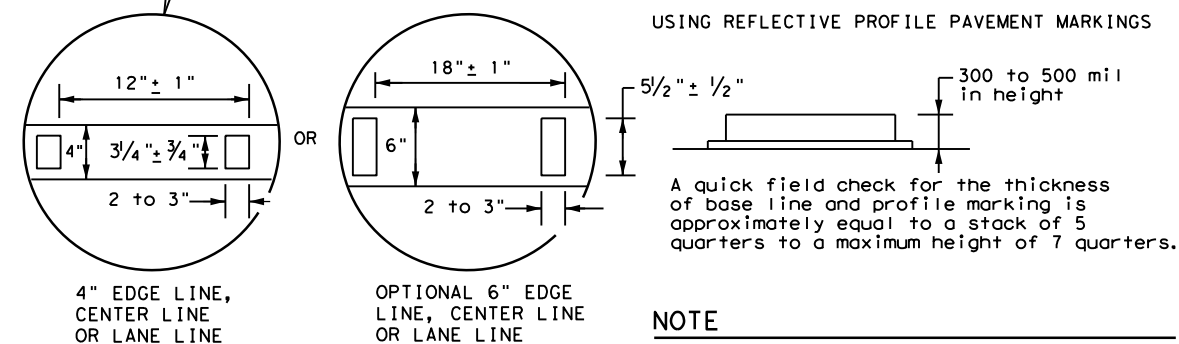
LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.



REFLECTORIZED PROFILE  
PATTERN DETAIL

USING REFLECTORIZED PROFILE PAVEMENT MARKINGS



4" EDGE LINE,  
CENTER LINE  
OR LANE LINE

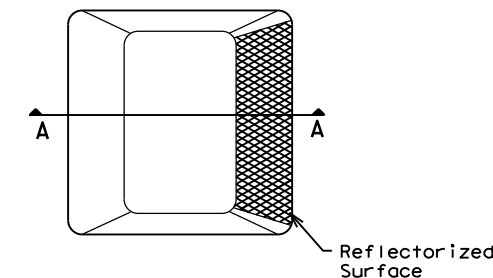
OPTIONAL 6" EDGE  
LINE, CENTER LINE  
OR LANE LINE

**NOTE**

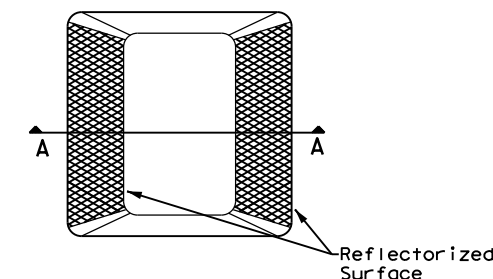
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

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

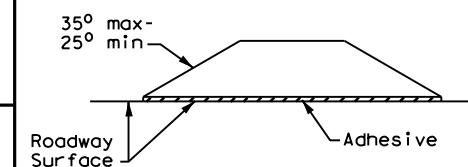
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

**GENERAL NOTES**

- All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
- On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

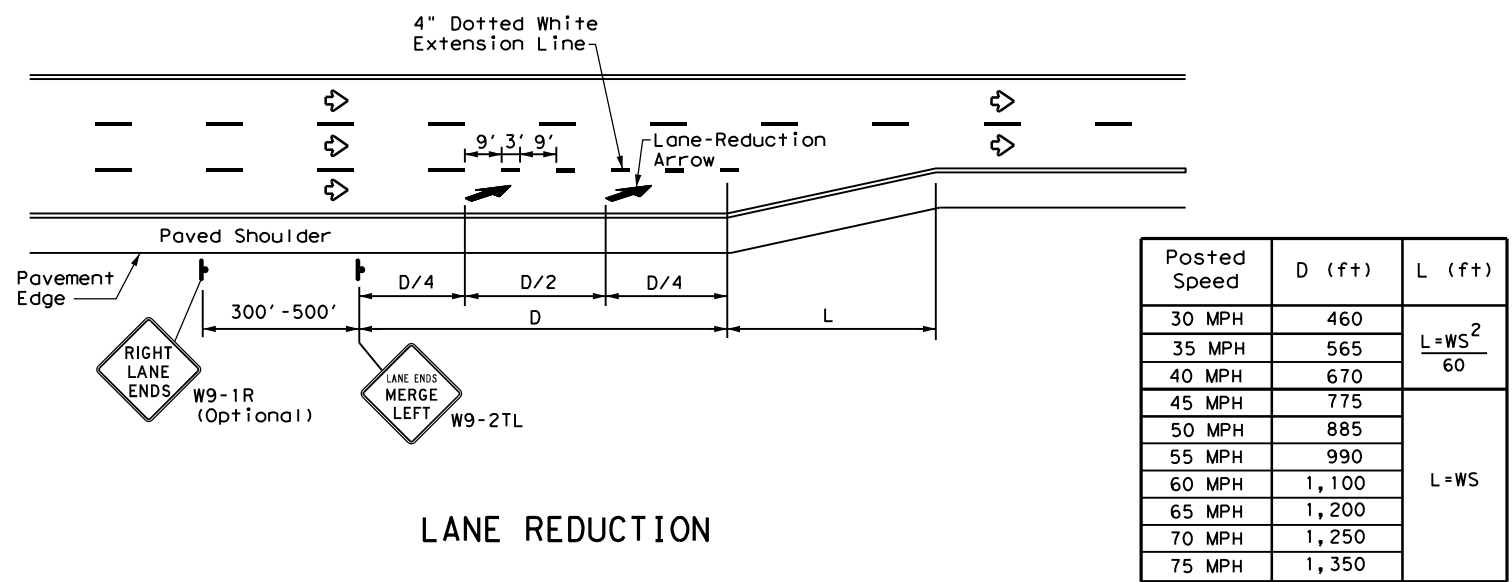


## POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS PM(2) - 20

FILE: pm2-20.dgn	DN:	CK:	DW:	CK:
© TxDOT April 1977	CONT	SECT	JOB	HIGHWAY
4-92 2-10 REVISIONS	0142	09	044, Etc	RM 473
5-00 2-12	DIST	COUNTY		SHEET NO.
8-00 6-20	SAT	KENDALL		475

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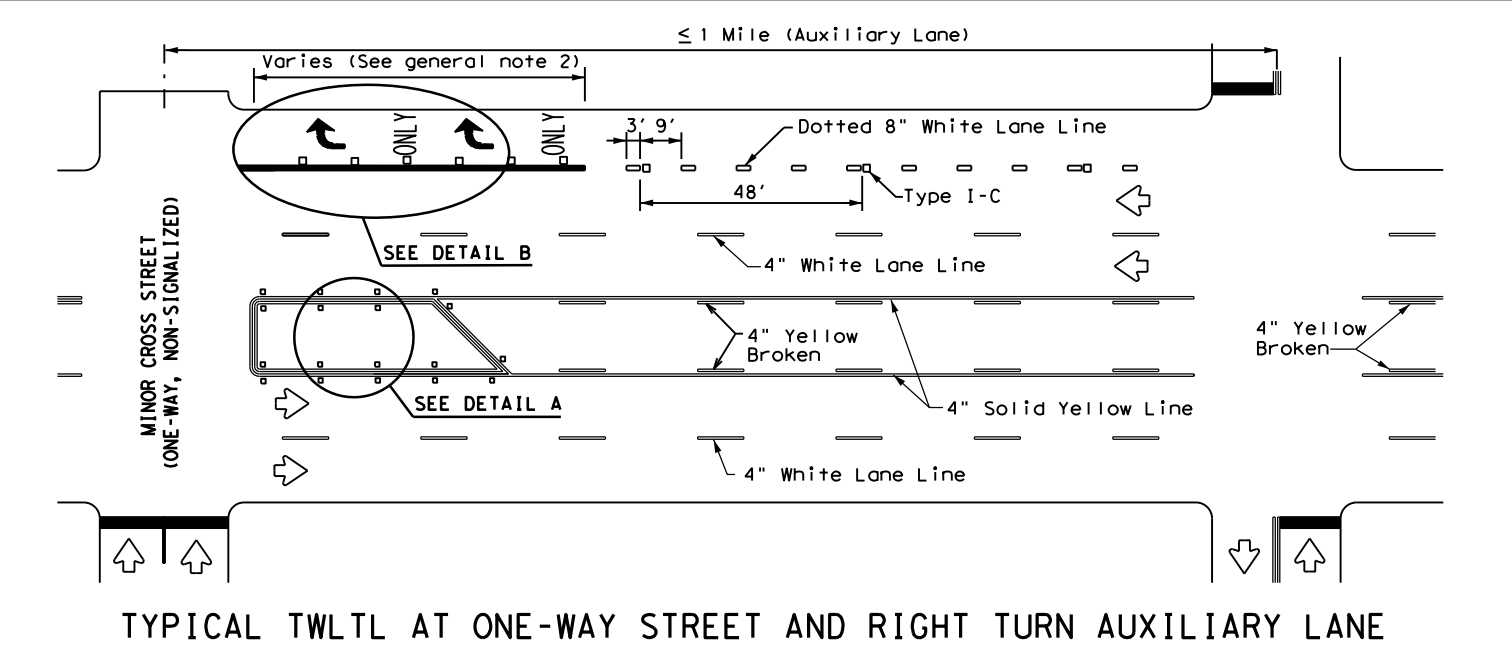
**LANE REDUCTION**

- NOTES**
- Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
  - On divided highways, an additional W9-1R "RIGHT LANE ENDS" sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
  - Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
  - For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

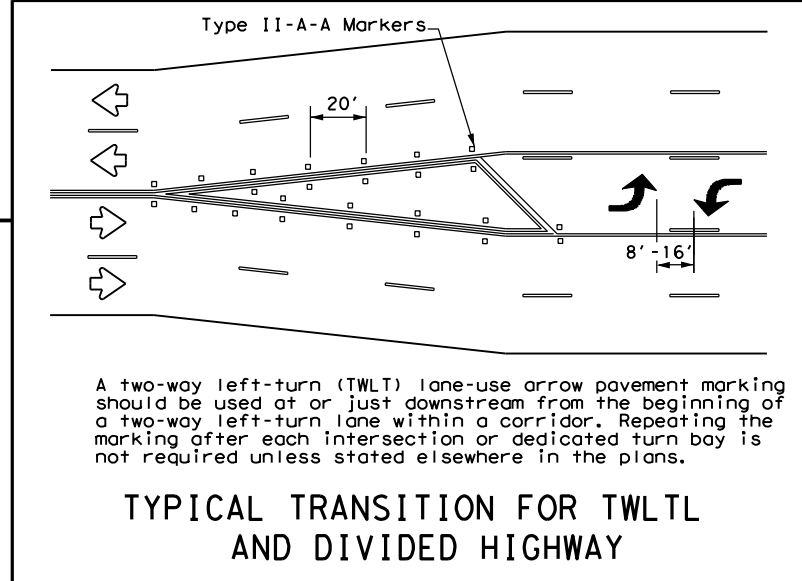
- GENERAL NOTES**
- Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
  - When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
  - Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
  - Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

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

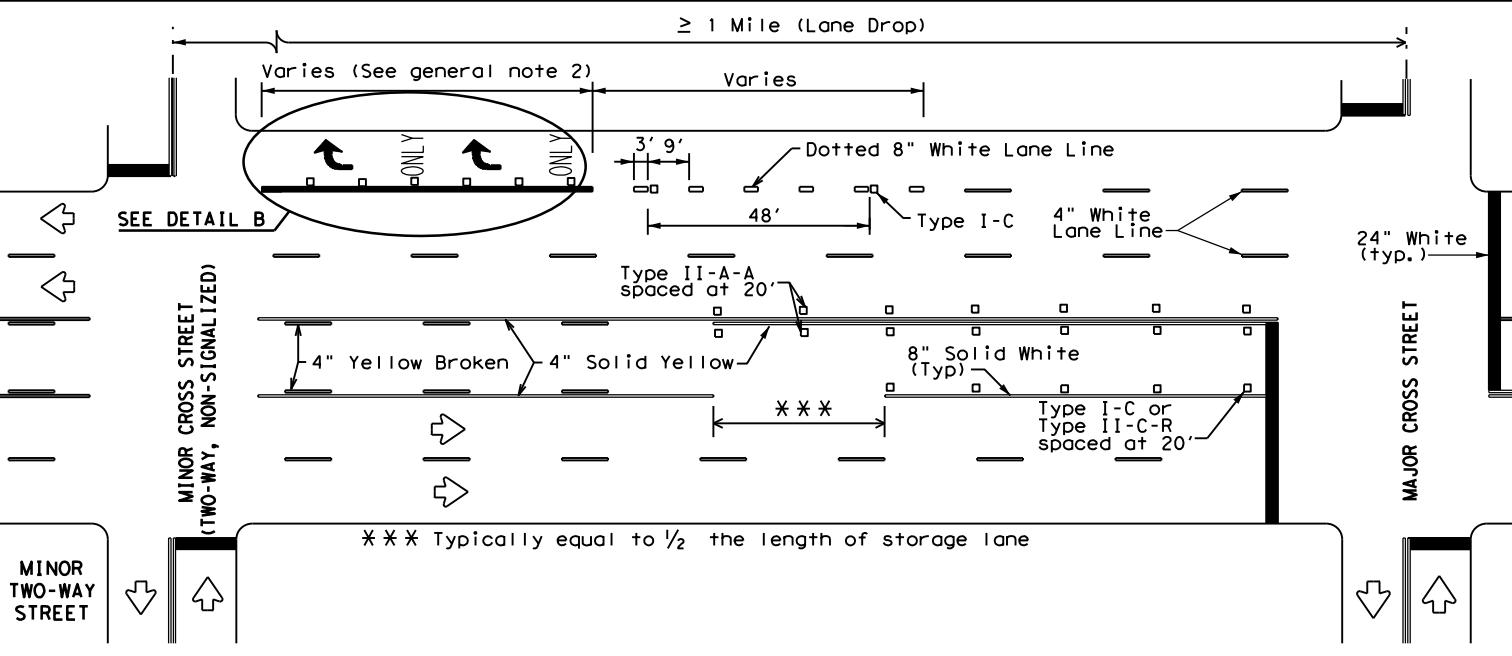
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



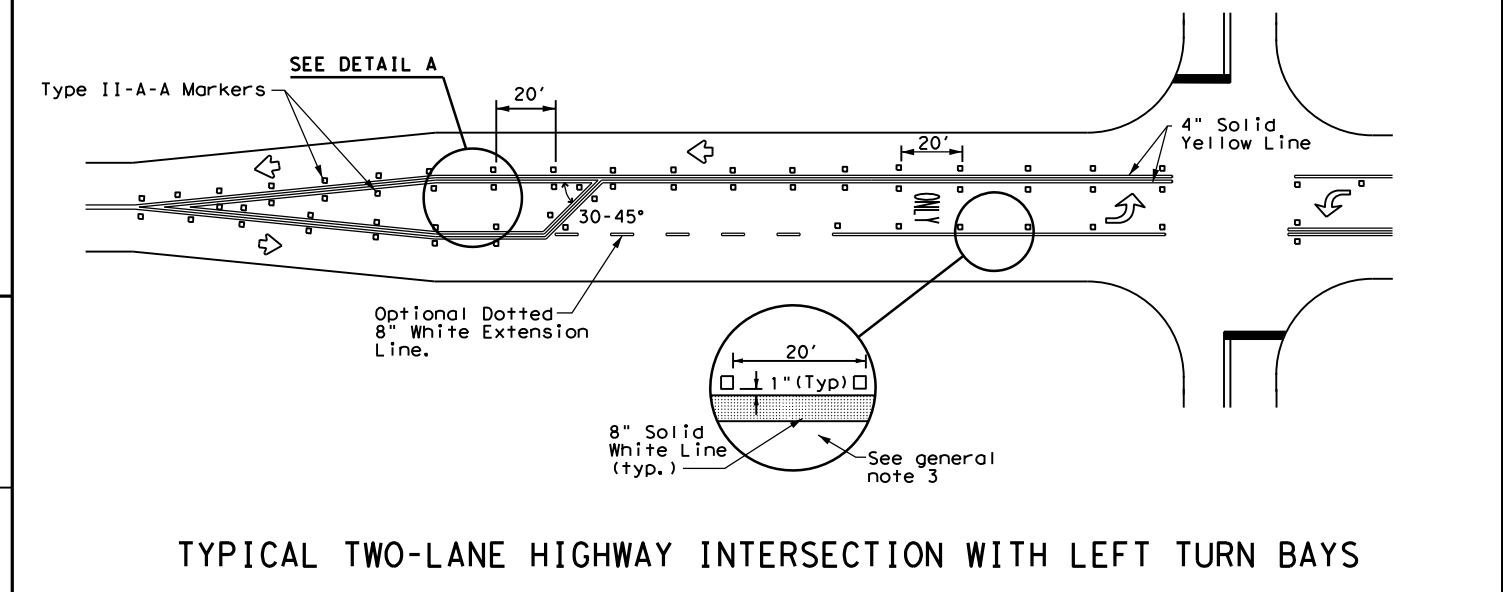
**TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE**



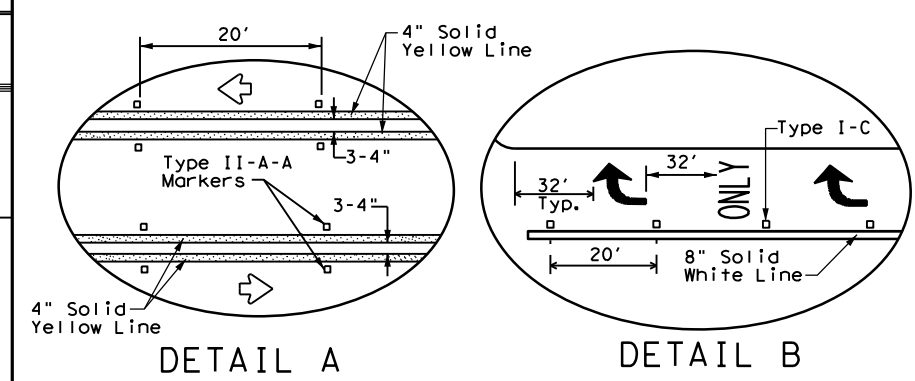
**TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY**



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



**TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS**



**DETAIL A**

**DETAIL B**

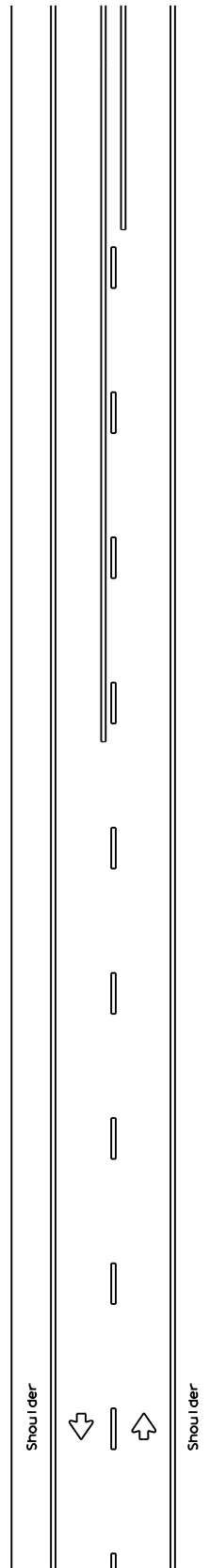
Texas Department of Transportation  
 Traffic Safety Division Standard

**TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS PM(3) - 20**

FILE: pm3-20.dgn	DN:	CK:	DW:	CK:
© TxDOT April 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
5-00 2-10	DIST	COUNTY	SHEET NO.	
8-00 2-12	SAT	KENDALL	476	
3-03 6-20				

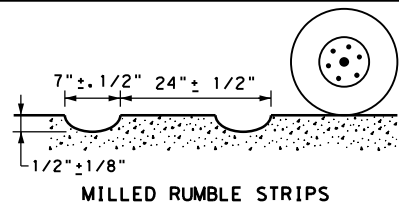
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DATE: 4/26/2021 5:12:13 PM  
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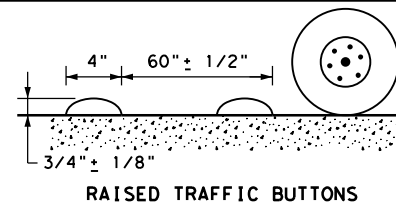


TWO LANE TWO-WAY ROADWAYS

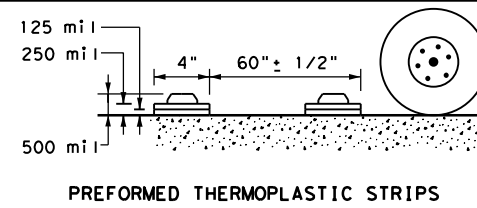
CENTERLINE RUMBLE STRIPS



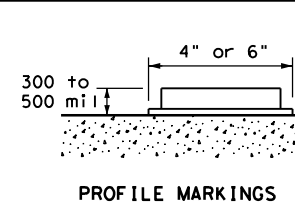
MILLED RUMBLE STRIPS



RAISED TRAFFIC BUTTONS

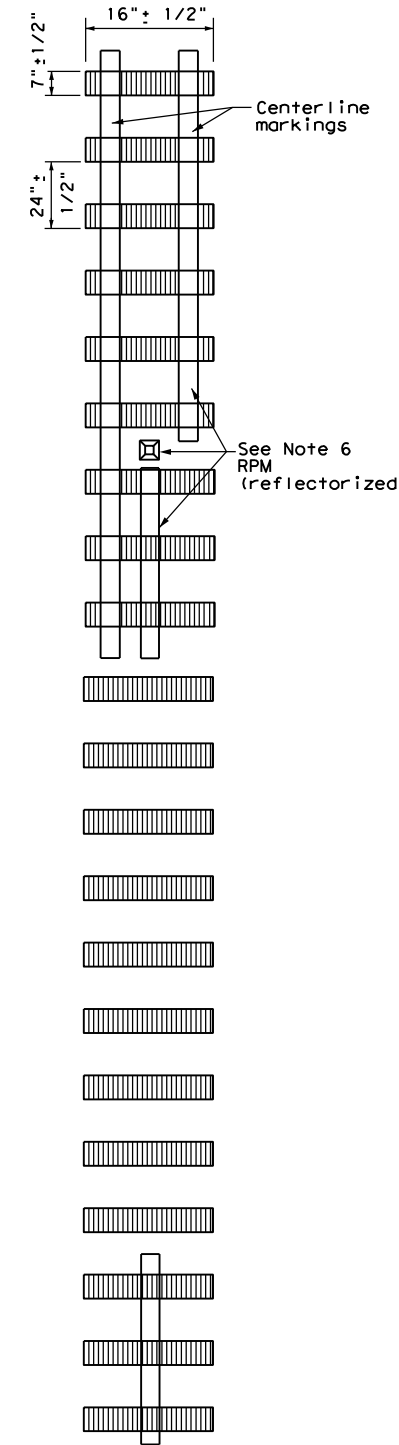


PREFORMED THERMOPLASTIC STRIPS



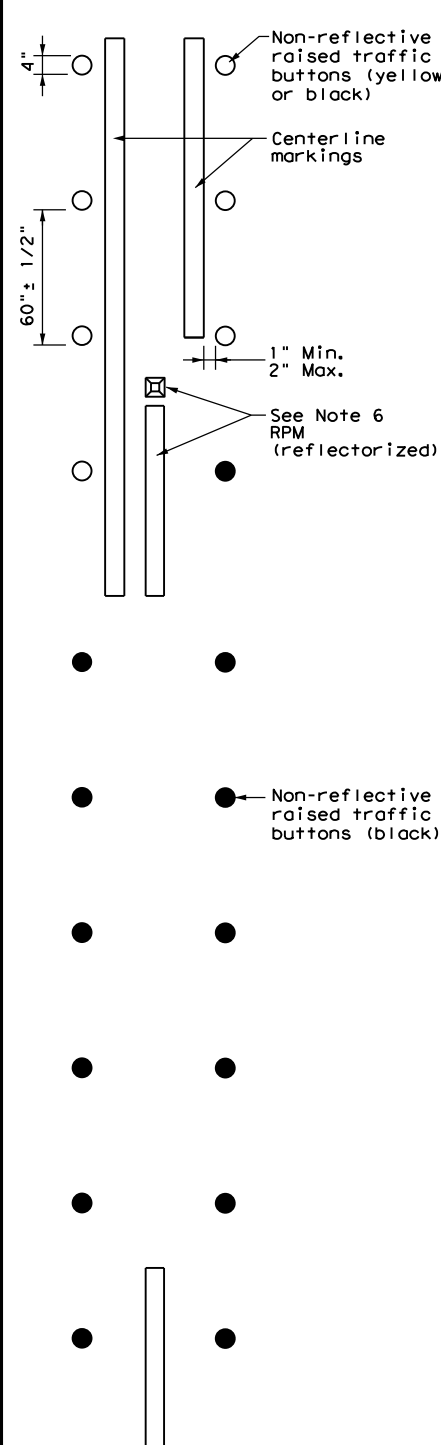
PROFILE MARKINGS

PROFILE VIEW



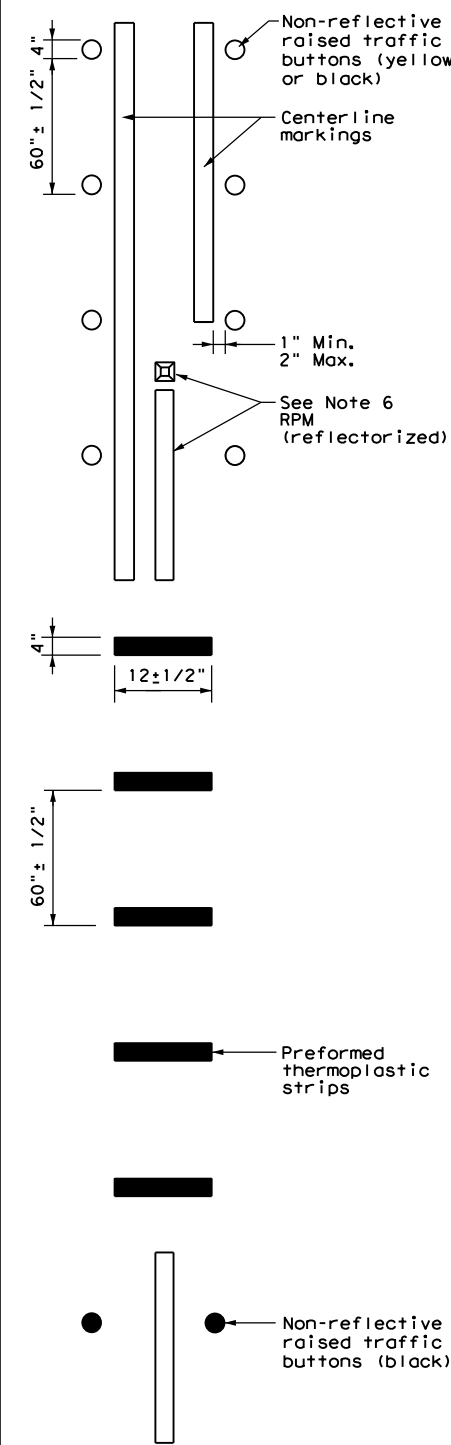
PLAN VIEW  
OPTION 1

MILLED CENTERLINE RUMBLE STRIPS



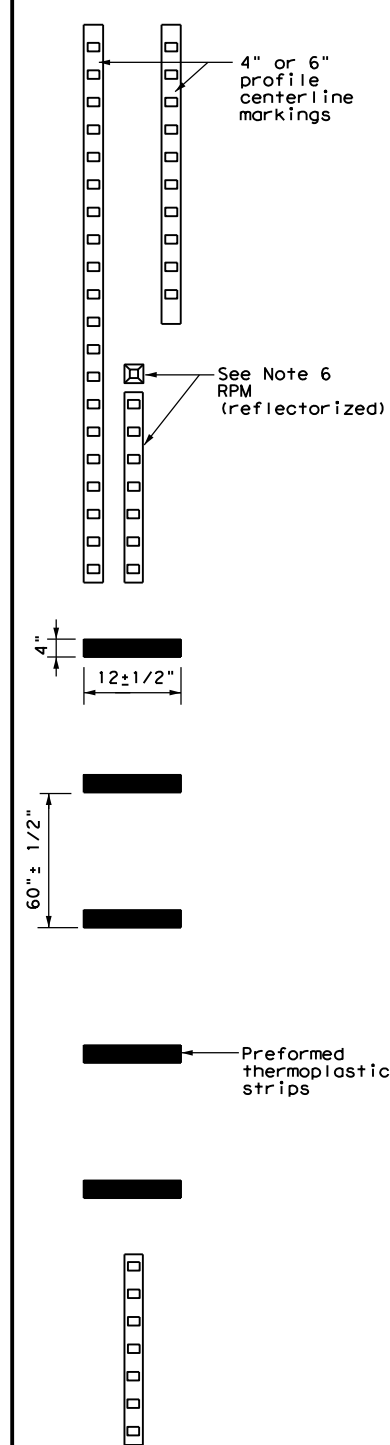
PLAN VIEW  
OPTION 2

RAISED CENTERLINE RUMBLE STRIPS



PLAN VIEW  
OPTION 3

RAISED CENTERLINE RUMBLE STRIPS AND PREFORMED THERMOPLASTIC STRIPS



PLAN VIEW  
OPTION 4

PROFILE CENTERLINE MARKINGS AND PREFORMED THERMOPLASTIC STRIPS

GENERAL NOTES

- This standard sheet provides guidelines for installing centerline rumble strips on two-lane highways with or without shoulders.
  - Centerline and edgeline rumble strips or profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
  - 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.
  - See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Operations Division.
  - 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 and driveways with high usage of large trucks.
  - Use Standard Sheet PM(2) for positioning, dimensioning, and spacing of all reflective raised pavement markers, and dimensions pavement markings and profile markings.
  - Consideration should be given to noise levels when centerline rumble strips are installed near residential areas, schools, churches, etc. A minimum of 3/8 inch depth of milled rumble strip may be considered in these areas.
  - Pavement markings must be applied over milled centerline rumble strips.
- WHEN INSTALLING CENTERLINE RUMBLE STRIPS:**
- 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.
  - 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.
  - 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.
- WHEN INSTALLING EDGELINE RUMBLE STRIPS WITH OR WITHOUT CENTERLINE RUMBLE STRIPS ON UNDIVIDED HIGHWAYS:**
- See standard sheet RS(4).



CENTERLINE RUMBLE STRIPS ON TWO LANE TWO-WAY HIGHWAYS

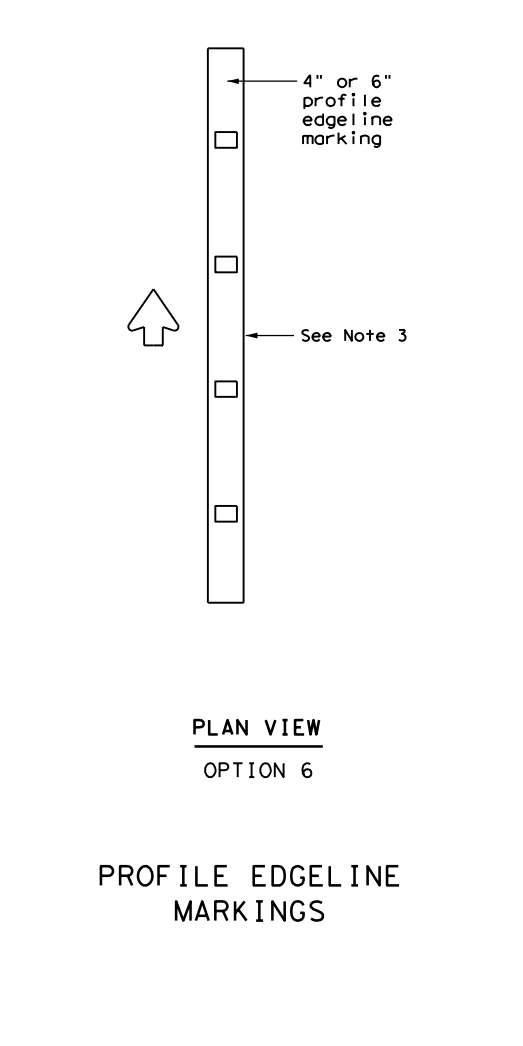
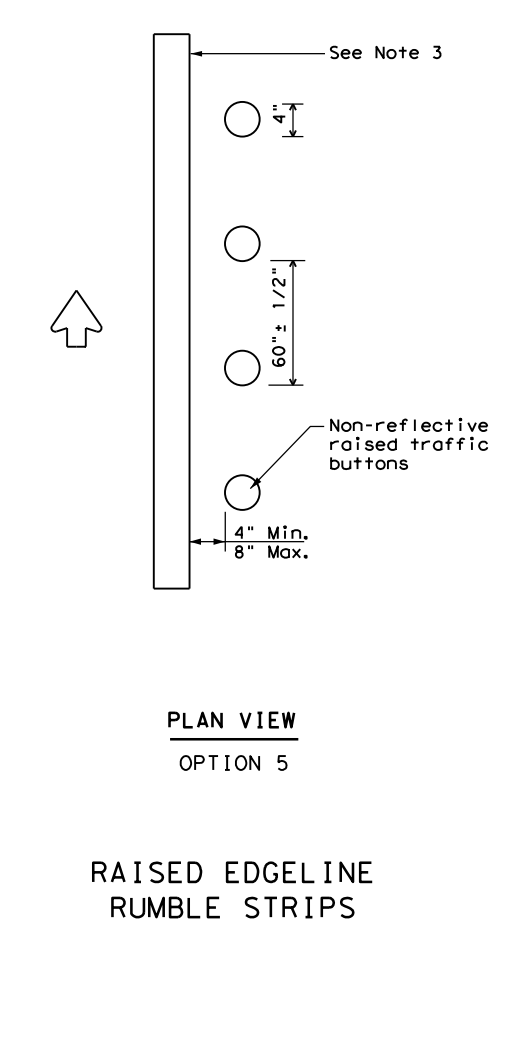
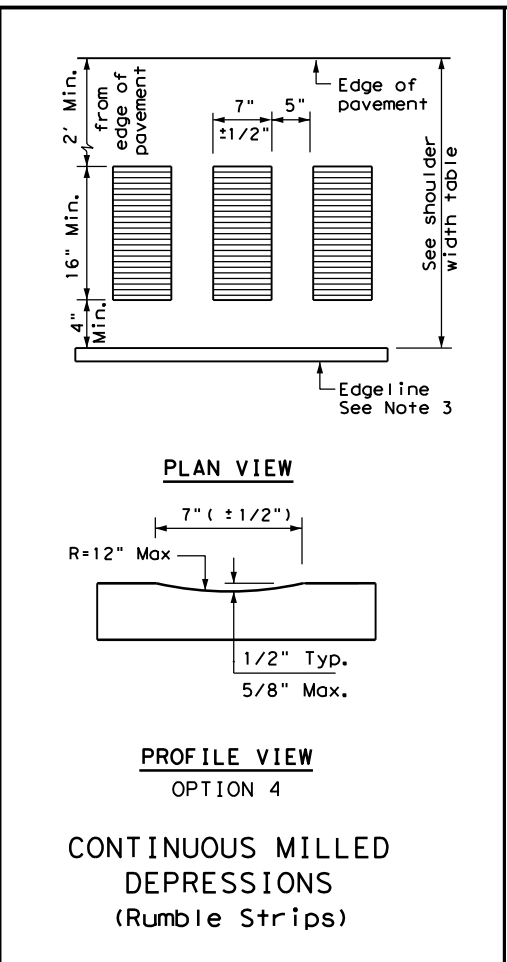
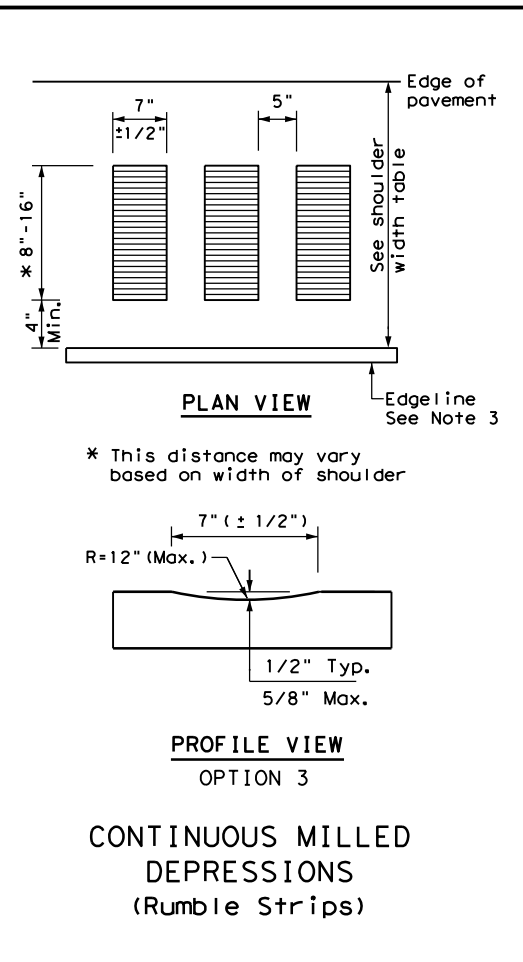
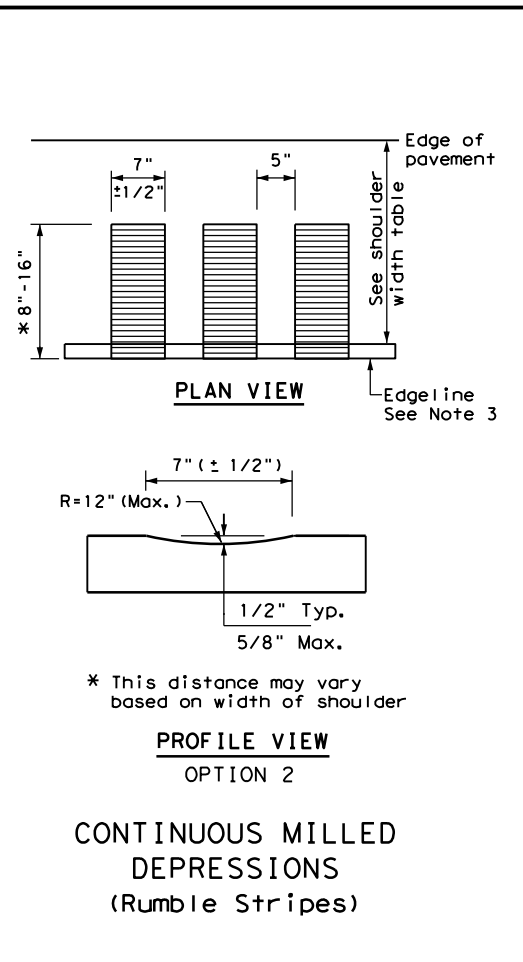
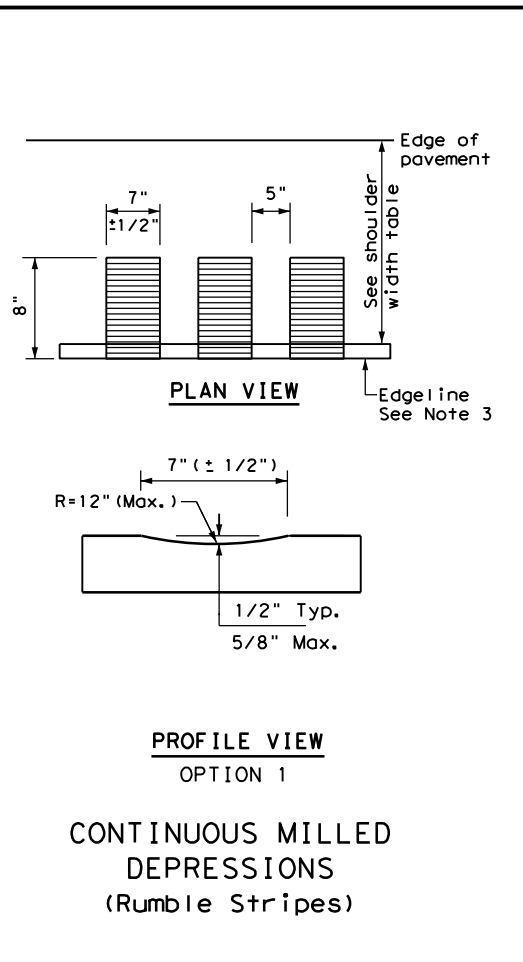
RS(3) - 13

FILE: rs(3)-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2013	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	477	



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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

- GENERAL NOTES**
- Rumble strips and profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
  - 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.
  - Use Standard Sheet PM(2) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings, and profile markings.
  - See the table below for determining what options may be used for edgeline rumble strips.
- WHEN INSTALLING MILLED DEPRESSION EDGELINE RUMBLE STRIPS:**
- See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Operations Division.
  - Pavement markings can be applied over milled shoulder rumble strips to create an edgeline rumble stripe.
  - Breaks in edgeline rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections and driveways with high usage of large trucks when installed on conventional highways.
  - Rumble strips shall not be placed across exit or entrance ramps, acceleration and deceleration lanes, crossovers, gore areas or intersections with other roadways.
  - Consideration should be given to noise levels when edgeline rumble strips are installed near residential areas, schools, churches, etc. A minimum of 3/8 inches depth of milled rumble strip may be considered in these areas.
  - On roadways with high bicycle activity, consideration should be given before the installation of edgeline rumble strips. Things to consider include size of rumble strips, rumble strip material and location of rumble strips on the shoulder. If the designer determines that gaps are needed in the rumble strips due to bicycle use of the road, then follow the requirement shown in FHWA Technical Advisory T5040.39, or latest version. A detail of the spacing shall be included in the plans.
- WHEN INSTALLING RAISED OR PROFILE EDGELINE RUMBLE STRIPS:**
- 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.
  - Non-reflective traffic buttons shall be placed adjacent to the pavement marking delineating the edgeline when used as a rumble strip. The color of the button should match the color of the adjacent edgeline 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.
  - 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.
  - Breaks in edgeline rumble strips using raised traffic buttons shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossing, intersections and driveways with high usage of large trucks when installed on conventional highways.
  - The minimum distance between the edgeline and the buttons should be used if the shoulder is less than 8 feet in width.
  - Raised profile thermoplastic markings used as edgelines may substitute for buttons.

Texas Department of Transportation  
 Traffic Operations Division Standard

**EDGELINE RUMBLE STRIPS ON UNDIVIDED OR TWO LANE HIGHWAYS RS(4)-13**

FILE: rs(4)-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2013	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	478	

**A. GENERAL SITE DATA**

1. **PROJECT LIMITS:** From 0.727 Mi. W of RM 474 To 1.56 Mi. E of RM 474 (Limits for CSJ 0142-09-044 and CSJ 0142-10-026)
2. **PROJECT SITE MAPS:**  
 \* Project Latitude 29.9784° Project Longitude -98.635425°  
 \* Project Location Map: Shown on Title Sheet  
 \* Drainage Patterns: Shown on SW3P Layouts  
 \* Approx. Slopes Anticipated After Major Gradients and Areas of Soil Disturbance: Shown on Typical Sections  
 \* Major Controls and Locations of Stabilization Practices: Shown on Landscape Layouts and SW3P Layouts.  
 \* Project Specific Locations: Off-site waste, borrow, or storage areas are not part of this SW3P.  
 \* Surface Waters and Discharge Locations: Shown on Drainage and Culvert Layout Sheets

3. **PROJECT DESCRIPTION:** Same description as stated on Title Sheet

Non-Joint Bld Utilities are not part of this SW3P.

4. **FOR MAJOR SOIL DISTURBING ACTIVITIES SEQUENCE OF EVENTS:**

1. Install controls down-slope of work area and Initiate Inspection and maintenance activities.
2. Begin phased construction with Interim stabilization practices. Adjust erosion and sedimentation controls during construction to meet requirements and changing conditions and as directed/approved by the Engineer.
3. Major soil disturbing activities may include but are not limited to: right-of-way preparation, cut and/or fill to improve roadway profile, final grading and placement of topsoil and the following (if marked):

- Placement of road base
- Extensive ditch grading
- Upgrading or replacing culverts or bridges
- Temporary detour road(s)
- Other: \_\_\_\_\_

5. **EXISTING AND PROPOSED CONDITIONS:**

Description of existing vegetative cover: **NATIVE GRASSES**  
 Percentage of existing vegetative cover: **65%**  
 Existing vegetative cover: (mark one)  
 Thick or uniformly established  
 Thin and Patchy  
 None or minimal cover

Description of soils:

**BRACKET ASSOCIATION:** 1 TO 8% SLOPES, CLAY LOAM, GENTLY SLOPING, WELL DRAINED, MEDIUM RUNOFF, SEVERE EROSION POTENTIAL.  
**BRACKET-REAL ASSOCIATION:** 10 TO 30% SLOPES, GRAVELLY CLAY LOAM, WELL DRAINED, HIGH RUNOFF, SEVERE EROSION POTENTIAL.  
**DENTON:** 1 TO 3% SLOPES, SILTY CLAY, GENTLY SLOPING, WELL DRAINED, HIGH RUNOFF, SLIGHT EROSION POTENTIAL.  
**DOSS-BRACKET ASSOCIATION:** UNDULATING, 1 TO 8% SLOPES, SILTY CLAY AND GRAVELLY CLAY LOAM, WELL DRAINED, SEVERE EROSION POTENTIAL.

Site Acreage: **29.13 ACRES** Acreage Disturbed: **7.99 ACRES**  
 Site runoff coefficient (pre-construction): **0.75** Site runoff coefficient (post-construction): **0.76**

6. **RECEIVING WATERS:** (Mark all that apply)

- A classified stream does not pass through project.
- A classified stream passes through project. Name \_\_\_\_\_ Segment Number \_\_\_\_\_

Name of receiving waters that will receive discharges from disturbed areas of the project: UNNAMED TRIBUTARIES AND CURRY CREEK

Site is in a Municipal Separate Storm Sewer System (MS4).  
 MS4 Operator (name): NA

**B. BEST MANAGEMENT PRACTICES**

General timing or sequence for implementation of BMPs shall be as required and/or as directed/approved by the Engineer to provide adequate controls. BMPs shown on plan sheets are to be considered "proposed" unless/until install date is shown. BMPs are to reduce sediments from road construction activities.

1. **SOIL STABILIZATION PRACTICES:** (Select T = Temporary or P = Permanent, as applicable)

- |  |  |
|--|--|
| <input type="checkbox"/> SEEDING                   | <input type="checkbox"/> PRESERVATION OF NATURAL RESOURCES |
| <input type="checkbox"/> MULCHING (Hay or Straw)   | <input type="checkbox"/> FLEXIBLE CHANNEL LINER            |
| <input type="checkbox"/> BUFFER ZONES              | <input type="checkbox"/> RIGID CHANNEL LINER               |
| <input type="checkbox"/> PLANTING                  | <input type="checkbox"/> SOIL RETENTION BLANKET            |
| <input type="checkbox"/> COMPOST/MULCH FILTER BERM | <input type="checkbox"/> COMPOST MANUFACTURED TOPSOIL      |
| <input type="checkbox"/> SODDING                   | <input type="checkbox"/> OTHER: (Specify Practice)         |

2. **STRUCTURAL PRACTICES:** (Select T = Temporary or P = Permanent, as applicable)

- SILT FENCES
- HAY BALES
- ROCK FILTER DAMS
- DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- DIVERSION DIKE AND SWALE COMBINATIONS
- PIPE SLOPE DRAINS
- PAVED FLUMES
- ROCK BEDDING AT CONSTRUCTION EXIT
- TIMBER MATTING AT CONSTRUCTION EXIT
- CHANNEL LINERS
- SEDIMENT TRAPS
- SEDIMENT BASINS
- STORM INLET SEDIMENT TRAP
- STONE OUTLET STRUCTURES
- CURBS AND GUTTERS
- STORM SEWERS
- VELOCITY CONTROL DEVICES
- OTHER: (Specify Practice)

3. **STORM WATER MANAGEMENT:**

The proposed facility was designed in consideration of hydraulic design standards to convey stormwater in a manner that is protective of public safety and property. The control of erosion from the facility is inherent to the design. Additional factors affecting post-construction stormwater at the project location include: (mark all that apply)

- Existing or new vegetation provides natural filtration.
- The design includes provisions for permanent erosion controls provided by strategically placed pervious and impervious surfaces.
- Project includes permanent sedimentation controls (other than grass).
- Velocities do not require dissipation devices.
- Velocity-dissipation devices included in the design.
- Other: \_\_\_\_\_

4. **NON-STORM WATER DISCHARGES:**

Off-site discharges are prohibited except as follows:

1. Discharges from fire fighting activities and/or fire hydrant flushings.
2. Vehicle, external building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).
3. Plain water used to control dust.
4. Plain water originating from potable water sources.
5. Uncontaminated groundwater, spring water or accumulated stormwater.
6. Foundation or footing drains where flows are not contaminated with process materials such as solvents.
7. Other: \_\_\_\_\_

Concrete truck wash water discharges on the site should be prohibited or minimized. If allowed by the Engineer, they must be managed in a manner so as not to contaminate surface water. They must not be located in areas of concentrated flow. Concrete truck wash-out locations must be shown on the SW3P Layout and included in the Inspections.

Hazardous material spill/leak shall be prevented or minimized. At a minimum, this includes asphalt products, fuels, oils, lubricants, solvents, paints, acids, concrete curing compounds and chemical additives for soil stabilization. BMPs shall be implemented to the storage areas of these products. All spills must be cleaned and disposed properly and reported to the Engineer. Report any release at or above the reportable quantity during a 24 hour period to the National Response Center at 1-800-424-8802.

**C. OTHER REQUIREMENTS & PRACTICES**

1. **MAINTENANCE:**

All erosion and sediment controls shall be maintained in good working order. If a repair is necessary, it shall be performed before the next anticipated storm event but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from equipment. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Disturbed areas on which construction activities have ceased, temporarily or permanently, shall be stabilized within 14 calendar days unless they are scheduled to and do resume within 21 calendar days. The areas adjacent to creeks and drainageways shall have priority followed by protecting storm sewer inlets.

2. **INSPECTION:**

For areas of the construction site that have not been finally stabilized, areas used for storage of materials, structural control measures, and locations where vehicles enter or exit the site, personnel provided by the permittee and familiar with the SW3P must inspect disturbed areas at least once every seven (7) calendar days. An Inspection and Maintenance Report shall be prepared for each inspection and the controls shall be revised on the SW3P within seven (7) calendar days following the inspection.

3. **WASTE MATERIALS:**

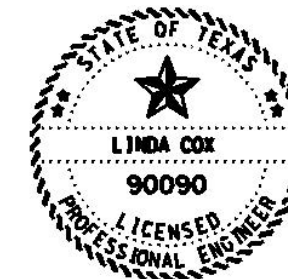
All non-hazardous municipal waste materials such as litter, rubbish, trash and garbage located on or originating from the project shall be collected and stored in a securely lidded metal dumpster, provided by the Contractor. The dumpster shall be emptied as necessary or as required by local regulation and the trash shall be hauled to a permitted disposal facility. The burying of non-hazardous municipal waste on the project shall not be permitted. Construction material waste sites, stockpiles and haul roads shall be constructed to minimize and control the amount of sediment that may enter receiving waters. Construction material waste sites shall not be located in any wetland, water body or stream bed. Construction staging areas and vehicle maintenance areas shall be constructed in a manner to minimize the runoff of pollutants.

4. **OFFSITE VEHICLE TRACKING:**

Off-site vehicle tracking of sediments and the generation of dust must be minimized. Excess sediments on road shall be removed on a regular basis as directed/approved by the Engineer.

5. **OTHER:**

See the EPIC sheet for additional environmental information.



*Linda Cox, P.E.*

04/27/2021

CSJ 0142-09-044 & CSJ 0142-10-026



**STORM WATER POLLUTION PREVENTION PLAN (SW3P)**

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			RM 473
STATE	DISTRICT	COUNTY	
TEXAS	SAT	KENDALL	SHEET NO.
CONTROL	SECTION	JOB	
0142	09	044, ETC	479

REVISION DATE: 10/12

Note To Designer:  
 1. Do not alter Sheet Design or Font style, size or weight - match text attributes.  
 2. If additional space is needed for a numbered section, fence and adjust sections up or down as needed for proportioning and readability but do not relocate from its relative position.



**A. GENERAL SITE DATA**

1. **PROJECT LIMITS:** From 1.5 Mi. E of FM 3351 to Blanco County Line (CSJ 0142-10-025)

2. **PROJECT SITE MAPS:**

- \* Project Latitude 29.9726878° Project Longitude -98.4990554°
- \* Project Location Map: Shown on Title Sheet
- \* Drainage Patterns: Shown on SW3P Layouts
- \* Approx. Slopes Anticipated After Major Gradients and Areas of Soil Disturbance: Shown on Typical Sections
- \* Major Controls and Locations of Stabilization Practices: Shown on Landscape Layouts and SW3P Layouts
- \* Project Specific Locations: Off-site waste, borrow, or storage areas are not part of this SW3P.
- \* Surface Waters and Discharge Locations: Shown on Drainage and Culvert Layout Sheets

3. **PROJECT DESCRIPTION:** Same description as stated on Title Sheet

Non-Joint Bid Utilities are not part of this SW3P.

4. **FOR MAJOR SOIL DISTURBING ACTIVITIES SEQUENCE OF EVENTS:**

1. Install controls down-slope of work area and initiate inspection and maintenance activities.
2. Begin phased construction with interim stabilization practices. Adjust erosion and sedimentation controls during construction to meet requirements and changing conditions and as directed/approved by the Engineer.
3. Major soil disturbing activities may include but are not limited to: right-of-way preparation, cut and/or fill to improve roadway profile, final grading and placement of topsoil and the following (if marked):

- Placement of road base
- Extensive ditch grading
- Upgrading or replacing culverts or bridges
- Temporary detour road(s)
- Other: \_\_\_\_\_

5. **EXISTING AND PROPOSED CONDITIONS:**

Description of existing vegetative cover: NATIVE GRASSES  
 Percentage of existing vegetative cover: 65%  
 Existing vegetative cover: (mark one)  Thick or uniformly established  
 Thin and Patchy  
 None or minimal cover

Description of soils:

BRACKETT ASSOCIATION: 1 TO 8% SLOPES, CLAY LOAM, GENTLY SLOPING, WELL DRAINED, MEDIUM RUNOFF, SEVERE EROSION POTENTIAL.  
 DOSS: 1 TO 5% SLOPES, SILTY CLAY, GENTLY SLOPING, WELL DRAINED, MODERATE EROSION POTENTIAL.  
 DENTON: 1 TO 3% SLOPES, SILTY CLAY, GENTLY SLOPING, WELL DRAINED, HIGH RUNOFF, SLIGHT EROSION POTENTIAL.  
 DOSS-BRACKET ASSOCIATION: UNDULATING, 1 TO 8% SLOPES, SILTY CLAY AND GRAVELLY CLAY LOAM, WELL DRAINED, SEVERE EROSION POTENTIAL.  
 KRUM: 1 TO 3% SLOPES, GENTLY SLOPING, WELL DRAINED, MODERATE EROSION POTENTIAL.

Site Acreage: 38.59 Acres                      Acreage disturbed: 15.50 Acres  
 Site runoff coefficient (pre-construction): 0.73                      Site runoff coefficient (post-construction): 0.74

6. **RECEIVING WATERS:** (Mark all that apply)

- A classified stream does not pass through project.
- A classified stream passes through project. Name \_\_\_\_\_ Segment Number \_\_\_\_\_

Name of receiving waters that will receive discharges from disturbed areas of the project: UNNAMED TRIBUTARIES AND SIMMONS CREEK

Site is in a Municipal Separate Storm Sewer System (MS4).  
 MS4 Operator (name): NA

**B. BEST MANAGEMENT PRACTICES**

General timing or sequence for implementation of BMPs shall be as required and/or as directed/approved by the Engineer to provide adequate controls. BMPs shown on plan sheets are to be considered "proposed" unless/until install date is shown. BMPs are to reduce sediments from road construction activities.

1. **SOIL STABILIZATION PRACTICES:** (Select T = Temporary or P = Permanent, as applicable)

- |  |  |
|--|--|
| <input type="checkbox"/> SEEDING                   | <input type="checkbox"/> PRESERVATION OF NATURAL RESOURCES |
| <input type="checkbox"/> MULCHING (Hay or Straw)   | <input type="checkbox"/> FLEXIBLE CHANNEL LINER            |
| <input type="checkbox"/> BUFFER ZONES              | <input type="checkbox"/> RIGID CHANNEL LINER               |
| <input type="checkbox"/> PLANTING                  | <input type="checkbox"/> SOIL RETENTION BLANKET            |
| <input type="checkbox"/> COMPOST/MULCH FILTER BERM | <input type="checkbox"/> COMPOST MANUFACTURED TOPSOIL      |
| <input type="checkbox"/> SODDING                   | <input type="checkbox"/> OTHER: (Specify Practice)         |

2. **STRUCTURAL PRACTICES:** (Select T = Temporary or P = Permanent, as applicable)

- SILT FENCES
- HAY BALES
- ROCK FILTER DAMS
- DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- DIVERSION DIKE AND SWALE COMBINATIONS
- PIPE SLOPE DRAINS
- PAVED FLUMES
- ROCK BEDDING AT CONSTRUCTION EXIT
- TIMBER MATTING AT CONSTRUCTION EXIT
- CHANNEL LINERS
- SEDIMENT TRAPS
- SEDIMENT BASINS
- STORM INLET SEDIMENT TRAP
- STONE OUTLET STRUCTURES
- CURBS AND GUTTERS
- STORM SEWERS
- VELOCITY CONTROL DEVICES
- OTHER: (Specify Practice)

3. **STORM WATER MANAGEMENT:**

The proposed facility was designed in consideration of hydraulic design standards to convey stormwater in a manner that is protective of public safety and property. The control of erosion from the facility is inherent to the design. Additional factors affecting post-construction stormwater at the project location include: (mark all that apply)

- Existing or new vegetation provides natural filtration.
- The design includes provisions for permanent erosion controls provided by strategically placed pervious and impervious surfaces.
- Project includes permanent sedimentation controls (other than grass).
- Velocities do not require dissipation devices.
- Velocity-dissipation devices included in the design.
- Other: \_\_\_\_\_

4. **NON-STORM WATER DISCHARGES:**

Off-site discharges are prohibited except as follows:

1. Discharges from fire fighting activities and/or fire hydrant flushings.
2. Vehicle, external building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).
3. Plain water used to control dust.
4. Plain water originating from potable water sources.
5. Uncontaminated groundwater, spring water or accumulated stormwater.
6. Foundation or footing drains where flows are not contaminated with process materials such as solvents.
7. Other: \_\_\_\_\_

Concrete truck wash water discharges on the site should be prohibited or minimized. If allowed by the Engineer, they must be managed in a manner so as not to contaminate surface water. They must not be located in areas of concentrated flow. Concrete truck wash-out locations must be shown on the SW3P Layout and included in the inspections.

Hazardous material spill/leak shall be prevented or minimized. At a minimum, this includes asphalt products, fuels, oils, lubricants, solvents, paints, acids, concrete curing compounds and chemical additives for soil stabilization. BMPs shall be implemented to the storage areas of these products. All spills must be cleaned and disposed properly and reported to the Engineer. Report any release at or above the reportable quantity during a 24 hour period to the National Response Center at 1-800-424-8802.

**C. OTHER REQUIREMENTS & PRACTICES**

1. **MAINTENANCE:**

All erosion and sediment controls shall be maintained in good working order. If a repair is necessary, it shall be performed before the next anticipated storm event but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from equipment. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Disturbed areas on which construction activities have ceased, temporarily or permanently, shall be stabilized within 14 calendar days unless they are scheduled to and do resume within 21 calendar days. The areas adjacent to creeks and drainageways shall have priority followed by protecting storm sewer inlets.

2. **INSPECTION:**

For areas of the construction site that have not been finally stabilized, areas used for storage of materials, structural control measures, and locations where vehicles enter or exit the site, personnel provided by the permittee and familiar with the SW3P must inspect disturbed areas at least once every seven (7) calendar days. An Inspection and Maintenance Report shall be prepared for each inspection and the controls shall be revised on the SW3P within seven (7) calendar days following the inspection.

3. **WASTE MATERIALS:**

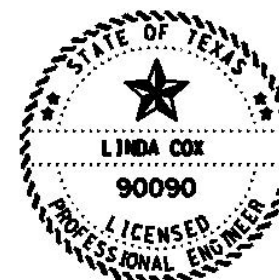
All non-hazardous municipal waste materials such as litter, rubbish, trash and garbage located on or originating from the project shall be collected and stored in a securely lidded metal dumpster, provided by the Contractor. The dumpster shall be emptied as necessary or as required by local regulation and the trash shall be hauled to a permitted disposal facility. The burying of non-hazardous municipal waste on the project shall not be permitted. Construction material waste sites, stockpiles and haul roads shall be constructed to minimize and control the amount of sediment that may enter receiving waters. Construction material waste sites shall not be located in any wetland, water body or stream bed. Construction staging areas and vehicle maintenance areas shall be constructed in a manner to minimize the runoff of pollutants.

4. **OFFSITE VEHICLE TRACKING:**

Off-site vehicle tracking of sediments and the generation of dust must be minimized. Excess sediments on road shall be removed on a regular basis as directed/approved by the Engineer.

5. **OTHER:**

See the EPIC sheet for additional environmental information.



*Linda Cox, P.E.*

04/27/2021

CSJ 0142-10-025

REVISION DATE: 10/12



**STORM WATER POLLUTION PREVENTION PLAN (SW3P)**

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			RM 473
STATE	DISTRICT	COUNTY	
TEXAS	SAT	KENDALL	SHEET NO.
CONTROL	SECTION	JOB	
0142	09	044, ETC	480

Note To Designer:  
 1. Do not alter Sheet Design or Font style, size or weight - match text attributes.  
 2. If additional space is needed for a numbered section, fence and adjust sections up or down as needed for proportioning and readability but do not relocate from its relative position.

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04/23/2021 07:29 AM  
 DOCUMENT NAME

**I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402**

Texas Pollutant Discharge Elimination System (TPDES) TXR 150000: Stormwater Discharge Permit or Construction General Permit (CGP) required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

- No Action Required     Required Action

Action No.

- Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000.
- Comply with the Storm Water Pollution Prevention Plan (SW3P) and revise when necessary to control pollution or required by the Engineer.
- Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and Texas Commission on Environmental Quality (TCEQ), Environmental Protection Agency (EPA) or other inspectors.
- When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, Contractor shall submit Notice of Intent (NOI) to TCEQ and the Engineer.
- NOI required:  Yes  No

Note: If amount of soil disturbance changes, permit requirements may change.

**II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404**

US Army Corps of Engineers (USACE) Permit required for filling, dredging, excavating or other work in any potential USACE jurisdictional water, such as, rivers, creeks, streams, or wetlands.

The Contractor shall adhere to all of the terms and conditions associated with the following permit(s):

- No Permit Required
- Nationwide Permit (NWP) 14 - Pre-construction Notice (PCN) not Required
- Nationwide Permit 14 - PCN Required
- Individual 404 Permit Required
- Other Nationwide Permit Required: NWP# 30

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices (BMPs) planned to control erosion, sedimentation and post-project total suspended solids (TSS).

- STR. STA. 985+32.76
- STR. STA. 1004+61.18
- RM 474 ~ STR. STA. 12+34.38
- STR. STA. 1027+99.77
- STR. STA. 1053+22.58
- CURRY CREEK ~ STR. STA. 1084+54.89

401 Best Management Practices: (Not applicable if no USACE permit)

Erosion	Sedimentation	Post-Construction TSS
<input checked="" type="checkbox"/> Temporary Vegetation	<input checked="" type="checkbox"/> Silt Fence	<input type="checkbox"/> Vegetative Filter Strips
<input type="checkbox"/> Blankets/Matting	<input checked="" type="checkbox"/> Rock Berm	<input type="checkbox"/> Retention/Irrigation Systems
<input type="checkbox"/> Mulch	<input type="checkbox"/> Triangular Filter Dike	<input type="checkbox"/> Extended Detention Basin
<input type="checkbox"/> Sodding	<input type="checkbox"/> Sand Bag Berm	<input type="checkbox"/> Constructed Wetlands
<input type="checkbox"/> Interceptor Swale	<input type="checkbox"/> Straw Bale Dike	<input type="checkbox"/> Wet Basin
<input type="checkbox"/> Diversion Dike	<input type="checkbox"/> Brush Berms	<input type="checkbox"/> Erosion Control Compost
<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Mulch Filter Berm and Socks
<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks
<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Vegetation Lined Ditches
	<input type="checkbox"/> Stone Outlet Sediment Traps	<input type="checkbox"/> Sand Filter Systems
	<input type="checkbox"/> Sediment Basins	<input type="checkbox"/> Sedimentation Chambers
		<input type="checkbox"/> Grassy Swales

**III. CULTURAL RESOURCES**

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

- No Action Required     Required Action

Action No.

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**IV. VEGETATION RESOURCES**

Preserve native vegetation to the extent practical. Contractor must adhere to Construction Specification Requirements Specs 162,164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

- No Action Required     Required Action

Action No.

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

- No Action Required     Required Action

Action No.

1. MIGRATORY BIRD NESTS: Schedule construction activities as needed to meet the following requirements:

A. Do not remove or destroy any active migratory bird nests (nests containing eggs and/or flightless birds) at any time of year. If there are any active nests, they shall not be removed until the nests become inactive.

B. On/in structures, if there are any active nests, they shall not be removed until all nests become inactive. After inactive nests are removed and/or before nest activity begins, deterrent materials may be applied to the structures to prevent future nest building.

2. GOLDEN CHEEKED WARBLER:

Any clearing or trimming of individual trees or shrubs in or immediately adjacent to potential habitat would be phased such that any clearing activities will occur outside the breeding season (March 1 and September 15) to minimize impacts to BCW and GCW.

Any removal of woody vegetation in, or within 300-feet of, potential habitat will be identified and phased such that it occurs outside of breeding season (i.e., between September 15 and March 1) to minimize effects to individual birds.

If Project-specific locations are required outside of the project area but within TxDOT ROW, they will be placed such that no potential habitat or woody vegetation immediately adjacent to potential habitat would be removed.

3. BIRD BMPs: GOLDEN CHEEKED WARBLER:

A) Prior to construction, perform daytime surveys for nests including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed.

B) Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season;

C) Avoid the removal of unoccupied, inactive nests, as practicable;

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

BIRD BMPs: GOLDEN CHEEKED WARBLER: (CONTINUED)

- D) Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair;
- E) Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.

4. See Item 5 in General Notes.

5. AMPHIBIAN BMPs: CASCADE CAVERNS SALAMANDER:

- A) Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
- B) Minimize impacts to wetland, temporary and permanent open water features, including depressions, and riverine habitats.
- C) Maintain hydrologic regime and connections between wetlands and other aquatic features.
- D) Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.
- E) Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, using erosion control blankets or mats that contain no netting, or only contain loosely woven natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable.
- F) Project specific locations (PSL's) proposed within state-owned ROW should be located in uplands away from aquatic features.
- G) When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and overwinter sites (e.g., brush and debris piles, crayfish burrows) where feasible.
- H) Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter, which may be refugia for terrestrial amphibians, where feasible.
- I) If gutters and curbs are part of the roadway design, where feasible install gutters that do not include the side box inlet and include sloped (i.e. mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.

6. WATER QUALITY BMPs: CASCADE CAVERNS SALAMANDER:

- A) Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges.
- B) When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediated area, and contact the Engineer immediately.



**ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS**

**EPIC**

FILE: epic_2015-10-09_SAT.dgn	DN: TxDOT	CK: TxDOT	DW: BW	CK: GAG
© TxDOT	OCTOBER 2015	CONT	SECT	HIGHWAY
REVISIONS	0142	09	044	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	481	

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**VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES**

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

- \* Dead or distressed vegetation (not identified as normal)
- \* Trash piles, drums, canister, barrels, etc.
- \* Undesirable smells or odors
- \* Evidence of leaching or seepage of substances

Hazardous Materials or Contamination Issues Specific to this Project:

No Action Required       Required Action

Action No.

- 1.
- 2.
- 3.

Does the project involve the demolition of a span bridge?

Yes       No (No further action required)

If "Yes", a pre-demolition notification must be submitted to the Texas Department of State Health Services. The contractor shall contact TxDOT's Project Engineer 25 calendar days prior to the demolition of the bridge(s) on the project to assist with the notification.

**VII. OTHER ENVIRONMENTAL ISSUES**

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

No Action Required       Required Action

Action No.

- 1.
- 2.
- 3.



**ENVIRONMENTAL PERMITS,  
ISSUES AND COMMITMENTS**

**EPIC**

FILE: epic_2015-10-09_SAT.dgn	DN: TxDOT	CK: TxDOT	DW: BW	CK: GAG
© TxDOT OCTOBER 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	<b>0142</b>	<b>09</b>	<b>044</b>	<b>RM 473</b>
	DIST	COUNTY	SHEET NO.	
	<b>SAT</b>	<b>KENDALL</b>	<b>482</b>	

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**I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402**

Texas Pollutant Discharge Elimination System (TPDES) TXR 150000: Stormwater Discharge Permit or Construction General Permit (CGP) required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

- No Action Required     Required Action

Action No.

- Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000.
- Comply with the Storm Water Pollution Prevention Plan (SW3P) and revise when necessary to control pollution or required by the Engineer.
- Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and Texas Commission on Environmental Quality (TCEQ), Environmental Protection Agency (EPA) or other inspectors.
- When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, Contractor shall submit Notice of Intent (NOI) to TCEQ and the Engineer.
- NOI required:  Yes  No

Note: If amount of soil disturbance changes, permit requirements may change.

**II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404**

US Army Corps of Engineers (USACE) Permit required for filling, dredging, excavating or other work in any potential USACE jurisdictional water, such as, rivers, creeks, streams, or wetlands.

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- No Permit Required
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- Nationwide Permit 14 - PCN Required
- Individual 404 Permit Required
- Other Nationwide Permit Required: NWP# 30

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices (BMPs) planned to control erosion, sedimentation and post-project total suspended solids (TSS).

- STR. STA. 154+62.50
- STR. STA. 191+40.56
- SIMMONS CREEK ~ STR. STA. 196+48.73
- SIMMONS CREEK ~ STR. STA. 196+68.39
- STR. STA. 212+08.87
- STR. STA. 313+16.68

401 Best Management Practices: (Not applicable if no USACE permit)

Erosion	Sedimentation	Post-Construction TSS
<input checked="" type="checkbox"/> Temporary Vegetation	<input checked="" type="checkbox"/> Silt Fence	<input type="checkbox"/> Vegetative Filter Strips
<input type="checkbox"/> Blankets/Matting	<input checked="" type="checkbox"/> Rock Berm	<input type="checkbox"/> Retention/Irrigation Systems
<input type="checkbox"/> Mulch	<input type="checkbox"/> Triangular Filter Dike	<input type="checkbox"/> Extended Detention Basin
<input type="checkbox"/> Sodding	<input type="checkbox"/> Sand Bag Berm	<input type="checkbox"/> Constructed Wetlands
<input type="checkbox"/> Interceptor Swale	<input type="checkbox"/> Straw Bale Dike	<input type="checkbox"/> Wet Basin
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<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Mulch Filter Berm and Socks
<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks
<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Vegetation Lined Ditches
	<input type="checkbox"/> Stone Outlet Sediment Traps	<input type="checkbox"/> Sand Filter Systems
	<input type="checkbox"/> Sediment Basins	<input type="checkbox"/> Sedimentation Chambers
		<input type="checkbox"/> Grassy Swales

**III. CULTURAL RESOURCES**

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

- No Action Required     Required Action

Action No.

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**IV. VEGETATION RESOURCES**

Preserve native vegetation to the extent practical. Contractor must adhere to Construction Specification Requirements Specs 162,164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

- No Action Required     Required Action

Action No.

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

- No Action Required     Required Action

Action No.

1. MIGRATORY BIRD NESTS: Schedule construction activities as needed to meet the following requirements:

- A. Do not remove or destroy any active migratory bird nests (nests containing eggs and/or flightless birds) at any time of year. If there are any active nests, they shall not be removed until the nests become inactive.
- B. On/in structures, if there are any active nests, they shall not be removed until all nests become inactive. After inactive nests are removed and/or before nest activity begins, deterrent materials may be applied to the structures to prevent future nest building.

2. GOLDEN CHEEKED WARBLER:  
 Any clearing or trimming of individual trees or shrubs in or immediately adjacent to potential habitat would be phased such that any clearing activities will occur outside the breeding season (March 1 and September 15) to minimize impacts to BCW and GCW.

Any removal of woody vegetation in, or within 300-feet of, potential habitat will be identified and phased such that it occurs outside of breeding season (i.e., between September 15 and March 1) to minimize effects to individual birds.

If Project-specific locations are required outside of the project area but within TxDOT ROW, they will be placed such that no potential habitat or woody vegetation immediately adjacent to potential habitat would be removed.

3. BIRD BMPs: GOLDEN CHEEKED WARBLER:
- Prior to construction, perform daytime surveys for nests including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed.
  - Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season;
  - Avoid the removal of unoccupied, inactive nests, as practicable;

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

- BIRD BMPs: GOLDEN CHEEKED WARBLER: (CONTINUED)
- Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair;
  - Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.

4. See Item 5 in General Notes.

5. AMPHIBIAN BMPs: CASCADE CAVERNS SALAMANDER:
- Contractors will be advised of potential occurrence in the project area, and to avoid harming the species if encountered.
  - Minimize impacts to wetland, temporary and permanent open water features, including depressions, and riverine habitats.
  - Maintain hydrologic regime and connections between wetlands and other aquatic features.
  - Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.
  - Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, using erosion control blankets or mats that contain no netting, or only contain loosely woven natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable.
  - Project specific locations (PSL's) proposed within state-owned ROW should be located in uplands away from aquatic features.
  - When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and overwinter sites (e.g., brush and debris piles, crayfish burrows) where feasible.
  - Avoid or minimize disturbing or removing downed trees, rotting stumps, and leaf litter, which may be refugia for terrestrial amphibians, where feasible.
  - If gutters and curbs are part of the roadway design, where feasible install gutters that do not include the side box inlet and include sloped (i.e. mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.

6. WATER QUALITY BMPs: CASCADE CAVERNS SALAMANDER:
- Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges.
  - When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediated area, and contact the Engineer immediately.



**ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS**  
**EPIC**

FILE: epic_2015-10-09_SAT.dgn	DN: TxDOT	CK: TxDOT	DW: BW	CK: GAG
© TxDOT	OCTOBER 2015	CONT	SECT	JOB
REVISIONS		0142	09	044, Etc
	DIST	COUNTY		SHEET NO.
	SAT	KENDALL		483

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**VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES**

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

- \* Dead or distressed vegetation (not identified as normal)
- \* Trash piles, drums, canister, barrels, etc.
- \* Undesirable smells or odors
- \* Evidence of leaching or seepage of substances

Hazardous Materials or Contamination Issues Specific to this Project:

No Action Required       Required Action

Action No.

- 1.
- 2.
- 3.

Does the project involve the demolition of a span bridge?

Yes       No (No further action required)

If "Yes", a pre-demolition notification must be submitted to the Texas Department of State Health Services. The contractor shall contact TxDOT's Project Engineer 25 calendar days prior to the demolition of the bridge(s) on the project to assist with the notification.

**VII. OTHER ENVIRONMENTAL ISSUES**

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

No Action Required       Required Action

Action No.

- 1.
- 2.
- 3.



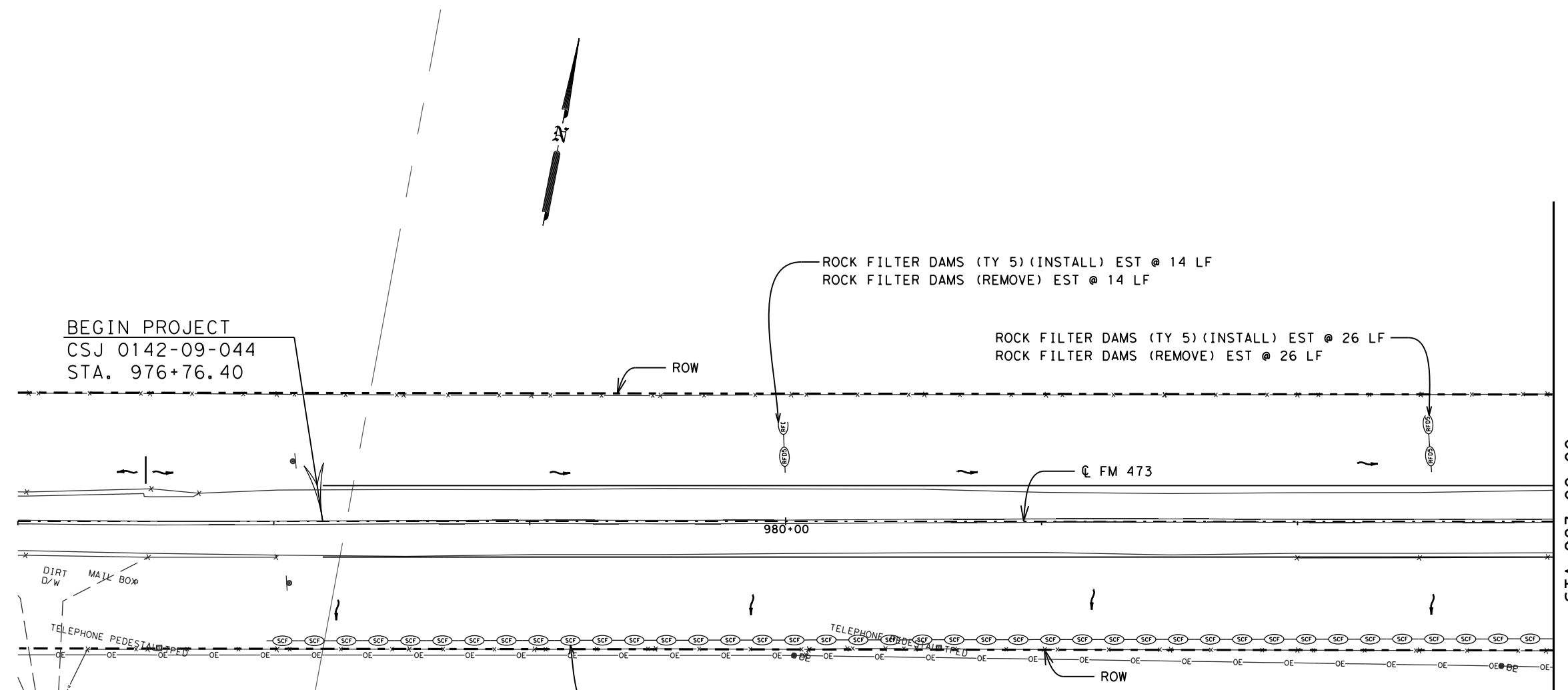
**ENVIRONMENTAL PERMITS,  
ISSUES AND COMMITMENTS**

**EPIC**

FILE: epic_2015-10-09_SAT.dgn	DN: TxDOT	CK: TxDOT	DW: BW	CK: GAG
© TxDOT OCTOBER 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	0142	09	044, Etc	RM 473
	DIST	COUNTY	SHEET NO.	
	SAT	KENDALL	484	



ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	40	LF
ROCK FILTER DAMS (REMOVE)	40	LF
TEMP SEDMT CONT FEN INSTLL	505	LF
TEMP SEDMT CONT FEN REMOVE	505	LF



BEGIN PROJECT  
CSJ 0142-09-044  
STA. 976+76.40

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 14 LF  
ROCK FILTER DAMS (REMOVE) EST @ 14 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 26 LF  
ROCK FILTER DAMS (REMOVE) EST @ 26 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 505 LF  
TEMP SEDMT CONT FEN (REMOVE) EST @ 505 LF

STA. 983+00.00

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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

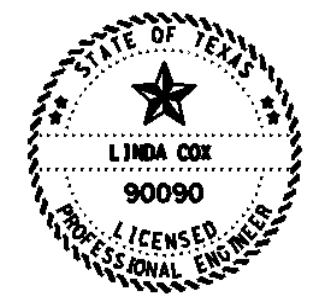
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



Linda Cox, P.E.  
04/28/2021

CSJ 0142-09-044

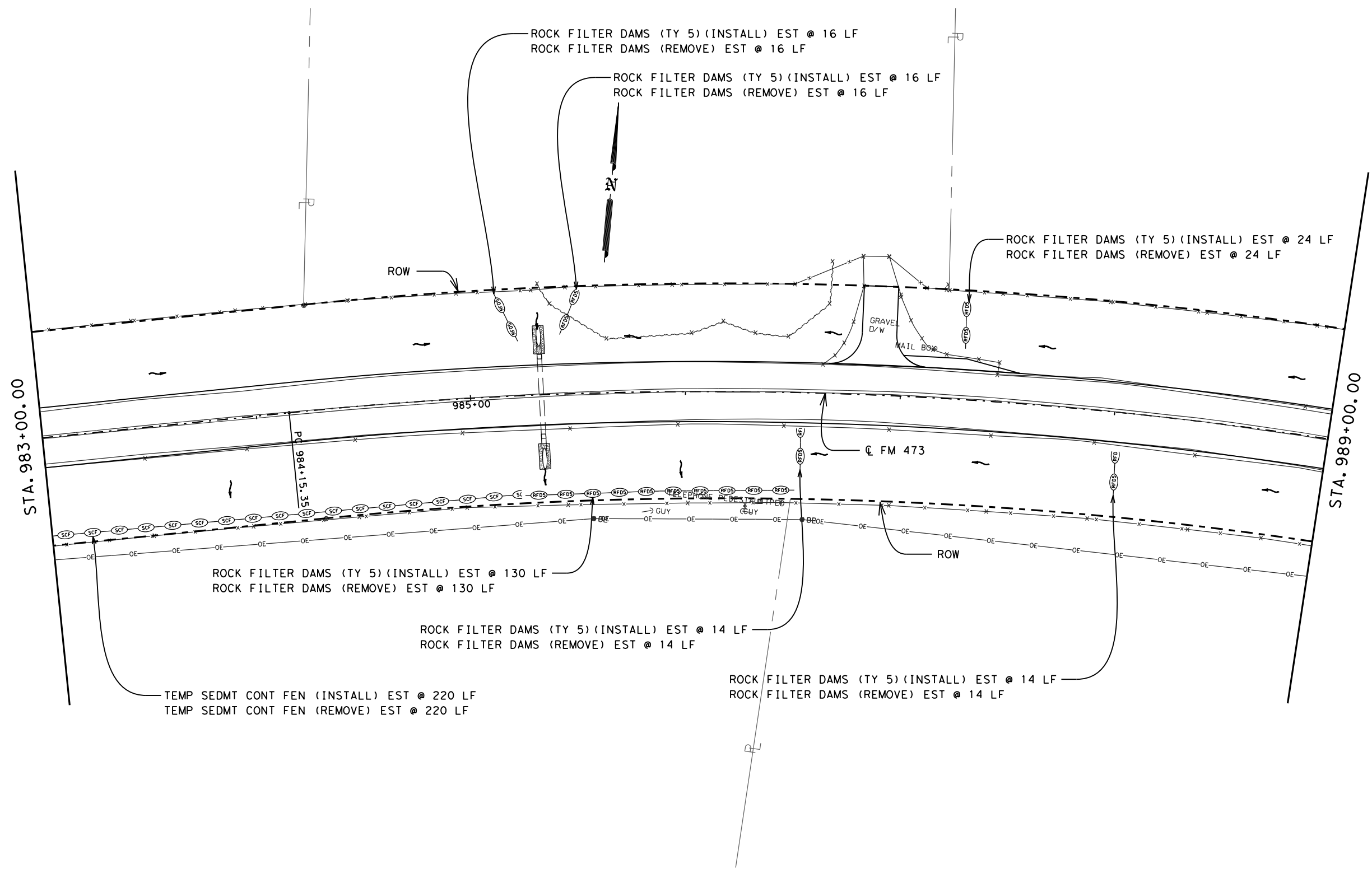


RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		485

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	84	LF
ROCK FILTER DAMS (REMOVE)	84	LF
TEMP SEDMT CONT FEN INSTLL	350	LF
TEMP SEDMT CONT FEN REMOVE	350	LF



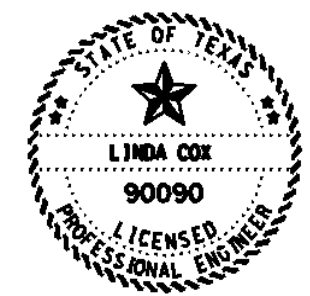
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



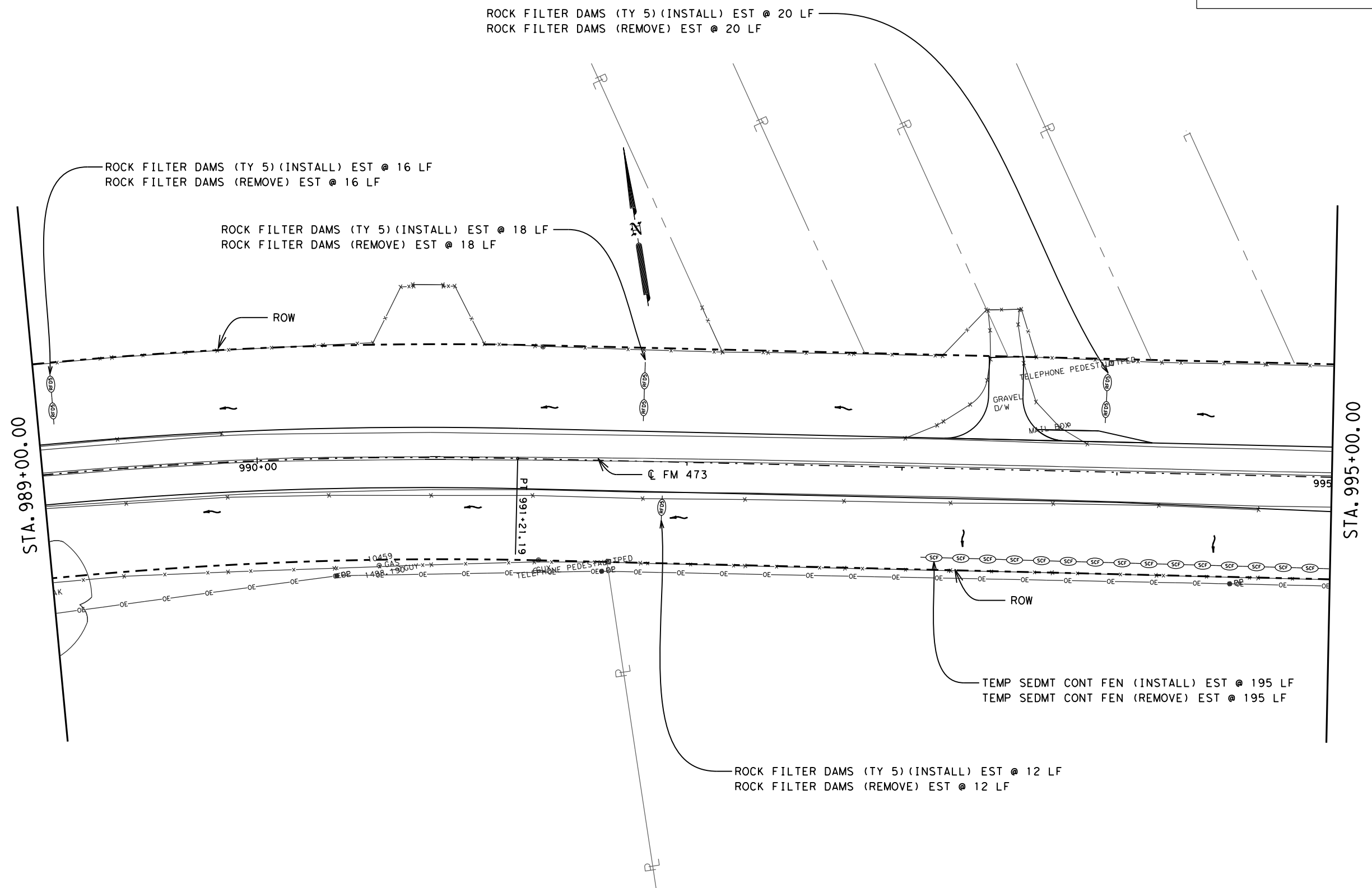
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 04/28/2021

CSJ 0142-09-044  
 0 50  
 SCALE IN FEET

RM 473  
 SW3P LAYOUTS

Texas Department of Transportation		SHEET 2 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		486

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	66	LF
ROCK FILTER DAMS (REMOVE)	66	LF
TEMP SEDMT CONT FEN INSTLL	195	LF
TEMP SEDMT CONT FEN REMOVE	195	LF



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NOTE:  
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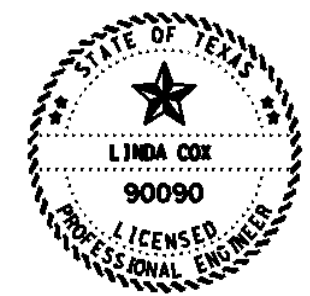
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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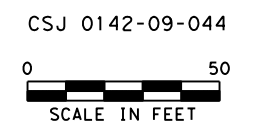
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

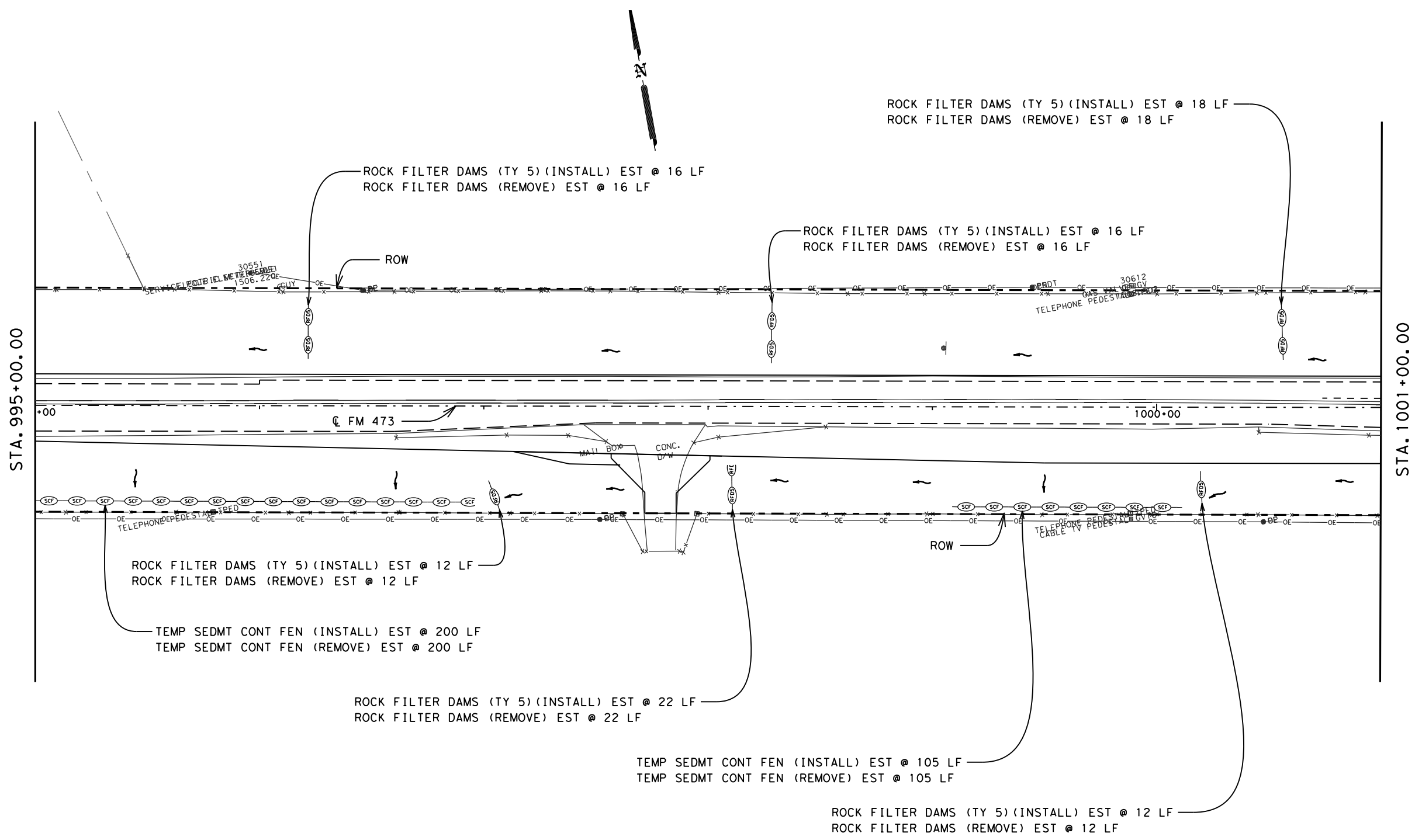


RM 473  
SW3P LAYOUTS

Texas Department of Transportation  
SHEET 3 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		487

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	96	LF
ROCK FILTER DAMS (REMOVE)	96	LF
TEMP SEDMT CONT FEN INSTLL	305	LF
TEMP SEDMT CONT FEN REMOVE	305	LF



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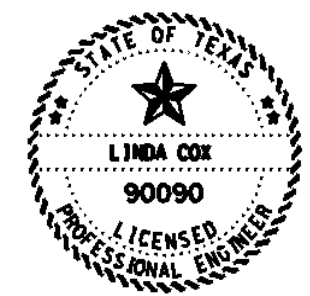
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

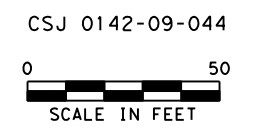
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



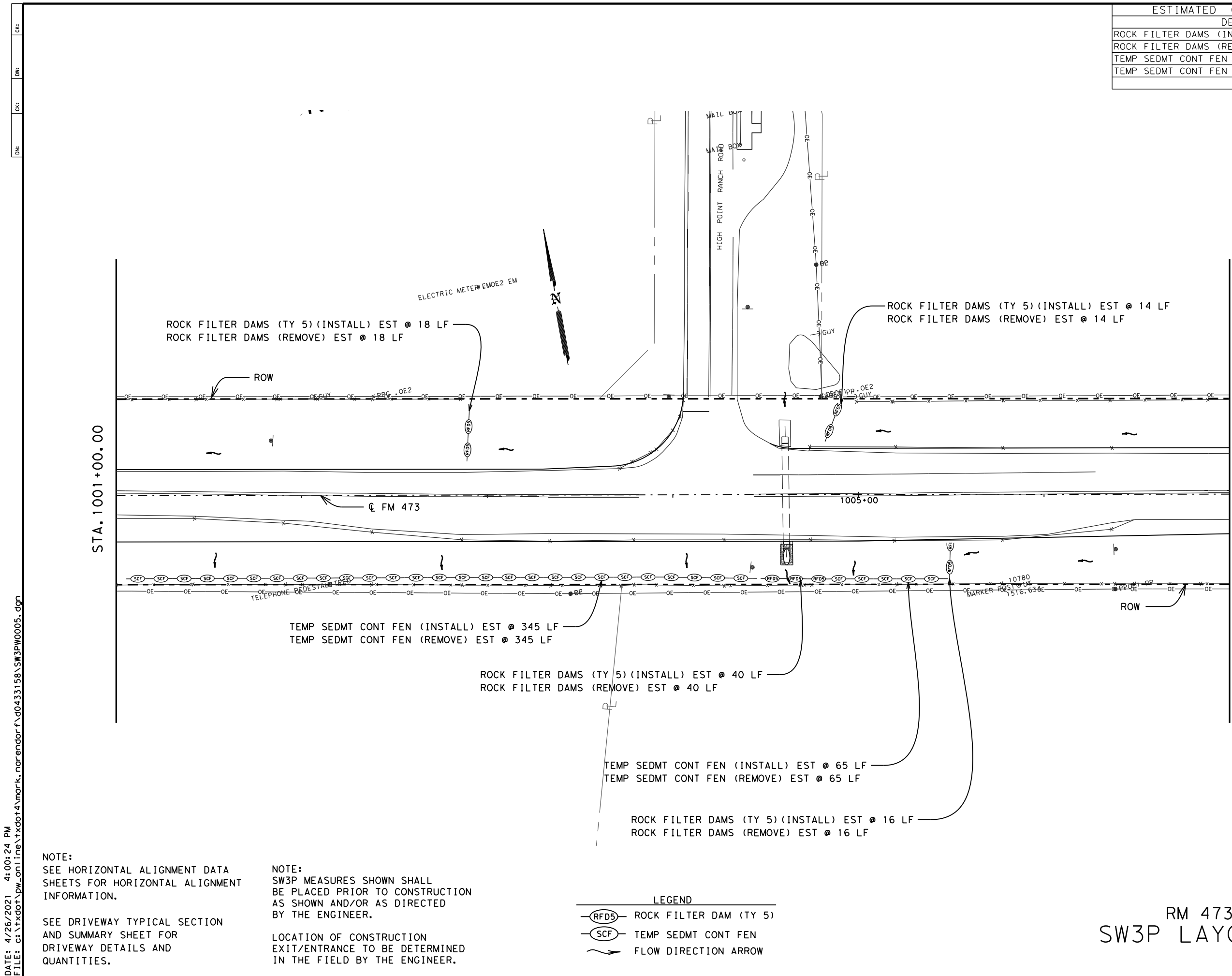
*Linda Cox, P.E.*  
04/28/2021



RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 4 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		488

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	88	LF
ROCK FILTER DAMS (REMOVE)	88	LF
TEMP SEDMT CONT FEN INSTLL	410	LF
TEMP SEDMT CONT FEN REMOVE	410	LF



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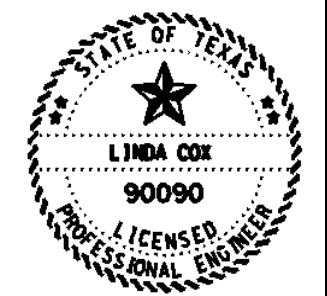
NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

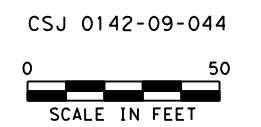
NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

- LEGEND
- (RFDS) ROCK FILTER DAM (TY 5)
  - (SCF) TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW



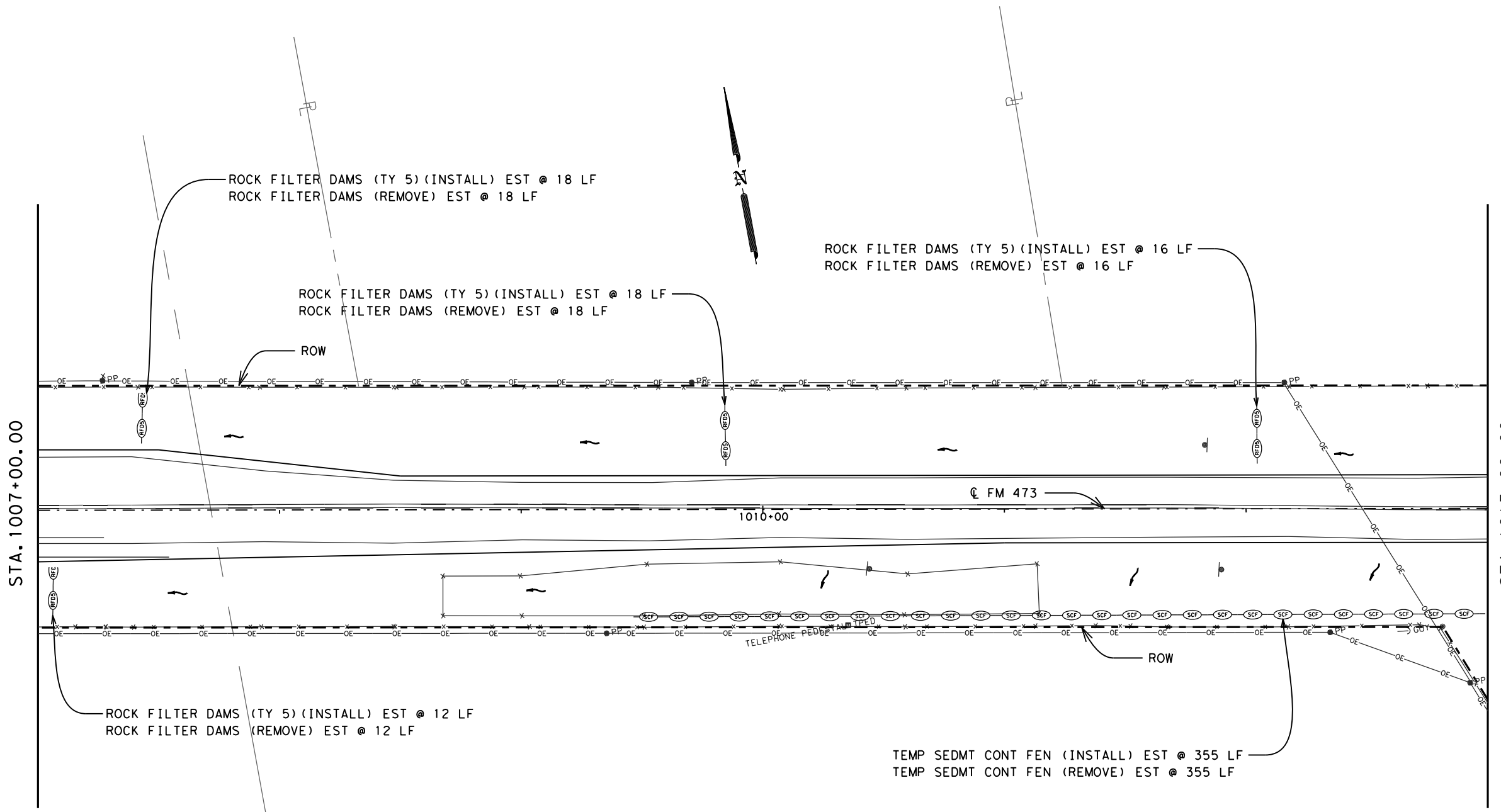
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04/28/2021



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SW3P LAYOUTS

Texas Department of Transportation		SHEET 5 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		489

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	64	LF
ROCK FILTER DAMS (REMOVE)	64	LF
TEMP SEDMT CONT FEN INSTLL	355	LF
TEMP SEDMT CONT FEN REMOVE	355	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

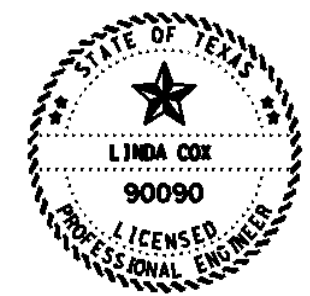
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-09-044



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SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		490



ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	14	LF
ROCK FILTER DAMS (REMOVE)	14	LF
CONSTRUCTION EXITS (INSTALL) (TY 1)	111	SY
CONSTRUCTION EXITS (REMOVE)	111	SY
TEMP SEDMT CONT FEN INSTLL	135	LF
TEMP SEDMT CONT FEN REMOVE	135	LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 14 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 14 LF

END PROJECT  
 CSJ 0142-09-044  
 STA. 1015+14.96

STA. 1013+00.00

STA. 1019+00.00

TEMP SEDMT CONT FEN (INSTALL)  
 EST @ 135 LF  
 TEMP SEDMT CONT FEN (REMOVE)  
 EST @ 135 LF

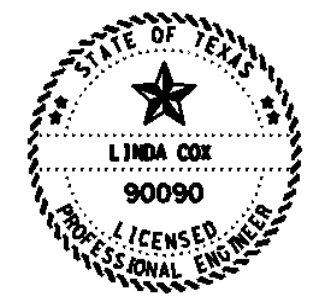
- LEGEND
- (RFDS) ROCK FILTER DAM (TY 5)
  - (SCF) TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.



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 04/28/2021

CSJ 0142-09-044



RM 473  
 SW3P LAYOUTS

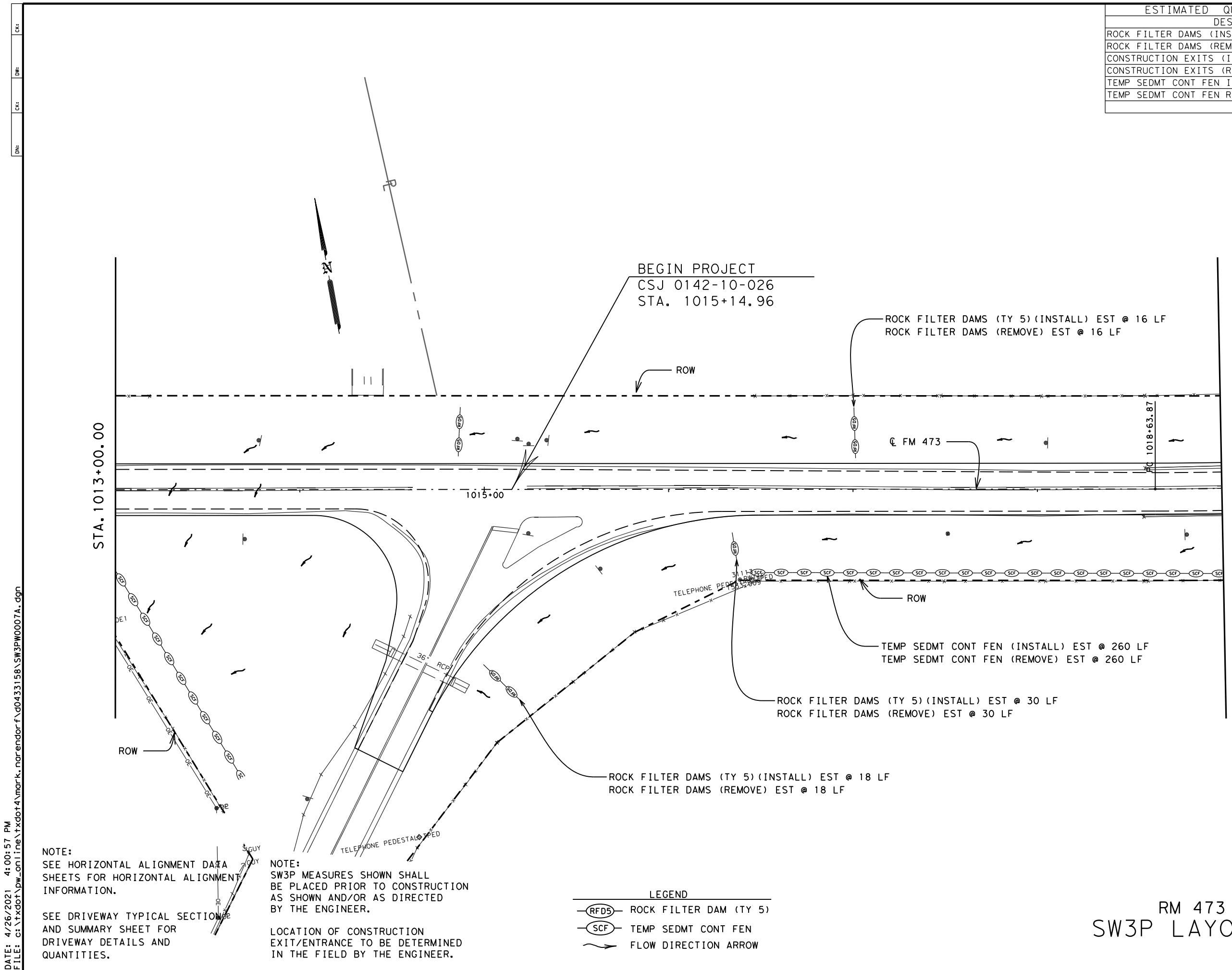


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		491

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	64	LF
ROCK FILTER DAMS (REMOVE)	64	LF
CONSTRUCTION EXITS (INSTALL) (TY 1)	111	SY
CONSTRUCTION EXITS (REMOVE)	111	SY
TEMP SEDMT CONT FEN INSTLL	260	LF
TEMP SEDMT CONT FEN REMOVE	260	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

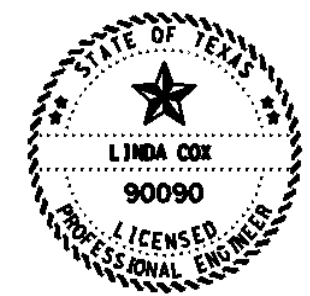
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



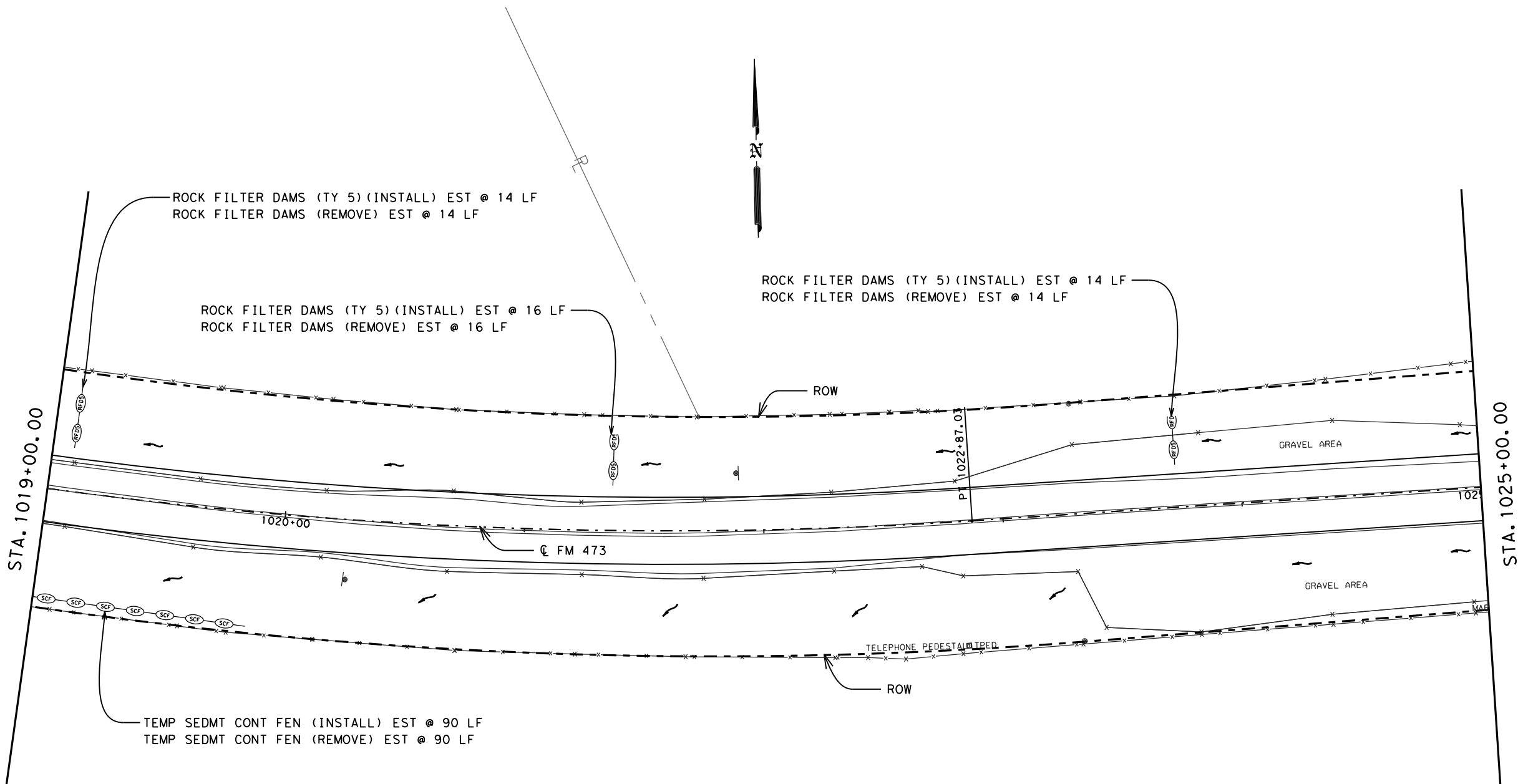
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04/28/2021

CSJ 0142-10-026  
0 50  
SCALE IN FEET

RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 8 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		492

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	44	LF
ROCK FILTER DAMS (REMOVE)	44	LF
TEMP SEDMT CONT FEN INSTLL	90	LF
TEMP SEDMT CONT FEN REMOVE	90	LF



DATE: 4/26/2021 4:01:09 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

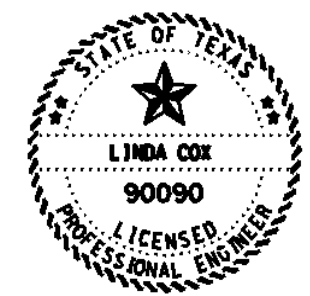
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-026



RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	493

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	106	LF
ROCK FILTER DAMS (REMOVE)	106	LF
TEMP SEDMT CONT FEN INSTLL	175	LF
TEMP SEDMT CONT FEN REMOVE	175	LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 22 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 22 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 32 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 32 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 16 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 16 LF

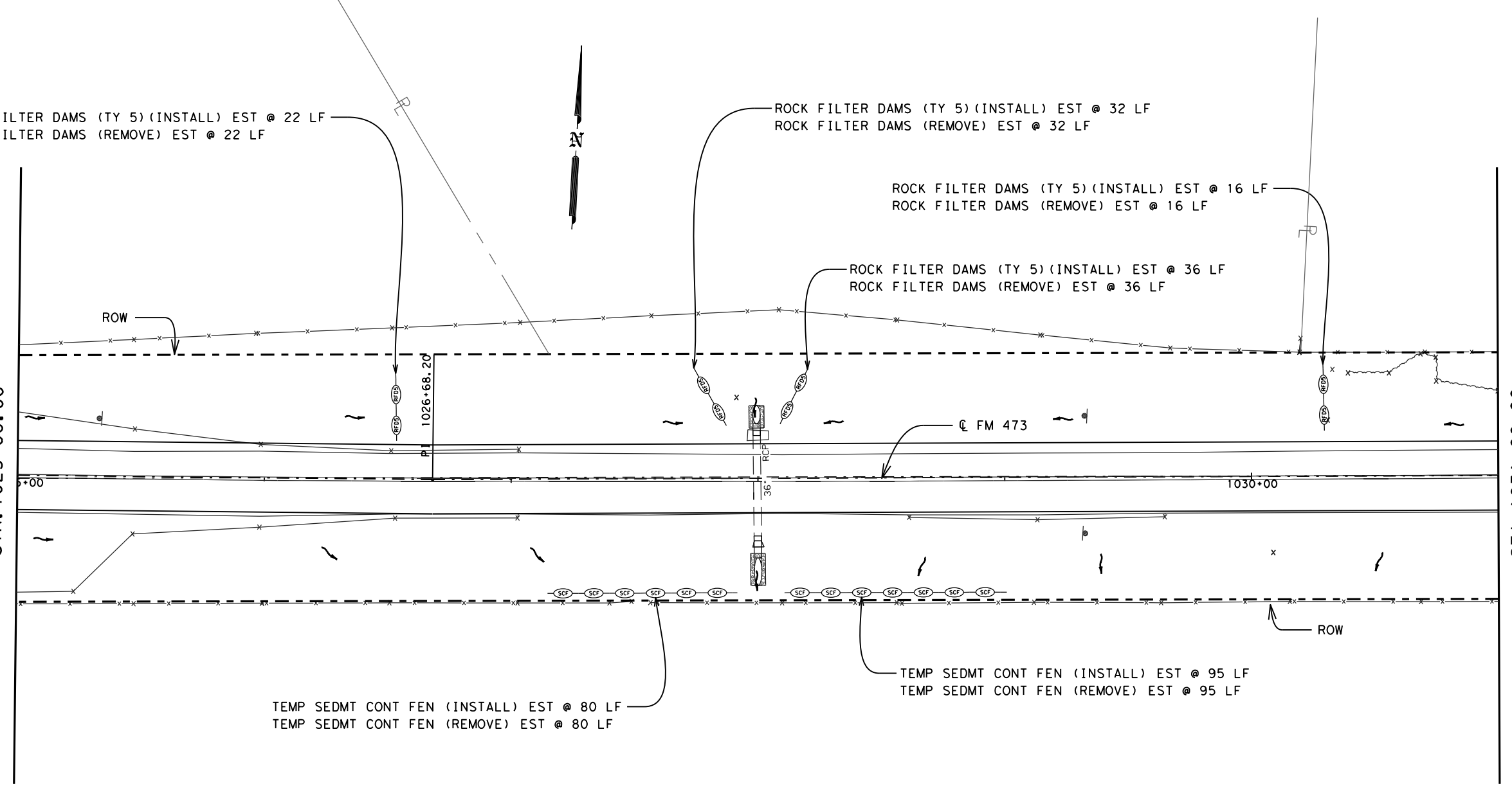
ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 36 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 36 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 80 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 80 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 95 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 95 LF

STA. 1025+00.00

STA. 1031+00.00



DATE: 4/26/2021 4:01:19 PM  
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NOTE:  
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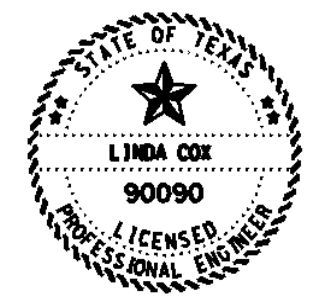
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



Linda Cox, P.E.  
 04/28/2021

CSJ 0142-10-026



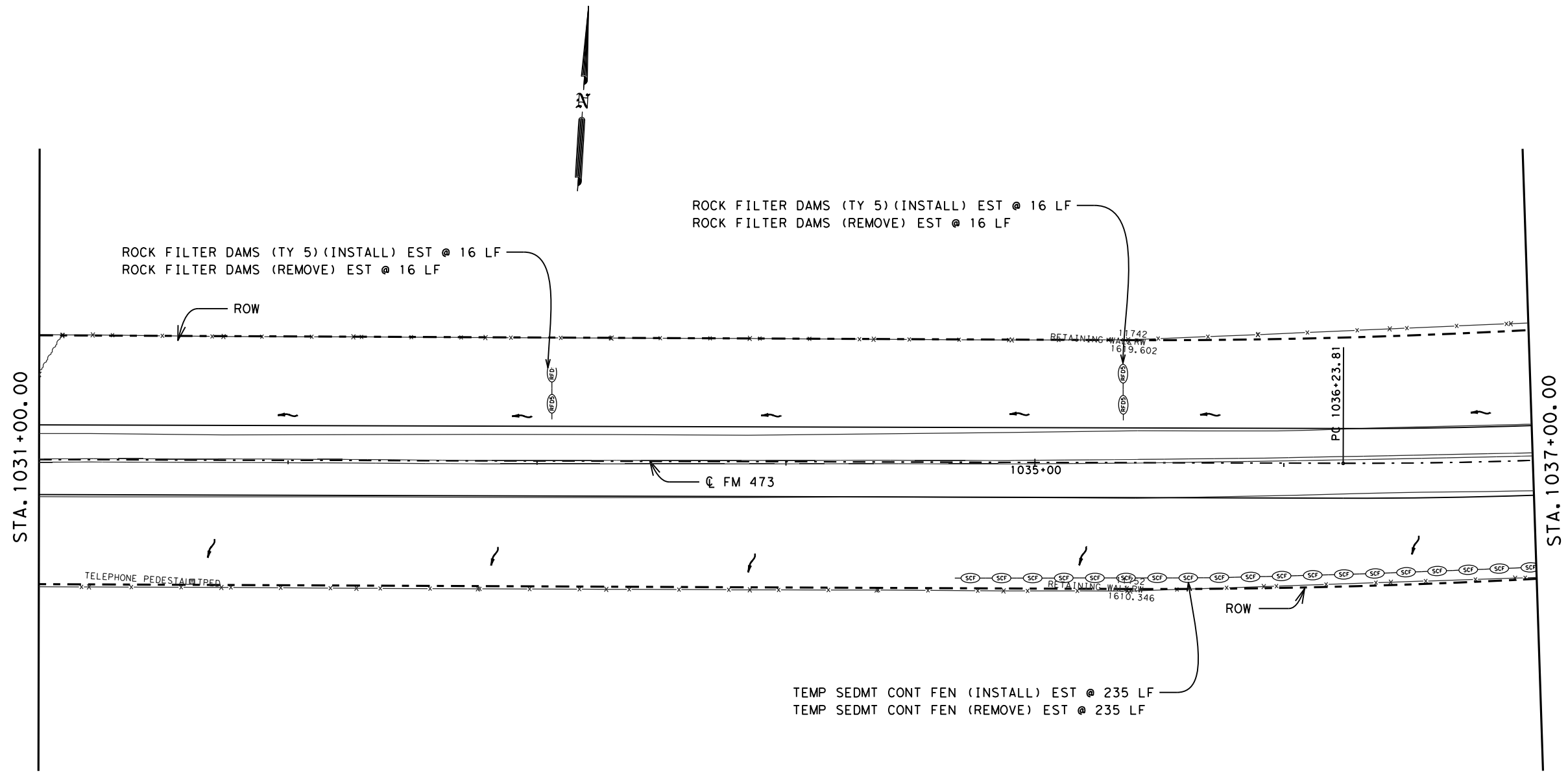
RM 473  
 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		494

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	32	LF
ROCK FILTER DAMS (REMOVE)	32	LF
TEMP SEDMT CONT FEN INSTLL	235	LF
TEMP SEDMT CONT FEN REMOVE	235	LF

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_



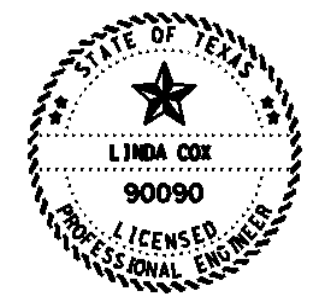
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

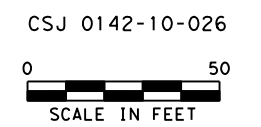
NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021



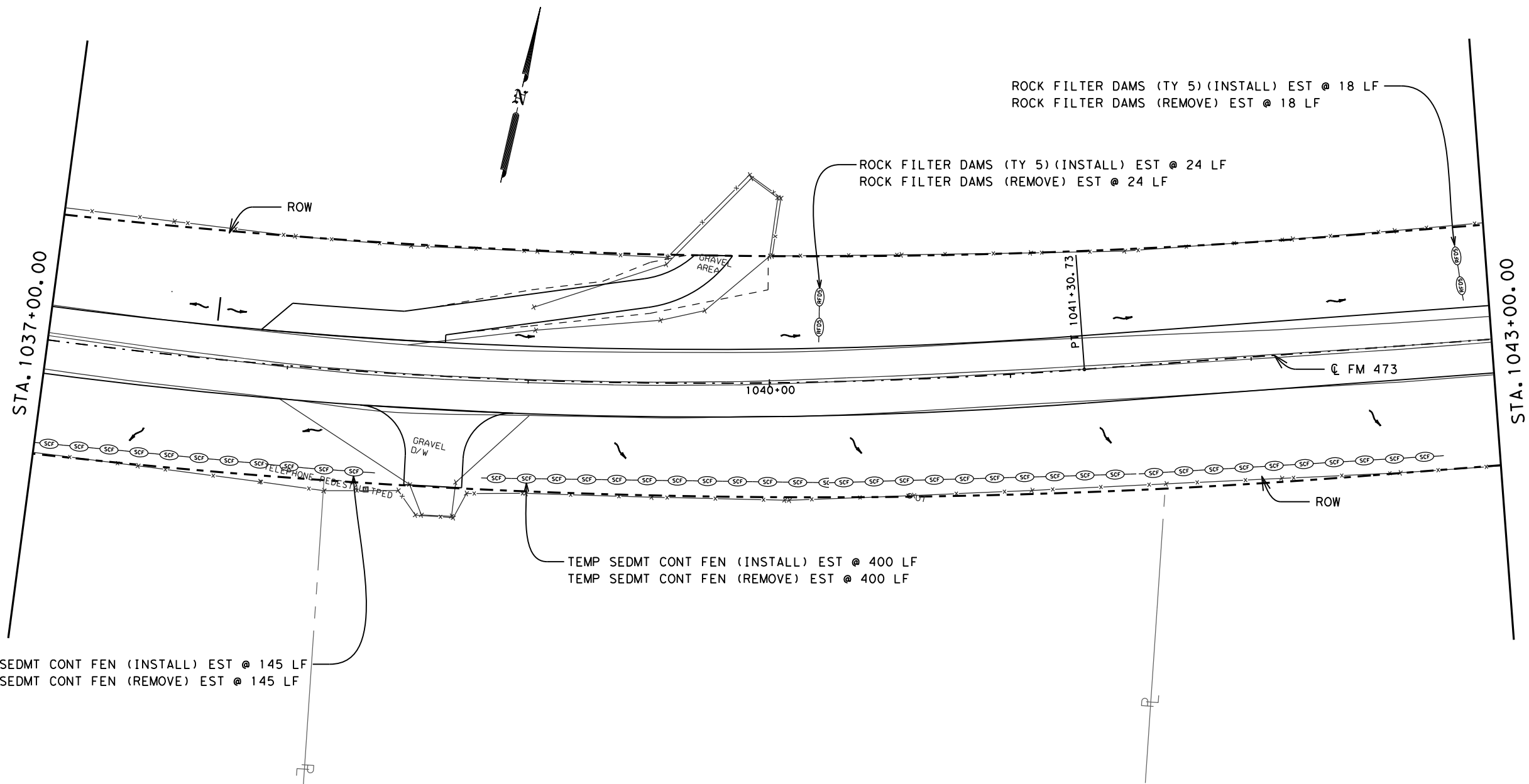
RM 473  
 SW3P LAYOUTS

Texas Department of Transportation  
 SHEET 11 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		495

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	42	LF
ROCK FILTER DAMS (REMOVE)	42	LF
TEMP SEDMT CONT FEN INSTLL	545	LF
TEMP SEDMT CONT FEN REMOVE	545	LF

Cks: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 DWF: \_\_\_\_\_



DATE: 4/26/2021 4:01:39 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

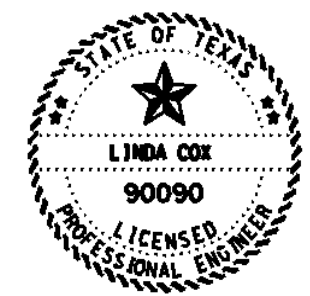
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-026



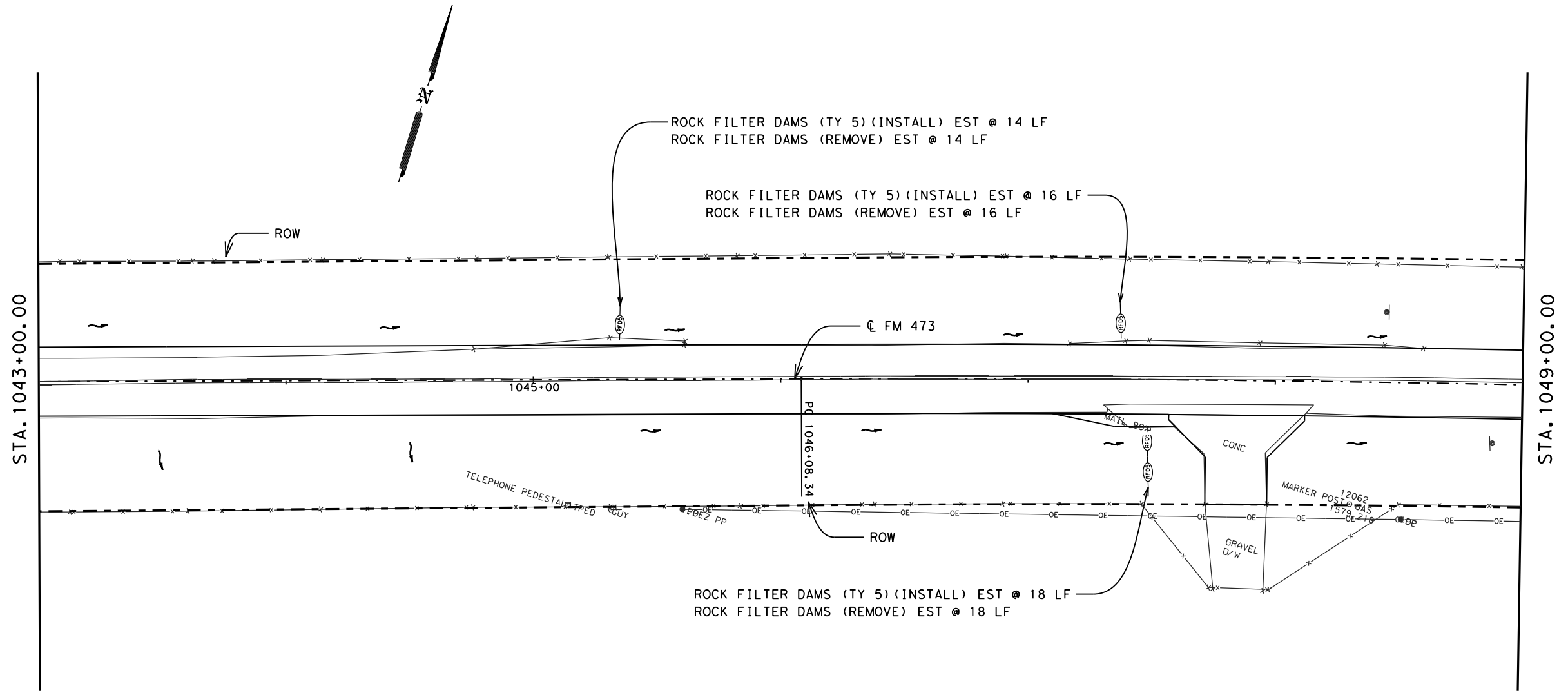
RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		496

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	48	LF
ROCK FILTER DAMS (REMOVE)	48	LF

Ck: \_\_\_\_\_  
 Dm: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dm: \_\_\_\_\_



DATE: 4/26/2021 4:01:50 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

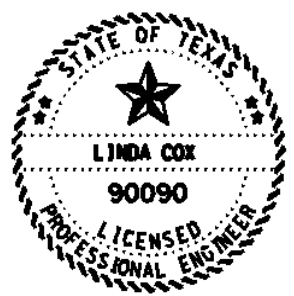
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

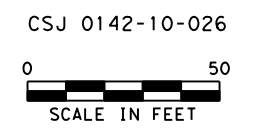
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

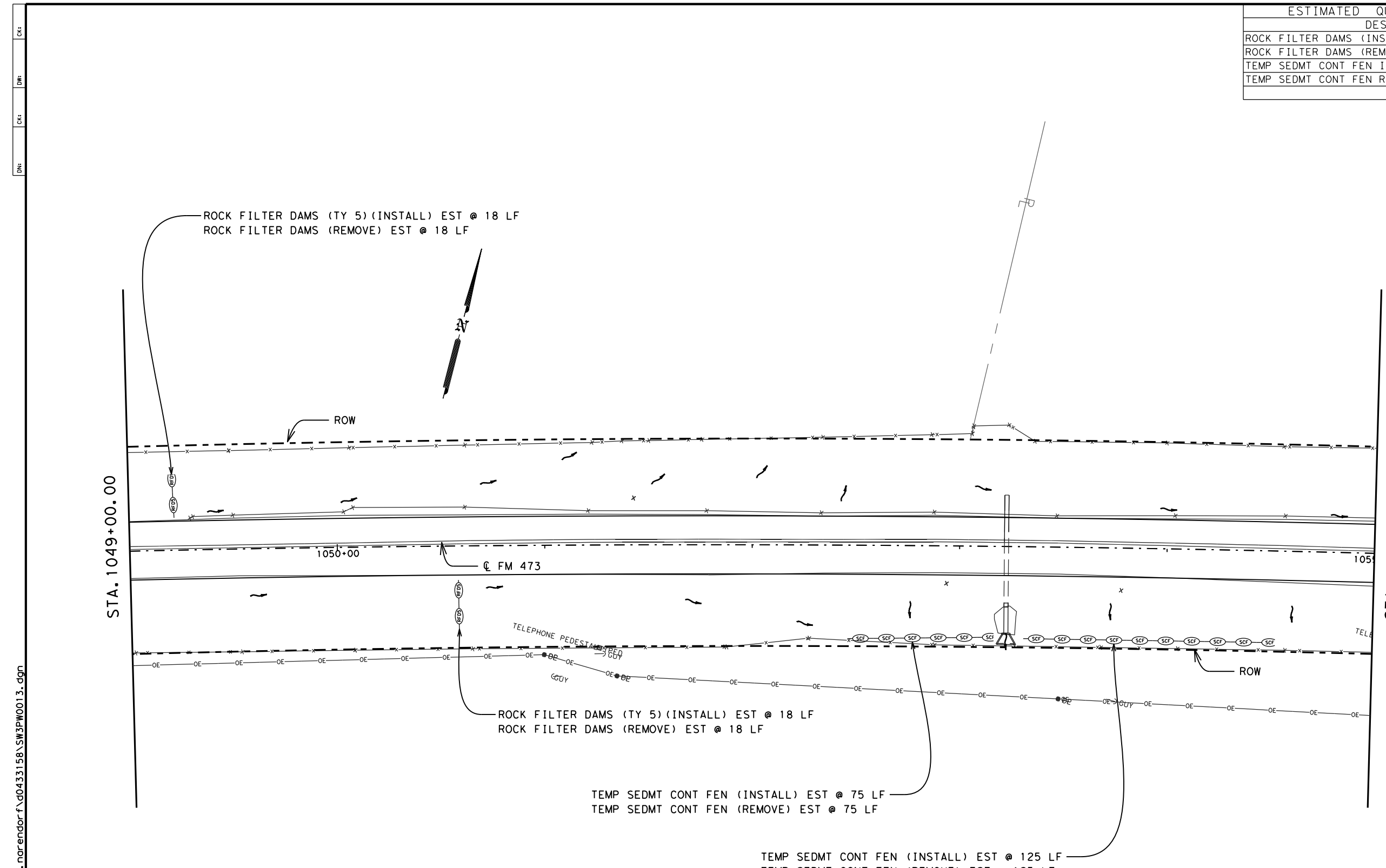


RM 473  
SW3P LAYOUTS

**Texas Department of Transportation**  
SHEET 13 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		497

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	36	LF
ROCK FILTER DAMS (REMOVE)	36	LF
TEMP SEDMT CONT FEN INSTLL	200	LF
TEMP SEDMT CONT FEN REMOVE	200	LF



ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 18 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 18 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 18 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 18 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 75 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 75 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 125 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 125 LF

DATE: 4/26/2021 4:02:02 PM  
 FILE: c:\t\dot\pw\_online\t\dot\mark\_nor\endor\_f\0433158\SW3PW0013.dgn

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

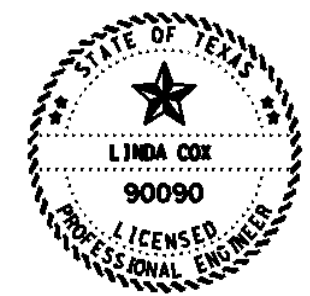
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



RM 473  
 SW3P LAYOUTS

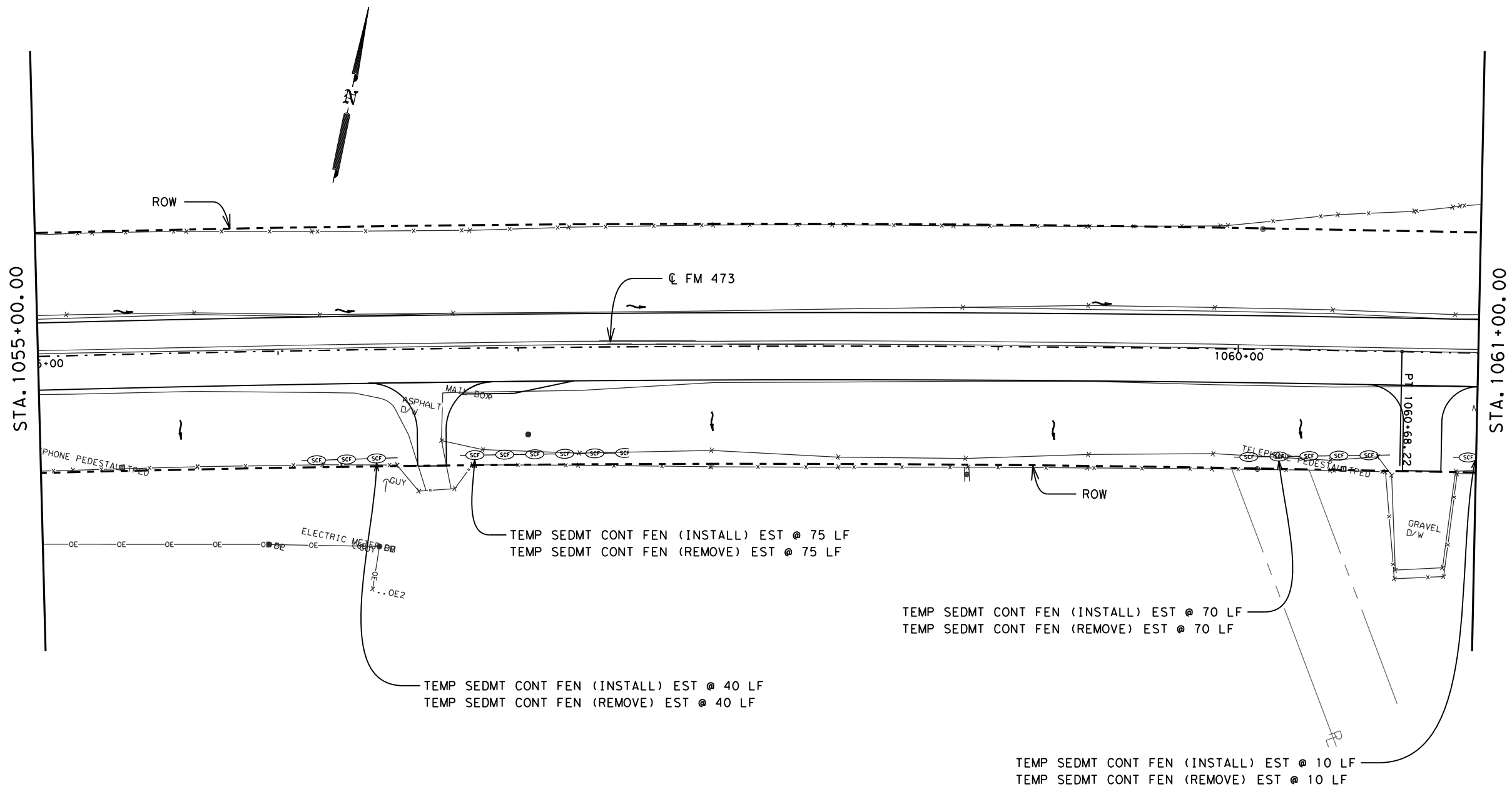


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	498



ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
TEMP SEDMT CONT FEN INSTLL	195	LF
TEMP SEDMT CONT FEN REMOVE	195	LF

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_



TEMP SEDMT CONT FEN (INSTALL) EST @ 75 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 75 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 70 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 70 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 40 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 40 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 10 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 10 LF

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

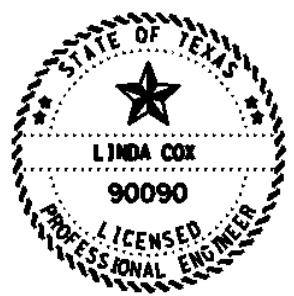
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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 04/28/2021

CSJ 0142-10-026



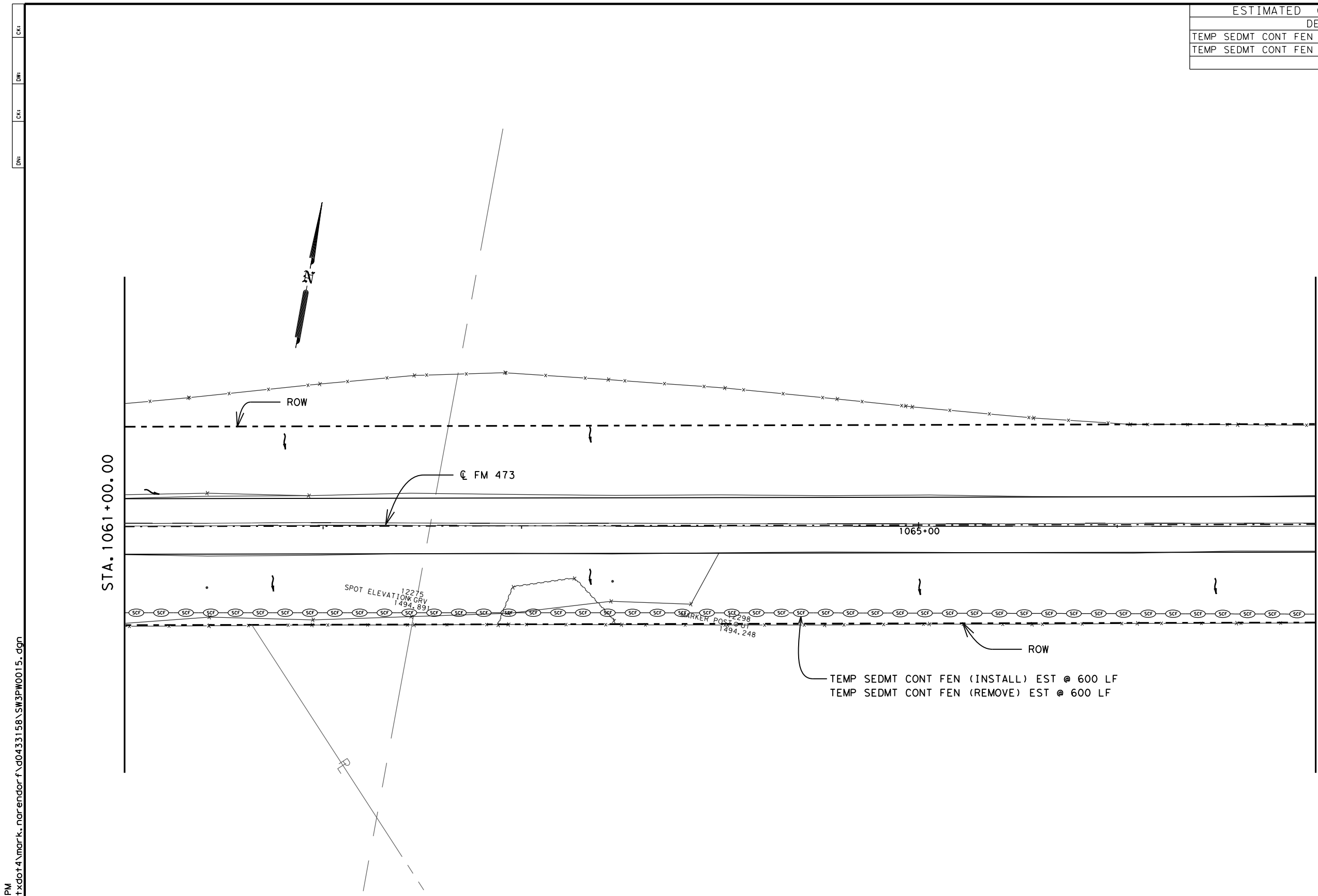
## RM 473 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	499

DATE: 4/26/2021 4:02:13 PM  
 FILE: c:\t\dot\pw\_online\t\dot4\mark\_norendor\0433158\SW3PW0014.dgn

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
TEMP SEDMT CONT FEN INSTLL	600	LF
TEMP SEDMT CONT FEN REMOVE	600	LF



STA. 1067+00.00

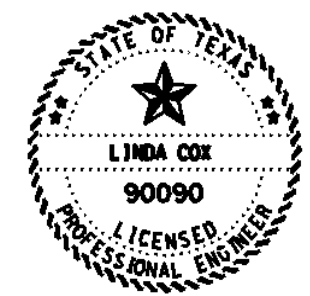
STA. 1061+00.00

1065+00

SPOT ELEVATION GRV  
1494.891

MARKER POST  
1494.248

TEMP SEDMT CONT FEN (INSTALL) EST @ 600 LF  
TEMP SEDMT CONT FEN (REMOVE) EST @ 600 LF



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04/28/2021

CSJ 0142-10-026



RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		500

DATE: 4/26/2021 4:02:28 PM  
FILE: c:\t\dot\pw\_online\t\dot\mark\_norendor\0433158\SW3PW0015.dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

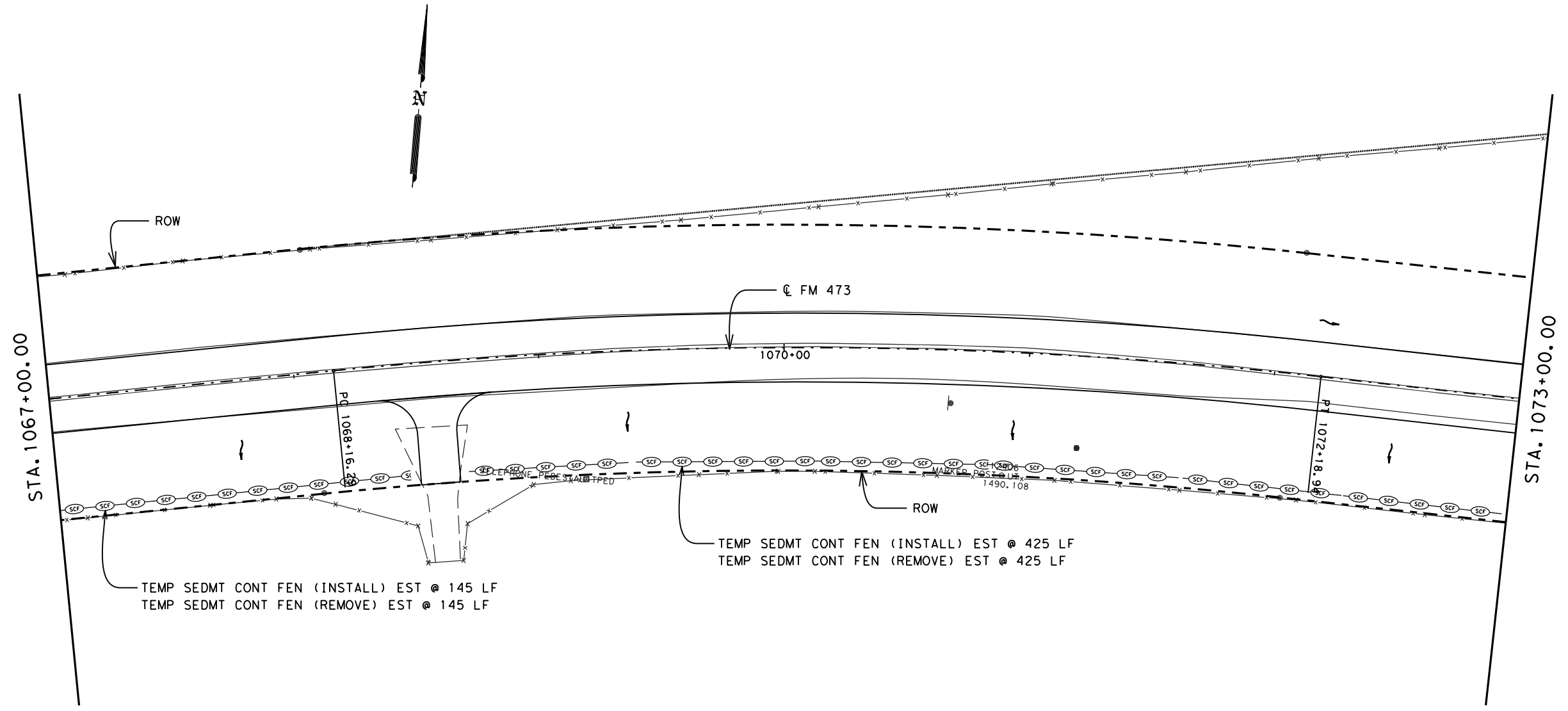
NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

- LEGEND
- RFDS - ROCK FILTER DAM (TY 5)
  - SCF - TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW

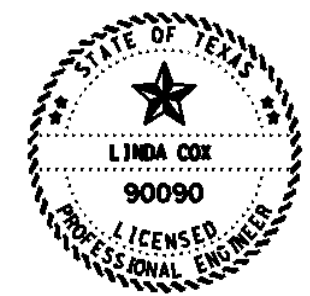
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
TEMP SEDMT CONT FEN INSTLL	570	LF
TEMP SEDMT CONT FEN REMOVE	570	LF

Ck: \_\_\_\_\_  
 Dm: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dm: \_\_\_\_\_



TEMP SEDMT CONT FEN (INSTALL) EST @ 145 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 145 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 425 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 425 LF



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CSJ 0142-10-026



## RM 473 SW3P LAYOUTS

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

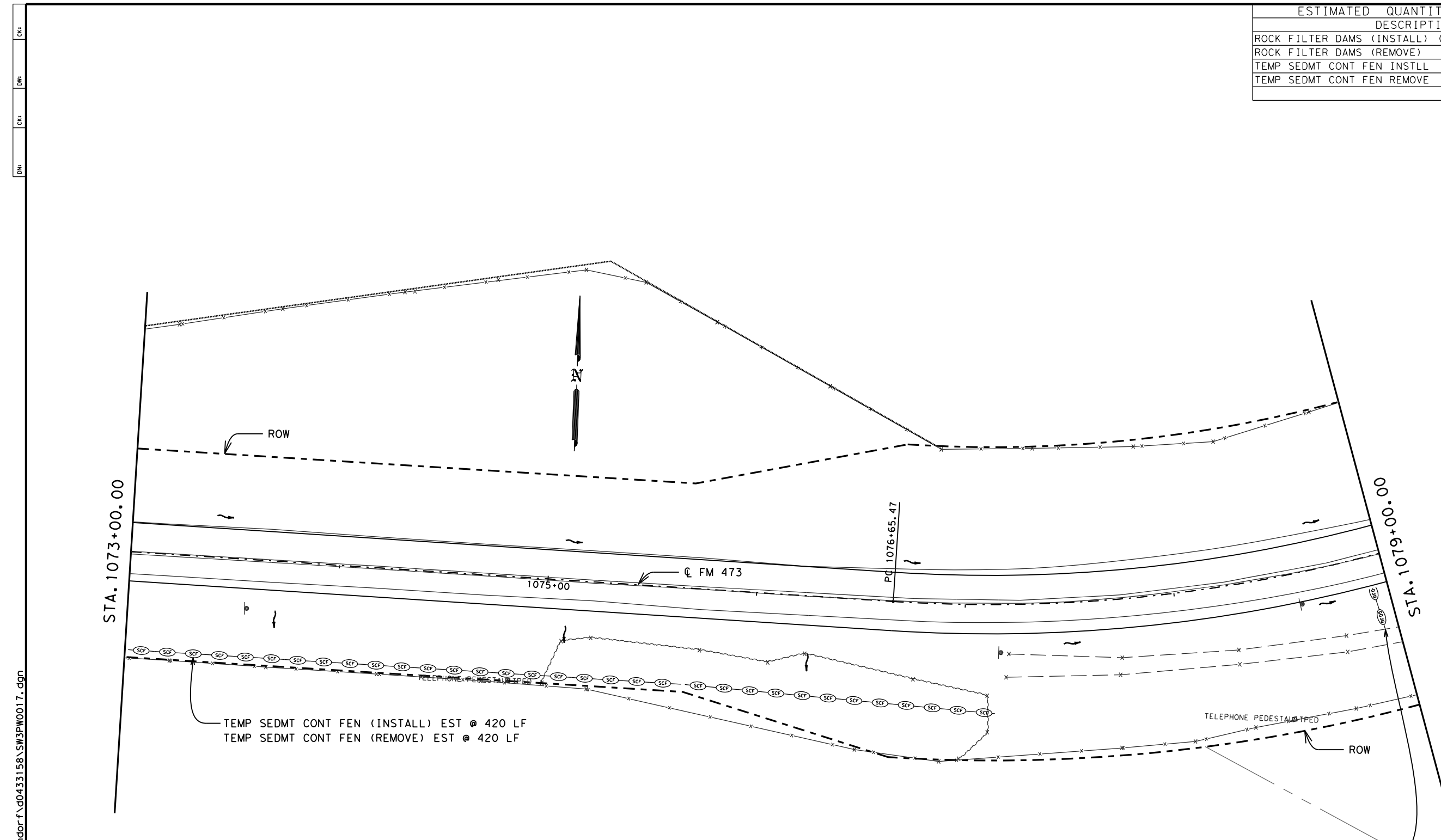
- LEGEND
- RFD5 - ROCK FILTER DAM (TY 5)
  - SCF - TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW

DATE: 4/26/2021 4:02:39 PM  
 FILE: c:\t\dot\p\_w\_online\txdot4\mark\_narendor\0433158\SW3PW0016.dgn



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	501

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	10	LF
ROCK FILTER DAMS (REMOVE)	10	LF
TEMP SEDMT CONT FEN INSTLL	420	LF
TEMP SEDMT CONT FEN REMOVE	420	LF



DATE: 4/26/2021 4:02:50 PM  
 FILE: c:\t\dot\pw\_online\txdot4\mark\_norendor\0433158\SW3PW0017.dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

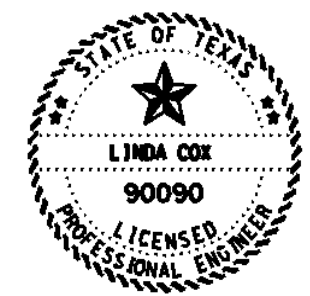
NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 10 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 10 LF



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CSJ 0142-10-026

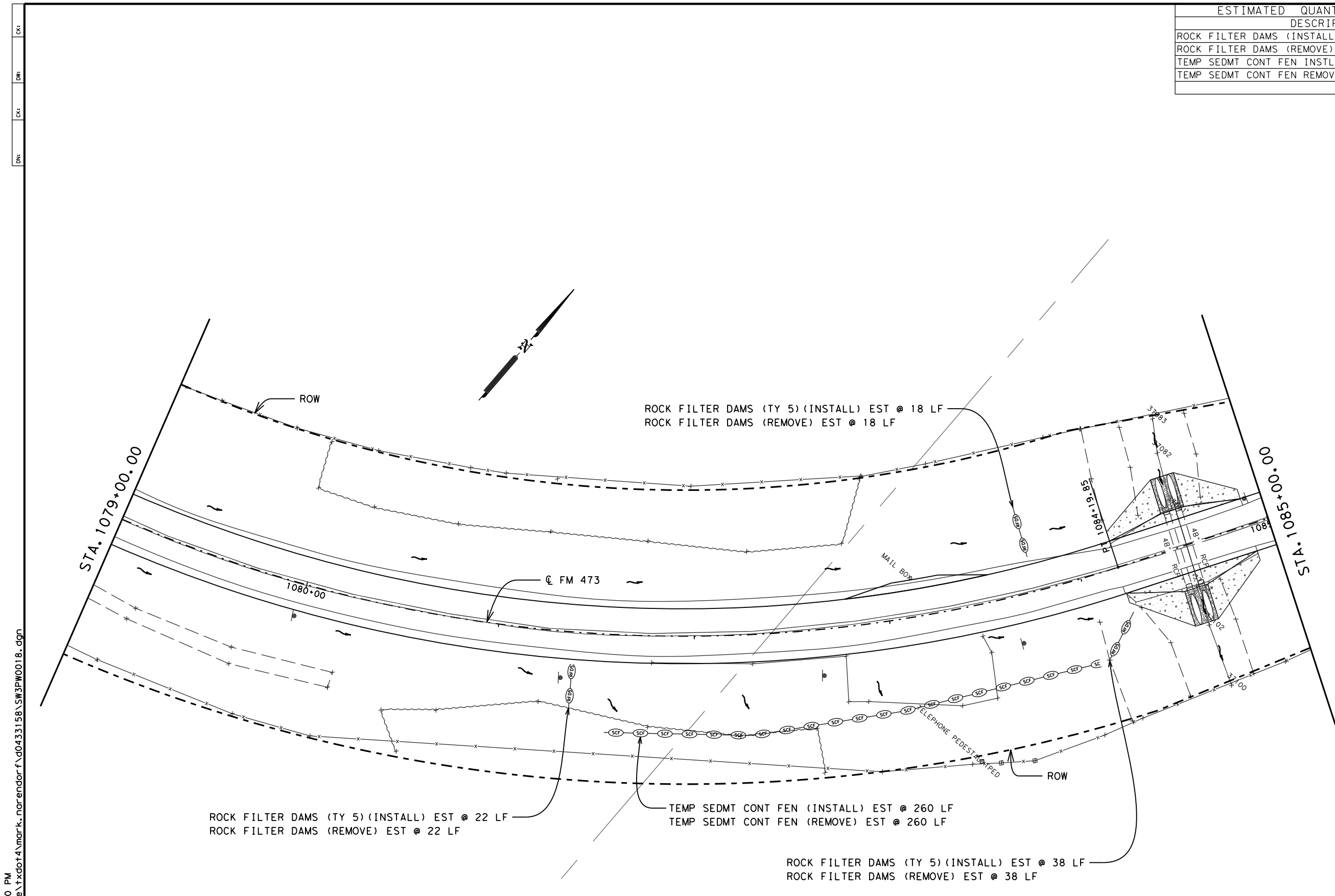


## RM 473 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
SAT		KENDALL	SHEET NO. 502

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	78	LF
ROCK FILTER DAMS (REMOVE)	78	LF
TEMP SEDMT CONT FEN INSTLL	260	LF
TEMP SEDMT CONT FEN REMOVE	260	LF



DATE: 4/26/2021 4:03:00 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

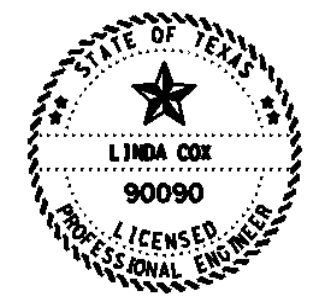
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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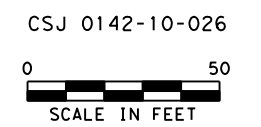
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

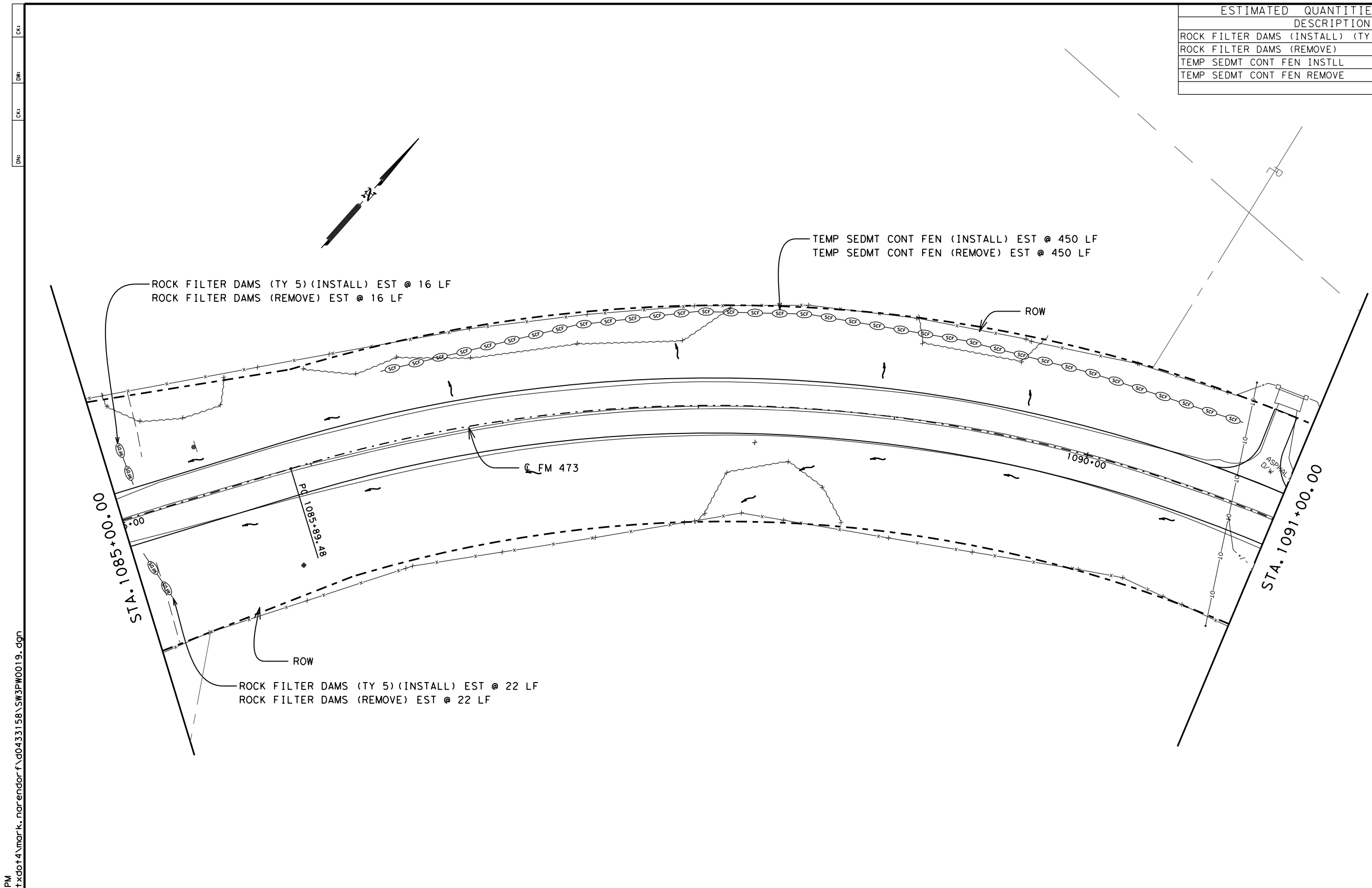


RM 473  
SW3P LAYOUTS

Texas Department of Transportation  
SHEET 19 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		503

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	38	LF
ROCK FILTER DAMS (REMOVE)	38	LF
TEMP SEDMT CONT FEN INSTLL	450	LF
TEMP SEDMT CONT FEN REMOVE	450	LF



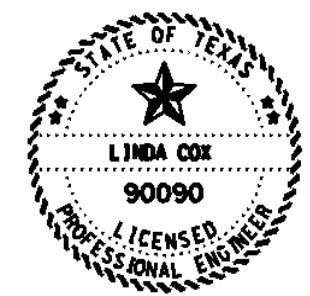
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

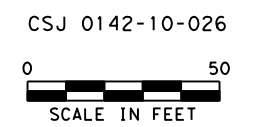
NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



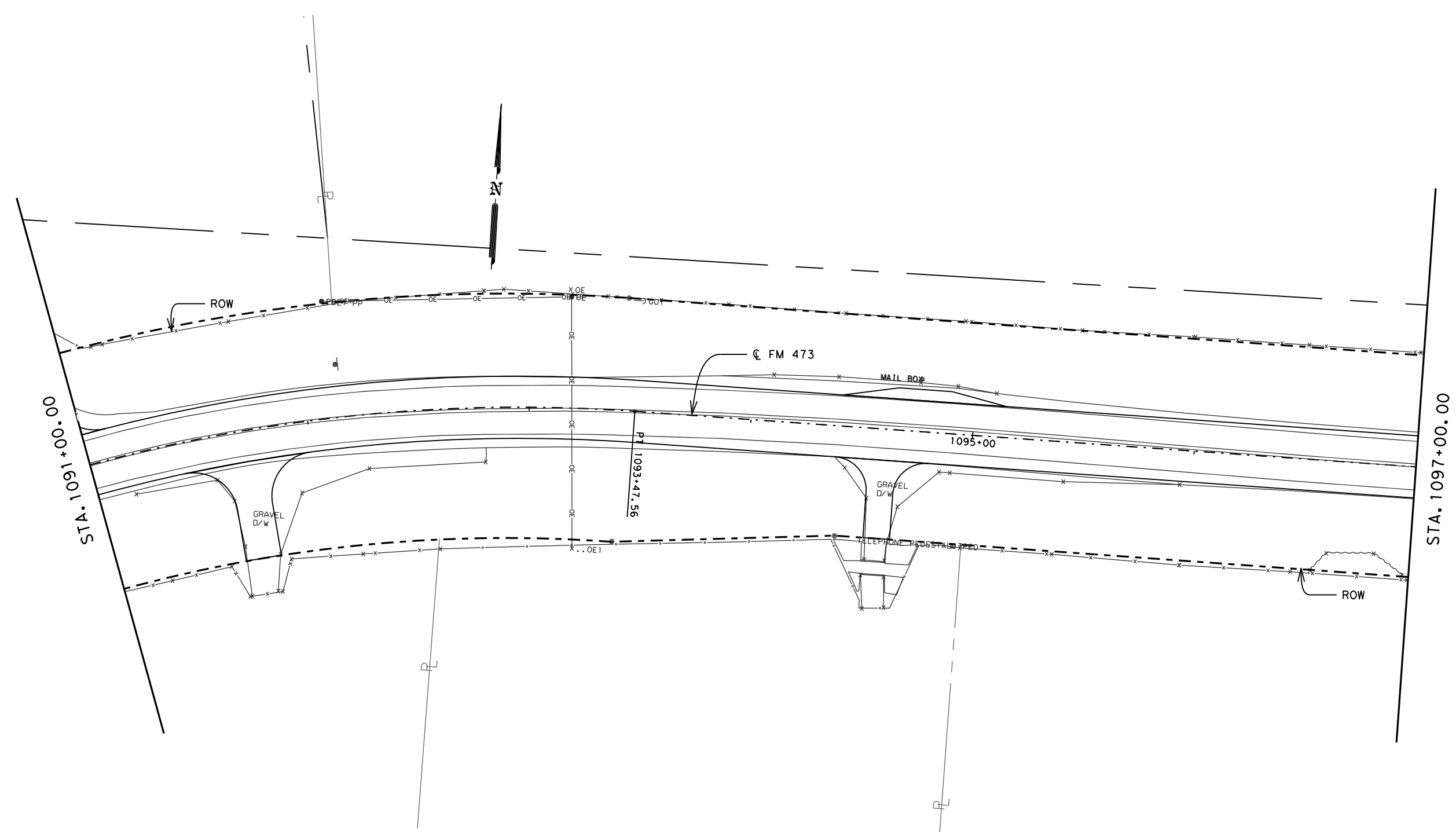
*Linda Cox, P.E.*  
 04/28/2021



RM 473  
 SW3P LAYOUTS

Texas Department of Transportation		SHEET 20 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		504

DN: CK: DM: CK: CK:



DATE: 4/26/2021 4:03:20 PM  
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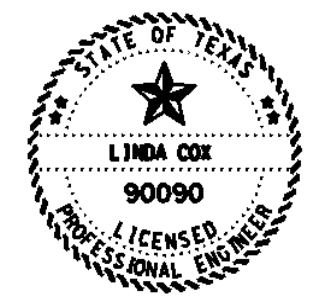
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

- LEGEND
- RFDS - ROCK FILTER DAM (TY 5)
  - SCF - TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW



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 04/28/2021

CSJ 0142-10-026



RM 473  
 SW3P LAYOUTS

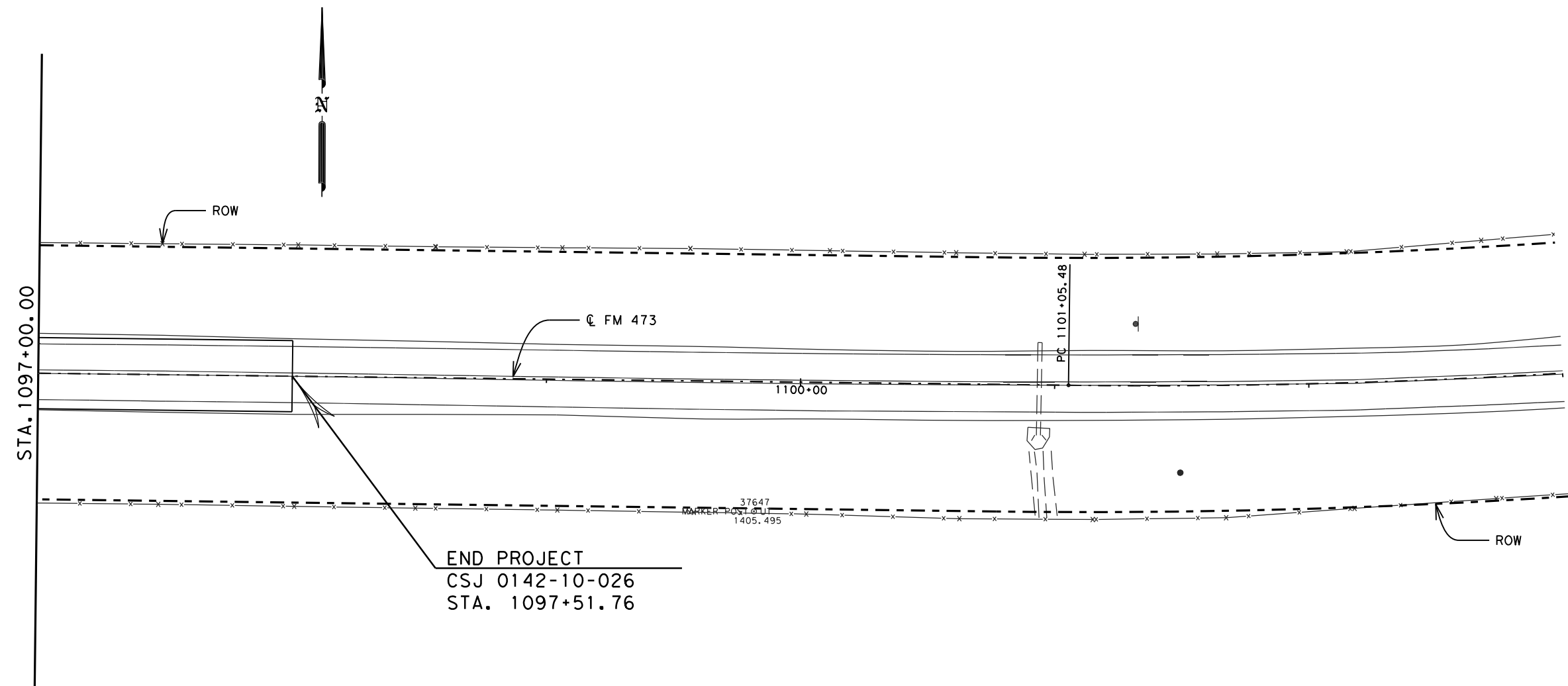


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		505



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DATE: 4/26/2021 4:03:33 PM  
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END PROJECT  
 CSJ 0142-10-026  
 STA. 1097+51.76

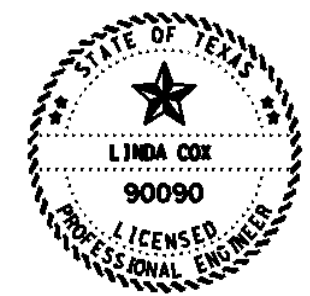
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

- LEGEND
- (RFDS) ROCK FILTER DAM (TY 5)
  - (SCF) TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026

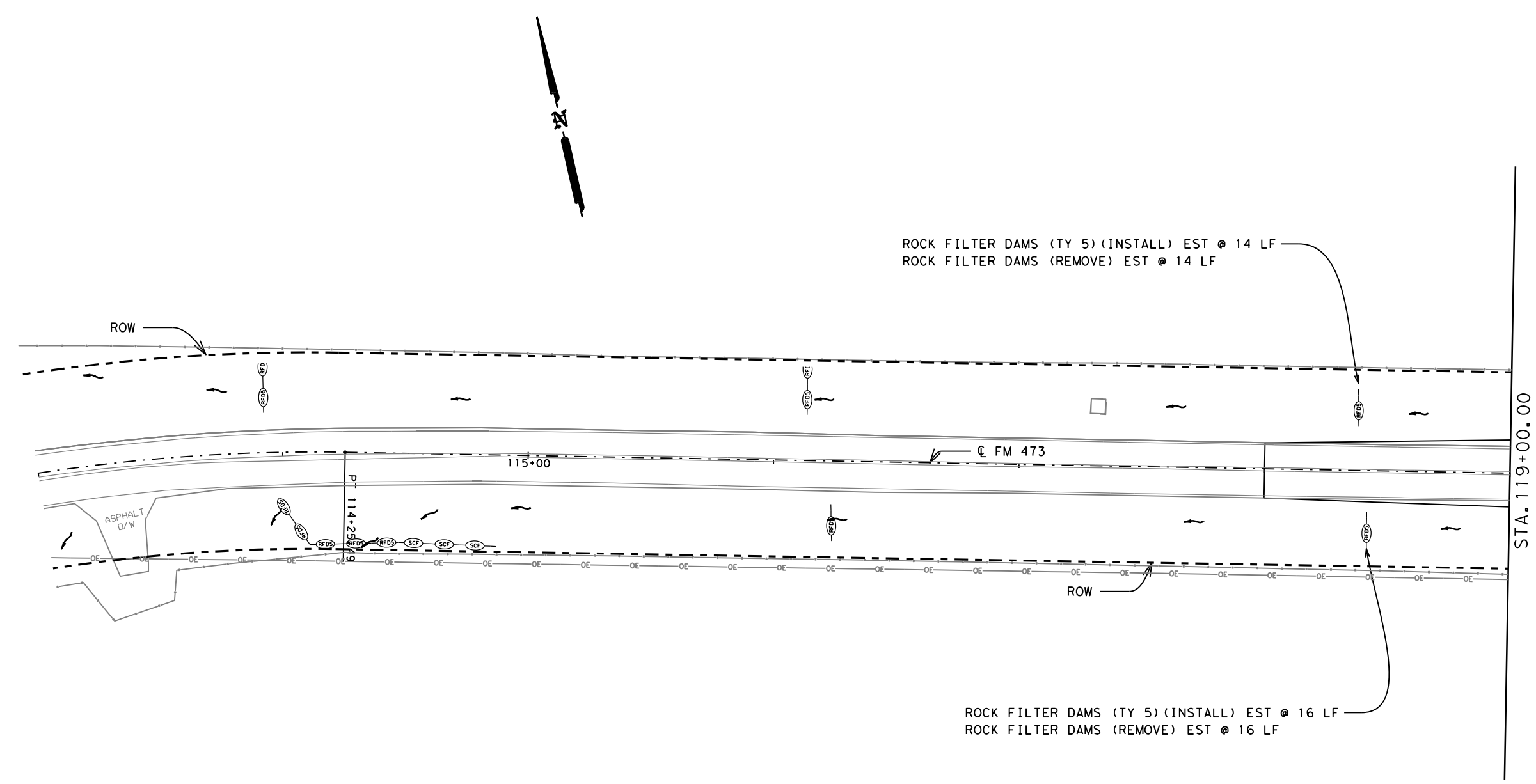


RM 473  
 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		506

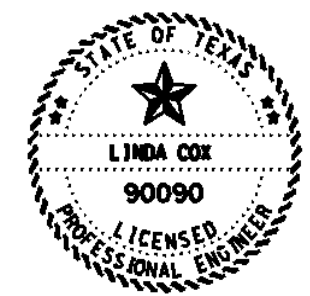
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	30	LF
ROCK FILTER DAMS (REMOVE)	30	LF



ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 14 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 14 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 16 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 16 LF

STA. 119+00.00



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 04/28/2021

CSJ 0142-10-025



RM 473  
 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		507

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

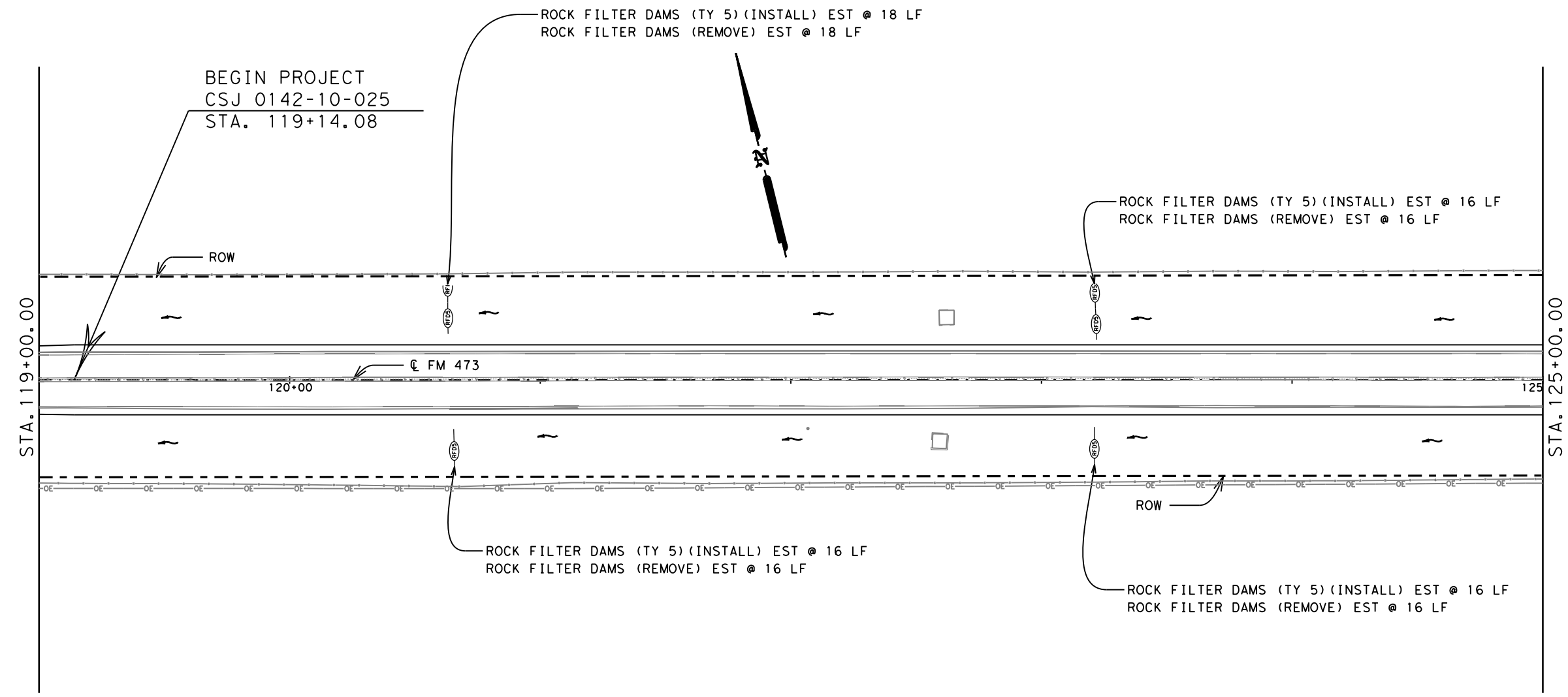
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

DATE: 4/26/2021 4:04:00 PM  
 FILE: c:\t\dot\pw\_online\txdot4\mark\_narendor\0433165\SW3PE0015.dgn

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	66	LF
ROCK FILTER DAMS (REMOVE)	66	LF



DATE: 4/26/2021 4:04:13 PM  
 FILE: c:\t\dot\pw\_online\txdot4\mark\_narendor\0433165\SW3PE0016.dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

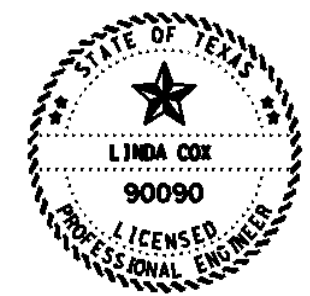
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

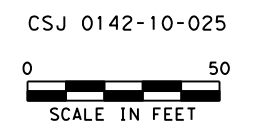
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



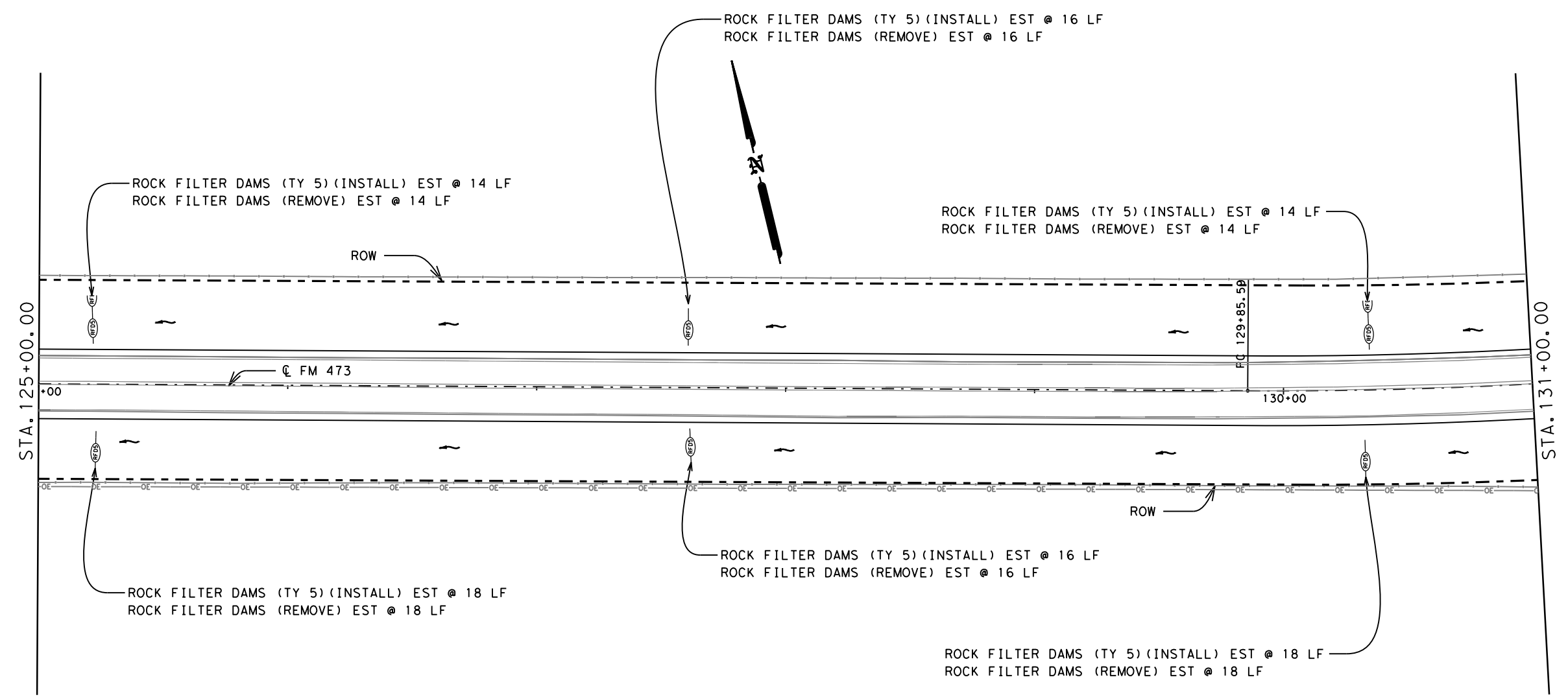
*Linda Cox, P.E.*  
04/28/2021



RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 24 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		508

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	96	LF
ROCK FILTER DAMS (REMOVE)	96	LF



DATE: 4/26/2021 4:04:27 PM  
 FILE: c:\t\dot\pw\_online\txdot4\mark\_narendor\0433165\SW3PE0017.dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

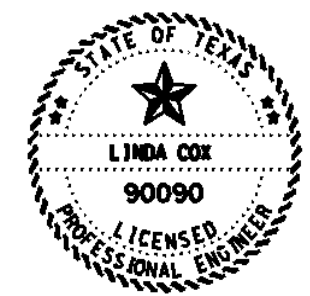
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025



RM 473  
SW3P LAYOUTS



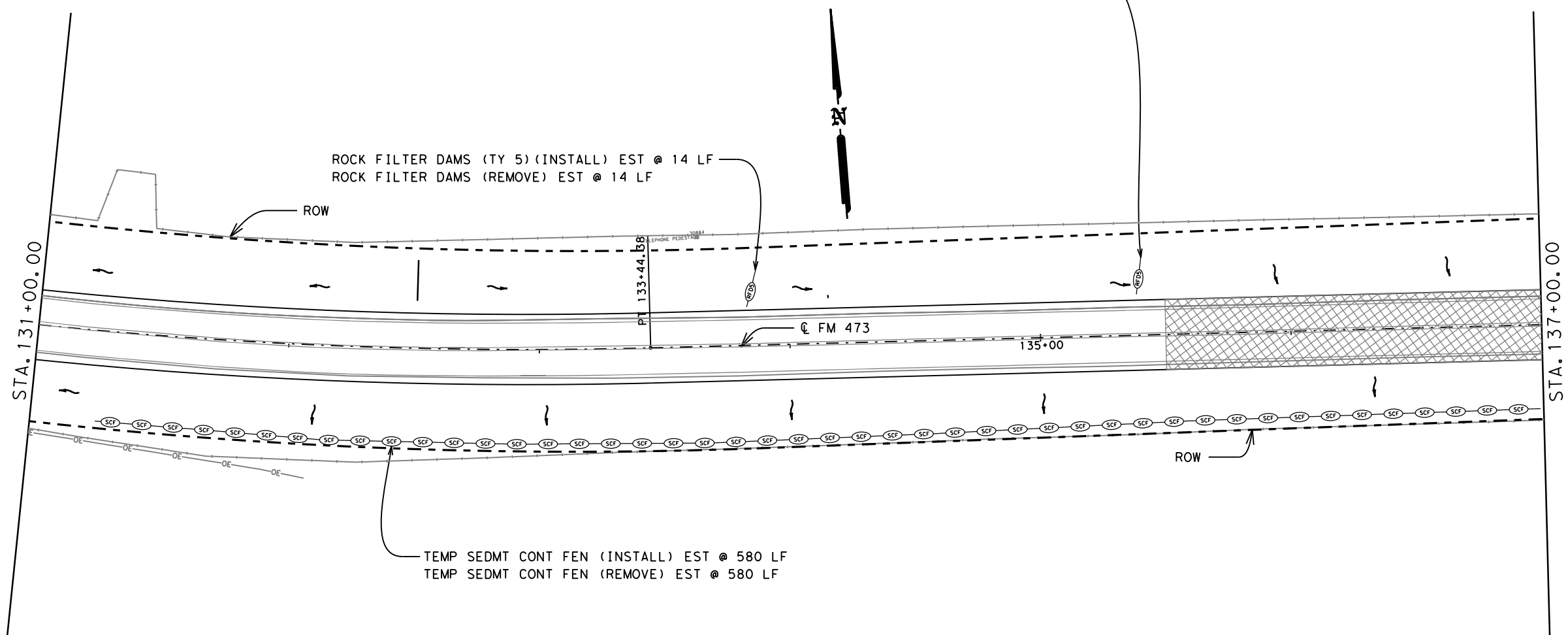
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		509

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	32	LF
ROCK FILTER DAMS (REMOVE)	32	LF
TEMP SEDMT CONT FEN INSTLL	580	LF
TEMP SEDMT CONT FEN REMOVE	580	LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 18 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 18 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 14 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 14 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 580 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 580 LF



DATE: 4/26/2021 4:04:41 PM  
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

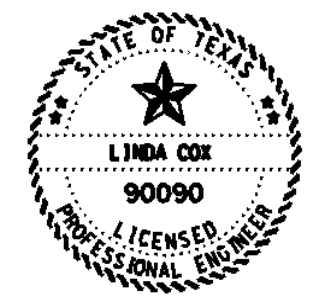
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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 04/28/2021

CSJ 0142-10-025

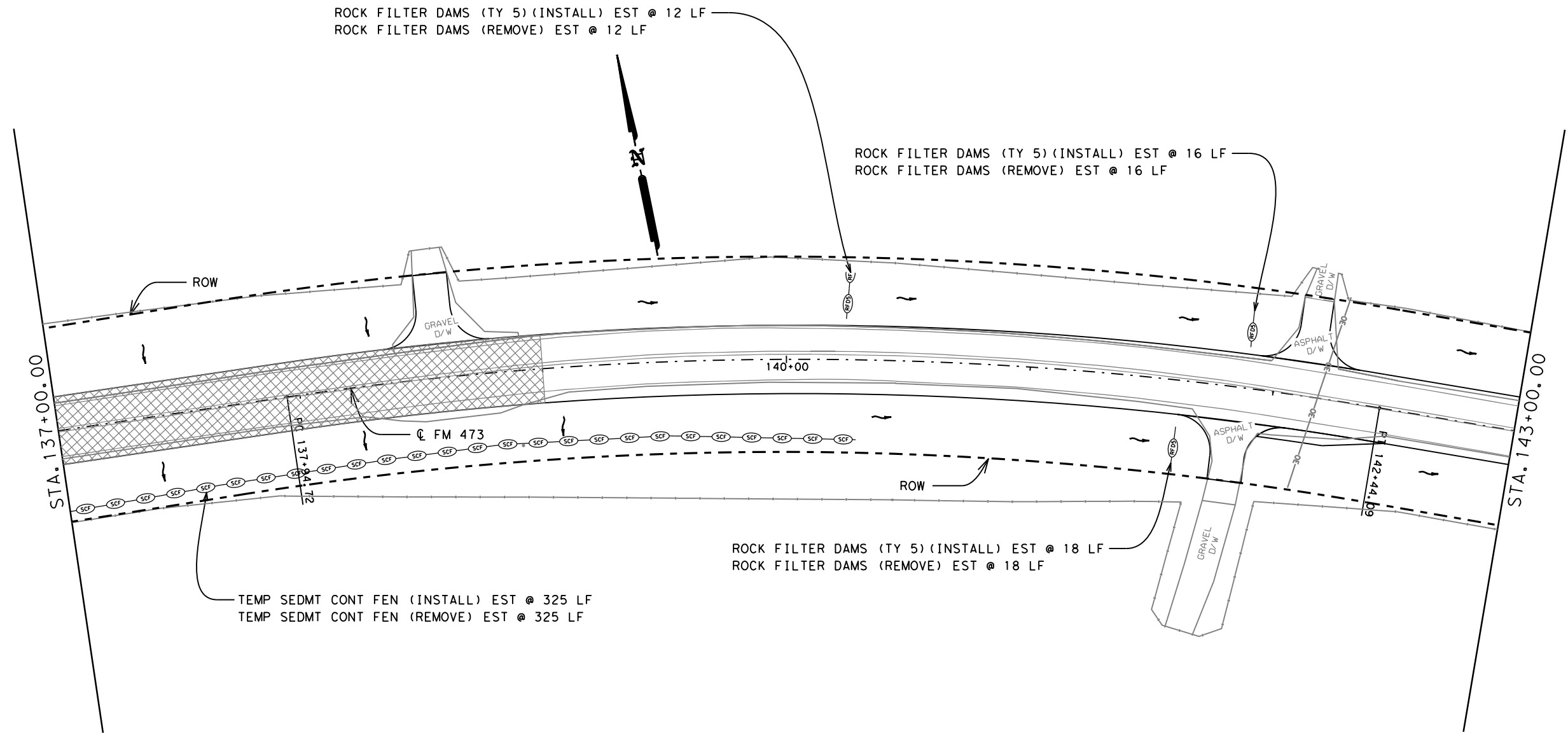


RM 473  
 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	510

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	46	LF
ROCK FILTER DAMS (REMOVE)	46	LF
TEMP SEDMT CONT FEN INSTLL	325	LF
TEMP SEDMT CONT FEN REMOVE	325	LF



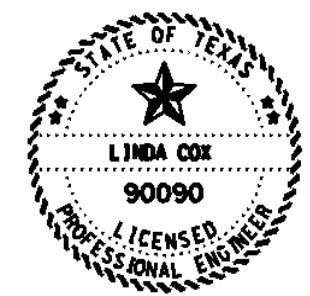
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

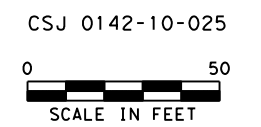
NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



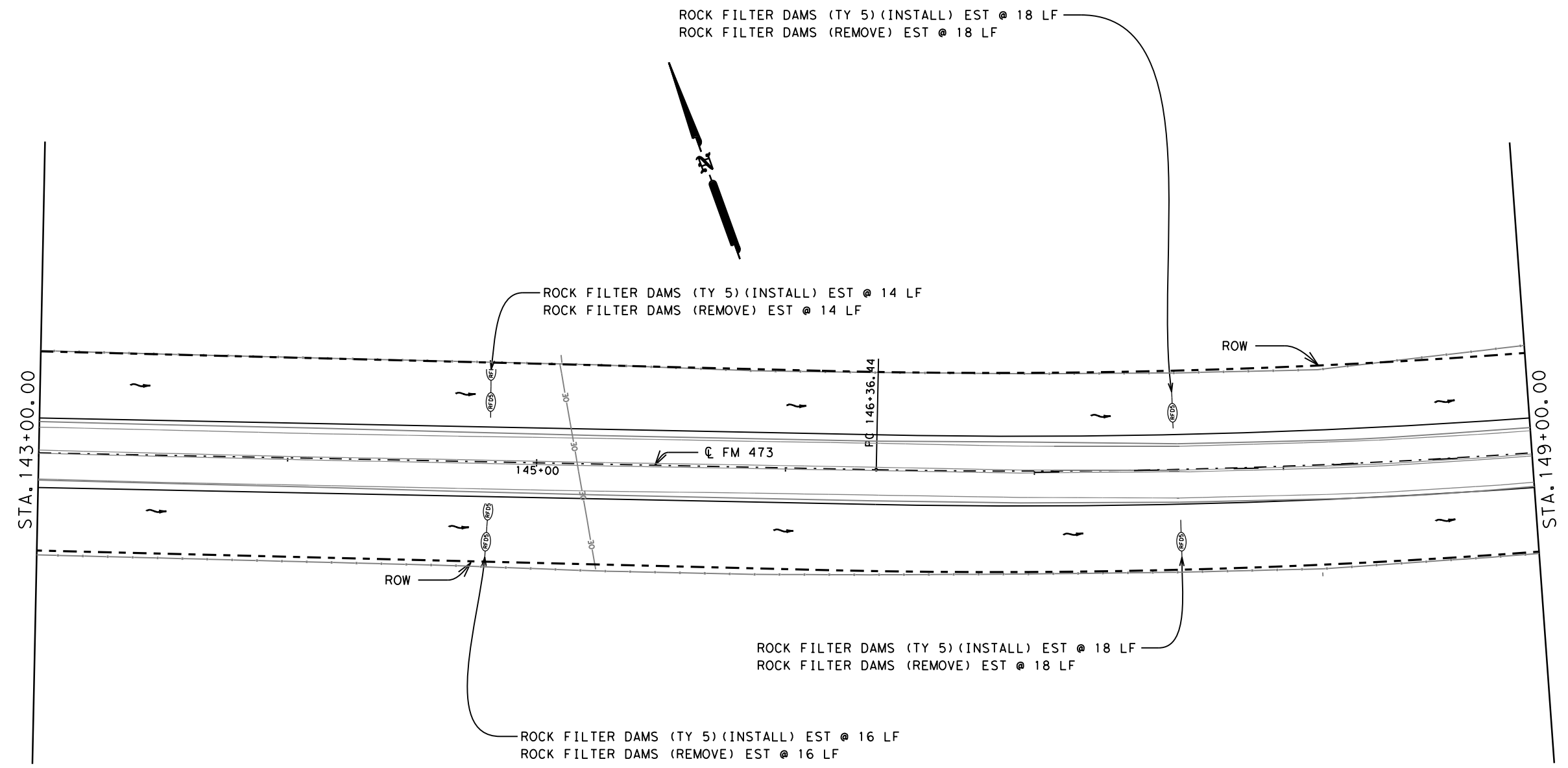
*Linda Cox, P.E.*  
 04/28/2021



RM 473  
 SW3P LAYOUTS

Texas Department of Transportation		SHEET 27 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		511

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	66	LF
ROCK FILTER DAMS (REMOVE)	66	LF



DATE: 4/26/2021 4:05:04 PM  
 FILE: c:\t\dot\pw\_online\txdot4\mark\_narendor\0433165\SW3PE0020.dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

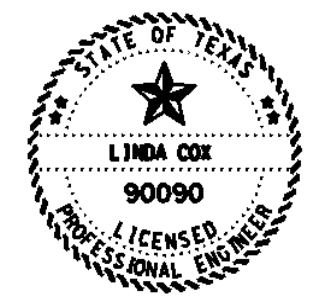
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



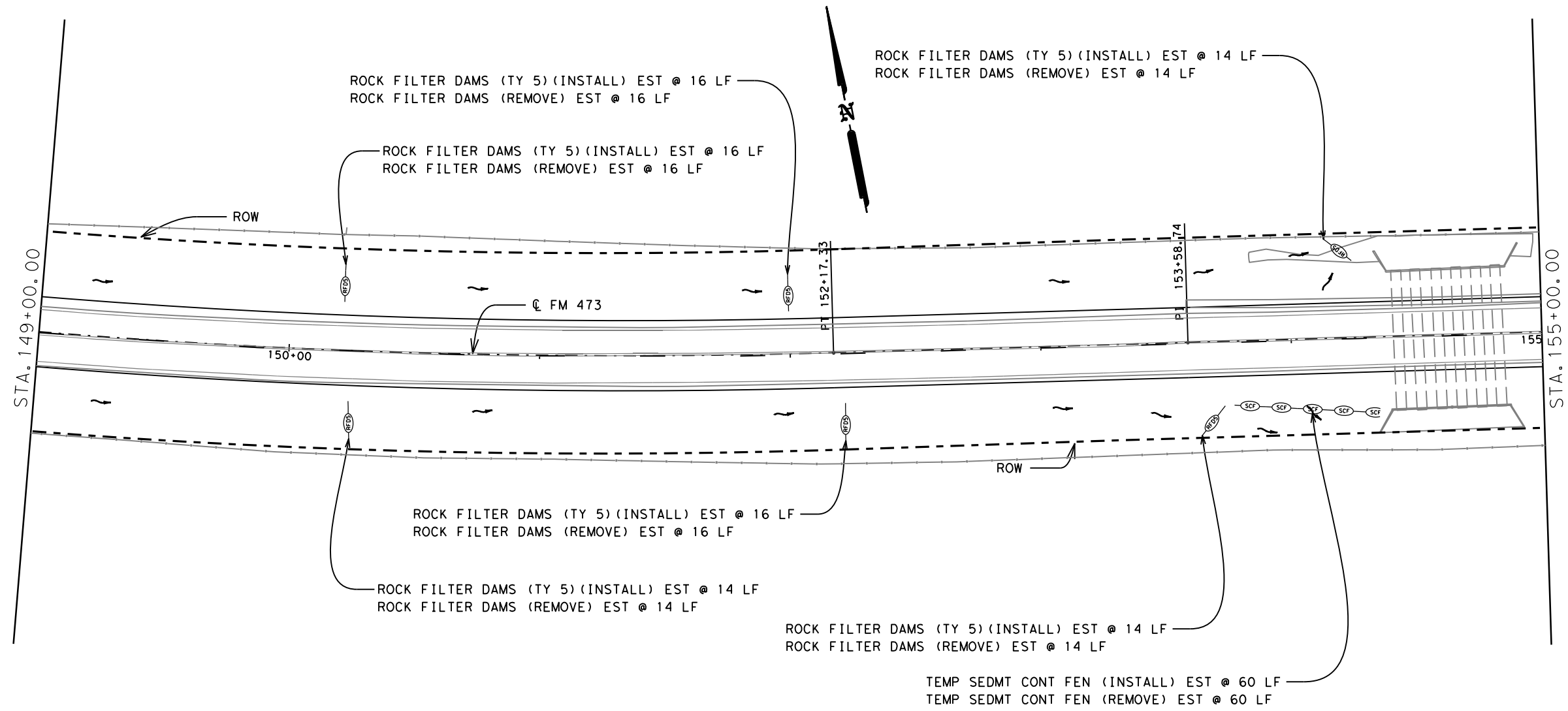
RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		512



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	90	LF
ROCK FILTER DAMS (REMOVE)	90	LF
TEMP SEDMT CONT FEN INSTLL	60	LF
TEMP SEDMT CONT FEN REMOVE	60	LF



DATE: 4/26/2021 4:05:17 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

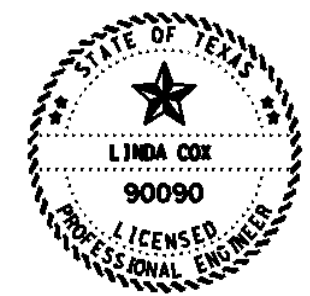
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025

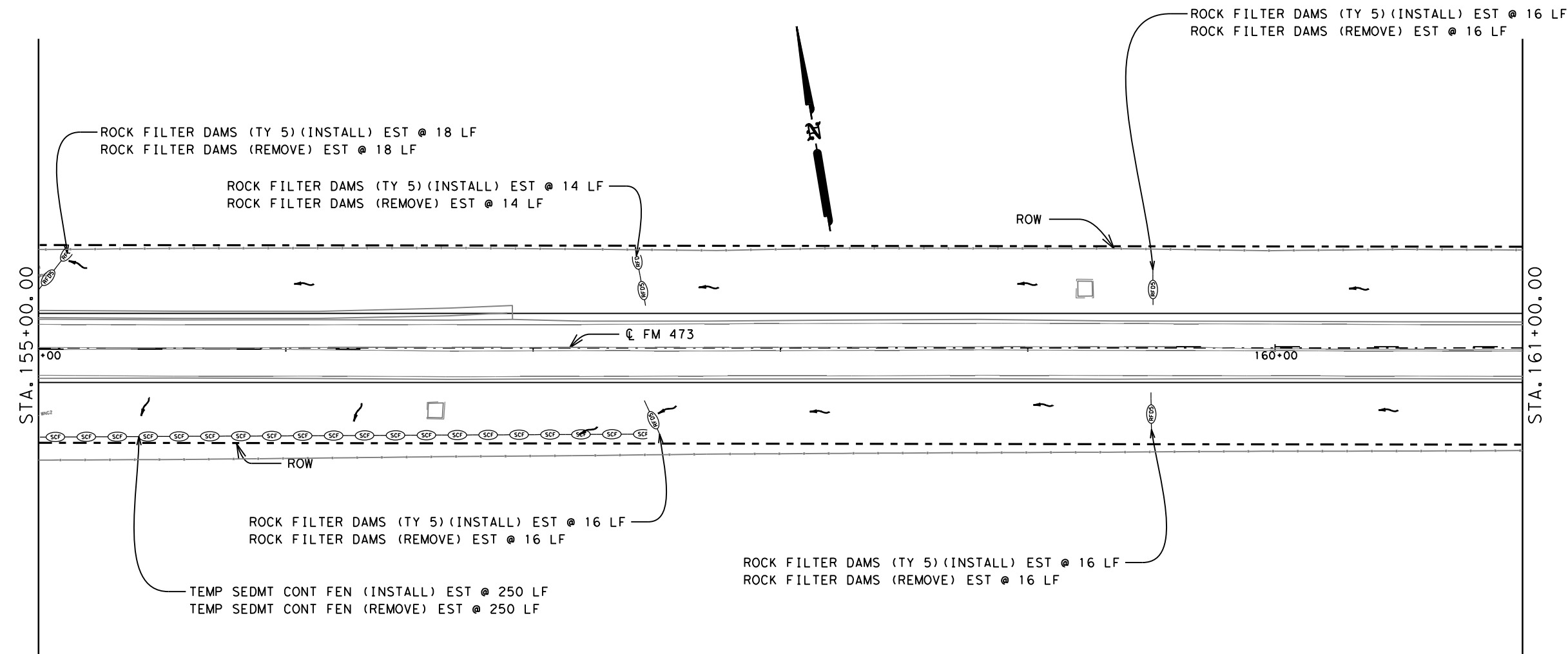


RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		513

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	80	LF
ROCK FILTER DAMS (REMOVE)	80	LF
TEMP SEDMT CONT FEN INSTLL	250	LF
TEMP SEDMT CONT FEN REMOVE	250	LF



DATE: 4/26/2021 4:05:25 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

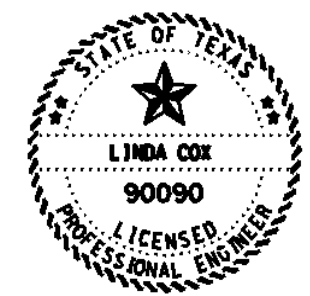
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025

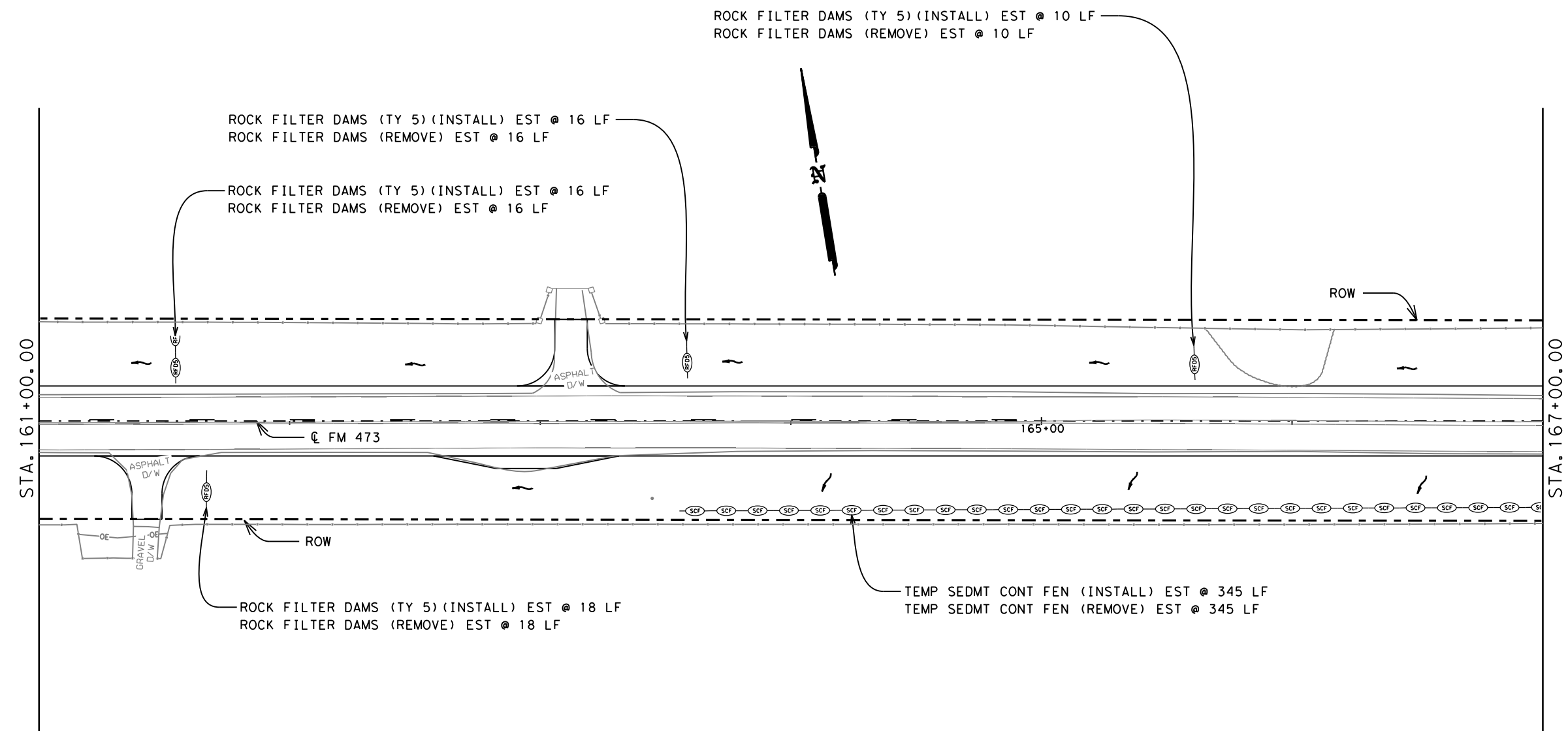


RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		514

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	60	LF
ROCK FILTER DAMS (REMOVE)	60	LF
TEMP SEDMT CONT FEN INSTLL	345	LF
TEMP SEDMT CONT FEN REMOVE	345	LF



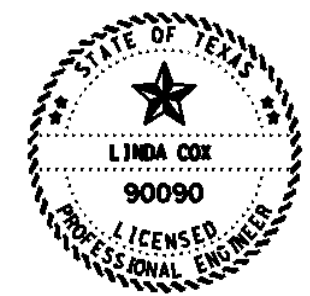
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



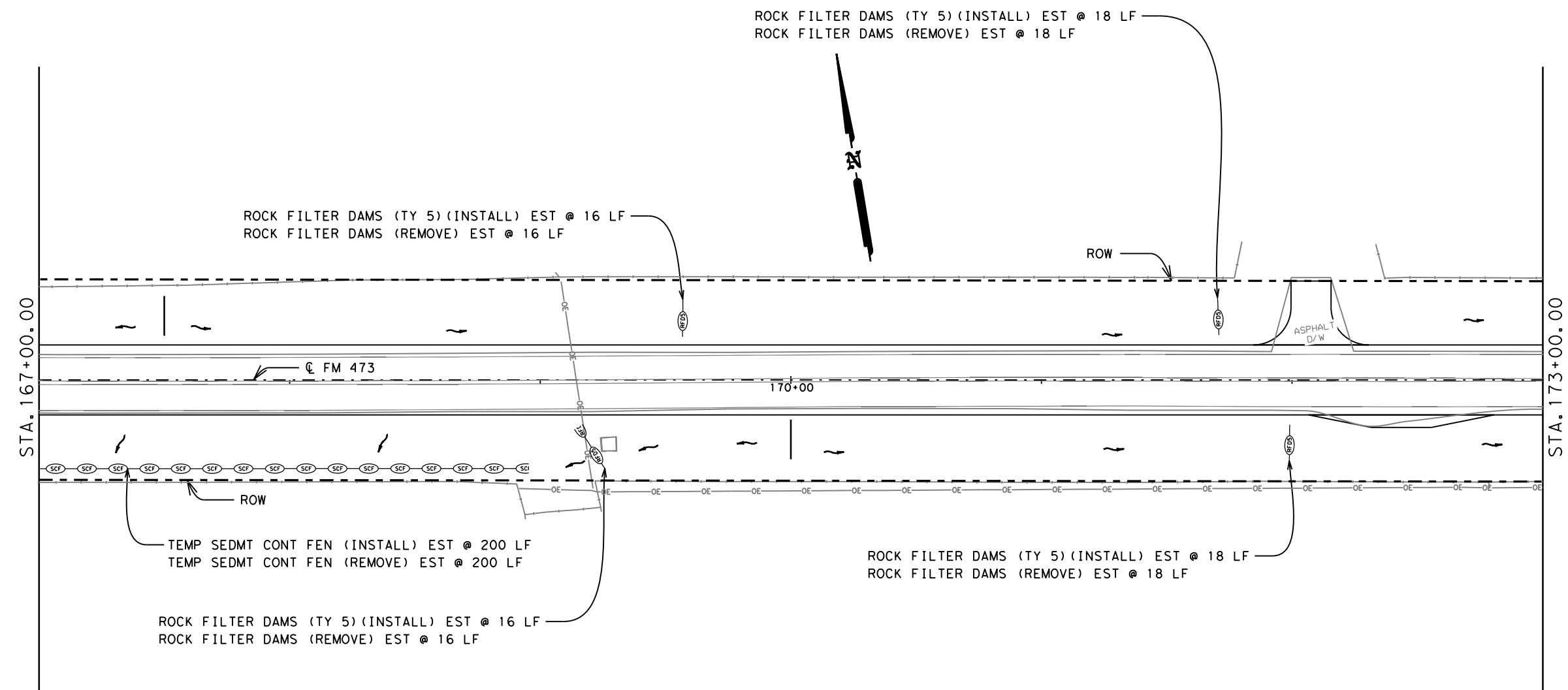
*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025  
 0 50  
 SCALE IN FEET

RM 473  
 SW3P LAYOUTS

Texas Department of Transportation		SHEET 31 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		515

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	68	LF
ROCK FILTER DAMS (REMOVE)	68	LF
TEMP SEDMT CONT FEN INSTLL	200	LF
TEMP SEDMT CONT FEN REMOVE	200	LF



DATE: 4/26/2021 4:05:49 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

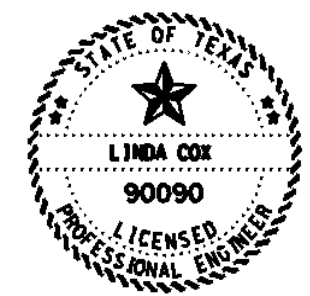
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

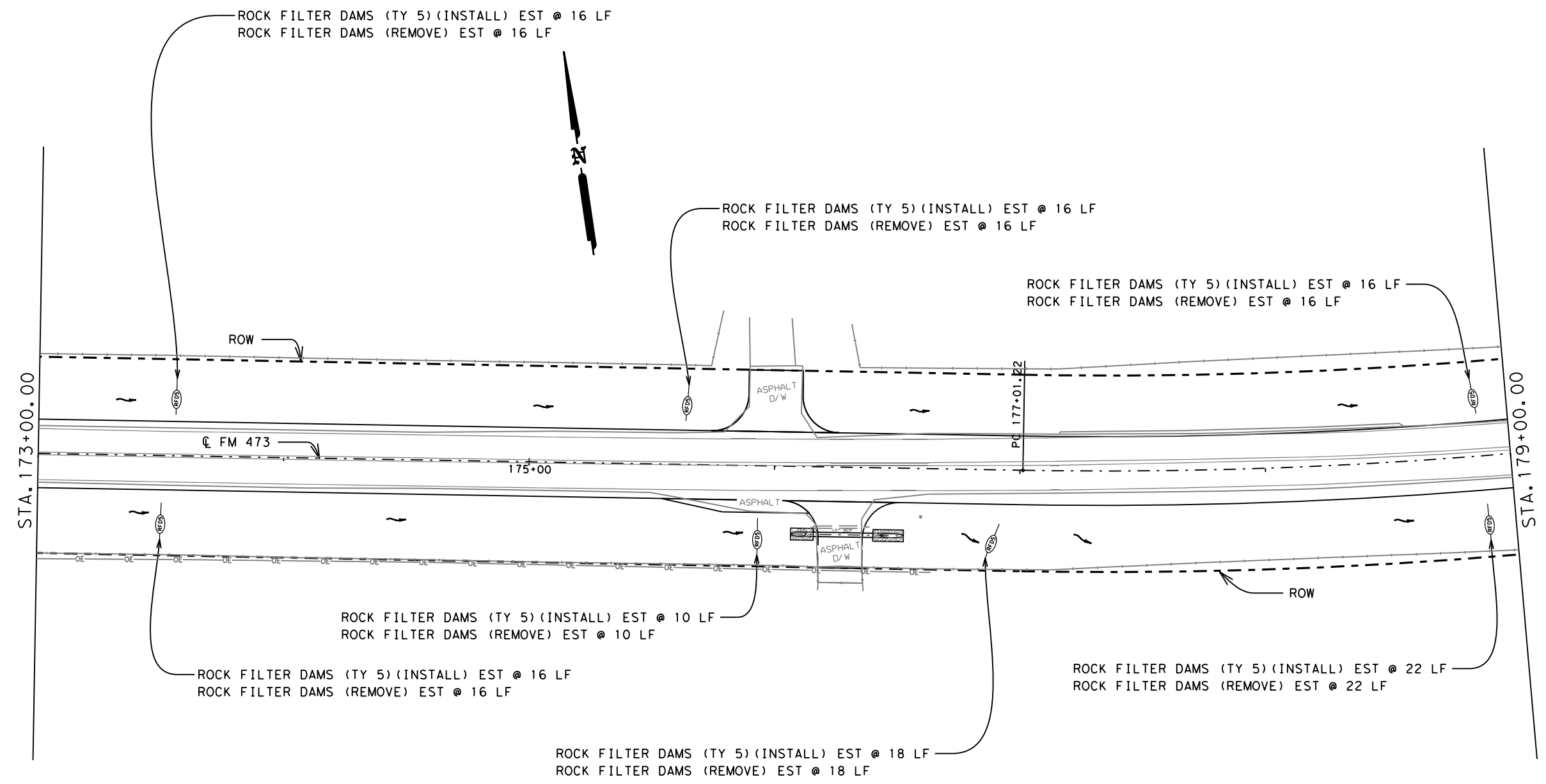
CSJ 0142-10-025



RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 32 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		516

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	114	LF
ROCK FILTER DAMS (REMOVE)	114	LF



DATE: 4/26/2021 4:05:58 PM  
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

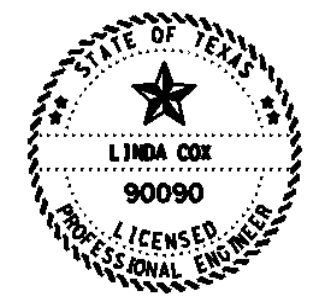
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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 04/28/2021

CSJ 0142-10-025

0 50  
 SCALE IN FEET

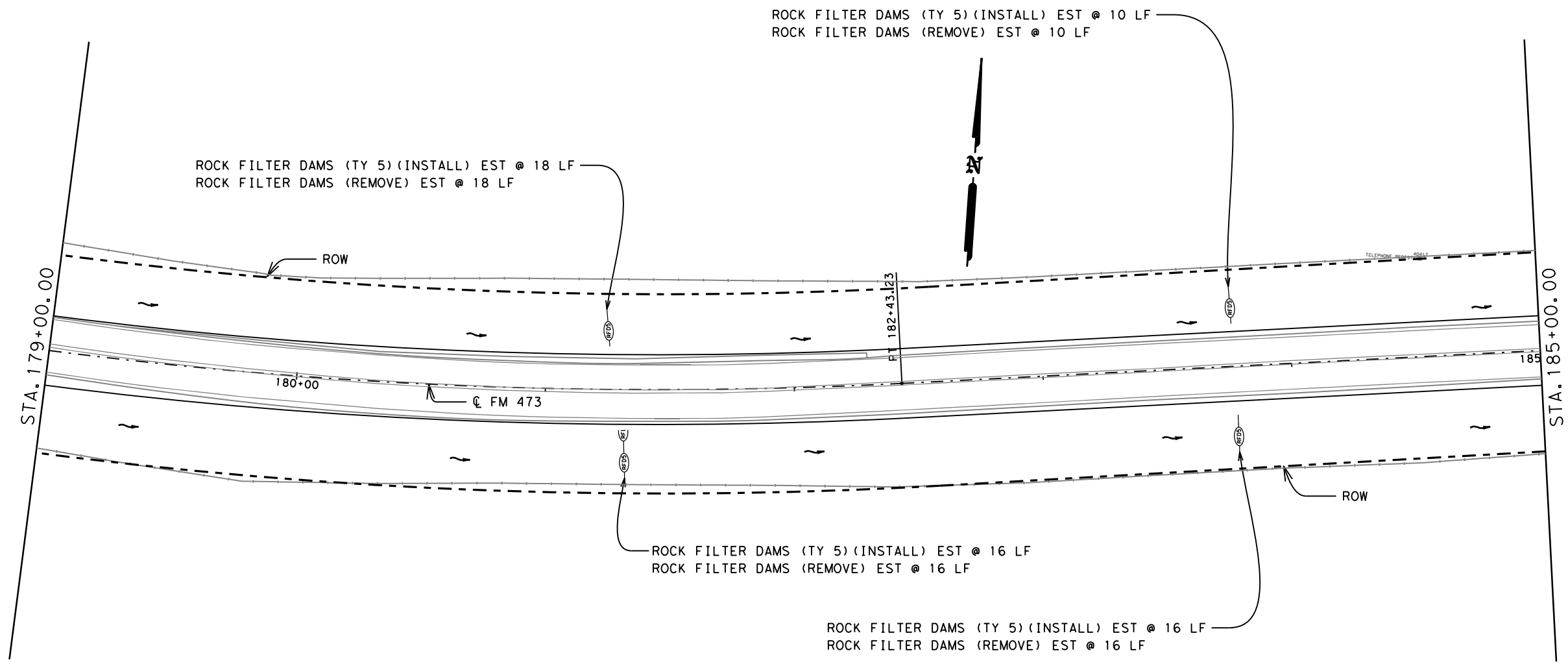
RM 473  
 SW3P LAYOUTS

Texas Department of Transportation  
 SHEET 33 OF 58

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		517

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	60	LF
ROCK FILTER DAMS (REMOVE)	60	LF

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_



DATE: 4/26/2021 4:06:07 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

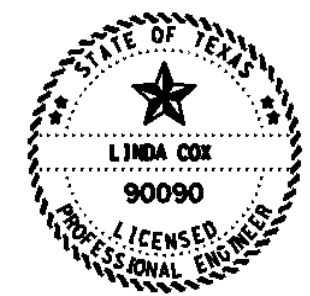
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

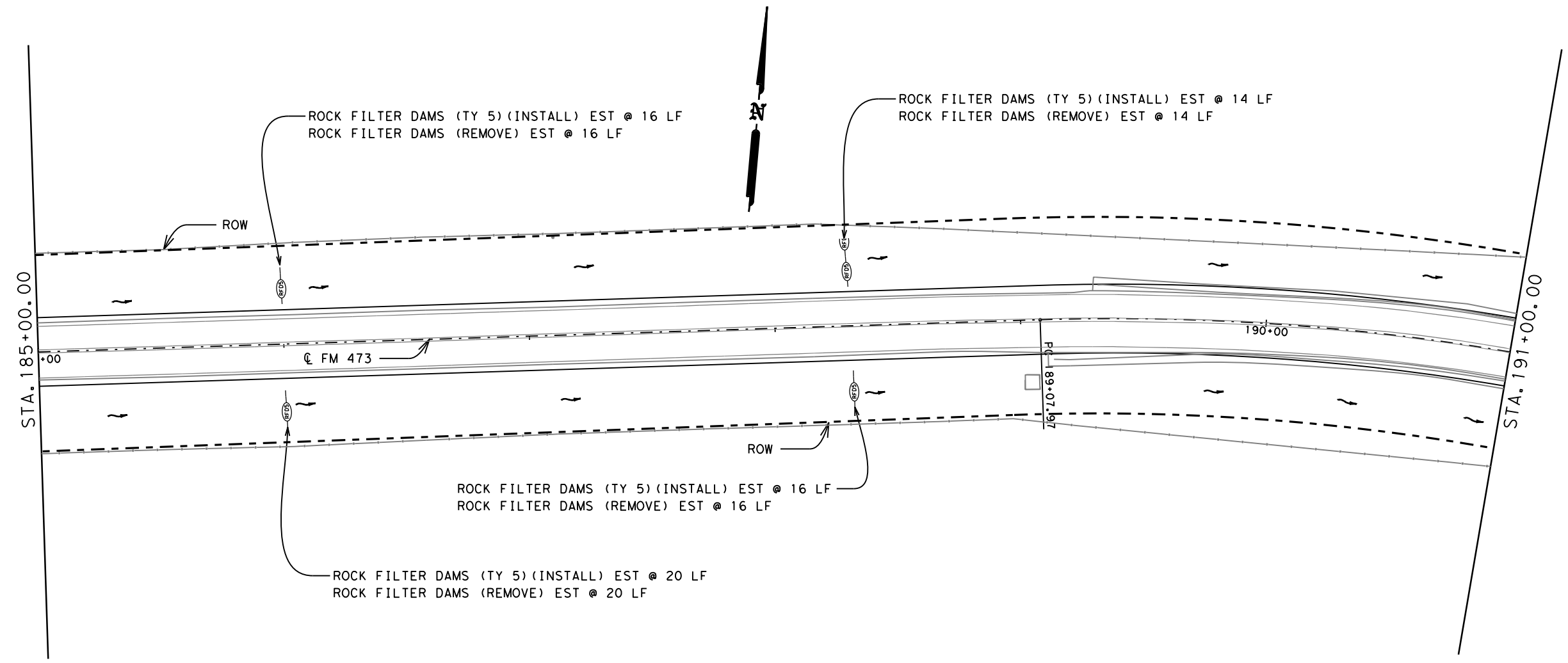
CSJ 0142-10-025

SCALE IN FEET

RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 34 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		518

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	66	LF
ROCK FILTER DAMS (REMOVE)	66	LF
CONSTRUCTION EXITS (INSTALL) (TY 1)	111	SY
CONSTRUCTION EXITS (REMOVE)	111	SY



DATE: 4/26/2021 4:06:15 PM  
 FILE: c:\t\dot\pw\_online\txdot4\mark\_norendor\0433165\SW3PE0027.dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

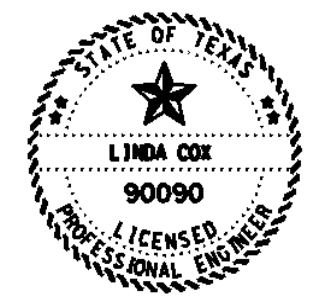
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NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



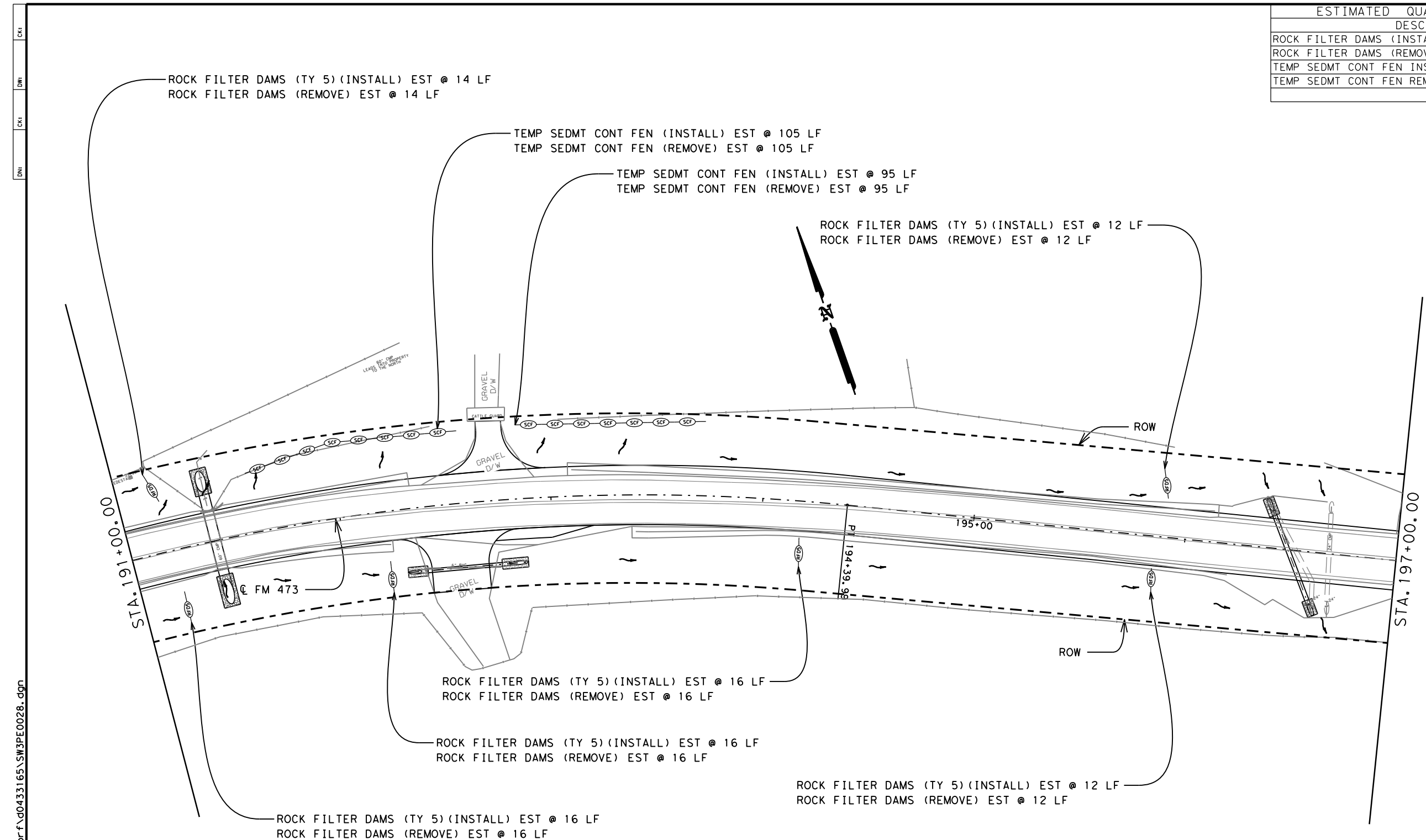
RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		519



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	86	LF
ROCK FILTER DAMS (REMOVE)	86	LF
TEMP SEDMT CONT FEN INSTLL	200	LF
TEMP SEDMT CONT FEN REMOVE	200	LF



DATE: 4/26/2021 4:06:24 PM  
 FILE: c:\t\dot\pw\_online\txdot4\mark\_norendor\0433165\SW3PE0028.dgn

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

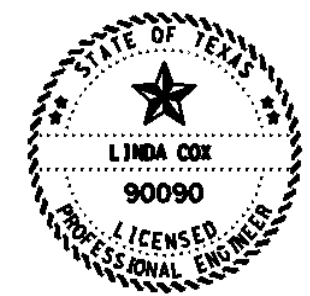
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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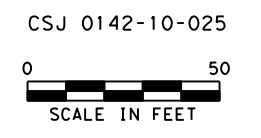
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
04/28/2021

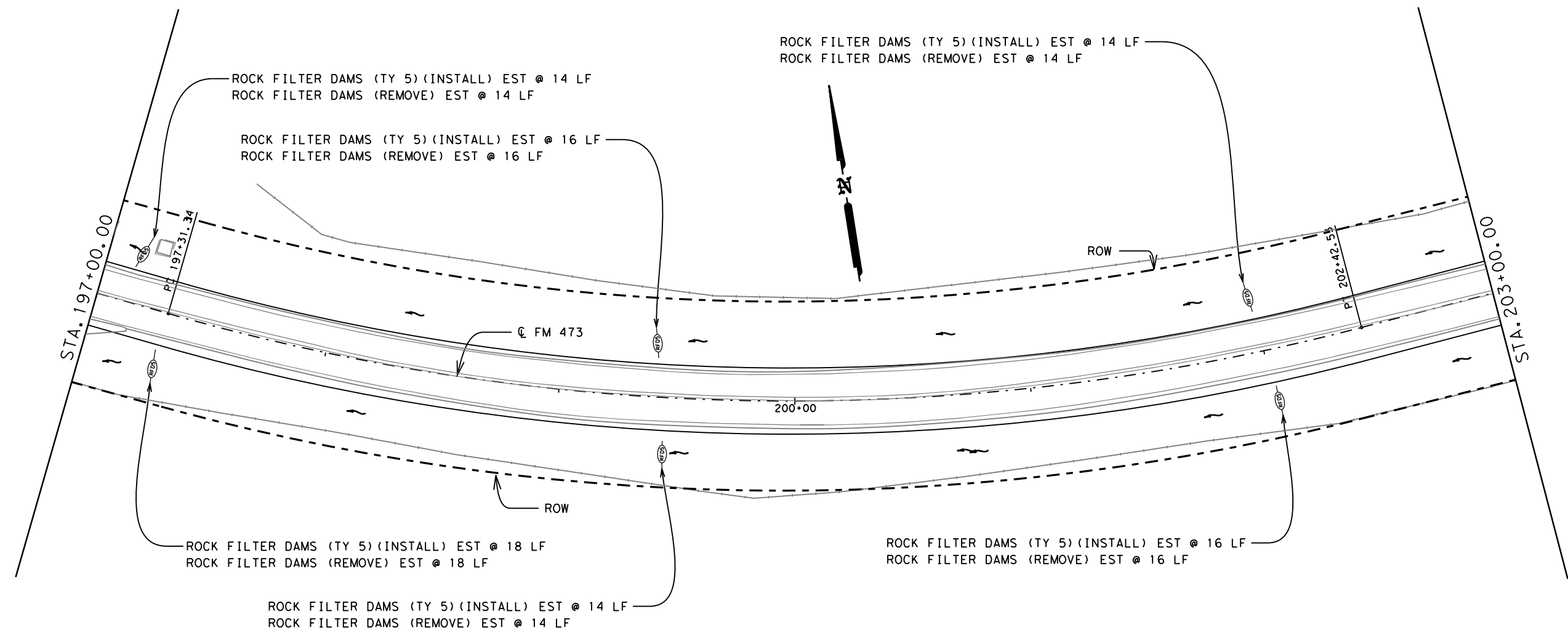


RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 36 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		520

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	92	LF
ROCK FILTER DAMS (REMOVE)	92	LF

Ck: \_\_\_\_\_  
 Dm: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 Dm: \_\_\_\_\_



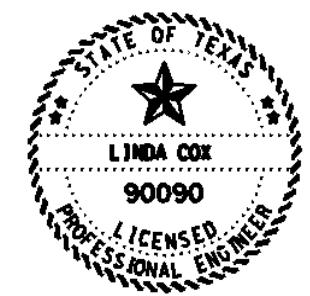
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**NOTE:**  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

**NOTE:**  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



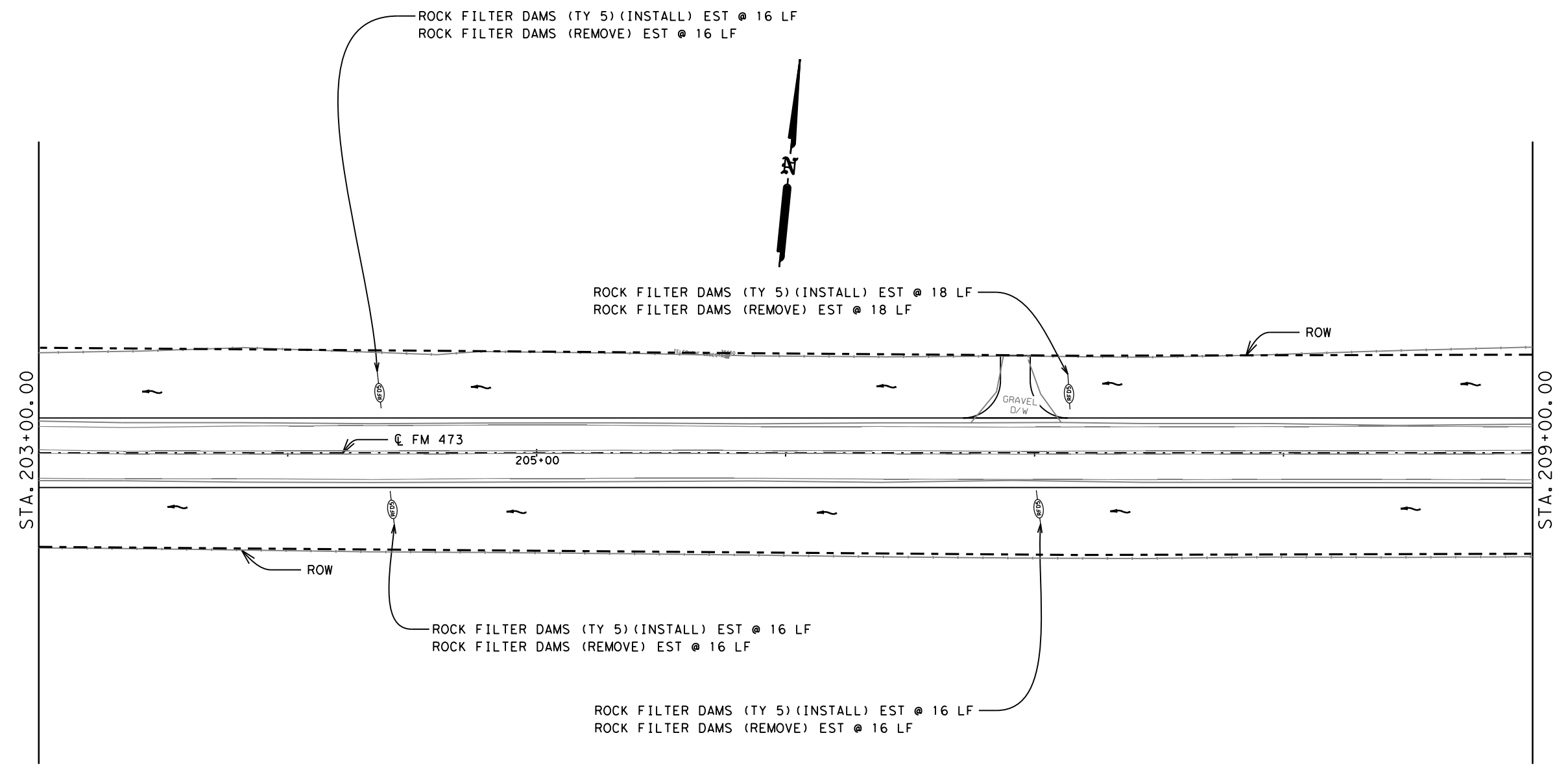
*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025  
 0 50  
 SCALE IN FEET

## RM 473 SW3P LAYOUTS

		SHEET 37 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		521

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	66	LF
ROCK FILTER DAMS (REMOVE)	66	LF



DATE: 4/26/2021 4:06:43 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

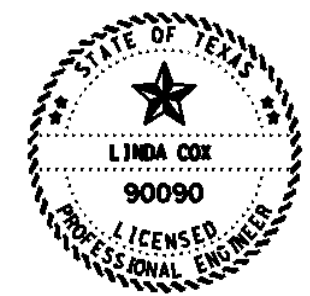
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

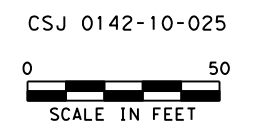
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



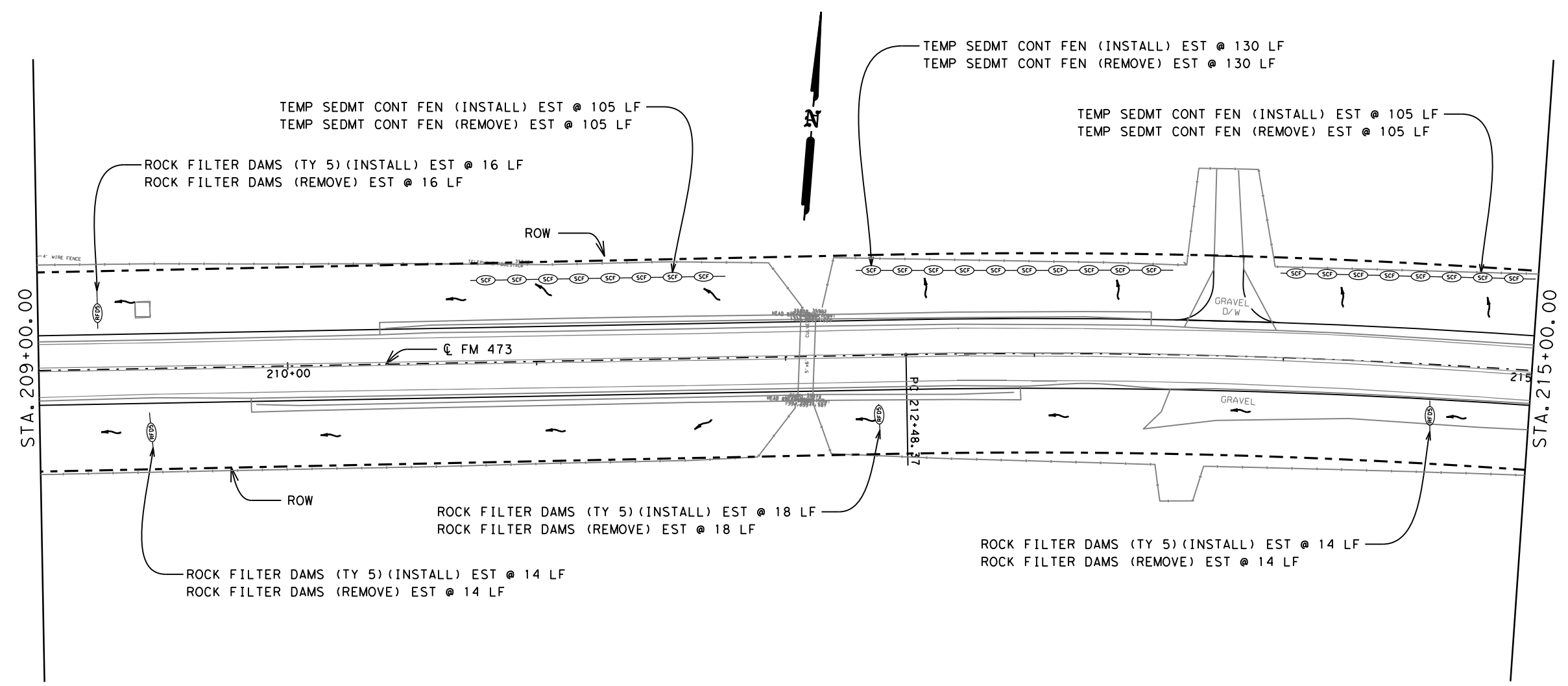
*Linda Cox, P.E.*  
04/28/2021



RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 38 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		522

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	62	LF
ROCK FILTER DAMS (REMOVE)	62	LF
TEMP SEDMT CONT FEN INSTLL	340	LF
TEMP SEDMT CONT FEN REMOVE	340	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

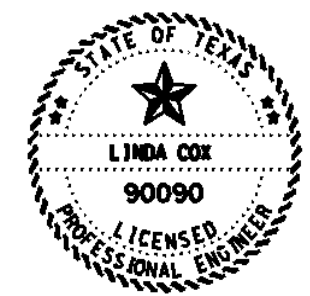
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025



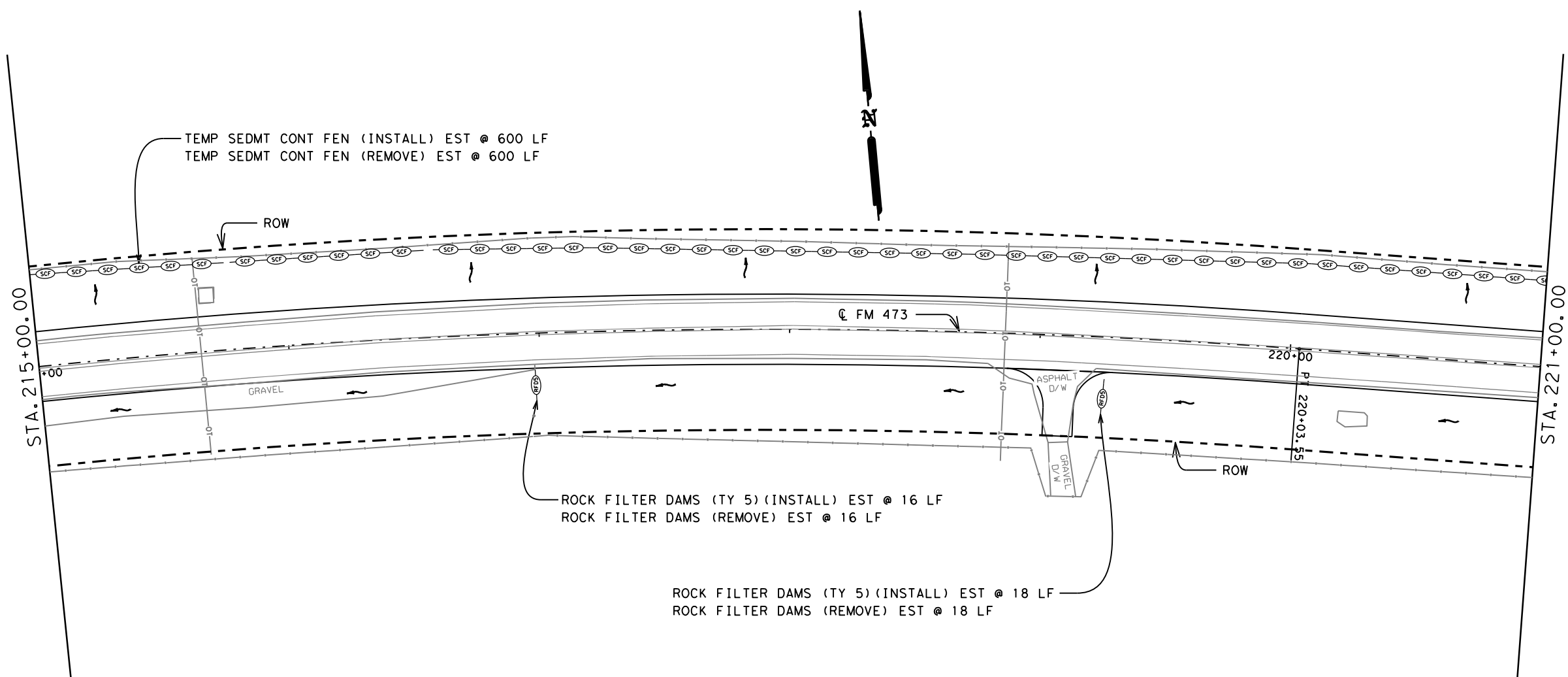
RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		523

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	32	LF
ROCK FILTER DAMS (REMOVE)	32	LF
TEMP SEDMT CONT FEN INSTLL	600	LF
TEMP SEDMT CONT FEN REMOVE	600	LF

Cks:  
 Dwf:  
 Cks:  
 Dwf:



TEMP SEDMT CONT FEN (INSTALL) EST @ 600 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 600 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 16 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 16 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 18 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 18 LF

DATE: 4/26/2021 4:07:07 PM  
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

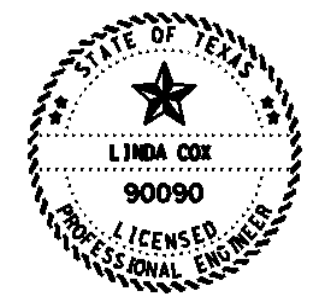
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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CSJ 0142-10-025

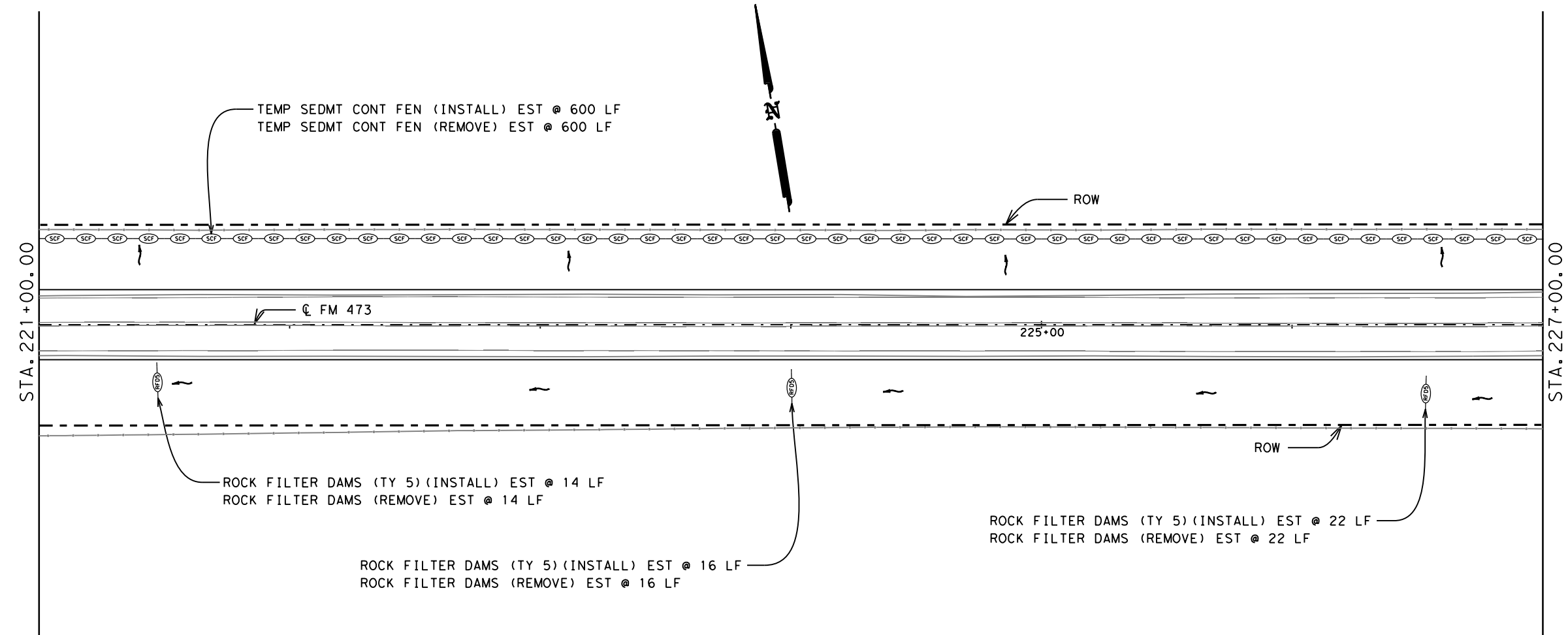


RM 473  
 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		524

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	52	LF
ROCK FILTER DAMS (REMOVE)	52	LF
TEMP SEDMT CONT FEN INSTLL	600	LF
TEMP SEDMT CONT FEN REMOVE	600	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

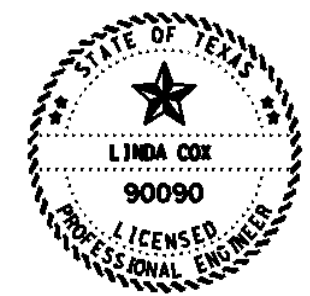
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025



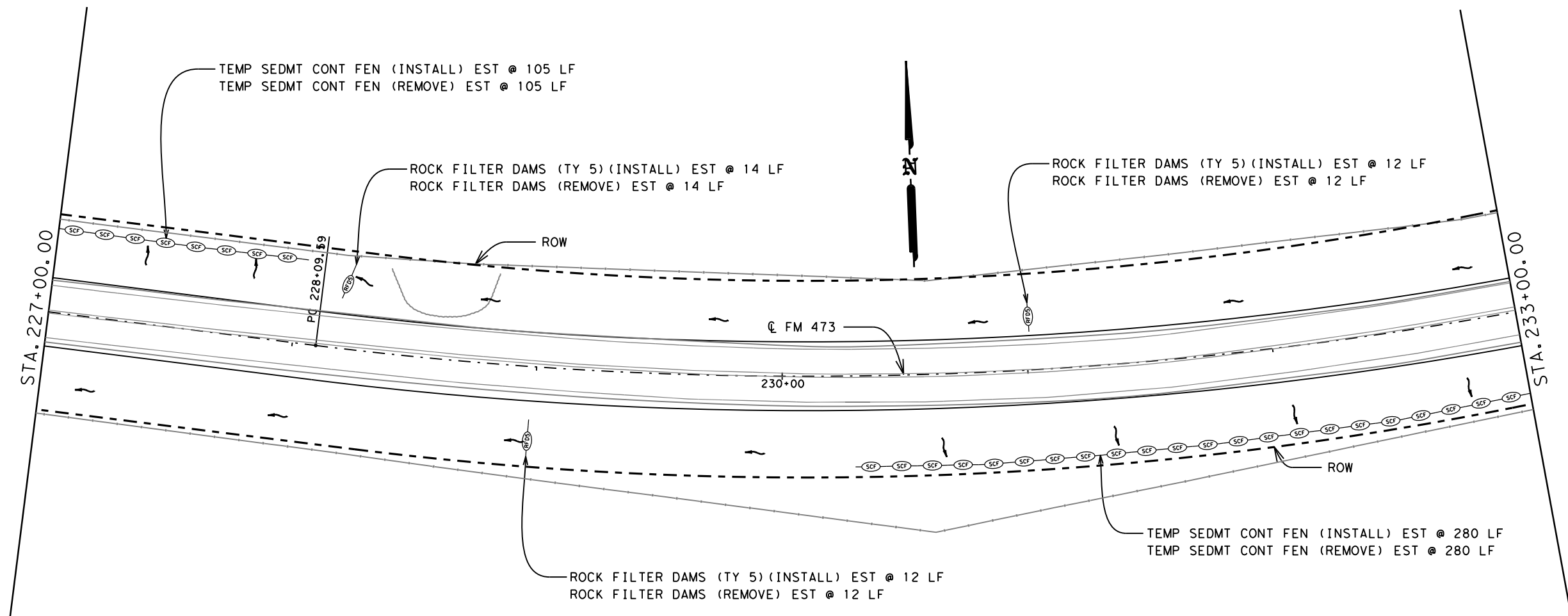
RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		525

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	38	LF
ROCK FILTER DAMS (REMOVE)	38	LF
TEMP SEDMT CONT FEN INSTLL	385	LF
TEMP SEDMT CONT FEN REMOVE	385	LF

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

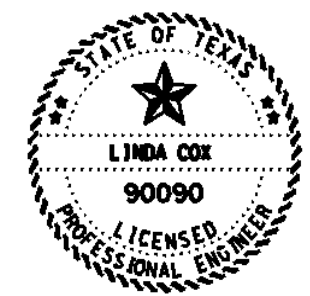
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025



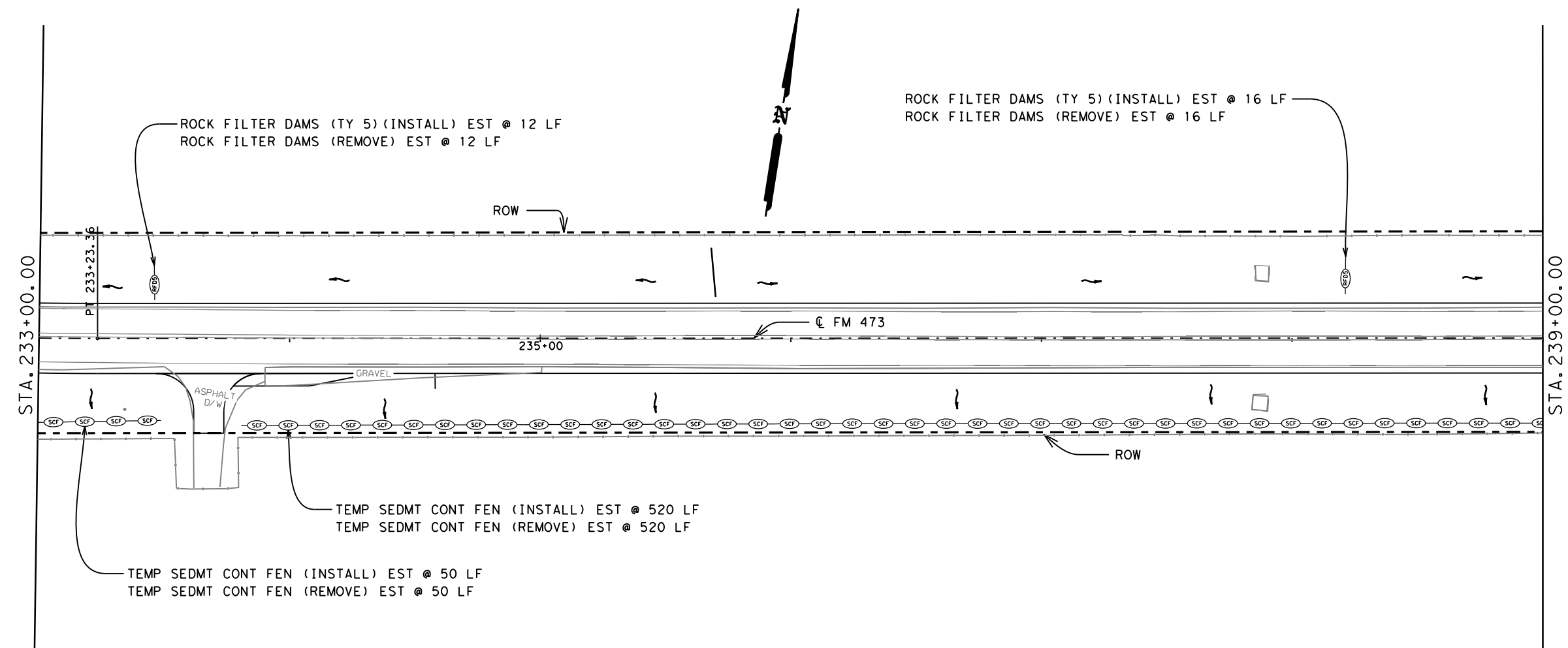
RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		526



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	28	LF
ROCK FILTER DAMS (REMOVE)	28	LF
TEMP SEDMT CONT FEN INSTLL	570	LF
TEMP SEDMT CONT FEN REMOVE	570	LF



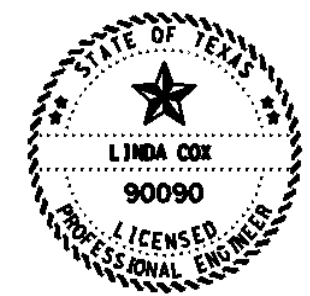
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
  
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025

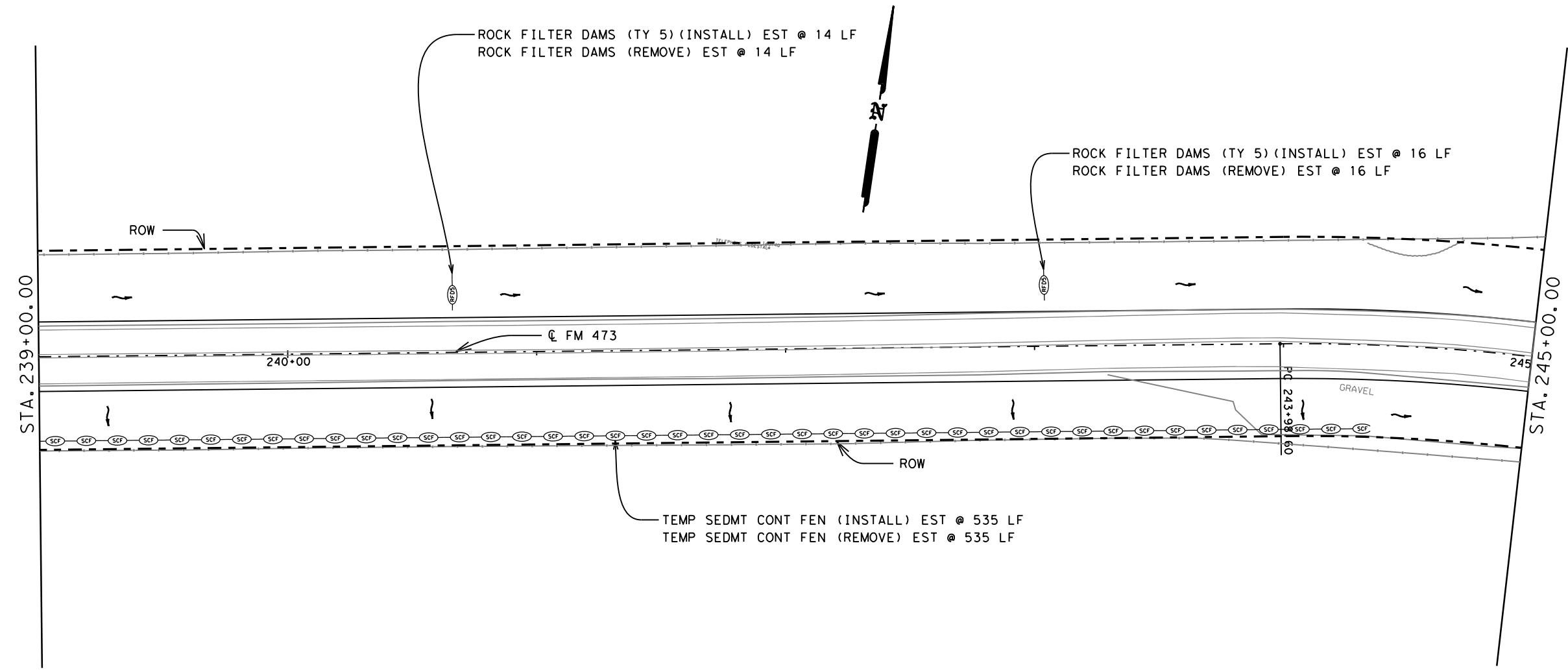


RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	527

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	30	LF
ROCK FILTER DAMS (REMOVE)	30	LF
TEMP SEDMT CONT FEN INSTLL	535	LF
TEMP SEDMT CONT FEN REMOVE	535	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

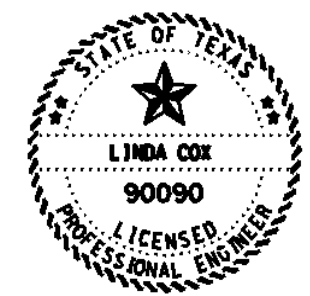
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025

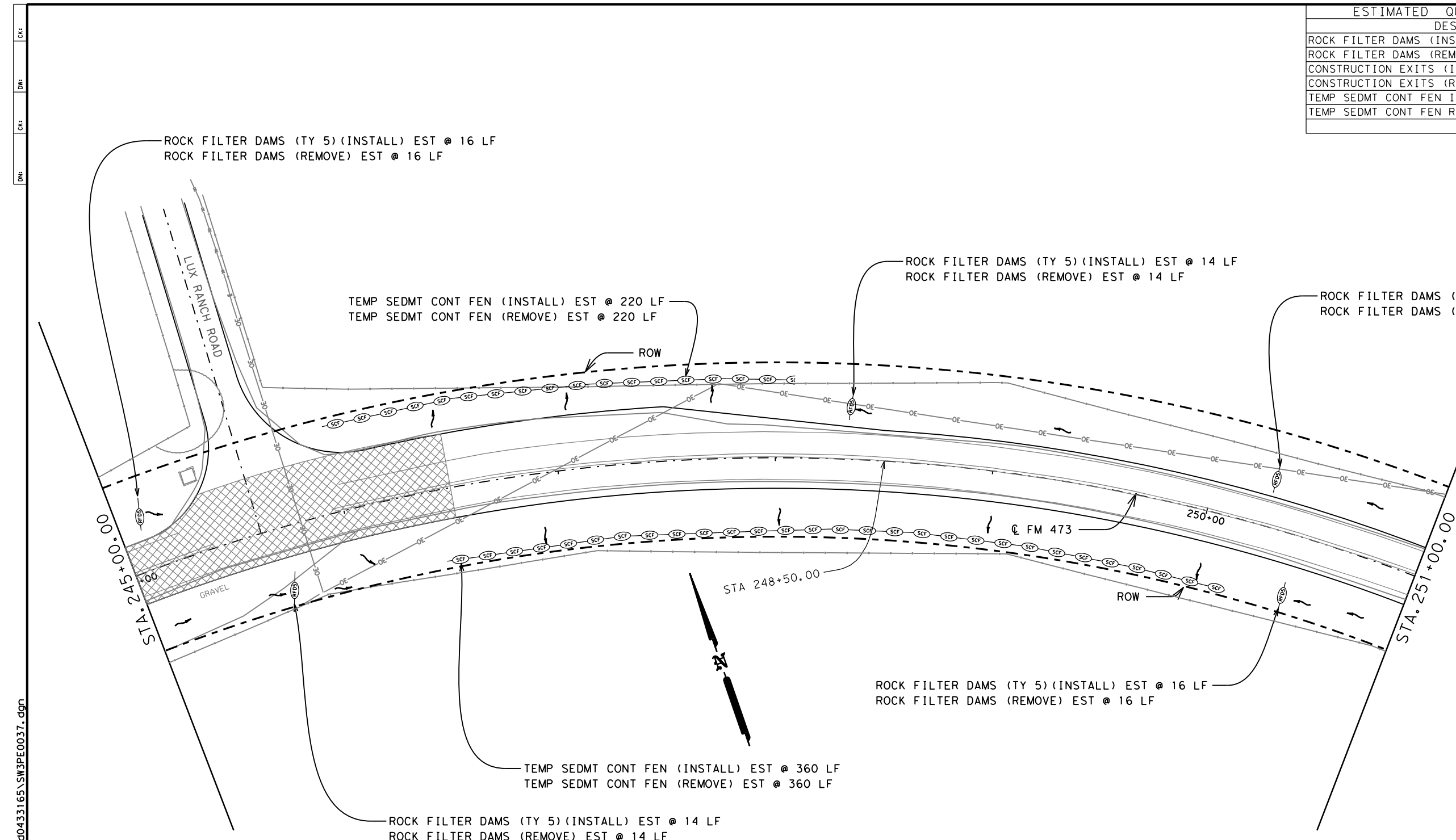


RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	528

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	78	LF
ROCK FILTER DAMS (REMOVE)	78	LF
CONSTRUCTION EXITS (INSTALL) (TY 1)	111	SY
CONSTRUCTION EXITS (REMOVE)	111	SY
TEMP SEDMT CONT FEN INSTLL	580	LF
TEMP SEDMT CONT FEN REMOVE	580	LF



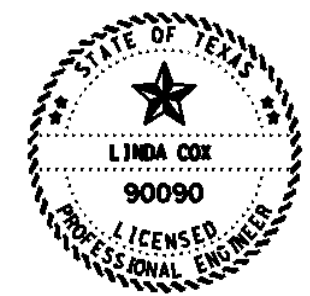
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

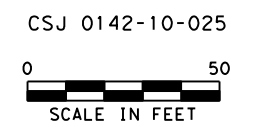
NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



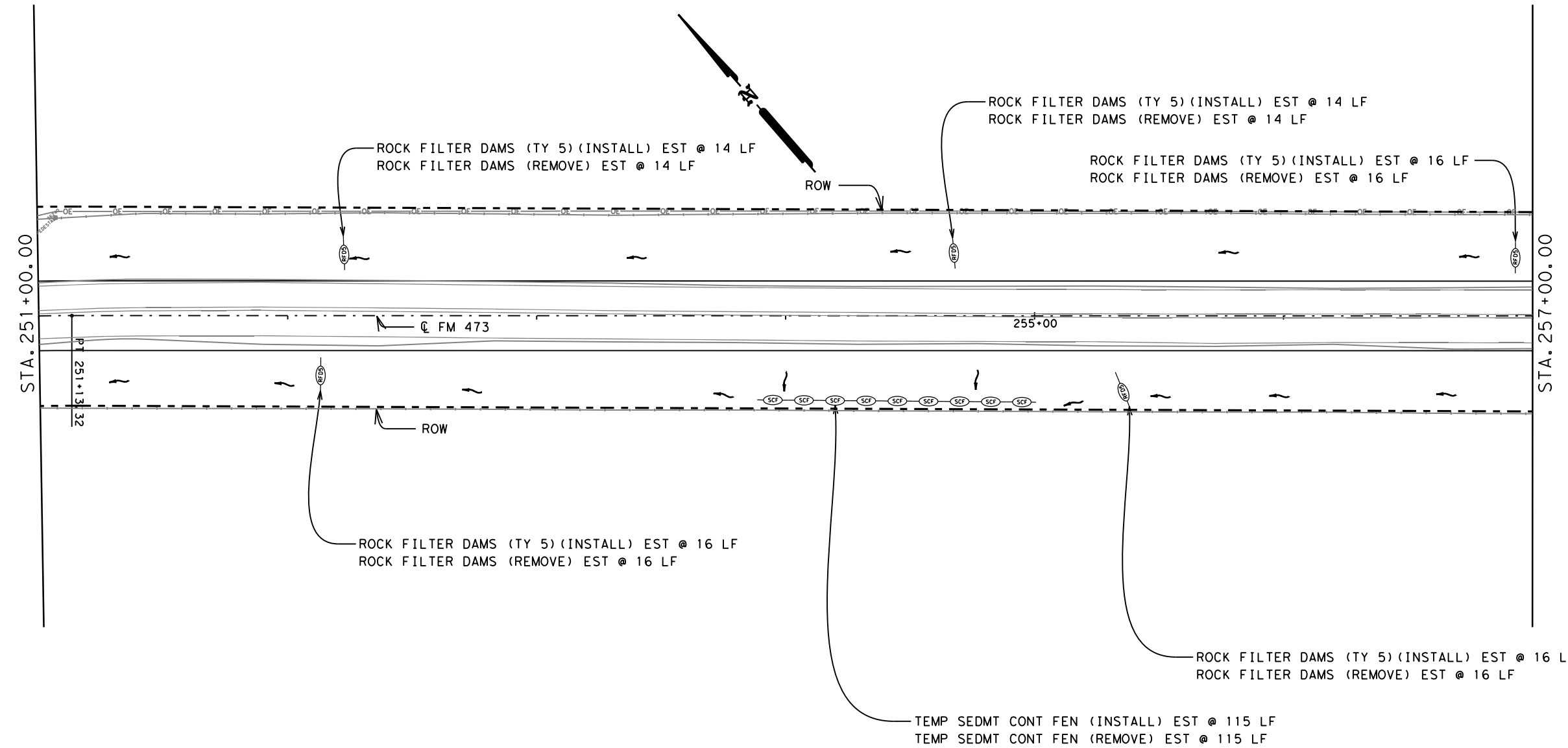
*Linda Cox, P.E.*  
 04/28/2021



RM 473  
 SW3P LAYOUTS

Texas Department of Transportation		SHEET 45 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		529

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	76	LF
ROCK FILTER DAMS (REMOVE)	76	LF
TEMP SEDMT CONT FEN INSTLL	115	LF
TEMP SEDMT CONT FEN REMOVE	115	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

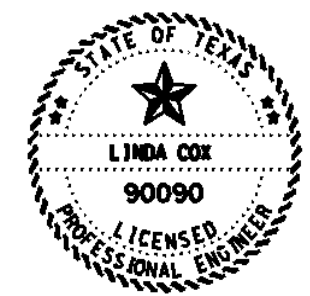
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025

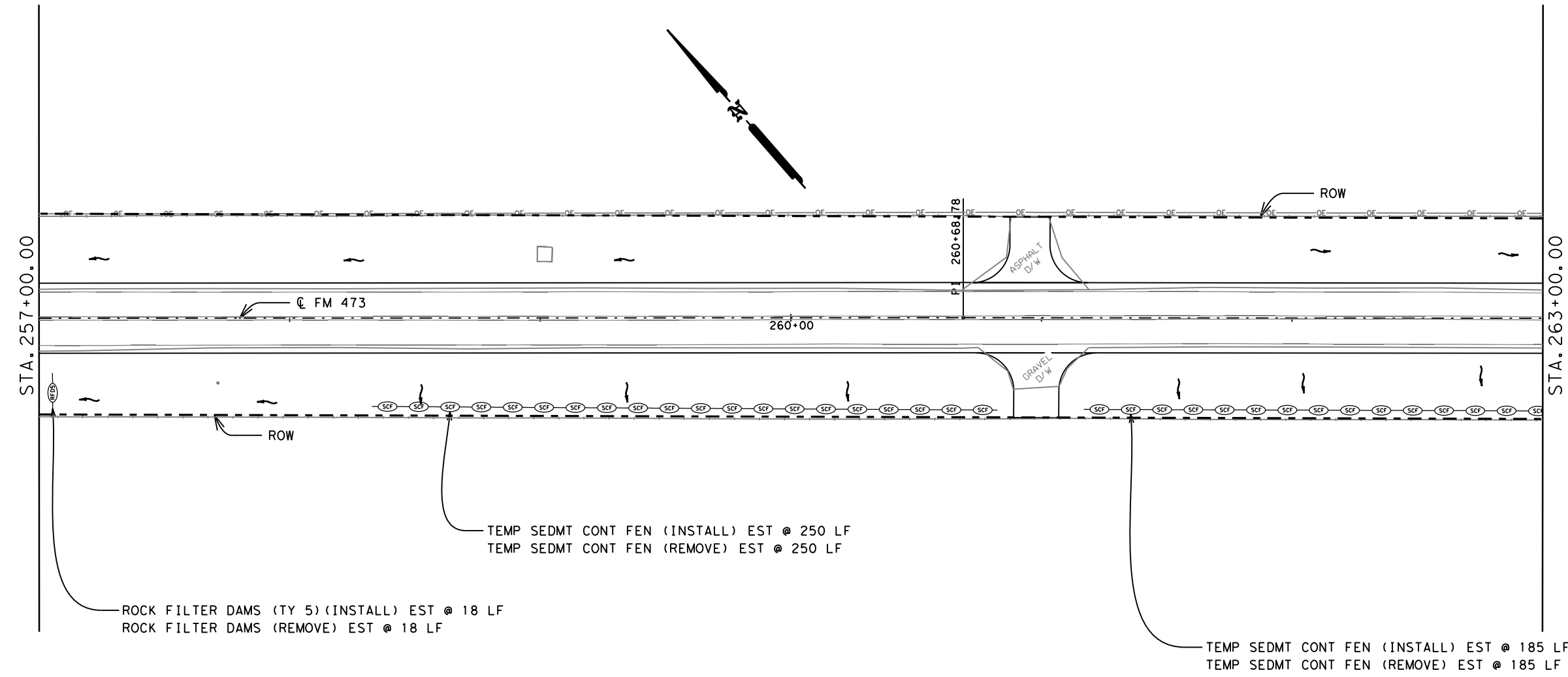


## RM 473 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	530

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	18	LF
ROCK FILTER DAMS (REMOVE)	18	LF
TEMP SEDMT CONT FEN INSTLL	435	LF
TEMP SEDMT CONT FEN REMOVE	435	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

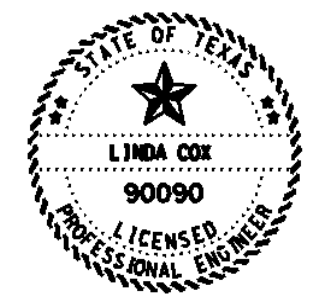
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

CSJ 0142-10-025

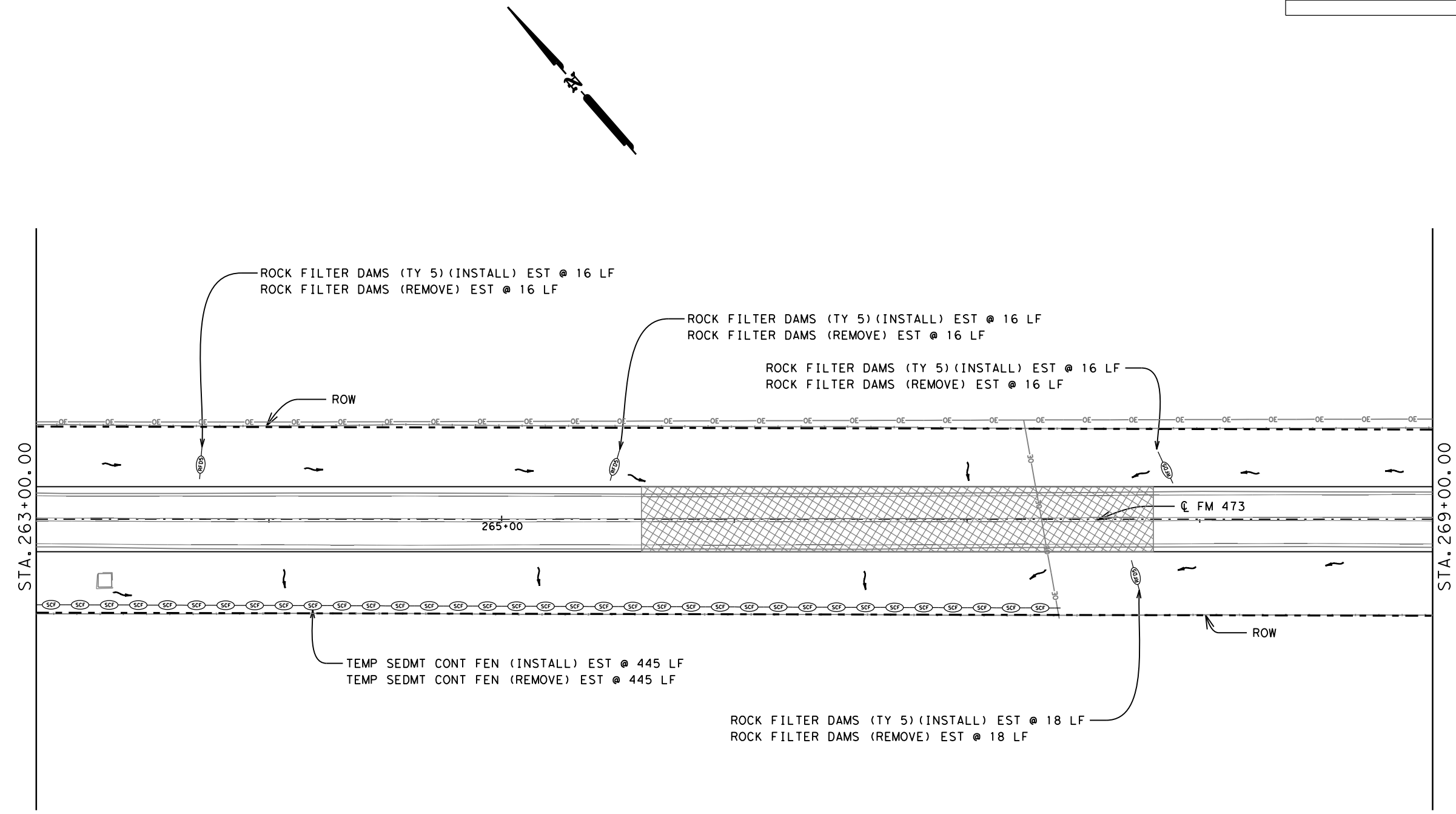


RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	531

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	66	LF
ROCK FILTER DAMS (REMOVE)	66	LF
TEMP SEDMT CONT FEN INSTLL	445	LF
TEMP SEDMT CONT FEN REMOVE	445	LF



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

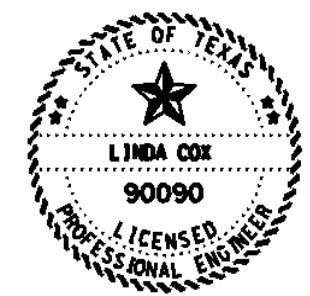
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
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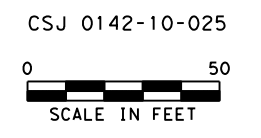
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



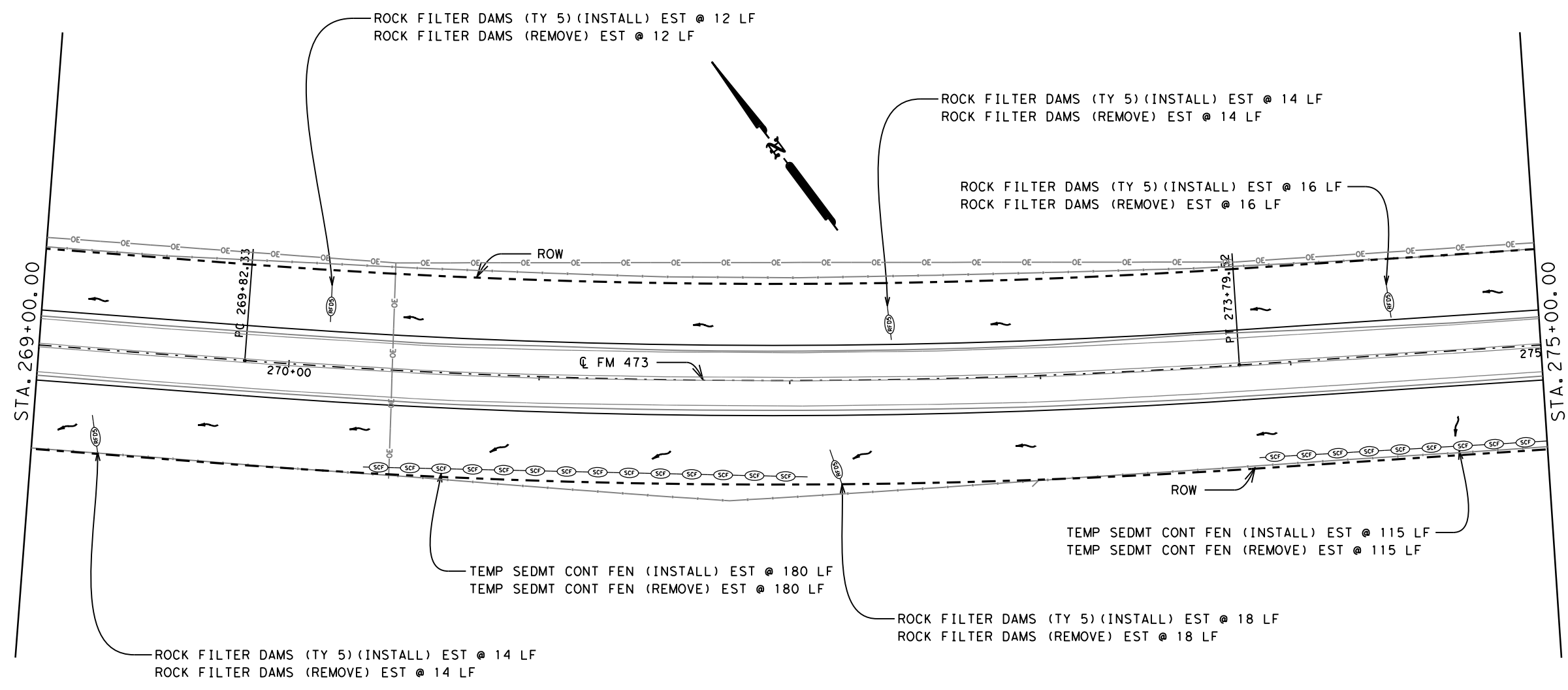
*Linda Cox, P.E.*  
04/28/2021



RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 48 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		532

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	74	LF
ROCK FILTER DAMS (REMOVE)	74	LF
TEMP SEDMT CONT FEN INSTLL	295	LF
TEMP SEDMT CONT FEN REMOVE	295	LF



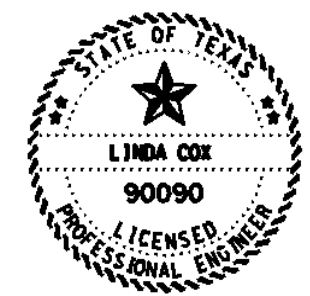
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**NOTE:**  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

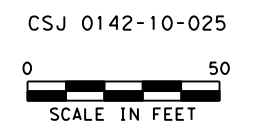
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 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021

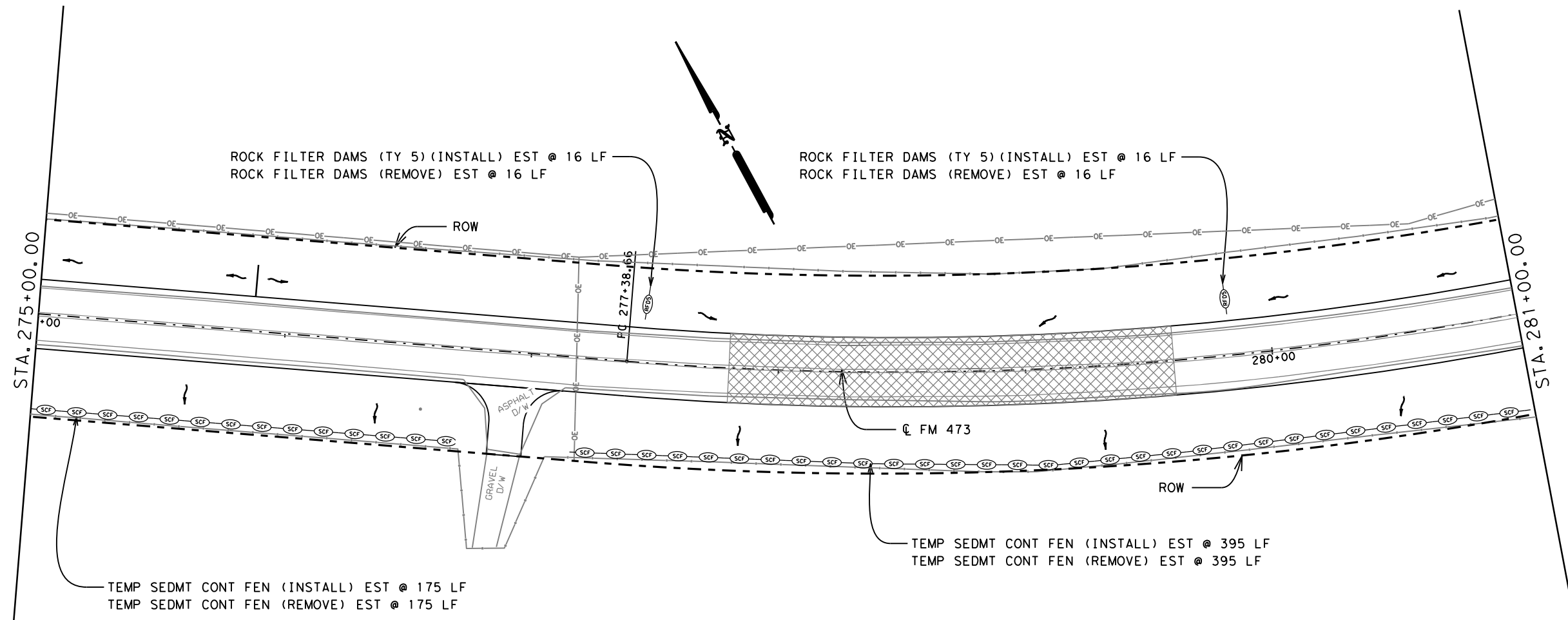


RM 473  
 SW3P LAYOUTS

		SHEET 49 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		533



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	32	LF
ROCK FILTER DAMS (REMOVE)	32	LF
TEMP SEDMT CONT FEN INSTLL	570	LF
TEMP SEDMT CONT FEN REMOVE	570	LF



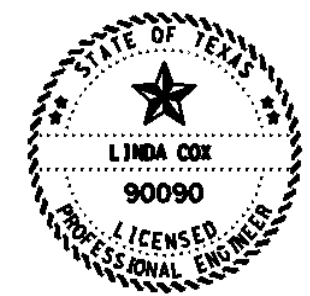
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

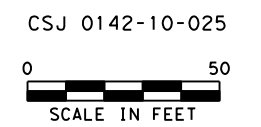
NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021

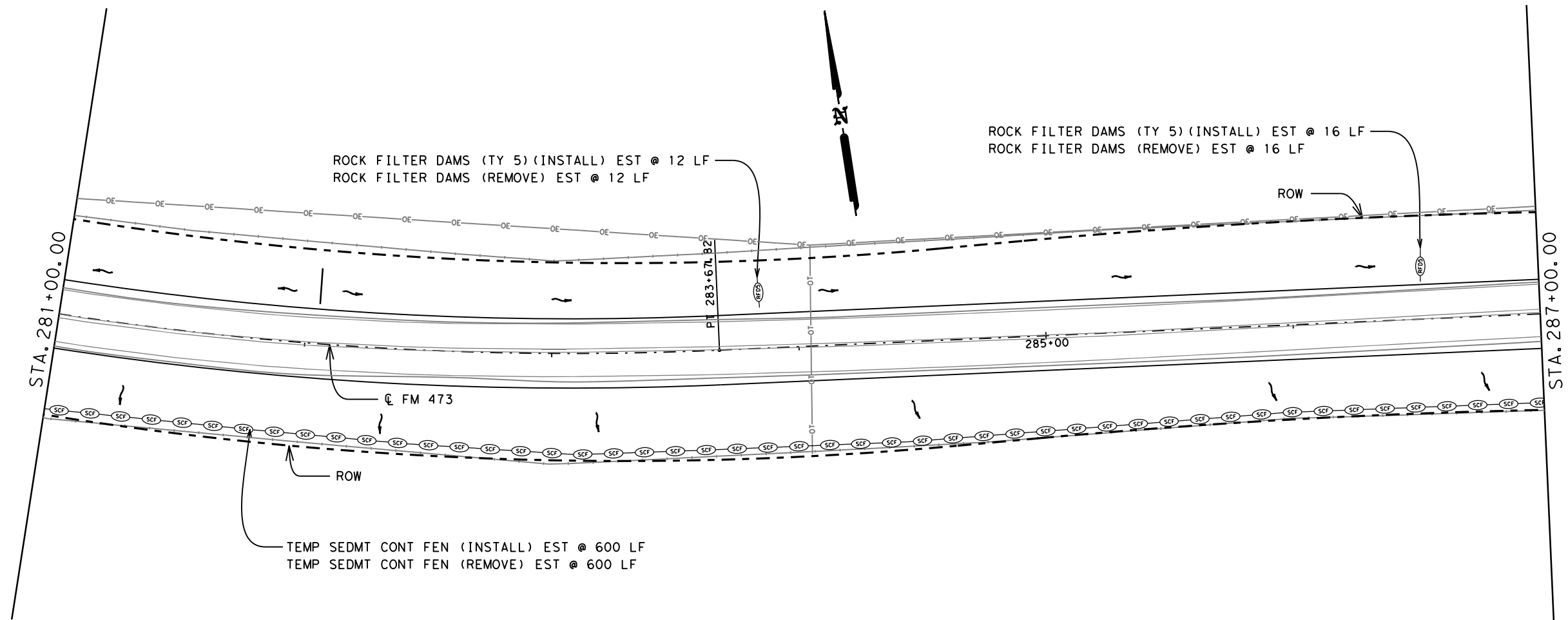


RM 473  
 SW3P LAYOUTS

Texas Department of Transportation		SHEET 50 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		534

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	28	LF
ROCK FILTER DAMS (REMOVE)	28	LF
TEMP SEDMT CONT FEN INSTLL	600	LF
TEMP SEDMT CONT FEN REMOVE	600	LF

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_



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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

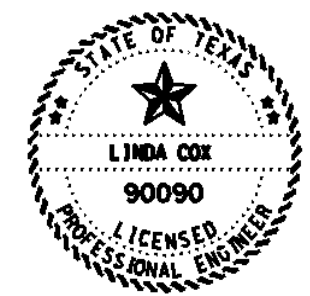
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



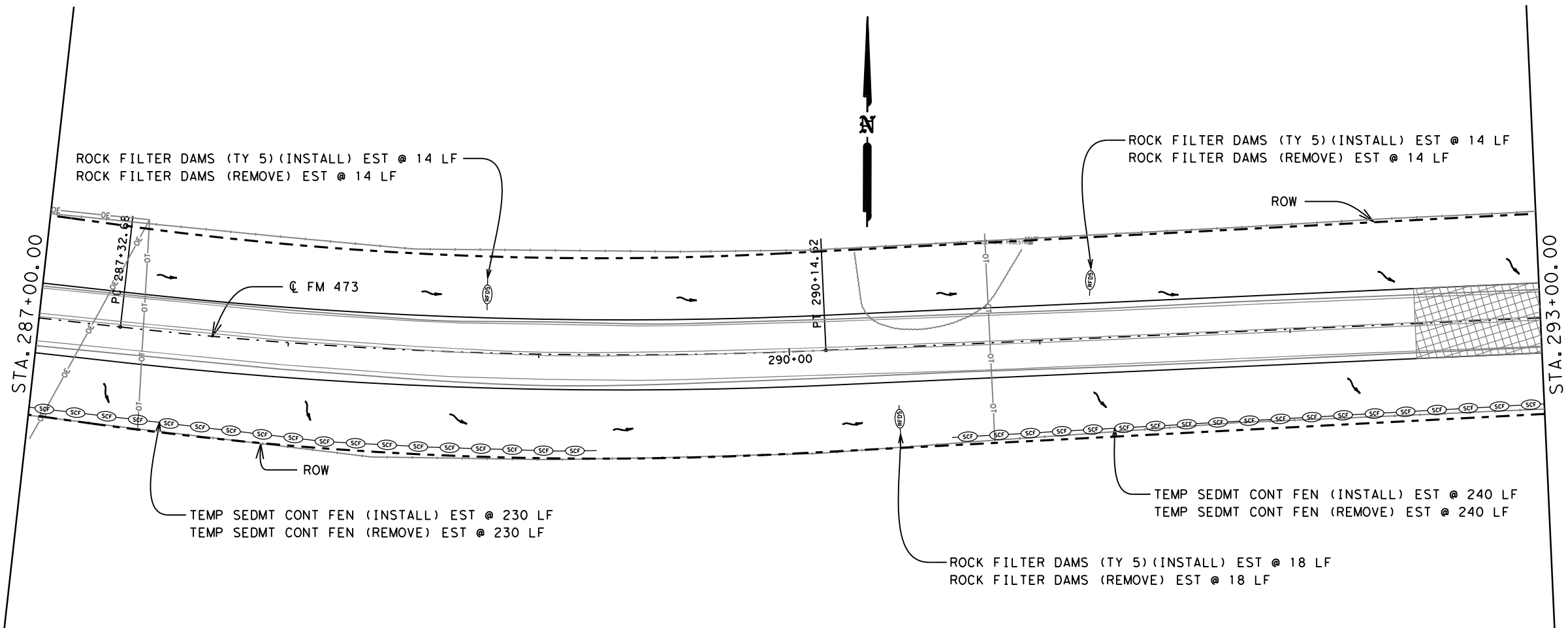
RM 473  
SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		535

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	46	LF
ROCK FILTER DAMS (REMOVE)	46	LF
TEMP SEDMT CONT FEN INSTLL	470	LF
TEMP SEDMT CONT FEN REMOVE	470	LF

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_



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NOTE:  
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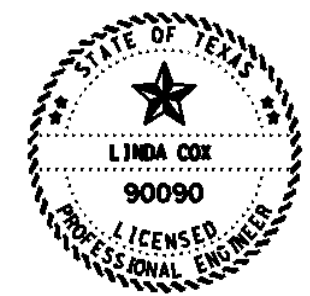
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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04/28/2021

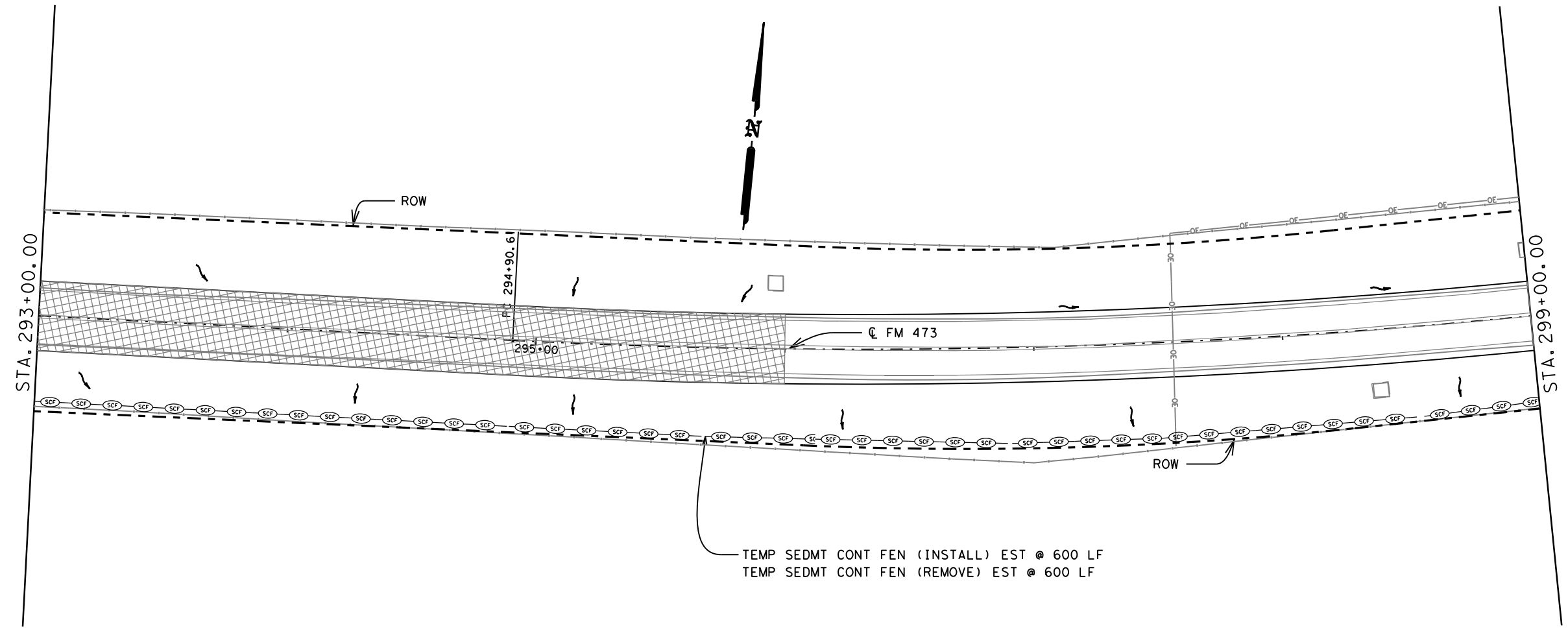
CSJ 0142-10-025

0 50  
SCALE IN FEET

RM 473  
SW3P LAYOUTS

Texas Department of Transportation SHEET 52 OF 58			
CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		536

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
TEMP SEDMT CONT FEN INSTLL	600	LF
TEMP SEDMT CONT FEN REMOVE	600	LF



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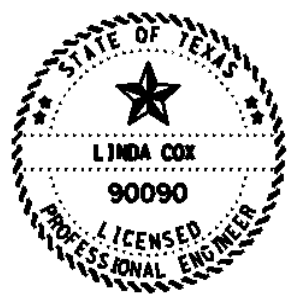
NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

- LEGEND
- RFDS - ROCK FILTER DAM (TY 5)
  - SCF - TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW

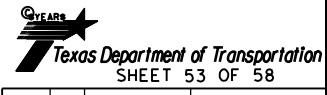


*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025

SCALE IN FEET

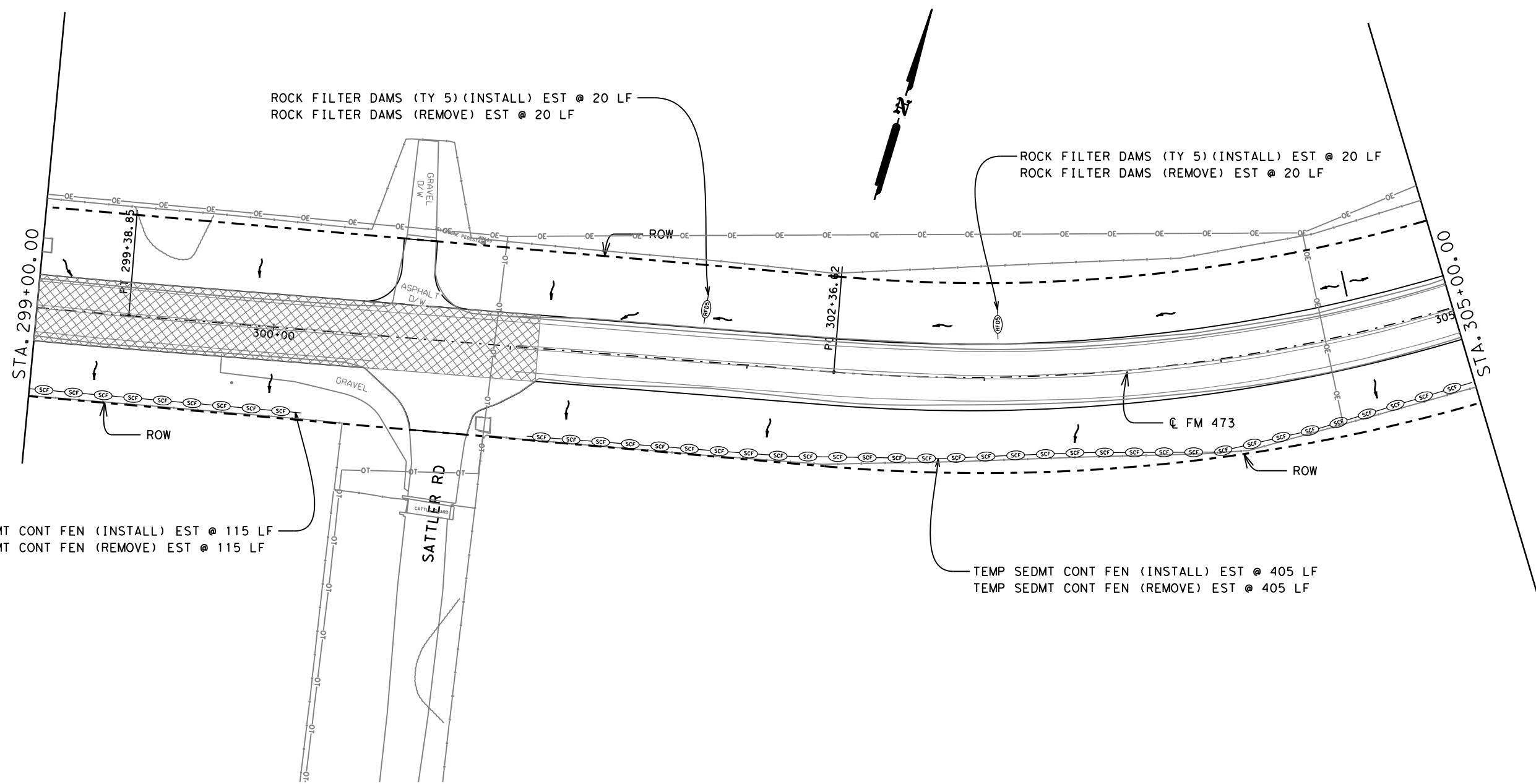
## RM 473 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		537

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	40	LF
ROCK FILTER DAMS (REMOVE)	40	LF
TEMP SEDMT CONT FEN INSTLL	520	LF
TEMP SEDMT CONT FEN REMOVE	520	LF

Cks: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 DWF: \_\_\_\_\_



TEMP SEDMT CONT FEN (INSTALL) EST @ 115 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 115 LF

TEMP SEDMT CONT FEN (INSTALL) EST @ 405 LF  
 TEMP SEDMT CONT FEN (REMOVE) EST @ 405 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 20 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 20 LF

ROCK FILTER DAMS (TY 5) (INSTALL) EST @ 20 LF  
 ROCK FILTER DAMS (REMOVE) EST @ 20 LF

DATE: 4/26/2021 4:09:29 PM  
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**NOTE:**  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

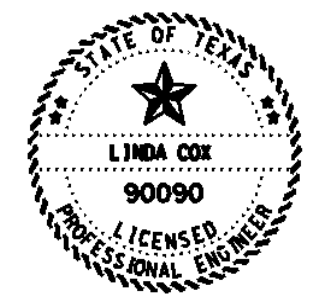
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

**NOTE:**  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



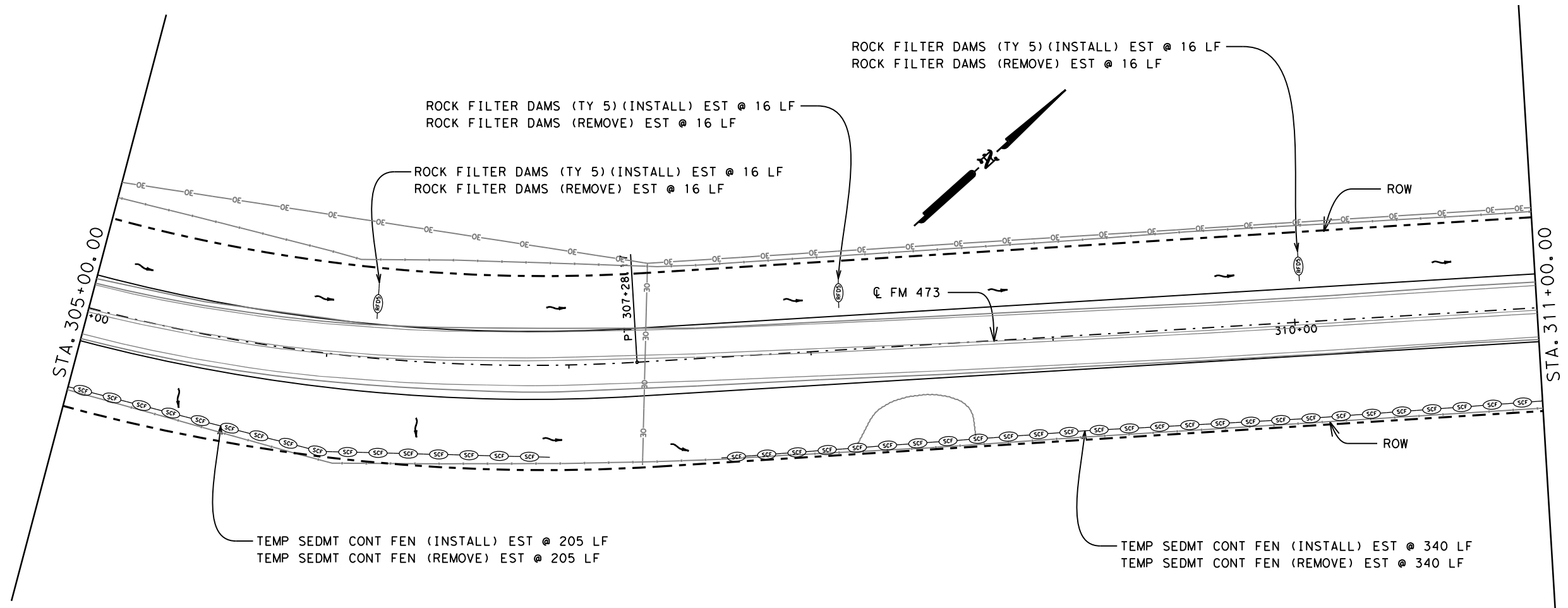
RM 473  
 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	538

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	48	LF
ROCK FILTER DAMS (REMOVE)	48	LF
TEMP SEDMT CONT FEN INSTLL	545	LF
TEMP SEDMT CONT FEN REMOVE	545	LF

Cks:  
 Dwf:  
 Cks:  
 Dwf:



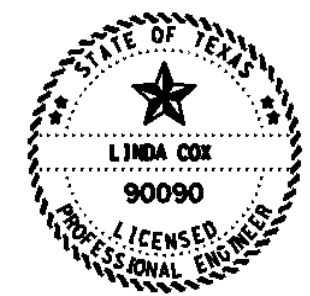
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

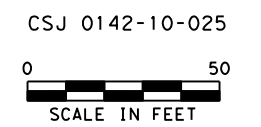
NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



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 04/28/2021

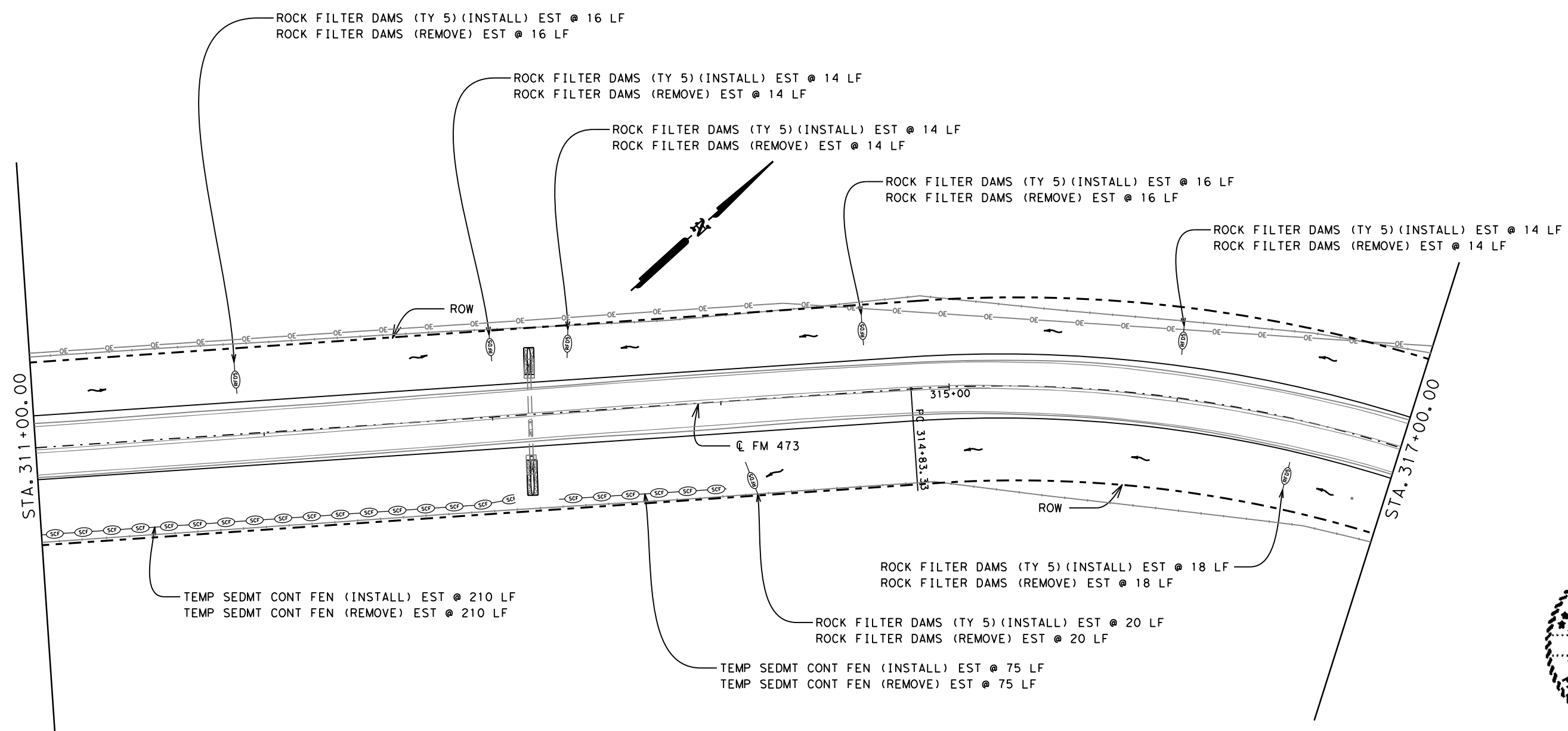


RM 473  
 SW3P LAYOUTS

Texas Department of Transportation		SHEET 55 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		539



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	110	LF
ROCK FILTER DAMS (REMOVE)	110	LF
TEMP SEDMT CONT FEN INSTLL	285	LF
TEMP SEDMT CONT FEN REMOVE	285	LF



DATE: 4/26/2021 4:09:49 PM  
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

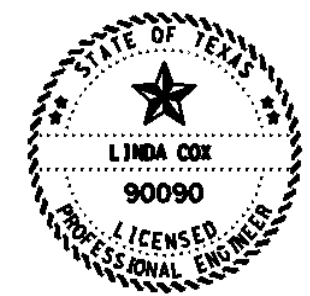
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

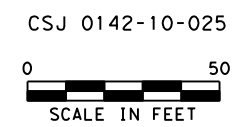
LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
04/28/2021

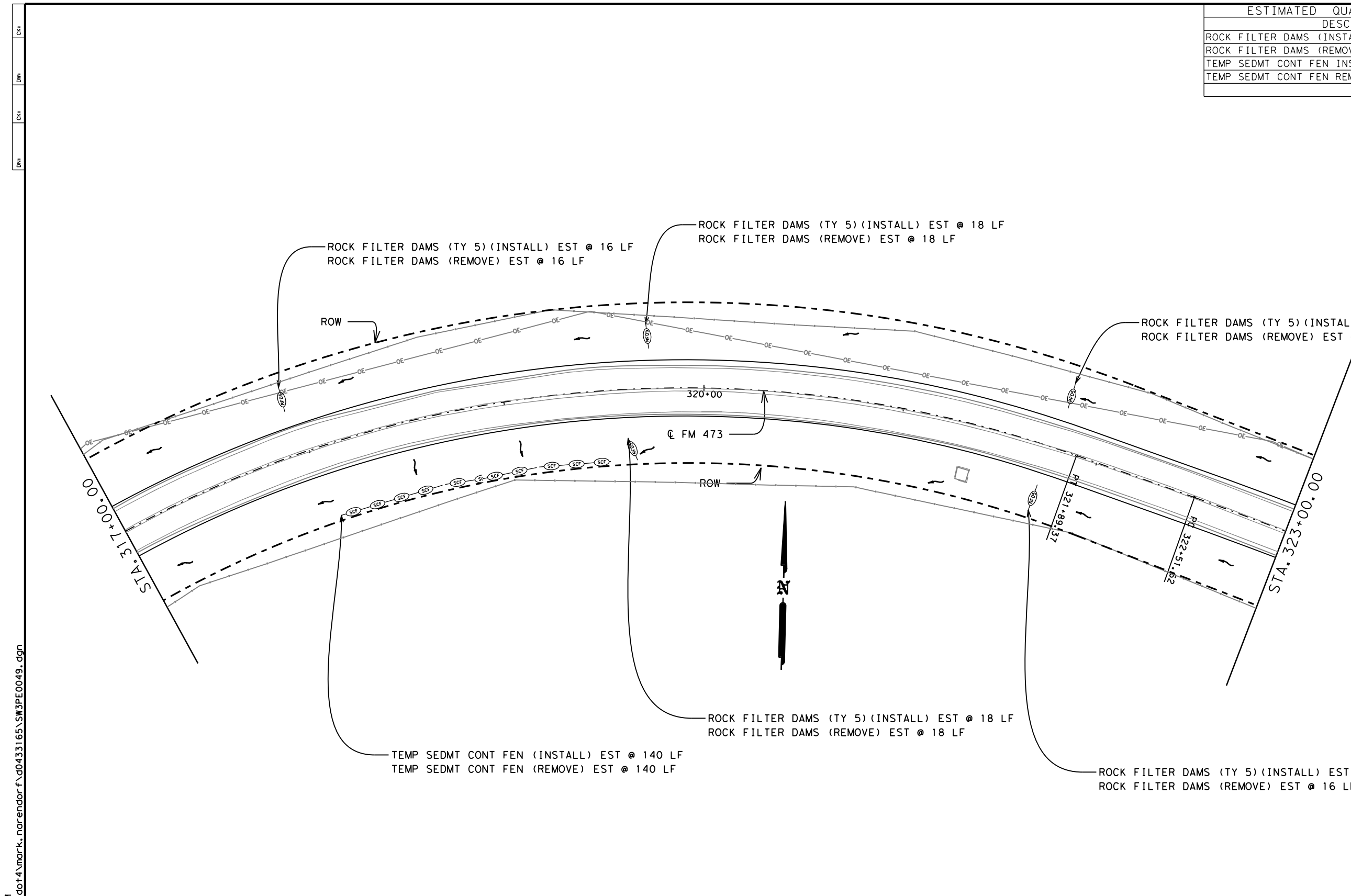


RM 473  
SW3P LAYOUTS

Texas Department of Transportation		SHEET 56 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		540



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
ROCK FILTER DAMS (INSTALL) (TY 5)	88	LF
ROCK FILTER DAMS (REMOVE)	88	LF
TEMP SEDMT CONT FEN INSTLL	140	LF
TEMP SEDMT CONT FEN REMOVE	140	LF



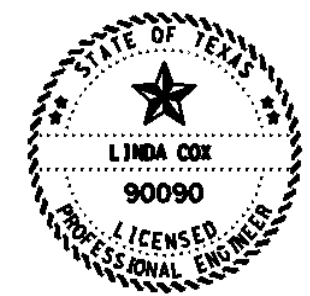
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

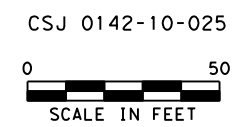
NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.  
 LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

LEGEND

	ROCK FILTER DAM (TY 5)
	TEMP SEDMT CONT FEN
	FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021

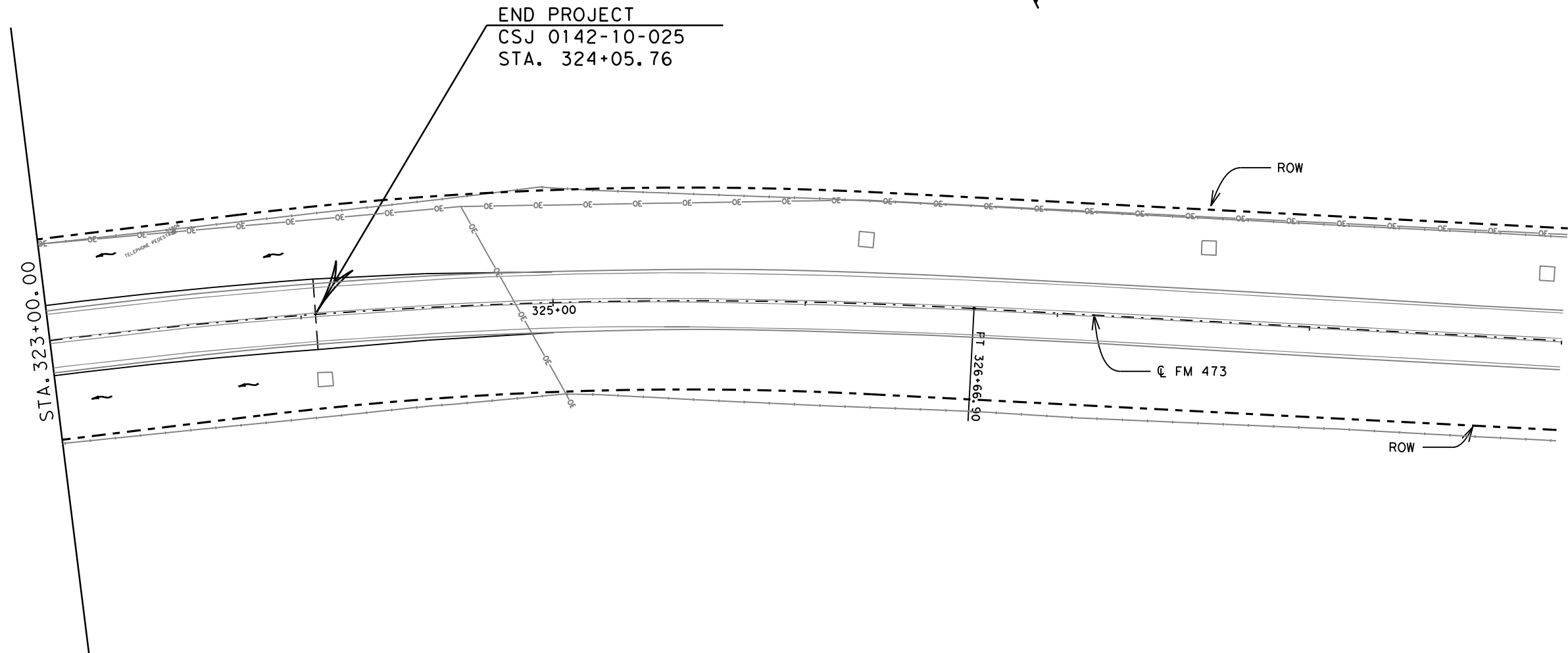


## RM 473 SW3P LAYOUTS

Texas Department of Transportation		SHEET 57 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		541

DN: Ck: DM: Ck: Ck:

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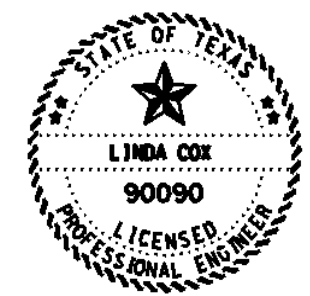
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

NOTE:  
 SW3P MEASURES SHOWN SHALL BE PLACED PRIOR TO CONSTRUCTION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.

LOCATION OF CONSTRUCTION EXIT/ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

- LEGEND
- (RFDS)— ROCK FILTER DAM (TY 5)
  - (SCF)— TEMP SEDMT CONT FEN
  - FLOW DIRECTION ARROW



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025



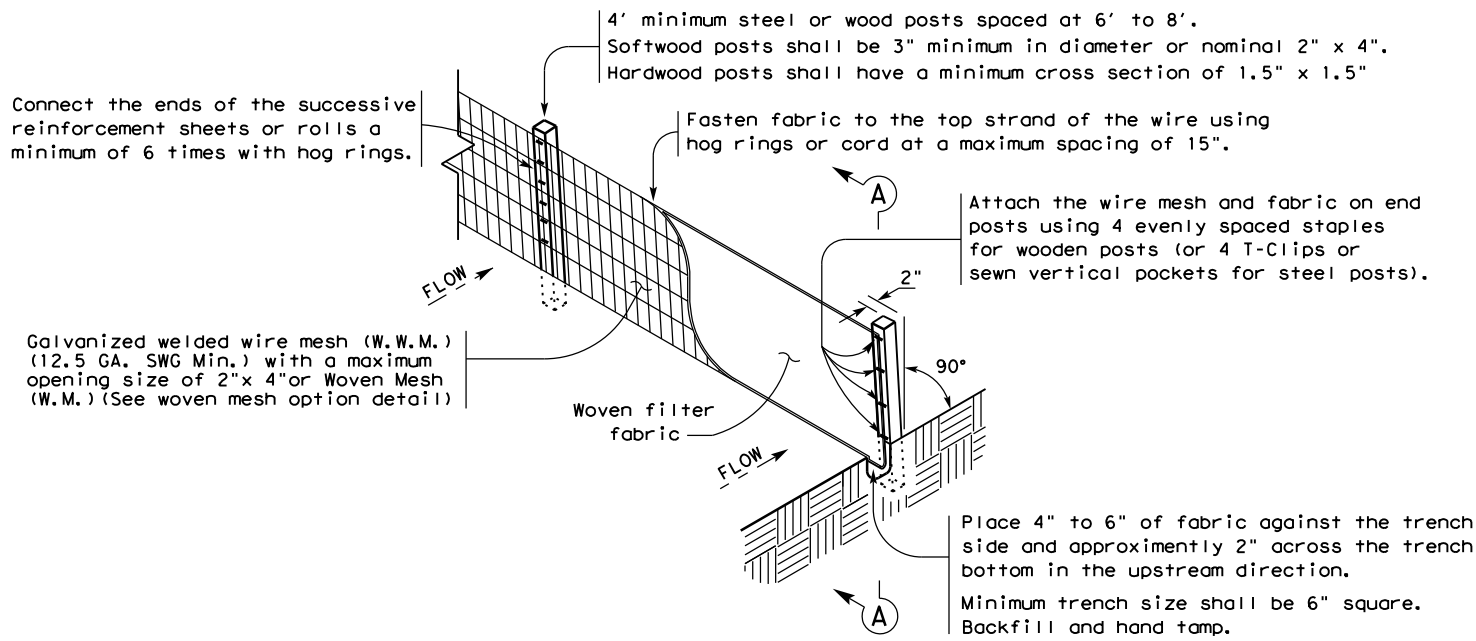
# RM 473 SW3P LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	542

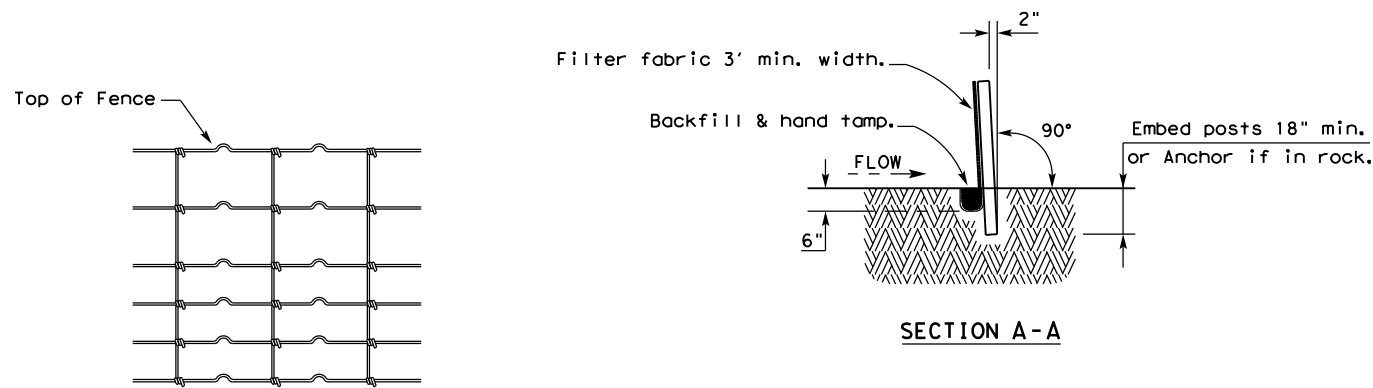
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

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**TEMPORARY SEDIMENT CONTROL FENCE**

SCF



**HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL**

Galvanized hinge joint knot woven mesh (12.5 GA. SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

**SEDIMENT CONTROL FENCE USAGE GUIDELINES**

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT<sup>2</sup>. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

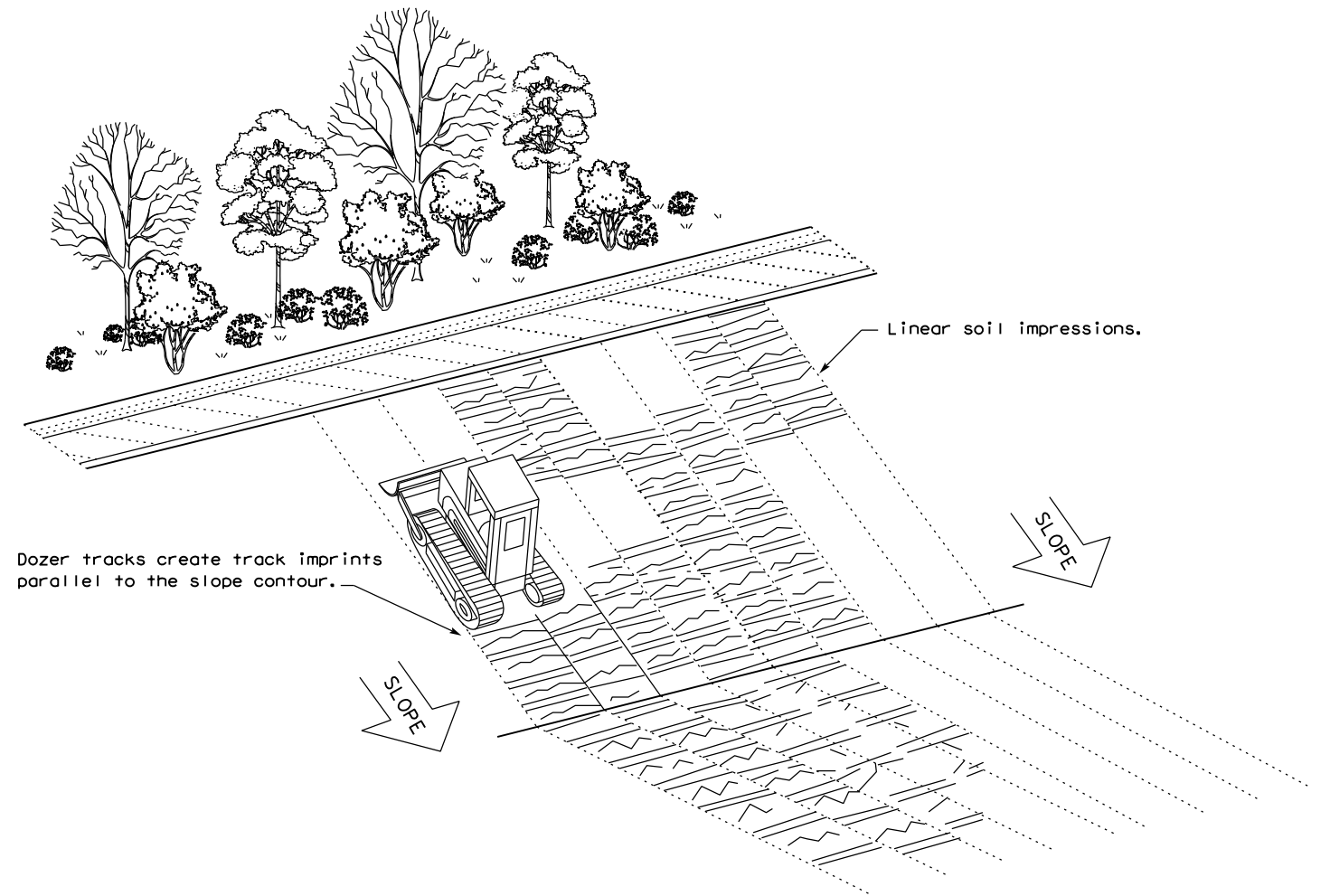
**LEGEND**

Sediment Control Fence

SCF

**GENERAL NOTES**

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continuous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.

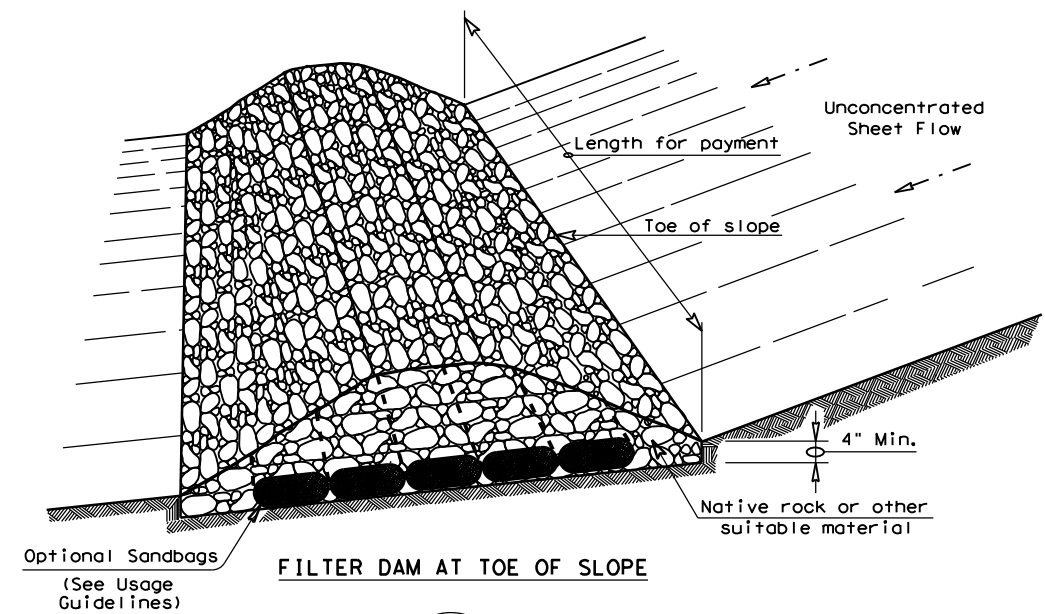


**VERTICAL TRACKING**

				Design Division Standard	
<b>TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES FENCE &amp; VERTICAL TRACKING</b> <b>EC(1) - 16</b>					
FILE: ec116	DN: TxDOT	CK: KM	DW: VP	DN/CK: LS	
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0142	09	044, Etc	RM 473	
	DIST	COUNTY		SHEET NO.	
	SAT	KENDALL		543	

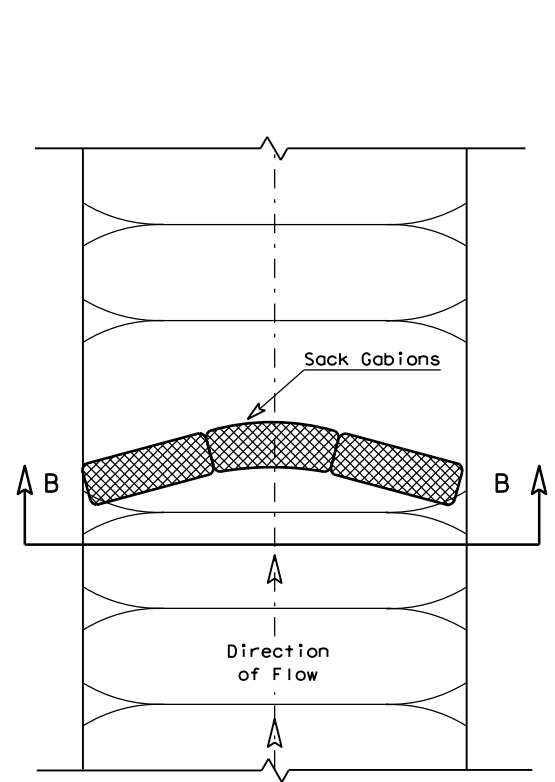
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/26/2021  
 FILE: c:\txdot\pw\_online\txdot4\mark.narendorf.d0239906\ec216.dgn

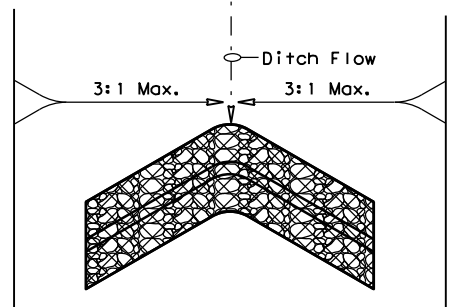


**FILTER DAM AT TOE OF SLOPE**

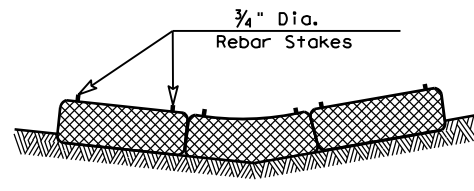
— (RFD1) —



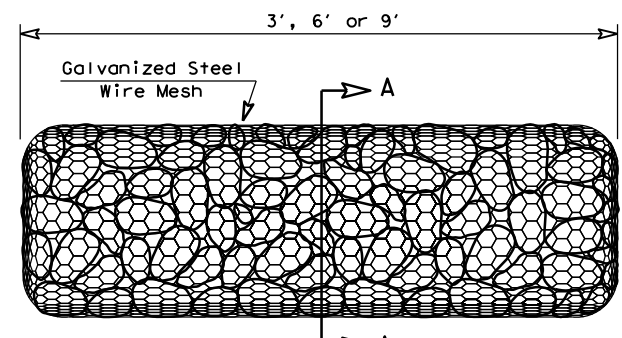
**PLAN VIEW**



**"V" SHAPE PLAN VIEW**

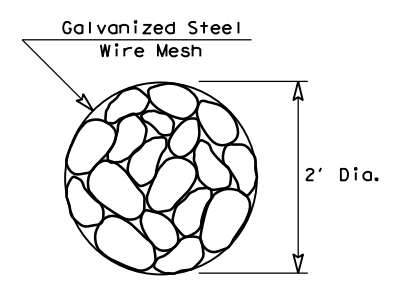


**SECTION B-B**

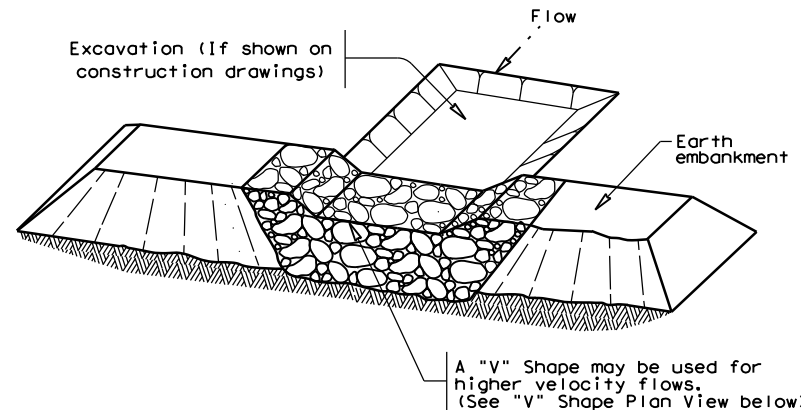


**TYPE 4 (SACK GABIONS)**

— (RFD4) —

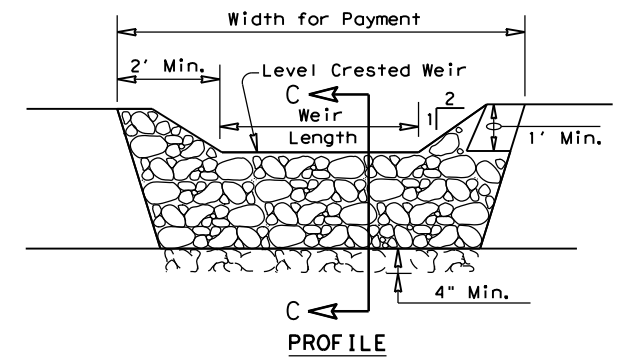


**SECTION A-A**

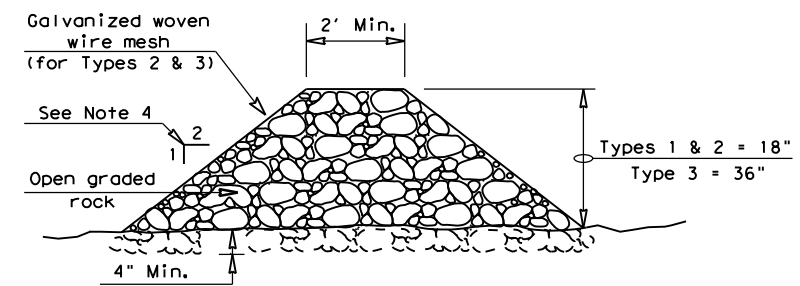


**FILTER DAM AT SEDIMENT TRAP**

— (RFD1) OR (RFD2) —



**PROFILE**



**SECTION C-C**

**ROCK FILTER DAM USAGE GUIDELINES**

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 GPM/FT<sup>2</sup> of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

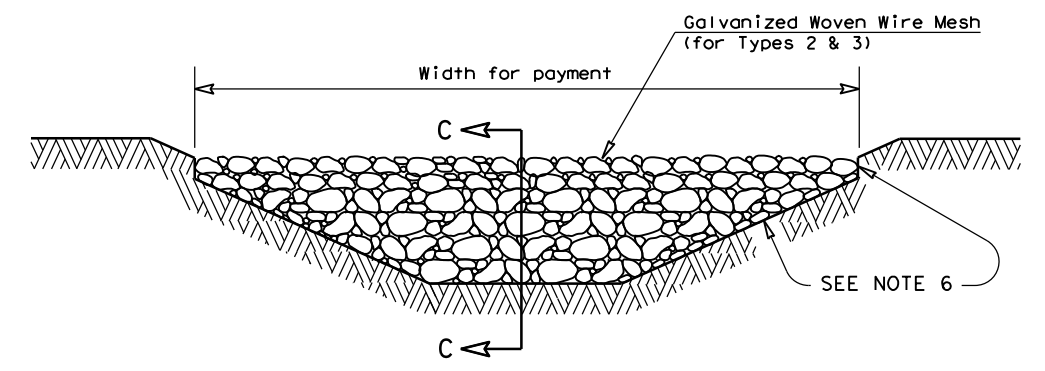
**Type 1 (18" high with no wire mesh) (3" to 6" aggregate):** Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approximately 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

**Type 2 (18" high with wire mesh) (3" to 6" aggregate):** Type 2 may be used in ditches and at dike or swale outlets.

**Type 3 (36" high with wire mesh) (4" to 8" aggregate):** Type 3 may be used in stream flow and should be secured to the stream bed.

**Type 4 (Sack gabions) (3" to 6" aggregate):** Type 4 May be used in ditches and smaller channels to form an erosion control dam.

**Type 5:** Provide rock filter dams as shown on plans.



**FILTER DAM AT CHANNEL SECTIONS**

— (RFD1) OR (RFD2) OR (RFD3) —

**GENERAL NOTES**

1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
6. Filter dams should be embedded a minimum of 4" into existing ground.
7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. For in stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
9. Sack Gabions should be staked down with 3/4" dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2 1/2" x 3 1/4".
10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

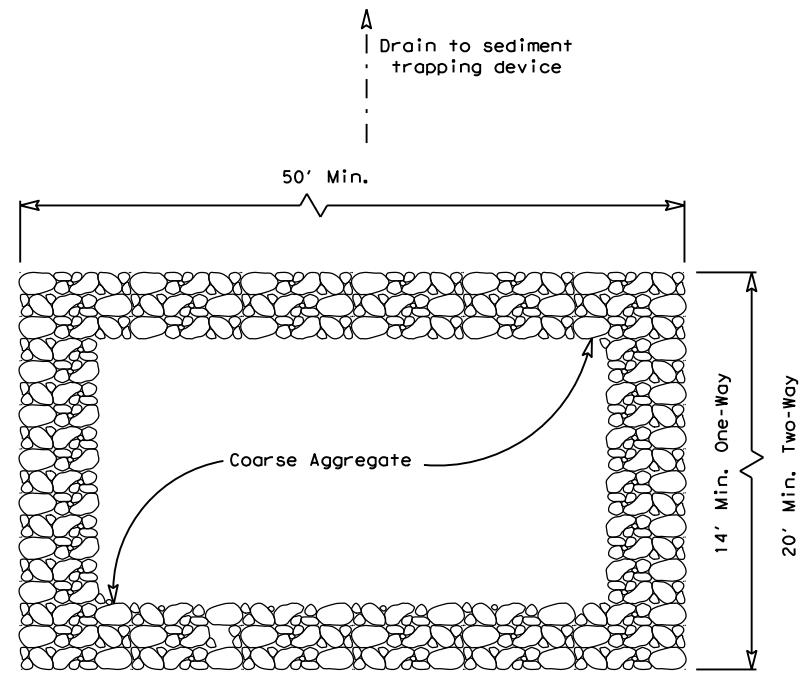
**PLAN SHEET LEGEND**

- Type 1 Rock Filter Dam — (RFD1) —
- Type 2 Rock Filter Dam — (RFD2) —
- Type 3 Rock Filter Dam — (RFD3) —
- Type 4 Rock Filter Dam — (RFD4) —

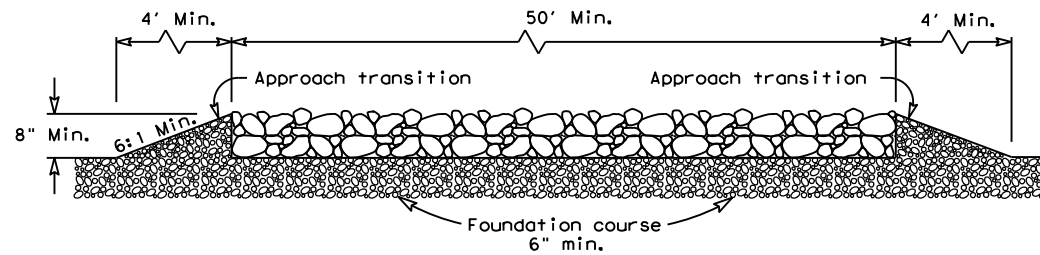
		<b>Design Division Standard</b>	
<b>TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES</b> <b>ROCK FILTER DAMS</b> <b>EC (2) - 16</b>			
FILE: ec216	DN: TxDOT	CK: KM	DW: VP
© TxDOT: JULY 2016	CONT	SECT	JOB
REVISIONS	0142	09	044, Etc
	DIST	COUNTY	SHEET NO.
	SAT	KENDALL	544

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

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PLAN VIEW

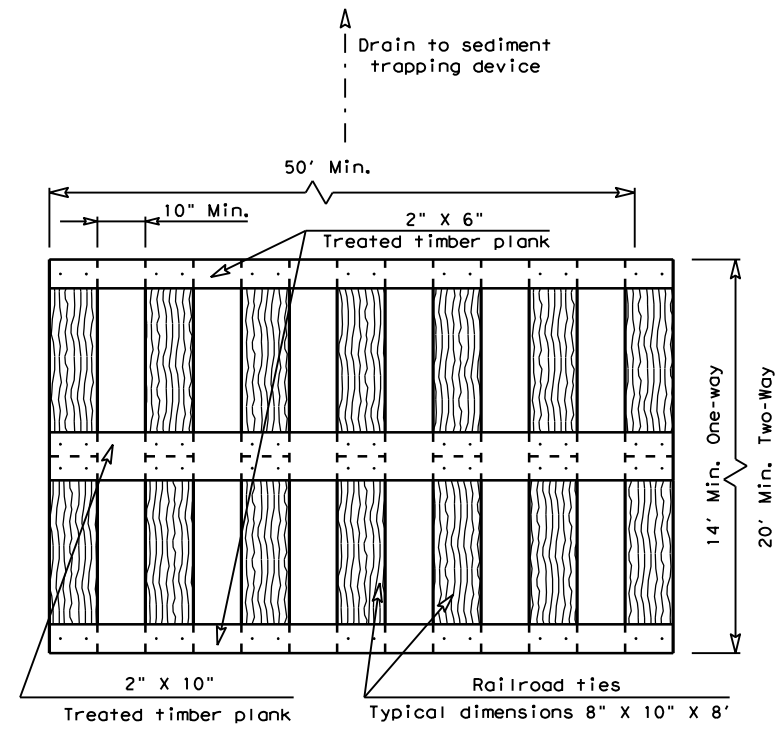


ELEVATION VIEW

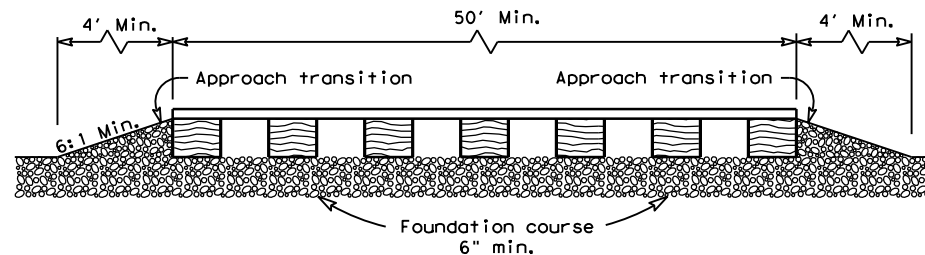
CONSTRUCTION EXIT (TYPE 1)  
 ROCK CONSTRUCTION (LONG TERM)

GENERAL NOTES (TYPE 1)

- The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
- The coarse aggregate should be open graded with a size of 4" to 8".
- The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
- The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other materials approved by the Engineer.
- The construction exit shall be graded to allow drainage to a sediment trapping device.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.
- Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



PLAN VIEW

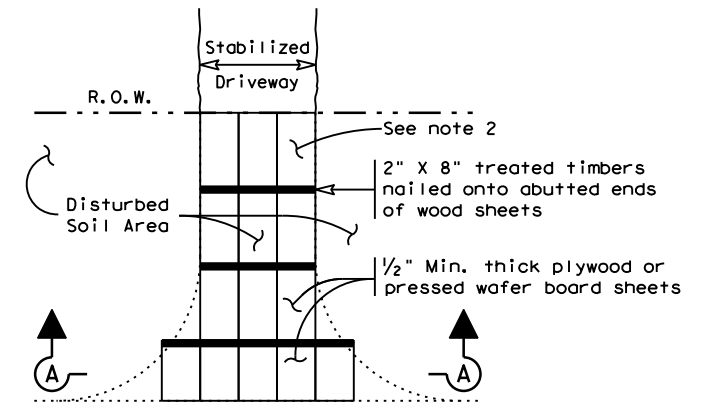


ELEVATION VIEW

CONSTRUCTION EXIT (TYPE 2)  
 TIMBER CONSTRUCTION (LONG TERM)

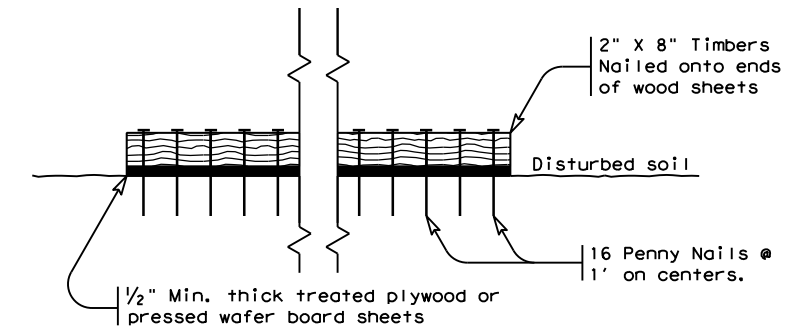
GENERAL NOTES (TYPE 2)

- The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
- The treated timber planks shall be attached to the railroad ties with 1/2" x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
- The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
- The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
- The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
- The construction exit should be graded to allow drainage to a sediment trapping device.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.
- Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



Paved Roadway

PLAN VIEW



SECTION A-A

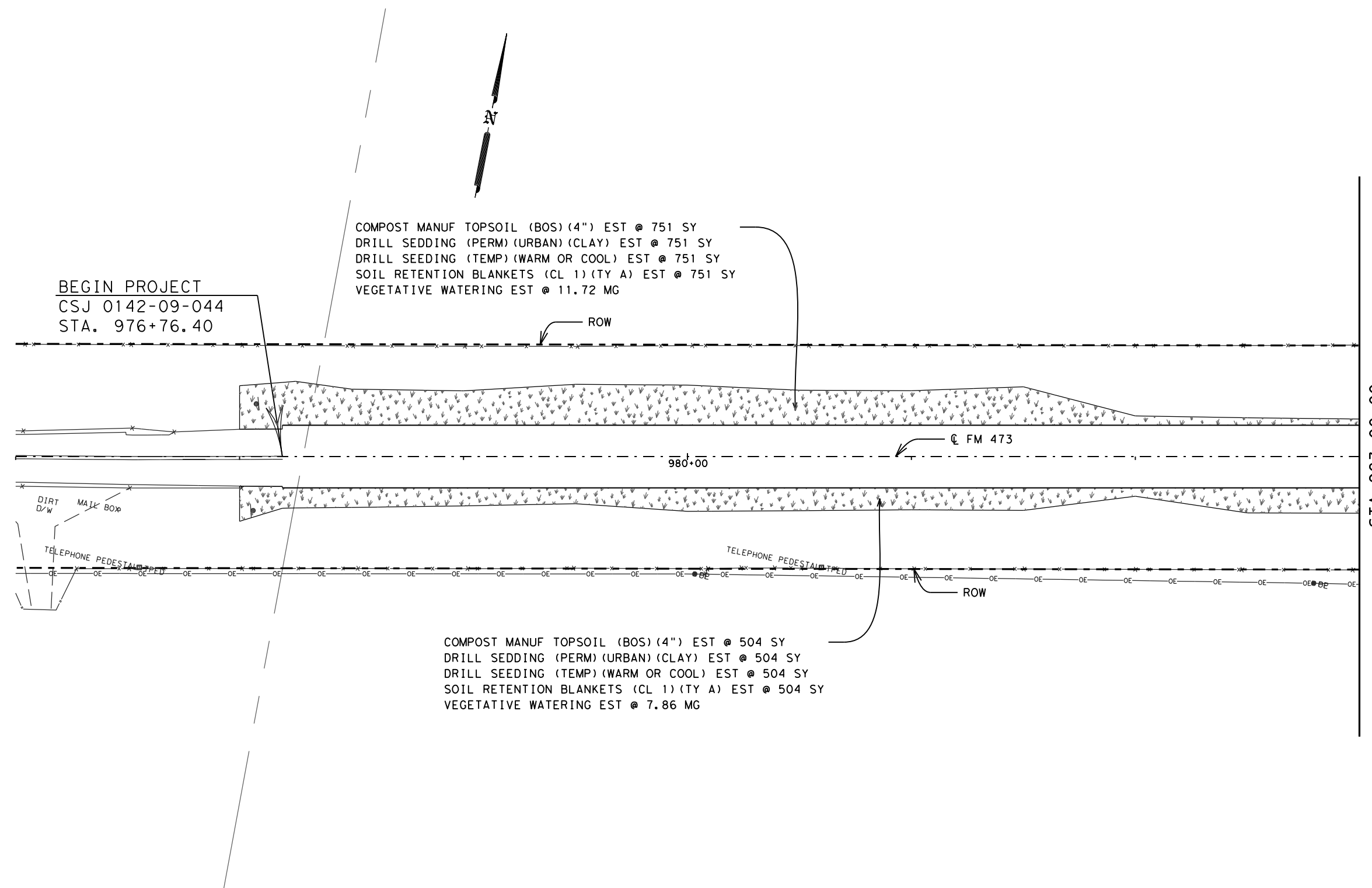
CONSTRUCTION EXIT (TYPE 3)  
 SHORT TERM

GENERAL NOTES (TYPE 3)

- The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
- The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
- The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.

		Design Division Standard	
<b>TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES</b> <b>CONSTRUCTION EXITS</b> <b>EC(3)-16</b>			
FILE: ec316	DN: I&D/I	CK: KM	DW: VP
© TxDOT: JULY 2016	CONT SECT	JOB	HIGHWAY
REVISIONS	0142 09	044, E+c	RM 473
	DIST	COUNTY	SHEET NO.
	SAT	KENDALL	545

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1255	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1255	SY
DRILL SEED (TEMP) (WARM OR COOL)	1255	SY
VEGETATIVE WATERING	19.58	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1255	SY



BEGIN PROJECT  
CSJ 0142-09-044  
STA. 976+76.40

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 751 SY  
DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 751 SY  
DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 751 SY  
SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 751 SY  
VEGETATIVE WATERING EST @ 11.72 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 504 SY  
DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 504 SY  
DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 504 SY  
SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 504 SY  
VEGETATIVE WATERING EST @ 7.86 MG

STA. 983+00.00

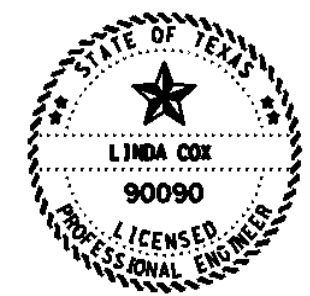
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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04/28/2021

CSJ 0142-09-044  
0 50  
SCALE IN FEET

RM 473  
LANDSCAPE  
LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	546

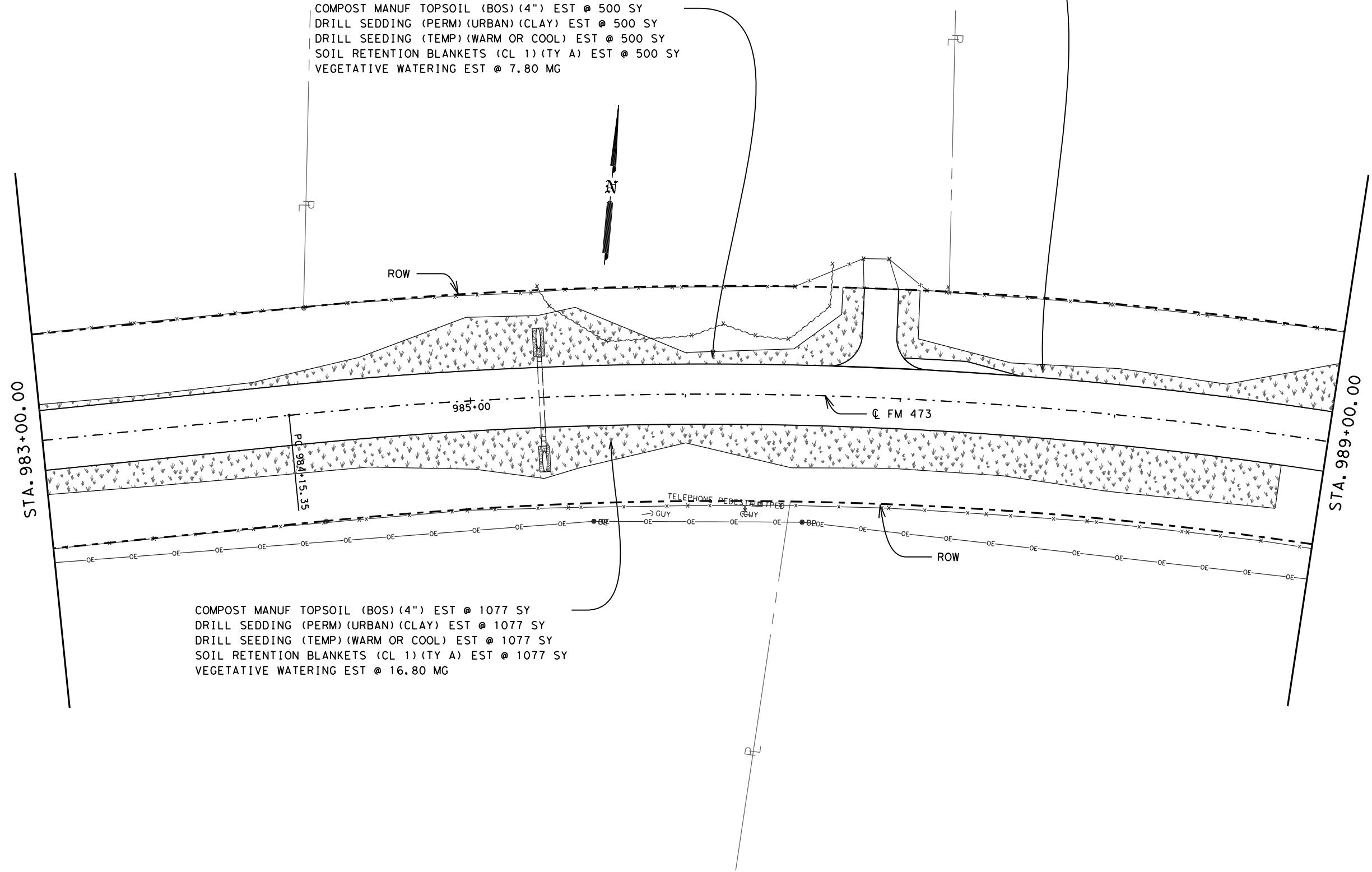


COMPOST MANUF TOPSOIL (BOS) (4") EST @ 215 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 215 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 215 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 215 SY  
 VEGETATIVE WATERING EST @ 3.35 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 500 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 500 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 500 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 500 SY  
 VEGETATIVE WATERING EST @ 7.80 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1077 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1077 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1077 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1077 SY  
 VEGETATIVE WATERING EST @ 16.80 MG

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1792	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1792	SY
DRILL SEED (TEMP) (WARM OR COOL)	1792	SY
VEGETATIVE WATERING	27.95	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1792	SY

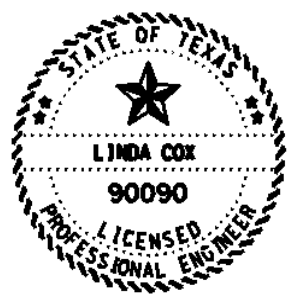


LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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 04/28/2021

CSJ 0142-09-044



RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	547

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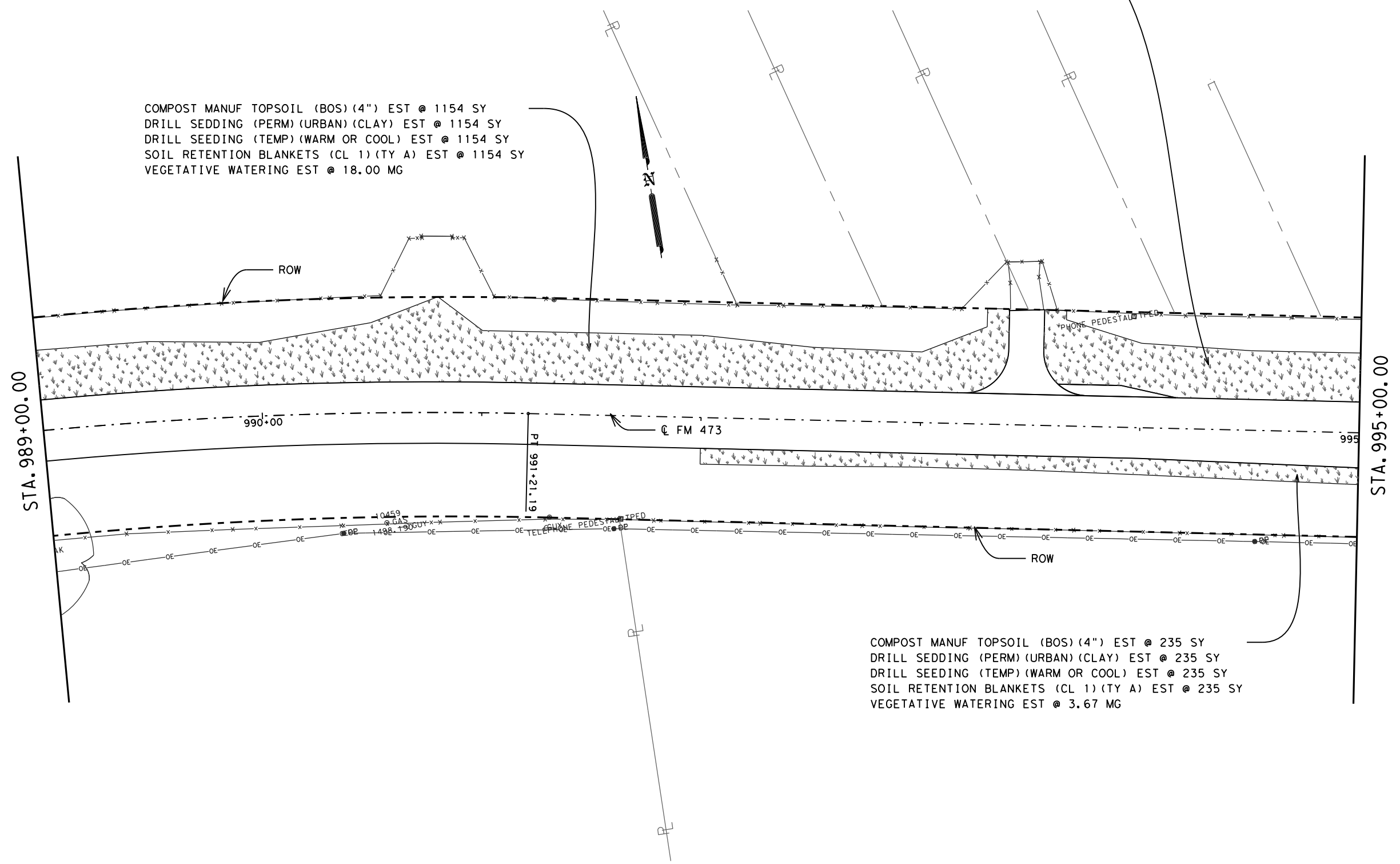


ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1768	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1768	SY
DRILL SEED (TEMP) (WARM OR COOL)	1768	SY
VEGETATIVE WATERING	27.58	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1768	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 379 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 379 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 379 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 379 SY  
 VEGETATIVE WATERING EST @ 6.91 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1154 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1154 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1154 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1154 SY  
 VEGETATIVE WATERING EST @ 18.00 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 235 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 235 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 235 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 235 SY  
 VEGETATIVE WATERING EST @ 3.67 MG



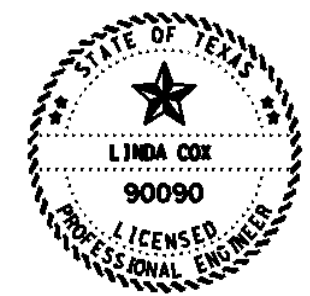
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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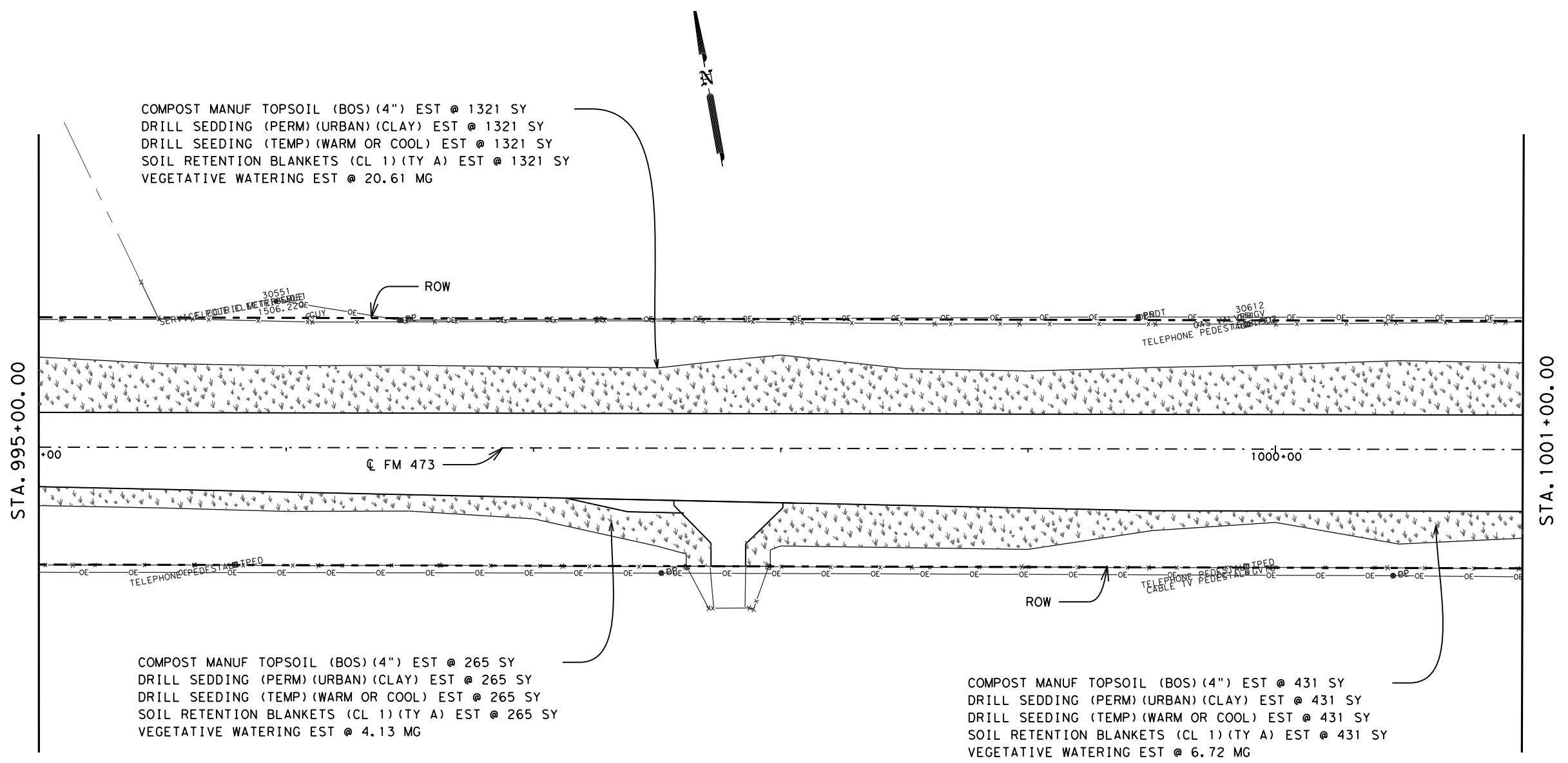
CSJ 0142-09-044



RM 473  
 LANDSCAPE  
 LAYOUTS

Texas Department of Transportation		SHEET 3 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		548

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	2017	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	2017	SY
DRILL SEED (TEMP) (WARM OR COOL)	2017	SY
VEGETATIVE WATERING	31.46	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	2017	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1321 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1321 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1321 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1321 SY  
 VEGETATIVE WATERING EST @ 20.61 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 265 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 265 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 265 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 265 SY  
 VEGETATIVE WATERING EST @ 4.13 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 431 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 431 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 431 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 431 SY  
 VEGETATIVE WATERING EST @ 6.72 MG

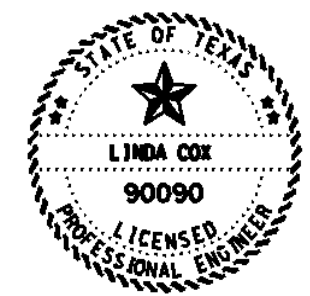
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Hatched Box]	COMPOST MANUF TPSL
[Hatched Box]	DRILL SEEDING
[Hatched Box]	SOIL RETENTION BLANKET



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 04/28/2021

CSJ 0142-09-044

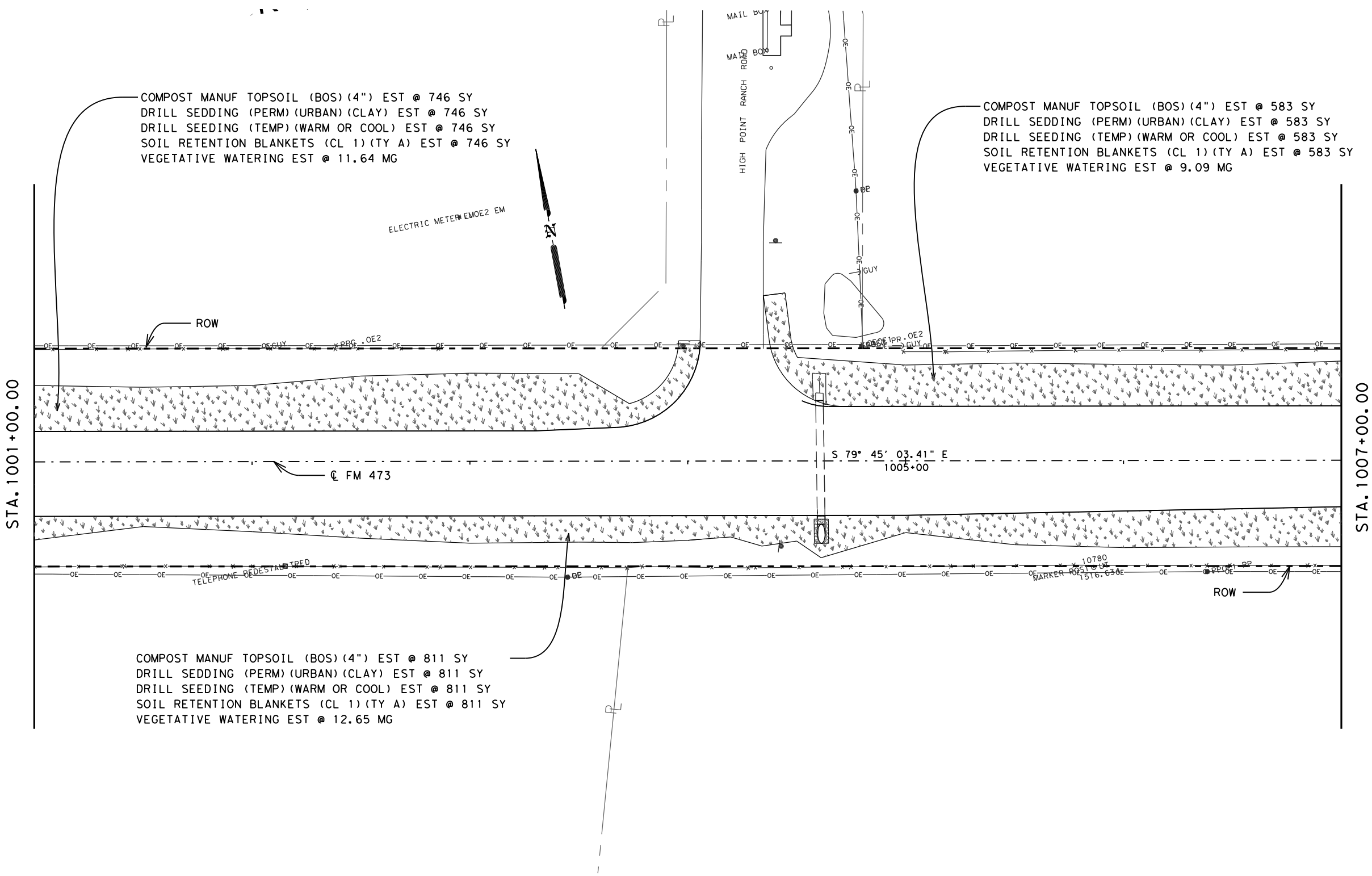


# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	549

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	2140	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	2140	SY
DRILL SEED (TEMP) (WARM OR COOL)	2140	SY
VEGETATIVE WATERING	33.38	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	2140	SY



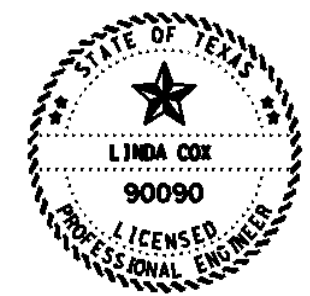
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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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04/28/2021

CSJ 0142-09-044



# RM 473 LANDSCAPE LAYOUTS

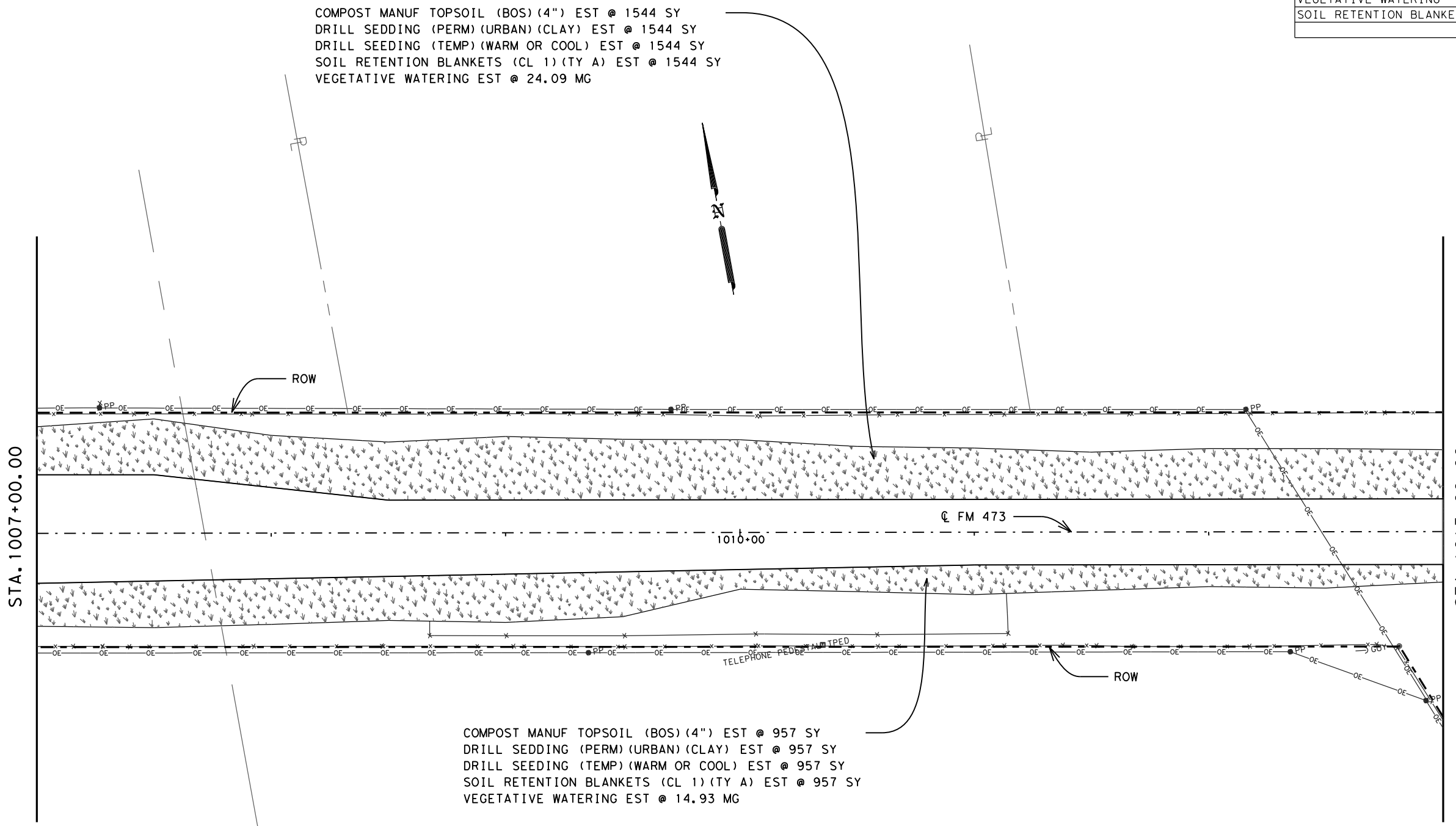


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	550

ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	2501	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	2501	SY
DRILL SEED (TEMP) (WARM OR COOL)	2501	SY
VEGETATIVE WATERING	39.02	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	2501	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1544 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 1544 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1544 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1544 SY  
 VEGETATIVE WATERING EST @ 24.09 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 957 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 957 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 957 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 957 SY  
 VEGETATIVE WATERING EST @ 14.93 MG



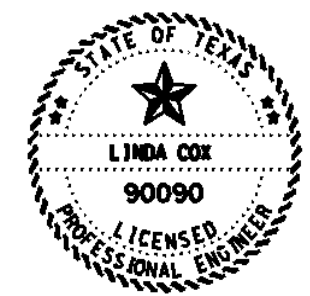
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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 04/28/2021

CSJ 0142-09-044



# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	551

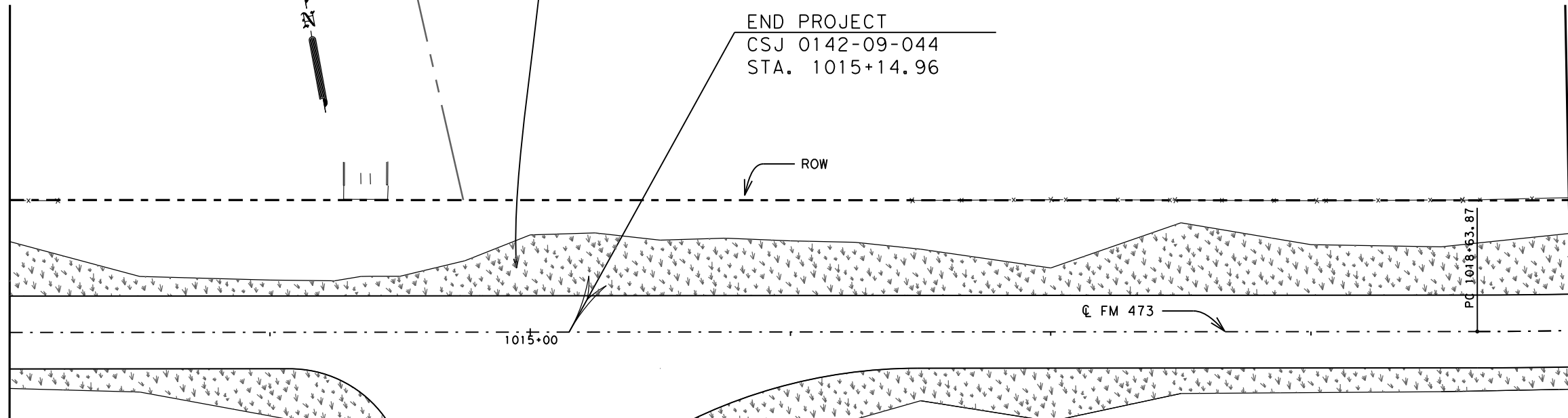
ESTIMATED QUANTITIES FOR CSJ 14209044		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	904	SY
DRILL SEEDING (PERM) (URBAN) (CLAY)	904	SY
DRILL SEEDING (TEMP) (WARM OR COOL)	904	SY
VEGETATIVE WATERING	14.11	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	904	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 273 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 273 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 273 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 273 SY  
 VEGETATIVE WATERING EST @ 4.26 MG

END PROJECT  
 CSJ 0142-09-044  
 STA. 1015+14.96

STA. 1013+00.00

STA. 1019+00.00



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 437 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 437 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 437 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 437 SY  
 VEGETATIVE WATERING EST @ 6.82 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 194 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 194 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 194 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 194 SY  
 VEGETATIVE WATERING EST @ 3.03 MG

31113  
 TELEPHONE PEDESTAL UNIFIED

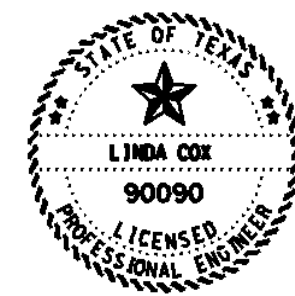
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

TELEPHONE PEDESTAL TYPED

LEGEND

- COMPOST MANUF TPSL
- DRILL SEEDING
- SOIL RETENTION BLANKET



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04/28/2021

CSJ 0142-09-044



RM 473  
 LANDSCAPE  
 LAYOUTS

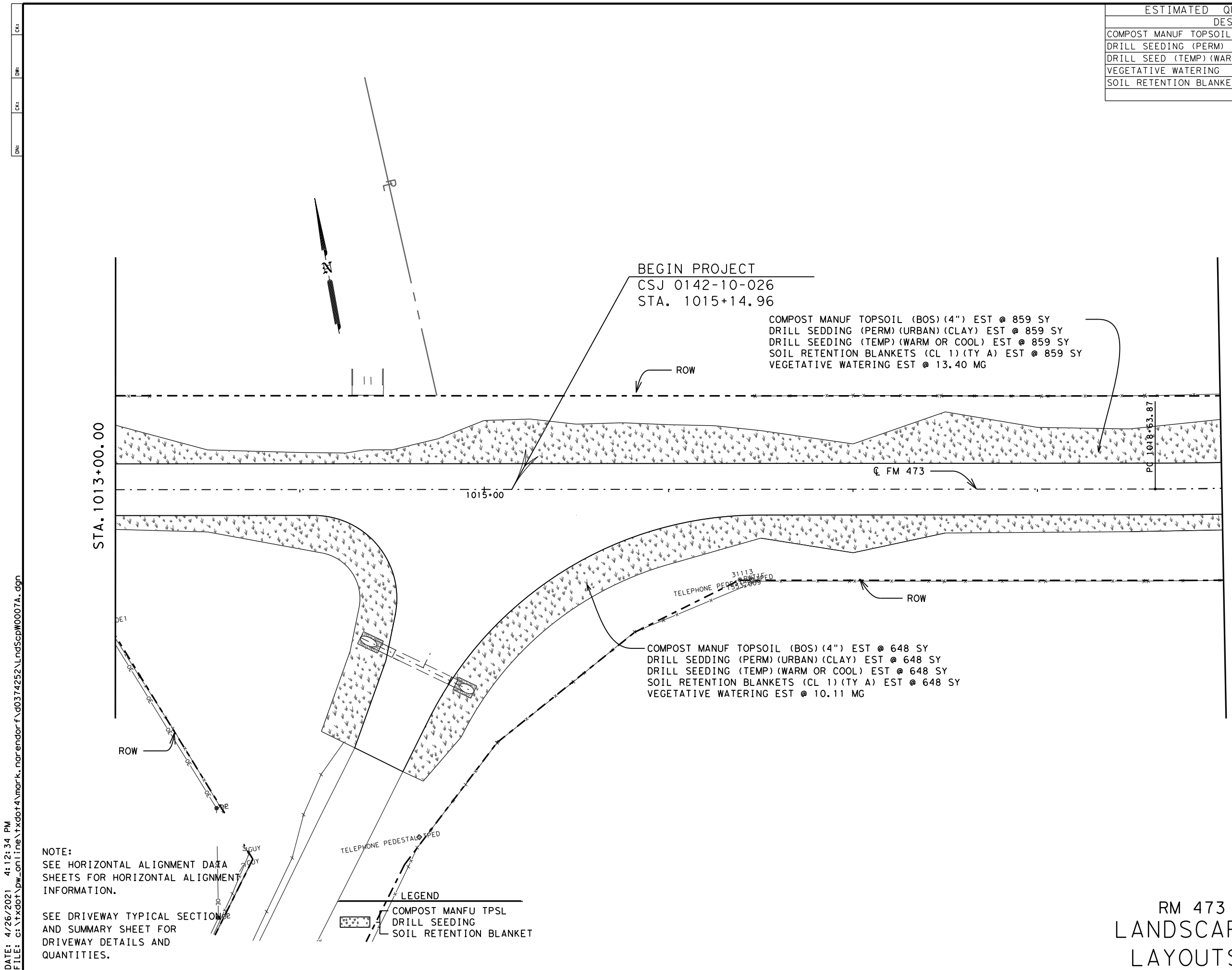


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		552

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1507	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1507	SY
DRILL SEED (TEMP) (WARM OR COOL)	1507	SY
VEGETATIVE WATERING	23.51	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1507	SY

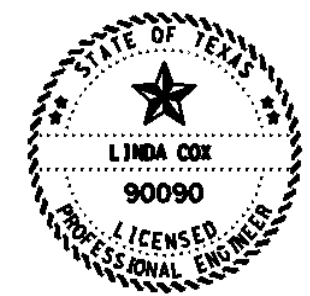


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**NOTE:**  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.  
  
 SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

**BEGIN PROJECT**  
 CSJ 0142-10-026  
 STA. 1015+14.96  
  
 COMPOST MANUF TOPSOIL (BOS) (4") EST @ 859 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 859 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 859 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 859 SY  
 VEGETATIVE WATERING EST @ 13.40 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 648 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 648 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 648 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 648 SY  
 VEGETATIVE WATERING EST @ 10.11 MG



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 04/28/2021

CSJ 0142-10-026

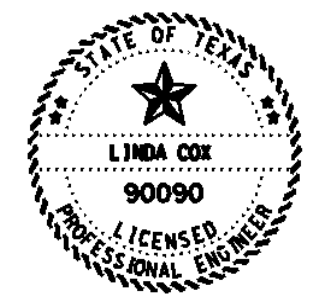
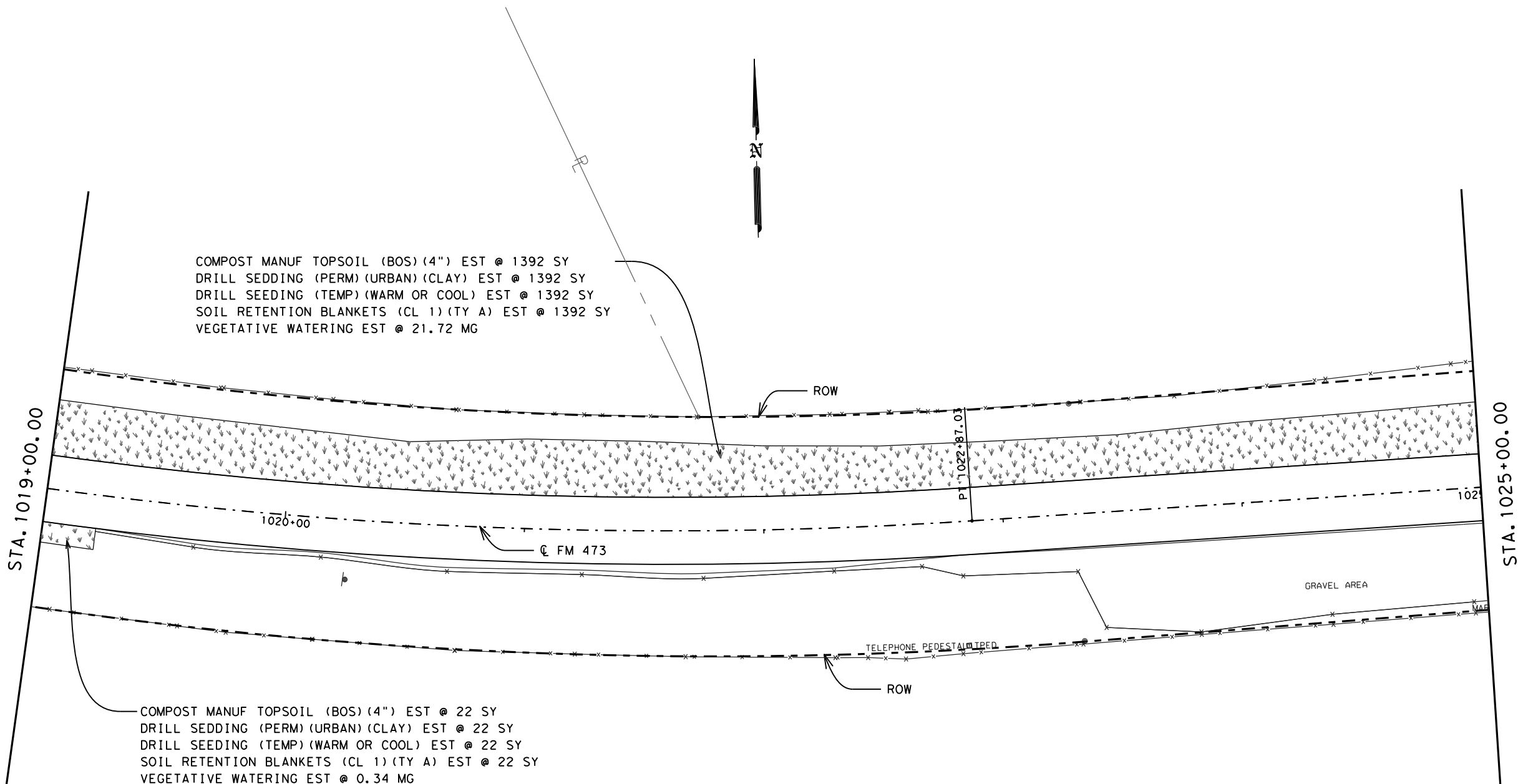


## RM 473 LANDSCAPE LAYOUTS

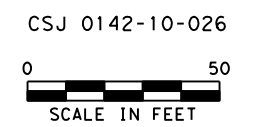


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		553

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1414	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1414	SY
DRILL SEED (TEMP) (WARM OR COOL)	1414	SY
VEGETATIVE WATERING	22.06	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1414	SY



*Linda Cox, P.E.*  
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RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	554

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

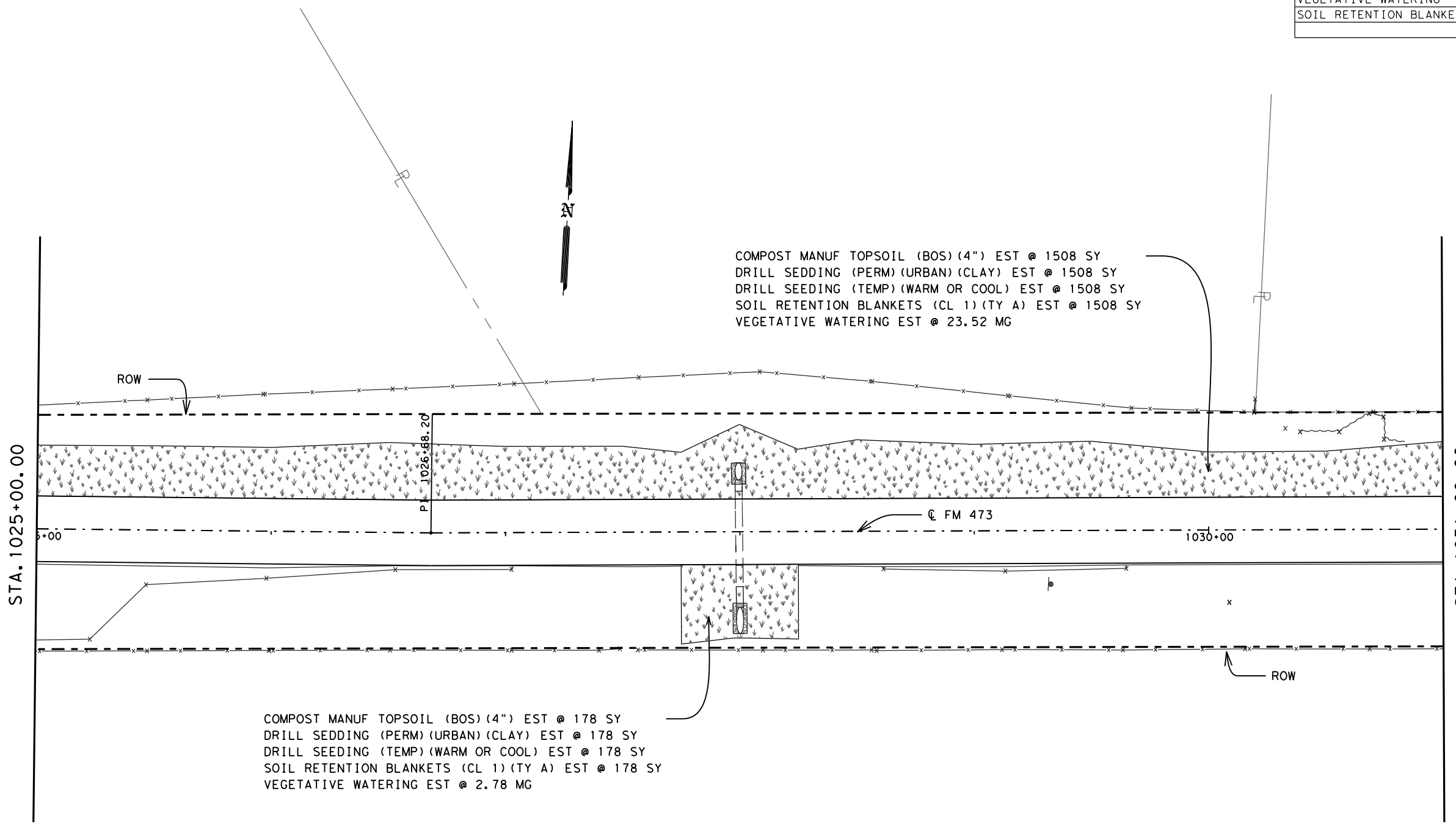
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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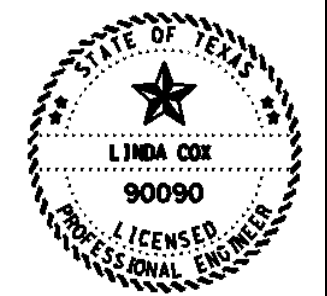


ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1686	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1686	SY
DRILL SEED (TEMP) (WARM OR COOL)	1686	SY
VEGETATIVE WATERING	26.3	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1686	SY

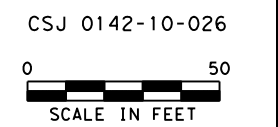


COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1508 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 1508 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1508 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1508 SY  
 VEGETATIVE WATERING EST @ 23.52 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 178 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 178 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 178 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 178 SY  
 VEGETATIVE WATERING EST @ 2.78 MG



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RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	555

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

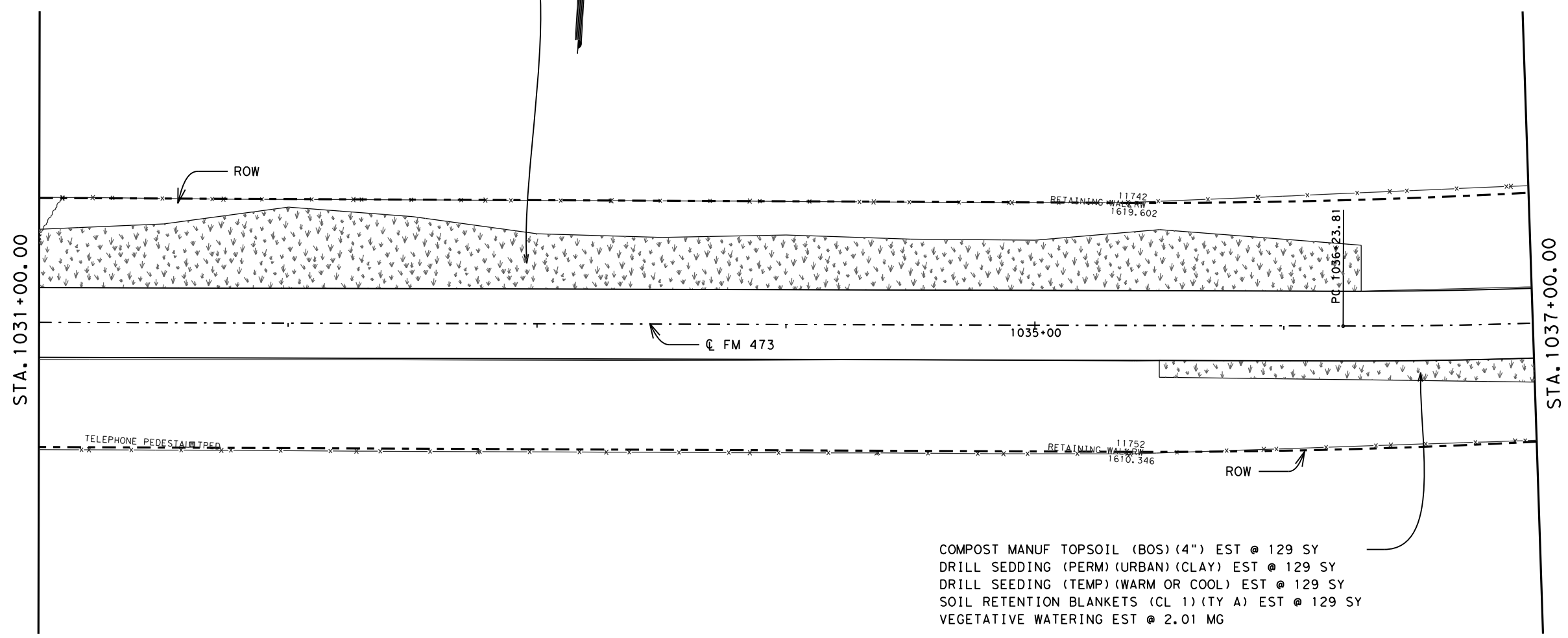
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1525	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1525	SY
DRILL SEED (TEMP) (WARM OR COOL)	1525	SY
VEGETATIVE WATERING	23.79	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1525	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1396 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1396 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1396 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1396 SY  
 VEGETATIVE WATERING EST @ 21.78 MG



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 129 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 129 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 129 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 129 SY  
 VEGETATIVE WATERING EST @ 2.01 MG

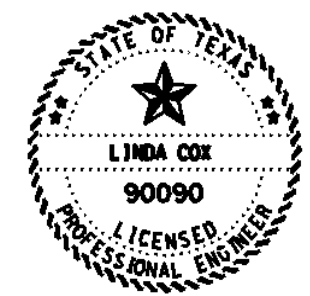
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

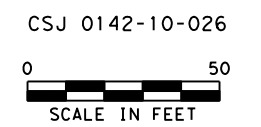
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Hatched Box]	COMPOST MANFU TPSL
[Hatched Box]	DRILL SEEDING
[Hatched Box]	SOIL RETENTION BLANKET



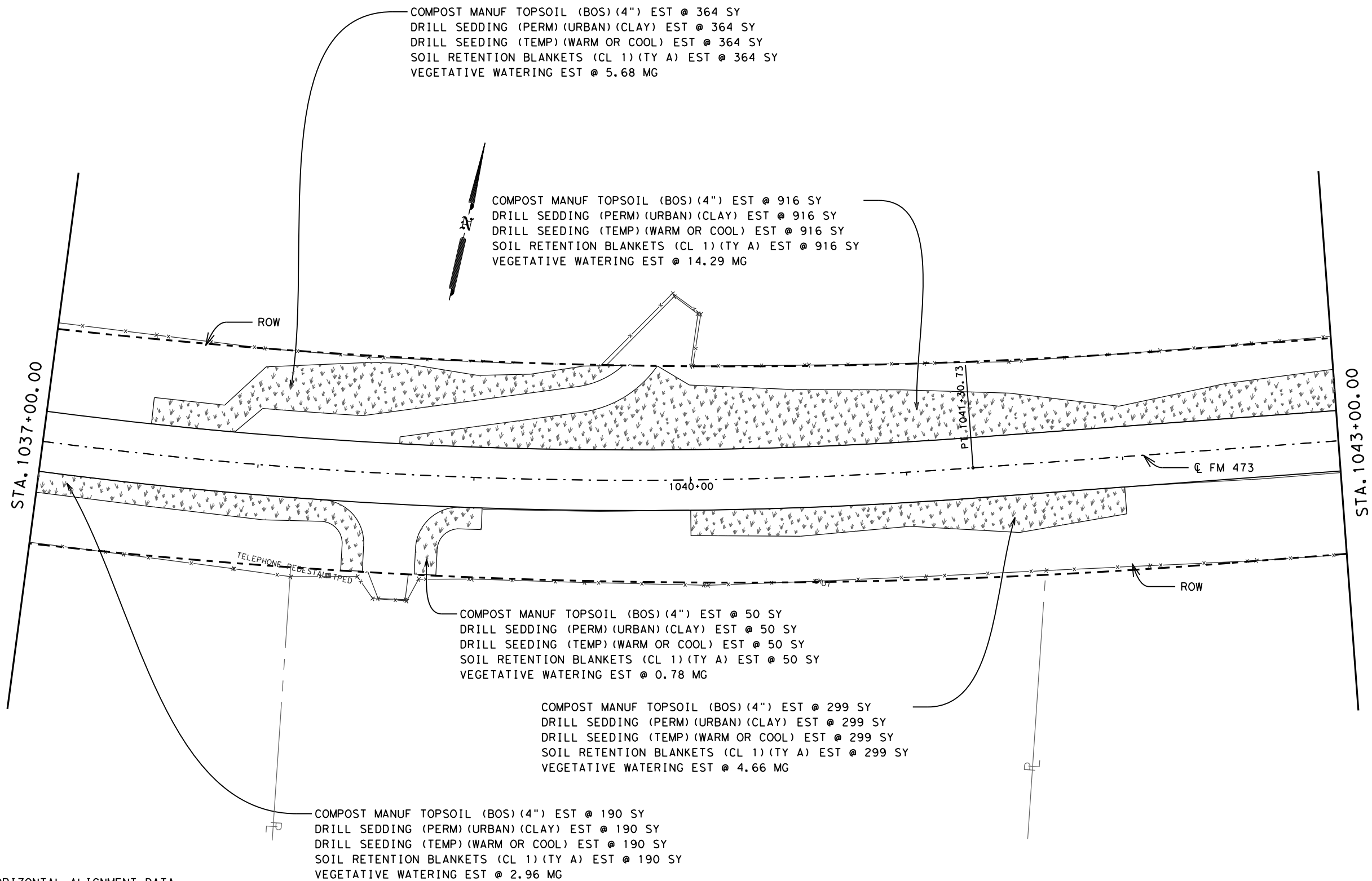
*Linda Cox, P.E.*  
 04/28/2021



# RM 473 LANDSCAPE LAYOUTS

Texas Department of Transportation		SHEET 11 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		556

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1819	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1819	SY
DRILL SEED (TEMP) (WARM OR COOL)	1819	SY
VEGETATIVE WATERING	28.37	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1819	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 364 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 364 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 364 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 364 SY  
 VEGETATIVE WATERING EST @ 5.68 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 916 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 916 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 916 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 916 SY  
 VEGETATIVE WATERING EST @ 14.29 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 50 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 50 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 50 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 50 SY  
 VEGETATIVE WATERING EST @ 0.78 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 299 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 299 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 299 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 299 SY  
 VEGETATIVE WATERING EST @ 4.66 MG

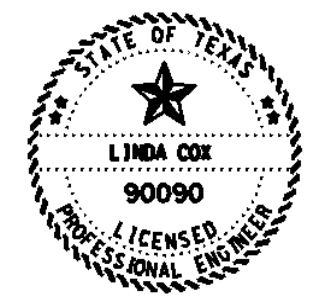
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 190 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 190 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 190 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 190 SY  
 VEGETATIVE WATERING EST @ 2.96 MG

LEGEND  

 COMPOST MANUF TPSL  
 DRILL SEEDING  
 SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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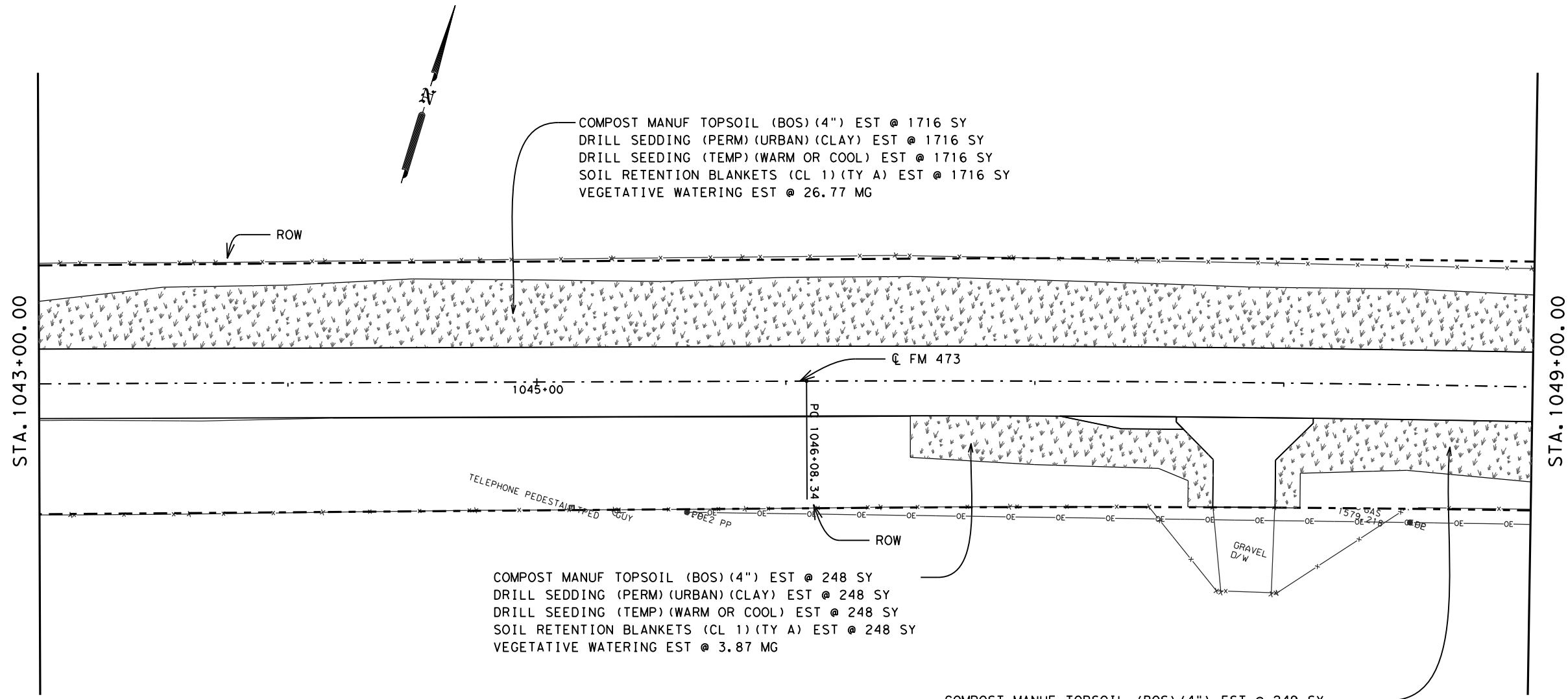
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	557

DATE: 4/26/2021 4:13:07 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	2213	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	2213	SY
DRILL SEED (TEMP) (WARM OR COOL)	2213	SY
VEGETATIVE WATERING	34.52	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	2213	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1716 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1716 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1716 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1716 SY  
 VEGETATIVE WATERING EST @ 26.77 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 248 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 248 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 248 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 248 SY  
 VEGETATIVE WATERING EST @ 3.87 MG

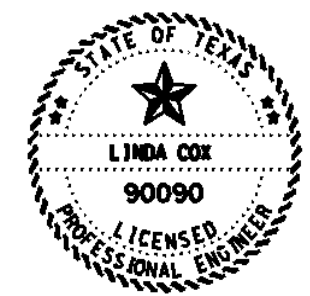
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 249 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 249 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 249 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 249 SY  
 VEGETATIVE WATERING EST @ 3.88 MG

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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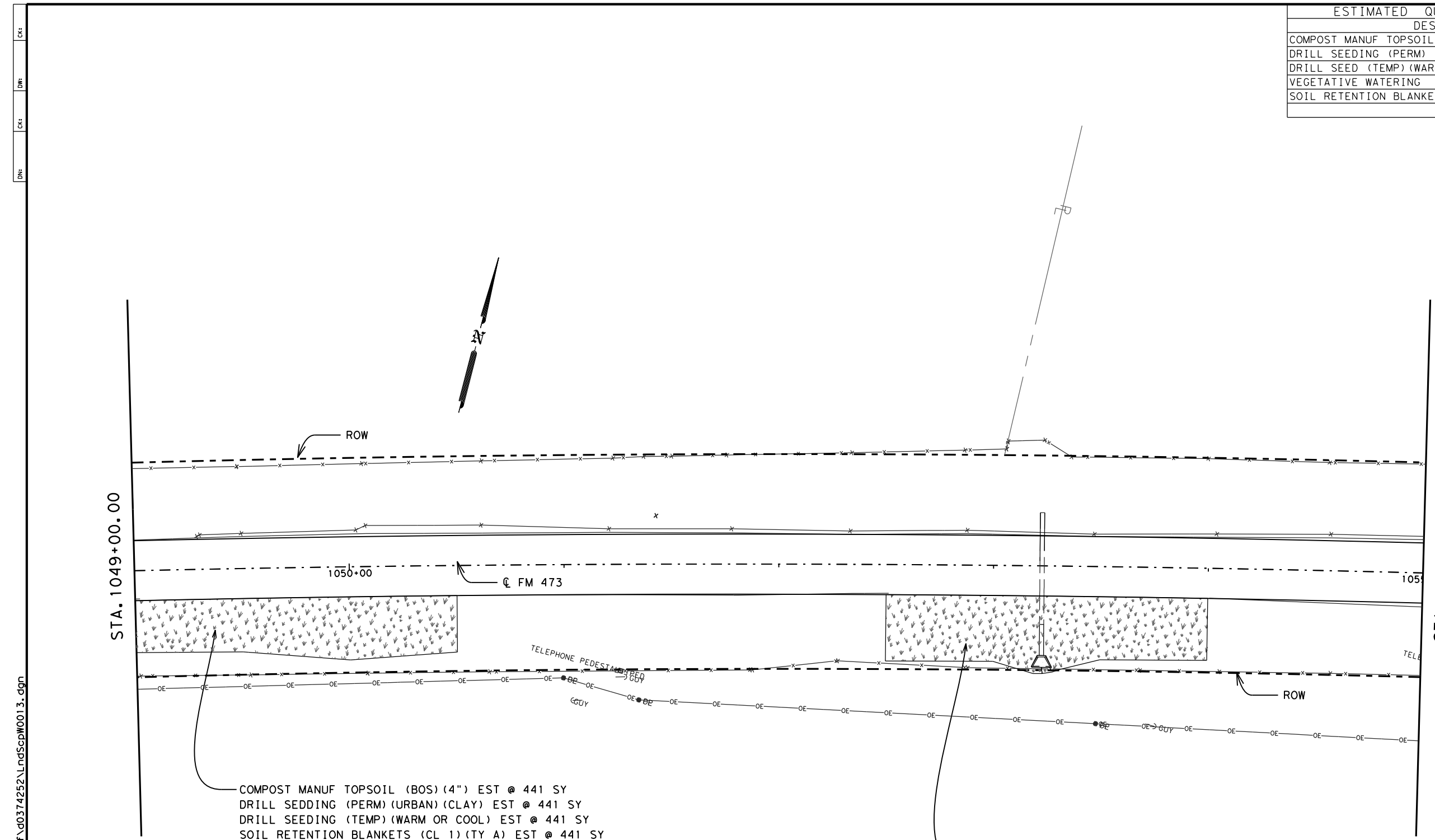
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	558

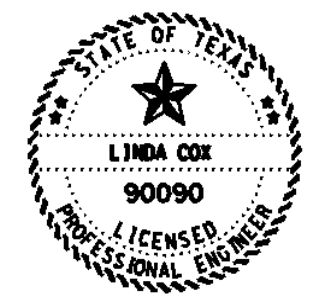
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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	943	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	943	SY
DRILL SEED (TEMP) (WARM OR COOL)	943	SY
VEGETATIVE WATERING	14.71	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	943	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 441 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 441 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 441 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 441 SY  
 VEGETATIVE WATERING EST @ 6.88 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 502 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 502 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 502 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 502 SY  
 VEGETATIVE WATERING EST @ 7.83 MG



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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

# RM 473 LANDSCAPE LAYOUTS

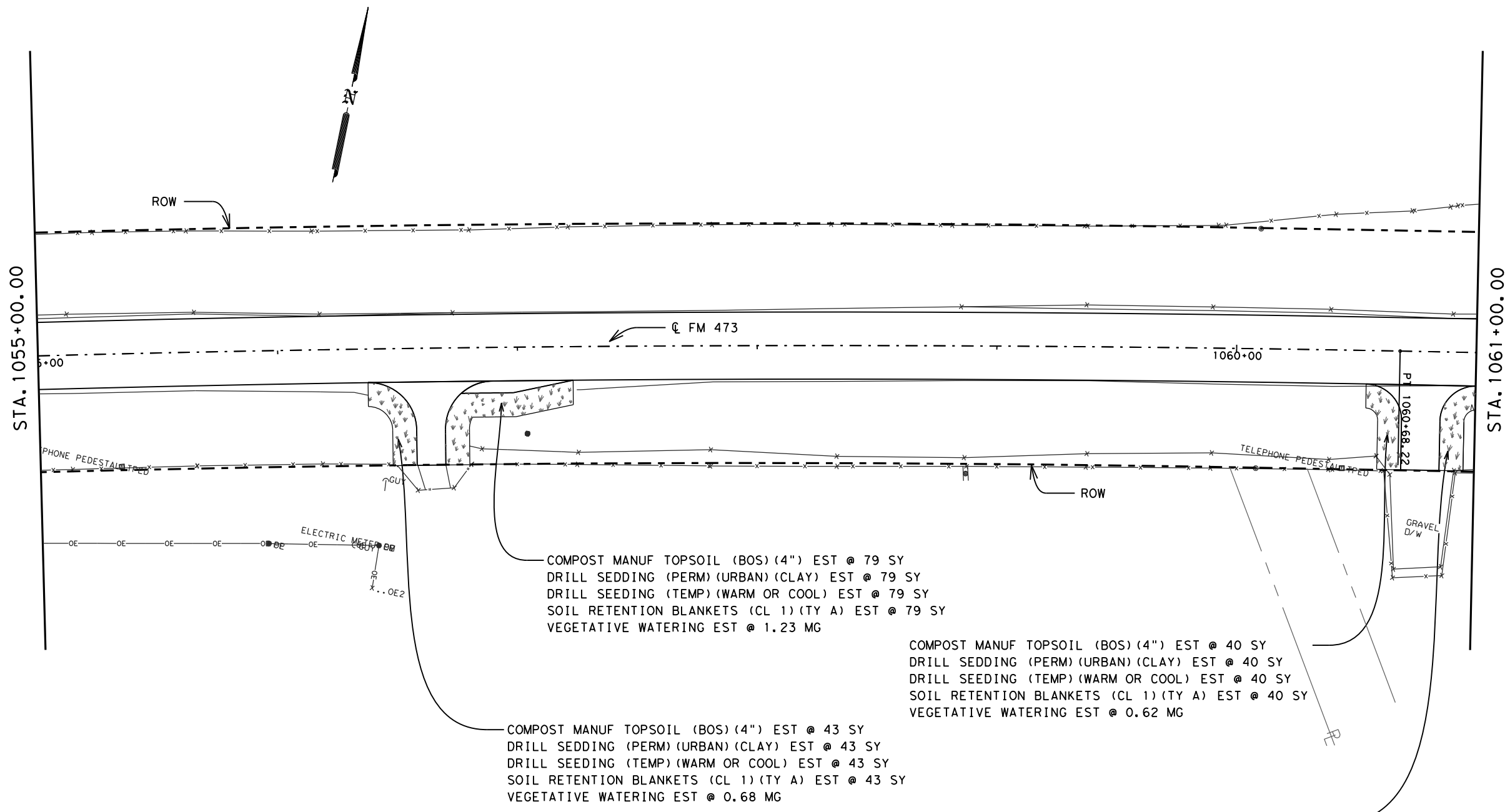


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	559

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ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	202	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	202	SY
DRILL SEED (TEMP) (WARM OR COOL)	202	SY
VEGETATIVE WATERING	3.15	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	202	SY

Ck:   
 Dm:   
 Ck:   
 Dm:



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 79 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 79 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 79 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 79 SY  
 VEGETATIVE WATERING EST @ 1.23 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 40 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 40 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 40 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 40 SY  
 VEGETATIVE WATERING EST @ 0.62 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 43 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 43 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 43 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 43 SY  
 VEGETATIVE WATERING EST @ 0.68 MG

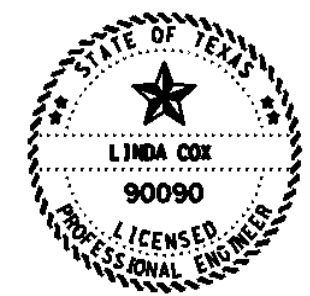
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 40 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 40 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 40 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 40 SY  
 VEGETATIVE WATERING EST @ 0.62 MG

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

NOTE:  
SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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# RM 473 LANDSCAPE LAYOUTS

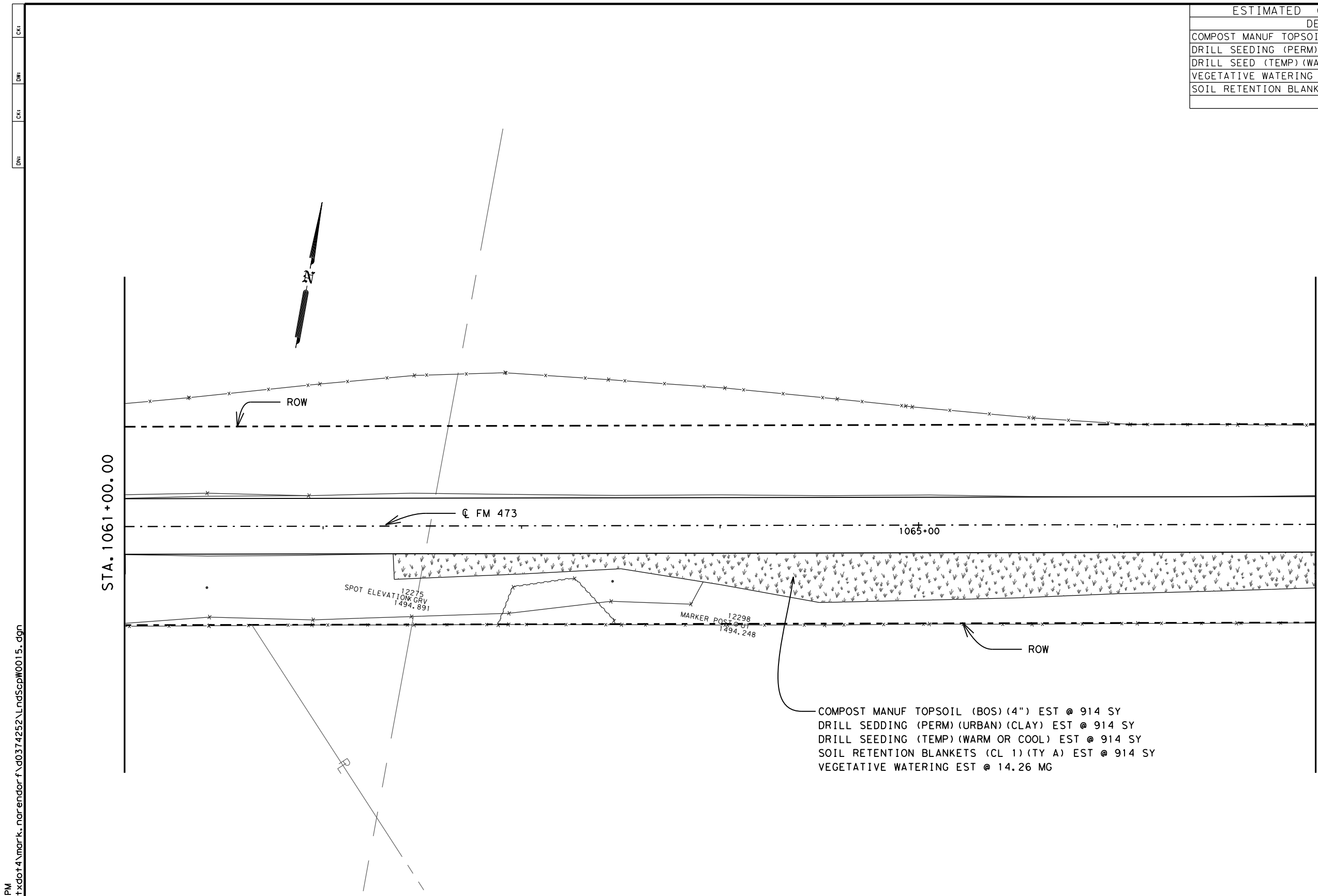


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	560

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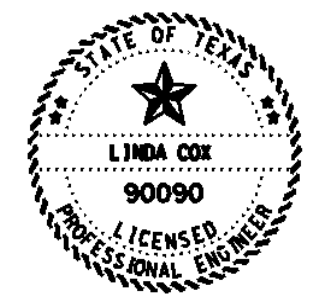
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	914	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	914	SY
DRILL SEED (TEMP) (WARM OR COOL)	914	SY
VEGETATIVE WATERING	14.26	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	914	SY



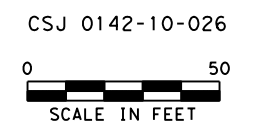
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 914 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 914 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 914 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 914 SY  
 VEGETATIVE WATERING EST @ 14.26 MG

STA. 1067+00.00

STA. 1061+00.00



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CSJ 0142-10-026



RM 473  
 LANDSCAPE  
 LAYOUTS

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

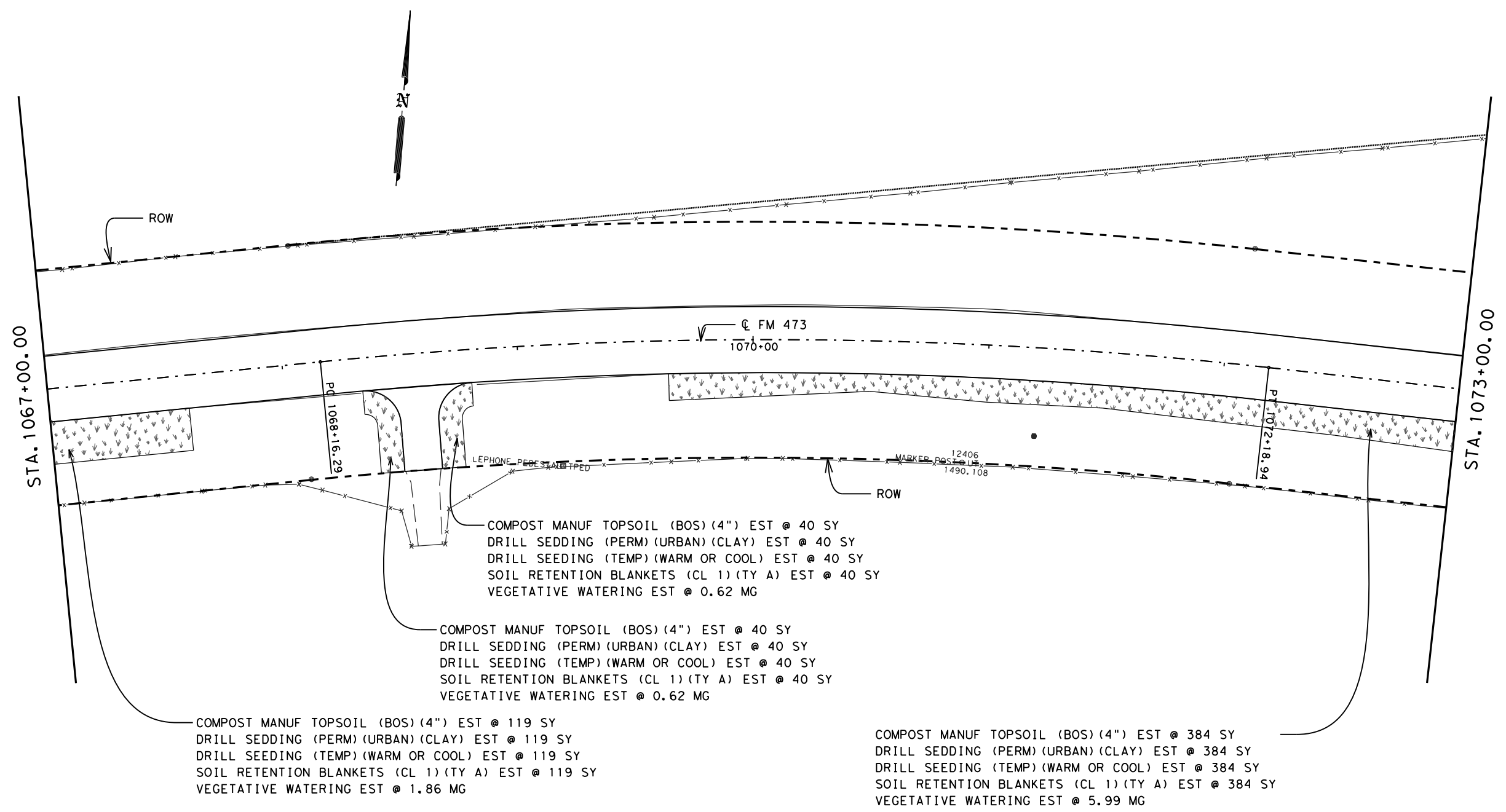
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CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	561



ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	583	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	583	SY
DRILL SEED (TEMP) (WARM OR COOL)	583	SY
VEGETATIVE WATERING	9.09	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	583	SY

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
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 Dwf: \_\_\_\_\_

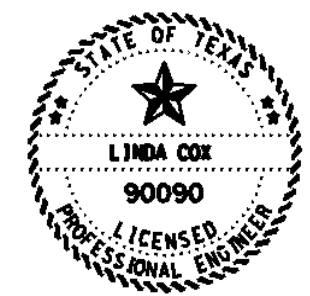


COMPOST MANUF TOPSOIL (BOS) (4") EST @ 40 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 40 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 40 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 40 SY  
 VEGETATIVE WATERING EST @ 0.62 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 40 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 40 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 40 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 40 SY  
 VEGETATIVE WATERING EST @ 0.62 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 119 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 119 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 119 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 119 SY  
 VEGETATIVE WATERING EST @ 1.86 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 384 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 384 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 384 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 384 SY  
 VEGETATIVE WATERING EST @ 5.99 MG



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA  
 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
 QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

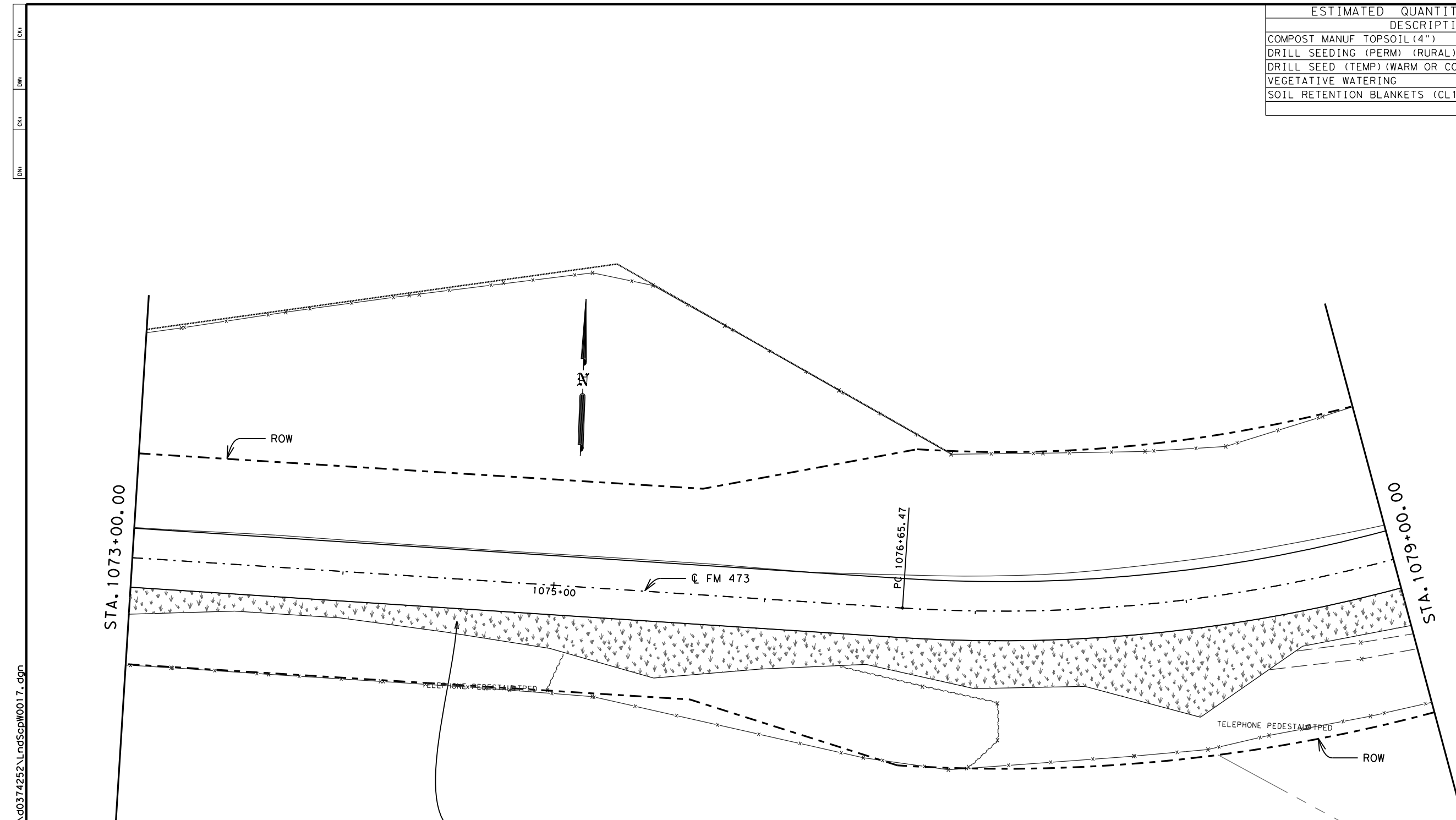
# RM 473 LANDSCAPE LAYOUTS



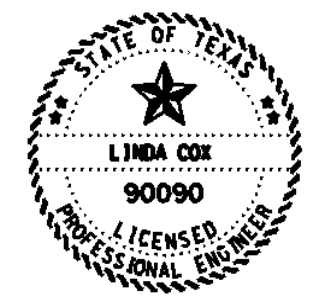
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	562

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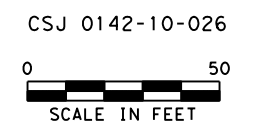
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1252	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1252	SY
DRILL SEED (TEMP) (WARM OR COOL)	1252	SY
VEGETATIVE WATERING	19.53	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1252	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1252 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1252 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1252 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1252 SY  
 VEGETATIVE WATERING EST @ 19.53 MG



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 04/28/2021



RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	563

DATE: 4/26/2021 4:13:54 PM  
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

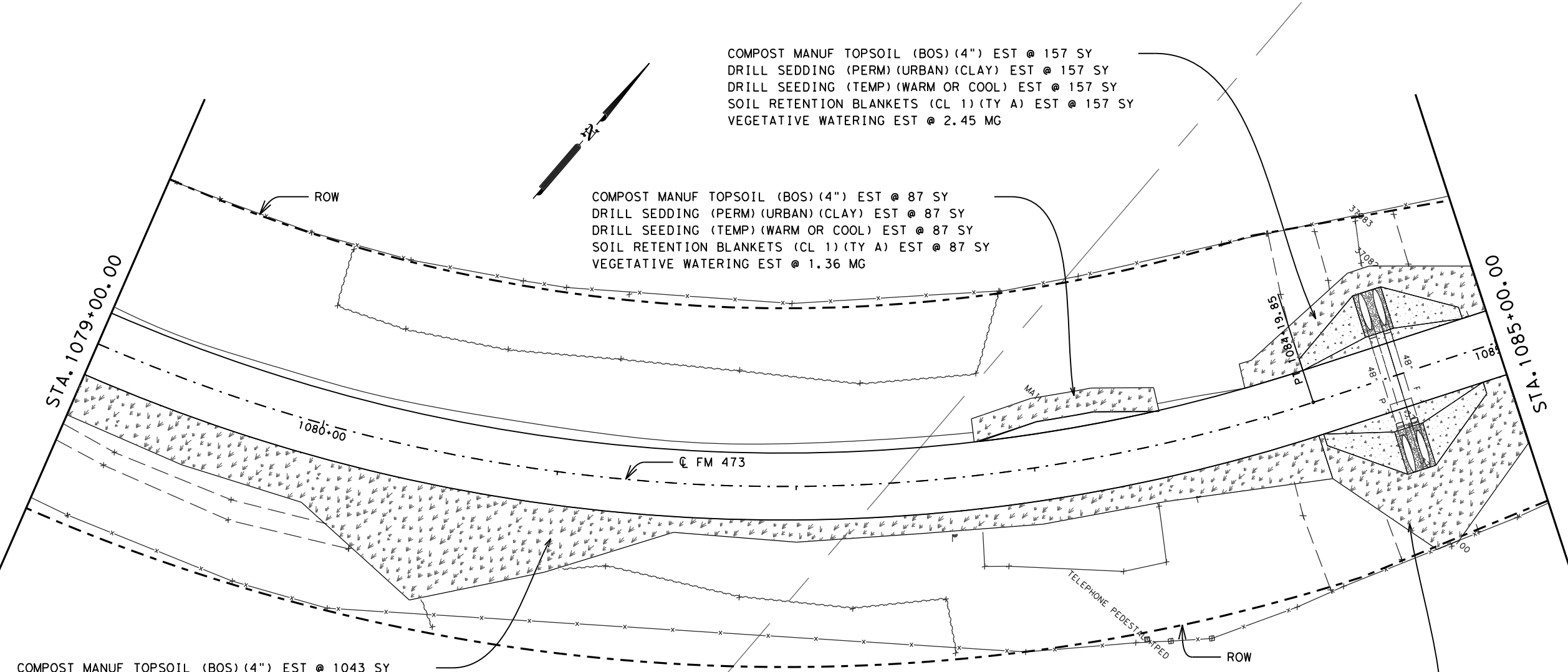
LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1557	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1557	SY
DRILL SEED (TEMP) (WARM OR COOL)	1557	SY
VEGETATIVE WATERING	24.29	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1557	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 157 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 157 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 157 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 157 SY  
 VEGETATIVE WATERING EST @ 2.45 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 87 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 87 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 87 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 87 SY  
 VEGETATIVE WATERING EST @ 1.36 MG



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1043 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1043 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1043 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1043 SY  
 VEGETATIVE WATERING EST @ 16.27 MG

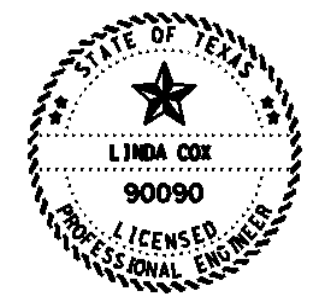
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 270 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 270 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 270 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 270 SY  
 VEGETATIVE WATERING EST @ 4.21 MG

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA  
 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
 QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

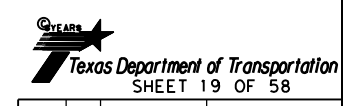


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 04/28/2021

CSJ 0142-10-026



# RM 473 LANDSCAPE LAYOUTS



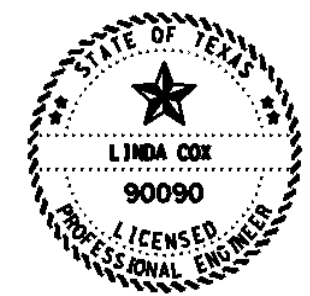
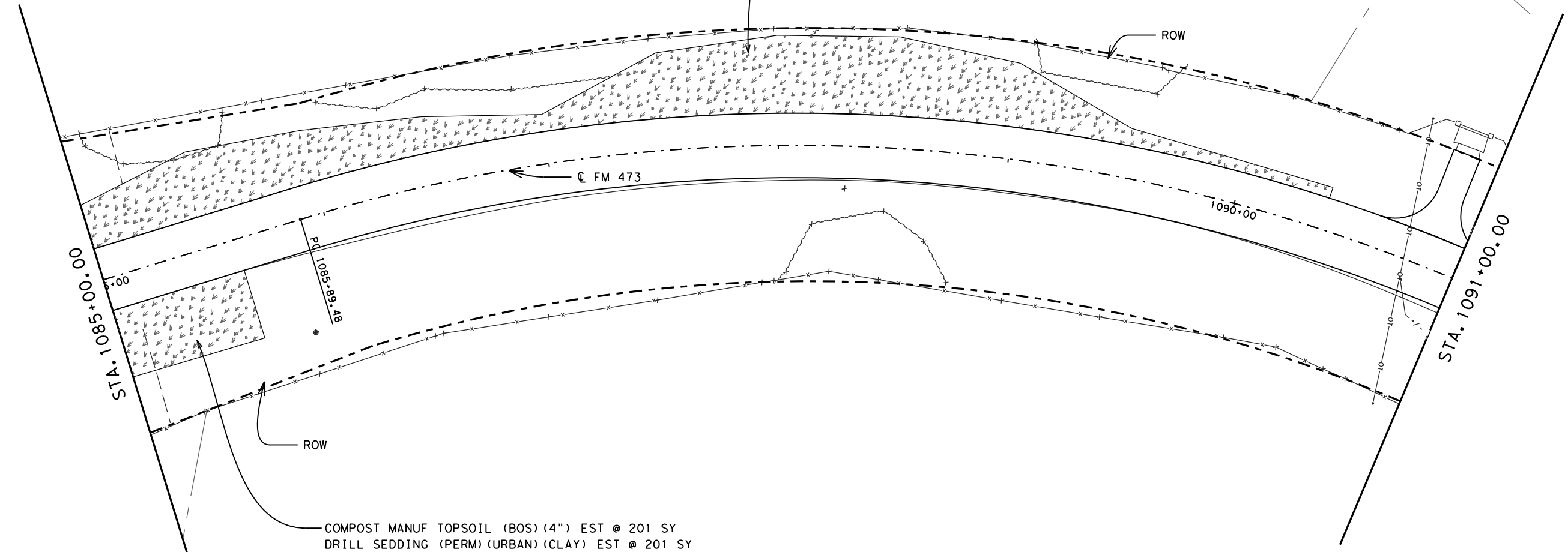
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		564

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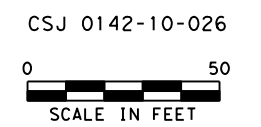
ESTIMATED QUANTITIES FOR CSJ 14210026		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1463	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1463	SY
DRILL SEED (TEMP) (WARM OR COOL)	1463	SY
VEGETATIVE WATERING	22.83	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1463	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1262 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 1262 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1262 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1262 SY  
 VEGETATIVE WATERING EST @ 19.69 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 201 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 201 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 201 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 201 SY  
 VEGETATIVE WATERING EST @ 3.14 MG



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RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		565

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

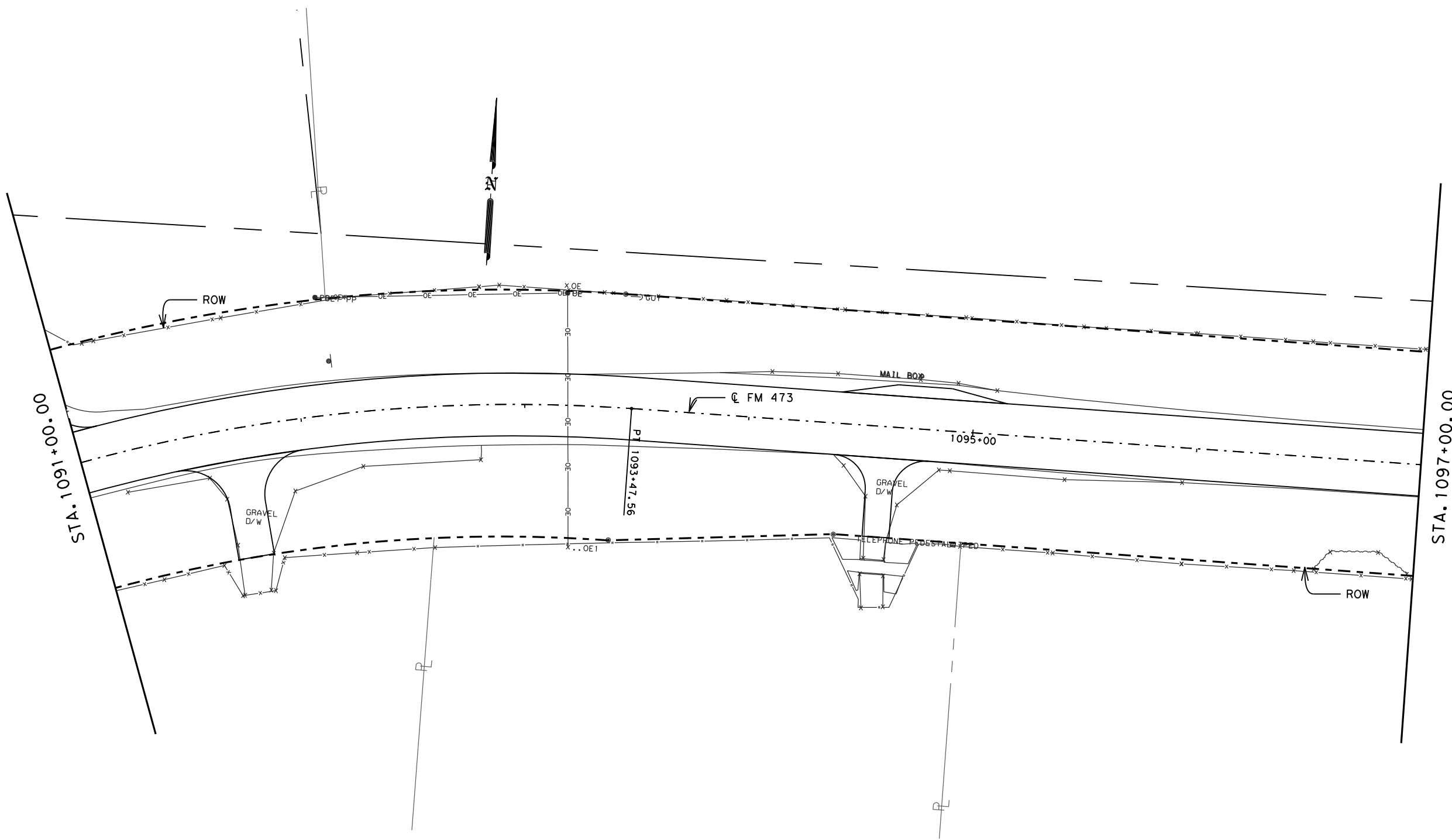
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

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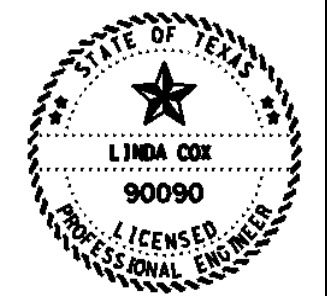
NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

RM 473  
 LANDSCAPE  
 LAYOUTS



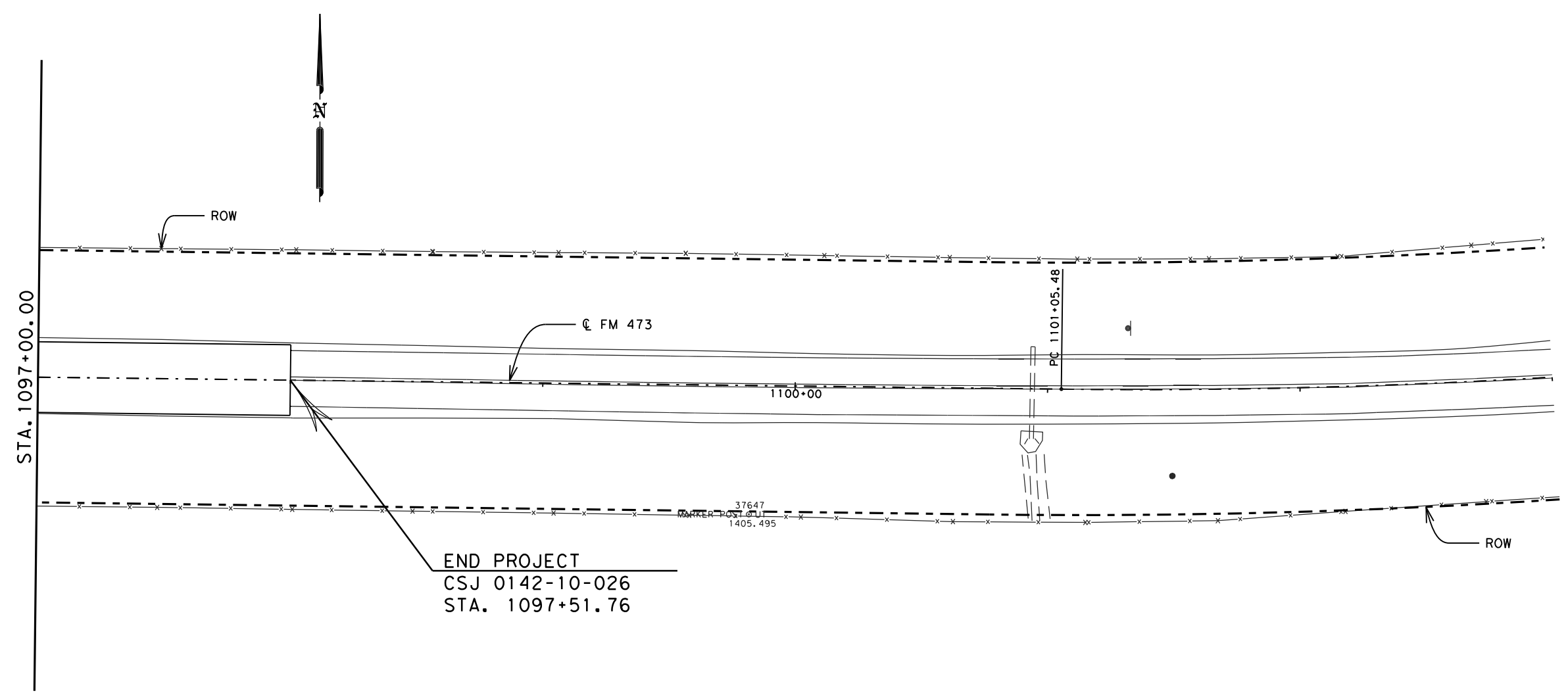
*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-026



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		566

DN: C&S: DM: C&S:



END PROJECT  
CSJ 0142-10-026  
STA. 1097+51.76

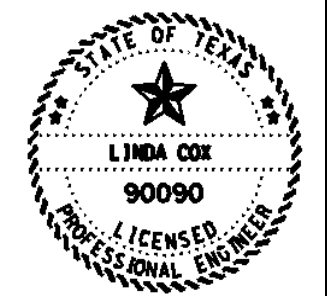
NOTE:  
SEE HORIZONTAL ALIGNMENT DATA  
SHEETS FOR HORIZONTAL ALIGNMENT  
INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
AND SUMMARY SHEET FOR  
DRIVEWAY DETAILS AND  
QUANTITIES.

LEGEND

- COMPOST MANFU TPSL
- DRILL SEEDING
- SOIL RETENTION BLANKET

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04/28/2021

CSJ 0142-10-026  
0 50  
SCALE IN FEET

# RM 473 LANDSCAPE LAYOUTS

Texas Department of Transportation  
SHEET 22 OF 58

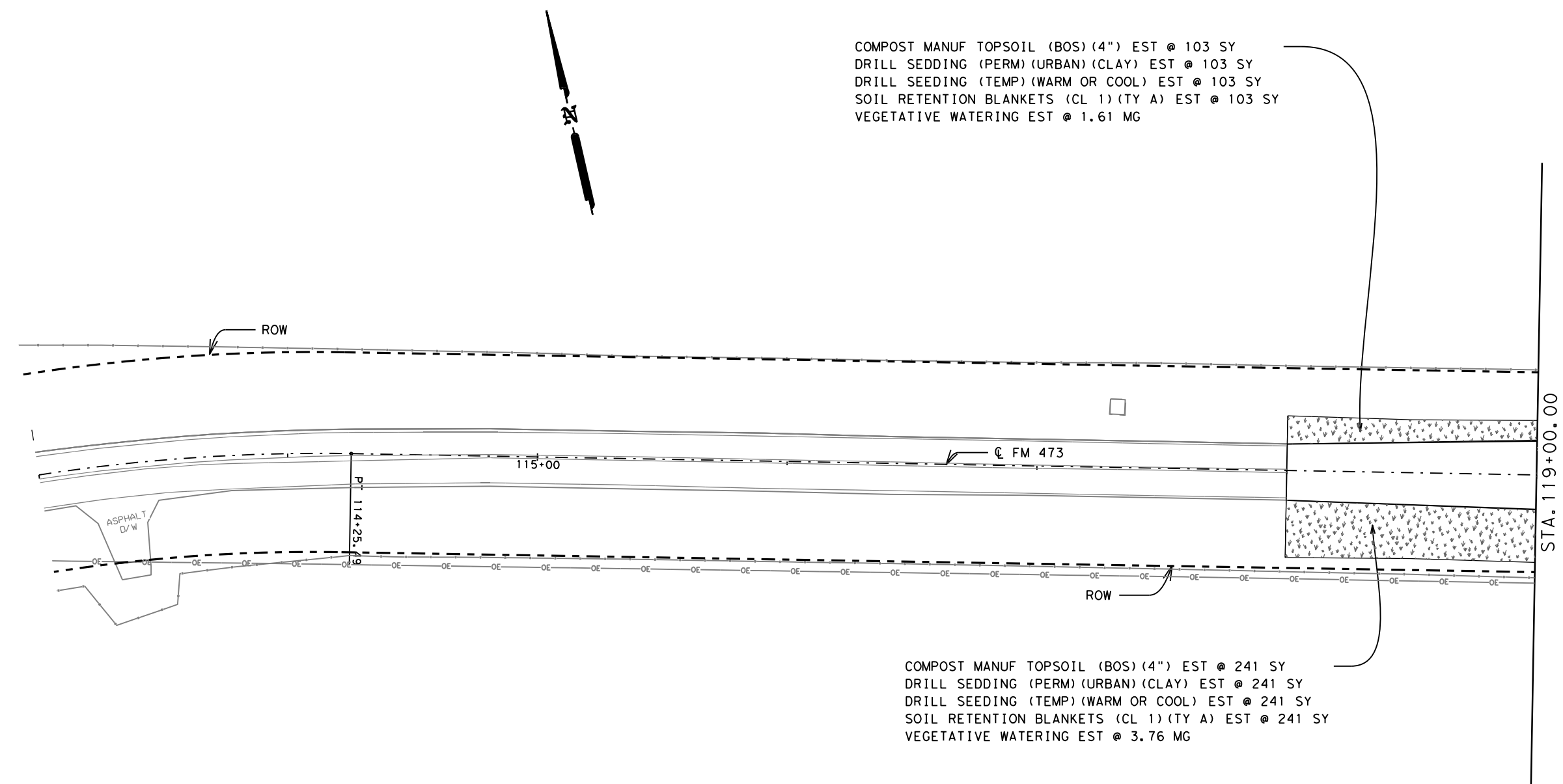
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	567



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	344	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	344	SY
DRILL SEED (TEMP) (WARM OR COOL)	344	SY
VEGETATIVE WATERING	5.37	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	344	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 103 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 103 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 103 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 103 SY  
 VEGETATIVE WATERING EST @ 1.61 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 241 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 241 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 241 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 241 SY  
 VEGETATIVE WATERING EST @ 3.76 MG

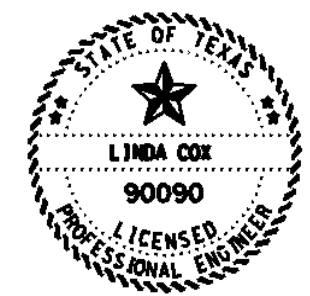


LEGEND

[Stippled Box]	COMPOST MANUF TPSL
[Stippled Box]	DRILL SEEDING
[Stippled Box]	SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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 04/28/2021

CSJ 0142-10-025



# RM 473 LANDSCAPE LAYOUTS

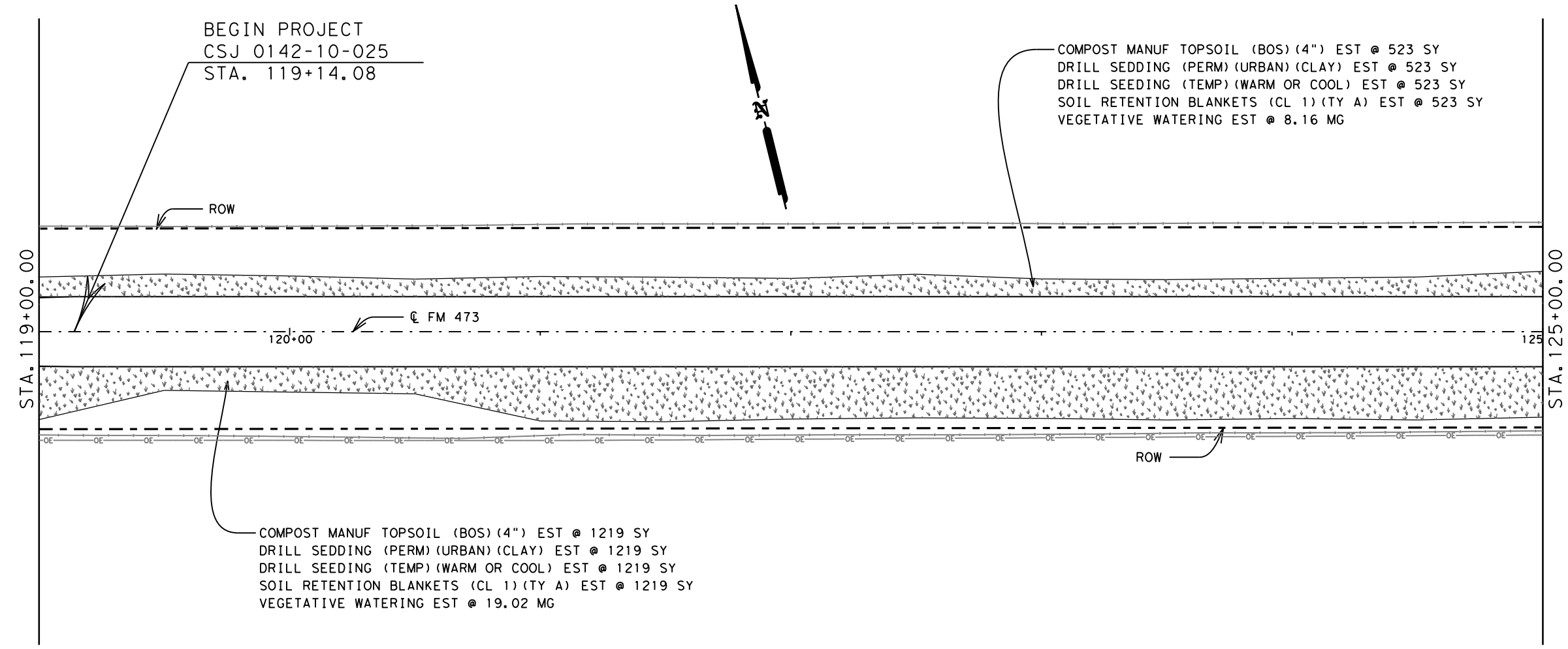


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	568

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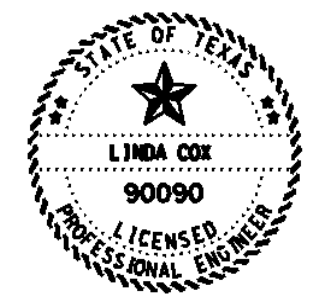
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1742	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1742	SY
DRILL SEED (TEMP) (WARM OR COOL)	1742	SY
VEGETATIVE WATERING	27.18	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1742	SY



BEGIN PROJECT  
CSJ 0142-10-025  
STA. 119+14.08

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 523 SY  
DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 523 SY  
DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 523 SY  
SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 523 SY  
VEGETATIVE WATERING EST @ 8.16 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1219 SY  
DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1219 SY  
DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1219 SY  
SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1219 SY  
VEGETATIVE WATERING EST @ 19.02 MG



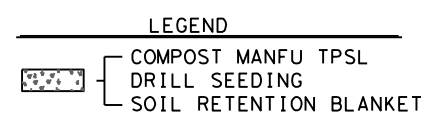
*Linda Cox, P.E.*  
04/28/2021

CSJ 0142-10-025



NOTE:  
SEE HORIZONTAL ALIGNMENT DATA  
SHEETS FOR HORIZONTAL ALIGNMENT  
INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
AND SUMMARY SHEET FOR  
DRIVEWAY DETAILS AND  
QUANTITIES.



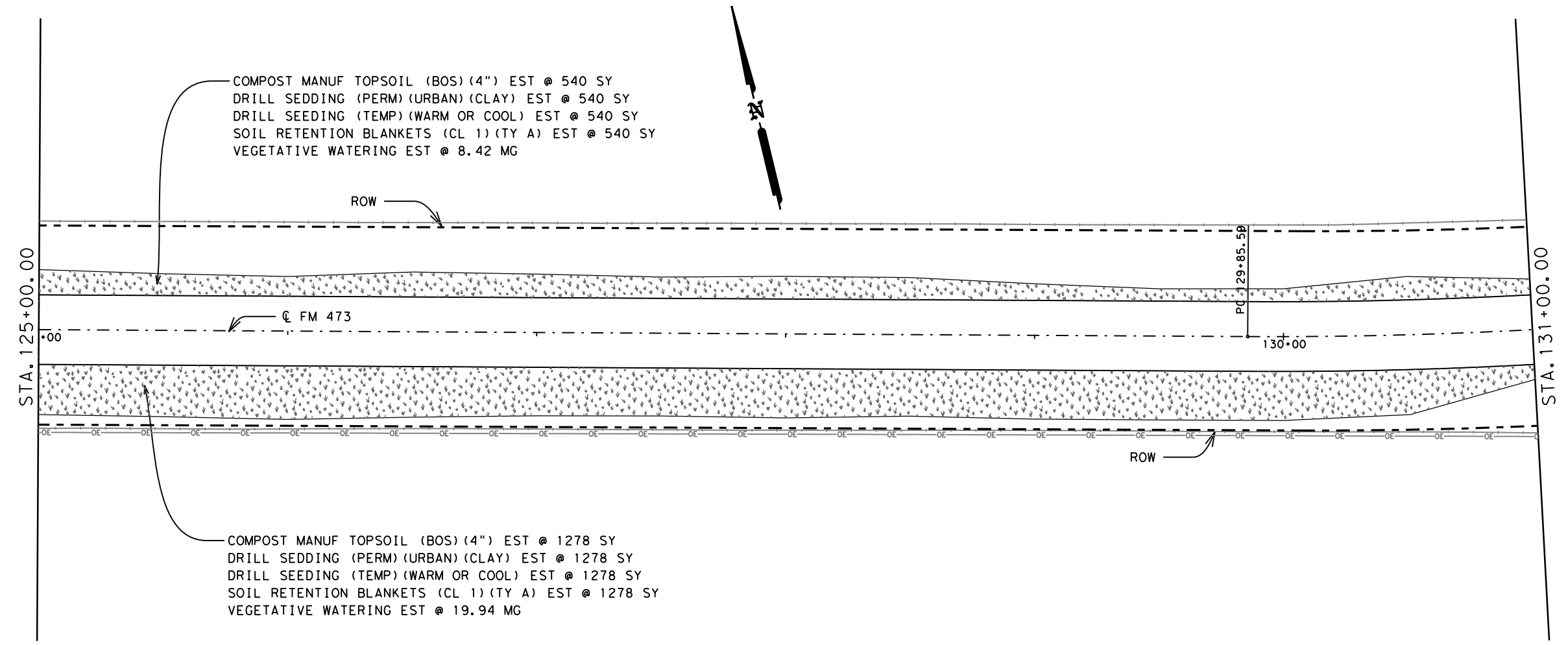
RM 473  
LANDSCAPE  
LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	569

DATE: 4/26/2021 4:14:54 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1818	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1818	SY
DRILL SEED (TEMP) (WARM OR COOL)	1818	SY
VEGETATIVE WATERING	28.36	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1818	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 540 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 540 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 540 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 540 SY  
 VEGETATIVE WATERING EST @ 8.42 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1278 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 1278 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1278 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1278 SY  
 VEGETATIVE WATERING EST @ 19.94 MG

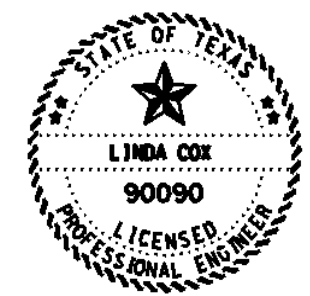
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Stippled Pattern]	COMPOST MANFU TPSL
[Dotted Pattern]	DRILL SEEDING
[Cross-hatched Pattern]	SOIL RETENTION BLANKET



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CSJ 0142-10-025

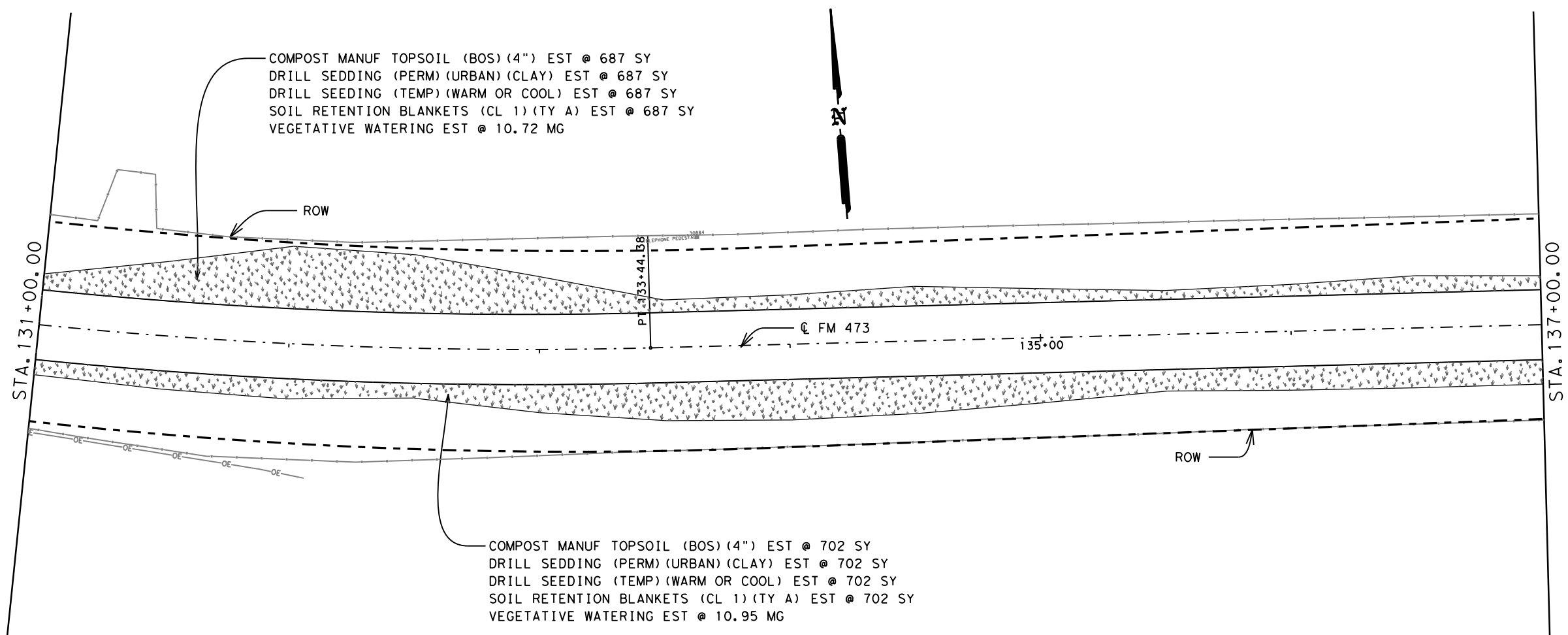


# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	570

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1389	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1389	SY
DRILL SEED (TEMP) (WARM OR COOL)	1389	SY
VEGETATIVE WATERING	21.67	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1389	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 687 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 687 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 687 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 687 SY  
 VEGETATIVE WATERING EST @ 10.72 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 702 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 702 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 702 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 702 SY  
 VEGETATIVE WATERING EST @ 10.95 MG

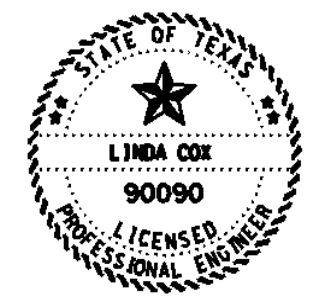
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Hatched Box]	COMPOST MANUF TPSL
[Stippled Box]	DRILL SEEDING
[Dotted Box]	SOIL RETENTION BLANKET



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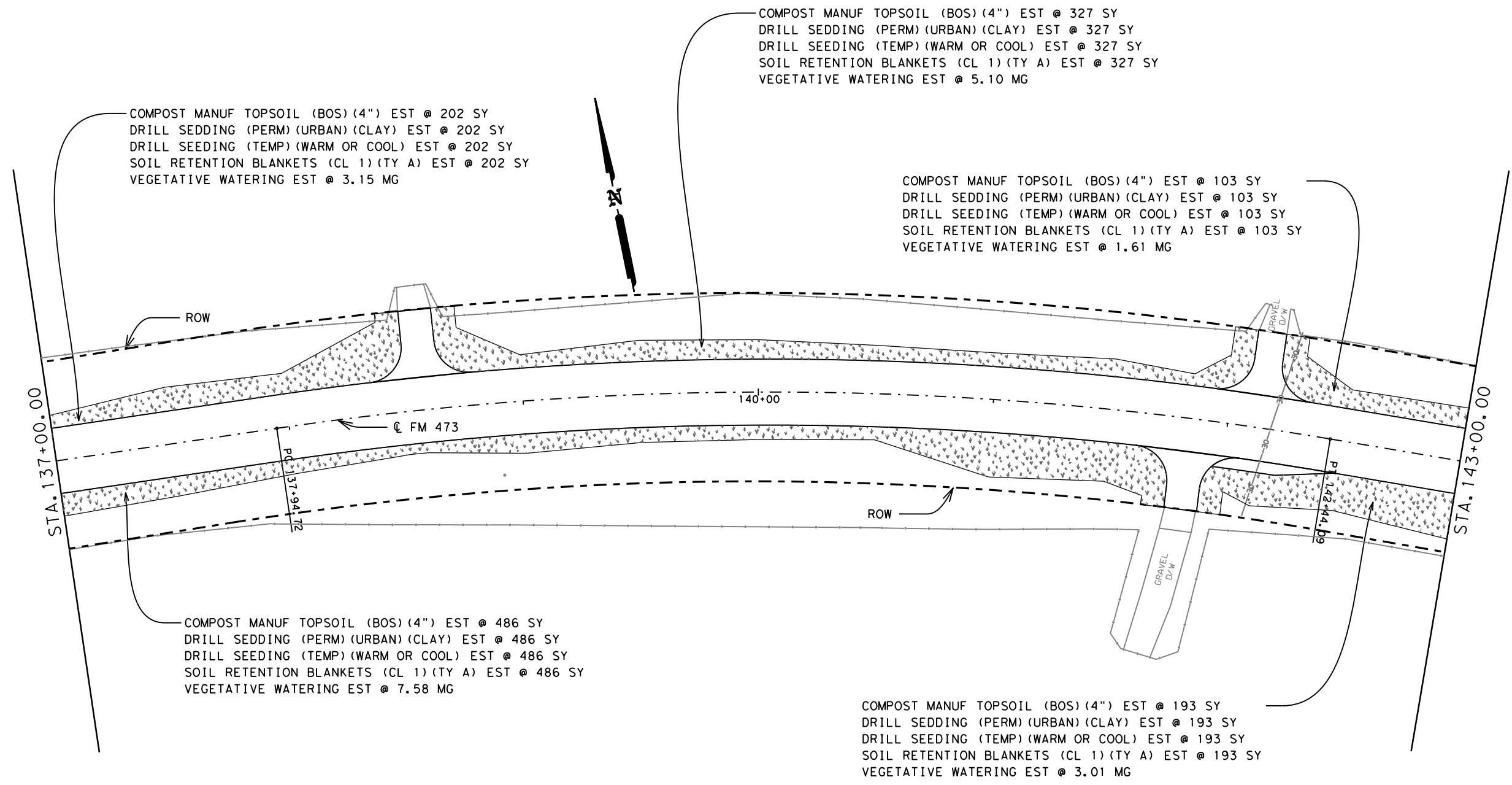
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	571

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1311	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1311	SY
DRILL SEED (TEMP) (WARM OR COOL)	1311	SY
VEGETATIVE WATERING	20.45	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1311	SY

Cks  
 DWF  
 Cks  
 DWF



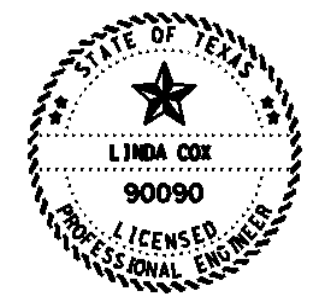
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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CSJ 0142-10-025

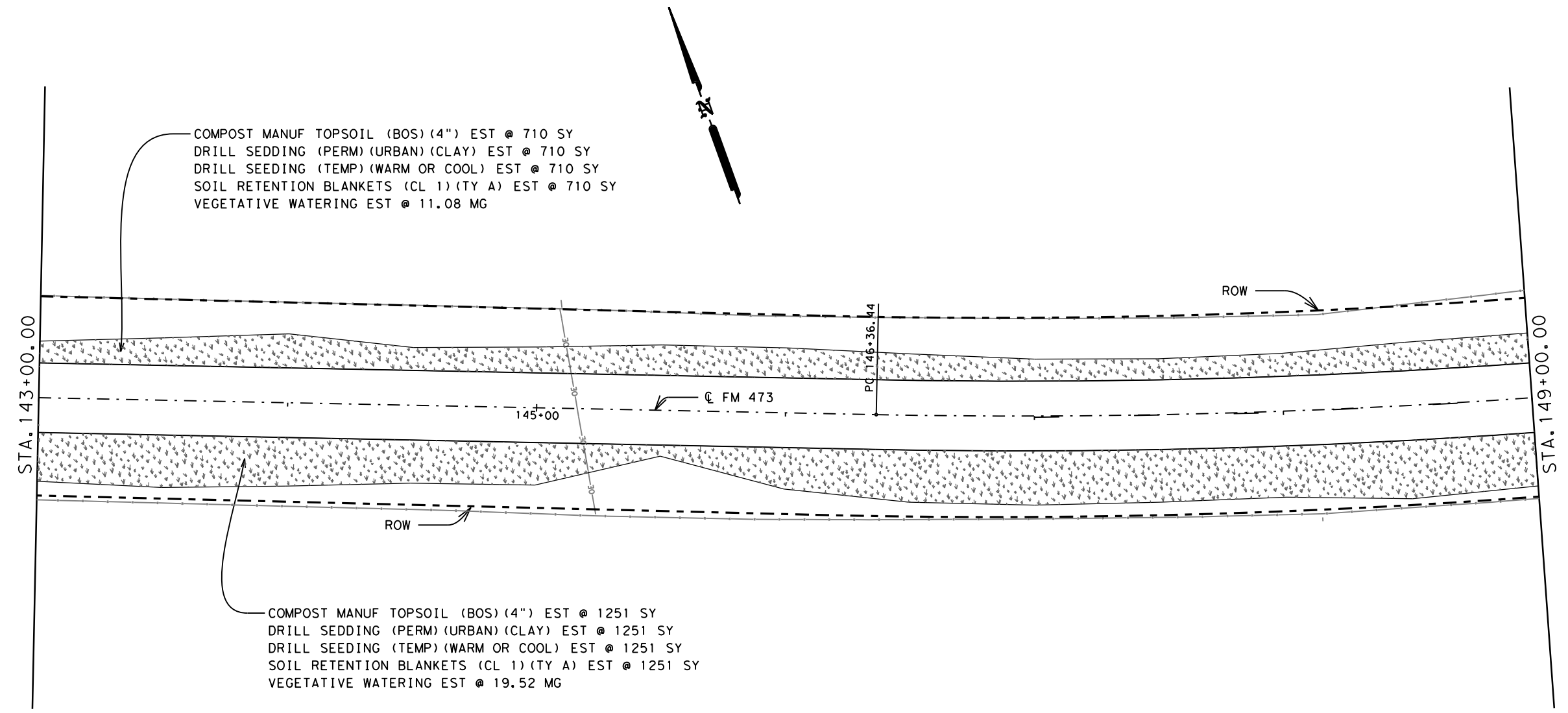


## RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		572

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1961	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1961	SY
DRILL SEED (TEMP) (WARM OR COOL)	1961	SY
VEGETATIVE WATERING	30.6	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1961	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 710 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 710 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 710 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 710 SY  
 VEGETATIVE WATERING EST @ 11.08 MG




COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1251 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1251 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1251 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1251 SY  
 VEGETATIVE WATERING EST @ 19.52 MG

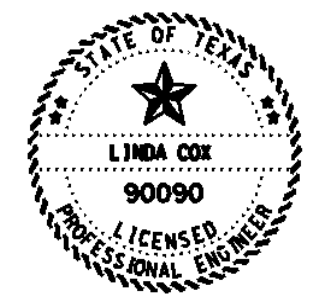
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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 04/28/2021

CSJ 0142-10-025

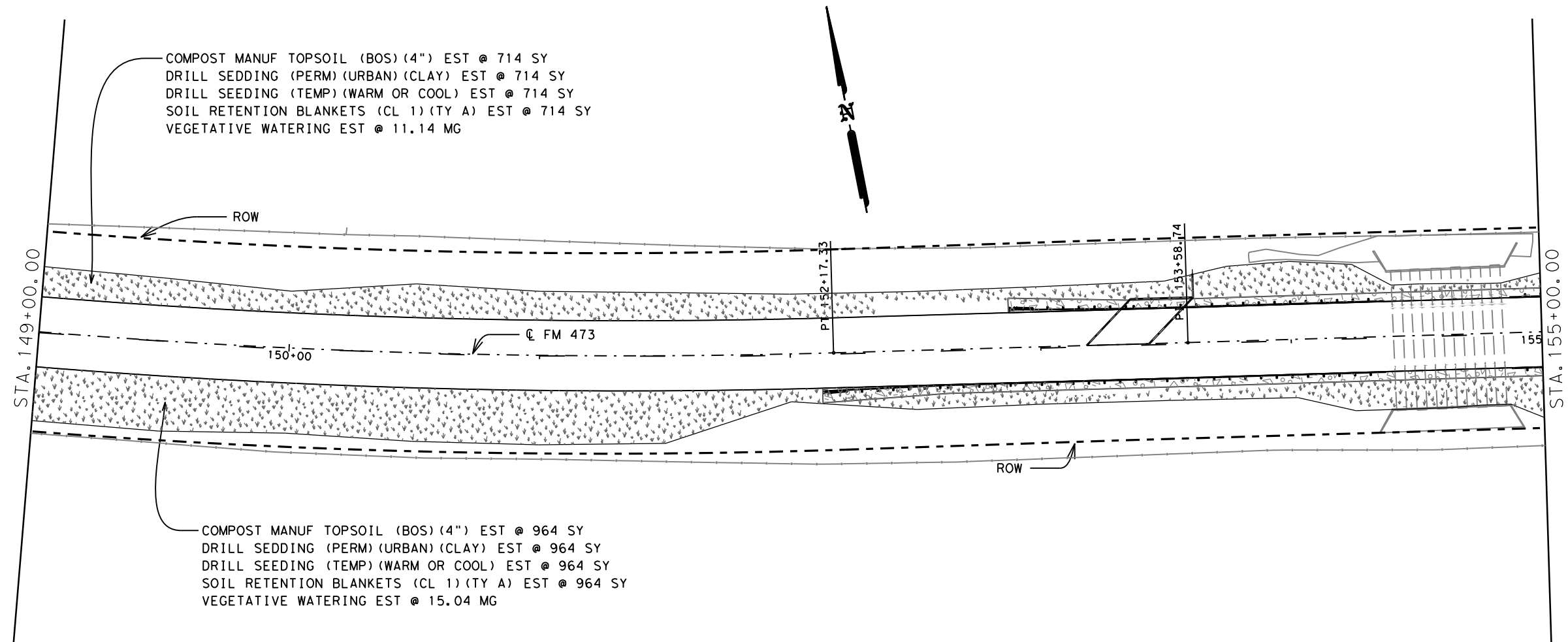


RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	573

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1678	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1678	SY
DRILL SEED (TEMP) (WARM OR COOL)	1678	SY
VEGETATIVE WATERING	26.18	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1678	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 714 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 714 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 714 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 714 SY  
 VEGETATIVE WATERING EST @ 11.14 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 964 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 964 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 964 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 964 SY  
 VEGETATIVE WATERING EST @ 15.04 MG

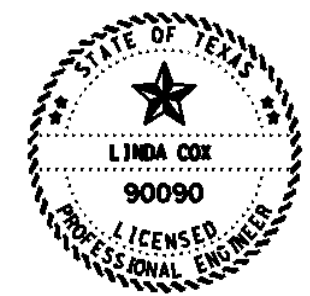
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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 04/28/2021

CSJ 0142-10-025



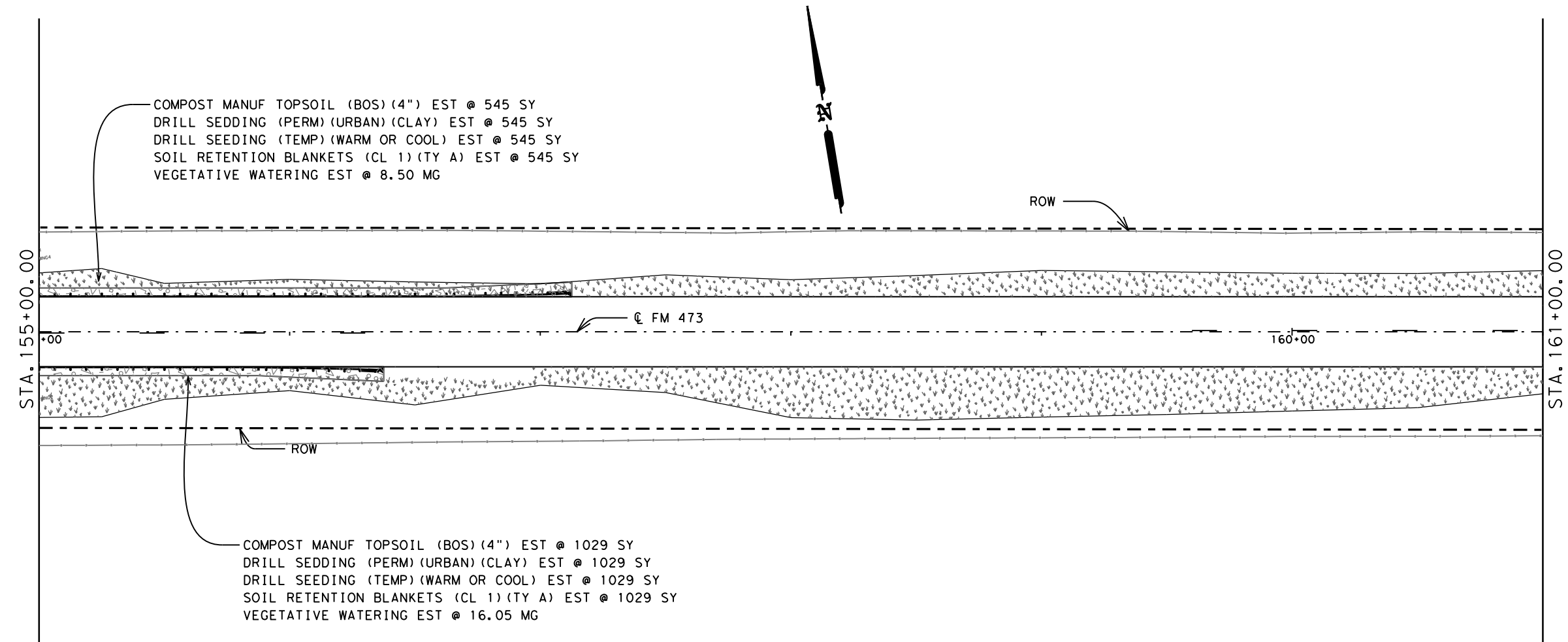
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	574



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1574	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1574	SY
DRILL SEED (TEMP) (WARM OR COOL)	1574	SY
VEGETATIVE WATERING	24.55	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1574	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 545 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 545 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 545 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 545 SY  
 VEGETATIVE WATERING EST @ 8.50 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1029 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 1029 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1029 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1029 SY  
 VEGETATIVE WATERING EST @ 16.05 MG

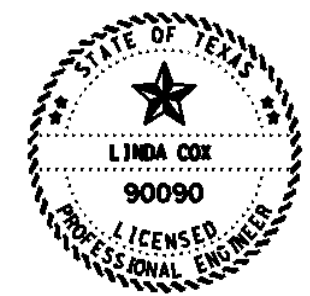
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Hatched Box]	COMPOST MANUF TPSL
[Hatched Box]	DRILL SEEDING
[Hatched Box]	SOIL RETENTION BLANKET



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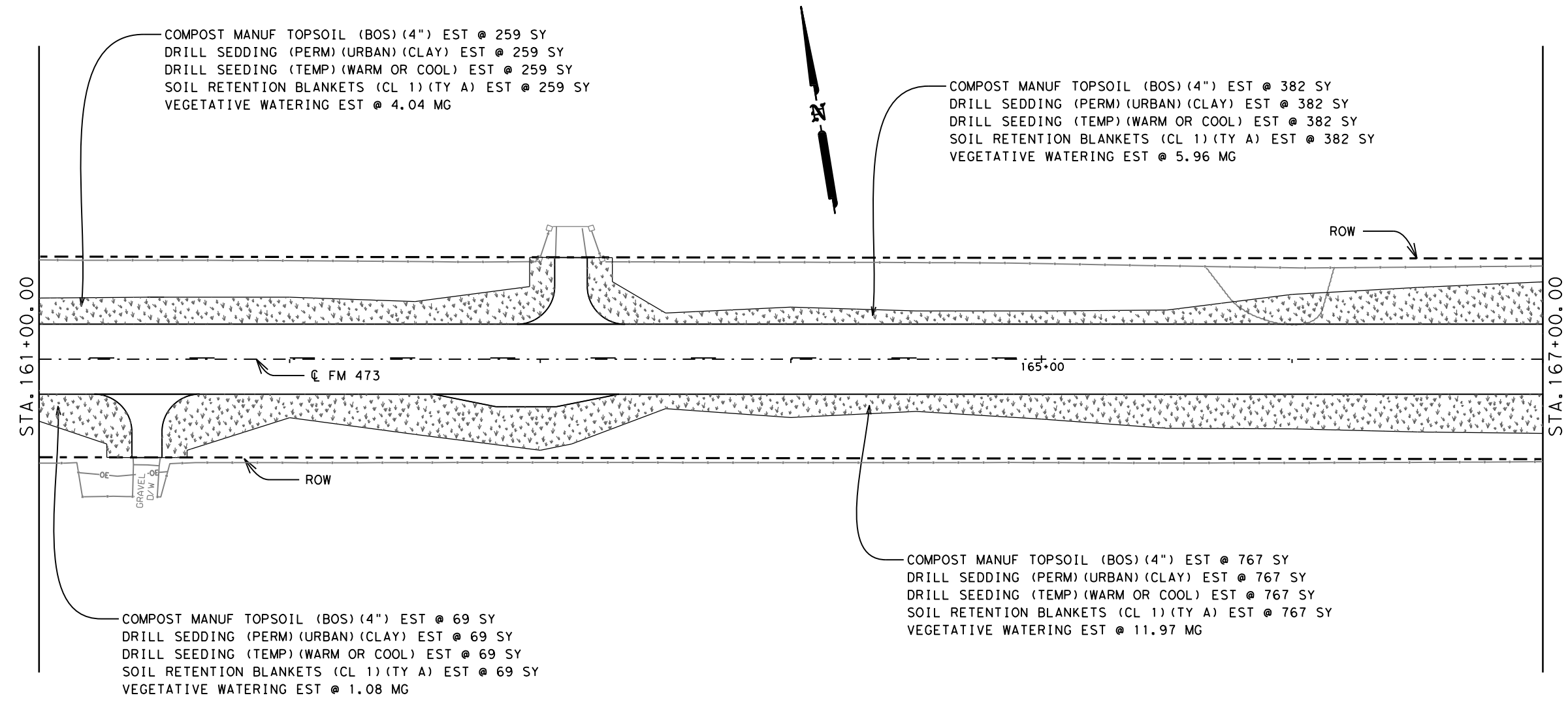
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	575



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1477	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1477	SY
DRILL SEED (TEMP) (WARM OR COOL)	1477	SY
VEGETATIVE WATERING	23.05	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1477	SY



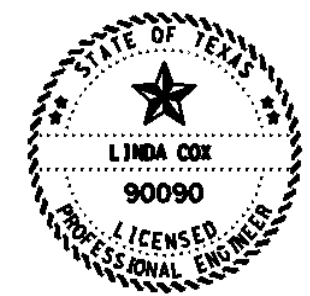
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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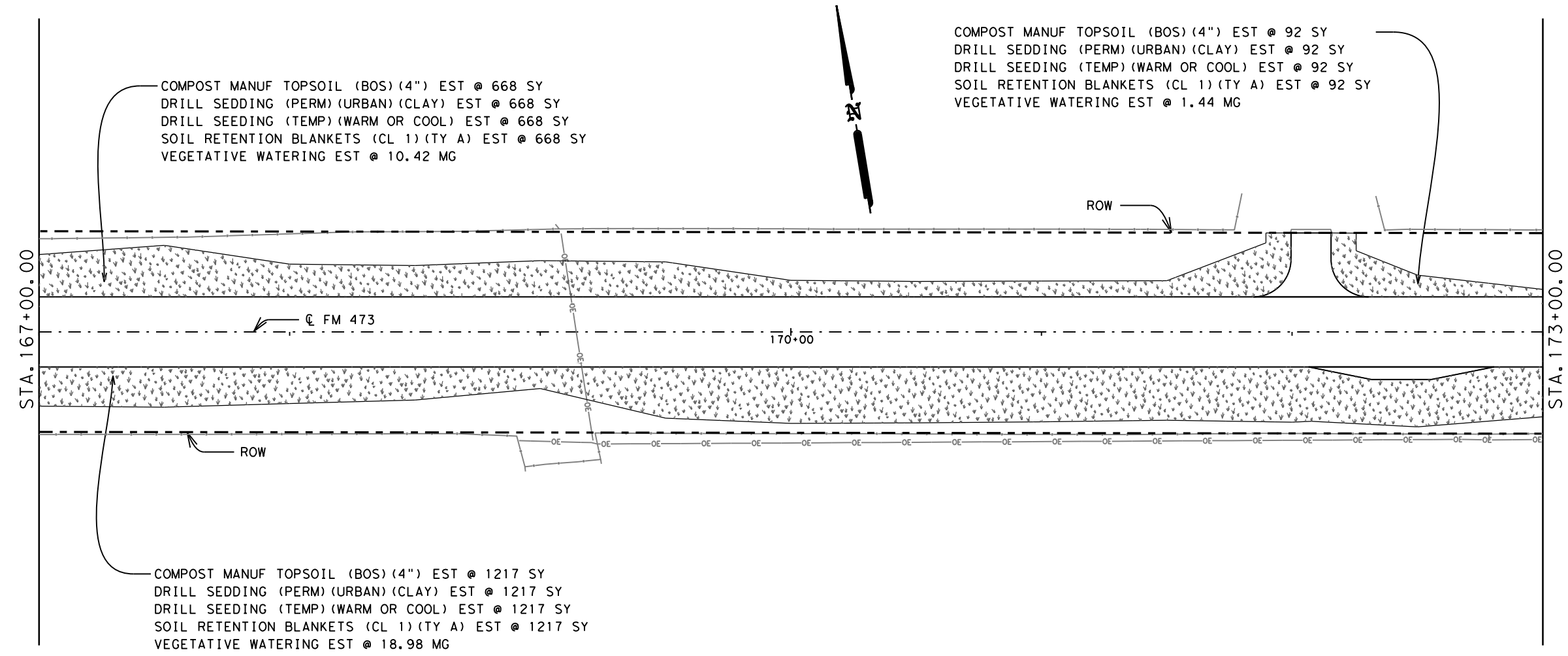
CSJ 0142-10-025



# RM 473 LANDSCAPE LAYOUTS

Texas Department of Transportation		SHEET 31 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		576

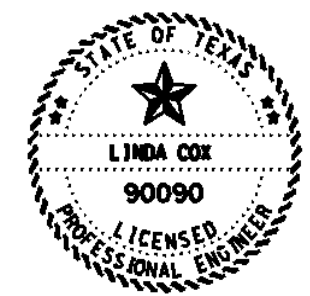
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1977	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1977	SY
DRILL SEED (TEMP) (WARM OR COOL)	1977	SY
VEGETATIVE WATERING	30.84	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1977	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 668 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 668 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 668 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 668 SY  
 VEGETATIVE WATERING EST @ 10.42 MG

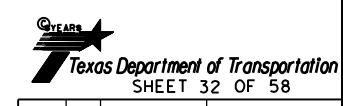
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 92 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 92 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 92 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 92 SY  
 VEGETATIVE WATERING EST @ 1.44 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1217 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1217 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1217 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1217 SY  
 VEGETATIVE WATERING EST @ 18.98 MG



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# RM 473 LANDSCAPE LAYOUTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	577

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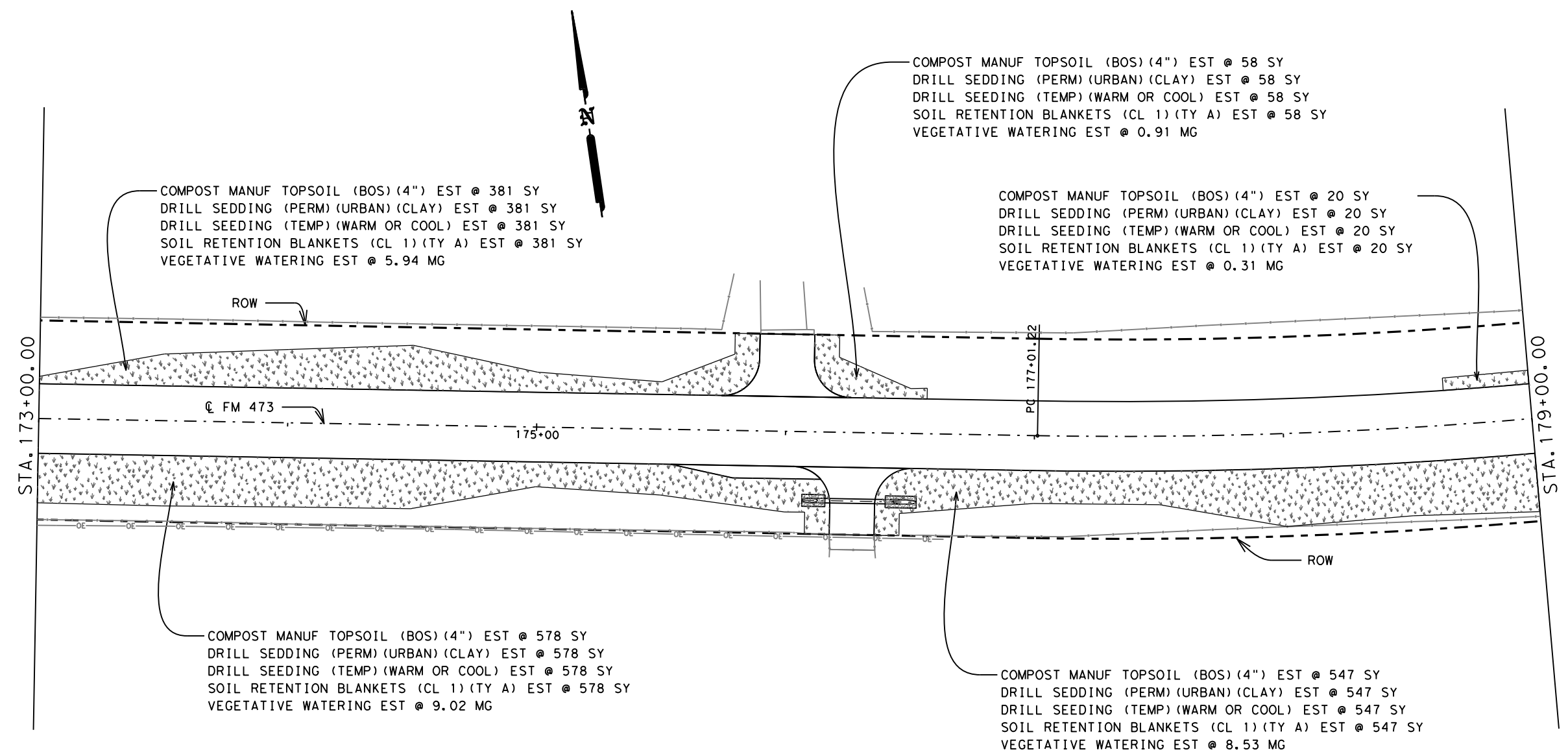
NOTE:  
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 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
 QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1584	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1584	SY
DRILL SEED (TEMP) (WARM OR COOL)	1584	SY
VEGETATIVE WATERING	24.71	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1584	SY



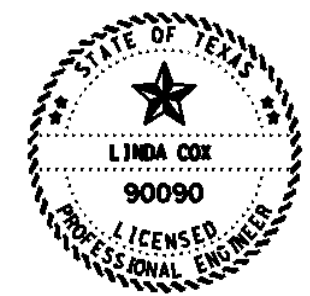
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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CSJ 0142-10-025



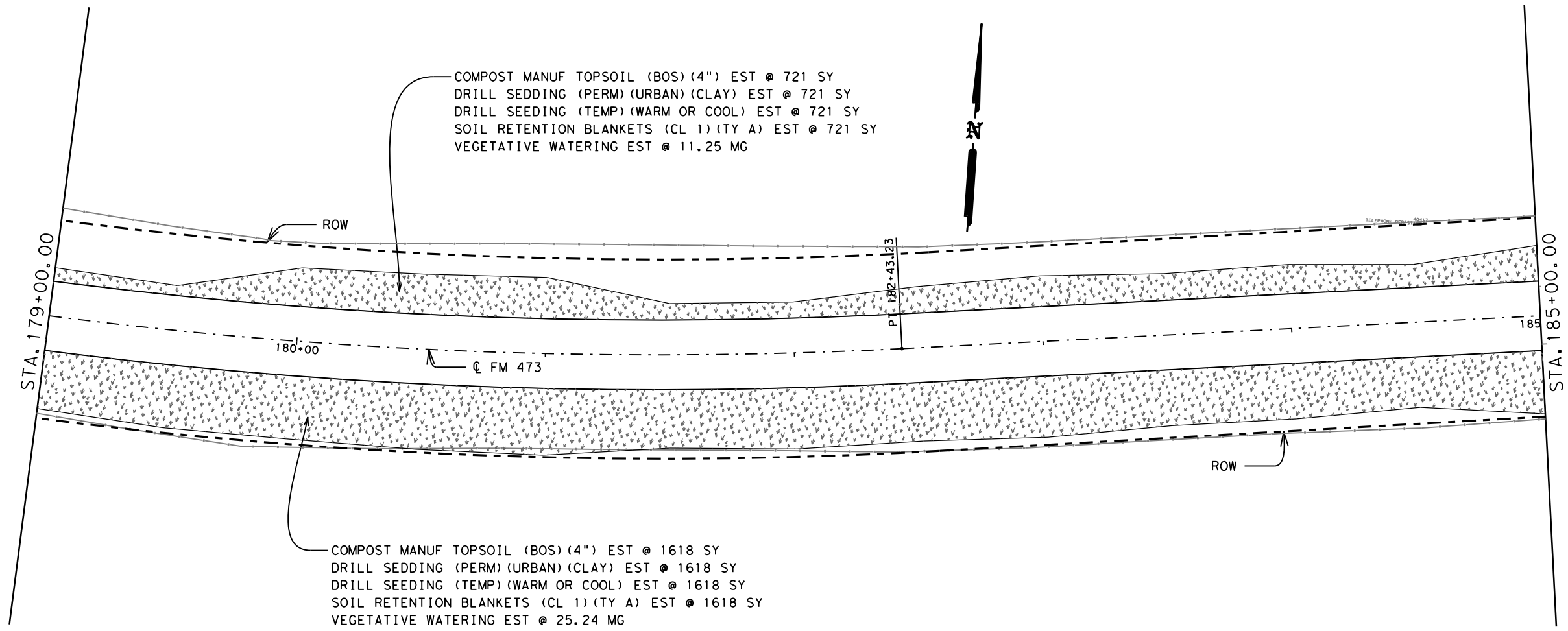
RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	578

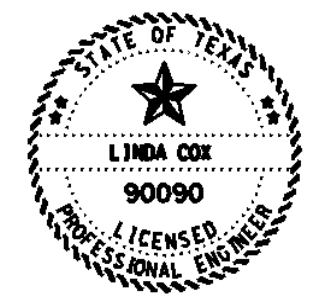
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	2339	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	2339	SY
DRILL SEED (TEMP) (WARM OR COOL)	2339	SY
VEGETATIVE WATERING	36.49	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	2339	SY

Cks: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 DW: \_\_\_\_\_



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 721 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 721 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 721 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 721 SY  
 VEGETATIVE WATERING EST @ 11.25 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1618 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1618 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1618 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1618 SY  
 VEGETATIVE WATERING EST @ 25.24 MG



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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL DRILL SEEDING SOIL RETENTION BLANKET
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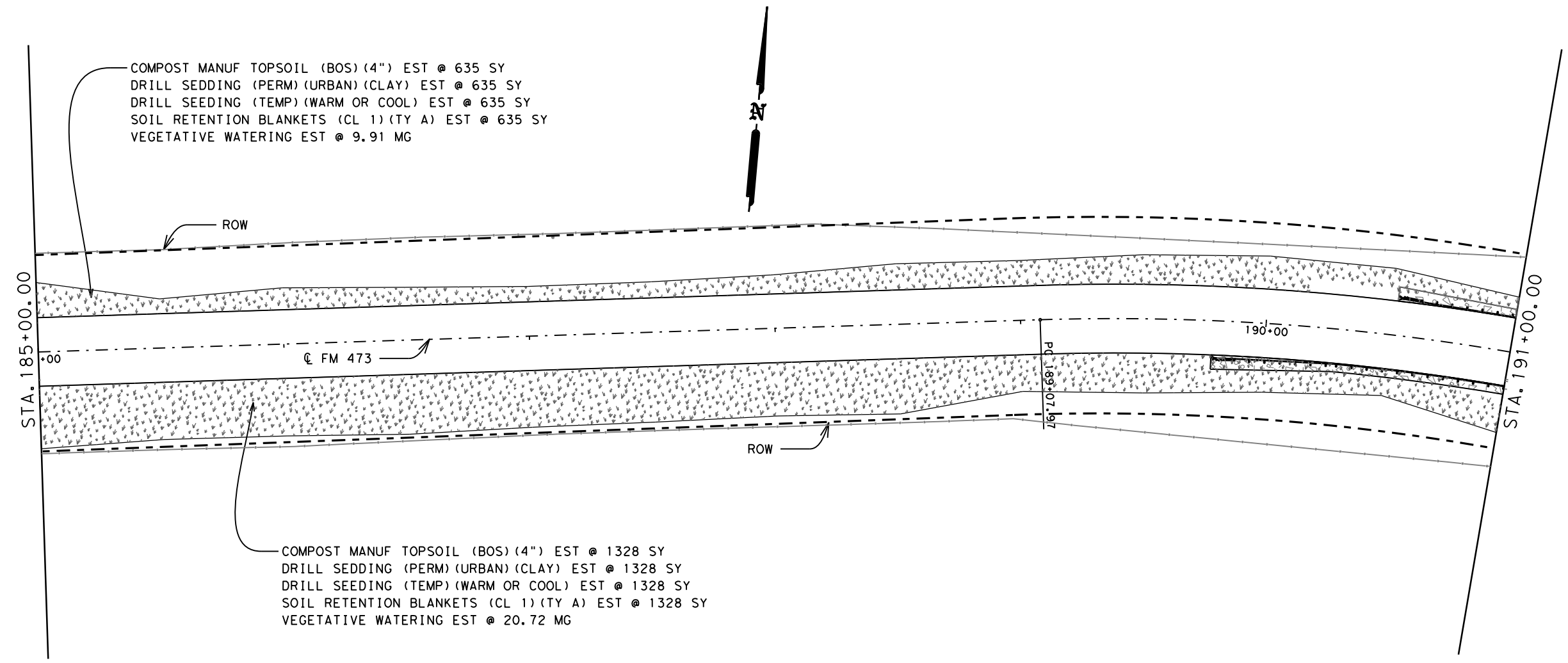
## RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	579

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1963	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1963	SY
DRILL SEED (TEMP) (WARM OR COOL)	1963	SY
VEGETATIVE WATERING	30.63	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1963	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 635 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 635 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 635 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 635 SY  
 VEGETATIVE WATERING EST @ 9.91 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1328 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 1328 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1328 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1328 SY  
 VEGETATIVE WATERING EST @ 20.72 MG

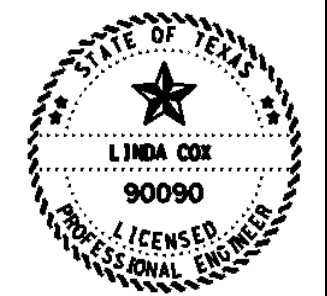
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

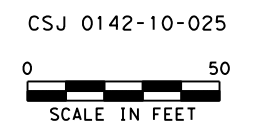
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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 04/28/2021



# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	580



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	2301	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	2301	SY
DRILL SEED (TEMP) (WARM OR COOL)	2301	SY
VEGETATIVE WATERING	35.9	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	2301	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 221 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 221 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 221 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 221 SY  
 VEGETATIVE WATERING EST @ 3.45 MG

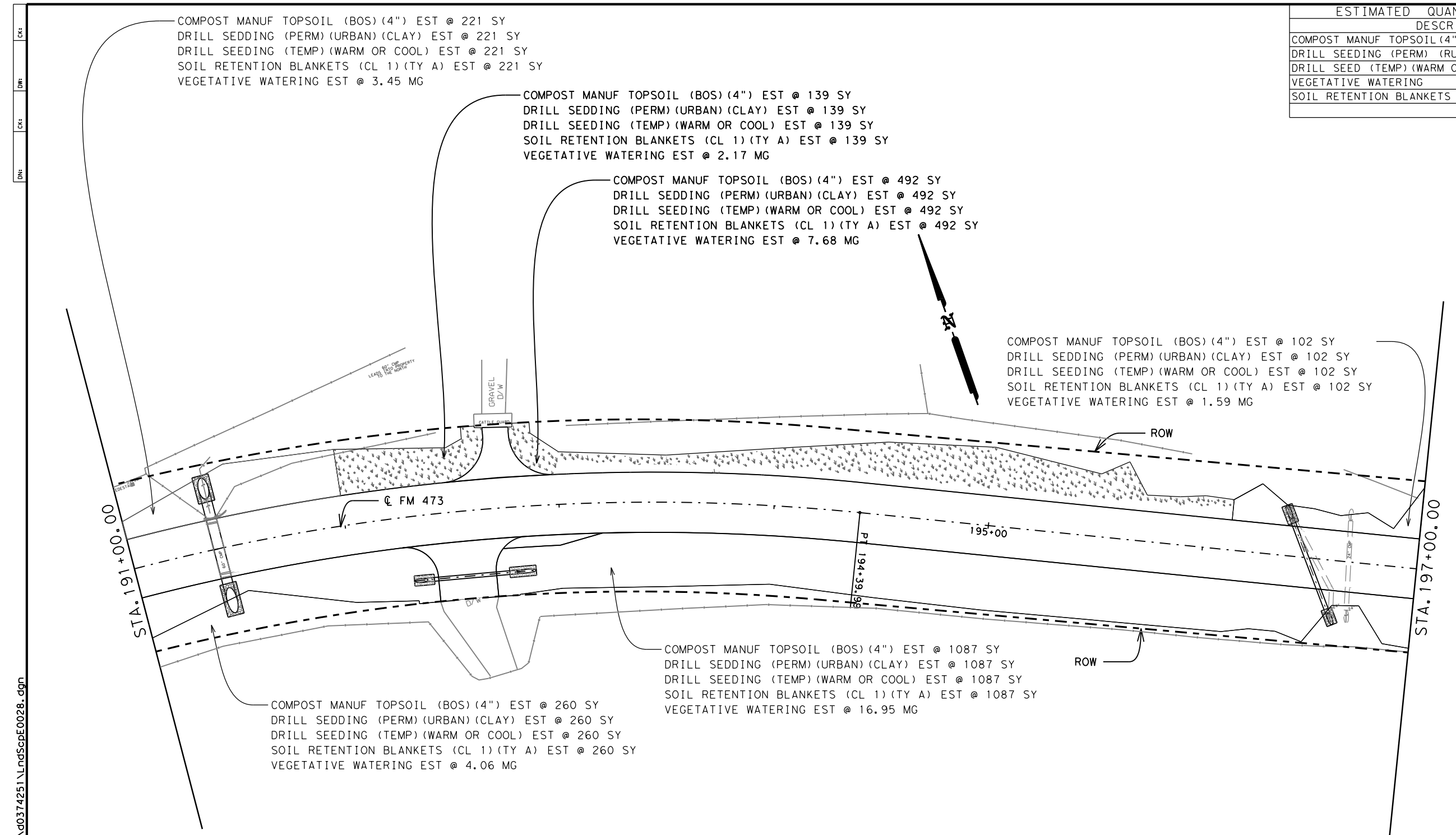
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 139 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 139 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 139 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 139 SY  
 VEGETATIVE WATERING EST @ 2.17 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 492 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 492 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 492 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 492 SY  
 VEGETATIVE WATERING EST @ 7.68 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 102 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 102 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 102 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 102 SY  
 VEGETATIVE WATERING EST @ 1.59 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 260 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 260 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 260 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 260 SY  
 VEGETATIVE WATERING EST @ 4.06 MG

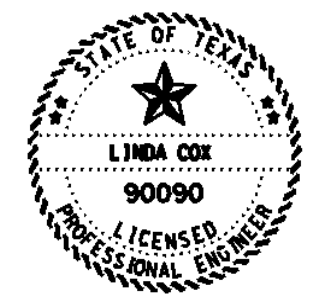
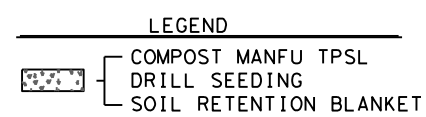
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1087 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1087 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1087 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1087 SY  
 VEGETATIVE WATERING EST @ 16.95 MG



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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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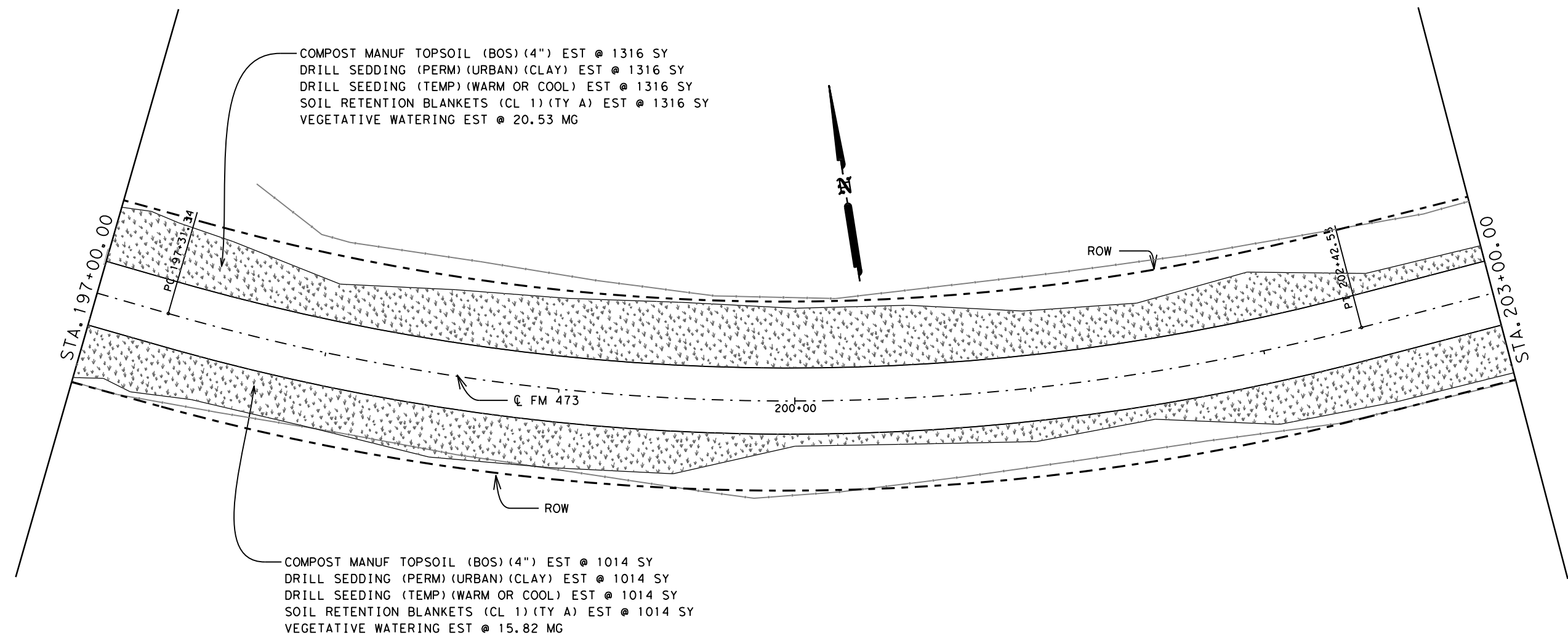
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	581

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	2330	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	2330	SY
DRILL SEED (TEMP) (WARM OR COOL)	2330	SY
VEGETATIVE WATERING	36.35	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	2330	SY

Cks: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 DWF: \_\_\_\_\_



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1316 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1316 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1316 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1316 SY  
 VEGETATIVE WATERING EST @ 20.53 MG

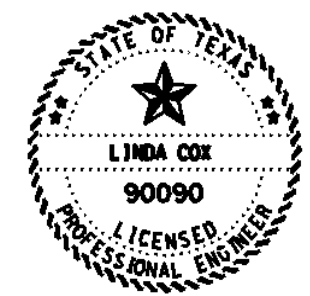
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1014 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 1014 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1014 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1014 SY  
 VEGETATIVE WATERING EST @ 15.82 MG

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA  
 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
 QUANTITIES.

LEGEND

	COMPOST MANFU TPSL DRILL SEEDING SOIL RETENTION BLANKET
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CSJ 0142-10-025



## RM 473 LANDSCAPE LAYOUTS

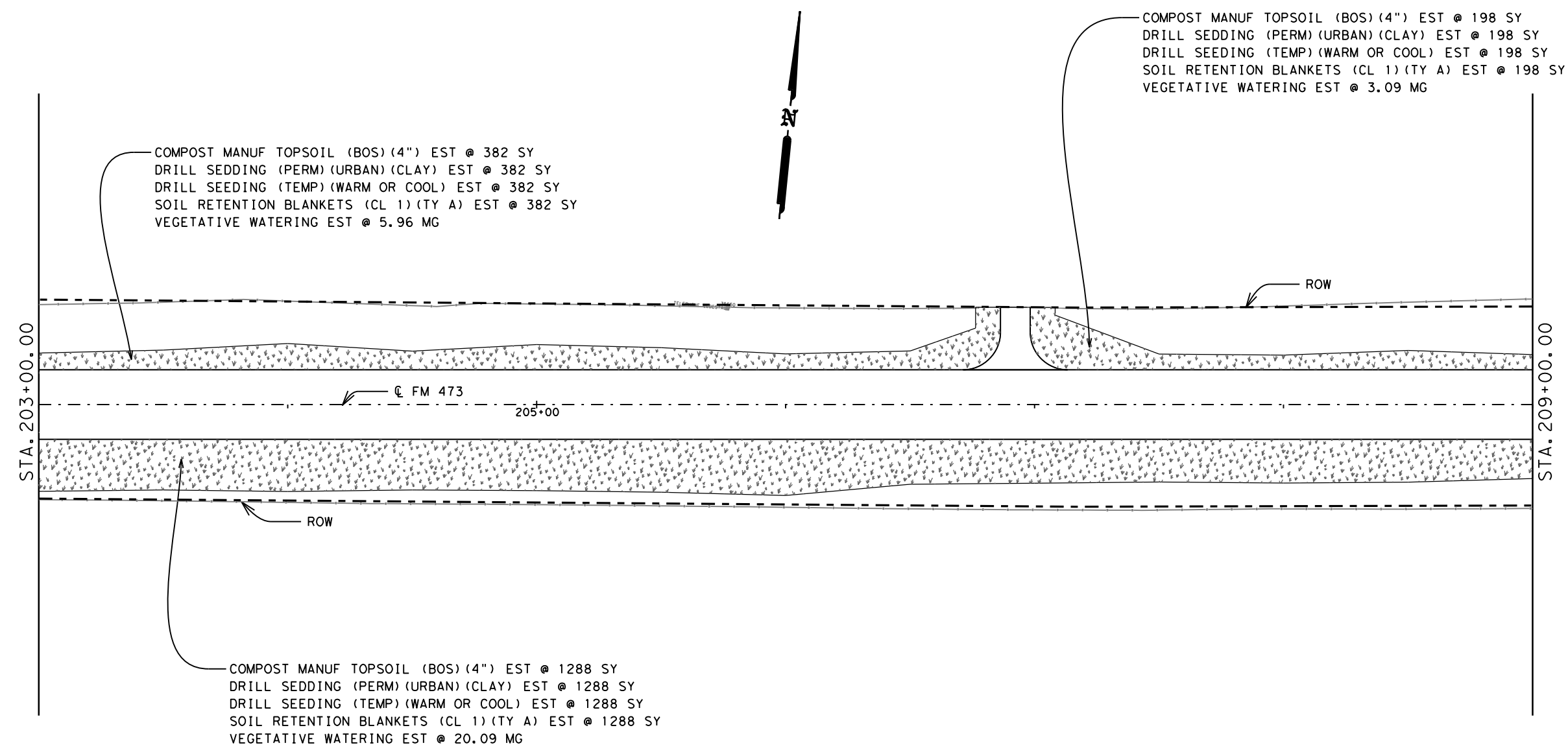


CONT	SECT	JOB	HIGHWAY
0142	09	044, E+c	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	582

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1868	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1868	SY
DRILL SEED (TEMP) (WARM OR COOL)	1868	SY
VEGETATIVE WATERING	29.14	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1868	SY



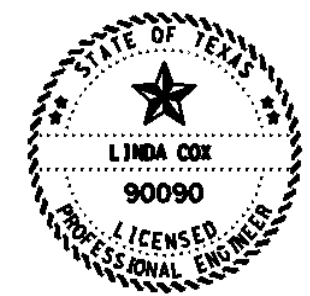
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Stippled Box]	COMPOST MANUF TPSL
[Dotted Box]	DRILL SEEDING
[Horizontal Lines]	SOIL RETENTION BLANKET



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CSJ 0142-10-025

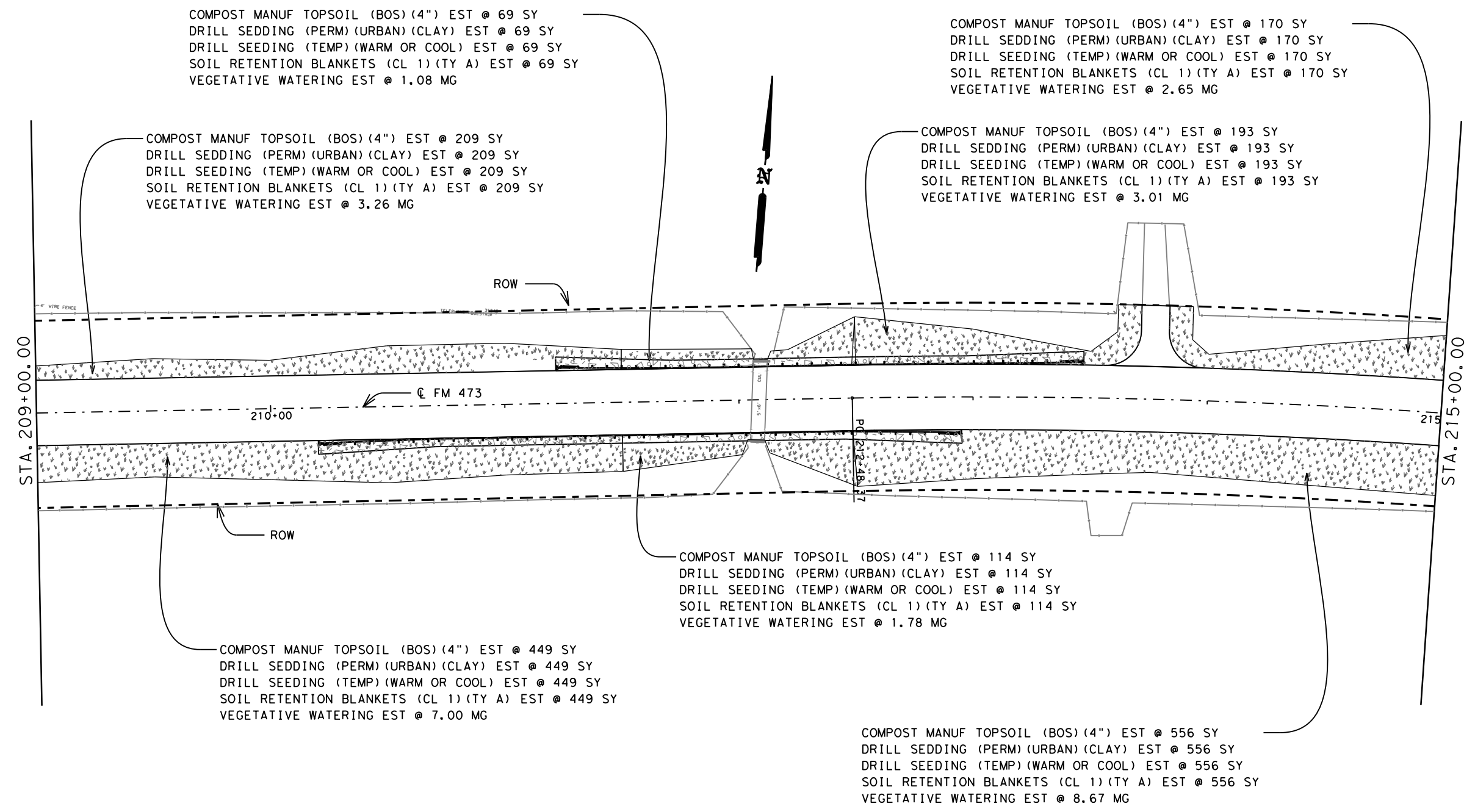


RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	583

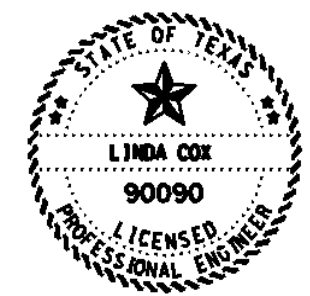
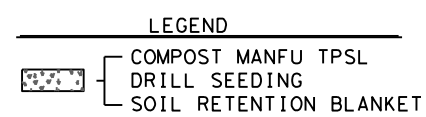
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1760	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1760	SY
DRILL SEED (TEMP) (WARM OR COOL)	1760	SY
VEGETATIVE WATERING	27.45	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1760	SY



DATE: 4/26/2021 4:16:12 PM  
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



*Linda Cox, P.E.*  
 04/28/2021

CSJ 0142-10-025

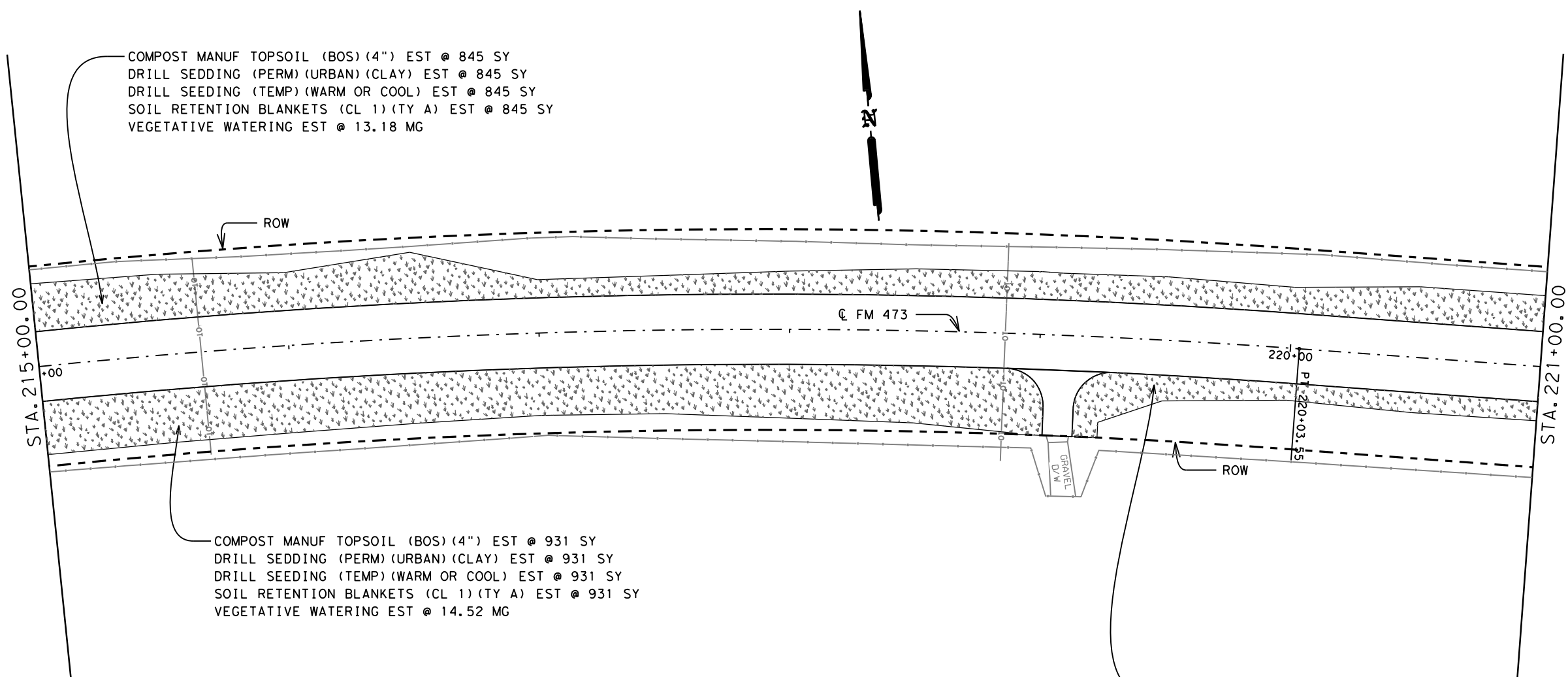


RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	584

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1976	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1976	SY
DRILL SEED (TEMP) (WARM OR COOL)	1976	SY
VEGETATIVE WATERING	30.82	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1976	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 845 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 845 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 845 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 845 SY  
 VEGETATIVE WATERING EST @ 13.18 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 931 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 931 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 931 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 931 SY  
 VEGETATIVE WATERING EST @ 14.52 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 200 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 200 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 200 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 200 SY  
 VEGETATIVE WATERING EST @ 3.12 MG

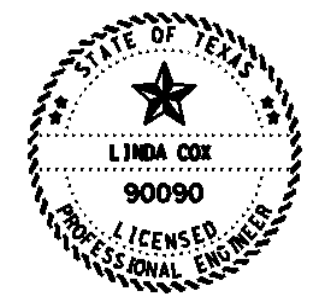
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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CSJ 0142-10-025

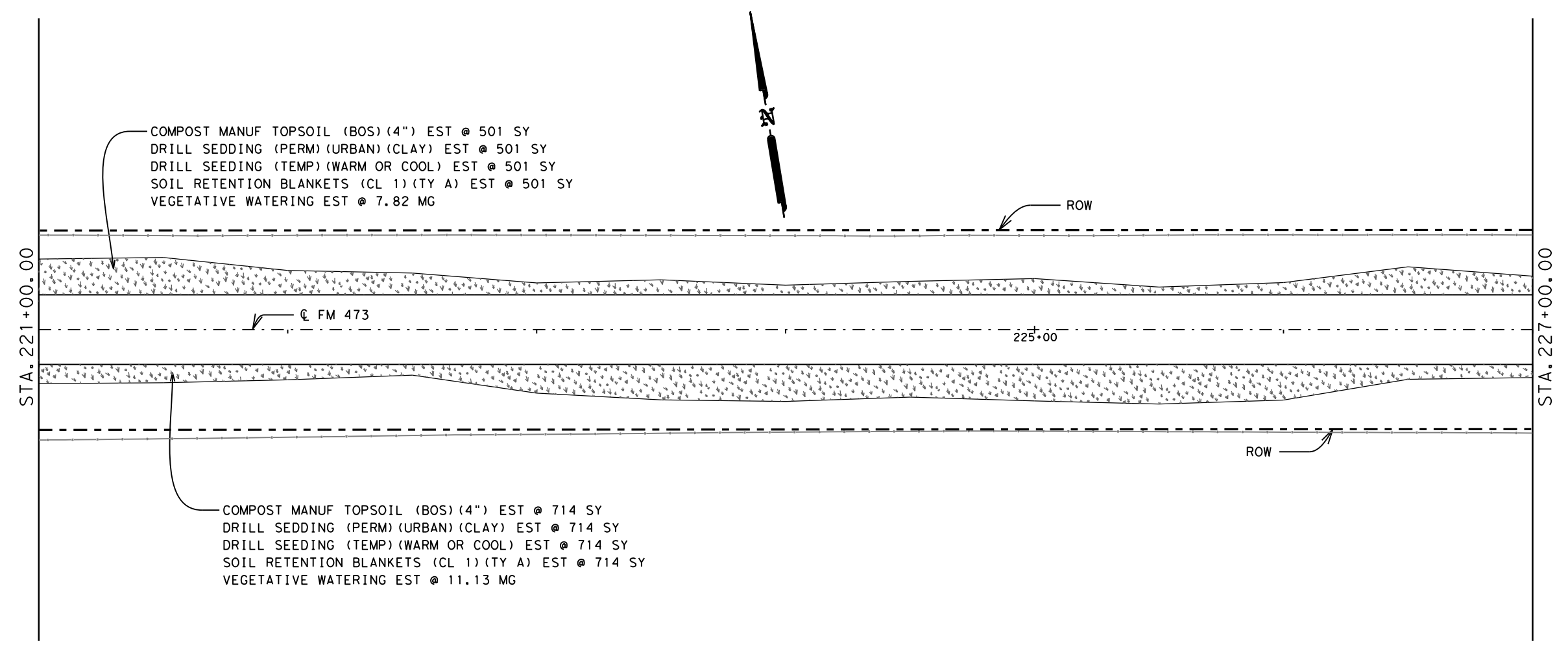


# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	585

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1215	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1215	SY
DRILL SEED (TEMP) (WARM OR COOL)	1215	SY
VEGETATIVE WATERING	18.95	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1215	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 501 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 501 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 501 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 501 SY  
 VEGETATIVE WATERING EST @ 7.82 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 714 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 714 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 714 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 714 SY  
 VEGETATIVE WATERING EST @ 11.13 MG

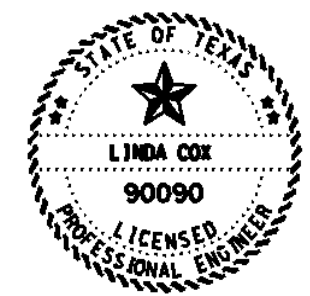
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

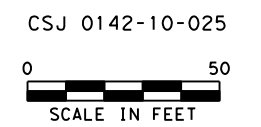
SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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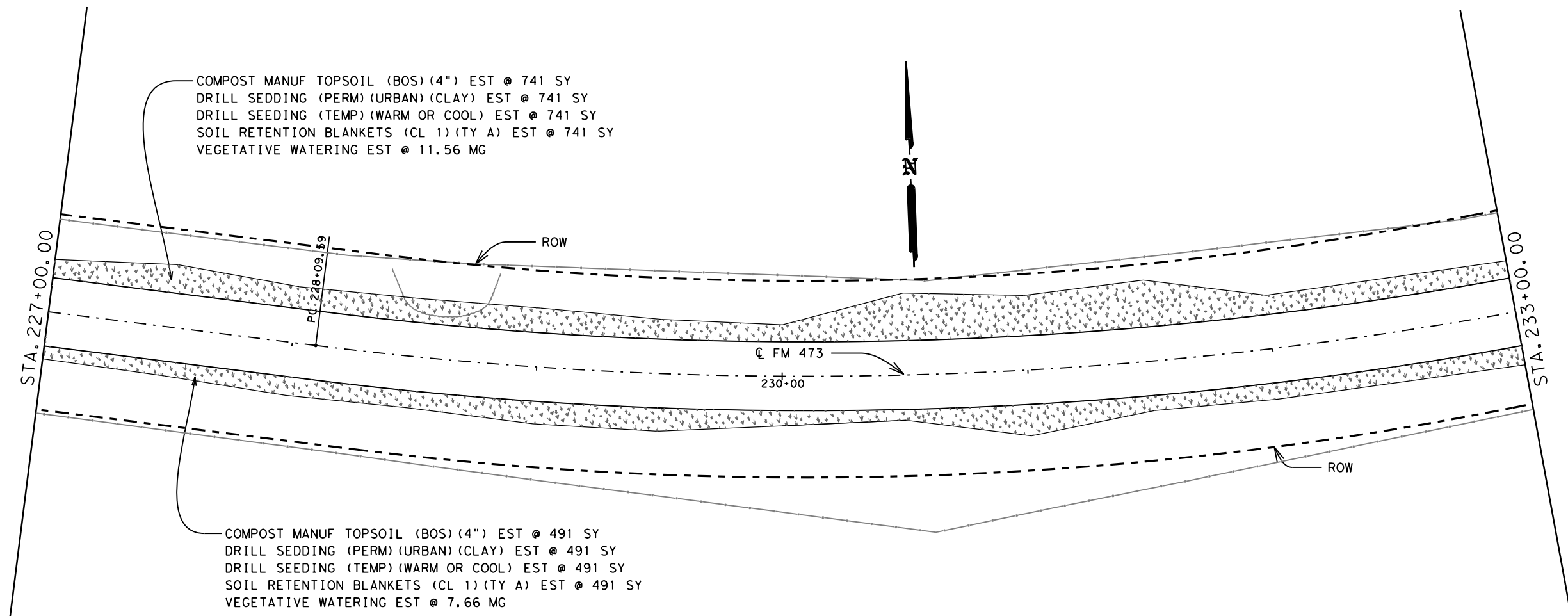


RM 473  
 LANDSCAPE  
 LAYOUTS

Texas Department of Transportation		SHEET 41 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		586

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1232	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1232	SY
DRILL SEED (TEMP) (WARM OR COOL)	1232	SY
VEGETATIVE WATERING	19.22	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1232	SY

Ck: \_\_\_\_\_  
 DWF: \_\_\_\_\_  
 Ck: \_\_\_\_\_  
 DW: \_\_\_\_\_



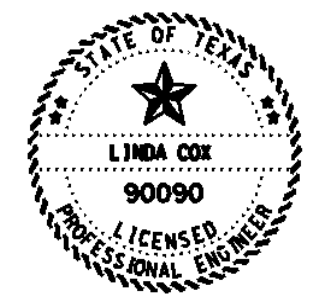
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 741 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 741 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 741 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 741 SY  
 VEGETATIVE WATERING EST @ 11.56 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 491 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 491 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 491 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 491 SY  
 VEGETATIVE WATERING EST @ 7.66 MG

**LEGEND**  
 COMPOST MANUF TPSL  
 DRILL SEEDING  
 SOIL RETENTION BLANKET

**NOTE:**  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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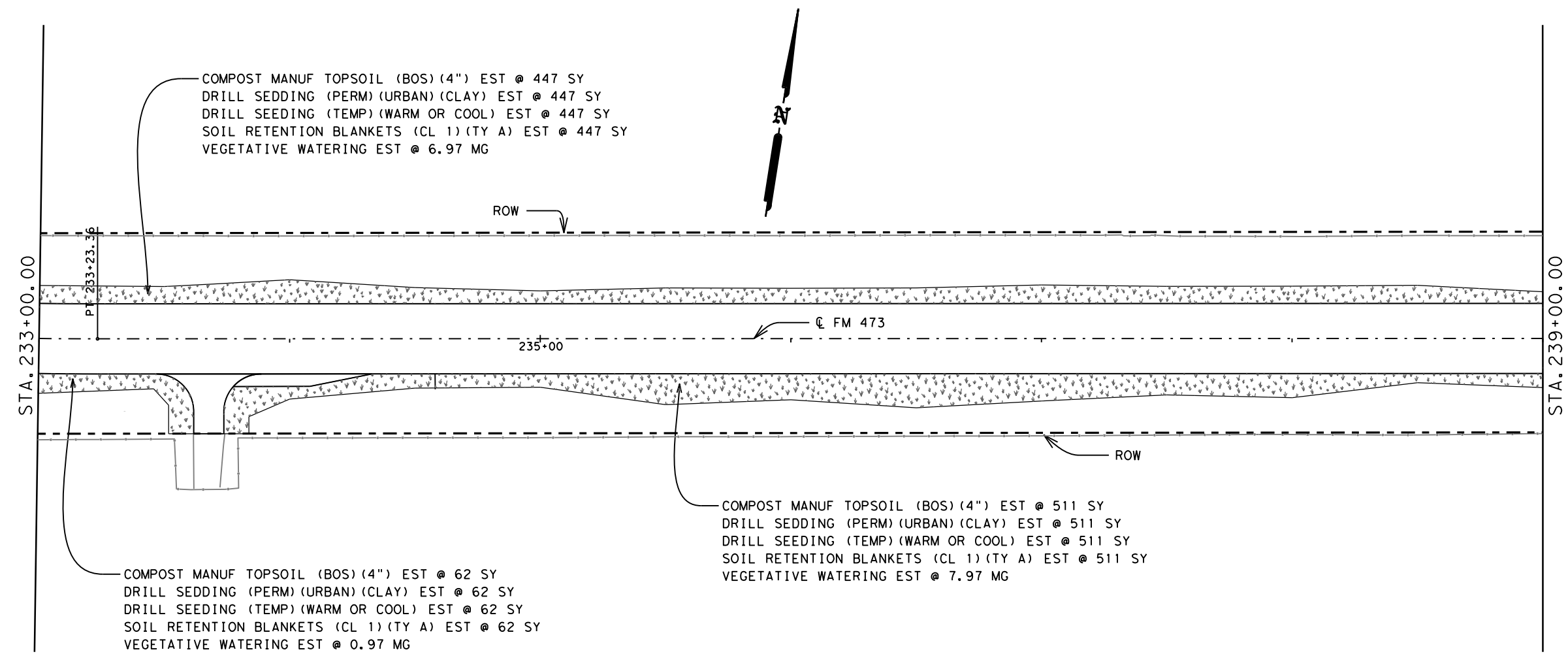
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	587

DATE: 4/26/2021 4:17:29 PM  
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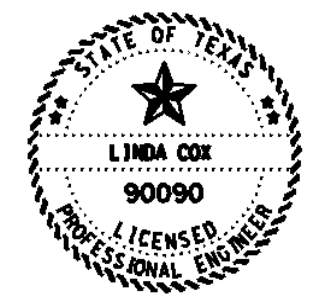
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1020	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1020	SY
DRILL SEED (TEMP) (WARM OR COOL)	1020	SY
VEGETATIVE WATERING	15.91	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1020	SY



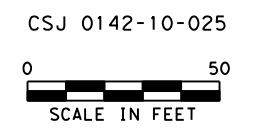
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 447 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 447 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 447 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 447 SY  
 VEGETATIVE WATERING EST @ 6.97 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 511 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 511 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 511 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 511 SY  
 VEGETATIVE WATERING EST @ 7.97 MG

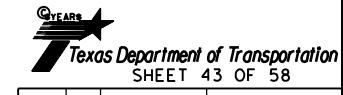
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 62 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 62 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 62 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 62 SY  
 VEGETATIVE WATERING EST @ 0.97 MG



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# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	588

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA  
 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

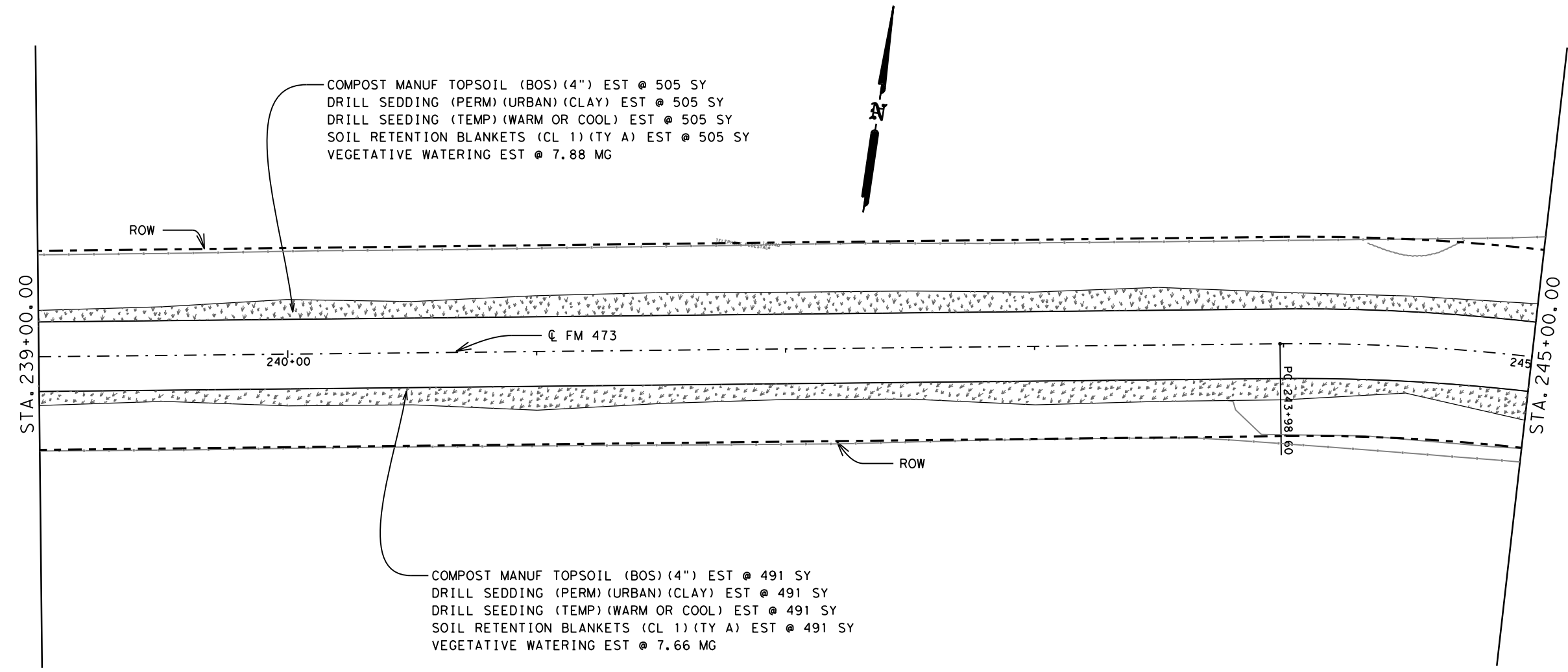
SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
 QUANTITIES.

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Cks  
 DWF  
 Cks  
 DWF

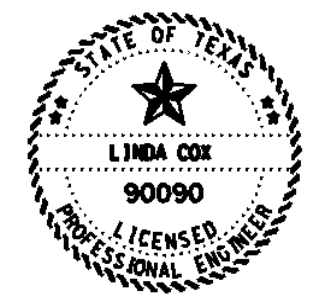


ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	996	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	996	SY
DRILL SEED (TEMP) (WARM OR COOL)	996	SY
VEGETATIVE WATERING	15.54	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	996	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 505 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 505 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 505 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 505 SY  
 VEGETATIVE WATERING EST @ 7.88 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 491 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 491 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 491 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 491 SY  
 VEGETATIVE WATERING EST @ 7.66 MG



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 04/28/2021

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RM 473  
 LANDSCAPE  
 LAYOUTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	589

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

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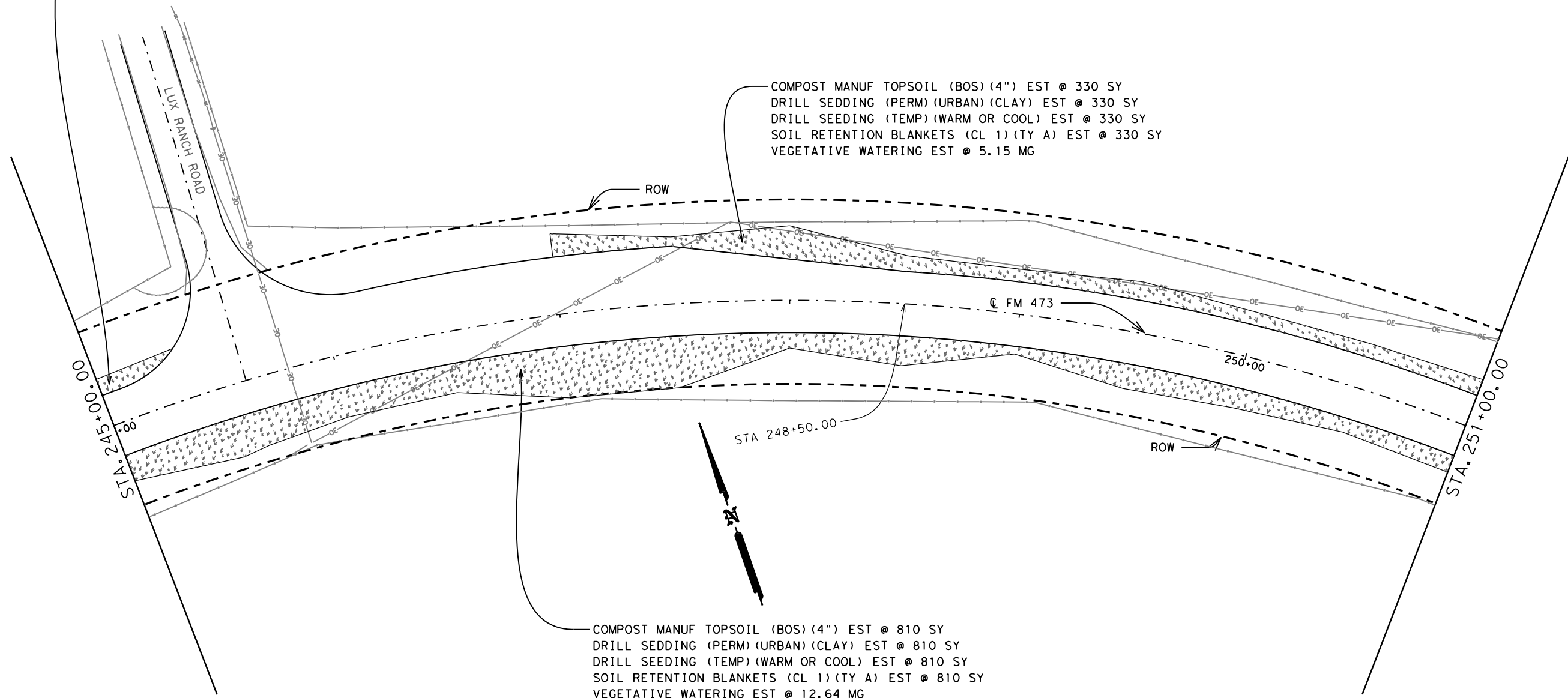


ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1164	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1164	SY
DRILL SEED (TEMP) (WARM OR COOL)	1164	SY
VEGETATIVE WATERING	18.16	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1164	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 24 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 24 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 24 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 24 SY  
 VEGETATIVE WATERING EST @ 0.37 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 330 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 330 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 330 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 330 SY  
 VEGETATIVE WATERING EST @ 5.15 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 810 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 810 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 810 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 810 SY  
 VEGETATIVE WATERING EST @ 12.64 MG



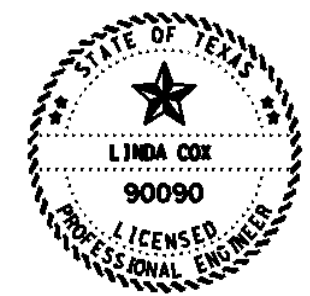
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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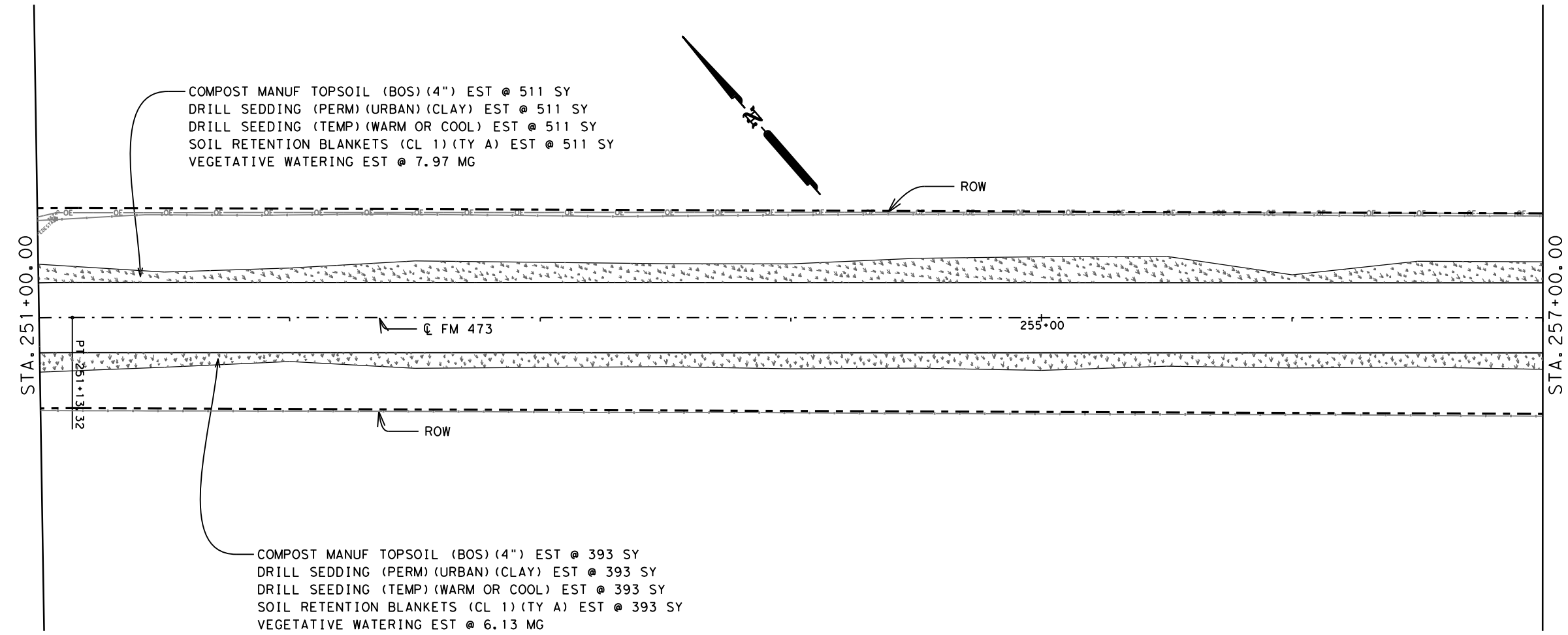


RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	590

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	904	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	904	SY
DRILL SEED (TEMP) (WARM OR COOL)	904	SY
VEGETATIVE WATERING	14.1	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	904	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 511 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 511 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 511 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 511 SY  
 VEGETATIVE WATERING EST @ 7.97 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 393 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 393 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 393 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 393 SY  
 VEGETATIVE WATERING EST @ 6.13 MG

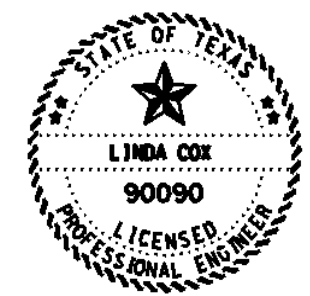
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Hatched Box]	COMPOST MANUF TPSL
[Dotted Box]	DRILL SEEDING
[Cross-hatched Box]	SOIL RETENTION BLANKET



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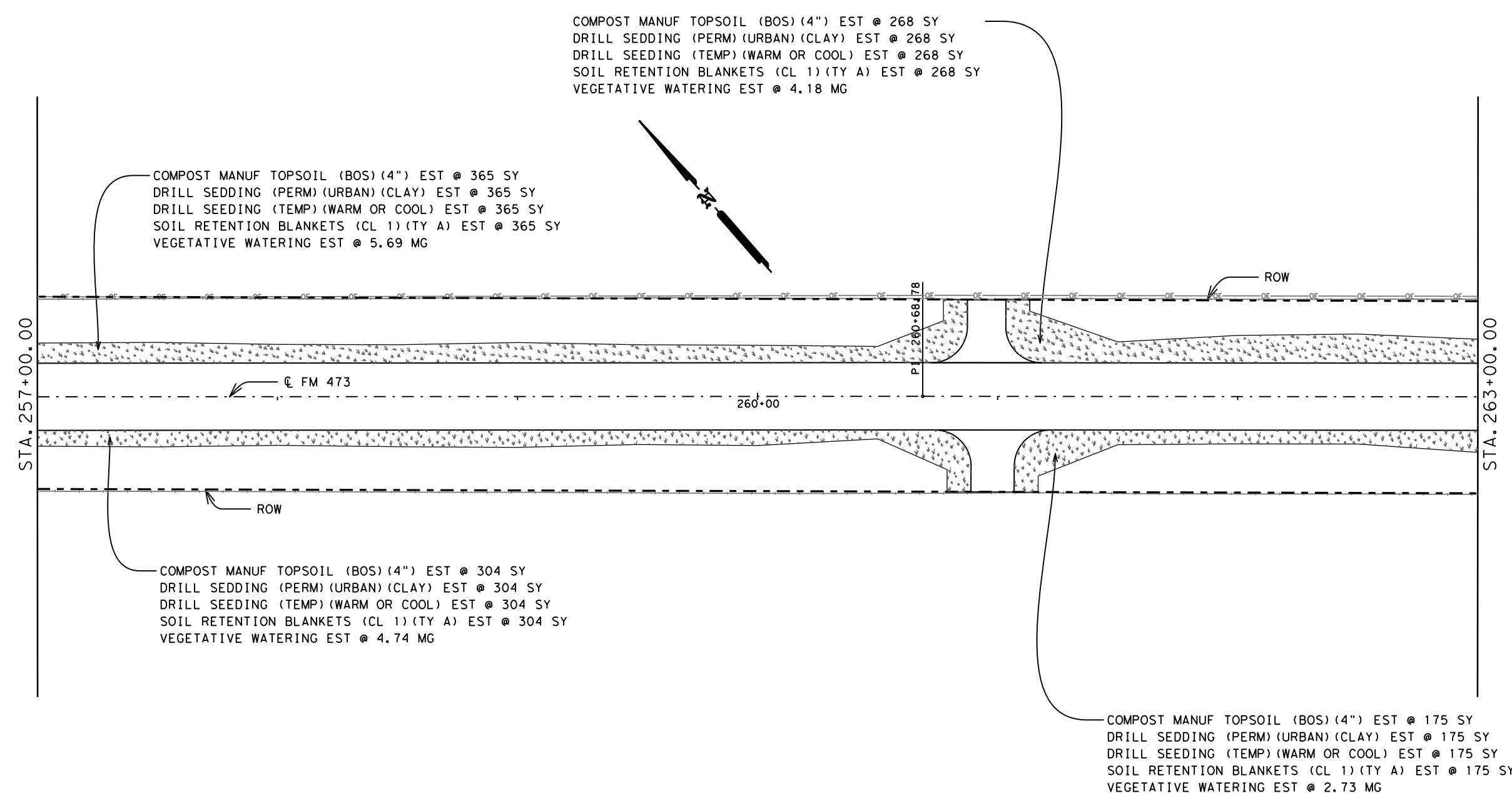


# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	591

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1112	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1112	SY
DRILL SEED (TEMP) (WARM OR COOL)	1112	SY
VEGETATIVE WATERING	17.34	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1112	SY



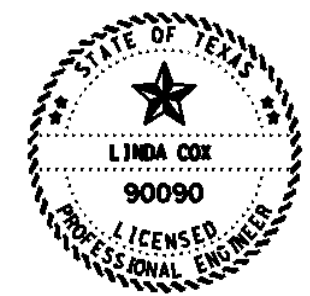
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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 04/28/2021

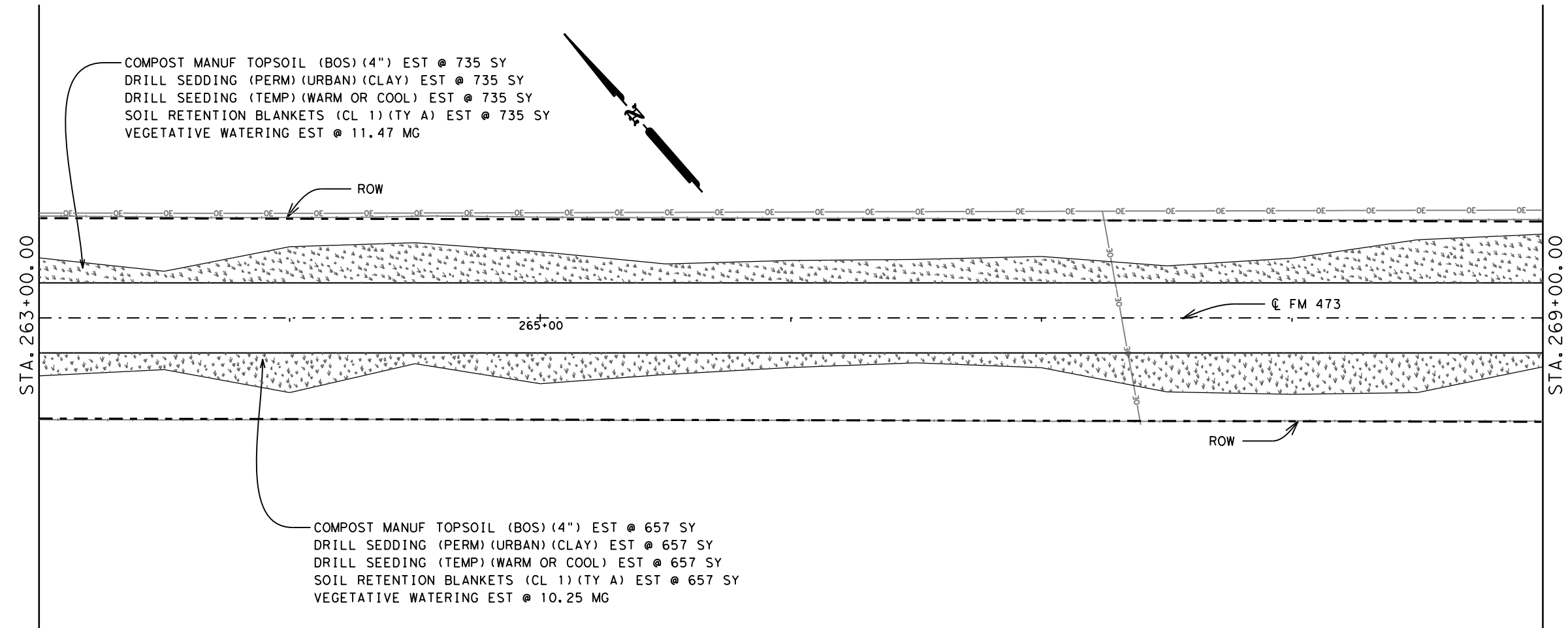
CSJ 0142-10-025



RM 473  
 LANDSCAPE  
 LAYOUTS

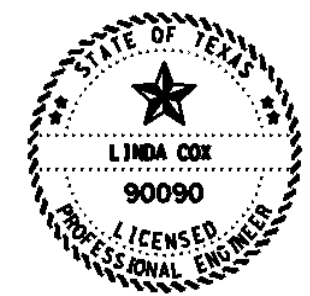
Texas Department of Transportation		SHEET 47 OF 58	
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		592

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1392	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1392	SY
DRILL SEED (TEMP) (WARM OR COOL)	1392	SY
VEGETATIVE WATERING	21.72	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1392	SY

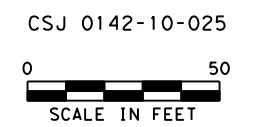


COMPOST MANUF TOPSOIL (BOS) (4") EST @ 735 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 735 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 735 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 735 SY  
 VEGETATIVE WATERING EST @ 11.47 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 657 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 657 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 657 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 657 SY  
 VEGETATIVE WATERING EST @ 10.25 MG



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RM 473  
 LANDSCAPE  
 LAYOUTS

Texas Department of Transportation SHEET 48 OF 58			
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		593

LEGEND

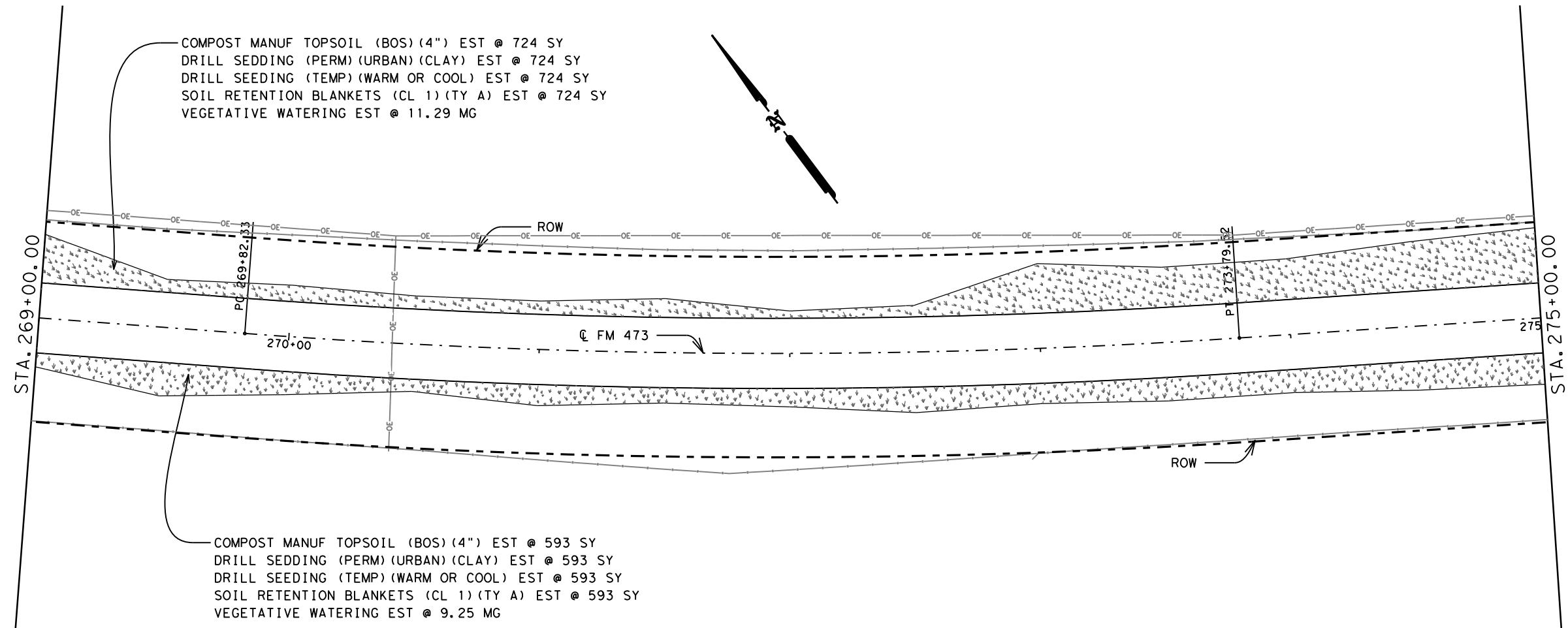
	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA  
 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
 QUANTITIES.

DATE: 4/26/2021 4:18:28 PM  
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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1317	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1317	SY
DRILL SEED (TEMP) (WARM OR COOL)	1317	SY
VEGETATIVE WATERING	20.54	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1317	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 724 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 724 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 724 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 724 SY  
 VEGETATIVE WATERING EST @ 11.29 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 593 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 593 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 593 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 593 SY  
 VEGETATIVE WATERING EST @ 9.25 MG

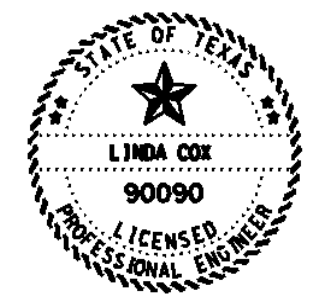
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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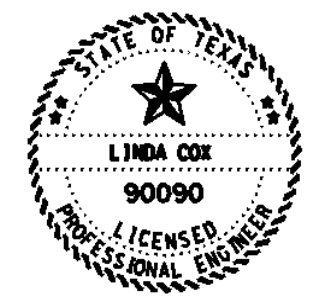
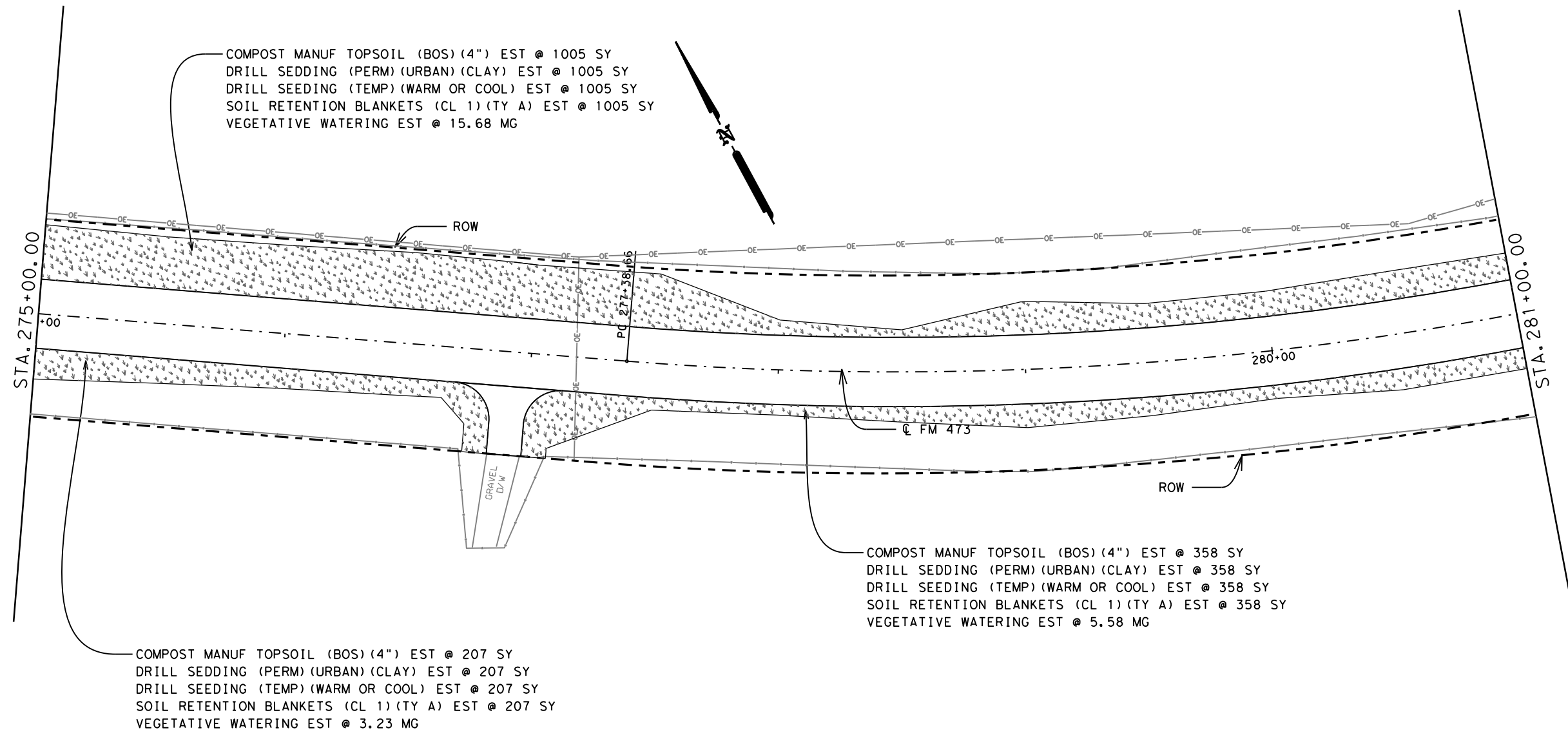


RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	594

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1570	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1570	SY
DRILL SEED (TEMP) (WARM OR COOL)	1570	SY
VEGETATIVE WATERING	24.49	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1570	SY



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04/28/2021

CSJ 0142-10-025  
0 50  
SCALE IN FEET



# RM 473 LANDSCAPE LAYOUTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		595

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NOTE:  
SEE HORIZONTAL ALIGNMENT DATA  
SHEETS FOR HORIZONTAL ALIGNMENT  
INFORMATION.

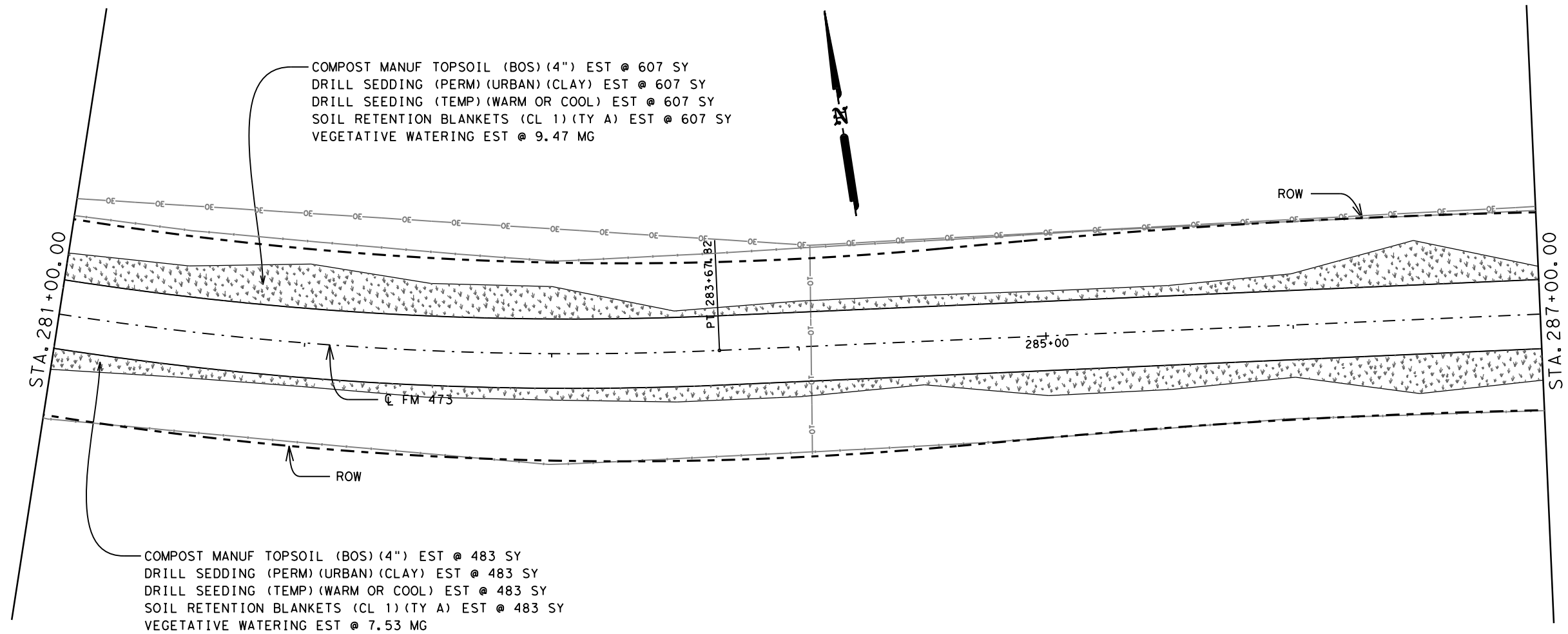
SEE DRIVEWAY TYPICAL SECTION  
AND SUMMARY SHEET FOR  
DRIVEWAY DETAILS AND  
QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

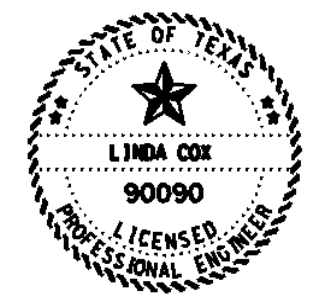


ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1090	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1090	SY
DRILL SEED (TEMP) (WARM OR COOL)	1090	SY
VEGETATIVE WATERING	17	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1090	SY

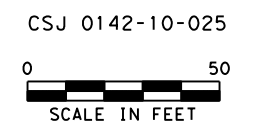


COMPOST MANUF TOPSOIL (BOS) (4") EST @ 607 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 607 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 607 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 607 SY  
 VEGETATIVE WATERING EST @ 9.47 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 483 SY  
 DRILL SEDDING (PERM) (URBAN) (CLAY) EST @ 483 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 483 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 483 SY  
 VEGETATIVE WATERING EST @ 7.53 MG



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# RM 473 LANDSCAPE LAYOUTS

CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		596

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA  
 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

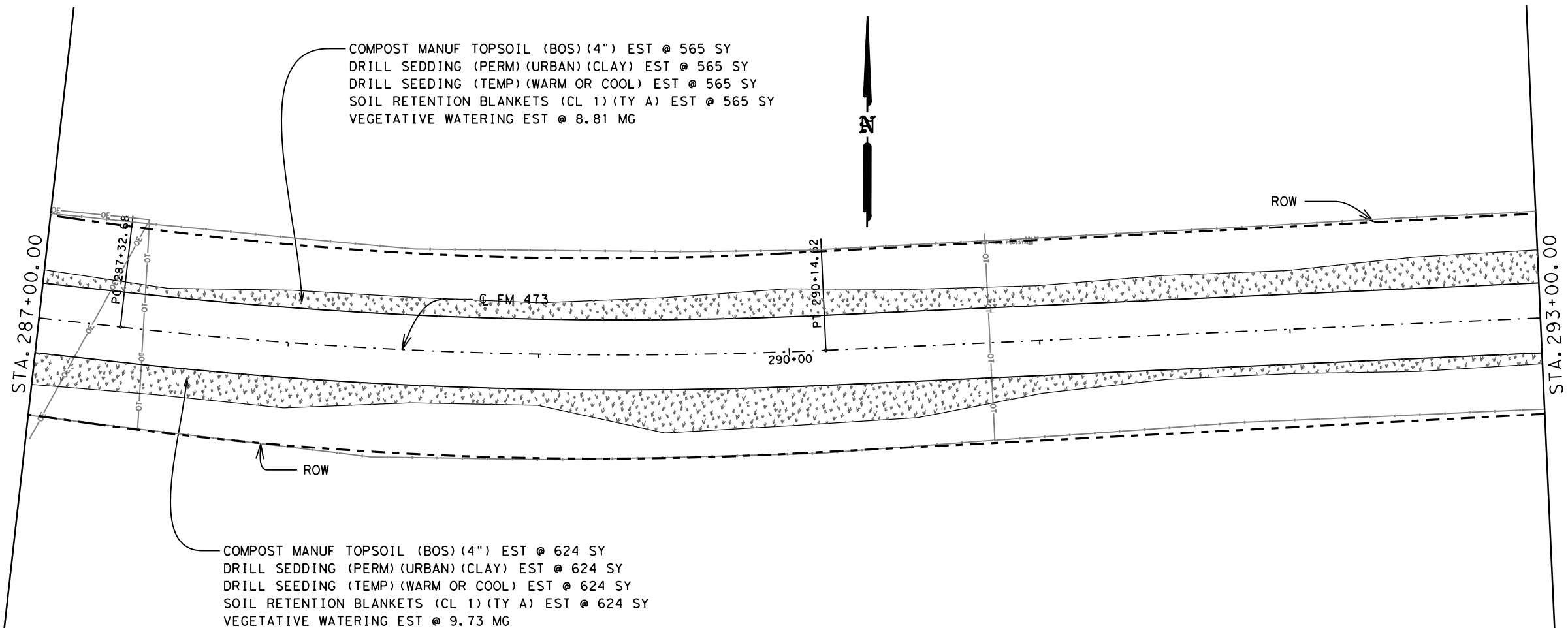
SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
 QUANTITIES.

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 Cks: \_\_\_\_\_  
 Dnr: \_\_\_\_\_



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1189	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1189	SY
DRILL SEED (TEMP) (WARM OR COOL)	1189	SY
VEGETATIVE WATERING	18.54	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1189	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 565 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 565 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 565 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 565 SY  
 VEGETATIVE WATERING EST @ 8.81 MG




COMPOST MANUF TOPSOIL (BOS) (4") EST @ 624 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 624 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 624 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 624 SY  
 VEGETATIVE WATERING EST @ 9.73 MG

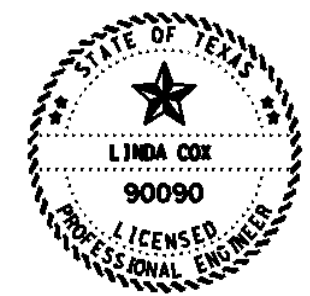
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANFU TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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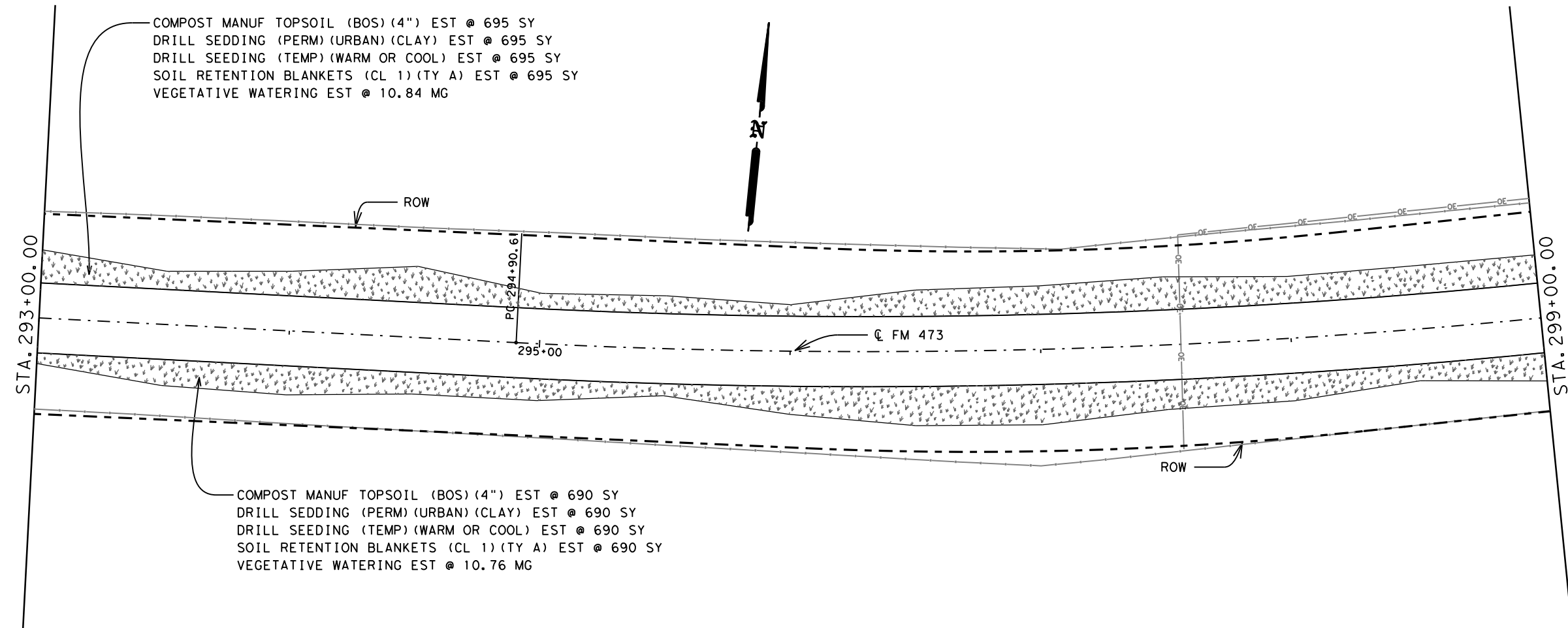


RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	597

ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1385	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1385	SY
DRILL SEED (TEMP) (WARM OR COOL)	1385	SY
VEGETATIVE WATERING	21.6	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1385	SY



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 695 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 695 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 695 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 695 SY  
 VEGETATIVE WATERING EST @ 10.84 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 690 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 690 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 690 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 690 SY  
 VEGETATIVE WATERING EST @ 10.76 MG

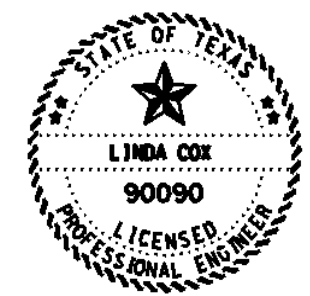
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

[Stippled Box]	COMPOST MANUF TPSL
[Stippled Box]	DRILL SEEDING
[Stippled Box]	SOIL RETENTION BLANKET



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# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	598

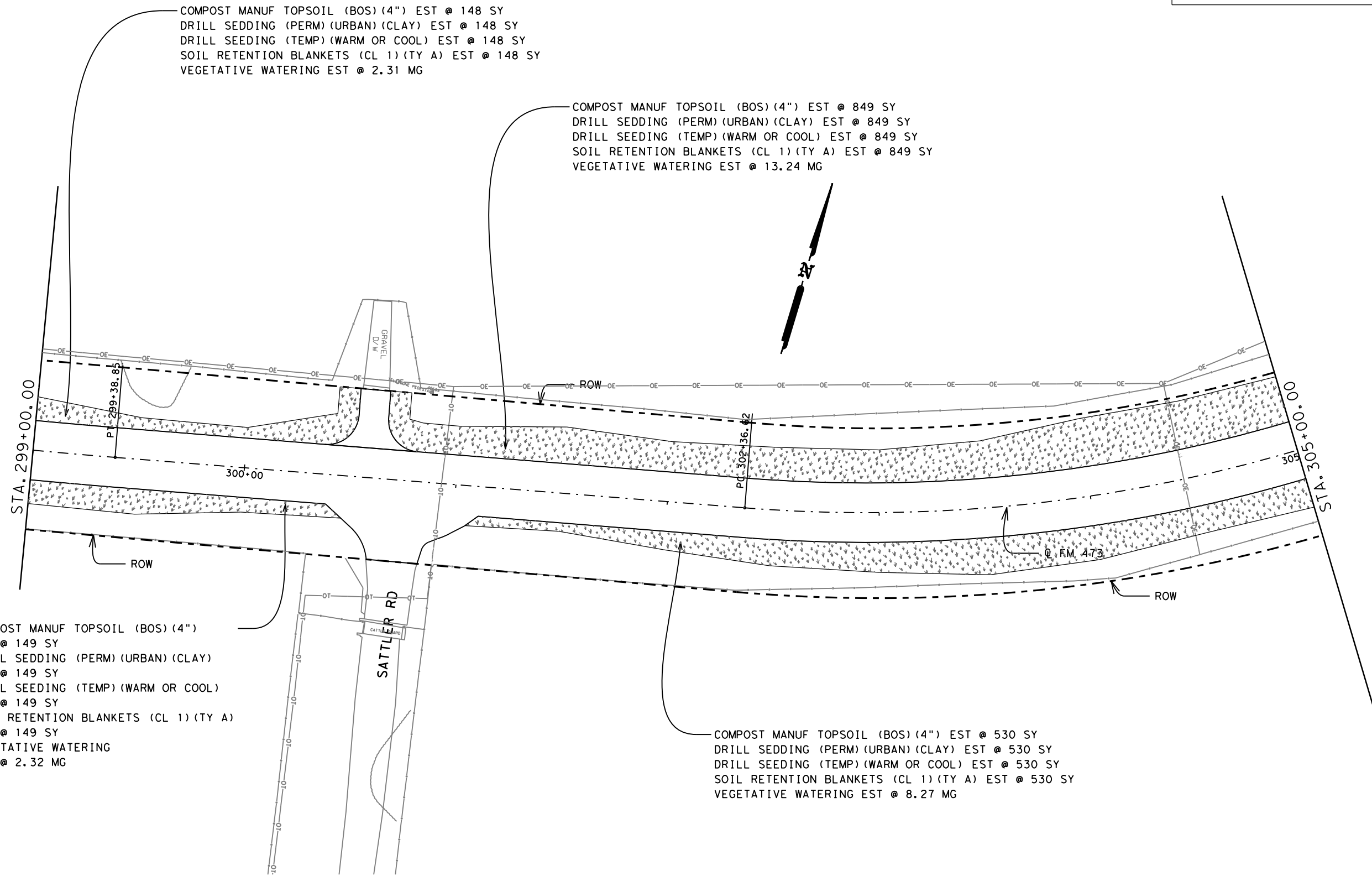
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1676	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1676	SY
DRILL SEED (TEMP) (WARM OR COOL)	1676	SY
VEGETATIVE WATERING	26.14	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1676	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 148 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 148 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 148 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 148 SY  
 VEGETATIVE WATERING EST @ 2.31 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 849 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 849 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 849 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 849 SY  
 VEGETATIVE WATERING EST @ 13.24 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 530 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 530 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 530 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 530 SY  
 VEGETATIVE WATERING EST @ 8.27 MG

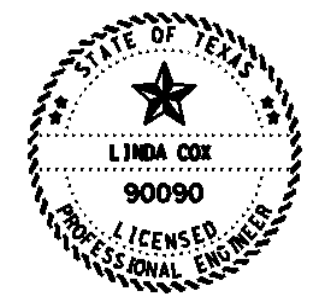
COMPOST MANUF TOPSOIL (BOS) (4")  
 EST @ 149 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY)  
 EST @ 149 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL)  
 EST @ 149 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A)  
 EST @ 149 SY  
 VEGETATIVE WATERING  
 EST @ 2.32 MG



LEGEND  
 COMPOST MANUF TPSL  
 DRILL SEEDING  
 SOIL RETENTION BLANKET

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA  
 SHEETS FOR HORIZONTAL ALIGNMENT  
 INFORMATION.

SEE DRIVEWAY TYPICAL SECTION  
 AND SUMMARY SHEET FOR  
 DRIVEWAY DETAILS AND  
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RM 473  
 LANDSCAPE  
 LAYOUTS

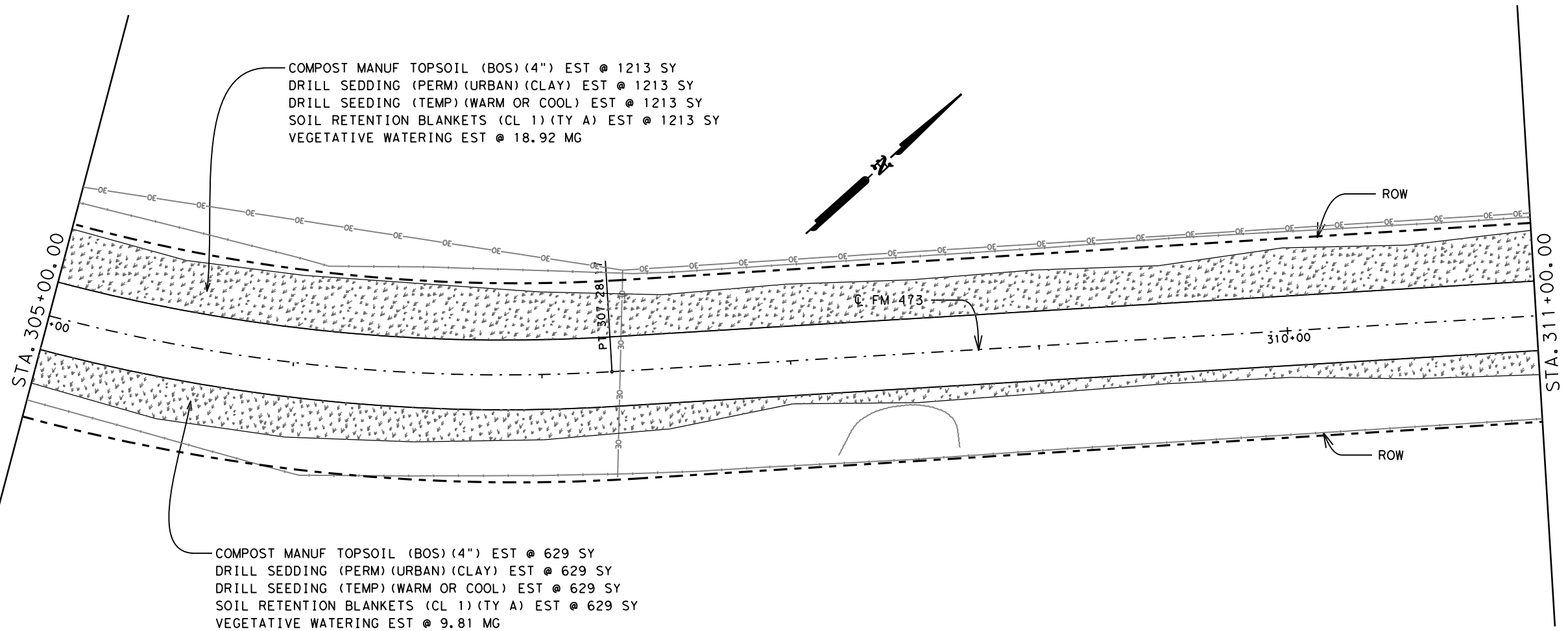


CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST	COUNTY		SHEET NO.
SAT	KENDALL		599

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ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1842	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1842	SY
DRILL SEED (TEMP) (WARM OR COOL)	1842	SY
VEGETATIVE WATERING	28.73	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1842	SY

Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_  
 Cks: \_\_\_\_\_  
 Dwf: \_\_\_\_\_



COMPOST MANUF TOPSOIL (BOS) (4") EST @ 1213 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 1213 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 1213 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 1213 SY  
 VEGETATIVE WATERING EST @ 18.92 MG

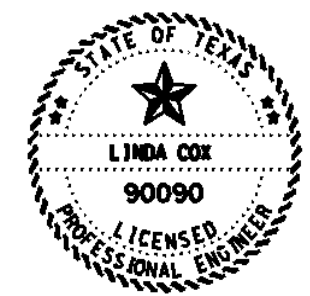
COMPOST MANUF TOPSOIL (BOS) (4") EST @ 629 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 629 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 629 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 629 SY  
 VEGETATIVE WATERING EST @ 9.81 MG

NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	}	COMPOST MANUF TPSL
		DRILL SEEDING
		SOIL RETENTION BLANKET



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CSJ 0142-10-025



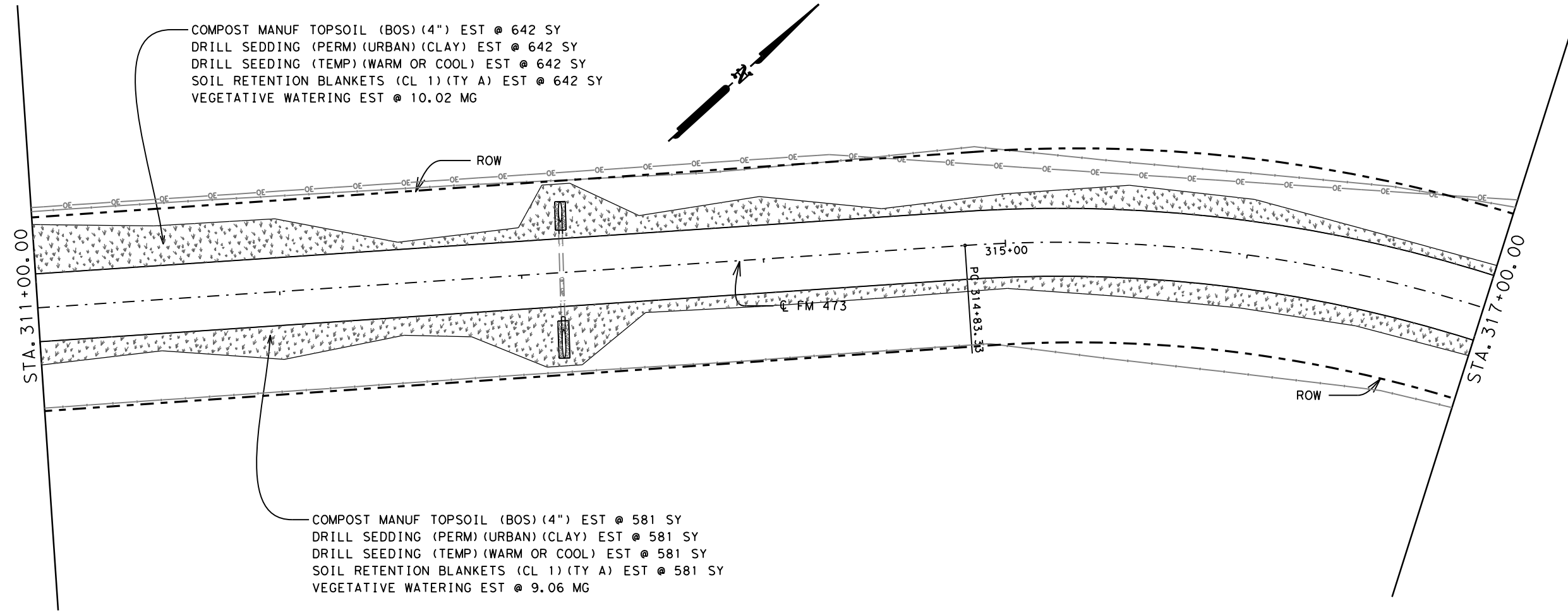
# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	600

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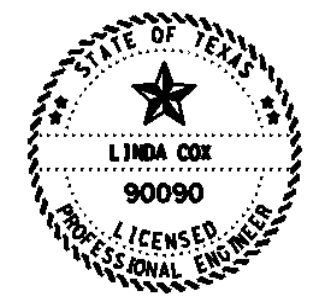
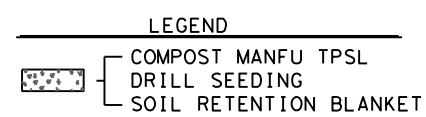
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	1223	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	1223	SY
DRILL SEED (TEMP) (WARM OR COOL)	1223	SY
VEGETATIVE WATERING	19.08	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	1223	SY



DATE: 4/26/2021 4:19:28 PM  
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NOTE:  
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SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.



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CSJ 0142-10-025



RM 473  
 LANDSCAPE  
 LAYOUTS



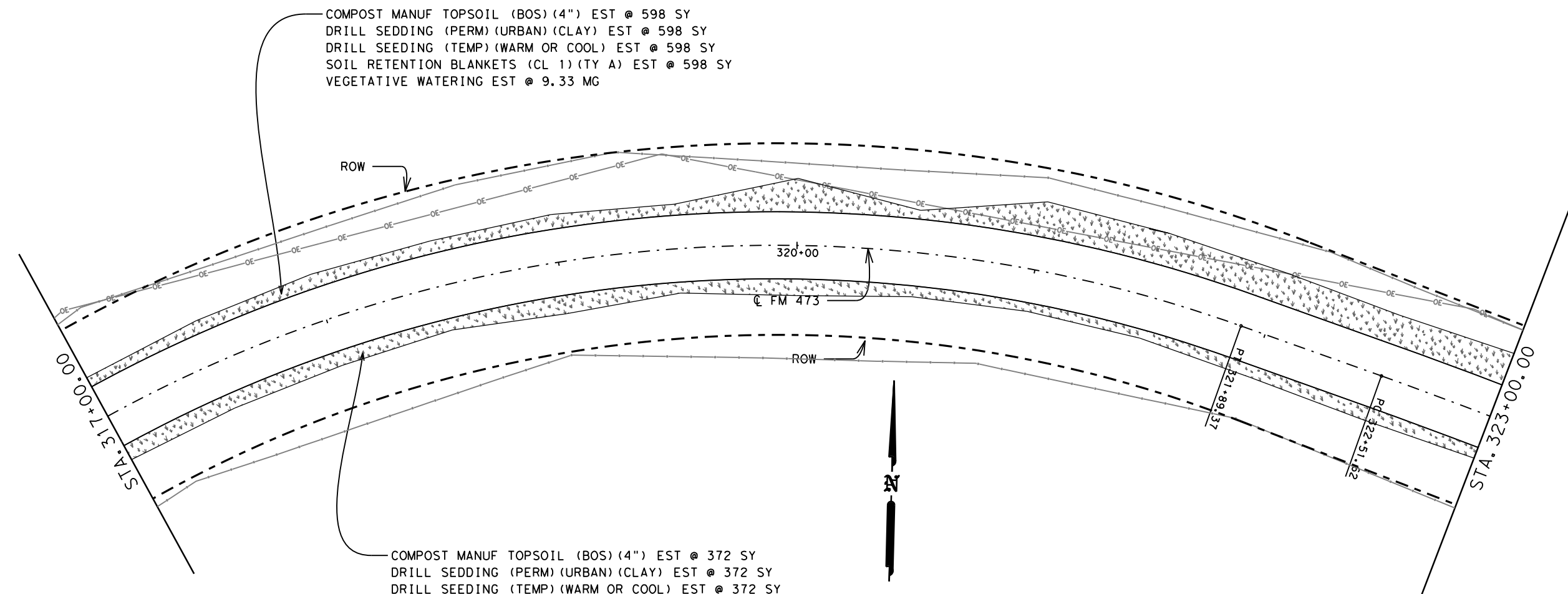
CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	601



ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	970	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	970	SY
DRILL SEED (TEMP) (WARM OR COOL)	970	SY
VEGETATIVE WATERING	15.13	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	970	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 598 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 598 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 598 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 598 SY  
 VEGETATIVE WATERING EST @ 9.33 MG

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 372 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 372 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 372 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 372 SY  
 VEGETATIVE WATERING EST @ 5.80 MG



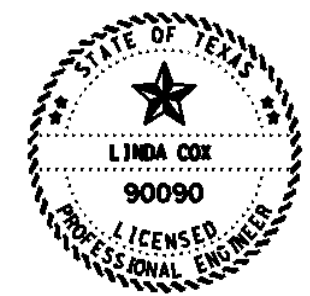
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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CSJ 0142-10-025



# RM 473 LANDSCAPE LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	602

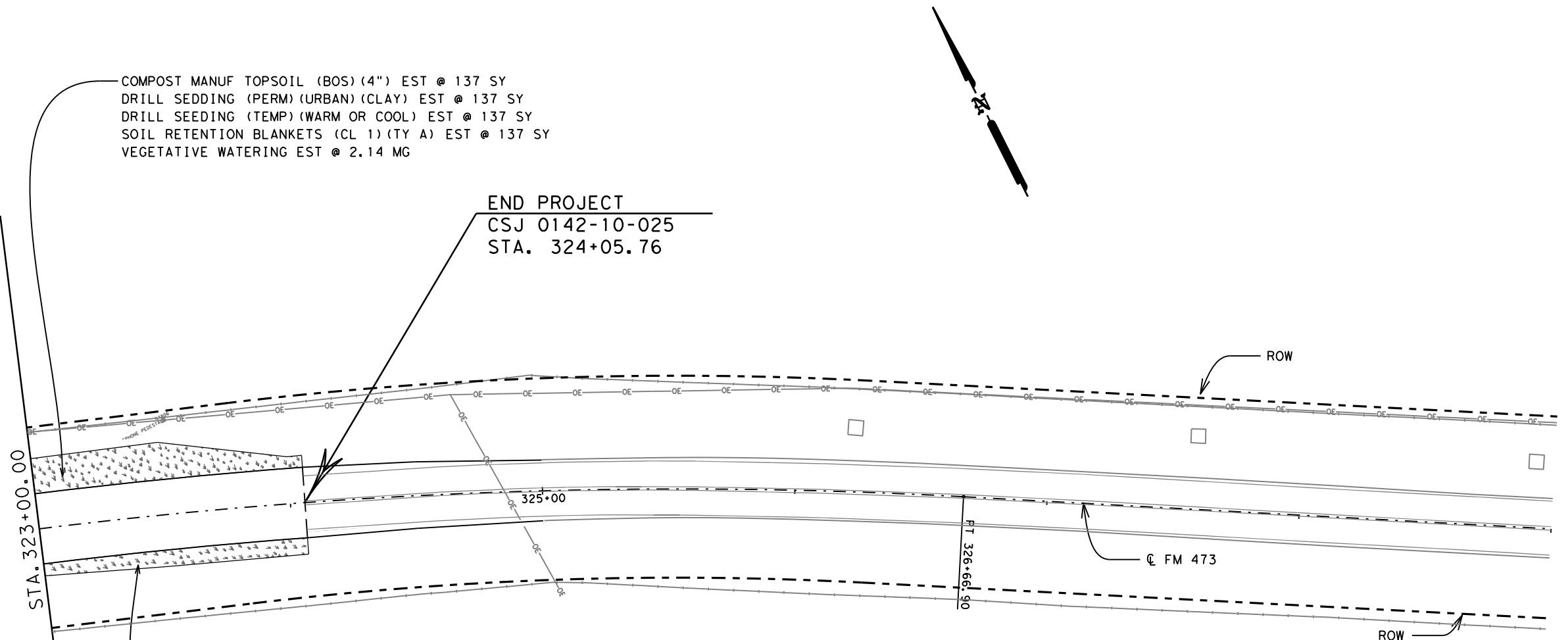
ESTIMATED QUANTITIES FOR CSJ 14210025		
DESCRIPTION	QUAN	UNIT
COMPOST MANUF TOPSOIL (4")	210	SY
DRILL SEEDING (PERM) (RURAL) (CLAY)	210	SY
DRILL SEED (TEMP) (WARM OR COOL)	210	SY
VEGETATIVE WATERING	3.28	MG
SOIL RETENTION BLANKETS (CL1) (TY A)	210	SY

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 137 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 137 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 137 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 137 SY  
 VEGETATIVE WATERING EST @ 2.14 MG

END PROJECT  
 CSJ 0142-10-025  
 STA. 324+05.76

STA. 323+00.00

COMPOST MANUF TOPSOIL (BOS) (4") EST @ 73 SY  
 DRILL SEEDING (PERM) (URBAN) (CLAY) EST @ 73 SY  
 DRILL SEEDING (TEMP) (WARM OR COOL) EST @ 73 SY  
 SOIL RETENTION BLANKETS (CL 1) (TY A) EST @ 73 SY  
 VEGETATIVE WATERING EST @ 1.14 MG



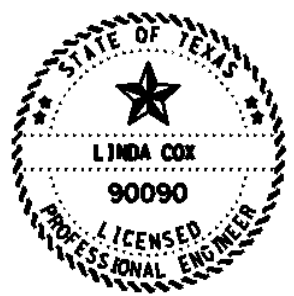
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NOTE:  
 SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR HORIZONTAL ALIGNMENT INFORMATION.

SEE DRIVEWAY TYPICAL SECTION AND SUMMARY SHEET FOR DRIVEWAY DETAILS AND QUANTITIES.

LEGEND

	COMPOST MANUF TPSL
	DRILL SEEDING
	SOIL RETENTION BLANKET



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RM 473  
 LANDSCAPE  
 LAYOUTS



CONT	SECT	JOB	HIGHWAY
0142	09	044, Etc	RM 473
DIST		COUNTY	SHEET NO.
SAT		KENDALL	603