

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**UNI-33-24.87**

CITY OF DUBLIN

**JEROME TOWNSHIP / WASHINGTON TOWNSHIP  
FRANKLIN / UNION COUNTY**

**PROJECT DESCRIPTION**

REALIGNMENT OF U.S. 33 & S.R. 161 INTERCHANGE RAMP AND CONSTRUCTION OF NEW U.S. 33 STRUCTURE OVER S.R. 161. RECONSTRUCTION AND WIDENING OF S.R. 161 WITHIN INTERCHANGE LIMITS. RECONSTRUCTION OF ONE SIGNALIZED INTERSECTION AND MODIFICATION OF ONE MODERN ROUNDABOUT.

PROJECT EARTH DISTURBED AREA: 68.7 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.00 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: 69.7 ACRES

**LIMITED ACCESS**

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

ADA DESIGN WAIVER: NONE REQUIRED

**2019 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

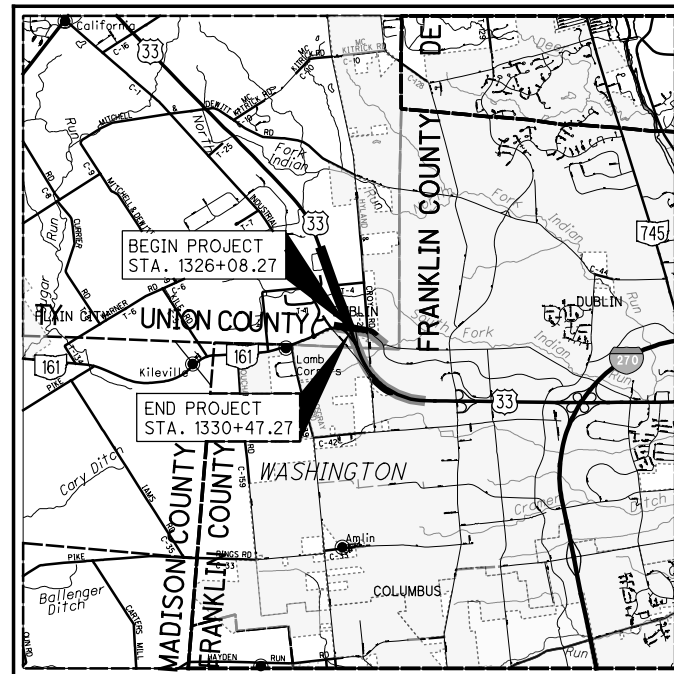
UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED *[Signature]*  
DATE 10/19/2021 DISTRICT DEPUTY DIRECTOR

APPROVED *[Signature]*  
DATE 1-3-2022 DIRECTOR, DEPARTMENT OF TRANSPORTATION

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED SCD DATE	ENR	3-3-2022



LATITUDE: 40°6'30" LONGITUDE: 83°10'48"



PORTION TO BE IMPROVED: [Symbol]  
INTERSTATE & DIVIDED HIGHWAY: [Symbol]  
UNDIVIDED STATE & FEDERAL ROUTES: [Symbol]  
OTHER ROADS: [Symbol]

FOR DESIGN DESIGNATION DATA  
SEE SCHEMATIC PLAN, SHEET 3

FOR ENGINEERS SEALS & ADDITIONAL SIGNATURES,  
SEE SHEET 2

**DESIGN EXCEPTIONS**  
NONE REQUIRED

**INDEX OF SHEETS:**

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**UNDERGROUND UTILITIES**

Contact Two Working Days  
Before You Dig



OHIO811, 8-1-1, or 1-800-362-2764  
(Non-members must be called directly)

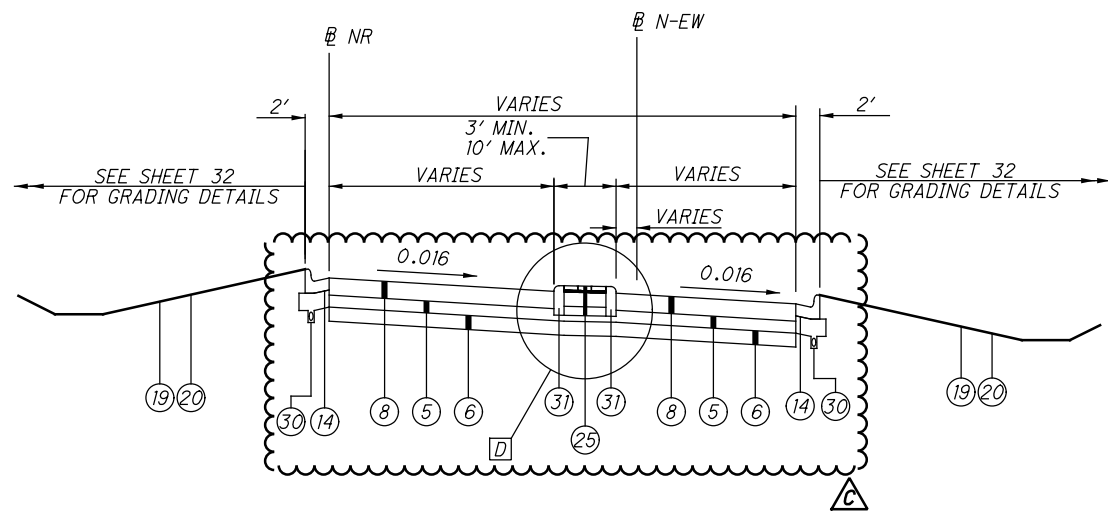
PLAN PREPARED BY:  
BURGESS & NIPLE INC.  
5085 REED ROAD  
COLUMBUS, OH 43220

**STANDARD CONSTRUCTION DRAWINGS**

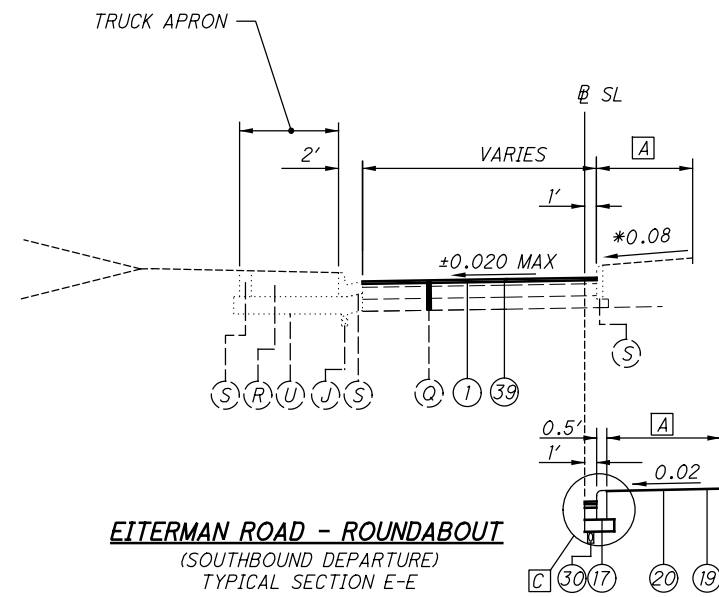
STANDARD CONSTRUCTION DRAWINGS														CITY OF COLUMBUS STANDARD CONST. DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS				
BP-2.1	7/17/15	DM-4.1	7/17/20	BP-9.1	1/18/19	MGS-5.3	7/15/16	MT-95.40	1/17/20	MT-102.10	1/17/20	TC-42.20	10/18/13	ITS-10.10	1/15/21	L-1003	1/26/18	800-2020	1/21/22	WATERWAY PERMIT
BP-2.2	1/15/21	DM-4.2	7/20/12			MGS-6.1	1/19/18	MT-95.41	1/17/20	MT-102.30	10/16/15	TC-51.11	1/15/16	ITS-10.11	1/15/21	L-6309A	1/26/18	804	1/15/21	RGP A 2/19/21
BP-3.1	1/17/20	DM-4.3	1/15/16	F-1.1	7/19/13			MT-95.45	1/17/20	MT-103.10	1/19/18	TC-51.12	1/15/16	ITS-12.10	7/19/19	L-6309B	1/26/18	807	7/17/20	FLOOD PLAIN
BP-6.1	7/19/13	DM-4.4	1/15/16	F-3.3	7/19/13	RM-1.1	1/15/21	MT-95.50	7/21/17	MT-104.10	10/16/15	TC-52.10	10/18/13	ITS-14.10	1/15/21	L-6310	1/26/18	808	1/18/19	PERMIT 5/7/21
BP-7.1	7/19/13			F-3.4	7/19/13	RM-4.1	1/17/20	MT-97.10	4/19/19	MT-105.10	1/17/20	TC-52.20	1/15/21	ITS-14.11	1/15/21	L-6311	1/26/18	809	4/16/21	
CB-1.1	7/19/19	I-1.1	7/20/18			RM-4.2	4/17/20	MT-97.11	1/20/17			TC-61.10	1/17/20	ITS-14.20	1/15/21	L-6312	1/26/18	821	4/20/12	
CB-1.3	1/15/16			LA-1.1	10/15/10	RM-4.4	7/19/19	MT-97.12	1/20/17	TC-12.31	1/21/22	TC-64.10	1/17/20	ITS-14.50	1/15/21	L-6316A	1/26/18	832	10/19/18	
CB-2.1	1/15/21	MH-1.1	1/15/16	LA-1.2	1/16/09	AS-1-15	7/17/15	MT-98.29	1/17/20	TC-15.116	1/15/21	TC-65.10	1/17/14	ITS-15.10	1/15/21	L-6316B	1/26/18	847	1/15/21	
CB-2.2	1/15/21	MH-1.2	1/15/16			AS-2-15	1/18/19	MT-99.20	4/19/19	TC-21.11	4/17/20	TC-65.11	7/21/17	ITS-15.11	1/15/21	L-6409A	1/26/18	850	4/16/21	
CB-2.3	1/15/16			MGS-1.1	1/19/18	GSD-1-19	1/15/21	MT-99.30	1/17/20	TC-21.21	1/15/21	TC-71.10	1/19/18	ITS-18.00	1/15/21	L-6473A	1/26/18	872	4/17/20	
CB-3.1	1/15/16	WQ-1.1	1/18/13	MGS-2.1	1/19/18	PCB-91	7/17/20	MT-99.60	7/15/16	TC-22.20	1/17/14	TC-72.20	7/20/18	ITS-50.10	1/15/21	L-6637A	1/26/18	878	4/16/21	
CB-3.3	1/15/16	WQ-1.2	1/15/16	MGS-3.1	1/19/18	SB-1-03	4/18/03	MT-101.60	1/17/20	TC-41.10	7/19/13	TC-73.20	1/17/20			L-6640	1/26/18	904	1/15/21	
CB-3.4	1/15/16			MGS-3.2	1/18/13	SBR-1-20	7/17/20	MT-101.70	1/17/20	TC-41.20	10/18/13	TC-81.22	7/17/20			L-7401	11/14/18	905	4/17/20	
		BP-4.1	7/19/13	MGS-4.2	7/19/13	SICD-2-14	7/18/14	MT-101.75	1/17/20	TC-41.30	10/18/13	TC-83.20	7/21/17			L-7601	1/26/18	908	10/20/17	
DM-1.1	7/17/20	BP-5.1	1/18/19	MGS-4.3	1/18/13			MT-101.80	1/17/20	TC-41.50	10/18/13	TC-85.10	4/17/20			L-8502	1/26/18	909	4/16/21	
DM-1.2	1/18/13	BP-7.1	7/17/20	MGS-5.2	7/15/16	MT-95.32	4/19/19	MT-101.90	7/17/20	TC-42.10	10/18/13	TC-85.20	7/20/18					921	4/20/12	

DOW #20-114

FEDERAL PROJECT NO. E200 (605)  
PID NO. 80748  
CONSTRUCTION PROJECT NO. NONE  
RAILROAD INVOLVEMENT NONE  
UNI-33-24.87  
1  
923

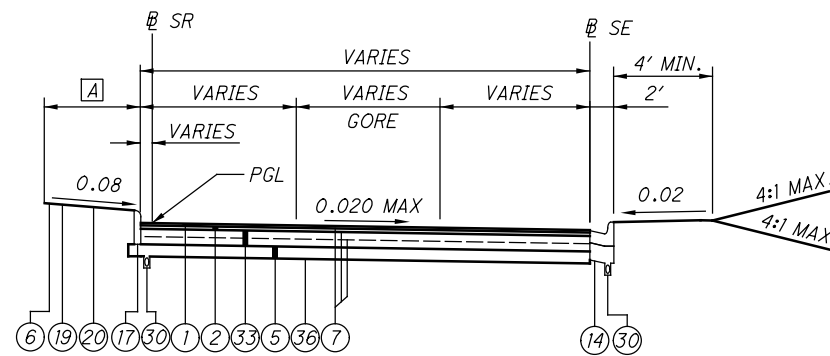
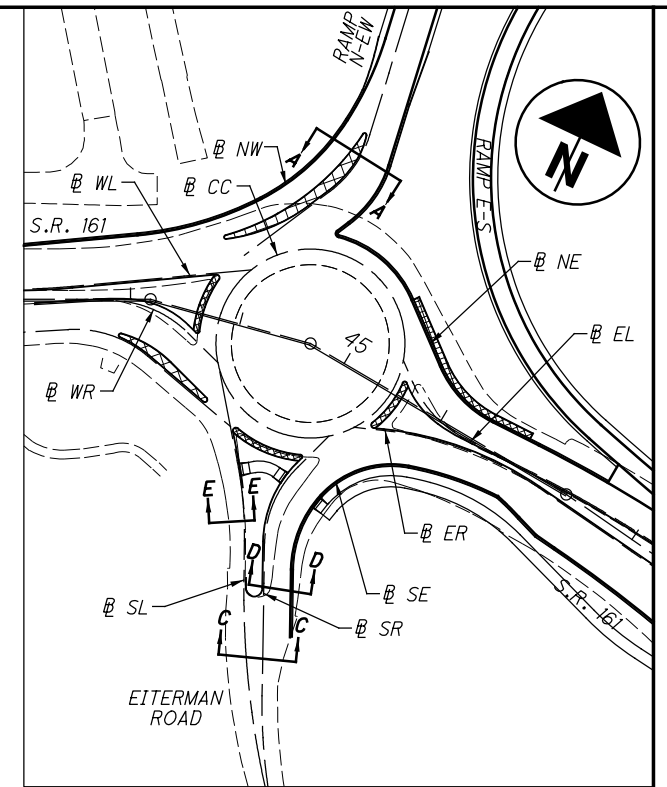


**RAMP N-EW - ROUNDABOUT APPROACH**  
(SOUTHBOUND APPROACH)  
TYPICAL SECTION A-A

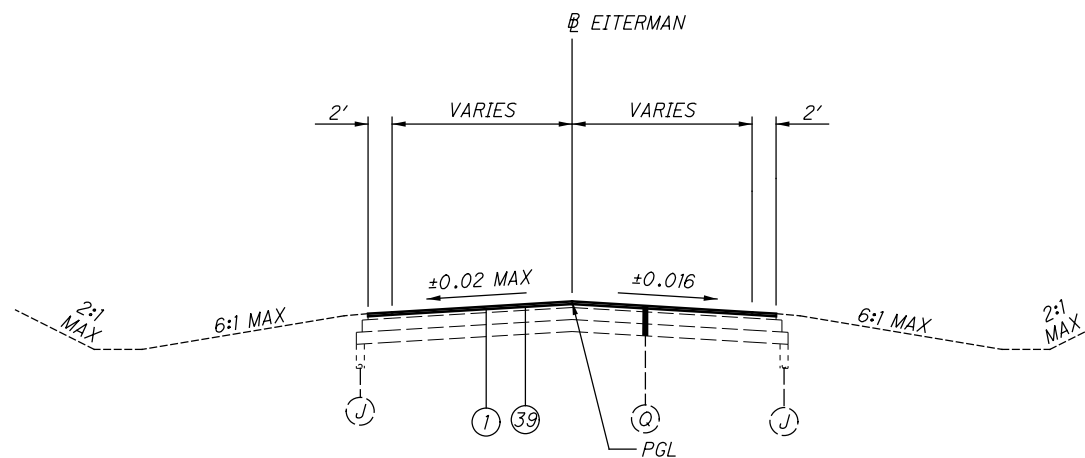


**EITERMAN ROAD - ROUNDABOUT**  
(SOUTHBOUND DEPARTURE)  
TYPICAL SECTION E-E

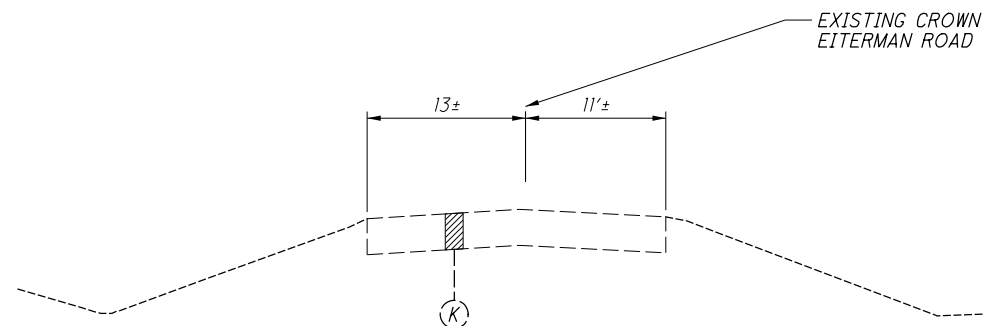
SEE PLAN SHEETS FOR PROPOSED CURB LIMITS



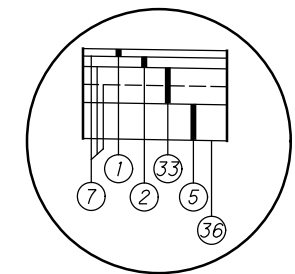
**EITERMAN ROAD - ROUNDABOUT**  
(NORTHBOUND APPROACH)  
TYPICAL SECTION D-D



**EITERMAN ROAD - ROUNDABOUT APPROACH**  
(NORTHBOUND APPROACH)  
TYPICAL SECTION C-C



**EXISTING NORMAL SECTION - EITERMAN ROAD**



**C FULL DEPTH PAVEMENT AT SAWCUT**

**A SEE ROUNDABOUT PLAN DETAILS FOR WIDTHS**

**B 0.08 SLOPE**

**D SEE BANANA ISLAND DETAIL, SHEET 34**

FOR LEGEND, SEE SHEET 9

NO.	DESCRIPTION	REV. BY	DATE
C	TYPICAL SECTION REVISION	ENR	3-3-2022



P:\PR41806aa\fra\80748\roadway\sheet\GC004.dgn

SHEET NUM.												PART.						ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	N/JL	CHECKED	KOD
602	603	707	717	719	720	721	722	723	724	725	726	01/NHS/PV	02/S>2/PV	03/NHS/BR	06/S>2/OT/AEP	07/S>2/OT/SPEC	08/S>2/OT/DLTK										
<b>LIGHTING</b>																											
				20		36		24		12								625	00450	92	EACH	CONNECTION, FUSED PULL APART (LIGHTING)					
				10		18		12		6								625	00460	46	EACH	CONNECTION, UNFUSED PULL APART					
								12										625	00480	12	EACH	CONNECTION, UNFUSED PERMANENT (LIGHTING)					
				8		18		12		6								625	10491	44	EACH	LIGHT POLE, CONVENTIONAL, AS PER PLAN, 35'	716				
				5		18		12		5								625	14501	40	EACH	LIGHT POLE FOUNDATION, AS PER PLAN	716				
				4,890		10,440		8,580		3,150								625	23000	27,060	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE (LIGHTING)					
								90										625	23100	90	FT	NO. 2 AWG 600 VOLT DISTRIBUTION CABLE					
				1,200		2,700		1,800		900								625	23400	6,600	FT	NO. 10 AWG POLE AND BRACKET CABLE					
				1,630		2,695		2,700		1,135								625	25408	8,160	FT	CONDUIT, 2", 725.051, SCHEDULE 40 PVC					
				70		180		400		95								625	25505	745	FT	CONDUIT, 3", 725.051, AS PER PLAN, SCHEDULE 80 PVC	716				
				2		8		3		1								625	26253	14	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, TYPE II (LIGHTING)	746				
				1		7		6		4								625	26253	18	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, TYPE III (LIGHTING)	746				
				5		3		3		1								625	26253	12	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, TYPE IV (LIGHTING)	746				
										16								625	27503	16	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN (LIGHTING)	716				
				1,630		2,695		2,660		845								625	29010	7,830	FT	TRENCH, 30" DEEP					
					2		7		6		3							625	30500	18	EACH	PULL BOX, 725.06, SIZE 1.5					
									2									625	30510	2	EACH	PULL BOX, 725.06, SIZE 4					
					8		18		12		6							625	32000	44	EACH	GROUND ROD (LIGHTING)					
			4															625	33001	4	EACH	STRUCTURE GROUNDING SYSTEM, AS PER PLAN	717				
									1									625	34001	1	EACH	POWER SERVICE, AS PER PLAN (LIGHTING)	717				
										1								625	34451	1	EACH	CONTROL CENTER CABINET, COMPLETE, AS PER PLAN	717				
					1,630		2,695		2,645		845							625	36010	7,815	FT	UNDERGROUND WARNING/MARKING TAPE (LIGHTING)					
			LS															625	37001	LS		SERVICE TO UNDERPASS LIGHTING, AS PER PLAN	717				
			LS															625	38000	LS		HIGH VOLTAGE TEST	717				
				25			1											625	75401	26	EACH	LIGHT POLE REMOVED, AS PER PLAN	716				
					21		1											625	75501	22	EACH	LIGHT POLE FOUNDATION REMOVED, AS PER PLAN	716				
					25		1											625	75507	26	EACH	LUMINAIRE REMOVED, AS PER PLAN	716				
					25		1											625	75801	26	EACH	DISCONNECT CIRCUIT, AS PER PLAN	716				
<b>ELECTRICAL UTILITY DUCT</b>																											
189	76																	625	29700	265	FT	TRENCH, MISC.: UTILITY TRENCH "A", TYPE A TRENCH, AS PER PLAN	606				
	340																	625	29700	340	FT	TRENCH, MISC.: UTILITY TRENCH "B", TYPE A TRENCH, AS PER PLAN	606				
	679																	625	29700	679	FT	TRENCH, MISC.: UTILITY TRENCH "D", TYPE A TRENCH, AS PER PLAN	606				
187	444																	625	29700	631	FT	TRENCH, MISC.: UTILITY TRENCH "E", TYPE A TRENCH, AS PER PLAN	606				
	41																	625	29700	41	FT	TRENCH, MISC.: UTILITY TRENCH "F", TYPE A TRENCH, AS PER PLAN	606				
	214																	625	29700	214	FT	TRENCH, MISC.: UTILITY TRENCH "G", TYPE A TRENCH, AS PER PLAN	606				
	33																	625	29700	33	FT	TRENCH, MISC.: UTILITY TRENCH "H", TYPE A TRENCH, AS PER PLAN	606				
43																		625	29700	43	FT	TRENCH, MISC.: UTILITY TRENCH "L", TYPE A TRENCH, AS PER PLAN	606				
	344																	625	29700	344	FT	TRENCH, MISC.: UTILITY TRENCH "B", TYPE B TRENCH, AS PER PLAN	606				
44	13																	625	29700	57	FT	TRENCH, MISC.: UTILITY TRENCH "C", TYPE B TRENCH, AS PER PLAN	606				
																		625	29700	144	FT	TRENCH, MISC.: UTILITY TRENCH "D", TYPE B TRENCH, AS PER PLAN	606				
144																		625	29700	1,245	FT	TRENCH, MISC.: UTILITY TRENCH "E", TYPE B TRENCH, AS PER PLAN	606				
1,131	114																	625	29700	191	FT	TRENCH, MISC.: UTILITY TRENCH "G", TYPE B TRENCH, AS PER PLAN	606				
191																		625	29700	115	FT	TRENCH, MISC.: UTILITY TRENCH "H", TYPE B TRENCH, AS PER PLAN	606				
88	27																	625	29700	115	FT	TRENCH, MISC.: UTILITY TRENCH "H", TYPE B TRENCH, AS PER PLAN	606				
9																		625	29700	9	FT	TRENCH, MISC.: UTILITY TRENCH "J", TYPE B TRENCH, AS PER PLAN	606				
																		625	29700	20	FT	TRENCH, MISC.: UTILITY TRENCH "K", TYPE B TRENCH, AS PER PLAN	606				
20																		690	98000	7	EACH	SPECIAL -CHANNEL VAULT (INSTALLATION ONLY)	605				
5	2																	690	98000	3	EACH	SPECIAL -FIBERGLASS SWITCH PAD (COORDINATION ONLY)	605				
2	1																	690	98000	4	EACH	SPECIAL -PRECAST CONCRETE ELECTRIC MANHOLE	604				
3	1																	690	98000	4	EACH	SPECIAL -PRECAST CONCRETE ELECTRIC MANHOLE	604				
5	2																	690	98000	7	EACH	SPECIAL -PRECAST DUBLINK CONCRETE MANHOLE	604				
<b>TRAFFIC SURVEILLANCE</b>																											
																		625	25408	32	FT	CONDUIT, 2", 725.051					
																		625	25604	45	FT	CONDUIT, 4" 725.051					
																		809	25000	15	FT	CONDUIT, MULTICELL, MISC.: PARAPET ATTACHED	706				
																		809	24500	2,268	FT	CONDUIT, 4", MULTICELL, HDPE WITH 4-1" INNERDUCTS					
																		809	24000	235	FT	CONDUIT, MULTICELL, JACKED OR DRILLED, 4"					
																		625	25802	28	FT	CONDUIT, CONCRETE ENCASED, 4" 725.051					
																		625	29000	2,314	FT	TRENCH					
																		625	30700	1	EACH	PULL BOX, 725.08, 18"					
																		625	30711	10	EACH	PULL BOX, 725.08, 32", AS PER PLAN	706				
																		625	31511	11	EACH	PULL BOX REMOVED, AS PER PLAN	706				

GENERAL SUMMARY

UNI - 33 - 24.87

94  
923

32  
45  
15  
2,268  
235

32  
45  
15  
2,268  
235

32  
45  
15  
2,268  
235

NO.	DESCRIPTION	REV. BY	DATE
A	UPDATE ITEM DESCRIPTION	ENR	2-3-2022
C	ITEM UPDATES	ENR	3-3-2022



SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	NJL CHECKED	KOD
646	601	753	843							01/NHS/PV	02/S>2/PV	04/S>2/BR									
											1			633	75001	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN			642
											2			633	99000	2	EACH	CONTROLLER ITEM, MISC.: CONTROLLER UNIT, TYPE TS2/A2 WITH CABINET, TYPE TS1			642
											4			809	69001	4	EACH	ADVANCE RADAR DETECTION, AS PER PLAN			643
											3			809	69101	3	EACH	STOP LINE RADAR DETECTION, AS PER PLAN			643
<b>LANDSCAPING</b>																					
		116,612									116,612			659	00500	116,612	SY	SEEDING AND MULCHING, CLASS 1, Lawn seeding & mulching as per plan			
		481									481			661	00500	481	CY	MULCH, Bark mulch for planting beds (2" depth)			
		498									498			661	14000	498	EACH	PERENNIALS Autumn Joy Stonecrop			
		178									178			661	14000	178	EACH	PERENNIALS Bowles Golden Sedge			
		144									144			661	14000	144	EACH	PERENNIALS Dwarf Maiden Grass			
		108									108			661	14000	108	EACH	PERENNIALS Happy Returns Daylily			
		191									191			661	14000	191	EACH	PERENNIALS Karley Rose Grass			
		643									643			661	14000	643	EACH	PERENNIALS Stella de Oro Daylily			
		461									461			661	14000	461	EACH	PERENNIALS Variegated Lilyturf			
		26									26			661	20040	26	EACH	DECIDUOUS SHRUB, 2' HEIGHT Compact Cranberrybush			
		14									14			661	20061	14	EACH	DECIDUOUS SHRUB, 3' HEIGHT, AS PER PLAN Dwarf Korean Lilac			
		118									118			661	20070	118	EACH	DECIDUOUS SHRUB, 30" HEIGHT Gro-Low Fragrant Sumac			
		173									173			661	20070	173	EACH	DECIDUOUS SHRUB, 30" HEIGHT Limelight Hardy Hydrangea			
		134									134			661	30060	134	EACH	EVERGREEN SHRUB, 2' HEIGHT Autumn Fire Willowleaf Cotoneaster			
		52									52			661	30070	52	EACH	EVERGREEN SHRUB, 2.5' HEIGHT Gold Lace Pfitzer Juniper			
		162									162			661	30070	162	EACH	EVERGREEN SHRUB, 2.5' HEIGHT Japanese Garden Juniper 'Green Mound'			
		19									19			661	40120	19	EACH	DECIDUOUS TREE, 3" CALIPER Accolade Elm			
		4									4			661	40120	4	EACH	DECIDUOUS TREE, 3" CALIPER Blood Good London Tree			
		10									10			661	40120	10	EACH	DECIDUOUS TREE, 3" CALIPER Moraine Sweetgum			
		28									28			661	40120	28	EACH	DECIDUOUS TREE, 3" CALIPER Northern Red Oak			
		16									16			661	40120	16	EACH	DECIDUOUS TREE, 3" CALIPER October Glory Red Maple			
		21									21			661	40120	21	EACH	DECIDUOUS TREE, 3" CALIPER Princeton Elm			
		15									15			661	40120	15	EACH	DECIDUOUS TREE, 3" CALIPER Pyramidal European Hornbeam			
		7									7			661	40120	7	EACH	DECIDUOUS TREE, 3" CALIPER Shingle Oak			
		1									1			661	40120	1	EACH	DECIDUOUS TREE, 3" CALIPER Skyline Honeylocust			
		8									8			661	40120	8	EACH	DECIDUOUS TREE, 3" CALIPER Tulip Tree			
		118									118			661	50160	118	EACH	EVERGREEN TREE, 8' HEIGHT Norway Spruce			
		75									75			661	50160	75	EACH	EVERGREEN TREE, 8' HEIGHT Serbian Spruce			
		23									23			661	50160	23	EACH	EVERGREEN TREE, 8' HEIGHT White Fir			
		420									420			SPECIAL	69098200	420	SF	LANDSCAPING, 6"-8" river/beach stone on weed mat with edging as per plan			
		883									883			SPECIAL	69098700	883	CY	LANDSCAPING, Plant soil for perennial & shrub beds (8" depth)			
		66,831									66,831			SPECIAL	69098300	66,831	SY	LANDSCAPING, Scottish links blend seeding & mulching as per plan			
		8,552									8,552			SPECIAL	69098200	8,552	SF	LANDSCAPING, Unilock Courtstone drainage channel on concrete base as per plan			
		LS									LS			SPECIAL	66199940	LS		PLANTING MISC.: WATERING, WEEDING, WEED CONTROL, AND (1) FERTILIZATIONS OF TREES AND SHRUBS (ALTERNATE 1)			
		LS									LS			SPECIAL	66199940	LS		PLANTING MISC.: WATERING, WEED CONTROL, AND (1) FERTILIZATIONS OF SCOTTISH LINKS GRASS (ALTERNATE 2)			
		LS									LS			SPECIAL	66199940	LS		PLANTING MISC.: WEED CONTROL, AND (1) FERTILIZATION OF SCOTTISH LINKS GRASS (ALTERNATE 3)			
<b>FRA-33-00.14 L / SFN 2500965 L</b>																					
		LS									LS			202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (FRA-33-00.14 L)			843
		LS									LS			503	11100	LS		COFFERDAMS AND EXCAVATION BRACING (FRA-33-00.14 L)			
		LS									LS			503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN (FRA-33-00.14 L)			843
		20,007									20,007			509	10001	20,007	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN (FRA-33-00.14 L)			843
		542									542			509	20001	542	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN (FRA-33-00.14 L)			843
		402.5									402.5			509	30020	402.5	FT	NO. 4 GFRP DEFORMED BARS (FRA-33-00.14 L)			
		64									64			510	10001	64	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN (FRA-33-00.14 L)			843
		49									49			511	33412	49	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE, (FRA-33-00.14 L)			843
		5									5			511	34448	5	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET) (FRA-33-00.14 L)			
		87									87			511	44112	87	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING (FRA-33-00.14 L)			
		171									171			511	46512	171	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING (FRA-33-00.14 L)			
		203									203			SPECIAL	51275500	203	SY	SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL 70 BRIDGE COTE W/SILANE (FRA-33-00.14 L)			843
		19									19			512	10300	19	SY	SEALING CONCRETE BRIDGE DECKS WITH HMMW RESIN (FRA-33-00.14 L)			
		46									46			512	33000	46	SY	TYPE 2 WATERPROOFING (FRA-33-00.14 L)			
		8									8			516	13200	8	SF	1/2" PREFORMED EXPANSION JOINT FILLER (FRA-33-00.14 L)			

GENERAL SUMMARY

UNI - 33 - 24.87

NO.	DESCRIPTION	REV. BY	DATE
C	ITEM UPDATES	ENR	3-3-2022

97  
923

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
SHEET NUM.				PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED NJL	CHECKED KOD
843	777			03/NHS/BR	04/S>2/BR	05/S>2/OT /Dub								
35					35		516	13600	35	SF	1" PREFORMED EXPANSION JOINT FILLER (FRA-33-00.14 L)			
94					94		518	21200	94	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC (FRA-33-00.14 L)			
60					60		518	40000	60	FT	6" PERFORATED CORRUGATED PLASTIC PIPE (FRA-33-00.14 L)			
4					4		518	40010	4	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS (FRA-33-00.14 L)			
189					189		526	25001	189	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN (FRA-33-00.14 L)	843		
49					49		847	10201	49	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (3" THICK) (FRA-33-00.14 L)	843		
141					141		847	10201	141	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN(2 3/4" THICK) (FRA-33-00.14 L)	843		
1					1		847	20201	1	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN (FRA-33-00.14 L)	843		
LS					LS		847	30000	LS		TEST SLAB (FRA-33-00.14 L)			
209					209		847	30300	209	SY	WEARING COURSE REMOVED, ASPHALT (FRA-33-00.14 L)			
50					50		847	30400	50	SY	EXISTING CONCRETE OVERLAY REMOVED (FRA-33-00.14 L)			
<b>FRA-33-00.14 R / SFN 2501023 R</b>														
LS					LS		202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (FRA-33-00.14 R)	843		
LS					LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING (FRA-33-00.14 R)			
LS					LS		503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN (FRA-33-00.14 R)	843		
13,527					13,527		509	10001	13,527	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN (FRA-33-00.14 R)	843		
308					308		509	20001	308	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN (FRA-33-00.14 R)	843		
397.5					397.5		509	30020	397.5	FT	NO. 4 GFRP DEFORMED BARS (FRA-33-00.14 R)			
72					72		510	10001	72	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN (FRA-33-00.14 R)	843		
26					26		511	33412	26	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE, (FRA-33-00.14 R)	843		
5					5		511	34448	5	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET) (FRA-33-00.14 R)			
85					85		511	44112	85	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING (FRA-33-00.14 R)			
87					87		511	46512	87	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING (FRA-33-00.14 R)			
201					201		SPECIAL	51275500	201	SY	SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL 70 BRIDGE COTE W/SILANE (FRA-33-00.14 R)	843		
19					19		512	10300	19	SY	SEALING CONCRETE BRIDGE DECKS WITH HMM RESIN (FRA-33-00.14 R)			
48					48		512	33000	48	SY	TYPE 2 WATERPROOFING (FRA-33-00.14 R)			
8					8		516	13200	8	SF	1/2" PREFORMED EXPANSION JOINT FILLER (FRA-33-00.14 R)			
59					59		516	13600	59	SF	1" PREFORMED EXPANSION JOINT FILLER (FRA-33-00.14 R)			
96					96		518	21200	96	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC (FRA-33-00.14 R)			
51					51		518	40000	51	FT	6" PERFORATED CORRUGATED PLASTIC PIPE (FRA-33-00.14 R)			
33					33		518	40010	33	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS (FRA-33-00.14 R)			
385					385		526	25001	385	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN (FRA-33-00.14 R)	843		
48					48		847	10201	48	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (3" THICK) (FRA-33-00.14 R)	843		
146					146		847	10201	146	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN(2 3/4" THICK) (FRA-33-00.14 R)	843		
1					1		847	20201	1	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN (FRA-33-00.14 R)	843		
LS					LS		847	30000	LS		TEST SLAB (FRA-33-00.14 R)			
213					213		847	30300	213	SY	WEARING COURSE REMOVED, ASPHALT (FRA-33-00.14 R)			
48					48		847	30400	48	SY	EXISTING CONCRETE OVERLAY REMOVED (FRA-33-00.14 R)			
<b>UNI-33-24.89 L / SFN 8001588</b>														
LS					LS		202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (UNI-33-24.89 L)	777		
134					134		202	22900	134	SY	APPROACH SLAB REMOVED (UNI-33-24.89 L)			
134					134		202	23500	134	SY	WEARING COURSE REMOVED (UNI-33-24.89 L)			
LS					LS		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (UNI-33-24.89 L)	777		
LS					LS		503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN (UNI-33-24.89 L)	777		
2,073					2,073		504	11101	2,073	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (UNI-33-24.89 L)	777		
331,183					291,537	39,646	509	10000	331,183	LB	EPOXY COATED REINFORCING STEEL (UNI-33-24.89 L)			
9,429					9,429		509	30020	9,429	FT	NO. 4 GFRP DEFORMED BARS (UNI-33-24.89 L)			
492					492		511	34447	492	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN (UNI-33-24.89 L)	777		
2					2		511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE (UNI-33-24.89 L)			
91					91		511	34451	91	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN (UNI-33-24.89 L)	777		
159					159		511	41013	159	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN (UNI-33-24.89 L)	777		
395					395		511	44113	395	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN (UNI-33-24.89 L)	777		
451					290	161	511	46013	451	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN (UNI-33-24.89 L)	777		
1,003					744	259	511	46513	1,003	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING, AS PER PLAN (UNI-33-24.89 L)	777		
61					61		511	53014	61	CY	CLASS QC3 CONCRETE, MISC.: MUDMAT (UNI-33-24.89 L)	777		
10					10		511	53014	10	CY	CLASS QC3 CONCRETE, MISC.: PRECAST CONCRETE ARCH PANELS (UNI-33-24.89 L)	777		
1,529					1,400	129	SPECIAL	51275500	1,529	SY	SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL 70 BRIDGE COTE W/SILANE (UNI-33-24.89 L)	777		
71					71		512	33000	71	SY	TYPE 2 WATERPROOFING (UNI-33-24.89 L)			
354,300					351,700	2,600	513	10281	354,300	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN (UNI-33-24.89 L)	777		

GENERAL SUMMARY

UNI-33-24.87

NO.	DESCRIPTION	REV. BY	DATE
C	ITEM UPDATES	ENR	3-3-2022

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SHEET NUM.				PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED NJL	CHECKED KOD
766	777			03/NHS/BR	04/S>2/BR	05/S>2/OT /Dub								
	5,460			5,460			513	20000	5,460	EACH	WELDED STUD SHEAR CONNECTORS (UNI-33-24.89 L)			
	2,023					2,023	514	00060	2,023	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT (UNI-33-24.89 L)			
	2,023					2,023	514	00067	2,023	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN (UNI-33-24.89 L)	777		
	182			182			516	10010	182	FT	ARMORLESS PREFORMED JOINT SEAL (UNI-33-24.89 L)			
	416			416			516	13600	416	SF	1" PREFORMED EXPANSION JOINT FILLER (UNI-33-24.89 L)			
	222			222			516	13900	222	SF	2" PREFORMED EXPANSION JOINT FILLER (UNI-33-24.89 L)			
	190			190			516	14020	190	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL (UNI-33-24.89 L)			
	10			10			516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-5" x 1'-3" x 2.649" BEARING) (UNI-33-24.89 L)	777		
	20			20			516	44201	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-3" x 1'-0" x 3.224" BEARING) (UNI-33-24.89 L)	777		
	194				194		517	76300	194	FT	RAILING, MISC.: GALVANIZED AND PAINTED STEEL RAILING, TEXAS TYPE T8OHT WITH PAINTED ALUMINUM POST ORNAMENTS (UNI-33-24.89 L)	777		
	603			458		145	518	21200	603	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC (UNI-33-24.89 L)			
	672			672			518	40000	672	FT	6" PERFORATED CORRUGATED PLASTIC PIPE (UNI-33-24.89 L)			
	235			235			518	40010	235	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS (UNI-33-24.89 L)			
	530			530			526	30011	530	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN (UNI-33-24.89 L)	777		
	182			182			526	90030	182	FT	TYPE C INSTALLATION (UNI-33-24.89 L)			
	4,738					4,738	602	97000	4,738	SF	MASONRY, MISC.: STONE FACING (UNI-33-24.89 L)	777		
											<b>UNI-33-24.89 R / SFN 8001618</b>			
	LS			LS			202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (UNI-33-24.89 R)	777		
	134			134			202	22900	134	SY	APPROACH SLAB REMOVED (UNI-33-24.89 R)			
	936			936			202	23500	936	SY	WEARING COURSE REMOVED (UNI-33-24.89 R)			
	LS			LS			503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (UNI-33-24.89 R)	777		
	LS			LS			503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN (UNI-33-24.89 R)	777		
	2,073			2,073			504	11101	2,073	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (UNI-33-24.89 R)	777		
	331,183			291,537		39,646	509	10000	331,183	LB	EPOXY COATED REINFORCING STEEL (UNI-33-24.89 R)			
	9,429			9,429			509	30020	9,429	FT	NO. 4 GFRP DEFORMED BARS			
	492			492			511	34447	492	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN (UNI-33-24.89 R)	777		
	2			2			511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE (UNI-33-24.89 R)			
	91			91			511	34451	91	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN (UNI-33-24.89 R)	777		
	159			159			511	41013	159	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN (UNI-33-24.89 R)	777		
	395			395			511	44113	395	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN (UNI-33-24.89 R)	777		
	451			290		161	511	46013	451	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN (UNI-33-24.89 R)	777		
	1,003			744		259	511	46513	1,003	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING, AS PER PLAN (UNI-33-24.89 R)	777		
	61			61			511	53014	61	CY	CLASS QC3 CONCRETE, MISC.: MUDMAT (UNI-33-24.89 R)	777		
	10					10	511	53014	10	CY	CLASS QC3 CONCRETE, MISC.: PRECAST CONCRETE ARCH PANELS (UNI-33-24.89 R)	777		
	1,531			1,402		129	SPECIAL	51275500	1,531	SY	SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL TO BRIDGE COTE W/SILANE (UNI-33-24.89 R) 	777		
	71			71			512	53000	71	SY	TYPE 2 WATERPROOFING (UNI-33-24.89 R)			
	354,300			351,700		2,600	513	10281	354,300	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN (UNI-33-24.89 R)	777		
	5,460			5,460			513	20000	5,460	EACH	WELDED STUD SHEAR CONNECTORS (UNI-33-24.89 R)			
	2,023					2,023	514	00060	2,023	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT (UNI-33-24.89 R)			
	2,023					2,023	514	00067	2,023	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN (UNI-33-24.89 R)	777		
	182			182			516	10010	182	FT	ARMORLESS PREFORMED JOINT SEAL (UNI-33-24.89 R)			
	416			416			516	13600	416	SF	1" PREFORMED EXPANSION JOINT FILLER (UNI-33-24.89 R)			
	222			222			516	13900	222	SF	2" PREFORMED EXPANSION JOINT FILLER (UNI-33-24.89 R)			
	190			190			516	14020	190	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL (UNI-33-24.89 R)			
	10			10			516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-5" x 1'-3" x 2.649" BEARING) (UNI-33-24.89 R)	777		
	20			20			516	44201	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-3" x 1'-0" x 3.224" BEARING) (UNI-33-24.89 R)	777		
	194				194		517	76300	194	FT	RAILING, MISC.: GALVANIZED AND PAINTED STEEL RAILING, TEXAS TYPE T8OHT WITH PAINTED ALUMINUM POST ORNAMENTS (UNI-33-24.89 R)	777		
	604			459		145	518	21200	604	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC (UNI-33-24.89 R)			
	672			672			518	40000	672	FT	6" PERFORATED CORRUGATED PLASTIC PIPE (UNI-33-24.89 R)			
	249			249			518	40010	249	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS (UNI-33-24.89 R)			
	530			530			526	30011	530	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN (UNI-33-24.89 R)	777		
	182			182			526	90030	182	FT	TYPE C INSTALLATION (UNI-33-24.89 R)			
	4,845					4,845	602	97000	4,845	SF	MASONRY, MISC.: STONE FACING (UNI-33-24.89 R)	777		
											<b>UNI-33-24.50 / SFN 8001553</b>			
	LS			LS			202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (UNI-33-24.50)	766		
	LS			LS			503	11100	LS		COFFERDAMS AND EXCAVATION BRACING (UNI-33-24.50)			
	LS			LS			503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN (UNI-33-24.50)			
	2,880			2,880			509	10001	2,880	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN (UNI-33-24.50)	766		

GENERAL SUMMARY

UNI-33-24.87

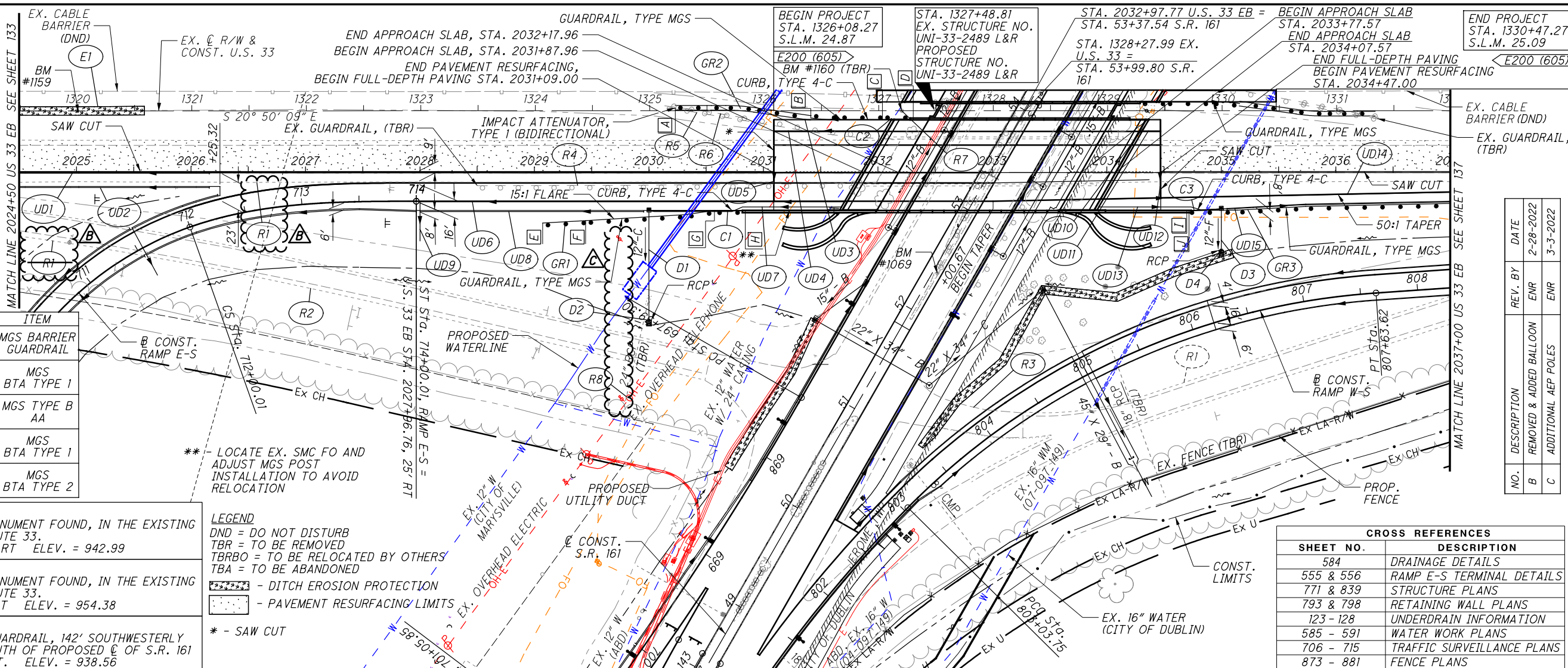
NO.	DESCRIPTION	REV. BY	DATE
C	ITEM UPDATES	ENR	3-3-2022

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923

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GUARDRAIL STATIONING	ITEM
A STA. 2030+23.05 LT	MGS BARRIER GUARDRAIL
B STA. 2031+41.42 LT	MGS
C STA. 2032+03.92 LT	BTA TYPE 1
D STA. 2032+30.82 LT	MGS TYPE B
E STA. 2029+07.20 RT	AA
F STA. 2029+44.70 RT	MGS
G STA. 2030+57.29 RT	BTA TYPE 1
H STA. 2030+84.19 RT	MGS
I STA. 2034+69.85 RT	BTA TYPE 2
J STA. 2034+71.85 RT	

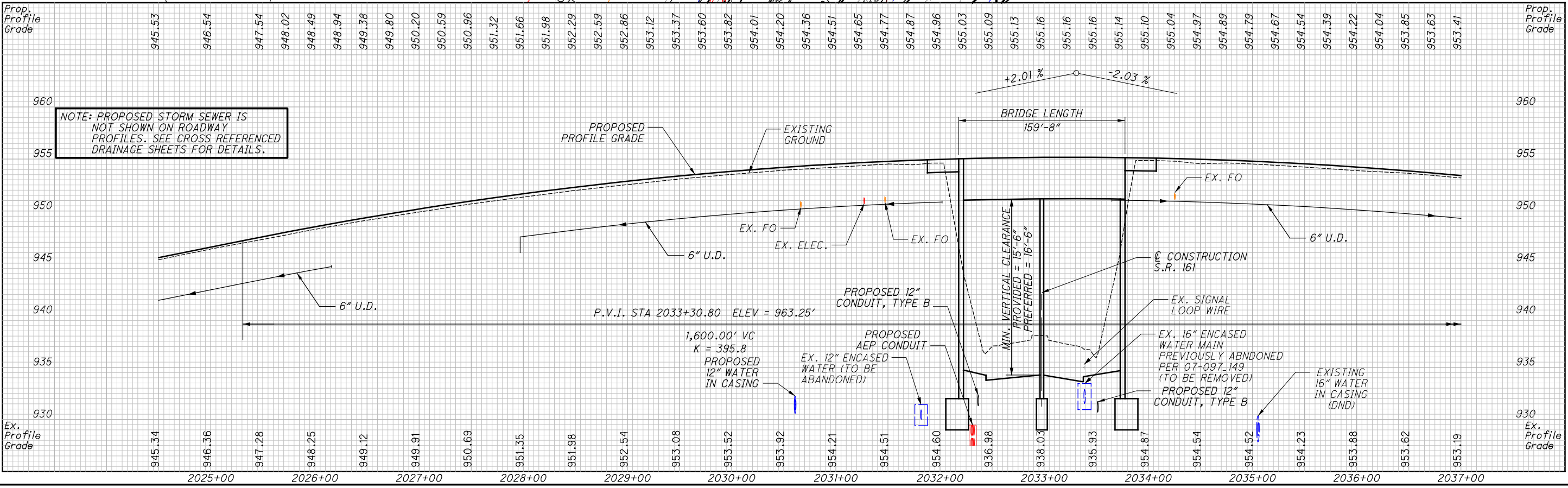
BM #1159  
REBAR IN CONC. R/W MONUMENT FOUND, IN THE EXISTING CENTERLINE OF U.S. ROUTE 33.  
STA. 1320+00.08, 0.23' RT ELEV. = 942.99

BM #1160  
REBAR IN CONC. R/W MONUMENT FOUND, IN THE EXISTING CENTERLINE OF U.S. ROUTE 33.  
STA. 1327+20.15, 0.16' RT ELEV. = 954.38


BM #1069  
BOLT ON "W" SIDE OF GUARDRAIL, 142' SOUTHWESTERLY OF THE U.S. 33., 4' SOUTH OF PROPOSED C OF S.R. 161  
STA. 52+38.33, 3.90' RT. ELEV. = 938.56

**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED  
 - - - - - DITCH EROSION PROTECTION  
 - - - - - PAVEMENT RESURFACING LIMITS  
 \* - SAW CUT

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
584	DRAINAGE DETAILS
555 & 556	RAMP E-S TERMINAL DETAILS
771 & 839	STRUCTURE PLANS
793 & 798	RETAINING WALL PLANS
123 - 128	UNDERDRAIN INFORMATION
585 - 591	WATER WORK PLANS
706 - 715	TRAFFIC SURVEILLANCE PLANS
873 - 881	FENCE PLANS



NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.



HORIZONTAL SCALE IN FEET

0 25 50

CALCULATED	KOD	CHECKED	MAH
REV. BY	DATE	REV. BY	DATE
B	ENR	ENR	2-28-2022
C	ENR		3-3-2022

**PLAN AND PROFILE - US 33 EB**  
**STA. 2024+50.00 TO STA. 2037+00.00 EB**

**UNI-33-24.87**

135

923

BM #1159  
REBAR IN CONC. R/W MONUMENT FOUND, IN THE EXISTING  
CENTERLINE OF U.S. ROUTE 33.  
STA. 1320+00.08, 0.23' RT ELEV. = 942.99

BM #1160  
REBAR IN CONC. R/W MONUMENT FOUND, IN THE EXISTING  
CENTERLINE OF U.S. ROUTE 33.  
STA. 1327+20.00, 0.16' RT ELEV. = 954.38

GUARDRAIL STATIONING	ITEM
A STA. 3031+85.62 LT	MGS BTA TYPE 2
B STA. 3031+87.62 LT	MGS BTA TYPE 1
C STA. 3034+26.63 RT	MGS BTA TYPE 1
D STA. 3034+53.53 RT	MGS BTA TYPE 1
E STA. 3035+73.25 LT	MGS BTA TYPE 1
F STA. 3036+00.15 LT	MGS BARRIER GUARDRAIL
G STA. 3035+16.03 RT	MGS BARRIER GUARDRAIL
H STA. 3036+34.40 RT	MGS BARRIER GUARDRAIL

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
123 - 128	UNDERDRAIN INFORMATION
584	DRAINAGE DETAILS
561 & 562	RAMP W-N TERMINAL DETAILS
771 & 839	STRUCTURE PLANS
793 & 798	RETAINING WALL PLANS
585 - 591	WATER WORK PLANS
706 - 715	TRAFFIC SURVEILLANCE PLANS
873 - 881	FENCE PLANS

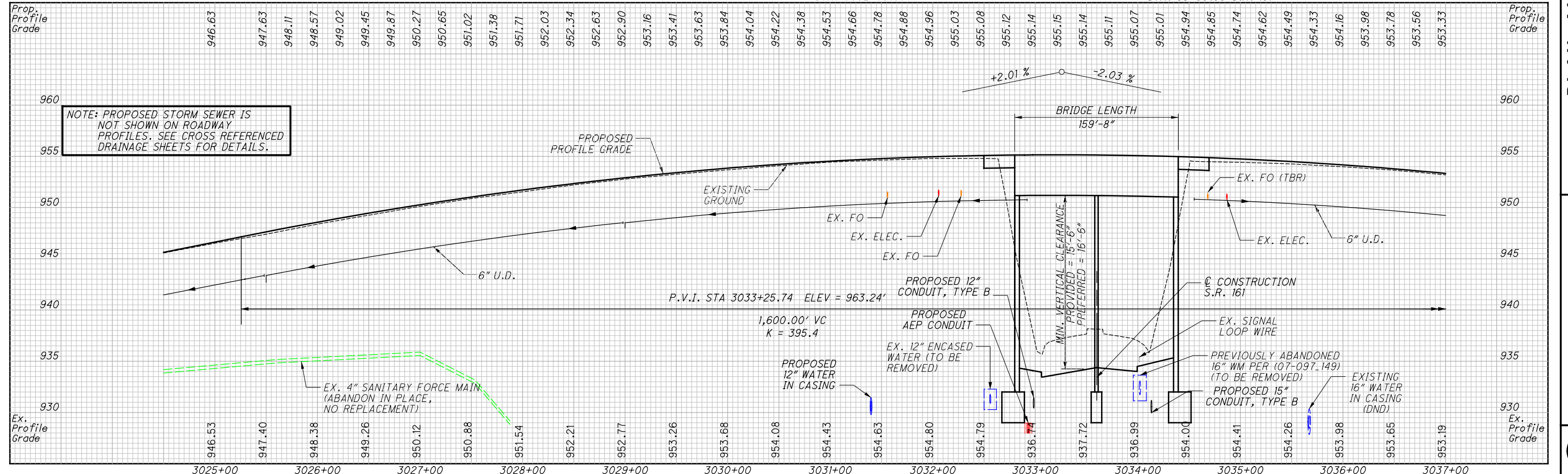
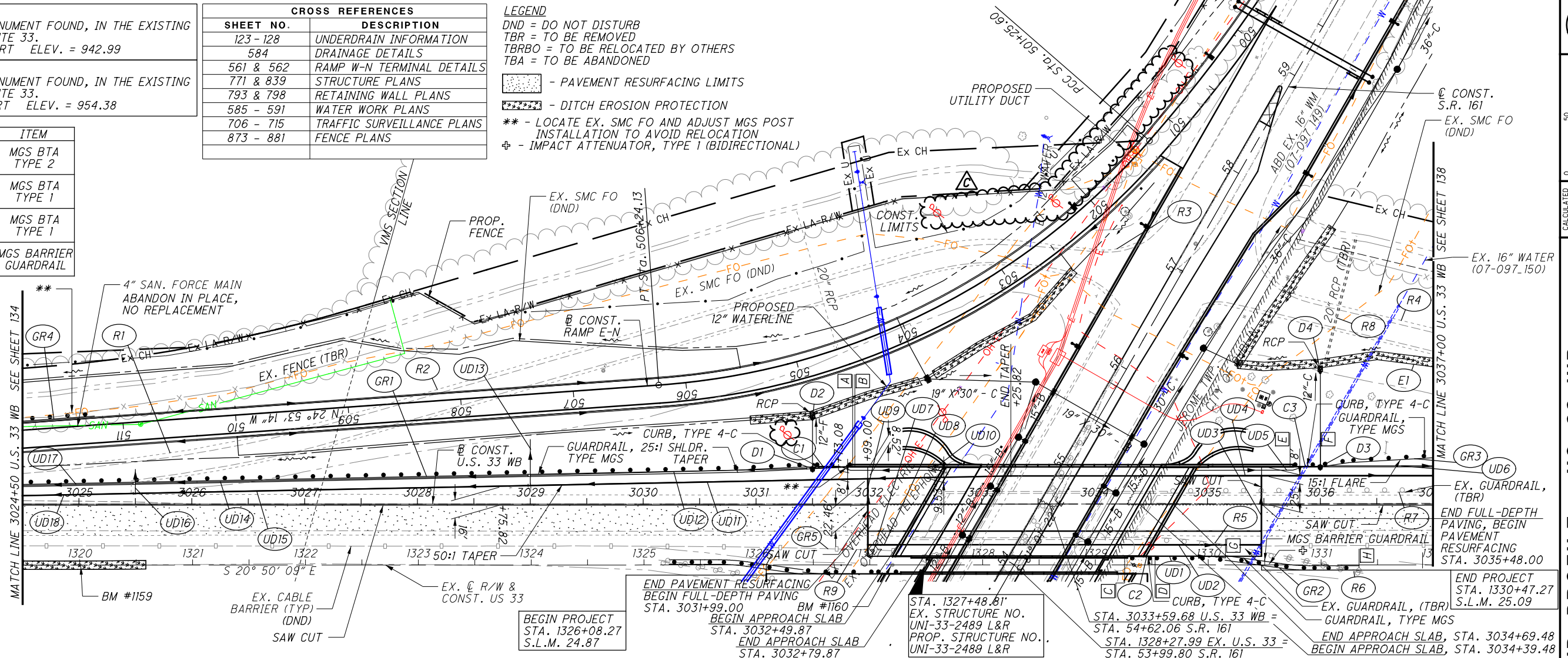
**LEGEND**

DND = DO NOT DISTURB  
TBR = TO BE REMOVED  
TBRBO = TO BE RELOCATED BY OTHERS  
TBA = TO BE ABANDONED

--- - PAVEMENT RESURFACING LIMITS  
--- - DITCH EROSION PROTECTION

\*\* - LOCATE EX. SMC FO AND ADJUST MGS POST INSTALLATION TO AVOID RELOCATION  
⊕ - IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)

NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022

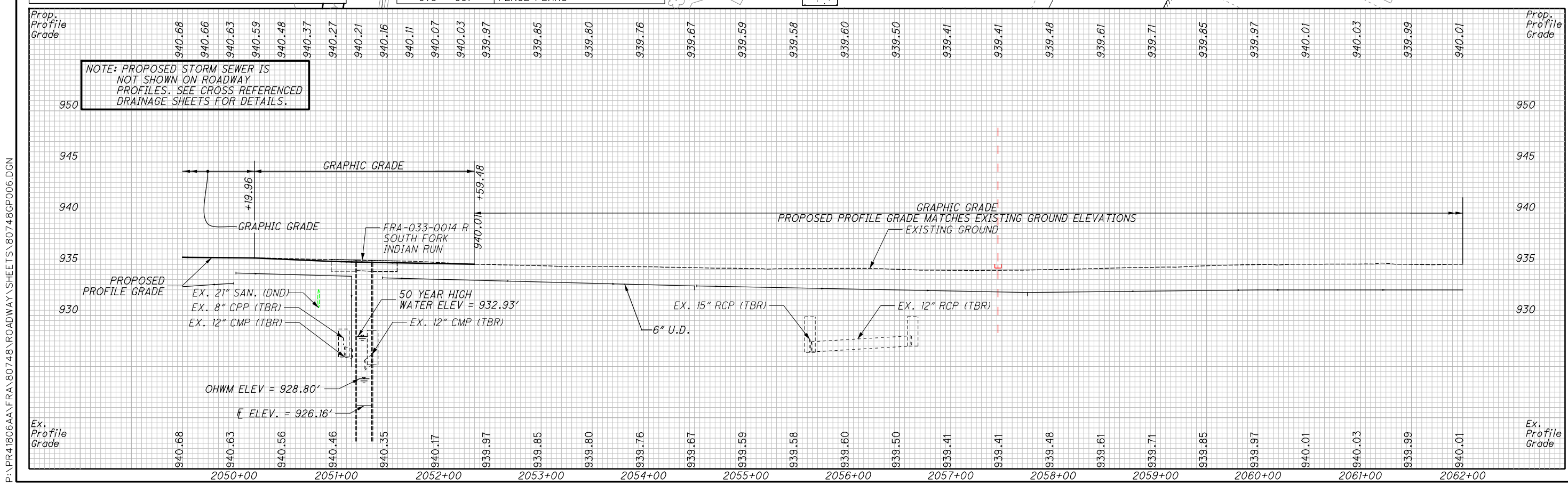
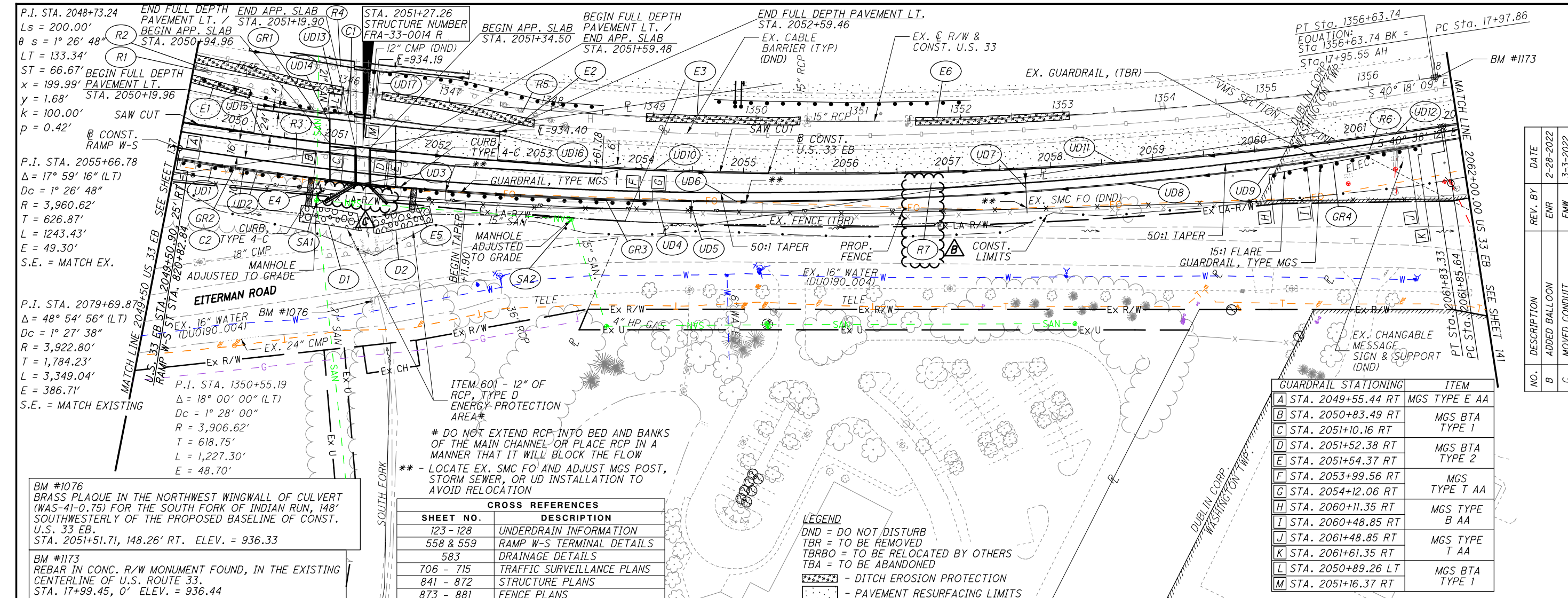


NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.

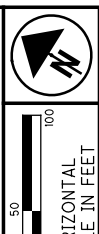


PLAN AND PROFILE - US 33 WB  
STA. 3024+50.00 TO STA. 3037+00.00 WB

UNI-33-24.87



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NO.	DESCRIPTION	REV. BY	DATE
B	ADDED BALLCON	ENR	2-28-2022
C	MOVED CONDUIT	EMW	3-3-2022

CALCULATED  
KOD  
CHECKED  
MAH

**PLAN AND PROFILE - US 33 EB**  
**STA. 2049+50.00 EB TO STA. 2062+00.00 EB**

**UNI-33-24.87**

139  
923

SHEET NO.	DESCRIPTION
123 - 128	UNDERDRAIN INFORMATION
558 & 559	RAMP W-S TERMINAL DETAILS
583	DRAINAGE DETAILS
706 - 715	TRAFFIC SURVEILLANCE PLANS
841 - 872	STRUCTURE PLANS
873 - 881	FENCE PLANS

**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED  
 [Symbol] - DITCH EROSION PROTECTION  
 [Symbol] - PAVEMENT RESURFACING LIMITS

GUARDRAIL STATIONING	ITEM
A STA. 2049+55.44 RT	MGS TYPE E AA
B STA. 2050+83.49 RT	MGS BTA TYPE 1
C STA. 2051+10.16 RT	MGS BTA TYPE 2
D STA. 2051+52.38 RT	MGS TYPE T AA
E STA. 2051+54.37 RT	MGS TYPE B AA
F STA. 2053+99.56 RT	MGS TYPE T AA
G STA. 2054+12.06 RT	MGS TYPE B AA
H STA. 2060+11.35 RT	MGS TYPE T AA
I STA. 2060+48.85 RT	MGS TYPE B AA
J STA. 2061+48.85 RT	MGS TYPE T AA
K STA. 2061+61.35 RT	MGS TYPE B AA
L STA. 2050+89.26 LT	MGS BTA TYPE 1
M STA. 2051+16.37 RT	MGS BTA TYPE 1

P.I. STA. 2048+73.24  
 Ls = 200.00'  
 $\theta = 1^\circ 26' 48''$   
 LT = 133.34'  
 ST = 66.67'  
 x = 199.99'  
 y = 1.68'  
 k = 100.00'  
 P = 0.42'

P.I. STA. 2055+66.78  
 $\Delta = 17^\circ 59' 16''$  (LT)  
 $D_c = 1^\circ 26' 48''$   
 R = 3,960.62'  
 T = 626.87'  
 L = 1243.43'  
 E = 49.30'  
 S.E. = MATCH EX.

P.I. STA. 2079+69.87  
 $\Delta = 48^\circ 54' 56''$  (LT)  
 $D_c = 1^\circ 27' 38''$   
 R = 3,922.80'  
 T = 1,784.23'  
 L = 3,349.04'  
 E = 386.71'  
 S.E. = MATCH EXISTING


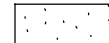
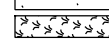
P.I. STA. 1350+55.19  
 $\Delta = 18^\circ 00' 00''$  (LT)  
 $D_c = 1^\circ 28' 00''$   
 R = 3,906.62'  
 T = 618.75'  
 L = 1,227.30'  
 E = 48.70'

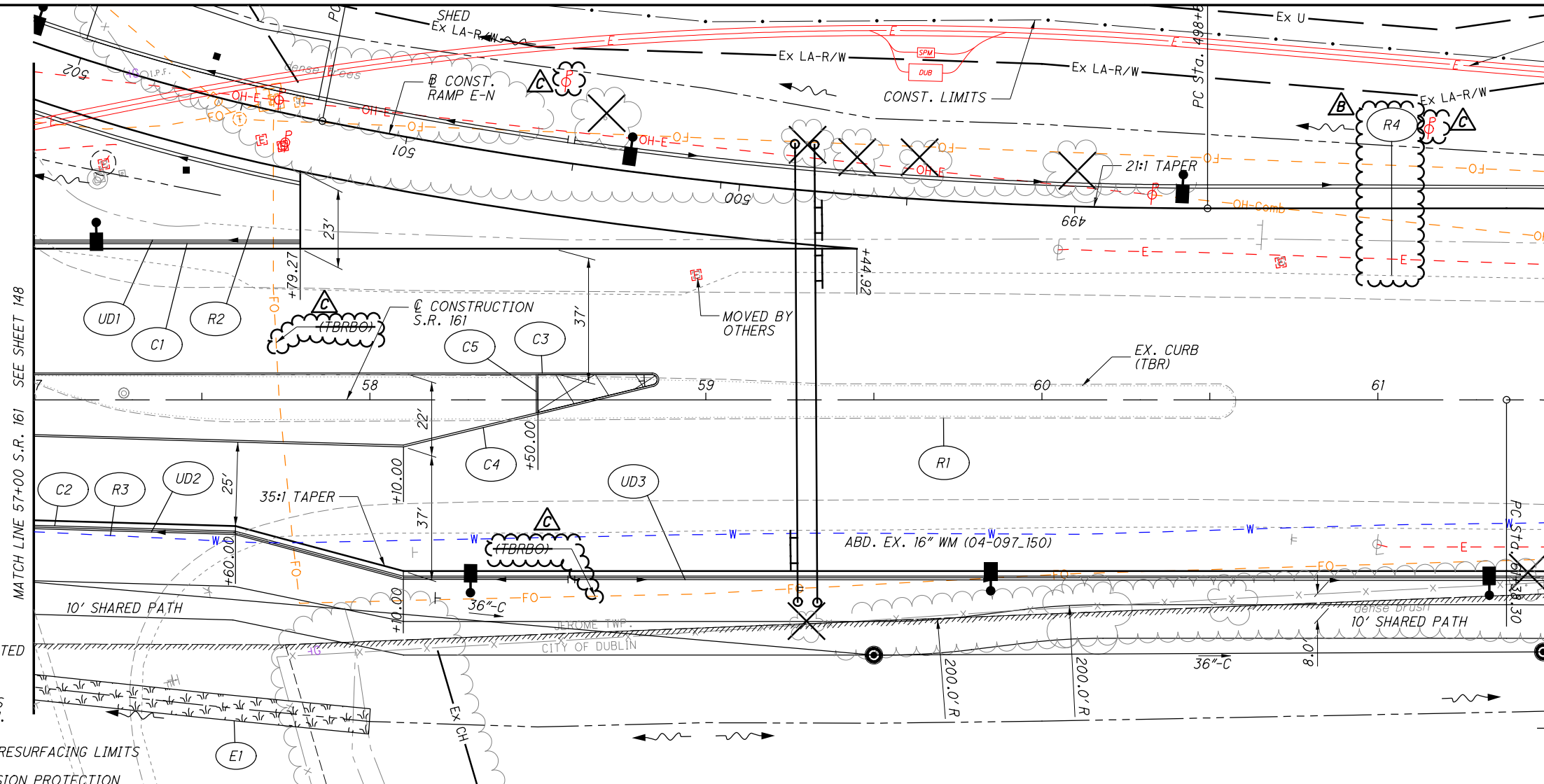
BM #1076  
 BRASS PLAQUE IN THE NORTHWEST WINGWALL OF CULVERT (WAS-41-0.75) FOR THE SOUTH FORK OF INDIAN RUN, 148' SOUTHWESTERLY OF THE PROPOSED BASELINE OF CONST. U.S. 33 EB.  
 STA. 2051+51.71, 148.26' RT. ELEV. = 936.33

BM #1173  
 REBAR IN CONC. R/W MONUMENT FOUND, IN THE EXISTING CENTERLINE OF U.S. ROUTE 33.  
 STA. 17+99.45, 0' ELEV. = 936.44

NO.	DESCRIPTION	REV. BY	DATE
B	ADDED BALLOON	ENR	2-28-2022
C	ADDITIONAL AEP POLES & REMOVED LABELS	ENR	3-2-2022

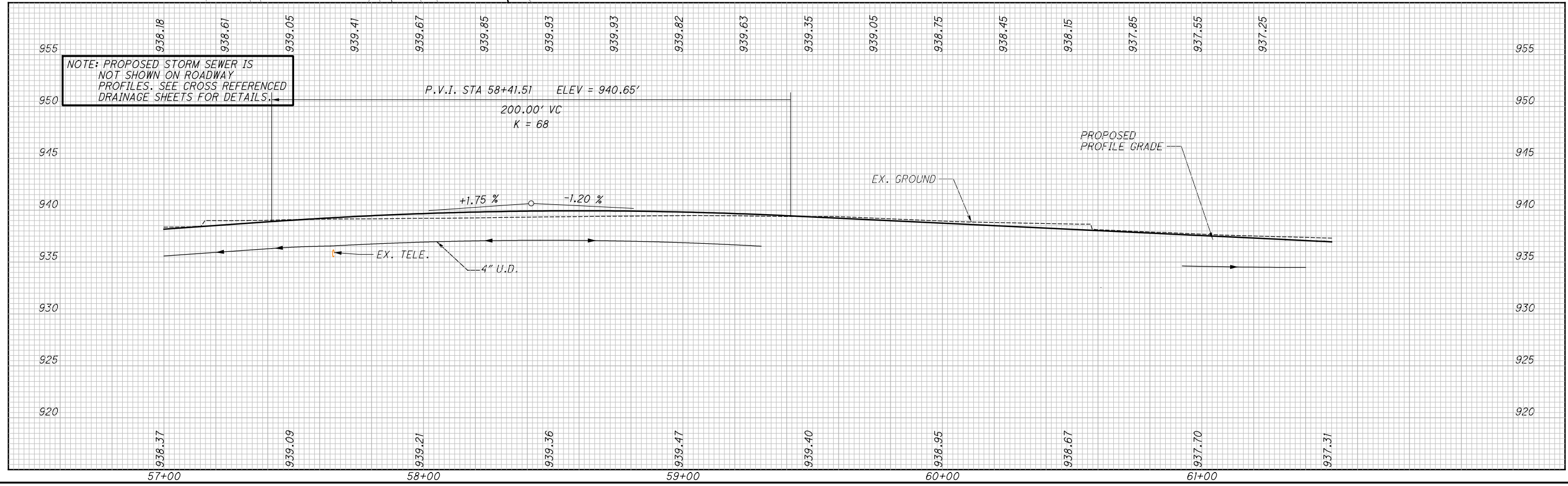
**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS

-  BRICK PAVERS SEE SHEET 34.
-  - PAVEMENT RESURFACING LIMITS
-  - DITCH EROSION PROTECTION



**CURVE DATA**  
 P.I. Sta. 64+26.76  
 $\Delta = 28^\circ 15' 32''$  (RT)  
 $D_c = 5^\circ 00' 00''$   
 $R = 1,145.92'$   
 $T = 288.46'$   
 $L = 565.18'$   
 $E = 35.75'$   
 $C = 559.47'$   
 $C.B. = S 66^\circ 53' 36'' E$   
 $S.E. = MATCH EXISTING$

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
568 - 573, 583 - 584	DRAINAGE DETAILS
550	RAMP E-N TERMINAL DETAILS
560	RAMP W-N TERMINAL DETAILS
	UNDERDRAIN INFORMATION
	UTILITY DUCT PLANS



**PLAN AND PROFILE - S.R. 161**  
**STA. 57+00.00 TO STA. 61+50.00**

**UNI-33-24.87**

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BM #1162  
REBAR IN CONC. R/W MONUMENT FOUND, IN THE EXISTING  
CENTERLINE OF U.S. ROUTE 33  
STA. 1344+36.44, 0' ELEV. = 939.13

BM #1001  
BRASS PLAQUE, FRANKLIN COUNTY ENGINEER'S BENCHMARK  
N32, WEST OF THE EXISTING CENTERLINE OF LIGGETT RD.  
STATION 13+61.72, 12.97' WEST, ELEV. = 934.12

RP# 1068  
SOUTHEAST BOLT OF LIGHT POLE BASE (#CC-2/C-9),  
NORTH OF THE EXISTING CENTERLINE OF POST ROAD.  
STA. 243+27.68, 38.89' NORTH, ELEV. 937.29

IPS# 100  
IRON PIN SET, EAST OF THE EXISTING CENTERLINE  
OF LIGGETT ROAD  
STA. 1+78.79, 35.84' EAST, ELEV. = 936.46

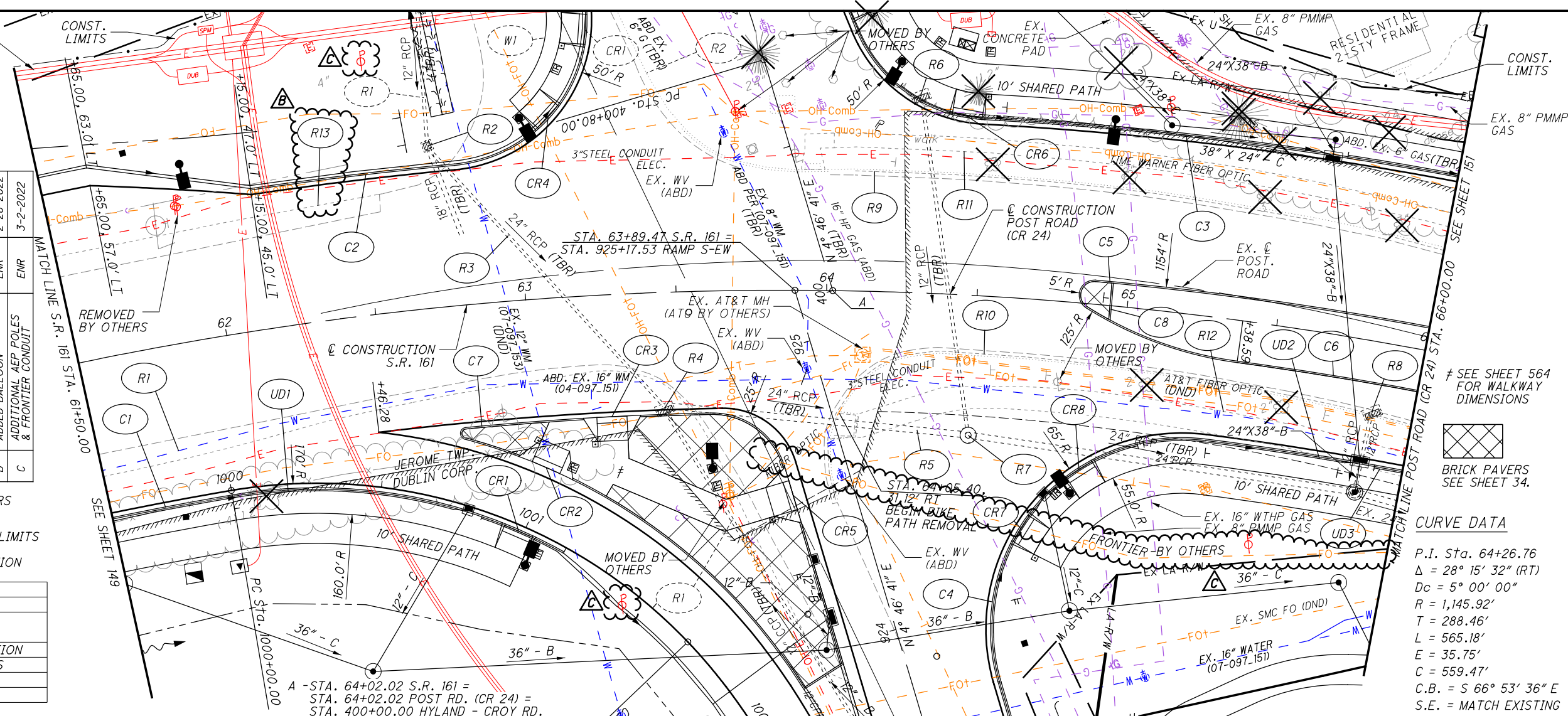
NO.	DESCRIPTION	REV. BY	DATE
B	ADDED BALLOON	ENR	2-28-2022
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-2-2022

**LEGEND**

DND = DO NOT DISTURB  
TBR = TO BE REMOVED  
TBRBO = TO BE RELOCATED BY OTHERS  
TBA = TO BE ABANDONED

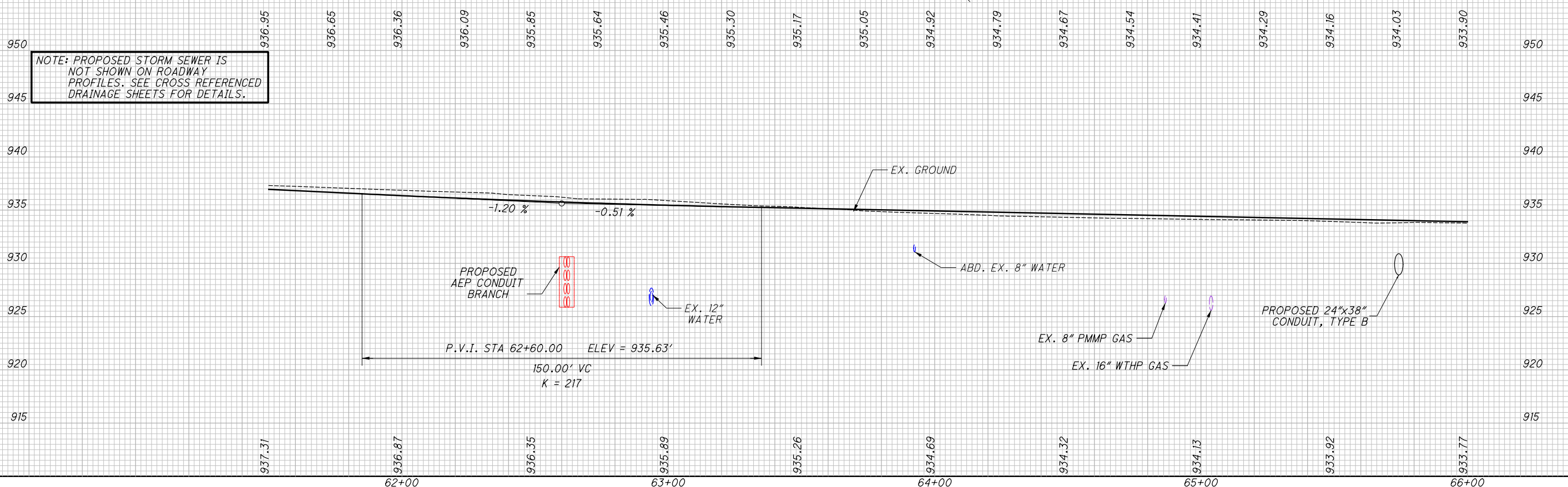
- PAVEMENT RESURFACING LIMITS  
 - DITCH EROSION PROTECTION

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
571-573, 583-584	DRAINAGE DETAILS
	UNDERDRAIN INFORMATION
	INTERSECTION DETAILS
587-590	WATER WORK
609-615	UTILITY DUCT PLAN



**CURVE DATA**

P.I. Sta. 64+26.76  
 $\Delta = 28^\circ 15' 32''$  (RT)  
 $D_c = 5^\circ 00' 00''$   
 $R = 1,145.92'$   
 $T = 288.46'$   
 $L = 565.18'$   
 $E = 35.75'$   
 $C = 559.47'$   
 $C.B. = S 66^\circ 53' 36'' E$   
 $S.E. = MATCH EXISTING$

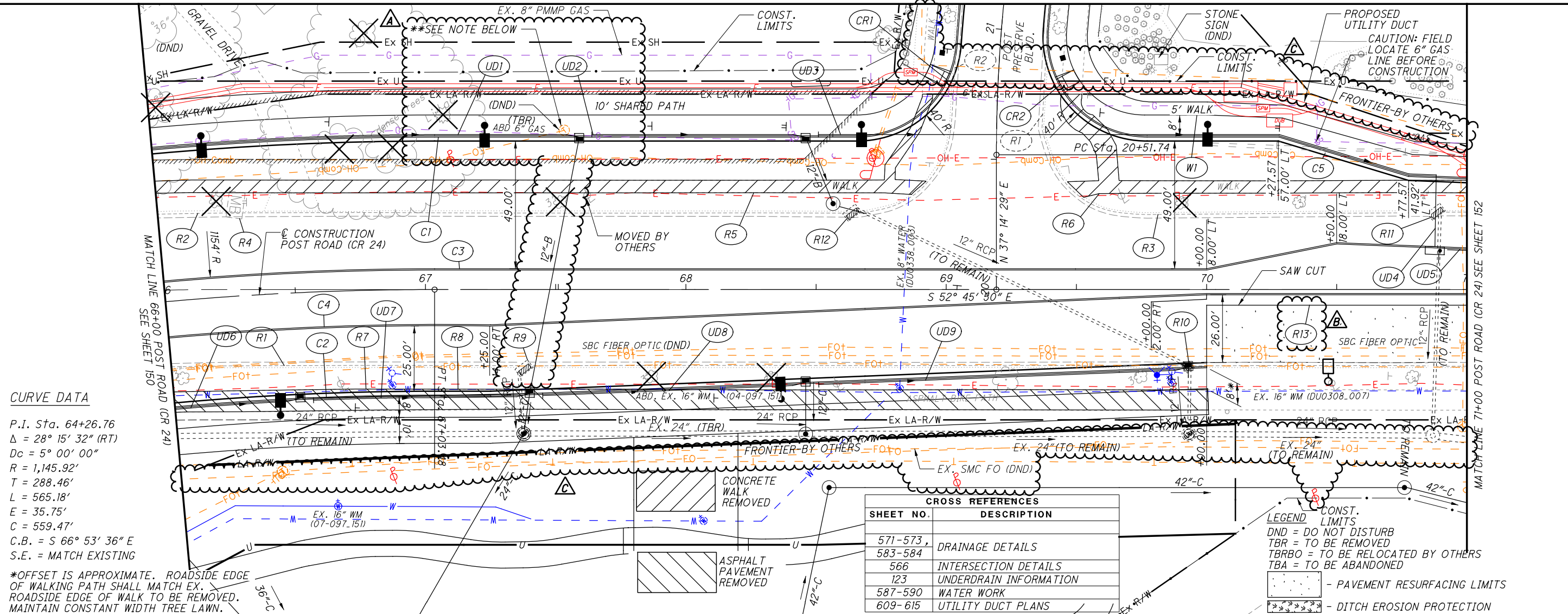


NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.



**PLAN AND PROFILE - S.R. 161/ POST RD.**  
**STA. 61+50.00 TO STA. 66+00.00**

**UNI-33-24.87**  
 150  
 923

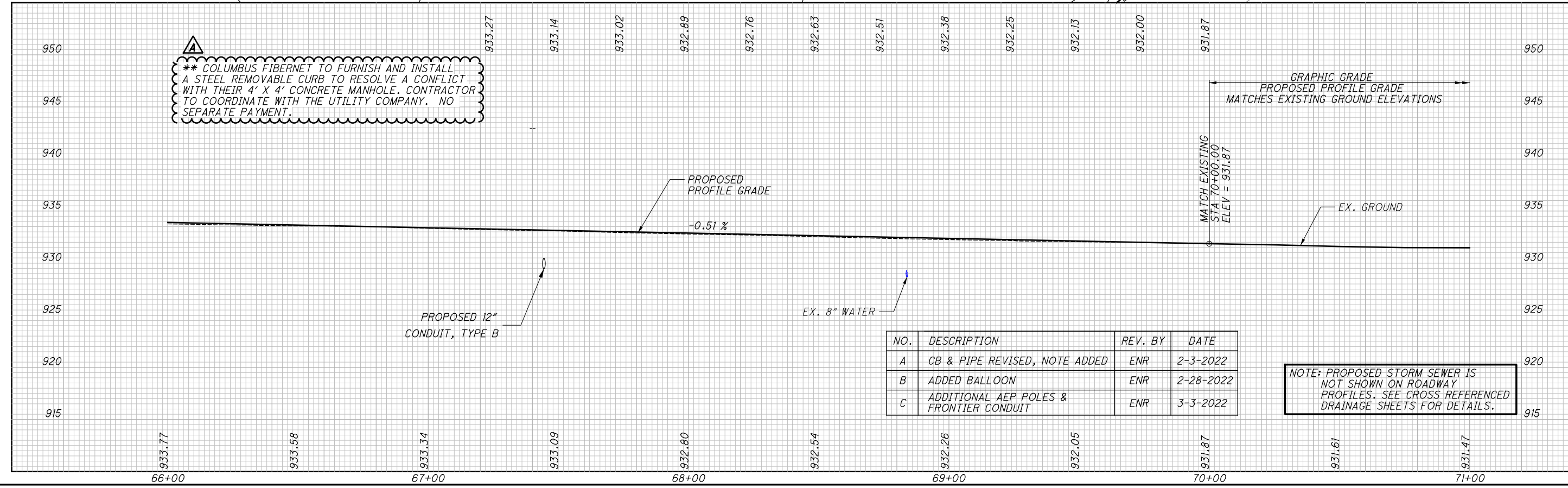


**CURVE DATA**  
 P.I. Sta. 64+26.76  
 $\Delta = 28^\circ 15' 32''$  (RT)  
 $D_c = 5^\circ 00' 00''$   
 $R = 1,145.92'$   
 $T = 288.46'$   
 $L = 565.18'$   
 $E = 35.75'$   
 $C = 559.47'$   
 $C.B. = S 66^\circ 53' 36'' E$   
 $S.E. =$  MATCH EXISTING

\*OFFSET IS APPROXIMATE. ROADSIDE EDGE OF WALKING PATH SHALL MATCH EX. ROADSIDE EDGE OF WALK TO BE REMOVED. MAINTAIN CONSTANT WIDTH TREE LAWN.

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
571-573, 583-584	DRAINAGE DETAILS
566	INTERSECTION DETAILS
123	UNDERDRAIN INFORMATION
587-590	WATER WORK
609-615	UTILITY DUCT PLANS

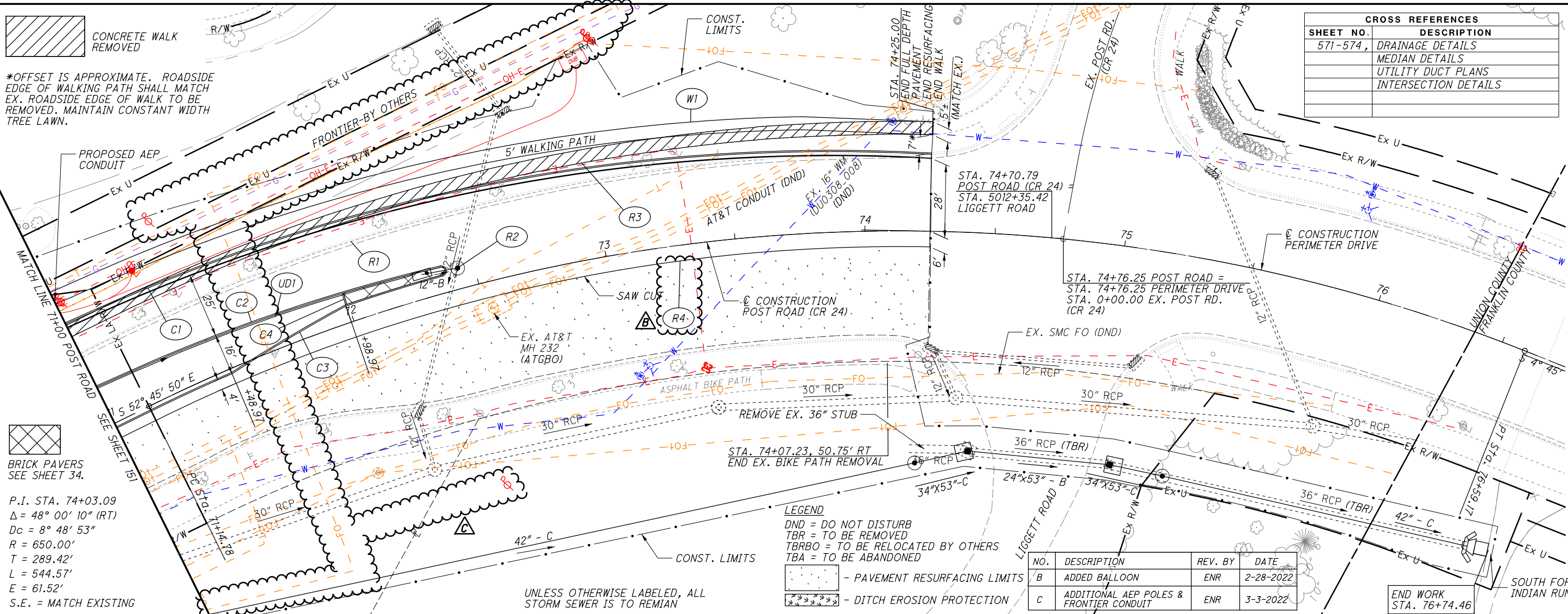
**LEGEND**  
 CONST. LIMITS  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED  
 - PAVEMENT RESURFACING LIMITS  
 - DITCH EROSION PROTECTION



**A**  
 \*\* COLUMBUS FIBERNET TO FURNISH AND INSTALL A STEEL REMOVABLE CURB TO RESOLVE A CONFLICT WITH THEIR 4' X 4' CONCRETE MANHOLE. CONTRACTOR TO COORDINATE WITH THE UTILITY COMPANY. NO SEPARATE PAYMENT.

NO.	DESCRIPTION	REV. BY	DATE
A	CB & PIPE REVISED, NOTE ADDED	ENR	2-3-2022
B	ADDED BALLOON	ENR	2-28-2022
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022

NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.



\*OFFSET IS APPROXIMATE. ROADSIDE EDGE OF WALKING PATH SHALL MATCH EX. ROADSIDE EDGE OF WALK TO BE REMOVED. MAINTAIN CONSTANT WIDTH TREE LAWN.

BRICK PAVERS  
SEE SHEET 34.

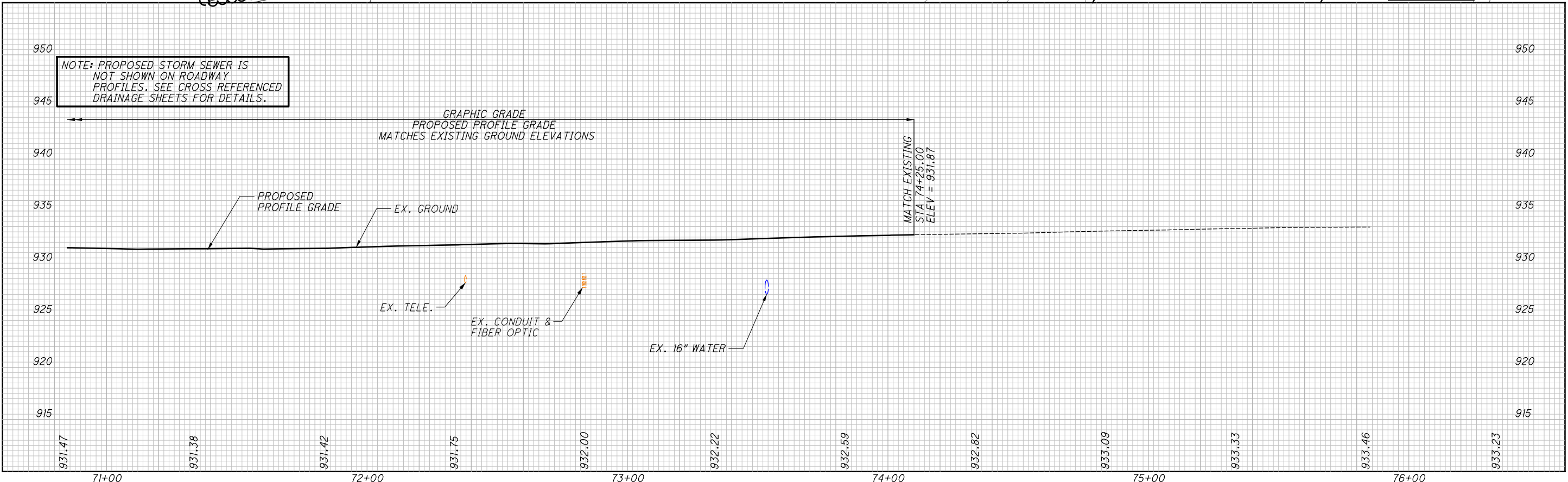
P.I. STA. 74+03.09  
 $\Delta = 48^\circ 00' 10''$  (RT)  
 $D_c = 8^\circ 48' 53''$   
 $R = 650.00'$   
 $T = 289.42'$   
 $L = 544.57'$   
 $E = 61.52'$   
 S.E. = MATCH EXISTING

LEGEND  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED

UNLESS OTHERWISE LABELED, ALL STORM SEWER IS TO REMIAN

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
571-574,	DRAINAGE DETAILS
	MEDIAN DETAILS
	UTILITY DUCT PLANS
	INTERSECTION DETAILS

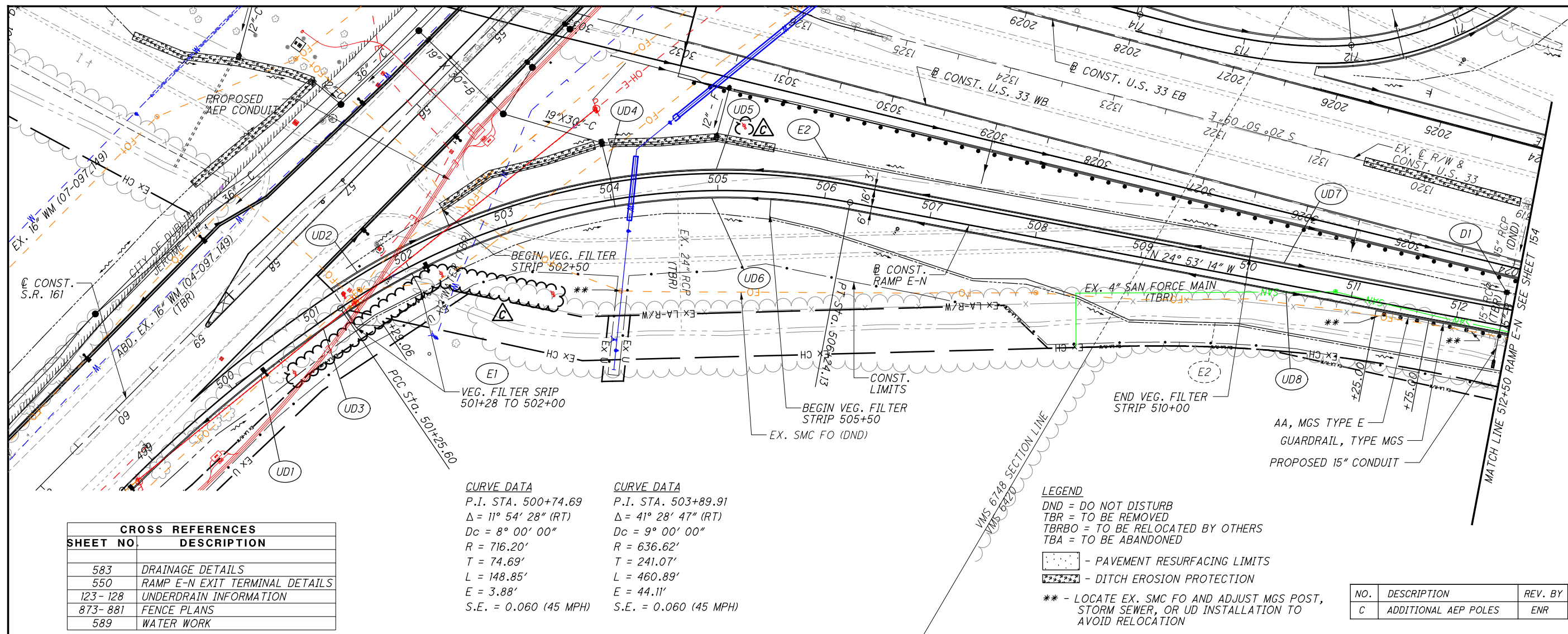
NO.	DESCRIPTION	REV. BY	DATE
B	ADDED BALLOON	ENR	2-28-2022
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022



PLAN - POST ROAD (CR 24) / PERIMETER DRIVE  
 STA 71+00.00 TO END WORK  
 UNI-33-24.87  
 152  
 923

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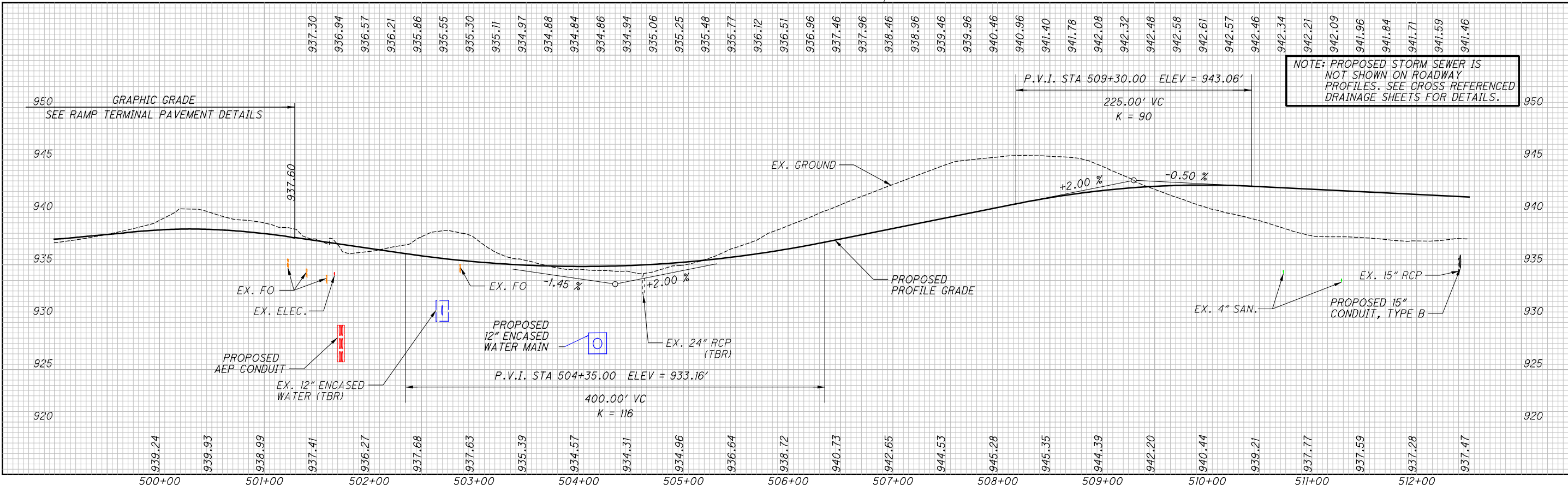
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
583	DRAINAGE DETAILS
550	RAMP E-N EXIT TERMINAL DETAILS
123-128	UNDERDRAIN INFORMATION
873-881	FENCE PLANS
589	WATER WORK

<b>CURVE DATA</b>	<b>CURVE DATA</b>
P.I. STA. 500+74.69	P.I. STA. 503+89.91
$\Delta = 11^\circ 54' 28''$ (RT)	$\Delta = 41^\circ 28' 47''$ (RT)
$D_c = 8^\circ 00' 00''$	$D_c = 9^\circ 00' 00''$
$R = 716.20'$	$R = 636.62'$
$T = 74.69'$	$T = 241.07'$
$L = 148.85'$	$L = 460.89'$
$E = 3.88'$	$E = 44.11'$
S.E. = 0.060 (45 MPH)	S.E. = 0.060 (45 MPH)

**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED

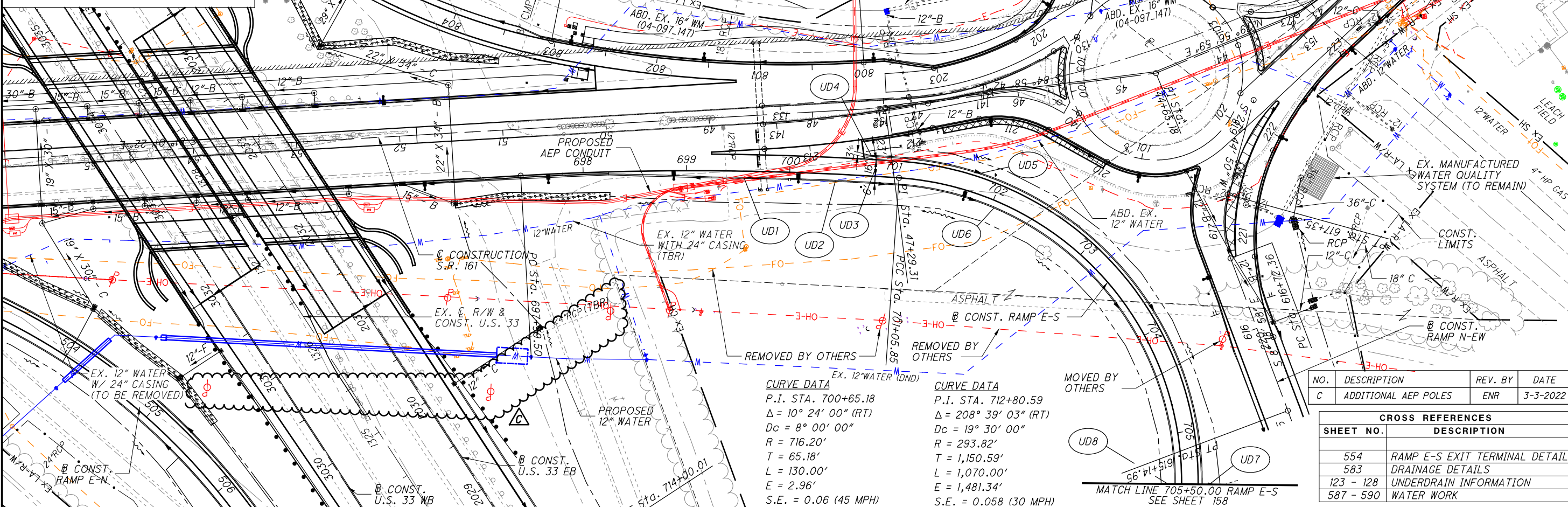
- PAVEMENT RESURFACING LIMITS  
 - DITCH EROSION PROTECTION  
 \*\* - LOCATE EX. SMC FO AND ADJUST MGS POST, STORM SEWER, OR UD INSTALLATION TO AVOID RELOCATION

NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022



NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.

**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED  
 - - - - - PAVEMENT RESURFACING LIMITS  
 - - - - - DITCH EROSION PROTECTION

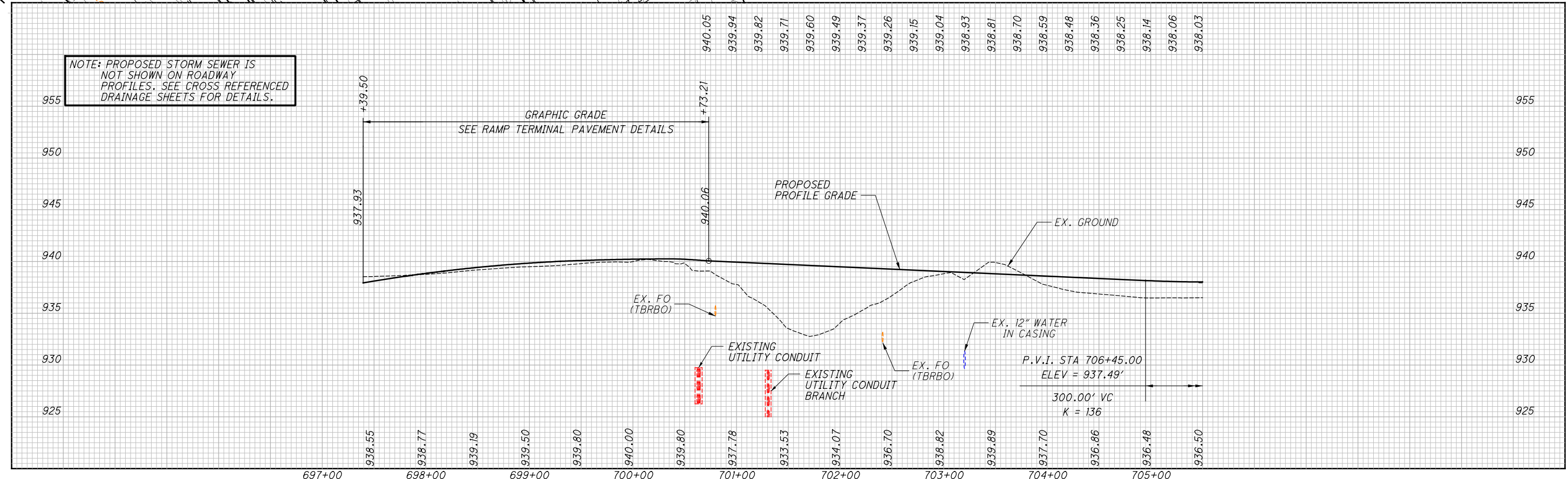


CURVE DATA	
P.I. STA. 700+65.18	P.I. STA. 712+80.59
$\Delta = 10^\circ 24' 00''$ (RT)	$\Delta = 208^\circ 39' 03''$ (RT)
$D_c = 8^\circ 00' 00''$	$D_c = 19^\circ 30' 00''$
$R = 716.20'$	$R = 293.82'$
$T = 65.18'$	$T = 1,150.59'$
$L = 130.00'$	$L = 1,070.00'$
$E = 2.96'$	$E = 1,481.34'$
$S.E. = 0.06$ (45 MPH)	$S.E. = 0.058$ (30 MPH)

NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
554	RAMP E-S EXIT TERMINAL DETAILS
583	DRAINAGE DETAILS
123 - 128	UNDERDRAIN INFORMATION
587 - 590	WATER WORK

NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.



CALCULATED  
 MRT  
 CHECKED  
 MAH

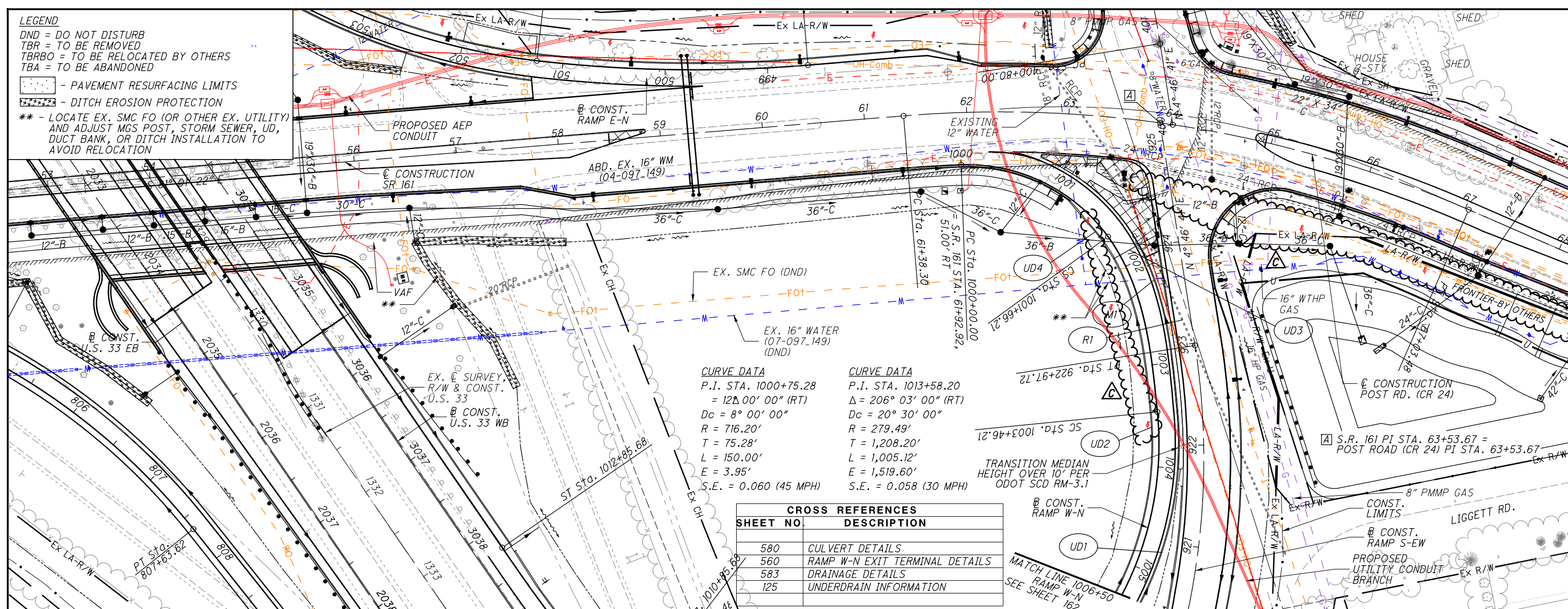
**PLAN AND PROFILE - RAMP E-S**  
**STA. 700+00.00 TO STA. 705+50.00**

**UNI-33-24.87**

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**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED

--- PAVEMENT RESURFACING LIMITS  
 - - - DITCH EROSION PROTECTION  
 \*\* - LOCATE EX. SMC FO (OR OTHER EX. UTILITY) AND ADJUST MGS POST, STORM SEWER, UD, DUCT BANK, OR DITCH INSTALLATION TO AVOID RELOCATION



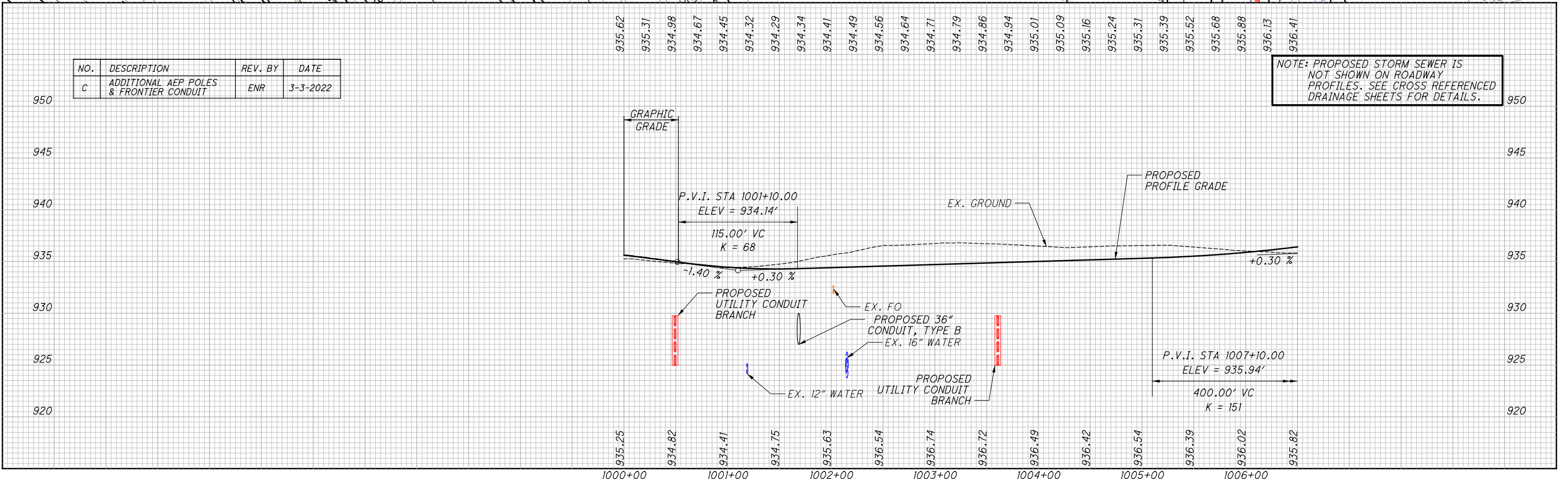
**CURVE DATA**  
 P.I. STA. 1000+75.28  
 Δ = 12Δ 00' 00" (RT)  
 Dc = 8° 00' 00"  
 R = 716.20'  
 T = 75.28'  
 L = 150.00'  
 E = 3.95'  
 S.E. = 0.060 (45 MPH)

**CURVE DATA**  
 P.I. STA. 1013+58.20  
 Δ = 206° 03' 00" (RT)  
 Dc = 20° 30' 00"  
 R = 279.49'  
 T = 1,208.20'  
 L = 1,005.12'  
 E = 1,519.60'  
 S.E. = 0.058 (30 MPH)

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
580	CULVERT DETAILS
560	RAMP W-N EXIT TERMINAL DETAILS
583	DRAINAGE DETAILS
125	UNDERDRAIN INFORMATION

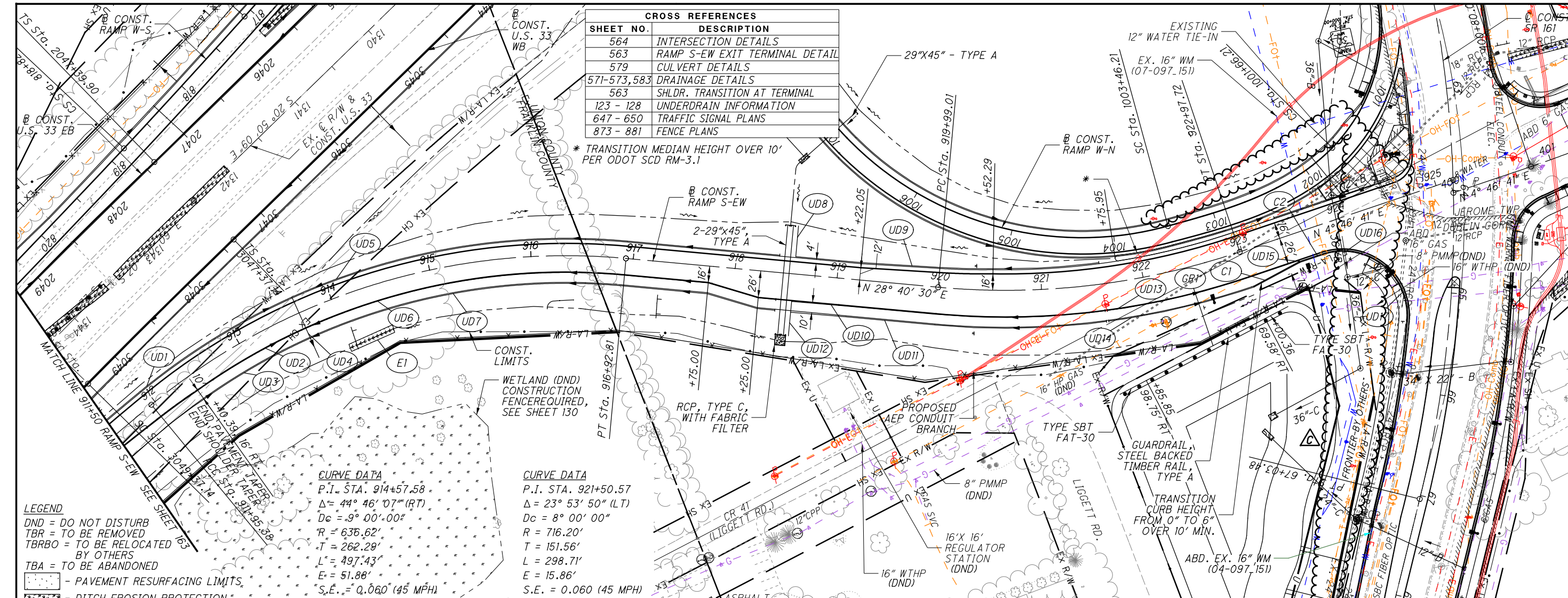
NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022

NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.



PLAN AND PROFILE - RAMP W-N  
 STA. 1000+00.00 TO STA. 1006+50.00  
 UNI-33-24.87  
 161  
 923

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
564	INTERSECTION DETAILS
563	RAMP S-EW EXIT TERMINAL DETAIL
579	CULVERT DETAILS
571-573, 583	DRAINAGE DETAILS
563	SHLDR. TRANSITION AT TERMINAL
123 - 128	UNDERDRAIN INFORMATION
647 - 650	TRAFFIC SIGNAL PLANS
873 - 881	FENCE PLANS

\* TRANSITION MEDIAN HEIGHT OVER 10' PER ODOT SCD RM-3.1

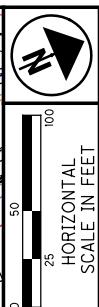
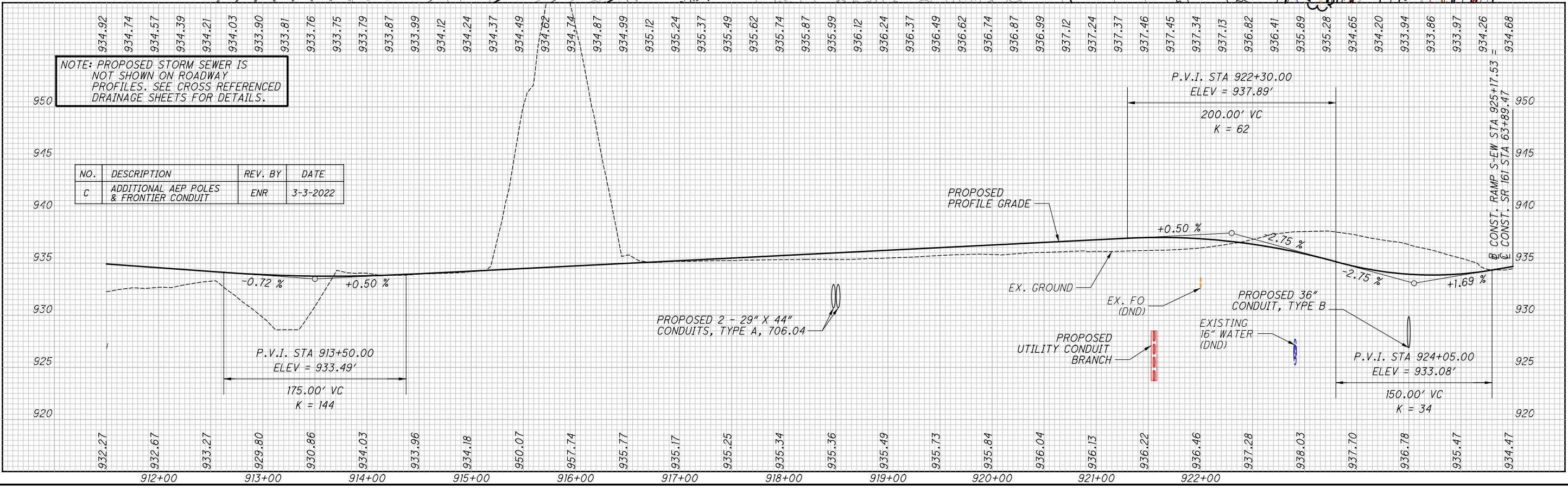
**CURVE DATA**  
 P.I. STA. 914+57.58  
 $\Delta = 44^\circ 46' 07''$  (RT)  
 $D_c = -9^\circ 00' 00''$   
 $R = 636.62'$   
 $T = 262.29'$   
 $L = 497.43'$   
 $E = 51.88'$   
 $S.E. = Q.060$  (45 MPH)

**CURVE DATA**  
 P.I. STA. 921+50.57  
 $\Delta = 23^\circ 53' 50''$  (LT)  
 $D_c = 8^\circ 00' 00''$   
 $R = 716.20'$   
 $T = 151.56'$   
 $L = 298.71'$   
 $E = 15.86'$   
 $S.E. = 0.060$  (45 MPH)

**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED  
 - PAVEMENT RESURFACING LIMITS  
 - DITCH EROSION PROTECTION

NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.

NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022

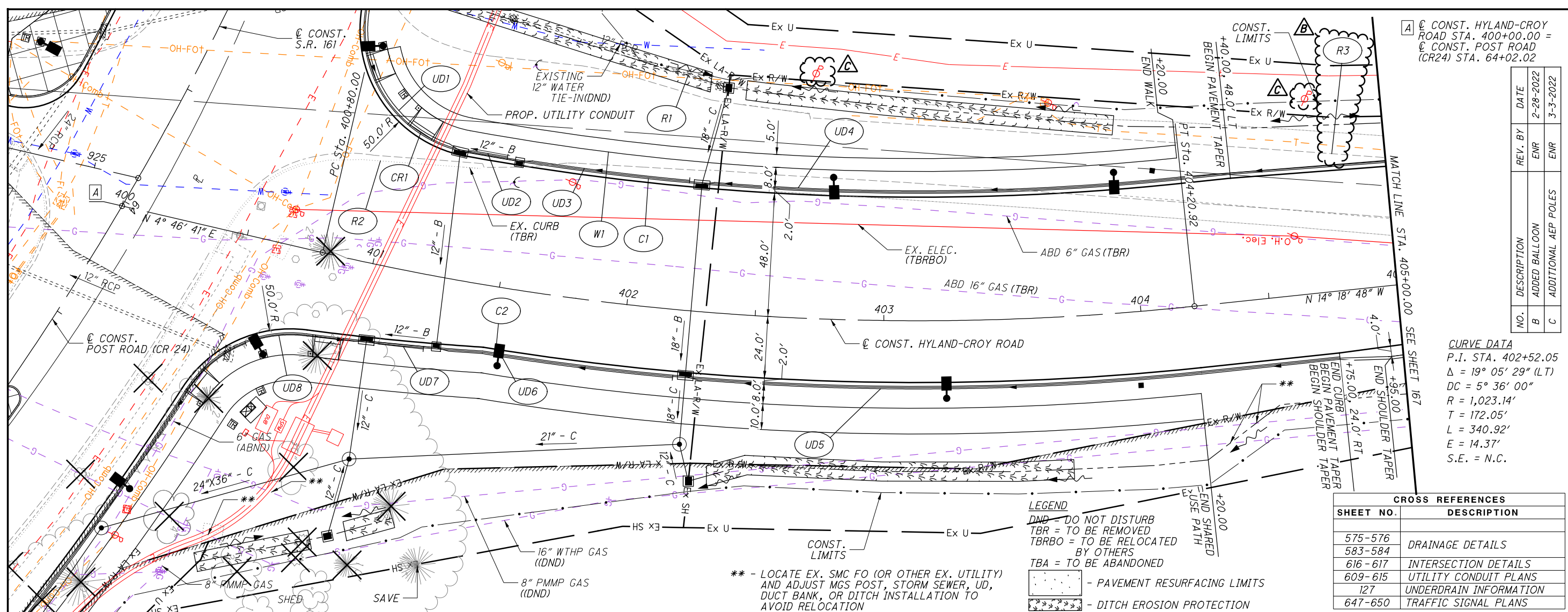


PLAN AND PROFILE - RAMP S-EW  
 STA. 911+50.00 TO STA. 924+87.41

UNI-33-24.87

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CONST. HYLAND-CROY ROAD STA. 400+00.00 =  
 CONST. POST ROAD (CR24) STA. 64+02.02

**CURVE DATA**  
 P.I. STA. 402+52.05  
 $\Delta = 19^\circ 05' 29''$  (LT)  
 $DC = 5^\circ 36' 00''$   
 $R = 1,023.14'$   
 $T = 172.05'$   
 $L = 340.92'$   
 $E = 14.37'$   
 $S.E. = N.C.$

**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED  
 [Symbol] - PAVEMENT RESURFACING LIMITS  
 [Symbol] - DITCH EROSION PROTECTION

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
575-576	
583-584	DRAINAGE DETAILS
616-617	INTERSECTION DETAILS
609-615	UTILITY CONDUIT PLANS
127	UNDERDRAIN INFORMATION
647-650	TRAFFIC SIGNAL PLANS

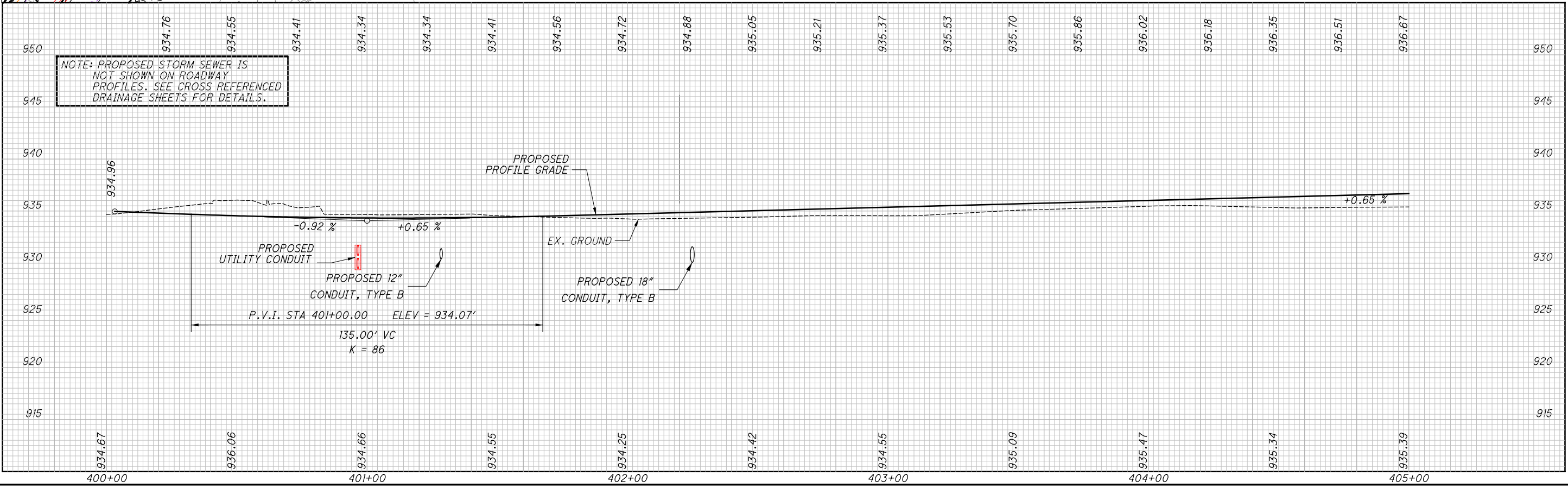
NO.	DESCRIPTION	REV. BY	DATE
B	ADDED BALLOON	ENR	2-28-2022
C	ADDITIONAL AEP POLES	ENR	3-3-2022



**PLAN AND PROFILE - HYLAND-CROY ROAD**  
 STA. 400+00.00 TO STA. 405+00.00

UNI-33-24.87

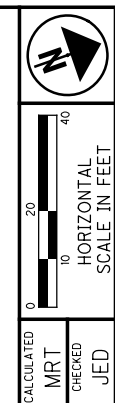
166  
923



NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.

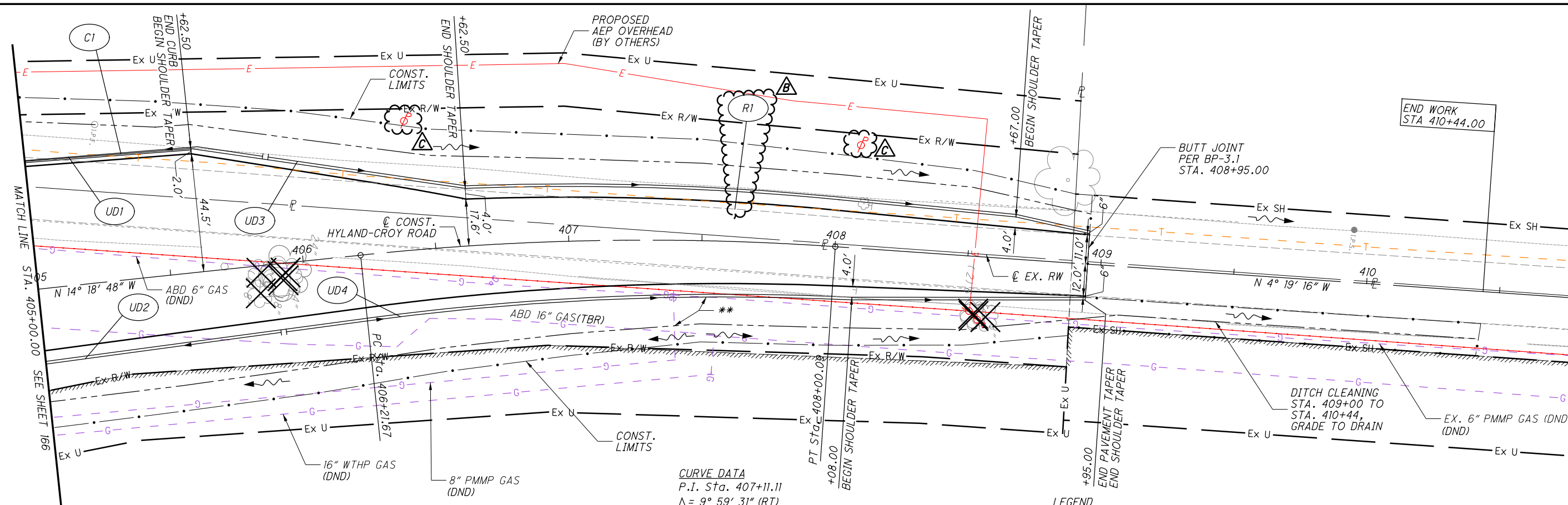
PROPOSED UTILITY CONDUIT  
 PROPOSED 12" CONDUIT, TYPE B  
 P.V.I. STA 401+00.00 ELEV = 934.07'  
 135.00' VC  
 K = 86

PROPOSED PROFILE GRADE  
 EX. GROUND  
 PROPOSED 18" CONDUIT, TYPE B



**PLAN AND PROFILE - HYLAND-CROY ROAD  
STA. 405+00.00 TO 410+00.00**

**UNI-33-24.87**



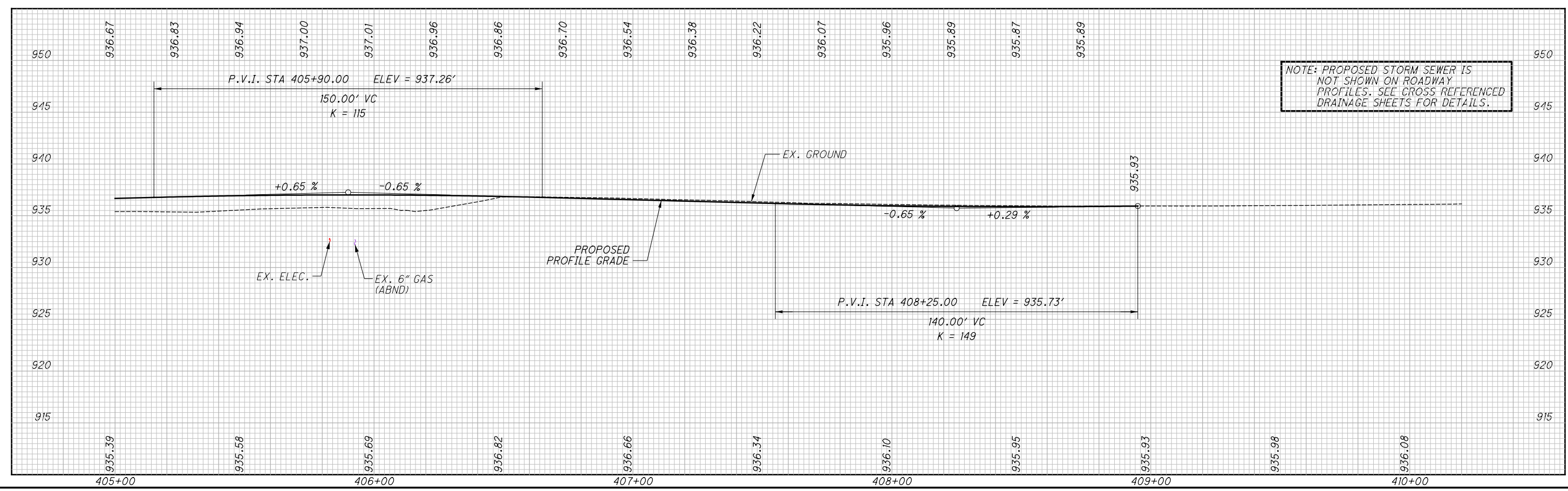
**CURVE DATA**  
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 $D_c = 5^\circ 36' 00''$   
 $R = 1,023.14'$   
 $T = 89.44'$   
 $L = 178.43'$   
 $E = 3.90'$   
 $S.E. = N.C.$

\*\* - LOCATE EX. SMC FO (OR OTHER EX. UTILITY) AND ADJUST MGS POST, STORM SEWER, UD, DUCT BANK, OR DITCH INSTALLATION TO AVOID RELOCATION

**LEGEND**  
 DND = DO NOT DISTURB  
 TBR = TO BE REMOVED  
 TBRBO = TO BE RELOCATED BY OTHERS  
 TBA = TO BE ABANDONED  
 [Symbol] - PAVEMENT RESURFACING LIMITS  
 [Symbol] - DITCH EROSION PROTECTION

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
583	DRAINAGE DETAILS
127	UNDERDRAIN INFORMATION

NO.	DESCRIPTION	REV. BY	DATE
B	ADDED BALLOON	ENR	2-28-2022
C	ADDITIONAL AEP POLES	ENR	3-3-2022



NOTE: PROPOSED STORM SEWER IS NOT SHOWN ON ROADWAY PROFILES. SEE CROSS REFERENCED DRAINAGE SHEETS FOR DETAILS.

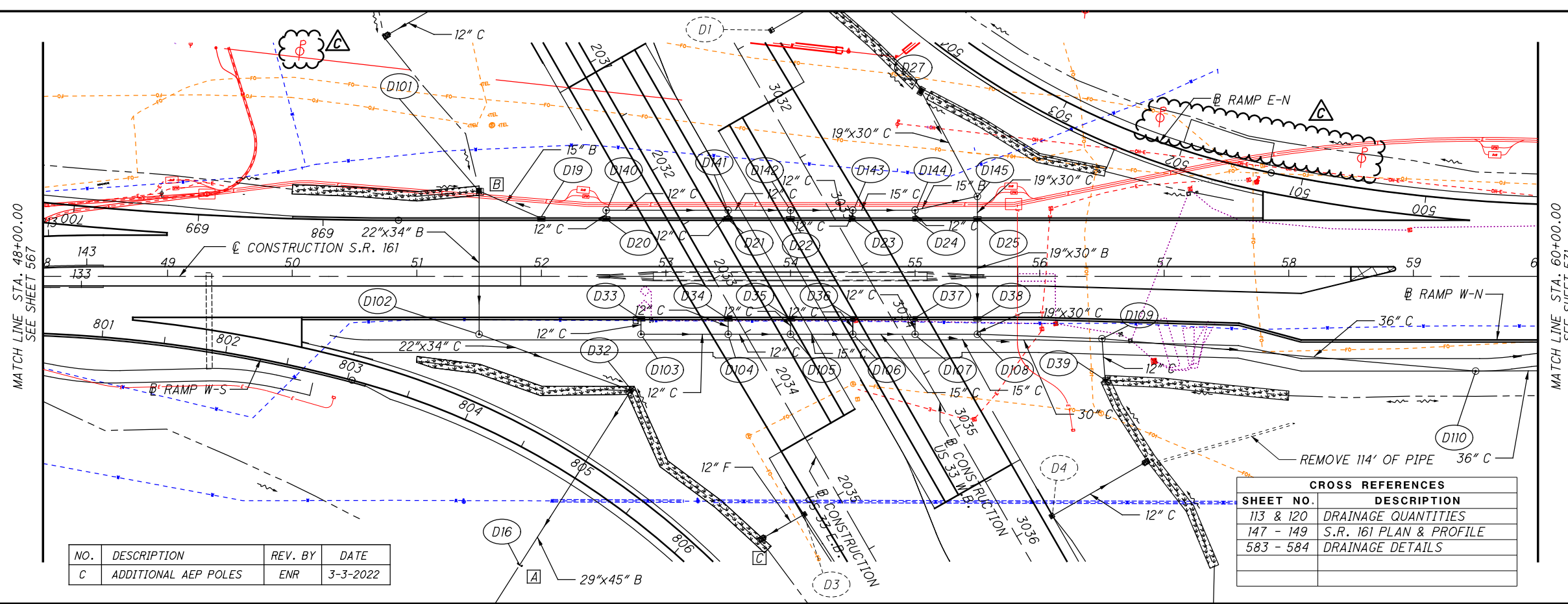


CALCULATED WJG CHECKED KEH

S.R. 161 DRAINAGE PLAN AND PROFILE  
S.R. 161 STA. 48+00.00 TO STA. 60+00.00

UNI-33-24.87

568  
923



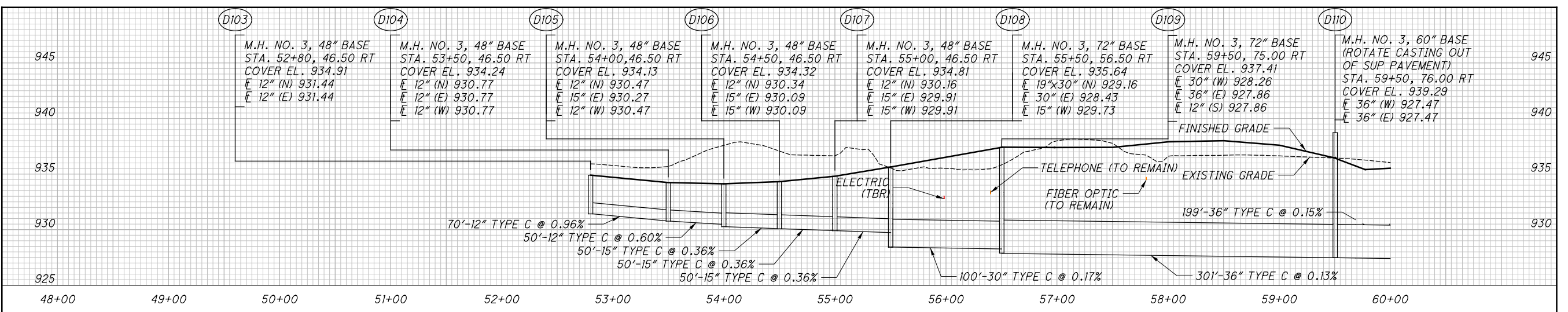
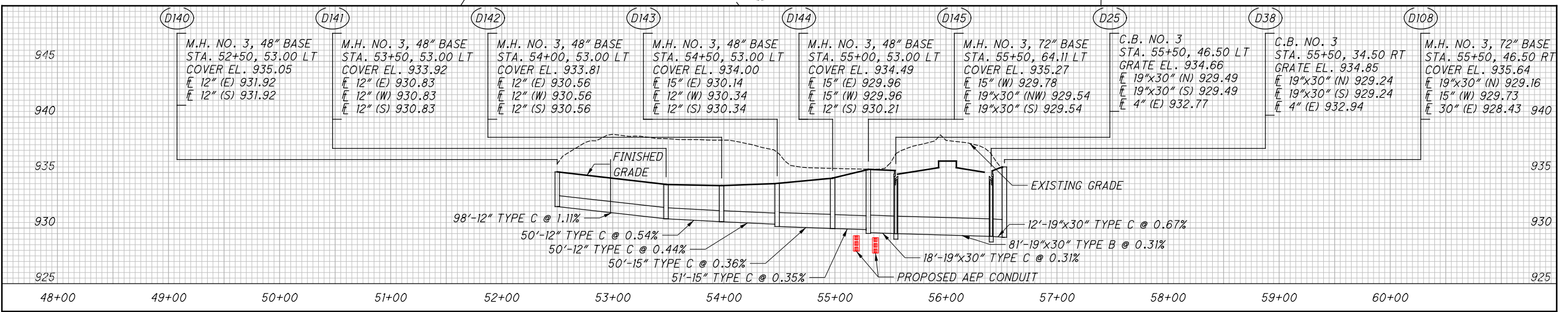
**A OUTLET:**  
 DRAINAGE AREA = 6.83 AC  
 $Q_{10}$  = 4.24 CFS  
 $Q_{25}$  = 5.46 CFS  
 $HGL_{50}$  = 933.72

**B OUTLET:**  
 DRAINAGE AREA = 0.21 AC  
 $Q_{10}$  = 1.0 CFS  
 $Q_{25}$  = 1.3 CFS  
 $HGL_{50}$  = 937.73

**C OUTLET:**  
 DRAINAGE AREA = 0.09 AC  
 $Q_{10}$  = 0.4 CFS  
 $Q_{25}$  = 0.6 CFS  
 $HGL_{50}$  = 938.17

NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022

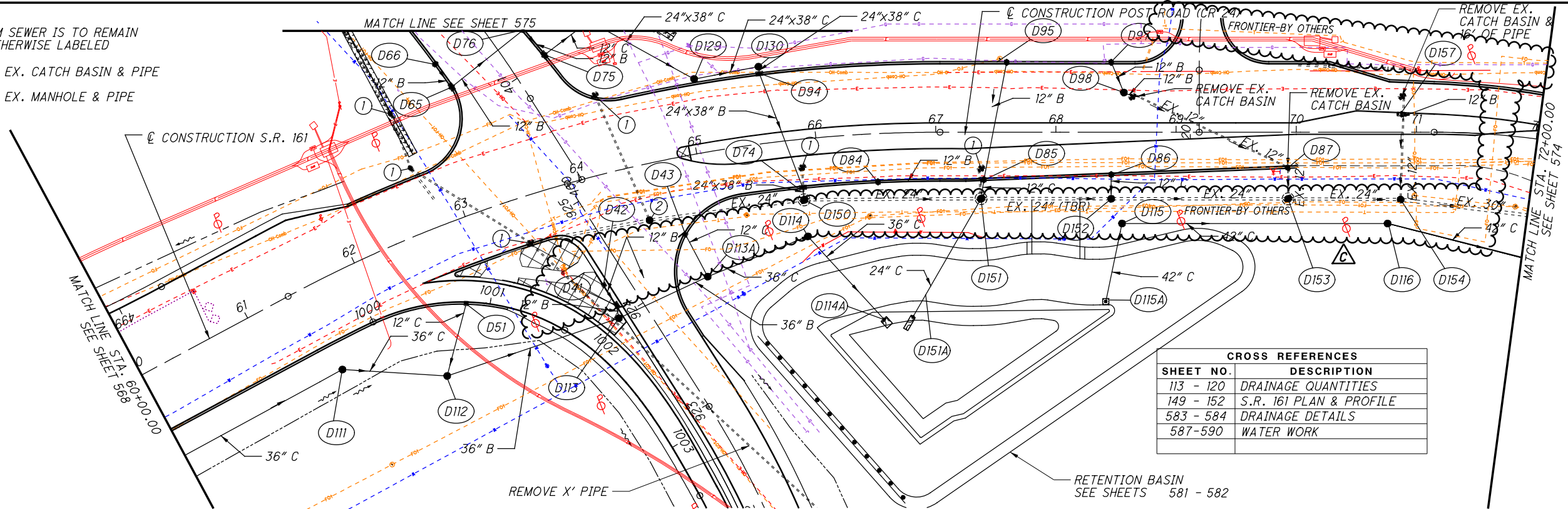
CROSS REFERENCES	
SHEET NO.	DESCRIPTION
113 & 120	DRAINAGE QUANTITIES
147 - 149	S.R. 161 PLAN & PROFILE
583 - 584	DRAINAGE DETAILS



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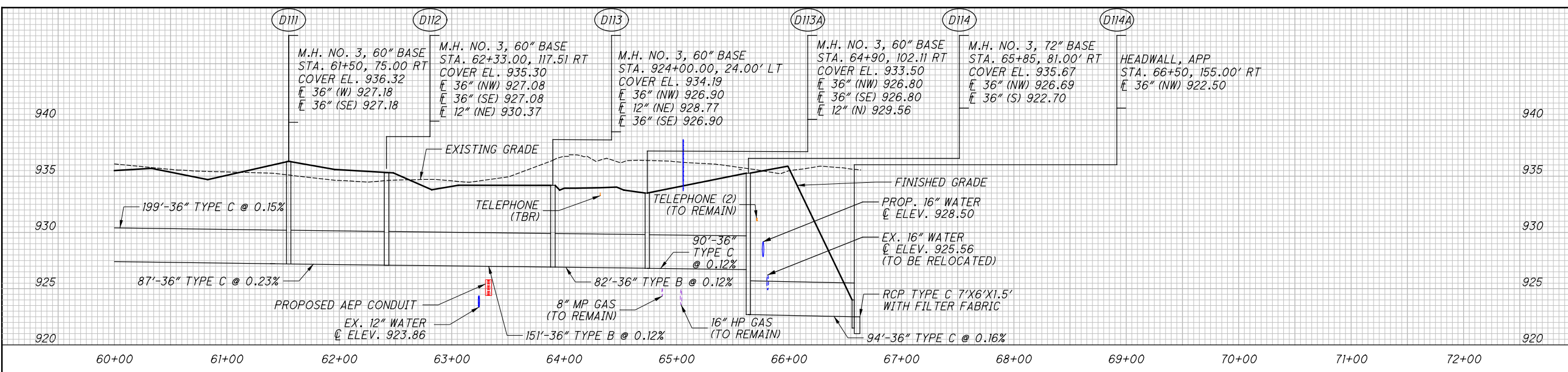
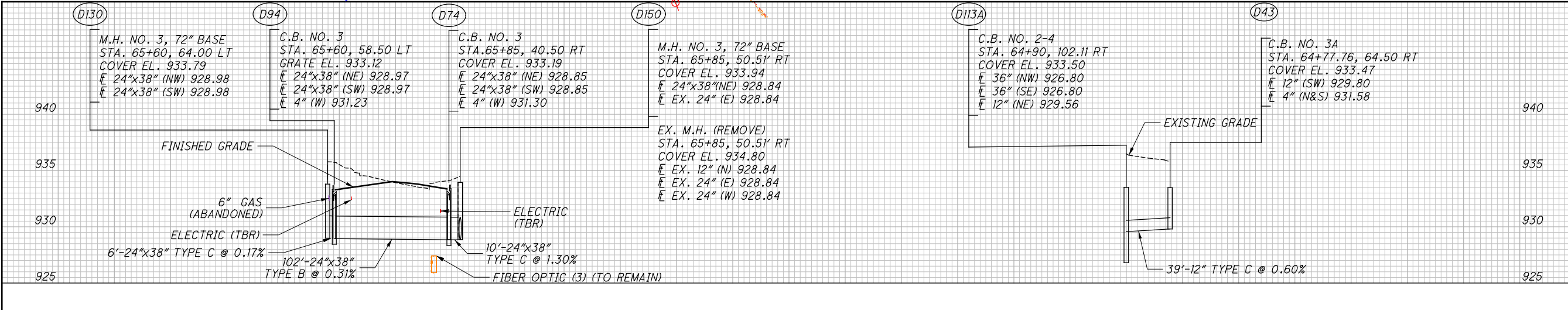
NOTE:  
ALL STORM SEWER IS TO REMAIN  
UNLESS OTHERWISE LABELED

- ① REMOVE EX. CATCH BASIN & PIPE
- ② REMOVE EX. MANHOLE & PIPE



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
113 - 120	DRAINAGE QUANTITIES
149 - 152	S.R. 161 PLAN & PROFILE
583 - 584	DRAINAGE DETAILS
587-590	WATER WORK

NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022



**STORM SEWER PLAN AND PROFILE**  
**S.R. 161 STA. 60+00.00 TO STA. 72+00.00**

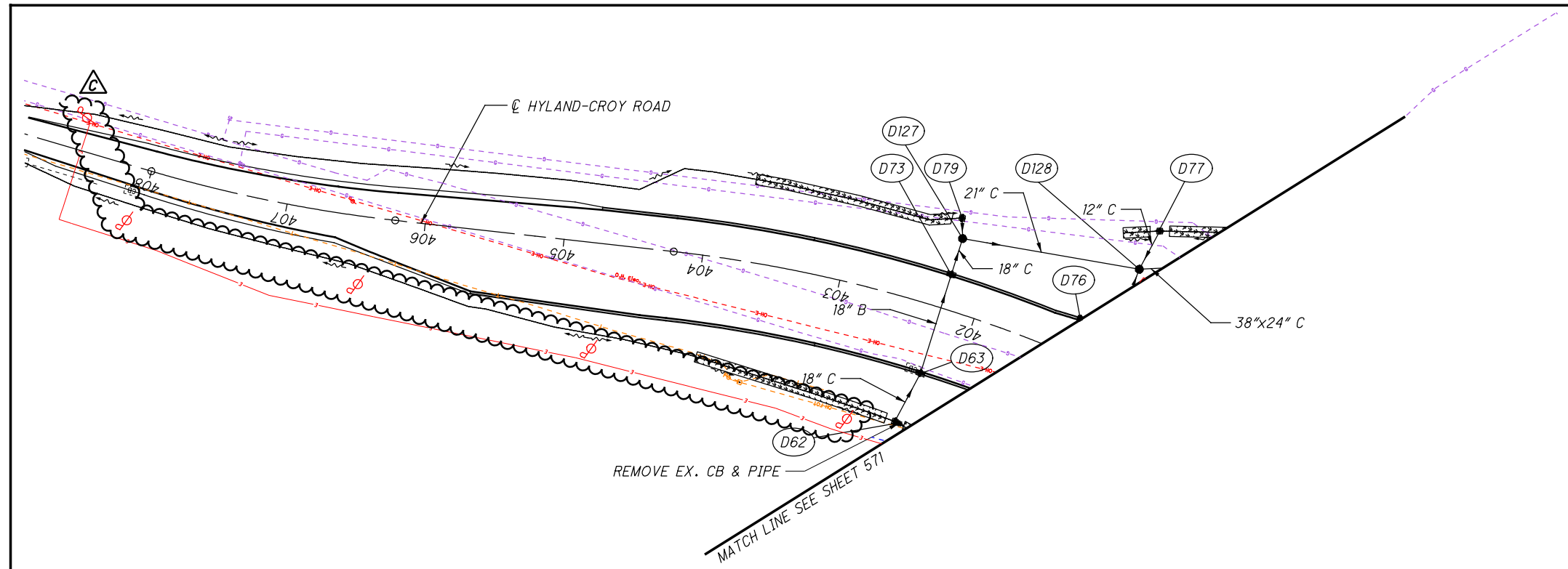
**UNI-33-24.87**

571  
923

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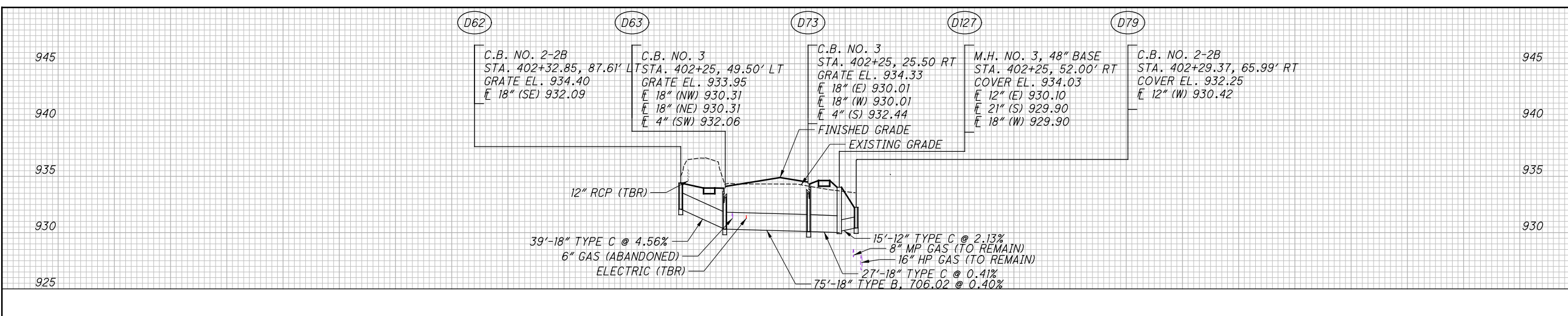
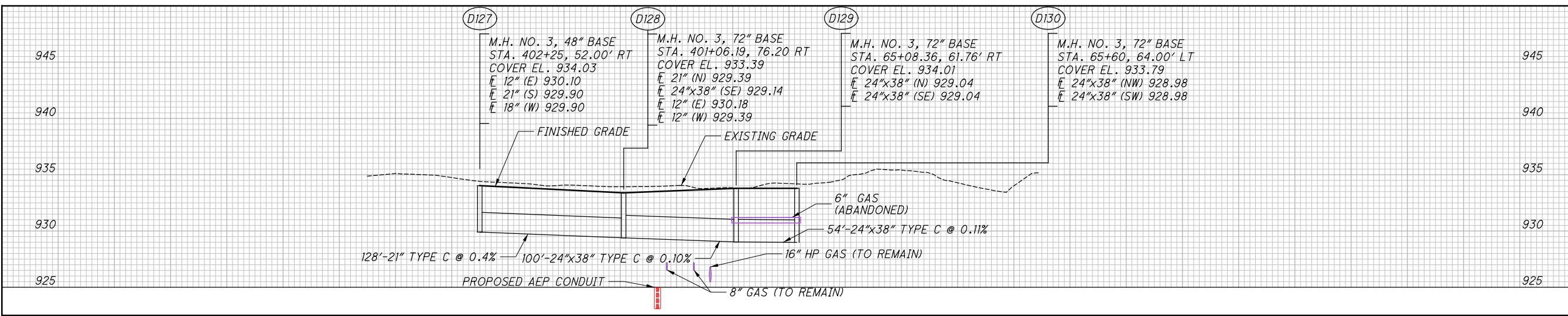






NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
113 - 120	DRAINAGE QUANTITIES
166	HYLAND-CROY ROAD
583 - 584	DRAINAGE DETAILS



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REF NO.	SHEET NO.	STATION TO STATION		202	613	638	638	638	638	638	638	638	SPECIAL	638	638
				VALVE BOX REMOVED	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	12" WATERMAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN, (COC 801)	16" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS PER PLAN, (COC 801)	20" STEEL PIPE ENCASEMENT, OPEN CUT, AS PER PLAN	20" STEEL PIPE ENCASEMENT, BORED OR JACKED, AS PER PLAN	12" GATE VALVE, AS PER PLAN, (COC 802)	6" FIRE HYDRANT, AS PER PLAN, (COC 809)	VALVE BOX ADJUSTED TO GRADE, (COC 807)	1" AIR RELEASE VALVE, (COC 812)	FIRE HYDRANT REMOVED FOR STORAGE, (COC 809)	12" X 12" TAPPING SLEEVE, VALVE AND VALVE BOX AS PER PLAN, (COC 803)
WATER MAIN				EACH	CY	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH
			TO												
587		2001+85.00	2002+30.00		13	45									
588		2008+76.00	2010+00.00		11	124.00									
588		2008+90.00								1					
589		2010+00.00	2015+00.00			500									
589		2010+23.00	2013+43.00						320.00						
589		2014+00.00	2014+60.00					60.00							
589		2013+53.00								1					
589		2014+70.00								1					
590		2015+00.00	2015+99.04			100									
590		2015+72.00													
590		2015+82.00								1					
590		2015+87.42	168' RT		1								1		
587		44+25.72	173.15' LT										1		
587		45+67.79	192.85' LT										1		
594		1+00.00	2+59.90		8		159.9								
594		1+85.12											1		
594		65+20.21	121.55' RT										1		
594		68+06.83	88.78' RT										1		
594		68+82.12	37.63' RT										1		
594		69+86.44	35.42' RT										1		
594		69+80.94	32.77' RT											1	
146		42+96.80	53.91' RT		1										
146		45+10.50	66.39' RT		1										
149		58+90.93	40.22' RT		1										
149		59+16.43	42.72' RT		1										
150		63+19.81	30.79' RT		1										
150		63+96.43	14.08' RT		1										
150		64+06.93	51.95' RT		1										
151		66+86.32	36.72' RT		1										
159		53+25.69	176.45' RT										1		
159		51+38.01	180.74' RT										1		
168		21+48.58	27.38' LT										1		
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				9	32	769	160	60	320	4	1	9	1	1	1

NO.	DESCRIPTION	REV. BY	DATE
C	REMOVED ITEM	ENR	3-3-2022

CALCULATED ARL	CHECKED JED	WATER WORK SUBSUMMARY	UNI - 33 - 24.87

**WATER NOTES - CITY OF MARYSVILLE**

1. ALL WATER LINE AND APPURTENANCES, MATERIALS AND INSTALLATION PROCEDURES, SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF MARYSVILLE.
2. ALL WATER LINE MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF MARYSVILLE AND THE AWWA. THE WATER LINE MATERIAL SHALL BE CLEARLY IDENTIFIED AS CONFORMING TO AWWA STANDARDS. WATER LINE PIPE SIZE 4 INCH IN DIAMETER SHALL CONFORM TO THE REQUIREMENTS OF AWWA C900. WATER LINE PIPE SIZES 6 INCHES THROUGH 12 INCHES IN DIAMETER SHALL CONFORM TO THE REQUIREMENTS OF AWWA C909, CLASS 235. WATER LINE PIPE SIZES GREATER THAN 12 INCHES IN DIAMETER SHALL CONFORM TO THE REQUIREMENTS OF AWWA C905.
3. ALL RESIDENTIAL SERVICE LINES SHALL BE 1" MINIMUM.
4. WATER LINE TRENCHES SHALL BE DEWATERED TO 2" BELOW THE BELL OF PIPE PRIOR TO INSTALLATION.
5. IN CASE OF A CONFLICT IN GRADE BETWEEN STORM SEWERS AND WATER LINE, THE WATER LINE SHALL BE LOWERED.
6. ALL WATER METERS SHALL BE INSTALLED INSIDE OF THE PROPOSED STRUCTURE, NOT IN A METER PIT, UNLESS SAID METER PIT IS APPROVED BY THE CITY OF MARYSVILLE. METER PITS SHALL COMPLY WITH STANDARD DRAWING WTR-07.
7. A BRONZE PAD LOCKABLE METER BYPASS BALL VALVE, APOLLO 75-100 SERIES OR EQUAL, IS REQUIRED FOR 1 1/2" AND LARGER METERS.
8. WATER SERVICE BOXES SHALL BE SET AT THE FOLLOWING LOCATIONS:  
  
SHORT SERVICE RUNS - AT THE RIGHT-OF-WAY LINE OR 1 FOOT BEHIND THE BACK OF SIDEWALK.  
  
LONG SERVICE RUNS - 4 FEET FROM THE EDGE OF SIDEWALK (BETWEEN SIDEWALK AND CURB) OR CENTERED BETWEEN THE SIDEWALK AND CURB.  
  
WATER SERVICE BOXES WILL NOT BE PERMITTED WITHIN THE CONCRETE SIDEWALK OR FUTURE ASPHALT/CONCRETE DRIVEWAYS.
9. WATER LINES SHALL HAVE A MINIMUM COVER OF 4 FEET 6 INCHES FROM FINAL GRADE.
10. CONTRACTORS SHALL PROVIDE MEGALUG RETAINING GLANDS OR APPROVED EQUAL AT ALL BENDS AND TEES. CONTRACTORS SHALL BACK BENDS, ELBOWS, TEES WITH SOLID CONCRETE BLOCKS AGAINST UNDISTURBED SOIL. HARDWOOD WEDGES SHALL BE USED WHERE NECESSARY.
11. FIRE HYDRANTS SHALL BE MUELLER COMPANY CENTURION 250 HYDRANT WITH A 4 1/2 MAIN VALVE OPENING. THEY ARE TO HAVE A THREE WAY UPPER BARREL WITH ONE 4 1/2 INCH PUMPER NOZZLE WITH AN INTEGRAL 5" STORZ CONNECTION INSTALLED, AND TWO 2 1/2 INCH HOSE NOZZLES. MUST MEET A.W.W.A. C-502 STANDARDS.
12. ALL SERVICE LINES SHALL BE TYPE K SOFT COPPER CONFORMING TO ASTM B-88, AND UNDERGROUND JOINTS MUST BE COMPRESSION. AWWA C909 WATER LINE SHALL BE USED IF SERVICE EXCEEDS 2 INCHES.
13. WATER LINE SHALL BE DEFLECTED, PER MANUFACTURER SPECIFICATIONS, TO PROVIDE 1 FT 6 IN VERTICAL AND 10 FT HORIZONTAL CLEARANCE WITH SEWERS. IF THIS IS NOT FEASIBLE, THEN STANDARD CONSTRUCTION DRAWING WTR06 APPLIES.
14. ALL WATER MAINS ARE TO BE SEPARATED 10 FEET HORIZONTALLY AND 1.5 FEET VERTICALLY FROM ALL PARALLEL SANITARY SEWERS.
15. WHENEVER A WATER MAIN AND SANITARY SEWER MUST CROSS, THE WATER MAIN SHALL BE 1.5 FEET ABOVE THE CROWN OF THE SEWER PIPE. MEASUREMENT TO BE BETWEEN THE OUTSIDE OF PIPE WALLS.
16. IF THE TOP OF THE OPERATING NUT FOR WATER VALVE IS GREATER THAN 36 INCHES BELOW FINISH GRADE, AN EXTENSION STEM SHALL BE FURNISHED TO BRING THE TOP OF THE OPERATING NUT TO 36 INCHES BELOW FINAL GRADE.

17. TRANSVERSE WATER LINES WITHIN THE PAVEMENT AREA SHALL BE BACKFILLED WITH ODOT 304 COMPACTED GRANULAR MATERIAL OR ODOT 613 (LSM) TO THREE FEET BEYOND THE FACE OF CURB OR EDGE OF PAVEMENT.
18. PRESSURE TESTING WILL BE IN ACCORDANCE WITH AWWA C909 AND ASTM F1483 PVCO PIPE.
19. ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH THE CITY OF MARYSVILLE SPECIFICATIONS. SPECIAL ATTENTION IS DIRECTED TO APPLICABLE SECTIONS OF AWWA C651 PARTICULARLY FOR FLUSHING (SECTION 5) AND FOR CHLORINATING VALVES AND FIRE HYDRANTS.
20. INDIVIDUAL BOOSTER PUMPS WILL NOT BE ALLOWED FOR ANY INDIVIDUAL SERVICE. (OHIO ADMINISTRATIVE CODE RULE 3745-95-07(A))
21. THE NORMAL WORKING PRESSURE IN THE WATERLINE WILL NOT BE LESS THAN 35 PSI. (2003 RECOMMENDED STANDARDS FOR WATER WORKS, PRESSURE, SECTION 8.2.1) AND A MINIMUM OF 20 PSI SHALL BE MAINTAINED AT GROUND LEVEL AT ALL POINTS OF THE DISTRIBUTION SYSTEM UNDER ALL OPERATING CONDITIONS
22. WATER LINES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH ANSI/AWWA C605-13; UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) AND MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PRESSURE PIPE AND FITTINGS.

**ITEM 638 - 12" DUCTILE IRON PIPE, WITH PUSH ON FITTINGS, AS PER PLAN (COC 801)**

PIPE SHALL MEET THE SPECIFICATION FOR DUCTILE IRON PIPE AND FITTINGS AS PROVIDED IN THE CITY OF MARYSVILLE WATER DIVISION SPECIFICATIONS DATED NOVEMBER, 2020. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS IN THE UNIT PRICE BID FOR EXCAVATING THE TRENCH, FURNISHING AND LAYING OF THE PIPE, PLACEMENT OF CONCRETE THRUST BLOCKS, BACK-FILLING, HYDROSTATIC TESTING, AND DISINFECTING TO COMPLETE THE WORK AND HAVE READY FOR SERVICE.

**ITEM 638 - 12" GATE VALVE, AS PER PLAN (COC 801)**

VALVES SHALL BE CLOW VALVE COMPANY RESILIENT WEDGE VALVES, 250 PSI. VALVES SHALL HAVE A MACHINED SEATING SERVICE, EPOXY-COATED SURFACES, AND BE M.J. JOINT (UNLESS SPECIFIED DIFFERENTLY). VALVES SHALL CONFORM TO AWWA C-509 SPECIFICATIONS. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL ANSI TYPE 304 ON BONNET AND PACKING GLAND. ALL VALVES 8 INCHES AND LARGER SHALL HAVE A #160 OVAL VALVE BOX BASE.

VALVE BOXES SHALL BE STANDARD CAST IRON THREE-PIECE TYPE EQUAL TO THE TYLER #6860 SERIES WITH THE PROPER SIZE BASE. LIDS WILL BE MARKED "WATER", AND BOXES SET TO THE FINISHED GRADE.

THE PAYMENT FOR ALL WORK PERFORMED UNDER THIS ITEM SHALL BE AT THE UNIT PRICE AS BID THEREFORE, WHICH IS FULL COMPENSATION FOR ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS TO FURNISH AND INSTALL THE VARIOUS TYPES AND SIZES OF VALVES SPECIFIED INCLUDING OPERATION EXTENSION STEMS, CONCRETE VALVE SUPPORTS AND VALVE BOXES.

**ITEM 638 - 20" STEEL PIPE ENCASUREMENT, OPEN CUT, AS PER PLAN  
ITEM 638 - 20" STEEL PIPE ENCASUREMENT, BORED OR JACKED, AS PER PLAN**

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN ENCASUREMENT PIPE OF SUFFICIENT SIZE, MINIMUM SIZE 4" LARGER BELL O.D. IF SO STATED, TO PERMIT THE INSTALLATION OF THE CARRIER PIPE THEREIN AND THE ENCASING OF THE CARRIER PIPE AS SHOWN ON THE PLANS OR AS SPECIFIED.

CROSSINGS CONSTRUCTED ON THE RIGHT OF WAY OF PRIVATE OR PUBLIC AGENCIES SHALL CONFORM TO THE REQUIREMENTS AND REGULATIONS OF THE RESPECTIVE COMPANIES AND AGENCIES. THE OWNER WILL ACQUIRE THE NECESSARY PERMITS AND CROSSING RIGHTS FROM THE PERSPECTIVE AUTHORITIES INVOLVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PAYMENT OF ANY COSTS DUE TO THE AUTHORITY'S REQUIREMENT, OF WHATEVER NATURE, INCLUDING WATCHMEN AND SUPERVISION BY THE AUTHORITY'S FORCES.

THE ENCASUREMENT PIPE SHALL MEET THE REQUIREMENTS OF THE CITY OF MARYSVILLE WATER DIVISION AS WELL AS PRIVATE OR PUBLIC AUTHORITY INVOLVED. THE SIZE, TYPE OF MATERIAL AND THICKNESS SHALL BE SHOWN ON THE DRAWINGS. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER LINEAR FOOT WHICH PRICE SHALL INCLUDE ALL MATERIAL, EQUIPMENT, LABOR, INCLUDING EXCAVATING, PUMPING, TUNNEL PLUGGING, GROUTING, COMPACTED BACKFILL, CONCRETE SUPPORTS, PITS AND OPENINGS, AND TWO (2) SETS OF AS BUILT PLANS UPON COMPLETION OF THE JOB PROVIDED TO THE CITY OF MARYSVILLE WATER DIVISION.

**ITEM SPECIAL - FIRE HYDRANT REMOVED FOR STORAGE**

REMOVAL OF A FIRE HYDRANT SHALL BE ACCOMPLISHED BY CLOSING THE WATER VALVE, REMOVING THE HYDRANT, AND CAPPING OR PLUGGING THE WATERLINE AT THE WATCH VALVE. ALL REMOVED HYDRANTS SHALL BE DELIVERED TO THE CITY OF MARYSVILLE, DIVISION OF WATER, 455 NORTH MAPLE STREET, MARYSVILLE, OHIO. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS DELIVERY.

PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS TO REMOVE THE HYDRANT AND DELIVER IT TO THE DIVISION OF WATER AND THRUST BLOCKING TO COMPLETE THE WORK.

**ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN**

WHERE WATER LINE PIPE IS TO BE ABANDONED IT SHALL BE FILLED WITH ITEM 613 - LOW STRENGTH MORTAR BACKFILL PER SECTION 613 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. PROVIDE AN ALTERNATE MIX AS FOLLOWS: 0 LB CEMENT; 0 LB FLY ASH, CLASS F; 400 LB FLY ASH, CLASS C; 2900 LB SAND; AND 425 LB WATER (MAXIMUM).

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER CUBIC YARD WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS FOR PLACING THE LOW STRENGTH MIXTURE.

**ITEM 638 - 12" X 12" TAPPING SLEEVE, VALVE AND VALVE BOX, AS PER PLAN**

TAPPING SLEEVES THAT ARE APPROVED ARE: POWERSEAL MODEL #3490, THE FORD TAPPING SLEEVE STYLE, FAST OR "FTSS", AND THE MUELLER MODEL 304SS, OR APPROVED EQUAL.

THE SHELL SHALL BE 304 (18-8) STAINLESS STEEL OR EQUAL. THE FLANGE SHALL BE 304 (18-8) STAINLESS STEEL. THE FLANGE SHALL HAVE ANSI 125 LB. DRILLING AND BE RECESSED FOR TAPPING VALVE PER MSSP60. THE ARMOR PLATE SHALL BE 304 (18-8) STAINLESS STEEL, BONDED TO THE COMPLETE CIRCLE GASKET. GASKET SHALL BE FULL THICKNESS BETWEEN ARMOR PLATE AND PIPE. THE LUGS SHALL BE 304 (18-8) STAINLESS STEEL. THE LUGS SHALL BE WELDED (GMAW) TO THE SHELL. THE NUTS SHALL BE HEAVY HEX, OF 304 (18-8) STAINLESS STEEL AND LUBRICATED TO PREVENT GALVANIZING OR SEIZING. THE BOLTS SHALL BE 304 (18-8) STAINLESS STEEL OR EQUAL, 5/8" NC THREAD. THE GASKETS SHALL BE OF VIRGIN STYRENE BUTADIENE RUBBER (SBR) OR EQUAL, COMPOUNDED FOR WATER SERVICE. AFTER INSTALLATION OF THE SLEEVE ON THE MAIN BUT BEFORE THE TAP IS MADE, THE TAPPING SLEEVE AND VALVE ARE TO BE TESTED AT 150 PSI FOR 5 MINUTES. PRESSURE TEST SHALL BE DONE WITH THE VALVE CLOSED, AND BEFORE THE TAPPING MACHINE IS ATTACHED. TAPPING SLEEVE AND VALVE TO BE BLOCKED UP FROM UNDISTURBED EARTH TO FITTING BEFORE TAP IS MADE. THE COUPON WILL BE SAVED AND GIVEN TO WATER DIVISION.

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WATER WORK NOTES - MARYSVILLE

CALCULATED  
ARL  
CHECKED  
MAH

UNI - 33 - 24.87

NO.	DESCRIPTION	REV. BY	DATE
C	REMOVED NOTE	ENR	3-3-2022

586  
923

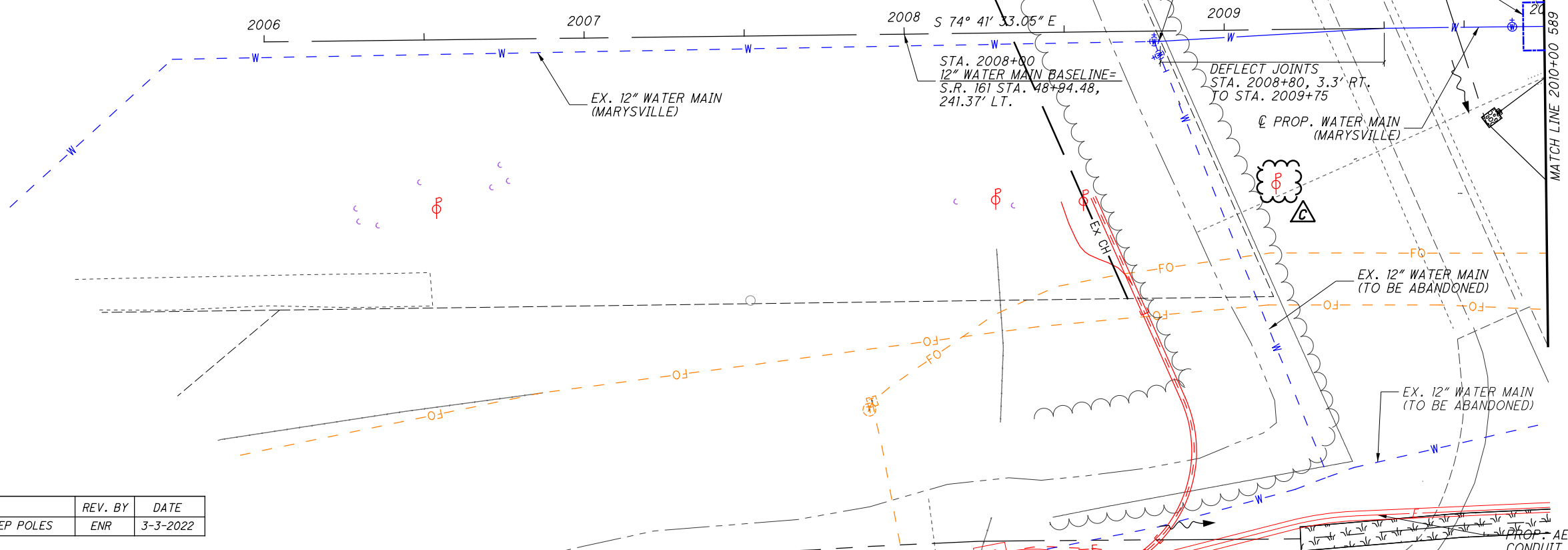


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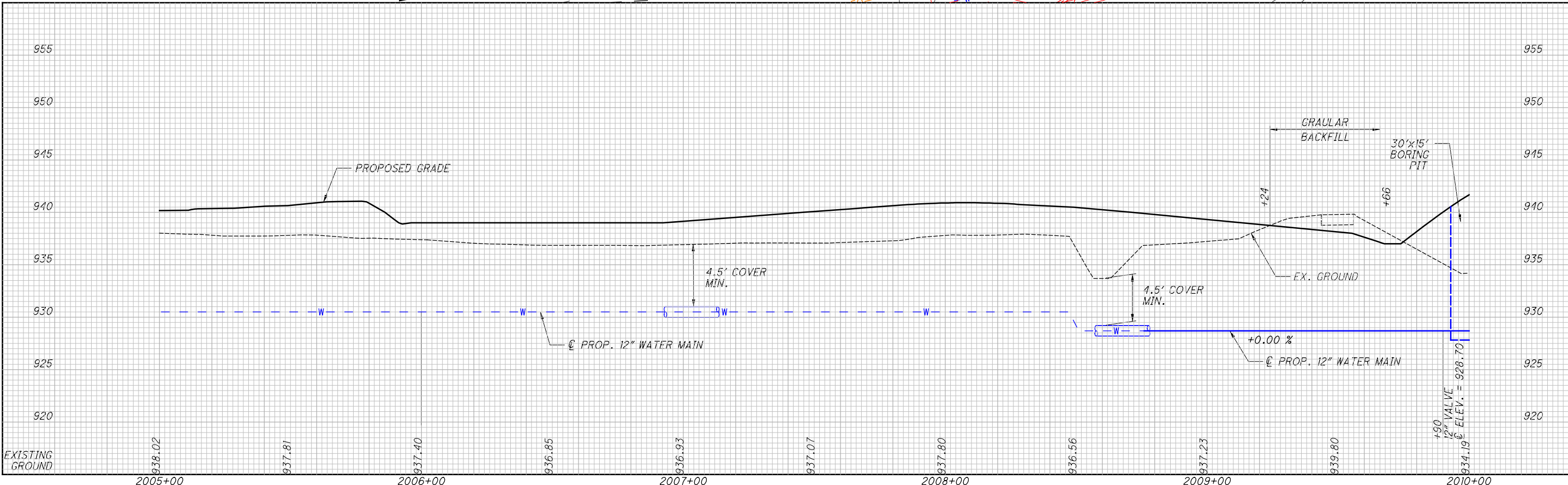
**WATER WORK PLAN - MARYSVILLE 12" MAIN**  
**STA. 2005+00.00 TO STA. 2010+00.00**

**UNI-33-24.87**

588  
923

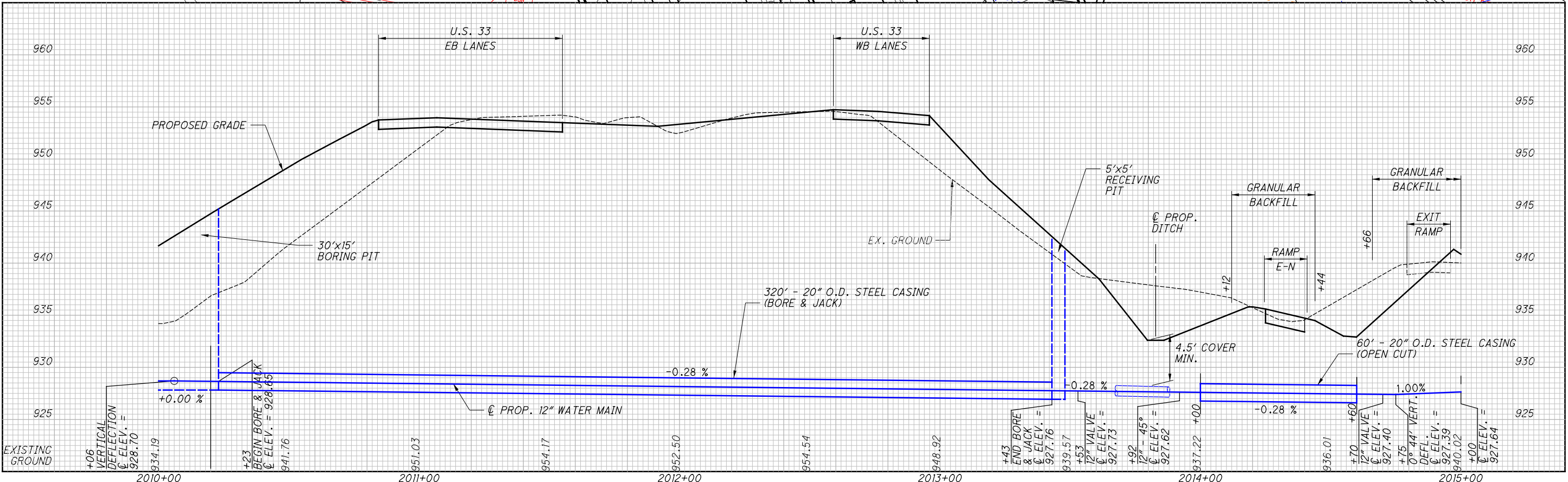
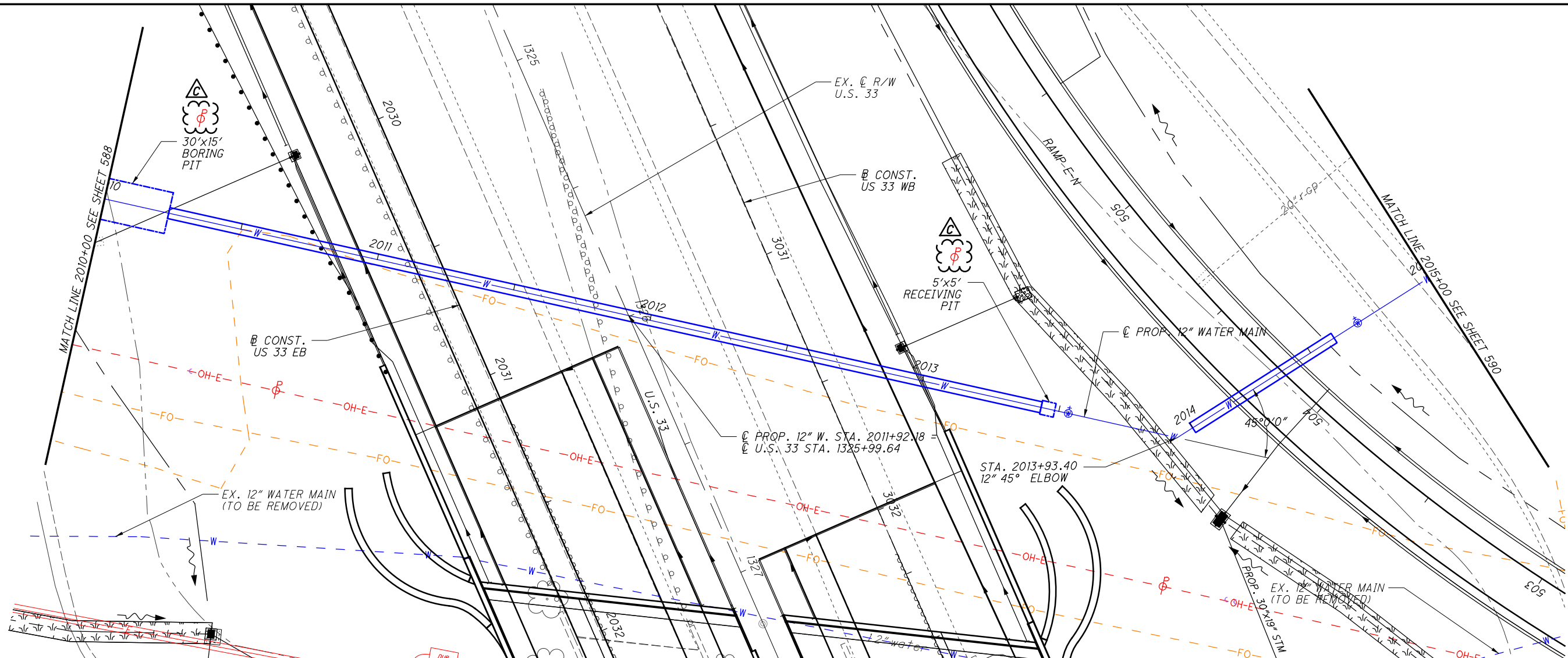


NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022



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NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022



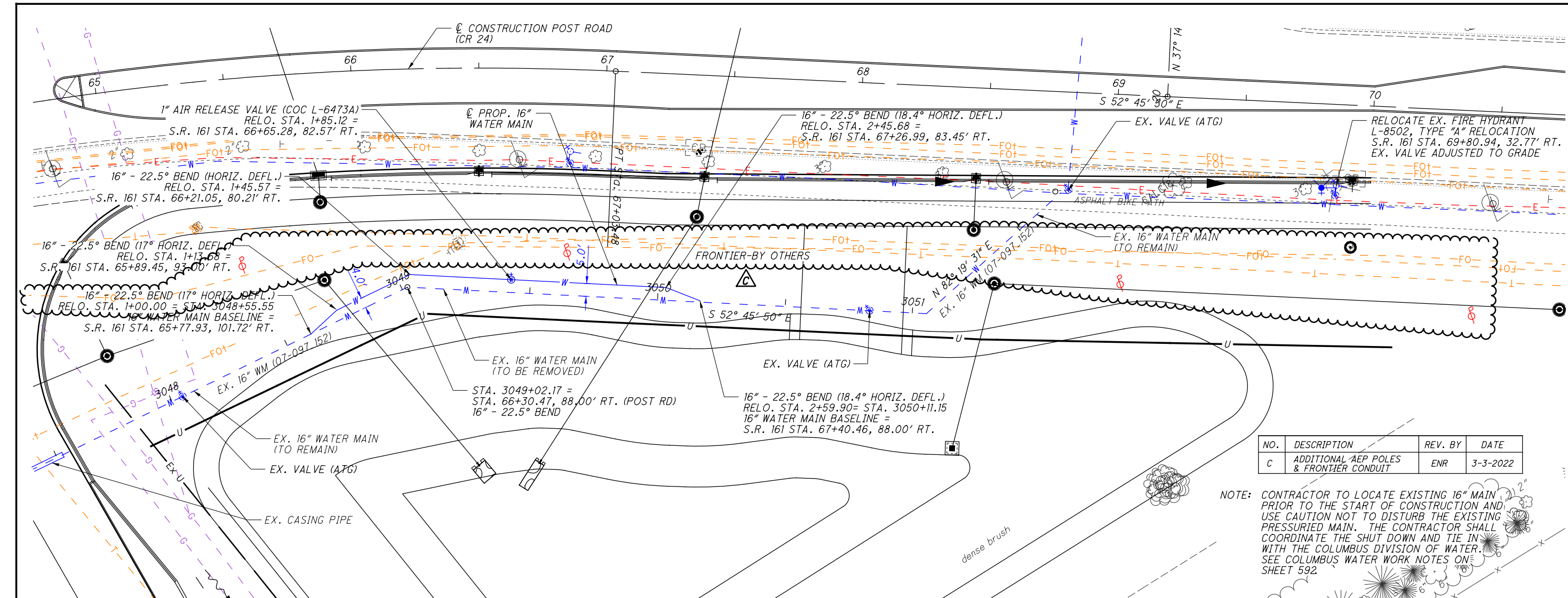
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WATER WORK PLAN - MARYSVILLE 12" MAIN  
STA. 2010+00.00 TO STA. 2015+00.00

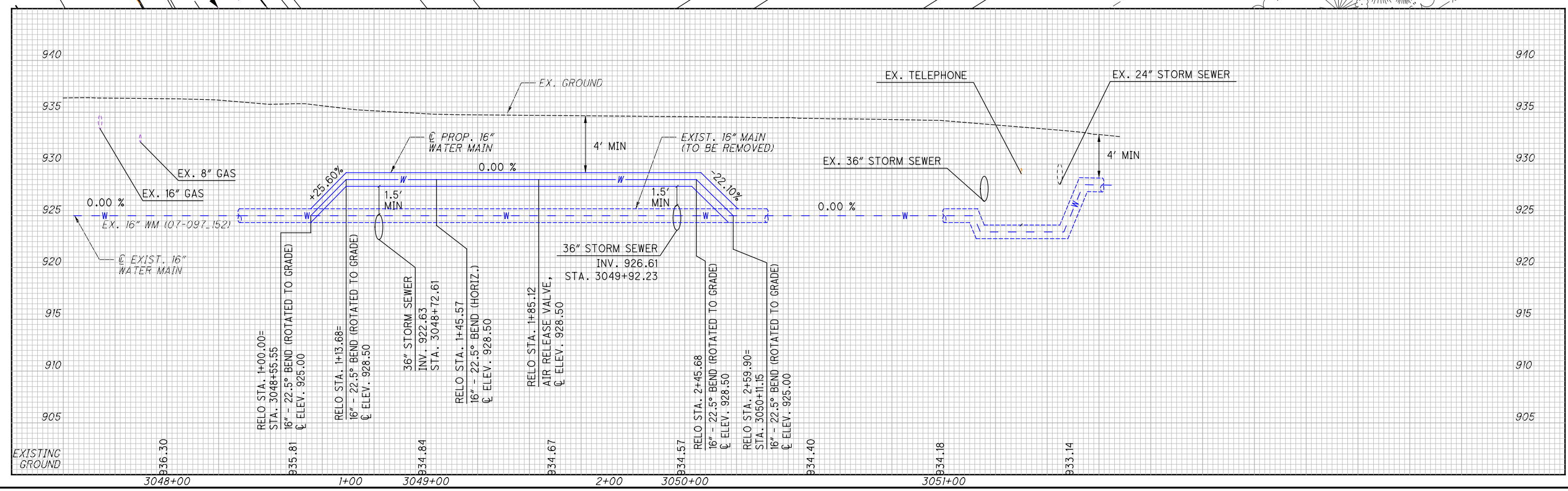
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NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022

NOTE: CONTRACTOR TO LOCATE EXISTING 16" MAIN PRIOR TO THE START OF CONSTRUCTION AND USE CAUTION NOT TO DISTURB THE EXISTING PRESSURIZED MAIN. THE CONTRACTOR SHALL COORDINATE THE SHUT DOWN AND TIE IN WITH THE COLUMBUS DIVISION OF WATER. SEE COLUMBUS WATER WORK NOTES ON SHEET 592.



HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED ARL CHECKED JED

**WATER WORK PLAN - COLUMBUS 16" MAIN**  
**STA. 3047+50.00 TO STA. 3051+50.00**

**UNI-33-24.87**

594  
923

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NOTE:  
 36' MINIMUM RADIUS OF CURVATURE ON ALL ELECTRIC DUCT.  
 5' MINIMUM RADIUS ON ALL TELECOM DUCT.

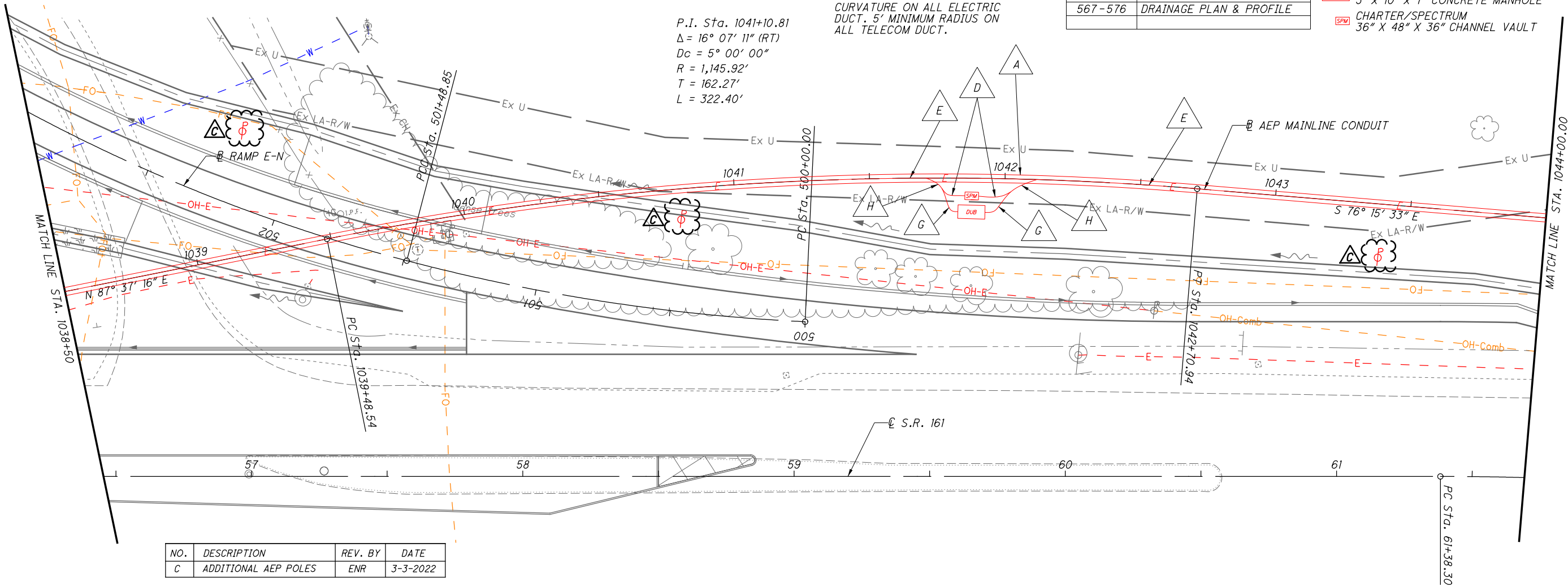
P.I. Sta. 1041+10.81  
 $\Delta = 16^\circ 07' 11''$  (RT)  
 $D_c = 5^\circ 00' 00''$   
 $R = 1,145.92'$   
 $T = 162.27'$   
 $L = 322.40'$

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
567-576	DRAINAGE PLAN & PROFILE

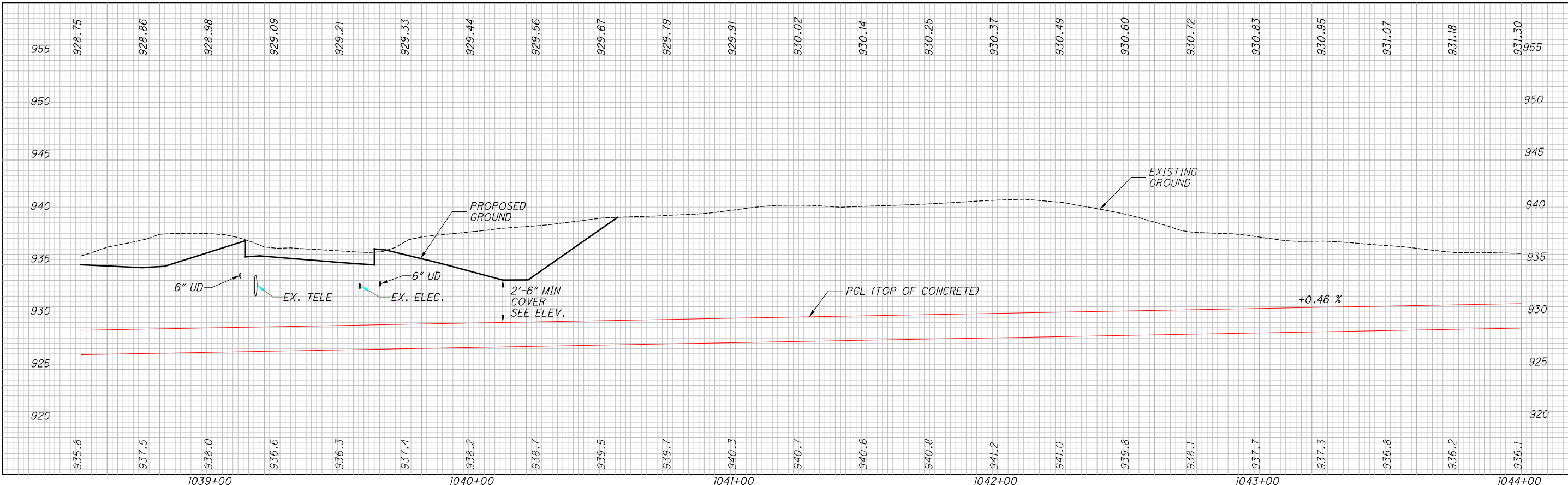
- DUB DUBLINK  
5' x 10' x 7' CONCRETE MANHOLE
- SPW CHARTER/SPECTRUM  
36" X 48" X 36" CHANNEL VAULT

CALCULATED ARL  
 CHECKED JED

0 20 40  
 HORIZONTAL SCALE IN FEET



NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022

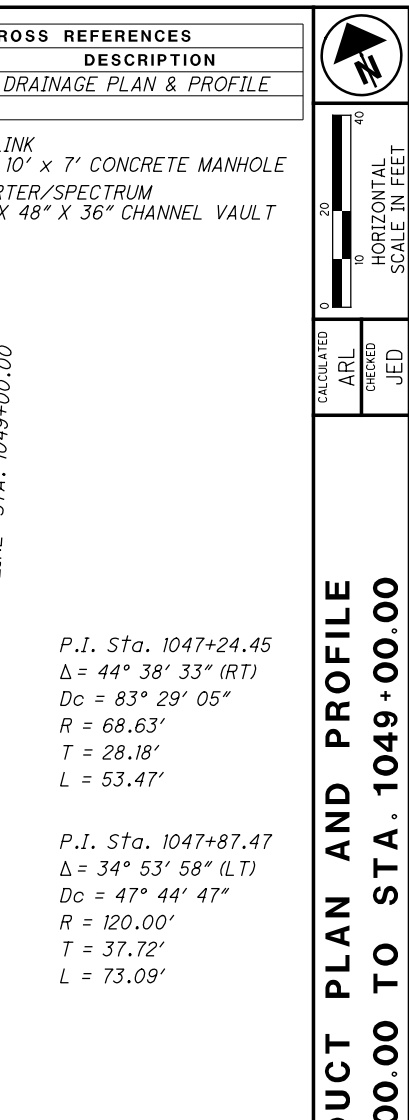
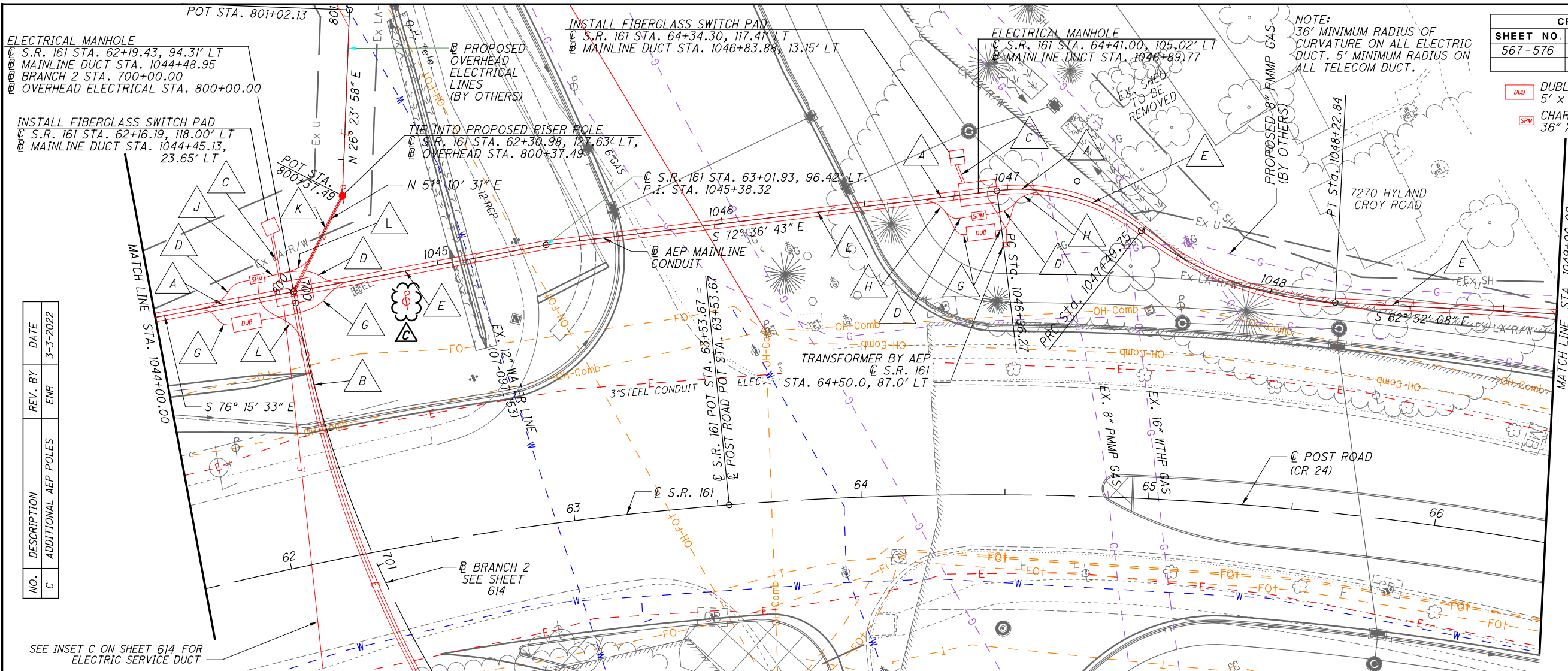


UTILITY DUCT PLAN AND PROFILE  
 STA. 1038+50.00 TO STA. 1044+00.00

UNI-33-24.87

611  
 923



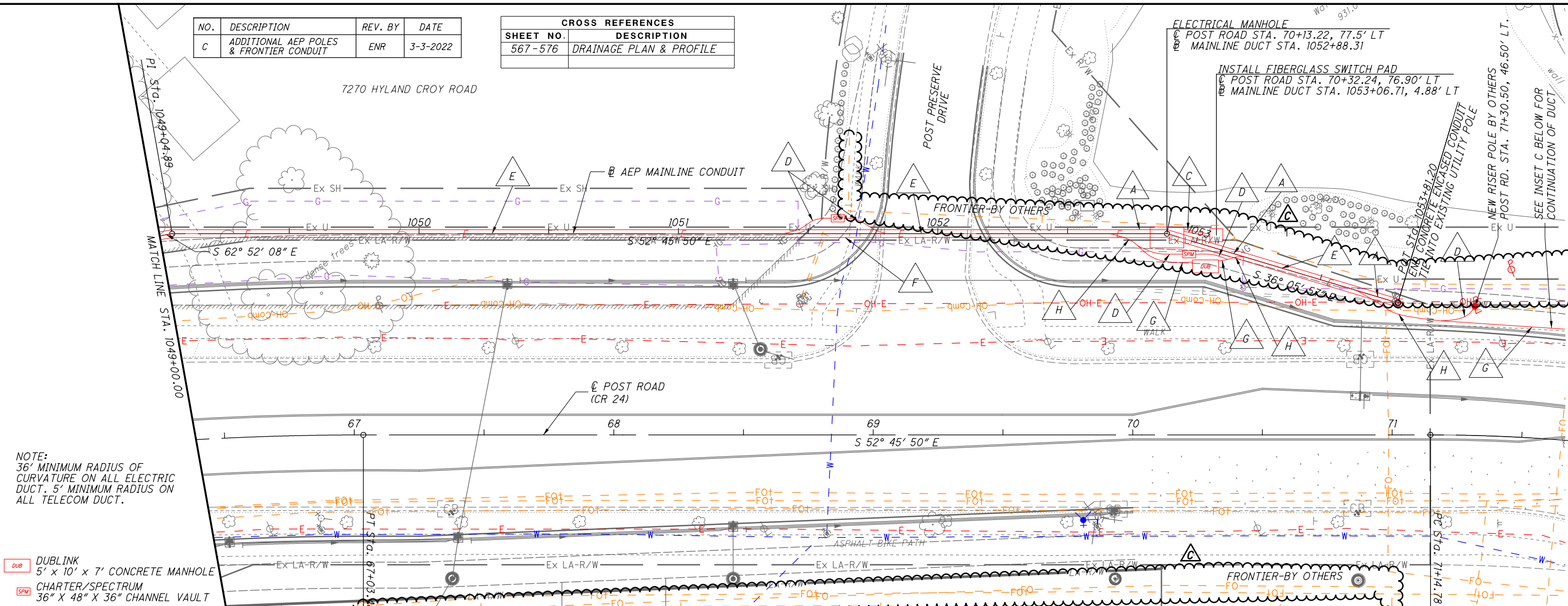


CALCULATED ARL CHECKED JED  
 HORIZONTAL SCALE IN FEET  
 0 20 40  
 UTILITY DUCT PLAN AND PROFILE  
 STA. 1044+00.00 TO STA. 1049+00.00  
 UNI-33-24.87  
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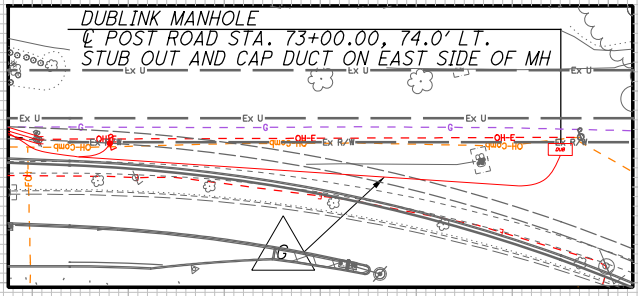
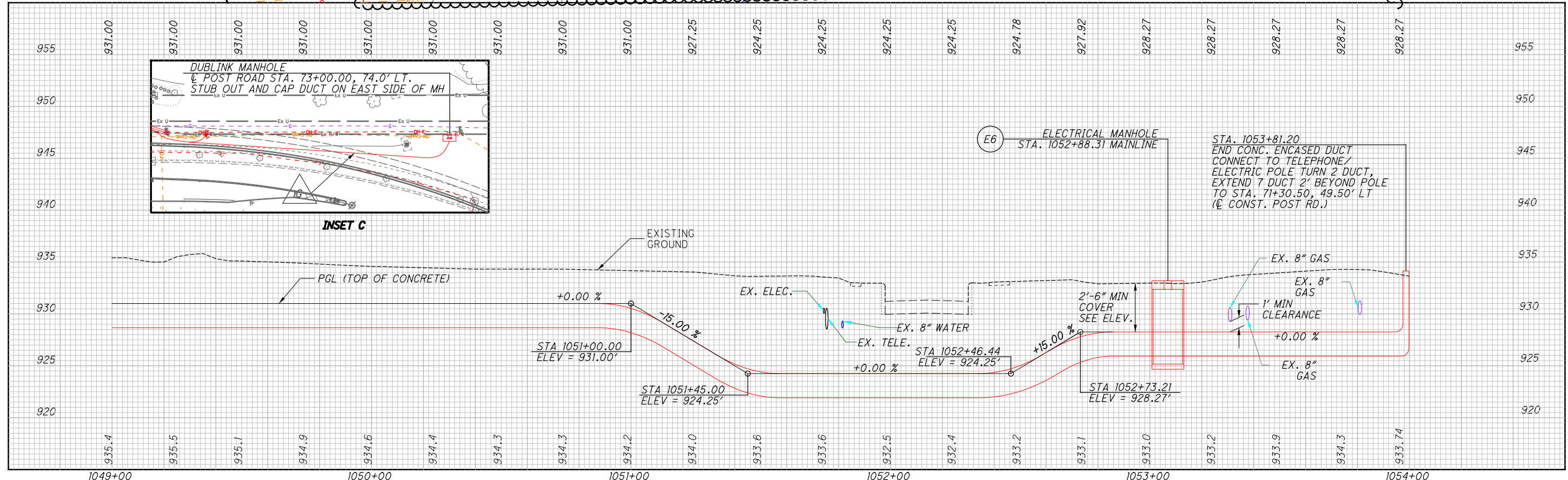
NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
567-576	DRAINAGE PLAN & PROFILE



NOTE:  
36' MINIMUM RADIUS OF CURVATURE ON ALL ELECTRIC DUCT. 5' MINIMUM RADIUS ON ALL TELECOM DUCT.

- DUB DUBLINK  
5' x 10' x 7' CONCRETE MANHOLE
- SPM CHARTER/SPECTRUM  
36" X 48" X 36" CHANNEL VAULT



ELECTRICAL MANHOLE  
 A POST ROAD STA. 70+13.22, 77.5' LT  
 B MAINLINE DUCT STA. 1052+88.31

INSTALL FIBERGLASS SWITCH PAD  
 A POST ROAD STA. 70+32.24, 76.90' LT  
 B MAINLINE DUCT STA. 1053+06.71, 4.88' LT

STA. 1053+81.20  
 END CONC. ENCASED DUCT  
 CONNECT TO TELEPHONE/  
 ELECTRIC POLE TURN 2 DUCT,  
 EXTEND 7 DUCT 2' BEYOND POLE  
 TO STA. 71+30.50, 49.50' LT  
 (CONST. POST RD.)

CALCULATED  
 ARL  
 CHECKED  
 JED

0 10 20 40  
 HORIZONTAL  
 SCALE IN FEET

UTILITY DUCT PLAN AND PROFILE  
 STA. 1049+00.00 TO STA. 1053+99.14

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
567-576	DRAINAGE PLAN & PROFILE



CALCULATED  
ARL  
CHECKED  
JED

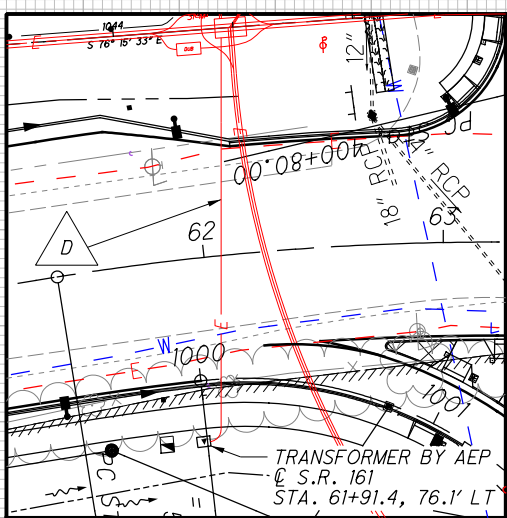
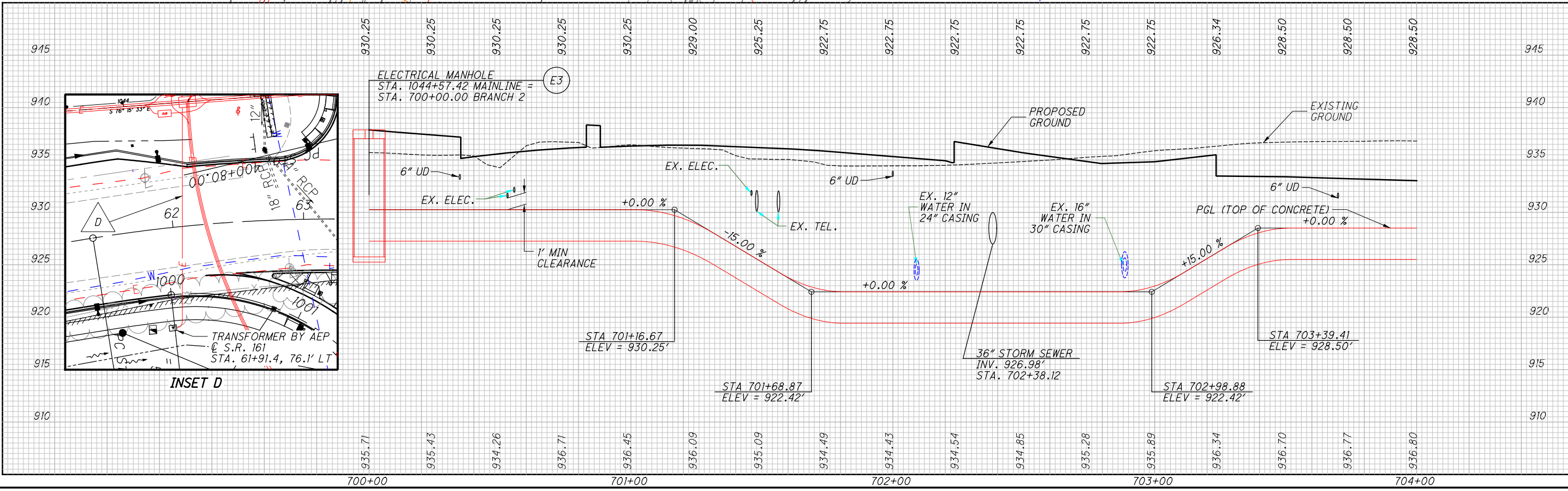
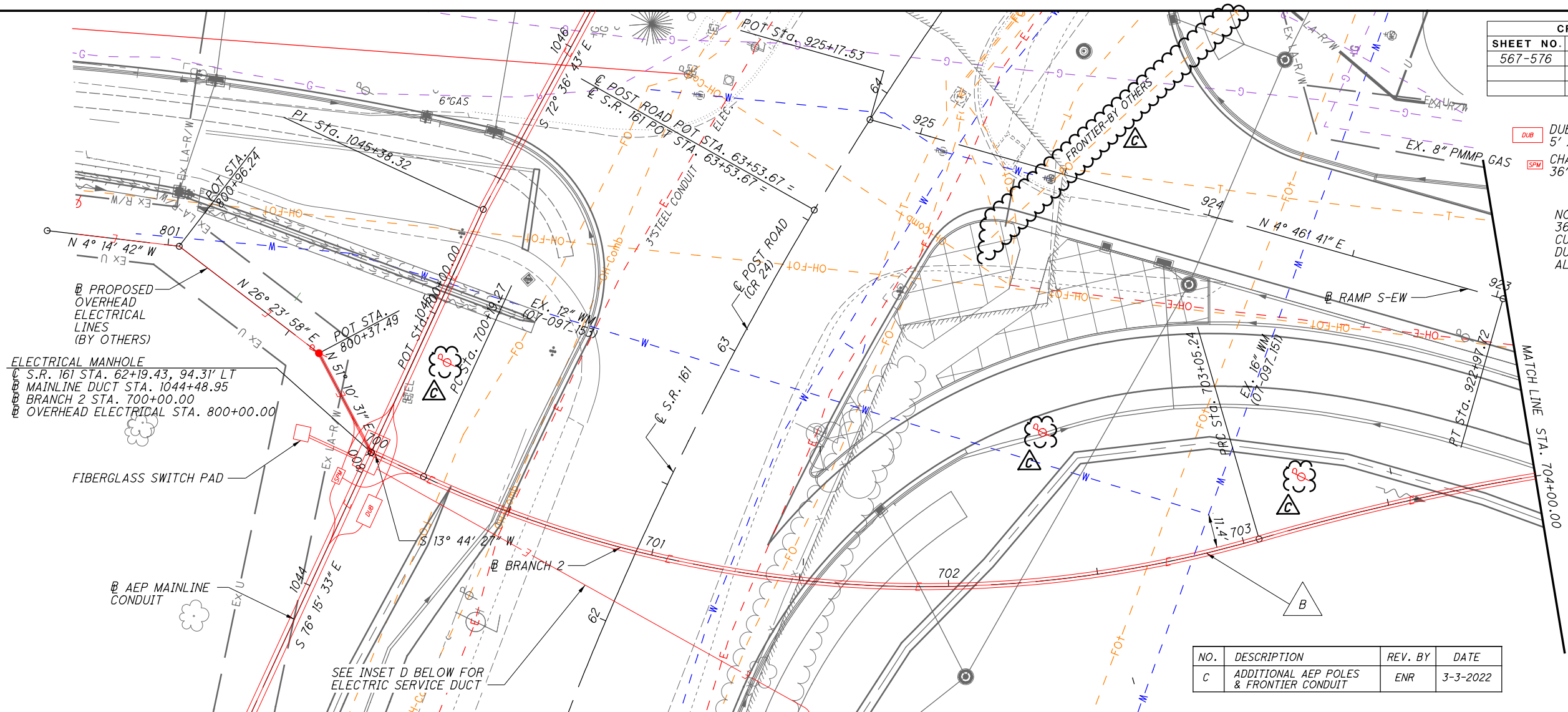
- DUB DUBLINK  
5' x 10' x 7' CONCRETE MANHOLE
- SPV CHARTER/SPECTRUM  
36" x 48" x 36" CHANNEL VAULT

NOTE:  
36' MINIMUM RADIUS OF CURVATURE ON ALL ELECTRIC DUCT. 5' MINIMUM RADIUS ON ALL TELECOM DUCT.

P.I. Sta. 701+68.67  
Δ = 40° 57' 48" (LT)  
Dc = 14° 19' 26"  
R = 400.00'  
T = 149.41'  
L = 285.98'

P.I. Sta. 704+25.03  
Δ = 17° 01' 51" (RT)  
Dc = 7° 09' 43"  
R = 800.00'  
T = 119.78'  
L = 237.80'

NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES & FRONTIER CONDUIT	ENR	3-3-2022



INSET D

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UTILITY DUCT PLAN AND PROFILE  
STA. 700+00.00 TO STA. 704+00.00

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NO.	DESCRIPTION	REV. BY	DATE
C	ADDITIONAL AEP POLES	ENR	3-3-2022

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
567-576	DRAINAGE PLAN & PROFILE

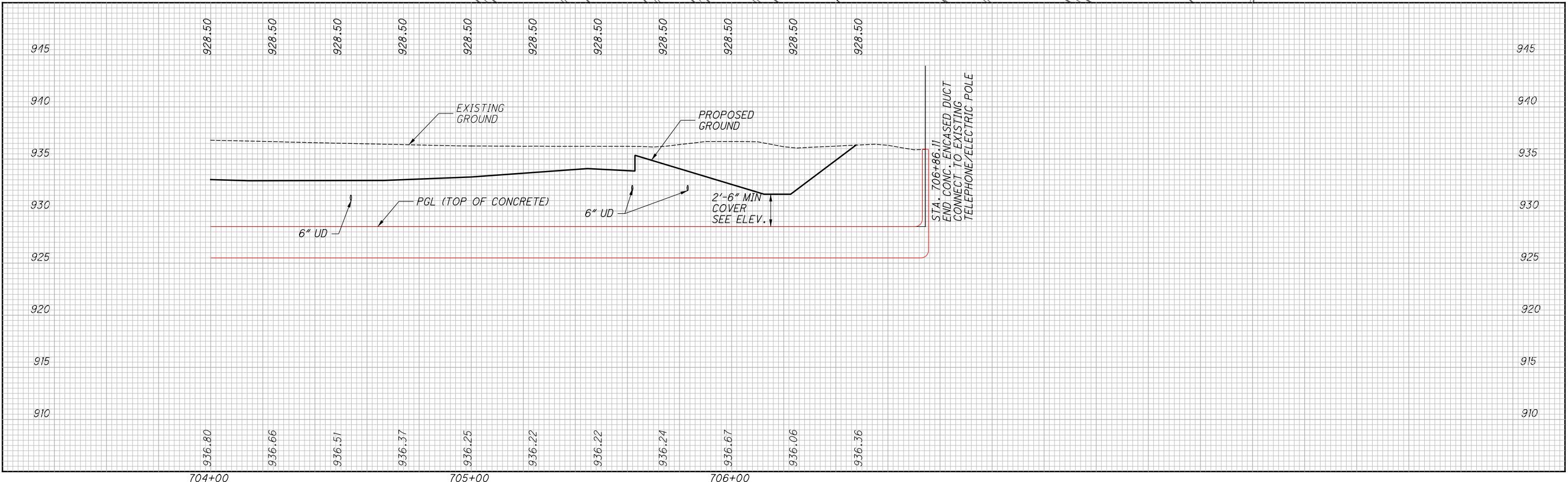
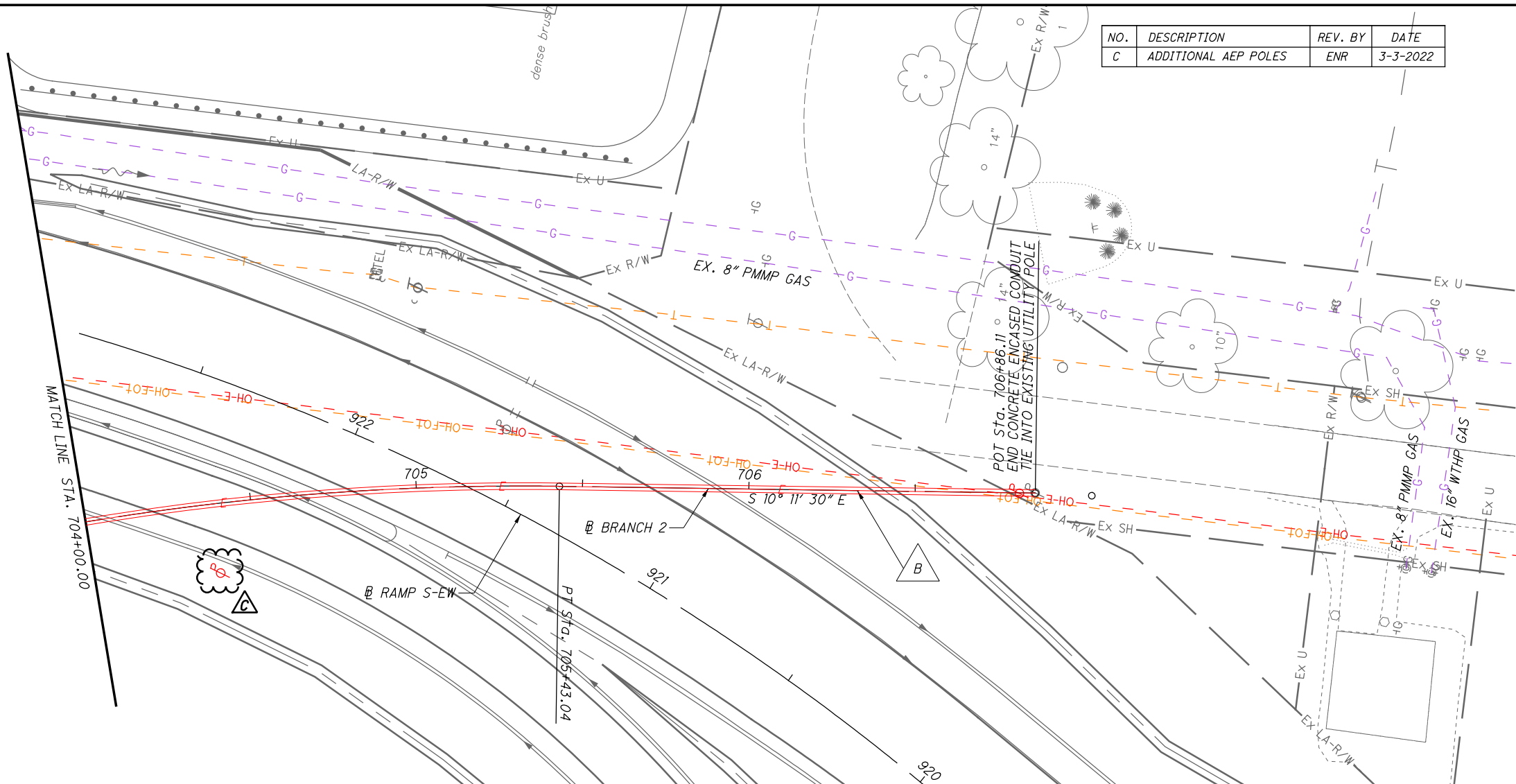

  

  
 HORIZONTAL SCALE IN FEET

- DUB DUBLINK  
5' x 10' x 7' CONCRETE MANHOLE
- SPV CHARTER/SPECTRUM  
36" X 48" X 36" CHANNEL VAULT

NOTE:  
36' MINIMUM RADIUS OF CURVATURE ON ALL ELECTRIC DUCT.  
5' MINIMUM RADIUS ON ALL TELECOM DUCT.

P.I. Sta. 704+25.03  
 $\Delta = 17^\circ 01' 51''$  (RT)  
 $D_c = 7^\circ 09' 43''$   
 $R = 800.00'$   
 $T = 119.78'$   
 $L = 237.80'$

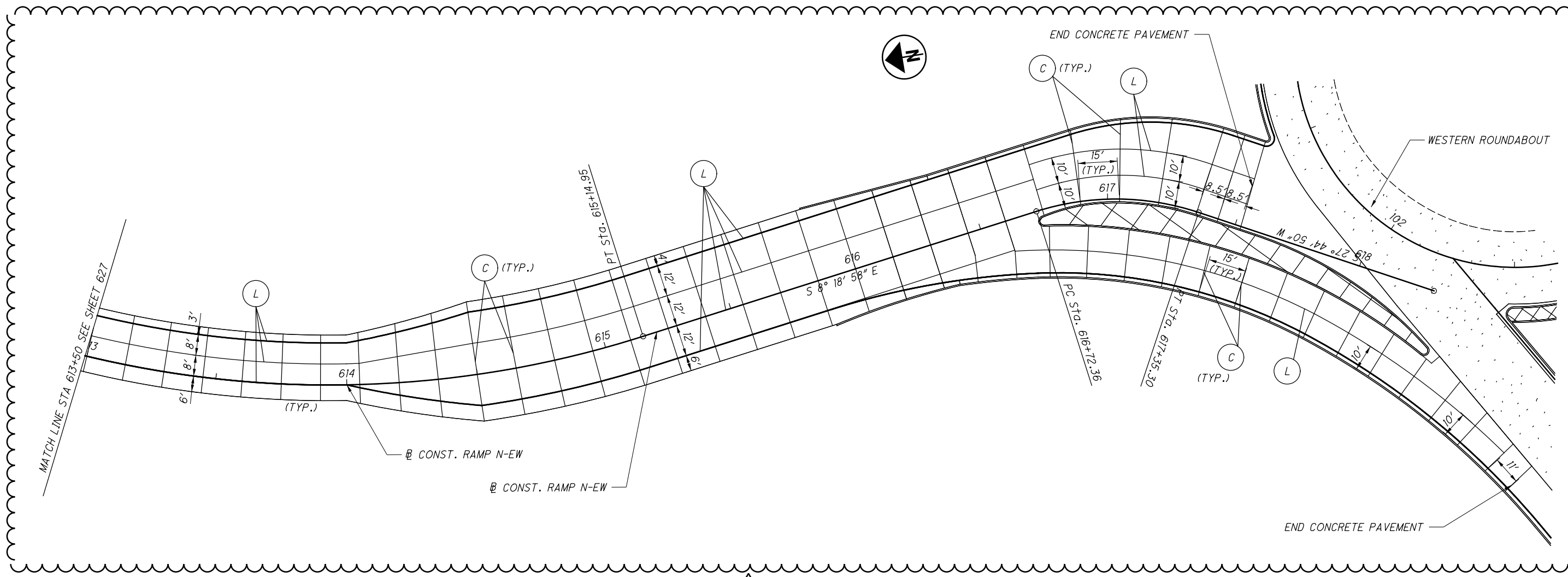


UTILITY DUCT PLAN AND PROFILE  
 STA. 704+00.00 TO STA. 706+74.43

UNI-33-24.87

615  
923

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NO.	DESCRIPTION	REV. BY	DATE
C	TURNED OFF LEVELS	ENR	3-3-2022

FOR LEGEND, SEE SHEET 627

CALCULATED  
MDV  
CHECKED  
MAH

**PAVEMENT JOINT DETAIL - RAMP N-EW**  
**STA. 613+50 TO STA. 618+03**

**UNI - 33 - 24.87**

628  
923

**ITEM 630 - SIGN, STREET NAME, AS PER PLAN**

THE ROUNDABOUT STREET NAME SIGNS SHALL BE MANUFACTURED TO THE CURRENT CITY OF DUBLIN RD15 STANDARD DRAWING.

THE ALUMINUM SIGN BLANK SHALL BE 12 INCHES IN HEIGHT. THE LEGEND SHALL BE WHITE IN COLOR ON FOREST BROWN BACKGROUND. THE LETTERING SHALL BE 10 INCH CAPITAL LETTERS FOR THE STREET NAME AND 5 INCH CAPITAL LETTERS FOR THE STREET NAME SUFFIX. THE WHITE CHEVRON SHALL BE PROPORTIONAL TO THE CHEVRON USED ON THE W1-8 SIGN, BUT TO THE HEIGHT SHOWN IN THE DETAIL BELOW. THE FONT FOR ALL LETTERING SHALL BE HIGHWAY GOTHIC, SERIES C. THE SIGNS SHALL BE DOUBLE POSTED AND MOUNTED 5 FEET ABOVE THE GROUND.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE UNIT PRICE BID PER EACH SIGN FABRICATED, INCLUDING ALL NECESSARY HARDWARE TO PROPERLY MOUNT SIGN ON SUPPORTS.



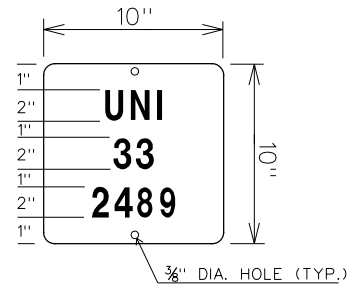
**ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN**

**ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST**

THESE ITEMS SHALL BE USED TO PLACE NEW STRUCTURE IDENTIFICATION SIGNS AT THE FOLLOWING BRIDGE STRUCTURES: UNI-33-2489

EACH SIGN SHALL BE ATTACHED TO THE CONCRETE PARAPET WITH CONCRETE ANCHORS AT THE RIGHT, REAR (AND FORWARD LEFT IF TWIN BRIDGES) LOCATION. IF THE BRIDGE DOES NOT HAVE A CONCRETE PARAPET, THE SIGN SHALL BE POST MOUNTED TO ONE NEW NO. 2 POST AS PER CONSTRUCTION DRAWING TC-41.20 MOST CURRENT REVISION USING TWO 5/16" ALUMINUM BOLTS 2 1/2" IN LENGTH. THE POST SHALL BE 7'-0" LONG. IN SOME CASES, THE SIGN SHOULD ALSO BE ADDED TO THE BRIDGE PIER(S) BELOW.

SIGNS SHALL BE SIZED AS PER EXAMPLE. SIGNS SHALL BE ALUMINUM AND HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND AS PER CMS 730.20. THE LETTERS SHALL BE BLACK 2" IN HEIGHT, SERIES C STROKE WIDTH, AND SILK SCREENED AS PER CMS 730.22.



**ITEM 630 - OVERHEAD SIGN SUPPORT, BY TYPE, BY DESIGN, AS PER PLAN**

THE OVERHEAD SIGN SUPPORTS ON S.R. 161/POST ROAD SHALL BE POWDER-COATED TO MATCH THE CITY OF DUBLIN STANDARD FOR POLE PAINT COLOR (DUBLIN BRONZE). THE PAINT SHALL BE A POWDER POLYESTER PAINT FINISHED TO A GLOSS OF 35 PERCENT (AT 60 DEGREES) OVER THE GALVANIZED POLES. PAINT CHIP SAMPLE MUST BE SUBMITTED TO THE CITY ENGINEER AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS FOR REVIEW AND APPROVAL ALONG WITH SHOP DRAWINGS FOR ALL COMPONENTS.

ALL EXPOSED SURFACES (INCLUDING, BUT NOT LIMITED TO THE SUPPORTS, ARMS, ARM CAPS, UPPER CHORD, DIAGONALS, BRACES, AND ALL MOUNTING HARDWARE SHALL BE FACTORY PREPARED UNDER THE FOLLOWING SPECIFICATIONS OR AN APPROVED EQUAL:

1. SANDBLAST TO A SSPC-SP7 BRUSH BLAST.
2. PRIME 1 COAT TILE CLAD II HI-BUILD PRIMER - B62 N71/B60V70 3 TO 4 MILS D.F.T.
3. FINISH 1 COAT POLANE POLYURETHANE ENAMEL - 1 TO 1.5 MILS D.F.T.

IF DURING TRANSPORTATION, ERECTION, OR INSTALLATION OF SIGN HARDWARE, OR AT ANY TIME BEFORE FINAL ACCEPTANCE THE PAINTED SURFACES ARE SCRATCHED OR MARRED IN ANY MANNER, THE CONTRACTOR SHALL BE REQUIRED TO APPLY "TOUCH-UP" PAINT OF THE SAME TYPE AS SPECIFIED ABOVE TO THE AFFECTED AREAS.

PAYMENT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EACH ITEM 630 - OVERHEAD SIGN SUPPORT, BY TYPE, BY DESIGN, AS PER PLAN.

**TC-12.31 BASE PLATE CONNECTION:**  
ALL REFERENCE ITEMS THAT REFER TO THE TC-12.31 STANDARD DRAWING SHALL HAVE BASE CONNECTION FABRICATED AS PER THE "STANDARD BASE DESIGN" WHICH UTILIZES COMPLETE JOINT PENETRATION (CJP) WELDS.

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EMW  
CHECKED  
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SIGNING AND PAVEMENT MARKING NOTES

UNI-33-24.87

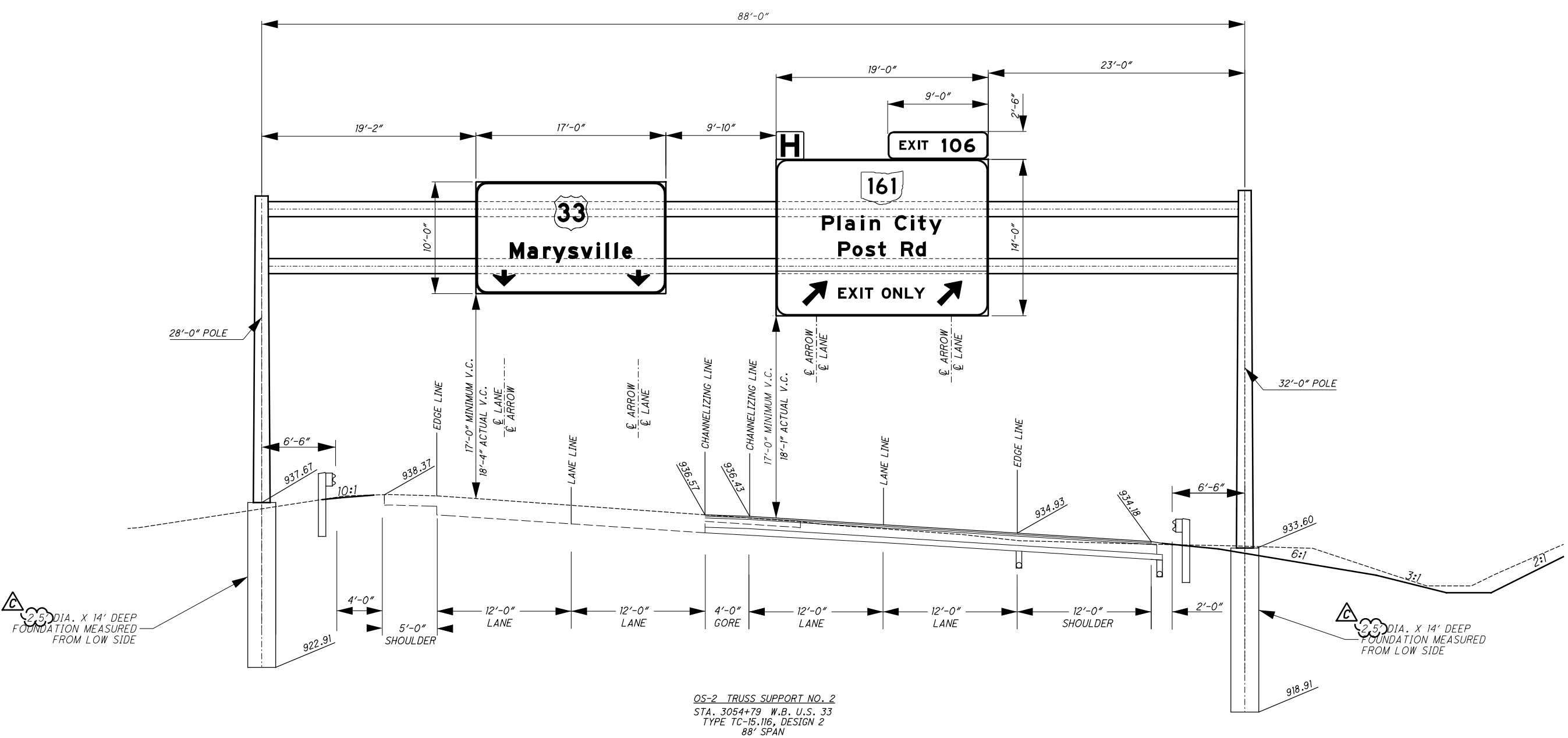
653  
923

NO.	DESCRIPTION	REV. BY	DATE
C	ADDED NOTE	ENR	3-3-2022







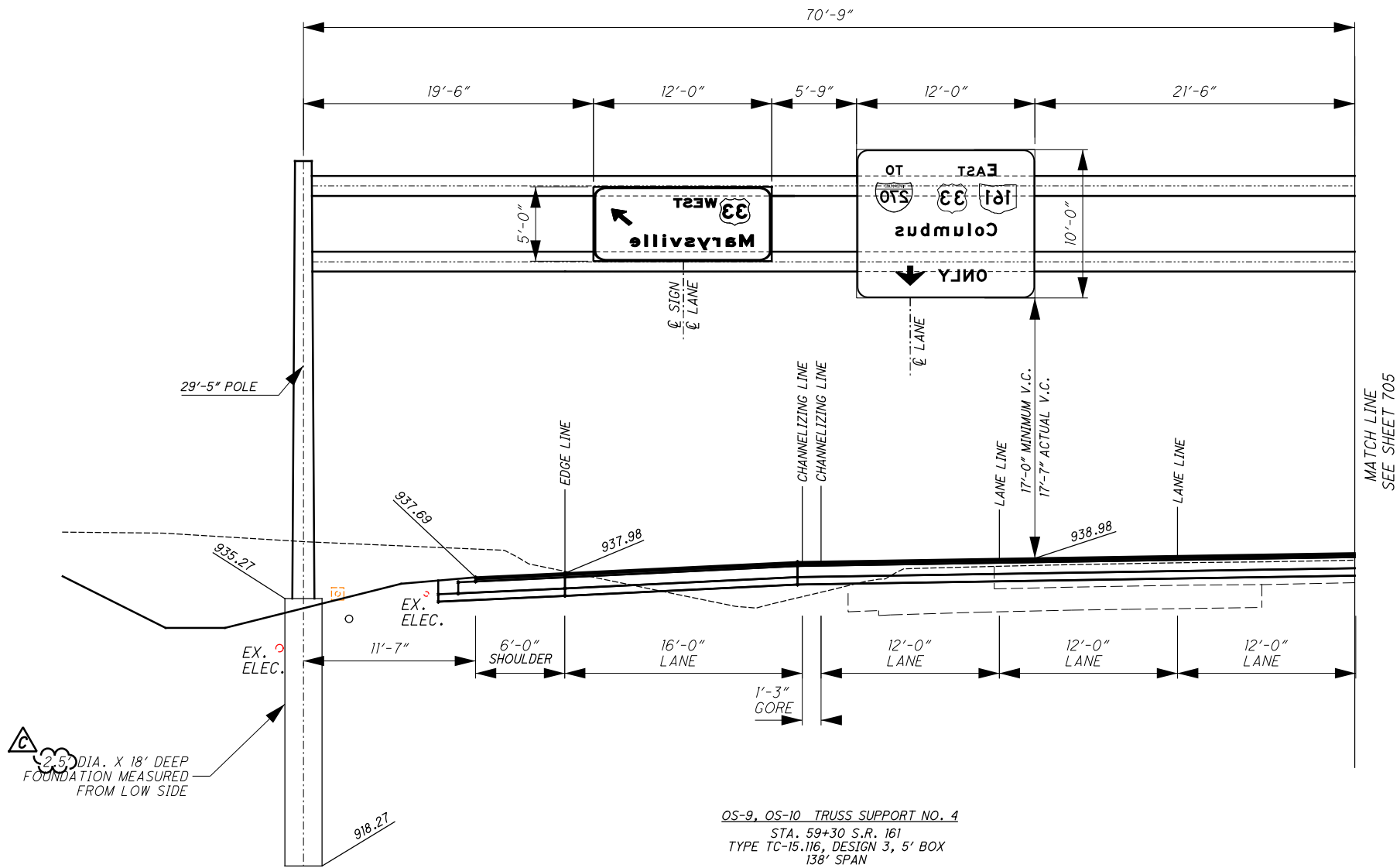


TRUSS SIGN ELEVATION DETAILS

UNI-33-24.87

NO.	DESCRIPTION	REV. BY	DATE
C	NOTE UPDATES	ENR	3-3-2022

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C 2.5' DIA. X 18' DEEP  
FOUNDATION MEASURED  
FROM LOW SIDE

NO.	DESCRIPTION	REV. BY	DATE
C	NOTE UPDATES	ENR	3-3-2022

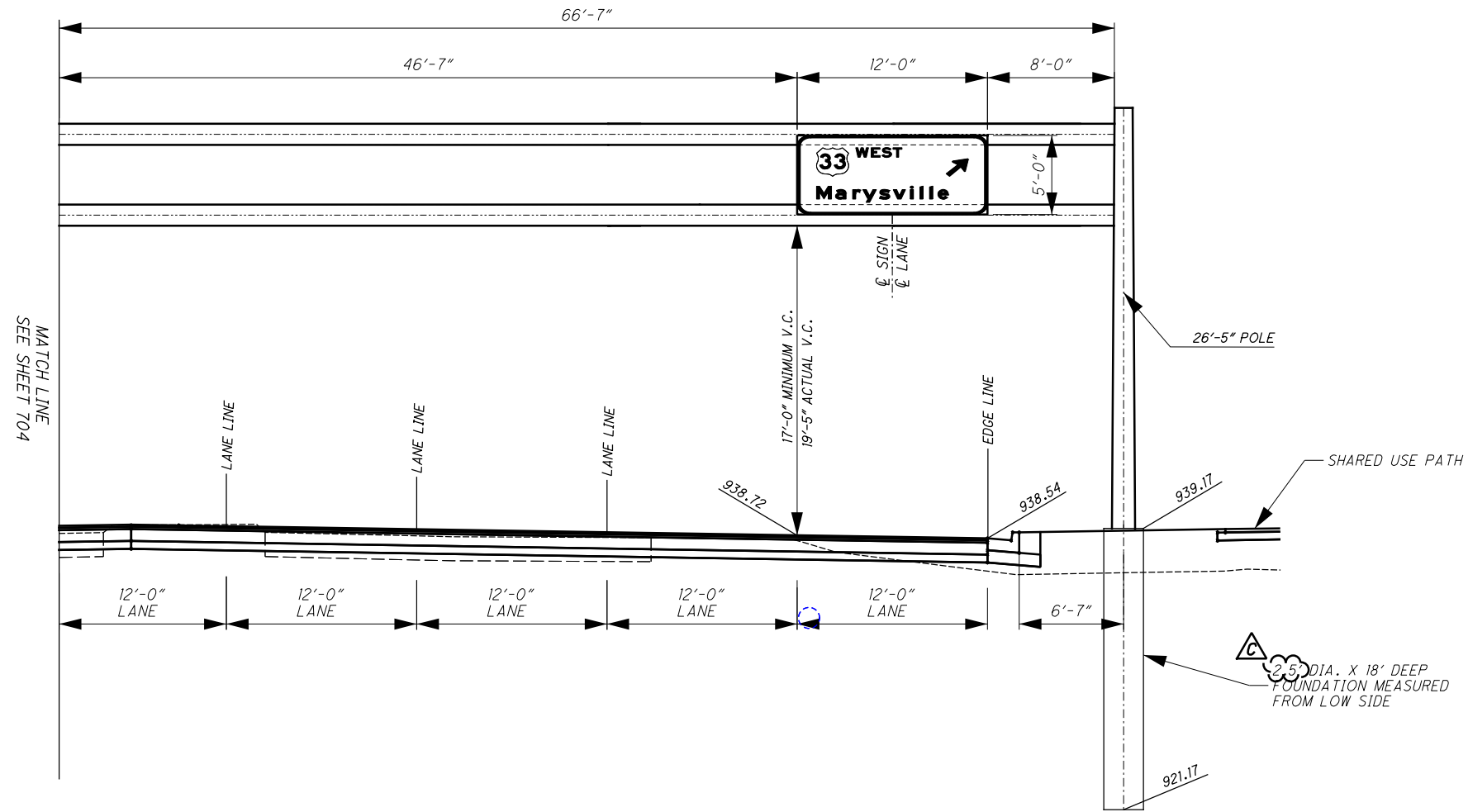
TRUSS SIGN ELEVATION DETAILS

UNI-33-24.87

704  
923

CALCULATED	EMW	CHECKED	SLT
2.5' HORIZONTAL SCALE IN FEET			

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QS-11 TRUSS SUPPORT NO. 4  
 STA. 59+30 S.R. 161  
 TYPE TC-15.116, DESIGN 3, 5' BOX  
 138' SPAN

NO.	DESCRIPTION	REV. BY	DATE
C	NOTE UPDATES	ENR	3-3-2022

CALCULATED	EMW	CHECKED	SLT

2.5' HORIZONTAL SCALE IN FEET

TRUSS SIGN ELEVATION DETAILS

UNI - 33 - 24.87

705  
923

**ITEM 625 PULL BOX, MISC.: PULL BOX ADJUSTED TO GRADE**

IN ADDITION TO THE REQUIREMENTS OF 625.11, THE EXISTING PULL BOX SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR. THE CABLES GOING THROUGH THE PULL BOX SHALL NOT BE DISCONNECTED AND EXISTING CONDUITS SHALL NOT BE MOVED. THE FOLLOWING GUIDELINES SHALL BE FOLLOWED UNLESS OTHERWISE DIRECTED BY THE ENGINEER:

IF ADJUSTING THE PULL BOX UP, THE PULL BOX ITSELF SHALL STAY WHERE IT IS AND ONLY THE RING AND LID ADJUSTED. IF RAISING A MAXIMUM OF 1 FOOT, BRICK AND MORTAR SHALL BE USED AROUND THE TOP OF THE PULL BOX OR BY CUTTING A CASTING FROM ANOTHER PULL BOX AND PLACING IT ON TOP WITH MORTAR AND REPLACING THE LID TO THE APPROPRIATE LEVEL. IF ADJUSTING THE PULL BOX MORE THAN 1 FOOT, PULL OUT AND RESET THE PULL BOX AND RAISE THE CONDUITS AND AGGREGATE TO THE APPROPRIATE HEIGHT. NEW ANCHOR BOLTS SHALL BE SET. THE STAINLESS STEEL CLIPS MAY BE REUSED IF THEY ARE IN GOOD CONDITION. IF NOT THEY SHALL ALSO BE REPLACED.

IF ADJUSTING THE PULL BOX DOWN, THE PULL BOX SHALL BE REMOVED AND RESET ON NEW AGGREGATE BASE SO IT IS STILL THE CORRECT THICKNESS AS THE STANDARD CONSTRUCTION DRAWING CALLS FOR. CREATE NEW KNOCKOUTS IN THE PULL BOX IF NECESSARY TO AVOID DISTURBING THE CONDUITS.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER EACH PULL BOX ADJUSTED TO GRADE AND SHALL INCLUDE ALL LABOR, MATERIALS, CONNECTIONS AND INCIDENTALS REQUIRED TO ADJUST EACH PULL BOX.

**ITEM 804 FIBER OPTIC CABLE, MISC.: FIBER OPTIC CABLE REMOVED AND RE-PULLED**

EXISTING FIBER OPTIC INTERCONNECT CABLE ALONG US-33 AND POST RD SHALL BE REMOVED FROM THE EXISTING CONDUIT FOR REINSTALLATION THE PROPOSED CONDUIT SYSTEM WHERE SHOWN IN THE PLANS.

PRIOR TO RELOCATION, THE CONTRACTOR AND THE ENGINEER SHALL INSPECT THE CABLE TO DOCUMENT ITS CONDITION. DAMAGE IDENTIFIED AS OCCURRING DURING THE RELOCATION PROCESS WILL BE PRESUMED TO BEEN CAUSED BY THE CONTRACTOR. IN THE EVENT OF CABLE DAMAGE CAUSED BY THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL REPLACE THE ENTIRE RUN OF CABLE BETWEEN EXISTING TERMINATION POINTS AT THE CONTRACTOR'S EXPENSE. ADDITIONAL CABLE SPLICES BEYOND THOSE SHOWN IN THE PLANS WILL NOT BE PERMITTED.

FIBER OPTIC CABLE SHALL BE INSTALLED IN FULL ACCORDANCE WITH SPECIFICATIONS AS DESCRIBED IN ODOT C&MS 804.

REESTABLISHING COMMUNICATION FUNCTIONALITY FOR EACH RELOCATED CABLE SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM OF WORK.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER FOOT OF CABLE AND SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO REMOVE AN RE-PULL THE CABLE.

**ITEM 809 ITS DEVICE, MISC.: CCTV EQUIPMENT REMOVED AND REERECTED**

THIS ITEM OF WORK SHALL CONSIST OF REMOVING ALL OF THE EXISTING EQUIPMENT ON THE CCTV POLE INCLUDING THE FIXED CAMERAS AND REERECTING IT WHERE SHOWN IN THE PLANS.

THE FIXED CAMERAS SHALL BE REMOVED AND DELIVERED TO DRIVEOHIO FOR REINSTALLATION. CONTACT NICK HEGEMIER AT 740-272-8462 AT DRIVEOHIO FOR COORDINATION.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER EACH CCTV POLE AND SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO REMOVE THE EQUIPMENT FROM THE POLE AND ATTACH EQUIPMENT TO THE NEW POLE AND INCLUDES TESTING AND ACCEPTANCE ONCE OPERATIONAL AND DELIVER ALL OF THE FIXED CAMERAS.

**ITEM 809 - ITS CABINET, GROUND MOUNTED, AS PER PLAN**

THIS ITEM OF WORK SHALL CONSIST OF REMOVING THE EXISTING CCTV CABINET INCLUDING ALL EQUIPMENT AND REERECTING THE CABINET WHERE SHOWN IN THE PLANS.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER EACH AND SHALL INCLUDE ALL LABOR, MATERIALS, CONNECTIONS, INCIDENTALS REQUIRED TO REMOVE AND REERECT THE CABINET INCLUDING TESTING AND ACCEPTANCE ONCE OPERATIONAL.

**ITEM 625 - POWER SERVICE, AS PER PLAN**

ELECTRICAL POWER SHALL BE OBTAINED FROM AEP. THE AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120/240 VOLTS. INSTALL PER SCD ITS-15.10 OR ITS-15.11.

**ITEM 625 - PULL BOX REMOVED, AS PER PLAN**

REMOVAL OF A PULL BOX SHALL BE DONE SO WITH CARE. DELIVER PULL BOXES APPROVED BY THE ENGINEER AS IN GOOD CONDITION TO:

ODOT ITS  
1606 W. BROAD STREET  
COLUMBUS, OHIO 43223

DISPOSE OF THE PULL BOXES DEEMED TO BE IN LESS THAN GOOD CONDITION.

PAYMENT FOR ITEM 625 - PULL BOX REMOVED, AS PER PLAN SHALL BE PAID FOR AT THE BID PRICE PER EACH INCLUDING DELIVERY OR DISPOSAL.

**ITEM 625 - PULL BOX, 725.08, 32", AS PER PLAN**

IN ADDITION TO THE 625 REQUIREMENTS THE 32" PULL BOXES SHALL BE INSTALLED PER ODOT STANDARD CONSTRUCTION DRAWING ITS-14.11.

**ITEM 809 ITS DEVICE, MISC.: CCTV POLE REMOVED AND DELIVERED**

THIS ITEM OF WORK SHALL CONSIST OF REMOVING THE EXISTING CCTV POLE WHERE SHOWN IN THE PLANS.

THE CCTV POLE SHALL BE REMOVED AND DELIVERED TO ODOT ITS LAB/SIGN SHOP AT 1606 W BROAD ST, COLUMBUS OHIO 53223.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER EACH CCTV POLE AND SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO REMOVE THE POLE, AND DELIVER.

**ITEM 809 - CONDUIT, 4", MUL TICELL, HDPE WITH 4-1" INNERDUCTS**

**ITEM 809 - CONDUIT, MUL TICELL, JACKED OR DRILLED, 4"**

DESCRIPTION:  
THIS CONDUIT IS INTENDED FOR THE USE IN UNDERGROUND OR ENCASED INSIDE CONCRETE BARRIER WALL SITUATIONS REQUIRING MORE THAN ONE SINGLE CONDUIT. THIS INCLUDES THE MAIN CONDUIT RACEWAY ALONG THE FREEWAY, CONNECTION FROM PULL BOXES TO THE ROADSIDE CABINETS AND FOR RUNS OF CONDUIT FOR MULTIPLE PURPOSES, E.G., AT RAMP METER INSTALLATIONS, FOR LOOP LEAD-IN CABLE, SIGNALS CABLE FOR RAMP METER DISPLAYS, SIGNAL CABLE FOR RAMP METER SIGNING FLASHERS & ILLUMINATION AND POWER. THE CONTRACTOR SHALL PLUG ALL UNUSED CELLS WITH CONDUIT CAPS TO ASSURE AIR AND WATER INTEGRITY OF EACH INDIVIDUAL INNERDUCT.

MATERIALS:  
THE TRAFFIC SURVEILLANCE RACEWAY SHALL CONSIST OF A FACTORY-ASSEMBLED SYSTEM OF FOUR (4) INNERDUCTS ASSEMBLED WITHIN A PROTECTIVE OUTER DUCT. THE CONDUIT SHALL ADHERE TO 725.20 AND BE POLYVINYL CHLORIDE (PVC) SCHEDULE 40 OR 80, HIGH DENSITY POLYETHYLENE (HDPE), OR APPROVED EQUIVALENT. THE INNERDUCTS SHALL BE A MINIMUM OF 1.10 INCH INSIDE DIAMETER. THE OUTER DUCT SHALL BE NOMINAL 4 INCH INSIDE DIAMETER AND MAXIMUM OUTSIDE DIAMETER OF 4.8 INCH.

WHERE COUPLINGS ARE NEEDED, THE COUPLING SHALL BE DESIGNED IN A MANNER TO PERMIT EASY FIELD ASSEMBLY. THE COUPLING SHALL BE MARKED OR KEYED IN A MANNER TO ENSURE THE INNERDUCTS ARE PROPERLY ALIGNED, ANY COLOR CODES ARE CONTINUED, AND THE ADJOINING SECTION IS INSERTED TO THE PROPER DEPTH IN THE BELL. ALL KEYS AND/OR MARKINGS SHALL BE VISIBLE AFTER ASSEMBLY TO ALLOW THE INSPECTION OF EACH JOINT FOR PROPER ASSEMBLY BEFORE BURIAL. THE SEALING SYSTEM SHALL BE DESIGNED TO ASSURE AIR INTEGRITY OF EACH INDIVIDUAL INNERDUCT AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

WHERE INNERDUCT(S) WITHIN A MULTI-CELL DUCT ARE TO REMAIN EMPTY, 1-1/4-INCH NYLON ROPE SHALL BE INSTALLED IN EACH OF THE OPEN INNERDUCTS, THE ROPE WILL REMAIN TO BE USED FOR A FUTURE CABLE INSTALLATION. ALSO, EACH INNERDUCT SHALL BE PLUGGED TO MAINTAIN THE AIR AND WATER INTEGRITY. IN ADDITION, THE OUTER DUCT SHALL BE CAPPED TO MAINTAIN THE AIR AND WATER INTEGRITY OF THE ENTIRE SYSTEM. FOR MULTI-CELL DUCT INSTALLED IN MEDIAN WALLS, ALL ROPES AND PLUGS SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT.

INSTALLATION:  
FOR PVC CONDUITS, INSTALLATION WILL BE IN 30-INCH DEEP TRENCH, EXCEPT AS NOTED ON THE PLANS. PVC CONDUITS SHALL NOT BE INSTALLED INSIDE CONCRETE BARRIER WALL. ALL PVC MULTI-CELL CONDUIT INSTALLED OUTSIDE OF THE ROADWAY IN TRENCH SHALL BE SCHEDULE 40 UNLESS DIRECTED BY THE PROJECT ENGINEER.

FOR INSTALLATIONS UNDER ROADWAYS, INSTALLATION WILL BE AT LEAST 30 INCHES DEEP, JACKED OR DRILLED UNDER PAVEMENT, EXCEPT AS NOTED ON THE PLANS. ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL PVC MULTI-CELL CONDUIT INSTALLED UNDER THE ROADWAY SHALL BE SCHEDULE 80.

FOR HDPE CONDUITS, INSTALLATION WILL BE IN 30-INCH DEEP TRENCH, DRILLED OR PLOWED TO A MINIMUM OF 30 DEEP, ENCASED INSIDE CONCRETE BARRIER WALL, OR AS NOTED ON THE PLANS. THE HDPE CONDUIT SHALL BE INSTALLED IN CONTINUOUS LENGTHS WITHOUT JOINTS OR COUPLINGS BETWEEN PULL BOXES OR JUNCTION BOXES.

INSTALLATION WITHIN 6 FEET OF GUARDRAIL WILL BE AT LEAST 30 INCHES DEEP TRENCH AND ENCASED IN CONCRETE.

WHEN ENTERING A PULL BOX, CONDUIT SHALL BE BROUGHT IN 3 INCHES MINIMUM AND A MAXIMUM OF 6 INCHES FROM THE EDGE OF THE PULL BOX WALL KNOCKOUT.

METHOD OF MEASUREMENT:  
THE CONDUIT WILL BE MEASURED BY THE AMOUNT OF CONDUIT IN FEET FURNISHED AND INSTALLED OF EACH TYPE SCHEDULE 40 OR 80 MEASURED FROM CENTER-TO-CENTER OF PULL BOXES, FOUNDATION, ETC., AND WILL INCLUDE ALL FITTINGS AND APPURTENANCES, JOINTS, BENDS, GROUNDS AND CONCRETE ENCASEMENT WHERE SPECIFIED.

BASIS OF PAYMENT:  
THE PAYMENT FOR THESE ITEMS WILL BE MADE FOR THE ACCEPTED LINER FOOT QUANTITIES AT THE CONTRACT BID PRICE.

NO.	DESCRIPTION	REV. BY	DATE
C	REMOVED NOTE	EMW	3-3-2022

TRAFFIC SURVEILLANCE SUBSUMMARY

UNI-33-24.87

ITEM	EXTENSION	708	709	710	711	712	713	714	715	TOTAL	UNIT	DESCRIPTION	SEE SHEET
625	25408			32						32	FT	CONDUIT, 2", 725.051	
625	<del>25604</del>			45						45	FT	CONDUIT, 4", 725.051	
625	<del>29000</del>			308	565	675	232	534		2314	FT	TRENCH	
625	30700			1						1	EACH	PULL BOX, 725.08, 18"	
625	30711			2	3	2	3			10	EACH	PULL BOX, 725.08, 32", AS PER PLAN	706
625	32000			2						2	EACH	GROUND ROD (TRAFFIC SURVEILLANCE)	
625	31600	3	2						1	6	EACH	PULL BOX, MISC.: PULL BOX ADJUSTED TO GRADE	706
625	31511			7	1	1	2			11	EACH	PULL BOX REMOVED, AS PER PLAN	706
625	34001			1						1	EACH	POWER SERVICE, AS PER PLAN (TRAFFIC SURVEILLANCE)	706
632	68300			33						33	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
633	67100			1						1	EACH	CABINET FOUNDATION	
633	67200			1						1	EACH	CONTROLLER WORK PAD	
804	98000			301	565	675	232	534		2307	FT	FIBER OPTIC CABLE, MISC.: FIBER OPTIC CABLE REMOVED AND RE-PULLED	706
809	24000			235						235	FT	CONDUIT, MULTICELL, JACKED OR DRILLED	706
809	<del>24500</del>			262	565	675	232	534		2268	FT	CONDUIT, 4", MULTICELL, HDPE WITH 4 1/2" INNERDUCTS	706
809	<del>61002</del>			1						1	EACH	CCTV CONCRETE POLE, 70 FEET	
809	65001			1						1	EACH	ITS CABINET - GROUND MOUNTED, AS PER PLAN	706
809	65990			1						1	EACH	ITS DEVICE, MISC.: CCTV POLE REMOVED AND DELIVERED	706
809	65990			1						1	EACH	ITS DEVICE, MISC.: CCTV EQUIPMENT REMOVED AND REERECTED	706

NO.	DESCRIPTION	REV. BY	DATE
C	ITEM UPDATES	EMW	3-3-2022

PR418060a/fra/80748/signals/sheets/80748CND002.dgn

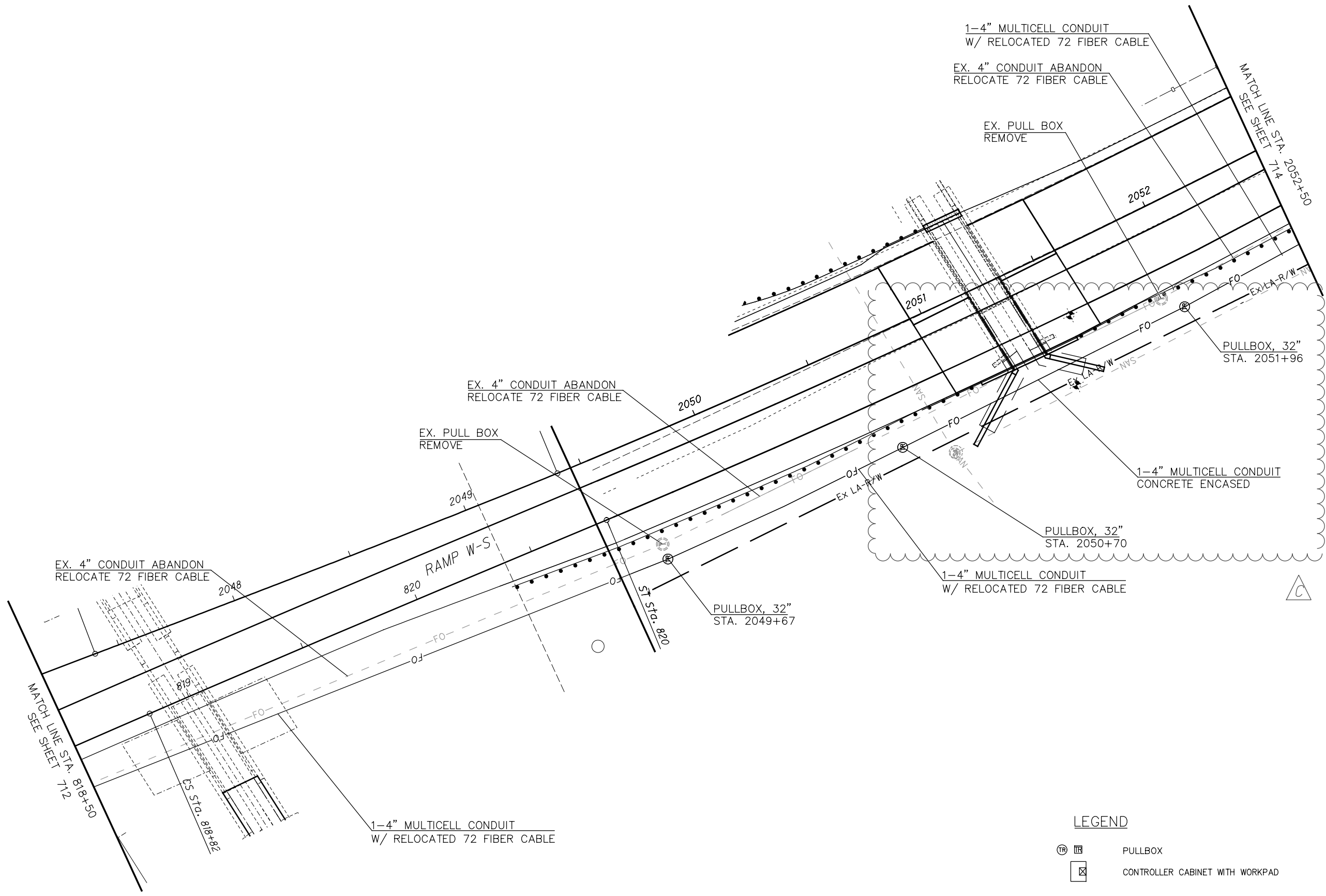


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EMW



**TRAFFIC SURVEILLANCE PLAN  
US33 EB ON RAMP (RAMP W-S)**

**UNI-33-24.87**

713  
923



**LEGEND**

-  PULLBOX
-  CONTROLLER CABINET WITH WORKPAD

NO.	DESCRIPTION	REV. BY	DATE
C	MOVED CONDUIT	EMW	3-3-22

**DESIGN SPECIFICATIONS:** THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, INCLUDING THE 2003 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN DATA:**  
QC/QA CONCRETE, CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

QC/QA CONCRETE, CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

**FOUNDATION BEARING PRESSURE:** FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 2.5 TONS PER SQUARE FOOT.

**ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:** THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

**CUT LINE CONSTRUCTION JOINT PREPARATION:** SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

**ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:** CULVERT AND WINGWALL BACKFILL EXCLUDING THE TOP 1 FOOT OF EMBANKMENT, SHALL BE CRUSHED GRANULAR MATERIAL MEETING THE REQUIREMENTS OF 304, BUT WITH LESS THAN 5 PERCENT PASSING THE NO. 200 SIEVE. THE TOP 1 FOOT OF EMBANKMENT SHALL BE BACKFILLED IN ACCORDANCE TO 503.08 USING EMBANKMENT MATERIALS CONFORMING TO 203.02R. BACKFILL SHALL BE PLACED SYMMETRICALLY ON BOTH SIDES OF THE CULVERT AND SIMULTANEOUSLY ALONG ITS ENTIRE LENGTH, AND SHALL NOT BE PLACED UNTIL AFTER THE SLAB IS IN PLACE. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH 503.08 EXCEPT PLACE IN 6-INCH (MAXIMUM) LOOSE LIFTS. THE LIMITS OF THE BACKFILL ARE AS SHOWN ON THESE PLANS. PAYMENT FOR GRANULAR BACKFILL SHALL BE INCLUDED IN ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN.

**MECHANICAL CONNECTORS:** AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE THE MINIMUM LAP LENGTH FOR THAT BAR AS SHOWN ON THE PLANS.

**EXISTING STRUCTURE VERIFICATION:** DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:** REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

**ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:** IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

**ITEM SPECIAL - SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL TO BRIDGE COTE W/SILANE**

THIS WORK SHALL INCLUDE SEALING OF THE CONCRETE SURFACES USING XL70 BRIDGE COTE W/SILANE AS PER THE MANUFACTURER'S RECOMMENDATIONS WITH THE FOLLOWING REQUIREMENTS, AT THE LOCATIONS SHOWN IN THE PLANS.

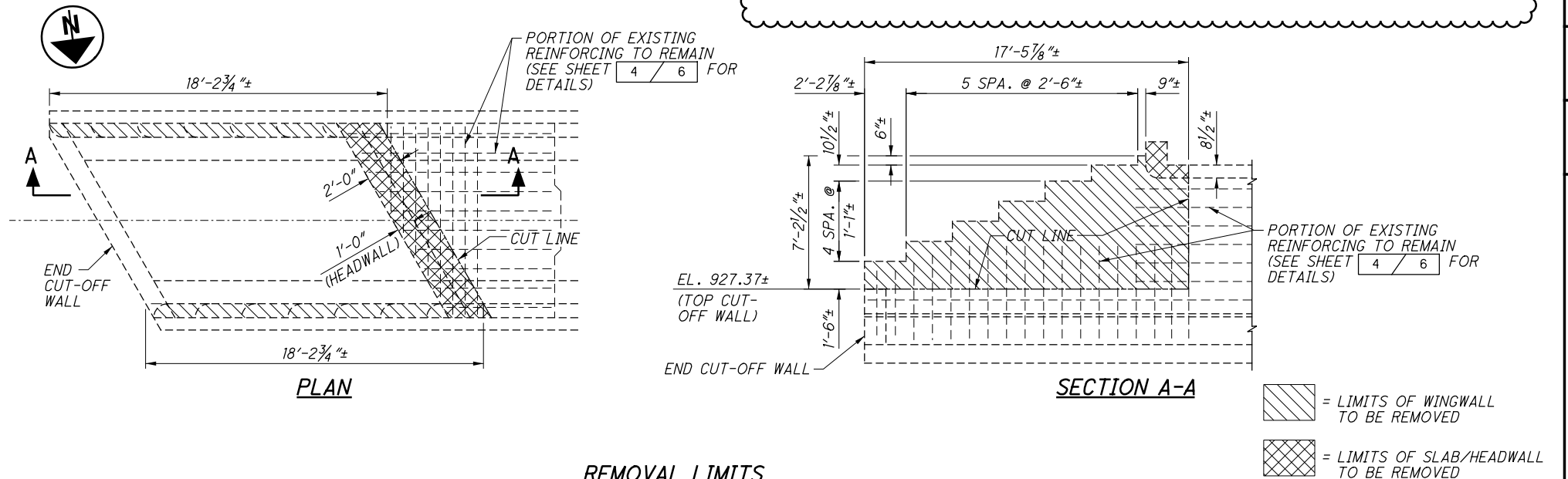
MEET THE SURFACE PREPARATION REQUIREMENTS FOR NON-EPOXY SEALERS PER CMS 512.03.F AND REMOVE ANY CURING COMPOUNDS PER THE MANUFACTURER'S RECOMMENDATIONS.

AT LEAST 5 DAYS BEFORE SEALING, PROVIDE THE ENGINEER THE SEALER MANUFACTURER'S WRITTEN REQUIREMENTS FOR APPLICATION EQUIPMENT, MIXING EQUIPMENT, MIXING PROCEDURES, MIXING TIME, STORAGE REQUIREMENTS, AND TECHNICAL AND SAFETY DATA SHEETS.

TINT SO THE FINAL COLOR IS FEDERAL COLOR STANDARD NO. 17778 - LIGHT NEUTRAL.

SAGS AND RUNS ARE NOT ACCEPTABLE IN THE SEALER. THE DEPARTMENT WILL MEASURE THE SEALING OF CONCRETE SURFACES BY THE NUMBER OF SQUARE YARDS OF COATED AREA PROJECTED TO A TWO-DIMENSIONAL SURFACE.

THE DEPARTMENT WILL CONSIDER THE REMOVAL OF DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE AND OTHER FOREIGN MATERIALS AS INCIDENTAL TO THE SURFACE PREPARATION OF THE CONCRETE SURFACE TO BE SEALED.



**REMOVAL LIMITS**

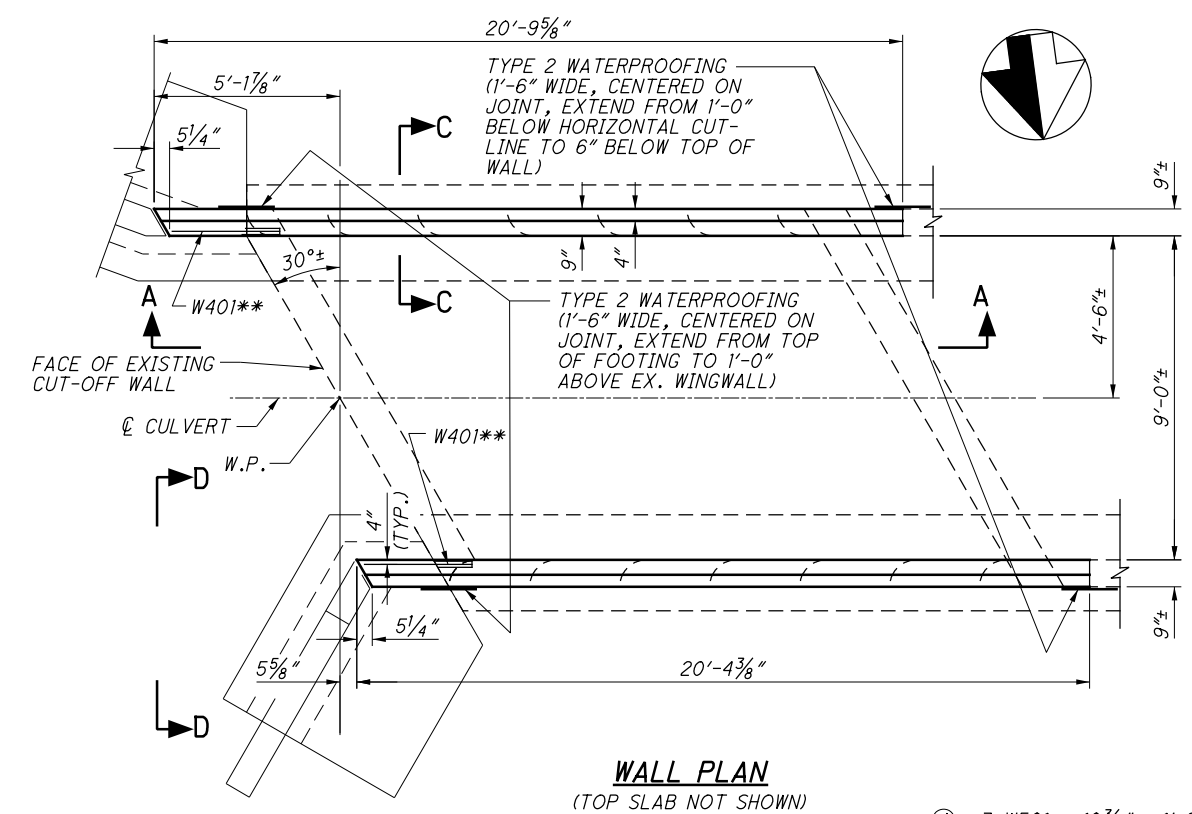
ESTIMATED QUANTITIES					CALC.	DATE	CHK'D	DATE
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	JHL	2/07	JMK	7/07
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				2/6
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING				
503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN				2/6
509	10001	2880	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN				2/6
509	20001	170	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				2/6
510	10000	22	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT				
511	33414	7	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE				
511	44112	12	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING				
511	46512	9	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING				
SPECIAL	51275500	34	SY	SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL TO BRIDGE COTE W/SILANE				2/6
512	33000	7	SY	TYPE 2 WATERPROOFING				
516	13600	18	SF	1" PREFORMED EXPANSION JOINT FILLER				
518	21200	21	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC				
518	40000	27	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				
518	40011	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN				5/6

NO.	DESCRIPTION	REV. BY	DATE
C	ADDED "ITEM SPECIAL - SEALING OF CONCRETE SURFACES" NOTE AND UPDATED ESTIMATED QUANTITIES	BES	3/3/22

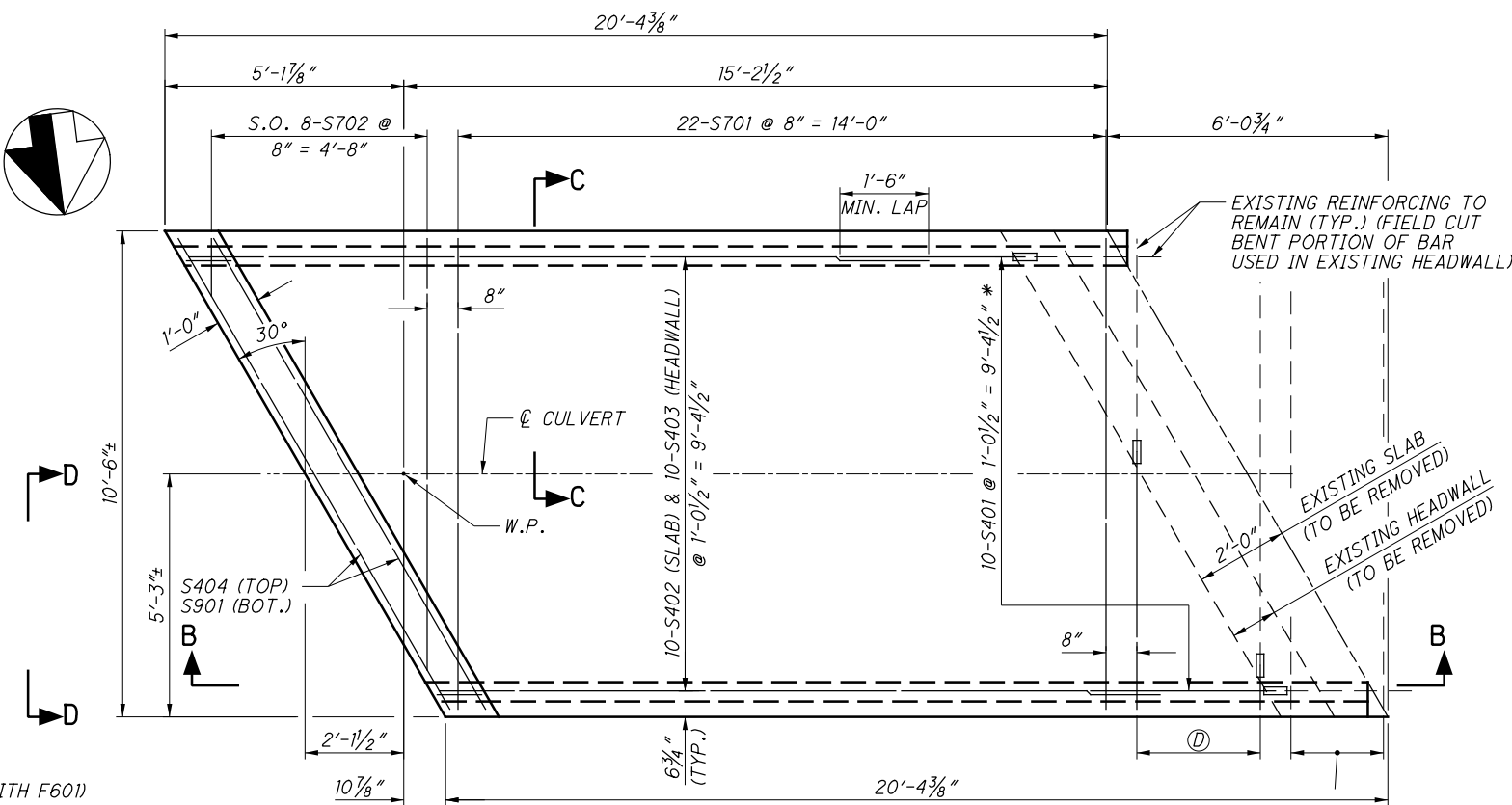
**NOTE:**

1) ALL FUNDING ITEMS ARE INCLUDED IN THE FUNDING PARTICIPATION SPLIT CODE 04/S>2/BR.

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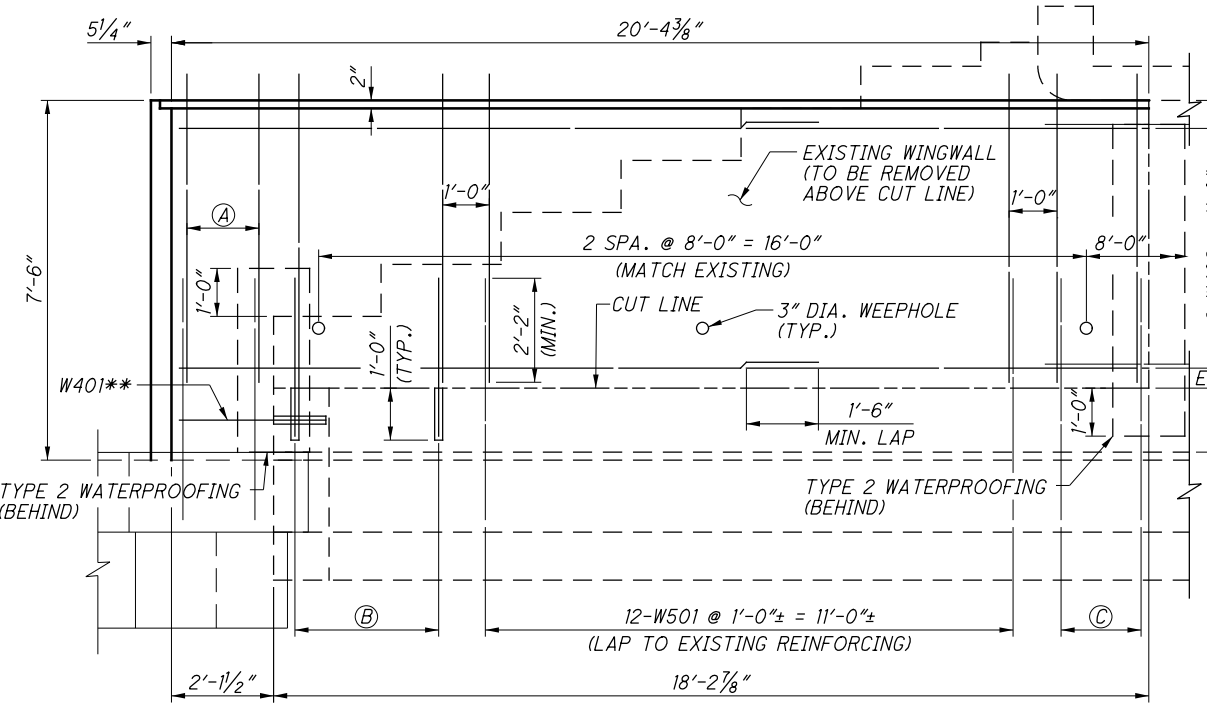
**WALL PLAN**  
 (TOP SLAB NOT SHOWN)



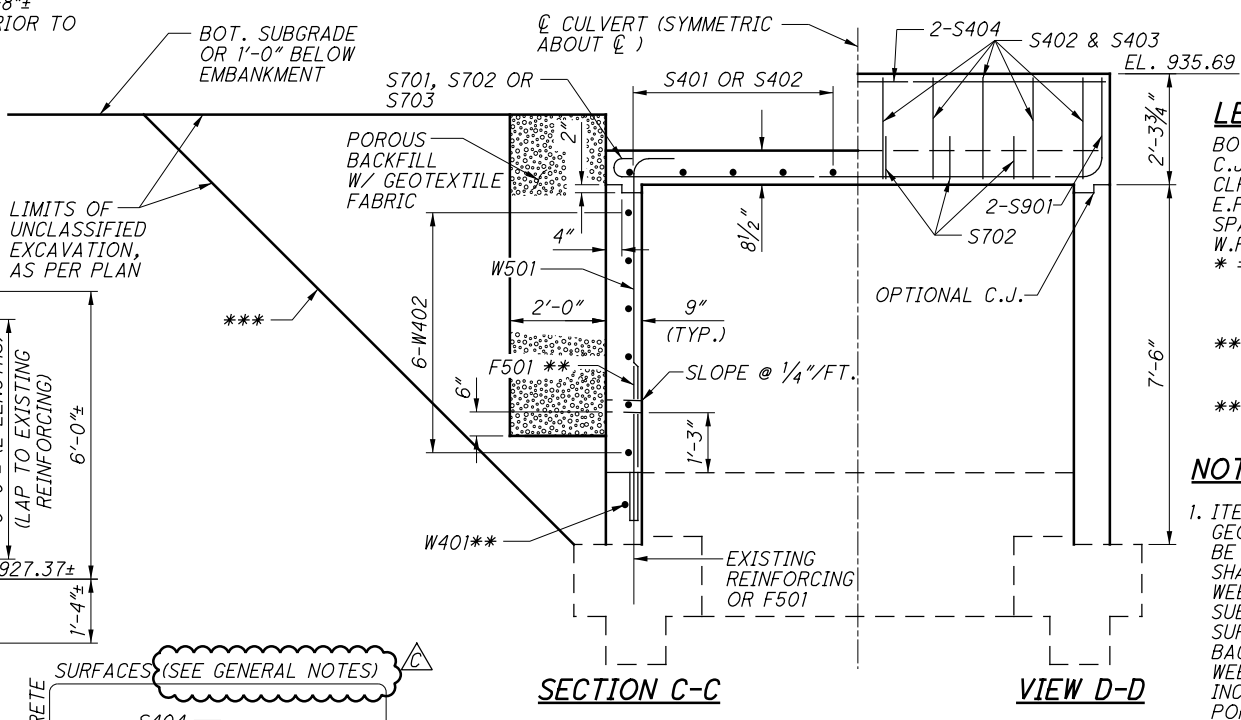
**TOP SLAB PLAN**

- Ⓐ = 3-W501 @ 10<sup>3</sup>/<sub>4</sub>" = 1'-9<sup>1</sup>/<sub>2</sub>" (LAP WITH F601)
- Ⓑ = 4-F501\*\* & 4-W501 @ 1'-0" = 3'-0"
- Ⓒ = 3-W501 @ 11"± = 1'-10"± (LAP WITH EXISTING REINFORCING)
- Ⓓ = S.O. 5-S703\* @ 8"± = 2'-8"± (FIELD CUT TO LENGTH PRIOR TO ATTACHING MECHANICAL CONNECTOR)

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALL OUT	BES	3/3/22

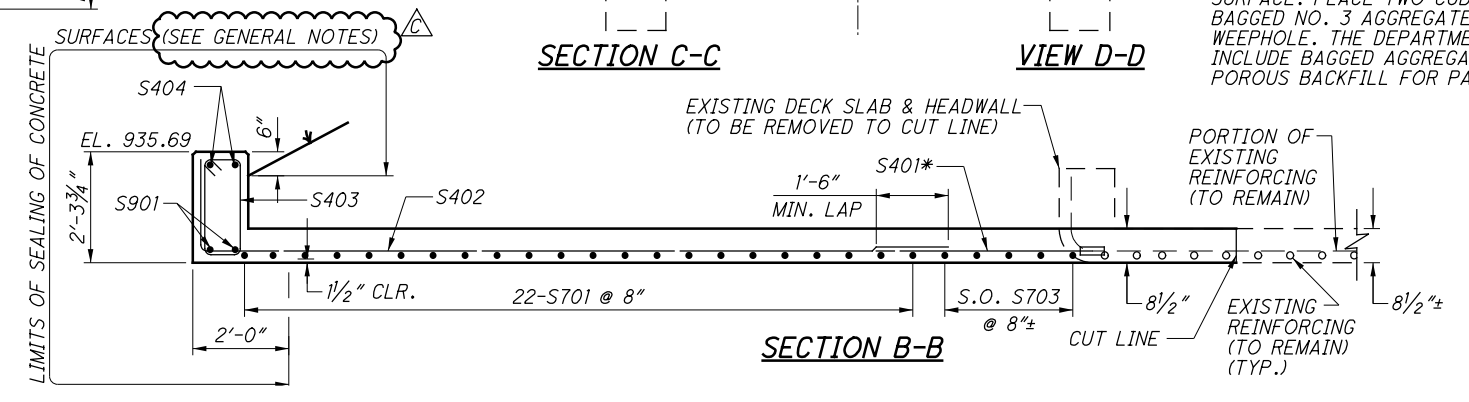


**VIEW A-A**  
 (TOP SLAB NOT SHOWN)



**SECTION C-C**

**VIEW D-D**



**SECTION B-B**

**LEGEND:**

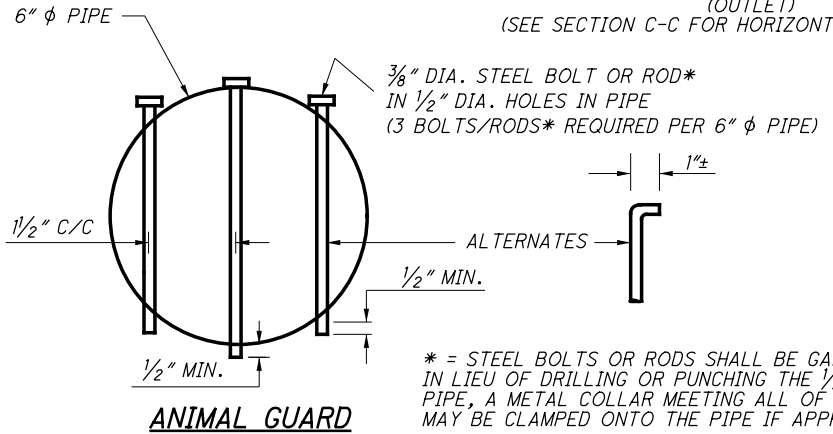
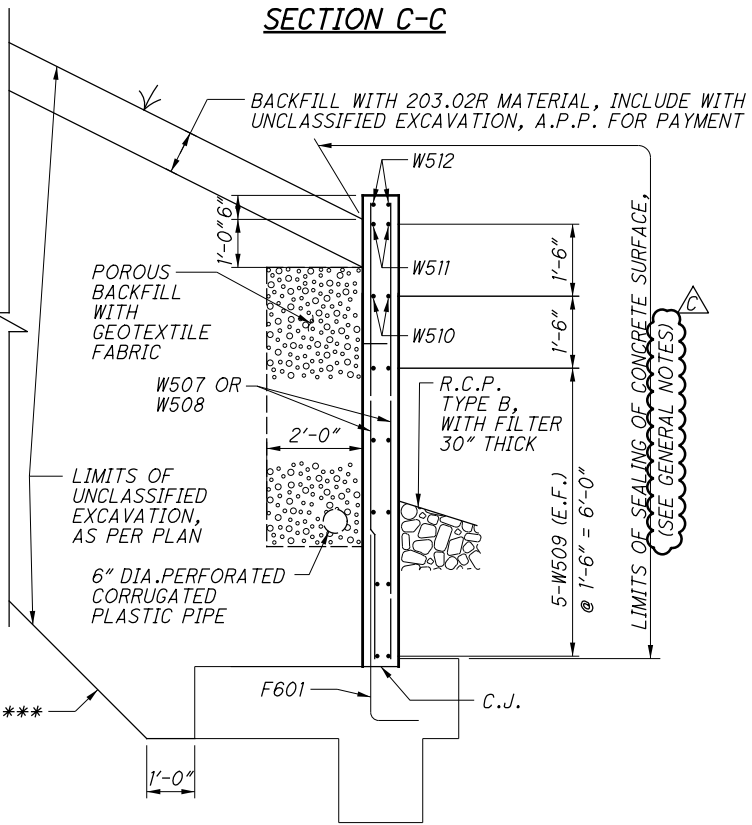
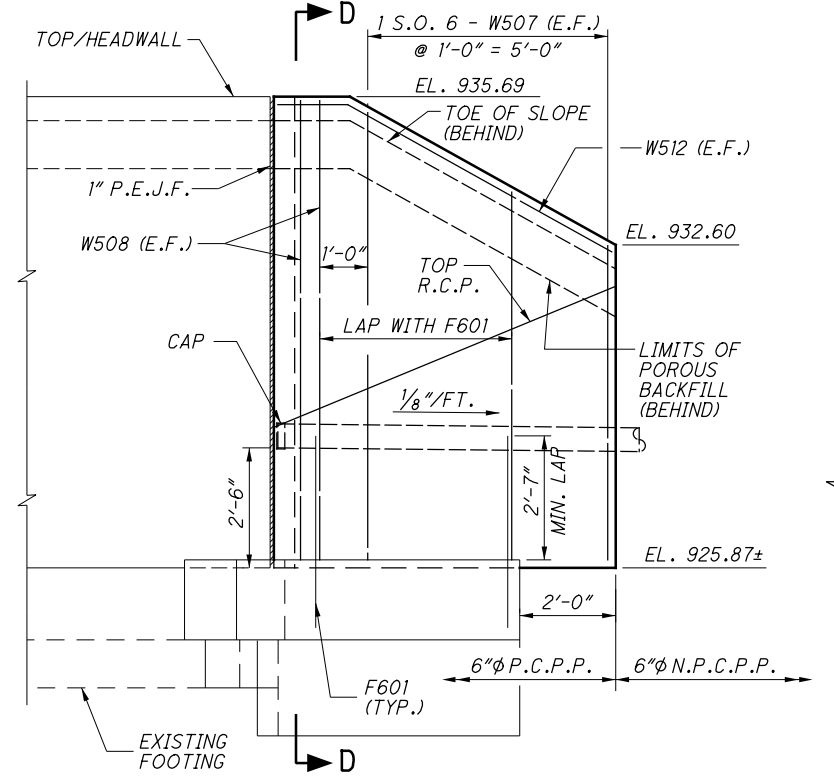
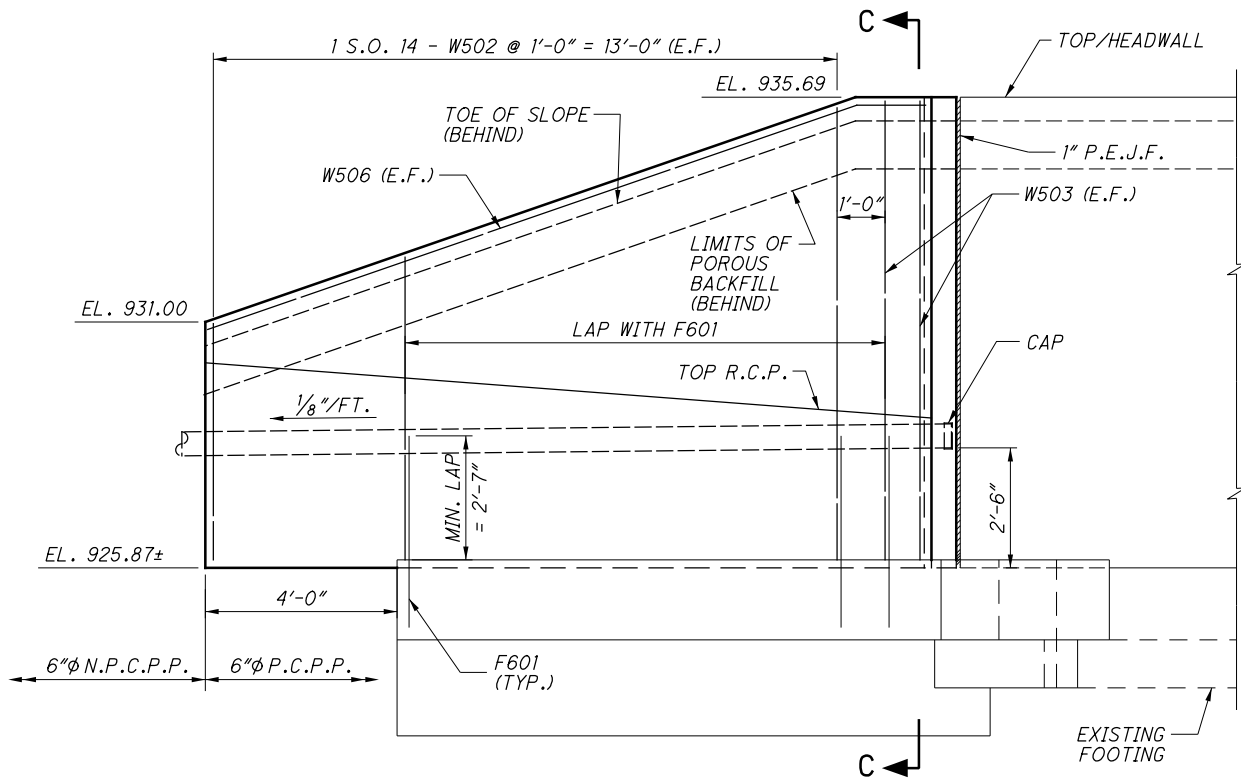
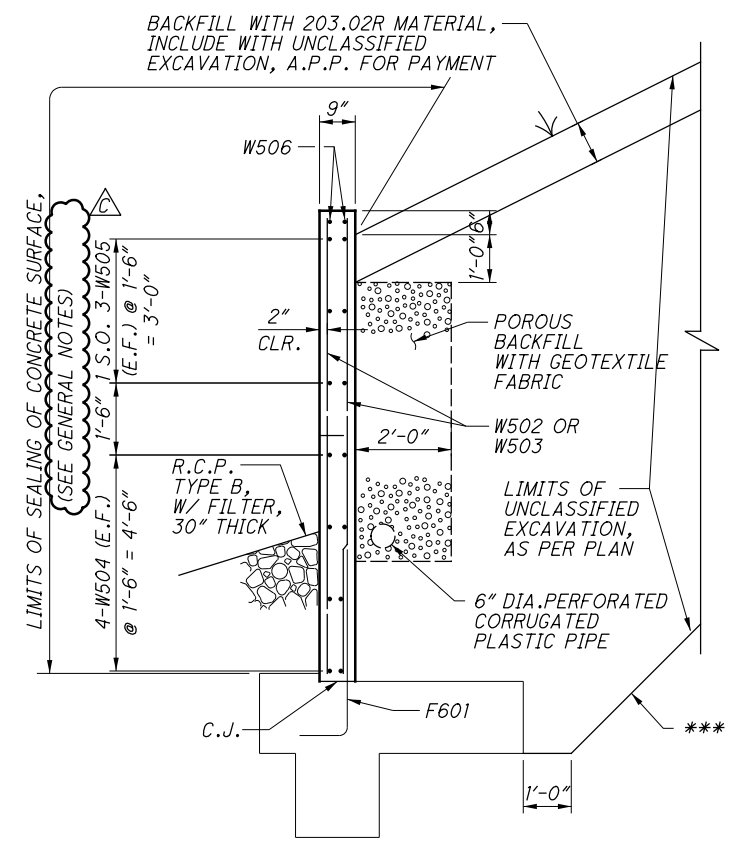
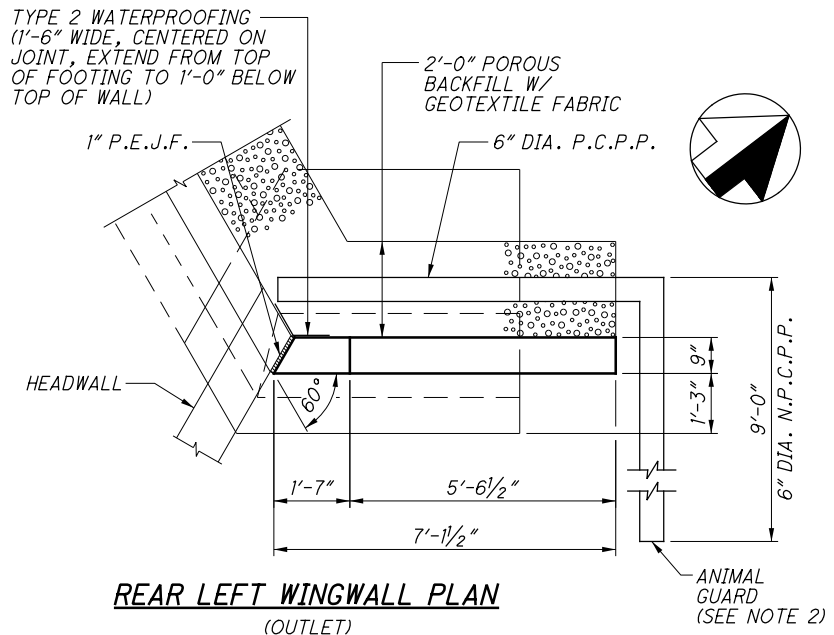
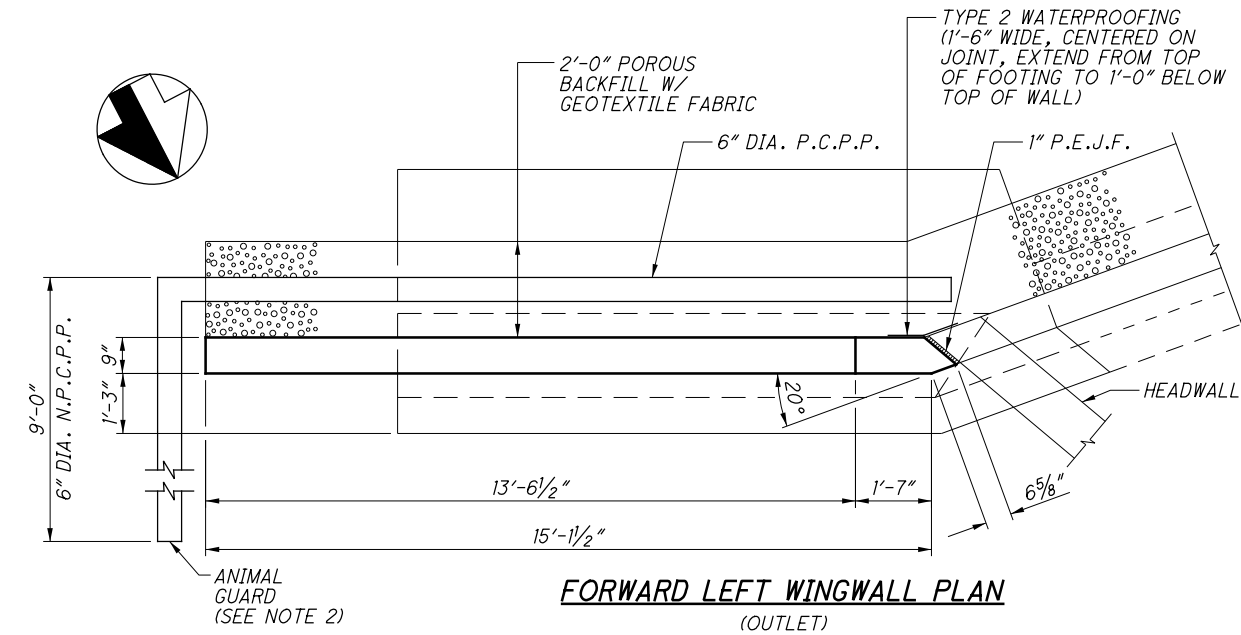
- BOT. = BOTTOM
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- E.F. = EACH FACE
- SPA. = SPACING
- W.P. = WORK POINT
- \* = CONNECT TO EXISTING REINFORCING WITH MECHANICAL CONNECTOR. FIELD CUT AS NECESSARY AND REPAIR PER CMS 509.09.
- \*\* = DOWEL 1'-0" INTO EXISTING WALL USING NONSHRINK, NONMETALLIC GROUT PER CMS 510.
- \*\*\* = A SLOPE OF 1:1 WAS ASSUMED FOR ESTIMATING QUANTITIES

**NOTES:**

1. ITEM 518 - POROUS BACK FILL W/ GEOTEXTILE FABRIC 2'-0" THICK SHALL BE PLACED BEHIND THE CULVERT LEGS AND SHALL EXTEND FROM 6 INCHES BELOW WEEPHOLE TO THE BOTTOM OF THE SUBGRADE OR 1'-0" BELOW THE EMBANK SURFACE. PLACE TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE AT EACH WEEPHOLE. THE DEPARTMENT WILL INCLUDE BAGGED AGGREGATE WITH POROUS BACKFILL FOR PAYMENT.

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NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUTS	BES	3/3/22

**LEGEND:**  
 A.P.P. = AS PER PLAN  
 CLR. = CLEAR  
 C.J. = CONSTRUCTION JOINT  
 E.F. = EACH FACE  
 N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE  
 P.E.J.F. = PREFORMED EXPANSION JOINT FILLER  
 P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE  
 R.C.P. = ROCK CHANNEL PROTECTION  
 S.O. = SERIES OF  
 SPA. = SPACING  
 \*\*\* = A SLOPE OF 1:1 WAS ASSUMED FOR ESTIMATING QUANTITIES

**NOTE:**  
 1. ITEM 518 - POROUS BACK FILL W/ GEOTEXTILE FABRIC 2'-0" THICK SHALL BE PLACED BEHIND THE WINGWALLS AND SHALL EXTEND FROM 2'-6" ABOVE THE TOP OF THE FOOTING TO 1'-0" BELOW THE EMBANK SURFACE.  
 2. PROVIDE AN ANIMAL GUARD AS SHOWN IN THE DETAIL ON THIS SHEET. ANIMAL GUARD SHALL BE PAID FOR WITH 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN.

P:\PR41806AA\FRA\80748\BRIDGE\UNIO33\_2450C\SHEETS\033\_2450CMD003.DGN

**DESIGN SPECIFICATIONS:** THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020, INCLUDING REVISIONS THROUGH JULY 2020.

REFER TO THE FOLLOWING OHIO DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD BRIDGE DRAWINGS:  
 AS-1-15 DATED (REVISED) 7-17-15  
 AS-2-15 DATED (REVISED) 1-18-19  
 GSD-1-19 DATED 1-15-21  
 PCB-91 DATED (REVISED) 7-17-20  
 SBR-1-20 DATED (REVISED) 7-17-20  
 SICD-2-14 DATED 1-15-21

**OPERATIONAL IMPORTANCE:** A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING:** VEHICULAR LIVE LOAD: HL-93  
 FUTURE WEARING SURFACE (FWS) OF 60 PSF

**DESIGN DATA:**  
 CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC3 - COMPRESSIVE STRENGTH 3.0 KSI (MUDMAT)

CONCRETE CLASS QC3 - COMPRESSIVE STRENGTH 5.0 KSI (PRECAST CONCRETE ARCH PANELS)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI

**DECK PROTECTION METHOD:**  
 EPOXY COATED REINFORCING STEEL  
 2 1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

**ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:** IN ADDITION TO THE REMOVALS SHOWN ON THE PLANS AND THE REQUIREMENTS OF 202.03, REMOVE ANY EXISTING PILING TO A MINIMUM OF 1' BELOW ANY PROPOSED FOOTINGS OVER THE PILING.

**ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.**  
**ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN:** TEMPORARY SHORING SHALL BE USED TO ACCOMPLISH THE PROPOSED CONSTRUCTION IN STAGES. PORTIONS OF THE TEMPORARY SHORING MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. REMOVAL OF SOIL ANCHORS IS REQUIRED ONLY WHERE THOSE COMPONENTS WILL INTERFERE WITH THE PROPOSED CONSTRUCTION.

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR "COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN." NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

**CONSTRUCTION CONSTRAINTS:** FILL THE VOID CREATED BY EXCAVATING FOR THE ABUTMENT FOOTINGS WITH TYPE B GRANULAR MATERIAL, 703.16.C. AFTER THE FOOTING AND THE BREASTWALL HAVE BEEN CONSTRUCTED, FILL THE VOID BEHIND EACH ABUTMENT UP TO THE BEAM SEAT ELEVATION AND FROM THE BEAM SEAT UP ON A 1:1 SLOPE TO THE SUBGRADE ELEVATION PRIOR TO CONSTRUCTING THE BACKWALL AND SETTING THE BEAMS ON THE ABUTMENT.

**ITEM 511 - CLASS QC3 CONCRETE, MISC.: MUDMAT:** SUBSEQUENT TO EXCAVATION, INSPECTION AND APPROVAL OF THE FOOTING BEARING SURFACES, A CONCRETE MUDMAT SHALL BE PLACED ON THE SOIL TO PROTECT THE FOOTING SUBGRADE. THE MUDMAT IS REQUIRED ONLY FOR FOOTINGS BEARING AT ELEV. 929.00. WHERE FOOTINGS BEAR AT HIGHER ELEVATIONS, A MUDMAT IS NOT REQUIRED. THE MUDMAT SHALL CONSIST OF A 3-INCH THICK LAYER OF CLASS QC3 CONCRETE. THE MUDMAT SHALL BE PLACED IMMEDIATELY AFTER FINAL INSPECTION AND APPROVAL OF THE FOOTING BEARING SURFACE.

**FOUNDATION BEARING RESISTANCE:**

LOCATION	BOT./FOOTING ELEVATION	BEARING PRESSURE (KIPS/SQ. FT.)		FACTORED BRG. RESISTANCE
		MAX. SERVICE	MAX. STRENGTH	
ABUTMENTS	929	3.9	5.2	7.0
WINGWALLS	929	4.0	5.4	7.0
	942	2.4	3.3	3.5
LOWER LANDSCAPE WALLS	929	3.0	4.2	7.0
	930.5	2.5	3.5	3.5
UPPER LANDSCAPE WALLS	932	2.0	2.7	3.5
	935.5	2.5	3.5	3.5
PIER	938.25	2.1	3.0	3.5
	929	3.9	5.0	7.0

**UTILITY LINES:** SEE ROADWAY PLANS FOR THE RELOCATION OF THE 12" W WITH 24" CASING. THE CONTRACTOR SHALL NOTIFY AMERICAN ELECTRIC POWER (AEP) PRIOR TO REMOVAL AND CONSTRUCTION OF THE REAR ABUTMENT. THE PROPOSED ELECTRICAL CONDUIT SHALL BE CONSTRUCTED AFTER INSTALLATION OF THE STEEL PILING LEFT IN PLACE AT THE REAR ABUTMENT. SEE NOTE ON SHEET 604 / 923 FOR ADDITIONAL INFORMATION.

**MECHANICAL CONNECTORS:** AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE THE MINIMUM LAP LENGTH FOR THAT BAR AS SHOWN ON THE PLANS.

CONNECTORS AND DOWEL BARS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS.

CONNECTORS AND DOWEL BARS SHALL CONFORM WITH ITEM 509 AND ARE CONSIDERED INCIDENTAL TO THE BID PRICE PER POUND FOR ITEM 509.

**FINISH COLORS:**

THE TOP COAT COLOR FOR ITEM 517 - RAILING, MISC.: GALVANIZED AND PAINTED STEEL RAILING, TEXAS TYPE T80HT WITH PAINTED ALUMINUM POST ORNAMENTS SHALL BE METALLIC SILVER, FEDERAL COLOR STANDARD 37178.

FOR THE TOP COAT COLOR ON THE FASCIA GIRDERS, SEE THE NOTES ON THIS SHEET FOR ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN.

THE FINISH COLOR FOR ITEM SPECIAL - SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL 70 BRIDGE COTE W/ SILANE SHALL BE AS FOLLOWS: ABUTMENTS, WINGWALLS, LANDSCAPE RETAINING WALLS, PRECAST CONCRETE ARCH SEGMENTS, MEDIAN PARAPETS, AND OUTSIDE PARAPETS (EXCEPT SURFACES NOTED BELOW) SHALL BE WHITE, FEDERAL COLOR STANDARD 37925. PIER AND RECESSED BACK FACE OF OUTSIDE PARAPETS SHALL BE GRAY, FEDERAL COLOR STANDARD 36280.

**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17').** AS PER PLAN: THE REQUIREMENTS OF CMS 511.03 & 511.04 SHALL APPLY TO THIS ITEM OF WORK. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, ITEMS LISTED ON STANDARD DRAWING AS-1-15, AND ALL OTHER MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM OF WORK.

**ITEM 511 - QC/QA CONCRETE ITEMS, AS PER PLAN (BRIDGE DECK, PARAPET, ABUTMENTS, PIER, WINGWALLS, AND LANDSCAPE RETAINING WALLS) FINISH REQUIREMENTS:** UNLESS OTHERWISE NOTED ON THE PLANS, PROVIDE SURFACE FINISH USING RUBBED FINISH PROCEDURES PER 511.15B TO SMOOTH ALL CONTRASTING SURFACE TEXTURES CAUSED BY STONE OR POWER GRINDING OF IRREGULARITIES ON ALL EXPOSED SURFACES OF CONCRETE ABUTMENT (INCLUDING WINGWALLS AND LANDSCAPE RETAINING WALLS), PIER, ABUTMENT DIAPHRAGMS AND PARAPET FASCIA.

**ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, FOOTING, AS PER PLAN:** IN ADDITION TO THE REQUIREMENTS OF ITEM 511, CLASS QC1 CONCRETE, INSTALL A REFERENCE MONUMENT AT EACH END OF THE SPREAD FOOTING. THE REFERENCE MONUMENT SHALL CONSIST OF A #8, OR LARGER, EPOXY COATED REBAR EMBEDDED AT LEAST 6" INTO THE FOOTING AND EXTENDED VERTICALLY 4 TO 6 INCHES ABOVE THE TOP OF THE FOOTING. INSTALL A SIX INCH DIAMETER, SCHEDULE 40, PLASTIC PIPE AROUND THE REFERENCE MONUMENT. CENTER THE PIPE ON THE REFERENCE MONUMENT AND PLACE THE PIPE VERTICAL WITH ITS TOP AT THE FINISHED GRADE. THE PIPE SHALL HAVE A REMOVABLE, SCHEDULE 40, PLASTIC CAP. PERMANENTLY ATTACH THE BOTTOM OF THE PIPE TO THE TOP OF THE FOOTING.

ESTABLISH A BENCHMARK TO DETERMINE THE ELEVATIONS OF THE REFERENCE MONUMENTS AT VARIOUS MONITORING PERIODS THROUGHOUT THE LENGTH OF THE CONSTRUCTION PROJECT. THE BENCHMARK SHALL BE THE SAME THROUGHOUT THE PROJECT AND SHALL BE INDEPENDENT OF ALL STRUCTURES.

RECORD THE ELEVATION OF EACH REFERENCE MONUMENT AT EACH MONITORING PERIOD SHOWN IN THE TABLES ON THE NEXT SHEET.

THE ORIGINAL COMPLETED TABLES WILL BECOME PART OF THE DISTRICT'S PROJECT PLAN RECORDS.

**ITEM 511 - CLASS QC3 CONCRETE, MISC.: PRECAST CONCRETE ARCH PANELS:**

SEE SHEETS 61 / 70 AND 62 / 70 FOR DETAILS AND ADDITIONAL REQUIREMENTS.

PRECAST PANELS SHALL BE DESIGNED BY THE MANUFACTURER TO SUPPORT THE DEAD LOAD SELF-WEIGHT OF THE PRECAST MEMBER. IN ADDITION, THE PANELS SHALL BE DESIGNED FOR A 75 LB./SQ. FT. WIND LOAD APPLIED PERPENDICULAR TO THE MEMBER. ALL MEMBERS SHALL BE DESIGNED TO PREVENT THERMAL AND FLEXURAL CRACKS FROM OCCURRING DURING ANY STAGE OF CONSTRUCTION. SEE PLANS FOR MINIMUM REINFORCING TO BE PROVIDED.

CONCRETE FOR PRECAST PANELS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4 KSI WHEN FIRST LIFTED AND 5 KSI AT 28 DAYS. THE MAXIMUM AIR-DRIED DENSITY OF THE CONCRETE (INCLUDING REINFORCING STEEL) SHALL BE 130 PCF. FINE AGGREGATE SHALL BE IN ACCORDANCE WITH CMS 703.02. COARSE AGGREGATE SHALL BE A COMBINATION OF AGGREGATE PER CMS 703.02 AND STRUCTURAL LIGHTWEIGHT AGGREGATES PER ASTM C 330. STRUCTURAL LIGHTWEIGHT AGGREGATE SHALL BE ONLY PROCESSED AGGREGATES PREPARED FROM NATURAL DEPOSITS SUCH AS SHALES AND CLAYS, PRODUCED BY A ROTARY KILN OPERATION. OBTAIN ALL CONCRETE FOR USE IN PRECAST CONCRETE PANELS FROM A SINGLE SUPPLIER USING CONSISTENT COMPONENTS IN ORDER TO OBTAIN A UNIFORM APPEARANCE.

REINFORCING STEEL SHALL CONFORM TO CMS 509 AND SHALL BE EPOXY COATED.

PROVIDE SHOP DRAWINGS PER 501.04. THE REQUIREMENTS OF 501.04A, 501.04B, AND 501.04C SHALL APPLY.

ON ALL EXPOSED SURFACES, PROVIDE A RUBBED FINISH PER 511.15B.

PROVIDE A 1/2" BEVEL ON ALL EXPOSED EDGES, EXCEPT AS NOTED, USING A TRIANGULAR STRIP BUILT INTO THE FORMS. DO NOT BEVEL THE EDGES AT RUSTICATION GROOVES.

LIFTING LUGS SHALL BE DESIGNED AND INSTALLED BY THE PRECAST MANUFACTURER. FOLLOWING INSTALLATION, LUGS SHALL BE REMOVED AND GROUTED TO PROVIDE A SMOOTH, UNIFORM APPEARANCE.

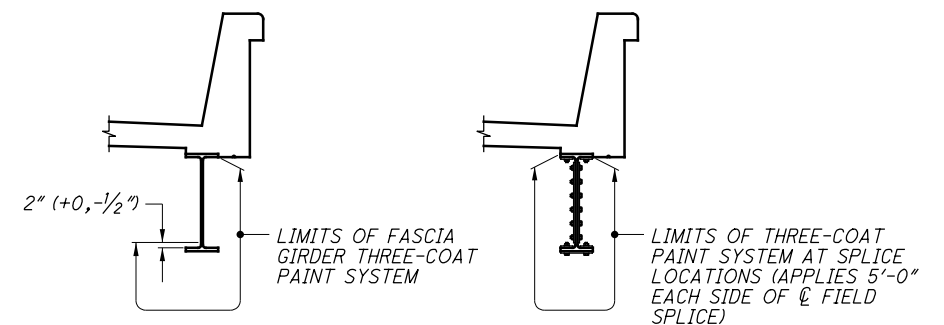
ALL INSERTS, REINFORCING STEEL, LIFTING LUGS, AND OTHER REQUIRED APPURTENANCES SHALL BE FURNISHED AND SHOP-INSTALLED BY THE PRECAST MANUFACTURER. THESE ITEMS, TOGETHER WITH THE DESIGN, SHOP DRAWINGS, FABRICATION, DELIVERY AND INSTALLATION (INCLUDING CAULKING) OF THE PANELS ON THE BRIDGE, SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS QC3 CONCRETE, MISC.: PRECAST CONCRETE ARCH PANELS.

**ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN:**

IN ADDITION TO THE REQUIREMENTS OF 513.27, APPLY AN INORGANIC ZINC PRIME COAT IN THE SHOP TO THE ENTIRE PERIMETER OF ALL GIRDERS OVER THE END 4'-0" OF EACH GIRDER AT EACH ABUTMENT. TINT THE PRIME COAT AS SPECIFIED IN CMS 708.01, EXCEPT AT GIRDER ENDS WHERE INTERMEDIATE AND FINISH COATS ARE NOT APPLIED, TINT THE PRIME COAT USING BROWN, FEDERAL COLOR STANDARD 20059.

**ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT:**  
**ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:**

FIELD PAINT THE ENTIRE LENGTH OF GIRDERS G1, G10, G11 & G20 FOR THE LIMITS SHOWN IN THE DIAGRAM ON THE LEFT BELOW. THE TOP COAT COLOR SHALL BE GRAY, FEDERAL COLOR STANDARD 36280. FIELD PAINT GIRDERS G1, G10, G11 & G20 AT FIELD SPLICES AS SHOWN IN THE DIAGRAM ON THE RIGHT BELOW. THE TOP COAT COLOR SHALL BE GRAY, FEDERAL COLOR STANDARD 36280, EXCEPT AT THE INBOARD SIDE OF THE WEB AND TOP FLANGE, WHERE THE COLOR SHALL BE BROWN, FEDERAL COLOR STANDARD 20059.



**FASCIA GIRDER COATING LIMITS**

**FASCIA GIRDER COATING LIMITS AT SPLICE**

**ABUTMENT AND BRIDGE DECK CONSTRUCTION SEQUENCE:**

DO NOT BACKFILL ABOVE THE BEAM SEAT UNTIL AFTER THE DECK CONCRETE HAS BEEN PLACED AND HAS REACHED THE STRENGTH SPECIFIED IN CMS TABLE 511.14-1A. PLACE AND COMPACT THE BACKFILL MATERIALS SIMULTANEOUSLY BEHIND BOTH ABUTMENTS ABOVE THE BEAM SEATS. BACKFILL AND COMPACTION HEIGHTS ABOVE THE BEAM SEAT AT EACH ABUTMENT SHALL NOT DIFFER BY MORE THAN 1 FOOT AT ANY TIME.

**ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:**

SEE EXCAVATION DIAGRAMS ON SHEET 8 / 70 FOR BACKFILL MATERIALS, COMPACTION REQUIREMENTS, AND UNCLASSIFIED EXCAVATION PAY LIMITS AT ABUTMENTS, WINGWALLS, AND LANDSCAPE RETAINING WALLS. FOR PAY LIMITS AT PIER, REFER TO 503.09.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED NOTE	BES	3/3/22

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ALL STONE AREAS SHALL BE SET WITH FLUSH VERTICAL MORTAR JOINTS.

POINTING: POINTING SHALL NOT BE DONE IN FREEZING WEATHER OR WHEN THE STONE CONTAINS FROST. THE FACE JOINTS SHALL BE PROPERLY POINTED BY RAKING TO DEPTH OF 1 TO 1.5 INCHES, PREFERABLY BEFORE THE MORTAR BECOMES SET. JOINTS THAT CANNOT BE POINTED SHALL BE PREPARED FOR POINTING BY RAKING THEM OUT TO A DEPTH OF 1 TO 1.5 INCHES BEFORE THE MORTAR HAS SET. THE FACE SURFACES OF STONES SHALL NOT BE SMEARED WITH THE MORTAR FORCED OUT OF THE JOINTS OR THAT USED IN POINTING. JOINTS NOT POINTED AT THE TIME THE STONE IS LAID SHALL BE THOROUGHLY WET WITH CLEAN WATER AND FILLED WITH MORTAR USING ALL MASONRY TYPE S CEMENT. THE MORTAR SHALL BE WELL DRIVEN IN TO THE JOINTS AND FINISHED WITH AN APPROVED POINTING TOOL. THE WALL SHALL BE KEPT WET WHILE POINTING IS BEING DONE AND IN HOT OR DRY WEATHER THE POINTED MASONRY SHALL BE PROTECTED FROM THE SUN AND KEPT WET FOR A PERIOD OF AT LEAST 3 DAYS AFTER COMPLETION.

JOINT SEALING: PRIMER, WHEN REQUIRED, SHALL BE NON-STAINING AND NON-ACIDIC AND SHALL BE USED AS RECOMMENDED BY MANUFACTURER OF SEALANT, HAVING BEEN TESTED BEFORE FOR STAINING AND DURABILITY ON SAMPLES OF ACTUAL SURFACES TO BE SEALED.

(IF PRIMERS ARE REQUIRED, THEY SHOULD BE APPLIED TO THE CONFINES OF JOINT SURFACES AFTER STONE IS INSTALLED INTO THE WALL. IN SOME INSTANCES IT MAY BE ADVISABLE TO APPLY PRIMER TO THE STONE BEFORE THE STONE IS INSTALLED INTO THE WALL. APPLICATION PROCEDURES SHOULD BE AS RECOMMENDED BY MANUFACTURER OF SEALANT.)

BACK-UP MATERIALS AND PREFORMED JOINT FILLERS SHALL BE NON-STAINING, COMPATIBLE WITH SEALANT AND PRIMER, AND OF A RESILIENT NATURE, SUCH AS CLOSED CELL RESILIENT FOAM, SPONGE RUBBER, OR OF A SUPPORTING TYPE SUCH AS CLOSED CELL RIGID FOAM, CORK, OR NON-IMPREGNATED FIBERBOARD. MATERIALS IMPREGNATED WITH OIL, BITUMEN, OR SIMILAR MATERIALS SHALL NOT BE USED. SIZE AND SHAPE SHALL BE AS INDICATED BY JOINT DETAIL IN DRAWINGS.

SEALANT SHALL NOT ADHERE TO BACK UP MATERIAL AND SHALL BE AS RECOMMENDED BY SEALANT MANUFACTURER.

BOND BREAKERS, WHEN REQUIRED, SHALL BE AS RECOMMENDED BY MANUFACTURER OF SEALANT.

SOLVENTS, CLEANING AGENTS, AND OTHER ACCESSORY MATERIALS SHALL BE NON-STAINING TO THE STONE AND SHALL BE RECOMMENDED BY MANUFACTURER OF SEALANT.

PROTECTION OF FINISHED WORK: RECEIPT, STORAGE, AND PROTECTION OF CUT STONE WORK PRIOR TO, DURING, AND SUBSEQUENT TO INSTALLATION SHALL BE THE RESPONSIBILITY OF THE MASON CONTRACTOR.

DURING CONSTRUCTION, TOPS OF WALLS SHALL BE CAREFULLY COVERED AT NIGHT AND ESPECIALLY DURING ANY PRECIPITATION OR OTHER INCLEMENT WEATHER.

AT ALL TIMES, WALLS SHALL BE ADEQUATELY PROTECTED FROM MORTAR DROPPINGS.

CLEANING: FINISHED STONEMWORK SHALL BE WASHED CLEAN FREE OF DIRT, MORTAR, AND OTHER OBJECTIONABLE ACCUMULATIONS. MORTAR DROPPINGS AND SMEARS SHALL BE REMOVED AS WORK PROGRESSES. FINAL CLEAN DOWN SHALL INCLUDE BRUSHING WITH FIBER BRUSHES AND MILD SOAP OR DETERGENT, AND RINSING WITH CLEAN WATER. NO ACIDS SHALL BE USED WITHOUT PRIOR APPROVAL. STONEMWORK SHALL BE PROTECTED FROM RUNDOWN OR SPLASH WHEN USING ACID ON ADJACENT MATERIALS.

METHOD OF MEASUREMENT: THE AREA TO BE PAID FOR SHALL BE THE ACTUAL AREA IN SQUARE FEET OF ALL EXPOSED VERTICAL FACES OF STONE FACING, COMPLETED, AND ACCEPTED.

BASIS OF PAYMENT: THE AREA, MEASURED AS PROVIDED ABOVE, SHALL BE PAID AT THE CONTRACT UNIT PRICE PER SQUARE FOOT BID FOR ITEM 602, MASONRY MISC.: STONE FACING. PRICE SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PREPARING ALL MATERIALS, PLACING, INCLUDING ALL DOVETAIL ANCHORS AND SLOTS, FINISHING AND CLEANING, AND ALL LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS, INCLUDING SAMPLE LAY-UP PANELS, NECESSARY TO COMPLETE THIS ITEM.

ITEM 517 - RAILING, MISC.: GALVANIZED AND PAINTED STEEL RAILING, TEXAS TYPE T80HT WITH PAINTED ALUMINUM POST ORNAMENTS:

DESCRIPTION:

THIS ITEM CONSISTS OF PREPARING SHOP DRAWINGS, FURNISHING, FABRICATING, COATING, AND ERECTING STEEL RAILINGS AND ALUMINUM POST ORNAMENTS ON THE BRIDGE AND WINGWALLS.

SHOP DRAWINGS:

IN ADDITION TO THE REQUIREMENTS OF 501 AND THE REQUIREMENTS IN THESE NOTES, SUBMIT FOR REVIEW AND ACCEPTANCE, THREE COPIES OF SHOP DRAWINGS, UNLESS ADDITIONAL COPIES ARE REQUESTED. DO NOT BEGIN FABRICATION UNTIL WRITTEN ACCEPTANCE OF THE SUBMITTED DRAWINGS HAS BEEN RECEIVED.

SELECT A FABRICATOR FROM THE OHIO DEPARTMENT OF TRANSPORTATION PRE-QUALIFIED FABRICATORS LIST IN EFFECT AT THE DATE OF THE CONTRACT LETTING. SELECT A FABRICATOR THAT IS AT LEAST PRE-QUALIFIED AT LEVEL UF. BEFORE OR AT THE PRECONSTRUCTION CONFERENCE, PROVIDE A WRITTEN NOTIFICATION TO THE ENGINEER OF THE SELECTED FABRICATOR.

SUBMIT SHOP DRAWINGS PER 501.04, 501.04B AND 501.04C AND PER THE REQUIREMENTS IN THESE NOTES. PREPARE THE SHOP DRAWINGS BY OR UNDER DIRECT SUPERVISORY CONTROL OF AN OHIO REGISTERED ENGINEER HAVING PERSONAL PROFESSIONAL KNOWLEDGE OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND ITEMS 513 AND 517. THE REGISTERED ENGINEER SHALL SIGN, SEAL AND DATE EACH DRAWING. HAVE ALL QUESTIONS AND COMMENTS ADDRESSED BEFORE SUBMITTING THE SHOP DRAWINGS.

MATERIALS:

SEE RAILING DETAILS, SHEET 59 / 70 FOR MATERIAL REQUIREMENTS.

SEE POST ORNAMENT DETAILS, SHEET 60 / 70 FOR MATERIAL REQUIREMENTS.

CONSTRUCTION:

SEE SHEET 59 / 70 FOR RAILING DETAILS.

SEE SHEET 60 / 70 FOR POST ORNAMENT DETAILS.

FABRICATE RAILING ACCORDING TO 513 AND 517. SHOP CURVE THE RAIL MEMBERS AT RAILING ENDS.

ALL PLAN DIMENSIONS ARE MEASURED ALONG THE HORIZONTAL. SEE SITE PLAN FOR VERTICAL PROFILE.

SHOW FIELD SPLICE LOCATIONS FOR RAILS ON THE SHOP DRAWINGS. DO NOT SHOP-SPLICE RAILS.

POST BASE PLATES SHALL BE FLAT AFTER FABRICATION.

TO ENSURE PROPER PLACEMENT OF THE ANCHOR BOLTS, SURVEY THE BOLT LOCATIONS AND PLACE ALL ANCHOR BOLTS WITHIN 1/8" OF THE PLAN LOCATION IN THE TRANSVERSE AND LONGITUDINAL DIRECTIONS. ENSURE THAT ANCHOR BOLTS DO NOT MOVE DURING PARAPET CONCRETE POURS.

COATING:

THE STEEL RAILING SHALL BE GALVANIZED AND PAINTED AS SPECIFIED HEREIN. THE ALUMINUM POST ORNAMENTS SHALL NOT BE GALVANIZED AND SHALL BE PAINTED AS SPECIFIED HEREIN.

ALL ROUGH EDGES ON POSTS AND RAILS SHALL BE GROUND SMOOTH BEFORE GALVANIZING AND PAINTING.

PAINT ALL EXPOSED SURFACES OF BOLTS, NUTS AND WASHERS WITH THE SAME PAINT AS USED ON THE RAIL AND ORNAMENTS.

GALVANIZE ALL STEEL RAILING COMPONENTS IN ACCORDANCE WITH CMS 711.02. AFTER REMOVING HIGH SPOTS, THE GALVANIZED COATING SHALL BE CLEANED PER SSPC SP-1. THE CLEANING SOLUTION SHALL BE AN ALKALINE SOLUTION WITH A PH RANGING FROM A MINIMUM OF 11 TO A MAXIMUM OF 12. THIS SOLUTION CAN BE APPLIED BY IMMERSION, SPRAY OR SOFT NYLON BRUSH. FOLLOW CLEANING WITH A HOT WATER OR HOT PRESSURE WASHER RINSE. INDIVIDUAL PIECES SHALL BE SEPARATED AND POSITIONED TO FACILITATE DRAINAGE AND DRYING. THE PIECES SHALL BE COMPLETELY DRY BEFORE PROCEEDING.

AFTER CLEANING, THE PIECES SHALL BE ABRASIVE BLASTED PER SSPC-SP7 BRUSH-OFF BLAST CLEANING. THE BLASTING OPERATION SHALL ROUGHEN THE GALVANIZED SURFACE TO AN ANGULAR SURFACE PROFILE OF 0.25 TO 0.50 MILS. THE BLASTING EQUIPMENT, TECHNIQUE AND ABRASIVE MATERIAL SHALL BE SELECTED TO PROVIDE FOR THE SPECIFIED SURFACE PROFILE WITHOUT REMOVAL OF ZINC LAYERS. THE FINAL ZINC MILAGE SHALL NOT BE LESS THAN 3.0 MILS. ALL ABRASIVE RESIDUE SHALL BE REMOVED WITH CLEAN COMPRESSED AIR OR OTHER METHODS ACCEPTABLE TO THE DEPARTMENT.

AFTER OBTAINING AN ACCEPTABLE SURFACE PROFILE, SHOP APPLY A TWO COAT PAINT SYSTEM CONSISTING OF AN EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT MEETING THE REQUIREMENTS OF CMS 514. THE FINISH COAT COLOR SHALL BE METALLIC SILVER, FEDERAL COLOR STANDARD 37178.

THE EPOXY INTERMEDIATE COATING SHALL BE APPLIED WITHIN 24 HOURS OF THE BRUSH-OFF BLASTING. THE COATINGS SHALL BE APPLIED PER CMS 514 EXCEPT THAT REQUIREMENTS FOR SURFACE PREPARATION AND PRIMING SHALL NOT BE PERFORMED. THE COATING SHALL BE SHOP APPLIED AS SPECIFIED IN THESE NOTES WITHOUT THE WORK LIMITATION SPECIFIED IN CMS 514. FIELD REPAIRS AND TOUCH UPS SHALL FOLLOW WORK LIMITATIONS SPECIFIED PER CMS 514 AND BE AS DIRECTED BY THE ENGINEER.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE RAILING BY THE NUMBER OF FEET OF RAILING EXTENDING HORIZONTALLY FROM END TO END OF RAILINGS.

BASIS OF PAYMENT:

ALL MATERIALS AND LABOR NECESSARY TO PREPARE SHOP DRAWINGS AND FURNISH, FABRICATE, COAT, AND ERECT THE RAILINGS AND ALUMINUM POST ORNAMENTS ON THE BRIDGE AND WINGWALLS, AS SPECIFIED IN THESE NOTES AND ON THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE RAILING.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 517 - RAILING, MISC.: GALVANIZED AND PAINTED STEEL RAILING, TEXAS TYPE T80HT WITH PAINTED ALUMINUM POST ORNAMENTS, PER FOOT.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF "A" KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF "B".

LOCATION: A (KIPS) B (IN)

OUTSIDE FASCIA GIRDERS (G1 & G20)	2.3	47
MEDIAN FASCIA GIRDERS (G10 & G11)	2.5	52
PHASE 2 FASCIA GIRDERS (G4 & G17)	2.3	65

**ITEM SPECIAL - SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL 70 BRIDGE COTE W/SILANE**

THIS WORK SHALL INCLUDE SEALING OF THE CONCRETE SURFACES USING XL70 BRIDGE COTE W/SILANE AS PER THE MANUFACTURER'S RECOMMENDATIONS WITH THE FOLLOWING REQUIREMENTS, AT THE LOCATIONS SHOWN IN THE PLANS.

MEET THE SURFACE PREPARATION REQUIREMENTS FOR NON-EPOXY SEALERS PER CMS 512.03.F AND REMOVE ANY CURING COMPOUNDS PER THE MANUFACTURER'S RECOMMENDATIONS.

AT LEAST 5 DAYS BEFORE SEALING, PROVIDE THE ENGINEER THE SEALER MANUFACTURER'S WRITTEN REQUIREMENTS FOR APPLICATION EQUIPMENT, MIXING EQUIPMENT, MIXING PROCEDURES, MIXING TIME, STORAGE REQUIREMENTS, AND TECHNICAL AND SAFETY DATA SHEETS.

SEE SHEET 3 / 70 FOR FINISH COLORS.

SAGS AND RUNS ARE NOT ACCEPTABLE IN THE SEALER.

THE DEPARTMENT WILL MEASURE THE SEALING OF CONCRETE SURFACES BY THE NUMBER OF SQUARE YARDS OF COATED AREA PROJECTED TO A TWO-DIMENSIONAL SURFACE.

THE DEPARTMENT WILL CONSIDER THE REMOVAL OF DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE AND OTHER FOREIGN MATERIALS AS INCIDENTAL TO THE SURFACE PREPARATION OF THE CONCRETE SURFACE TO BE SEALED.

NO.	DESCRIPTION	REV. BY	DATE
C	ADDED "ITEM SPECIAL - SEALING OF CONCRETE SURFACES" NOTE	BES	3/3/22

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**ESTIMATED QUANTITIES**

ITEM	ITEM EXT.	TOTAL LEFT	TOTAL RIGHT	UNIT	DESCRIPTION	ESTIMATED QUANTITIES								SHEET REF.
						LEFT BRIDGE				RIGHT BRIDGE				
						ABUTMENTS	PIER	SUPERSTR.	GENERAL	ABUTMENTS	PIER	SUPERSTR.	GENERAL	
202	11003	LS	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS				LS	3, 11 - 13 / 70
202	22900	134	134	SY	APPROACH SLAB REMOVED				134				134	
202	23500	134	936	SY	WEARING COURSE REMOVED				134				936	
503	11101	LS	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS				LS	3, 14 - 17 / 70
503	21301	LS	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN				LS				LS	3 / 70
504	11101	2073	2073	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN	2073				2073				3, 14 - 17 / 70
**	509	10000	331183	331183	LB	EPOXY COATED REINFORCING STEEL	119605	38455	119356	53767	119605	38455	119356	53767
	509	30020	9429	9429	FT	NO. 4 GFRP DEFORMED BARS				9429				9429
	511	34447	492	492	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			492				492	3, 46 / 70
	511	33500	2	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				2			
	511	34451	91	91	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			50	41			50	41
	511	41013	159	159	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN		159				159		3 / 70
	511	44113	395	395	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	395				395			3 / 70
**	511	46013	451	451	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN				451			451	3 / 70
**	511	46513	1003	1003	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING, AS PER PLAN	888	115			888	115		3 / 70
	511	53014	61	61	CY	CLASS QC3 CONCRETE, MISC.: MUDMAT	47	11		3	47	11	3	3 / 70
*	511	53014	10	10	CY	CLASS QC3 CONCRETE, MISC.: PRECAST CONCRETE ARCH PANELS			10				10	3 / 70
**	SPECIAL	51275500	1529	1531	SY	SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL TO BRIDGE COTE W/ SILANE	233	199	540	557	234	199	540	558
△	512	35000	11	11	SY	TYPE 2 WATERPROOFING	32			39	32		39	
**	513	10281	354300	354300	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN			354300				354300	3, 40, 41 / 70
	513	20000	5460	5460	EACH	WELDED STUD SHEAR CONNECTORS			5460				5460	
*	514	00060	2023	2023	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			2023				2023	
*	514	00067	2023	2023	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			2023				2023	3 / 70
	516	10010	182	182	FT	ARMORLESS PREFORMED JOINT SEAL				182			182	
	516	13600	416	416	SF	1" PREFORMED EXPANSION JOINT FILLER	62	32	6	316	62	32	6	316
	516	13900	222	222	SF	2" PREFORMED EXPANSION JOINT FILLER			93	129			93	129
	516	14020	190	190	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	190				190			
	516	44101	10	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-5" x 1'-3" x 2.649" BEARING)		10				10		43 / 70
	516	44201	20	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-3" x 1'-0" x 3.224" BEARING)	20				20			43 / 70
*	517	76300	194	194	FT	RAILING, MISC.: GALVANIZED AND PAINTED STEEL RAILING, TEXAS TYPE T80HT WITH PAINTED ALUMINUM POST ORNAMENTS				194			194	5 / 70
**	518	21200	603	604	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	241			362	241		363	
	518	40000	672	672	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	190			482	190		482	
	518	40010	235	249	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	85			150	86		163	
	526	30011	530	530	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				530			530	3 / 70
	526	90030	182	182	FT	TYPE C INSTALLATION				182			182	
*	602	97000	4738	4845	SF	MASONRY, MISC.: STONE FACING	1562	1085		2091	1663	1085	2097	4 / 70

**LEGEND:**

- \* = DESIGNATED PAY ITEMS ARE FULLY INCLUDED IN THE FUNDING PARTICIPATION SPLIT CODE 05/S>2/OT/DUB.
- \*\* = DESIGNATED PAY ITEMS ARE PARTIALLY INCLUDED IN THE FUNDING PARTICIPATION SPLIT CODE 05/S>2/OT/DUB, AS FOLLOWS:  
 79292 LB FOR ITEM 509 - EPOXY COATED REINFORCING STEEL  
 322 CY FOR ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN  
 518 CY FOR ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, FOOTING, AS PER PLAN  
 258 SY FOR ITEM SPECIAL - SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL TO BRIDGE COTE W/ SILANE  
 5200 LB FOR ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN  
 290 CY FOR ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC  
 THE QUANTITIES ABOVE ARE TOTALS FOR LEFT & RIGHT BRIDGES COMBINED.

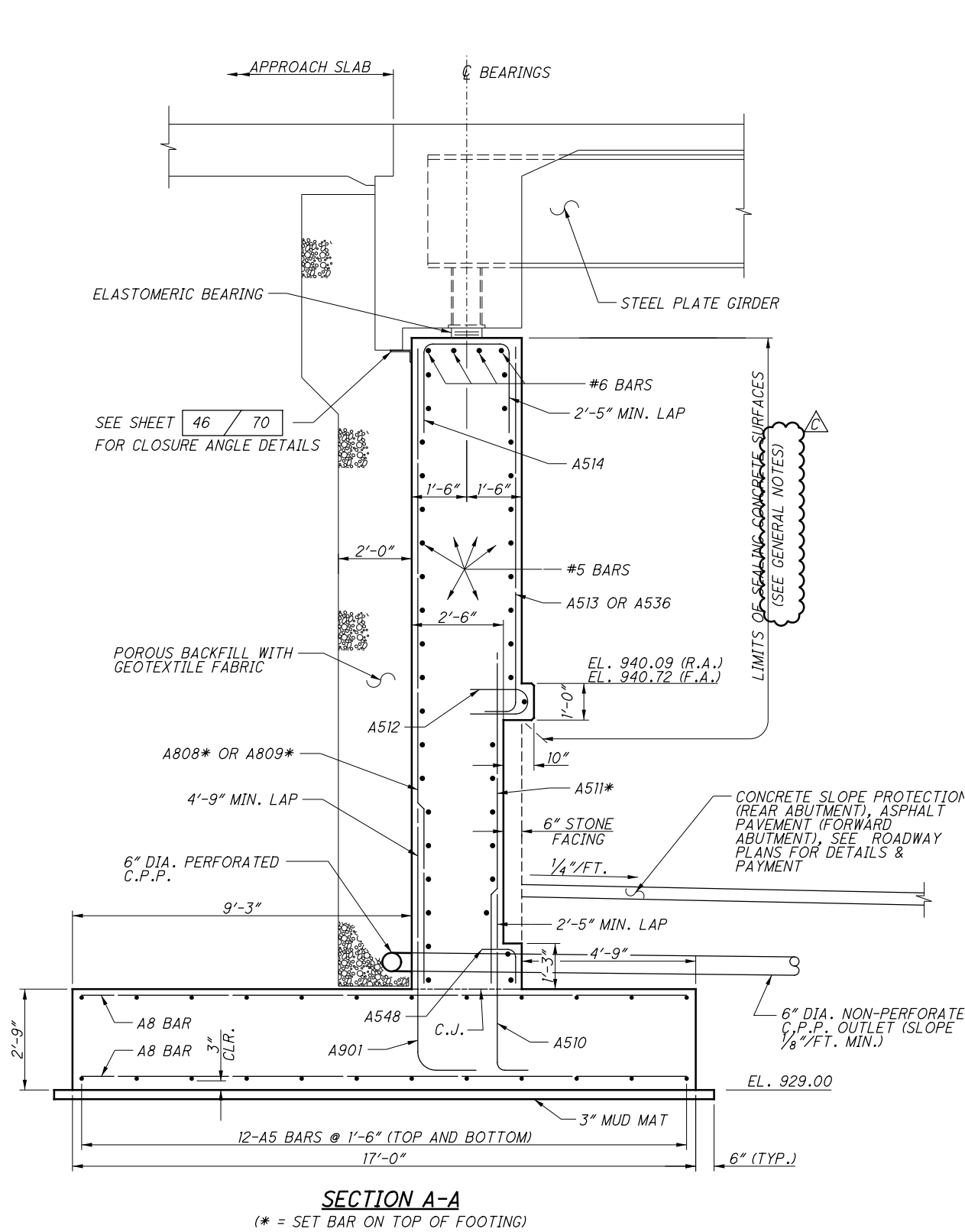
**NOTES:**

1. UNLESS NOTED OTHERWISE, ALL PAY ITEMS ARE INCLUDED IN THE FUNDING PARTICIPATION SPLIT CODE 03/NHS/BR.

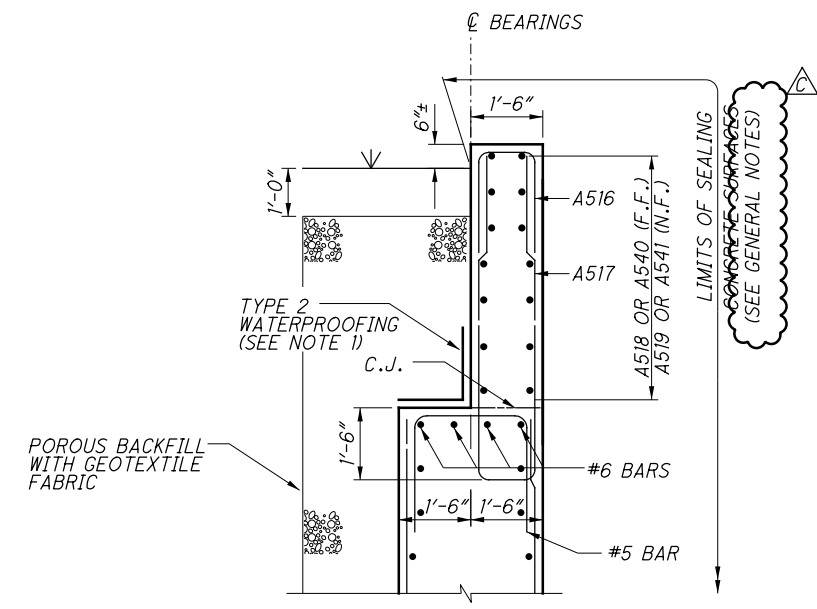
NO.	DESCRIPTION	REV. BY	DATE
C	UPDATED NOTE IN LEGEND AND REVISED ESTIMATED QUANTITIES	BES	3/3/22

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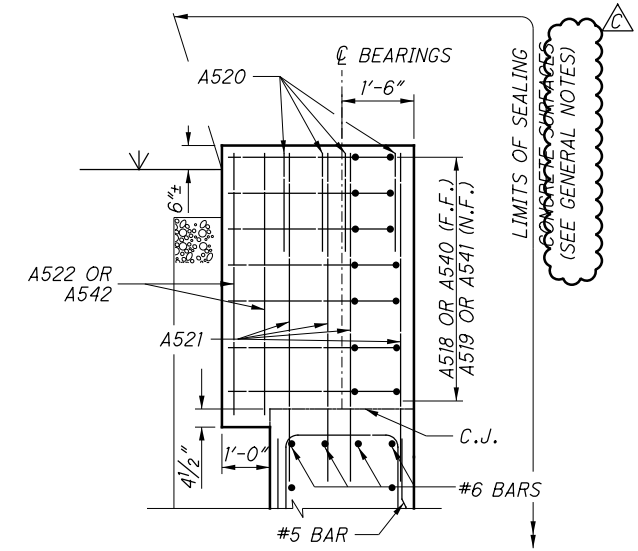
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**SECTION A-A**  
(\* = SET BAR ON TOP OF FOOTING)



**SECTION B-B**



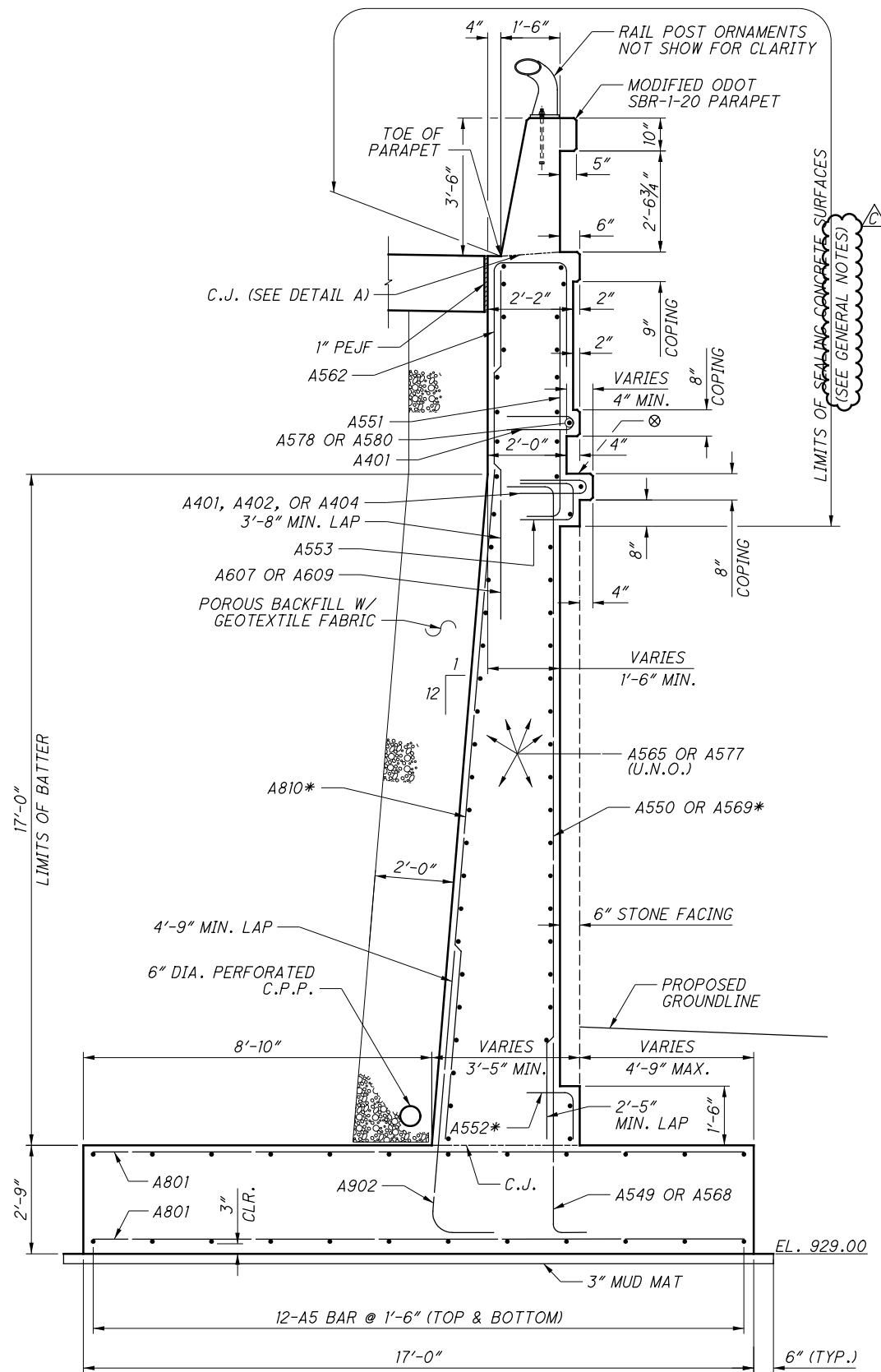
**SECTION C-C**

**NOTES**

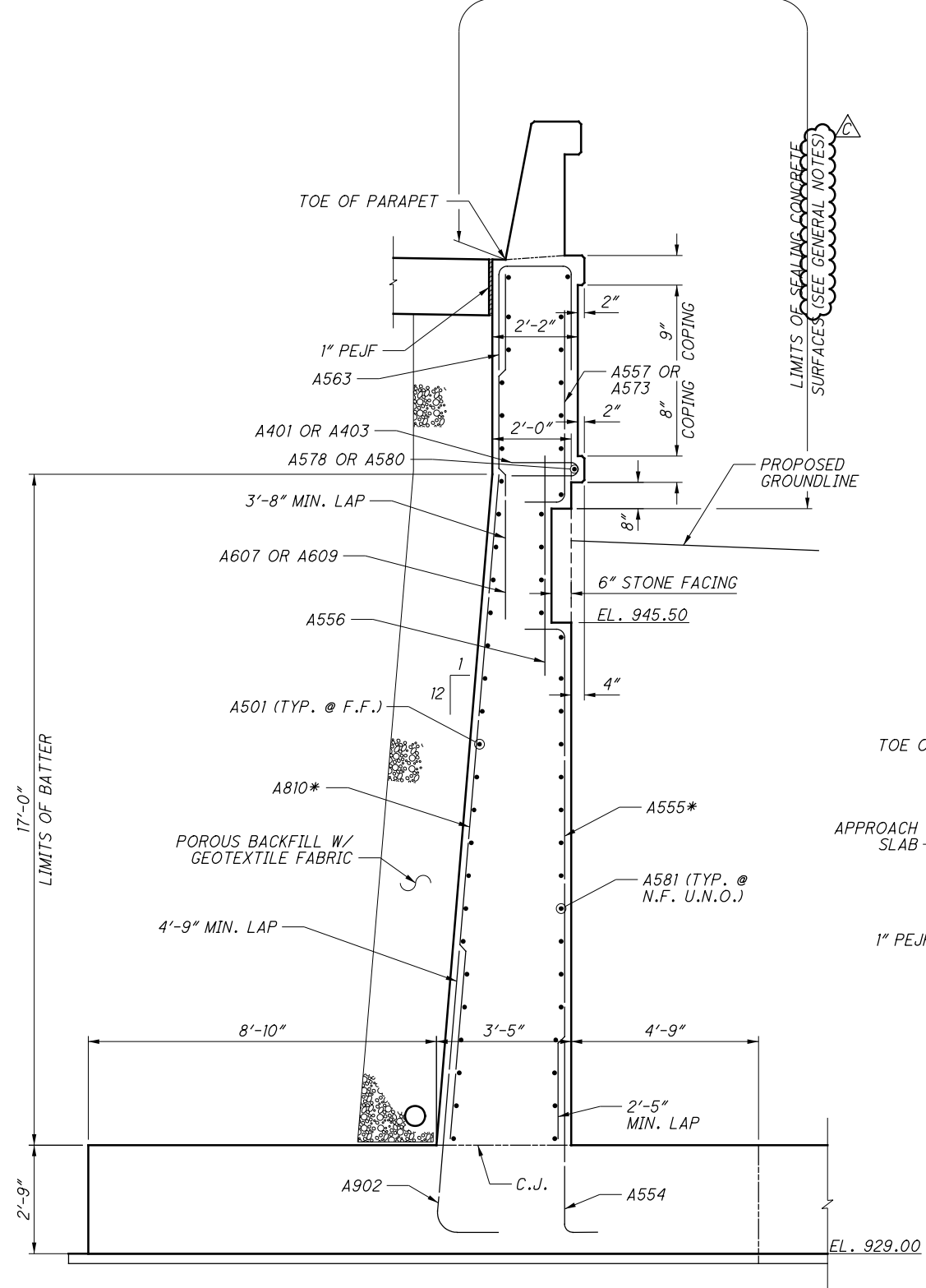
1. CENTER 3'-0" WIDE TYPE 2 WATERPROOFING ON CONSTRUCTION JOINT.
2. LOCATE PERFORATED PIPE AS CLOSE TO TOP OF FOOTING AS PRACTICABLE, WHILE MAINTAINING A SLOPE OF 1/8" PER FOOT TOWARDS OUTLET.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

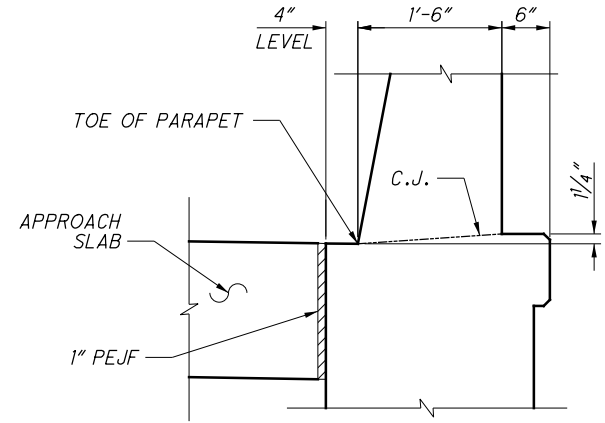
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**SECTION I-I**



**SECTION J-J**  
(SEE SECTION I-I FOR DETAILS NOT SHOWN)



**DETAIL A**

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

**NOTE**

1. LOCATE PERFORATED PIPE AS CLOSE TO TOP OF FOOTING AS PRACTICABLE, WHILE MAINTAINING A SLOPE OF 1/8" PER FOOT TOWARDS OUTLET.

**LEGEND**

\* = SET ON TOP OF FOOTING  
 ⊗ = SLOPE AT 1/8" PER FOOT TO DRAIN AWAY FROM WALL

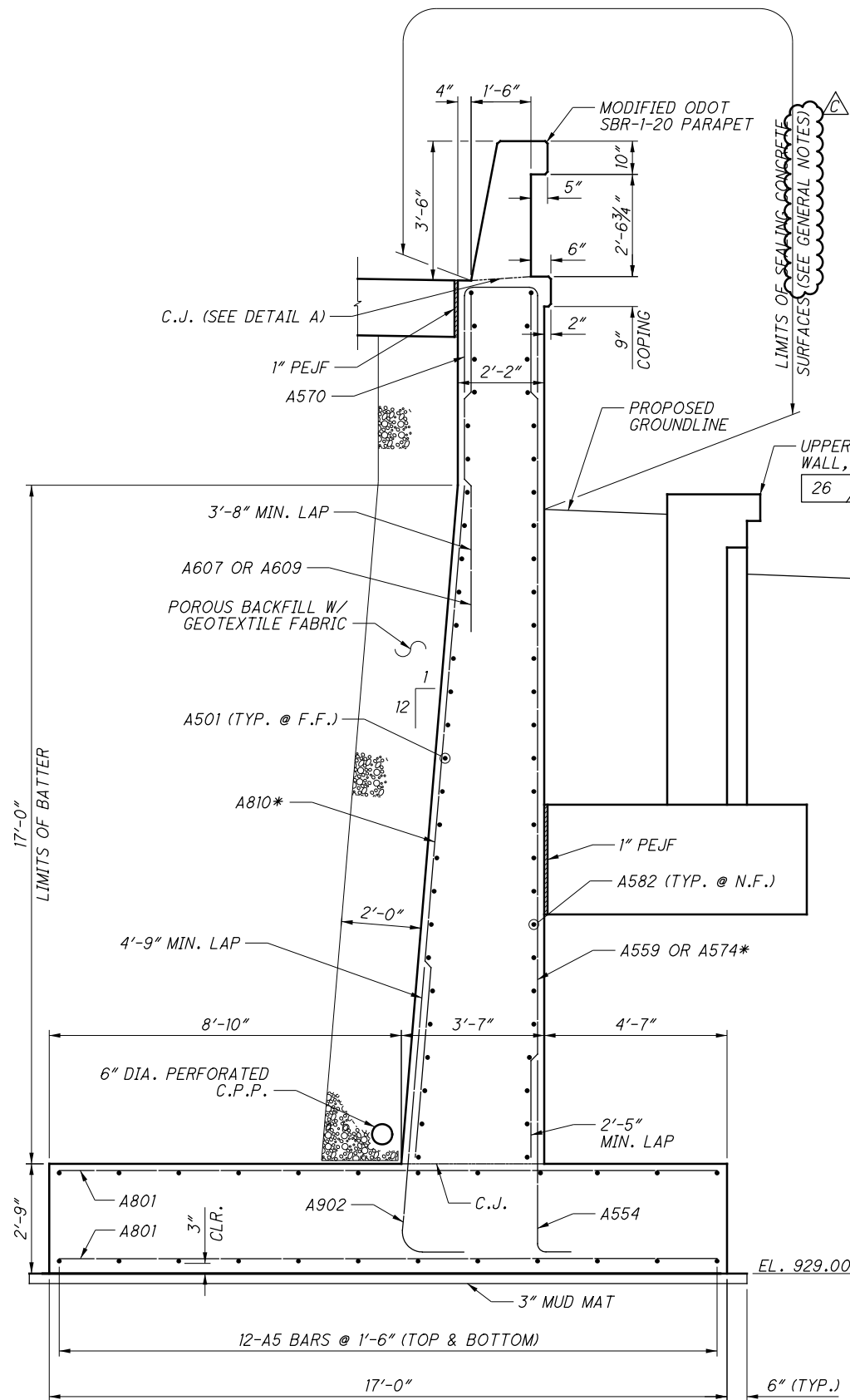
NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

**LEGEND**

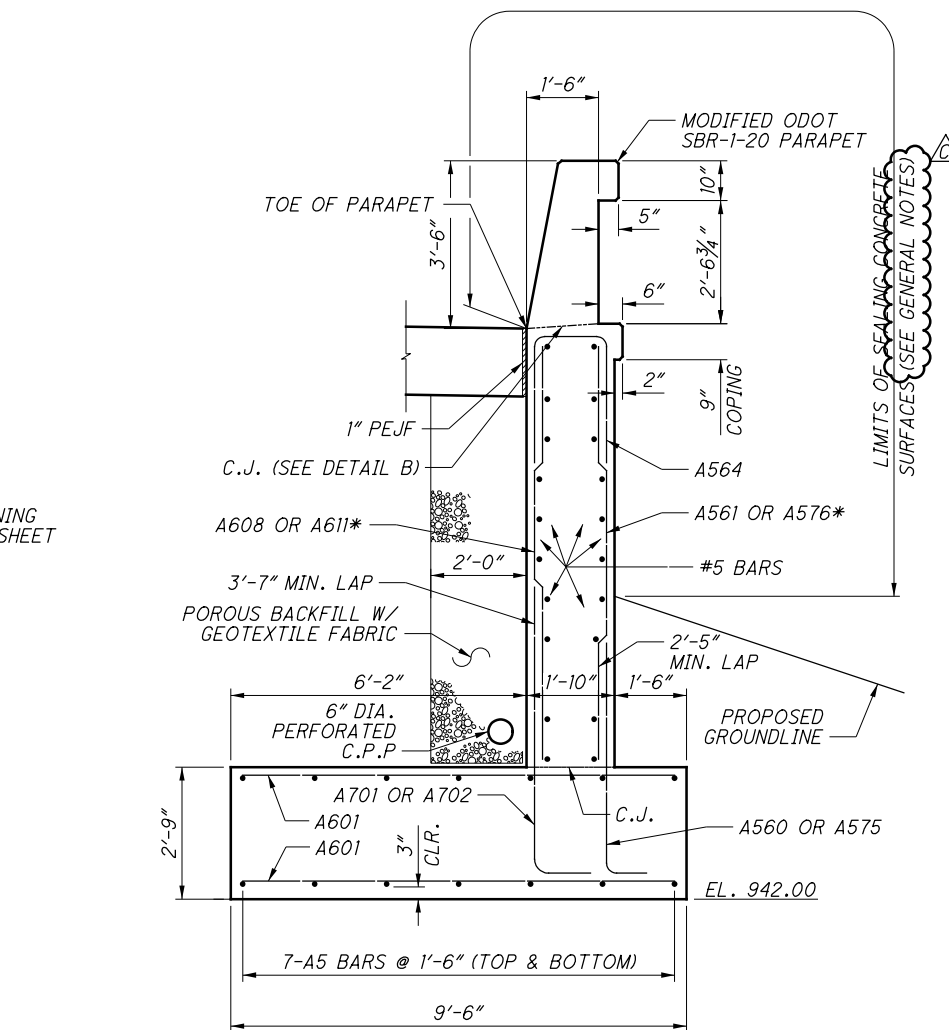
\* = SET ON TOP OF FOOTING

**NOTES:**

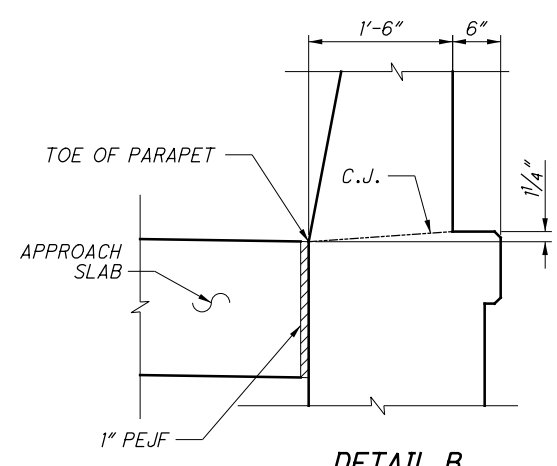
- SEE SHEET 31 / 70 FOR DETAIL A.
- LOCATE PERFORATED PIPE AS CLOSE TO TOP OF FOOTING AS PRACTICABLE, WHILE MAINTAINING A SLOPE OF 1/8" PER FOOT TOWARDS OUTLET.



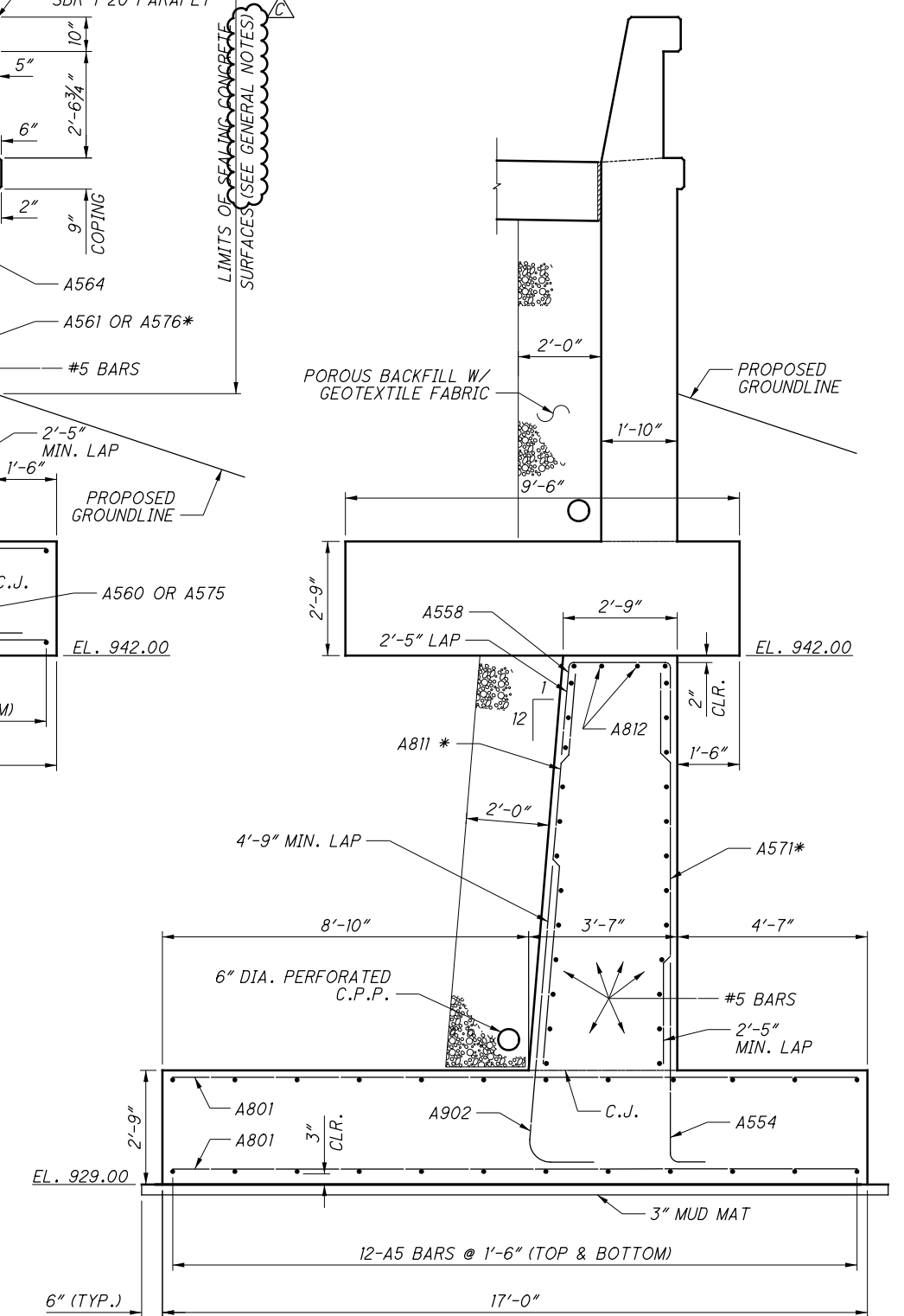
**SECTION K-K**



**SECTION L-L**



**DETAIL B**

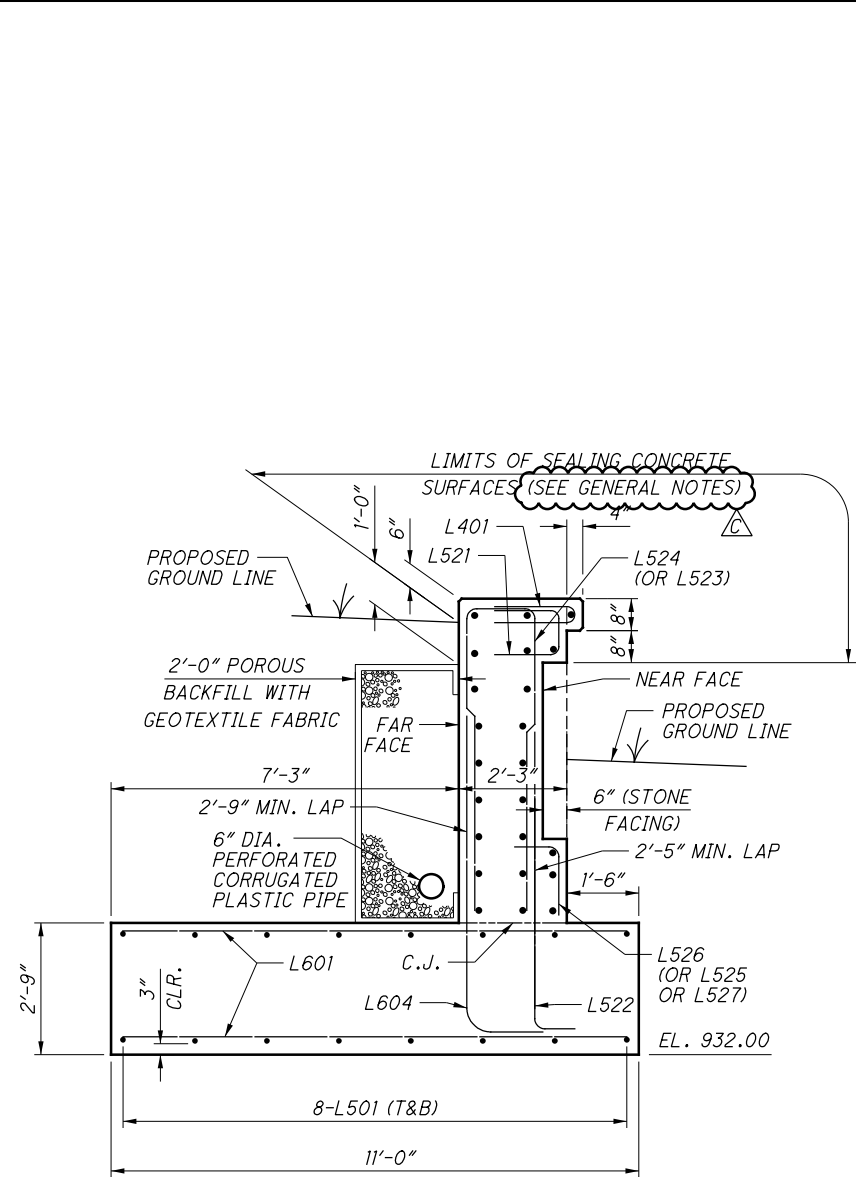


**SECTION M-M**

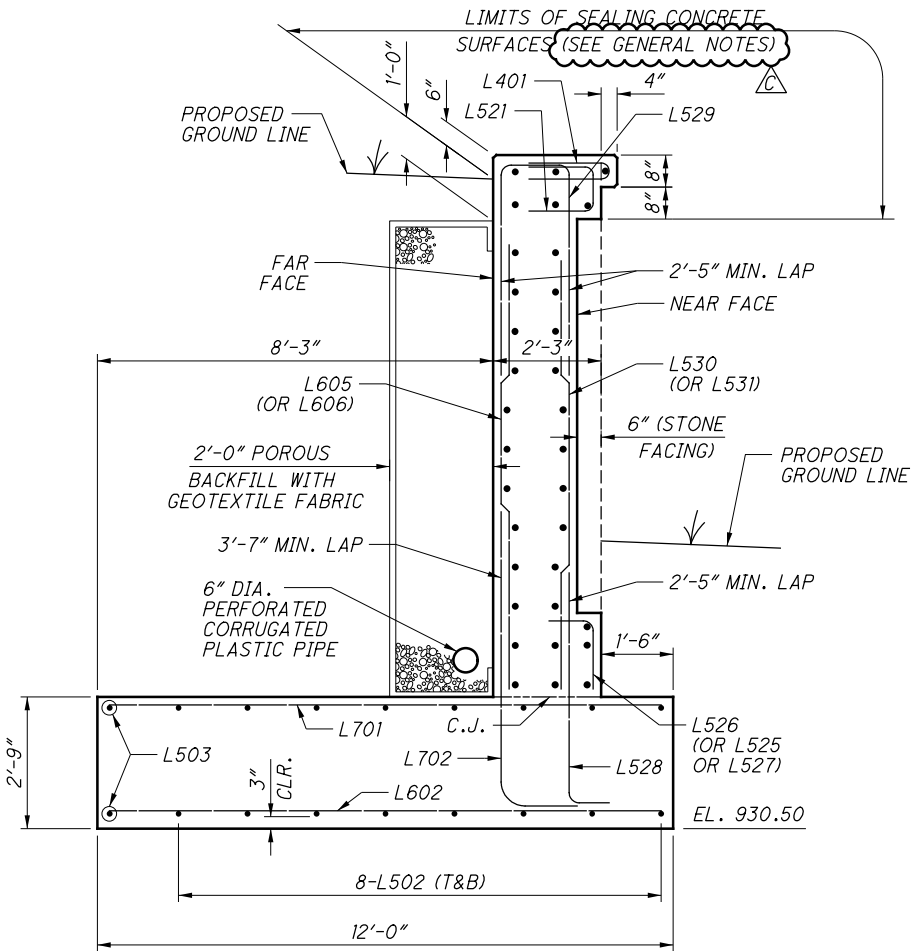
(SEE SECTION L-L FOR DETAILS NOT SHOWN)  
(REINFORCING NOT SHOWN IN UPPER WALL FOR CLARITY)

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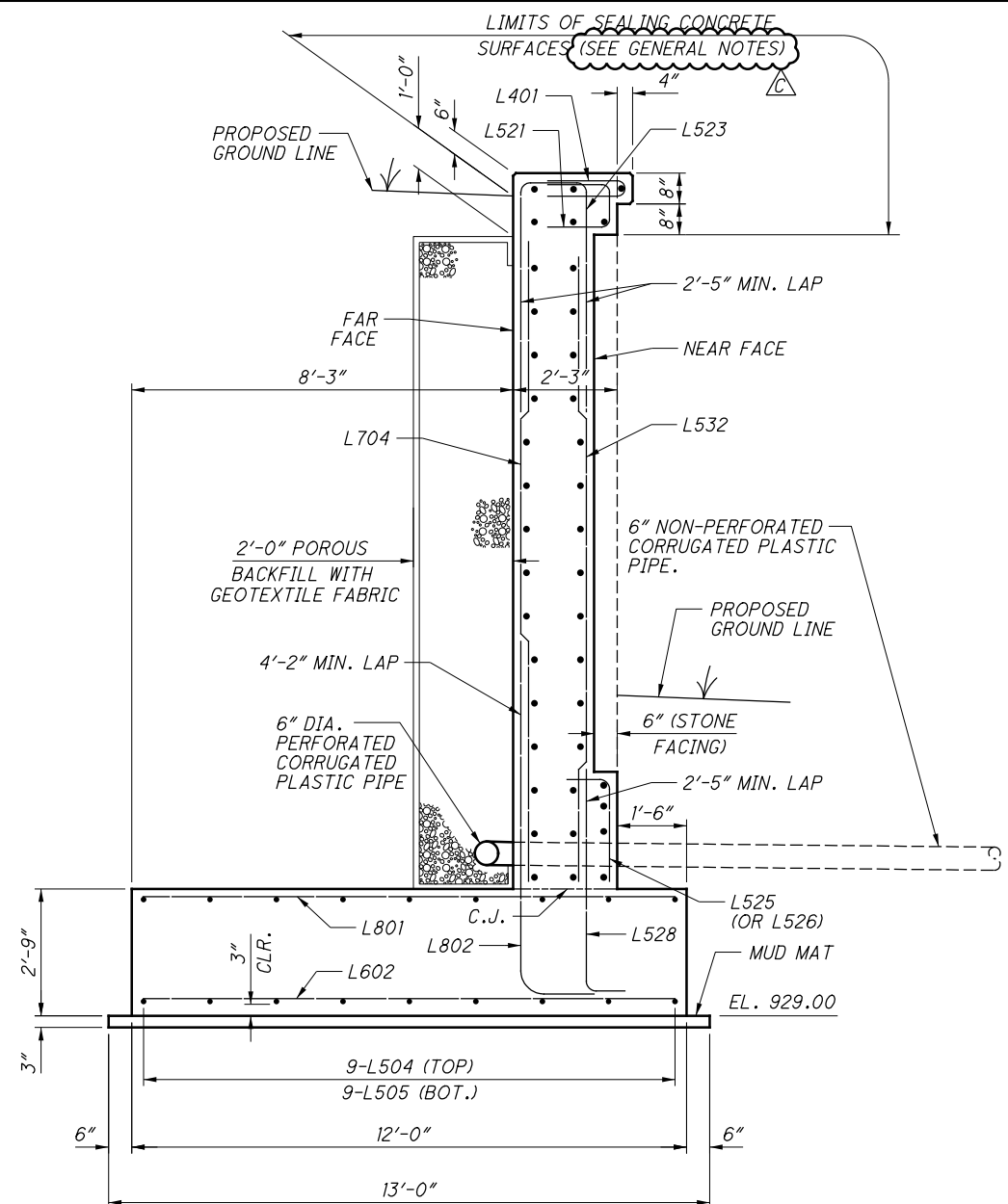
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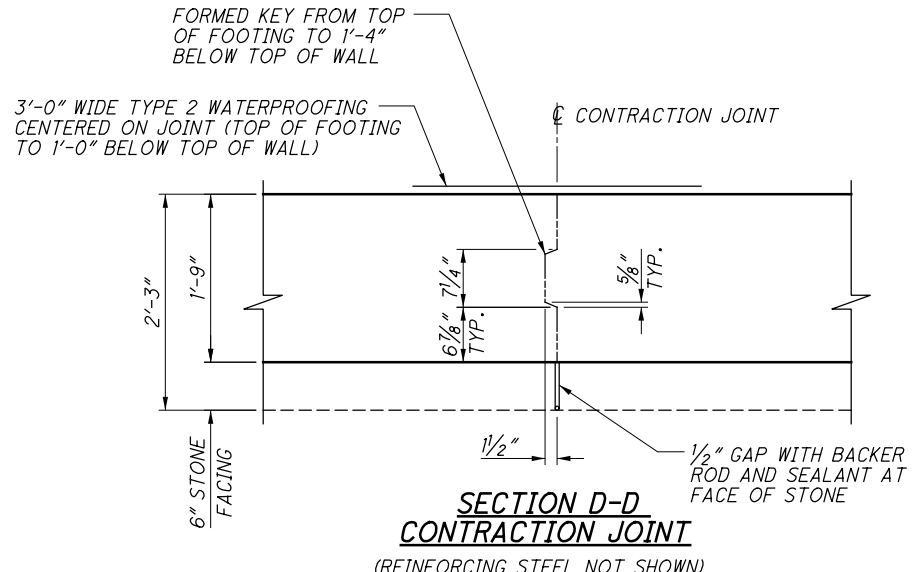
**SECTION A-A**  
 (ALL BARS NORMAL TO THE SECTION ARE #5 BARS)  
 (SEE NOTE 1)



**SECTION B-B**  
 (ALL BARS NORMAL TO THE SECTION ARE #5 BARS)  
 (SEE NOTE 1)



**SECTION C-C**  
 (ALL BARS NORMAL TO THE SECTION ARE #5 BARS)  
 (SEE NOTE 1)



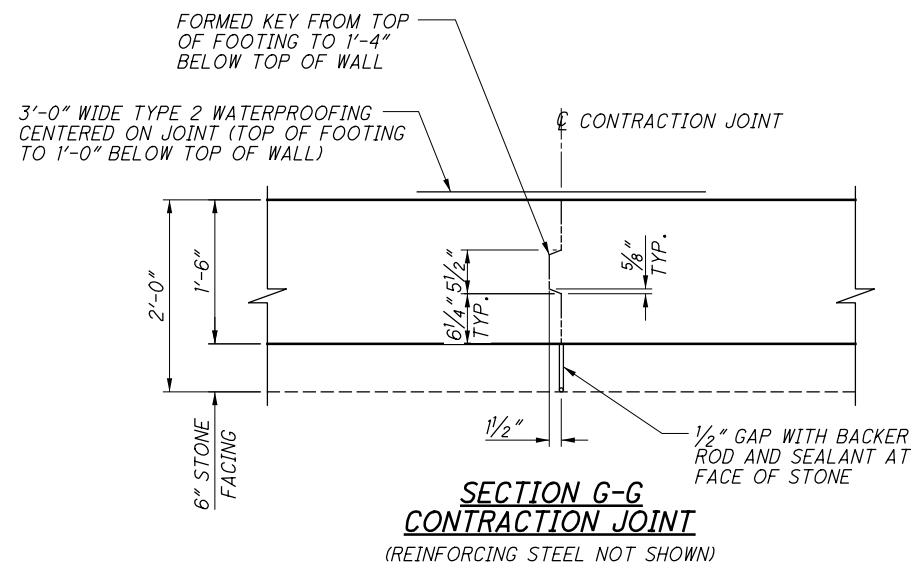
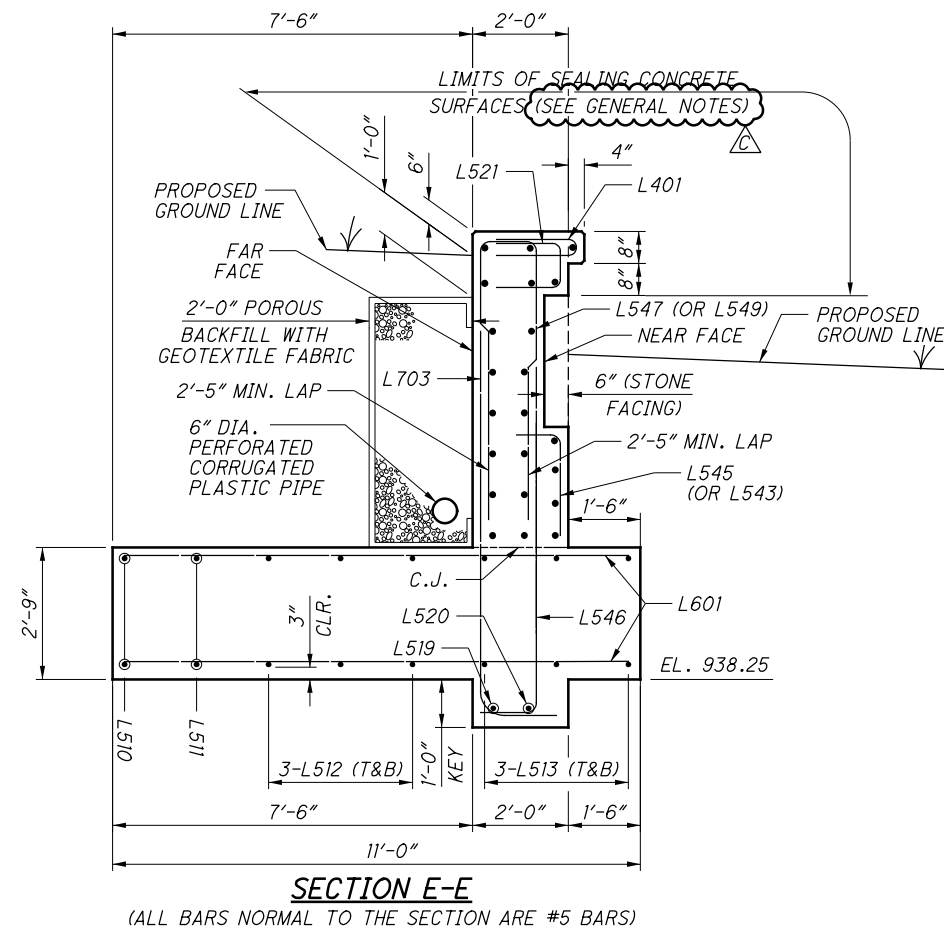
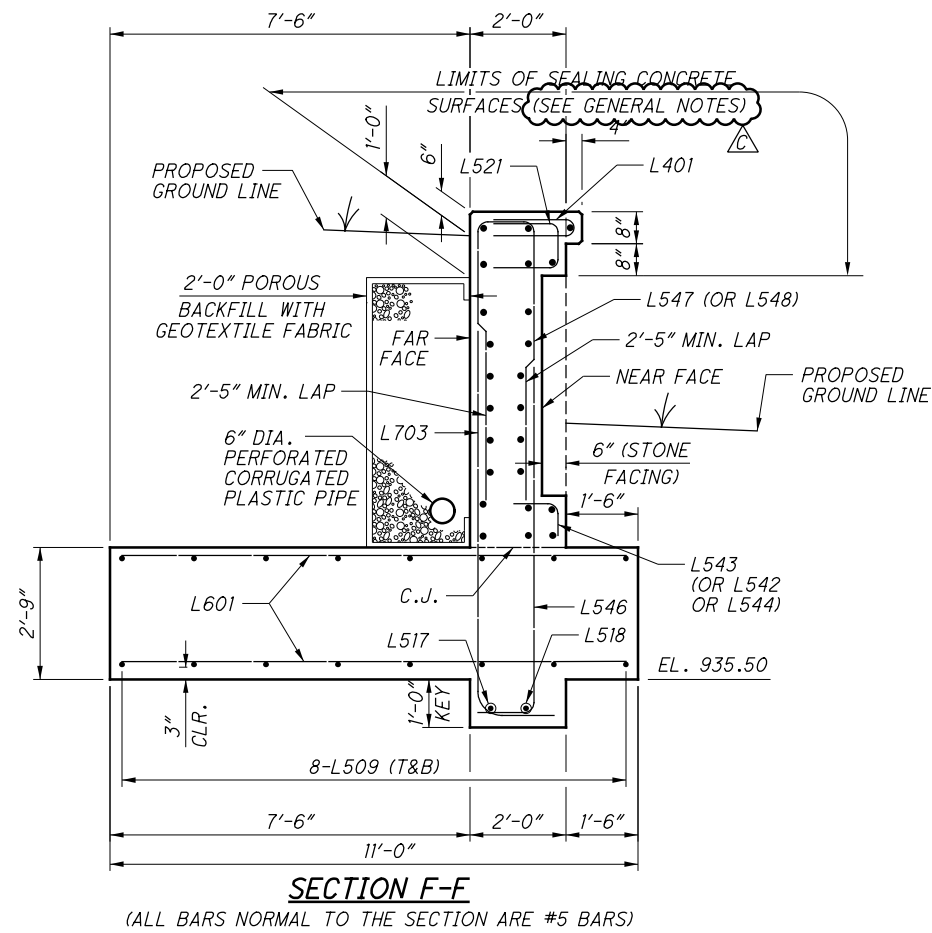
**SECTION D-D**  
**CONTRACTION JOINT**  
 (REINFORCING STEEL NOT SHOWN)

**NOTES:**  
 1. SEE SHEET 25 / 70 FOR LOCATION OF SECTIONS A-A, B-B, C-C, D-D AND OTHER DETAILS.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22



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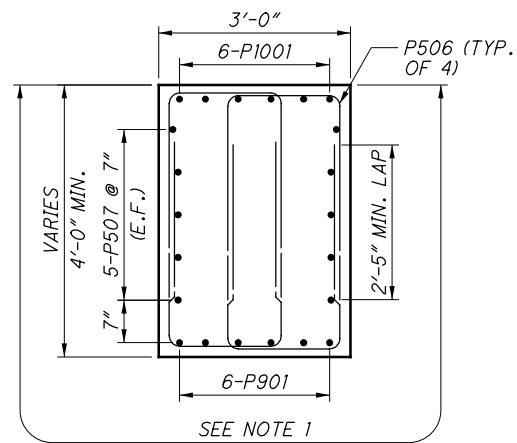


**NOTES:**

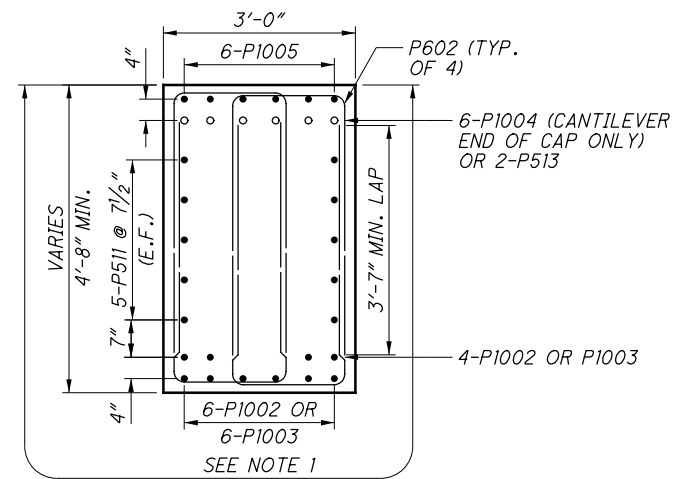
- SEE SHEET 28 / 70 FOR LOCATION OF SECTIONS F-F, E-E, G-G AND OTHER DETAILS.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

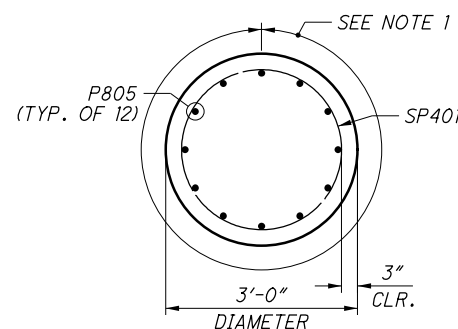
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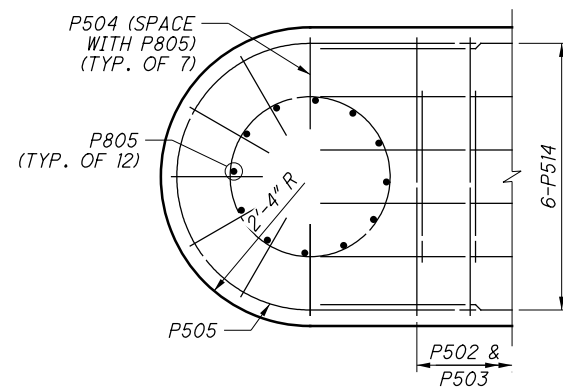
**SECTION A-A**



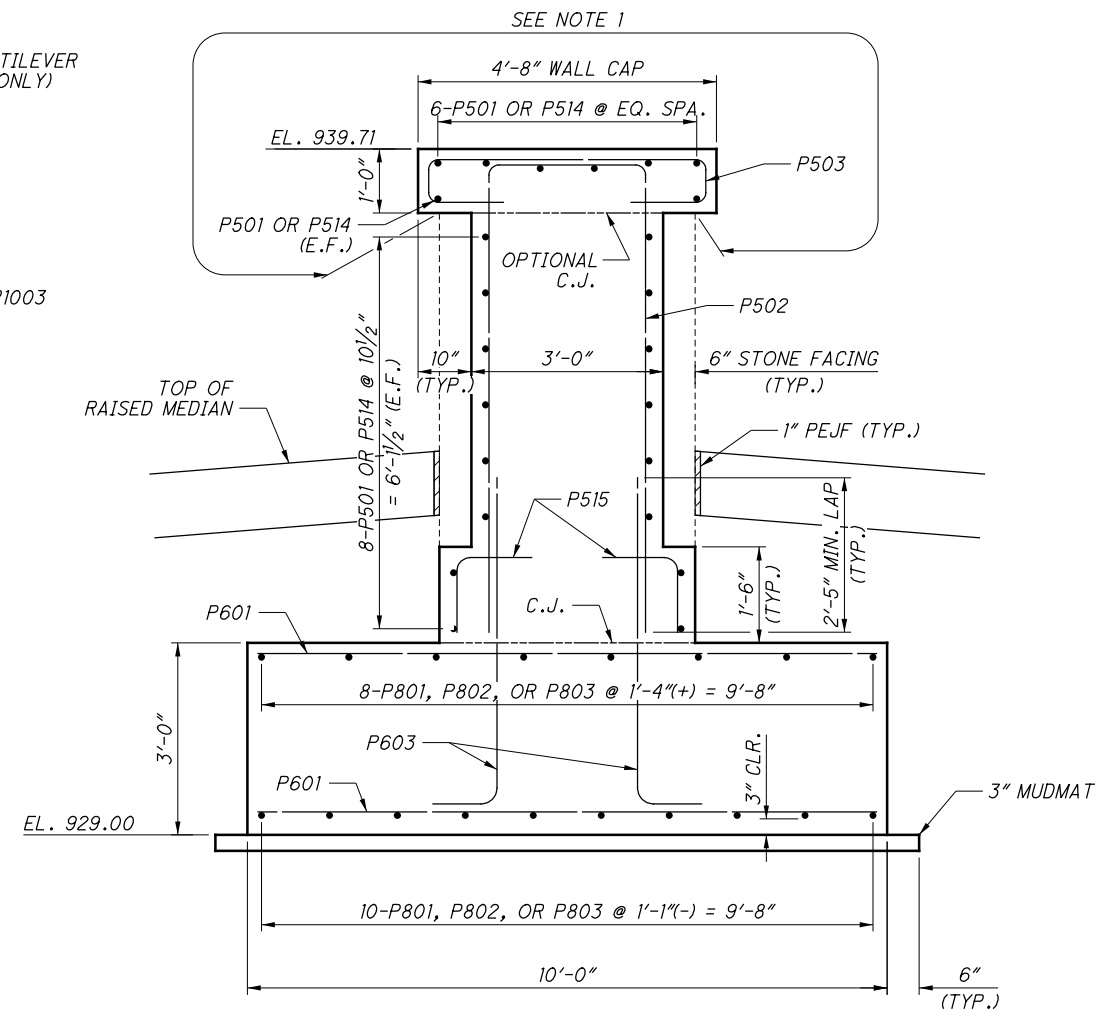
**SECTION B-B**



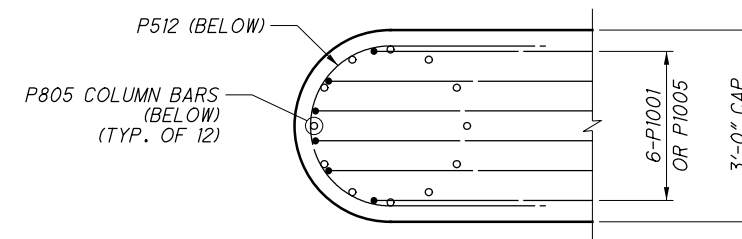
**SECTION C-C**



**SECTION E-E**

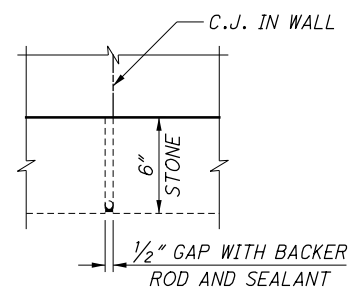


**SECTION D-D**

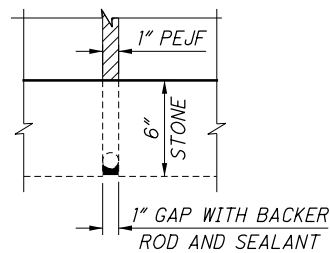


**VIEW F-F**

(PLACEMENT OF TOP PIER CAP BARS AT ROUNDED ENDS)  
(LEFT END OF CAP SHOWN, RIGHT END OPPOSITE HAND)  
(SHEAR STIRRUPS NOT SHOWN)



**WALL CONSTRUCTION JOINT DETAIL**



**WALL EXPANSION JOINT DETAIL**

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED NOTE 1	BES	3/3/22

**NOTES:**

1. SEAL CONCRETE SURFACES ABOVE GRADE TO LIMITS SHOWN (SEE GENERAL NOTES).

**BURGESS & NIPLÉ**  
Engineers - Architects - Planners  
9085 REED ROAD, COLUMBUS, OHIO 43220

DATE: 2/25/21  
REVIEWED: JCS  
DRAWN: JMK  
DESIGNED: JMK  
CHECKED: BES

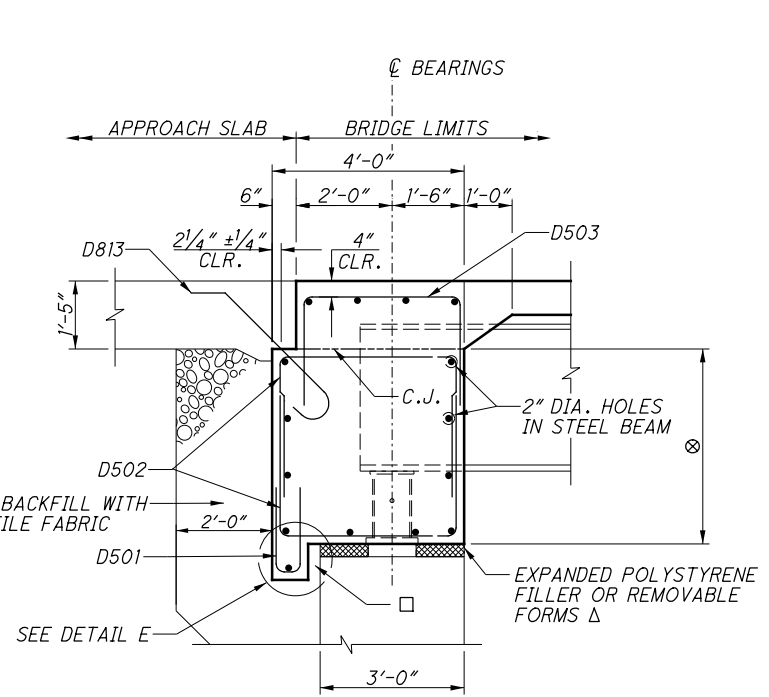
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**PIER SECTIONS AND DETAILS**  
BRIDGE NO. UNI-33-2489 L/R  
OVER SR-161

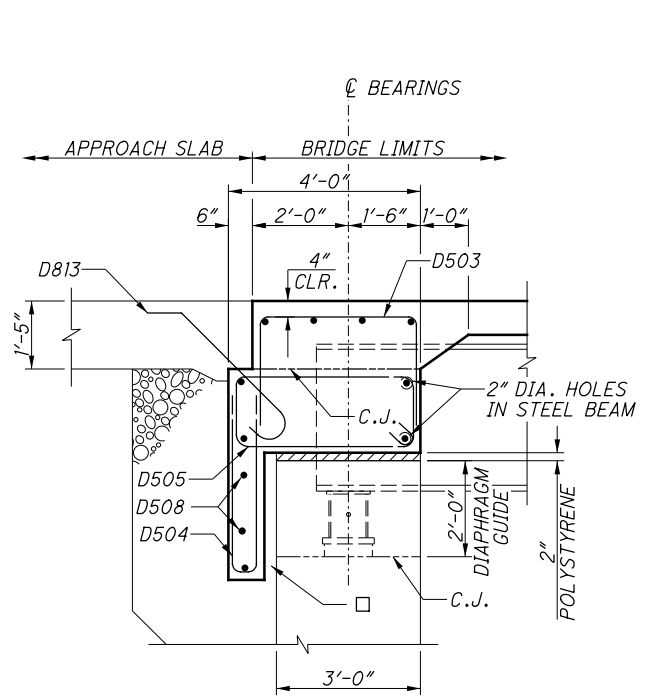
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37/70

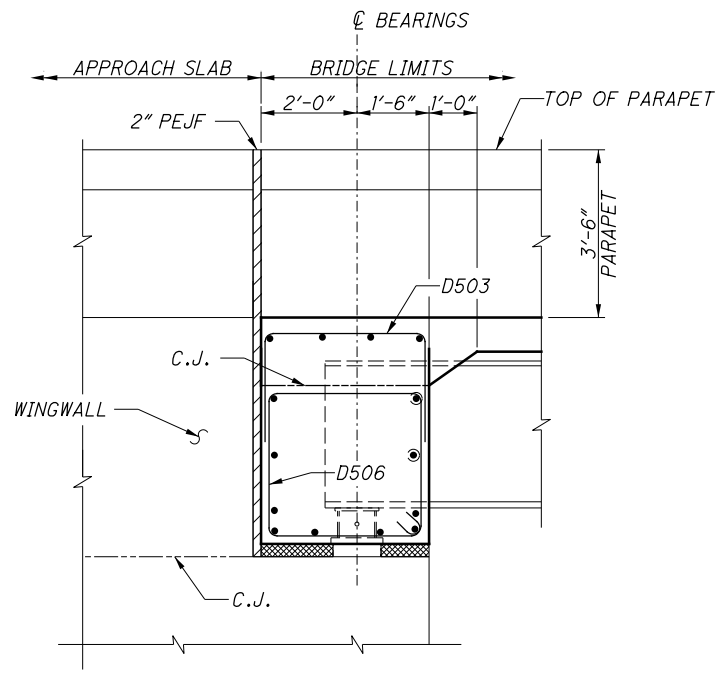
807  
923



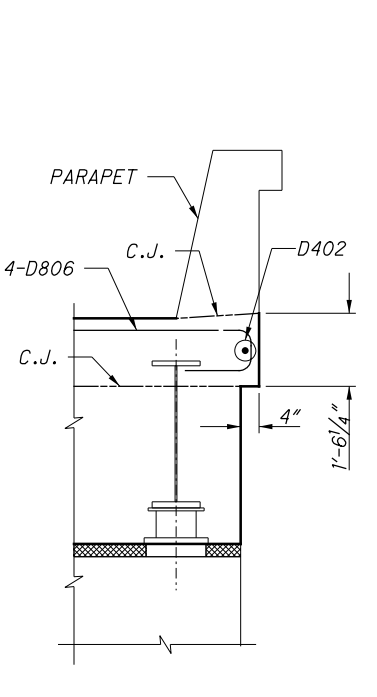
**SECTION A-A**  
 (ALL BARS NORMAL TO SECTION ARE D8)



**SECTION B-B**  
 (ALL BARS NORMAL TO SECTION ARE D8 U.N.O.)  
 (SEE SECTION A-A FOR DIMENSIONS NOT SHOWN)



**SECTION C-C**  
 (ALL BARS NORMAL TO SECTION ARE D8)  
 (SEE SECTION A-A FOR DIMENSIONS NOT SHOWN)



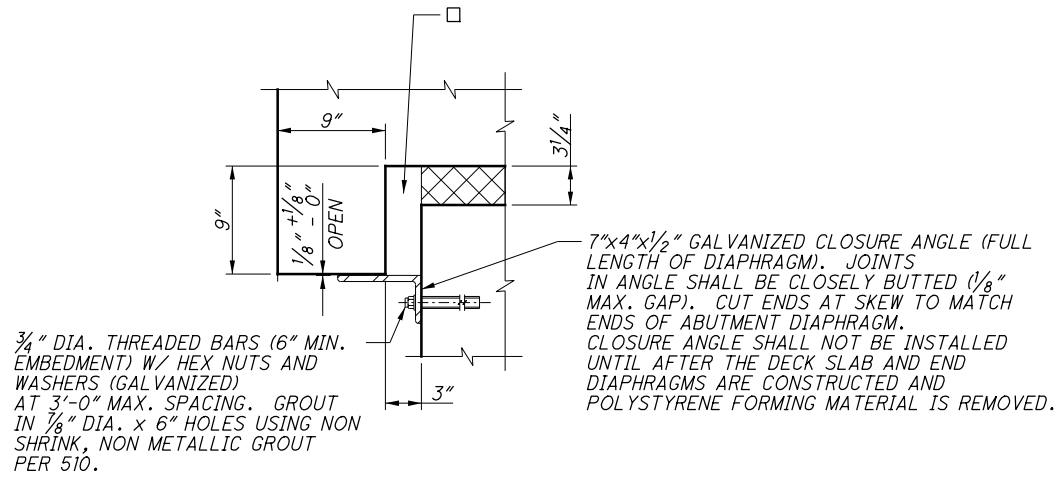
**SECTION D-D**

**LEGEND:**

- Δ = INCLUDED WITH SUPERSTRUCTURE CONCRETE FOR PAYMENT. REMOVE FORMING MATERIALS TO A DEPTH OF 1'-0" OR TO THE NEAR FACE OF THE ELASTOMERIC BEARINGS.
- = FORM OPENING BETWEEN ABUTMENT AND END DIAPHRAGM USING POLYSTYRENE OR REMOVABLE FORMS. COMPLETELY REMOVE FORMING MATERIAL BETWEEN BACK FACE OF ABUTMENT AND END DIAPHRAGM LIP WITHIN 48 HOURS AFTER POUR
- ⊗ = LIMITS OF SEALING OF CONCRETE SURFACES (SEE GENERAL NOTES)

**NOTES:**

1. MINIMUM LAP LENGTHS SHALL BE AS FOLLOWS:  
 #8 BAR: 5'-0"
2. SEE MECHANICAL CONNECTOR NOTE ON SHEET 3 / 70.
3. SEE STANDARD DRAWING SICD-2-14 FOR DIAPHRAGM GUIDE DETAILS AND PAYMENT.
4. ALL ABUTMENT DIAPHRAGM CONCRETE SHALL BE ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN.
5. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASE THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.
6. PLACE TRANSVERSE STIRRUP BARS APPROXIMATELY PARALLEL TO THE GIRDERS. SPACING OF TRANSVERSE STIRRUP BARS IS MEASURED PARALLEL TO C/BRG. REAR OR FORWARD ABUTMENT.
7. PLACE NEOPRENE SHEETING, 3'-0" WIDE, CENTERED ON 1" AND 2" PEJF, AND EXTENDING UP TO THE APPROACH SLAB SEAT.
8. PLACE TYPE 2 WATERPROOFING, 3'-0" WIDE, CENTERED ON PHASE CONSTRUCTION JOINTS, FROM BEAM SEAT TO APPROACH SLAB SEAT.
9. SEE SHEET 54 / 70 FOR FINAL DECK SURFACE ELEVATIONS AT C/BEARINGS.
10. SEE SHEET 19 / 70 & 20 / 70 FOR DIAPHRAGM GUIDE LOCATION.

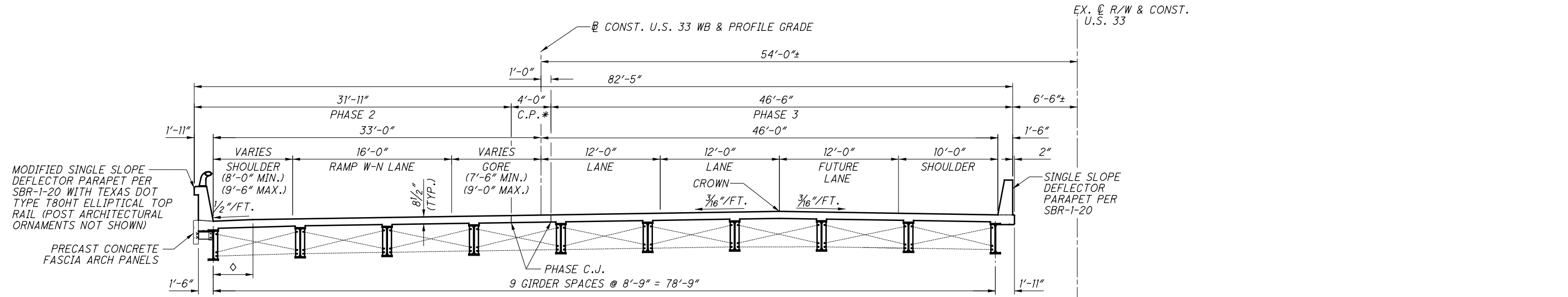


**DETAIL E**  
 ANGLES, THREADED BARS, GROUT, NUTS, AND WASHERS ARE CONSIDERED INCIDENTAL TO THE BID PRICE PER CUBIC YARD FOR ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN. GALVANIZING SHALL BE AS PER 711.02.

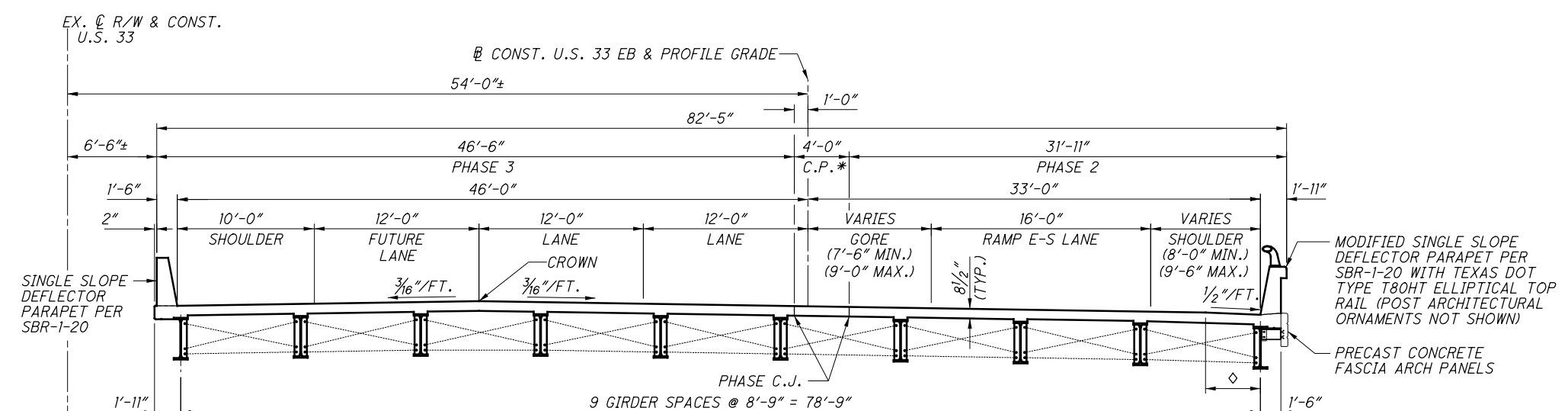
NO.	DESCRIPTION	REV. BY	DATE
C	REVISED LEGEND CALLOUT	BES	3/3/22

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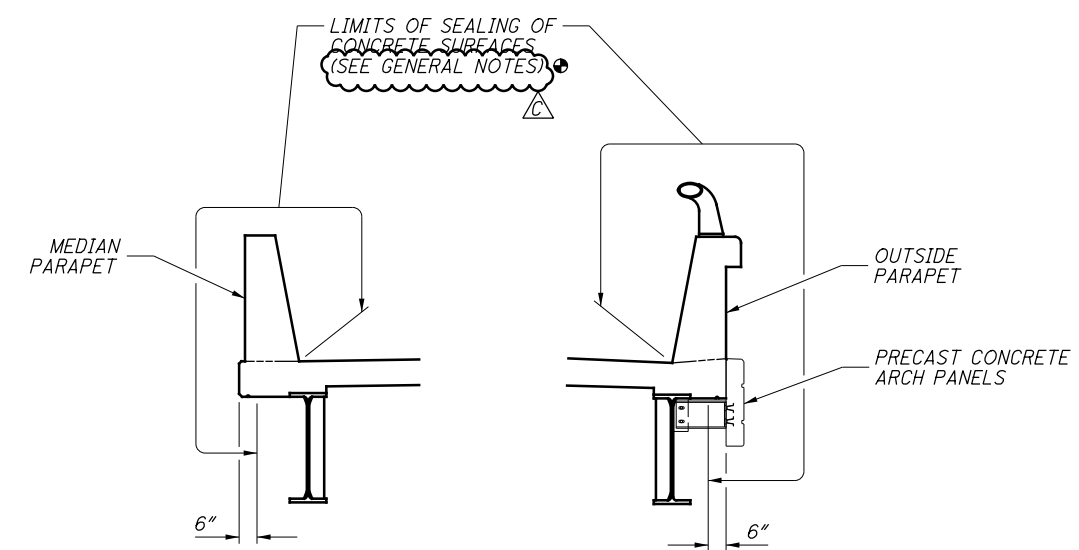
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**TRANSVERSE SECTION**  
LEFT BRIDGE



**TRANSVERSE SECTION**  
RIGHT BRIDGE



**CONCRETE SEALING LIMITS**

**LEGEND:**

- ◇ = 4'-0" (GRADE BREAK)
- \* = INSTALL CROSSFRAMES IN THIS BAY AFTER PHASE 3 CONSTRUCTION AND PRIOR TO CLOSURE POUR
- ⊙ = AT OUTSIDE PARAPETS, SEAL THE PARAPET SURFACES, THE VERTICAL SIDE FACE OF THE DECK, 6" ALONG THE UNDERSIDE OF THE DECK FASCIA, AND THE TOP, BOTTOM, AND OUTBOARD SURFACES OF THE PRECAST CONCRETE ARCH PANELS.

**NOTES:**

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3/2 INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.  
  
THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

**BURGESS & NIPLÉ**  
Engineers - Architects - Planners  
5085 REED ROAD, COLUMBUS, OHIO 43220

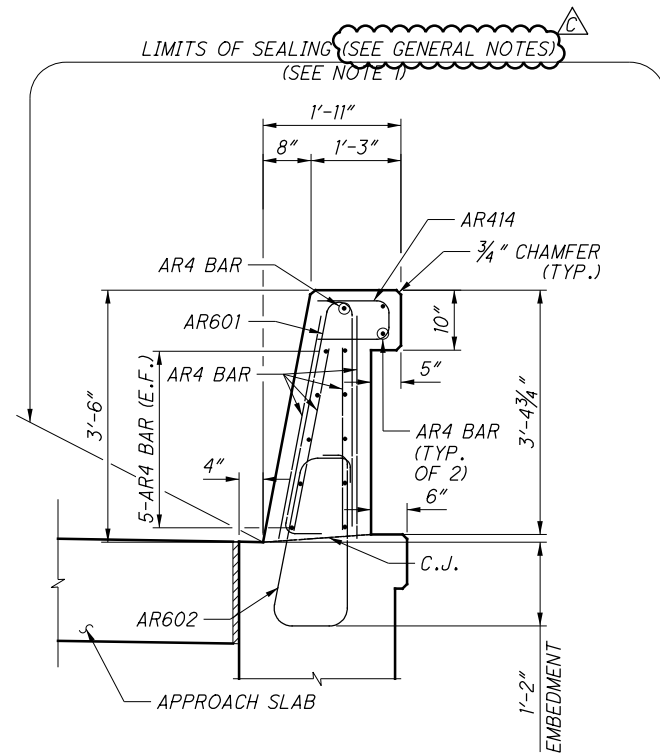
DESIGNED	CAS	CHECKED	JMK
DRAWN	AAA	REVISED	
REVIEWED	JCS	DATE	2/25/21
STRUCTURE FILE NUMBER	8001588L/8001618F		

**TRANSVERSE SECTION - 1**  
BRIDGE NO. UNI-33-2489 L/R  
OVER SR-161

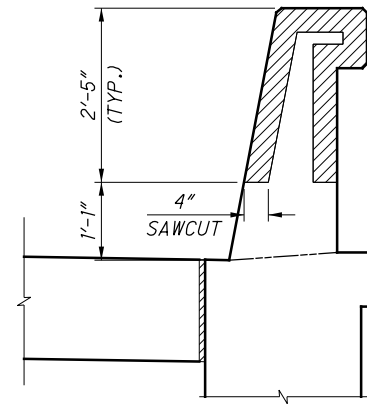
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47/70

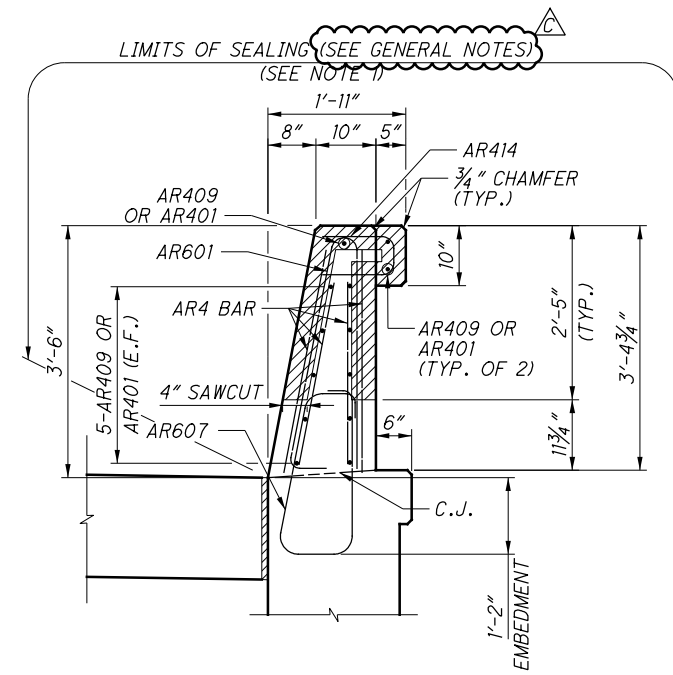
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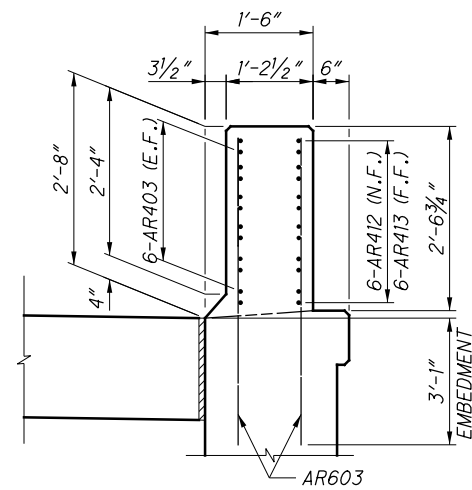
**SECTION A-A**  
(WINGWALL REINFORCING STEEL NOT SHOWN FOR CLARITY)



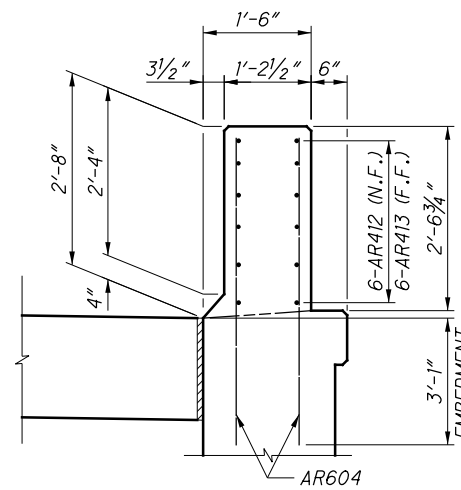
**SECTION A-A (SAWCUT DETAIL)**  
(REINFORCING STEEL NOT SHOWN)



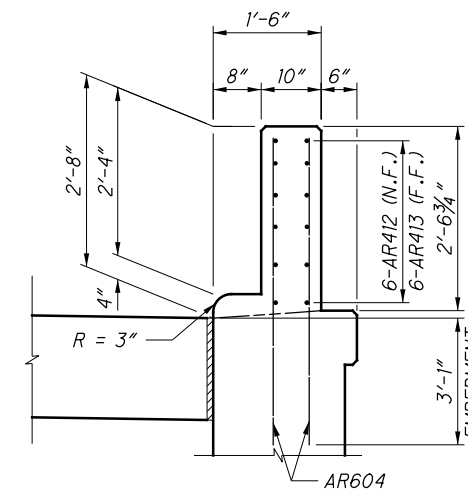
**SECTION B-B**  
(WINGWALL REINFORCING STEEL NOT SHOWN FOR CLARITY)



**SECTION C-C**



**SECTION D-D**  
(GUARDRAIL NOT SHOWN)



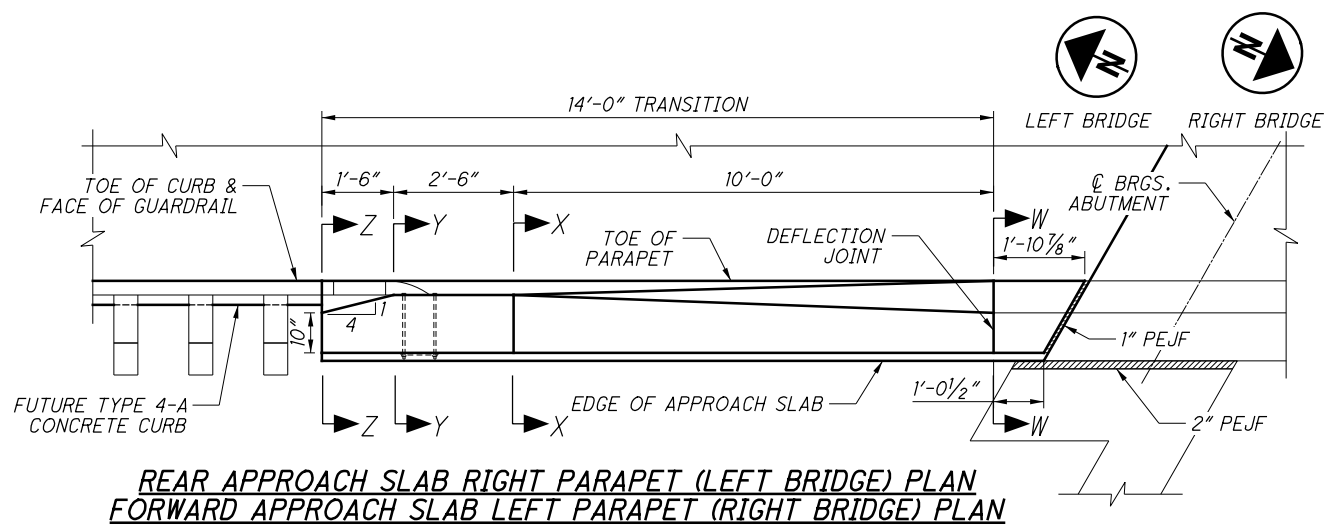
**SECTION E-E**  
(GUARDRAIL NOT SHOWN)

**NOTES:**

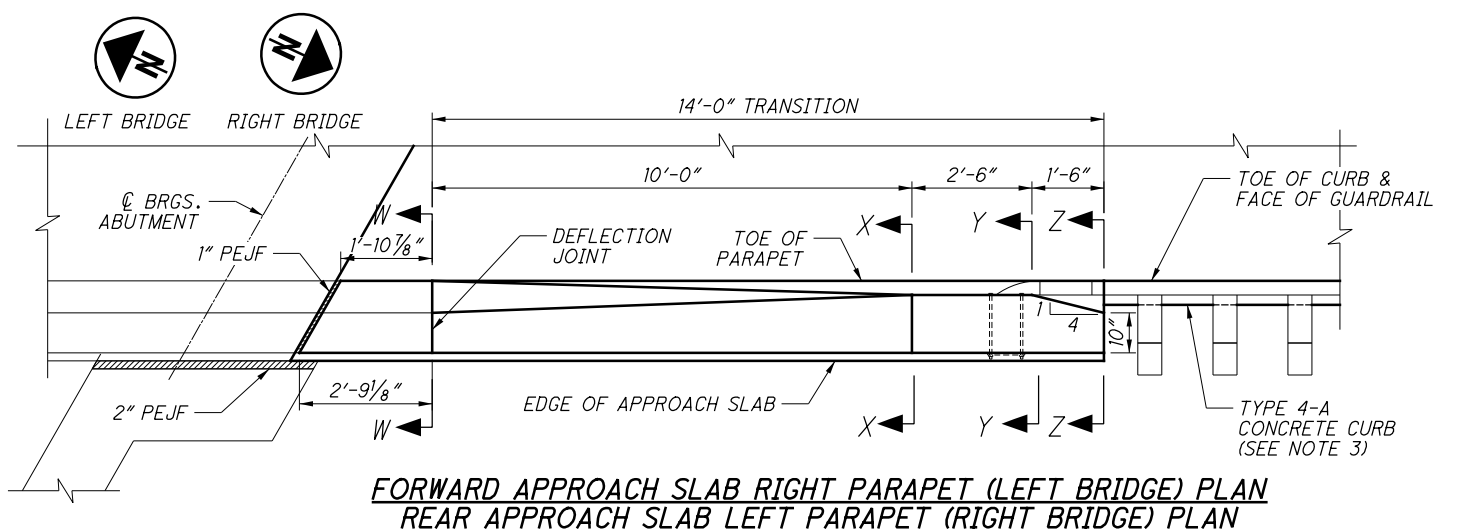
- SEE SHEETS 31 / 70 AND 32 / 70 FOR LIMITS OF SEALING.
- SEE ODOT STANDARD DRAWING SBR-1-20 FOR ADDITIONAL DETAILS NOT SHOWN.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

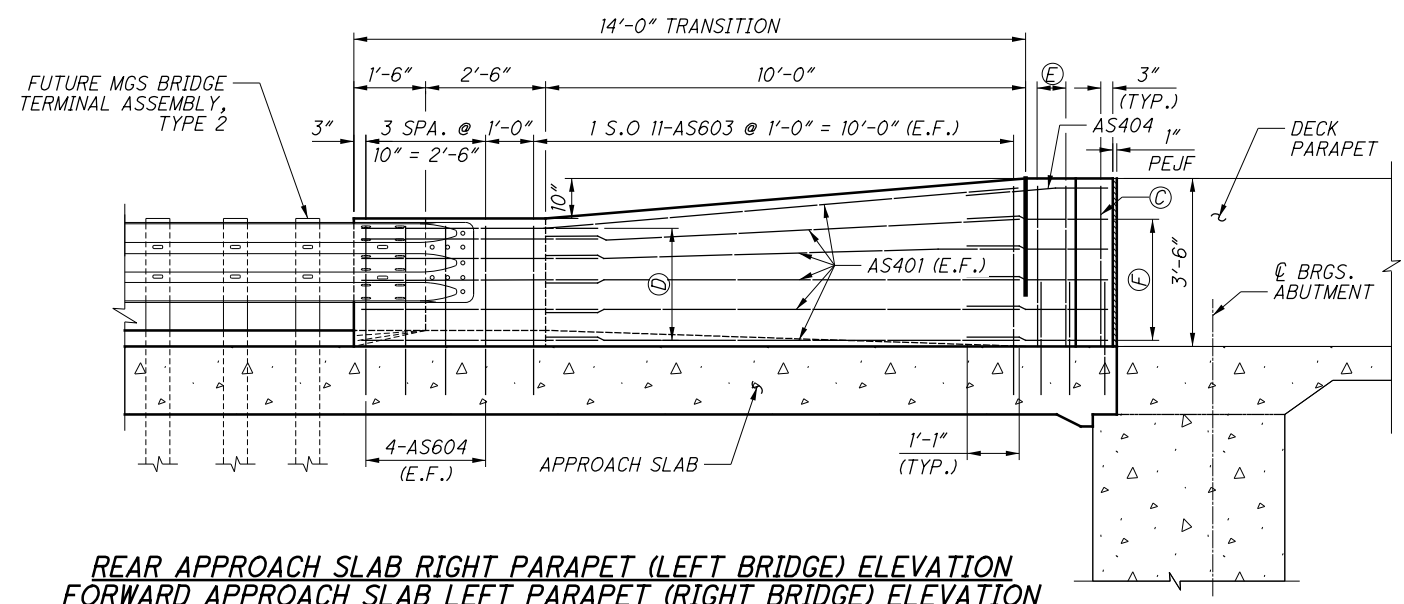
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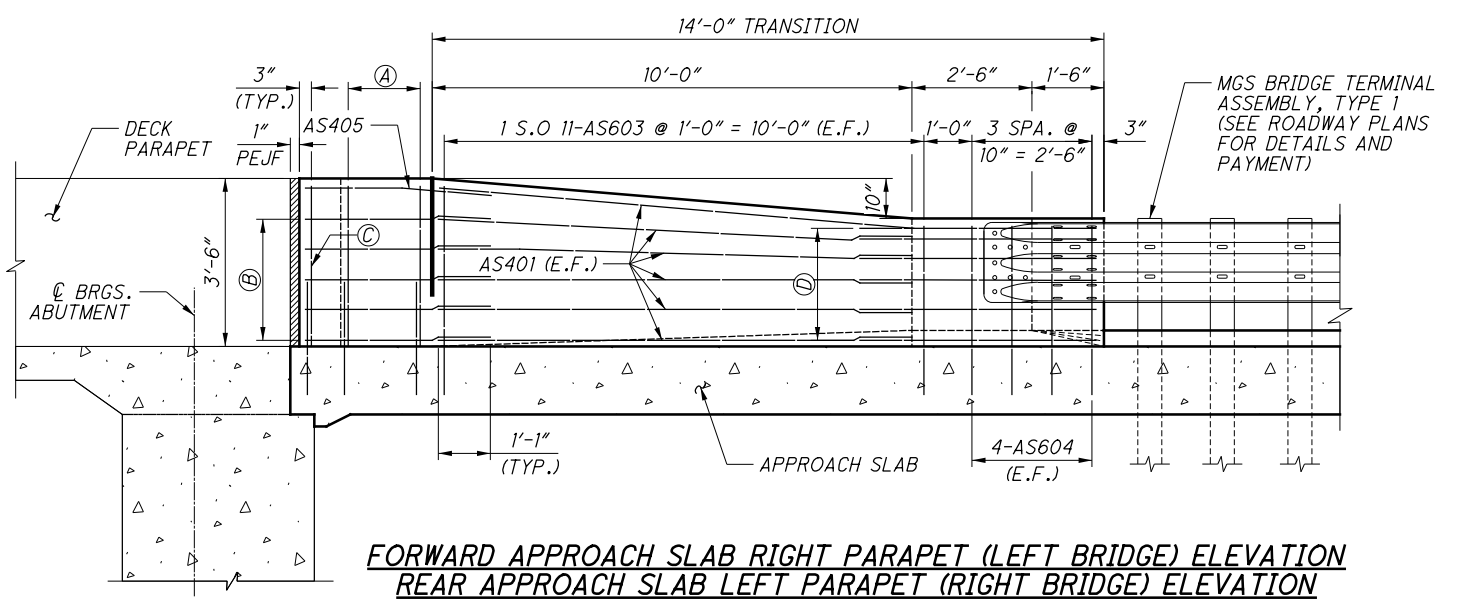
**REAR APPROACH SLAB RIGHT PARAPET (LEFT BRIDGE) PLAN**  
**FORWARD APPROACH SLAB LEFT PARAPET (RIGHT BRIDGE) PLAN**



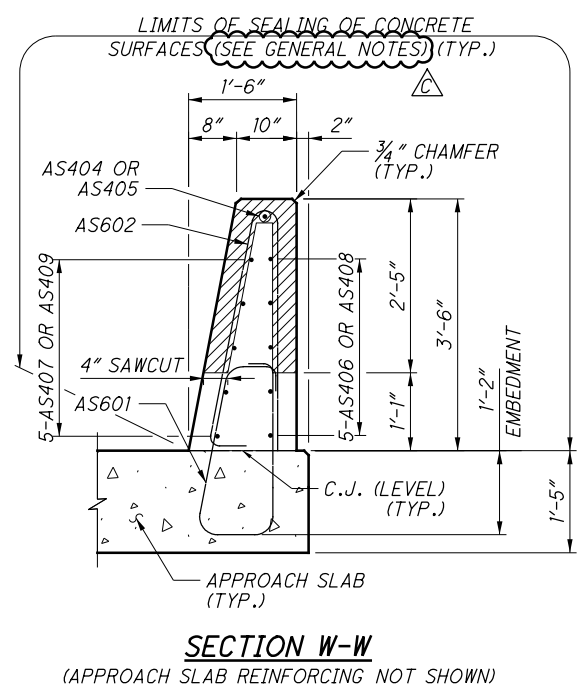
**FORWARD APPROACH SLAB RIGHT PARAPET (LEFT BRIDGE) PLAN**  
**REAR APPROACH SLAB LEFT PARAPET (RIGHT BRIDGE) PLAN**



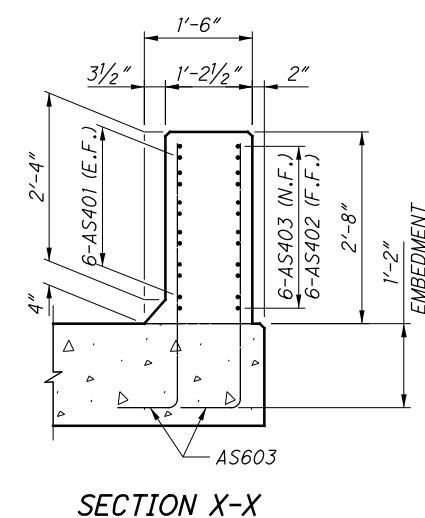
**REAR APPROACH SLAB RIGHT PARAPET (LEFT BRIDGE) ELEVATION**  
**FORWARD APPROACH SLAB LEFT PARAPET (RIGHT BRIDGE) ELEVATION**



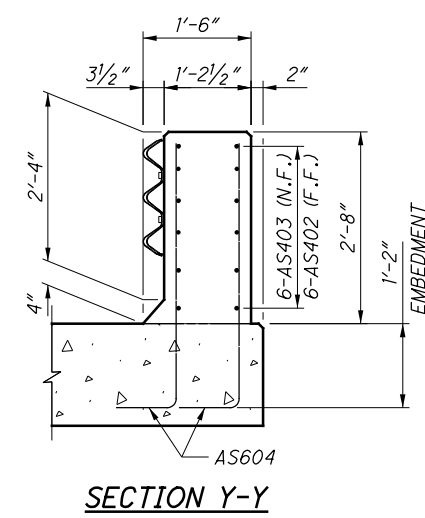
**FORWARD APPROACH SLAB RIGHT PARAPET (LEFT BRIDGE) ELEVATION**  
**REAR APPROACH SLAB LEFT PARAPET (RIGHT BRIDGE) ELEVATION**



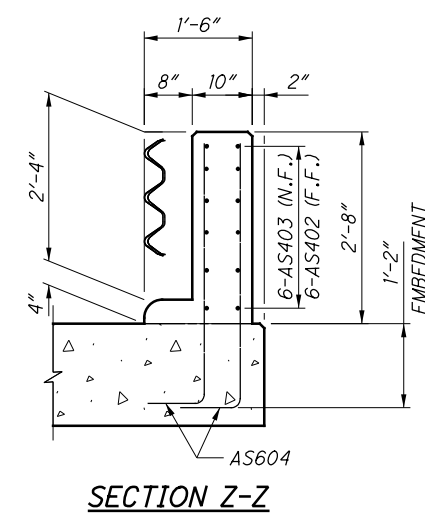
**SECTION W-W**  
 (APPROACH SLAB REINFORCING NOT SHOWN)



**SECTION X-X**



**SECTION Y-Y**



**SECTION Z-Z**

**LEGEND:**

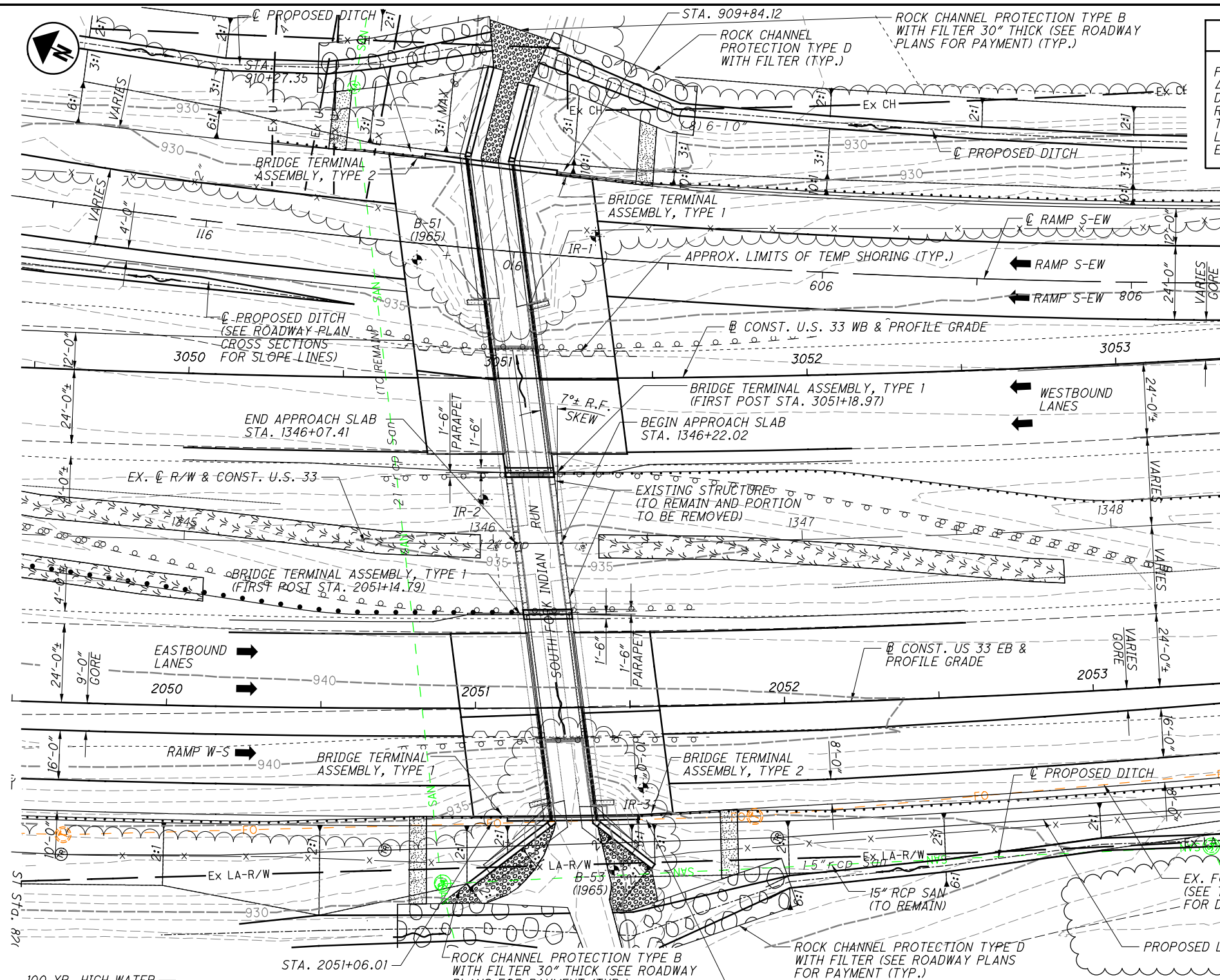
- Ⓐ = 3-AS601 & AS602 @ 9" = 1'-6"
- Ⓑ = 5-AS406 (N.F.) & 5-AS407 (F.F.)
- Ⓒ = 1-AS605 & AS606
- Ⓓ = 6-AS403 (N.F.) & 6-AS402 (F.F.)
- Ⓔ = 2-AS601 & AS602
- Ⓕ = 5-AS408 (N.F.) & 5-AS409 (F.F.)

**NOTES:**

1. PARAPETS MOUNTED ON APPROACH SLABS ARE INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN. REINFORCING STEEL FOR PARAPETS MOUNTED ON APPROACH SLABS IS INCLUDED FOR PAYMENT WITH ITEM 509 - EPOXY COATED REINFORCING STEEL OR ITEM 509 - NO. 4 GFRP DEFORMED BARS.
2. SEE STANDARD DRAWING SBR-1-20 FOR ADDITIONAL PARAPET DETAILS NOT SHOWN.
3. SEE STANDARD CONSTRUCTION DRAWING BP-5.1 FOR TYPE 4-A CONCRETE CURB DETAILS.
4. ALL STRAIGHT NO. 4 BARS SHALL BE GFRP.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

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**CURVE DATA**

P.I. STA. = 1350+55.19  
 $\Delta = 18^{\circ}00'00''$  (L.T.)  
 $D_c = 1^{\circ}28'00''$   
 $R = 3,906.62'$   
 $T = 618.75'$   
 $L = 1,227.30'$   
 $E = 48.70'$

**BENCHMARK DATA**

BM #162: EX.  $\odot$  R/W & CONST. U.S. 33 STA. 1344+36.44, ELEV. 939.13, OFFSET 0' REBAR IN CONC. R/W MONUMENT FOUND, IN THE EXISTING CENTERLINE OF U.S. 33.

BM #1076: BRASS PLAQUE IN THE NORTHWEST WINGWALL OF CULVERT (WAS-41-0.75) FOR THE SOUTH FORK OF INDIAN RUN, 148' SW OF PROPOSED  $\odot$  CONST. U.S. 33 EB.  $\odot$  CONST. US 33 EB STA. 2051+51.71, 148.26' RT. EL. 936.33.

**LEGEND**

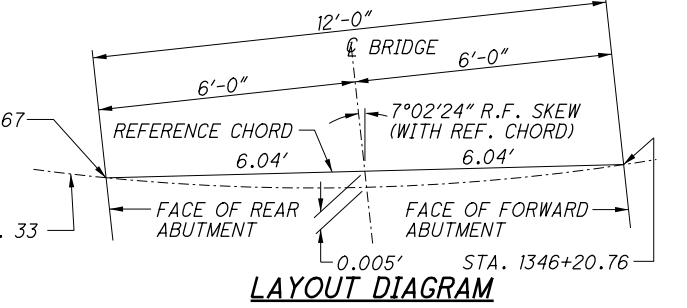
$\odot$  SOIL BORING LOCATION  
 R.F. = RIGHT FORWARD

**NOTES**

EARTHWORK LIMITS SHOWN ARE APPROXIMATE, ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

**DESIGN TRAFFIC US-33EB (US-33WB)**

2019 ADT = 34,000 (33,200)	2019 ADTT = 4,080 (3,980)
2042 ADT = 44,990 (43,850)	2042 ADTT = 5,400 (5,260)



**HYDRAULIC DATA**

DRAINAGE AREA = 2.03 SQ. MILES  
 $Q(50) = 493$  CFS  
 $Q(100) = 567$  CFS  
 $V(50) = 6.4$  FT/S  
 $V(100) = 6.9$  FT/S  
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 0.57 FEET.

**PROPOSED WORK**

PARTIAL REMOVAL OF EXISTING SUBSTRUCTURES AND STRUCTURES, CONSTRUCTING NEW SUBSTRUCTURES FOR BRIDGE WIDENING, WIDENING THE BRIDGE DECK ON EACH SIDE, REMOVAL OF EXISTING DECK OVERLAY, RESURFACING EXISTING DECK, REPLACING GUARDRAILS AT MEDIAN WITH PARAPETS.

**EXISTING STRUCTURE**

TYPE: REINFORCED CONCRETE SLAB WITH REINFORCED CONCRETE SUBSTRUCTURE

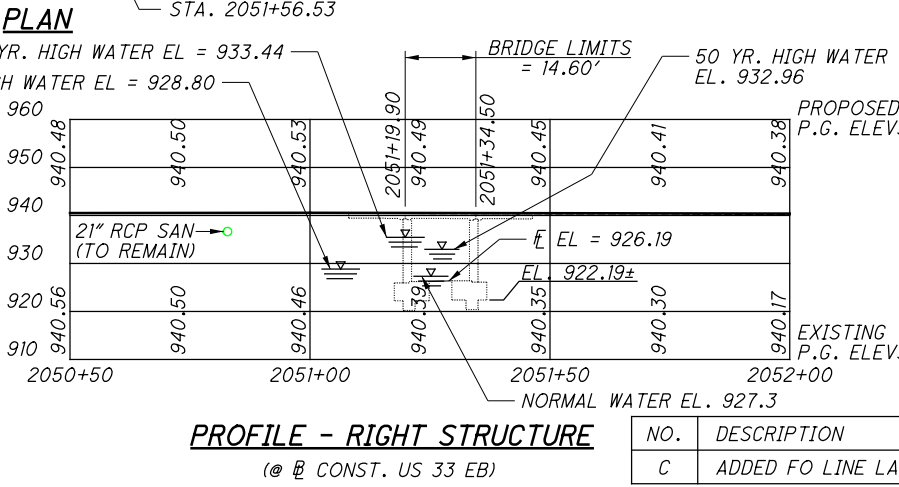
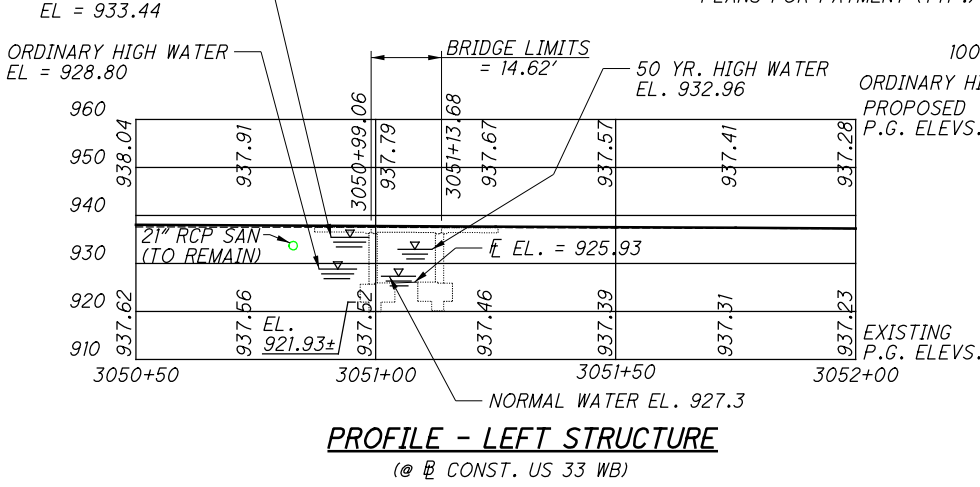
SPANS: 12'-0" f/f ABUTMENTS  
 ROADWAY: 40'-0" f/f GUARD RAIL (L.T.)  
 40'-2 3/4" f/f AVG. f/f GUARD RAIL (RT.)

LOAD FREQUENCY: CF2000 (57)  
 SKEW: 7°± R.F.  
 APPROACH SLABS: AS-1-54, (25'± LONG)  
 ALIGNMENT: 1°28'± CURVE  
 WEARING SURFACE: ASPHALT CONCRETE  
 SUPERELEVATION: 3/4"±/FT.  
 STRUCTURAL FILE NUMBER: 2500965 (L.T.)/2501023 (RT.)  
 DATE BUILT: 1969

**PROPOSED STRUCTURE**

TYPE: REINFORCED CONCRETE SLAB ON MODIFIED EXISTING AND NEW REINFORCED CONCRETE SUBSTRUCTURE

SPAN: 12'-0" f/f ABUTMENTS  
 ROADWAY: VARIES  
 DESIGN LOADING: HS20 AND ALTERNATE MILITARY  
 FUTURE WEARING SURFACE LOADING: 60 PSF  
 SKEW: 7°02'24" R.F.  
 APPROACH SLABS: 25' LONG (AS-1-15)  
 ALIGNMENT: 1°28'00" CURVE  
 WEARING SURFACE: 3" SUPERPLASTICIZED DENSE CONCRETE (EXISTING) MONOLITHIC CONCRETE (WIDENING)  
 SUPERELEVATION: 3/4"±/FT.  
 COORDINATES: LATITUDE 40°6'19.08"  
 LONGITUDE 83°10'38.86"



NO.	DESCRIPTION	REV. BY	DATE
C	ADDED FO LINE LABELS	BES	3/3/22

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**GENERAL NOTES:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

- AS-1-15 REVISED 7-17-15
- PCB-91 REVISED 7-17-20
- SB-1-03 REVISED 4-18-03
- SBR-1-20 REVISED 7-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):  
847 DATED 1-15-21

**DESIGN SPECIFICATIONS:** THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, INCLUDING THE 2003 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING:** HS20 AND THE ALTERNATE MILITARY LOADING. FUTURE WEARING SURFACE (FWS) OF 60 LBS/FT<sup>2</sup>.

**DESIGN DATA:** CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE), CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE), REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

**DECK PROTECTION METHOD:** EPOXY COATED REINFORCING STEEL, 2 1/2" CONCRETE COVER, AND SUPERPLASTICIZED DENSE CONCRETE OVERLAY (EXISTING DECKS AND APPROACH SLABS).

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

**EXISTING STRUCTURE VERIFICATION:** DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:** THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

**CUT LINE CONSTRUCTION JOINT PREPARATION:** SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

**SUBSTRUCTURE CONCRETE REMOVAL:** REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

**CONSTRUCTION CONSTRAINTS:** PRIOR TO CONSTRUCTING THE SPREAD FOOTING FOUNDATIONS, CONSTRUCT THE BRIDGE APPROACH EMBANKMENTS BEHIND THE ABUTMENT UP AT A 1:1 SLOPE FROM THE BOTTOM OF THE HEEL OF THE FOOTING TO THE SUBGRADE ELEVATION AND FOR A MINIMUM DISTANCE OF 250 FEET BEHIND THE ABUTMENTS. PLACE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENT NO HIGHER THAN ONE-THIRD ABUTMENT HEIGHT PRIOR TO PLACEMENT OF DECK SLAB.

**FOUNDATION BEARING PRESSURE:** FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 1.76 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 1.80 TONS PER SQUARE FOOT.

**ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:** ABUTMENT AND WINGWALL BACKFILL EXCLUDING THE TOP 1 FOOT OF EMBANKMENT, SHALL BE CRUSHED GRANULAR MATERIAL MEETING THE REQUIREMENTS OF 304, BUT WITH LESS THAN 5 PERCENT PASSING THE NO. 200 SIEVE. THE TOP 1 FOOT OF EMBANKMENT SHALL BE BACKFILLED IN ACCORDANCE TO 503.08 USING EMBANKMENT MATERIALS CONFORMING TO 203.02R. BACKFILL SHALL BE PLACED SYMMETRICALLY BEHIND BOTH ABUTMENTS AND SIMULTANEOUSLY ALONG THEIR ENTIRE LENGTH, AND NOT MORE THAN ONE-THIRD OF ABUTMENT HEIGHT SHALL BE PLACED UNTIL AFTER THE SLAB IS IN PLACE. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH 503.08 EXCEPT PLACE IN 6-INCH (MAXIMUM) LOOSE LIFTS. THE LIMITS OF THE BACKFILL ARE AS SHOWN ON THESE PLANS. PAYMENT FOR GRANULAR BACKFILL SHALL BE INCLUDED IN ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN.

**ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:** REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

**ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:** IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

**MECHANICAL CONNECTORS:**  
AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR THE REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURE. CONNECTORS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY OR UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS.

CONNECTORS SHALL CONFORM WITH ITEM 509 AND ALSO BE PAID FOR UNDER ITEM 509 EPOXY COATED REINFORCING STEEL, AS PER PLAN.

**ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:** IN ADDITION TO THE REQUIREMENTS OF 510, LOCATE EXISTING REINFORCING STEEL TO AVOID CUTTING BARS DURING THE DRILLING OPERATION USING NON-DESTRUCTIVE TESTING METHODS.

**PHASE CONSTRUCTION AND MAINTENANCE OF TRAFFIC:** THE PROPOSED BRIDGE WORK (INCLUDING THE APPROACH SLABS) SHALL BE COORDINATED WITH OVERALL PROJECT MAINTENANCE OF TRAFFIC PLANS AND PHASED CONSTRUCTION AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

**PHASE 2**

1. PLACE PORTABLE CONCRETE BARRIERS ON WESTBOUND OUTSIDE SHOULDER AND SHIFT TRAFFIC TOWARD MEDIAN.
2. REMOVE PORTIONS OF THE EXISTING STRUCTURE AS SHOWN ON THESE PLANS.
3. CONSTRUCT SUBSTRUCTURES FOR PHASE 2.
4. COMPLETE PHASE 2 CONSTRUCTION.
5. REMOVE PORTABLE CONCRETE BARRIERS AND OPEN THE NEW STRUCTURE TO TRAFFIC.

**PHASE 4**

1. PLACE PORTABLE CONCRETE BARRIERS ON EASTBOUND OUTSIDE SHOULDER AND SHIFT TRAFFIC TOWARD MEDIAN.
2. REMOVE PORTIONS OF THE EXISTING STRUCTURE AS SHOWN ON THESE PLANS.
3. CONSTRUCT SUBSTRUCTURES FOR PHASE 4.
4. COMPLETE PHASE 4 CONSTRUCTION.
5. REMOVE PORTABLE CONCRETE BARRIERS AND OPEN THE NEW STRUCTURE TO TRAFFIC.

**PHASE 5**

1. PLACE PORTABLE CONCRETE BARRIERS ON THE WB AND EB LANES AS SHOWN ON THESE PLANS.
2. REMOVE THE EXISTING GUARDRAIL, PORTIONS OF EXISTING SUBSTRUCTURE AND SLAB AS SPECIFIED IN THE PLANS, AND REMOVE THE EXISTING OVERLAYS.
3. COMPLETE PHASE 5 CONSTRUCTION.
4. REMOVE THE PORTABLE CONCRETE BARRIERS AND OPEN THE STRUCTURE FOR THE FINAL TRAFFIC CONDITION.

**ITEM 847 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING SCARIFICATION AND CHIPPING, AS PER PLAN (2 3/4" THICK) AND (3" THICK):**

**ITEM 847 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN:**

THESE ITEMS SHALL ALSO BE APPLIED TO THE APPROACH SLABS.

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION 847 "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING SCARIFICATION AND CHIPPING" WITH THE FOLLOWING REVISIONS:

THE THICKNESS OF THE CONCRETE OVERLAY REMOVED, ASPHALT WEARING COURSE REMOVED AND THE PROPOSED OVERLAY SHALL BE AS SPECIFIED IN THE PLANS

ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED BY ASTM C-127.

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

THE FOLLOWING REVISIONS SHALL APPLY:

(SEE 847.17) THE REMOVAL OPERATIONS SHALL NOT BEGIN IF SUSTAINED RAINS (5 HOURS OR MORE WITH BREAKS BETWEEN SHOWERS LESS THAN 1/2 HOURS) ARE PREDICTED WITHIN 48 HOURS OF COMMENCEMENT.

(SEE 847.18) THE FINAL DECK SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 847.25) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE 1 OR 10, AS PER CMS 511.17 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 847.25) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PSI.

(SEE 847.26) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 9:30 AM.

(SEE 847.27) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF THE TWO TESTS IS NOT LESS THAN 650 PSI. TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI.

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

**ITEM 847 - WEARING COURSE REMOVED, ASPHALT, AS PER PLAN:** EXISTING ASPHALT WEARING COURSE ON THE FULL DEPTH SLAB REMOVAL IS INCLUDED WITH THIS ITEM.

**ITEM SPECIAL - SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL 70 BRIDGE COTE W/SILANE**

THIS WORK SHALL INCLUDE SEALING OF THE CONCRETE SURFACES USING XL70 BRIDGE COTE W/SILANE AS PER THE MANUFACTURER'S RECOMMENDATIONS WITH THE FOLLOWING REQUIREMENTS, AT THE LOCATIONS SHOWN IN THE PLANS.

MEET THE SURFACE PREPARATION REQUIREMENTS FOR NON-EPOXY SEALERS PER CMS 512.03.F AND REMOVE ANY CURING COMPOUNDS PER THE MANUFACTURER'S RECOMMENDATIONS.

AT LEAST 5 DAYS BEFORE SEALING, PROVIDE THE ENGINEER THE SEALER MANUFACTURER'S WRITTEN REQUIREMENTS FOR APPLICATION EQUIPMENT, MIXING EQUIPMENT, MIXING PROCEDURES, MIXING TIME, STORAGE REQUIREMENTS, AND TECHNICAL AND SAFETY DATA SHEETS.

TINT SO THE FINAL COLOR IS FEDERAL COLOR STANDARD NO. 17778 - LIGHT NEUTRAL.

SAGS AND RUNS ARE NOT ACCEPTABLE IN THE SEALER. THE DEPARTMENT WILL MEASURE THE SEALING OF CONCRETE SURFACES BY THE NUMBER OF SQUARE YARDS OF COATED AREA PROJECTED TO A TWO-DIMENSIONAL SURFACE.

THE DEPARTMENT WILL CONSIDER THE REMOVAL OF DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE AND OTHER FOREIGN MATERIALS AS INCIDENTAL TO THE SURFACE PREPARATION OF THE CONCRETE SURFACE TO BE SEALED.

NO.	DESCRIPTION	REV. BY	DATE
C	ADDED "ITEM SPECIAL - SEALING OF CONCRETE SURFACES" NOTE	BES	3/3/22

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**BURGESS & NIPLÉ**  
Engineers ■ Architects ■ Planners  
5085 REED ROAD, COLUMBUS, OHIO 43220

DESIGNED	JPS/JFM	CHECKED	TTK/ODW
DRAWN	AAA/JFM	REVIEWED	JCS
DATE	02/25/21	STRUCTURE FILE NUMBER	2500965 (L.T.)
			2501023 (RT.)

**GENERAL NOTES**  
BRIDGE NO. FRA-33-0014 L/R  
OVER SOUTH FORK INDIAN RUN

**UNI-33-24.87**  
PID No. 80748

2 / 32

842  
923



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ESTIMATED QUANTITIES					CALC.	DATE	CHK'D	DATE		
					JHL	02/21	TTK/JFM	02/21		
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE			RIGHT BRIDGE		
					ABUTS.	SUPER.	GENERAL	ABUTS.	SUPER.	GENERAL
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			LS		LS	2, 4-11/32
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING			LS		LS	
503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN			LS		LS	2/32
509	10001	33,534	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	10358	9649		7941	5586	2/32
509	20001	850	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	255	287		195	113	2 & 18/32
509	30020	800	FT	NO. 4 GFRP DEFORMED BARS		402.5			397.5	
510	10001	136	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	64			72		2/32
511	33412	75	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE		49			26	
511	34448	10	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)		5			5	
511	44112	172	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	87			85		
511	46512	258	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	171			87		
SPECIAL	51275500	404	SY	SEALING OF CONCRETE SURFACES WITH TEXCOTE - XL TO BRIDGE COTE W/ SILANE	170	33		168	33	2/32
512	10500	38	SY	SEALING CONCRETE BRIDGE DECKS WITH HMW RESIN		7	12		7	12
512	33000	94	SY	TYPE 2 WATERPROOFING	46			48		
516	13200	16	SF	1/2" PREFORMED EXPANSION JOINT FILLER		8			8	
516	13600	94	SF	1" PREFORMED EXPANSION JOINT FILLER	30	5		54	5	
518	21200	190	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	94			96		
518	40000	111	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	60			51		
518	40010	37	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	4			33		
526	25001	574	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN		189			385	21-22/32
847	10201	97	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (3" THICK)		49			48	2, 4-6/32
847	10201	287	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (2 3/4" THICK)		141			146	2, 4-6/32
847	20201	2	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN		1			1	2/32
847	30000	LS		TEST SLAB						
847	30300	422	SY	WEARING COURSE REMOVED, ASPHALT		209			213	
847	30400	98	SY	EXISTING CONCRETE OVERLAY REMOVED		50			48	

NO.	DESCRIPTION	REV. BY	DATE
C	UPDATED ESTIMATED QUANTITIES	BES	3/3/22

NOTE:  
1) ALL FUNDING ITEMS ARE INCLUDED IN THE FUNDING PARTICIPATION SPLIT CODE 04/S>2/BR.

**ESTIMATED QUANTITIES**  
BRIDGE NO. FRA-33-0014 L/R  
OVER SOUTH FORK INDIAN RUN

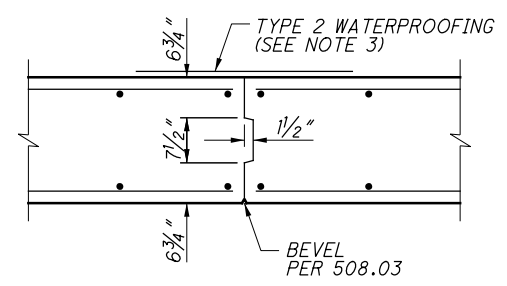
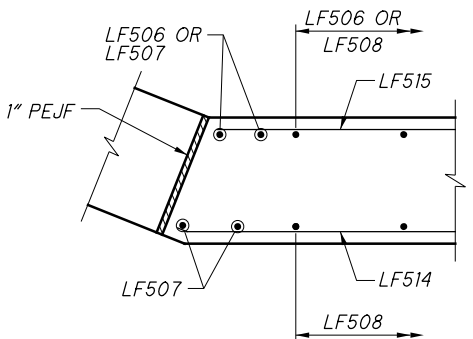
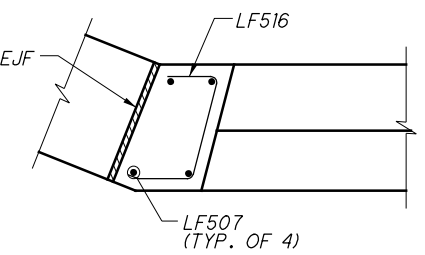
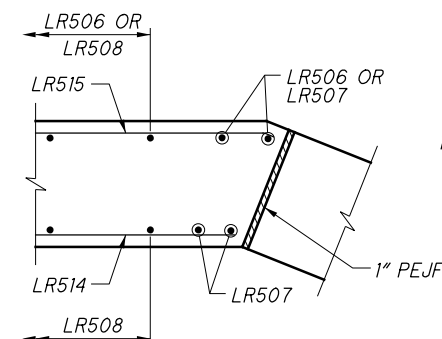
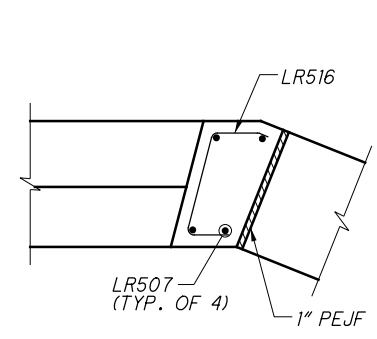
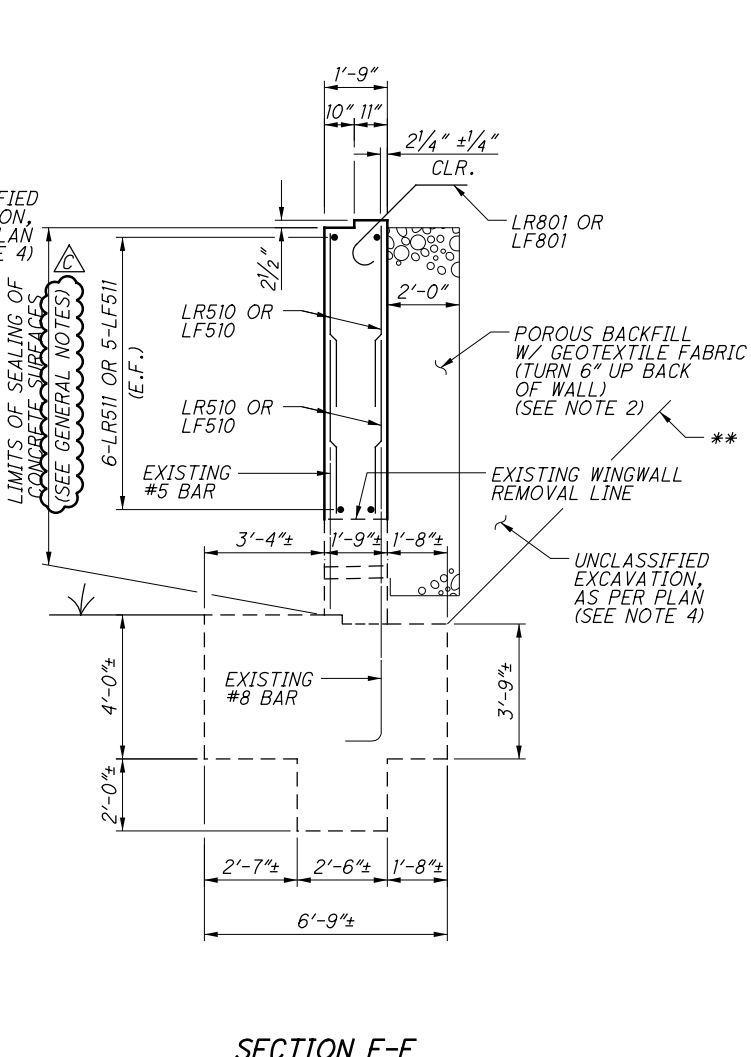
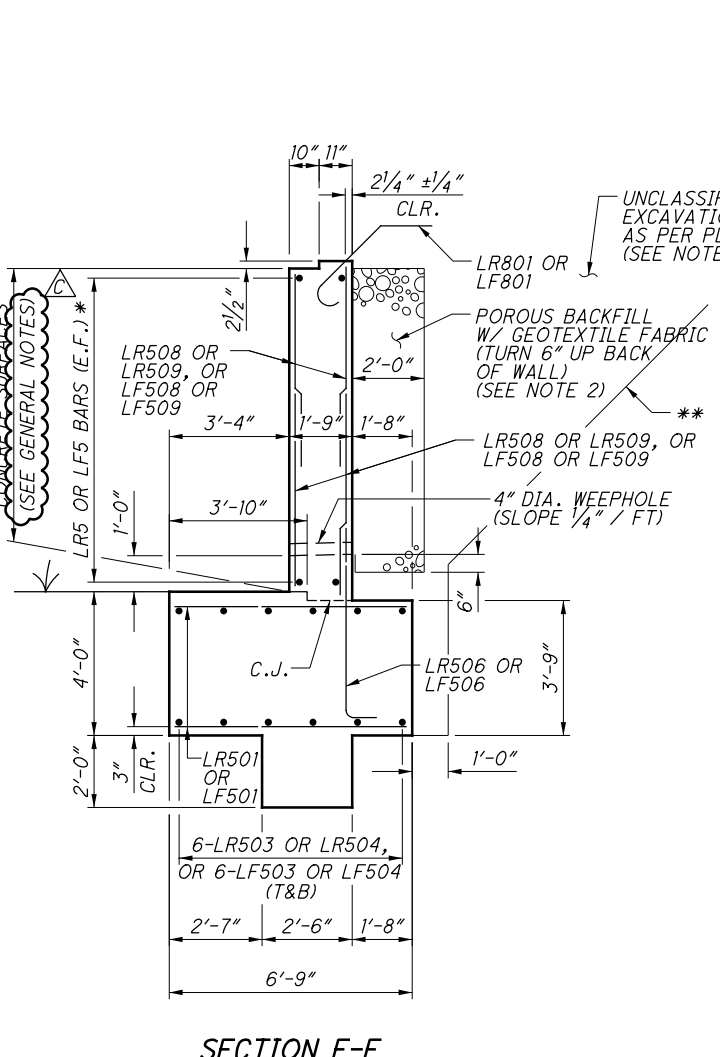
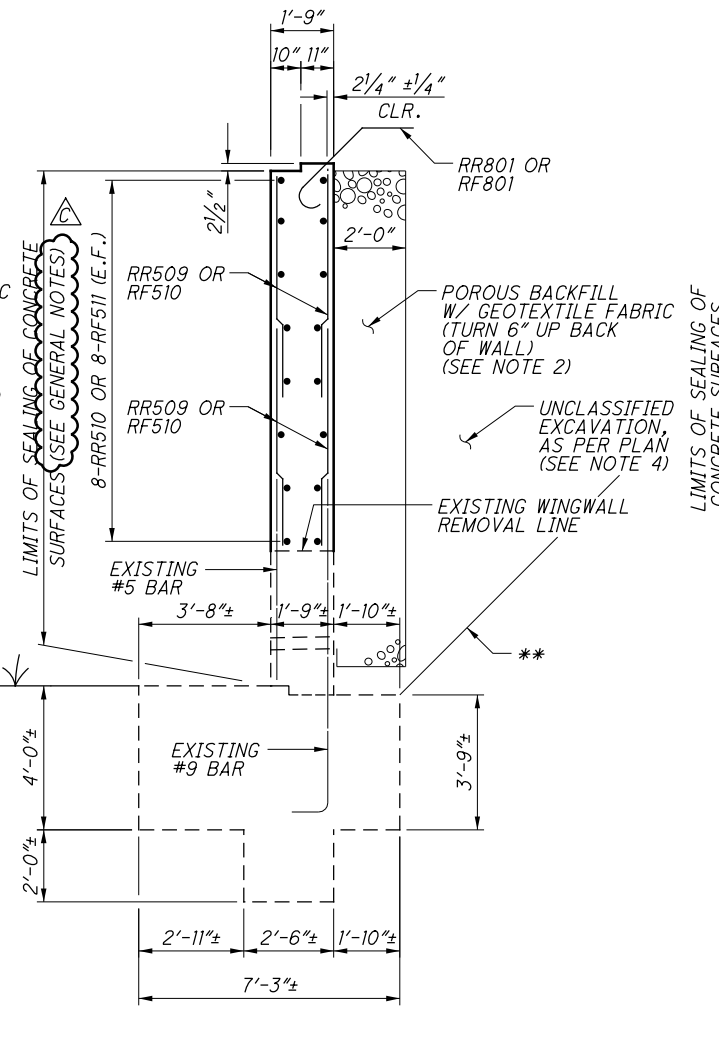
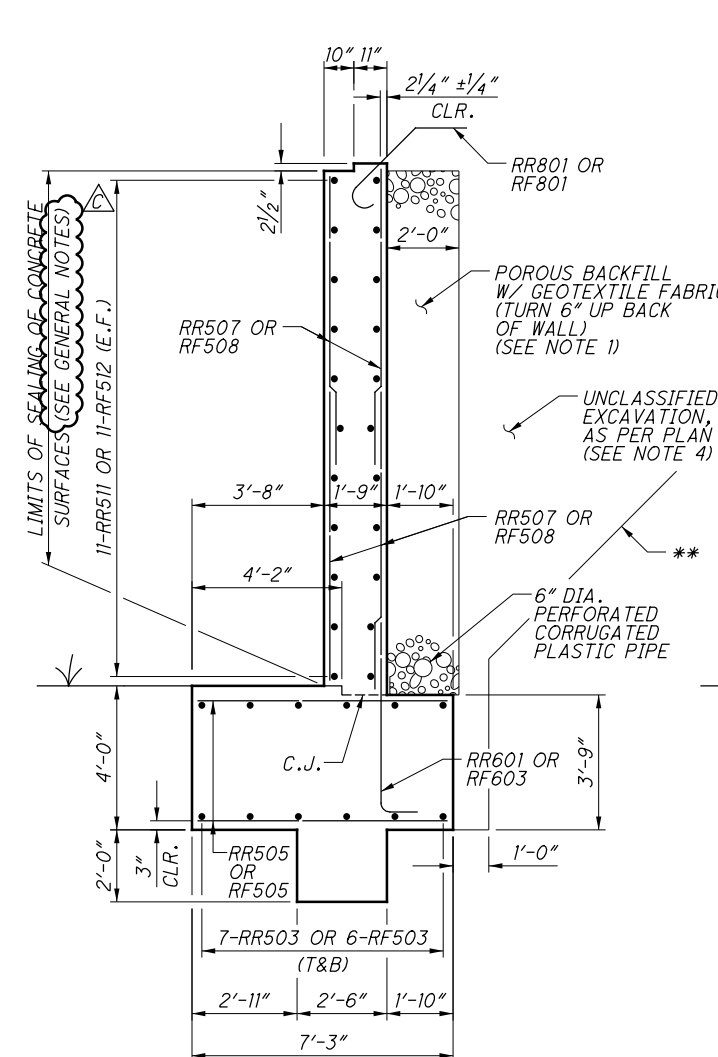
**UNI-33-24.87**  
PID No. 80748

3 / 32

843  
923

**BURGESS & NIPLÉ**  
Engineers - Architects - Planners  
5085 REED ROAD, COLUMBUS, OHIO 43220

DATE 02/25/21  
REVIEWED JCS  
DRAWN JPS/JFM  
DESIGNED JPS/JFM  
DATE 02/25/21  
STRUCTURE FILE NUMBER 2500965 (LT.)  
2501023 (RT.)

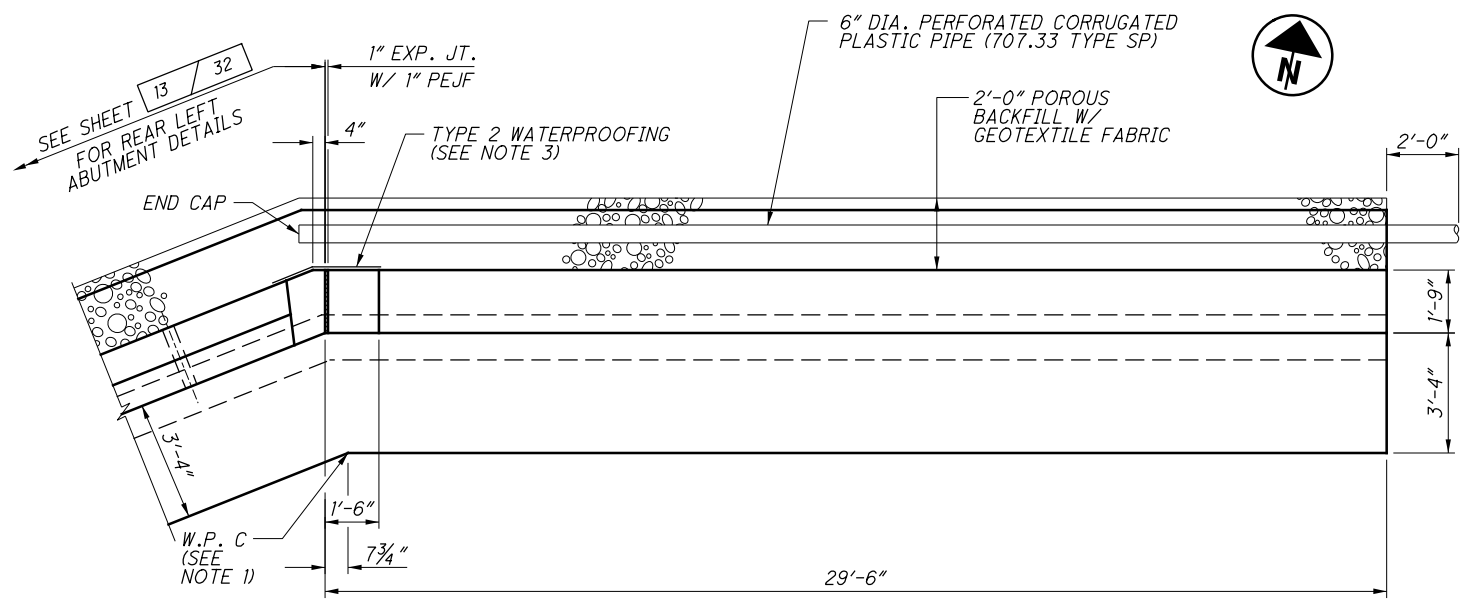


**LEGEND:**  
 C.J. = CONSTRUCTION JOINT  
 CLR. = CLEAR  
 DIA. = DIAMETER  
 E.F. = EACH FACE  
 PEJF = PREFORMED EXPANSION JOINT FILLER  
 T&B = TOP & BOTTOM  
 \* = SEE ELEVATION ON SHEET 13 / 32 FOR REAR LEFT ABUTMENT BAR MARKS AND CALLOUTS OR SHEET 15 / 32 FOR FORWARD LEFT ABUTMENT BAR MARKS AND CALLOUTS  
 \*\* = A SLOPE OF 1:1 WAS ASSUMED FOR ESTIMATING QUANTITIES

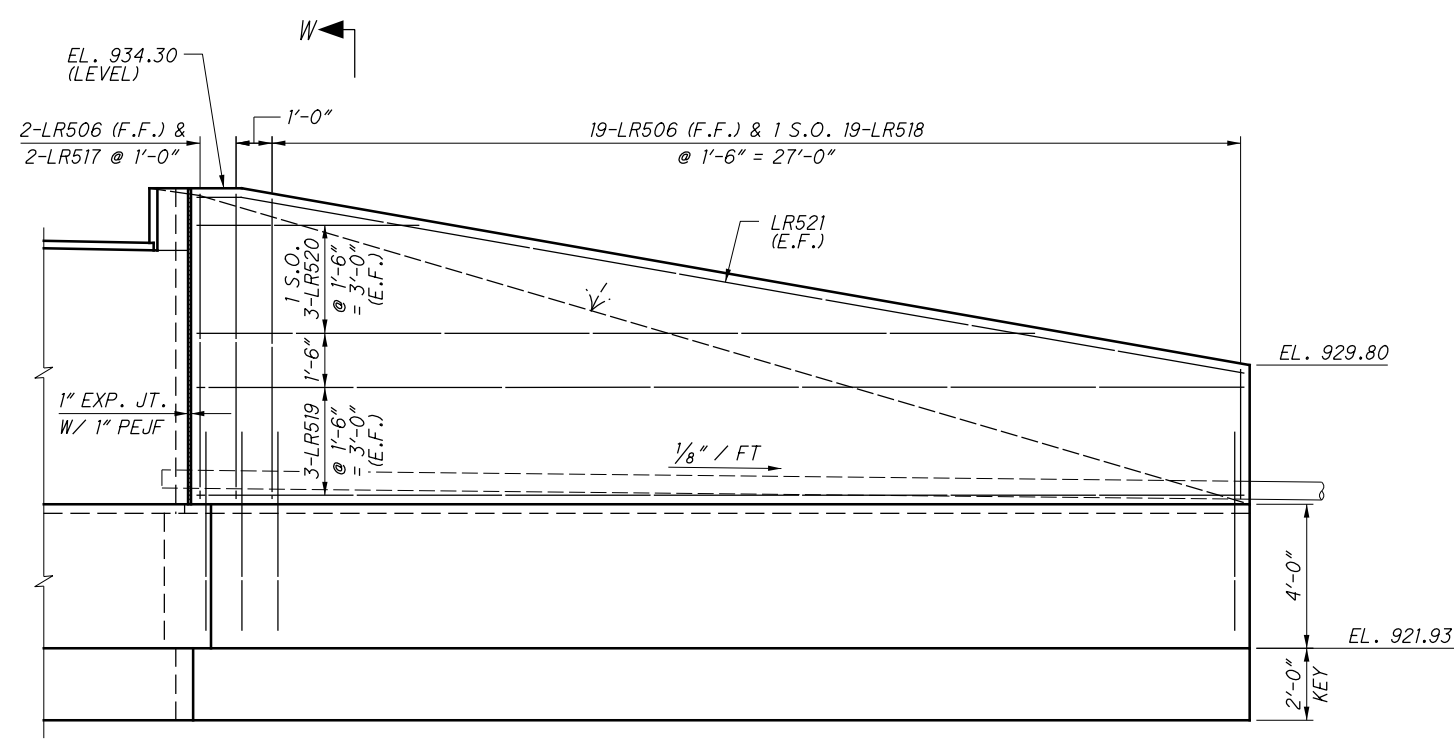
- NOTES:**
- POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2 FEET THICK SHALL EXTEND FROM THE TOP OF THE FOOTING UP TO THE BOTTOM OF THE SUBGRADE OR 1 FOOT BELOW THE EMBANKMENT SURFACE AND LATERALLY TO THE ENDS OF THE WINGWALLS.
  - POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2 FEET THICK SHALL EXTEND FROM 6 INCHES BELOW THE WEEPHOLES UP TO THE BOTTOM OF THE SUBGRADE OR 1 FOOT BELOW THE EMBANKMENT SURFACE AND LATERALLY TO THE ENDS OF THE WINGWALLS. PLACE TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE AT EACH WEEPHOLE. THE DEPARTMENT WILL INCLUDE BAGGED AGGREGATE WITH POROUS BACKFILL FOR PAYMENT.
  - PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM TOP OF FOOTING TO TOP OF ABUTMENT BACKWALL.
  - SEE GENERAL NOTES, SHEET 2 / 32, FOR ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

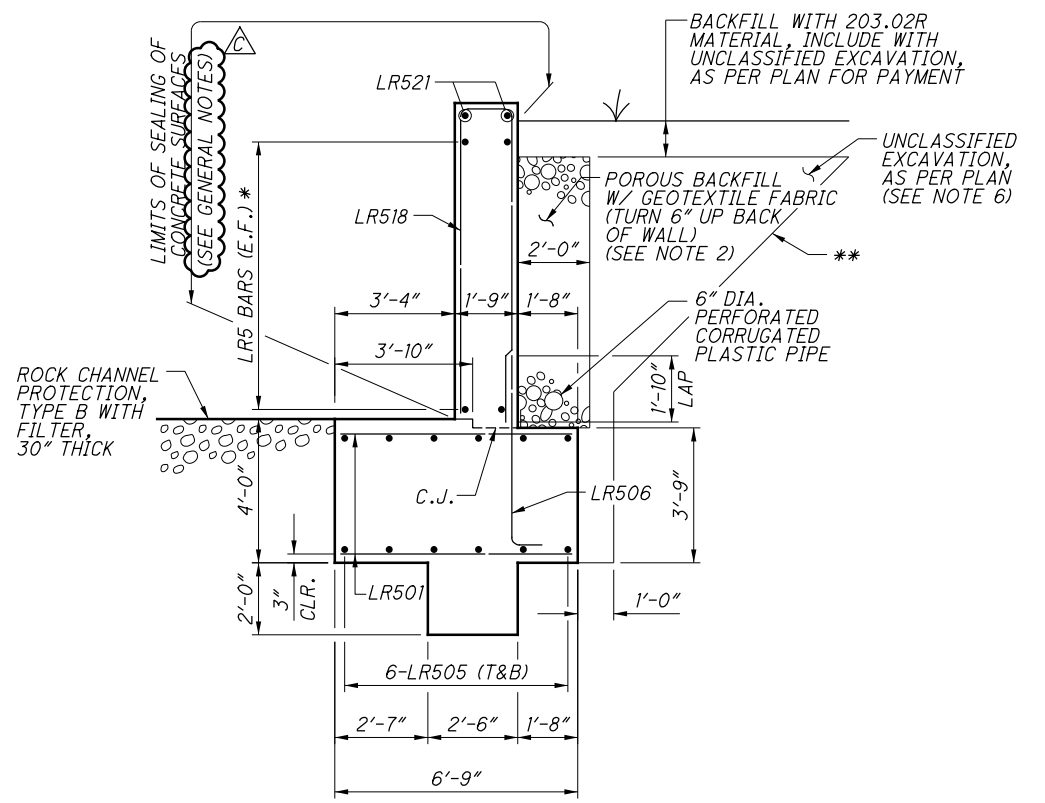
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**PLAN**



**ELEVATION**  
(FOOTING REINFORCEMENT NOT SHOWN)



**SECTION W-W**

**LEGEND:**

- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- DIA. = DIAMETER
- E.F. = EACH FACE
- EXP. = EXPANSION
- F.F. = FAR FACE
- JT. = JOINT
- PEJF = PREFORMED EXPANSION JOINT FILLER
- S.O. = SERIES OF
- T&B = TOP & BOTTOM
- W.P. = WORK POINT
- \* = SEE ELEVATION FOR BAR MARKS AND CALLOUTS
- \*\* = A SLOPE OF 1:1 WAS ASSUMED FOR ESTIMATING QUANTITIES

**NOTES:**

1. SEE SHEET 12 / 32 FOR WORK POINT DETAILS.
2. POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2 FEET THICK SHALL EXTEND FROM THE TOP OF THE FOOTING UP TO THE BOTTOM OF THE SUBGRADE OR 1 FOOT BELOW THE EMBANKMENT SURFACE AND Laterally TO THE ENDS OF THE WINGWALLS.
3. PLACE TYPE 2 WATERPROOFING, 3' WIDE, CENTERED ON JOINT, FROM TOP OF FOOTING TO 6" BELOW GROUND BEHIND WALL.
4. SEE SHEET 12 / 32 FOR FOOTING REINFORCEMENT.
5. ALL WINGWALL CONCRETE ABOVE FOOTING SHALL BE CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING.
6. SEE GENERAL NOTES, SHEET 2 / 32, FOR ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

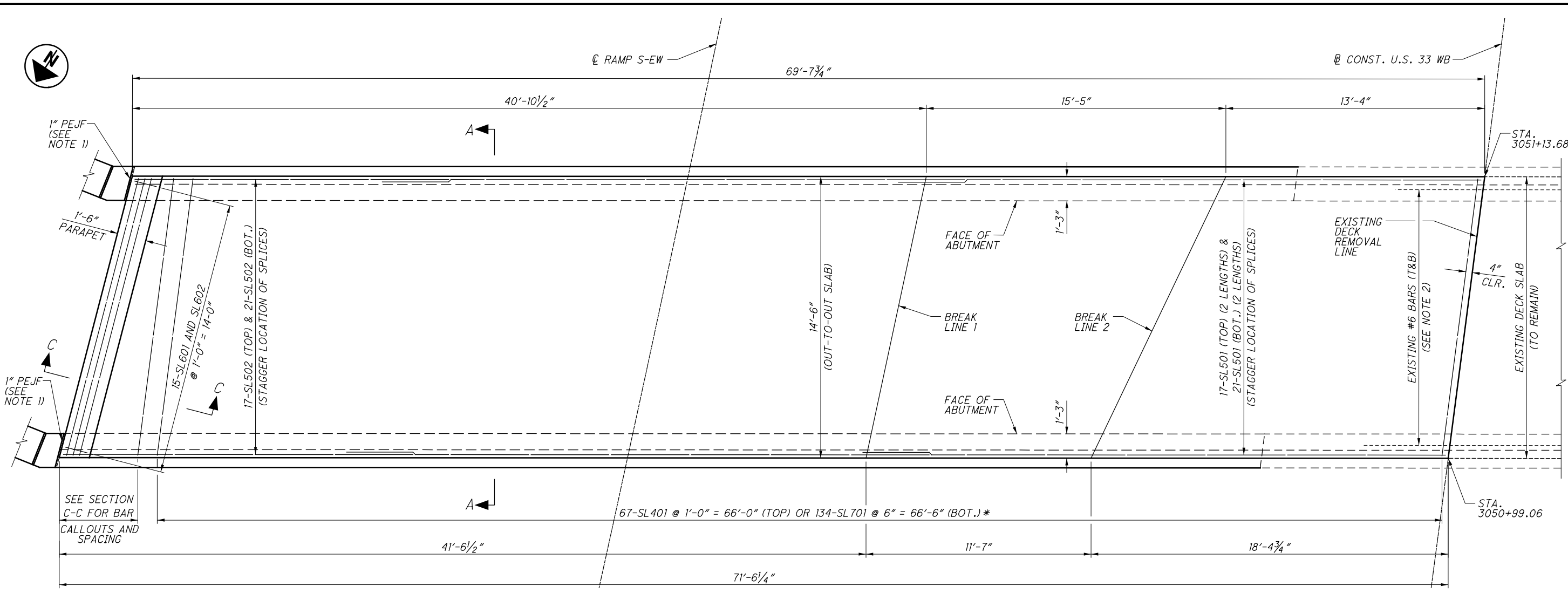
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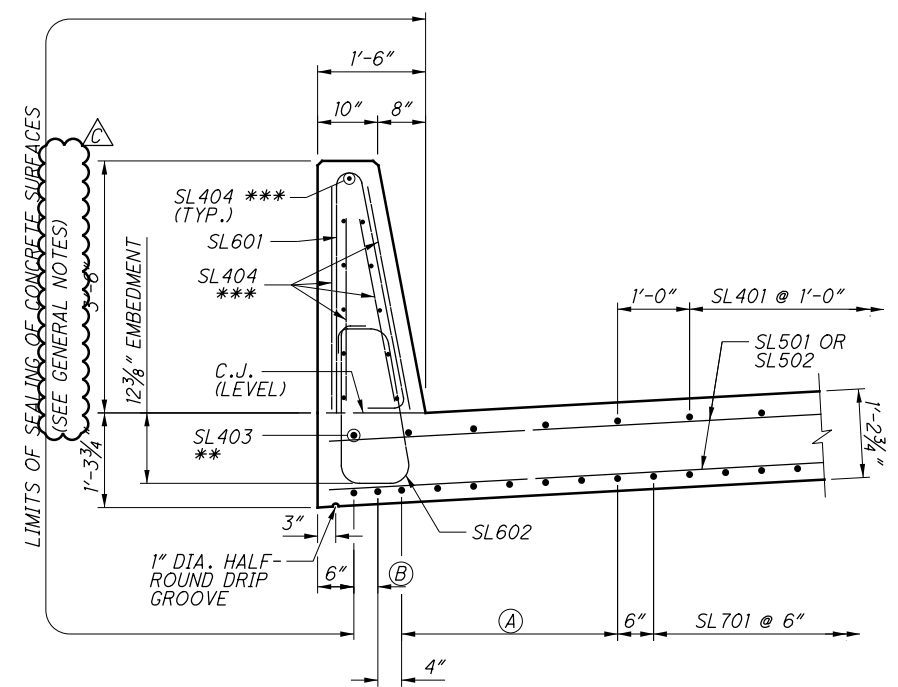




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LEFT DECK SLAB PLAN



SECTION C-C

**LEGEND:**

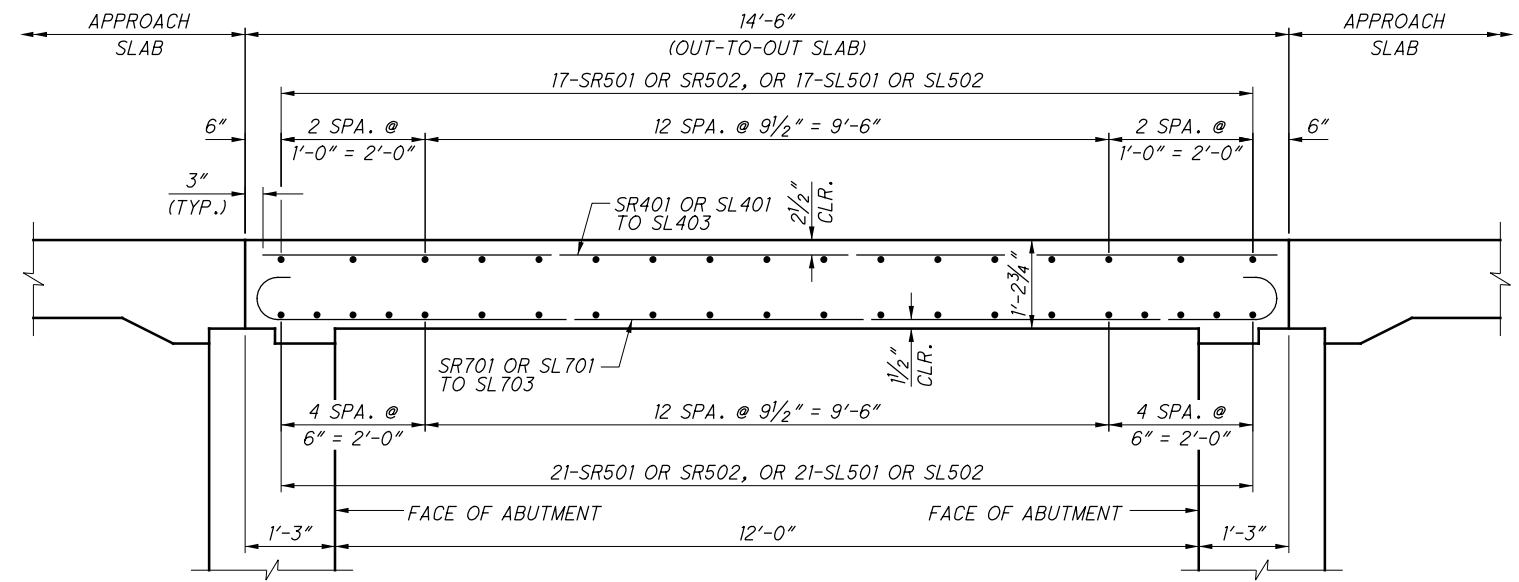
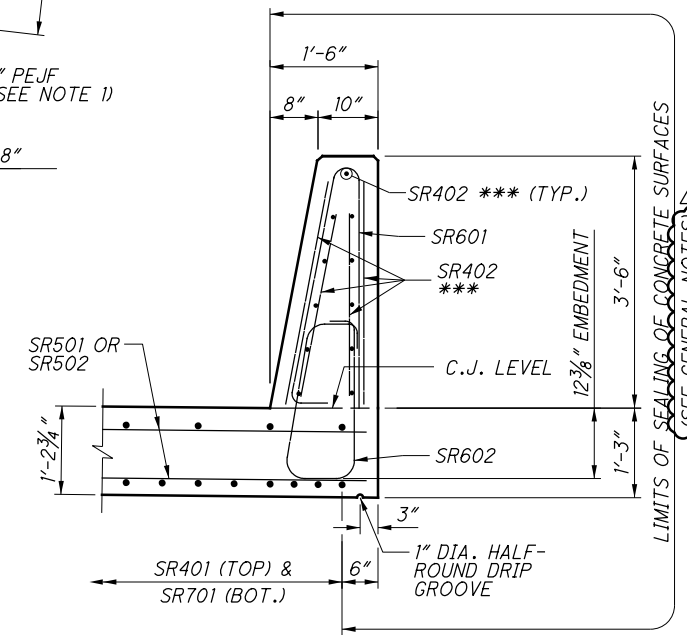
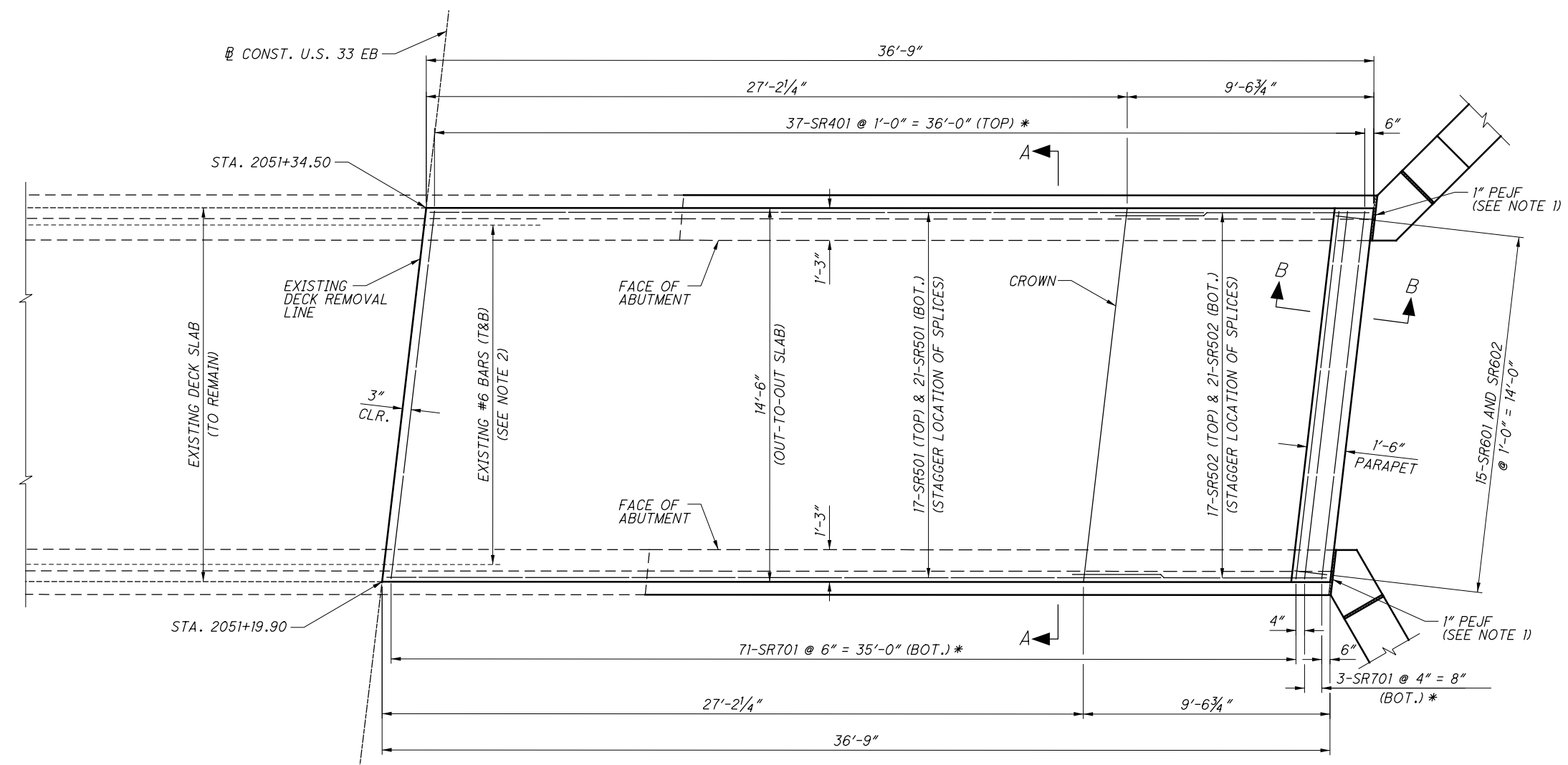
- BOT. = BOTTOM
- C.J. = CONSTRUCTION JOINT
- CLR. = CLEAR
- PEJF = PREFORMED EXPANSION JOINT FILLER
- SPA. = SPACES
- T&B = TOP & BOTTOM
- \* = PLACE PARALLEL WITH @ US 33 WB
- \*\* = PLACE PARALLEL WITH EDGE OF PROPOSED DECK
- \*\*\* = GLASS FIBER REINFORCED POLYMER (GFRP) BAR
- (A) = 1 S.O. 4-SL402 @ 1'-0" = 3'-0" (TOP) OR 1 S.O. 7-SL702 @ 6" = 3'-0" (BOT.) (FAN BARS)
- (B) = 2-SL703 @ 4" (BOT.) \*\*

**NOTES:**

1. PLACE 1" PEJF FROM TOP OF ABUTMENT TO TOP OF WINGWALL.
2. EXISTING BARS TO REMAIN 3'-7" MINIMUM BEYOND THE EXISTING DECK REMOVAL LINE. FIELD-CUT PER 509 IF NECESSARY.
3. MINIMUM STEEL LAP LENGTHS:  
#5 BAR = 3'-5"
4. SEE STD. DWG. SB-1-03 FOR ADDITIONAL DECK SLAB NOTES AND DETAILS NOT SHOWN.
5. SEE STD. DWG. SBR-1-20 FOR ADDITIONAL PARAPET NOTES AND DETAILS NOT SHOWN.
6. SEE SHEET 24 / 32 FOR SECTION A-A.

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

DATE	REVIEWED	DRAWN	DESIGNED
02/25/21	JCS	TTK/JFM	TTK/JFM
		REVISED	CHECKED
			JPS/ODW



**SECTION A-A**  
 (SL BARS IN LEFT BRIDGE, SR BARS IN RIGHT BRIDGE)

**NOTES:**

1. PLACE 1" PEJF FROM TOP OF ABUTMENT TO TOP OF WINGWALL.
2. EXISTING BARS TO REMAIN 3'-7" MINIMUM BEYOND THE EXISTING DECK REMOVAL LINE. FIELD-CUT PER 509 IF NECESSARY AND INCLUDE WITH ITEM 202 FOR PAYMENT.
3. MINIMUM STEEL LAP LENGTHS:  
#5 BAR = 3'-5"
4. SEE STD. DWG. SB-1-03 FOR ADDITIONAL DECK SLAB NOTES AND DETAILS NOT SHOWN.
5. SEE STD. DWG. SBR-1-20 FOR ADDITIONAL PARAPET NOTES AND DETAILS NOT SHOWN.

**LEGEND:**

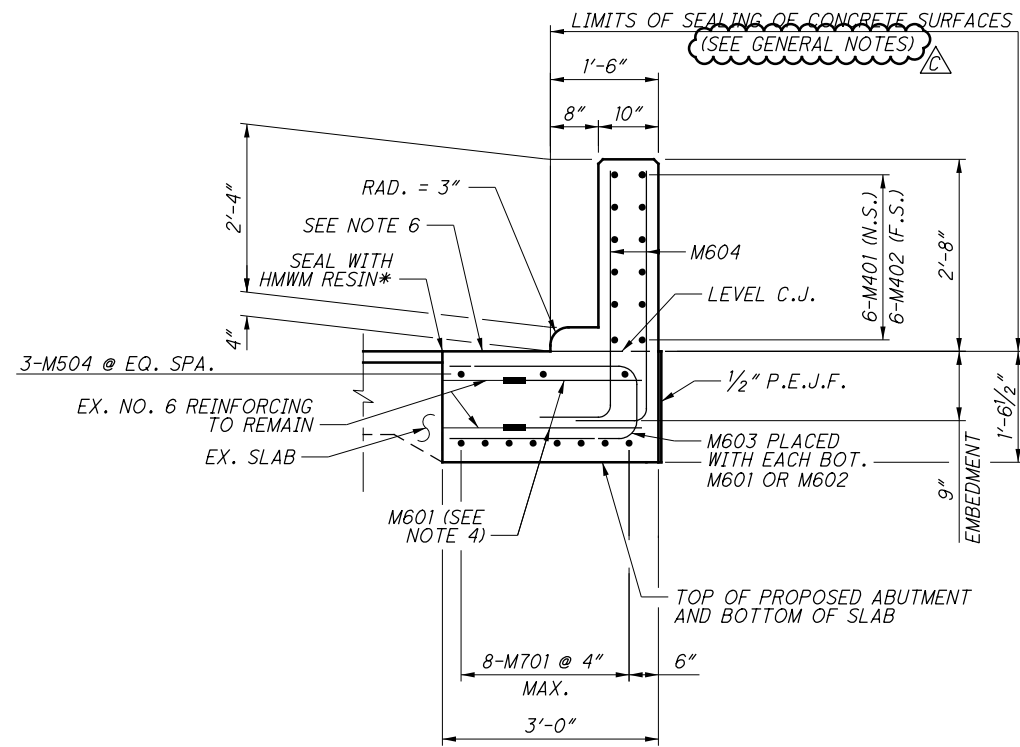
- BOT. = BOTTOM  
 C.J. = CONSTRUCTION JOINT  
 CLR. = CLEAR  
 PEJF = PREFORMED EXPANSION JOINT FILLER  
 SPA. = SPACES  
 T&B = TOP & BOTTOM  
 \* = PLACE PARALLEL WITH U.S. 33 EB  
 \*\*\* = GLASS FIBER REINFORCED POLYMER (GFRP) BAR

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

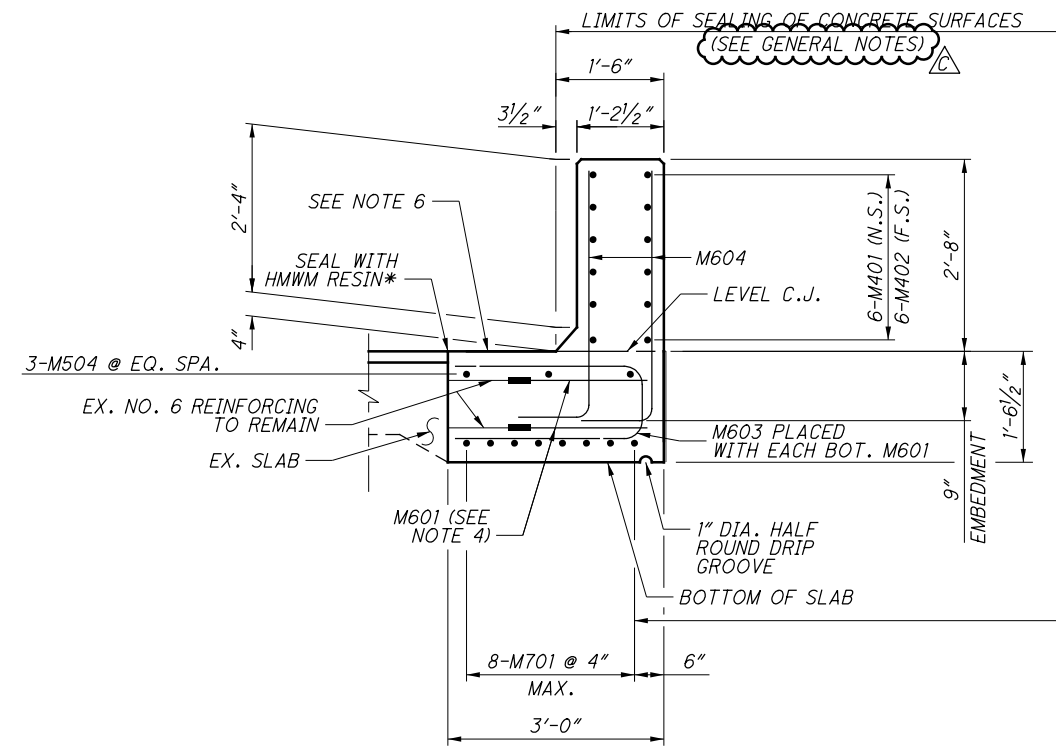
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SECTION B-B  
(WINGWALL NOT SHOWN)



SECTION C-C

**LEGEND:**

- CLR. = CLEAR
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EQ. = EQUAL
- EX. = EXISTING
- F.S. = FAR SIDE
- H.M.W.M = HIGH MOLECULAR WEIGHT METHACRYLATE
- N.S. = NEAR SIDE
- PEJF = PREFORMED EXPANSION JOINT FILLER
- SPA. = SPACES
- \* = SEAL WITH HMWM SEALER PER 511.19, 2'-0" WIDE CENTERED ON JOINT

**NOTES:**

1. FOR LOCATIONS OF SECTIONS B-B AND C-C AND ADDITIONAL NOTES, SEE SHEET 26 / 32
2. SLAB SHOWN AS LEVEL IN SECTION BUT SHALL BE SLOPED PER THE ELEVATIONS SHOWN ON SHEET 26 / 32

NO.	DESCRIPTION	REV. BY	DATE
C	REVISED "SEALING OF CONCRETE SURFACES" CALLOUT	BES	3/3/22

