

**ECONOMIC DEVELOPMENT REFUNDING AGREEMENT
BETWEEN WILLIAMSON COUNTY, TEXAS AND
THE HUTTO ECONOMIC DEVELOPMENT CORPORATION, TYPE B FOR
FM 3349 AT US 79--HUTTO MEGASITE RIGHT-TURN LANE**

This Economic Development Refunding Agreement ("Agreement") dated April 10, 2023 ("Effective Date") is hereby made by and between **Williamson County, Texas** a Texas political subdivision of the State of Texas (the "County"), and the **Hutto Economic Development Corporation Type B**, a Texas nonprofit corporation established pursuant to the Development Corporation Act, as codified in the Texas Local Government Code, as amended, and pursuant to the Texas Non-Profit Corporation Act, as codified in the Texas Business Organizations Code, as amended (the "HEDC"). The County and the HEDC may be referred to individually as "Party" and collectively as "Parties" for the purposes of this Agreement.

RECITALS

WHEREAS, the Board of Directors (the "Board") of the HEDC finds Section 501.103 of the Texas Local Government Code defines an authorized project for an economic development corporation to include "expenditures found by the board of directors to be required or suitable for infrastructure necessary to promote or develop new or expanded business enterprises limited to: (1) streets and roads, rail spurs, water and sewer utilities, electric utilities, or gas utilities, drainage, site improvements, and related improvements; (2) telecommunications and Internet improvements; or (3) beach remediation along the Gulf of Mexico;" and

WHEREAS, the County seeks acquire, develop, and improve transportation infrastructure located within the City of Hutto and the County in order to grow the local, regional and state economy; and

WHEREAS, the County specifically desires to improve transportation infrastructure with the design and construction of a right turn lane for FM 3349 at US 79; and

WHEREAS, on or around January 26, 2023, the Board of the HEDC adopted Resolution No. R-2023-012, approving a funding agreement between the City of Hutto and the HEDC to construct a spine road at the Megasite (the "Megasite Spine Road Funding Agreement"); and

WHEREAS, on or around February 16, 2023, the City Council of the City of Hutto adopted Resolution No. R-2023-037, approving the Megasite Spine Road Funding Agreement; and

WHEREAS, on or around February 16, 2023, the City Council of the City of Hutto authorized the issuance of \$12,000,000.00 in General Obligation Bonds, Series 2023, to fund roadway construction for the Spine Road at the Megasite; and

WHEREAS, the Board of Directors of the HEDC finds that the right turn lane onto the Megasite spine road is a component of the Megasite Spine Road Funding Agreement contemplated in the inclusion of the of the construction project; and

WHEREAS, the Board of Directors of the HEDC finds the general obligation bonds issued or to be issued to fund the construction of the Megaside Spine Road, included the funding of the right turn lane; and

WHEREAS, the Parties desire to authorize this Agreement to fund such transportation infrastructure; and

WHEREAS, the Board of the HEDC finds and the Parties agree the expenditures of funds provided and described in the Agreement are required and suitable to fund such transportation infrastructure; and

WHEREAS, the Board of the HEDC finds and the Parties agree such infrastructure is necessary to promote or develop new and expanded business; and

WHEREAS, the Board of the HEDC finds the expenditure of up to \$600,000.00 is required and suitable to fund infrastructure necessary to develop street and related infrastructure improvements, enabling the improvement of transportation infrastructure in the City, thereby promoting and developing new and expanded business enterprises opportunities, pursuant to Texas Local Government Code Section 501.103; and

NOW THEREFORE, in consideration of the foregoing and the mutual agreements, covenants, and payments authorized herein and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and as authorized by the Laws of the State of Texas, the Parties agree as follows:

ARTICLE 1 Recitals/Definitions

1.01 Recitals. The recitals referenced in this Agreement are incorporated herein for all purposes.

1.02 Definitions. As used in this Agreement, the following words and phrases shall have the meanings indicated:

“*HEDC Grant*” means the grant of funds to the County from the HEDC in accordance with this Agreement.

“*Project*” means the facilitation of the design and construction of a right turn lane onto FM 3349 at the approximate location shown on Exhibit “A” attached hereto, and the relocation of two existing easements (drainage easement held by Williamson County and a water easement held by Jonah SUD), if applicable.

ARTICLE 2

Term

The term of this Agreement (“Term”) will commence on the Effective Date and terminate after the HEDC provides the HEDC Grant to the County, unless sooner terminated as provided herein.

ARTICLE 3

Grant

3.01 HEDC Grant. The current estimate for the Project is Six Hundred Thousand Dollars (\$600,000). The County shall invoice the HEDC monthly for costs incurred for the Project with proof sufficient for the HEDC Board to verify the validity and necessity of such expenses. Upon approval by the HEDC Board of such proof, HEDC shall issue a payment for such expenses within 30 days of receipt of invoice. The HEDC’s obligation pursuant to this HEDC Grant is limited to the actual incurred and HEDC Board-approved costs of up to \$600,000.00.

3.02 Debt. Under no circumstances shall the obligations to the HEDC hereunder be deemed to create any debt within the meaning of any constitutional or statutory provision.

3.03 Current Revenue. The HEDC Grant payments will be paid solely from lawfully available funds that have been appropriated by the HEDC, as approved by the City Council of the City of Hutto.

3.04 Obligations of HEDC. The obligation of HEDC to provide the HEDC Grant is conditioned upon use of the funds in accordance with this Agreement.

3.05 ROW Acquisition. The HEDC and the County agree that the right-of-way for the Project will be dedicated to the County, free and clear of any liens.

ARTICLE 4

County Obligations

4.01 Project Design. The County shall be responsible for all costs associated with the preliminary and final design, construction management, utility coordination, environmental permitting and all other costs related to the design and permitting of the Project.

4.02 Construction Plans. The County shall submit to the HEDC, prior to contract award, all plans and specifications related to the Project for the Parties’ mutual review and approval. Any changes or modifications to the plans will be submitted to the HEDC for review and approval prior to commencement of construction. The plans will meet TxDOT requirements for turn lanes.

4.03 Inspection. The HEDC may inspect all aspects of the Project during construction. Upon receipt of notification from the HEDC that the HEDC inspectors have determined that the construction is not in accordance with the approved Project plans, the County will identify the deficiency and adopt a corrective plan of construction in accordance with this Agreement.

4.04 Easement Relocation. The Parties recognize that there are two existing easements (drainage easement held by Williamson County and a water easement held by Jonah SUD) that may need to be relocated because of the Project. The County will be responsible for negotiation, design, construction and the preparation of all related documents and new surveys for the relocation of such easements.

**ARTICLE 5
Miscellaneous**

5.01 Amendment. This Agreement may be amended only by written amendment signed by both Parties.

5.02 Venue. All payments made pursuant to this Agreement and other obligations performed under this Agreement shall be made or performed in Williamson County, Texas. Venue for any action concerning this Agreement shall lie in a state court of competent jurisdiction in Williamson County, Texas. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas without giving effect to any conflicts of law rule or principle that might result in the application of laws of another jurisdiction.

5.03 Legal Construction. In the event any one or more of the provisions in this Agreement shall be held to be invalid, illegal, or unenforceable, such invalidity, illegality or unenforceability shall not affect the other provisions of this Agreement.

5.04 Notices. All notices given with respect to this Agreement shall be in writing and shall be deemed to have been properly given for all purposes (i) if sent by a nationally recognized overnight carrier for next business day delivery, on the first business day following deposit of such notice with such carrier unless such carrier confirms such notice was not delivered, then on the day such carrier actually delivers such notice; or (ii) if personally delivered, on the actual date of delivery; or (iii) if sent by certified U.S. Mail, return receipt requested postage prepaid, on the fifth business day following the date of mailing; or (iv) if sent by facsimile, then on the actual date of delivery (as evidenced by a facsimile confirmation) provided that a copy of the facsimile and confirmation is also sent by regular U.S. Mail, addressed as follows:

For County:

Bill Gravell
Williamson County Judge
710 S. Main St., Suite 101
Georgetown, TX 78626

For HEDC:

Attention Executive Director
Hutto Economic Development Corporation Type B
500 W. Live Oak St.
Hutto, TX 78634

5.05 Assignment. This Agreement is binding upon the Parties and their successors and assigns. This Agreement may not be assigned by either Party without the specific prior written consent of the other Party, which consent may be withheld at the sole discretion of the non-assigning Party.

5.06 Parties in Interest. Nothing in this Agreement shall entitle any party other than those stated herein to any claim, cause of action, remedy, or right of any kind.

5.07 Interpretation. Each Party has had the opportunity to be represented by counsel of its choice in negotiating this Agreement. This Agreement shall therefore be deemed to have been negotiated and prepared at the joint request, direction, and construction of the Parties, at arm's length, and will be interpreted in accordance with its terms without favor to any Party.

5.08 No Joint Venture. Nothing contained in this Agreement is intended by the Parties to create a partnership or joint venture between the Parties.

5.09 Survival of Terms. All rights, duties, liabilities, and obligations accrued prior to termination shall survive termination.

5.10 Entire Agreement. This Agreement represents the entire agreement of the Parties with respect to the subject matter hereof.

5.11 Counterparts. This Agreement may be executed in counterparts. Each of the counterparts shall be deemed an original instrument, but all the counterparts shall constitute one and the same instrument.

5.12 Exhibits. All exhibits to this Agreement are incorporated herein by reference for all purposes wherever reference is made to the same.


5.13 Authorization. Each Party represents that it has full capacity and authority to grant all rights and assume all obligations that are granted and assumed in this Agreement.

HUTTO ECONOMIC DEVELOPMENT CORPORATION, TYPE B

By: 

Don Carlson, Board Chair

ATTEST:

By: 

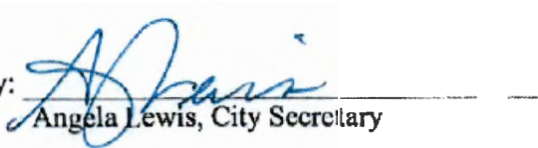
Erin Clancy, Board Secretary

The **Hutto City Council** approved this Agreement and authorized its execution by the undersigned on June 15, 2023.

By: 

James Earp, City Manager

ATTEST:

By: 

Angela Lewis, City Secretary



WILLIAMSON COUNTY

Bill Gravel Jr.
Bill Gravel Jr. (Jun 28, 2023 07:47 CDT)

By: Bill Gravel, Jr., County Judge

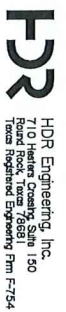
ATTEST:



Nancy Rister, County Clerk

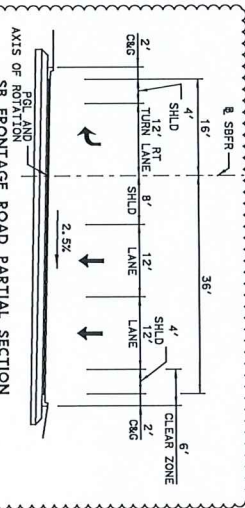
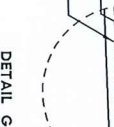
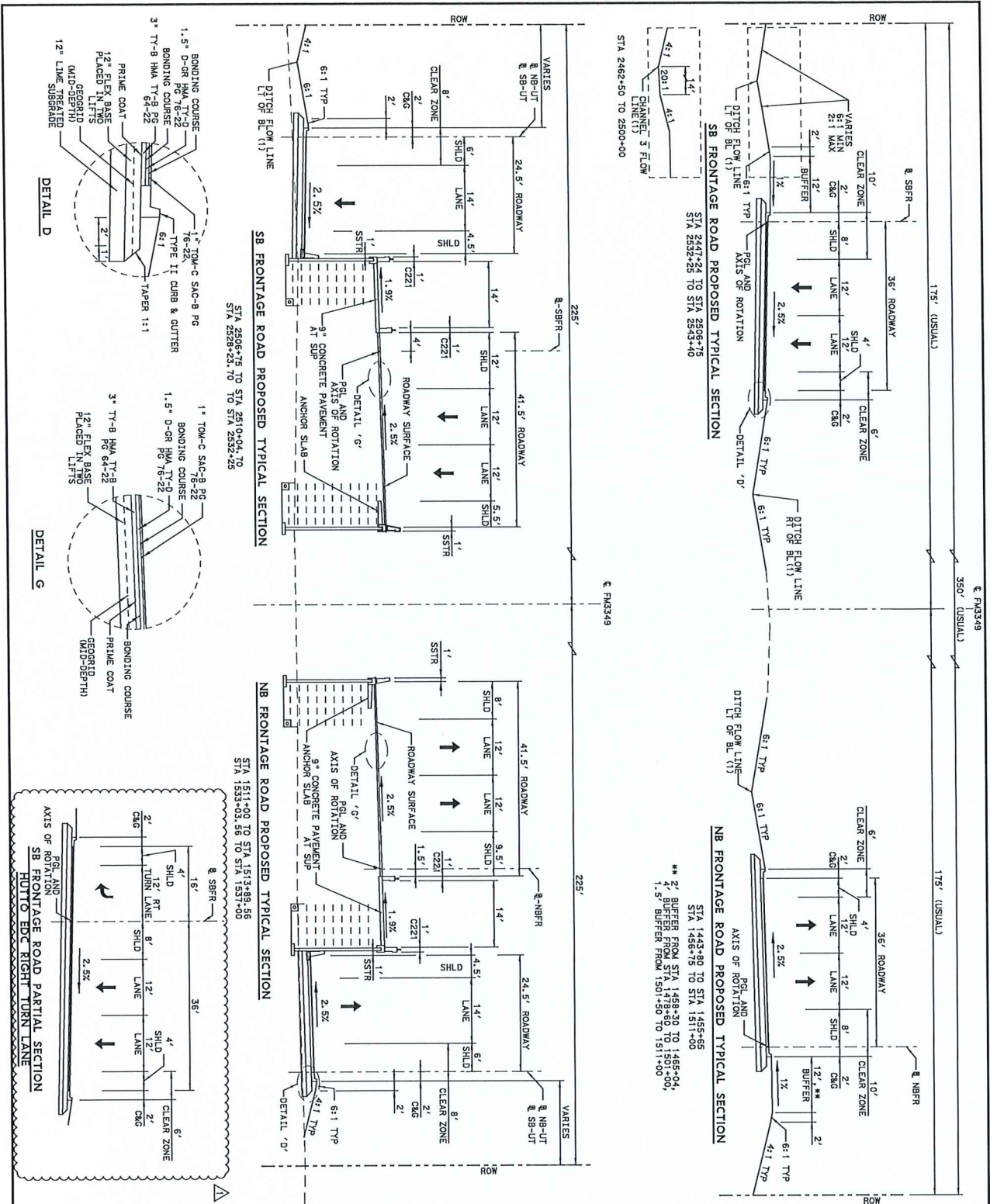
US 79 AND FM 3349 INTERSECTION IMPROVEMENT PROJECT
HUTTO EDC SOUTHBOUND FRONTAGE ROAD RIGHT TURN LANE
TAYLOR, TX

CHANGE ORDER #2 PLANS
02/27/2023



PREPARED BY:

PRELIMINARY
ISSUED FOR REVIEW
NOT FOR
CONSTRUCTION
PHILIP A. FULTON, PE
#73469
02/27/2023



SECTION	REV	DATE	BY	CHKD	APP'D
FT	6	2/21/23			
QUANTITY	6				
LG	STATE	DISTRICT	COUNTY	SHEET	
CDIST	TEXAS	AUS	WILLAMSON	14	
CDIST	CONTRACT	SECTION	JOB		
	3486	01	008, ETC		

PROPOSED TYPICAL SECTIONS

FM 3349

Texas Department of Transportation

HDR HDR Engineering, Inc.
 7100 Highway 70801
 Houston, Texas 77061
 Phone: 281.419.8100
 Fax: 281.419.8101
 www.hdr.com

PRELIMINARY ISSUED FOR REVIEW NOT FOR CONSTRUCTION
 PHILIP A. FULTON, PE #73489
 02/27/2023

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

FM 3349-EARTHWORK QUANTITIES

STATION	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL DENS. COUNT 1TT @)
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	284
424+00	298	272
424+50	344	302
425+00	317	529
425+50	258	121
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	783
433+50	468	641
434+00	523	538
434+50	605	496
435+00	736	484
435+50	900	314
436+00	1070	298
436+50	1208	286
437+00	1301	221
437+50	1351	184
438+00	1396	225
438+50	1472	219
439+00	1556	146
439+50	1984	124
440+00	1818	123
440+50	1433	152
441+00	1119	185
441+50	1125	236
442+00	1100	276
442+50	1024	356
443+00	929	482
443+50	875	482
444+00	841	518
444+50	828	530
445+00	1353	537
445+50	1244	629
446+00	507	766
446+50	380	889
447+00	300	1049

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL DENS. COUNT 1TT @)
447+50	228	1218
448+00	161	1425
448+50	115	1635
449+00	89	1886
449+50	107	1924
450+00	112	2146
450+50	73	2314
451+00	65	2679
451+50	82	2608
451+73	45	1091
452+00	66	1040
452+50	215	1439
452+53	287	854
453+00	215	453
453+50	683	1771
454+00	714	1903
454+50	707	1264
455+00	873	983
455+50	999	962
456+00	947	740
456+50	904	495
457+00	1002	329
457+50	1101	178
458+00	1159	138
458+50	1267	115
459+00	1416	50
459+50	1546	12
460+00	1680	15
460+50	1833	17
461+00	1619	28
461+50	1816	22
462+00	1761	23
462+50	1655	25
462+73	1023	7
463+00	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+21	1038	7
467+00	2172	21
467+50	2072	28
468+00	2021	47
468+50	1985	44
469+00	1996	43
470+00	1990	43
470+50	2021	33
471+00	1905	32
471+50	1833	52
472+00	1847	48
472+50	1844	45
473+00	1795	66
473+50	1705	72
474+00	1654	80

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL DENS. COUNT 1TT @)
474+50	1640	88
475+00	1718	80
475+50	1685	81
476+00	1601	96
476+50	1602	105
477+00	1568	114
477+50	1596	132
478+00	1605	159
478+50	1545	243
479+00	1345	231
479+50	1381	209
480+00	1525	176
480+50	1480	156
481+00	1467	139
482+00	1446	127
482+50	1477	145
483+00	1685	124
483+50	1953	89
484+00	2292	61
484+50	2048	85
485+00	1539	109
485+50	1490	106
486+00	1430	102
486+50	1359	102
487+00	1416	98
487+50	1338	99
488+00	1281	103
488+50	1248	104
489+00	1196	102
489+50	1182	107
490+00	1162	120
491+00	1126	147
492+00	1042	165
492+50	1010	184
493+00	979	201
493+50	946	218
494+00	899	249
494+50	852	287
495+00	791	317
495+50	762	351
496+00	709	356
497+00	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	453
501+00	385	463
501+50	402	456
502+00	435	464
502+50	478	453
503+00	532	423
503+50	593	391

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL DENS. COUNT 1TT @)
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	821
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	735
512+50	951	520
513+00	1059	315
513+50	993	207
514+00	843	278
514+50	631	336
515+00	385	119
515+50	304	22
516+00	314	0
516+50	528	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	525	78
521+00	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+50	690	48
529+00	182	76
529+73	365	401
529+90	389	547
529+50	739	836
530+00	723	592
530+50	861	397
531+00	1185	219

FM 3349-EARTHWORK QUANTITIES (CONTINUED)

STATION	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL DENS. COUNT 1TT @)
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	1820	62
536+00	1846	54
536+50	1765	39
537+00	1605	26
537+50	1671	20
538+00	1714	29
538+50	1525	39
539+00	1536	49
539+50	1592	48
540+00	1748	47
540+50	1791	58
541+00	1639	69
541+50	1354	107
542+00	1134	163
542+50	1127	115
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	77
547+00	747	71
547+50	744	71
548+00	728	59

WILLIAMSON
 H&R Engineering, Inc.
 7100 Highway 170, Suite 150
 Houston, Texas 77057
 Phone: 281.486.8888
 Fax: 281.486.8889

W Texas Department of Transportation

FM 3349



SUMMARY OF QUANTITIES


ITEM	DESCRIPTION	QUANTITY	UNIT
1	EXCAVATION	118,500	CU YD
2	EMBANKMENT	1,100,000	CU YD
3	GRAVEL	1,100,000	CU YD
4	CRACK SEALANT	1,100,000	CU YD
5	CONCRETE	1,100,000	CU YD
6	ASPHALT	1,100,000	CU YD
7	PAVEMENT	1,100,000	CU YD
8	STRUCTURE	1,100,000	CU YD
9	UTILITY	1,100,000	CU YD
10	OTHER	1,100,000	CU YD
11	TOTAL	1,100,000	CU YD

DATE: 2/27/23
 DRAWN BY: BRTGORES
 CHECKED BY: BRTGORES
 SCALE: AS SHOWN
 SHEET 7 OF 17

ILLUMINATION SHEETS	STATION TO STATION	SUMMARY OF ILLUMINATION QUANTITIES													
		041E 6029	043Z 6001	0610 6106	0610 6208	0610 6216	0618 6023	0618 6064	0620 6005	0620 6006	0620 6007	0620 6008	0624 6002	0624 6049	
		DRILL SHEET (BODY ILL POLE)	RIPPAP (CONC) (4 IN)	IN RD TL (U/P) (11' 2' LED)	IN RD TL (T/S) (S1) (40' 1' LED)	IN RD TL (T/S) (S2) (40' 1' LED)	CONOT (PVC) (SCH 40) (2')	CONOT (RM) (1")	ELEC CONOR (NO. 10) BARE	ELEC CONOR (NO. 10) INSULATED	ELEC CONOR (NO. 8) BARE	ELEC CONOR (NO. 8) INSULATED	GROUND ROD (T/A) (1/2" X 1/2" X 36")	ELEC SVT (T/A) (240/480 060 NS) (5' X 3/8") (0)	
		LF	CV	EA	EA	EA	LF	LF	LF	LF	LF	LF	EA	EA	
688	BEGIN TO 426+00	32	1.68				944								
689	426+00 TO 437+00	24	1.51				1281								
700	437+00 TO 448+00	32	1.68				1548								
701	448+00 TO 482+00	16	1.26				1075								
702	482+00 TO 503+00	48	2.66				1768								
703	503+00 TO 514+00	8	0.51				588								
704	514+00 TO 525+00	8	0.91				3007								
705	525+00 TO 536+00	8	0.91				4180								
706	536+00 TO 547+00	64	3.64				2310								
707	547+00 TO 558+00	32	2.24				1339								
708	558+00 TO END	24	1.05				481								
709	UNDERPASS						518								
710	UNDERPASS						475								
ILLUMINATION TOTALS		288	171.92	16	27	36	22636	983	6825	13680	18534	37068	21	4	

NO.	1	DATE	2/20/23	NO.	2	DATE	
NO.	3	DATE		NO.	4	DATE	
NO.	5	DATE		NO.	6	DATE	



 H2R Engineering, Inc.
 710 Highway 710
 P.O. Box 70881
 Fort Worth, Texas 76161
 Texas Registered Engineering Firm F-734


 Texas Department of Transportation
 FM 3349



SUMMARY OF QUANTITIES


SHEET 13 OF 17
 TEXAS
 DISTRICT 6
 COUNTY WILLIAMSON
 STATE TEXAS
 COUNTY WILLIAMSON
 PROJECT FM 3349
 SECTION 01
 JOB 008, ETC.
 CHECKED 3486
 PLO 01
 SHEET NO. 31

ITEM	DESCRIPTION	QTY	UNIT
110 6001	EXCAVATION (ORDINARY)	958.00	CY
110 6001	EQUIPMENT (FINAL) (ORG COMP) (TY C1)	434.00	CY
160 6003	FURNISHING AND PLACING TOPSOIL (4")	3,550.00	SY
164 6035	DRILL SEEDING (GRASS) (RURAL) (CLAY)	3,550.00	SY
169 6001	SOIL RETENTION BLANKETS (CL 1) (TY A)	3,550.00	SY
169 6008	SOIL RETENTION BLANKETS (CL 2) (TY B)	3,550.00	SY
247 6044	FL SS (COMP IN PLACE) (A OR 2) (FINAL POS)	2,192.00	CY
260 6011	LIME TRL (ESS) MATL (12")	140.00	TON
260 6042	LIME TRL (ESS) MATL (12")	140.00	TON
402 6001	TRASH EXCAVATION PROTECTION	75.70	CY
402 6001	TRASH EXCAVATION PROTECTION	75.70	CY
462 6012	CONC BOX CULV (8FTX8FT)	280.00	LF
466 6182	WINDFALL (PW - 1) (HW+7 FT)	194.00	LF
529 6008	CONC CURB & GUTTER (TY 11)	108.00	LF
518 6023	CONC (RVA) (RVA 40) (2")	422.00	LF
620 6007	ELEC CONDU (NO 3) (BARE) (ALUM)	2.00	EA
620 6007	ELEC CONDU (NO 3) (BARE) (ALUM)	2.00	EA
620 6007	ELEC CONDU (NO 3) (BARE) (ALUM)	2.00	EA
620 6007	ELEC CONDU (NO 3) (BARE) (ALUM)	2.00	EA
666 6184	REFL PAY MARK TY I (W) (S&D) (100ML)	435.00	EA
666 6192	REFL PAY MARK TY II (W) (ARROW)	2.00	EA
666 6192	REFL PAY MARK TY II (W) (ARROW)	2.00	EA
666 6303	REFL PAY MARK TY I (W) (S&D) (100ML)	435.00	EA
666 6342	REFL PAY MARK TY I (W) (S&D) (100ML)	435.00	EA
672 6010	REFL PAY MARK TY I (W) (S&D) (100ML)	435.00	EA
672 6010	REFL PAY MARK TY I (W) (S&D) (100ML)	435.00	EA
672 6010	REFL PAY MARK TY I (W) (S&D) (100ML)	435.00	EA
3081 6008	TOC-C PG 76-22 SAC-B	127.60	TON
3081 6008	TOC-C PG 76-22 SAC-B	127.60	TON
3081 6008	TOC-C PG 76-22 SAC-B	127.60	TON
5001 6002	GEORCID BASE REINFORCEMENT (TY 11)	2,400.00	SY

SHEET 35B

DATE	1/27/23	QTY	242
NO.			
DATE			
NO.			
DATE			
NO.			



 HDR Engineering, Inc.
 710 Hedder Crossing, Suite 150
 Houston, Texas 77061
 Phone: 281.460.8900
 Fax: 281.460.8901


 Texas Department of Transportation
 FM 3349
 SUMMARY OF QUANTITIES
 CHANGE ORDER #2

SECTION	SECTION	SECTION	SECTION
FT	6	FL 3349	35B
STATE	TEXAS	DISTRICT	AUS
COUNTY	DADE	SECTION	008, ETC
CONTRACT	3485	JOB	35B

SHEET 1 OF 1

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	ALUMINUM (TYPE A)		POST TYPE		ANCHOR TYPE	MOUNTING DESIGNATION		BRIDGE MOUNT CLEARANCE (See Note 2)
					FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sph 80	POSTS		UF=Unfinished Cone US=Unfinished Bolt SA=Stainless-Steel SP=Stainless-Steel MS=Wedged Steel WP=Wedged Plastic	UF=Unfinished Cone US=Unfinished Bolt SA=Stainless-Steel SP=Stainless-Steel MS=Wedged Steel WP=Wedged Plastic	
31	M3-1		NORTH FM 3349	24X12 24X24	X	X	10BWG	1	SA		P	
32	R1-1		STOP	36X36	X	X	10BWG	1	SA		P	BM
33	R1-1		STOP	36X36	X	X	10BWG	1	SA		P	BM
34	R1-1		STOP	36X36	X	X	10BWG	1	SA		P	BM
1	R5-1G		WRONG WAY	42X30	X	X	10BWG	1	SA		U	
2	R5-1G		WRONG WAY	42X30	X	X	10BWG	1	SA		U	
3	D21-TTR		CR 132 →	54X12	X	X	10BWG	1	SA		T	
4	W8-13GT		BRIDGE MAY ICE IN COLD WEATHER	36X36	X	X	10BWG	1	SA		T	
5	-		SIGN OMITTED									
6	R2-1		SPEED LIMIT 65	30X36	X	X	10BWG	1	SA		P	
1	W9-2TR		LANE ENDS MERGE RIGHT	36X36	X	X	10BWG	1	SA		T	
2	W9-2TR		LANE ENDS MERGE RIGHT	36X36	X	X	10BWG	1	SA		T	
1	R5-1G		WRONG WAY	42X30	X	X	10BWG	1	SA		U	
2	R5-1G		WRONG WAY	42X30	X	X	10BWG	1	SA		U	
1	R2-1		SPEED LIMIT 65	30X36	X	X	10BWG	1	SA		P	
2	R6-1L		ONE WAY	54X18	X	X	10BWG	1	SA		T	
3	R6-1L		ONE WAY	54X18	X	X	10BWG	1	SA		P	BM
1	R1-1		STOP	36X36	X	X	10BWG	1	SA		T	
4	R5-1		DO NOT ENTER	36X36	X	X	10BWG	1	SA		T	
5	R5-1		DO NOT ENTER	36X36	X	X	10BWG	1	SA		T	
6	R5-1G		WRONG WAY	42X30	X	X	10BWG	1	SA		U	
7	R5-1G		WRONG WAY	42X30	X	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	X	10BWG	1	SA		T	
10	R5-1		DO NOT ENTER	36X36	X	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	X	10BWG	1	SA		T	
13	R3-7R		RIGHT LANE MUST TURN RIGHT	36X36	X	X	10BWG	1	SA		T	
14	R3-7R		RIGHT LANE MUST TURN RIGHT	36X36	X	X	10BWG	1	SA		T	



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

The Standard Highway Sign Design 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 as otherwise shown on the plans. The contractor shall check and the Engineer will verify all sign support locations.
- For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (SACS) Standard Sheet.
- For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details (SMD) (SBN).

NO.	DATE	BY	REVISION	APPROVED
1	2/27/23			

SUMMARY OF SMALL SIGNS

SOSS

DATE: 2/27/2023 2:16:02 PM
FILE: 14

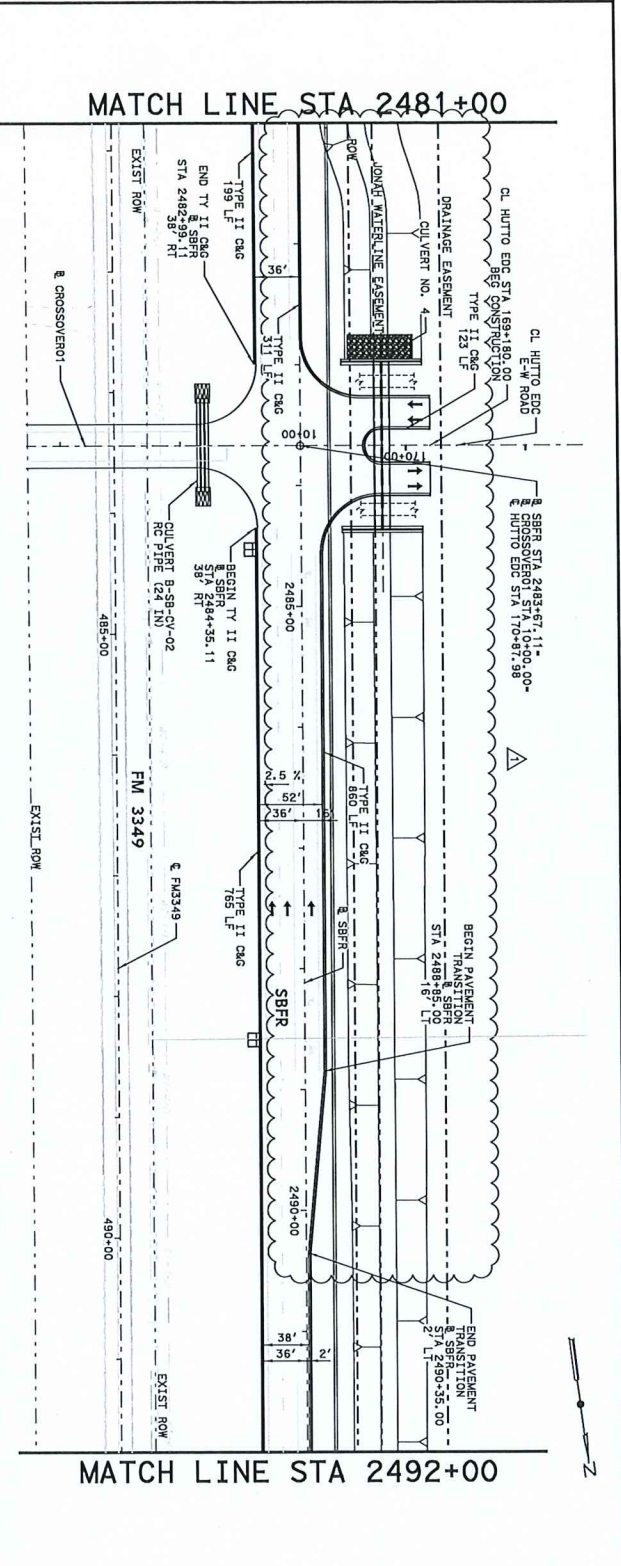
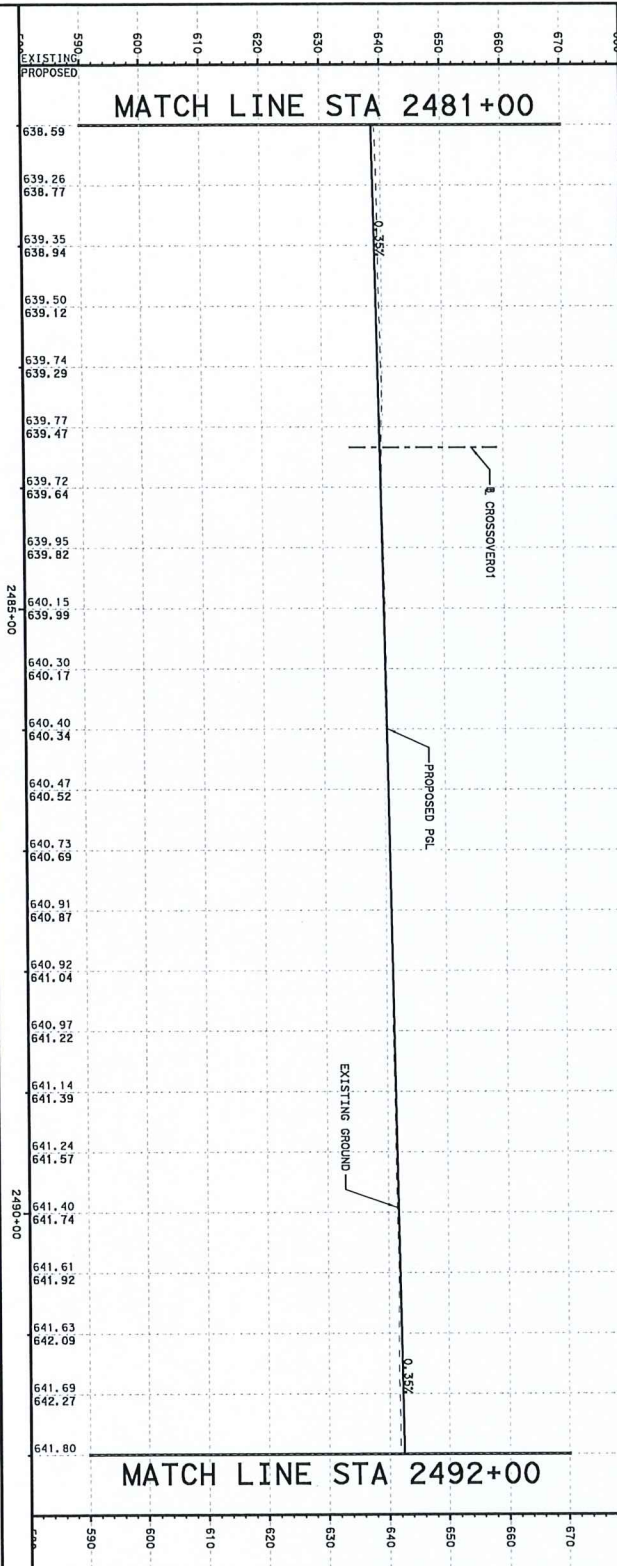
DESIGNED BY: WILKINSON
CHECKED BY: WILKINSON
DATE: 2/27/23

PROJECT: 3486 01 009, ETC
DRAWN BY: WILKINSON
DATE: 2/27/23

SCALE: 1"=10'-0"

PROJECT NO.: 3486 01 009, ETC
SHEET NO.: 39

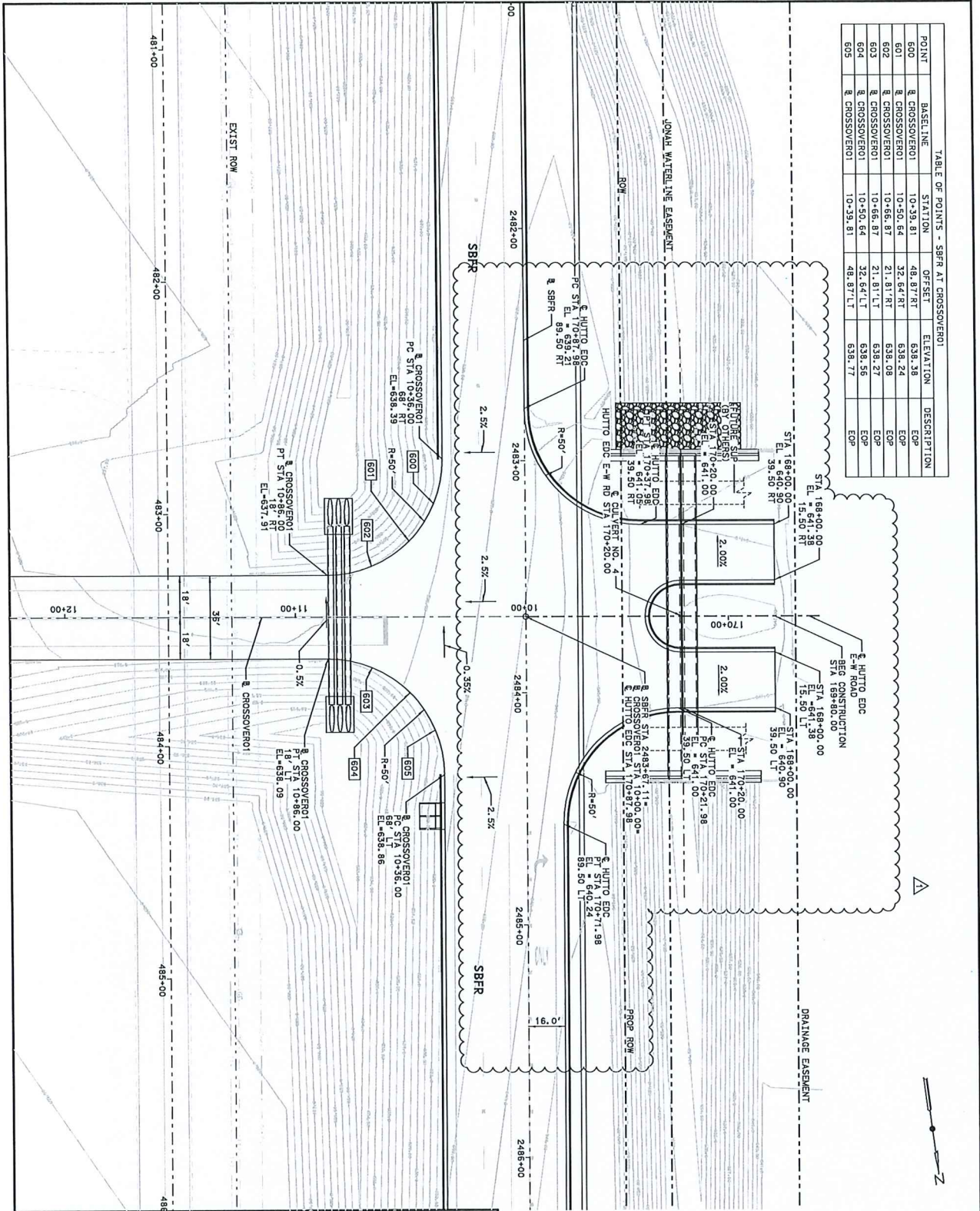
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SCALE: 1"=100' SHEET 7 OF 12	
PROJECT NO. 3485 DIST. NO. 01	FEDERAL AID PROJECT NO. FM 3349 DISTRICT WILLIAMSON
STATE TEXAS COUNTY WILLIAMSON DISTRICT A115 SECTION 008	SHEET 197
PLAN AND PROFILE SBFR STA 2481+00 TO STA 2492+00	
HDR Engineering, Inc. 710 Hedder County State 150 P.O. Box 108881 Atlanta, Georgia 30308-0881 Phone: (404) 525-8600 Fax: (404) 525-8601	
Texas Department of Transportation FM 3349	
NO. 1 DATE 1/27/23 REVISION	242
<div style="border: 1px solid red; padding: 5px; color: red; text-align: center;"> THIS DOCUMENT IS UNCONTROLLED AFTER CONSTRUCTION FOR ANY VARIATION, REFER TO THE ORIGINAL DRAWING </div>	

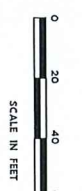
- LEGEND
- PROPERTY LINE (WILLIAMSON CENTRAL APPRAISAL DISTRICT)
 - EXISTING ROW
 - LEVEL-UP AND OVERLAY
 - MILL AND OVERLAY
 - WIDENING
 - PROPOSED EDGE OF PAVEMENT
 - PROPOSED RETAINING WALL
 - SMALL
 - TRAVEL LANE
- NOTES
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR CURVE DATA AND ADDITIONAL INFO.
 2. REFER TO DRAINAGE, BRIDGE AND RETAINING WALL SHEETS FOR APPLICABLE DETAILS.
 3. DIMENSION ARE TO THE LIP OF CUTTER UNLESS NOTED OTHERWISE.
 4. PROVIDE 10' LENGTH CURB HEIGHT TRANSITION AT THE BEGINNING AND END OF THE TYPE II CURB AND GUTTER. REFER TO STANDARD DETAILS.
 5. CONTRACTOR TO VERIFY GATE LOCATION PRIOR TO PLACEMENT
- H: 0 50 100 150 200
 V: 0 10 20 30 40
 SCALE IN FEET

POINT	BASIS LINE	STATION	OFF-SET	ELEVATION	DESCRIPTION
600	SBFR	10-39.81	48.87' RT	638.39	EGP
601	SBFR	10-50.64	32.64' RT	638.24	EGP
602	SBFR	10-66.87	21.81' RT	638.08	EGP
603	SBFR	10-66.87	21.81' LT	638.27	EGP
604	SBFR	10-50.64	32.64' LT	638.35	EGP
605	SBFR	10-39.81	48.87' LT	638.77	EGP

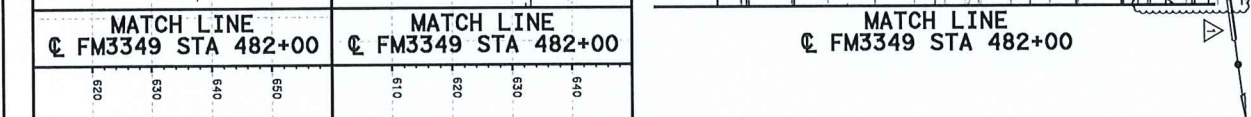
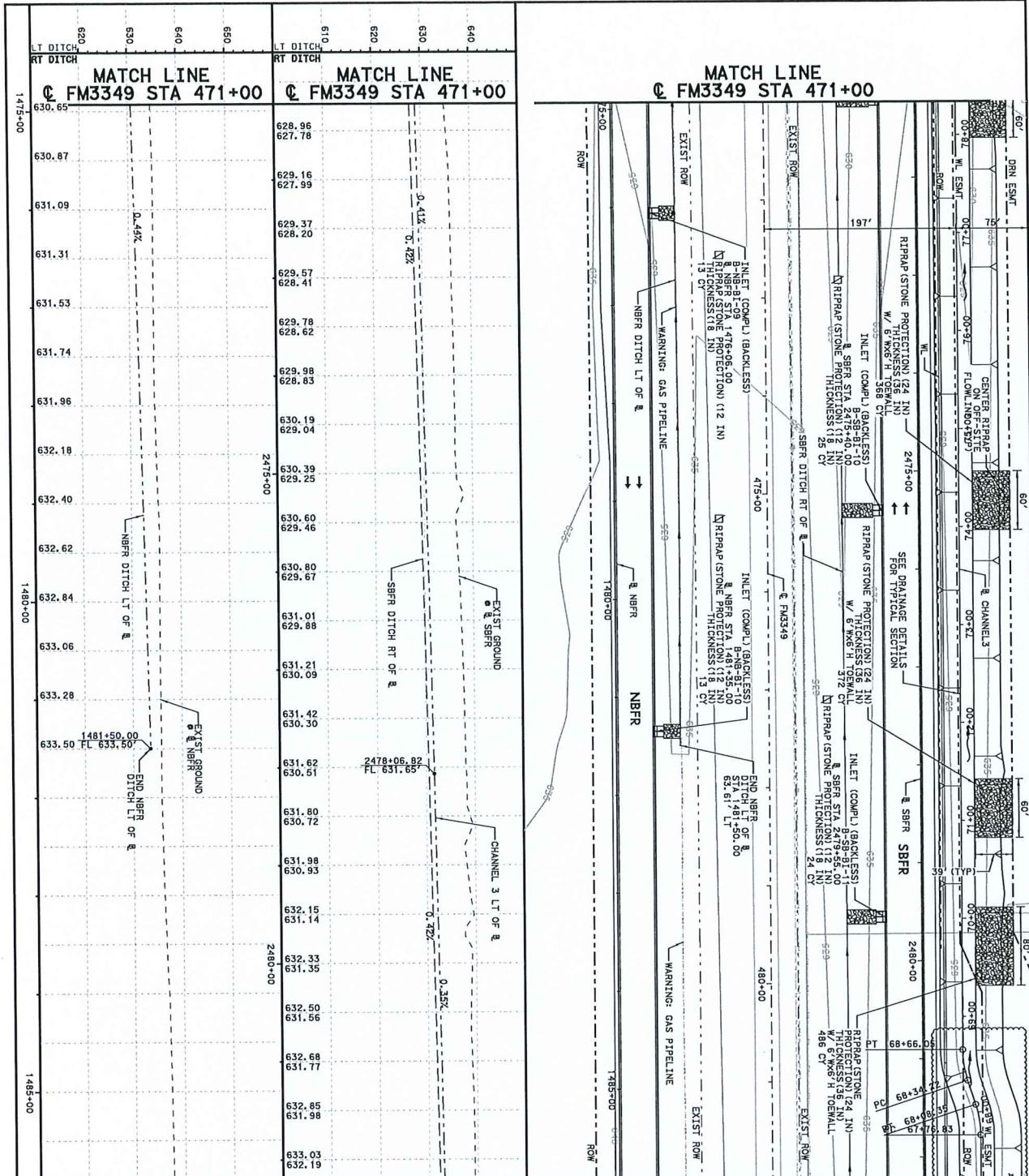


	PROPERTY LINE
	APPRAISAL DISTRICT
	EXISTING ROW
	LEVEL-UP AND OVERLAY
	MILL AND OVERLAY
	PROPOSED EDGE OF PAVEMENT
	PROPOSED RETAINING WALL
	SAWCUT

- NOTES:
1. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR CURVE DATA AND ADDITIONAL INFO.
 2. REFER TO DRAINAGE BRIDGE AND RETAINING WALL SHEETS FOR DIMENSIONABLE DETAILS.
 3. DIMENSIONS ARE TO THE LIP OF CUTTER UNLESS NOTED OTHERWISE.



FM 3349	
INTERSECTION DETAIL SBFR AT CROSSOVER AND HUTTO EDC E-W ROAD	
SCALE: 1"=40' SHEET 1 OF 1	FEDERAL AID PROJECT NO.
DISTRICT	COUNTY
STATE	PROJECT NO.
TEXAS	FM 3349
CONTROL SECTION	SHEET NO.
CHECK	230



NOTES:

- SEE INTERIOR DRAINAGE AREA MAP FOR NAME KEY.
- STATIONS AND OFFSETS FOR STRUCTURES ARE TO CENTER OF WALL. ELEVATIONS OF STRUCTURES ARE TO FINISH ELEVATION. FOR THE INLET, THE ELEVATION IS TO THE TOP OF THE INLET. FOR GRATE INLETS, ELEVATION IS TO TOP OF RAIL.
- SEE BRIDGE LAYOUT SHEETS FOR BRIDGE DECK INLET LOCATIONS.
- THE UTILITY INFORMATION SHOWN IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY DEPT. LINES AND LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
- WARNING: 16" GAS PIPELINE LOCATION. CONSTRUCTION SHALL BE CAREFULLY MONITORED TO AVOID CONSTRUCTION ACTIVITY AROUND PIPELINE CONSIDERED SUBSIDIARY TO PERTINENT ITEMS.
- SEE EROSION CONTROL SHEETS FOR EROSION CONTROL BLANKET LIMITS & QUANTITIES.
- ⊠ DENOTES TOWELL. IS NOT REQUIRED.

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

LEGEND

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

SCALE: 1"=100'

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

FM 3349

W WILKINSON
HDR HDR Engineering, Inc.
 710 Hedrick Street, Suite 100
 Houston, Texas 77061
 (713) 865-1100
 www.hdr.com

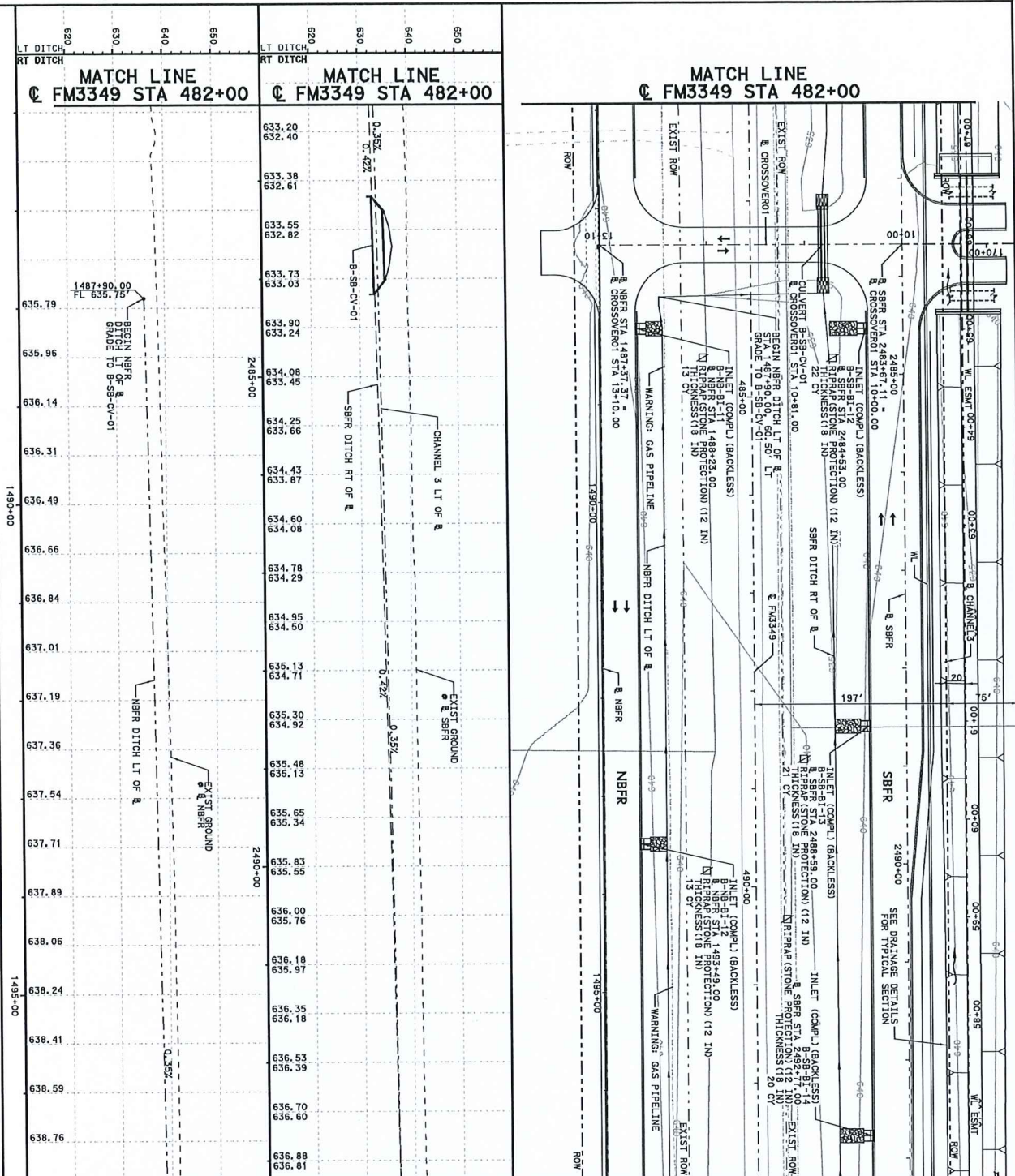
Texas Department of Transportation

NO.	DATE	REVISION	BY	CHECKED
1	2/27/23			

NO.	DATE	BY	CHECKED
1	2/27/23		

PROJECT NO. 3486
 SHEET 6 OF 13
 COUNTY: WILLIAMSON
 DISTRICT: 6
 STATE: TEXAS
 CONTROL SECTION: 01
 JOB: 008, ETC.

353



LEGEND

- PROPOSED CULVERT
- PROPOSED STORM DRAIN
- PROPOSED INLET
- PROPOSED DITCH
- PROPOSED CONCRETE RIPRAP
- PROPOSED STONE RIPRAP
- EXISTING RIGHT OF WAY
- PROPOSED DRAINAGE EMBANKMENT
- 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 AT FINAL ELEVATION. CENTER POINTS ARE NOT INCLUDING THE 3" OUTER 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 TO DRAINAGE LOCATIONS OF UTILITIES BEFORE TO CONSTRUCTION.
- WARNING: 6" GAS PIPELINE LOCATED UNDER CONSTRUCTION ACTIVITY AROUND PIPELINE. CONSIDERED SUBSIDIARY TO PERTINENT ITEMS.
- SEE EROSION CONTROL SHEETS FOR EROSION CONTROL BLANKET LIMITS & QUANTITIES.
- DENOTES TOWELL IS NOT REQUIRED.

SCALE: 1" = 100'

SCALE IN FEET: 0 50 100 150 200

INTERIOR DRAINAGE PLAN AND PROFILE STA 482+00 TO STA 493+00

FM 3349

WILLIAMSON

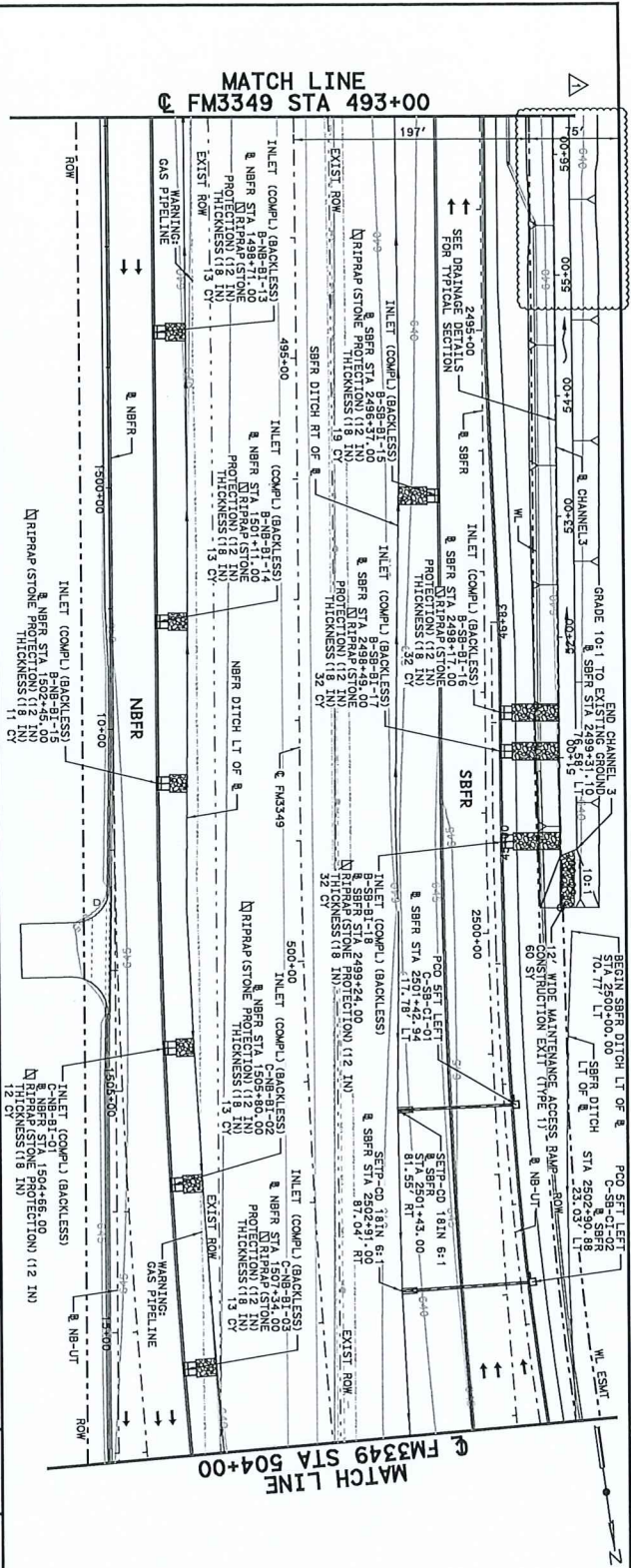
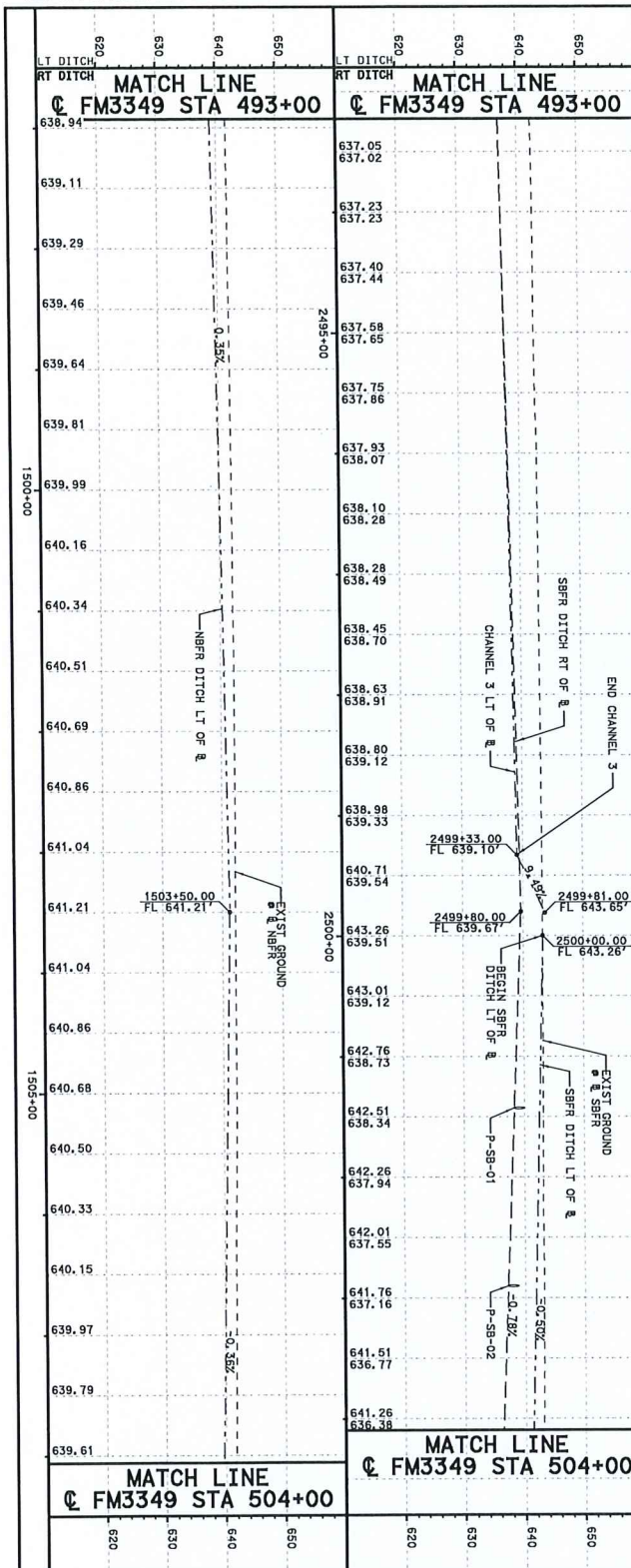
HDR HDR Engineering, Inc.
 710 Hedder County Road 150
 P.O. Box 976881
 Houston, Texas 77297-6881
 Phone: (281) 865-1100
 Fax: (281) 865-1101

TEXAS Department of Transportation

NO.	DATE	REVISION	BY	CHKD
1	2/27/23	02 22		

STATE: TEXAS
 COUNTY: WILLIAMSON
 DISTRICT: 009, ETC.

SHEET 7 OF 13
 PROJECT NO. FM 3349
 DRAWING NO. 354



SCALE: 1" = 40.0'

DATE	BY	CHKD	APP'D
1/27/23	WJL	WJL	WJL
DATE	BY	CHKD	APP'D
2/27/23	WJL	WJL	WJL

WILLIAMSON
 H2R
 H2R Engineering, Inc.
 710 Hedrick Street, Suite 150
 Fort Worth, Texas 76102
 Phone: 817.343.8888
 Fax: 817.343.8889
 www.h2r.com

TXDOT PROJECT NO. FM 3349
 SHEET 8 OF 13
 INTERIOR DRAINAGE
 PLAN AND PROFILE
 STA 493+00 TO STA 504+00

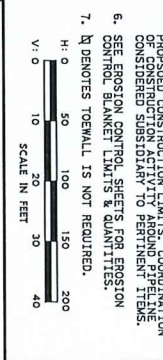
DESIGNED BY: WJL
 CHECKED BY: WJL
 DATE: 01/09/23

NO.	DATE	REVISION
1	2/27/23	ISSUE FOR PERMIT



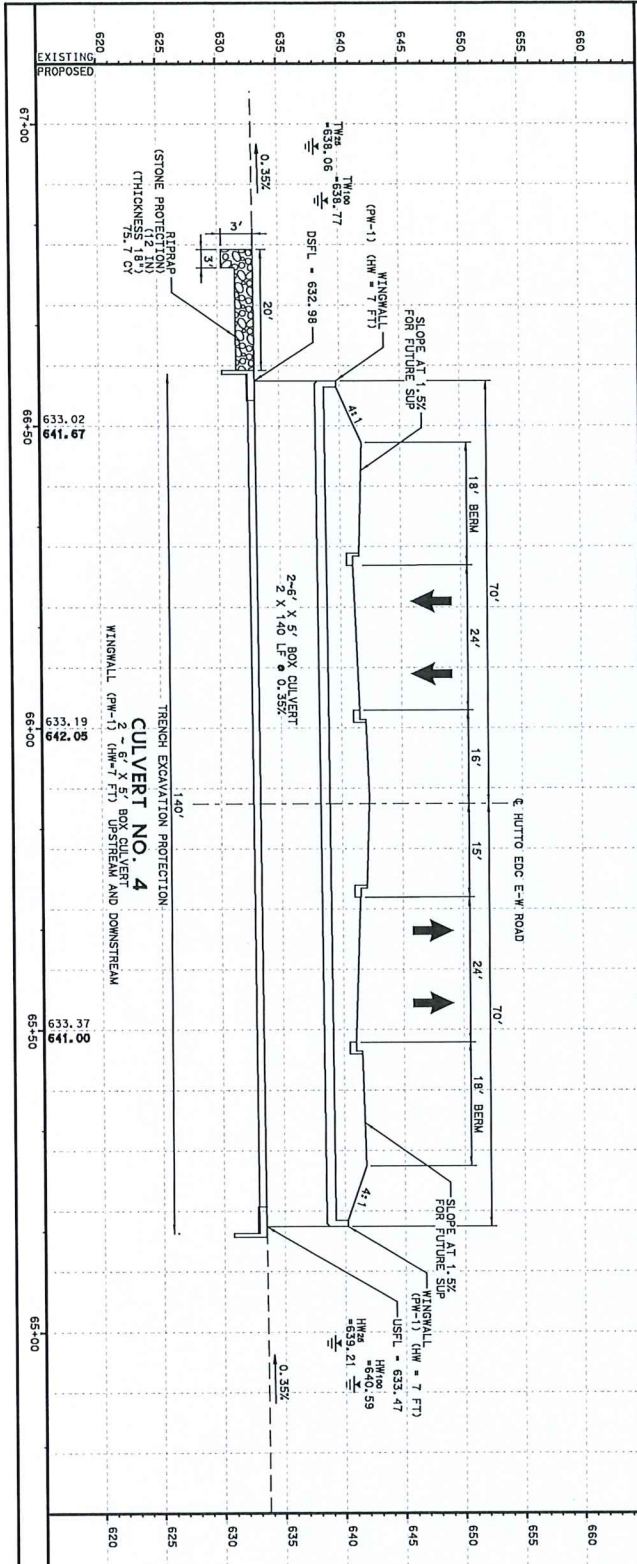
NOTES:

- SEE INTERIOR DRAINAGE AREA MAP FOR NAME KEY.
- STATIONS AND OFFSETS FOR STRUCTURES ARE TO CENTER OF VALVE. ELEVATIONS OF STRUCTURES GIVEN AT THE NORMAL CUTTER LOW WATER STAGE. NOT INCLUDING THE 3" CUTTER DEPRESSION. FOR GRADE INLETS, ELEVATION IS TOE OF FALL.
- SEE BRIDGE LAYOUT SHEETS FOR BRIDGE DECK INLET LOCATIONS.
- THE UTILITY INFORMATION SHOWN IS APPROXIMATE. CONTRACTOR OF SHALL VERIFY PERIOD TO GAS RADIATION.
- WARNING: GAS PIPELINE LOCATED IN CONSTRUCTION AREA. CONSIDERED SUBSTITUTION FOR EROSION CONTROL BLANKET LIMITS & QUANTITIES.
- SEE EROSION CONTROL SHEETS FOR EROSION CONTROL BLANKET LIMITS & QUANTITIES.
- N DENOTES TOWELL IS NOT REQUIRED.



LEGEND

- PROPOSED CULVERT
- PROPOSED STORM DRAIN
- PROPOSED INLET
- PROPOSED DITCH
- PROPOSED CONCRETE 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



**INTERIOR DRAINAGE
 CULVERT LAYOUT
 CULVERT NO. 4**

SCALE: 1" = 20'

SHEET 1 OF 1

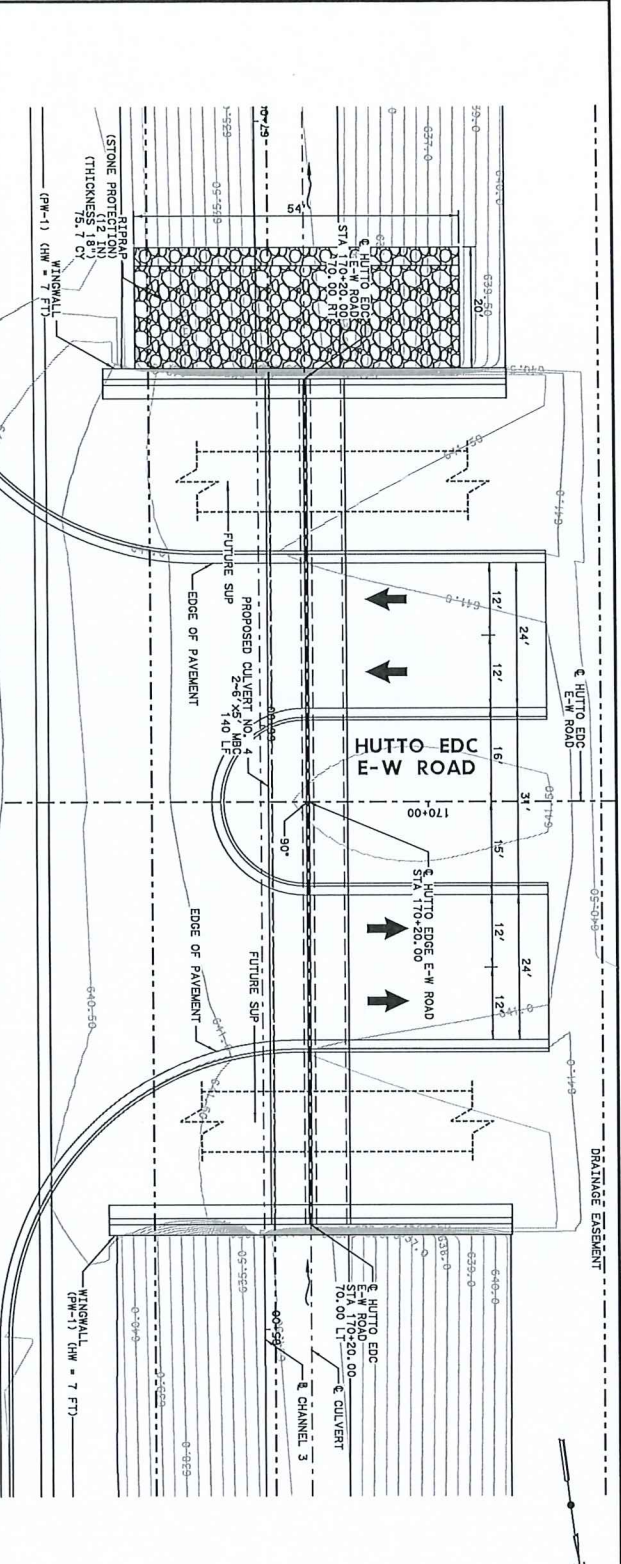
NO.	DATE	BY	CHKD	APP'D
1	2/27/23	W		

WILLIAMSON
 HDR Engineering, Inc.
 710 Rock Rock Road, Suite 150
 Rock Rock, Texas 76881
 Phone: 817-583-7777
 Email: info@hdr.com

FM 3349

STATE	DISTRICT	COMMITTEE	SHEET NO.
TEXAS	AUS	WILLIAMSON	374A

NO.	DATE	BY	CHKD	APP'D
1	2/27/23	W		



**CULVERT NO. 4
 HYDRAULIC DATA**

DESIGN	25 YEAR
DESIGN	25 YEAR
C-100	473 CFS
HW-25	639.21
HW-100	640.59
HW-ALLOW	641.00
HW-25	639.06
HW-100	639.77
V-25	6.39 FT/S
V-100	17.99 FT/S

NOTES:
 1. THE UTILITY INFORMATION SHOWN IS FOR INFORMATION ONLY. VERIFY LIMITS AND LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
 2. SEE DRAINAGE PLAN AND PROFILE SHEETS FOR STONE AND CONCRETE RIPRAP QUANTITIES. SEE BLANKET LIMITS AND QUANTITIES.

LEGEND:
 - - - PROPOSED CULVERT
 - - - PROPOSED DITCH
 - - - FLOW ARROW
 - - - PROPOSED CONCRETE RIPRAP
 - - - PROPOSED STONE RIPRAP
 - - - RIGHT OF WAY
 - - - PROPOSED EDGE OF PAVEMENT

SCALE: 1" = 20'

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DATE: 2/27/2023 2:16:54 PM
FILE: #FILE#

Culvert Station and/or Creek Name followed by abutment end (i.e., Rt or Both)	Description of Box Culvert Slab Height	Max Fill Height (FT)	Applicable Culvert Standard	Applicable Wingwall Treatment Standard	Stew Angle (0°, 15°, 30°, 45°)	Slope of Channel (S:1)	T Culvert Top Slab Thickness (in)	U Culvert Wall Thickness (in)	C Estimated Curb Height (ft)	Hw ① Height of Wingwall (ft)	A Curb to Wingwall (ft)	B Offset of End of Wingwall (ft)	Lw Length of Longest Wingwall (ft)	LW Culvert Towall Length (ft)	AW Anchor Towall Length (ft)	Riprap Apron (CY)	Class ② Conc. (CY)	Class ③ Conc. (Wingwall) (CY)	Total Wingwall Area (SF)
SRFR CULVERT NO. 1 US (L+)	1 - 10' X 4'	8.92'	SCP-10	PM-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
SRFR CULVERT NO. 2 US (L+)	2 - 10' X 4'	8.92'	SCP-10	PM-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
SRFR CULVERT NO. 2 OS (R+)	2 - 10' X 4'	8.92'	SCP-10	SM-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
SRFR CULVERT NO. 3 US (L+)	4 - 8' X 4'	7.45'	SCP-8	PM-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
SRFR CULVERT NO. 3 OS (R+)	4 - 8' X 4'	5.7'	SCP-8	PM-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
OR 132 B-NB-CV-01 (Both)	1 - 4' X 2'	1'	SCP-4	SETB-CO	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	PM-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

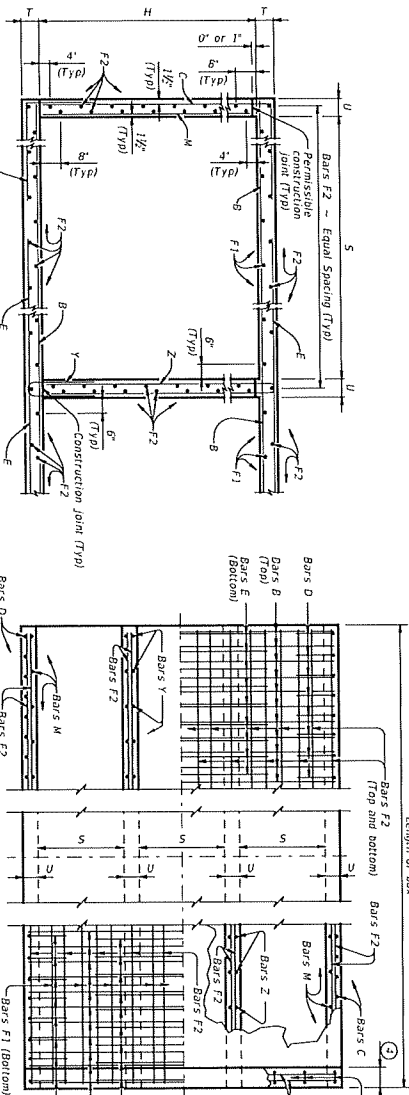
NOTES:
 ① Found the wall heights shown to the nearest foot for bidding purposes.
 ② Concrete volume shown is for box culvert curb only. Riprap apron and wingwall details (R/C) standard sheet quantities shown must be increased by a factor of 2.25. If Class S concrete is required for the top slab of the culvert, also provide Class S concrete for the apron and wingwall. If not considered part of the Box Culvert for payment.
 ③ Concrete volume shown is total of wings, footings, and wingwall toe walls. 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 shows precast culverts, it is the contractor's responsibility to make the necessary adjustments to the dimensions and quantities shown.

Slab = Height of 1 Vertical
 • Side slope at culvert for flared or straight wingwalls.
 • Channel slope for safety end treatments.
 • Slope must be 3:1 or flatter for safety end treatments.
 T = Box culvert top slab thickness. Dimension can be found on the applicable box culvert standard sheet.
 U = Box culvert wall thickness. Dimension can be found on the applicable box culvert standard sheet.
 C = Curb height
 See applicable wing or end treatment standard sheets for calculations of Hw, A, B, Lw, LW, AW, and Total Wingwall Area.
 Hw = Height of wingwall
 A = Distance from face of curb to end of wingwall not applicable to parallel or straight wingwalls
 B = Offset of end of wingwall not applicable to parallel or straight wingwalls
 Lw = Length of longest wingwall.
 LW = Length of culvert toe wall (not applicable when using riprap apron)
 AW = Length of anchor toe wall (applicable to safety end treatment only)
 Total Wingwall Area = Area for four wingwalls (two structure ends) if both.

NO.	DATE	REVISIONS	BY	CHK'D
1	2/27/23			
 Texas Department of Transportation BOX CULVERT SUPPLEMENT WINGS AND END TREATMENTS				
BCS BCS CONSULTANTS, INC. 3486 OI 008, ETC F.M. 3349 AUSTIN, TEXAS 78746			PREPARED BY WILLIAMSON SHEET NO. 401	

NOT TO BE USED FOR CONSTRUCTION
 WITHOUT THE SIGNATURE OF THE
 REGISTERED PROFESSIONAL ENGINEER
 WHOSE NAME IS APPEARED ON THE
 PLANS

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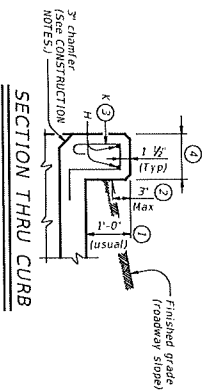


TYPICAL SECTION

BOTTOM SLAB

PART PLANS

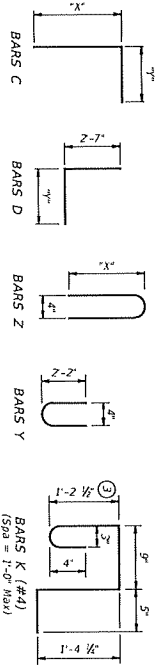
TOP SLAB



SECTION THRU CURB

TABLE OF BAR DIMENSIONS

Bar	Length	Width	Height
H	2'-0"	2'-7 1/2"	4'-1"
K	3'-0"	3'-7 1/2"	4'-1"
Y	4'-0"	4'-7 1/2"	4'-1"
Z	5'-0"	5'-7 1/2"	4'-1"
B	6'-0"	6'-7 1/2"	4'-1"



- For Max. 14.5 or 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 1'-0" or 1'-6" bridge rail, refer to the Mounting Details for 1'-0" and 1'-6" Rail (M1) standard sheet. Refer to the 1'-0" and 1'-6" Rail (M2) standard sheet for structures with bridge rail other than 1'-0" or 1'-6".
- For vehicle safety, the following requirements must be met:
 - Finished grade without bridge rail, construct curbs no more than 3" above grade.
 - For structures with pedestrian 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, Bar 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 shall 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 6" Min and 18" Max. When required, providing lapless WWR is permitted. The lap length shall be 48" Min. The lap length required for WWR is never less than the lap length required for uncoated #4 bar.

Example computation: Replacing No. 6 @ 6'-0" 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.) requirement in this example, the required spacing = 40.5" in. per ft. x (12 in. per ft.) = 486" in. per ft. The lap length required for uncoated #5 bars, as listed under MATERIAL NOTES, minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES.

CONSTRUCTION NOTES:

Do not use permanent forms.
 Channel the bottom edge of the top slab "A" at the entrance.
 Optionally, raise construction joints shown at the top line by a maximum of 6". If the bottom edge of the top slab is not raised, Bars C, D and B may be reversed.
 Bars Y and Z may be reversed.

MATERIAL NOTES:

Use Type III or IV portland cement concrete.
 Provide galvanized reinforcing steel. If required elsewhere in the plans, provide Class C concrete (f'c = 3600 psi) for culvert barrel and curb.
 Provide bar laps, where required, as follows:
 • Uncoated or galvanized - #5 = 2'-1" Min
 • Uncoated or galvanized - #6 = 2'-6" Min

GENERAL NOTES:

Designed according to ASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
 See the Multiple Box Culverts Cast-In-Place Miscellaneous Detail (MC-20) standard sheet for details pertaining to skewed walls, abutment sections, and overhangs.
 Cover dimensions are clear dimensions, unless noted otherwise.
 Reinforcing bar dimensions shown are callouts of bar.

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation
 Multiple Box Culverts
 Cast-In-Place
 6'-0" SPAN
 2' TO 20' FILL

MC-6-20

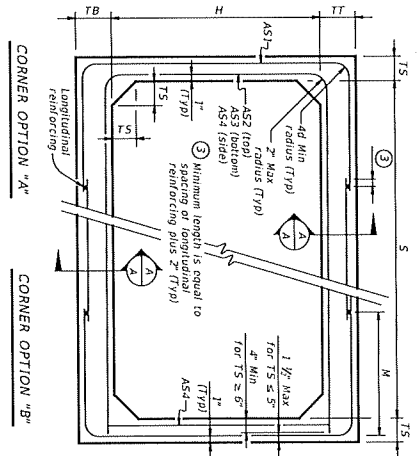
DATE	2/27/23	BY	WILLIAMSON
SCALE	AS SHOWN	DATE	2/27/23
PROJECT	4486	NO.	01 008
SECTION	ETC	DATE	FM 3319
DESIGNER	WILLIAMSON	CHECKER	WILLIAMSON
DATE	2/27/23	BY	WILLIAMSON

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 damage resulting from its use.

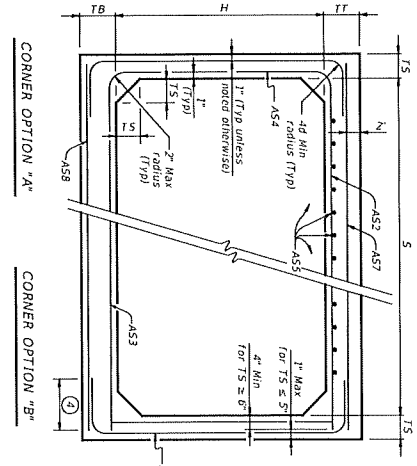
DATE: 2/27/2023 2:16:58 PM
FILE: FILE

SECTION DIMENSIONS				Fill Height (ft.)	N (in.)	REINFORCING (sq. in. / ft.)								Lift Weight (lb/ft)
(ft.)	(ft.)	(ft.)	(ft.)			AS1	AS2	AS3	AS4	AS5	AS7	AS8		
5	H	TT	TB	TS	Height (ft.)									
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	0.26	0.20	0.17	0.17	-	-	-	6.8
6	2	7	7	7	15	39	0.26	0.20	0.17	0.17	-	-	-	6.8
6	2	7	7	7	20	39	0.34	0.26	0.17	0.17	-	-	-	6.8
6	2	7	7	7	25	39	0.43	0.32	0.17	0.17	-	-	-	6.8
6	2	7	7	7	30	39	0.52	0.38	0.17	0.17	-	-	-	6.8
6	3	8	7	7	<2	-	0.20	0.21	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	0.17	0.17	-	-	-	7.5
6	3	7	7	7	15	38	0.23	0.24	0.19	0.17	-	-	-	7.5
6	3	7	7	7	20	38	0.28	0.31	0.21	0.17	-	-	-	7.5
6	3	7	7	7	25	38	0.35	0.39	0.17	0.17	-	-	-	7.5
6	3	7	7	7	30	38	0.42	0.46	0.17	0.17	-	-	-	7.5
6	4	8	7	7	<2	-	0.19	0.24	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	0.28	0.28	0.17	0.19	0.19	0.17	9.3
6	5	7	7	7	2<3	43	0.17	0.23	0.21	0.17	-	-	-	8.9
6	5	7	7	7	3-5	39	0.17	0.22	0.23	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	0.20	0.29	0.29	0.17	-	-	-	8.9
6	5	7	7	7	20	38	0.26	0.37	0.36	0.17	-	-	-	8.9
6	5	7	7	7	25	38	0.32	0.45	0.45	0.17	-	-	-	8.9
6	5	7	7	7	30	38	0.39	0.54	0.55	0.17	-	-	-	8.9
6	6	8	7	7	<2	-	0.19	0.36	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	0.36	0.39	0.17	-	-	-	9.6
6	6	7	7	7	25	39	0.23	0.46	0.48	0.17	-	-	-	9.6
6	6	7	7	7	30	39	0.27	0.55	0.57	0.17	-	-	-	9.6

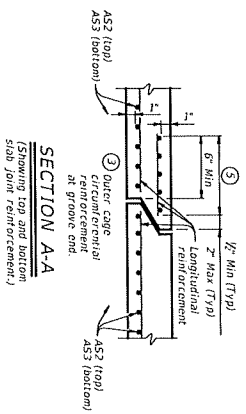
- 1 For box length = 8'-0"
- 2 AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



FILL HEIGHT 2 FT AND GREATER



FILL HEIGHT LESS THAN 2 FT



SECTION A-A

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at both face of the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1517. Refer to ASTM C1517 for information or details not shown.
Scale of 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 design shown for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

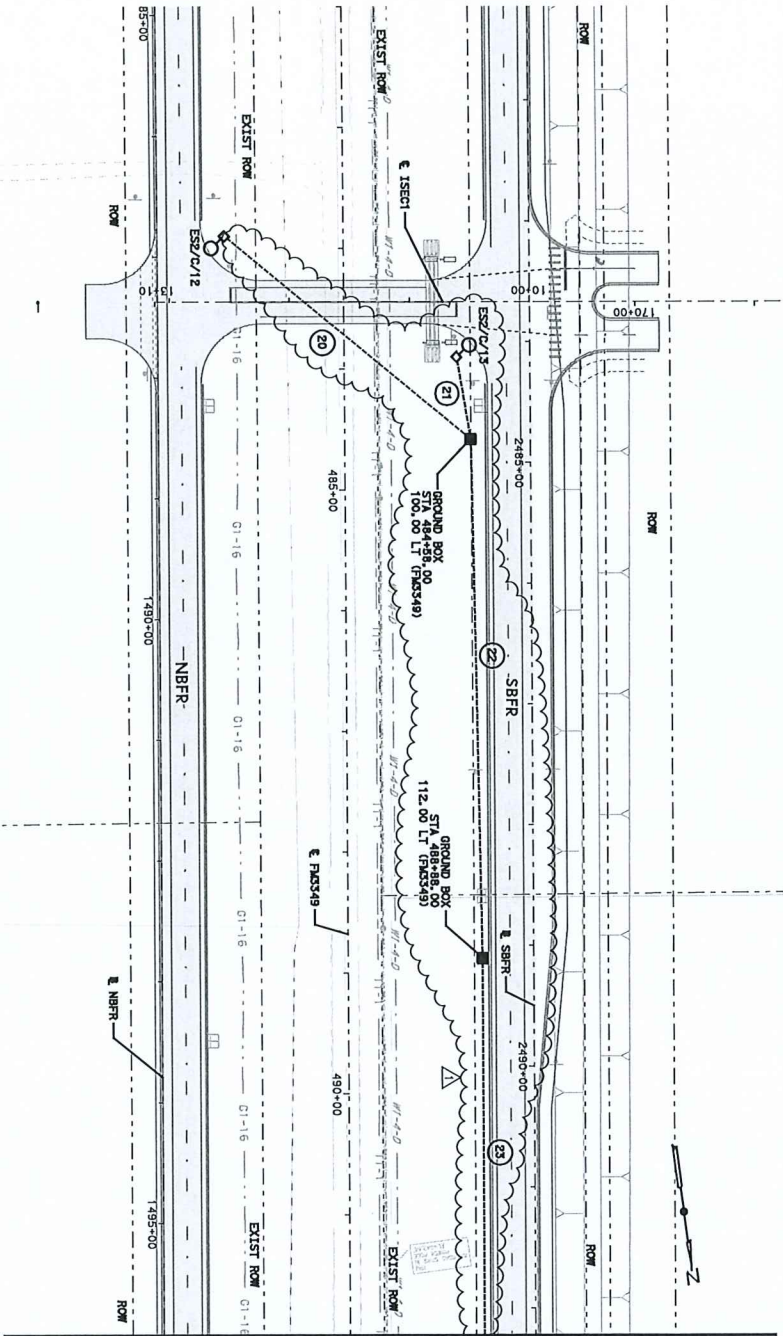
HL93 LOADING

Texas Department of Transportation
Single Box Culverts
Precast
6'-0" SPAN

SCP-6

NO.	DATE	BY	REVISION
1	2/27/23		

DATE	BY	APPROVED
2/27/23	WILLIAMSON	4/29C



MATCH LINE STA 492+00

ROADWAY ILLUMINATION ASSEMBLY SUMMARY		CONDUCTORS AND CONDUIT SUMMARY	
SERVICE	FILE NO. CIRCUIT STATION	CONDUIT (LF)	CONDUCTORS (LF)
ES2	12 C 483+90.00	0918-6023	0620-6037
ES2	13 C 483+90.00	0918-6023	0620-6038

SHEET TOTAL	CONDUIT (LF)	CONDUCTORS (LF)
ES2	18	12
ES2	18	12
ES2	22	14
ES2	2	2
ES2	312	10951
SHEET TOTAL	370	2190

ITEM#	DESCRIPTION	UNIT	QTY
0416	DRILL SHIRT GOWN ALL POLY (30 IN)	LF	100
0418	DRILL SHIRT GOWN ALL POLY (30 IN)	EA	100
0618	CONDUIT (PVC) (SCH 40) (2")	LF	1015
0620	ELEC CONDUIT (NO. 8) BURE	LF	1095
0622	ELEC CONDUIT (NO. 8) INSTALLED	EA	2190
0624	GROUND BOX 1" X 1" (2531) (1/2) (2531)	EA	10

- GENERAL NOTES:**
- ALL WORK SHALL BE COMPLETED ACCORDING TO THE MOST CURRENT TxDOT STANDARD SPECIFICATIONS FOR ELECTRICAL CODE.
 - THE CONTRACTOR SHALL VERIFY WITH THE UTILITY PROVIDER THE LOCATION OF ALL UTILITIES PRIOR TO THE CONSTRUCTION TO AVOID CONFLICT OR DAMAGE TO THE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND SHALL BE RESPONSIBLE TO AVOID DAMAGE TO THE EXISTING PROPOSED UTILITIES.
 - REFER TO ILLUMINATION SUMMARIES, SCHEMATIC, AND TxDOT STANDARDS FOR ADDITIONAL INFORMATION.
 - PROPOSED ABOVE GROUND NEMA 3R JUNCTION BOXES SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSTITUTED TO THE VARIOUS BID ITEMS.
 - PROVIDE CONDUIT EXPANSION AND DEFLECTION COMPENSATION TO AVOID UNDERGROUND CONDUIT TO BRIDGE EMBEDDED CONDUIT. CONDUIT SHALL ALLOW FOR A MAXIMUM OF 4 HORIZONTAL AND VERTICAL MOVEMENT.
 - REFER TO BRIDGE DRAWINGS FOR EXACT LOCATION OF BRIDGE AND ASSOCIATED INSTALLATION DETAILS.



FM 3349

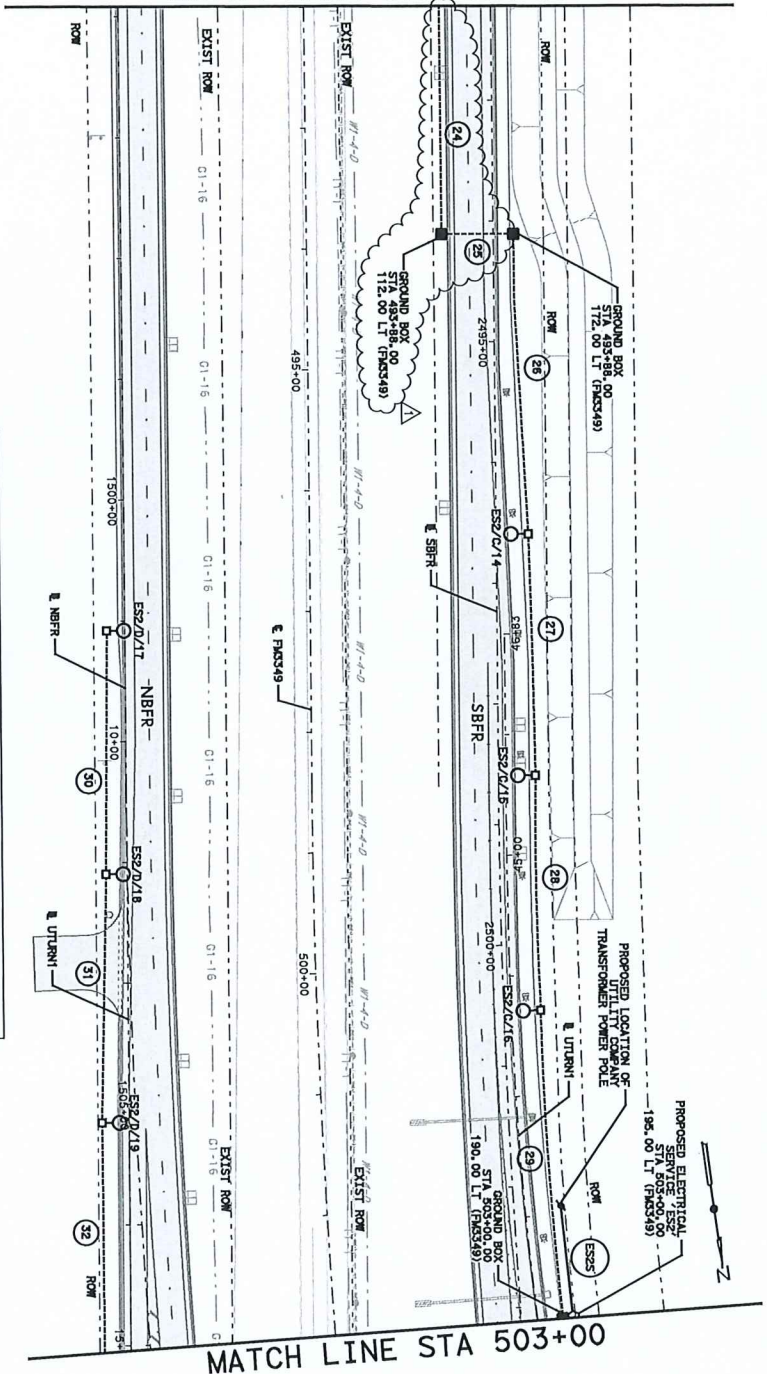
ILLUMINATION PLAN

STA 481+00 TO STA 492+00

SCALE: 1" = 100'	SHEET 4 OF 11
DATE: 2/20/23	PROJECT NO: FM 3349
DRAWN BY: GUMARTIN	COUNTY: TARRANT
CHECKED BY: WILLIAMSON	SHEET NO: 701
DATE: 2/20/23	JOB: 008, ETC

HDR Engineering, Inc.
 7000 West Loop, Suite 7000
 Houston, Texas 77036
 License No. 101043, State of Texas, expires 01/01/25

MATCH LINE STA 492+00



MATCH LINE STA 503+00

SHEET SUMMARY OF ESTIMATED QUANTITIES

ITEM#	DESCRIPTION	UNIT	QTY
0418 6029	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6030	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6031	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6032	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6033	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6034	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6035	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6036	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6037	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6038	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6039	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6040	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6041	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6042	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6043	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6044	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6045	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6046	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6047	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6048	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6049	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166
0418 6050	DRILL SHIRT (CONDUIT) 1/2" POLY. 3/8" ID	LF	2,166

ROADWAY ILLUMINATION ASSEMBLY SUMMARY

SERVICE	POLE NO.	CIRCUIT	STATION	OFFSET	ASSEMBLY TYPE	NOTES
ES2	14	C	498+36.50	182.00 FT (FM3439)	(TYPE SA 40 1-10 125W EO LED	
ES2	15	C	498+36.50	182.00 FT (FM3439)	(TYPE SA 40 1-10 125W EO LED	
ES2	16	C	500+38.50	186.00 FT (FM3439)	(TYPE SA 40 1-10 125W EO LED	
ES2	17	D	497+15.00	170.25 FT (FM3439)	(TYPE SA 40 1-10 125W EO LED	
ES2	18	D	499+15.00	170.25 FT (FM3439)	(TYPE SA 40 1-10 125W EO LED	
ES2	19	D	501+15.00	182.25 FT (FM3439)	(TYPE SA 40 1-10 125W EO LED	

CONDUCTORS AND CONDUIT SUMMARY

SERVICE	CIRCUIT	SEGMENT NO.	SEGMENT LENGTH (LF)	CONDUIT (LF)	CONDUCTORS (LF)	NOTES
ES2	C	24	188	188	188	
ES2	C	25	78	78	78	
ES2	C	26	200	200	200	
ES2	C	27	200	200	200	
ES2	C	28	200	200	200	
ES2	C	29	200	200	200	
ES2	C	30	202	202	202	
ES2	C	31	205	205	205	
ES2	D	32	190	190	190	

- GENERAL NOTES:
- ALL WORK SHALL BE COMPLETED ACCORDING TO THE MOST RECENT EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE ALARM AND SIGNALING ASSOCIATION (NFPA) 70B.
 - THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANY THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL SEEK THE APPROVAL OF THE ENGINEER AND ADJUST THE OFFSETS TO AVOID DAMAGE TO THE EXISTING UTILITIES.
 - REFER TO ILLUMINATION SUMMARIES, SCHEMATICS, AND TPOOT STANDARDS FOR ADDITIONAL INFORMATION.
 - PROPOSED ABOVE GROUND NEUA XR JUNCTION BOXES SHALL NOT BE PAID FOR UNDER BIDDING.
 - PROVIDE CONDUIT EXPANSION AND DEFLECTION BOXES FOR BRIDGE CONDUIT. CONDUIT SHALL BE INSTALLED ABOVE THE BRIDGE DECK AND SHALL BE PROTECTED BY A BRIDGE DECK PROTECTIVE COVER.
 - REFER TO BRIDGE DRAWINGS FOR EXACT LOCATION OF ASSOCIATED INSTALLATION DETAILS.



STA 492+00 TO STA 503+00

SCALE: 1" = 100'

SHEET 5 OF 11

DATE	2/21/23	BY	WILLIAMSON
NO.	1	REVISION	
DATE		BY	
NO.		REVISION	

WILLIAMSON HDR Engineering, Inc.
 710 Hedrick Street, Suite 150
 Houston, Texas 77002
 Phone: 281.462.1100
 Fax: 281.462.1101

FM 3349

ILLUMINATION PLAN

STA 492+00 TO STA 503+00

DATE: 02/21/23

PROJECT: FM 3349

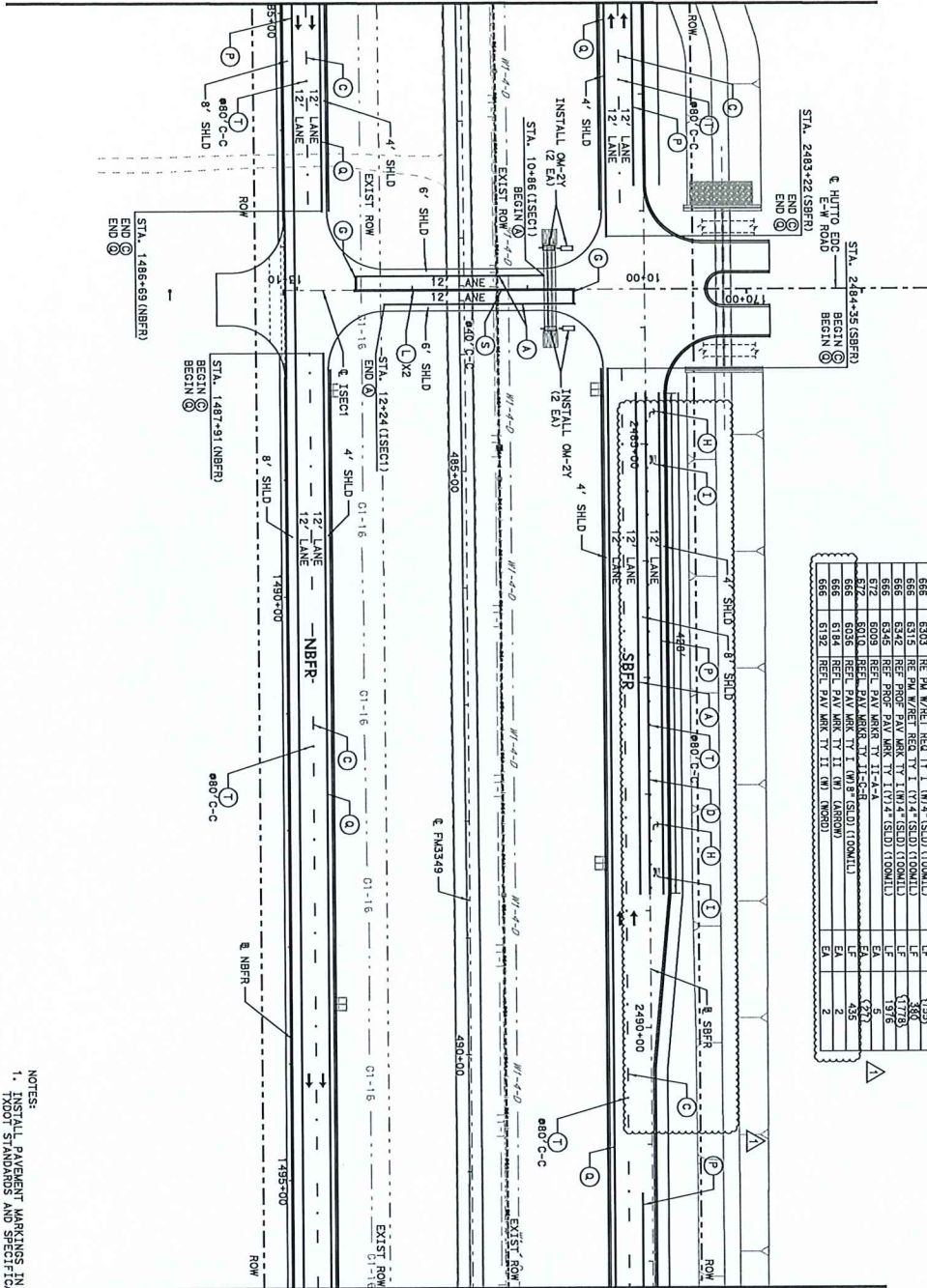
STATE: TEXAS

COUNTY: WILLIAMSON

SECTION: 01

702

MATCH LINE STA 481+00



PAVEMENT MARKING OFFSET TABLE

MARKING	ALIGNMENT	STATION	OFFSET	TO	STATION	OFFSET
STOP BAR	15SEC	10+60	-	10+60	12A	-
STOP BAR	15SEC	12+50	-	12+50	12B	-

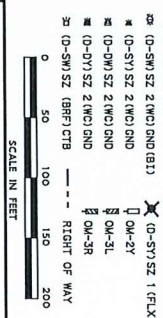
PAVEMENT MARKING QUANTITIES

TXDOT SPEC.	DESCRIPTION	UNIT	TOTAL
658	INSTL. 4" (W) 12" (D) (100M/L)	EA	4
659	REFL. PAY. MARK. 4" (W) 4" (D) (100M/L)	EA	24
660	REF. PAY. MARK. 4" (W) 4" (D) (100M/L)	EA	500
661	REF. PAY. MARK. 8" (W) 4" (D) (100M/L)	EA	725
662	REF. PAY. MARK. 12" (W) 4" (D) (100M/L)	EA	137
663	REF. PAY. MARK. 12" (W) 4" (D) (100M/L)	EA	5
664	REF. PAY. MARK. 12" (W) 4" (D) (100M/L)	EA	2
665	REF. PAY. MARK. 12" (W) 4" (D) (100M/L)	EA	435
666	REF. PAY. MARK. 12" (W) 4" (D) (100M/L)	EA	2
667	REF. PAY. MARK. 12" (W) 4" (D) (100M/L)	EA	2
668	REF. PAY. MARK. 12" (W) 4" (D) (100M/L)	EA	2

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

MATCH LINE STA 492+00

- LEGEND
- (A) REF. PAY. MARK. 4" (W) 4" (D)
 - (B) REF. PAY. MARK. 4" (W) 4" (D)
 - (C) REF. PAY. MARK. 4" (W) 4" (D)
 - (D) REF. PAY. MARK. 8" (W) 4" (D)
 - (E) REF. PAY. MARK. 12" (W) 4" (D)
 - (F) REF. PAY. MARK. 12" (W) 4" (D)
 - (G) REF. PAY. MARK. 12" (W) 4" (D)
 - (H) REF. PAY. MARK. (W) ARROW
 - (I) REF. PAY. MARK. (W) ARROW
 - (J) REF. PAY. MARK. (W) YLD. TRF. (36")
 - (K) REF. PAY. MARK. (W) LANE REDUCTION ARROW
 - (L) REF. PAY. MARK. 4" (W) 4" (D)
 - (M) REF. PAY. MARK. 4" (W) 4" (D)
 - (N) REF. PAY. MARK. 12" (W) 4" (D)
 - (O) REF. PAY. MARK. 12" (W) 4" (D)
 - (P) REF. PAY. MARK. 4" (W) 4" (D)
 - (Q) REF. PAY. MARK. 4" (W) 4" (D)
 - (R) REF. PAY. MARK. 4" (W) 4" (D)
 - (S) REF. PAY. MARK. 4" (W) 4" (D)
 - (T) REF. PAY. MARK. 4" (W) 4" (D)
 - (U) REF. PAY. MARK. 4" (W) 4" (D)
 - (V) REF. PAY. MARK. 4" (W) 4" (D)
 - (W) REF. PAY. MARK. 4" (W) 4" (D)
 - (X) REF. PAY. MARK. 4" (W) 4" (D)
 - (Y) REF. PAY. MARK. 4" (W) 4" (D)
 - (Z) REF. PAY. MARK. 4" (W) 4" (D)



STRIPING AND DELINEATION LAYOUT
 STA 481+00 TO STA 492+00

FM 3349

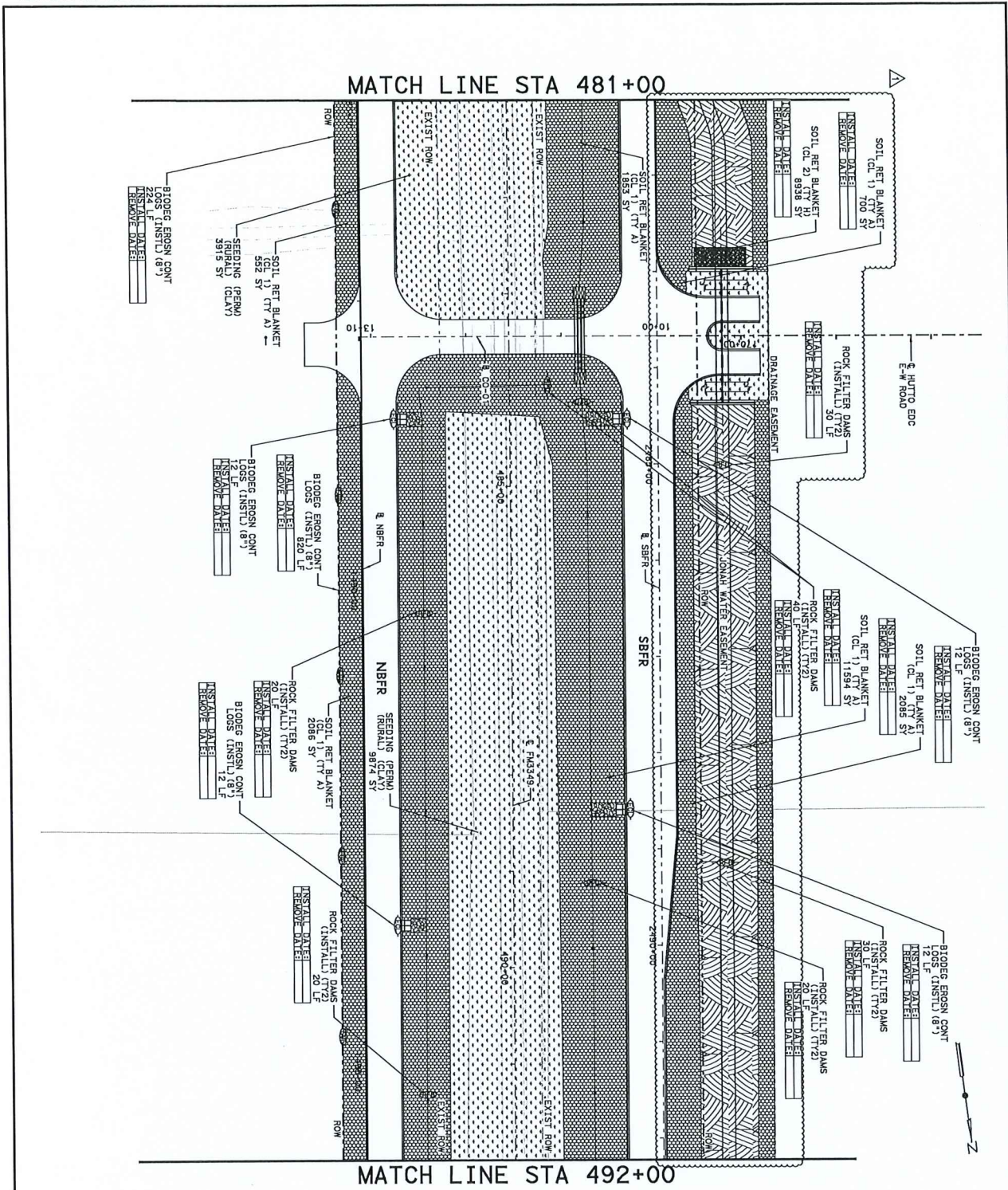
WILLIAMSON
 HDR Engineering, Inc.
 710 Hedrick Crossing, Suite 150
 Houston, Texas 77058
 Phone: 281.416.8200
 Fax: 281.416.8201
 Email: info@hdr.com

TXDOT PROJECT NO. 3486
 SHEET 7 OF 14

DATE: 2/27/2023

SCALE: 1" = 100'

DESIGNER: HDR
 CHECKER: WILLIAMSON
 DATE: 2/27/2023



MATCH LINE STA 481+00

MATCH LINE STA 492+00

LEGEND

- ① SOIL RETENTION BLANKET (SRTB) 4, 12 LF
- ② SEEDING, 4" TOPSOIL AND SOIL RETENTION BLANKET (SRTB) 4, 12 LF
- ③ SOIL RETENTION BLANKET (SRTB) 4, 12 LF
- ④ SEEDING, AND 4" TOPSOIL
- ⑤ BIOLOGIC EROSION CONTROL LOG
- ⑥ BIOLOGIC EROSION CONTROL LOG
- ⑦ BIOLOGIC EROSION CONTROL LOG
- ⑧ BIOLOGIC EROSION CONTROL LOG
- ⑨ BIOLOGIC EROSION CONTROL LOG
- ⑩ BIOLOGIC EROSION CONTROL LOG
- ⑪ BIOLOGIC EROSION CONTROL LOG
- ⑫ BIOLOGIC EROSION CONTROL LOG
- ⑬ BIOLOGIC EROSION CONTROL LOG
- ⑭ BIOLOGIC EROSION CONTROL LOG
- ⑮ BIOLOGIC EROSION CONTROL LOG
- ⑯ BIOLOGIC EROSION CONTROL LOG
- ⑰ BIOLOGIC EROSION CONTROL LOG
- ⑱ BIOLOGIC EROSION CONTROL LOG
- ⑲ BIOLOGIC EROSION CONTROL LOG
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- ㊽ BIOLOGIC EROSION CONTROL LOG
- ㊾ BIOLOGIC EROSION CONTROL LOG
- ㊿ BIOLOGIC EROSION CONTROL LOG

NOTES:

1. CONSTRUCTION ENTRANCE/EXIT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER. PLACE FOUR (4) "X" MARKS AT THE ENTRANCE/EXIT. SEE E.C. 01-16 FOR DETAIL.
2. PERMITTER CONTROLS SHALL BE IN PLACE PRIOR TO COMMENCING ANY SOIL DISTURBING ACTIVITIES. PERMITTER DEVICES TO BE PLACED AT ROW OR EASEMENT UNLESS OTHERWISE NOTED.
3. FIELD VERIFY LOCATIONS OF BWP'S SHOWN AND PURPOSE AS APPROVED.
4. MAINTAIN SLOPE 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 REPAIR QUANTITIES AND DETAILS.

SCALE IN FEET

W WILKINSON
HDR HDR Engineering, Inc.
 710 Lumber Company, Suite 150
 Fort Worth, Texas 76102
 Phone: 817.335.1100
 Fax: 817.335.1101

FM 3349

EROSION CONTROL PLAN

STA 481+00 TO STA 492+00

SHEET 7 OF 14

PROJECT NO.	STATE	COUNTY	DISTRICT	SECTION
3485	TX	DADE	009	01

Texas Department of Transportation

FM 3349

EROSION CONTROL PLAN

STA 481+00 TO STA 492+00

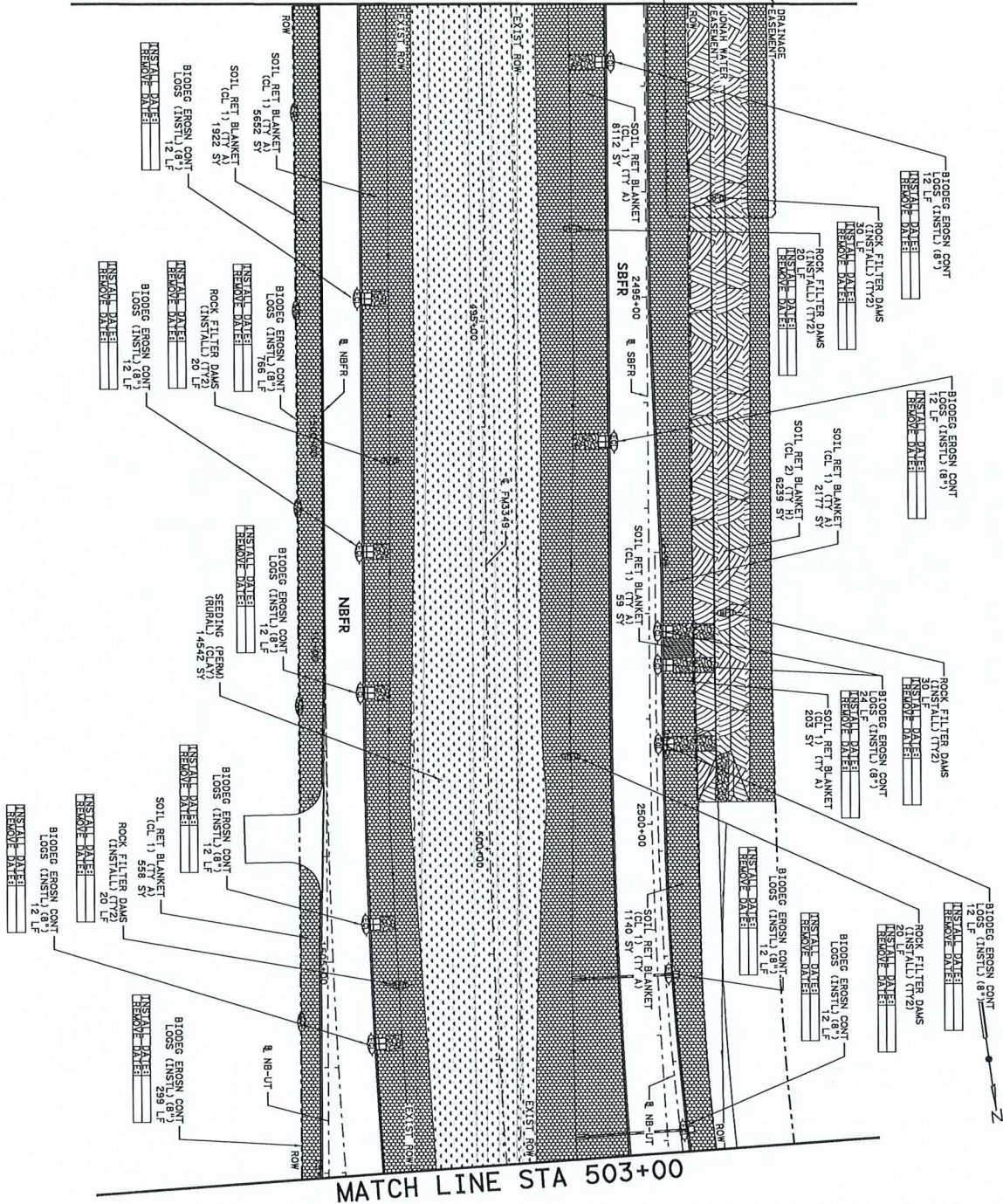
SHEET 7 OF 14

DATE	BY	CHKD	APP'D
1/27/23	W	W	W

NO.	DATE	REVISION
1	1/27/23	ISSUE FOR CONSTRUCTION

SCALE	1" = 100'
PROJECT NO.	FEDERAL AID PROJECT NO.
STATE	DISTRICT
COUNTY	SECTION
CONTRACT	SECTION
CONTROL	009, ETC.
DATE	01/27/23

MATCH LINE STA 492+00



MATCH LINE STA 503+00

LEGEND

- 1. SOIL RETENTION BLANKET CL1 TY 4, SEEDING, 4" TOPSOIL, AND SOIL RETENTION BLANKET CL2 TY 4, SEEDING, AND 4" TOPSOIL
- 2. SOIL RETENTION BLANKET CL1 TY 4, SEEDING, AND 4" TOPSOIL
- 3. SEEDING
- 4. STONE RIPRAP
- 5. CONCRETE RIPRAP
- 6. EROSION CONTROL LOG
- 7. ROCK FILTER DAM

NOTES:

- CONSTRUCTION ENTRANCE/EXIT LOCATIONS ARE TO BE APPROVED BY THE ENGINEER. PLACE FOUR 20" X30" CONSTRUCTION ENTRANCE/EXIT. SEE E0191-16 FOR DETAILS.
- PERMUTER CONTROL SYSTEM SHALL BE IN PLACE PRIOR TO PERMUTER DEVICES TO BE PLACED AT ROW OR EASEMENT UNLESS OTHERWISE NOTED.
- FIELD VERIFY LOCATIONS OF BMP'S SHOWN AND PLACE LOCATIONS AS NEEDED TO ACHIEVE INTENDED PURPOSE AS APPROVED.
- MAINTAIN SWAP CONTROL MEASURES THROUGHOUT CONSTRUCTION.
- CONTRACTOR RESPONSIBLE TO VEGETATE ANY AREAS. PROVIDE TOPSOIL AND SEEDING FOR THESE AREAS. SUBSIDIARY TO PERMUTER ITEMS.
- SEE DRAINAGE PLANS FOR CONCRETE AND STONE RIPRAP QUANTITIES AND DETAILS.

SCALE IN FEET

0 50 100 150 200

W **HDR** HDR Engineering, Inc.
 7100 Rock Creek Lane, Suite 700
 Houston, Texas 77051
 Texas Registered Professional Engineer No. 5714

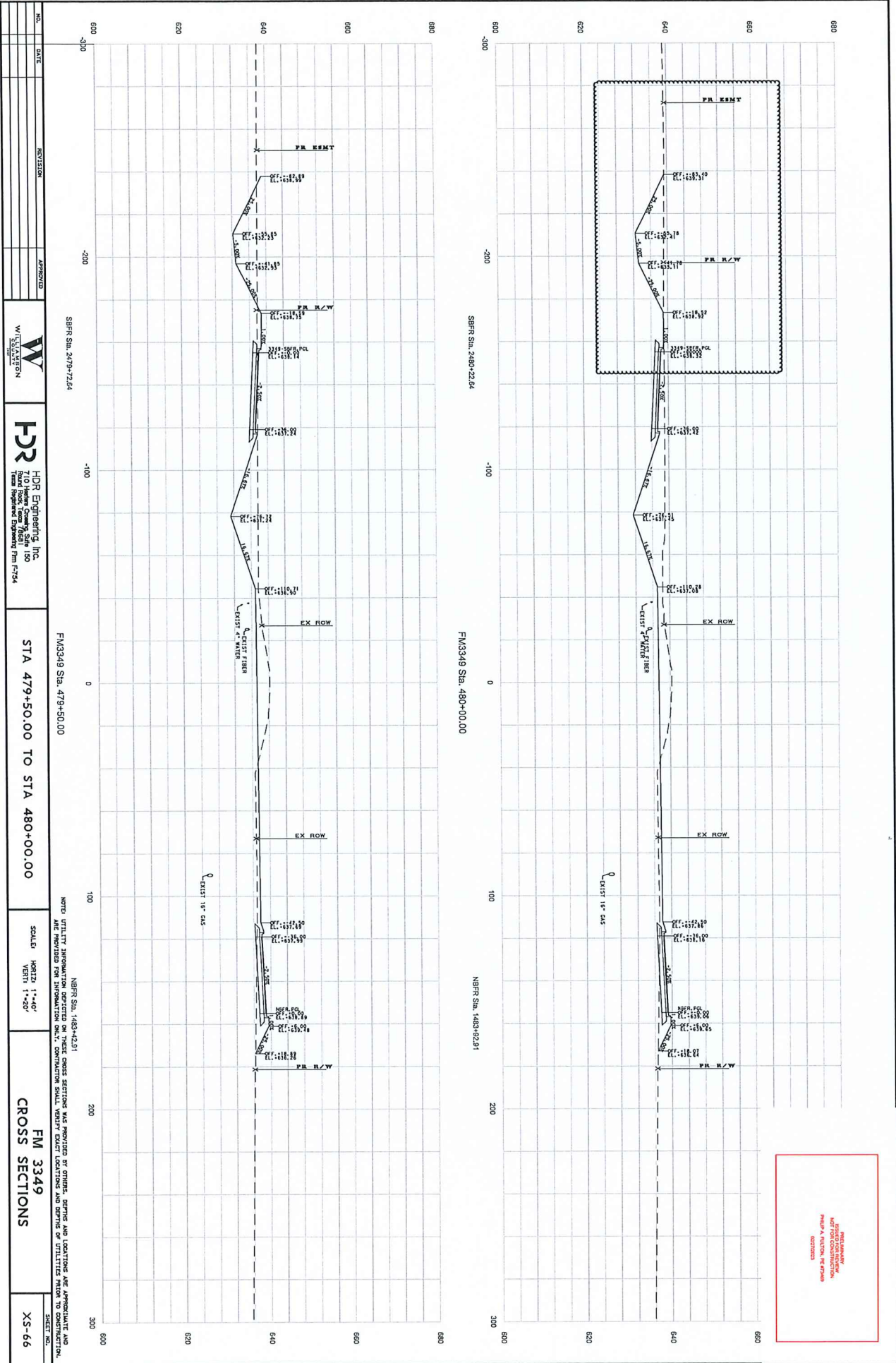
Texas Department of Transportation
 FM 3349

EROSION CONTROL PLAN
 STA 492+00 TO 503+00

SCALE: 1" = 100'

DATE	2/27/23	BY	JMC
NO.	1	REVISION	ISSUED
DESIGNER	6	STATE	91510121
CLIENT	TEXAS	AUS	WILLIAMSON
SECTION	008, ETC		
DATE	3/4/88		

SHEET 8 OF 14
 PROJECT NO. FM 3349
 CONTRACT NO. 008, ETC
 SHEET NO. 788



NO.	DATE	REVISION	APPROVED



STA 479+50.00 TO STA 480+00.00

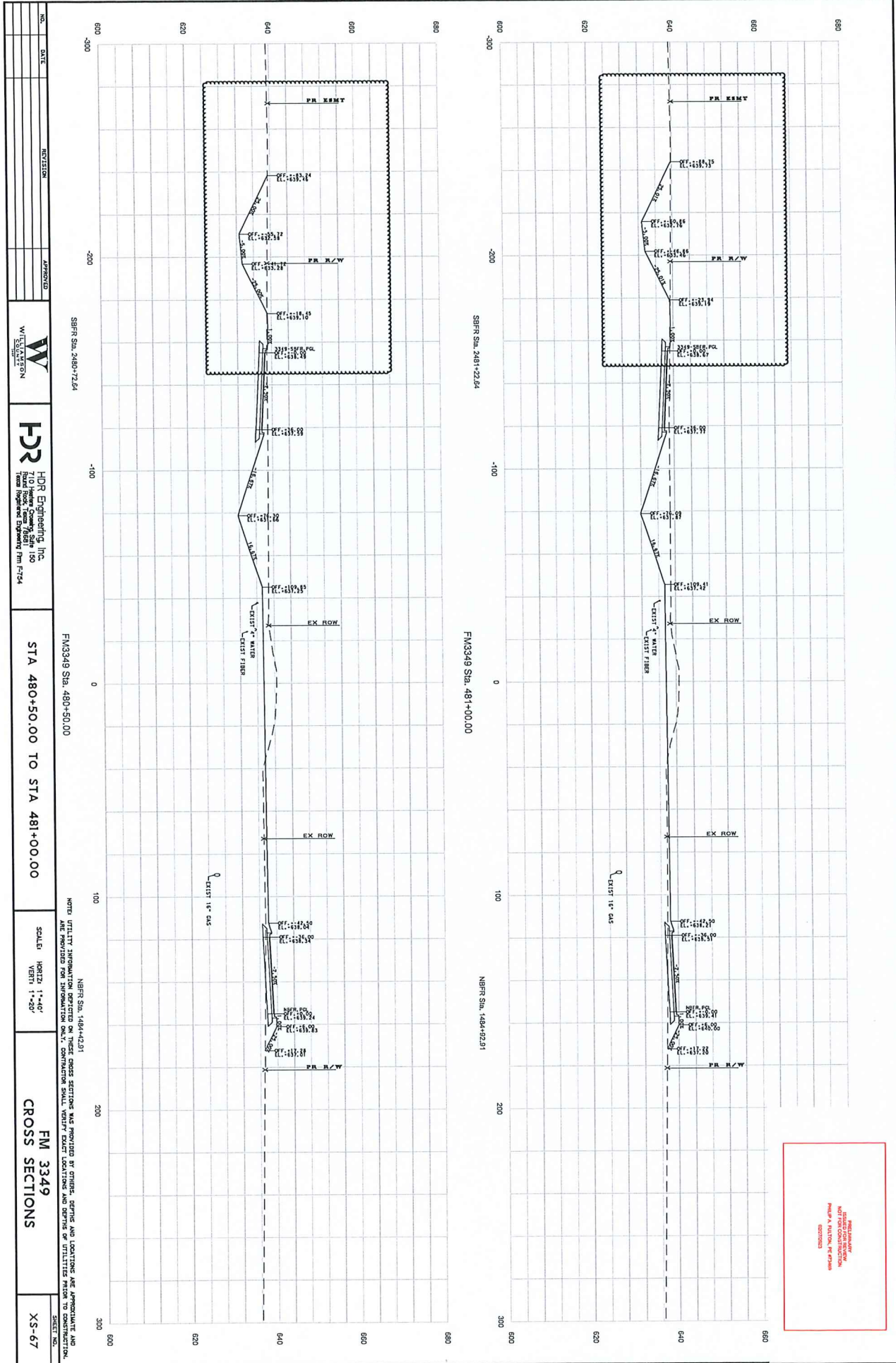
SCALE
 HORIZ. 1"=40'
 VERT. 1"=20'

FM 3349
 CROSS SECTIONS

XS-66

NOTE: UTILITY INFORMATION SHOWN ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND NOT TO BE USED FOR CONSTRUCTION. CONSULT THE UTILITY RECORDS FOR THE EXISTING UTILITIES AND DEPTHS OF UTILITIES SHOWN ON THESE SECTIONS.

PROJ. ENGINEER
 NOT FOR CONSTRUCTION
 AMERICAN INSTITUTE OF PROFESSIONAL ENGINEERS
 LICENSE NO. 10222



NO.	DATE	REVISION	APPROVED



HDR HDR Engineering, Inc.
 710 Highway 60, Suite 150
 Houston, Texas 77061
 Phone: 281.486.1100
 Fax: 281.486.1101

STA 480+50.00 TO STA 481+00.00

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

FM 3349
 CROSS SECTIONS

SHEET NO. XS-67

SRRR Sta. 2480+72.64

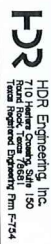
FM3349 Sta. 480+50.00

NBRR Sta. 1484+42.51

NOTE: UTILITY INFORMATION DERIVED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHER ENGINEERS AND IS NOT GUARANTEED BY THIS ENGINEER. THE USER SHALL VERIFY THE LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION.

REVISIONS
 NOT FOR CONSTRUCTION
 PLOT DATE: 2/21/2023

NO.	DATE	REVISION

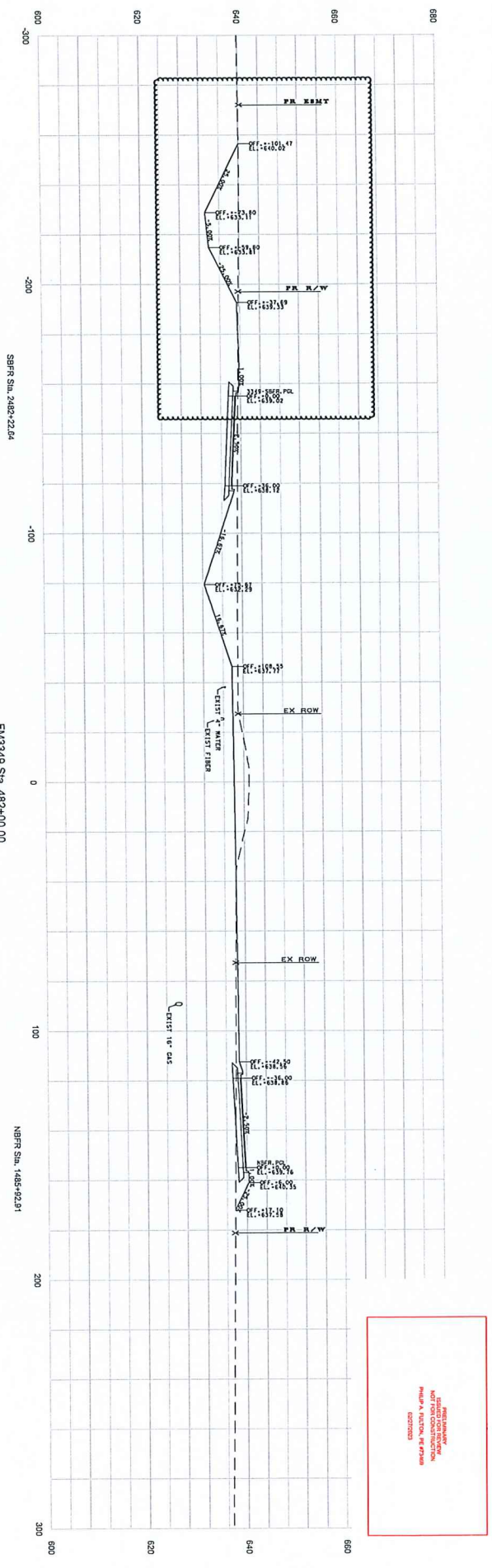
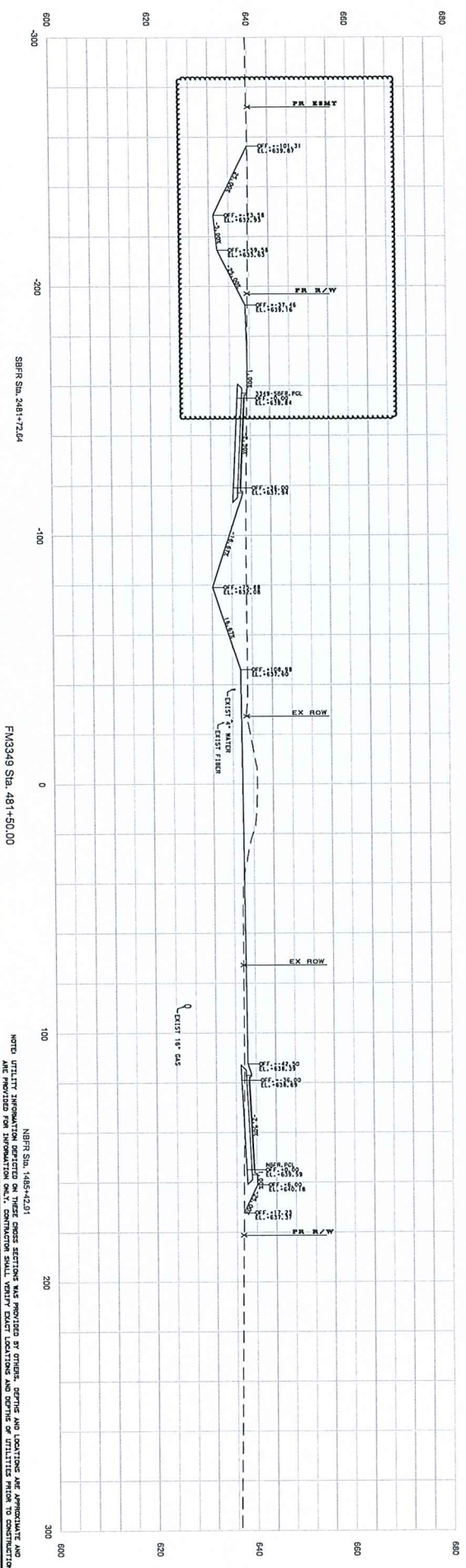


FM 3349
 STA 481+50.00 TO STA 482+00.00

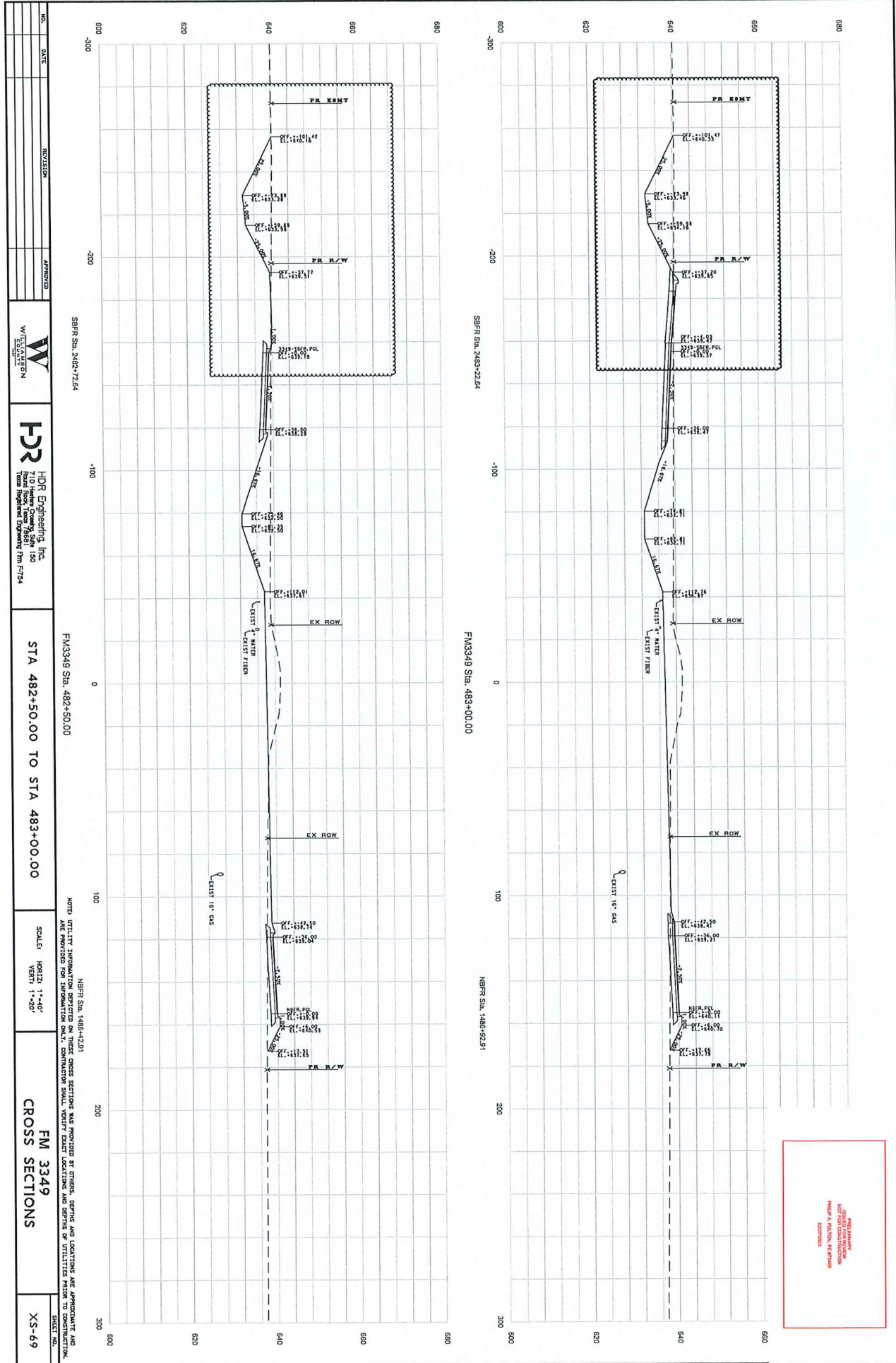
SCALE:
 HORIZ: 1"=40'
 VERT: 1"=20'

CROSS SECTIONS

XS-68



THIS DRAWING IS NOT FOR CONSTRUCTION
 NUMBER A SECTION # 67388
 02/21/2023



NO.	DATE	REVISION	APPROVED



HDR
 HDR Engineering, Inc.
 7100 Highway 290, Suite 150
 Houston, Texas 77057
 Phone: 281.486.7124

STA 482+50.00 TO STA 483+00.00

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

FM 3349
 CROSS SECTIONS

SHEET NO. XS-69

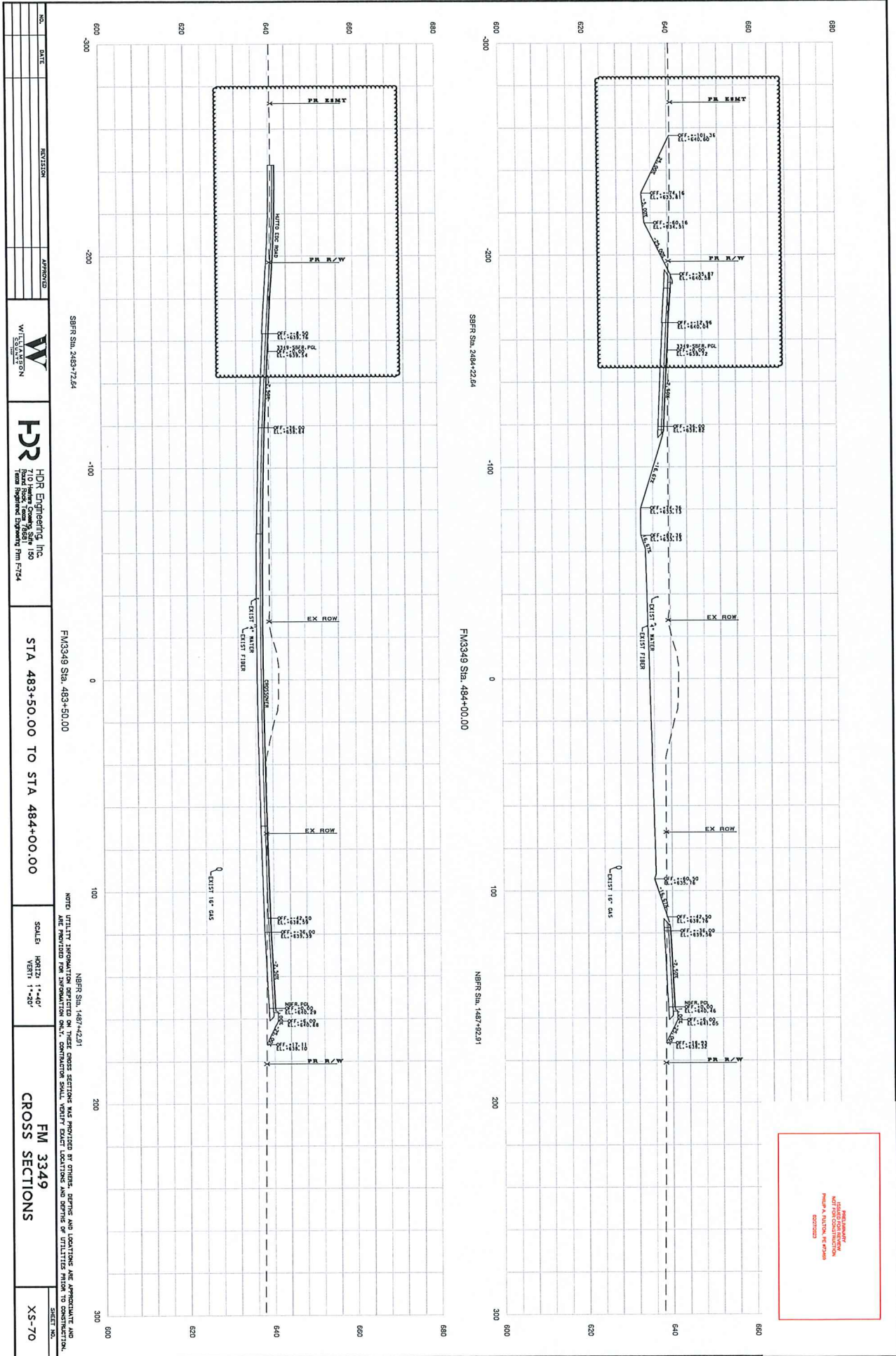
SBFR Sta. 2482+72.64

FM3349 Sta. 482+50.00

NBFR Sta. 1486+42.51

NOTE: UTILITIES INFORMATION DERIVED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHER ENGINEERS AND LOCATIONS ARE APPROXIMATE AND NOT GUARANTEED FOR CONSTRUCTION. CONSULT THE PLAN SHEETS FOR EXACT LOCATIONS AND DEPTHS OF UTILITIES PRIOR TO CONSTRUCTION.

NO GUARANTEE
 FOR CONSTRUCTION
 FROM A REVIEW OF THESE
 DRAWINGS



NO.	DATE	REVISION	APPROVED



HDR HDR Engineering, Inc.
 710 Hudson Square, Suite 1100
 New York, NY 10003
 Phone: 212-512-2000
 Fax: 212-512-2001
 www.hdr.com

STA 483+50.00 TO STA 484+00.00

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

FM 3349
 CROSS SECTIONS

XS-70

SRRR Sta. 2484+22.64

FM3349 Sta. 483+50.00

NBRR Sta. 1487+42.91

NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHER, DEPENDING ON LOCATION AND APPROXIMATE DATE OF CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING UTILITIES AND DEPTHS OF UTILITIES FROM THE SHEET.

THIS DRAWING IS NOT FOR CONSTRUCTION
 NUMBER IN RED INK IS FOR REVISIONS

NO.	DATE	REVISION	APPROVED



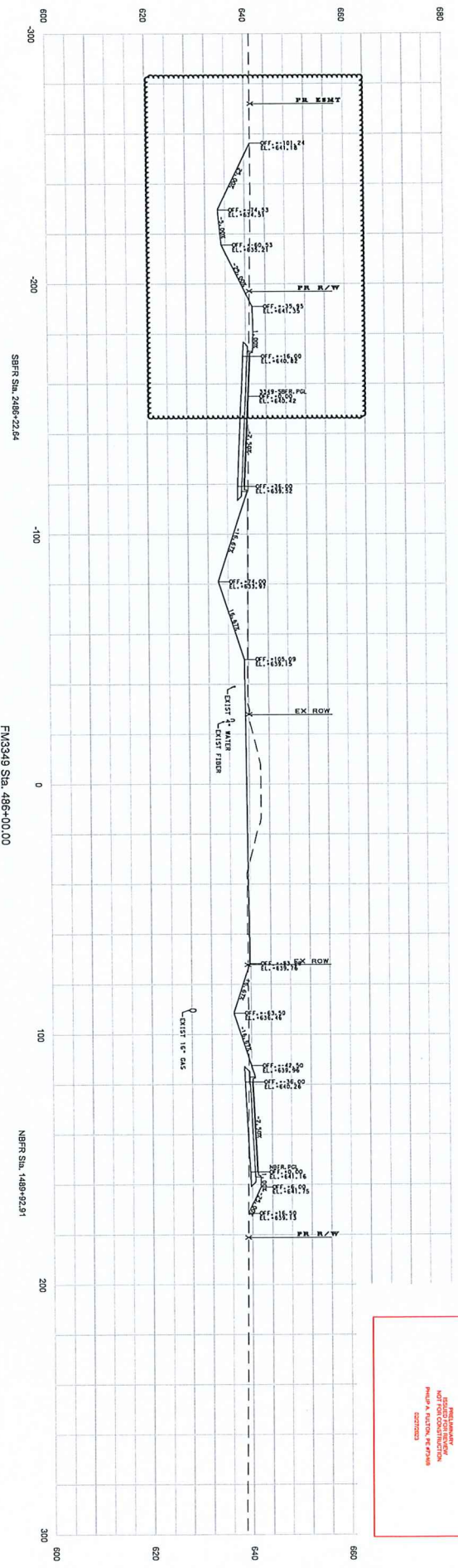
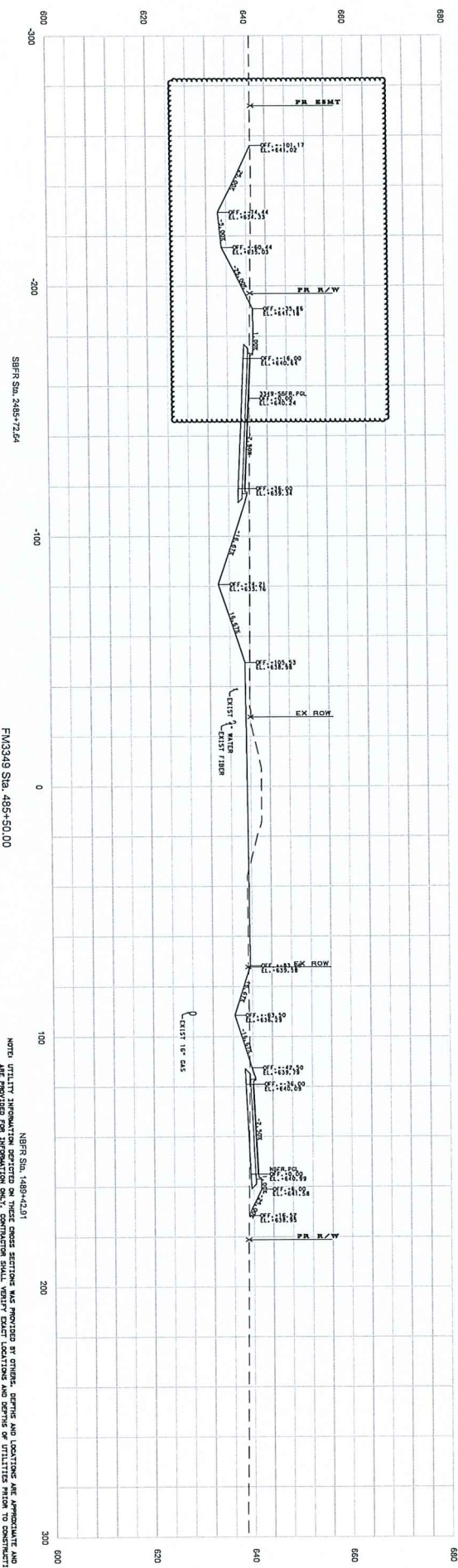
HDR
 HDR Engineering, Inc.
 710 Hunter Green, Suite 150
 Hunt Valley, MD 21081
 Phone: 410-336-7500
 Fax: 410-336-7524

STA 485+50.00 TO STA 486+00.00

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

FM 3349
 CROSS SECTIONS

XS-72



INFORMATION
 NOT FOR CONSTRUCTION
 PURPOSES

NOTE: UTILITY INFORMATION DERIVED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHER FIRMS. THE LOCATION AND DEPTH OF UTILITIES FROM TO CONSTRUCTION ARE PROVIDED FOR INFORMATION ONLY. CONSTRUCTION SHALL VERIFY EXISTING UTILITIES AND DEPTHS AND ADJUST THE LOCATION FROM TO CONSTRUCTION.

NBFR Sta. 1489+42.91

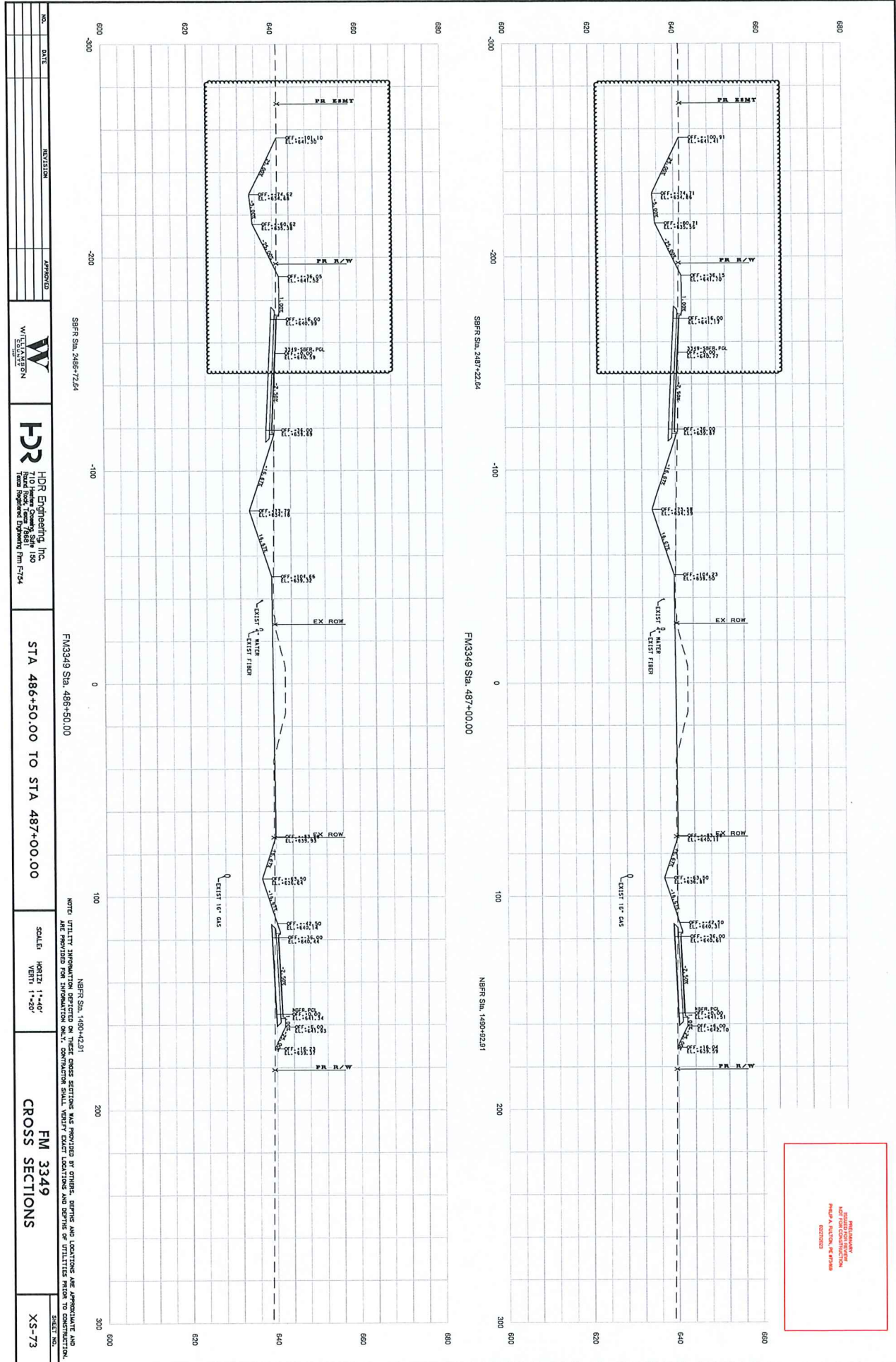
NBFR Sta. 1489+92.91

SBFR Sta. 2485+72.54

SBFR Sta. 2486+22.54

FM3349 Sta. 485+50.00

FM3349 Sta. 486+00.00



NO.	DATE	REVISION	APPROVED



HR
 HDR Engineering, Inc.
 710 Hudson County, Suite 150
 Newark, New Jersey 07102
 Phone: 973.261.1500
 Fax: 973.261.1501

STA 486+50.00 TO STA 487+00.00

SCALE: HORIZ: 1"=40'
 VERT: 1"=30'

FM 3349
 CROSS SECTIONS

SHEET NO. XS-73

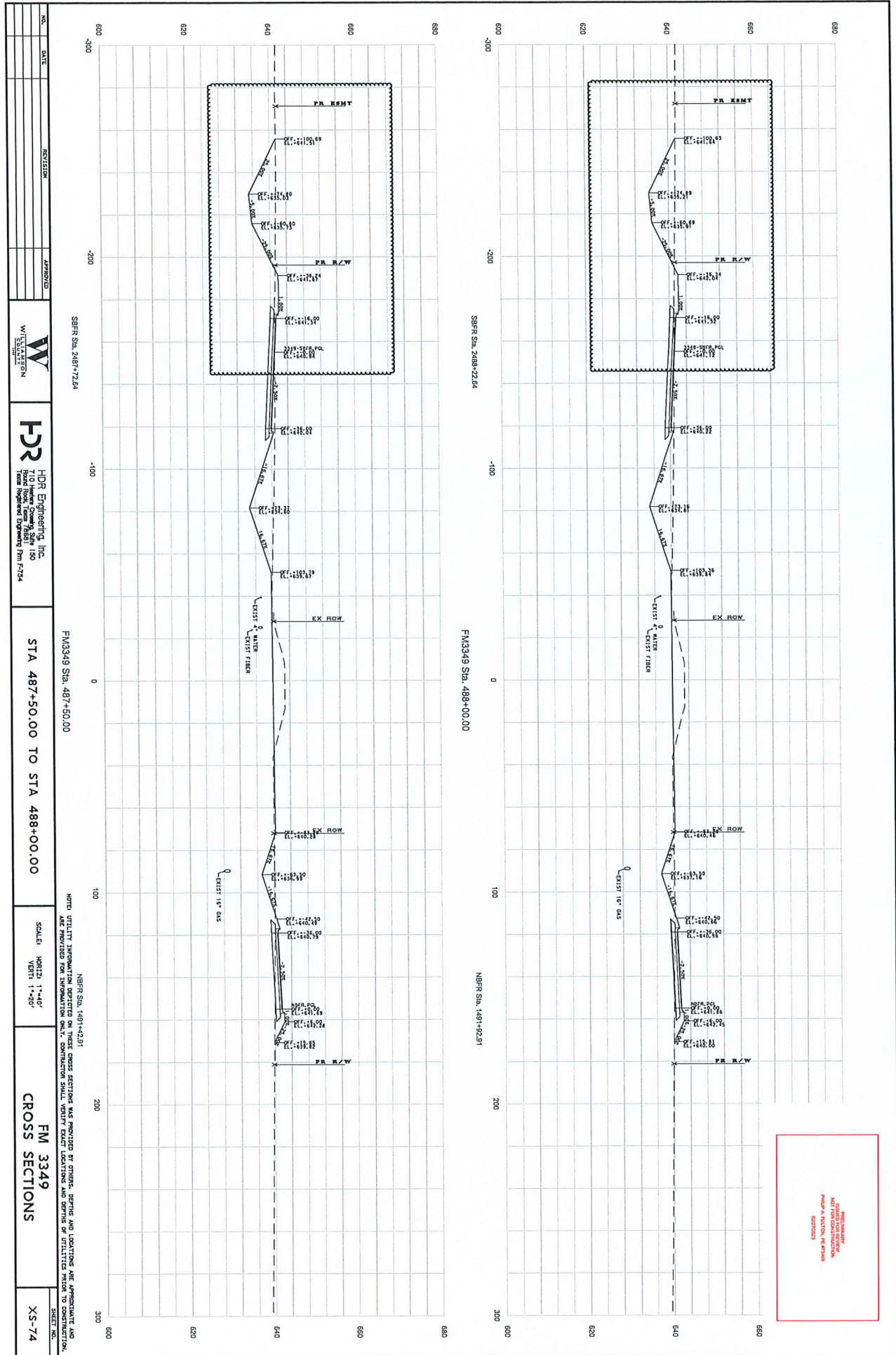
SBFR Sta. 2486+72.64

FM3349 Sta. 486+50.00

NBFR Sta. 1480+42.91

NOTE: UTILITY INFORMATION DERIVED FROM THESE CROSS SECTIONS WAS PROVIDED BY OTHER AGENCIES AND LOCATIONS ARE APPROXIMATE AND NOT GUARANTEED FOR CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING UTILITIES AND CONDITIONS AND ADJUST CROSS SECTIONS AS NECESSARY PRIOR TO CONSTRUCTION.

PLEASE DO NOT REMOVE
 THIS INFORMATION FROM
 ANY CROSS SECTION
 DRAWING



NO.	DATE	REVISION	APPROVED	WILLIAMSON	HDR	HDR Engineering, Inc. 710 Hedden Company Blvd. 150 Trenton, NJ 08611 Phone: 609-392-7134	STA 487+50.00 TO STA 488+00.00	SCALE HORIZ. 1"=40' VERT. 1"=40'	FM 3349 CROSS SECTIONS	SHEET NO. XS-74
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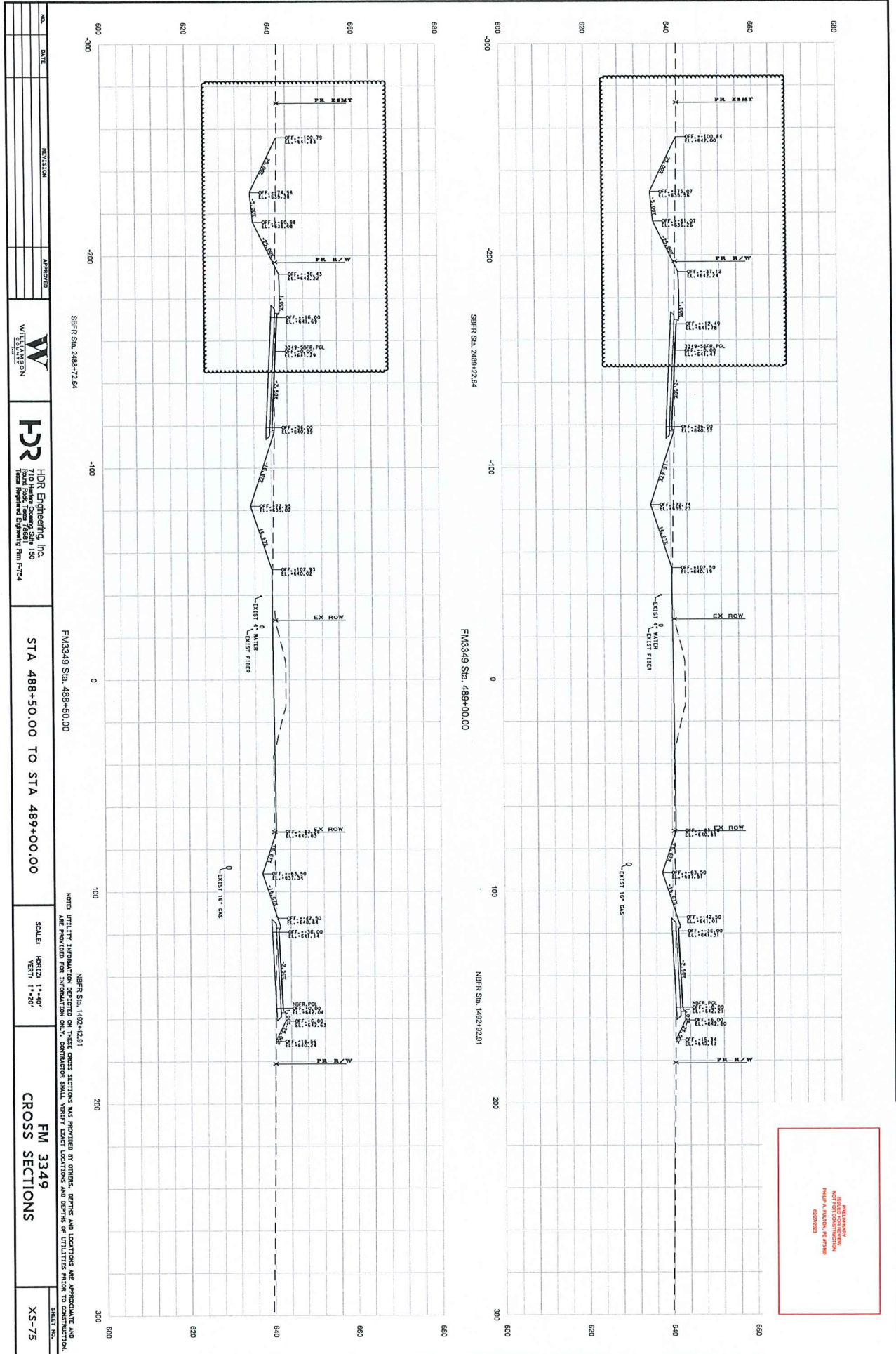
SBRF Sta. 2487+72.84

FM3349 Sta. 487+50.00

NBRF Sta. 1491+42.81

NOTE: UTILITY INFORMATION DERIVED FROM THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. OTHERS ARE LOCATING AND VERIFYING THE LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION.

PROPOSED
 EXISTING
 EXISTING WATER FISH



NO.	DATE	REVISION	APPROVED



HDR
 HDR Engineering, Inc.
 710 Hunter Commons, Suite 100
 Hunt Valley, MD 21081
 Phone: 410-336-7154

STA 488+50.00 TO STA 489+00.00

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

FM 3349
 CROSS SECTIONS

XS-75

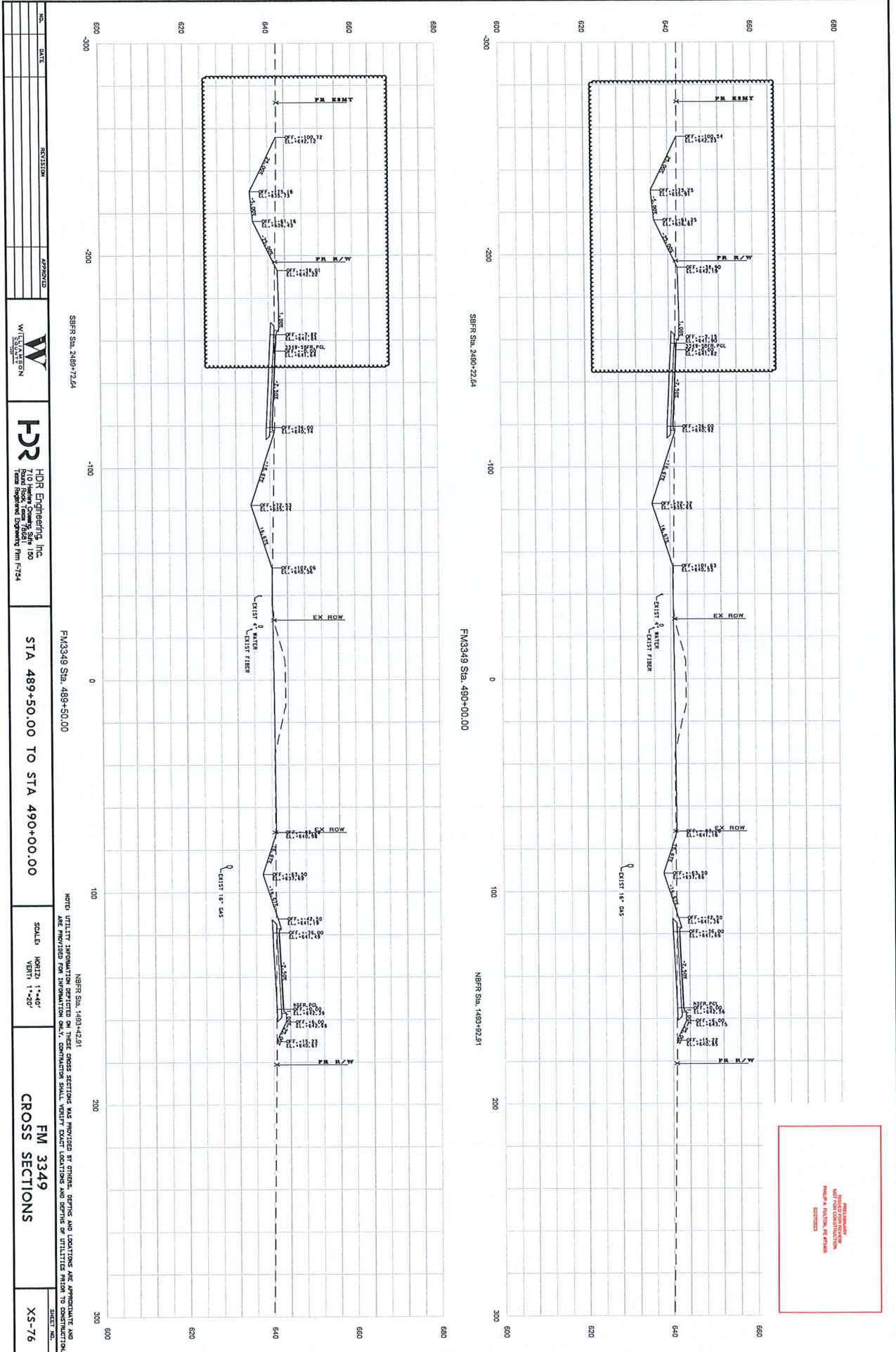
SRRF Sta. 2488+72.54

FM3349 Sta. 488+50.00

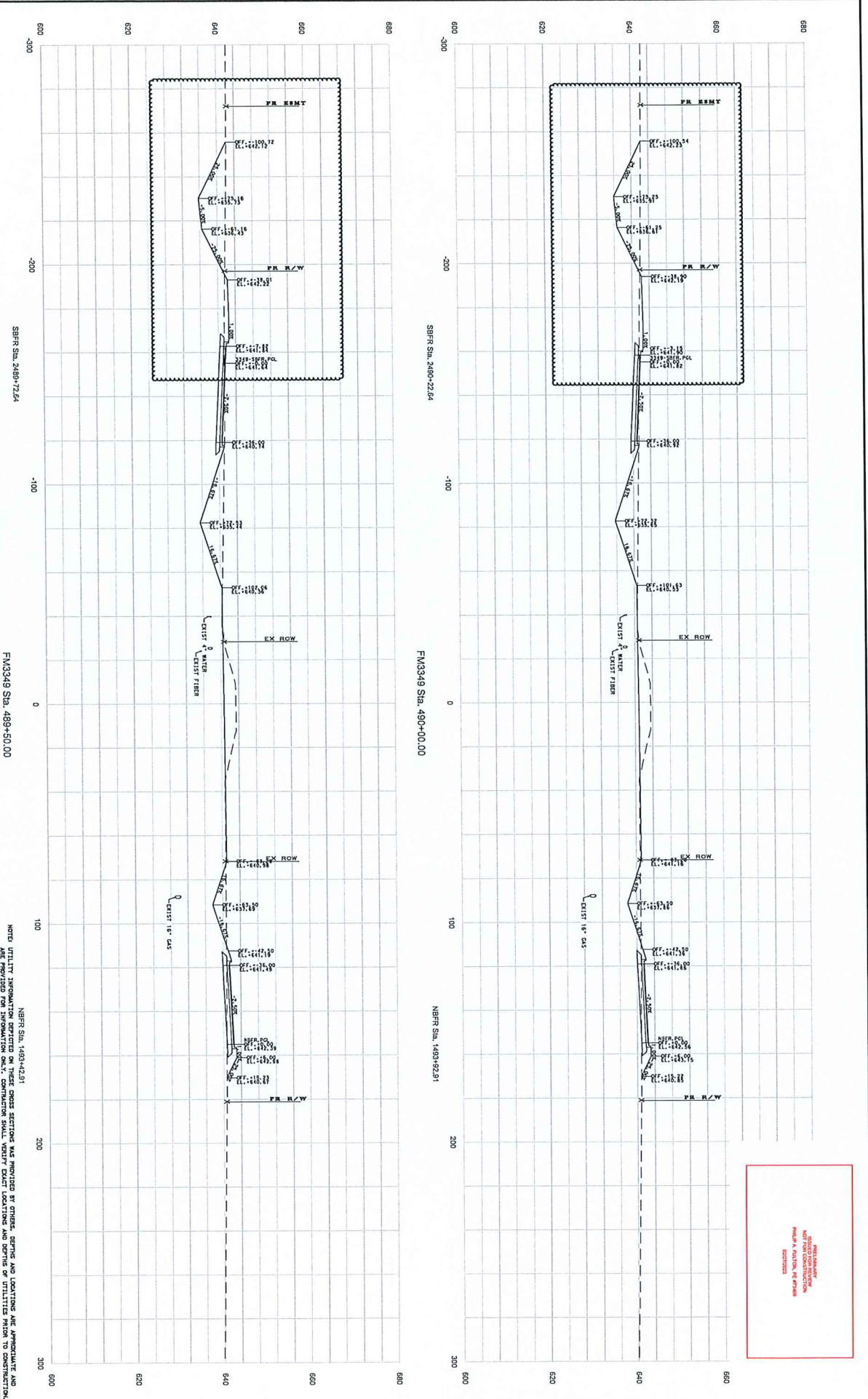
NRFR Sta. 1482+42.81

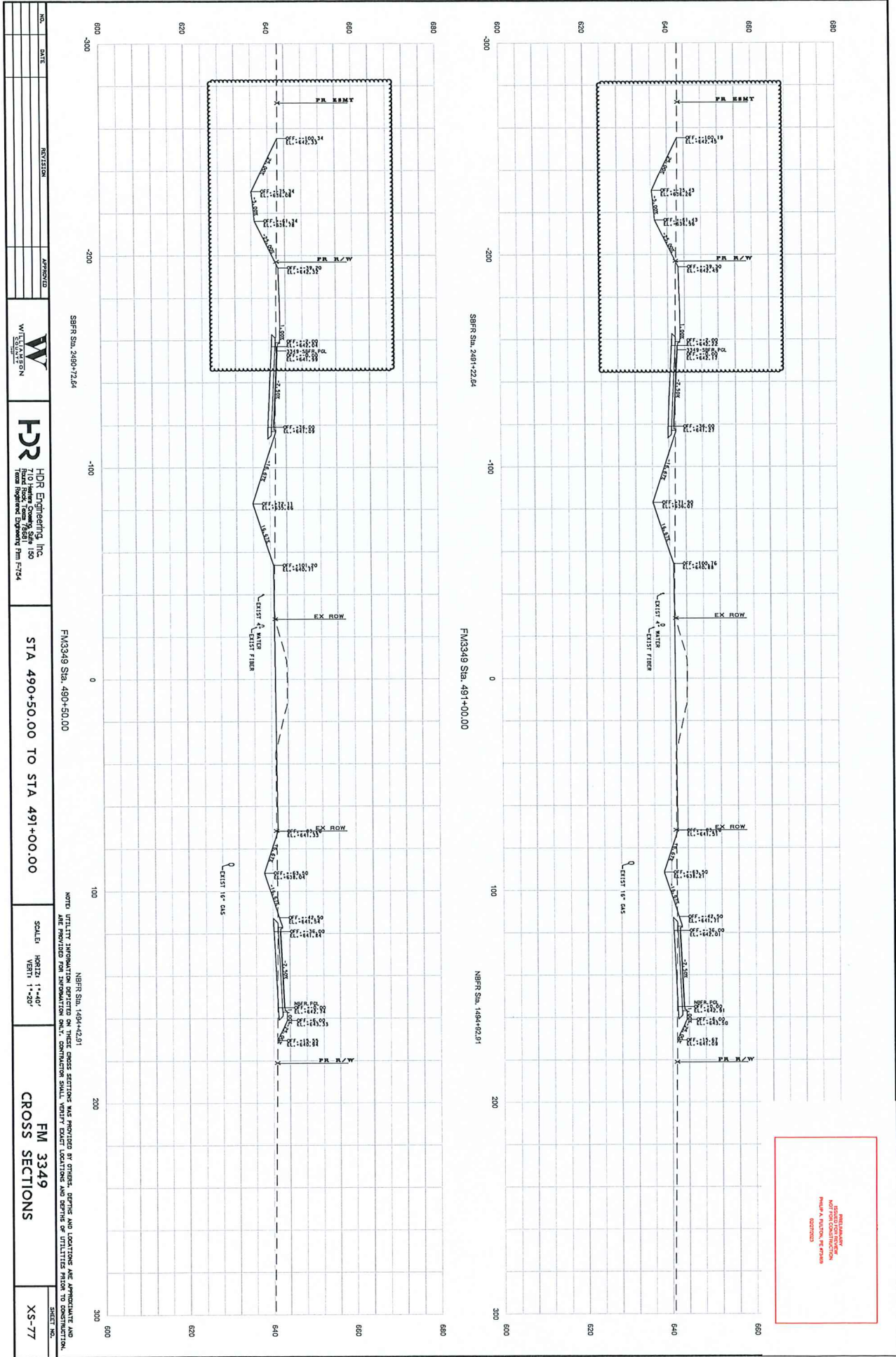
NOTE: UTILITY INFORMATION DERIVED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. HDR HAS NOT LOCATED AND VERIFIED THE LOCATION AND DEPTH OF UTILITIES SHOWN ON THESE SECTIONS AND CANNOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS.

EXISTING UTILITIES
 NOT FOR CONSTRUCTION
 (EXCEPT AS NOTED)

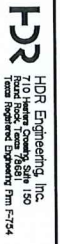


NO.	DATE	REVISION	APPROVED
HDR Engineering, Inc. 710 Hunter County State Rd 150 P.O. Box 46881 Fort Worth, Texas 76146-4881 Tel: 817-335-7100 Fax: 817-335-7154			
STA 489+50.00 TO STA 490+00.00			
Scaled HORIZ. 1"=40' VERT. 1"=40'		FM 3349 CROSS SECTIONS	
NOTE: UTILITY INFORMATION DERIVED FROM THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. HDR HAS VISUALLY VERIFIED THE LOCATION AND DEPTH OF UTILITIES SHOWN ON THESE CROSS SECTIONS. THE LOCATION AND DEPTH OF UTILITIES SHOWN ON THESE CROSS SECTIONS ARE NOT TO BE USED FOR CONSTRUCTION.			SHEET NO. XS-76





NO.	DATE	REVISION	APPROVED



STA 490+50.00 TO STA 491+00.00

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

FM 3349
 CROSS SECTIONS

XS-77

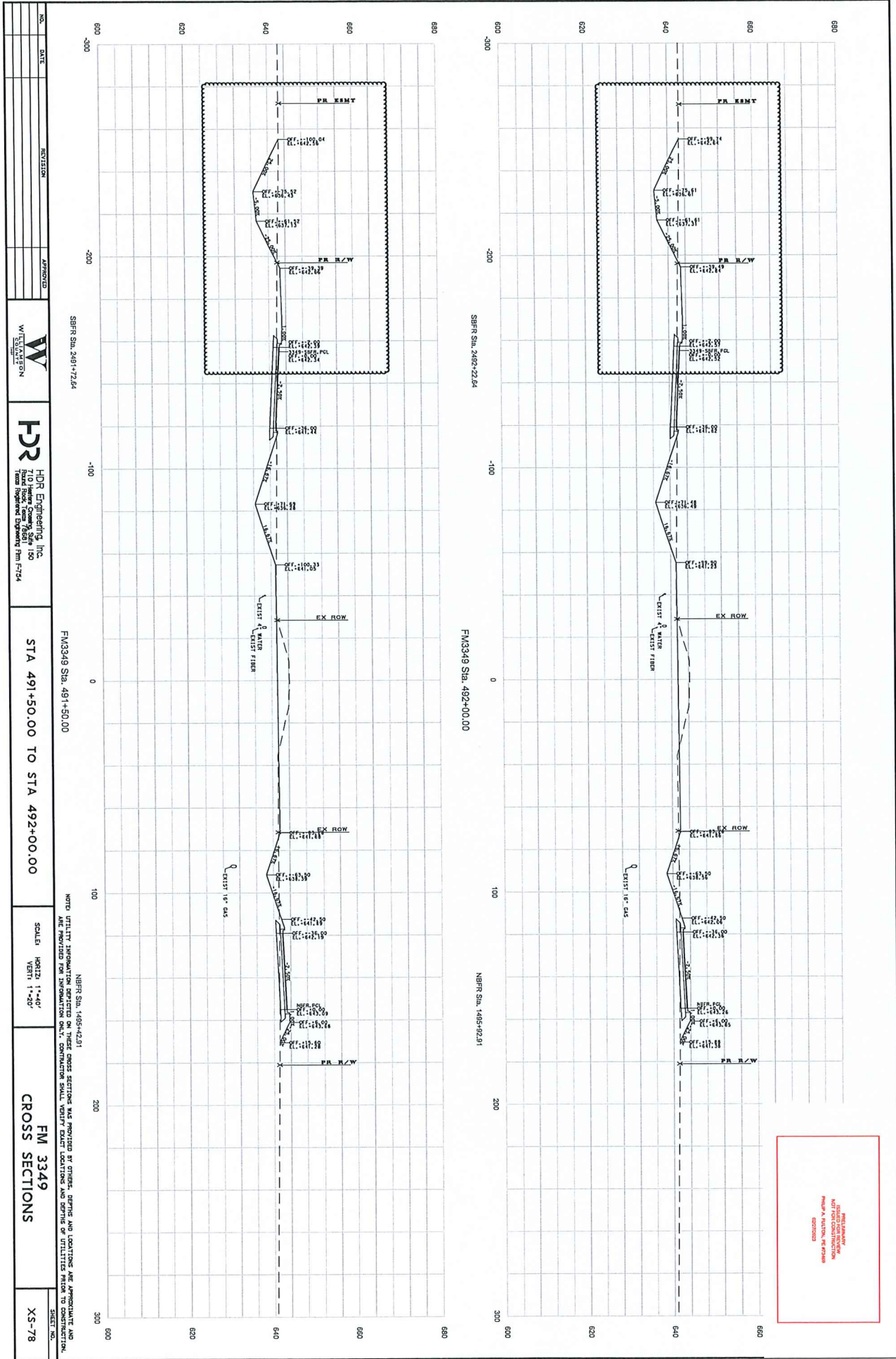
SRRF Sta. 249+72.64

FM3349 Sta. 490+50.00

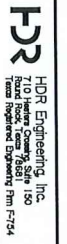
NBRF Sta. 1484+42.91

NOTE: UTILITY INFORMATION DEPICTED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPICTED AND LOCATIONS ARE APPROXIMATE AND NOT TO BE USED FOR CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING UTILITIES AND DEPICTED LOCATIONS FROM THE FIELD.

THIS DRAWING IS NOT FOR CONSTRUCTION. PLEASE A MATCH, RE DRAW. 6/27/2023



NO.	DATE	REVISION	APPROVED



STA 491+50.00 TO STA 492+00.00

SCALE
 VERT: 1"=40'
 HOR: 1"=40'

FM 3349
 CROSS SECTIONS

XS-78
 SHEET NO.

SBR Sta. 2491+72.64

FM3349 Sta. 491+50.00

NBR Sta. 1485+42.91

NOTE: UTILITY INFORMATION SHOWN ON THESE CROSS SECTIONS WAS PROVIDED BY OTHER AGENCIES AND IS NOT GUARANTEED BY THE ENGINEER. THE ENGINEER HAS CONDUCTED VISUAL CHECKS OF UTILITIES PRIOR TO CONSTRUCTION.

THIS DRAWING IS NOT FOR CONSTRUCTION AND IS NOT TO BE USED FOR ANY PURPOSES WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.

NO.	DATE	REVISION	APPROVED



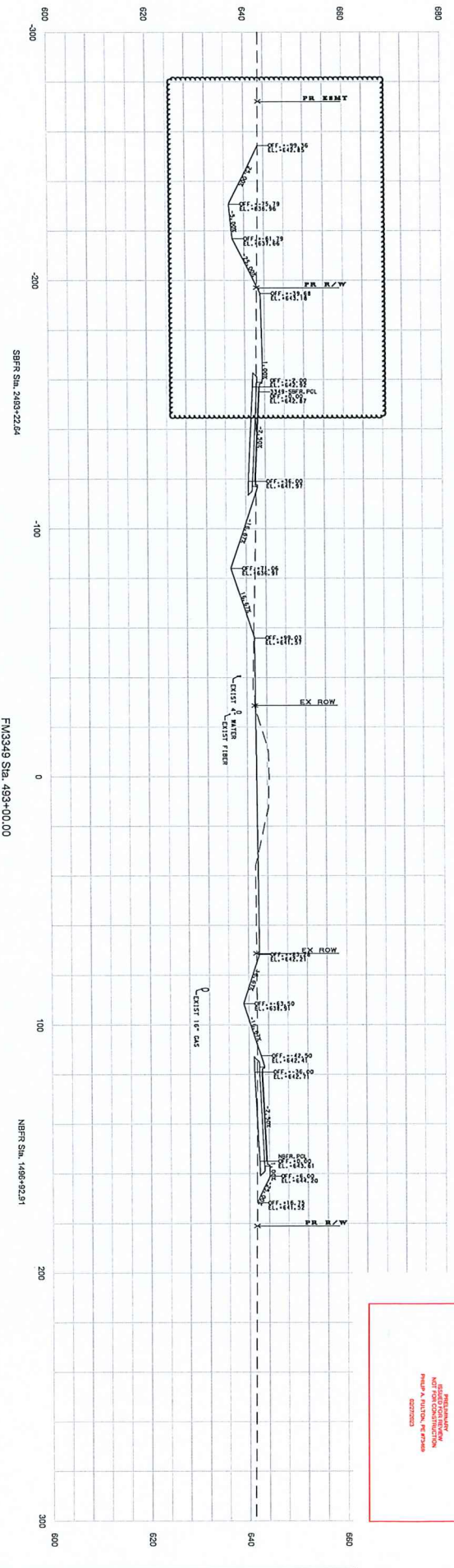
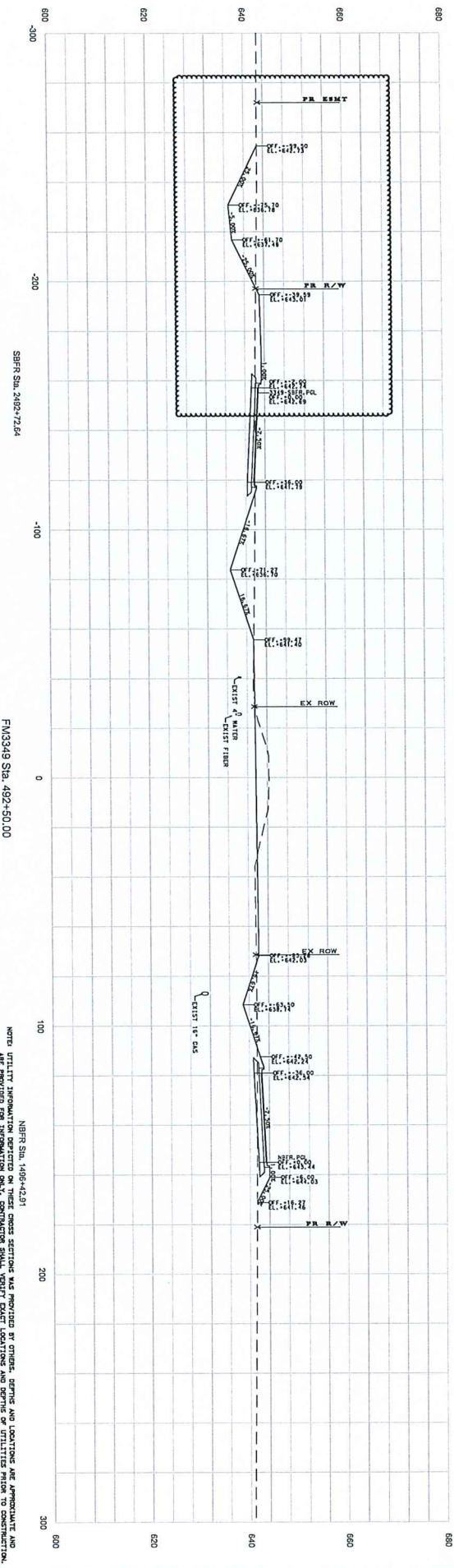
HDR Engineering, Inc.
 710 Hunter County State 150
 Rural Road, Lees Ferry, AZ 86041
 Phone: 928/939-9111 Fax: 928/939-9114

STA 492+50.00 TO STA 493+00.00

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

FM 3349
 CROSS SECTIONS

XS-79
 SHEET NO.



REVISIONS
 FOR
 AND FOR
 CONSTRUCTION
 SHALL BE MADE
 IN THE FIELD
 (SEE SHEET
 822203)

NO.	DATE	REVISION	APPROVED



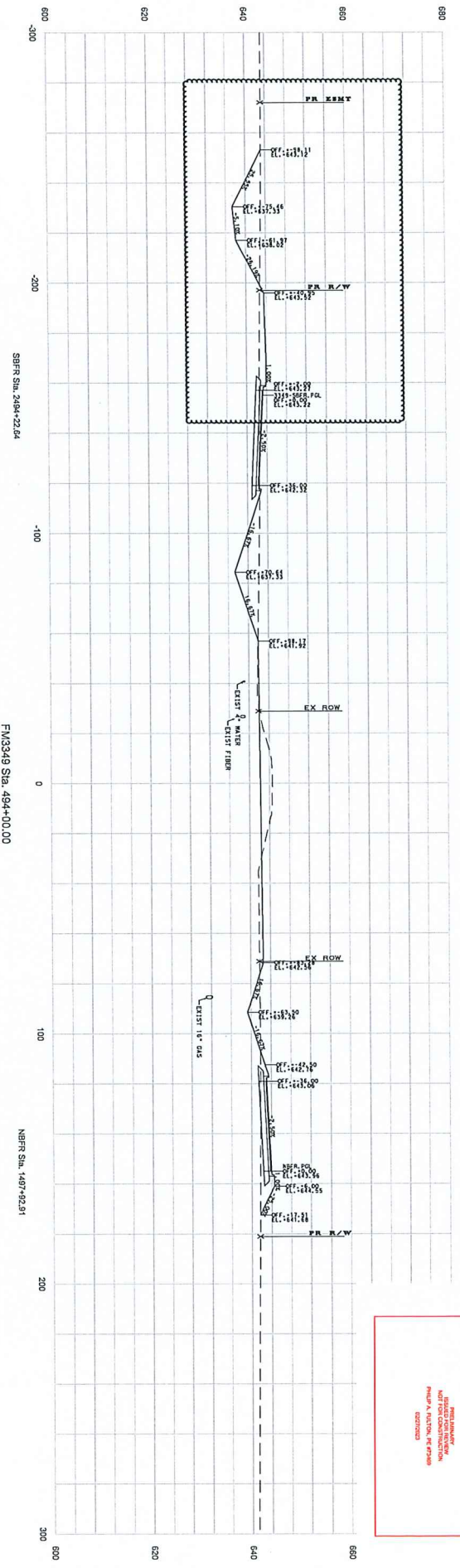
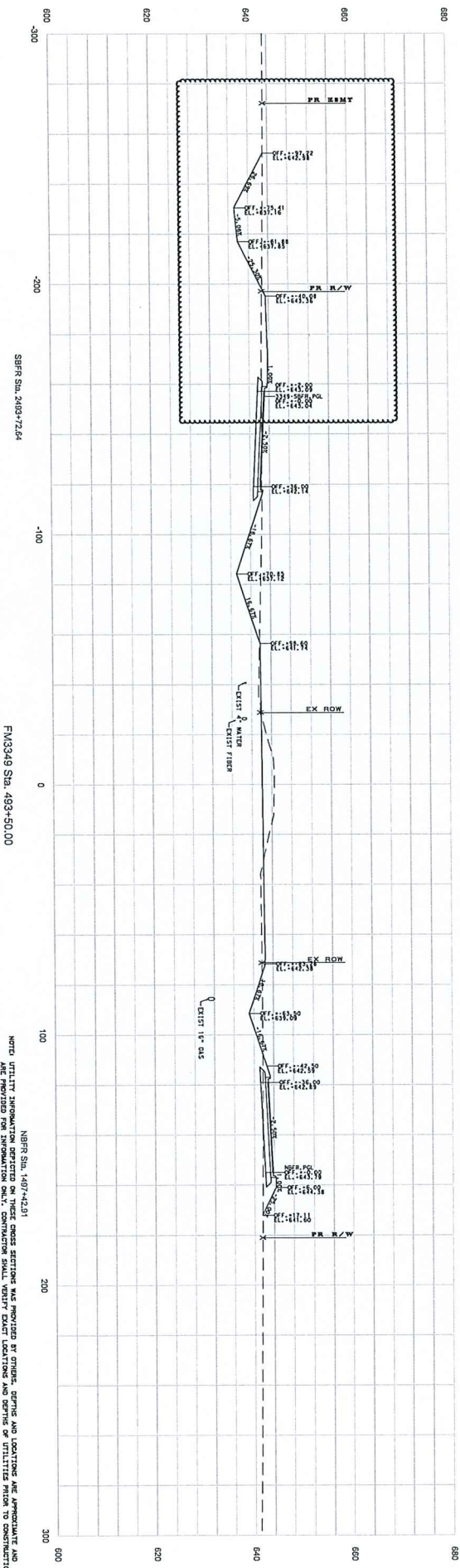
HDR Engineering, Inc.
 710 Haines Center, Suite 150
 Fort Lauderdale, FL 33301
 Phone: 754.333.1111

STA 493+50.00 TO STA 494+00.00

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

FM 3349
 CROSS SECTIONS

X5-80
 SHEET NO.



THIS DRAWING IS NOT FOR CONSTRUCTION
 UNLESS A NOTE OR PERMITS
 INDICATE OTHERWISE

NOTE: UTILITY INFORMATION DERIVED FROM THESE CROSS SECTIONS WAS PROVIDED BY OTHER, DESIGN AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. DESIGNER SHALL VERIFY EXIST UTILITIES AND LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.

SBRF Sta. 2493+72.64

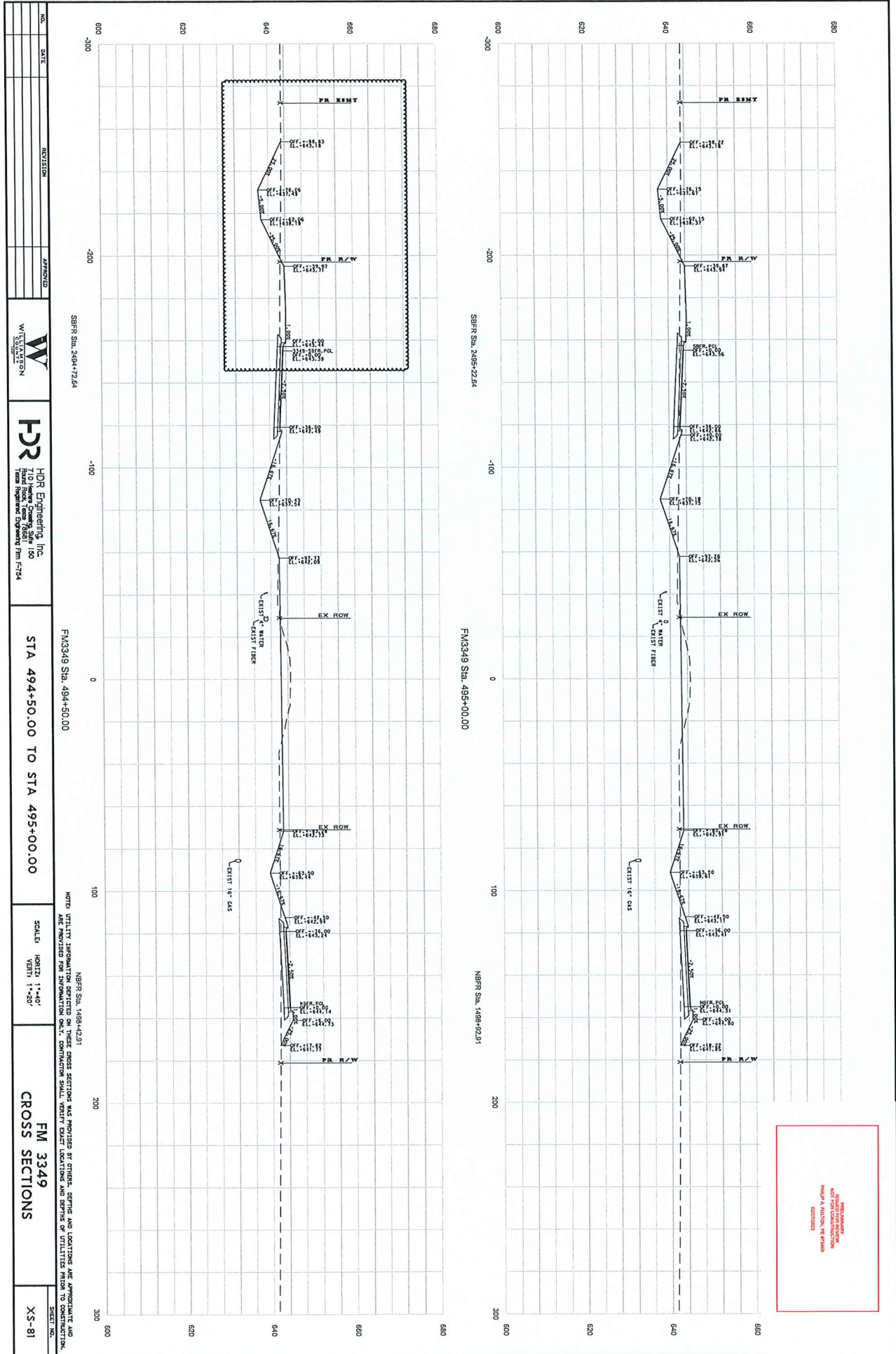
FM3349 Sta. 493+50.00

NBRF Sta. 487+42.91

SBRF Sta. 2494+22.24

FM3349 Sta. 494+00.00

NBRF Sta. 487+92.91



NO.	DATE	REVISION	APPROVED	WILKINSON	HDR	HDR Engineering, Inc. 710 Hunters Green, Suite 150 Fossil Rock, Texas 75881 Phone: 409-628-7154	STA 494+50.00 TO STA 495+00.00	SCALE HORIZ: 1"=40' VERT: 1"=20'	FM 3349 CROSS SECTIONS	XS-81
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SHFR Sta. 249+72.84

FM3349 Sta. 494+50.00

NBRF Sta. 1498+42.81

NOTE: UTILITY INFORMATION DERIVED ON THESE CROSS SECTIONS WAS PROVIDED BY OTHERS. DEPTHS AND LOCATIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. DIMENSIONS SHALL VERIFY EXIST LOCATIONS AND DEPTHS OF UTILITIES FIELD BY SURVEY.

NO GUARANTEE FOR ACCURACY OF INFORMATION FOR CONSTRUCTION PURPOSES