

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 7

1. CONTRACTOR: James Construction Group

2. Change Order Work Limits: Sta. 2490+35 to Sta. 2481+00

3. Type of Change(on federal-aid non-exempt projects): Minor (Major/Minor)

4. Reasons: 3F (3 Max. - In order of importance - Primary first)

Project: 22IFB139

Roadway: FM 3349

CSJ
Number: Williamson Co

5. Describe the work being revised:

3F. Additional work desired by the County : This Change Order compensates the contractor for constructing the right turn lane of the southbound frontage road at FM3349 and Hutto Mega Site intersection. This work was requested and is 100% reimbursable by the Hutto Economic Development Corporation, Type B.

6. Work to be performed in accordance with Items: See Attached

7. New or revised plan sheet(s) are attached and numbered: 197, 230, 346, 353-355, 374A, 401, 449A-C, 642

8. New Special Provisions/Specifications to the contract are attached: ☐ Yes ☒ No

9. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.

THE CONTRACTOR Date 10/2/2023
By [Signature]
Typed/Printed Name Joey Williams
Typed/Printed Title Division Manager

The following information must be provided

Time Ext. #: _____ Days added on this CO: _____

Amount added by this change order: \$661,031.30

RECOMMENDED FOR EXECUTION:

[Signature] Date 10/2/2023
Project Manager Date

N/A
Design Engineer Date

Christen Eschberger Date 10/3/2023
Program Manager Date

County Commissioner Precinct 1 Date
☐ APPROVED ☐ REQUEST APPROVAL

County Commissioner Precinct 2 Date
☐ APPROVED ☐ REQUEST APPROVAL

Valerie Covey Date Oct 20, 2023

County Commissioner Precinct 3 Date
☐ APPROVED ☐ REQUEST APPROVAL

County Commissioner Precinct 4 Date
☐ APPROVED ☐ REQUEST APPROVAL

County Judge Date
☐ APPROVED

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 7

Project # 22IFB139

TABLE A: Force Account Work and Materials Placed into Stock

	LABOR	HOURLY RATE			HOURLY RATE

TABLE B: Contract Items:

				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
110 6001	EXCAVATION (ROADWAY)	CY	\$ 8.93	343,361.00	\$ 3,066,213.73	958.00	344,319.00	\$ 3,074,768.67	\$ 8,554.94
132 6047	EMBANKMENT (FINAL) (ORD COMP) (TY C1)	CY	\$ 34.12	175,092.00	\$ 5,974,139.04	434.00	175,526.00	\$ 5,988,947.12	\$ 14,808.08
160 6003	FURNISHING AND PLACING TOPSOIL (4")	SY	\$ 0.59	479,063.00	\$ 282,647.17	3,530.00	482,593.00	\$ 284,729.87	\$ 2,082.70
164 6035	DRILL SEEDING (PERM) (RURAL) (CLAY)	SY	\$ 0.35	488,743.00	\$ 171,060.05	3,530.00	492,273.00	\$ 172,295.55	\$ 1,235.50
169 6001	SOIL RETENTION BLANKETS (CL 1) (TY A)	SY	\$ 1.85	289,238.00	\$ 535,090.30	3,530.00	292,768.00	\$ 541,620.80	\$ 6,530.50
169 6008	SOIL RETENTION BLANKETS (CL 2) (TY H)	SY	\$ 12.50	51,883.00	\$ 648,537.50	(2,983.00)	48,900.00	\$ 611,250.00	\$ (37,287.50)
247 6044	FL BS (CMP IN PLC)(TY A GR 4)(FNAL POS)	CY	\$ 45.78	49,780.00	\$ 2,278,928.40	799.20	50,579.20	\$ 2,315,515.78	\$ 36,587.38
260 6011	LIME TRT (EXST MATL) (12")	SY	\$ 0.10	155,495.20	\$ 15,549.52	2,400.00	157,895.20	\$ 15,789.52	\$ 240.00
260 6012	LIME (HYD, COM OR QK)(SLURRY)	TON	\$ 248.23	290.00	\$ 71,986.70	68.40	358.40	\$ 88,965.63	\$ 16,978.93
310 6001	PRIME COAT (MULTI OPTION)	GAL	\$ 5.00	25,959.10	\$ 129,795.50	480.00	26,439.10	\$ 132,195.50	\$ 2,400.00
402 6001	TRENCH EXCAVATION PROTECTION	LF	\$ 1.09	2,809.00	\$ 3,061.81	140.00	2,949.00	\$ 3,214.41	\$ 152.60
432 6031	RIPRAP (STONE PROTECTION) (12 IN)	CY	\$ 102.89	1,289.00	\$ 132,625.21	75.70	1,364.70	\$ 140,413.98	\$ 7,788.77
529 6008	CONC CURB & GUTTER (TY II)	LF	\$ 22.13	34,643.00	\$ 766,649.59	194.00	34,837.00	\$ 770,942.81	\$ 4,293.22
618 6023	CONDT (PVC) (SCH 40) (2")	LF	\$ 11.00	21,827.00	\$ 240,097.00	(106.00)	21,721.00	\$ 238,931.00	\$ (1,166.00)
620 6007	ELEC CONDR (NO.8) BARE	LF	\$ 1.75	16,770.00	\$ 29,347.50	(106.00)	16,664.00	\$ 29,162.00	\$ (185.50)
620 6008	ELEC CONDR (NO.8) INSULATED	LF	\$ 2.25	33,540.00	\$ 75,465.00	(212.00)	33,328.00	\$ 74,988.00	\$ (477.00)
TOTALS					\$ 14,421,194.02			\$ 14,483,730.64	\$ 62,536.62

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 7

Project # 22IFB139

TABLE A: Force Account Work and Materials Placed into Stock

	LABOR	HOURLY RATE			HOURLY RATE

TABLE B: Contract Items:

				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
644 6004	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	EA	\$ 585.00	65.00	\$ 38,025.00	2.00	67.00	\$ 39,195.00	\$1,170.00
666 6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	\$ 1.00	9,505.00	\$ 9,505.00	435.00	9,940.00	\$ 9,940.00	\$435.00
666 6184	REFL PAV MRK TY II (W) (ARROW)	EA	\$ 85.00	2.00	\$ 170.00	2.00	4.00	\$ 340.00	\$170.00
666 6192	REFL PAV MRK TY II (W) (WORD)	EA	\$ 95.00	2.00	\$ 190.00	2.00	4.00	\$ 380.00	\$190.00
666 6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	\$ 0.40	7,316.00	\$ 2,926.40	435.00	7,751.00	\$ 3,100.40	\$174.00
666 6342	REF PROF PAV MRK TY I(W)4"(SLD)(100MIL)	LF	\$ 0.75	38,903.00	\$ 29,177.25	(424.00)	38,479.00	\$ 28,859.25	(\$318.00)
672 6010	REFL PAV MRKR TY II-C-R	EA	\$ 3.25	882.00	\$ 2,866.50	22.00	904.00	\$ 2,938.00	\$71.50
3076 6001	D-GR HMA TY-B PG64-22	TON	\$ 102.00	21,528.00	\$ 2,195,856.00	379.50	21,907.50	\$ 2,234,565.00	\$38,709.00
3076 6048	D-GR HMA TY-D PG76-22	TON	\$ 122.00	11,028.00	\$ 1,345,416.00	189.75	11,217.75	\$ 1,368,565.50	\$23,149.50
3081 6008	TOM-C PG 76-22 SAC-B	TON	\$ 167.00	8,223.00	\$ 1,373,241.00	127.60	8,350.60	\$ 1,394,550.20	\$21,309.20
3084 6001	BONDING COURSE	GAL	\$ 4.35	20,321.70	\$ 88,399.40	396.00	20,717.70	\$ 90,122.00	\$1,722.60
5001 6002	GEOGRID BASE REINFORCEMENT (TY II)	SY	\$ 1.11	145,629.00	\$ 161,648.19	2,400.00	148,029.00	\$ 164,312.19	\$2,664.00
J106-01	24" C-151/PC200 D.I. PIPE/POLY TUBE PROT	LF	\$ 185.00	10,689.00	\$ 1,977,465.00	(200.00)	10,489.00	\$ 1,940,465.00	(\$37,000.00)
J106-02	24" C-151/PC200 D.I. RESTRAINED JT PIPE/POLY	LF	\$ 256.00	1,048.00	\$ 268,288.00	25.00	1,073.00	\$ 274,688.00	\$6,400.00
J106-14	36" STEEL ENC. PIPE/OPEN CUT w/ 24" RESTRAINED JT	LF	\$ 653.00	886.00	\$ 578,558.00	175.00	1,061.00	\$ 692,833.00	\$114,275.00
J106-31	AIR/VAC RELIEF VALVE ASSEM & MARKER(INSTL)	EA	\$ 22,804.00	8.00	\$ 182,432.00	1.00	9.00	\$ 205,236.00	\$22,804.00
J106-47	COMPACTED GRAVEL DRIVE REPLACE	SF	\$ 4.29	537.00	\$ 2,303.73	72.00	609.00	\$ 2,612.61	\$308.88
J106-55	EXTRA DEPTH CONST FOR DEEPER WL- LABOR; EQ; FUEL	LF	\$ 58.30	0.00	\$ -	1,100.00	1,100.00	\$ 64,130.00	\$64,130.00
J106-56	TRENCH SAFETY- ADDITIONAL TRENCH PROT FOR DEEPER WL	LF	\$ 5.30	0.00	\$ -	1,100.00	1,100.00	\$ 5,830.00	\$5,830.00
462 6012	CONC BOX CULV (6FTX5FT)	LF	\$ 760.00	0.00	\$ -	280.00	280.00	\$ 212,800.00	\$ 212,800.00
466 6182	WINGWALL (PW - 1) (HW=7 FT)	EA	\$ 59,750.00	0.00	\$ -	2.00	2.00	\$ 119,500.00	\$ 119,500.00
The "Totals" from Table B of the previous work sheet:					\$ 14,421,194.02			\$ 14,483,730.64	\$ 62,536.62
TOTALS					\$ 22,677,661.49			\$ 23,338,692.79	\$661,031.30

CHANGE ORDER REASON(S) CODE CHART

1. Design Error or Omission	1A. Incorrect PS&E 1B. Other
2. Differing Site Conditions (unforeseeable)	2A. Dispute resolution (expense caused by conditions and/or resulting delay) 2B. Unavailable material 2C. New development (conditions changing after PS&E completed) 2D. Environmental remediation 2E. Miscellaneous difference in site conditions (unforeseeable)(Item 9) 2F. Site conditions altered by an act of nature 2G. Unadjusted utility (unforeseeable) 2H. Unacquired Right-of-Way (unforeseeable) 2I. Additional safety needs (unforeseeable) 2J. Other
3. County Convenience	3A. Dispute resolution (not resulting from error in plans or differing site conditions) 3B. Public relations improvement 3C. Implementation of a Value Engineering finding 3D. Achievement of an early project completion 3E. Reduction of future maintenance 3F. Additional work desired by the County 3G. Compliance requirements of new laws and/or policies 3H. Cost savings opportunity discovered during construction 3I. Implementation of improved technology or better process 3J. Price adjustment on finished work (price reduced in exchange for acceptance) 3K. Addition of stock account or material supplied by state provision 3L. Revising safety work/measures desired by the County 3M. Other
4. Third Party Accommodation	4A. Failure of a third party to meet commitment 4B. Third party requested work 4C. Compliance requirements of new laws and/or policies (impacting third party) 4D. Other
5. Contractor Convenience	5A. Contractor exercises option to change the traffic control plan 5B. Contractor requested change in the sequence and/or method of work 5C. Payment for Partnering workshop 5D. Additional safety work/measures desired by the contractor 5E. Other
6. Untimely ROW/Utilities	6A. Right-of-Way not clear (third party responsibility for ROW) 6B. Right-of-Way not clear (County responsibility for ROW) 6C. Utilities not clear 6D. Other

Williamson County Road Bond Program

**FM3349 at US 79
Williamson County Project No. 22IFB139**

Change Order No. 7

Reason for Change

This Change Order compensates the contractor for constructing the right turn lane of the southbound frontage road at FM3349 and Hutto Mega Site intersection. This work was requested and is 100% reimbursable by the Hutto Economic Development Corporation, Type B.

Following is summary of new items required for this Change Order.

ITEM	DESCRIPTION	QTY	UNIT
J106-55	EXTRA DEPTH CONST FOR DEEPER WL- LABOR; EQ; FUEL	1100	LF
J106-56	TRENCH SAFETY- ADDITIONAL TRENCH PROT FOR DEEPER WL	1100	LF
462 6012	CONC BOX CULV (6FTX5FT)	280	LF
466 6182	WINGWALL (PW - 1) (HW=7 FT)	2	EA

This Change Order results in a net increase of \$661,031.30 to the Contract amount, for an adjusted Contract total of \$83,457,012.48. The original Contract amount was \$81,941,038.13. As a result of this and all Change Orders to-date, \$1,515,974.35 has been added to the Contract, resulting in an 1.85% net increase in the Contract cost. No additional days will be added to or deducted from the Contract as a result of this Change Order.

HNTB Corporation

Oscar Salazar-Bueno, P.E.

US 79 AND FM 3349 INTERSECTION IMPROVEMENT PROJECT
HUTTO EDC SOUTHBOUND FRONTAGE ROAD RIGHT TURN LANE
TAYLOR, TX

CHANGE ORDER #2 PLANS
03/21/2023



Philip A. Fulton

03/21/2023

PREPARED BY:

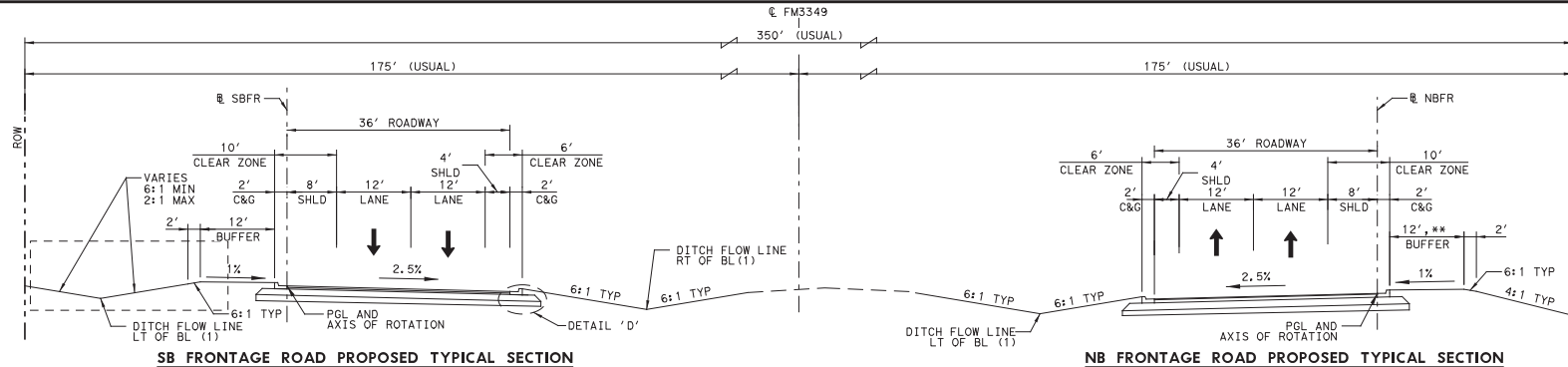


HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

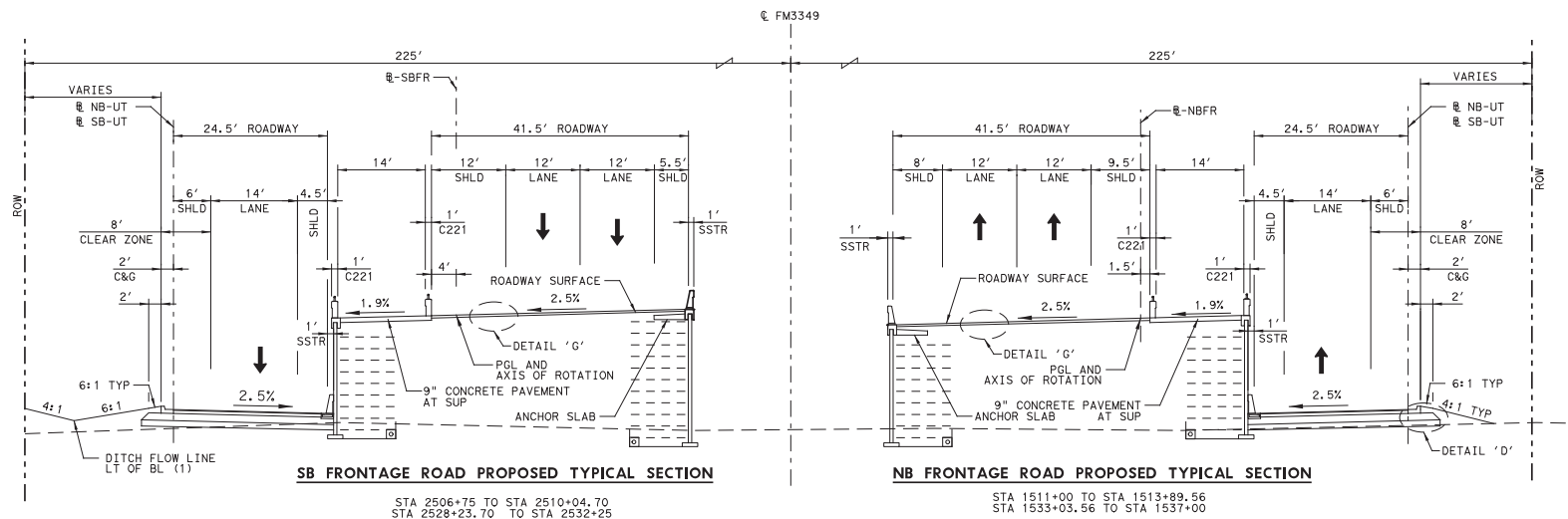


PENTABLE: 1025455.101
DATE: 2/27/2023 TIME: 2:05:05 PM SCALE: 1/20

PLOT DRIVER: TXDOT.PDF.BW.DWG
USER: BRIDGES
FILE: PROPOSED TYPICAL SECTIONS 2



STA 1443+80 TO STA 1455+65
STA 1456+75 TO STA 1511+00
** 2' BUFFER FROM STA 1458+30 TO 1465+04,
4' BUFFER FROM STA 1478+60 TO 1501+00,
1.5' BUFFER FROM 1501+80 TO 1511+00



NOTE:
(1) SEE DRAINAGE PLAN AND PROFILE FOR DITCH ELEVATIONS AND DITCH FLOW CALCULATIONS TABLE FOR VARIANCES IN SIDE SLOPES.

STATE OF TEXAS
PHILIP A. FULTON
73469
REGISTERED PROFESSIONAL ENGINEER
03/21/2023

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF

WILLIAMSON COUNTY
HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

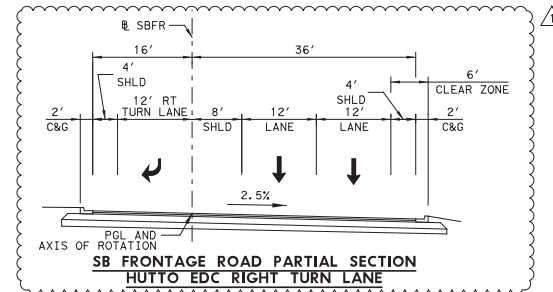
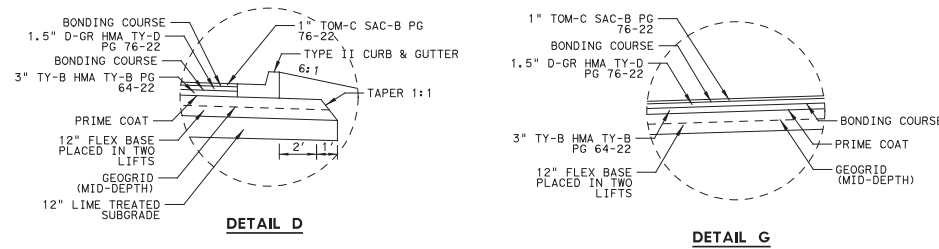
Texas Department of Transportation

FM 3349
PROPOSED TYPICAL SECTIONS

SHEET 2 OF 5

DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS	LG	6		FM 3349
CHECK		STATE	DISTRICT	COUNTY
CHECK		TEXAS	AUS	WILLIAMSON
CHECK		CONTROL	SECTION	JOB
		3486	01	008, ETC

14



PENTABLE: 1025455.101
 DATE: 2/27/2023 TIME: 2:600 PM SCALE: 1/4
 PLOT DRIVER: TXDOT.PDF BW.DWG
 USER: BRIDGES
 FILE: FM3349-SUM-EARTH.MXD

FM 3349-EARTHWORK QUANTITIES

STATION	ITEM 110 6001	ITEM 132 6006
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (DENS CONT) (TY C)
	(CY)	(CY)
418+00	0	0
418+50	32	5
419+00	60	8
419+50	76	7
420+00	97	5
420+50	113	10
421+00	110	23
421+50	106	51
422+00	157	94
422+50	189	151
423+00	184	215
423+50	230	264
424+00	298	272
424+50	344	302
425+00	317	529
425+50	258	721
426+00	267	700
426+50	246	772
427+00	178	919
427+50	213	1012
428+00	218	1075
428+50	159	1114
429+00	149	1140
429+50	155	1157
430+00	169	1177
430+50	179	1191
431+00	195	1174
431+50	224	1107
432+00	286	941
432+50	337	828
433+00	392	763
433+50	468	641
434+00	523	538
434+50	605	496
435+00	736	464
435+50	900	374
436+00	1070	298
436+50	1208	256
437+00	1301	221
437+50	1351	184
438+00	1396	225
438+50	1472	219
439+00	1656	146
439+50	1984	124
440+00	1878	123
440+50	1433	152
441+00	1205	185
441+50	1119	236
442+00	1100	276
442+50	1024	356
443+00	929	449
443+50	875	482
444+00	841	518
444+50	828	530
445+00	1363	537
445+50	1244	629
446+00	507	766
446+50	380	889
447+00	300	1049

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	ITEM 110 6001	ITEM 132 6006
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (DENS CONT) (TY C)
	(CY)	(CY)
447+50	228	1218
448+00	161	1425
448+50	115	1695
449+00	89	1886
449+50	107	1924
450+00	112	2146
450+50	73	2514
451+00	65	2679
451+50	82	2608
451+73	45	1091
452+00	66	1040
452+50	215	1439
452+83	287	854
453+00	215	453
453+50	683	1771
454+00	714	1903
454+50	707	1264
455+00	873	983
455+50	959	962
456+00	847	740
456+50	904	495
457+00	1002	329
457+50	1101	179
458+00	1159	138
458+50	1267	115
459+00	1416	50
459+50	1546	12
460+00	1680	15
460+50	1783	17
461+00	1619	18
461+50	1616	22
462+00	1761	23
462+50	1655	25
462+73	582	9
463+00	1023	7
463+09	587	2
463+50	2630	10
464+00	3113	12
464+50	3058	15
465+00	3033	19
465+50	2936	16
466+00	2745	14
466+27	1365	8
466+50	1038	7
467+00	2172	21
467+50	2112	26
468+00	2072	38
468+50	2001	47
469+00	1985	44
469+50	1996	43
470+00	1990	44
470+50	2021	33
471+00	1905	40
471+50	1833	52
472+00	1897	48
472+50	1844	55
473+00	1769	66
473+50	1705	72
474+00	1654	80

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	ITEM 110 6001	ITEM 132 6006
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (DENS CONT) (TY C)
	(CY)	(CY)
474+50	1640	88
475+00	1718	80
475+50	1685	81
476+00	1601	96
476+50	1618	105
477+00	1602	114
477+50	1588	132
478+00	1596	189
478+50	1605	243
479+00	1545	239
479+50	1345	231
480+00	1381	209
480+50	1525	176
481+00	1480	156
481+50	1467	139
482+00	1446	127
482+50	1477	145
483+00	1685	124
483+50	1953	69
484+00	2292	61
484+50	2048	85
485+00	1539	109
485+50	1488	106
486+00	1430	102
486+50	1359	102
487+00	1331	101
487+50	1338	98
488+00	1321	99
488+50	1281	103
489+00	1248	105
489+50	1220	104
490+00	1196	102
490+50	1182	107
491+00	1162	120
491+50	1126	132
492+00	1082	147
492+50	1042	165
493+00	1010	184
493+50	979	201
494+00	946	218
494+50	899	249
495+00	842	284
495+50	791	314
496+00	762	337
496+50	741	351
497+00	709	356
497+50	661	358
498+00	619	366
498+50	588	389
499+00	557	420
499+50	435	463
500+00	317	476
500+50	325	460
501+00	365	453
501+50	402	456
502+00	435	464
502+50	478	453
503+00	532	425
503+50	593	391

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	ITEM 110 6001	ITEM 132 6006
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (DENS CONT) (TY C)
	(CY)	(CY)
504+00	664	364
504+50	723	341
505+00	750	323
505+50	792	322
506+00	861	343
506+50	1175	383
507+00	1201	479
507+50	949	621
508+00	927	798
508+50	856	1039
509+00	755	1344
509+50	651	1603
509+69	230	612
510+00	327	937
510+09	63	355
510+50	250	1200
511+00	547	1089
511+50	671	970
512+00	818	736
512+50	951	520
513+00	1059	315
513+50	993	207
514+00	843	278
514+50	631	336
515+00	385	179
515+50	304	22
516+00	314	0
516+50	526	0
517+00	557	0
517+50	331	0
518+00	207	0
518+50	73	0
519+00	0	0
519+50	0	0
520+00	0	0
520+50	0	0
521+00	525	78
521+50	821	188
522+00	623	166
522+50	565	125
523+00	313	191
523+50	1062	132
524+00	1713	70
524+50	1388	104
525+00	1220	109
525+50	1042	165
526+00	902	222
526+50	834	192
527+00	877	142
527+50	941	119
528+00	931	77
528+39	690	48
528+50	182	76
528+73	365	401
529+00	389	547
529+50	739	836
530+00	733	592
530+50	861	397
531+00	1185	219

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	ITEM 110 6001	ITEM 132 6006
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (DENS CONT) (TY C)
	(CY)	(CY)
531+50	1467	141
532+00	1706	134
532+50	1785	88
533+00	1723	68
533+50	2065	32
534+00	2278	16
534+50	2013	49
535+00	1875	64
535+50	1830	62
536+00	1846	54
536+50	1765	39
537+00	1605	26
537+50	1671	20
538+00	1714	29
538+50	1625	39
539+00	1536	49
539+50	1562	48
540+00	1748	47
540+50	1791	58
541+00	1639	69
541+50	1354	107
542+00	1134	115
542+50	1127	363
543+00	1150	724
543+50	1020	426
544+00	869	52
544+50	803	77
545+00	751	89
545+50	761	80
546+00	769	68
546+50	772	71
547+00	757	77
547+50	744	71
548+00	728	59

1 / 2/21/23		CD #2		PAF
NO.	DATE	REVISION		APPROVED
		 HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754		
 Texas Department of Transportation				
FM 3349 SUMMARY OF QUANTITIES				
SHEET 7 OF 17				
DESIGN	FT	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	
GRAPHICS	LG	6	FM 3349	
CHECK		STATE	DISTRICT	COUNTY
CHECK		TEXAS	AUS	WILLIAMSON
		CONTROL	SECTION	JOB
		3486	01	008, ETC
				25

SUMMARY OF ILLUMINATION QUANTITIES														
PLAN SHEET NO.	STATION TO STATION	0416 6029	0432 6001	0610 6106	0610 6208	0610 6216	0618 6023	0618 6064	0620 6005	0620 6006	0620 6007	0620 6008	0624 6002	0628 6049
		DRILL SHAFT (ROWY ILL POLE) (30 IN)	RIPRAP (CONC) (4 IN)	IN RD IL (U/P) (TY 2) (150W EQ) LED	IN RD IL (TY SA) 405-10 (250W EQ) LED	IN RD IL (TY SA) 40T-10 (250W EQ) LED	CONDT (PVC) (SCH 40) (2")	CONDT (RM) (1")	ELEC CONDR (NO.10) BARE	ELEC CONDR (NO.10) INSULATED	ELEC CONDR (NO.8) BARE	ELEC CONDR (NO.8) INSULATED	GROUND BOX TY A (122311)W/APRON	ELC SRV TY A 240/480 060 (NS) SS (T) SP (O)
		LF	CY	EA	EA	EA	LF	LF	LF	LF	LF	LF	EA	EA
ILLUMINATION SHEETS														
698	BEGIN TO 426+00	32	1.68			4	844				874	1748	1	
699	426+00 TO 437+00	24	1.61			3	1281				1316	2632	2	
700	437+00 TO 448+00	32	1.96			4	1543				1578	3156	2	1
701	481+00 TO 492+00	16	1.26			2	1075				1095	2190	2	1
702	492+00 TO 503+00	48	2.66			6	1768				1813	3626	3	1
703	503+00 TO 514+00	8	0.91		7	1	668		2277	4554	1926	3852	2	
704	514+00 TO 525+00				7		3007		1316	2632	1841	3682		
705	525+00 TO 536+00	8	0.91		8	1	4180		2119	4238	2191	4382	2	1
706	536+00 TO 547+00	64	3.64			8	2370				2445	4890	4	1
707	547+00 TO 558+00	32	2.24			4	1339				1379	2758	3	
708	558+00 TO END	24	1.05			3	461				476	952		
709	UNDERPASS			8	4			518	578	1156				
710	UNDERPASS			8	1			475	535	1070				
ILLUMINATION TOTALS		288	17.92	16	27	36	23536	993	6825	13650	18534	37068	21	4

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED
			
HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
 Texas Department of Transportation			
FM 3349			
SUMMARY OF QUANTITIES			
SHEET 13 OF 17			
DESIGN GRM	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS GRM	6		FM 3349
CHECK PKD	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
PKD	3486	01	008, ETC
			31

ITEM	DESCRIPTION	CO #2 DELTA QUANTITY	UNIT MEASURE
110 6001	EXCAVATION (ROADWAY)	958.00	CY
132 6047	EMBANKMENT (FINAL) (ORD COMP) (TY C1)	434.00	CY
160 6003	FURNISHING AND PLACING TOPSOIL (4")	3,530.00	SY
164 6035	DRILL SEEDING (PERM) (RURAL) (CLAY)	3,530.00	SY
169 6001	SOIL RETENTION BLANKETS (CL 1) (TY A)	3,530.00	SY
169 6008	SOIL RETENTION BLANKETS (CL 2) (TY H)	(2,983.00)	SY
247 6044	FL BS (CMP IN PLC) (TY A GR 4) (FNAL POS)	799.20	CY
260 6011	LIME TRT (EXST MATL) (12")	2,400.00	SY
260 6043	LIME (HYD, COM OR QK) (SLURRY)	68.40	TON
310 6001	PRIME COAT (MULTI OPTION)	480.00	GAL
402 6001	TRENCH EXCAVATION PROTECTION	140.00	LF
432 6031	RIPRAP (STONE PROTECTION) (12 IN)	75.70	CY
462 6012	CONC BOX CULV (6FTX5FT)	280.00	LF
466 6182	WINGWALL (PW - 1) (HW=7 FT)	2.00	EA
529 6008	CONC CURB & GUTTER (TY II)	194.00	LF
618 6023	CONDT (PVC) (SCH 40) (2")	(106.00)	LF
620 6007	ELEC CONDR (NO.8) BARE	(106.00)	LF
620 6008	ELEC CONDR (NO.8) INSULATED	(212.00)	LF
644 6004	IN SM RD SN SUP&M TY10BWG(1)SA(T)	2.00	EA
666 6036	REFL PAV MRK TY I (W)8" (SLD) (100MIL)	435.00	LF
666 6184	REFL PAV MRK TY II (W) (ARROW)	2.00	EA
666 6192	REFL PAV MRK TY II (W) (WORD)	2.00	EA
666 6303	RE PM W/RET REQ TY I (W)4" (SLD) (100MIL)	435.00	LF
666 6342	REF PROF PAV MRK TY I (W)4" (SLD) (100MIL)	(424.00)	LF
672 6010	REFL PAV MRKR TY II-C-R	22.00	EA
3076 6001	D-GR HMA TY-B PG64-22	379.50	TON
3076 6048	D-GR HMA TY-D PG76-22	189.75	TON
3081 6008	TOM-C PG 76-22 SAC-B	127.60	TON
3084 6001	BONDING COURSE	396.00	GAL
5001 6002	GEOGRID BASE REINFORCEMENT (TY II)	2,400.00	SY

SHEET 35B

1		2/21/23		CO #2		PAF	
NO.		DATE		REVISION		APPROVED	
				 HDR Engineering, Inc. 710 Heesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
				Texas Department of Transportation			
FM 3349							
SUMMARY OF QUANTITIES CHANGE ORDER #2							
SHEET 1 OF 1							
DESIGN FT		FED. RD. DIV. NO.		FEDERAL AID PROJECT NO.			HIGHWAY NO.
LG		6					FM 3349
CHECK		STATE		DISTRICT		COUNTY	
CHECK		TEXAS		AUS		WILLIAMSON	
CHECK		CONTROL		SECTION		JOB	
CHECK		3486		01		008, ETC	

35B

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: 2/27/2023 2:16:02 PM
FILE: eFiles

SUMMARY OF SMALL SIGNS

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) TY = TYPE TY N TY S
							POST TYPE	POSTS	ANCHOR TYPE	MOUNTING DESIGNATION		
										PREFABRICATED	TEXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	
			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"						
3of14	31	M3-1 M1-6F	NORTH FM 3349	24X12 24X24	X		10BWG	1	SA	P		
	32	R1-1	STOP	36X36	X		10BWG	1	SA	P	BM	
	33	R1-1	STOP	36X36	X		10BWG	1	SA	P	BM	
	34	R1-1	STOP	36X36	X		10BWG	1	SA	P	BM	
4of14	1	R5-1a	WRONG WAY	42X30	X		10BWG	1	SA	U		
	2	R5-1a	WRONG WAY	42X30	X		10BWG	1	SA	U		
	3	D21-1TR	CR 132 →	54X12	X		10BWG	1	SA	T		
	4	W8-13aT	BRIDGE MAY ICE IN COLD WEATHER	36X36	X		10BWG	1	SA	T		
	5	-	SIGN OMITTED									
	6	R2-1	SPEED LIMIT 65	30X36	X		10BWG	1	SA	P		
5of14	1	W9-2TR	LANE ENDS MERGE RIGHT	36X36	X		10BWG	1	SA	T		
	2	W9-2TR	LANE ENDS MERGE RIGHT	36X36	X		10BWG	1	SA	T		
6of14	1	R5-1a	WRONG WAY	42X30	X		10BWG	1	SA	U		
	2	R5-1a	WRONG WAY	42X30	X		10BWG	1	SA	U		
7of14	1	R2-1	SPEED LIMIT 65	30X36	X		10BWG	1	SA	P		
	2	R6-1L	ONE WAY	54X18	X		10BWG	1	SA	T		
	3	R6-1L R1-1	ONE WAY STOP	54X18 36X36	X X		10BWG	1	SA	P	BM	
	4	R5-1	DO NOT ENTER	36X36	X		10BWG	1	SA	T		
	5	R5-1	DO NOT ENTER	36X36	X		10BWG	1	SA	T		
	6	R5-1a	WRONG WAY	42X30	X		10BWG	1	SA	U		
	7	R5-1a	WRONG WAY	42X30	X		10BWG	1	SA	U		
	8	M3-3 M1-6F	SOUTH FM 3349	24X12 24X24	X X		10BWG	1	SA	P		
	9	R5-1	DO NOT ENTER	36X36	X		10BWG	1	SA	T		
	10	R5-1	DO NOT ENTER	36X36	X		10BWG	1	SA	T		
	11	R6-1L R1-1	ONE WAY STOP	54X18 36X36	X X		10BWG	1	SA	P	BM	
	12	R6-1L	ONE WAY	54X18	X		10BWG	1	SA	T		
	13	R3-7R	RIGHT LANE MUST TURN RIGHT	36X36	X		10BWG	1	SA	T		
	14	R3-7R	RIGHT LANE MUST TURN RIGHT	36X36	X		10BWG	1	SA	T		



Philip A. Fulton 03/21/2023

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).

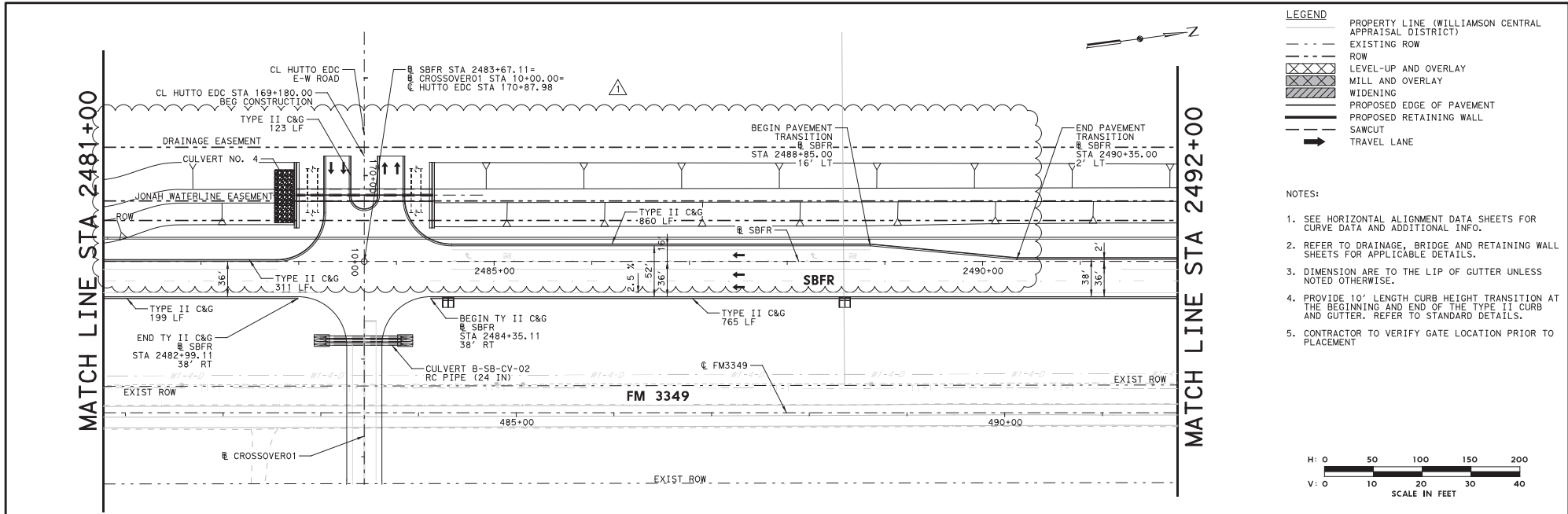
1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED



SUMMARY OF SMALL SIGNS

SOSS

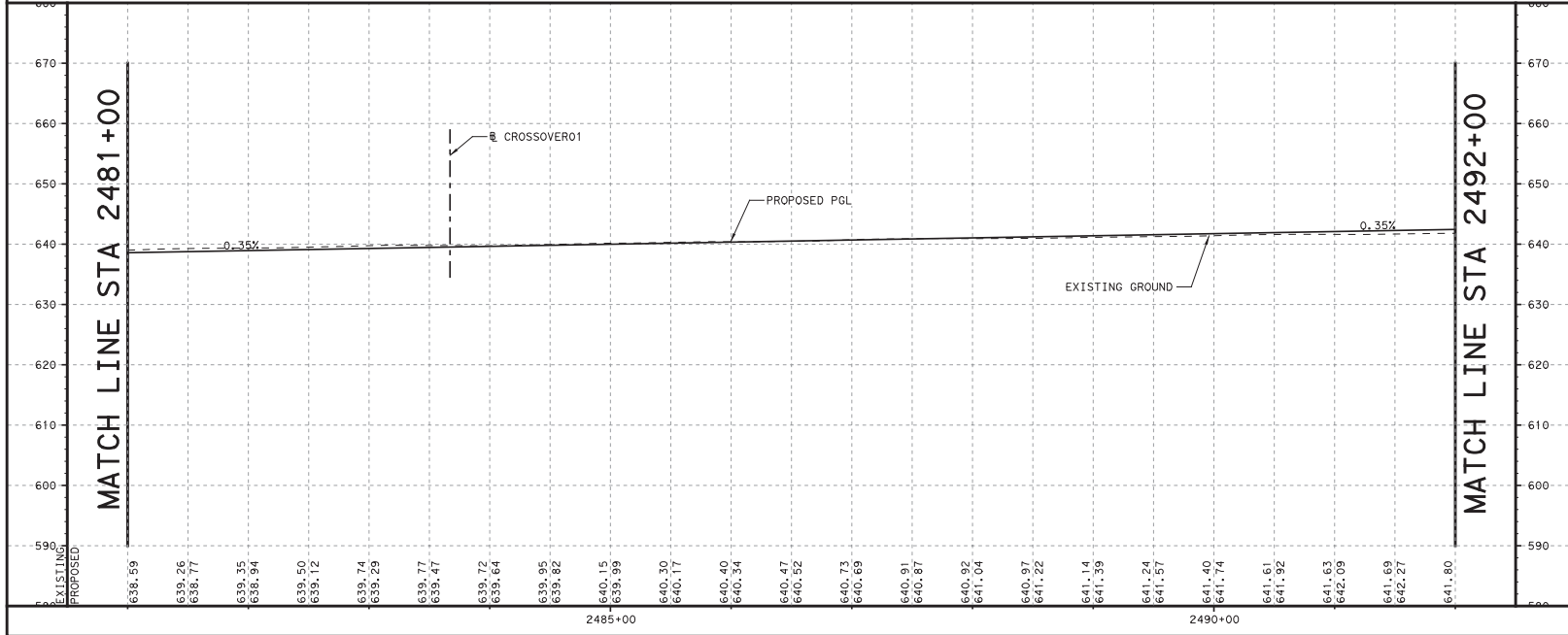
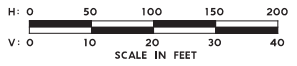
FILE:	SUNS16.dgn	DN:	TxDOT	CK:	TxDOT	DN:	TxDOT	CK:	TxDOT
© TxDOT	May 1987	CONT	SECT	JOB	HIGHWAY				
4-16	REVISIONS	3486	01	008, ETC	FM 3349				
8-16		DIST	COUNTY	SHEET NO.					
		AUS	WILLIAMSON	39					



LEGEND

- PROPERTY LINE (WILLIAMSON CENTRAL APPRAISAL DISTRICT)
- EXISTING ROW
- ROW
- LEVEL-UP AND OVERLAY
- MILL AND OVERLAY
- WIDENING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED RETAINING WALL
- SAWCUT
- TRAVEL LANE

- NOTES:**
- SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR CURVE DATA AND ADDITIONAL INFO.
 - REFER TO DRAINAGE, BRIDGE AND RETAINING WALL SHEETS FOR APPLICABLE DETAILS.
 - DIMENSION ARE TO THE LIP OF GUTTER UNLESS NOTED OTHERWISE.
 - PROVIDE 10' LENGTH CURB HEIGHT TRANSITION AT THE BEGINNING AND END OF THE TYPE II CURB AND GUTTER. REFER TO STANDARD DETAILS.
 - CONTRACTOR TO VERIFY GATE LOCATION PRIOR TO PLACEMENT



03/21/2023

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
710 Heesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

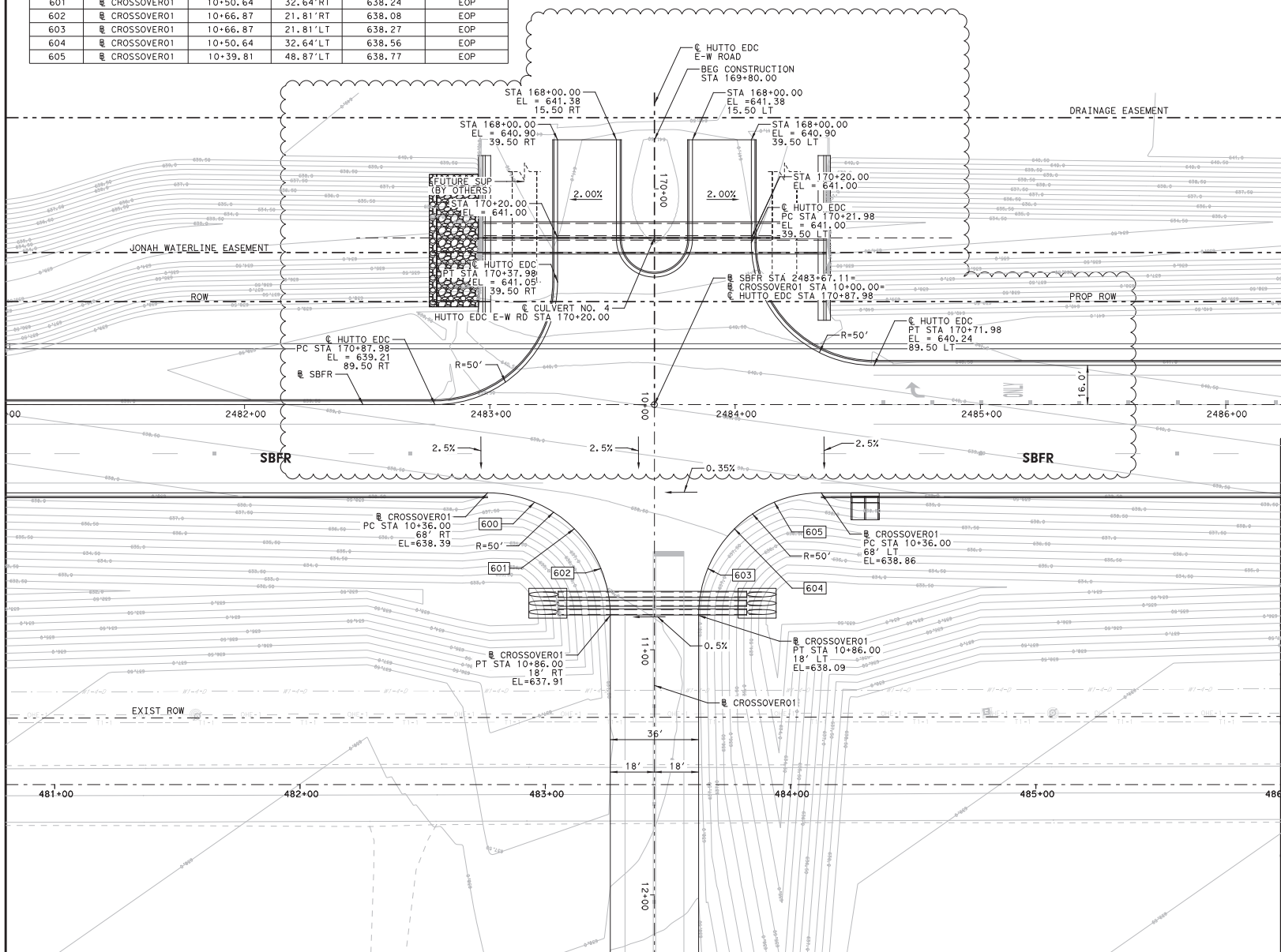
FM 3349

PLAN AND PROFILE
SBFR
STA 2481+00 TO STA 2492+00

SCALE: 1"=100'		SHEET 7 OF 12	
DESIGN	KS	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.
GRAPHICS	LG	STATE	DISTRICT
CHECK	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
	3486	01	008, ETC

ROADWAY NO.	FM 3349
SHEET NO.	197

TABLE OF POINTS - SBFR AT CROSSOVER01					
POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
600	CROSSOVER01	10+39.81	48.87' RT	638.38	EOP
601	CROSSOVER01	10+50.64	32.64' RT	638.24	EOP
602	CROSSOVER01	10+66.87	21.81' RT	638.08	EOP
603	CROSSOVER01	10+66.87	21.81' LT	638.27	EOP
604	CROSSOVER01	10+50.64	32.64' LT	638.56	EOP
605	CROSSOVER01	10+39.81	48.87' LT	638.77	EOP

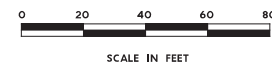


LEGEND

---	PROPERTY LINE (WILLIAMSON CENTRAL APPRAISAL DISTRICT)
---	EXISTING ROW
---	ROW
---	LEVEL-UP AND OVERLAY
---	MILL AND OVERLAY
---	PROPOSED EDGE OF PAVEMENT
---	PROPOSED RETAINING WALL
---	SAWCUT

NOTES:

- SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR CURVE DATA AND ADDITIONAL INFO.
- REFER TO DRAINAGE, BRIDGE AND RETAINING WALL SHEETS FOR APPLICABLE DETAILS.
- DIMENSION ARE TO THE LIP OF GUTTER UNLESS NOTED OTHERWISE.



03/21/2023

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY	HDR	HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754
--------------------------	------------	--



FM 3349

INTERSECTION DETAIL SBFR AT CROSSOVER01 AND HUTTO EDC E-W ROAD

SCALE: 1"=40' SHEET 1 OF 1

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KS	6			FM 3349
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
LG	TEXAS	AUS	WILLIAMSON	230
CHECK	CONTROL	SECTION	JOB	
	3486	01	008, ETC	

PLOT: DRIVER: T:\00T-PDF-BN.dwg
DATE: 2/27/2023 TIME: 2:6:9 PM
SCALE: 1/40

USER: BT00P005
FILE: Intersections Plan at SBFR-XOVER Sheet 3

CHANNEL CULVERT 1 CL "B CHANNEL1"

	STATION	NORTHING	EASTING
Element: Linear			
PT ()	94+61.06	10171323.214	3192914.549
PC ()	96+50.01	10171287.059	3193100.006
Tangent Direction:	S 78°58'06.91" E		
Tangent Length:	188.9485		
Element: Circular			
PC ()	96+50.01	10171287.059	3193100.006
PI ()	96+66.23	10171283.954	3193115.351
CC ()	10171188.907	3193080.871	
PT ()	96+82.18	10171275.974	3193130.058
Radius:	100.0000		
Delta:	18°25'55.29" Right		
Degree of Curvature(Arc):	57°17'44.81"		
Length:	32.1700		
Tangent:	16.2251		
Chord:	32.0314		
Middle Ordinate:	1.2908		
External:	1.3077		
Tangent Direction:	S 78°58'06.91" E		
Radial Direction:	S 11°01'53.09" W		
Chord Direction:	S 69°45'09.26" E		
Radial Direction:	S 29°27'48.38" W		
Tangent Direction:	S 60°32'11.62" E		
Element: Linear			
PT ()	96+82.18	10171275.974	3193130.058
PC ()	99+05.49	10171166.134	3193324.489
Tangent Direction:	S 60°32'11.62" E		
Tangent Length:	223.3115		
Element: Circular			
PC ()	99+05.49	10171166.134	3193324.489
PI ()	99+23.77	10171157.140	3193340.408
CC ()	10171079.067	3193275.302	
PT ()	99+41.66	10171143.095	3193352.115
Radius:	100.0000		
Delta:	20°43'24.18" Right		
Degree of Curvature(Arc):	57°17'44.81"		
Length:	36.1691		
Tangent:	18.2843		
Chord:	35.9723		
Middle Ordinate:	1.6308		
External:	1.6578		
Tangent Direction:	S 60°32'11.62" E		
Radial Direction:	S 29°27'48.38" W		
Chord Direction:	S 50°10'29.53" E		
Radial Direction:	S 50°11'12.56" W		
Tangent Direction:	S 39°48'47.44" E		
Element: Linear			
PT ()	99+41.66	10171143.095	3193352.115
POE ()	100+00.00	10171098.279	3193389.472
Tangent Direction:	S 39°48'47.44" E		
Tangent Length:	58.3443		

CHANNEL CULVERT 3 CL "B CHANNEL3"

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	49+75.63	10175906.536	3193555.503
PC ()	67+76.83	10174120.989	3193318.550
Tangent Direction:	262.4°		
Tangent Length:	1801.2015		
Element: Circular			
PC ()	67+76.83	10174120.989	3193318.550
PI ()	67+92.72	10174105.236	3193316.459
CC ()	10174107.834	3193417.681	
PT ()	68+08.35	10174089.611	3193319.355
Radius:	100.0000		
Delta:	18.1° Left		
Degree of Curvature(Arc):	57.3°		
Length:	31.5192		
Tangent:	15.8914		
Chord:	31.3889		
Middle Ordinate:	1.2393		
External:	1.2548		
Tangent Direction:	262.4°		
Radial Direction:	172.4°		
Chord Direction:	271.5°		
Radial Direction:	190.5°		
Tangent Direction:	280.5°		
Element: Linear			
PT ()	68+08.35	10174089.611	3193319.355
PC ()	68+34.22	10174064.176	3193324.069
Tangent Direction:	280.5°		
Tangent Length:	25.8680		
Element: Circular			
PC ()	68+34.22	10174064.176	3193324.069
PI ()	68+50.27	10174048.393	3193326.994
CC ()	10174046.952	3193225.743	
PT ()	68+66.05	10174032.489	3193324.833
Radius:	100.0000		
Delta:	18.2° Right		
Degree of Curvature(Arc):	57.3°		
Length:	31.8306		
Tangent:	16.0510		
Chord:	31.6984		
Middle Ordinate:	1.2638		
External:	1.2800		
Tangent Direction:	280.5°		
Radial Direction:	190.5°		
Chord Direction:	271.4°		
Radial Direction:	172.3°		
Tangent Direction:	262.3°		

CHANNEL CULVERT 2 CL "B CHANNEL2"

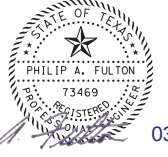
	STATION	NORTHING	EASTING
Element: Linear			
PT ()	93+91.19	10171450.771	3192932.090
PC ()	95+74.06	10171414.132	3193111.252
Tangent Direction:	S 78°26'32.24" E		
Tangent Length:	182.8704		
Element: Circular			
PC ()	95+74.06	10171414.132	3193111.252
PI ()	96+11.20	10171406.689	3193147.648
CC ()	10171316.159	3193091.217	
PT ()	96+45.19	10171377.290	3193170.357
Radius:	100.0000		
Delta:	40°45'30.43" Right		
Degree of Curvature(Arc):	57°17'44.81"		
Length:	71.1369		
Tangent:	37.1484		
Chord:	69.6464		
Middle Ordinate:	6.2592		
External:	6.3077		
Tangent Direction:	S 78°26'32.24" E		
Radial Direction:	S 11°33'27.76" W		
Chord Direction:	S 58°03'47.03" E		
Radial Direction:	S 52°18'58.18" W		
Tangent Direction:	S 37°41'01.82" E		
Element: Linear			
PT ()	96+45.19	10171377.290	3193170.357
PC ()	99+21.51	10171158.611	3193339.272
Tangent Direction:	S 37°41'01.82" E		
Tangent Length:	276.3202		
Element: Circular			
PC ()	99+21.51	10171158.611	3193339.272
PI ()	99+23.37	10171157.140	3193340.408
CC ()	10171219.741	3193418.412	
PT ()	99+25.23	10171155.713	3193341.598
Radius:	100.0000		
Delta:	2°07'45.62" Left		
Degree of Curvature(Arc):	57°17'44.81"		
Length:	3.7164		
Tangent:	1.8584		
Chord:	3.7162		
Middle Ordinate:	0.0173		
External:	0.0173		
Tangent Direction:	S 37°41'01.82" E		
Radial Direction:	S 52°18'58.18" W		
Chord Direction:	S 38°44'54.63" E		
Radial Direction:	S 50°11'12.56" W		
Tangent Direction:	S 39°48'47.44" E		
Element: Linear			
PT ()	99+25.23	10171155.713	3193341.598
POE ()	100+00.00	10171098.279	3193389.472
Tangent Direction:	S 39°48'47.44" E		
Tangent Length:	74.7702		

CHANNEL CULVERT 3 CL "B CHANNEL3" CONTINUED

	STATION	NORTHING	EASTING
Element: Linear			
PT ()	68+66.05	10174032.489	3193324.833
PC ()	85+99.62	10172314.702	3193091.426
Tangent Direction:	262.3°		
Tangent Length:	1733.5713		
Element: Circular			
PC ()	85+99.62	10172314.702	3193091.426
PI ()	86+32.82	10172281.806	3193086.956
CC ()	10172303.931	3193170.697	
PT ()	86+62.56	10172255.411	3193107.091
Radius:	80.0000		
Delta:	45.1° Left		
Degree of Curvature(Arc):	71.6°		
Length:	62.9363		
Tangent:	33.1983		
Chord:	61.3259		
Middle Ordinate:	6.1096		
External:	6.6148		
Tangent Direction:	262.3°		
Radial Direction:	172.3°		
Chord Direction:	284.8°		
Radial Direction:	217.3°		
Tangent Direction:	307.3°		
Element: Linear			
PT ()	86+62.56	10172255.411	3193107.091
PC ()	87+64.41	10172174.428	3193168.866
Tangent Direction:	307.3°		
Tangent Length:	101.8550		
Element: Circular			
PC ()	87+64.41	10172174.428	3193168.866
PI ()	87+97.74	10172147.931	3193189.078
CC ()	10172125.907	3193105.260	
PT ()	88+27.57	10172114.921	3193184.502
Radius:	80.0000		
Delta:	45.2° Right		
Degree of Curvature(Arc):	71.6°		
Length:	63.1538		
Tangent:	33.3258		
Chord:	61.5266		
Middle Ordinate:	6.1514		
External:	6.6638		
Tangent Direction:	307.3°		
Radial Direction:	217.3°		
Chord Direction:	284.7°		
Radial Direction:	172.1°		
Tangent Direction:	262.1°		

CHANNEL CULVERT 3 CL "B CHANNEL3" CONTINUED

	STATION	NORTHING	EASTING
Element: Linear			
PT ()	88+27.57	10172114.921	3193184.502
PC ()	94+11.58	10171536.437	3193104.297
Tangent Direction:	262.1°		
Tangent Length:	584.0175		
Element: Circular			
PC ()	94+11.58	10171536.437	3193104.297
PI ()	94+74.60	10171474.015	3193095.643
CC ()	10171515.837	3193252.876	
PT ()	95+30.91	10171424.142	3193134.167
Radius:	150.0000		
Delta:	45.6° Left		
Degree of Curvature(Arc):	38.2°		
Length:	119.3212		
Tangent:	63.0193		
Chord:	116.2000		
Middle Ordinate:	11.7090		
External:	12.7004		
Tangent Direction:	262.1°		
Radial Direction:	172.1°		
Chord Direction:	284.9°		
Radial Direction:	217.7°		
Tangent Direction:	307.7°		
Element: Linear			
PT ()	95+30.91	10171424.142	3193134.167
PC ()	98+66.43	10171158.611	3193339.272
Tangent Direction:	307.7°		
Tangent Length:	335.5216		
Element: Circular			
PC ()	98+66.43	10171158.611	3193339.272
PI ()	98+68.29	10171157.140	3193340.408
CC ()	10171219.741	3193418.412	
PT ()	98+70.14	10171155.713	3193341.598
Radius:	100.0000		
Delta:	2.1° Left		
Degree of Curvature(Arc):	57.3°		
Length:	3.7164		
Tangent:	1.8584		
Chord:	3.7162		
Middle Ordinate:	0.0173		
External:	0.0173		
Tangent Direction:	307.7°		
Radial Direction:	217.7°		
Chord Direction:	308.7°		
Radial Direction:	219.8°		
Tangent Direction:	309.8°		
Element: Linear			
PT ()	98+70.14	10171155.713	3193341.598
POE ()	99+44.91	10171098.279	3193389.472
Tangent Direction:	309.8°		
Tangent Length:	74.7702		



03/21/2023

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED

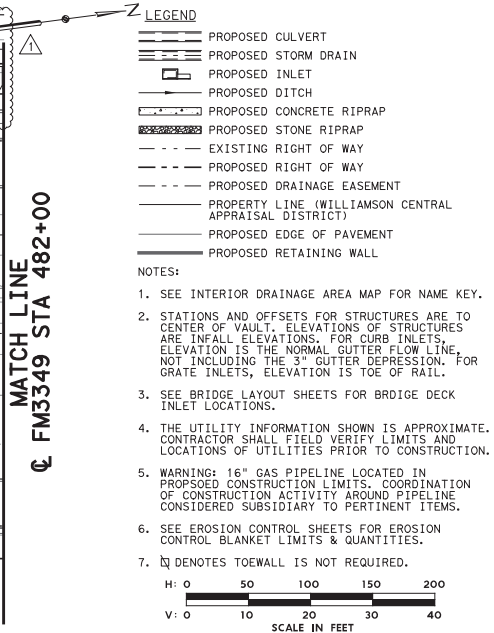
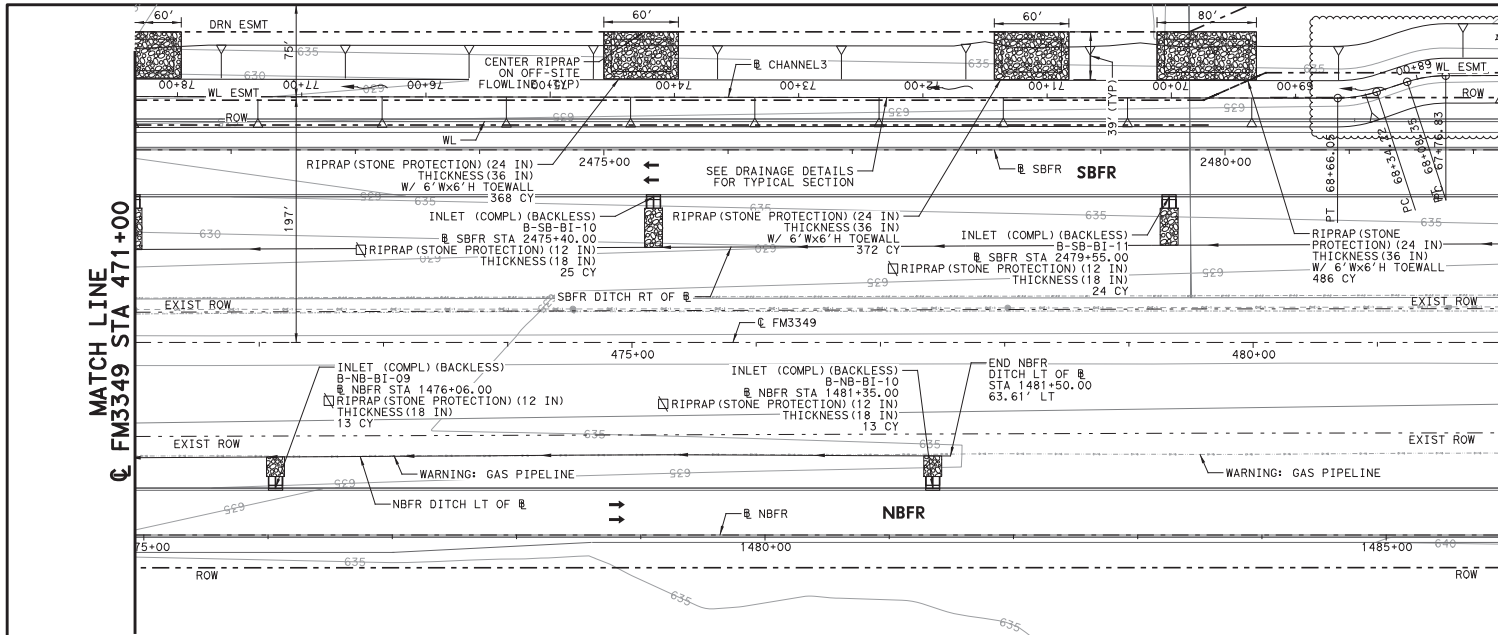


FM 3349

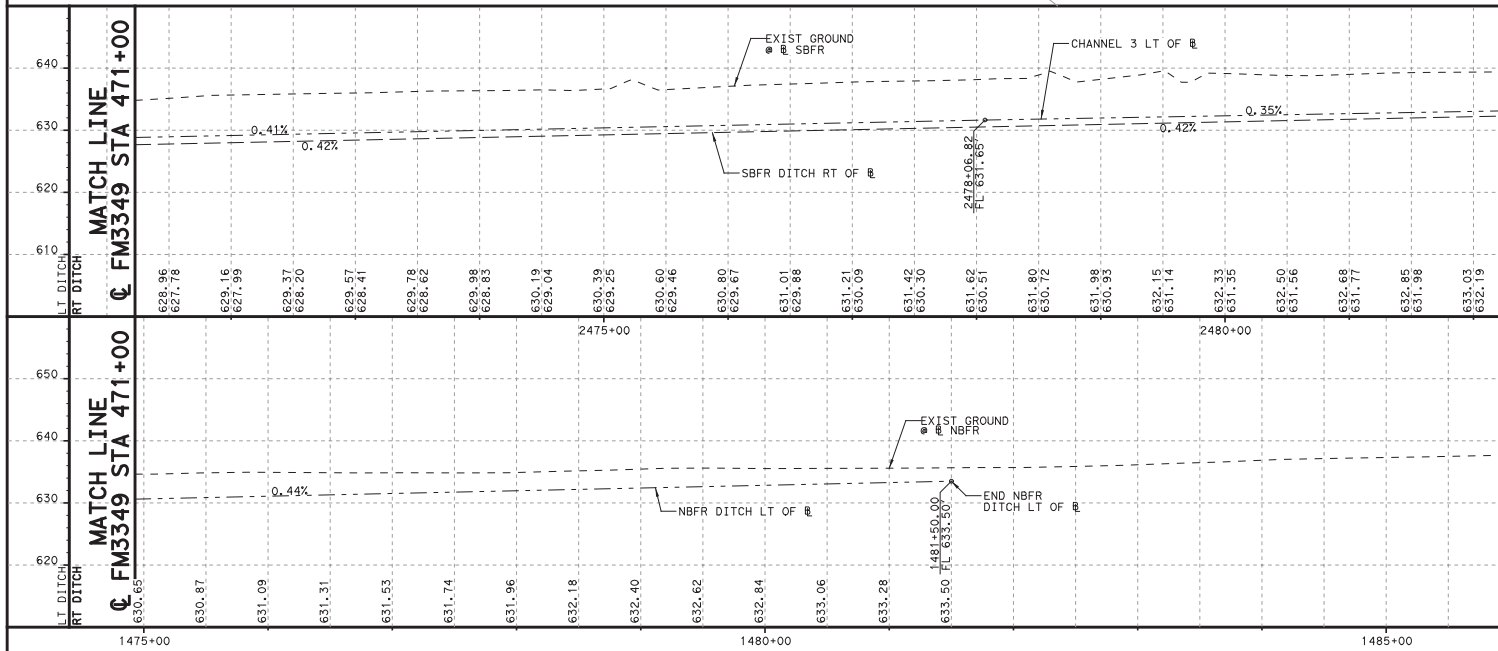
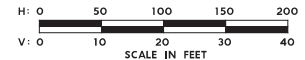
INTERIOR DRAINAGE ALIGNMENT DATA

SHEET 1 OF 2			
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
JC	6		FM 3349
GRAPHICS	STATE	DISTRICT	COUNTY
FR	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
BH	3486	01	008, ETC
CHECK	JC		

346



- NOTES:
1. SEE INTERIOR DRAINAGE AREA MAP FOR NAME KEY.
 2. STATIONS AND OFFSETS FOR STRUCTURES ARE TO CENTER OF VAULT. ELEVATIONS OF STRUCTURES ARE INFALL ELEVATIONS. FOR CURB INLETS, ELEVATION IS THE NORMAL GUTTER FLOW LINE, NOT INCLUDING THE 3" GUTTER DEPRESSION. FOR GRATE INLETS, ELEVATION IS TOE OF RAIL.
 3. SEE BRIDGE LAYOUT SHEETS FOR BRIDGE DECK INLET LOCATIONS.
 4. THE UTILITY INFORMATION SHOWN IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LIMITS AND LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
 5. WARNING: 16" GAS PIPELINE LOCATED IN PROPOSED CONSTRUCTION LIMITS. COORDINATION OF CONSTRUCTION ACTIVITY AROUND PIPELINE CONSIDERED SUBSIDIARY TO PERTINENT ITEMS.
 6. SEE EROSION CONTROL SHEETS FOR EROSION CONTROL BLANKET LIMITS & QUANTITIES.
 7. ∇ DENOTES TOEWALL IS NOT REQUIRED.



STATE OF TEXAS

PHILIP A. FULTON

REGISTERED PROFESSIONAL ENGINEER

NO. 73469

EXPIRATION DATE 03/31/2025

03/21/2023

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
710 Heesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

FM 3349

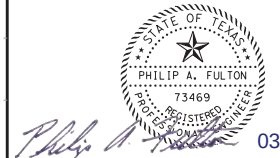
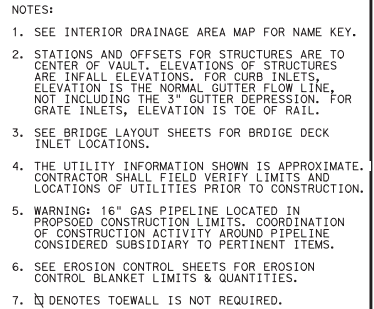
INTERIOR DRAINAGE
PLAN AND PROFILE
STA 471+00 TO STA 482+00

SCALE: 1"=100'

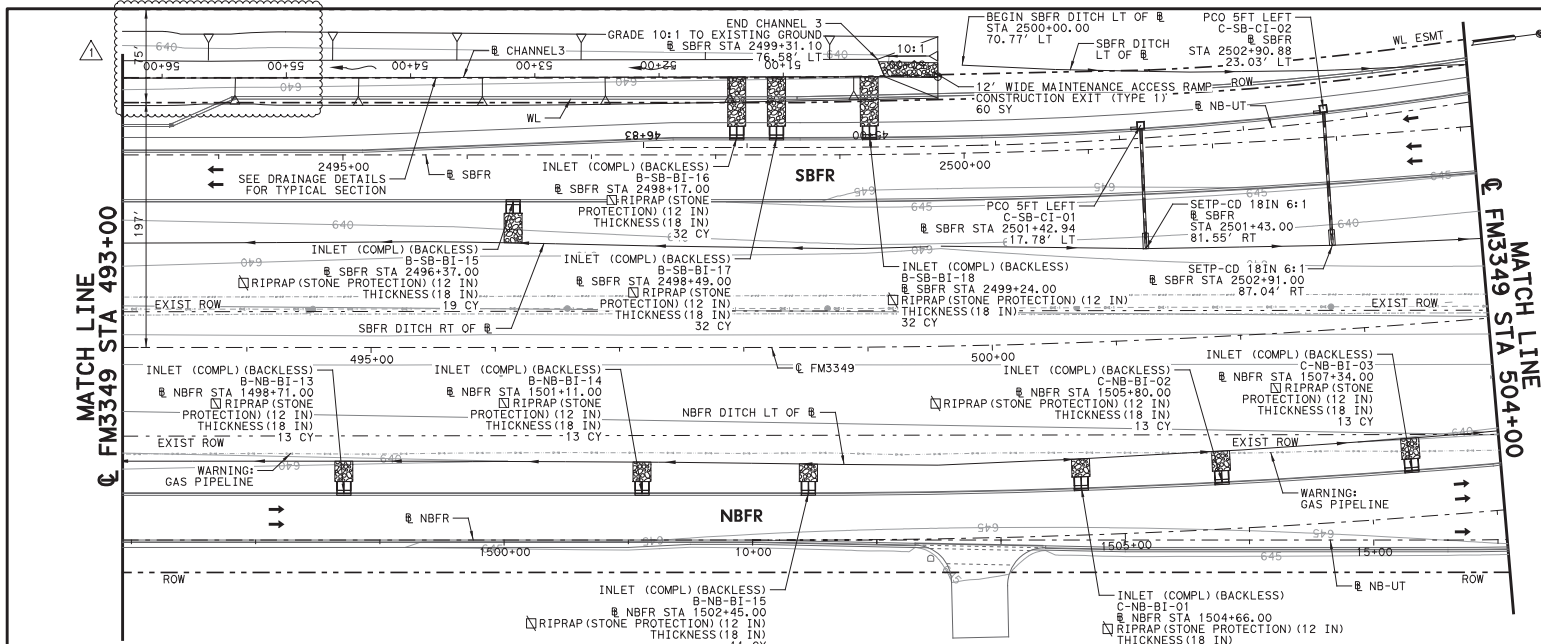
SHEET 6 OF 13

DESIGN	KS	FED. RD. DIV. NO.	6	FEDERAL AID PROJECT NO.	FM 3349
GRAPHICS	SL	STATE	TX	DISTRICT	AUS
CHECK	FT	COUNTY	WILLIAMSON	COUNTY	WILLIAMSON
CHECK	KS	CONTROL	3486	SECTION	01
				JOB	008, ETC

SHEET NO. 353



SCALE: 1" = 100'				SHEET 7 OF 13	
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.	
KS	6			FM 3349	
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.	
SL	TEXAS	AUS	WILLIAMSON		
CHECK	CONTROL	SECTION	JOB		
FT					
CHECK	3486	01	008, ETC		
KS					



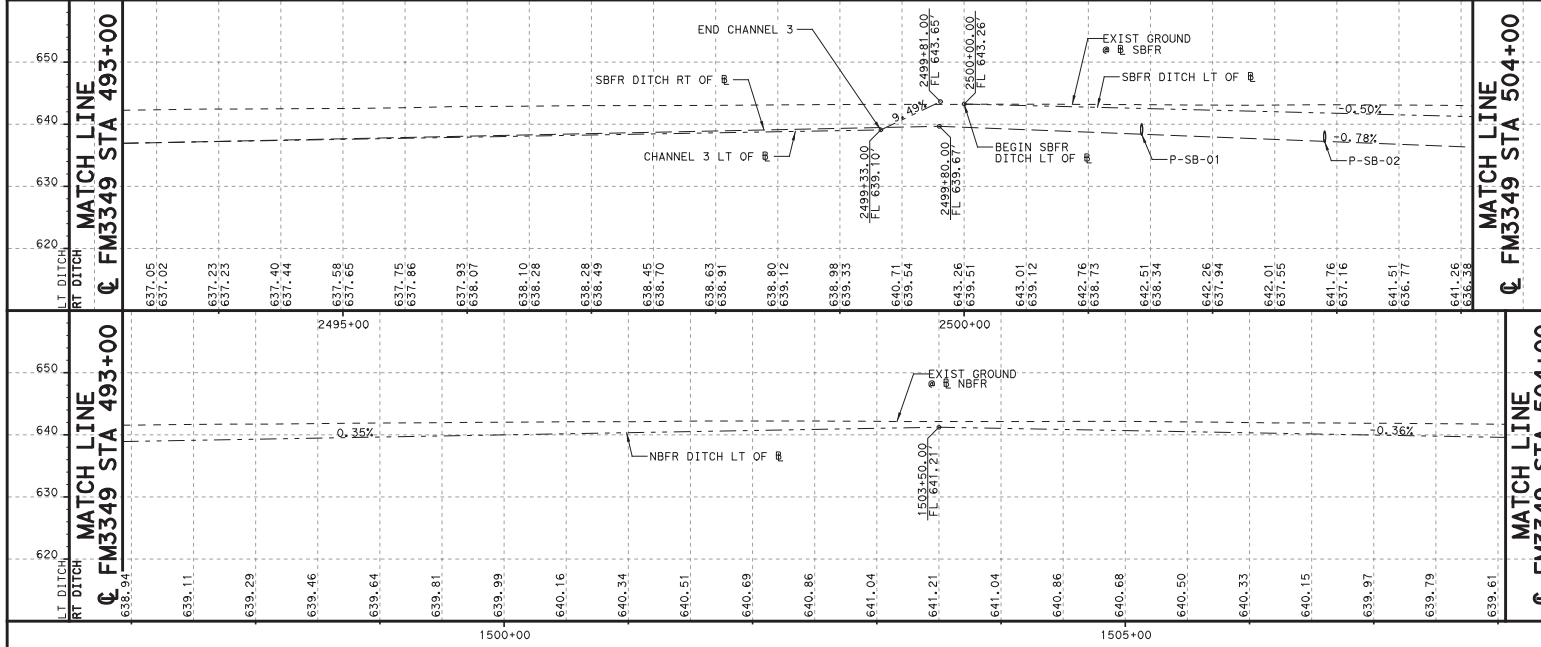
LEGEND

- PROPOSED CULVERT
- PROPOSED STORM DRAIN
- PROPOSED INLET
- PROPOSED DITCH
- PROPOSED CONCRETE RIPRAP
- PROPOSED STONE RIPRAP
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED DRAINAGE EASEMENT
- PROPERTY LINE (WILLIAMSON CENTRAL APPRAISAL DISTRICT)
- PROPOSED EDGE OF PAVEMENT
- PROPOSED RETAINING WALL

NOTES:

- SEE INTERIOR DRAINAGE AREA MAP FOR NAME KEY.
- STATIONS AND OFFSETS FOR STRUCTURES ARE TO CENTER OF VAULT. ELEVATIONS OF STRUCTURES ARE INFALL ELEVATIONS. FOR CURB INLETS, ELEVATION IS THE NORMAL GUTTER FLOW LINE, NOT INCLUDING THE 3" GUTTER DEPRESSION. FOR GRATE INLETS, ELEVATION IS TOE OF RAIL.
- SEE BRIDGE LAYOUT SHEETS FOR BRIDGE DECK INLET LOCATIONS.
- THE UTILITY INFORMATION SHOWN IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LIMITS AND LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
- WARNING: 16" GAS PIPELINE LOCATED IN PROPOSED CONSTRUCTION LIMITS. COORDINATION OF CONSTRUCTION ACTIVITY AROUND PIPELINE CONSIDERED SUBSIDIARY TO PERTINENT ITEMS.
- SEE EROSION CONTROL SHEETS FOR EROSION CONTROL BLANKET LIMITS & QUANTITIES.
- Ⓜ DENOTES TOEWALL IS NOT REQUIRED.

H: 0 50 100 150 200
V: 0 10 20 30 40
SCALE IN FEET



STATE OF TEXAS
PHILIP A. FULTON
REGISTERED PROFESSIONAL ENGINEER
73469
03/21/2023

1 2/21/23 CO #2 PAF
NO. DATE REVISION APPROVED

WILLIAMSON COUNTY
HDR HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

Texas Department of Transportation

FM 3349

**INTERIOR DRAINAGE
PLAN AND PROFILE
STA 493+00 TO STA 504+00**

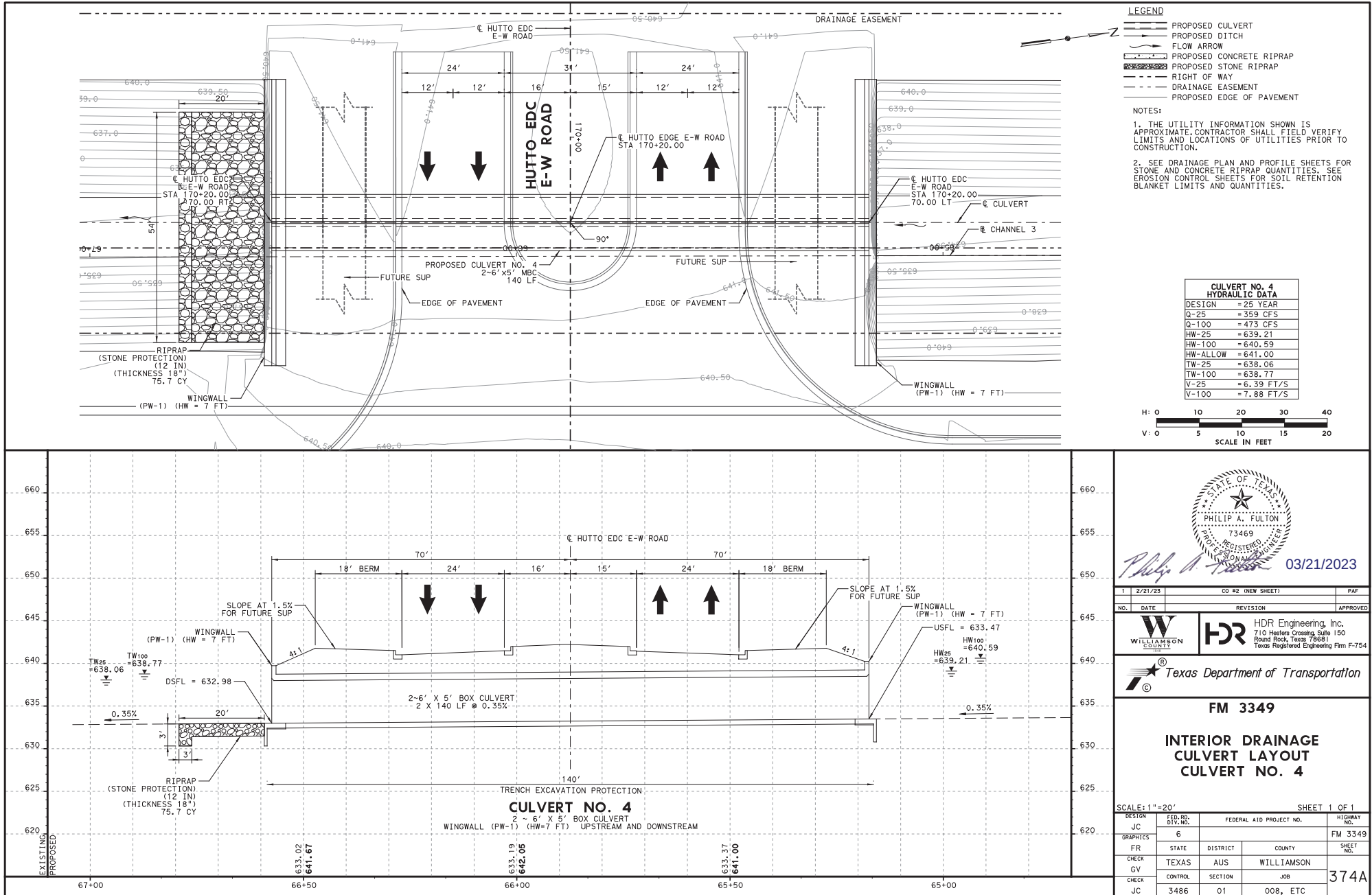
SCALE: 1"=100' SHEET 8 OF 13

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
KS	6		FM 3349

GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SL	TEXAS	AUS	WILLIAMSON	355

CHECK	CONTROL	SECTION	JOB
FT	3486	01	008, ETC

PLOT DRIVER: T:\DOT_PDF_BN.plt
USER: BRIDGES
FILE: Culvert No. 2 Profile
DATE: 2/27/2023 TIME: 2:52 PM SCALE: 1/20



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: 2/27/2023 2:16:54 PM
FILE: 01168

Culvert Station and/or Creek Name followed by applicable end (Lt, Rt or Both)	Description of Box Culvert No. Spans - Span X Height	Max Fill Height (Ft)	Applicable Box Culvert Standard ④	Applicable Wingwall or End Treatment Standard	Skew Angle (0°, 15°, 30° or 45°)	Side Slope or Channel Slope Ratio (SL:1)	T Culvert Top Slab Thickness (In)	U Culvert Wall Thickness (In)	C Estimated Curb Height (Ft)	Hw Height of Wingwall ① (Ft)	A Curb to End of Wingwall (Ft)	B Offset of End of Wingwall (Ft)	Lw Length of Longest Wingwall (Ft)	Ltw Culvert Toewall Length (Ft)	Atw Anchor Toewall Length (Ft)	Riprap Apron (CY)	Class "C" Conc (Curb) (CY)	Class "C" Conc (Wingwall) (CY)	Total Wingwall Area (SF)
SBFR CULVERT NO. 1 US (Lt+)	1 ~ 10' X 4'	8.92'	SCP-10	PW-1	0	4:1	10"	10"	4.083	8.917	N/A	N/A	35.667	11.667	N/A	0.0	1.8	41.8	636
SBFR CULVERT NO. 1 DS (Rt+)	1 ~ 10' X 4'	8.92'	SCP-10	SW-0	0	4:1	10"	10"	0.583	5.167	N/A	N/A	19.333	N/A	N/A	2.5	0.3	6.9	106
SBFR CULVERT NO. 2 US (Lt+)	2 ~ 10' X 4'	8.92'	SCP-10	PW-1	0	4:1	10"	10"	4.083	8.917	N/A	N/A	35.667	23.833	N/A	0.0	3.6	43.1	636
SBFR CULVERT NO. 2 DS (Rt+)	2 ~ 10' X 4'	8.92'	SCP-10	SW-0	0	4:1	10"	10"	0.583	5.167	N/A	N/A	19.333	N/A	N/A	6.4	0.5	6.9	106
SBFR CULVERT NO. 3 US (Lt+)	4 ~ 8' X 4'	7.45'	SCP-8	PW-1	45	4:1	8"	8"	2.625	7.292	N/A	N/A	41.248	54.919	N/A	0.0	5.3	42.3	602
SBFR CULVERT NO. 3 DS (Rt+)	4 ~ 8' X 4'	5.7'	SCP-8	PW-1	45	4:1	8"	8"	0.875	5.542	N/A	N/A	31.348	54.919	N/A	0.0	1.8	27.2	347
CR 132 B-NB-CV-01 (Both)	1 ~ 4' X 2'	1'	SCP-4	SETB-CD	0	6:1	7.5"	5"	0.250	2.625	N/A	N/A	13.750	N/A	5.167	0.0	0.0	5.0	N/A
CULVERT NO. 4 (BOTH)	2 ~ 6' X 5'	3	MC-6-16	PW-1	0	4:1	9"	7"	1.000	6.750	N/A	N/A	27.000	13.750	N/A	0.0	1.0	49.2	730



- ① Round the wall heights shown to the nearest foot for bidding purposes.
- ② Concrete volume shown is for box culvert curb only. For curbs using the Box Culvert Rail Mounting Details (RAC) standard sheet quantities shown must be increased by a factor of 2.25. If Class 5 concrete is required for the top slab of the culvert, also provide Class 5 concrete for the curb. Curb concrete is considered part of the Box Culvert for payment.
- ③ Concrete volume shown is total of wings, footings, culvert toewall (if any), anchor toewalls (if any) and wingwall toewalls. Riprap aprons, culverts, and curb quantities are not included.
- ④ Regardless of the type of culvert shown on this sheet, the Contractor has the option of furnishing cast-in-place or precast culverts unless otherwise shown elsewhere on the plans. If the Contractor elects to provide culverts of a different type than those shown on this sheet, it is the Contractor's responsibility to make the necessary adjustments to the dimensions and quantities shown.



03/21/2023

1	2/21/23	CD #2	PAP
NO.	DATE	REVISION	APPROVED

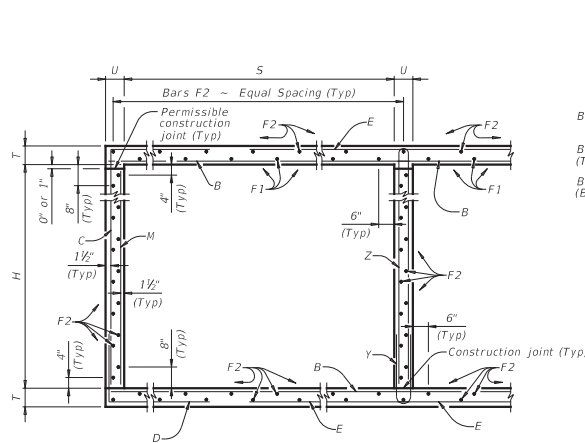


Bridge Division Standard

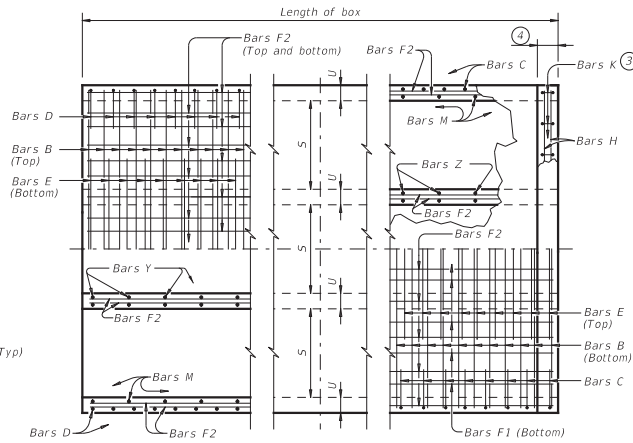
BOX CULVERT SUPPLEMENT WINGS AND END TREATMENTS

BCS

FILE:	bcsstdel-20.dgn	ON: TxDOT	CK: TxDOT	ON: TxDOT	CK: TxDOT
ON: TxDOT	February 2020	CONF	SECT	JOB	HIGHWAY
REVISIONS		3486	01	008, ETC	FM 3349
DIST	AUS	COUNTY	WILLIAMSON		
					SHEET NO. 401



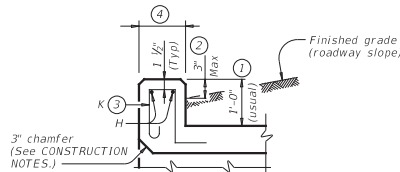
TYPICAL SECTION



BOTTOM SLAB

PART PLANS

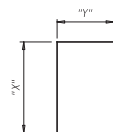
TOP SLAB



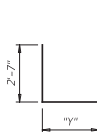
SECTION THRU CURB

**TABLE OF
BAR DIMENSIONS**

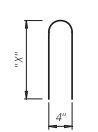
H	"X"	"Y"
2'-0"	2'-7 1/2"	4'-1"
3'-0"	3'-7 1/2"	4'-1"
4'-0"	4'-7 1/2"	4'-1"
5'-0"	5'-7 1/2"	4'-1"
6'-0"	6'-7 1/2"	4'-1"



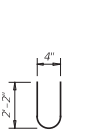
BAR C



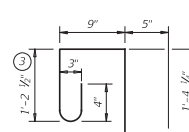
BAR D



BAR Z



BAR Y



BAR K (#4)
(Spa = 1'-0" Max)
(Length = 4'-2")

- 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
- For vehicle safety, the following requirements must be met:
 - For structures without bridge rail, construct curbs no more than 3" above finished grade.
 - For structures with bridge rail, construct curbs flush with finished grade. Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.
- 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR
Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.
If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

CONSTRUCTION NOTES:

Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed, and Bars Y and Z may be reversed.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete ($f'_c = 3,600$ psi) for culvert barrel and curb.
Provide bar laps, where required, as follows:

- Uncoated or galvanized ~ #4 = 1'-8" Min
- Uncoated or galvanized ~ #5 = 2'-1" Min
- Uncoated or galvanized ~ #6 = 2'-6" Min

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Multiple Box Culverts Cast-In-Place Miscellaneous Detail (MC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING

SHEET 1 OF 2



**MULTIPLE BOX CULVERTS
CAST-IN-PLACE
6'-0" SPAN
2' TO 20' FILL**

MC-6-20

FILE: mc620ste-20.dgn	HW: TBE	CK: BMP	HW: TxDOT	CK: TxDOT
CONTRACT: February 2020	CONTRACT: 3486	SECTION: 01	JOB: 008, ETC	PROJECT: FM 3349
DIST: AUS	COUNTY: WILLIAMSON	SHEET NO: 449A		

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED

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: 2/27/2023 2:16:56 PM
FILE: #FILE#

NUMBER OF SPANS	SECTION DIMENSIONS				BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																																								QUANTITIES					
					Bars B				Bars C & D				Bars E				Bars F1 ~ #4		Bars F2 ~ #4		Bars M ~ #4		Bars Y & Z ~ #4				Bars H 4 ~ #4		Bars K		Per Foot of Barrel		Curb		Total															
	S	H	T	U	No.	Size	Spa	Length	Wt	No.	Size	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Bars Y		Bars Z		Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)				
																																	Length	Wt	Length	Wt											Length	Wt	Length	Wt
2	6'-0"	2'-0"	8"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	6'-7"	742	6'-8"	751	108	#6	9"	6'-9"	1,095	10	18"	39'-9"	266	44	18"	39'-9"	1,168	108	9"	2'-0"	144	54	9"	4'-7"	165	5'-3"	189	13'-6"	36	30	84	0.809	167.8	1.0	120	33.4	6.830	
3	6'-0"	2'-0"	8"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	6'-7"	742	6'-8"	751	108	#6	9"	12'-9"	2,068	15	18"	39'-9"	398	63	18"	39'-9"	1,673	108	9"	2'-0"	144	108	9"	4'-7"	331	5'-3"	379	20'-1"	54	44	122	1.177	243.6	1.5	176	48.6	9,920	
4	6'-0"	2'-0"	8"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	6'-7"	742	6'-8"	751	108	#6	9"	18'-9"	3,042	20	18"	39'-9"	531	82	18"	39'-9"	2,177	108	9"	2'-0"	144	162	9"	4'-7"	496	5'-3"	568	26'-8"	71	56	156	1.545	319.4	2.0	227	63.8	13,004	
5	6'-0"	2'-0"	8"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	6'-7"	742	6'-8"	751	108	#6	9"	24'-9"	4,015	25	18"	39'-9"	664	101	18"	39'-9"	2,682	108	9"	2'-0"	144	216	9"	4'-7"	661	5'-3"	758	33'-3"	89	70	195	1.914	395.3	2.5	284	79.0	16,095	
6	6'-0"	2'-0"	8"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	6'-7"	742	6'-8"	751	108	#6	9"	30'-9"	4,988	30	18"	39'-9"	797	120	18"	39'-9"	3,186	108	9"	2'-0"	144	270	9"	4'-7"	827	5'-3"	947	39'-10"	106	82	228	2.282	471.1	3.0	334	94.2	19,178	
2	6'-0"	3'-0"	8"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	7'-7"	854	6'-8"	751	108	#6	9"	6'-9"	1,095	10	18"	39'-9"	266	50	18"	39'-9"	1,328	108	9"	3'-0"	216	54	9"	4'-7"	165	7'-3"	262	13'-6"	36	30	84	0.873	178.2	1.0	120	35.9	7,247	
3	6'-0"	3'-0"	8"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	7'-7"	854	6'-8"	751	108	#6	9"	12'-9"	2,068	15	18"	39'-9"	398	71	18"	39'-9"	1,885	108	9"	3'-0"	216	108	9"	4'-7"	331	7'-3"	523	20'-1"	54	44	122	1.263	257.1	1.5	176	52.0	10,460	
4	6'-0"	3'-0"	8"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	7'-7"	854	6'-8"	751	108	#6	9"	18'-9"	3,042	20	18"	39'-9"	531	92	18"	39'-9"	2,443	108	9"	3'-0"	216	162	9"	4'-7"	496	7'-3"	785	26'-8"	71	56	156	1.653	336.1	2.0	227	68.1	13,671	
5	6'-0"	3'-0"	8"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	7'-7"	854	6'-8"	751	108	#6	9"	24'-9"	4,015	25	18"	39'-9"	664	113	18"	39'-9"	3,000	108	9"	3'-0"	216	216	9"	4'-7"	661	7'-3"	1,046	33'-3"	89	70	195	2.043	415.0	2.5	284	84.2	16,885	
6	6'-0"	3'-0"	8"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	7'-7"	854	6'-8"	751	108	#6	9"	30'-9"	4,988	30	18"	39'-9"	797	134	18"	39'-9"	3,558	108	9"	3'-0"	216	270	9"	4'-7"	827	7'-3"	1,308	39'-10"	106	82	228	2.433	494.0	3.0	334	100.3	20,095	
2	6'-0"	4'-0"	8"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	8'-7"	967	6'-8"	751	108	#6	9"	6'-9"	1,095	10	18"	39'-9"	266	50	18"	39'-9"	1,328	108	9"	4'-0"	289	54	9"	4'-7"	165	9'-3"	334	13'-6"	36	30	84	0.938	184.6	1.0	120	38.5	7,505	
3	6'-0"	4'-0"	8"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	8'-7"	967	6'-8"	751	108	#6	9"	12'-9"	2,068	15	18"	39'-9"	398	71	18"	39'-9"	1,885	108	9"	4'-0"	289	108	9"	4'-7"	331	9'-3"	667	20'-1"	54	44	122	1.350	265.4	1.5	176	55.5	10,790	
4	6'-0"	4'-0"	8"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	8'-7"	967	6'-8"	751	108	#6	9"	18'-9"	3,042	20	18"	39'-9"	531	92	18"	39'-9"	2,443	108	9"	4'-0"	289	162	9"	4'-7"	496	9'-3"	1,001	26'-8"	71	56	156	1.761	346.2	2.0	227	72.4	14,073	
5	6'-0"	4'-0"	8"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	8'-7"	967	6'-8"	751	108	#6	9"	24'-9"	4,015	25	18"	39'-9"	664	113	18"	39'-9"	3,000	108	9"	4'-0"	289	216	9"	4'-7"	661	9'-3"	1,335	33'-3"	89	70	195	2.173	426.9	2.5	284	89.4	17,360	
6	6'-0"	4'-0"	8"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	8'-7"	967	6'-8"	751	108	#6	9"	30'-9"	4,988	30	18"	39'-9"	797	134	18"	39'-9"	3,558	108	9"	4'-0"	289	270	9"	4'-7"	827	9'-3"	1,668	39'-10"	106	82	228	2.584	507.7	3.0	334	106.3	20,641	
2	6'-0"	5'-0"	8"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	9'-7"	1,080	6'-8"	751	108	#6	9"	6'-9"	1,095	10	18"	39'-9"	266	56	18"	39'-9"	1,487	108	9"	5'-0"	361	54	9"	4'-7"	165	11'-3"	406	13'-6"	36	30	84	1.003	195.0	1.0	120	41.1	7,921	
3	6'-0"	5'-0"	8"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	9'-7"	1,080	6'-8"	751	108	#6	9"	12'-9"	2,068	15	18"	39'-9"	398	79	18"	39'-9"	2,098	108	9"	5'-0"	361	108	9"	4'-7"	331	11'-3"	812	20'-1"	54	44	122	1.436	278.9	1.5	176	58.9	11,333	
4	6'-0"	5'-0"	8"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	9'-7"	1,080	6'-8"	751	108	#6	9"	18'-9"	3,042	20	18"	39'-9"	531	102	18"	39'-9"	2,708	108	9"	5'-0"	361	162	9"	4'-7"	496	11'-3"	1,217	26'-8"	71	56	156	1.869	362.8	2.0	227	76.7	14,739	
5	6'-0"	5'-0"	8"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	9'-7"	1,080	6'-8"	751	108	#6	9"	24'-9"	4,015	25	18"	39'-9"	664	125	18"	39'-9"	3,319	108	9"	5'-0"	361	216	9"	4'-7"	661	11'-3"	1,623	33'-3"	89	70	195	2.302	446.7	2.5	284	94.6	18,152	
6	6'-0"	5'-0"	8"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	9'-7"	1,080	6'-8"	751	108	#6	9"	30'-9"	4,988	30	18"	39'-9"	797	148	18"	39'-9"	3,930	108	9"	5'-0"	361	270	9"	4'-7"	827	11'-3"	2,029	39'-10"	106	82	228	2.736	530.6	3.0	334	112.4	21,559	
2	6'-0"	6'-0"	8"	7"	108	#6	9"	13'-6"	2,190	108	#5	9"	10'-7"	1,192	6'-8"	751	108	#6	9"	6'-9"	1,095	10	18"	39'-9"	266	62	18"	39'-9"	1,646	108	9"	6'-0"	433	54	9"	4'-7"	165	13'-3"	478	13'-6"	36	30	84	1.068	205.4	1.0	120	43.7	8,336	
3	6'-0"	6'-0"	8"	7"	108	#6	9"	20'-1"	3,258	108	#5	9"	10'-7"	1,192	6'-8"	751	108	#6	9"	12'-9"	2,068	15	18"	39'-9"	398	87	18"	39'-9"	2,310	108	9"	6'-0"	433	108	9"	4'-7"	331	13'-3"	956	20'-1"	54	44	122	1.523	292.4	1.5	176	62.4	11,873	
4	6'-0"	6'-0"	8"	7"	108	#6	9"	26'-8"	4,326	108	#5	9"	10'-7"	1,192	6'-8"	751	108	#6	9"	18'-9"	3,042	20	18"	39'-9"	531	112	18"	39'-9"	2,974	108	9"	6'-0"	433	162	9"	4'-7"	496	13'-3"	1,434	26'-8"	71	56	156	1.977	379.5	2.0	227	81.1	15,406	
5	6'-0"	6'-0"	8"	7"	108	#6	9"	33'-3"	5,394	108	#5	9"	10'-7"	1,192	6'-8"	751	108	#6	9"	24'-9"	4,015	25	18"	39'-9"	664	137	18"	39'-9"	3,638	108	9"	6'-0"	433	216	9"	4'-7"	661	13'-3"	1,912	33'-3"	89	70	195	2.432	466.5	2.5	284	99.8	18,944	
6	6'-0"	6'-0"	8"	7"	108	#6	9"	39'-10"	6,462	108	#5	9"	10'-7"	1,192	6'-8"	751	108	#6	9"	30'-9"	4,988	30	18"	39'-9"	797	162	18"	39'-9"	4,302	108	9"	6'-0"	433	270	9"	4'-7"	827	13'-3"	2,390	39'-10"	106	82	228	2.887	553.6	3.0	334	118.4	22,476	

HL93 LOADING SHEET 2 OF 2

				Bridge Division Standard							
MULTIPLE BOX CULVERTS CAST-IN-PLACE 6'-0" SPAN 2' TO 20' FILL MC-6-20											
FILE: mc620ste-20.dgn				CON: TBE		CON: BNP		CON: TxDOT		CON: TxDOT	
CON: TxDOT February											

DISC-1108-8
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.

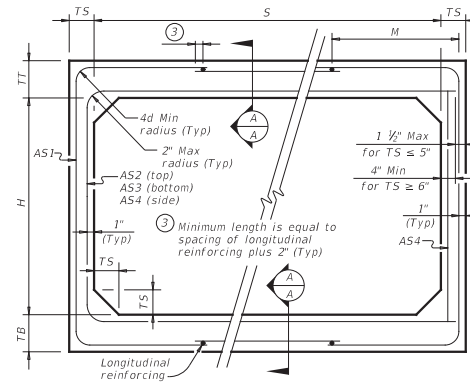
DATE: 2/27/2023 2:16:58 PM
FILE: 01168

BOX DATA

SECTION DIMENSIONS					Fill Height (ft.)	M (Min) (in.)	REINFORCING (sq. in. / ft.) ^②								① Lift Weight (tons)
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)			AS1	AS2	AS3	AS4	AS5	AS7	AS8		
6	2	8	7	7	< 2	-	0.23	0.27	0.19	0.17	0.19	0.19	0.17	7.2	
6	2	7	7	7	2 < 3	43	0.25	0.21	0.17	0.17	-	-	-	6.8	
6	2	7	7	7	3 - 5	43	0.20	0.17	0.17	0.17	-	-	-	6.8	
6	2	7	7	7	10	39	0.20	0.17	0.17	0.17	-	-	-	6.8	
6	2	7	7	7	15	39	0.26	0.20	0.20	0.17	-	-	-	6.8	
6	2	7	7	7	20	39	0.34	0.26	0.26	0.17	-	-	-	6.8	
6	2	7	7	7	25	39	0.43	0.32	0.32	0.17	-	-	-	6.8	
6	2	7	7	7	30	39	0.52	0.38	0.39	0.17	-	-	-	6.8	
6	3	8	7	7	< 2	-	0.20	0.31	0.22	0.17	0.19	0.19	0.17	7.9	
6	3	7	7	7	2 < 3	43	0.21	0.24	0.19	0.17	-	-	-	7.5	
6	3	7	7	7	3 - 5	39	0.17	0.18	0.17	0.17	-	-	-	7.5	
6	3	7	7	7	10	39	0.17	0.18	0.19	0.17	-	-	-	7.5	
6	3	7	7	7	15	38	0.22	0.24	0.24	0.17	-	-	-	7.5	
6	3	7	7	7	20	38	0.28	0.31	0.31	0.17	-	-	-	7.5	
6	3	7	7	7	25	38	0.35	0.38	0.39	0.17	-	-	-	7.5	
6	3	7	7	7	30	38	0.42	0.46	0.46	0.17	-	-	-	7.5	
6	4	8	7	7	< 2	-	0.19	0.34	0.25	0.17	0.19	0.19	0.17	8.6	
6	4	7	7	7	2 < 3	43	0.19	0.27	0.21	0.17	-	-	-	8.2	
6	4	7	7	7	3 - 5	39	0.17	0.21	0.19	0.17	-	-	-	8.2	
6	4	7	7	7	10	39	0.17	0.20	0.21	0.17	-	-	-	8.2	
6	4	7	7	7	15	38	0.18	0.27	0.27	0.17	-	-	-	8.2	
6	4	7	7	7	20	38	0.24	0.34	0.35	0.17	-	-	-	8.2	
6	4	7	7	7	25	38	0.29	0.43	0.42	0.17	-	-	-	8.2	
6	4	7	7	7	30	38	0.35	0.51	0.52	0.17	-	-	-	8.2	
6	5	8	7	7	< 2	-	0.19	0.37	0.28	0.17	0.19	0.19	0.17	9.3	
6	5	7	7	7	2 < 3	43	0.17	0.30	0.24	0.17	-	-	-	8.9	
6	5	7	7	7	3 - 5	43	0.17	0.23	0.21	0.17	-	-	-	8.9	
6	5	7	7	7	10	39	0.17	0.22	0.23	0.17	-	-	-	8.9	
6	5	7	7	7	15	38	0.17	0.28	0.29	0.17	-	-	-	8.9	
6	5	7	7	7	20	38	0.20	0.37	0.38	0.17	-	-	-	8.9	
6	5	7	7	7	25	38	0.25	0.45	0.46	0.17	-	-	-	8.9	
6	5	7	7	7	30	38	0.30	0.54	0.55	0.17	-	-	-	8.9	
6	6	8	7	7	< 2	-	0.19	0.38	0.30	0.17	0.19	0.19	0.17	10	
6	6	7	7	7	2 < 3	52	0.17	0.32	0.26	0.17	-	-	-	9.6	
6	6	7	7	7	3 - 5	52	0.17	0.24	0.22	0.17	-	-	-	9.6	
6	6	7	7	7	10	43	0.17	0.23	0.24	0.17	-	-	-	9.6	
6	6	7	7	7	15	39	0.17	0.29	0.31	0.17	-	-	-	9.6	
6	6	7	7	7	20	39	0.18	0.38	0.39	0.17	-	-	-	9.6	
6	6	7	7	7	25	38	0.23	0.46	0.48	0.17	-	-	-	9.6	
6	6	7	7	7	30	38	0.27	0.55	0.57	0.17	-	-	-	9.6	

⁽¹⁾ For box length = 8'-0"

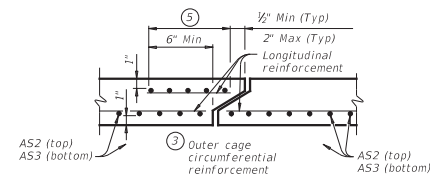
⁽²⁾ AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A"

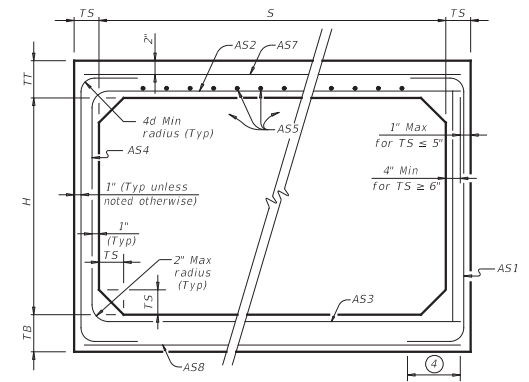
CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER



SECTION A-A

(Showing top and bottom slab joint reinforcement.)



CORNER OPTION "A"

CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

⁽⁴⁾ Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)

MATERIAL NOTES:

Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.

Provide Class H concrete ($f'_c = 5,000$ psi).

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING



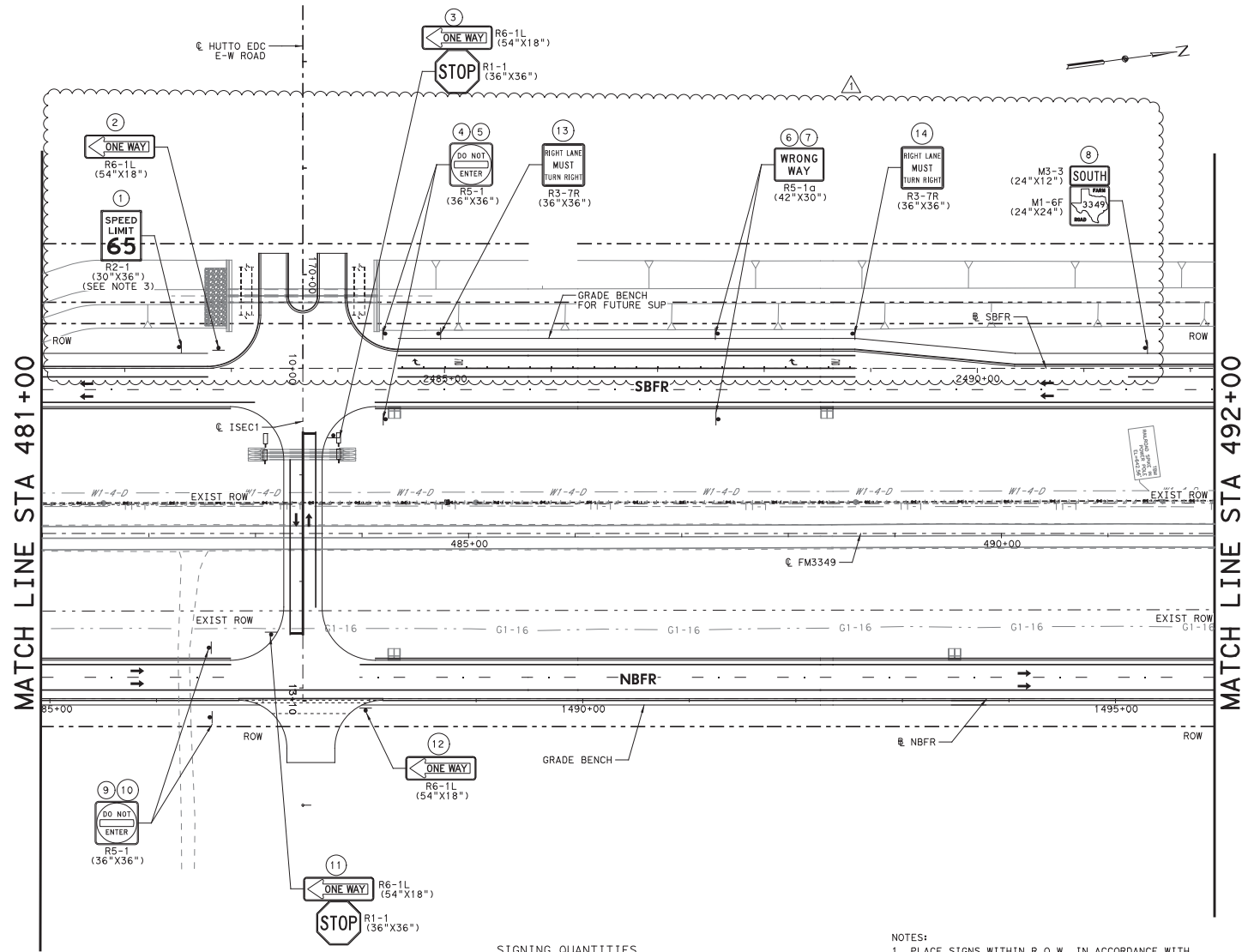
Bridge
Division
Standard

SINGLE BOX CULVERTS PRECAST 6'-0" SPAN

SCP-6

FILE: scp06sts-20.dgn	DN: TxDOT	CR: TxDOT	DN: TxDOT	CR: TxDOT
DATE: February 2020	CONF: 01	SECT: 008, ETC	JOB: FM 3349	HIGHWAY: 449C
REVISIONS	DIST: AUS	COUNTY: WILLIAMSON	SHEET NO: 449C	

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED



- LEGEND**
- [#] PROPOSED LARGE SIGN NO.
 - [#] PROPOSED SMALL SIGN NO.
 - [X] EXISTING SIGN REMOVAL NO.
 - [X] EXISTING SIGN REMOVAL
 - [X] EXISTING SMALL SIGN
 - [X] EXISTING LARGE GROUND MOUNTED SIGN
 - [X] PROPOSED SMALL SIGN
 - [X] PROPOSED LARGE GROUND MOUNTED SIGN
 - [X] OVERHEAD SIGN BRIDGE
 - [X] DIRECTION OF TRAVEL
 - RIGHT OF WAY



1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED

WILLIAMSON COUNTY

HDR Engineering, Inc.
 710 Hesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754



FM 3349
SIGNING LAYOUT
FM 3349
STA 481+00 TO STA 492+00

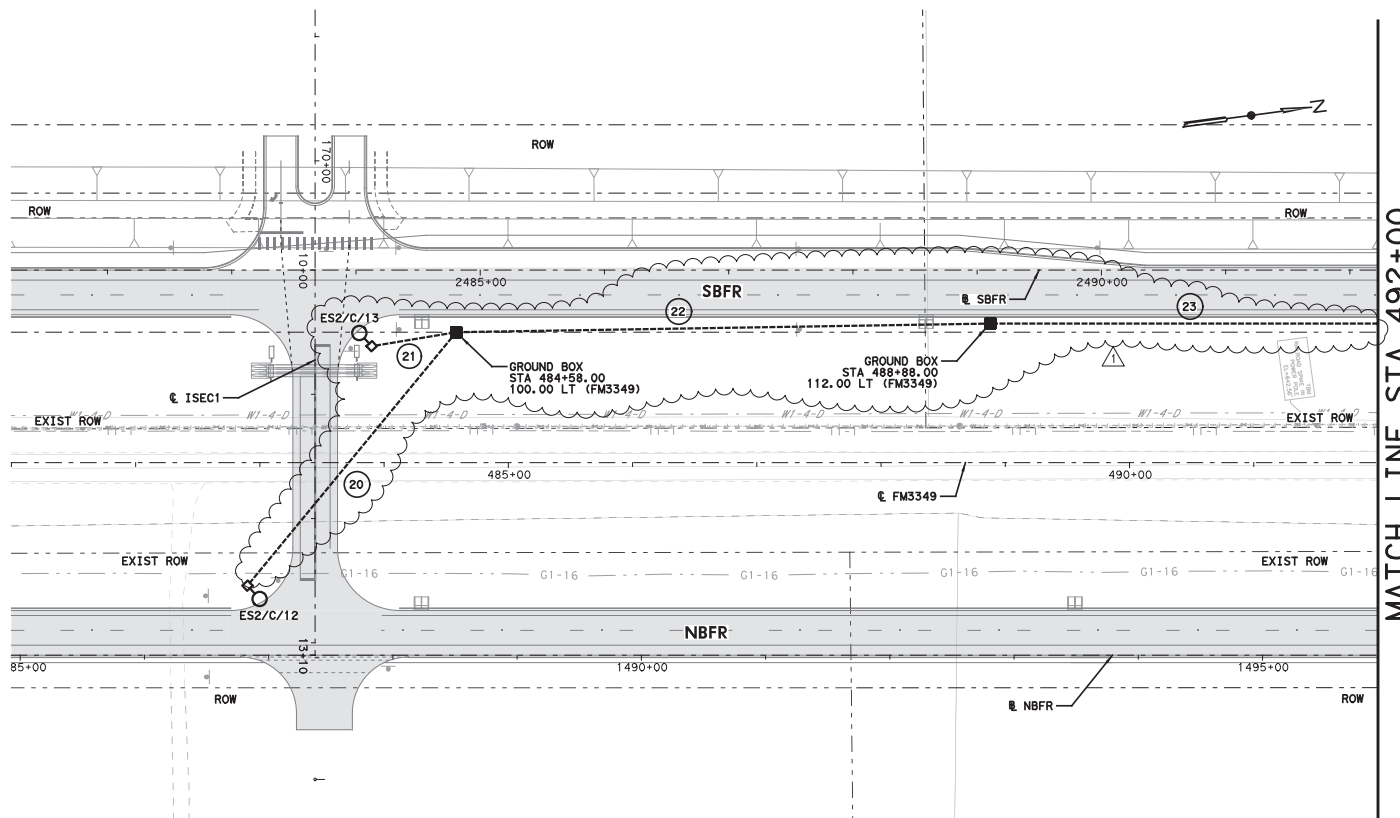
SCALE: 1"=100' SHEET 7 OF 14

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
TG	6			FM 3349
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SF	TEXAS	AUS	WILLIAMSON	642
CHECK	CONTROL	SECTION	JOB	
FT	3486	01	008, ETC	
CHECK				
TG				

SIGNING QUANTITIES

ITEM NO.	TXDOT SPECS	DESCRIPTION	UNIT	TOTAL
644	6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	2
644	6002	IN SM RD SN SUP&AM TY10BWG(1)SA(P-BM)	EA	2
644	6004	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	EA	8
644	6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	2

- NOTES:**
1. PLACE SIGNS WITHIN R.O.W. IN ACCORDANCE WITH TXDOT STANDARDS AND SPECIFICATIONS.
 2. INSTALL SIGN POSTS ON OUTSIDE OF FM 3349 ROADWAY TO PROVIDE 2' CLEAR OF GRADE BENCH, AS SHOWN IN LAYOUT.
 3. COORDINATE WITH TXDOT TO CONFIRM SPEED LIMIT.



MATCH LINE STA 492+00

ILLUMINATION LEGEND

- FUTURE TxDOT STANDARD ILLUMINATION ASSEMBLY, 40' MOUNTING HEIGHT, 10 FT. LUMINAIRE ARM, (1) LED LUMINAIRE (250W EQ), SHOE BASE TO BRIDGE BLISTER, TYPE III DISTRIBUTION
- FUTURE TxDOT STANDARD ILLUMINATION ASSEMBLY, 40' MOUNTING HEIGHT, 10 FT. LUMINAIRE ARM, (1) LED LUMINAIRE (250W EQ), SHOE BASE TO RETAINING WALL LIGHTING BRACKET, TYPE III DISTRIBUTION
- TxDOT STANDARD ILLUMINATION ASSEMBLY, 40' MOUNTING HEIGHT, 10 FT. LUMINAIRE ARM, (1) LED LUMINAIRE (250W EQ), TRANSFORMER BASE, TYPE III DISTRIBUTION
- TxDOT STANDARD TYPE II UNDERPASS ILLUMINATION ASSEMBLY, TYPE III DISTRIBUTION
- ELECTRICAL SERVICE ASSEMBLY, TYPE A, 240/480 VOLT, 1 PHASE, STEEL POLE
- GROUND BOX WITH APRON (NEMA 3R)
- GROUND BOX (NEMA 3R)
- JUNCTION BOX (NEMA 3R)
- DISCONNECT SWITCH (NEMA 3R)
- CONDUCTORS IN CONDUIT RUN (RIGID METAL CONDUIT)
- CONDUCTORS IN CONDUIT RUN (EMBEDDED IN BRIDGE STRUCTURE)
- CONDUCTORS IN CONDUIT RUN (TRENCH)
- CONDUCTORS IN CONDUIT RUN (BORED)
- CONDUCTORS/CONDUIT SEGMENT NO.
- ILLUMINATION ASSEMBLY DESIGNATION
- SERVICE POINT CIRCUIT DESIGNATION
- ELECTRICAL SERVICE DESIGNATION

CONDUCTORS AND CONDUIT SUMMARY									
SERVICE	CIRCUIT	SEGMENT NO.	SEGMENT LENGTH (LF)	CONDUIT (LF)		CONDUCTORS (LF)		NOTES	
				0618-6023	0620-6007	0620-6007	0620-6008		
				2" PVC	SB BARE (GROUND)	SB XHHW (POWER)			
ES2	C	20	264	1 X 264 = 264	1 X 269 = 269	2 X 269 = 538			
ES2	C	21	69	1 X 69 = 69	1 X 74 = 74	2 X 74 = 148			
ES2	C	22	430	1 X 430 = 430	1 X 435 = 435	2 X 435 = 870			
ES2	C	23	312	1 X 312 = 312	1 X 317 = 317	2 X 317 = 634			
SHEET TOTAL				1075	1095	2190			

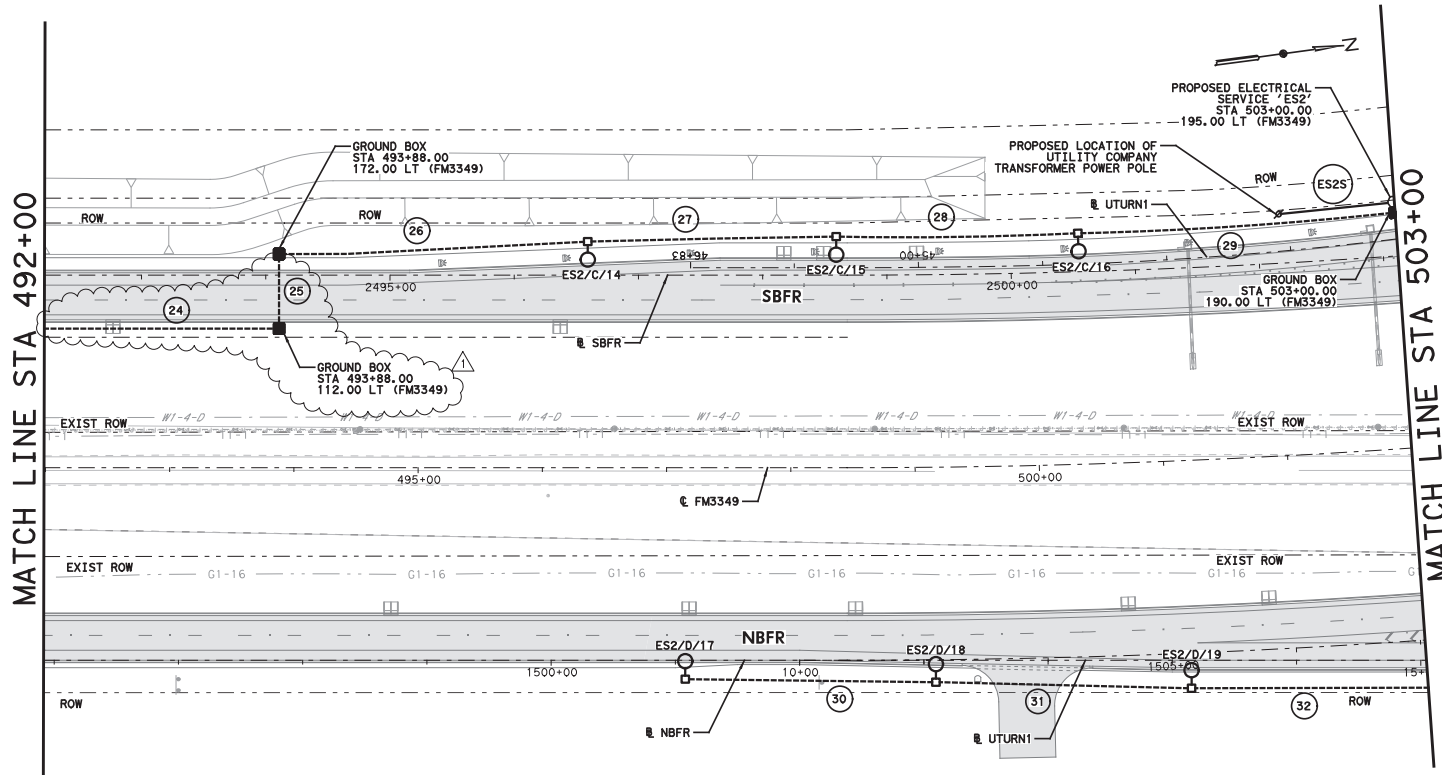
ROADWAY ILLUMINATION ASSEMBLY SUMMARY					
SERVICE	POLE NO.	CIRCUIT	STATION	OFFSET	ASSEMBLY TYPE
ES2	12	C	482+90.00	99.00 RT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED
ES2	13	C	483+90.00	93.75 LT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED

SHEET SUMMARY OF ESTIMATED QUANTITIES			
ITEM#	DESCRIPTION	UNIT	QTY
0416 6029	DRILL SHAFT (ROWY ILL POLE) (30 IN)	LF	14
0432 6001	RTPRAP (CONC) 14 IN	CY	1.26
0610 6216	IN RD ILL (TY SA) 40T-10 (250W EQ) LED	EA	2
0618 6023	CONDIT (PVC) (SCH 40) (2")	LF	1075
0620 6007	ELEC CONDR (NO. 8) BARE	LF	1095
0620 6008	ELEC CONDR (NO. 8) INSULATED	LF	2190
0624 6002	GROUND BOX TY A (122311) W/APRON	EA	2

GENERAL NOTES:

- ALL WORK SHALL BE COMPLETED ACCORDING TO THE MOST CURRENT TxDOT STANDARDS, UTILITY COMPANY STANDARDS, AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES THE EXACT LOCATION OF EXISTING/PROPOSED UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT OR DAMAGE TO THE UTILITIES. THE CONTRACTOR SHALL SEEK THE APPROVAL OF THE ENGINEER AND ADJUST THE OFFSETS TO AVOID DAMAGE TO THE EXISTING/PROPOSED UTILITIES.
- REFER TO ILLUMINATION SUMMARIES, SCHEMATICS, AND TxDOT STANDARDS FOR ADDITIONAL INFORMATION.
- PROPOSED ABOVE GROUND NEMA 3R JUNCTION BOXES SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS.
- PROVIDE CONDUIT EXPANSION AND DEFLECTION COUPLING PRIOR TO ENTERING BRIDGE MOUNTED JUNCTION BOX FOR TRANSITION FROM UNDERGROUND CONDUIT TO BRIDGE EMBEDDED CONDUIT. COUPLING SHALL ALLOW FOR A MAXIMUM OF 4" HORIZONTAL AND VERTICAL MOVEMENT.
- REFER TO BRIDGE DRAWINGS FOR EXACT LOCATION OF BRIDGE MOUNTED ILLUMINATION ASSEMBLIES AND ASSOCIATED INSTALLATION DETAILS.

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED
HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
FM 3349			
ILLUMINATION PLAN			
STA 481+00 TO STA 492+00			
SCALE: 1"=100'			
SHEET 4 OF 11			
DESIGN GRM	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS GRM	STATE	DISTRICT	COUNTY
CHECK PKD	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
PKD	3486	01	008, ETC
			FM 3349
			SHEET NO.
			701



ILLUMINATION LEGEND

- FUTURE TxDOT STANDARD ILLUMINATION ASSEMBLY, 40' MOUNTING HEIGHT, 10 FT. LUMINAIRE ARM, (1) LED LUMINAIRE (250W EQ), SHOE BASE TO BRIDGE BLISTER, TYPE III DISTRIBUTION
- FUTURE TxDOT STANDARD ILLUMINATION ASSEMBLY, 40' MOUNTING HEIGHT, 10 FT. LUMINAIRE ARM, (1) LED LUMINAIRE (250W EQ), SHOE BASE TO RETAINING WALL LIGHTING BRACKET, TYPE III DISTRIBUTION
- TxDOT STANDARD ILLUMINATION ASSEMBLY, 40' MOUNTING HEIGHT, 10 FT. LUMINAIRE ARM, (1) LED LUMINAIRE (250W EQ), TRANSFORMER BASE, TYPE III DISTRIBUTION
- TxDOT STANDARD TYPE II UNDERPASS ILLUMINATION ASSEMBLY, (1) LED LUMINAIRE (150W EQ), TYPE III DISTRIBUTION
- ELECTRICAL SERVICE ASSEMBLY, TYPE A, 240/480 VOLT, 1 PHASE, STEEL POLE
- GROUND BOX WITH APRON (NEMA 3R)
- GROUND BOX (NEMA 3R)
- JUNCTION BOX (NEMA 3R)
- DISCONNECT SWITCH (NEMA 3R)
- CONDUCTORS IN CONDUIT RUN (RIGID METAL CONDUIT)
- CONDUCTORS IN CONDUIT RUN (EMBEDDED IN BRIDGE STRUCTURE)
- CONDUCTORS IN CONDUIT RUN (TRENCH)
- CONDUCTORS IN CONDUIT RUN (BORED)
- CONDUCTORS/CONDUIT SEGMENT NO.
- ILLUMINATION ASSEMBLY DESIGNATION
- SERVICE POINT CIRCUIT DESIGNATION
- ELECTRICAL SERVICE DESIGNATION

CONDUCTORS AND CONDUIT SUMMARY									
SERVICE	CIRCUIT	SEGMENT NO.	SEGMENT LENGTH (LF)	CONDUIT (LF)		CONDUCTORS (LF)		NOTES	
				0618-6023		0620-6007			
				2" PVC SCH 40	#8 BARE (GROUND)	#8 XHHW (POWER)			
ES2	C	24	188	1 X 188 = 188	1 X 193 = 193	2 X 193 = 386			
ES2	C	25	78	1 X 78 = 78	1 X 83 = 83	2 X 83 = 166			
ES2	C	26	249	1 X 249 = 249	1 X 254 = 254	2 X 254 = 508			
ES2	C	27	200	1 X 200 = 200	1 X 205 = 205	2 X 205 = 410			
ES2	C	28	200	1 X 200 = 200	1 X 205 = 205	2 X 205 = 410			
ES2	C	29	256	1 X 256 = 256	1 X 261 = 261	2 X 261 = 522			
ES2	D	30	202	1 X 202 = 202	1 X 207 = 207	2 X 207 = 414			
ES2	D	31	205	1 X 205 = 205	1 X 210 = 210	2 X 210 = 420			
ES2	D	32	190	1 X 190 = 190	1 X 195 = 195	2 X 195 = 390			
SHEET TOTAL				1768	1813	3626			

NOTE:
1) AERIAL SERVICE DROP (CONDUCTORS, SERVICE GRIPS, AND SERVICE CONNECTORS) OWNED, INSTALLED AND CONNECTED TO SERVICE ENTRANCE CONDUCTORS BY UTILITY COMPANY. COORDINATE WITH UTILITY COMPANY REQUIREMENTS.

SHEET SUMMARY OF ESTIMATED QUANTITIES				
ITEM#	DESCRIPTION	UNIT	QTY	
0416 6029	DRILL SHAFT (ROWY ILL POLE) (30 IN)	LF	2.66	
0432 6001	RIPRAP (CONC) (4 IN)	CY	2.66	
0610 6216	IN RD IL (TY SA) 40T-10 (250W EQ) LED	EA	6	
0618 6023	CONDIT (PVC) (SCH 40) (2")	LF	1768	
0620 6007	ELEC CONDOR (NO. 8) BARE	LF	1813	
0620 6008	ELEC CONDOR (NO. 8) INSULATED	LF	3626	
0624 6002	GROUND BOX TY A (122311) W/APRON	EA	3	
0628 6049	ELC SRV TY A 240/480 060 (NS) SS (T) SP (O)	EA	3	

ROADWAY ILLUMINATION ASSEMBLY SUMMARY					
SERVICE	POLE NO.	CIRCUIT	STATION	OFFSET	ASSEMBLY TYPE
ES2	14	C	496+36.50	182.00 LT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED
ES2	15	C	498+36.50	186.00 LT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED
ES2	16	C	500+36.50	186.00 LT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED
ES2	17	D	497+15.00	170.25 RT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED
ES2	18	D	499+15.00	173.00 RT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED
ES2	19	D	501+15.00	183.25 RT (FM3349)	(TYPE SA 40 T-10 (250W EQ) LED

GENERAL NOTES:

- ALL WORK SHALL BE COMPLETED ACCORDING TO THE MOST CURRENT TxDOT STANDARDS, UTILITY COMPANY STANDARDS, AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES THE EXACT LOCATION OF EXISTING/PROPOSED UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT OR DAMAGE TO THE UTILITIES. THE CONTRACTOR SHALL SEEK THE APPROVAL OF THE ENGINEER AND ADJUST THE OFFSETS TO AVOID DAMAGE TO THE EXISTING/PROPOSED UTILITIES.
- REFER TO ILLUMINATION SUMMARIES, SCHEMATICS, AND TxDOT STANDARDS FOR ADDITIONAL INFORMATION.
- PROPOSED ABOVE GROUND NEMA 3R JUNCTION BOXES SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS.
- PROVIDE CONDUIT EXPANSION AND DEFLECTION COUPLING PRIOR TO ENTERING BRIDGE MOUNTED JUNCTION BOX FOR TRANSITION FROM UNDERGROUND CONDUIT TO BRIDGE EMBEDDED CONDUIT. COUPLING SHALL ALLOW FOR A MAXIMUM OF 4" HORIZONTAL AND VERTICAL MOVEMENT.
- REFER TO BRIDGE DRAWINGS FOR EXACT LOCATION OF BRIDGE MOUNTED ILLUMINATION ASSEMBLIES AND ASSOCIATED INSTALLATION DETAILS.

1 2/21/23		CO #2	PAF
NO.	DATE	REVISION	APPROVED
HDR Engineering, Inc. 710 Hesters Crossing, Suite 150 Round Rock, Texas 78681 Texas Registered Engineering Firm F-754			
FM 3349			
ILLUMINATION PLAN			
STA 492+00 TO STA 503+00			
SCALE: 1"=100'			
SHEET 5 OF 11			
DESIGN GRM	FED. RD. DIST. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
GRAPHICS GRM	6		FM 3349
CHECK PKD	STATE	DISTRICT	COUNTY
CHECK	TEXAS	AUS	WILLIAMSON
PKD	CONTROL	SECTION	JOB
	3486	01	008, ETC
			702

PAVEMENT MARKING OFFSET TABLE						
MARKING	ALIGNMENT	STATION	OFFSET	TO	STATION	OFFSET
STOP BAR	ISEC1	10+60	-	-	10+60	12L
STOP BAR	ISEC1	12+50	-	-	12+50	12R

PAVEMENT MARKING QUANTITIES			
ITEM NO.	DESC. CODE	DESCRIPTION	TOTAL
658	6047	INSTL OM ASSM (OM-2Y) (WC) GND	EA 4
666	6048	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF 24
666	6300	REFL PAV MRK TY I (W) 4" (BRK) (100MIL)	LF 500
666	6303	REFL PAV MRK TY I (W) 4" (SLD) (100MIL)	LF 755
666	6315	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF 380
666	6342	REFL PAV MRK TY I (W) 4" (SLD) (100MIL)	LF 1778
666	6345	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF 1976
672	6009	REFL PAV MRK TY II-A-A	EA 5
672	6010	REFL PAV MRK TY II-C-B	EA 27
666	6036	REFL PAV MRK TY I (W) 8" (SLD) (100MIL)	LF 435
666	6184	REFL PAV MRK TY II (W) (ARROW)	EA 2
666	6192	REFL PAV MRK TY II (W) (WORD)	EA 2

- LEGEND
- (A) REFL PAV MRK 4" (W) SLD
 - (B) REFL PAV MRK 4" (W) DOT
 - (C) REFL PAV MRK 4" (W) BRK
 - (D) REFL PAV MRK 8" (W) SLD
 - (E) REFL PAV MRK 8" (W) DOT
 - (F) REFL PAV MRK 12" (W) SLD
 - (G) REFL PAV MRK 24" (W) SLD
 - (H) REFL PAV MRK (W) ARROW
 - (I) REFL PAV MRK (W) WORD
 - (J) REFL PAV MRK (W) YLD TRI (36")
 - (K) REFL PAV MRK (W) LANE REDUCTION ARROW
 - (L) REFL PAV MRK 4" (Y) SLD
 - (M) REFL PAV MRK 4" (Y) BRK
 - (N) REFL PAV MRK 12" (Y) SLD
 - (O) REFL CNTST PAV MRK 4" (W) BRK
 - (P) REFL PROF PAV MRK 4" (W) SLD
 - (Q) REFL PROF PAV MRK 4" (Y) SLD
 - (R) RRPM TY I-C
 - (S) RRPM TY II-A-A
 - (T) RRPM TY II-C-R
 - (U) DIRECTION OF TRAVEL
 - (V) (D-SW) SZ 2 (WC) GND
 - (W) (D-SW) SZ 2 (WC) GND (BI)
 - (X) (D-SY) SZ 2 (WC) GND
 - (Y) (D-DW) SZ 2 (WC) GND
 - (Z) (D-DY) SZ 2 (WC) GND
 - (AA) (D-SW) SZ (BRF) CTB
 - (AB) (D-SW) SZ (BRF) GF1
 - (AC) (D-SY) SZ (BRF) GF1
 - (AD) (D-SW) SZ 1 (FLX) SRF
 - (AE) (D-SY) SZ 1 (FLX) SRF
 - (AF) OM-2Y
 - (AG) OM-3L
 - (AH) OM-3R
 - (AI) RIGHT OF WAY



1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED

HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754



FM 3349

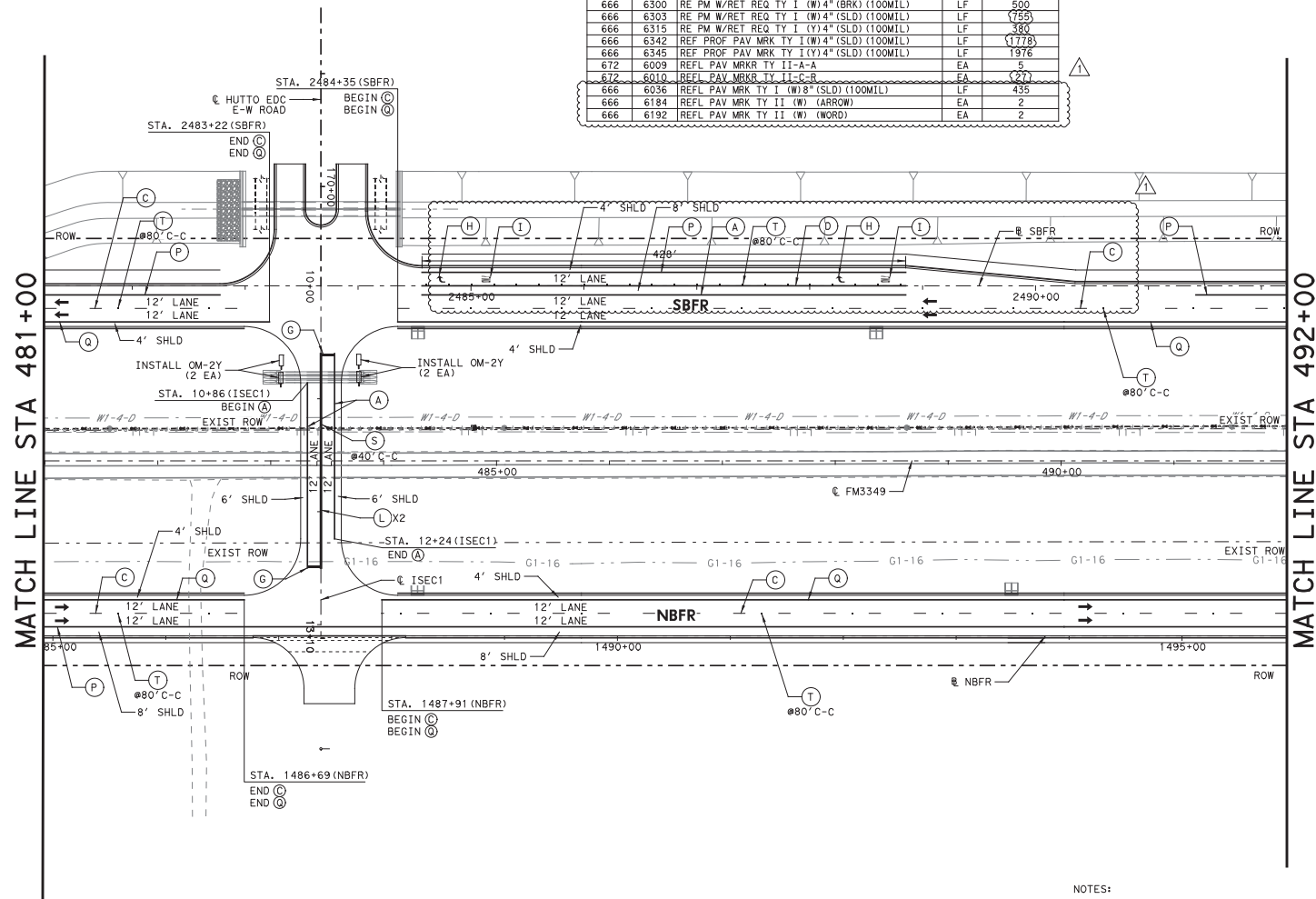
STRIPING AND DELINEATION LAYOUT

STA 481+00 TO STA 492+00

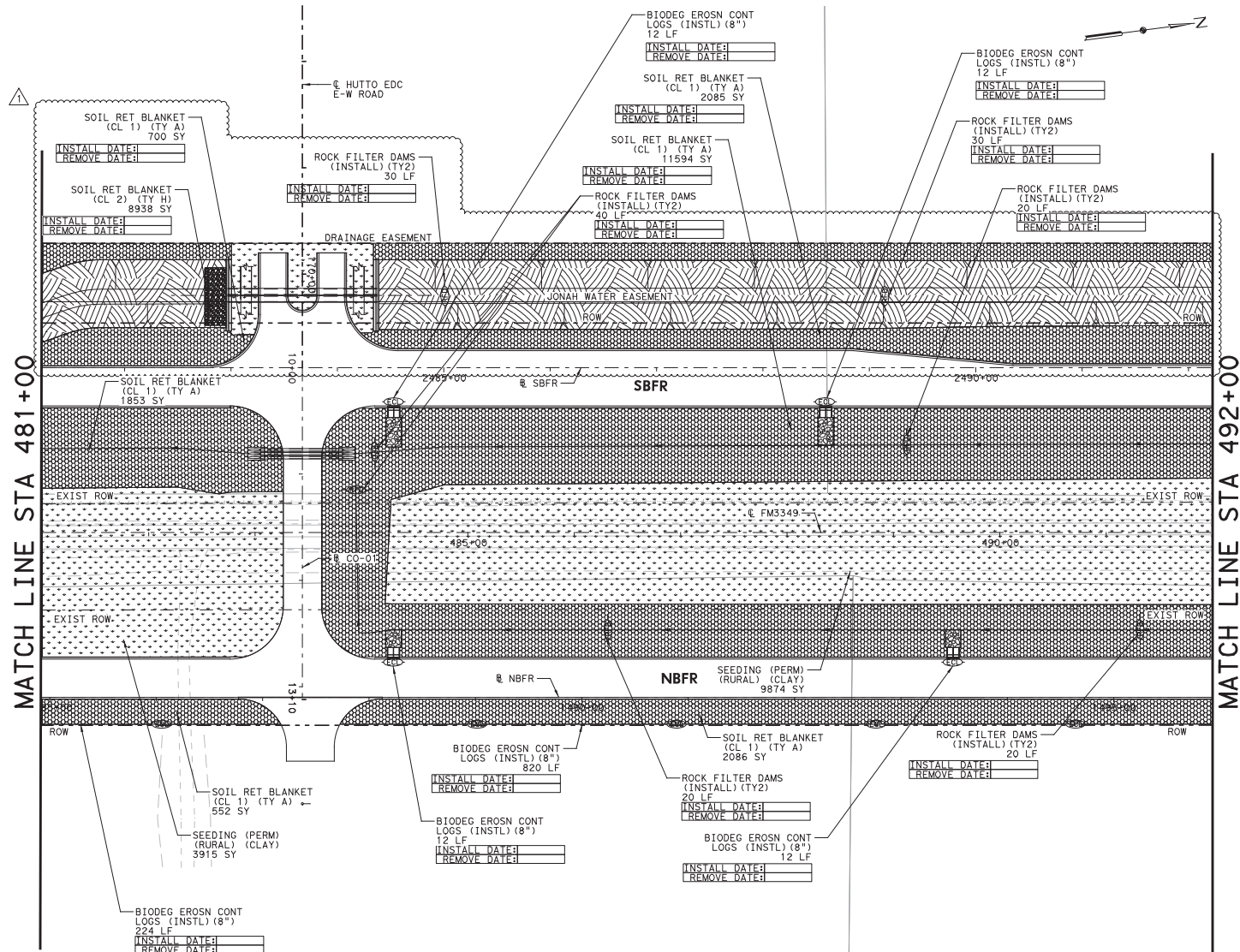
SCALE: 1"=100'		SHEET 7 OF 14	
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
TG	6		FM 3349
GRAPHICS	STATE	DISTRICT	COUNTY
SF	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
FT	3486	01	008, ETC
CHECK	TG		

745

NOTES:
1. INSTALL PAVEMENT MARKINGS IN ACCORDANCE WITH TXDOT STANDARDS AND SPECIFICATIONS.



PLOT DRIVER: TXDOT.PDF.BW.DWG
 USER: BRIDGES
 FILE: FM3349-PWRK Pln Sheet 7
 SCALE: 1/8"=1'-0"
 DATE: 2/27/2023 TIME: 2:37:14 PM



LEGEND

-
-
-
-
-
-
-

1 SEE PLAN SET GENERAL NOTES FOR REQUIREMENTS

NOTES:

- CONSTRUCTION ENTRANCE/EXIT LOCATIONS ARE TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. PLACE FOUR 20'x50' CONSTRUCTION ENTRANCE/EXIT. SEE EC(3)-16 FOR DETAIL.
- PERIMETER CONTROLS SHALL BE IN PLACE PRIOR TO COMMENCING ANY SOIL DISTURBING ACTIVITIES. PERIMETER DEVICES TO BE PLACED AT ROW OR EASEMENT UNLESS OTHERWISE NOTED.
- FIELD VERIFY LOCATIONS OF BMPs SHOWN AND ALTER LOCATIONS AS NEEDED TO ACHIEVE INTENDED PURPOSE AS APPROVED.
- MAINTAIN SW3P CONTROL MEASURES THROUGHOUT CONSTRUCTION.
- CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SEEDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
- SEE DRAINAGE PLANS FOR CONCRETE AND STONE RIPRAP QUANTITIES AND DETAILS.



SCALE IN FEET



1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED



HDR HDR Engineering, Inc.
 710 Heesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754



FM 3349

EROSION CONTROL PLAN

STA 481+00 TO STA 492+00

SCALE: 1"=100'

SHEET 7 OF 14

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	HIGHWAY NO.
KS	6		FM 3349
GRAPHICS	STATE	DISTRICT	COUNTY
SL	TEXAS	AUS	WILLIAMSON
CHECK	CONTROL	SECTION	JOB
	3486	01	008, ETC
			787



- | | |
|---|--|
|  | ① SOIL RETENTION BLANKET CL1 TY A,
SEEDING, 4" TOPSOIL, AND SOIL
RETENTION BLANKET CL2 TY H. |
|  | SOIL RETENTION BLANKET CL1 TY A,
SEEDING, AND 4" TOPSOIL |
|  | SEEDING |
|  | STONE RIPRAP |
|  | CONCRETE RIPRAP |
|  | EROSION CONTROL LOG |
|  | ROCK FILTER DAM |

① SEE PLAN SET GENERAL NOTES FOR REQUIREMENTS

1. CONSTRUCTION ENTRANCE/EXIT LOCATIONS ARE TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. PLACE FOUR 20'x50' CONSTRUCTION ENTRANCE/EXIT. SEE EC(3)-16 FOR DETAIL.
2. PERIMETER CONTROLS SHALL BE IN PLACE PRIOR TO COMMENCING ANY SOIL DISTURBING ACTIVITIES. PERIMETER DEVICES TO BE PLACED AT ROW OR EASEMENT UNLESS OTHERWISE NOTED.
3. FIELD VERIFY LOCATIONS OF BMPs SHOWN AND ALTER LOCATIONS IF NEEDED TO ACHIEVE INTENDED PURPOSE AS APPROVED.
4. MAINTAIN SWAP CONTROL MEASURES THROUGHOUT CONSTRUCTION.
5. CONTRACTOR RESPONSIBLE TO VEGETATE ANY ADDITIONAL DISTURBED AREAS NOT CALLED OUT IN PLANS. PROVIDE TOPSOIL AND SEEDING FOR THESE AREAS. SUBSIDIARY TO PERTINENT ITEMS.
6. SEE DRAINAGE PLANS FOR CONCRETE AND STONE RIPRAP QUANTITIES AND DETAILS.



SCALE IN FEET



03/21/2023

1	2/21/23	CO #2	PAF
NO.	DATE	REVISION	APPROVED



HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754



^(R) Texas Department of Transportation

FM 3349

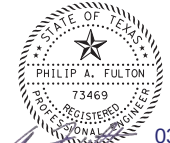
EROSION CONTROL PLAN

STA 492+00 TO 503+00

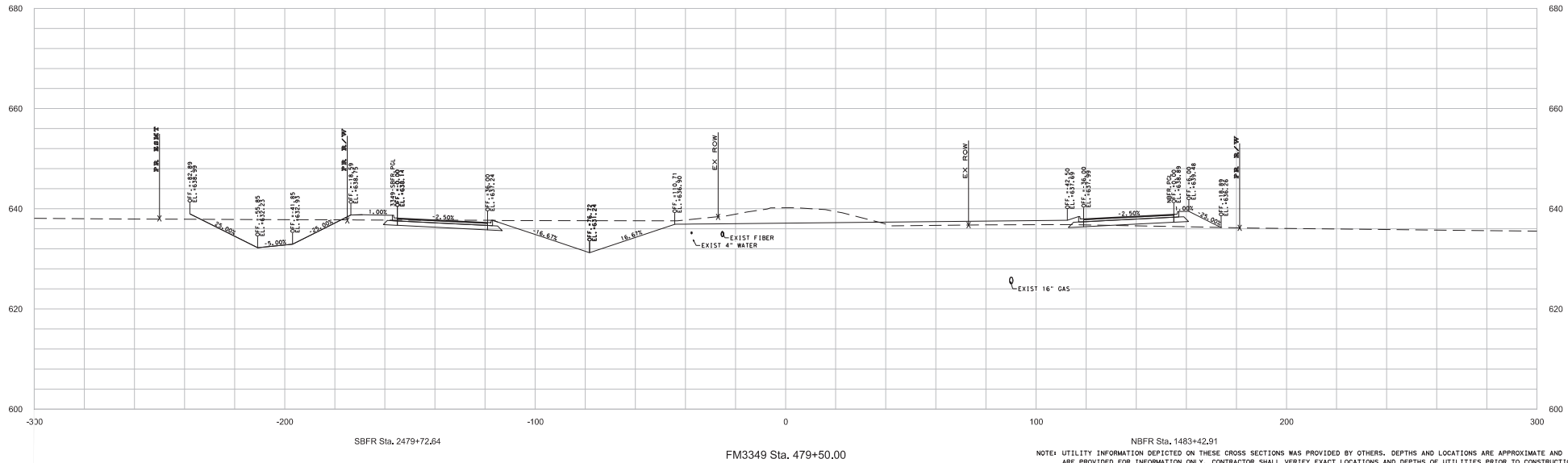
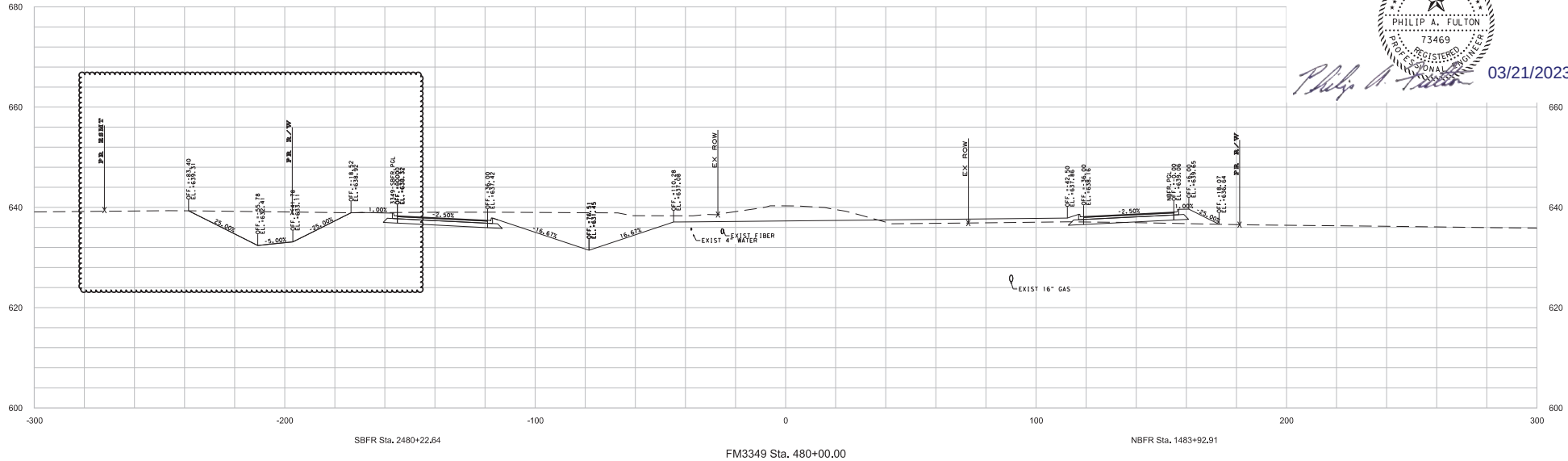
SCALE: 1"=100'

SHEET 8 OF 14

DESTIN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
KS	6			FM 3349
GRAPHICS				
LG	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	AUS	WILLIAMSON	
CHECK	CONTROL	SECTION	JOB	788
	3486	01	008. ETC	



03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



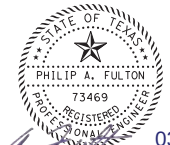
HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 479+50.00 TO STA 480+00.00

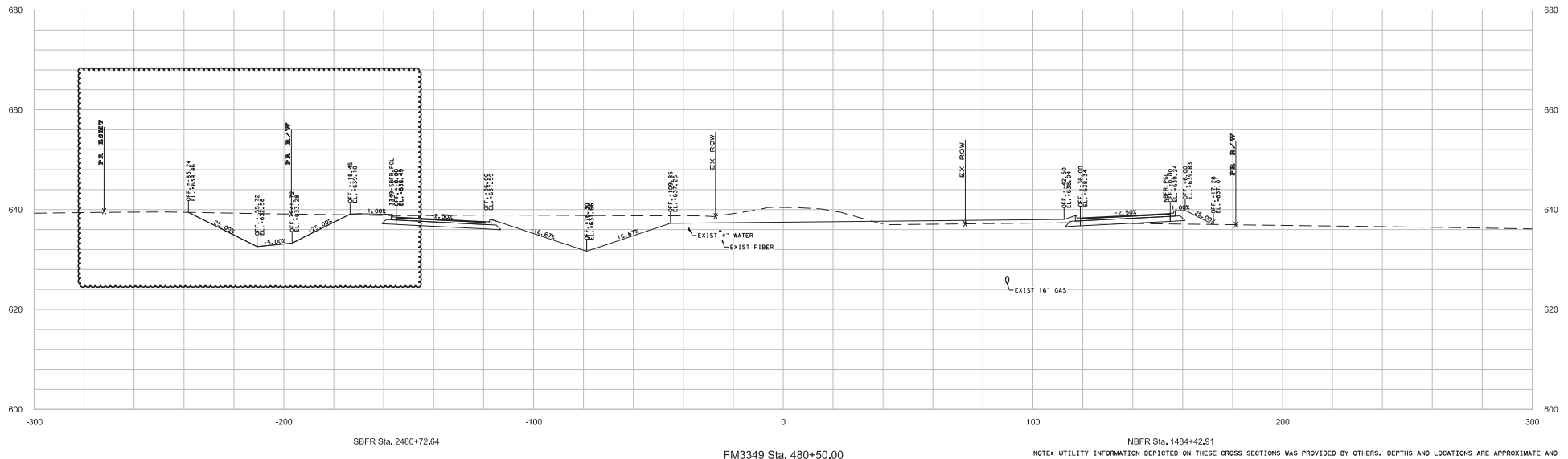
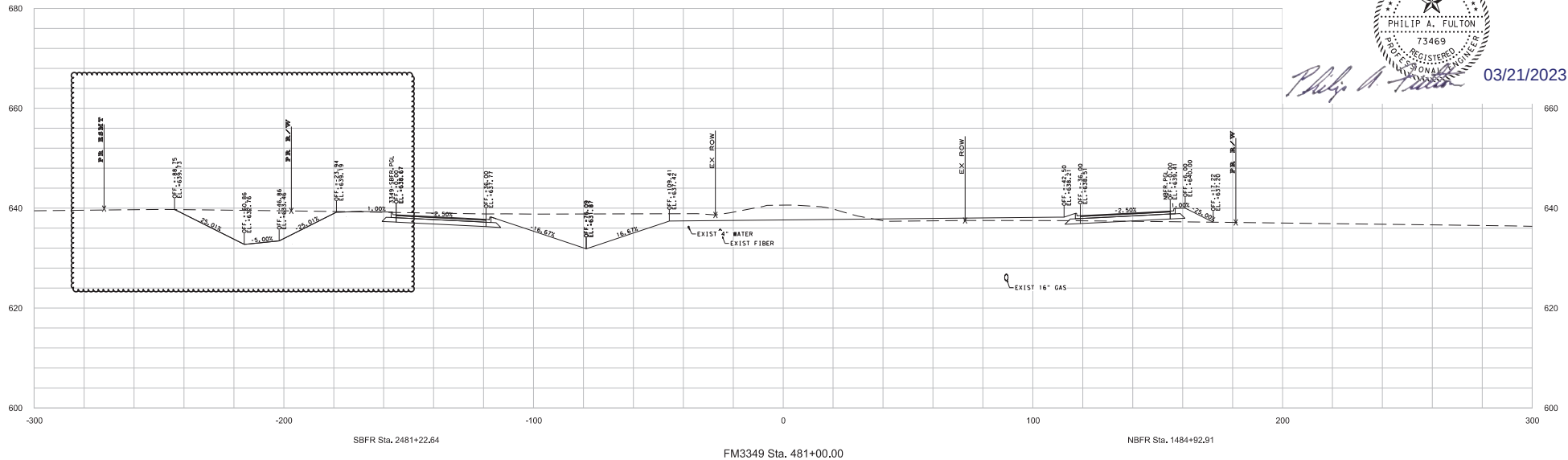
SCALE: HORIZ: 1"=40'
VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-66



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 480+50.00 TO STA 481+00.00

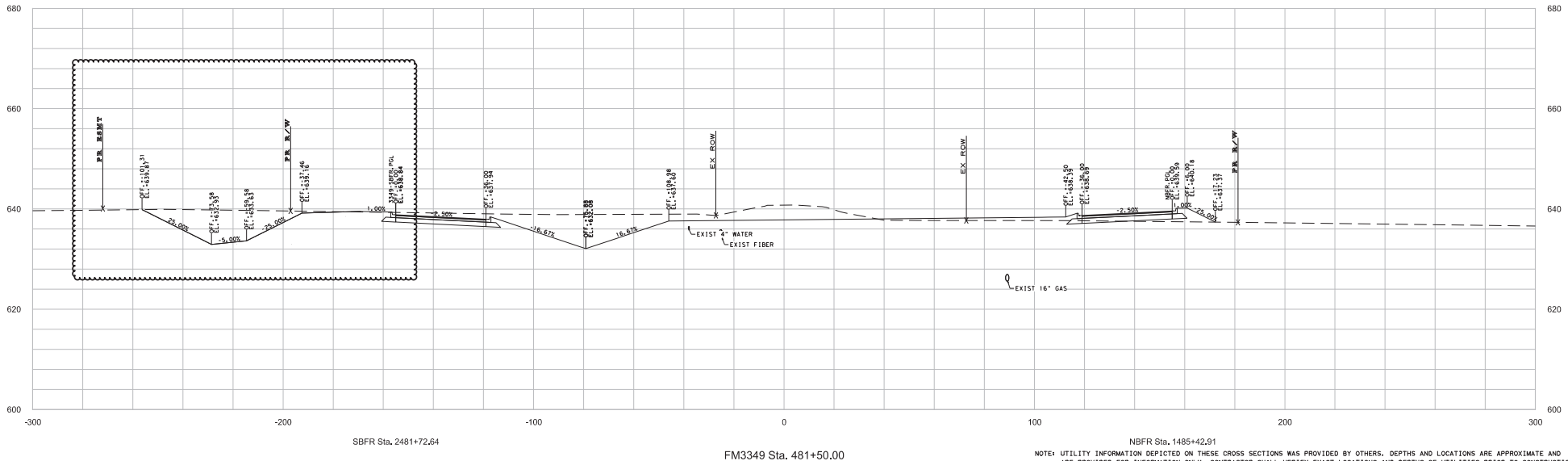
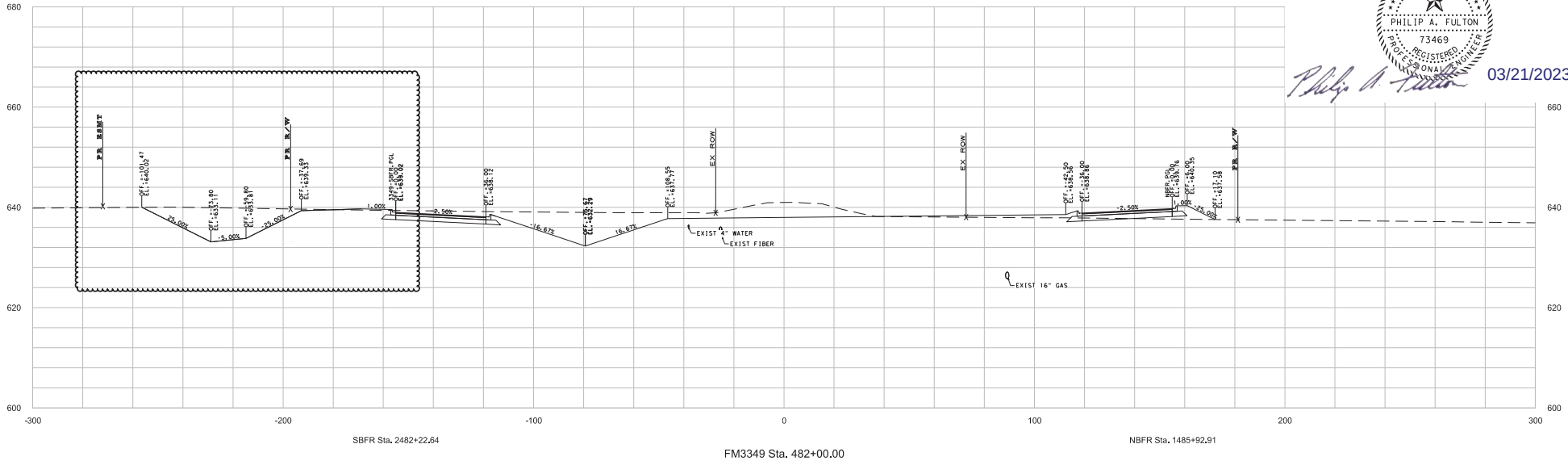
SCALE: HORIZ: 1"=40'
VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-67



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23		PAF



HDR HDR Engineering, Inc.
 710 Hesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 481+50.00 TO STA 482+00.00

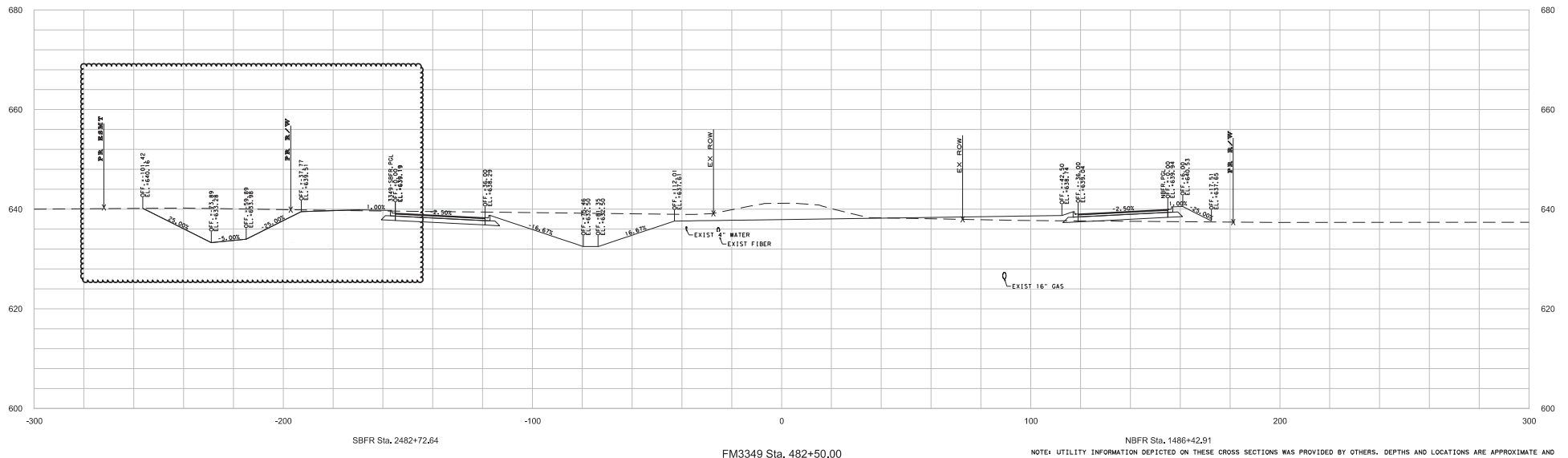
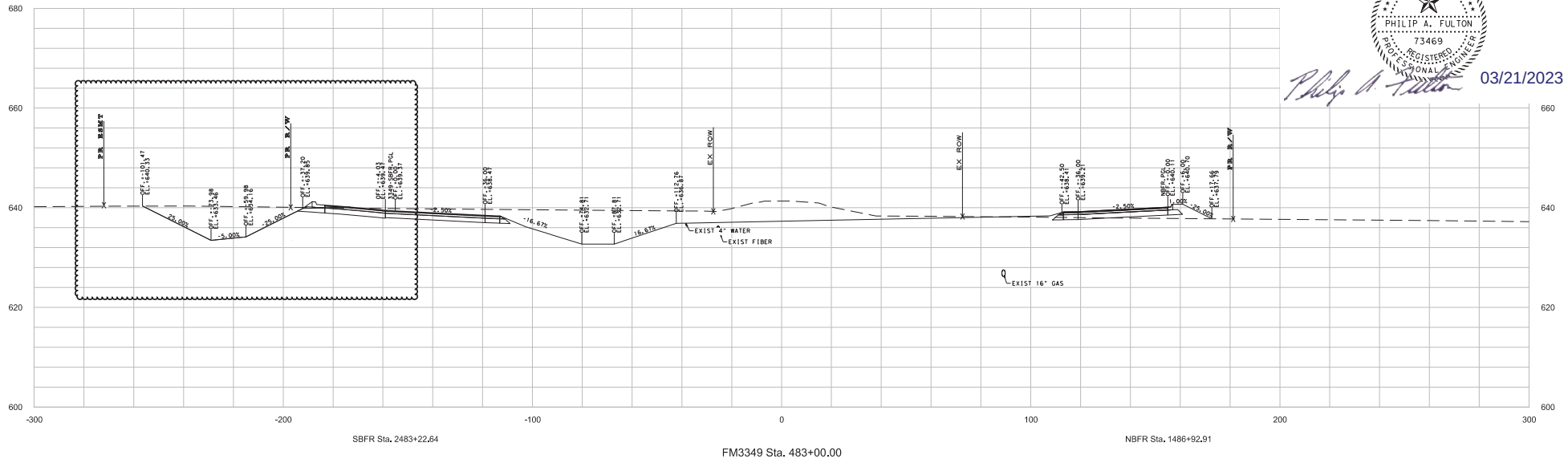
SCALE: HORIZ: 1"=40'
 VERT: 1"=20'

**FM 3349
 CROSS SECTIONS**

SHEET NO.
XS-68



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR HDR Engineering, Inc.
 710 Hesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 482+50.00 TO STA 483+00.00

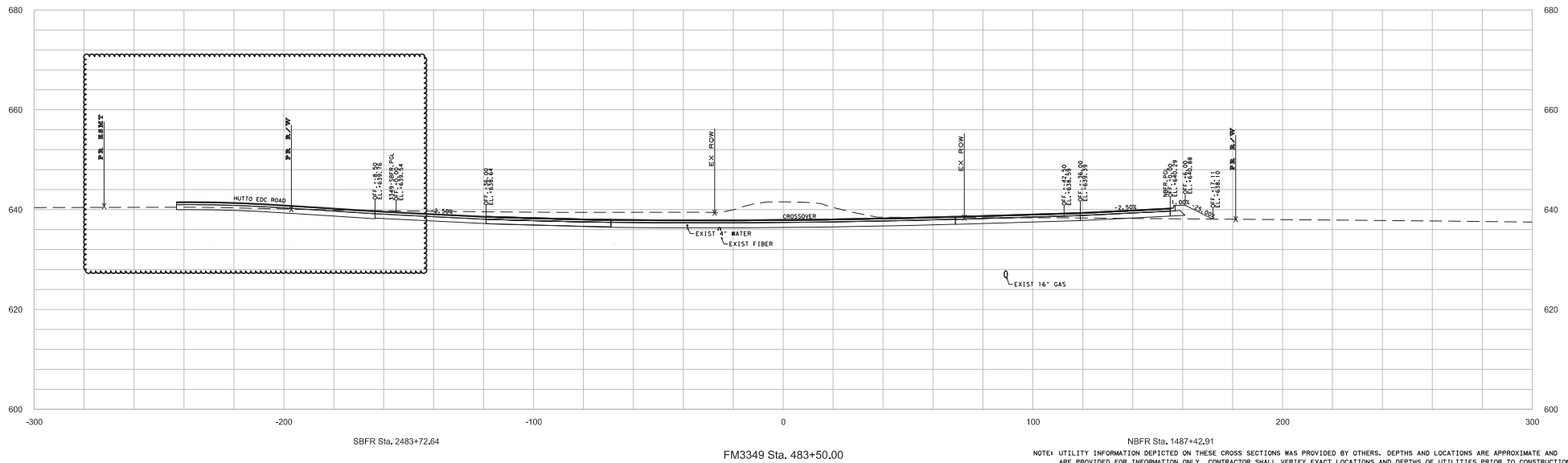
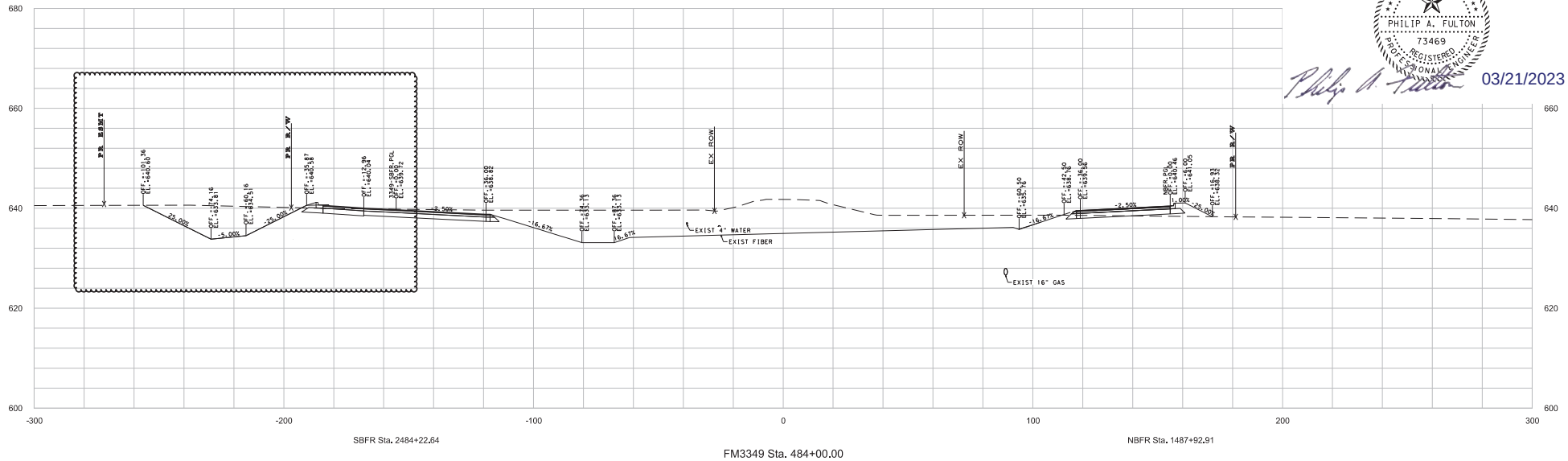
SCALE: HORIZ: 1"=40'
 VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-69



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 483+50.00 TO STA 484+00.00

SCALE: HORIZ: 1"=40'
VERT: 1"=20'

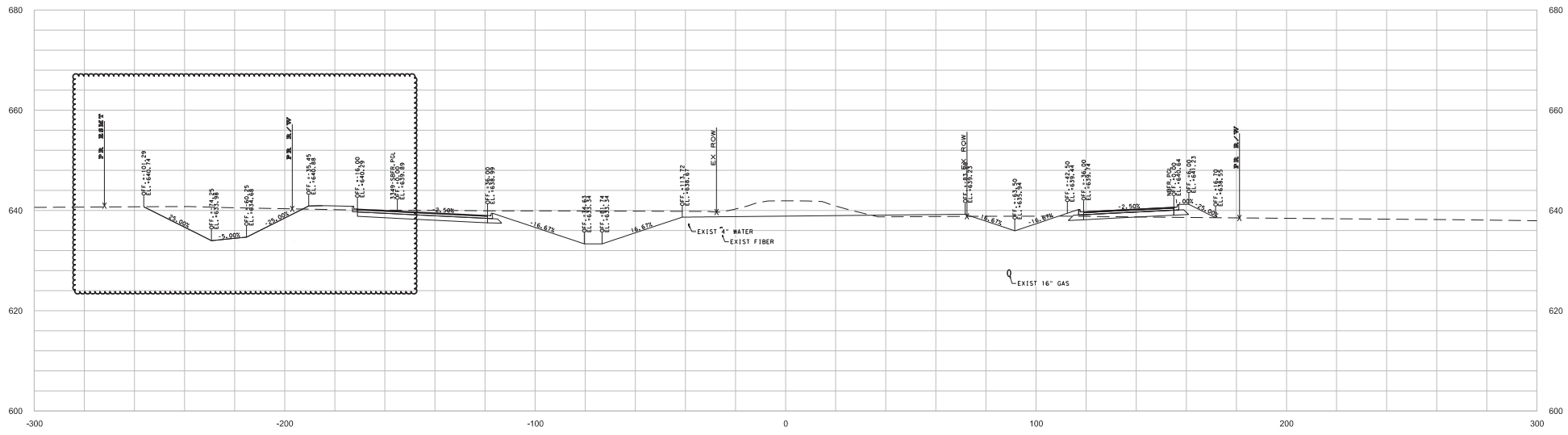
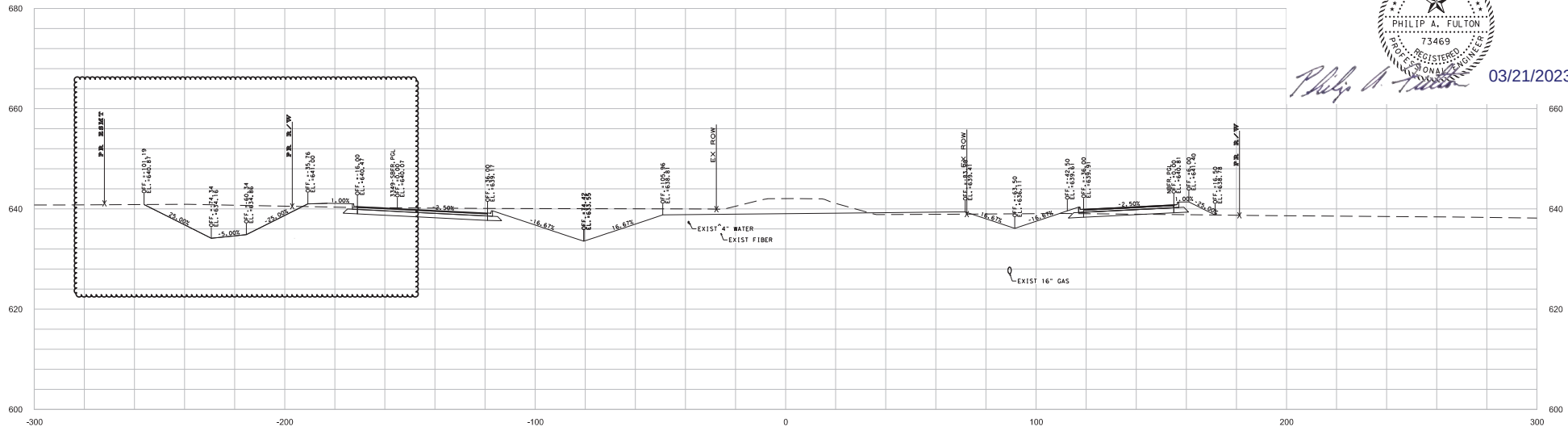
FM 3349
CROSS SECTIONS

SHEET NO.

XS-70



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR HDR Engineering, Inc.
 710 Hesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 484+50.00 TO STA 485+00.00

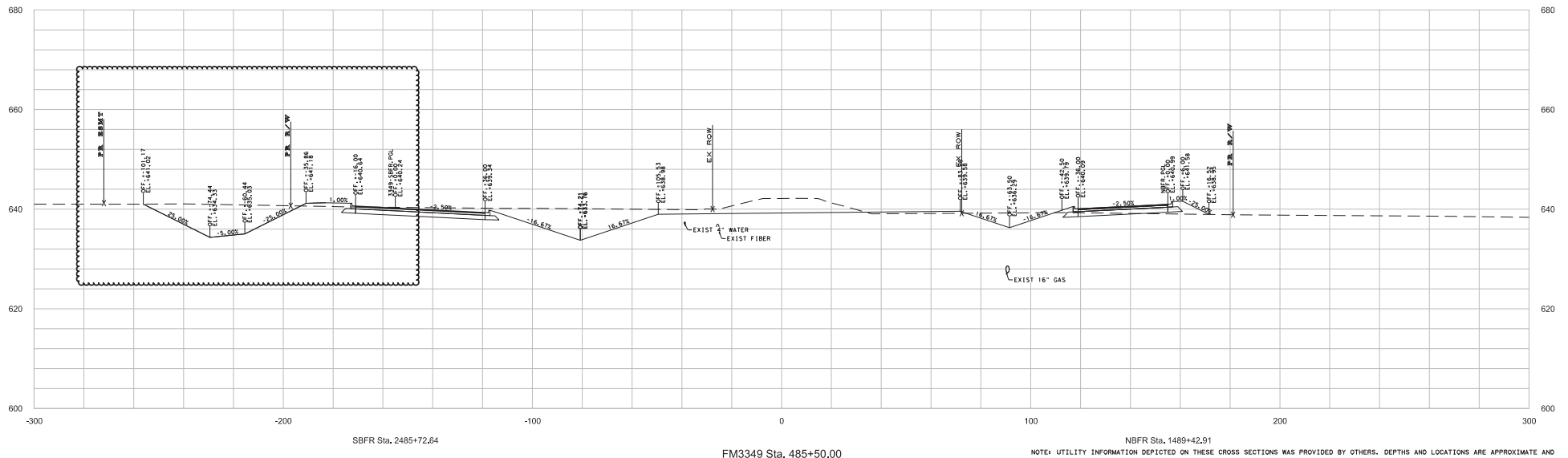
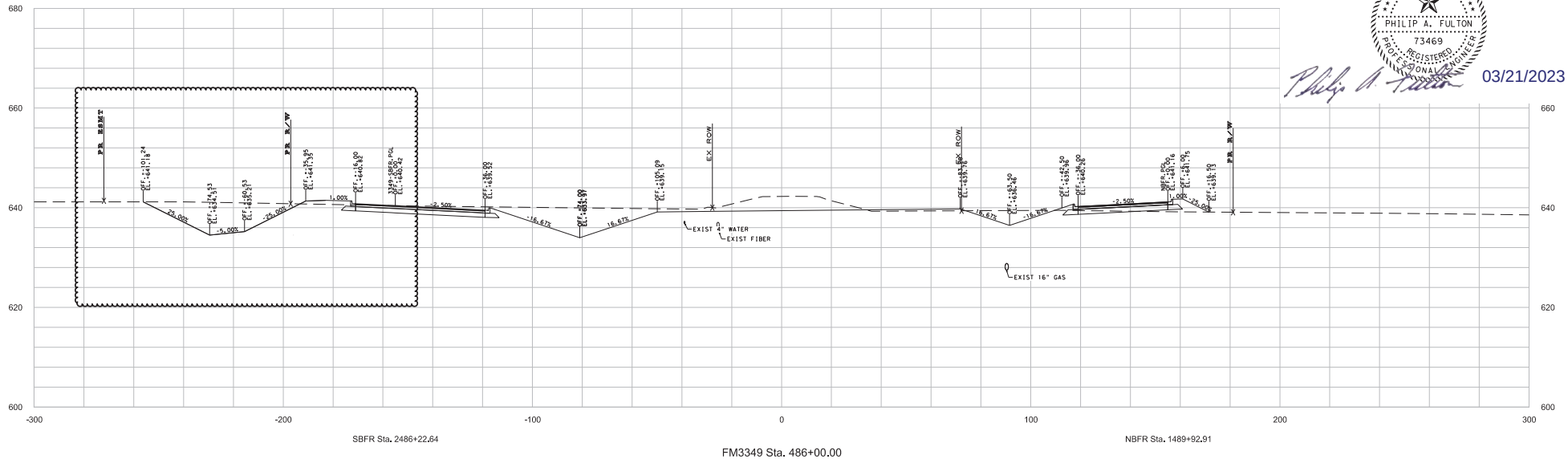
SCALE: HORIZ: 1"=40'
 VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-71



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAP



HDR HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 485+50.00 TO STA 486+00.00

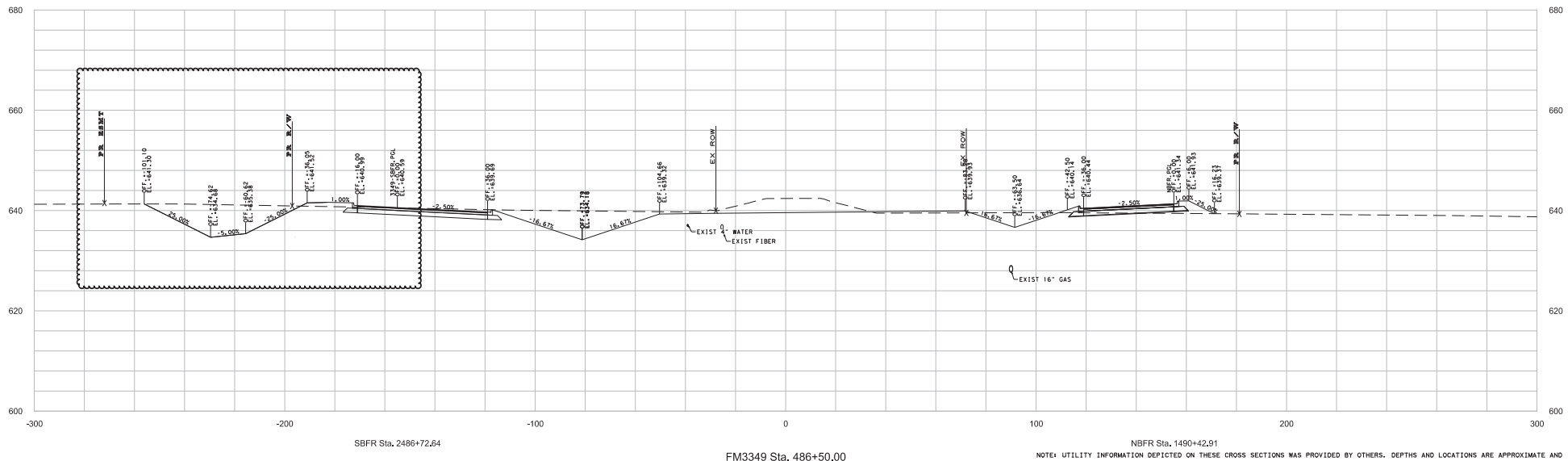
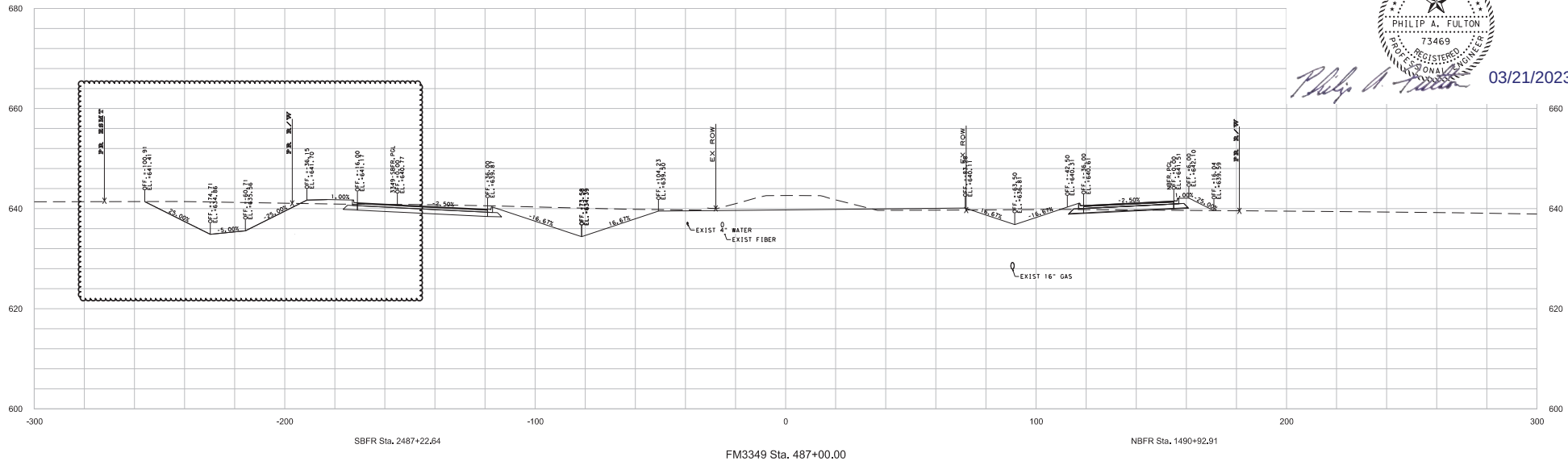
SCALE: HORIZ: 1"=40'
VERT: 1"=20'

**FM 3349
CROSS SECTIONS**

SHEET NO.
XS-72



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR HDR Engineering, Inc.
 710 Hesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 486+50.00 TO STA 487+00.00

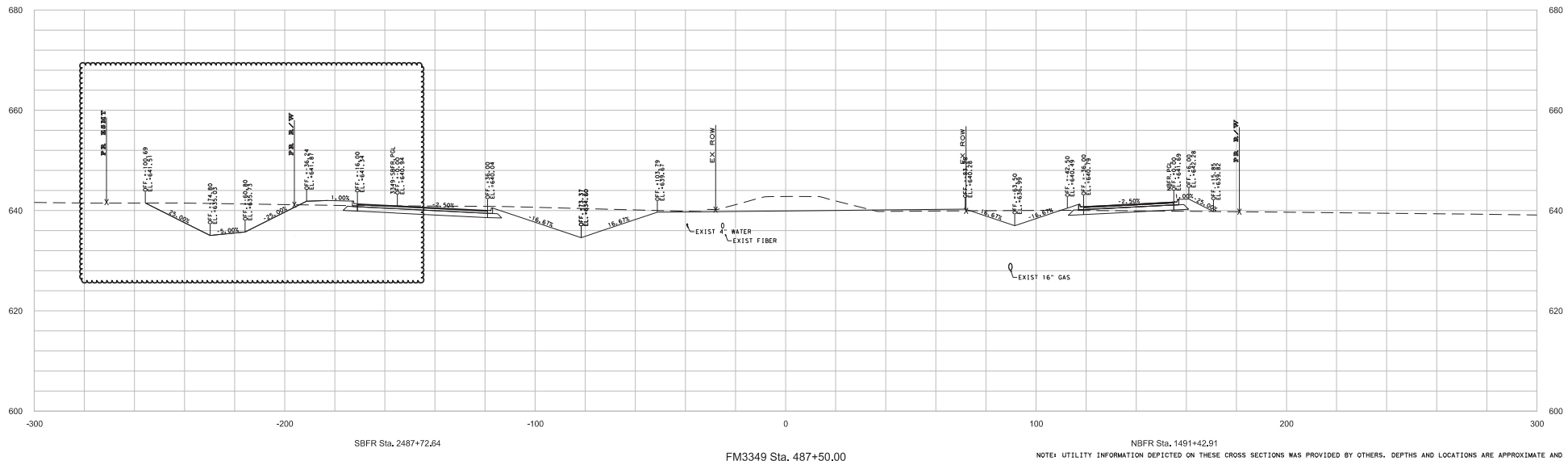
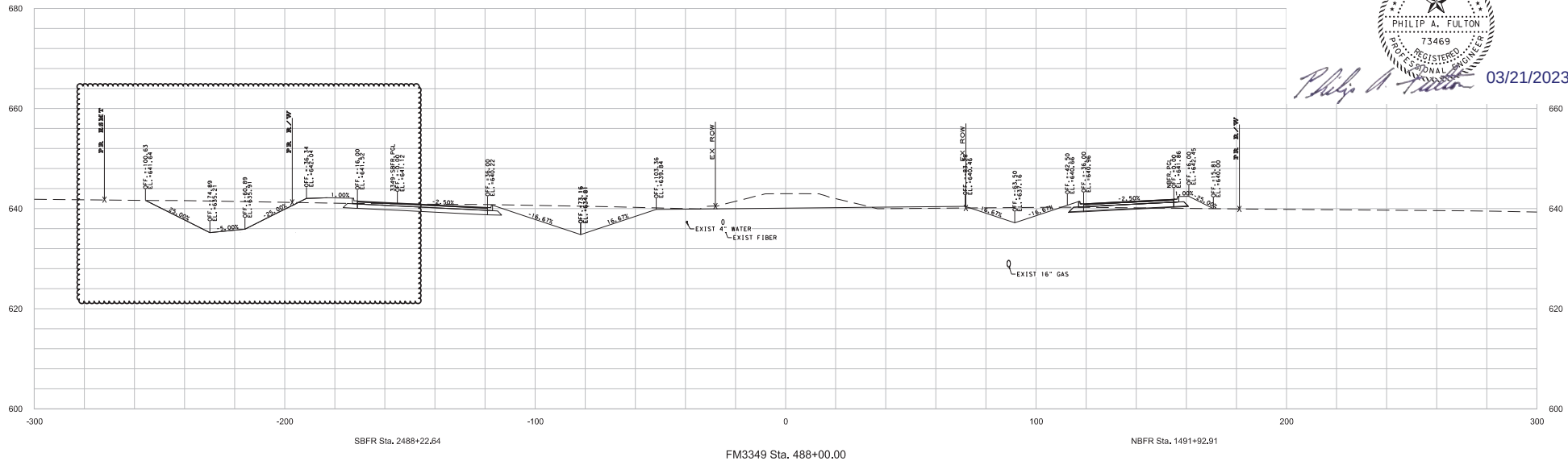
SCALE: HORIZ: 1"=40'
 VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-73



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 487+50.00 TO STA 488+00.00

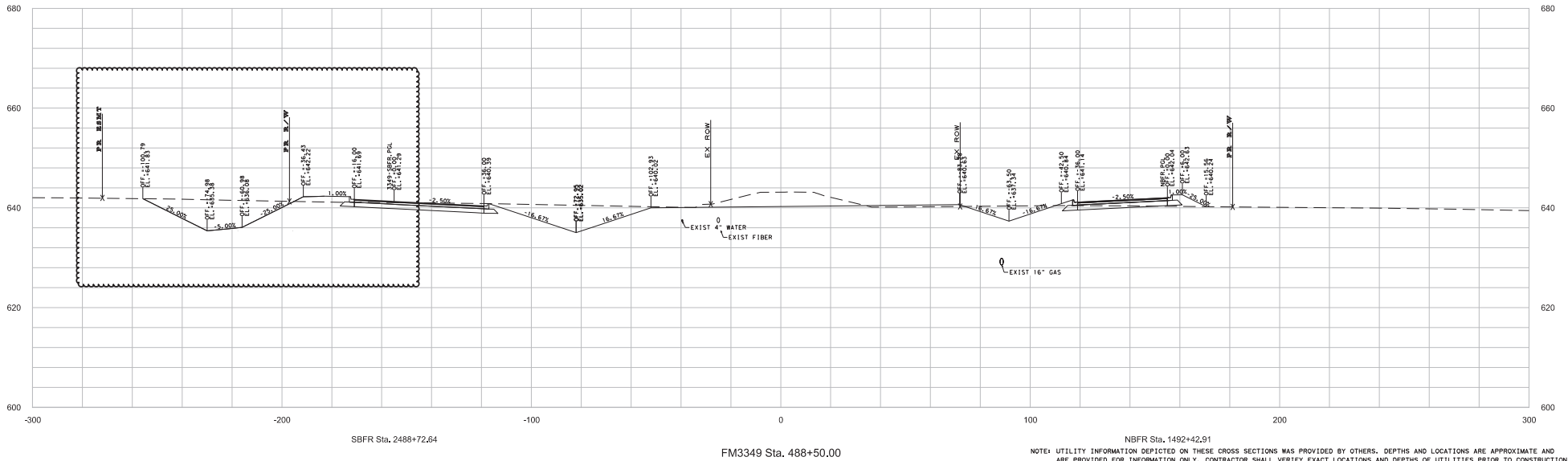
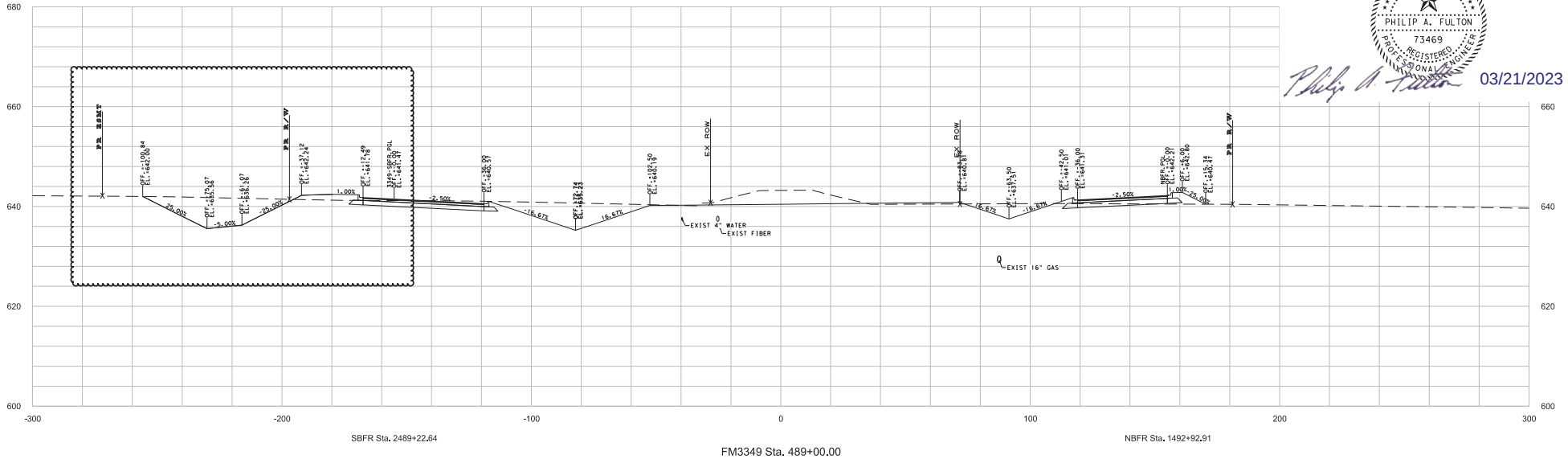
SCALE: HORIZ: 1"=40'
VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-74



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 488+50.00 TO STA 489+00.00

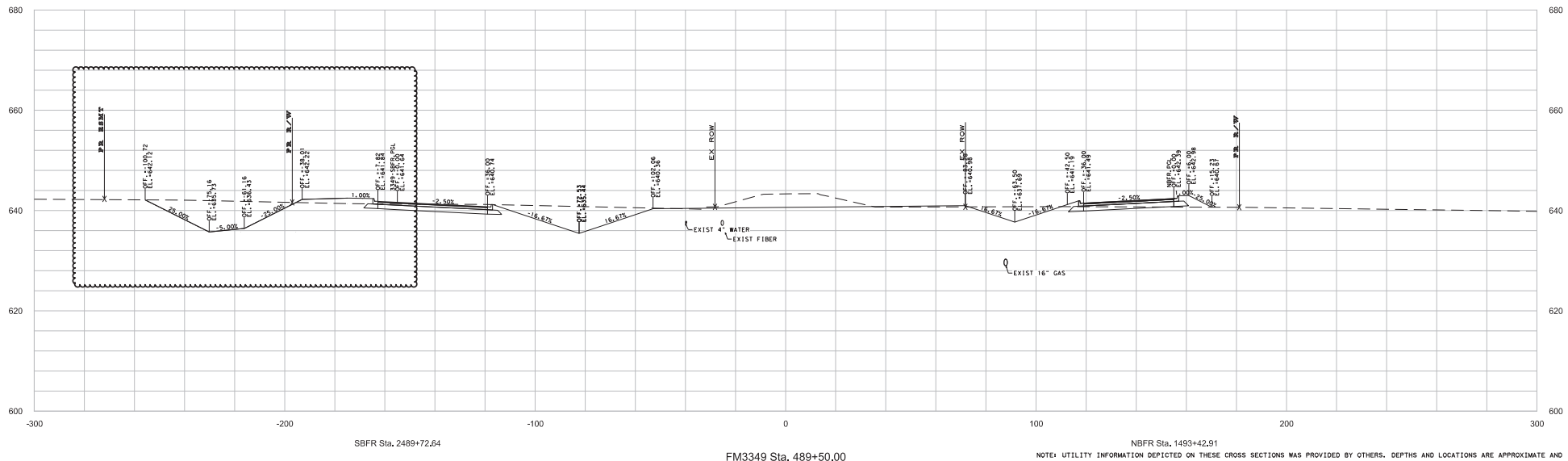
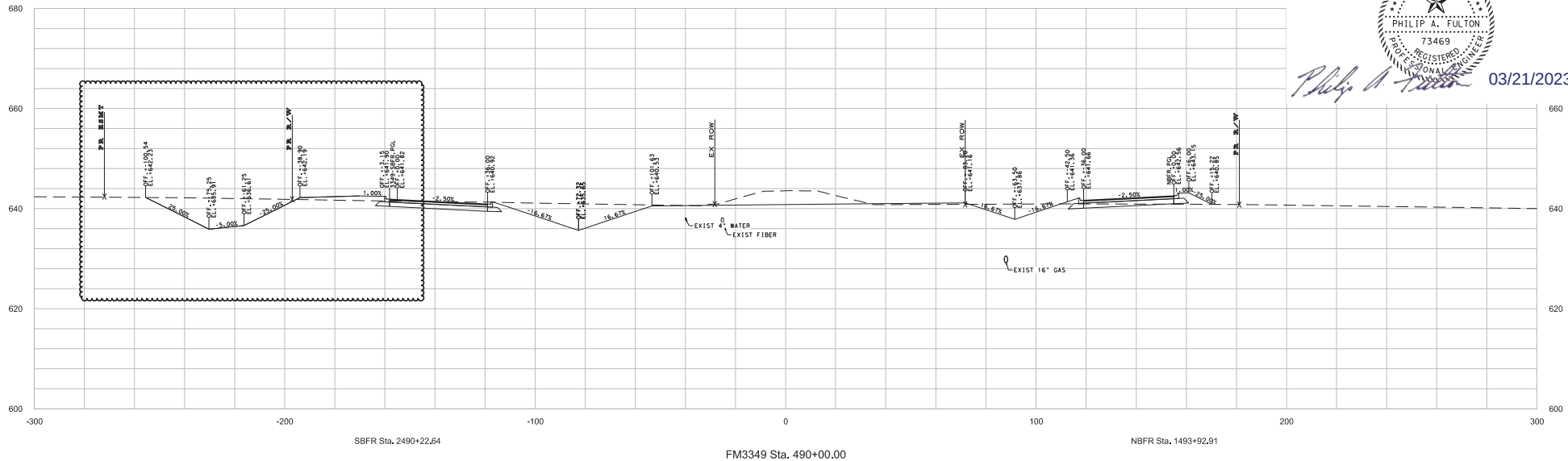
SCALE: HORIZ: 1"=40'
VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-75



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAP



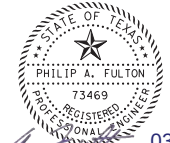
HDR HDR Engineering, Inc.
 710 Hesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 489+50.00 TO STA 490+00.00

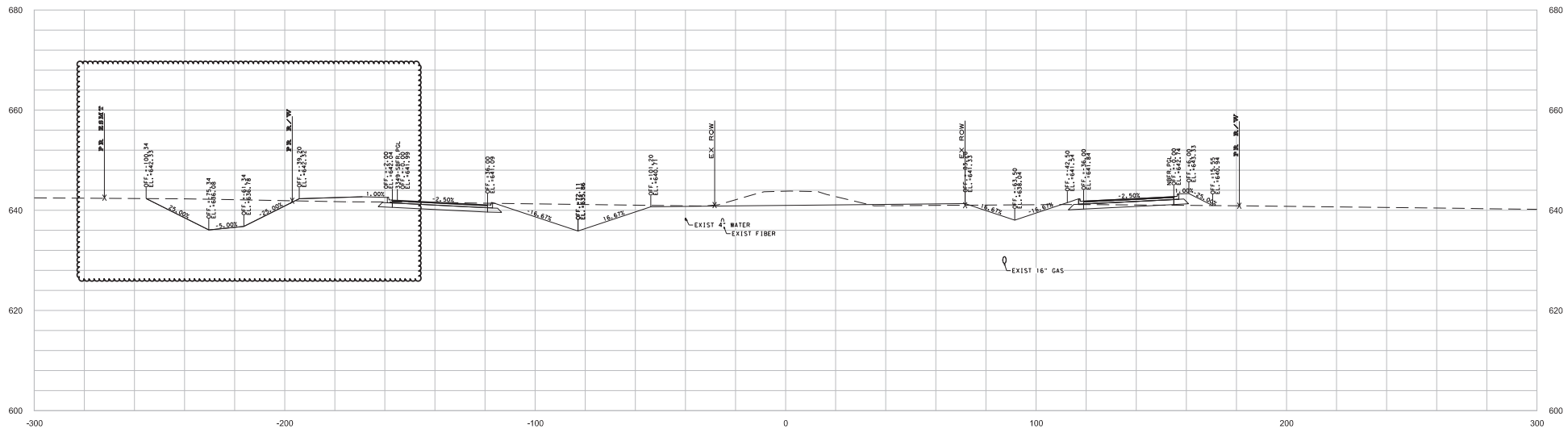
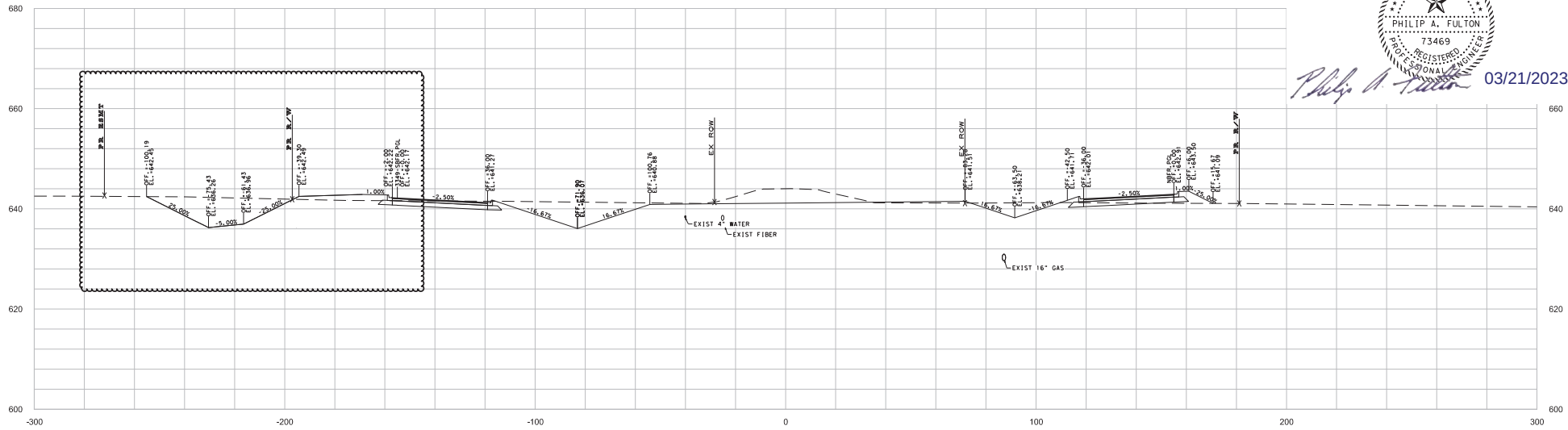
SCALE: HORIZ: 1"=40'
 VERT: 1"=20'

**FM 3349
 CROSS SECTIONS**

SHEET NO.
XS-76



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 490+50.00 TO STA 491+00.00

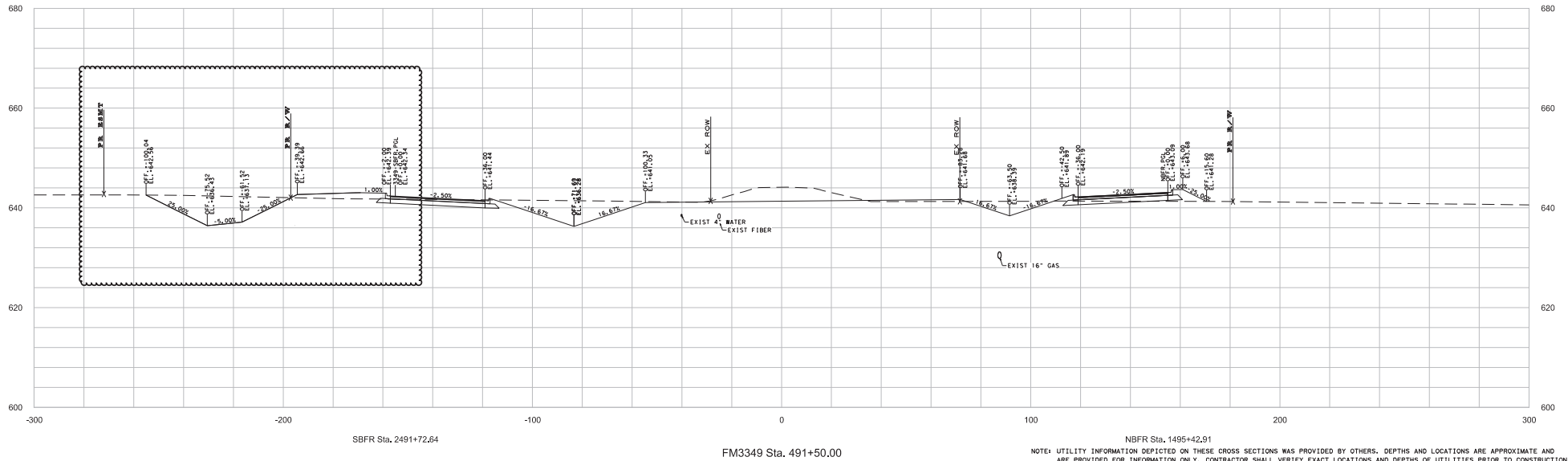
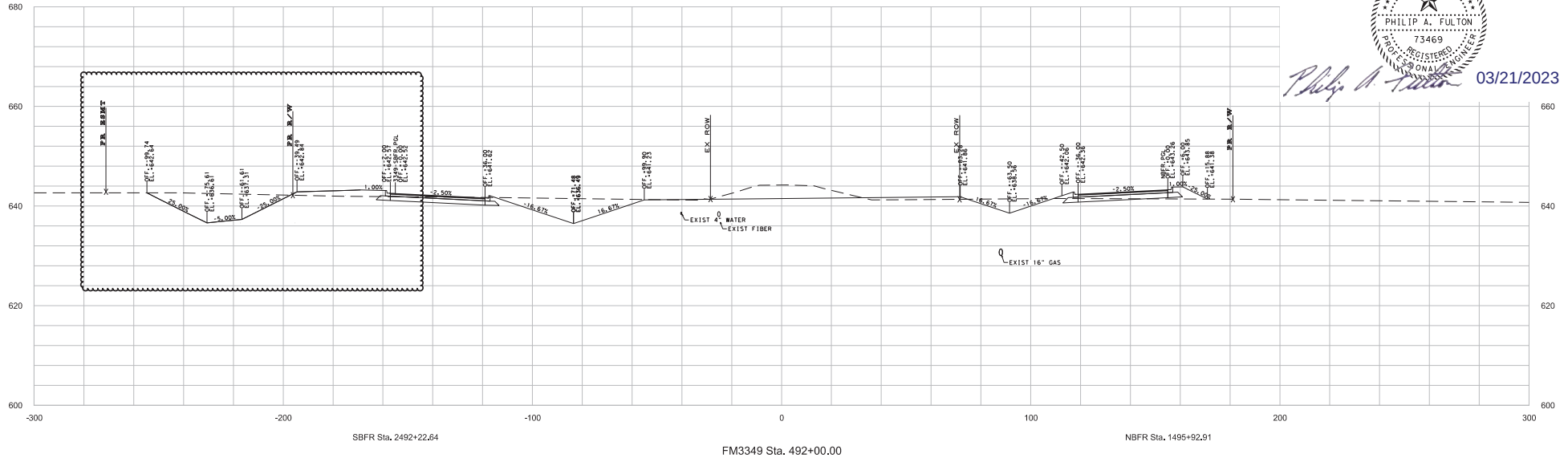
SCALE: HORIZ: 1"=40'
VERT: 1"=20'

**FM 3349
CROSS SECTIONS**

SHEET NO.
XS-77



Philip A. Fulton 03/21/2023



NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



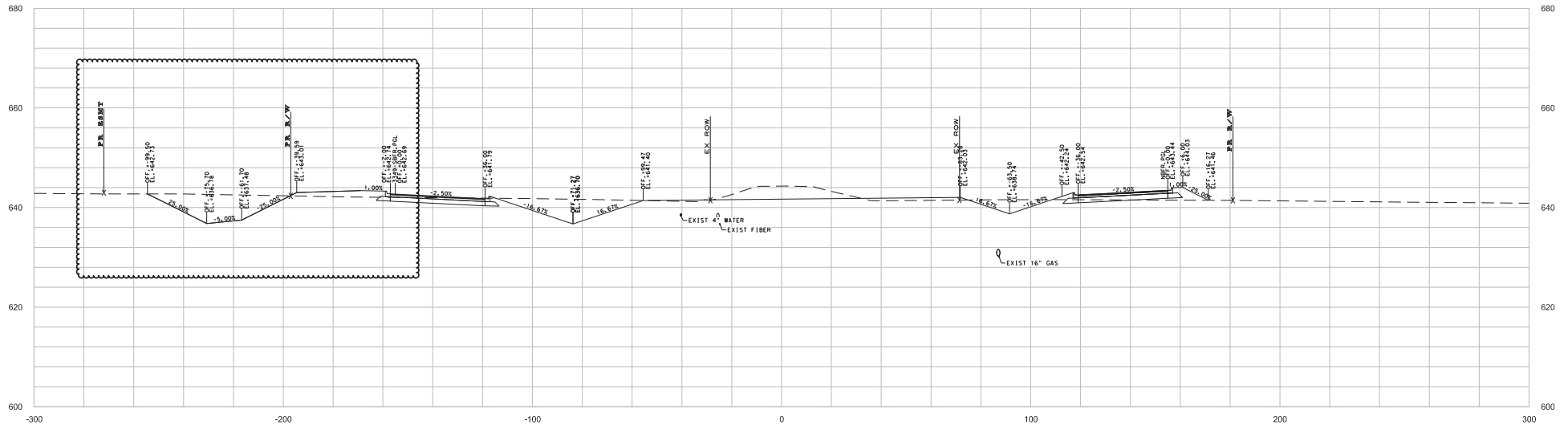
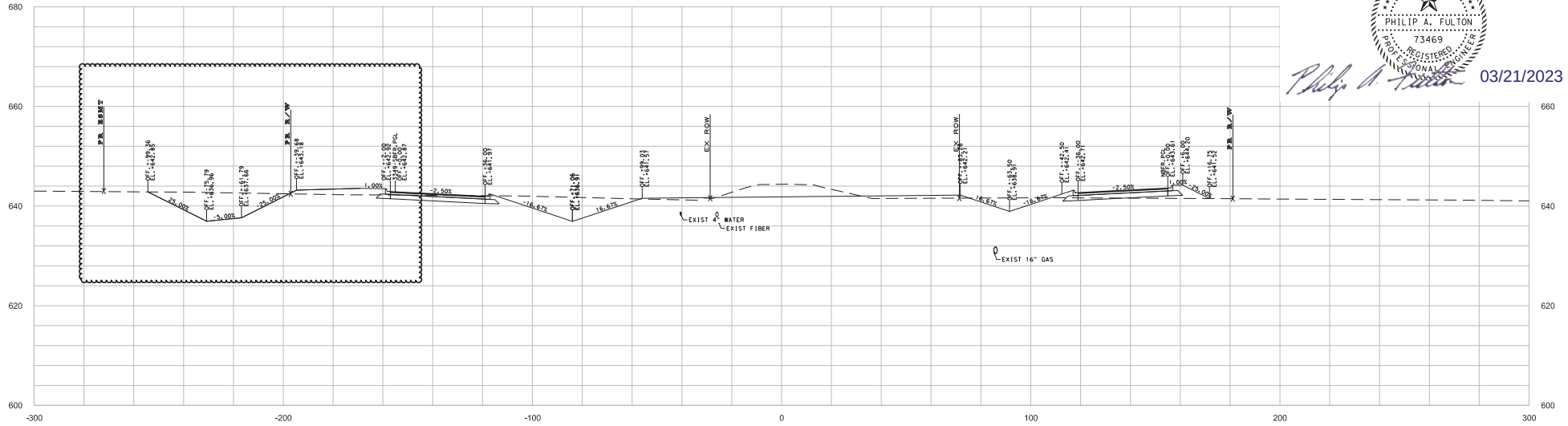
HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 491+50.00 TO STA 492+00.00

SCALE: HORIZ: 1"=40'
VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-78



NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

STA 492+50.00 TO STA 493+00.00

SCALE: HORIZ: 1"=40'
VERT: 1"=20'

FM 3349
CROSS SECTIONS

SHEET NO.
XS-79

NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.



The plan view shows the proposed road alignment (dashed line) and existing utilities. Key features include:

- SBFR Sta. 2493+72.64**: Located at the left end of the section.
- FM3349 Sta. 493+50.00**: A specific stationing point near the center.
- NBFR Sta. 1497+42.91**: Located at the right end of the section.
- Elevations**: Numerous spot elevations are provided for various points along the alignment and utilities, ranging from approximately 630 to 680 feet.
- Utilities**: Labeled utilities include "EXIST WATER", "EXIST FIBER", and "EXIST 16\" GAS".
- Right-of-Way (ROW)**: Indicated by vertical dashed lines labeled "EX ROW".
- Grading**: The proposed road profile is shown as a solid line with grades such as -2.69%, -3.08%, -2.50%, -16.67%, -16.97%, -16.92%, -16.92%, -2.50%, and -2.69%.

NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR Engineering, Inc.
710 Hesters Crossing, Suite 150
Round Rock, Texas 78681
Texas Registered Engineering Firm F-754

SCALE: HORIZ: 1"=40'
VERT: 1"=20'

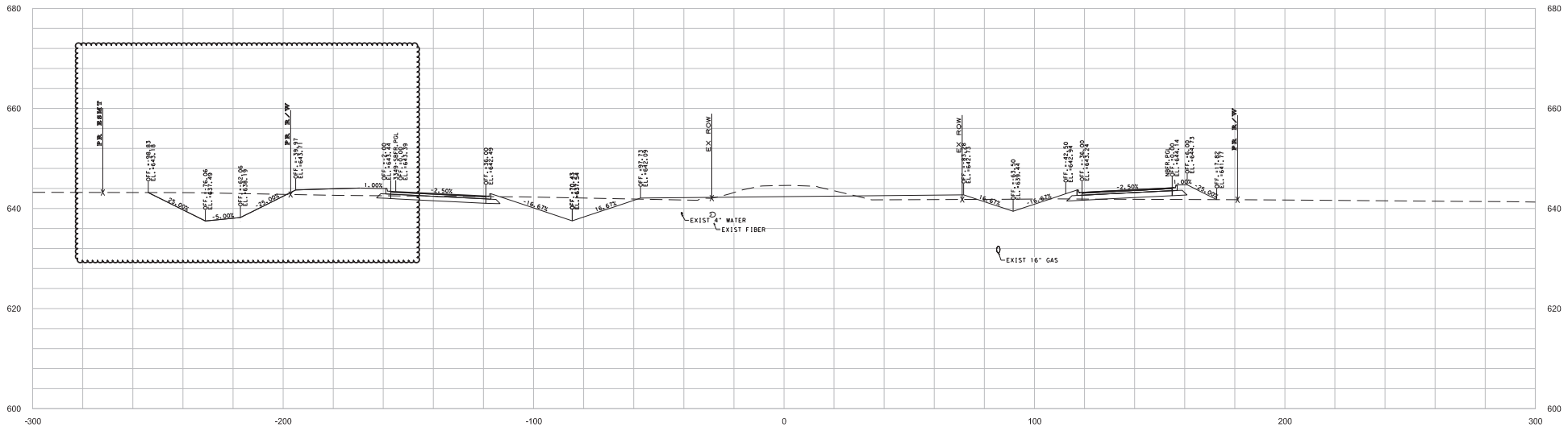
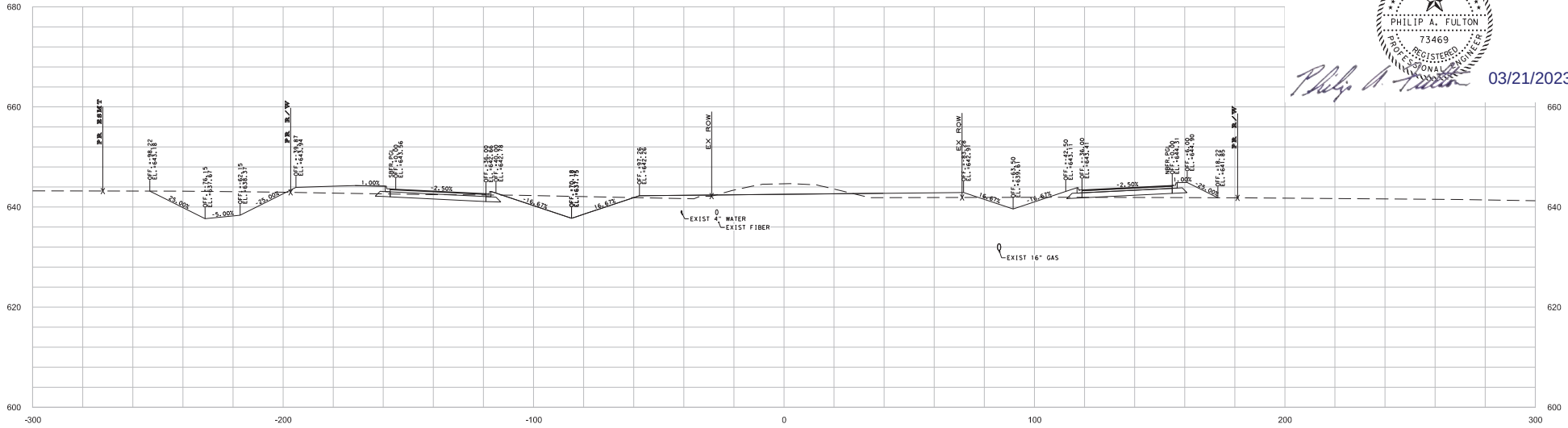
FM 3349
CROSS SECTIONS

SHEET NO.

S-80



Philip A. Fulton 03/21/2023



NO.	DATE	REVISION	APPROVED
1	2/21/23	CO #2	PAF



HDR Engineering, Inc.
 710 Hesters Crossing, Suite 150
 Round Rock, Texas 78681
 Texas Registered Engineering Firm F-754

STA 494+50.00 TO STA 495+00.00

SCALE: HORIZ: 1"=40'
 VERT: 1"=20'

**FM 3349
 CROSS SECTIONS**

SHEET NO.
XS-81

NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.