

SUMMARY OF BIG BUILD 4A PART 1 / 4H PART 2 / 6A PART 3 / 4B PART 4 / 1301R PART 5 MOT SEQUENCING			
STEP	MOT PHASE	*COORDINATION OF OVERLAP WORK	MOT SCHEMATIC PLAN SHEET # (SEE PART # PLANS FOR DETAILS)
1	4A PART 1 PHASE 1		67/1151
2	4A PART 1 PHASE 2	STRUCTURE 1405C (PART 2)	68/1151
3	4A PART 1 PHASE 3		69/1151
4	6A PART 3 PHASE 1		102/702 - 103/702
5	6A PART 3 PHASE 2	STRUCTURES 1322L (PART 3), 1323C (PART 3) AND 1301L (PART 5)	125/702 - 126/702
	1301 PART 5 (1301L)		12/137
6	6A PART 3 PHASE 3		168/702 - 169/702
7	1301 PART 5 (1301R)		12/137
8	4B PART 4 PHASE 1		41/855 , 78/855 , 79/855
9	4B PART 4 PHASE 2		41/855 , 80/855
10	4B PART 4 PHASE 3		41/855 , 81/855 , 82/855 , 83/855
11	4B PART 4 PHASE 4		41/855 , 84/855 , 85/855
12	4B PART 4 PHASE 5		41/855

* ORIGINAL MOT PHASING BASED ON FOLLOWING PROJECT ORDER - PROJECT 4A-4H / 6A / 1301 / 4B - OVERLAP AREAS IDENTIFIED IN TABLE

I-70 EB AVAILABILITY CLAUSE

PHYSICAL CONSTRUCTION WORK FOR THE PART 1 MAINTENANCE OF TRAFFIC PHASE 1 PLAN PAGES 67 SCHEMATIC AND PAGES 98-112 WHERE I-70 EB AND I-71 NB TRAFFIC ARE MAINTAINED ONTO RAMP C5/C6 CANNOT START UNTIL JUNE 1, 2024. IN ADDITION, I-70 EB STRUCTURES 1321 R, 1358 R, AND 1373 R ALSO CANNOT START UNTIL JUNE 1, 2024. AFTER JUNE 1, 2024, THE CURRENT ONGOING PROJECT PID 105523 WILL HAVE TRAFFIC INTO THAT PROJECT'S PHASE 4 MOT SCHEME AS DESIGNED ON PID 105523'S PH. 4R PLAN PAGES 175-183. FURTHER, STRUCTURE FRA-70-1405C REAR ABUTMENT CONSTRUCTION AND THE CLOSURE OF THE EXISTING I-70 EB RAMP TO LIVINGSTON/4TH CANNOT START UNTIL RAMP C5 IS FULLY CONSTRUCTED IN PROJECT PID 105523 AND OPEN TO TRAFFIC TO FULTON STREET. THESE RESTRICTIONS INCLUDE MAINTENANCE OF TRAFFIC INSTALLATIONS IN EXCESS OF 24 HOURS. DATA COLLECTION INCLUDING BUT NOT LIMITED TO FIELD SURVEYS AND GEOTECHNICAL INVESTIGATIONS ARE PERMITTED UPON SIGNED CONTRACT SUBJECT TO ENVIRONMENTAL AND THIRD-PARTY RESTRICTIONS.

I-70 WB AVAILABILITY CLAUSE

PHYSICAL CONSTRUCTION WORK FOR THE PART 3 MAINTENANCE OF TRAFFIC PHASE 2 I-70 WB BRIDGES CONSTRUCTION PLAN PAGES 125 SCHEMATIC AND PAGES 133-151 CANNOT START UNTIL NOVEMBER 1, 2025. AFTER NOVEMBER 1, 2025, THE CURRENT ONGOING PROJECT PID 105523 WILL HAVE TRAFFIC INTO THAT PROJECT'S PHASE 3B MOT SCHEME AS DESIGNED ON PID 105523'S PH. 6R PLAN PAGES 236-246 WHERE THE I-70 WB MOVEMENT TO I-71 SB WILL BE ON THE 15.03L STRUCTURE. THESE RESTRICTIONS INCLUDE MAINTENANCE OF TRAFFIC INSTALLATIONS IN EXCESS OF 24 HOURS. DATA COLLECTION INCLUDING BUT NOT LIMITED TO FIELD SURVEYS AND GEOTECHNICAL INVESTIGATIONS ARE PERMITTED UPON SIGNED CONTRACT SUBJECT TO ENVIRONMENTAL AND THIRD-PARTY RESTRICTIONS.

MOT CLOSURE NOTES, REFERENCES AND TABLES

PARTS 1 AND 2: SEE SHEETS 54/1151 - 63/1151
PART 3: SEE SHEETS 44/702 - 54/702
PART 4: SEE SHEETS 41/855 - 48/855
PART 5: SEE SHEETS 12/137

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED NOTES	CWL	10-2-23
7	ADDED NOTES	CWL	11-17-23

SHEET NUMBER					PARTICIPATION					ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P1/158	P2/37	P3/188	P4/152	P5/13	01/IMS/04	02/IMS/11	05/IMS/14	06/MPO/04	07/NHS/04/COL						
LS	LS		LS	LS							201	11000	LS	CLEARING AND GRUBBING	P1,P2,P4
1		1	2								202	20010	4	EACH	HEADWALL REMOVED
32580	3886	21016	43428								202	23000	100910	SY	PAVEMENT REMOVED
	9050	3016	18064								202	30000	30130	SF	WALK REMOVED
	9										202	30200	9	FT	STEPS REMOVED
		114									202	30600	114	SY	CONCRETE MEDIAN REMOVED
1406		5525	3687								202	30700	10618	FT	CONCRETE BARRIER REMOVED
175											202	30701	175	FT	CONCRETE BARRIER REMOVED, AS PER PLAN "4A"
		1280									202	30701	1280	FT	CONCRETE BARRIER REMOVED, AS PER PLAN "6A"
2870	1001	5724	4809	2230							202	32000	16634	FT	CURB REMOVED
		271									202	32500	271	FT	CURB AND GUTTER REMOVED
		655									202	32800	655	SY	CONCRETE SLOPE PROTECTION REMOVED
835	60	2324	2381	54							202	35100	5654	FT	PIPE REMOVED, 24" AND UNDER
32											202	35201	32	FT	PIPE REMOVED, OVER 24", AS PER PLAN
4722		5283	1745	1647							202	38000	13397	FT	GUARDRAIL REMOVED
1		4									202	47800	5	EACH	IMPACT ATTENUATOR REMOVED
4		9	1								202	58000	14	EACH	MANHOLE REMOVED
13	2	10	13	3							202	58100	41	EACH	CATCH BASIN REMOVED
		33	13								202	58200	50	EACH	INLET REMOVED
		1									202	58201	1	EACH	INLET REMOVED, AS PER PLAN
			1								202	58400	1	EACH	INLET ABANDONED
			3								202	58401	3	EACH	INLET ABANDONED, AS PER PLAN
1			1								202	58500	2	EACH	CATCH BASIN ABANDONED
		4									202	58501	4	EACH	CATCH BASIN ABANDONED, AS PER PLAN
		323									SPECIAL	20270000	323	FT	FILL AND PLUG EXISTING CONDUIT, 12"
162		50									SPECIAL	20270000	212	FT	FILL AND PLUG EXISTING CONDUIT, 15"
126											SPECIAL	20270000	126	FT	FILL AND PLUG EXISTING CONDUIT, 18"
740	428	1156	1222								202	75000	3546	FT	FENCE REMOVED
		1									202	75250	3	EACH	GATE REMOVED
		1									202	75255	1	EACH	GATE REMOVED FOR REUSE, AS PER PLAN
			4								202	75610	4	EACH	VALVE BOX REMOVED
	3		6								202	98100	9	EACH	REMOVAL MISC.: TRASH RECEPTACLES
		2									202	98100	2	EACH	REMOVAL MISC.: INSPECTION WELL
1070		1272	428								202	98200	2770	FT	REMOVAL MISC.: PORTABLE BARRIER
739											202	98200	739	FT	REMOVAL MISC.: PORTABLE BARRIER WITH VANDAL FENCE
	303										202	98200	303	FT	REMOVAL MISC.: CURB REMOVED FOR STORAGE
		100									202	98200	100	FT	REMOVAL MISC.: MISC CONDUIT
		101									202	98200	101	FT	REMOVAL MISC.: TRENCH DRAIN
	4845		307								202	98400	5152	SF	REMOVAL MISC.: BRICK PAVERS REMOVED
19022	623	44689	44578	1149							203	10000	10061	CY	EXCAVATION
35175	7648	94130	45546	6658							203	20000	189157	CY	EMBANKMENT
3977		24962		5561							203	20001	34500	CY	EMBANKMENT, AS PER PLAN
											203	35000	3360	CY	GRANULAR EMBANKMENT
3360											203	35001	4592	CY	GRANULAR EMBANKMENT, AS PER PLAN
4592											203	35110	2806	CY	GRANULAR MATERIAL, TYPE B
		2806													
24495	4558	26743	6606								204	10000	62402	SY	SUBGRADE COMPACTION
250	975		1923								204	13000	3148	CY	EXCAVATION OF SUBGRADE
		172									204	13001	172	CY	EXCAVATION OF SUBGRADE, AS PER PLAN
250	975		1923								204	30010	3148	CY	GRANULAR MATERIAL, TYPE B
28	4	12	32	4							204	45000	80	hour	PROOF ROLLING
											204	45001	1	hour	PROOF ROLLING, AS PER PLAN
500	3868		6338								204	50000	10706	SY	GEOTEXTILE FABRIC
		1032									204	50001	1032	SY	GEOTEXTILE FABRIC, AS PER PLAN
500	3868		6338								204	51000	10706	SY	GEOGRID

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED PART 5	CWL	10-2-23
3	REVISED PART 3	CWL	10-23-23
4	REVISED PART 1	CWL	10-30-23
7	REVISED PART 3	CWL	11-20-23

BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11

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1151

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SHEET NUMBER					PARTICIPATION					ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P1/161	P2/39	P3/191	P4/156	P5/14	01/IMS/04	02/IMS/11	05/IMS/14	06/MPO/04	08/ENH/04/COL						
														PAVEMENT	
150					150					251	01020	150	SY	PARTIAL DEPTH PAVEMENT REPAIR (442)	P1
		1791			1791					252	01500	1791	FT	FULL DEPTH PAVEMENT SAWING	
		121			121					253	01001	121	SY	PAVEMENT REPAIR, AS PER PLAN	P3
				464						254	01000	464	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AVERAGE DEPTH 4.33"	
		170			170					254	01000	170	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 0.25" DEPTH	
		827			827					254	01000	827	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.25" DEPTH	
	410				370			40		254	01000	410	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.25" AVG DEPTH	
4717					4717					254	01000	4717	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5" AVG DEPTH	
938					938					254	01000	938	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3.25" AVG DEPTH	
		1406			1406					254	01000	1406	SY	PAVEMENT PLANING, ASPHALT CONCRETE, VARIABLE DEPTH	
		238			238					254	01010	238	SY	PAVEMENT PLANING, PORTLAND CEMENT CONCRETE, 1.25" DEPTH	
10392		11503	15017	2272	36912	2215	57			302	56000	39184	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
6591	759	9740	1327		17048	1298	29	42		304	20000	18417	CY	AGGREGATE BASE	
		7154			7154					304	20000	7154	CY	AGGREGATE BASE, 6"	
		7			7					304	20000	7	CY	AGGREGATE BASE, 8"	
		331			331					304	20001	331	CY	AGGREGATE BASE, AS PER PLAN, 12"	P3
		36			36					304	20001	36	CY	AGGREGATE BASE, AS PER PLAN, 6"	P3
		176	5		181					305	11010	181	SY	7" CONCRETE BASE, CLASS QC 1P	
		947	293		1240					305	12010	1240	SY	8" CONCRETE BASE, CLASS QC 1P	
	1709	805	4095		6360			249		305	13010	6609	SY	9" CONCRETE BASE, CLASS QC 1P	
20	149	172	317	442	637			21		407	13900	658	GAL	TACK COAT, 702.13	
6291	101	7621	8726	1426	22722	1344	82	17		407	20000	24165	GAL	NON-TRACKING TACK COAT	
		83			83					441	50000	83	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
		75	154		218			11		441	50101	229	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22	P2,P4
		9			9					441	50200	9	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)	
	88	46	215		336			13		441	50300	349	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
95					95					441	70801	95	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (UNDER GUARDRAIL), AS PER PLAN	P1
2482		3551	2977	442	9010	398	44			442	00100	9452	CY	ANTI-SEGREGATION EQUIPMENT	
1732		2215	2054	342	6001	305	37			442	10001	6343	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, (446), AS PER PLAN, PG70-22M	P1,P3,P4,P5
		325			325					442	10001	325	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A, (446), AS PER PLAN "B", PG76-22M	P3
2174		2114	2496	409	6784	366	43			442	10080	7193	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)	
71					71					442	22300	71	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (449)	
		163			163					451	13010	163	SY	8" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
	274	215			489					SPECIAL	45130000	489	FT	PRESSURE RELIEF JOINT, TYPE A	P2,P4
242		977			1219					452	09010	1219	SY	4" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
			113		113					452	12050	113	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
	167	12			179					452	14011	179	SY	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN	P2,P4
	1247	862			2109					452	15010	2109	SY	12" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
1748		439		1491	2187	1070	421			609	24510	3678	FT	CURB, TYPE 4-C	
167					167					609	50000	167	SY	4" CONCRETE TRAFFIC ISLAND	
	497	406			903					609	98000	903	FT	CURB, MISC.: COLUMBUS 18" CONCRETE CURB	P2,P4
	402	1222								609	98000	1624	FT	CURB, MISC.: COLUMBUS 18" GRANITE CURB "A"	P2,P4
		462								609	98000	462	FT	CURB, MISC.: COLUMBUS 18" GRANITE CURB "B"	P4
	168									609	98000	168	FT	CURB, MISC.: COLUMBUS 18" GRANITE CURB "C"	P2
	68				68					609	98000	68	FT	CURB, MISC.: COMBINATION CURB & GUTTER, TYPE MOUNTABLE, AS PER PLAN	P3
	318				318					609	98000	318	FT	CURB, MISC.: COMBINATION CURB & GUTTER, TYPE SPECIAL 8", AS PER PLAN	P3
	555				555					609	98000	555	FT	CURB, MISC.: STRAIGHT 18" CONCRETE CURB, AS PER PLAN	P3
	468	900			1368					SPECIAL	69098100	1368	FT	SAWING AND SEALING CONCRETE JOINTS	P2,P4
		3			3					826	10600	3	CY	ASPHALT CONCRETE SURFACE COURSE, 442 12.5MM, (448), FIBER TYPE A	
14107		23840	22749	587	60696		587			872	10000	61283	FT	VOID REDUCING ASPHALT MEMBRANE (VRAM)	P3

BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11

CALCULATED
CJC
CHECKED
CWL

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED PART 5	CWL	10-2-23
2	REVISED PART 4 609 "B"	CWL	10-12-23
6	REVISED PART 1 ITEM EXT.	CWL	11-10-23
7	REVISED PARTS 3 & 5	CWL	11-20-23

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SHEET NUMBER						PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED CJC	CHECKED CWL
P2/158	P3/192	P4/471				01/IMS/04			07/NHS/04/COL								
														TRAFFIC SURVEILLANCE			
	3008					3008					625	22900	3008	NO. 1/0 AWG 2400 VOLT DISTRIBUTION CABLE			
	616					616					625	25402	616	CONDUIT, 2", 725.05			
	378					378					625	25502	378	CONDUIT, 3", 725.05			
261		24				285					625	25802	285	CONDUIT, CONCRETE ENCASED, 3"			P2,P4
135						21			114		625	25920	135	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 1-2", 1-1.5", TC-2, SCH 40			P2
19						19					625	25920	19	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 2-2", 1-1.5", TC-2, SCH 40			
180		30				210					625	25920	210	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 4-3", 1-1.5", TC-2, SCH 40			P2,P4
	609					609					625	29010	609	TRENCH, 30" DEEP			
595		20				609			114		625	29010	595	TRENCH, 36" DEEP			
	16					16					625	29400	16	TRENCH IN PAVED AREA			
	5					5					625	29931	5	MEDIAN JUNCTION BOX, AS PER PLAN			P4
2	8					10					625	30700	10	PULL BOX, 725.08, 18"			
	3					3					625	30710	3	PULL BOX, 725.08, 32"			
3						2			1		625	31600	3	PULL BOX, MISC.: 32" ROUND CONCRETE (725.08)			P2
2	8	4				14					625	32000	14	GROUND ROD			
1	1	1				3					625	34000	3	POWER SERVICE			
	1					1					625	34001	1	POWER SERVICE, AS PER PLAN			P3
		1				1					625	98000	1	LIGHTING, MISC.: STEP-DOWN TRANSFORMER AND SUPPORT			P4
	2					2					630	97700	2	SIGNING, MISC.: RAMP METER STOP HERE/ONE CAR SIGNS			P3
	3					3					632	04905	3	VEHICULAR SIGNAL HEAD, (LED), 2-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN			P3
	5					5					632	26500	5	DETECTOR LOOP			
175						175					632	29901	175	MESSANGER WIRE, 7 STRAND, 1/4" DIAMETER WITH ACCESSORIES, AS PER PLAN			P2
	1448					1448					632	40500	1448	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG			
	361					361					632	62810	361	INTERCONNECT CABLE, MISC.: SFRD CABLE			P3
											632	62820	3	INTERCONNECT, MISC.: MODIFIED CONDUIT RISER			P2
3						3					632	62820	3	INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, CLAMHELL, 288 SPLICE			P2
4		1				5					632	62820	5	INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, DOME, 800 SPLICE			P2,P4
1						1					632	62820	1	INTERCONNECT, MISC.: RELOCATE EXISTING AERIAL SPLICE ENCLOSURE			P2
	1					1					632	64000	1	STRAIN POLE FOUNDATION			
	1					1					632	64010	1	SIGNAL SUPPORT FOUNDATION			
	2637					2637					632	65300	2637	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG			
		328				328					632	68300	328	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG			
	288					288					632	69300	288	POWER CABLE, 3 CONDUCTOR, NO. 4 AWG			
	1					1					632	72100	1	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2			
	1					1					632	86120	1	STRAIN POLE, TYPE TC-81.11, DESIGN 8			
	1					1					632	90400	1	SIGNALIZATION, MISC.: RAMP METER SIGN			P3
		1				1					633	67100	1	CABINET FOUNDATION			
	2					2					633	67200	2	CONTROLLER WORK PAD			
	1					1					633	67201	1	CONTROLLER WORK PAD, AS PER PLAN SLOPED AREA			P3
332						332					804	15020	332	FIBER OPTIC CABLE, 48 FIBER			
3397		4924				8321					804	15050	8321	FIBER OPTIC CABLE, 288 FIBER			
978	1739	87				2664			140		804	32060	2804	DROP CABLE, 24 FIBER			P3
	3					3					804	34022	3	FIBER TERMINATION PANEL, 24-FIBER			
2173						2173					804	98000	2173	FIBER OPTIC CABLE, MISC.: FIBER OPTIC CABLE, 144 FIBER			P2
3		1				4					804	98100	4	FIBER OPTIC CABLE, MISC.: RELOCATE EXISTING FIBER OPTIC CABLE, 144 FIBER			P2,P4
1		1				2					804	98100	2	FIBER OPTIC CABLE, MISC.: RELOCATE EXISTING FIBER OPTIC CABLE, 288 FIBER			P2,P4
		5172				5172					809	24500	5172	CONDUIT, 4", MULTICELL, HDPE WITH 4 - 1" INNERDUCTS			
	696					696					809	25000	696	CONDUIT, MULTICELL, MISC.: 4"			P3
		1				1					809	60000	1	CCTV IP-CAMERA SYSTEM, DOME-TYPE			
	2					2					809	60040	2	CCTV IP-CAMERA SYSTEM, QUAD MULTI-VIEW FIXED WITH PTZ			P3
		1				1					809	61002	1	CCTV CONCRETE POLE, 70 FEET			
	235					235					809	64550	235	ETHERNET CABLE, OUTDOOR-RATED			
	1	1				2					809	65000	2	ITS CABINET - GROUND MOUNTED			
	1					1					809	65020	1	ITS CABINET - POWER DISTRIBUTION CABINET (PDC)			
	1					1					809	65030	1	ITS CABINET - RAMP METER			
	1	1				2					809	68900	2	SIDE-FIRED RADAR DETECTOR			P3
	1					1					809	69123	1	ATC V6.24 CONTROLLER, AS PER PLAN			P3
	LS					LS					SPECIAL	80999000	LS	ITS CCTV CONCRETE POLE WITH LOWERING UNIT, 80 FEET			P3

BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED ITS	CWL	10-2-23
7	REVISED PART 3 ITS	CWL	11-20-23

SHEET NUMBER							PARTICIPATION					ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED CJC	CHECKED CWL
P1/371	P2/111	P3/193	P4/407	P4/408	P5/14		01/IMS/04	02/IMS/11	05/IMS/14										
TRAFFIC CONTROL (CONTINUED)																			
		571			68		571	68				644	00700	639	FT	TRANSVERSE/DIAGONAL LINE			
337			400				737					644	00720	737	FT	CHEVRON MARKING			
	48		80				128					644	01200	128	FT	PARKING LOT STALL MARKING			
	12		20				32					644	01300	32	EACH	LANE ARROW			
2			2				4					644	01350	4	EACH	LANE REDUCTION ARROW			
	7		8				15					644	01630	15	EACH	BIKE LANE SYMBOL MARKING			
	7						7					644	19000	7	EACH	SHARED LANE MARKING			
		14					14					644	30000	14	FT	REMOVAL OF PAVEMENT MARKING			
	2		1				3					644	50100	3	EACH	PAVEMENT MARKING, MISC.: BIKE DETECTOR MARKING			P2,P4
	299		505				804					644	50300	804	FT	PAVEMENT MARKING, MISC.: BIKE LANE DOTTED LINE, 6"			P2,P4
	706		584				1290					644	50300	1290	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12"			P2,P4
	126		205				331					644	50300	331	FT	PAVEMENT MARKING, MISC.: STOP LINE, 24"			P2,P4
	575		244				819					644	50300	819	FT	PAVEMENT MARKING, MISC.: TRANSVERSE / DIAGONAL LINE, 24"			P2,P4
	123						123					644	50300	123	FT	PAVEMENT MARKING, MISC.: DOTTED LINE, 6"			P2
	0.67		0.93				1.60					644	50400	1.60	MILE	PAVEMENT MARKING, MISC.: EDGE LINE, 6"			P2,P4
	0.57		0.92				1.49					644	50400	1.49	MILE	PAVEMENT MARKING, MISC.: LANE LINE, 6"			P2,P4
	0.23						0.23					644	50400	0.23	MILE	PAVEMENT MARKING, MISC.: CENTER LINE, 4"			P2
		0.05					0.05					644	50400	0.05	MILE	PAVEMENT MARKING, MISC.: CENTER LINE, DOUBLE SOLID, 4"			P3
			0.31				0.31					645	90000	0.31	MILE	PAVEMENT MARKING, MISC.: EDGE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST			P4
	0.06		0.12				0.18					645	90000	0.18	MILE	PAVEMENT MARKING, MISC.: LANE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST			P2,P4
	0.05						0.05					645	90000	0.05	MILE	PAVEMENT MARKING, MISC.: CENTER LINE, 4", TYPE A1, GROOVED			P2
	280		239				519					645	98000	519	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12", TYPE A1, GROOVED, WITH CONTRAST			P2,P4
		316			204		316	204				646	10600	520	FT	TRANSVERSE/DIAGONAL LINE			
185							185					646	10620	185	FT	CHEVRON MARKING			
	15		6				21					646	20300	21	EACH	LANE ARROW			
	8			6			14					647	20610	14	EACH	LANE ARROW, TYPE B90			
				8			8					647	20910	8	EACH	BIKE LANE SYMBOL MARKING, TYPE B90			
	2						2					647	20940	2	EACH	SHARED LANE MARKING, TYPE B90			
				4			4					647	50100	4	EACH	PAVEMENT MARKING, MISC.: TURN QUEUE BOX, TYPE B90			P4
				2			2					647	50100	2	EACH	PAVEMENT MARKING, MISC.: LANE REDUCTION ARROW WITH CONTRAST			P3
				634			634					647	50120	634	FT	PAVEMENT MARKING, MISC.: DOTTED LINE, 6", TYPE B90			P4
				16			16					647	50120	16	FT	PAVEMENT MARKING, MISC.: BIKE LANE DOTTED LINE, 6", TYPE B90			P4
	252			199			451					647	50120	451	FT	PAVEMENT MARKING, MISC.: CROSSWALK LINE, 12", TYPE B90			P2,P4
	57			45			102					647	50120	102	FT	PAVEMENT MARKING, MISC.: STOP LINE, 24", TYPE B90			P2,P4
				618			618					647	60020	618	SF	GREEN COLORED PAVEMENT FOR BIKES, TYPE B90			
	1.72		2.03	0.06	0.46		3.81	0.27	0.19			807	12010	4.27	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6"			
	1.14		0.76	0.12	0.23		2.02	0.13	0.10			807	12110	2.25	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"			
	5007		4316				9323					807	12310	9323	FT	WET REFLECTIVE EPOXY PAVEMENT MARKING, CHANNELIZING LINE, 12"			
	351		1649				2000					807	12410	2000	FT	WET REFLECTIVE EPOXY PAVEMENT MARKING, DOTTED LINE, 6"			
	4.75		5.96	4.00	0.53		14.71	0.15	0.38			807	14010	15.24	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6"			
	2.13		4.76	5.69	0.27		12.58	0.07	0.20			807	14110	12.85	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"			
	0.11		0.11				0.22					807	14200	0.22	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, CENTER LINE			
	10284		12495	5427			28206					807	14310	28206	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"			
	2816		3361	8414			14591					807	14410	14591	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"			
	7.09		10.91	9.69	0.8		27.69	0.22	0.58			850	10010	28.49	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)			
	2816		3361	8414			14591					850	10110	14591	FT	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)			
	10284		12495	5427			28206					850	10130	28206	FT	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)			
	2.86		2.80	0.18	0.69		5.84	0.40	0.29			850	20010	6.53	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)			
	351		1649				2000					850	20110	2000	FT	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)			
	5007		4316				9323					850	20130	9323	FT	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (CONCRETE)			

BIG BUILD MASTER GENERAL SUMMARY

FRA-70-13.11

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED PART 5	CWL	10-2-23
5	REVISED PARTS 1,3 & CITY LINES	CWL	11-3-23
7	REVISED PARTS 2 & 4	CWL	11-17-23

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GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7-17-15
AS-2-15	REVISED	1-18-19
GSD-1-19	REVISED	1-15-21
SBR-1-13	REVISED	7-20-18
SBR-2-13	REVISED	7-20-18

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	1-20-23
832	DATED	10-19-18
869	DATED	10-17-14
894	DATED	4-16-21

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 7TH EDITION, 2014 AND THE ODOT BRIDGE DESIGN MANUAL, 2007 EDITION, INCLUDING REVISIONS THROUGH JULY 2015.

SPECIAL DESIGN SPECIFICATIONS

THIS BRIDGE REQUIRED THE USE OF OF A THREE DIMENSIONAL MODEL USING THE FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MIDAS CIVIL 2015 (VERSION 2.2, BUILD 4/14/2015). THIS PROGRAM WAS USED TO CALCULATE FORCES FOR THE DESIGN OF THE STEEL GIRDERS, CROSSFRAMES AND GIRDER END DIAPHRAGMS AND TO CALCULATE REACTIONS FOR THE DESIGN OF THE BEARINGS AND SUBSTRUCTURES.

DEAD LOAD DISTRIBUTION: THE WEIGHT OF THE STEEL SUPERSTRUCTURE AND CONCRETE DECK WAS APPLIED TO EACH ELEMENT IN THE MODEL BASED ON LOCAL SECTION PROPERTIES AND TRIBUTARY AREA. THE WEIGHT OF THE FUTURE WEARING SURFACE WAS APPLIED EQUALLY TO EACH GIRDER WITHIN A GIVEN SPAN. PARAPET WEIGHT WAS APPLIED TO THE EXTERIOR GIRDERS ONLY WITHIN THE 3D DESIGN MODEL.

LIVE LOAD DISTRIBUTION: THE DESIGN ANALYSIS WAS CARRIED OUT BY APPLYING TRUCK AND LANE LOADS DIRECTLY TO THE FINITE ELEMENT MODEL, RATHER THAN BY USING CALCULATED DISTRIBUTION FACTORS.

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.05 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING: HL-93
FUTURE WEARING SURFACE (FWS) = 0.060 KSF

DESIGN DATA:

CONCRETE CLASS QC2 (SUPERSTRUCTURE) - COMPRESSIVE STRENGTH 4.5KSI
 CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.0 KSI (DRILLED SHAFT)
 CONCRETE CLASS QC1 (SUBSTRUCTURE) - COMPRESSIVE STRENGTH 4.0 KSI (ABUTMENT)
 MASS CONCRETE CLASS QC4 (SUBSTRUCTURE) - COMPRESSIVE STRENGTH 4.0 KSI (PIER CAPS AND COLUMNS)
 REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
 STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI (GIRDERS, CROSSFRAMES, DIAPHRAGMS, STIFFENERS, FIELD SPLICES)
 STRUCTURAL STEEL - ASTM A709 GRADE HPS70W - YIELD STRENGTH 70 KSI (TOP AND BOTTOM FLANGES OF HYBRID GIRDER SECTIONS NOTED AS SUCH IN THE PLANS)
 STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI (MODULAR JOINTS AND PARAPET SLIDING PLATE JOINTS)
 STEEL H-PILES - ASTM A572 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
 2 1/2" CONCRETE COVER
 CLASS QC2 CONCRETE

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

ITEM 202 - STRUCTURE REMOVED, OVER 20' SPAN

THE EXISTING STRUCTURE SHALL BE REMOVED IN ACCORDANCE WITH CMS ITEM 202. PRIOR TO DEMOLITION OF THE STRUCTURE, THE CONTRACTOR SHALL VERIFY THAT THE EXISTING CITY OF COLUMBUS ELECTRICAL POWER LINE, CARRIED ACROSS THE EXISTING STRUCTURE, HAS BEEN DE-ENERGIZED AND RELOCATED (NEW CONDUIT CONSTRUCTED ONTO FRA-70-1321A STRUCTURE IN PROJECT 4R 105523 PART 1).

PILES TO BEDROCK:

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD PER PILE AND THE ORDER LENGTHS ARE AS FOLLOWS:

LOCATION	SIZE	ORDER LENGTH (FEET)	FACTORED LOAD (KIPS)
REAR ABUT.	HP 12x53	75	341
FRWD. ABUT.	HP 12x53	75	325

USE STEEL POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL H-PILES AT THE REAR AND FORWARD ABUTMENTS.

PILE SPLICES: IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
 8 WOOD HOLLOW RD. PLAZA 1
 PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DRILLED SHAFTS, 66" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN
DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN

MAXIMUM FACTORED LOADS TO BE SUPPORTED BY EACH DRILLED SHAFT AND FACTORED RESISTANCE PROVIDED BY EACH DRILLED SHAFT AT PIERS ARE LISTED BELOW. THIS LOAD IS RESISTED BY TIP RESISTANCE ONLY. CONCRETE FOR DRILLED SHAFTS SHALL BE PER CMS REQUIREMENTS EXCEPT THAT THE MAXIMUM COARSE AGGREGATE SIZE TO BE USED IS NO. 8.

LOCATION	FACTORED LOAD (KIPS)	FACTORED TIP RESISTANCE (KIPS)
PIER 1	3,054	8,992
PIER 2	2,786	8,992
PIER 3	2,611	8,879
PIER 4	2,702	8,879

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR 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 509.

GLASS FIBER REINFORCED POLYMER (GFRP) PARAPET STIFFENING BARS SHALL ALSO BE INCLUDED IN THIS ITEM. SEE SHEET [90/101], [91/101] & [92/101] FOR QUANTITIES AND DETAILS.

ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

LOCATE THE LOWER CONTACT POINT OF THE OVERHANG FALSEWORK NO MORE THAN 17 INCHES ± 2 IN. ABOVE THE TOP OF THE GIRDER'S BOTTOM FLANGE. THE BRACKET CONTACT POINT LOCATION REQUIREMENTS OF C&MS 508 DO NOT APPLY.

ITEM 513 - STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN:

1. DESCRIPTION

- A. THIS WORK CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND ERECT STRUCTURAL STEEL MEMBERS, DESIGNED AS A HYBRID/ MIX OF STEEL MATERIALS CONSISTING OF: ASTM A709, HIGH PERFORMANCE GRADE HSP70W IN COMBINATION WITH GRADE 50W STEEL.
- B. THIS WORK SHALL BE PERFORMED PER ITEM 513 STRUCTURAL STEEL MEMBER, LEVEL SIX(6) EXCEPT AS MODIFIED BY THE JUNE, 2011 3RD EDITION OF THE GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPS70W STEEL (HPS485W), A SUPPLEMENT TO ANSI/AASHTO AWS D1.5" AND AS MODIFIED BY THESE PLAN NOTES.

NO.	DESCRIPTION	REV. BY	DATE
5	REVISED NOTE	CWL	11-6-23
7	ADDED QC/QA	CWL	11-17-23

2. MATERIALS

A. STEEL FOR GIRDER WEBS AND FLANGES SHALL BE A COMBINATION OF ASTM A709 GRADE HPS70W MANUFACTURED BY THE THERMO-MECHANICAL CONTROLLED PROCESSING (TMCP) OR QUENCHED AND TEMPERED HEAT TREATMENT PROCESSING ALONG WITH ASTM A588/709 GRADE 50W. ALL OTHER STEEL SHALL BE ASTM A709 GRADE 50W.

B. STEEL DESIGNATED CVN SHALL BE IMPACT TESTED TO EXCEED THE TEST VALUES OF ASTM A709 TABLE S1.2 "NON-FRACTURE CRITICAL IMPACT TEST REQUIREMENTS" FOR ZONE 2, TEMPERATURE RANGE.

3. ADDITIONAL FABRICATION RESTRICTIONS / WARNINGS:

A. APPLICATION OF HEAT FOR CURVING AND STRAIGHTENING APPLICATIONS, CAMBER AND SWEEP ADJUSTMENT, OR OTHER REASON HEATING IS LIMITED TO 1100°F/590 C MAXIMUM, AND MUST BE DONE BY PROCEDURES APPROVED BY THE DIRECTOR OR HIS AUTHORIZED REPRESENTATIVE.

B. THE MATCHING SUBMERGED ARC WELDING CONSUMABLES ESAB ENI4 ELECTRODE IN COMBINATION WITH LINCOLN MIL800H, RECOMMENDED IN APPENDIX A OF THE AASHTO GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPS70W STEEL, HAS PRODUCED WELDMENT CONTAINING UNACCEPTABLE DISCONTINUITIES IN A SUBSTANTIAL NUMBER OF COMPLETE PENETRATION GROOVE WELDS IN ONE STRUCTURE, BASED ON THE PARAMETERS USED AND EXPERIENCE OF ONE FABRICATOR. EXTREME CAUTION SHOULD BE EXERCISED WHEN USING THIS ELECTRODE/FLUX COMBINATION.

C. CONSIDERATION WILL BE GIVEN TO OTHER WELDING PROCESSES IF A WRITTEN REQUEST IS SUBMITTED TO THE OFFICE OF MATERIALS MANAGEMENT IN ACCORDANCE WITH CMS 108.05. OTHER WELDING PROCESSES MUST BE QUALIFIED AND TESTED AS REQUIRED BY THE REFERENCED SPECIFICATIONS AND THESE NOTES.

D. IN ADDITION TO THE REQUIREMENTS OF ANSI/AASHTO/AWS D1.5 SECTION 5.17. ALL PROCEDURE QUALIFICATION TESTS MUST BE ULTRASONICALLY TESTED IN CONFORMANCE WITH THE REQUIREMENTS OF AWS D1.5, SECTION 6, PART C. EVALUATION MUST BE IN ACCORDANCE WITH AWS D1.5, TABLE 6.3, ULTRASONIC ACCEPTANCE REJECTION CRITERIA TENSILE STRESS. INDICATIONS FOUND AT THE INTERFACE OF THE BACKING BAR MAY BE DISREGARDED, REGARDLESS OF THE DEFECT RATING.

E. WHENEVER MAGNETIC PARTICLE TESTING IS DONE, ONLY THE YOKE TECHNIQUE WILL BE ALLOWED, AS DESCRIBED IN SECTION 6.7.6.2 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE, MODIFIED TO TEST USING ALTERNATING CURRENT ONLY. THE PROD TECHNIQUE WILL NOT BE ALLOWED.

4. BASIS OF PAYMENT:

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	EXT	UNITS	DESCRIPTION
513	10401	POUND	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL, MISC.: PARAPET SLIDING PLATE JOINT:

THIS WORK CONSISTS OF FURNISHING, FABRICATING, COATING AND ERECTING STRUCTURAL STEEL PARAPET SLIDING PLATE JOINT ASSEMBLIES PLACED ADJACENT TO, AND IN CONJUNCTION WITH, BRIDGE DECK MODULAR EXPANSION JOINTS FURNISHED UNDER A SEPARATE ITEM. ALL WORK SHALL BE IN ACCORDANCE WITH CMS 513 AND THE PLAN DETAILS. COAT PARAPET SLIDING PLATE ASSEMBLIES IN ACCORDANCE WITH CMS 516.03.

PAYMENT SHALL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE PER EACH PARAPET JOINT ASSEMBLY UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: PARAPET SLIDING PLATE JOINT WHICH PRICE SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS AND INCIDENTALS FOR A COMPLETE FUNCTIONING ASSEMBLY.

ITEM 516 - SPECIAL - MODULAR EXPANSION JOINT

ABUTMENT JOINTS SHALL BE WATSON BOWMAN ACME (WABO MODULAR), DS BROWN (STEELFLEX MODULAR), OR APPROVED ALTERNATE.

THE MANUFACTURER SHALL SUBMIT DESIGN CALCULATIONS SHOWING THAT THE DEVICE CAN MEET THE IMPACT AND FATIGUE DESIGN REQUIREMENTS SET FORTH BY THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

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DESIGN AGENCY
GPD GROUP
 1800 Waterford Drive, Columbus, OH 43240
 (614) 234-0571

DATE
 4-21-23

REVIEWED
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FILE NUMBER
 2510016

DRAWN
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REVISIONS

DESIGNED
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GENERAL NOTES
 BRIDGE NO. FRA-70-1321R
 I-70 E.B. OVER THE SCIOTO RIVER

FRA-70-13-11
 PID No. 77372

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NO.	DESCRIPTION	REV. BY	DATE
7	ADDED QC/QA	CWL	11-17-23

ESTIMATED QUANTITIES

CALCULATED: SAT DATE: 3-25-15
CHECKED: TJW DATE: 6-26-20

ITEM	EXT.	TOTAL	PARTICIPATION		UNITS	DESCRIPTION	ABUTMENT	PIER	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO.
			02/IMS/11	03/NHS/10							
202	11002	LS	LS	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN					
202	22900	324	194	130	SY	APPROACH SLAB REMOVED				324	
202	23500	8,602	5,161	3,441	SY	WEARING COURSE REMOVED			8,278	324	
503	11101	LS	LS	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN					14
503	21100	1,849	1,109	740	CY	UNCLASSIFIED EXCAVATION	1,849				
505	11100	LS	LS	LS		PILE DRIVING EQUIPMENT MOBILIZATION					
507	00200	6,075	3,645	2,430	FT	STEEL PILES HPI2X53, FURNISHED	6,075				
507	00250	5,670	3,402	2,268	FT	STEEL PILES HPI2X53, DRIVEN	5,670				
507	93300	81	49	32	EACH	STEEL POINTS OR SHOES	81				
509	10001	1,345,121	807,073	538,048	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	83,071	254,207	1,007,365	478	9
511	34447	3,365	2,019	1,346	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			3,365		9
511	34450	415	249	166	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			412	3	
511	43512	1,120	672	448	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	1,120				
511	45602	1,239	743	496	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA		1,239			
512	10100	5,860	3,516	2,344	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	792	2,414	2,640	14	
513	10300	3,560,367	2,136,220	1,424,147	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5			3,560,367		
513	10401	2,113,222	1,267,933	845,289	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN			2,113,222		9
513	20000	27,156	16,294	10,862	EACH	WELDED STUD SHEAR CONNECTORS			27,156		
513	95030	4	2	2	EACH	STRUCTURAL STEEL, MISC.: PARAPET SLIDING PLATE JOINT			4		9
514	00060	5,026	3,016	2,010	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			5,026		
514	00066	5,026	3,016	2,010	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			5,026		
516	12400	313	188	125	FT	SPECIAL - MODULAR EXPANSION JOINT			313		9
516	44101	12	7	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-8" DIA.) (PTFE)			12		11
516	44101	9	5	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (1'-7" DIA.) (PTFE)			9		11
518	12301	3	2	1	EACH	SCUPPER, INCLUDING SUPPORTS, AS PER PLAN			3		67-68
518	21200	346	208	138	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	346				
518	40000	358	215	143	FT	6" PERFORATED CORRUGATED PLASTIC PIPE			358		
518	40010	165	99	66	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			165		
524	95484	288	173	115	FT	DRILLED SHAFTS, 66" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN		288			9
524	95492	1,004	602	402	FT	DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN		1,004			9
526	30011	685	411	274	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				685	93-96
526	90010	272	163	109	FT	TYPE A INSTALLATION				272	
601	21000	1,383	830	553	SY	CONCRETE SLOPE PROTECTION				1,383	
601	32104	2,057	1,234	823	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC				2,057	
869	00101	41	25	16	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN			41		11
894	10000	23	14	9	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST		23			
SPECIAL	69098100	200	120	80	FT	COVERED WALKWAY SYSTEM				200	12

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DESIGN AGENCY: GPD GROUP
 DATE: 4-21-23
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 STRUCTURE FILE NUMBER: 2510016

ESTIMATED QUANTITIES
 BRIDGE NO. FRA-70-1321R
 I-70 E.B. OVER THE SCIOTO RIVER

FRA-70-13-11
 PID No. 77372

01-2012-2012048 VRA77322STRUCTURES\FRA070_1321R SHEETS\070_1321R\004.DGN
 11/17/2023 11:41:23 PM
 ODOT\B1STD_USER

REINFORCING LIST										
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	INC.
PIER										
P601	492	30'-0"	22,170	ST						
P602	20	14'-0"	421	ST						
P603	SER. OF 2 4	23'-9" TO 30'-0"	323	ST						2'-1"
P604	SER. OF 2 4	7'-9" TO 14'-0"	131	ST						2'-1"
P605	20	28'-10"	866	ST						
P606	SER. OF 2 4	26'-7" TO 30'-0"	340	ST						1'-1 5/8"
P607	SER. OF 2 4	25'-5" TO 28'-10"	326	ST						1'-1 5/8"
P608	20	26'-6"	796	ST						
P609	SER. OF 2 4	24'-10" TO 30'-0"	329	ST						1'-8 5/8"
P610	SER. OF 2 4	21'-4" TO 26'-6"	287	ST						1'-8 5/8"
P611	20	19'-0"	571	ST						
P612	SER. OF 4 20	24'-1" TO 30'-0"	3,249	ST						0'-3 3/4"
P613	SER. OF 2 4	15'-5" TO 21'-4"	221	ST						1'-11 5/8"
P614	320	14'-6"	6,969	2	5'-8"	3'-6"	5'-8"			
P615	192	14'-10"	4,278	2	5'-10"	3'-6"	5'-10"			
P616	84	15'-10"	1,998	2	5'-6"	5'-2"	5'-6"			
P617	104	16'-2"	2,525	2	5'-8"	5'-2"	5'-8"			
P618	174	16'-6"	4,312	2	5'-10"	5'-2"	5'-10"			
P619	152	15'-6"	3,539	2	6'-2"	3'-6"	6'-2"			
P620	104	17'-2"	2,682	2	6'-2"	5'-2"	6'-2"			
P621	56	15'-2"	1,276	2	6'-0"	3'-6"	6'-0"			
P622	44	16'-10"	1,112	2	6'-0"	5'-2"	6'-0"			
P623	160	14'-2"	3,405	2	5'-6"	3'-6"	5'-6"			
P624	84	13'-10"	1,745	2	5'-4"	3'-6"	5'-4"			
P625	14	15'-6"	326	2	5'-4"	5'-2"	5'-4"			
P626	SER. OF 4 17	11'-10" TO 14'-0"	1,319	2	4'-4" TO 5'-5"	3'-6" TO 5'-5"	4'-4" TO 5'-5"			0'-1 5/8"
P627	SER. OF 4 11	12'-6" TO 14'-6"	892	2	4'-8" TO 5'-8"	3'-6" TO 5'-8"	4'-8" TO 5'-8"			0'-2 3/8"
P628	SER. OF 4 9	12'-6" TO 15'-2"	748	2	4'-8" TO 6'-0"	3'-6" TO 6'-0"	4'-8" TO 6'-0"			0'-5"
P629	SER. OF 4 9	12'-0" TO 14'-0"	703	2	4'-5" TO 5'-5"	3'-6" TO 5'-5"	4'-5" TO 5'-5"			0'-3"
P630	SER. OF 4 7	12'-2" TO 14'-4"	557	2	4'-6" TO 5'-7"	3'-6" TO 5'-7"	4'-6" TO 5'-7"			0'-4 3/8"

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED DSP1105	CWL	11-17-23

REINFORCING LIST										
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	INC.
PIER (CONT.)										
P631	SER. OF 4 5	12'-2" TO 14'-0"	393	2	4'-6" TO 5'-5"	3'-6" TO 5'-5"	4'-6" TO 5'-5"			0'-5 1/2"
P632	SER. OF 4 11	12'-2" TO 15'-4"	909	2	4'-6" TO 6'-1"	3'-6" TO 6'-1"	4'-6" TO 6'-1"			0'-3 3/4"
P633	SER. OF 4 11	11'-10" TO 14'-0"	854	2	4'-4" TO 5'-5"	3'-6" TO 5'-5"	4'-4" TO 5'-5"			0'-2 5/8"
P1101	60	26'-6"	8448	ST						
P1102	20	25'-9"	2736	ST						
P1103	20	24'-9"	2630	ST						
P1104	20	23'-10"	2533	ST						
P1105	120	28'-0"	17852	ST						
P1106	120	30'-0"	19127	ST						
P1107	100	17'-10"	9475	ST						
P1108	70	35'-0"	13017	ST						
P1109	20	39'-5"	4188	19	32'-11"	6'-1"	2'-6"			
P1110	20	26'-5"	2807	ST						
P1111	10	31'-5"	1669	1	26'-5"	5'-4"				
P1112	10	30'-9"	1634	1	26'-5"	4'-8"				
P1113	86	36'-3"	16563	ST						
P1114	20	36'-7"	3887	19	31'-2"	4'-11"	2'-6"			
P1115	14	30'-8"	2281	1	24'-4"	6'-8"				
P1116	14	28'-8"	2132	1	24'-4"	4'-8"				
P1117	78	32'-9"	13572	ST						
P1118	20	36'-2"	3843	19	30'-8"	5'-0"	2'-5"			
P1119	12	29'-6"	1881	1	24'-2"	5'-8"				
P1120	12	28'-6"	1817	1	24'-2"	4'-8"				
P1121	78	36'-3"	15023	ST						
P1122	20	40'-4"	4286	19	34'-2"	5'-9"	2'-6"			
P1123	14	33'-0"	2455	1	26'-8"	6'-8"				
P1124	14	31'-0"	2306	1	26'-8"	4'-8"				
SP501	3	19'-11"	3724	27	3 1/4"	5'-0"	19'-11"			
SP502	1	18'-11"	1181	27	3 1/4"	5'-0"	18'-11"			
SP503	1	17'-11"	1122	27	3 1/4"	5'-0"	17'-11"			
SP504	1	17'-3"	1082	27	3 1/4"	5'-0"	17'-3"			
SP505	6	21'-6"	8017	27	3 1/4"	5'-0"	21'-6"			
SP506	6	23'-6"	8736	27	3 1/4"	5'-0"	23'-6"			
SP507	5	11'-3"	3612	27	3 1/4"	5'-0"	11'-3"			
			TOTAL	254,207						
DRILLED SHAFTS *										
DSSP501	12	26'-11"	21073	27	2 3/4"	4'-6"	26'-11"			
DSSP502	12	27'-7"	21582	27	2 3/4"	4'-6"	27'-7"			
DSSP503	12	26'-7"	20819	27	2 3/4"	4'-6"	26'-7"			
DSSP504	10	31'-2"	20265	27	2 3/4"	4'-6"	31'-2"			
DSP1101	NOT USED									
DSP1102	336	31'-5"	56084	ST						
DSP1103	336	32'-0"	57125	ST						
DSP1104	312	31'-0"	51387	ST						
DSP1105	260	35'-9"	49384	ST						

* DRILLED SHAFT REINFORCING IS SHOWN FOR INFORMATION ONLY AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

NOTE:

FOR STANDARD BAR BENDING DIAGRAMS, AND ADDITIONAL NOTES, SEE SHT. NO. 97/101.

DESIGN AGENCY

DATE

DRAWN

DGN

DESIGNED

JWB

REVIEWED

JWB

STRUCTURE FILE NUMBER

2510016

REINFORCING STEEL LIST

BRIDGE NO. FRA-70-1321R

PID No. 77372

I-70 E.B. OVER THE SCIOTO RIVER

99/101

522

1151



TRAFFIC CONTROL LEGEND

→	TRAFFIC FLOW
◇	PROPOSED SIGN
◇	EXISTING SIGN TO REMAIN
◇	EXISTING SIGN TO BE REERECTED
+	SIGN SUPPORT
■	RPM (RAISED PAVEMENT MARKER)
S-#	PROPOSED SIGN
R-#	EXISTING SIGN TO BE REMOVED
BI-#	BICYCLE LANE SYMBOL MARKING
BD-#	BICYCLE DETECTOR MARKING
BS-#	SHARED LANE MARKING
CDS-#	CENTER LINE, DOUBLE SOLID
CL-#	CHANNELIZING LINE
CWL-#	CROSSWALK LINE
DL-#	DOTTED LINE, WHITE
ELW-#	EDGE LINE, WHITE
LA-#	LANE ARROW
LL-#	LANE LINE
SL-#	STOP LINE
TLW-#	TRANSVERSE/DIAGONAL LINE, WHITE
TLY-#	TRANSVERSE/DIAGONAL LINE, YELLOW
PS-#	PARKING LOT STALL MARKING
RM-#	EXISTING PARKING METER TO BE REMOVED

ITEM 644 - PAVEMENT MARKING, MISC.: EDGE LINE, 6"
ITEM 644 - PAVEMENT MARKING, MISC.: LANE LINE, 6"
ITEM 645 - PAVEMENT MARKING, MISC.: LANE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST

THIS ITEM SHALL BE 6" WIDE.
 GROOVING FOR ITEMS 645 MARKINGS SHALL BE PROVIDED PER COLUMBUS (CMSC) 645.03 AND INCLUDED IN THE PAY ITEM FOR THE PAVEMENT MARKINGS.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE BID PER MILE.

ITEM 644 - PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12"
ITEM 645 - PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12", TYPE A1, GROOVED, WITH CONTRAST
ITEM 647 - PAVEMENT MARKING, MISC.: CROSSWALK LINE, 12", TYPE B90

THIS ITEM SHALL BE 12" WIDE.
 GROOVING FOR ITEM 645 MARKINGS SHALL BE PROVIDED PER COLUMBUS (CMSC) 645.03 AND INCLUDED IN THE PAY ITEM FOR THE PAVEMENT MARKING.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE BID PER FEET.

ITEM 644 - PAVEMENT MARKING, MISC.: STOP LINE, 24"
ITEM 644 - PAVEMENT MARKING, MISC.: TRANSVERSE/DIAGONAL LINE, 24"
ITEM 647 - PAVEMENT MARKING, MISC.: STOP LINE, 24", TYPE B90

THIS ITEM SHALL BE 24" WIDE.
 PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE BID PER FEET.

ITEM 644 - PAVEMENT MARKING, MISC.: BIKE LANE DOTTED LINE, 6"
 THIS ITEM SHALL BE 6" WIDE AND SHALL HAVE A 2' SEGMENT WITH A 6' GAP BETWEEN SEGMENTS.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE BID PER FEET.

ITEM 644 - PAVEMENT MARKING, MISC.: CENTER LINE, 4"
ITEM 645 - PAVEMENT MARKING, MISC.: CENTER LINE, 4", TYPE A1, GROOVED
 THIS ITEM SHALL BE 4" WIDE.

GROOVING FOR ITEMS 645 MARKINGS SHALL BE PROVIDED FOR COLUMBUS (CMSC) 645.03 AND INCLUDED IN THE PAY ITEM FOR THE PAVEMENT MARKINGS.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE BID PER MILE.

EXISTING PARKING KIOSKS

THE EXISTING PARKING KIOSKS SHALL REMAIN IN PLAN WHILE ON-STREET PARKING IS PERMITTED. WHEN THE CONTRACTOR IS PLANNING TO RESTRICT ON-STREET PARKING FOR THE DURATION OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY OF COLUMBUS (614-645-3111) 2 WEEKS PRIOR TO THE RESTRICTION. THE CITY OF COLUMBUS WILL BE RESPONSIBLE TO REMOVING THE EXISTING PARKING KIOSKS.

PAID PARKING OUT OF SERVICE FEES

AS INDICATED IN THE MAINTENANCE OF TRAFFIC PLAN NOTES AND PER COLUMBUS CITY CODE CHAPTER 2155.055 FEES FOR PARKING METERS OUT OF SERVICE, FOR ALL PAID PARKING (WHICH MAY INCLUDE PARKING METERS, KIOSKS, AND MOBILE PAYMENT ONLY ZONES) THAT ARE TAKEN OUT OF SERVICE (BAGGED OR REMOVED) DUE TO THE CONSTRUCTION OF THIS PROJECT, THE COST IS THE RESPONSIBILITY OF THE CONTRACTOR AS A PART OF THIS CONTRACT. WHILE THE ACTUAL PAID PARKING TO BE TAKEN OUT OF SERVICE IS NOT LISTED OR INCLUDED IN THESE PLANS, THE CONTRACTOR IS TO IDENTIFY THE PAID PARKING TO BE REMOVED FROM SERVICE, AND DETERMINE THE COST.

THE CONTRACTOR IS RESPONSIBLE FOR PAYING THE DAILY LOST PAID PARKING REVENUE FOR EACH PAID PARKING SPACE TAKEN OUT OF SERVICE.

TO CALCULATE AN ESTIMATE FOR THE LOST REVENUE, VISIT THE PARKING CALCULATOR AT [HTTPS://GIS.COLUMBUS.GOV/PARKINGCALCULATOR](https://gis.columbus.gov/parkingcalculator). THE PARKING CALCULATOR IS A HELPFUL TOOL TO ASSIST IN PAID PARKING AREAS, ESPECIALLY IN AREAS WHERE THE PARKING SPACES ARE NOT DELINEATED WITH PAVEMENT MARKINGS. BELOW ARE INSTRUCTIONS FOR USING THE PARKING CALCULATOR:

1. SET VARIABLES FOR THE PARKING CALCULATOR:
 - FIND THE PROJECT LOCATION ON THE WEB MAP BY SEARCHING IN THE ADDRESS SEARCH BAR OR ZOOMING TO THE LOCATION.
 - DETERMINE IF THERE IS A MOBILE PAY ONLY ZONE, PARKING METERS ONLY OR BOTH IN THE PROJECT BOUNDARIES, THEN SELECT THE APPLICABLE BUTTON ON THE "PARKING COST REPORT".
 - USE THE DATE RANGE SELECTION TO SPECIFY WHEN METERS WILL BE OUT OF SERVICE. THE APPLICATION WILL AUTO-CALCULATE TO EXCLUDE SUNDAYS/HOLIDAYS WHEN METERS ARE OUT OF SERVICE.
2. SELECT THE AREA IMPACTED BY THE PROJECT:
 - SELECT THE POLYGON BUTTON AND DRAW OR OUTLINE THE AREA OF THE PAID PARKING THAT WILL BE OUT OF SERVICE. THE ERASER BUTTON (JUST BELOW THE POLYGON BUTTON) CAN BE USED TO CLEAR THE CURRENT DRAWING.
 - ONCE AN AREA IS SELECTED, THE CALCULATOR WILL OUTPUT THE TOTAL COST FOR THE DATE RANGE AND AREA SPECIFIED.
3. INTERPRET RESULTS:
 - ONCE YOU HAVE SELECTED YOUR AREA, VIEW THE PARKING COST REPORT, WHICH WILL PROVIDE THE AMOUNT OF PAID PARKING FEES DUE FOR THE LOCATION AND DURATION SELECTED.
 - THIS RATE ONLY INCLUDES THE LOST PAID PARKING REVENUE FEE AND DOES NOT INCLUDE ANY PERMIT FEES ASSESSED BY THE PERMIT OFFICE.

FOR QUESTIONS RELATED TO CALCULATING FEES, CONTACT THE CITY OF COLUMBUS, DIVISION OF PARKING SERVICES AT [PARKINGSERVICES@COLUMBUS.GOV](mailto:parkingservices@columbus.gov) FOR ASSISTANCE WITH ESTIMATING THE DAILY PAID PARKING REVENUE RATE. PROVIDE THE PROJECT ODOT PID AND CITY OF COLUMBUS E-PLAN IN THE SUBJECT LINE OF THE EMAIL.

ALL PAID PARKING SPACES ARE FREE ON SUNDAY AND CITY RECOGNIZED HOLIDAYS. THE FOLLOWING ARE CITY RECOGNIZED HOLIDAYS: NEW YEAR'S DAY, MARTIN LUTHER KING DAY, PRESIDENTS' DAY, MEMORIAL DAY, JUNETEENTH, INDEPENDENCE DAY, LABOR DAY, VETERANS DAY, THANKSGIVING DAY, AND CHRISTMAS DAY. ALL RATES ARE SUBJECT TO CHANGE BY THE CITY OF COLUMBUS. PLEASE NOTE, IF A HOLIDAY FALLS ON A SUNDAY BUT THE CITY RECOGNIZES THE HOLIDAY ON A MONDAY, THE PARKING IS FREE ON THE ACTUAL HOLIDAY, NOT THE DAY THE CITY RECOGNIZES THE HOLIDAY.

THIS COST IS TO BE INCLUDED IN THE BID FOR THIS PROJECT AS A PART OF ITEM 614 MAINTENANCE OF TRAFFIC, LUMP SUM.

AT THE TIME THE CONTRACTOR SUBMITS FOR THE STREET OCCUPANCY/EXCAVATION PERMIT, ALONG WITH THE PAID PARKING IDENTIFICATION NUMBERS TO BE INCLUDED ON THE PERMIT REQUEST FORM, THE CONTRACTOR IS TO PROVIDE A LISTING OF THE METER IDENTIFICATION NUMBERS AND MOBILE PAYMENT ZONE NUMBERS AND THE NUMBER OF DAYS THAT EACH PAID PARKING SPACE IS TO BE OUT OF SERVICE, TO THE DEPARTMENT OF PUBLIC SERVICE PERMIT OFFICE. THE PERMIT OFFICE WILL VERIFY THAT THE HOURLY RATES ARE CORRECT AND CALCULATE THE COST OF THE PERMIT.


ANY QUESTIONS ABOUT THIS SPECIAL PROVISION ARE TO BE SUBMITTED THROUGH THE OWNER AGENCY OFFERING THE SOLICITATION OF THIS BID AS A PRE-BID QUESTION.

ITEM 644 - PAVEMENT MARKING, MISC.: BIKE DETECTOR MARKING
 THE BIKE DETECTOR MARKING SHALL BE PLACED IN THE DETECTED BIKE LANE PER CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWING 4305.

ITEM 644 - PAVEMENT MARKING, MISC.: DOTTED LINE, 6"
 THIS ITEM SHALL BE 6" WIDE AND SHALL HAVE A 3' SEGMENT WITH A 9' GAP BETWEEN SEGMENTS.
 PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE BID PER FEET.

ITEM 630 - SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN
 FLAT SHEET SIGNS SHALL BE ATTACHED TO THE POLE USING CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWING 4253.
 PAYMENT FOR "ITEM 630 - SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN" SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ALL PARTS NECESSARY TO ATTACH ONE SIGN.

NO.	DESCRIPTION	DATE	REV. BY
7	REVISED DESCRIPTION	AKF	11-16-23

SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
109		112	113	114		115	116	117	148	01/IMS/04									
						12	123.7	49.5			185.2		630	02100	185.2	FT	GROUND MOUNTED SUPPORT, NO. 2 POST		
							91.7	175.8			267.5		630	03100	267.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST		
								29.2			29.2		630	08004	29.2	FT	ONE WAY SUPPORT, NO. 3 POST		
								4			4		630	08600	4	EACH	SIGN POST REFLECTOR		
									4		4		630	79101	4	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	130	
							3				11		630	79501	11	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	130	
						2.3	78.7	108.9			213.9		630	80100	213.9	SF	SIGN, FLAT SHEET		
											8		630	80500	8	EACH	SIGN, DOUBLE FACED, STREET NAME		
						19	19				38		630	84900	38	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
						2					2		630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		
						6	14				20		630	86002	20	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
						3	2				5		630	87500	5	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL		
									LS	LS			630	97800	LS		SIGNING, MISC.: TRAFFIC SIGNAL SIGNS	130	
	48										48		644	01200	48	FT	PARKING LOT STALL MARKING		
	3		2	3	4						12		644	01300	12	EACH	LANE ARROW		
	3			4							7		644	01630	7	EACH	BIKE LANE SYMBOL MARKING		
			6	1							7		644	19000	7	EACH	SHARED LANE MARKING		
				2							2		644	50100	2	EACH	PAVEMENT MARKING, MISC.: BIKE DETECTOR MARKING	108	
	99			120	80						299		644	50300	299	FT	PAVEMENT MARKING, MISC.: BIKE LANE DOTTED LINE, 6"	108	
	99		38	152	417						706		644	50300	706	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12"	108	
			33	93							126		644	50300	126	FT	PAVEMENT MARKING, MISC.: STOP LINE, 24"	108	
	113		185	236	41						575		644	50300	575	FT	PAVEMENT MARKING, MISC.: TRANSVERSE / DIAGONAL LINE, 24"	108	
			123								123		644	50300	123	FT	PAVEMENT MARKING, MISC.: DOTTED LINE, 6"	108	
	0.42		0.05	0.18	0.02						0.67		644	50400	0.67	MILE	PAVEMENT MARKING, MISC.: EDGE LINE, 6"	108	
	0.17		0.13	0.12	0.15						0.57		644	50400	0.57	MILE	PAVEMENT MARKING, MISC.: LANE LINE, 6"	108	
			0.16	0.04	0.03						0.23		644	50400	0.23	MILE	PAVEMENT MARKING, MISC.: CENTER LINE, 4"	108	
			0.04	0.02							0.06		645	90000	0.06	MILE	PAVEMENT MARKING, MISC.: LANE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST	108	
			0.03	0.02							0.05		645	90000	0.05	MILE	PAVEMENT MARKING, MISC.: CENTER LINE, 4", TYPE A1, GROOVED	108	
			173	107							280		645	98000	280	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12", TYPE A1, GROOVED, WITH CONTRAST 	108	
	15										15		646	20300	15	EACH	LANE ARROW		
			5	3							8		647	20610	8	EACH	LANE ARROW, TYPE B90		
			1	1							2		647	20940	2	EACH	SHARED LANE MARKING, TYPE B90		
			126	126							252		647	50120	252	FT	PAVEMENT MARKING, MISC.: CROSSWALK LINE, 12", TYPE B90	108	
			34	23							57		647	50120	57	FT	PAVEMENT MARKING, MISC.: STOP LINE, 24", TYPE B90	108	

TRAFFIC CONTROL GENERAL SUMMARY

FRA - 70 - 14.05C

NO.	DESCRIPTION	DATE	REV. BY
7	REVISED DESCRIPTION	AKF	11-16-23

0:\2012\201404\FRA\105916\TRAFFIC\SHEETS\105916TS003.DGN
 11/16/2023
 10:06:52 AM
 DDDTY81STD_USER

SHEET NO.	REF. NO.	LOCATION	STATION		SIDE	644	644	644	644	644	644	644	644	644	644	644	645	645	645	647	647	647						
			LANE ARROW	BIKE LANE SYMBOL MARKING		SHARED LANE MARKING	PAVEMENT MARKING, MISC.: BIKE DETECTOR MARKING	PAVEMENT MARKING, MISC.: BIKE LANE DOTTED LINE, 6"	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12"	PAVEMENT MARKING, MISC.: STOP LINE, 24"	PAVEMENT MARKING, MISC.: TRANSVERSE / DIAGONAL LINE, 24"	PAVEMENT MARKING, MISC.: DOTTED LINE, 6"	PAVEMENT MARKING, MISC.: EDGE LINE, 6"	PAVEMENT MARKING, MISC.: LANE LINE, 6"	PAVEMENT MARKING, MISC.: CENTER LINE, 4"	PAVEMENT MARKING, MISC.: LANE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST	PAVEMENT MARKING, MISC.: CENTER LINE, 4", TYPE A1, GROOVED	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12", TYPE A1, GROOVED, WITH CONTRAST	LANE ARROW, TYPE B90	SHARED LANE MARKING, TYPE B90	PAVEMENT MARKING, MISC.: CROSSWALK LINE, 12", TYPE B90	PAVEMENT MARKING, MISC.: STOP LINE, 24", TYPE B90						
			FROM	TO		EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	FT						
121	LA-8	HIGH ST.	154+68		CEN	1																						
121	LA-9	HIGH ST.	155+24		CEN	1																						
121	CL-6	HIGH ST.	154+00	155+81	RT					181																		
121	CL-7	HIGH ST.	257+26	258+72	LT					146																		
121	LL-13	HIGH ST.	154+00	259+20	LT										520													
121	LL-14	HIGH ST.	154+00	155+81	RT										181													
121	CDS-10	HIGH ST.	154+00	155+31	RT/LT										131													
122	LA-10	FULTON ST.	22+92		RT	1																						
122	LA-10A	FULTON ST.	22+44		RT	1																						
122	DL-4	FULTON ST.	22+20	23+00	LT				80																			
122	CL-8	FULTON ST.	22+10	23+00	RT					90																		
122	TLW-3	FULTON ST.	22+10	23+00	LT							41																
122	ELW-20	FULTON ST.	22+10	23+00	LT									90														
122	ELW-21	FULTON ST.	22+10	22+20	LT									10														
122	LL-15	FULTON ST.	22+10	23+00	LT										90													
TOTAL FEET						4				80	417		41		100	791	131											
TOTAL MILES															0.02	0.15	0.03											
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						4				80	417		41		0.02	0.15	0.03											

NO.	DESCRIPTION	DATE	REV. BY
7	REVISED DESCRIPTION	AKF	11-16-23

PAVEMENT MARKING SUBSUMMARY - SHEET 3 OF 3

FRA-70-14.05C

CALCULATED
SLB
CHECKED
AKF

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

- AS-1-15 REVISED: 7-17-15
- AS-2-15 REVISED: 1-18-19
- EXJ-4-87 REVISED: 1-19-18
- GSD-1-19 REVISED: 1-15-21
- PCB-91 REVISED: 7-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

- 800 DATED 1-20-23
- 867 DATED 4-15-22
- 894 DATED 4-16-21

DESIGN DATA

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 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, 2007.

DESIGN LOADING

HL-93
FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT

DESIGN STRESSES

MASS CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

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

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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 EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

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.

CONSTRUCTION CONSTRAINTS:

FILL THE VOID CREATED BY EXCAVATION FOR THE ABUTMENT FOOTING 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 BACK WALL AND SETTING THE GIRDERS ON THE ABUTMENT.

STRUCTURE GROUNDING

GROUND THE PROPOSED BRIDGE ACCORDING TO THE REQUIREMENTS OF ODOT STD. DWG. HL-50.21 - STRUCTURE GROUNDING. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: ALL STRUCTURAL STEEL, UTILITY SUPPORTS, AND LIGHT POLES.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTION 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 2.31 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDLE OF 65 IN.

FOUNDATION BEARING RESISTANCE

REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.24 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 7.41 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 18.09 KIPS PER SQUARE FOOT.

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 3.93 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 5.26 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 16.42 KIPS PER SQUARE FOOT.

FORWARD ABUTMENT FOUNDATION, AS DESIGNED PRODUCE A MAXIMUM FACTORED LOAD OF 620 KIPS AT EACH DRILLED SHAFT. THIS LOAD IS RESISTED BY TIP RESISTANCE ONLY. THE FACTORED RESISTANCE DEVELOPED BY THE DRILLED SHAFT TIP IS 1,023 KIPS.

ITEM 503-COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE DESIGN SHOWN ON THE HIGH STREET PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. 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. ALL SHORING BEYOND THE LATERAL LIMITS OF THE HIGH STREET BRIDGE SHALL BE INCLUDED FOR PAYMENT WITH THE CAPS.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

FINISH TOP OF BACKWALL IN LOCATIONS ADJACENT TO SIDEWALKS WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

AFTER CONDUITS ARE PLACED THROUGH THE UTILITY BLOCKOUTS IN THE ABUTMENT BACKWALLS, FILL THE VOIDS USING NON-SHRINK MORTAR CONFORMING TO CMS 705.22.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN:

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEE STRUCTURE AESTHETIC PLANS FOR DETAILS.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

THE COLOR FOR THE IZEU FINISH COAT FOR ALL STRUCTURAL STEEL SHALL BE FEDERAL COLOR No. 17038 (BLACK)

ITEM 524 - DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING: THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

THE CONSTRUCTION TOLERANCE FOR TANGET SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 524-DRILLED SHAFTS, MISC.: CSL TESTING, 96" DIAMETER SHAFT

PERFORM INTEGRITY TESTING ON ONE OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY CROSSHOLE SONIC LOGGING (CSL). PERFORM CSL TESTING PER ASTM D6760, "STANDARD TEST METHOD FOR INTEGRITY TESTING OF CONCRETE DEEP FOUNDATIONS BY ULTRASONIC CROSSHOLE TESTING," AND PER THE PROJECT SPECIAL PROVISIONS

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894

ABBREVIATIONS

ABUT.	ABUTMENT	MIN.	MINIMUM
BRG.	BEARING	ADDIT.	ADDITIONAL
BOT.	BOTTOM	FRWD.	FORWARD
BTWN.	BETWEEN	SPL.	SPLICE
CONST. JT., C.J.	CONSTRUCTION JOINT	CLR.	CLEAR
B.S.	BOTH SIDES	P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
N.S.	NEAR SIDE	N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
F.S.	FAR SIDE		
SER.	SERIES		
TYP.	TYPICAL		
EQ.	EQUAL		
DIM.	DIMENSION		
SPA.	SPACES		
EA.	EACH		
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER		

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NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-5-23
7	NOTES REVISED	CWL	11-17-23

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ITEM	EXT.	TOTAL	PARTICIPATION			UNITS	DESCRIPTION	ABUTMENT	PIER	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO.
			01/IMS/04	02/IMS/11	09/IMS/17/COL							
202	11003	LS		LS			STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					5
202	22900	400		400		SY	APPROACH SLAB REMOVED				400	
202	23500	1,932		1,932		SY	WEARING COURSE REMOVED				1,932	
503	11101	LS		LS			COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN					4
503	21100	2,175		2,175		CY	UNCLASSIFIED EXCAVATION	1,518	657			
509	10000	318,451		318,451		LB	EPOXY COATED REINFORCING STEEL	86,021	84,244	148,186		
511	34446	544		544		CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			544		
511	41012	252		252		CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		252			
511	44113	572		572		CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	572				4
511	46512	532		532		CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	374	158			
511	51513	98		98		CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			98		4
512	10050	640		640		SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	13		627		
512	10100	1,071		1,071		SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	744	327			
512	33000	42		42		SY	TYPE 2 WATERPROOFING	42				
513	10200	12,292	12,292			LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (COC, COC DOT, AND ODOT DUCT BANK SUPPORT)			12,292		
513	10200	12,292			12,292	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (AT&T DUCT BANK SUPPORT)			12,292		
513	10200	11,837			11,837	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (AEP DUCT BANK SUPPORT)			11,837		
513	10280	639,400			639,400	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			639,400		
513	20000	6,090			6,090	EACH	WELDED STUD SHEAR CONNECTORS			6,090		
514	00060	32,100		32,100		SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			32,100		
514	00066	32,100		32,100		SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			32,100		
516	10010	166		166		FT	ARMORLESS PREFORMED JOINT SEAL				166	
516	11210	189		189		FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			189		
516	13600	1,215		1,215		SF	1" PREFORMED EXPANSION JOINT FILLER	464	751			
516	13900	189		189		SF	2" PREFORMED EXPANSION JOINT FILLER		189			
516	44101	10		10		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 9 1/2" x 1'-4" x 2.67" PAD WITH 10 1/2" x 1'-10" BEVELED PLATE, AS PER PLAN			10		32
516	44101	10		10		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 10 1/2" x 1'-5" x 2.67" PAD WITH 11 1/2" x 1'-10" BEVELED PLATE, AS PER PLAN			10		32
516	44201	10		10		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-5" x 2'-2" x 3.21" PAD WITH 1'-6" x 2'-11" BEVELED PLATE, AS PER PLAN			10		32
518	21200	146		146		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	146				
518	40000	290		290		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	290				
524	95533	1,056		1,056		FT	DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	1,056				4
524	95100	1		1		EACH	DRILLED SHAFTS, MISC.: CSL TESTING, 96" DIAMETER SHAFT	1				4
526	25011	196		196		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				196	49
526	30011	216		216		SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				216	49
526	90031	170		170		FT	TYPE C INSTALLATION, AS PER PLAN				170	49
622	10160	185		185		FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D		185			
622	25050	2		2		EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D		2			
625	10620	5		5		EACH	LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE AND PEDESTRIAN POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK			5		5
867	00100	LS		LS			TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL					
894	10000	12		12			THERMAL INTEGRITY PROFILER (T.I.P.) TEST	12				
SPECIAL	53000200	LS		LS			STRUCTURES: LUMEN COMMUNICATION DUCT BANK COMPLETE					5
SPECIAL	53000200	LS	LS				STRUCTURES: CITY OF COLUMBUS DUCT BANK COMPLETE					5
SPECIAL	53000200	LS	LS				STRUCTURES: CITY OF COLUMBUS (DEPARTMENT OF TECH) DUCT BANK COMPLETE					5
SPECIAL	53000200	LS	LS				STRUCTURES: ODOT DUCT BANK COMPLETE					5
SPECIAL	53000200	LS		LS			STRUCTURES: AT&T DUCT BANK COMPLETE					5
SPECIAL	53000200	LS		LS			STRUCTURES: TEMPORARY UTILITY SUPPORTS					5
SPECIAL	53000200	LS		LS			STRUCTURES: AEP DUCT BANK COMPLETE					5
SPECIAL	53000600	2,866		2,866		SF	STRUCTURES: PRECAST FACADE PANELS	2,866				5

CALCULATED: RHC
 DATE: 6-25-20
 CHECKED: MOJ
 DATE: 6-26-20



DESIGN AGENCY
 GPD GROUP
 1000 Watermark Drive, Columbus, OH 43240
 (614) 231-0001

DESIGNED
 MOJ
 CHECKED
 RHC

REVIEWED
 DGN
 STRUCTURE FILE NUMBER
 2510024

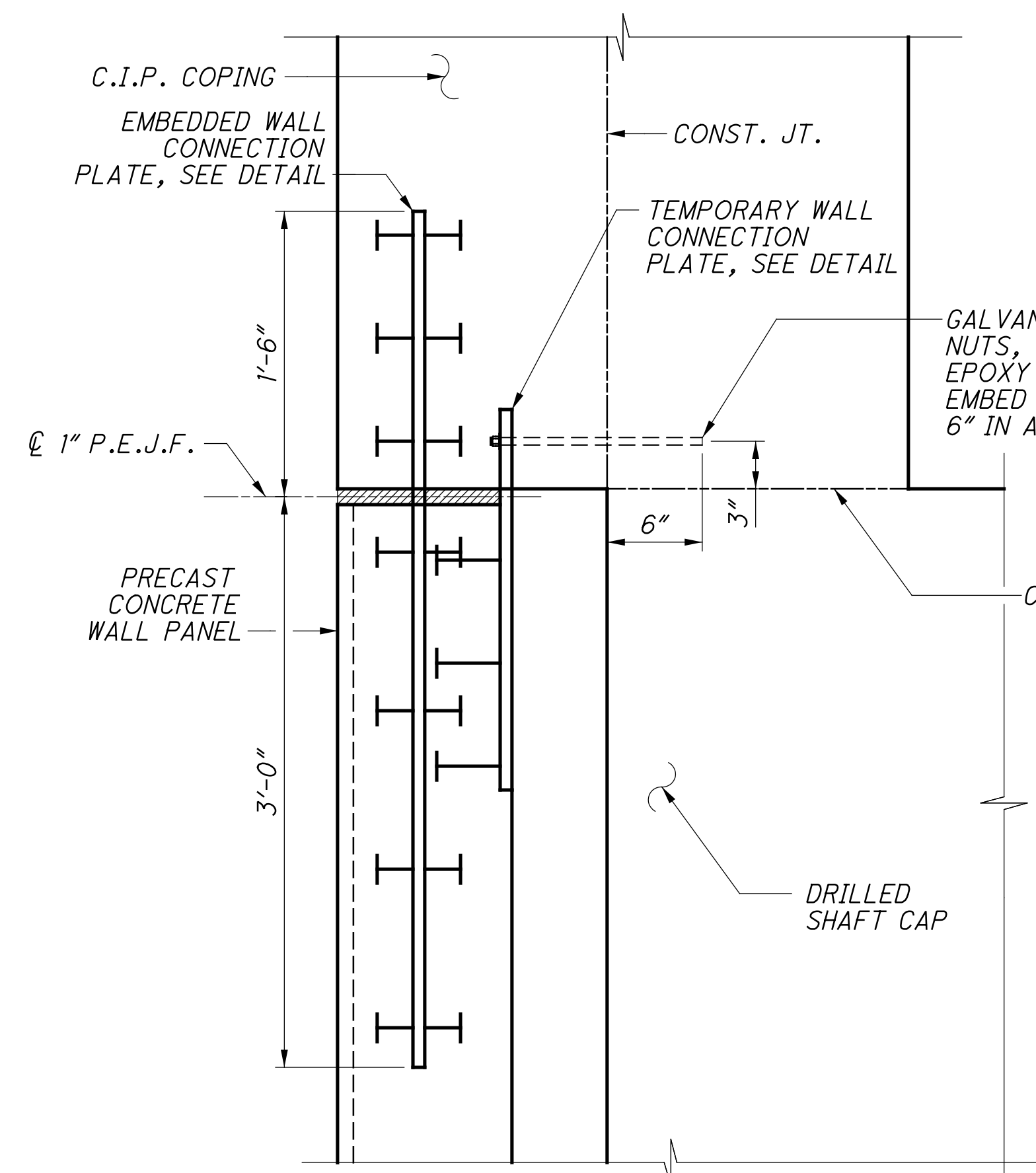
DATE
 4-21-23

ESTIMATED QUANTITIES
 BRIDGE NO. FRA-70-1405C
 S. HIGH STREET (U.S. 23D) OVER I-70/71

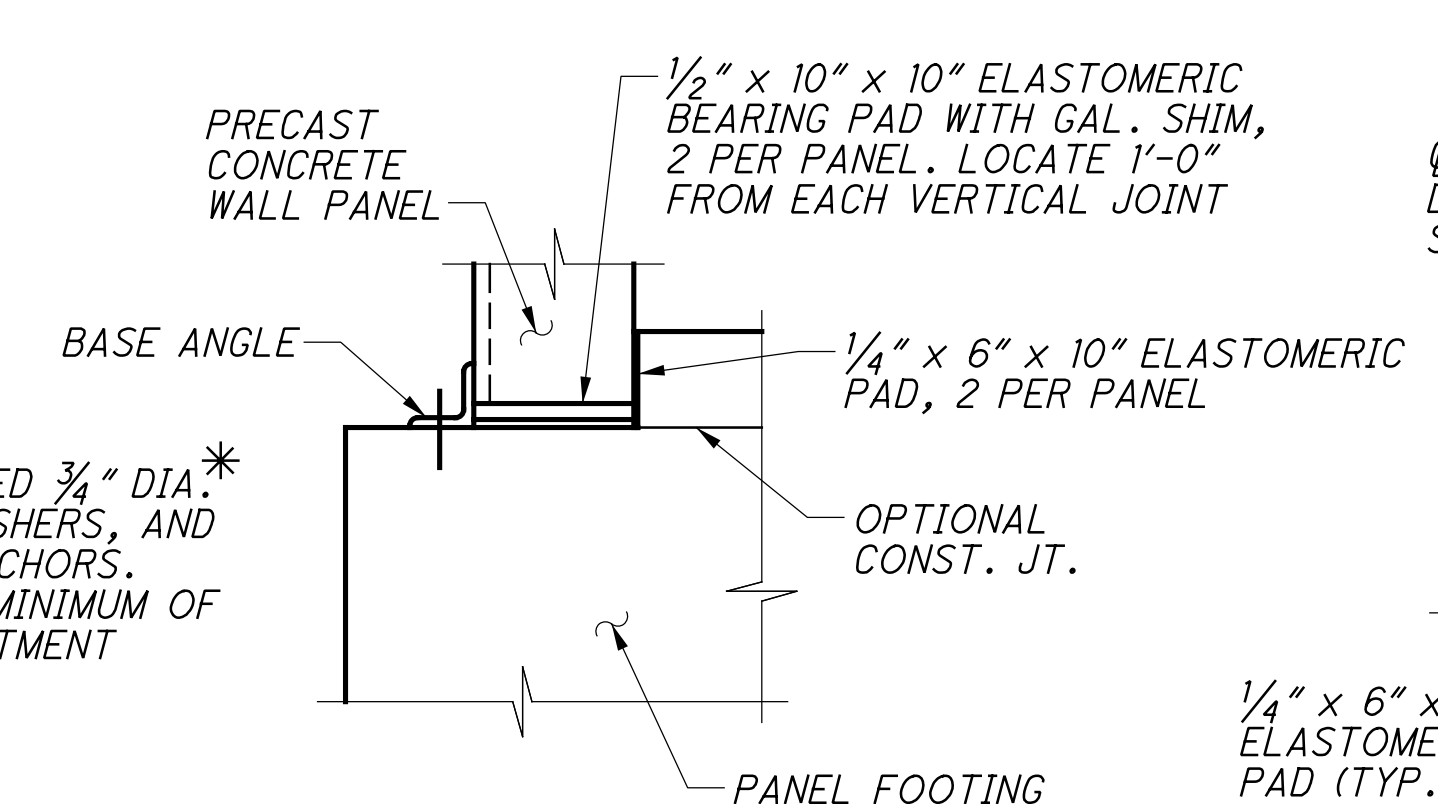
NO.	DESCRIPTION	REV. BY		DATE	
		DJC	CWL	10-23-23	11-17-23
3	QUANTITY REVISED				
7	ADDED QC/QA				

FRA-70-14.05C
 PID No. 105596

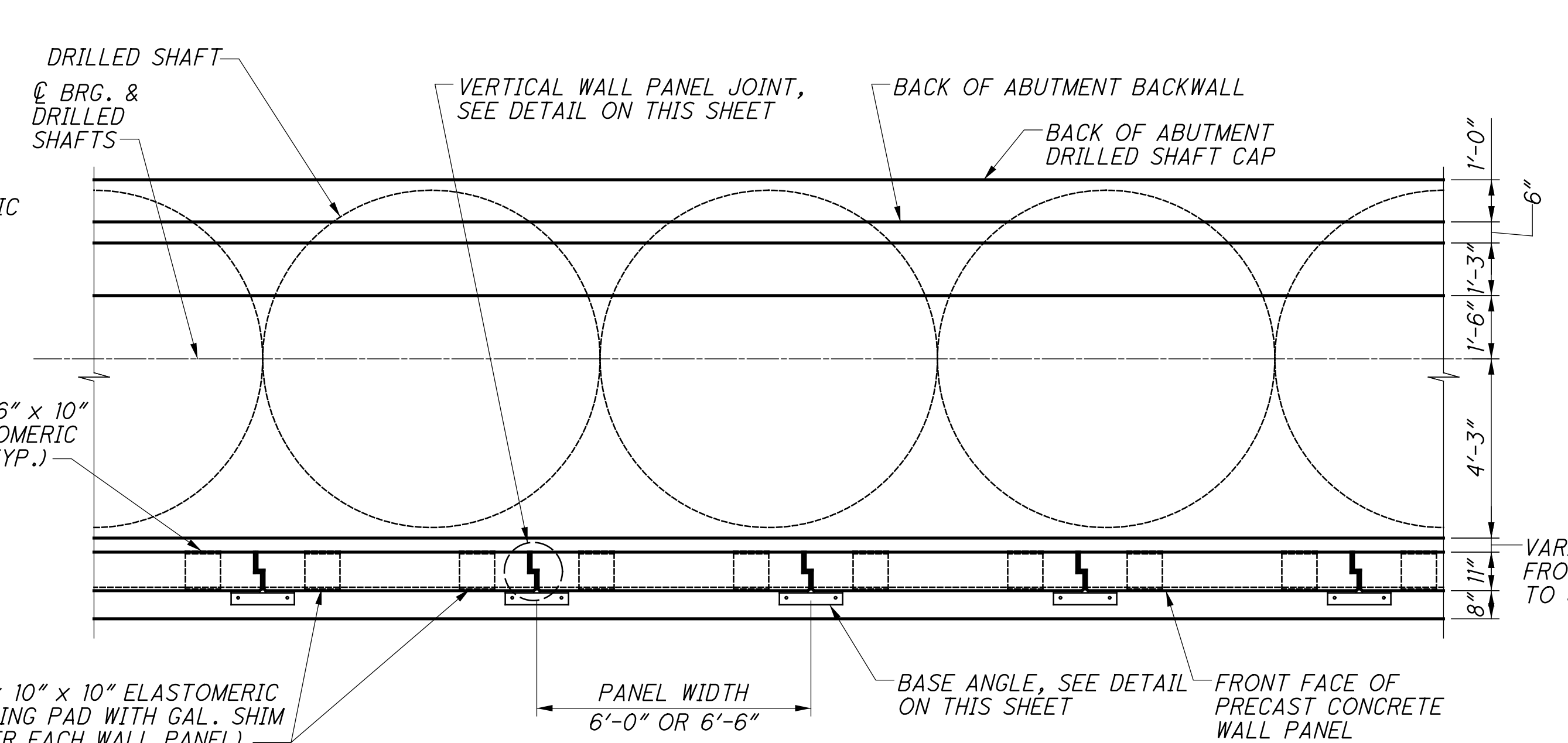
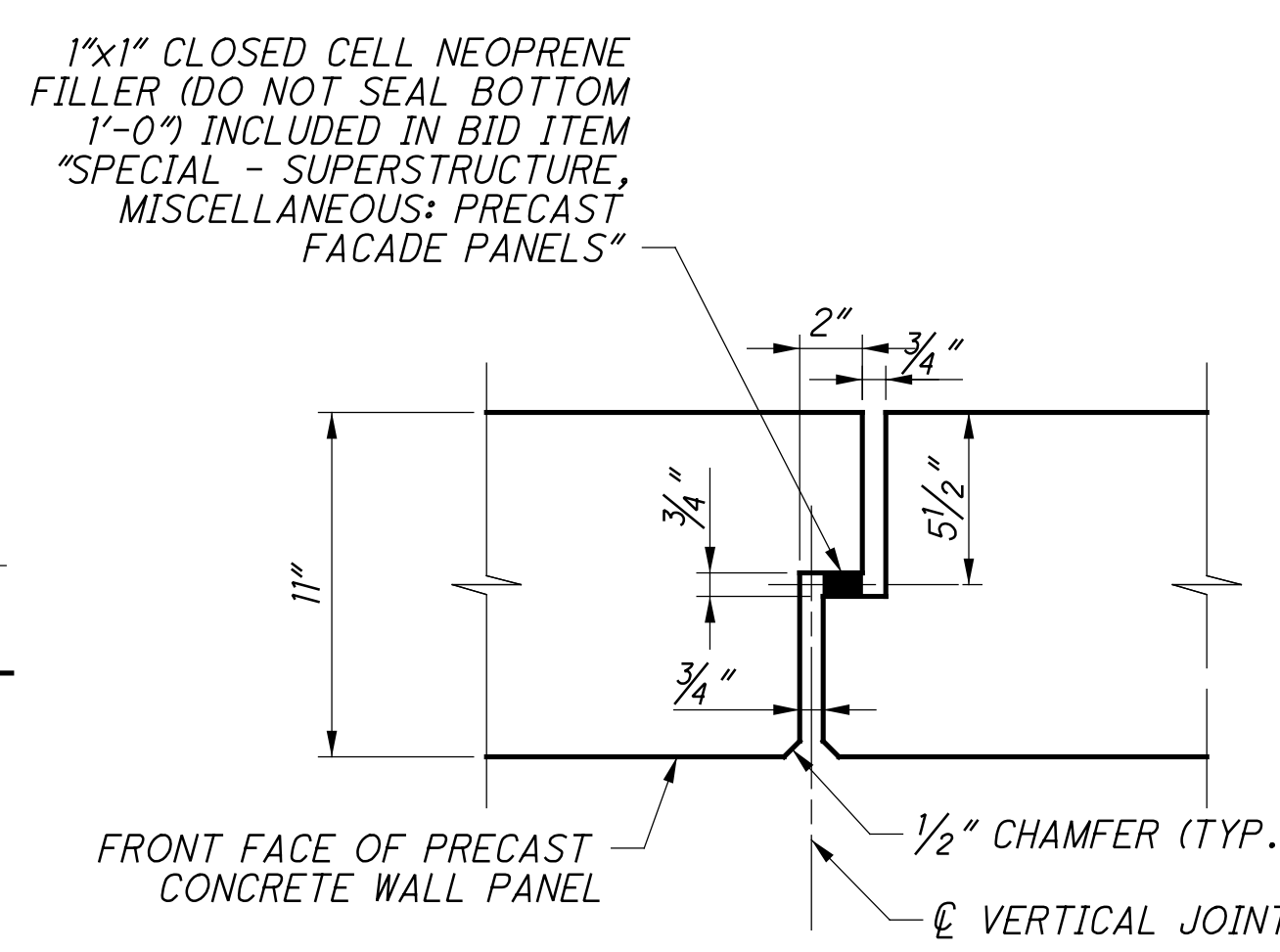
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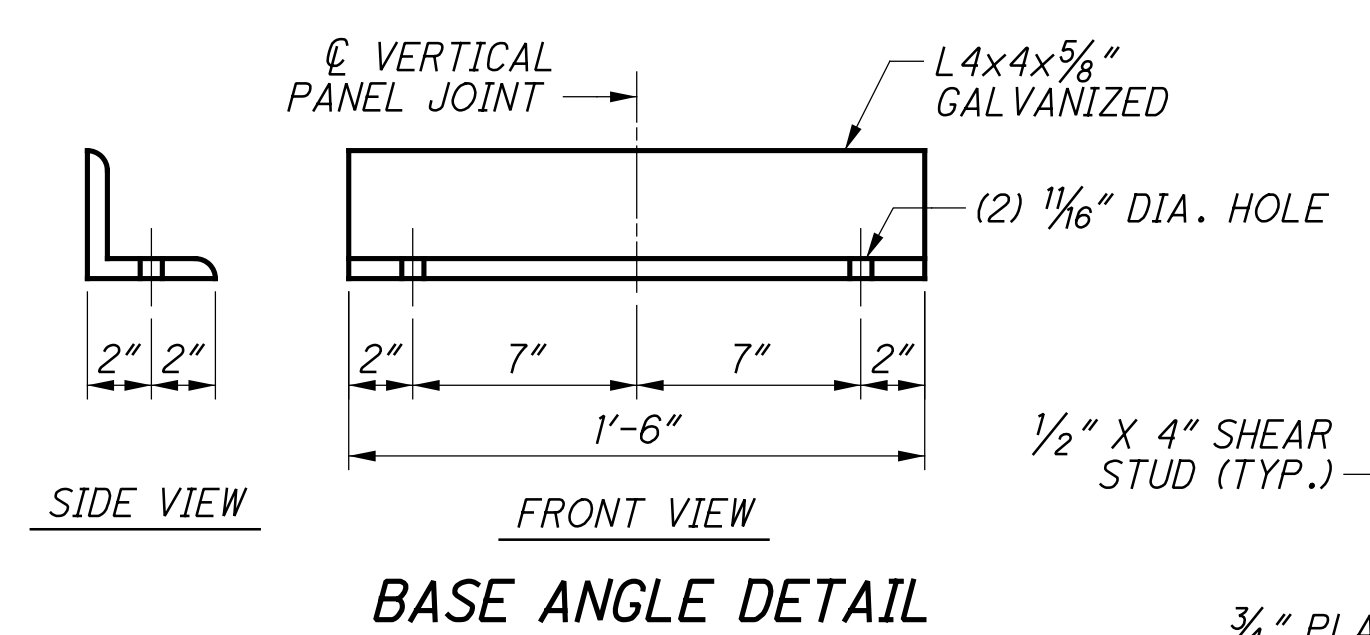
TOP WALL PANEL CONNECTION DETAIL
 * - INSTALL 3/4" EPOXY ANCHOR PRIOR TO THE CONSTRUCTION OF THE C.I.P. COPING



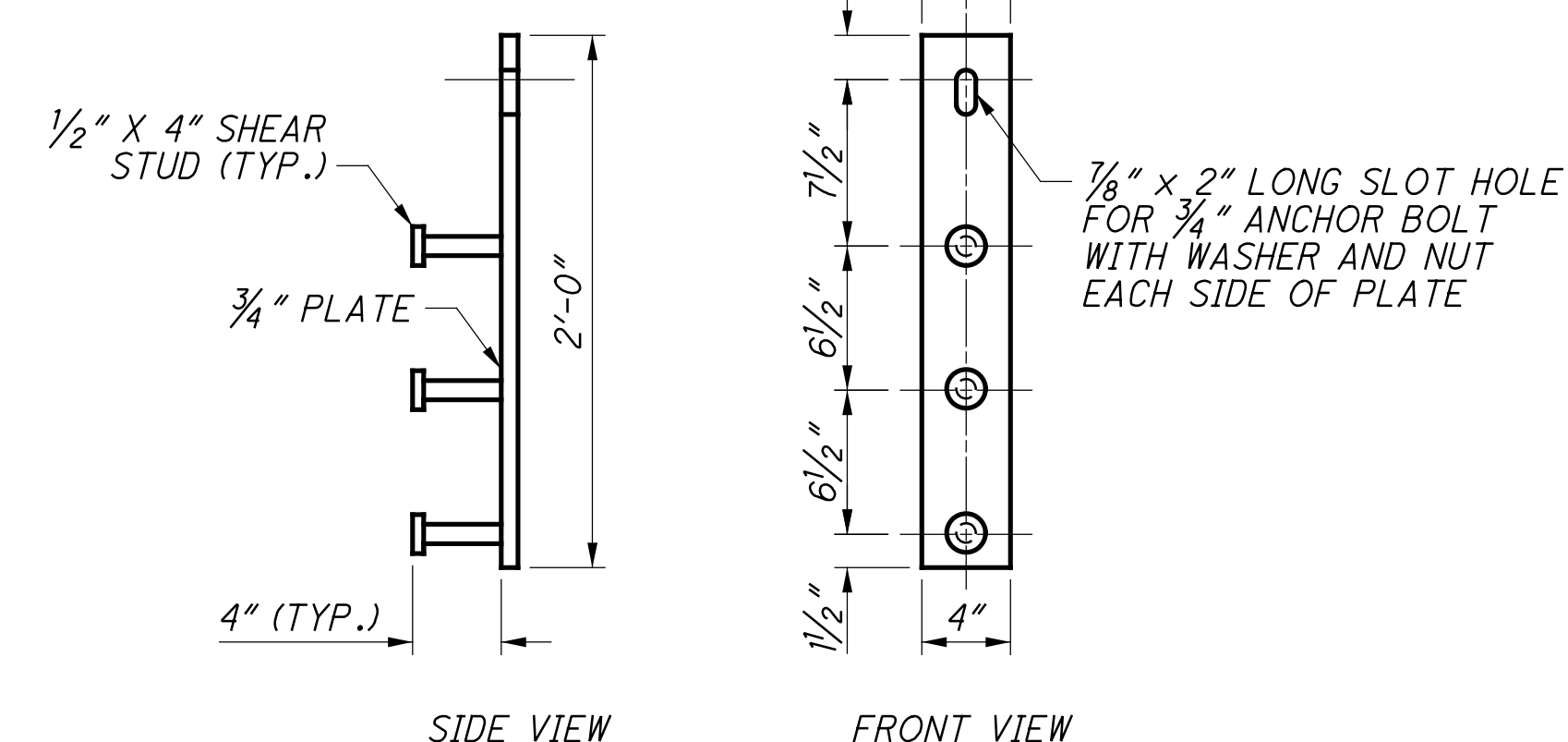
WALL BASE DETAILS



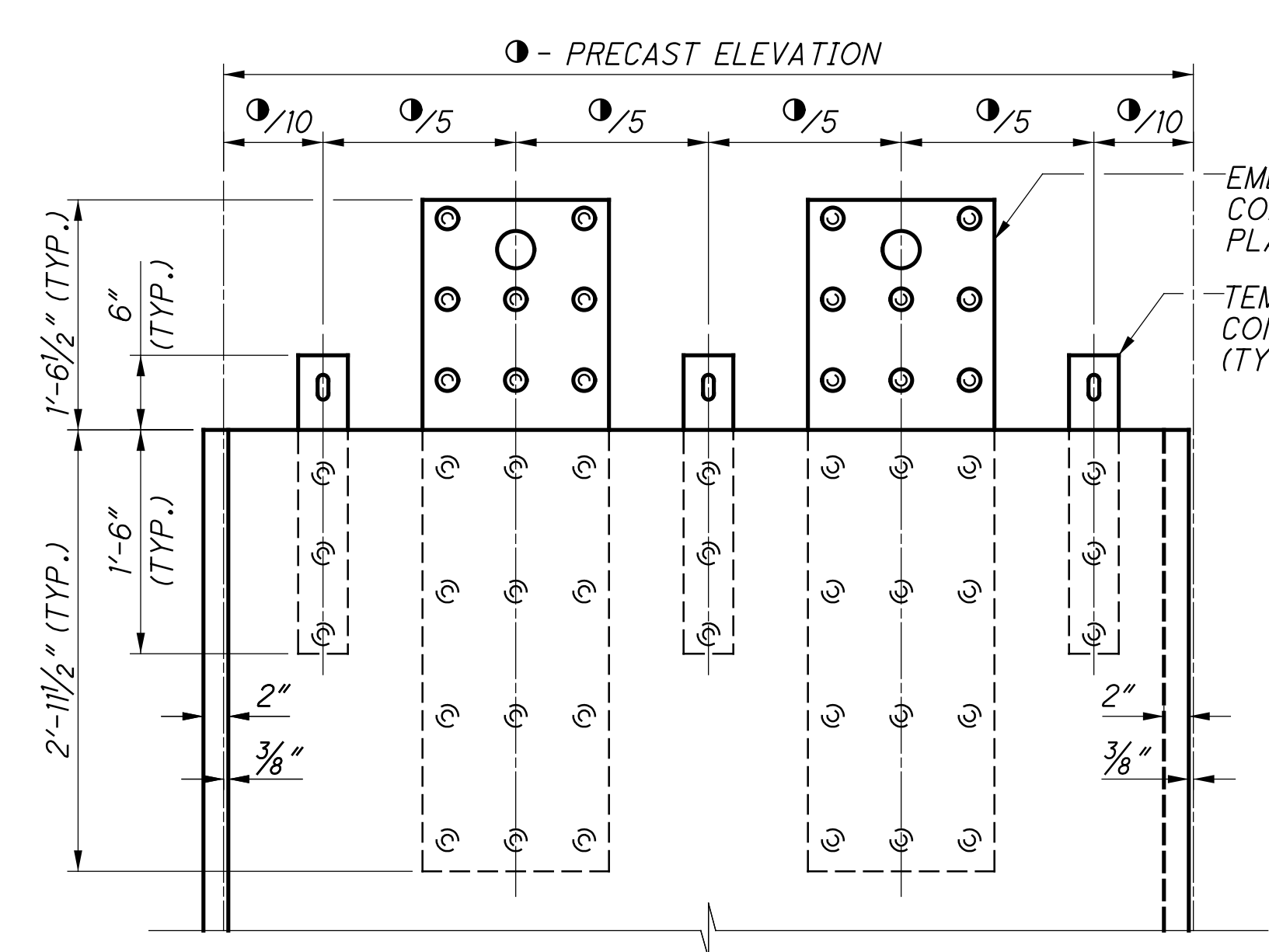
TYPICAL DRILLED SHAFT AND FOOTING PLAN



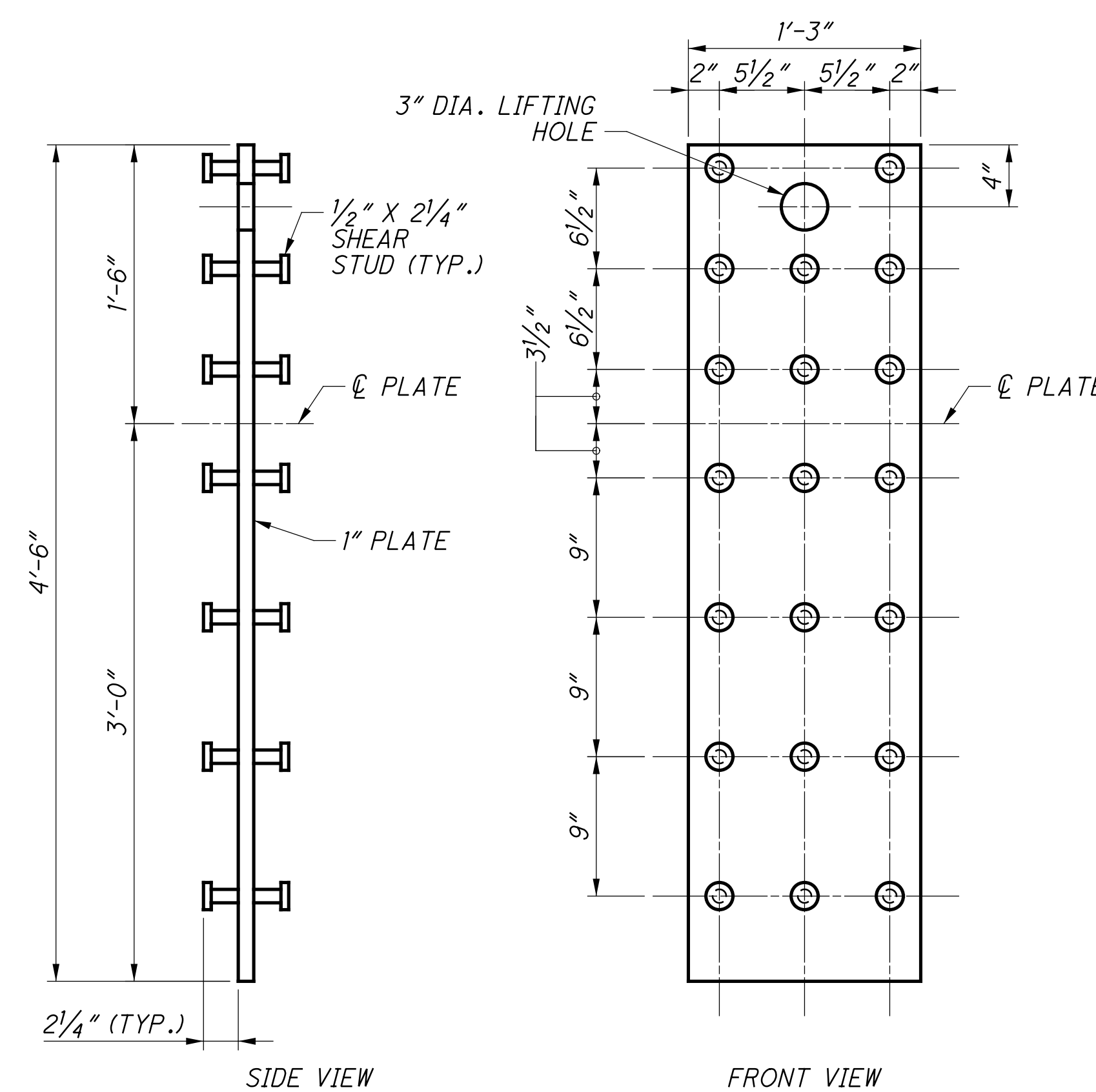
BASE ANGLE DETAIL



TEMPORARY WALL CONNECTION PLATE



PRECAST WALL PLATE ELEVATION



EMBEDDED WALL CONNECTION PLATE

NOTES:

1. THE CONTRACTOR OR PRECAST PANEL MANUFACTURER IS RESPONSIBLE FOR DESIGNING OF THE LIFTING DEVICE. A MODIFICATION TO THE CONNECTION PLATE AS SHOWN MAY BE REQUIRED TO RESIST TEMPORARY CONSTRUCTION LOADS INCLUDING BUT NOT LIMITED TO WIND LOAD DURING ERECTION.
2. ALL PANEL RELATED CONNECTION HARDWARE: PLATES, EPOXY ANCHORS, EXPANDED POLYSTYRENE, NEOPRENE FILLER, AND ELASTOMERIC BEARING PADS ARE INCIDENTAL TO BID ITEM "SPECIAL - STRUCTURE, MISC.: PRECAST FACADE PANELS".
3. ALL ATTACHMENT PLATES, ANCHOR BOLTS, NUTS, WASHERS, AND OTHER STEEL APPURTENANCE ARE TO BE GALVANIZED, UNLESS NOTED OTHERWISE.

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-9-23
7	NOTE REVISED	GTP	11-15-23

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DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

SPECIAL DESIGN SPECIFICATIONS

THIS BRIDGE REQUIRED THE USE OF A TWO-DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MDX. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD WERE THE STEEL GIRDERS AND CROSSFRAMES. THE LOADS WERE DISTRIBUTED AS FOLLOWS:

DEAD LOAD DISTRIBUTION: ALL DEAD LOADS (COPOSITE AND NON-COPOSITE) INCLUDING WEIGHT OF GIRDERS, CROSSFRAMES, DECK, PARAPETS, PLANTER WALLS, SIDEWALKS, BENCHES, SOIL, TRELLIS, AND OTHER LANDSCAPING FEATURES WERE DISTRIBUTED TO TENTH POINTS ON EACH GIRDER USING THE TRIBUTARY AREA METHOD.

LIVE LOAD DISTRIBUTION: DISTRIBUTION FACTORS FOR LIVE LOAD MOMENT AND SHEAR AT INTERIOR AND EXTERIOR MEMBERS VARIED ACROSS THE STRUCTURE AND WERE BASED ON AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 4.

PEDESTRIAN LOAD DISTRIBUTION: A PEDESTRIAN LOAD WAS APPLIED TO THE ENTIRE DECK SURFACE EXCEPT FOR THE AREA UNDER THE PARAPET PLANTERS AND A FICTICIOUS 12-FOOT WIDE SINGLE LANE ON EACH CAP.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

EXJ-4-87 REVISED: 1-19-18
GSD-1-19 REVISED: 1-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 DATED: 1-20-23
867 DATED: 4-15-22
894 DATED: 4-16-21

LRFD LOAD MODIFIERS

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 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, 2007.

DESIGN LOADING

LIVE LOAD MAINTENANCE VEHICLE H-10 TRUCK
NO FUTURE WEARING SURFACE (FWS)
SATURATED SOIL UNIT WEIGHT OF 0.200 KIPS/CU.FT.
PRECAST AND CAST-IN-PLACE CONCRETE UNIT WEIGHT OF 0.150 KIPS/CU.FT.
TRELLIS COLUMN WEIGHT OF 2.2 KIPS.
SCREEN WALL UNIT WEIGHT OF 0.180 KIPS/FT.
MATURE ELM TREE UNIT WEIGHT OF 3.3 KIPS/EACH
MATURE SPRUCE TREE UNIT WEIGHT OF 1.0 KIPS/EACH
PEDESTRIAN LIVE LOAD OF 0.065 KIPS/SQ.FT.

DESIGN STRESSES

CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

CONSTRUCTION CONSTRAINTS

FILL THE VOID CREATED BY EXCAVATION FOR THE ABUTMENT FOOTING 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 BACK WALL AND SETTING THE GIRDERS ON THE ABUTMENT.

FOUNDATION BEARING RESISTANCE

REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.57 (WEST CAP) AND 4.97 (EAST CAP) KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 7.71 (WEST CAP) AND 6.80 (EAST CAP) KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 18.09 KIPS PER SQUARE FOOT.

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 6.78 (WEST CAP) AND 6.66 (EAST CAP) KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 9.26 (WEST CAP) & 9.10 (EAST CAP) KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 16.42 KIPS PER SQUARE FOOT.

FORWARD ABUTMENT FOUNDATION, AS DESIGNED PRODUCE A MAXIMUM FACTORED LOAD OF 724 KIPS AT THE WEST CAP OF EACH DRILLED SHAFT AND 718 KIPS AT THE EAST CAP OF EACH DRILLED SHAFT. THIS LOAD IS RESISTED BY TIP RESISTANCE ONLY. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 1,023 KIPS.

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 2.5 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".
A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

STRUCTURE GROUNDING

GROUND THE PROPOSED BRIDGE ACCORDING TO THE REQUIREMENTS OF ODOT STD. DWG. HL-50.21 - STRUCTURE GROUNDING. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: ALL STRUCTURAL STEEL, UTILITY SUPPORTS, STEEL SCREEN WALL COMPONENTS, STEEL TRELLISES, STEEL FIN WALLS, METAL BENCHES, ALUMINUM PLANTERS, AND LIGHT POLES.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE DESIGN SHOWN ON THE HIGHT STREET BRIDGE 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. ALL SHORING BEYOND THE LATERAL LIMITS OF THE HIGH STREET BRIDGE SHALL BE INCLUDED FOR PAYMENT WITH THE CAPS.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

PROVIDE BUFF WASH FINISH ON EDGES AND BOTTOM OF DECK OVERHANGS AS DETAILED IN THE PLANS.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
ITEM 607 - FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)

SEE STRUCTURE AESTHETIC PLANS FOR DETAILS.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

FINISH TOP OF BACKWALL IN LOCATIONS ADJACENT TO SIDEWALKS WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

AFTER CONDUITS ARE PLACED THROUGH THE UTILITY BLOCKOUTS IN THE ABUTMENT BACKWALLS, FILL THE VOIDS USING NON-SHRINK MORTAR CONFORMING TO CMS 705.22.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: EXPANSION DEVICE SLAB

THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL EXPANSION DEVICE SLABS AROUND EACH CAP AND AS DETAILED IN THE PLANS. CONCRETE FOR THIS ITEM REQUIRES QC/QA. FINISH TOP OF EXPANSION DEVICE SLAB WITH A BUFF WASH FINISH AND PLACE CONTROL JOINTS PER THE AESTHETIC ENHANCEMENT PLANS. ALL WORK SHALL BE IN ACCORDANCE WITH CMS 511. MEASUREMENT FOR ALL WORK DESCRIBED ABOVE SHALL BE CUBIC YARDS OF CONCRETE, AND PAYMENT SHALL BE INCLUDED AT THE CONTRACT UNIT BID PRICE FOR ITEM 511 - CLASS QC2 CONCRETE, MISC.: EXPANSION DEVICE SLAB.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: TRELLIS & STAIR BASES

THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL CAST-IN-PLACE TRELLIS & STAIR BASES AS DETAILED IN THE PLANS. TRELLIS & STAIR BASE REINFORCING STEEL IS INCLUDED WITH THIS ITEM FOR PAYMENT, AND CONCRETE FOR THIS ITEM REQUIRES QC/QA. ALL WORK SHALL BE IN ACCORDANCE WITH CMS 509 & 511. MEASUREMENT FOR ALL WORK DESCRIBED ABOVE SHALL BE CUBIC YARDS OF CONCRETE, AND PAYMENT SHALL BE INCLUDED AT THE CONTRACT UNIT BID PRICE FOR ITEM 511 - TRELLIS & STAIR BASES.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ALL NEW STRUCTURAL STEEL SHALL BE PAINTED USING THE IZEU COATING SYSTEM. THE URETHANE TOP COAT SHALL BE TINTED TO MEET FEDERAL COLOR No. 17038 (BLACK).

ITEM 524 - DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING:
THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 524 - DRILLED SHAFTS, MISC.: CSL TESTING, 96" DIAMETER SHAFT

PERFORM INTEGRITY TESTING ON ONE OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT ON BOTH THE EAST AND WEST CAP, BY CROSSHOLE SONIC LOGGING (CSL). PERFORM CSL TESTING PER ASTM D6760, "STANDARD TEST METHOD FOR INTEGRITY TESTING OF CONCRETE DEEP FOUNDATIONS BY ULTRASONIC CROSSHOLE TESTING," AND PER THE PROJECT SPECIAL PROVISIONS

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894

ABBREVIATIONS:

ABUT.	ABUTMENT
BRG.	BEARING
B.S.	BOTH SIDES
C.I.P.	CAST-IN-PLACE
CLR.	CLEAR
CONC.	CONCRETE
CONST.	CONSTRUCTION
DIA.	DIAMETER
DIM.	DIMENSION
EL.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
FIX.	FIXED
FRWD.	FORWARD
F.S.	FAR SIDE OR FIELD SPLICE
JT.	JOINT
N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
N.S.	NEAR SIDE
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
PT.	POINT
SPA.	SPACED OR SPACES
STD. DWG.	STANDARD DRAWING
TYP.	TYPICAL
W/	WITH
W.P.	WORKING POINT

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-5-23
7	ADDED QC/QA	CWL	11-17-23

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DESIGN AGENCY

GPD GROUP
 1500 Westwood Drive, Suite 200, Coon Rapids, MN 55433
 (763) 424-0051

DESIGNED MOJ

DRAWN MOJ

REVIEWED DGN

DATE 4-21-23

STRUCTURE FILE NUMBER 2510032/2510034

GENERAL NOTES

BRIDGE NO. FRA-70-1405E/W - CAPS

S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C

PID No. 105596

2/52

258

395

ESTIMATED QUANTITIES

CALCULATED BY: RHC DATE: 6-25-20
 CHECKED BY: MOJ DATE: 6-29-20

ITEM	EXT.	TOTAL	PARTICIPATION		UNITS	DESCRIPTION	ABUTMENT	PIER	SUPER-STRUCTURE	GENERAL	REFERENCE SHEET NO.
			02/IMS/11	07/NHS/04/COL							
503	11100	LS	LS			COFFERDAMS AND EXCAVATION BRACING					
503	21100	2,872	2,048	824	CY	UNCLASSIFIED EXCAVATION	2,048	824			
509	10000	455,505	142,506	312,999	LB	EPOXY COATED REINFORCING STEEL	142,506	101,063	211,936		
511	34447	728		728	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			728		2
511	34451	118		118	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			118		2
511	41012	320		320	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		320			
511	44113	873	873		CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	873				2
511	46512	722	521	201	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	521	201			
511	53012	18		18	CY	CLASS QC2 CONCRETE, MISC.: EXPANSION DEVICE SLAB			18		
511	53012	33		33	CY	CLASS QC2 CONCRETE, MISC.: TRELIS BASE AND STAIR BASE			33		
512	10050	608	85	523	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	85		523		
512	10100	1,669	1,093	576	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	1,093	576			
512	33000	25	25		SY	TYPE 2 WATERPROOFING	25				
513	10200	14,970		14,970	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF (CITY OF COLUMBUS DUCT BANK SUPPORT)			14,970		
513	10280	1,928,660		1,928,660	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			1,928,660		
513	20000	8,460		8,460	EACH	WELDED STUD SHEAR CONNECTORS			8,460		
514	00060	69,100		69,100	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			69,100		
514	00066	69,100		69,100	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			69,100		
516	11210	639		639	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			639		
516	13600	327	327		SF	1" PREFORMED EXPANSION JOINT FILLER	327				
516	44101	20		20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 11 1/2" x 1'-6" x 2.36" PAD WITH 1'-0 1/2" x 2'-1" BEVELED PLATE, AS PER PLAN			20		21
516	44101	20		20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-1" x 1'-8" x 2.59" PAD WITH 1'-2" x 2'-1" BEVELED PLATE, AS PER PLAN			20		21
516	44301	20		20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 1'-9" x 2'-2" x 4.36" PAD WITH 1'-10" x 2'-11" BEVELED PLATE, AS PER PLAN			20		21
518	21200	140	140		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	140				
518	40000	470	470		FT	6" PERFORATED CORRUGATED PLASTIC PIPE	470				
524	95533	1,848	1,848		FT	DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	1,848				2
524	95100	2	2		EACH	DRILLED SHAFTS, MISC.: CSL TESTING, 96" DIAMETER SHAFT	2				2
SPECIAL	53000200	LS		LS		STRUCTURES: CITY OF COLUMBUS DUCT BANK COMPLETE					3
SPECIAL	53000600	7,809	7,809		SF	STRUCTURES: PRECAST FACADE PANELS	7,809				3
607	98000	60	60		FT	FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)	60				
894	10000	21	21		EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	21				2

NO.	DESCRIPTION	REV. BY	DATE
3	QUANTITY REVISED	DJC	10-23-23
6	QUANTITY REVISED	RSN	11-9-23
7	ADDED QC/QA	CWL	11-17-23

ESTIMATED QUANTITIES

BRIDGE NO. FRA-70-1405E/W - CAPS
S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C
PID No. 105596

4 / 52
260
395

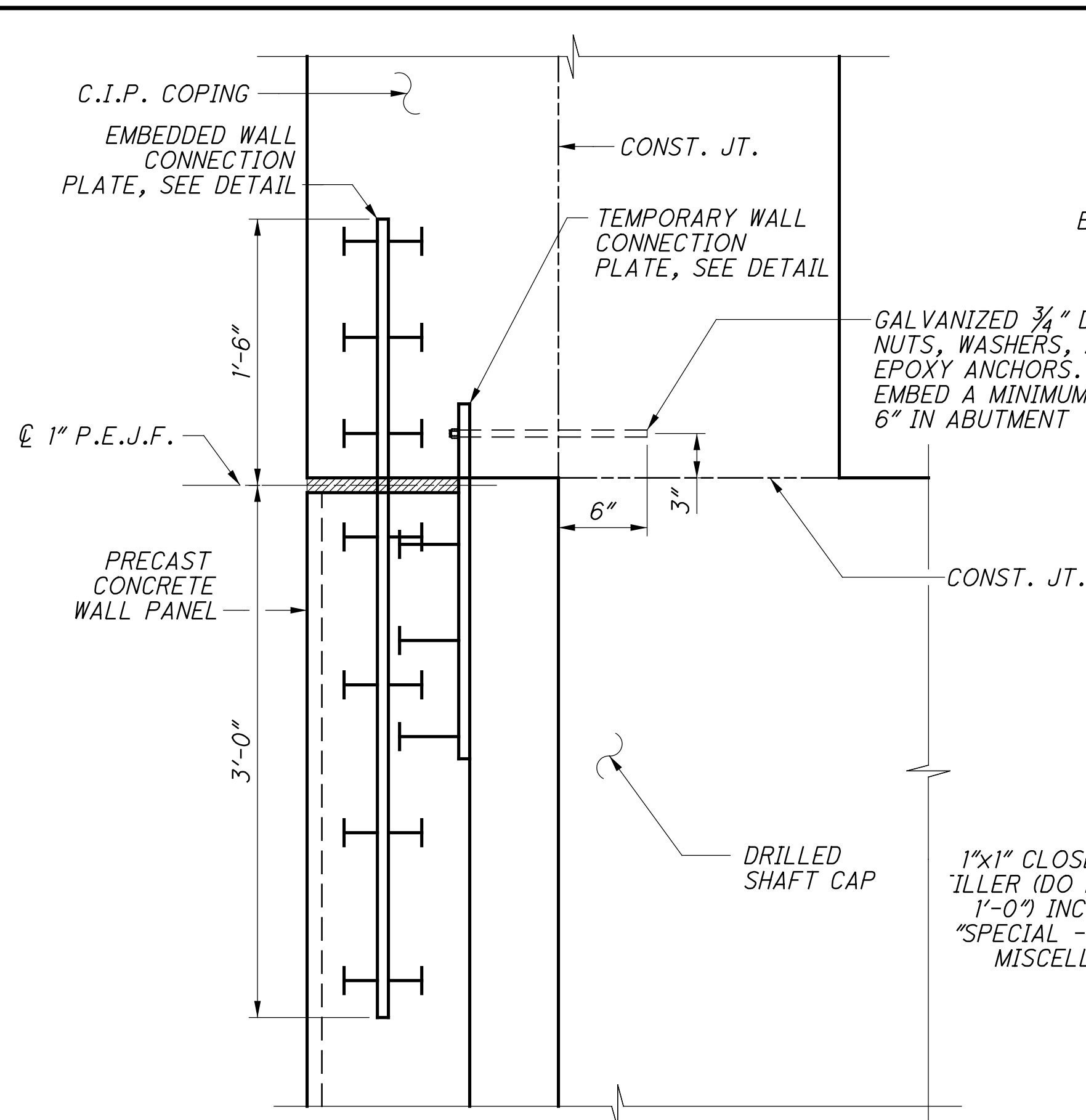
DESIGN AGENCY: **GPD GROUP**
100 Watermark Drive, Suite 200, Columbus, OH 43215
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REVIEWED: T.J.W. DATE: 4-21-23
STRUCTURE FILE NUMBER: 2510032/2510034

DRAWN: MOJ
CHECKED: RHC

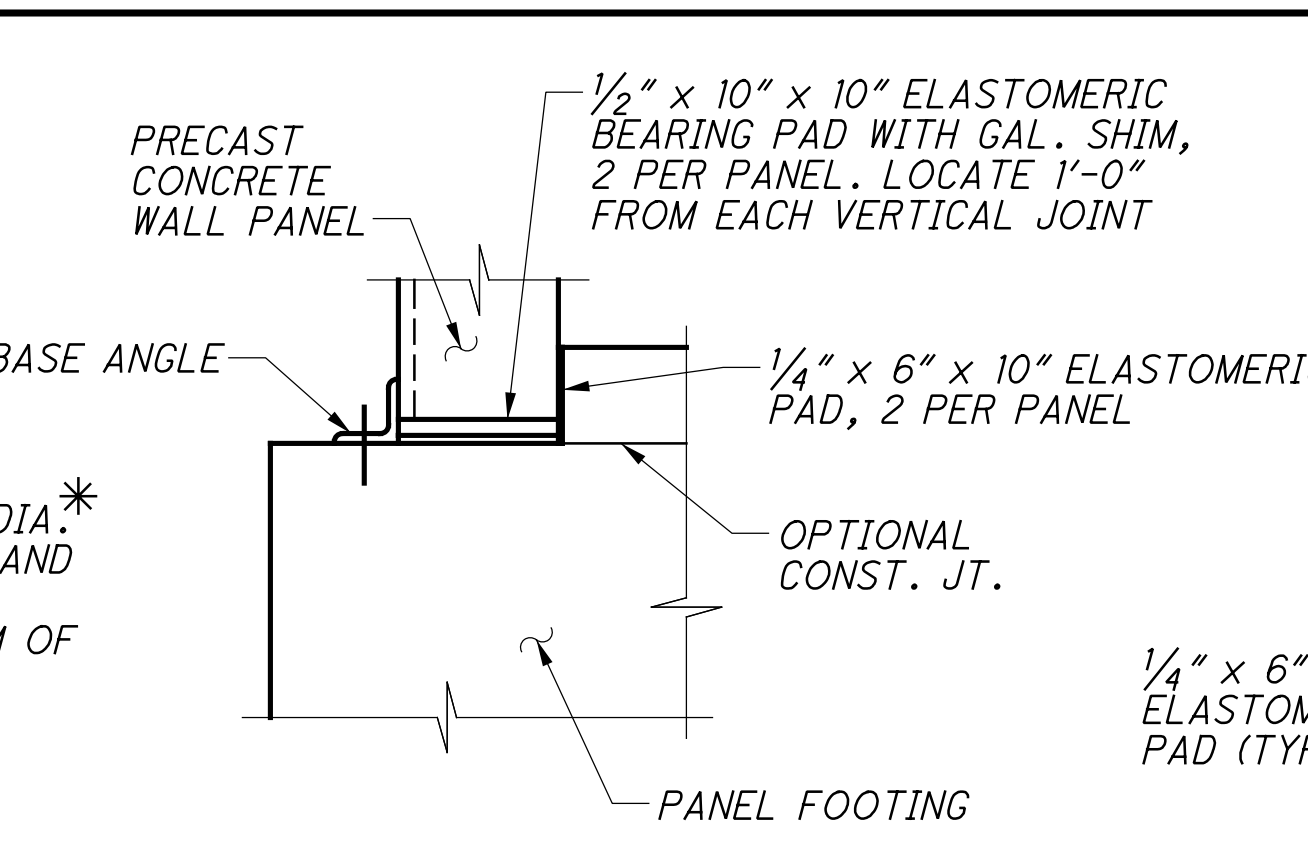
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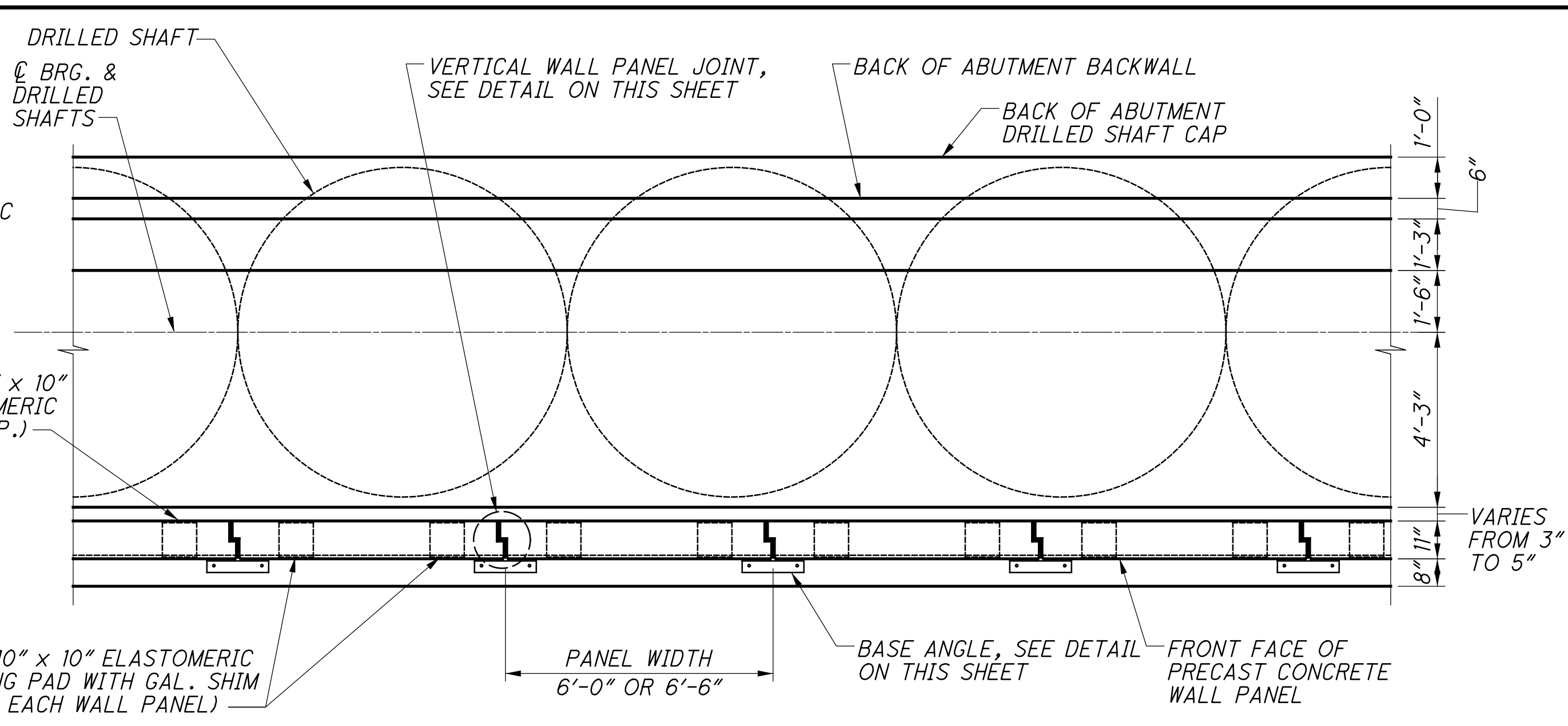


TOP WALL PANEL CONNECTION DETAIL

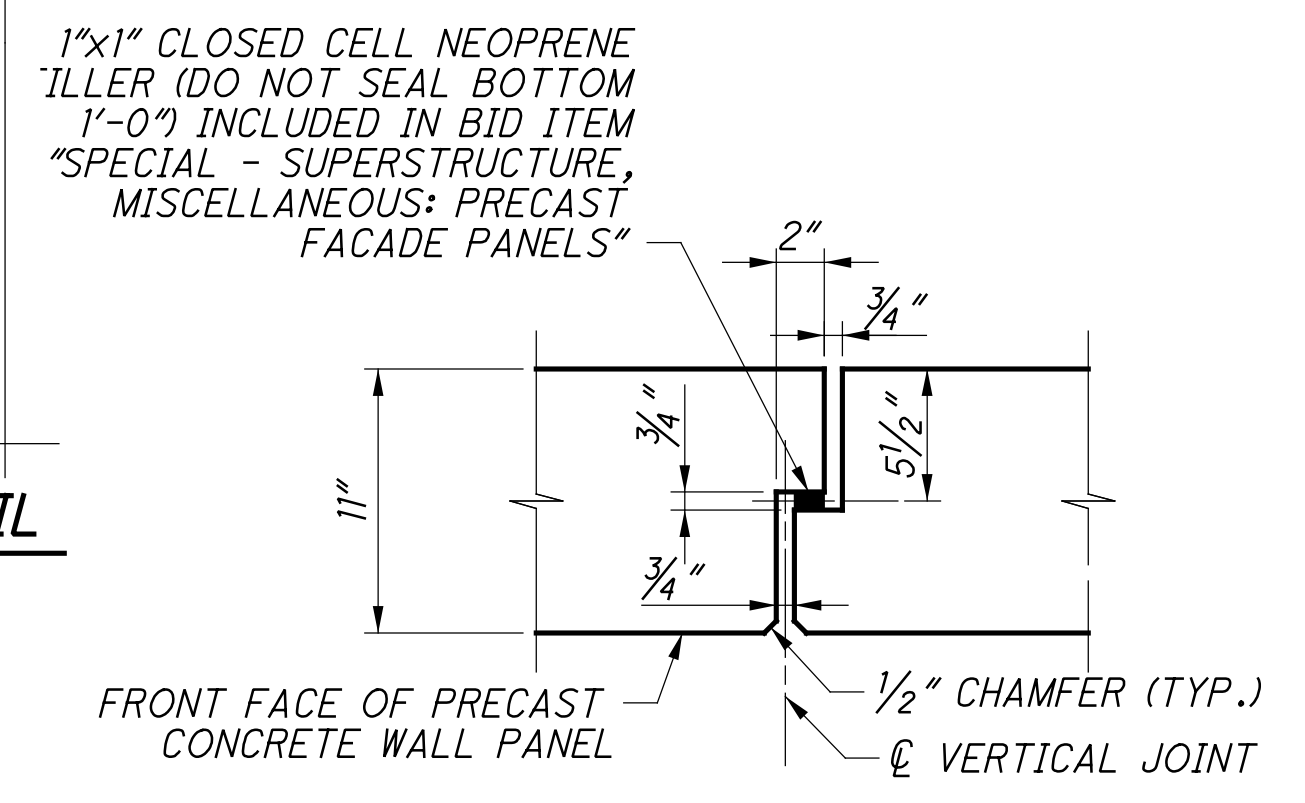
* - INSTALL 3/4" EPOXY ANCHOR PRIOR TO THE CONSTRUCTION OF THE C.I.P. COPING



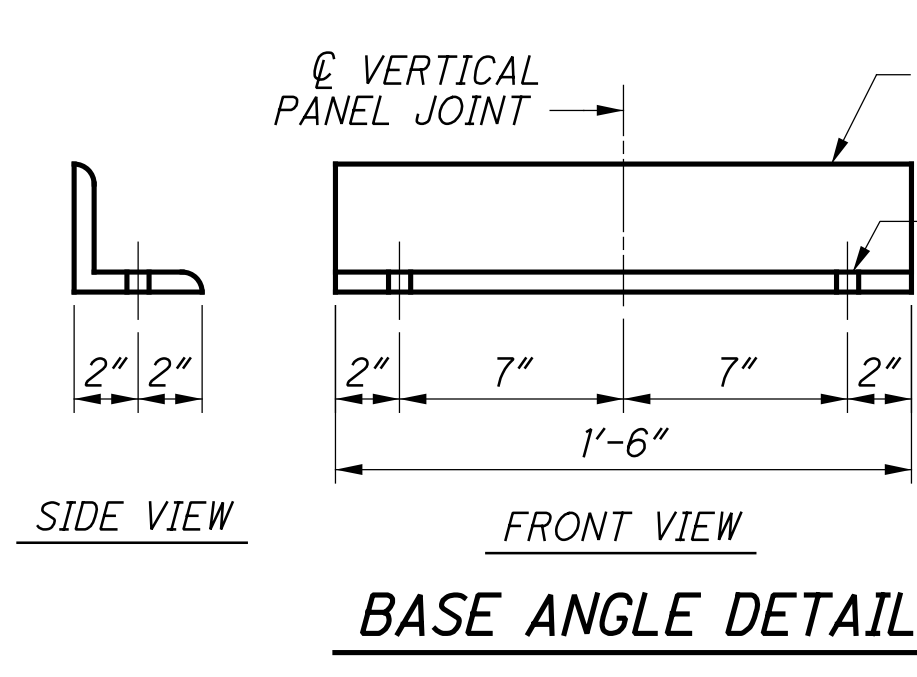
WALL BASE DETAILS



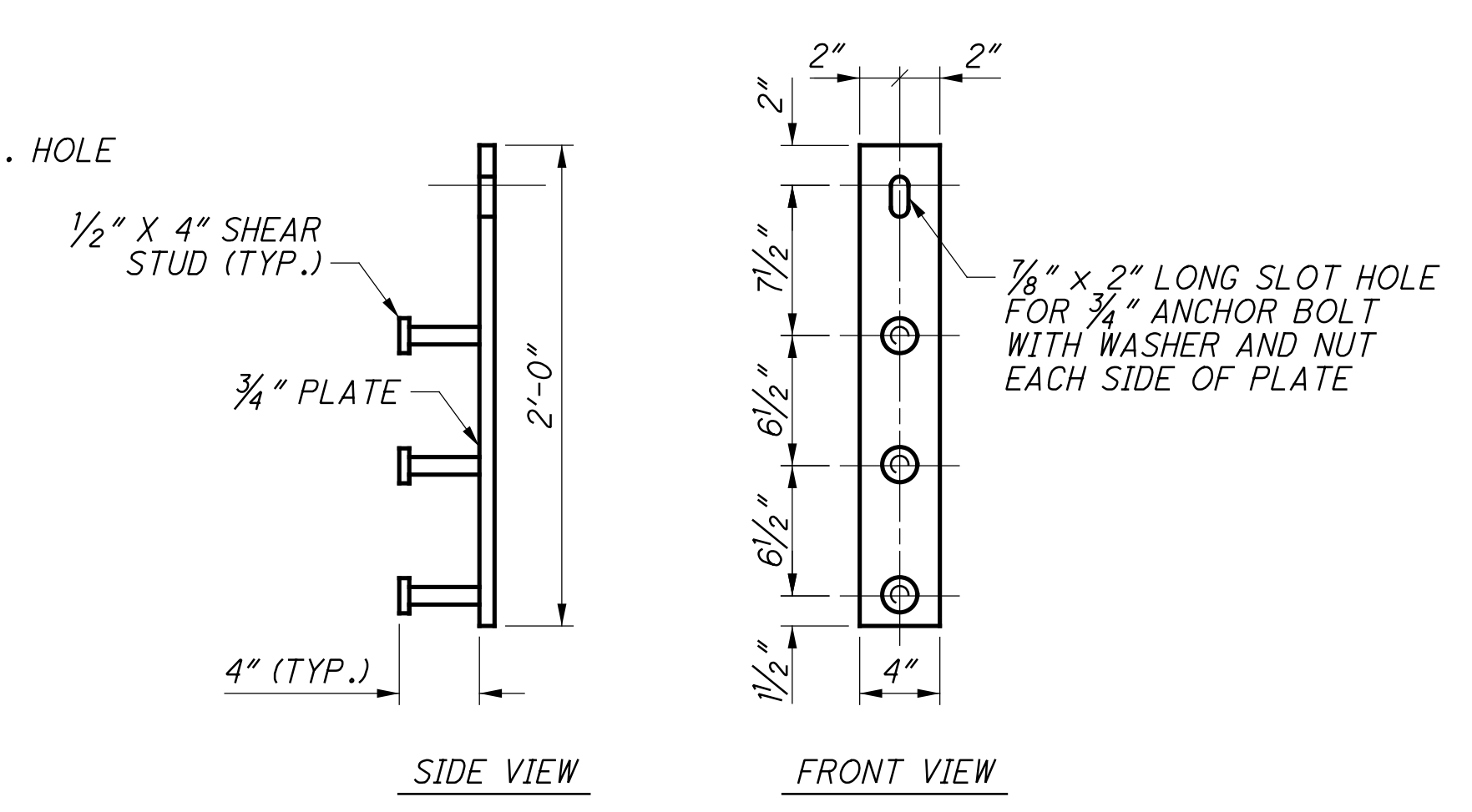
TYPICAL DRILLED SHAFT AND FOOTING PLAN



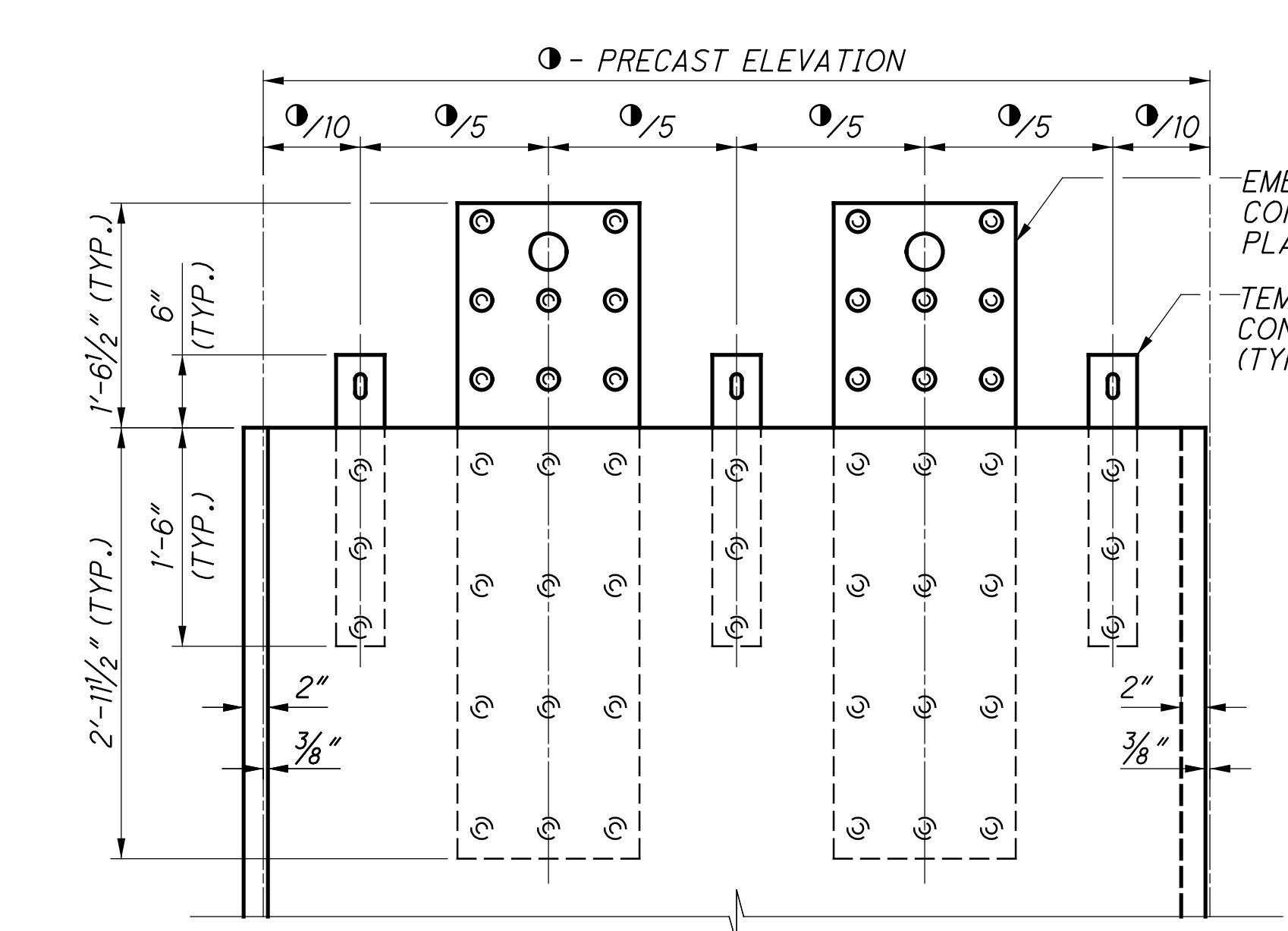
VERTICAL WALL PANEL JOINT DETAIL



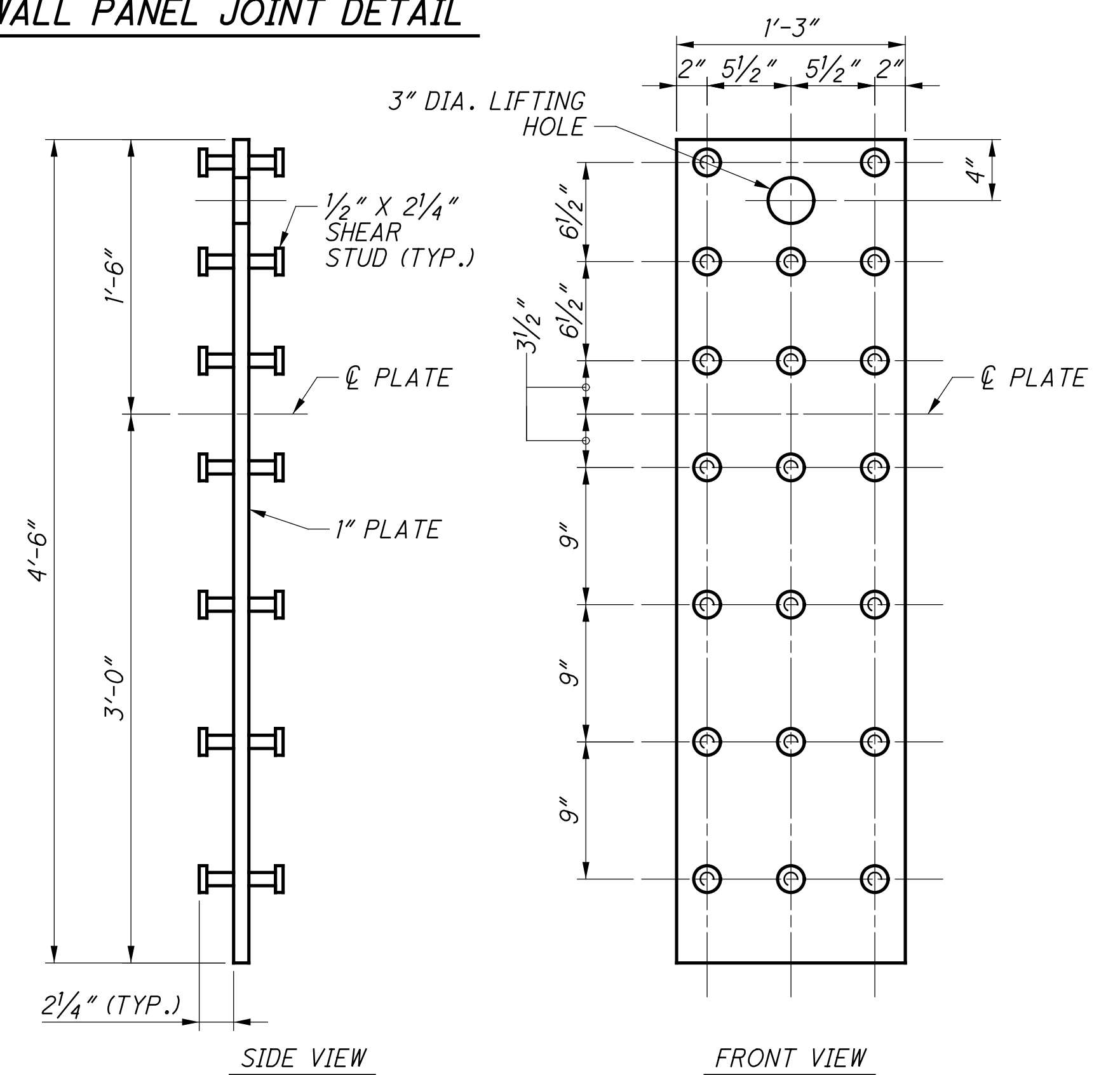
BASE ANGLE DETAIL



TEMPORARY WALL CONNECTION PLATE



PRECAST WALL PLATE ELEVATION



EMBEDDED WALL CONNECTION PLATE

NOTES:

1. THE CONTRACTOR OR PRECAST PANEL MANUFACTURER IS RESPONSIBLE FOR DESIGNING OF THE LIFTING DEVICE. A MODIFICATION TO THE CONNECTION PLATE AS SHOWN MAY BE REQUIRED TO RESIST TEMPORARY CONSTRUCTION LOADS INCLUDING BUT NOT LIMITED TO WIND LOAD DURING ERECTION.
2. ALL PANEL RELATED CONNECTION HARDWARE: PLATES, EPOXY ANCHORS, EXPANDED POLYSTYRENE, NEOPRENE FILLER, AND ELASTOMERIC BEARING PADS ARE INCIDENTAL TO BID ITEM "SPECIAL - STRUCTURE, MISC.: PRECAST FACADE PANELS".
3. ALL ATTACHMENT PLATES, ANCHOR BOLTS, NUTS, WASHERS, AND OTHER STEEL APPURTENANCE ARE TO BE GALVANIZED, UNLESS NOTED OTHERWISE.

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-9-23
7	NOTE REVISED	GTP	11-15-23

DESIGN AGENCY
GPD GROUP
 1000 Waterfront Drive, Suite 370, Co. (PH 424) 5
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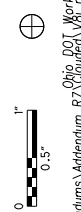
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REVIEWED TJW
STRUCTURE FILE NUMBER 2510032/2510034
DESIGNED MOJ/RFV
CHECKED RHC
DRAWN MOJ
REVISED

FORWARD ABUTMENT DETAILS
 BRIDGE NO. FRA-70-1405E/W - CAPS
 S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C
PID No. 105596

15 / 52
 271
 395

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34" x 22"

SHEET NUM.				PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
480	538			04/NHS/10	EXT	TOTAL				
STRUCTURE OVER 20 FOOT SPAN (FRA-070-1322L) (CONT.)										
16				16	516	13600	16	SF	1" PREFORMED EXPANSION JOINT FILLER	
238				238	516	13900	238	SF	2" PREFORMED EXPANSION JOINT FILLER	
5				5	518	12200	5	EACH	SCUPPERS, INCLUDING SUPPORTS	
120				120	518	21200	120	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
129				129	518	40000	129	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
39				39	518	40010	39	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
130				130	518	51200	130	FT	PIPE DOWNSPOUT, INCLUDING SPECIALS (10")	
180				180	524	95475	180	FT	DRILLED SHAFTS, 60" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN	479
537				537	524	95483	537	FT	DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	479
290				290	526	30010	290	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")	
115				115	526	90010	115	FT	TYPE A INSTALLATION	
48				48	846	00110	48	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
24				24	869	00101	24	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN	479
12				12	894	10000	12	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	479
STRUCTURE OVER 20 FOOT SPAN (FRA-070-1323C)										
LUMP				LUMP	202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	535
745				745	202	22900	745	SY	APPROACH SLAB REMOVED	
10,500				10,500	202	23500	10,500	SY	WEARING COURSE REMOVED	
278				278	202	32800	278	SY	CONCRETE SLOPE PROTECTION REMOVED	
14				14	202	98100	14	EACH	REMOVAL MISC.: PILE REMOVED, EXSTING STRUCTURE	535
3,242				3,242	503	21101	3,242	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	535
LUMP				LUMP	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
5,830				5,830	507	00100	5,830	FT	STEEL PILES HP10X42, FURNISHED	
5,370				5,370	507	00150	5,370	FT	STEEL PILES HP10X42, DRIVEN	
92				92	507	93300	92	EACH	STEEL POINTS OR SHOES	
876,855				876,855	509	10001	876,855	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	536
1,710				1,710	511	34447	1,710	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	536
360				360	511	34450	360	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
394				394	511	44112	394	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	
596				596	511	45602	596	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA	
277				277	511	46012	277	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING	
579				579	511	46512	579	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
843				843	512	10001	843	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	536
2,389				2,389	512	10100	2,389	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
51				51	512	33000	51	SY	TYPE 2 WATERPROOFING	
355,667				355,667	513	10300	355,667	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5	
2,213,561				2,213,561	513	10401	2,213,561	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX(6) FABRICATION, AS PER PLAN	536
12,801				12,801	513	20000	12,801	EACH	WELDED STUD SHEAR CONNECTORS	
29,490				29,490	514	00060	29,490	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
29,490				29,490	514	00066	29,490	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
134				134	SPECIAL	51612400	134	FT	MODULAR EXPANSION JOINT	536
377				377	516	13600	377	SF	1" PREFORMED EXPANSION JOINT FILLER	
216				216	516	13900	216	SF	2" PREFORMED EXPANSION JOINT FILLER	
5				5	518	12200	5	EACH	SCUPPERS, INCLUDING SUPPORTS	
481				481	518	21200	481	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
361				361	518	40000	361	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
45				45	518	40010	45	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
49				49	518	51200	49	FT	PIPE DOWNSPOUT, INCLUDING SPECIALS (10")	
156				156	524	95475	156	FT	DRILLED SHAFTS, 60" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN	537
496				496	524	95483	496	FT	DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN	537
351				351	526	30010	351	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")	
134				134	526	90010	134	FT	TYPE A INSTALLATION	
56				56	846	00110	56	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
30				30	869	00101	30	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN	537
12				12	894	10000	12	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	537

NO.	DESCRIPTION	REV. BY	DATE
4	QUANTITY CHANGES	ACW	10/30/23
5	QUANTITY CHANGES	ACW	11/6/23
7	ITEM/QUANTITY CHANGE	ACW	11/20/23

CALCULATED TAZ CHECKED DEA
GENERAL SUMMARY
FRA-70-13.10
196
702
ms consultants, inc.

ITEM 809E25000 - CONDUIT, MULTICELL, MISC.: 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 ASSEMBLIES WITHIN A PROTECTIVE OUTER DUCT. THE CONDUIT SHALL ADHERE TO 909.14 AND BE POLYVINYL CHLORIDE (PVC) SCHEDULE 40 OR 80, HIGH DENSITY POLYETHYLENE (HDPE), OR APPROVED EQUIVALENT. THE INNERDUCTS SHALL BE A MINIMUM OF 1 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, ONE 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 LINEAR FOOT QUANTITIES AT THE CONTRACT BID PRICE.

ITEM 804E32060 - DROP CABLE, 24 FIBER

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATIONS 804/904.

TRACER WIRE

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATIONS 804/904.

FIBER OPTIC CABLE MARKER

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATIONS 804/904.

THE MARKERS SHALL HAVE THE FOLLOWING INFORMATION LOCATED ON THE UPPER PORTION OF THE MARKER IN A READABLE FORMAT:

WARNING
CONTACT OUPS 48 HOURS BEFORE DIGGING
ODOT ITS FIBER OPTIC CABLE
614-387-4113

ITEM 809 - CCTV

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS.

ITEM 809 - SIDE FIRED RADAR DETECTOR

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS.






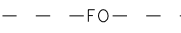
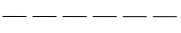


ITEM 809 - RAMP METERING INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS.





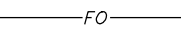







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LEGEND

EXISTING:

-  PULLBOX, 48" ROUND, ITS
-  PULLBOX, 32" ROUND, ITS
-  PULLBOX, 18", 725.08, ELECTRIC
-  BARRIER WALL JUNCTION BOX (ARROW INDICATES ACCESS SIDE)
-  ELECTRICAL SERVICE
-  FIBER OPTIC
-  CONDUIT
-  ITS CABINET
-  ITS POLE (CCTV/SFRD)

PROPOSED:

-  PULLBOX, 32" ROUND, ITS
-  PULLBOX, 18", 725.08, ELECTRIC
-  PULLBOX, 18", 725.08, TRAFFIC
-  ELECTRICAL SERVICE
-  FIBER OPTIC
-  CONDUIT
-  ITS CABINET - GROUND MOUNTED
-  RAMP METER POLE/MASTARM
-  RAMP METER SIGNAL/BEACON
-  RAMP METER SIGN
-  SIDE-FIRED RADAR DETECTOR
-  RADAR DETECTION ZONE

CALCULATED
CHECKED

TRAFFIC SURVEILLANCE - PLAN LEGEND
ITS GENERAL NOTES

FRA-70-13.10

448
702

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED RAMP METERING NOTE	RGF	11/17/23

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SHEET NO.	625	625	625	625	625	625	625	625	625	625	630	632	632	632	632	632	632	632	632	632	
	NO. 1/0 AWG 2400 VOLT DISTRIBUTION CABLE	CONDUIT, 2", 725.05	CONDUIT, 3", 725.05	TRENCH, 30" DEEP	TRENCH IN PAVED AREA	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 32"	GROUND ROD	POWER SERVICE	POWER SERVICE, AS PER PLAN	SIGNING, MISC.: RAMP METER SIGN - STOP HERE/ONE CAR	VEHICULAR SIGNAL HEAD, (LED), 2-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, RED AND GREEN, AS PER PLAN	DETECTOR LOOP	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	INTERCONNECT CABLE, MISC: SFRD CABLE	STRAIN POLE FOUNDATION	SIGNAL SUPPORT FOUNDATION	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG	POWER CABLE, 3 CONDUCTOR, NO. 4 AWG	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2	STRAIN POLE, TYPE TC-81.11, DESIGN 8
	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	EACH	EACH	FT	FT	EACH	EACH
452		255	17	247	16	2		4	1												
453	324	135	260	354		5	3	4			2		3	429	361	1	1	564	288	1	1
454	1534	179												511				1023			
455	807													266				532			
456	343	10	101	8		1				1				242				518			
TOTALS CARRIED TO GENERAL SUMMARY																					
	3008	579	378	609	16	8	3	8	1	1	2	3	5	1448	361	1	1	2637	288	1	1

7

7

CALCULATED CHECKED

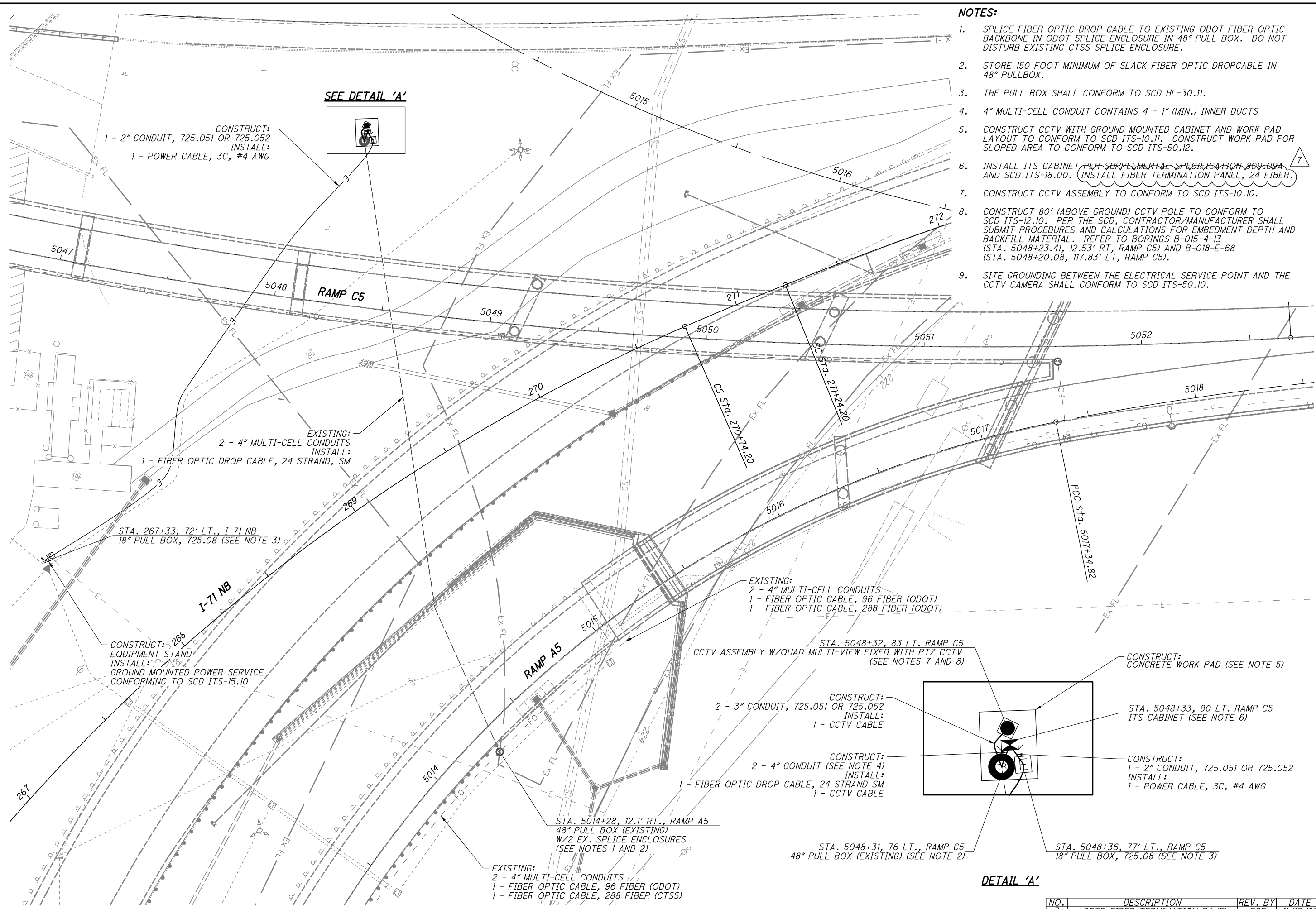
ITS SUBSUMMARY

FRA - 70 - 13.10

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED TRENCH AND POWER SERVICE QUANTITIES	RGF	11/17/23

450
702

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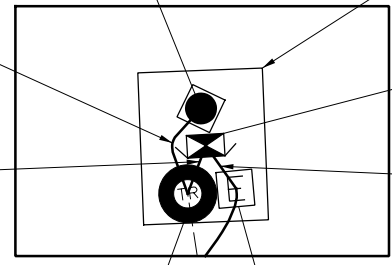
NOTES:

1. SPLICE FIBER OPTIC DROP CABLE TO EXISTING ODOT FIBER OPTIC BACKBONE IN ODOT SPLICE ENCLOSURE IN 48" PULL BOX. DO NOT DISTURB EXISTING CTSS SPLICE ENCLOSURE.
2. STORE 150 FOOT MINIMUM OF SLACK FIBER OPTIC DROPCABLE IN 48" PULLBOX.
3. THE PULL BOX SHALL CONFORM TO SCD HL-30.11.
4. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1" (MIN.) INNER DUCTS
5. CONSTRUCT CCTV WITH GROUND MOUNTED CABINET AND WORK PAD LAYOUT TO CONFORM TO SCD ITS-10.11. CONSTRUCT WORK PAD FOR SLOPED AREA TO CONFORM TO SCD ITS-50.12.
6. INSTALL ITS CABINET PER SUPPLEMENTAL SPECIFICATION 809.09A AND SCD ITS-18.00. **INSTALL FIBER TERMINATION PANEL, 24 FIBER.**
7. CONSTRUCT CCTV ASSEMBLY TO CONFORM TO SCD ITS-10.10.
8. CONSTRUCT 80' (ABOVE GROUND) CCTV POLE TO CONFORM TO SCD ITS-12.10. PER THE SCD, CONTRACTOR/MANUFACTURER SHALL SUBMIT PROCEDURES AND CALCULATIONS FOR EMBEDMENT DEPTH AND BACKFILL MATERIAL. REFER TO BORINGS B-015-4-13 (STA. 5048+23.41, 12.53' RT, RAMP C5) AND B-018-E-68 (STA. 5048+20.08, 117.83' LT, RAMP C5).
9. SITE GROUNDING BETWEEN THE ELECTRICAL SERVICE POINT AND THE CCTV CAMERA SHALL CONFORM TO SCD ITS-50.10.



TRAFFIC SURVEILLANCE PLAN - I-71 NORTHBOUND
STA. 266+86 TO STA. 273+79

FRA-70-13.10
 452
 702



DETAIL 'A'

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED FIBER TERMINATION PANEL	RGF	11/17/23

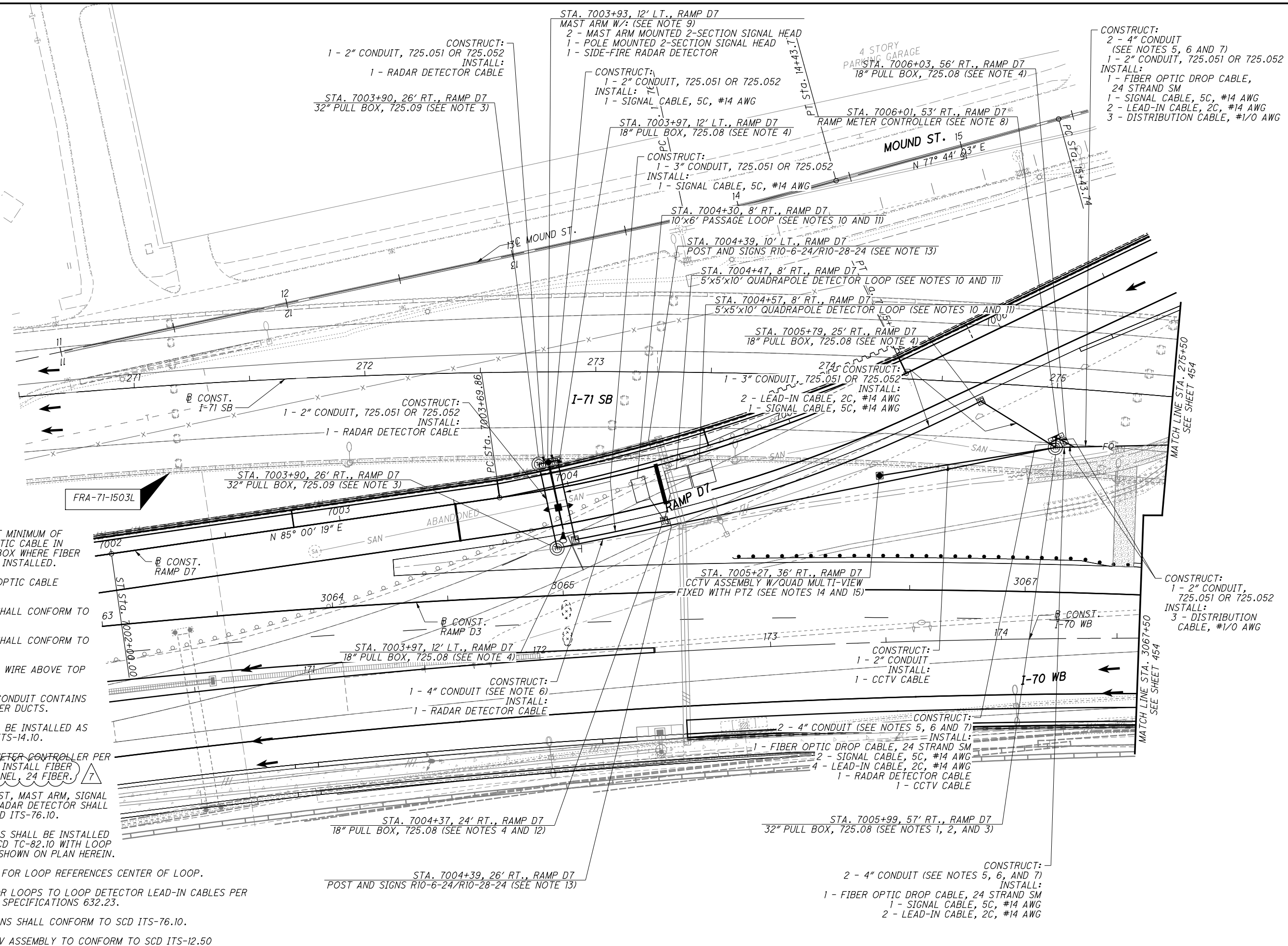
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TRAFFIC SURVEILLANCE PLAN - I-71 SOUTHBOUND
STA. 270+50 TO STA. 275+50

FRA-70-13.10

453
702

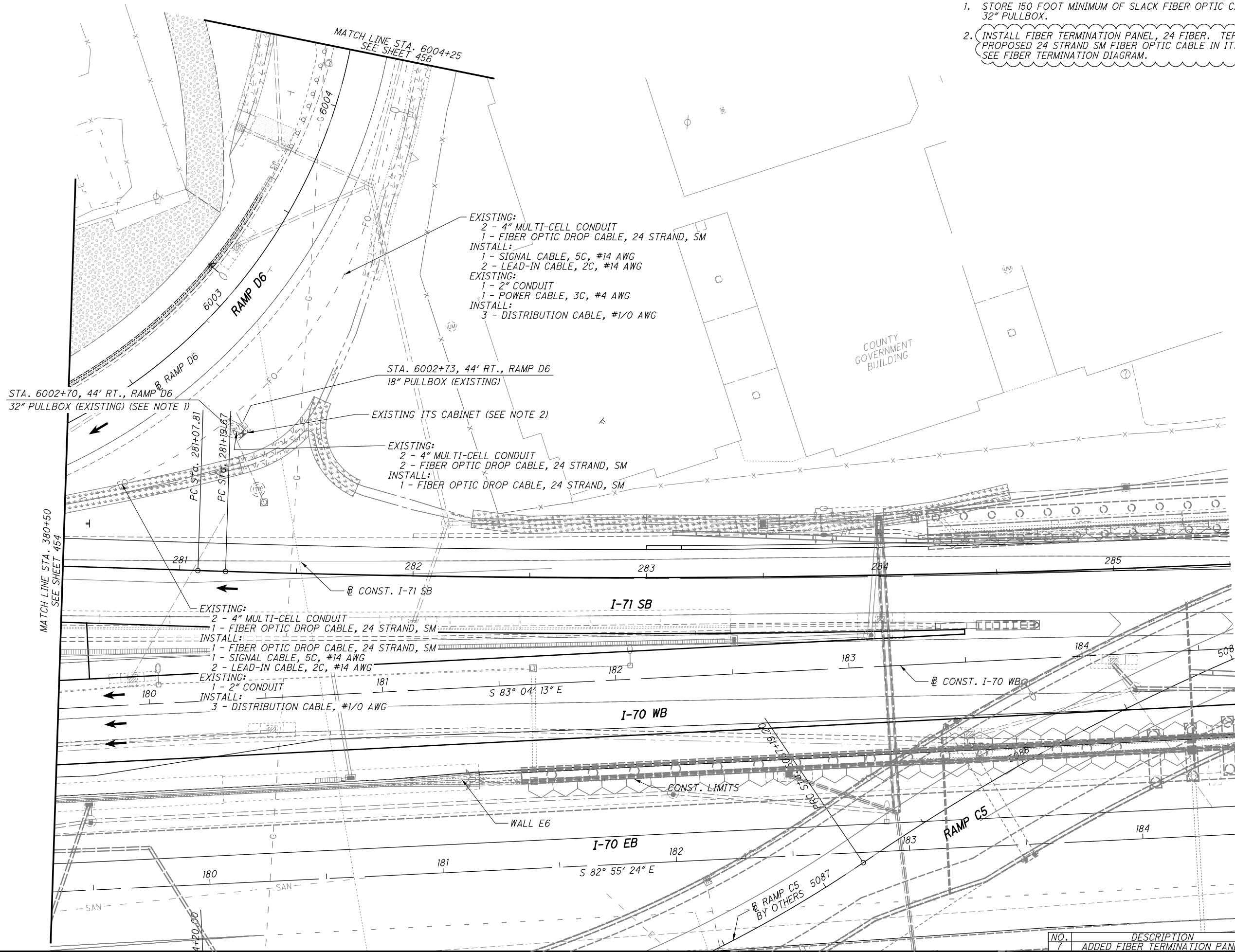


NOTES:

1. STORE 150 FOOT MINIMUM OF SLACK FIBER OPTIC CABLE IN EACH 32" PULL BOX WHERE FIBER OPTIC CABLE IS INSTALLED.
2. INSTALL FIBER OPTIC CABLE MARKER TYPE 2.
3. THE PULL BOX SHALL CONFORM TO SCD ITS-14.11.
4. THE PULL BOX SHALL CONFORM TO SCD HL-30.11.
5. INSTALL TRACER WIRE ABOVE TOP OF 4" CONDUIT
6. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1" (MIN.) INNER DUCTS.
7. CONDUITS SHALL BE INSTALLED AS SHOWN ON SCD ITS-14.10.
8. INSTALL RAMP METER CONTROLLER PER SCD ITS-76.10. INSTALL FIBER TERMINATION PANEL, 24 FIBER.
9. RAMP METER POST, MAST ARM, SIGNAL DISPLAYS AND RADAR DETECTOR SHALL CONFORM TO SCD ITS-76.10.
10. LOOP DETECTORS SHALL BE INSTALLED AS SHOWN ON SCD TC-82.10 WITH LOOP DIMENSIONS AS SHOWN ON PLAN HEREIN.
11. STATION SHOWN FOR LOOP REFERENCES CENTER OF LOOP.
12. SPLICE DETECTOR LOOPS TO LOOP DETECTOR LEAD-IN CABLES PER ODOT MATERIAL SPECIFICATIONS 632.23.
13. RAMP METER SIGNS SHALL CONFORM TO SCD ITS-76.10.
14. CONSTRUCT CCTV ASSEMBLY TO CONFORM TO SCD ITS-12.50
15. CONSTRUCT 30' STRAIN POLE TO CONFORM TO SCD TC-81.11

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED FIBER TERMINATION PANEL	RGF	11/17/23

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NOTES:

1. STORE 150 FOOT MINIMUM OF SLACK FIBER OPTIC CABLE IN 32" PULLBOX.
2. INSTALL FIBER TERMINATION PANEL, 24 FIBER. TERMINATE PROPOSED 24 STRAND SM FIBER OPTIC CABLE IN ITS CABINET. SEE FIBER TERMINATION DIAGRAM.



TRAFFIC SURVEILLANCE PLAN - I-71 SOUTHBOUND
STA. 280+50 TO STA. 285+50

FRA-70-13.10

455
702

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED FIBER TERMINATION PANEL	RGF	11/17/23



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ITEM 513 STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX FABRICATION, AS PER PLAN

A. DESCRIPTION

1. THIS WORK CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND ERECT STRUCTURAL STEEL MEMBERS, DESIGNED AS A HYBRID MIX OF STEEL MATERIALS CONSISTING OF: ASTM A709, HIGH PERFORMANCE GRADE HSP70W IN COMBINATION WITH GRADE 50W STEEL.

2. THIS WORK SHALL BE PERFORMED PER ITEM 513 STRUCTURAL STEEL MEMBER, LEVEL SIX (6) EXCEPT AS MODIFIED BY THE APRIL, 2011 3RD EDITION OF THE GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPS70W STEEL, A SUPPLEMENT TO ANSI/AASHTO AWS D1.5" AND AS MODIFIED BY THESE PLAN NOTES.

B. MATERIALS

1. STEEL FOR GIRDER WEBS AND FLANGES SHALL BE A COMBINATION OF ASTM A709 GRADE HPS70W MANUFACTURED BY THE THERMO-MECHANICAL CONTROLLED PROCESSING (TMCP) OR QUENCHED AND TEMPERED HEAT TREATMENT PROCESSING ALONG WITH ASTM A588/709 GRADE 50W. ALL OTHER STEEL SHALL BE ASTM A709 GRADE 50W.

2. STEEL DESIGNATED CVN SHALL BE IMPACT TESTED TO EXCEED THE TEST VALUES OF ASTM A709 TABLE S1.2 NON-FRACTURE CRITICAL IMPACT TEST REQUIREMENTS FOR ZONE 2, TEMPERATURE RANGE.

C. ADDITIONAL FABRICATION RESTRICTIONS / WARNINGS

1. APPLICATION OF HEAT FOR CURVING AND STRAIGHTENING APPLICATIONS, CAMBER AND SWEEP ADJUSTMENT, OR OTHER REASON HEATING IS LIMITED TO 1100°F/590°C MAXIMUM, AND MUST BE DONE BY PROCEDURES APPROVED BY THE DIRECTOR OR HIS AUTHORIZED REPRESENTATIVE.

2. THE MATCHING SUBMERGED ARC WELDING CONSUMABLES ESAB ENI4 ELECTRODE IN COMBINATION WITH LINCOLN MIL800H, RECOMMENDED IN APPENDIX A OF THE AASHTO GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPS70W STEEL, HAS PRODUCED WELDMENT CONTAINING UNACCEPTABLE DISCONTINUITIES IN A SUBSTANTIAL NUMBER OF COMPLETE PENETRATION GROOVE WELDS IN ONE STRUCTURE, BASED ON THE PARAMETERS USED AND EXPERIENCE OF ONE FABRICATOR. EXTREME CAUTION SHOULD BE EXERCISED WHEN USING THIS ELECTRODE/FLUX COMBINATION.

3. CONSIDERATION WILL BE GIVEN TO OTHER WELDING PROCESSES IF A WRITTEN REQUEST IS SUBMITTED TO THE OFFICE OF MATERIALS MANAGEMENT IN ACCORDANCE WITH CMS 108.05. OTHER WELDING PROCESSES MUST BE QUALIFIED AND TESTED AS REQUIRED BY THE REFERENCED SPECIFICATIONS AND THESE NOTES.

4. IN ADDITION TO THE REQUIREMENTS OF ANSI/AASHTO/AWS D1.5 SECTION 5.17. ALL PROCEDURE QUALIFICATION TESTS MUST BE ULTRASONICALLY TESTED IN CONFORMANCE WITH THE REQUIREMENTS OF AWS D1.5, SECTION 6, PART C. EVALUATION MUST BE IN ACCORDANCE WITH AWS D1.5, TABLE 6.3, ULTRASONIC ACCEPTANCE REJECTION CRITERIA TENSILE STRESS. INDICATIONS FOUND AT THE INTERFACE OF THE BACKING BAR MAY BE DISREGARDED, REGARDLESS OF THE DEFECT RATING.

5. WHENEVER MAGNETIC PARTICLE TESTING IS DONE, ONLY THE YOKE TECHNIQUE WILL BE ALLOWED, AS DESCRIBED IN SECTION 6.7.6.2 OF THE ANSI/AASHTO/ AWS D1.5 BRIDGE WELDING CODE, MODIFIED TO TEST USING ALTERNATING CURRENT ONLY. THE PROD TECHNIQUE WILL NOT BE ALLOWED.

D. BASIS OF PAYMENT

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	EXT	UNITS	DESCRIPTION
513	10401	POUND	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX FABRICATION, AS PER PLAN

ITEM 524 - DRILLED SHAFTS, 60" DIAMETER, INTO BEDROCK WITH QC/QA, AS PER PLAN

THE SHAFT BOTTOM SHALL BE CLEANED TO A DEGREE THAT ALLOWS NO MORE THAN 1/2" OF SEDIMENT OVER 50% OF THE BOTTOM AND NO MORE THAN 1" ANYWHERE ON THE BASE. DETERMINE THE BOTTOM CLEANLINESS USING A MINIATURE SHAFT INSPECTION DEVICE (MINI-SID), SHAFT QUANTITATIVE INSPECTION DEVICE (SQUID), OR BY OTHER MEANS CONSIDERED APPROPRIATE AND APPROVED BY THE ENGINEER. FURNISH THE RESULTS OF ALL CLEANLINESS INSPECTIONS TO THE ENGINEER WITHIN SEVEN (7) DAYS AFTER COMPLETION OF THE DRILLED SHAFT.

ITEM 524 - DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK, WITH QC/QA, AS PER PLAN

THE MINIMUM LENGTH OF THE STEEL CASINGS TO BE LEFT IN PLACE SHALL BE FROM THE TOP OF DRILLED SHAFT TO THE TOP OF ROCK. PAYMENT FOR THE CASINGS LEFT IN PLACE SHALL BE INCLUDED IN THE PAY ITEM 524, DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK, AS PER PLAN. CONCRETE SHALL MEET THE REQUIREMENTS OF ITEM 524 WITH THE EXCEPTION OF A MAXIMUM COARSE AGGREGATE SIZE OF 3/8".

ITEM SPECIAL - EMERGENCY ACTION PLAN COORDINATION

THIS ITEM INCLUDES ALL COSTS AND EXPENSES INCURRED BY THE CONTRACTOR TO COORDINATE WITH THE ARMY CORPS OF ENGINEERS, CITY OF COLUMBUS AND ODOT AS IT RELATES TO UPDATING THE EMERGENCY ACTION PLAN DURING CONSTRUCTION FOR THE CONTRACTOR'S ACTUAL MEANS AND METHODS FOR CONSTRUCTING THE NEW FLOODWALL AND MAINTAINING THE INTEGRITY OF THE FLOOD PROTECTION SYSTEM INCLUDING I-WALLS AND ADJACENT LEVEES. THIS ITEM IS ALSO TO INCLUDE ALL CONTRACTOR COSTS FOR ATTENDING WEEKLY PROGRESS MEETING AND PREPARING STATUS REPORTS RELATED TO THE WORK. CONTRACTOR SHALL SUBMIT A WORK PLAN TO ODOT, CITY OF COLUMBUS, AND THE ARMY CORPS OF ENGINEERS OUTLINING THE PROPOSED SEQUENCE OF CONSTRUCTION WITHIN THE EXISTING FLOODWALL RIGHT-OF-WAY.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE LUMP SUM PRICE BID WHICH SHALL CONSTITUTE FULL PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO COMPLETE THE WORK.

ITEM 869 - HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN

DESIGN, PREPARE SHOP DRAWINGS FOR, FABRICATE, TEST, FURNISH, AND INSTALL HIGH LOAD MULTI ROTATIONAL (HLMR) BEARINGS IN ACCORDANCE WITH SS869 AND THE PLAN DETAILS. HLMR BEARINGS MAY BE POT OR DISC TYPE BEARINGS.

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL DRILLED SHAFTS AT ALL PIERS BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING AS PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE FRA-71-1322L SFN 2504413 BRIDGE WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PERSENT AT THE BRIDGE. A COPY OF THE ASBESTOS INSPECTION REPORT IS INCLUDED IN THE PLAN SET FOR THIS PROJECT.

ELECTRONIC SUBMISSION

SUBMIT A COMPLETED ELECTRONIC NOTIFICATION OF DEMOLITION AND RENOVATION FORM (NDRF), APPLICABLE FEES, AND THE ASBESTOS INSPECTION REPORT TO THE OEPA AT LEAST 10 DAYS PRIOR TO ANY DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. SUBMIT THE NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT USING THE OEPA BUSINESS CENTER. SUBMIT ONE ELECTRONIC PDF COPY AND ONE HARD COPY OF THE NDRF TO THE ENGINEER. THE ENGINEER WILL PROVIDE ONE COPY TO THE DISTRICT ENVIRONMENTAL STAFF.

HARDCOPY SUBMISSION

THE CONTRACTOR MAY SUBMIT A HARD COPY OF THE COMPLETED NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT. FOLLOW THE MAILING INSTRUCTIONS ON THE NDRF. CHECK WITH THE LOCAL HEALTH DEPARTMENT, COLUMBUS PUBLIC HEALTH, 240 PARSONS AVE. COLUMBUS OH 43215. 614-645-7005 TO DETERMINE IF THEY REQUIRE A HARD COPY SUBMITTAL.

SUBMIT THE COMPLETED NDRF TO OEPA AT LEAST 10 DAYS PRIOR TO DEMOLITION ACTIVITY, RENOVATION ACTIVITY OR BOTH. RETAIN TWO HARD COPIES OF THE NDRF AND SUBMIT ONE COPY TO THE ENGINEER AND EMAIL ONE COPY OF THE ODOT DISTRICT ENVIRONMENTAL COORDINATOR AT MARCI.LININGER@DOT.OHIO.GOV.

BASIS OF PAYMENT

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIALS NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202-STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ABBREVIATIONS

ABUT.	-	ABUTMENT	MIN.	-	MINIMUM
APPR.	-	APPROACH	N.T.S.	-	NOT TO SCALE
B	-	BASELINE	NE	-	NORTHEAST
BOT.	-	BOTTOM	NO.	-	NUMBER
BRG.	-	BEARING	NW	-	NORTHWEST
C.J.	-	CONSTRUCTION JOINT	O/O	-	OUT-TO-OUT
C.P.P.	-	CORRUGATED PLASTIC PIPE	P.E.J.F.	-	PREFORMED EXPANSION JOINT FILLER
C/C	-	CENTER-TO-CENTER	P.G.	-	PROPOSED GRADE
CL	-	CENTERLINE	P	-	PLATE
CLR.	-	CLEAR	PROP.	-	PROPOSED
CONN.	-	CONNECTION	PT.	-	POINT
CONST.	-	CONSTRUCTION	R	-	RADIUS
CONT.	-	CONTRACTION	R.A.	-	REAR ABUTMENT
DIA.	-	DIAMETER	R.F.	-	REAR FACE
E.F.	-	EACH FACE	RT.	-	RIGHT
EA.	-	EACH	SAN.	-	SANITARY
EB	-	EASTBOUND	SB	-	SOUTHBOUND
EL.	-	ELEVATION	SHLDR.	-	SHOULDER
EOP	-	EDGE OF PAVEMENT	SPA.	-	SPACES
EO.	-	EQUAL	STA.	-	STATION
EX.	-	EXISTING	STD.	-	STANDARD
EXP.	-	EXPANSION	SW	-	SOUTHWEST
F.A.	-	FORWARD ABUTMENT	T/WALL	-	TOP OF WALL
F.F.	-	FRONT FACE	TEMP.	-	TEMPORARY
FL	-	FLOW LINE	TYP.	-	TYPICAL
FWD.	-	FORWARD	VAR.	-	VARIES
JT.	-	JOINT	W.P.	-	WORK POINT
LT.	-	LEFT	W/	-	WITH
MAX.	-	MAXIMUM	WB	-	WESTBOUND
MEAS.	-	MEASURED	WW	-	WINGWALL

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

DATE
3/06/23
REVIEWED
WER
STRUCTURE FILE NUMBER
2510027

DRAWN
KRM
CHECKED
TVB
REVISED

BRIDGE GENERAL NOTES (3 OF 3)
BRIDGE NO. FRA-70-1322L
I-70 WB OVER SCIOTO RIVER

FRA-70-13.10
PID No. 77372

7/58

479
702

NO.	DESCRIPTION	REV. BY	DATE
7	CHANGED NOTE HEADING	ACW	11/20/23



Ohio DOT Workspace
70171 East Interchange 6A
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By: amcdaniel

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ESTIMATED QUANTITIES						CALC:	ELS/DBL/ATM	DATE:	10/18/21
						CHECK:	SJR	DATE:	03/07/23
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GENERAL	SHEET REF.
503	21101	565	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	565				5/58
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION					
507	00100	3,300	FT	STEEL PILES HPI0X42, FURNISHED	3,300				
507	00150	3,055	FT	STEEL PILES HPI0X42, DRIVEN	3,055				
507	93300	49	EACH	STEEL POINTS OR SHOES	49				
509	10001	618,934	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	31,603	104,209	483,122		5/58 19/58 54/58 55/58 57/58
511	34447	1,328	CY	CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK, AS PER PLAN			1,328		5/58
511	34450	325	CY	CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET)			325		
511	44112	253	CY	CLASS OC1 CONCRETE WITH OC/OA, ABUTMENT NOT INCLUDING FOOTING	253				
511	45602	477	CY	CLASS OC4 MASS CONCRETE, SUBSTRUCTURE WITH OC/OA		477			
511	46012	22	CY	CLASS OC1 CONCRETE WITH OC/OA, RETAINING/WINGWALL NOT INCLUDING FOOTING	22				
511	46512	146	CY	CLASS OC1 CONCRETE WITH OC/OA, FOOTING	146				
512	10001	254	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	67	187			5/58
512	10100	2,927	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	67	974	1,886		
513	10280	248,946	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			248,946		7/58 26/58
513	10401	1,712,826	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN			1,712,826		
513	20000	9,471	EACH	WELDED STUD SHEAR CONNECTORS			9,471		
514	00060	27,528	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			27,528		
514	00066	27,528	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			27,528		
516	12400	111	FT	SPECIAL - MODULAR EXPANSION JOINT			111		6/58
516	13600	16	SF	1" PREFORMED EXPANSION JOINT FILLER	16				
516	13900	238	SF	2" PREFORMED EXPANSION JOINT FILLER	238				
518	12200	5	EACH	SCUPPERS, INCLUDING SUPPORTS			5		
518	21200	120	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	120				
518	40000	129	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	129				
518	40010	39	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	39				
518	51200	130	FT	PIPE DOWNSPOUT, INCLUDING SPECIALS (10")			130		
524	95475	180	FT	DRILLED SHAFTS, 60" DIAMETER, INTO BEDROCK WITH OC/OA, AS PER PLAN		180			7/58
524	95483	537	FT	DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK WITH OC/OA, AS PER PLAN		537			7/58
526	30010	290	SY	REINFORCED CONCRETE APPROACH SLABS WITH OC/OA (T=17")	290				
526	90010	115	FT	TYPE A INSTALLATION	115				
601	21000	433	SY	CONCRETE SLOPE PROTECTION *	433				
601	32104	910	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC *	910				
SPECIAL	690E98400	LS		SPECIAL-EMERGENCY ACTION PLAN COORDINATION **					7/58
846	00110	48	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				48	
869	00101	24	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN			24		7/58
894	10000	12	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST		12			7/58

LEGEND:

- * QUANTITY CARRIED TO EROSION CONTROL IN THE GENERAL SUMMARY.
- ** QUANTITY CARRIED TO ROADWAY IN THE GENERAL SUMMARY.

NOTES:

- SEE BRIDGE NO. FRA-70-1323C FOR:
 - ITEM 202 - STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN;
 - ITEM 202 - APPROACH SLAB REMOVED;
 - ITEM 202 - WEARING COURSE REMOVED

NO.	DESCRIPTION	REV. BY	DATE
4	QUANTITY CHANGES	ACW	10/30/23
7	ITEM NUMBER UPDATES	ATM	11/20/23

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

DATE
3/06/23
REVIEWED
WER
STRUCTURE FILE NUMBER
2510027

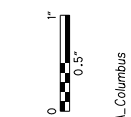
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ESTIMATED QUANTITIES
BRIDGE NO. FRA-70-1322L
I-70 WB OVER SCIOTO RIVER

FRA-70-13.10
PID No. 77372

8 / 58

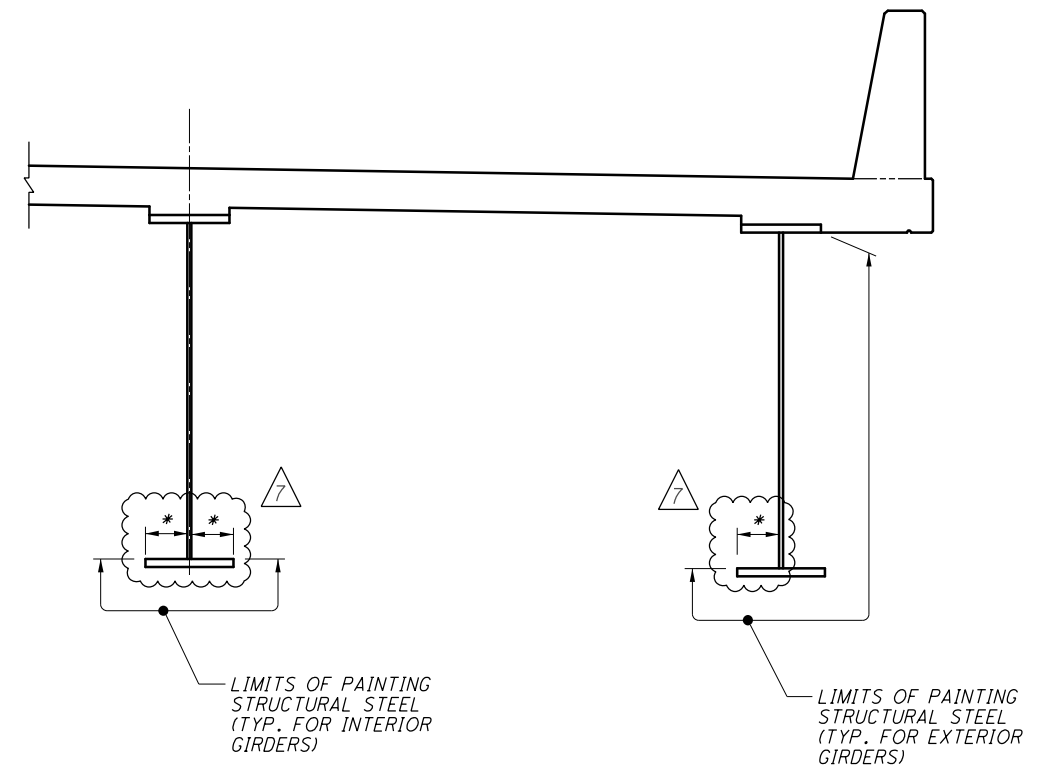
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STRUCTURAL STEEL NOTES:

1. ALL DIMENSIONS SHOWN ARE HORIZONTAL.
2. ALL STRUCTURAL STEEL EXCEPT GIRDER TOP AND BOTTOM FLANGES AT PIER FIELD SECTIONS SHALL BE ASTM A709 GRADE 50W, YIELD STRENGTH 50 KSI.
3. TOP AND BOTTOM GIRDER FLANGES AT PIER FIELD SECTIONS SHALL BE ASTM A709 GRADE HPS 70W, AS INDICATED ON THE GIRDER ELEVATION.
4. THE FOLLOWING MEMBERS SHALL BE DESIGNATED (CVN): ALL GIRDER WEB AND FLANGE PLATES; FIELD SPLICE PLATES; CROSS FRAME MEMBERS; INTERMEDIATE STIFFENERS; CROSSFRAME CONNECTION PLATES; CROSSFRAME CONNECTION GUSSET PLATES; AND JACKING STIFFENERS.
5. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENT AS SPECIFIED IN CMS 711.01.
6. ALL BOLTED CONNECTIONS SHALL BE SLIP CRITICAL USING 1" DIAMETER ASTM A325 TYPE III BOLTS, UNLESS OTHERWISE NOTED. HOLES IN CROSSFRAME CONNECTIONS MAY BE OVERSIZED AT 1 3/16" DIAMETER IN ONE PLY ONLY.
7. EXCLUDE BOLT THREADS FROM THE SHEAR PLANE FOR ALL CONNECTIONS.
8. AT ALL FIELD SPLICES CONNECTIONS, BOLT HEADS SHALL BE PLACED ON THE OUTSIDE FACE OF THE EXTERIOR BEAMS, ON THE BOTTOM OF THE BOTTOM FLANGE SPLICE PLATES, AND ON THE TOP OF THE TOP FLANGE SPLICE PLATES.
9. BUTT WELDS AT SHOP SPLICES SHALL BE COMPLETE PENETRATION WELDS. WELD REINFORCEMENT SHALL BE REMOVED BY GRINDING IN THE DIRECTION OF THE MAIN STRESS.
10. SHEAR STUD CONNECTORS COINCIDING WITH WELDED SHOP SPLICES SHALL BE REPOSITIONED TO CLEAR SPLICE LOCATIONS BY 3" MINIMUM.
11. BEARING STIFFENERS AND END DIAPHRAGMS SHALL BE VERTICAL UNDER FULL DEAD LOAD. ALL INTERMEDIATE STIFFENERS, INTERIOR CROSSFRAMES, AND FIELD SPLICES, MAY BE NORMAL TO GRADE.
12. GIRDERS AND CROSSFRAMES SHALL BE FABRICATED SUCH THAT WEBS ARE PLUMB UNDER THE STEEL DEAD LOAD CONDITION.
13. GIRDER ENDS AT THE ABUTMENTS SHALL BE VERTICAL (PARALLEL TO ABUTMENT BACKWALL) UNDER FULL DEAD LOAD ROTATION, EXCLUDING FUTURE WEARING SURFACE LOADING.
14. WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION." DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION." FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 3/16" FOR GREATER THAN 3/4" THICK.
15. FOR STEEL ERECTION, TWO OR MORE ADJACENT GIRDERS MUST BE ERECTED AND FULLY BRACED BEFORE SUSPENDING OPERATIONS. GIRDERS SHALL BE TEMPORARILY ANCHORED, BRACED, OR OTHERWISE SUPPORTED TO MAINTAIN STABILITY UNTIL THE CROSSFRAMES ARE CONNECTED.
16. PARTIAL PAINTING OF A709 GRADE 50W STEEL: EXCEPT AS NOTED BELOW, PAINT THE LAST 10 FT OF EACH GIRDER END ADJACENT TO THE ABUTMENT JOINTS INCLUDING ALL CROSSFRAMES AND OTHER STEEL WITHIN THESE LIMITS. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B 20045 OR 20059 (THE COLOR OF WEATHERING STEEL).
17. PARTIAL PAINTING OF A709 GRADE 50W AND A709 GRADE HPS 70W STEEL: IN ACCORDANCE WITH THE DETAIL PROVIDED "LIMITS OF PAINTING OF STRUCTURAL STEEL", PAINT THE OUTSIDE FACE OF EXTERIOR GIRDERS AND THE BOTTOM AND VERTICAL FACES OF ALL BOTTOM FLANGES (INCLUDING SPLICE PLATES) IN ACCORDANCE WITH CMS 514 USING INORGANIC ZINC PRIME COAT, EPOXY INTERMEDIATE COAT, AND URETHANE FINISH COAT. THE COLOR OF THE FINISH COAT SHALL BE FEDERAL STANDARD NO. 17038 (BLACK).
18. ALL STRUCTURAL STEEL, INCLUDING SHEAR CONNECTORS AND THREADED INSERTS, SHALL MEET THE REQUIREMENTS OF ODOT CMS 513 AND GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ODOT CMS 711.02. ANY TEMPORARY SUPPORTS OR LEVELING HARDWARE TO BE ENCASED IN CONCRETE SHALL BE GALVANIZED IN ACCORDANCE TO AMS 711.02.
19. STRUCTURAL STEEL DETAIL CROSS REFERENCES

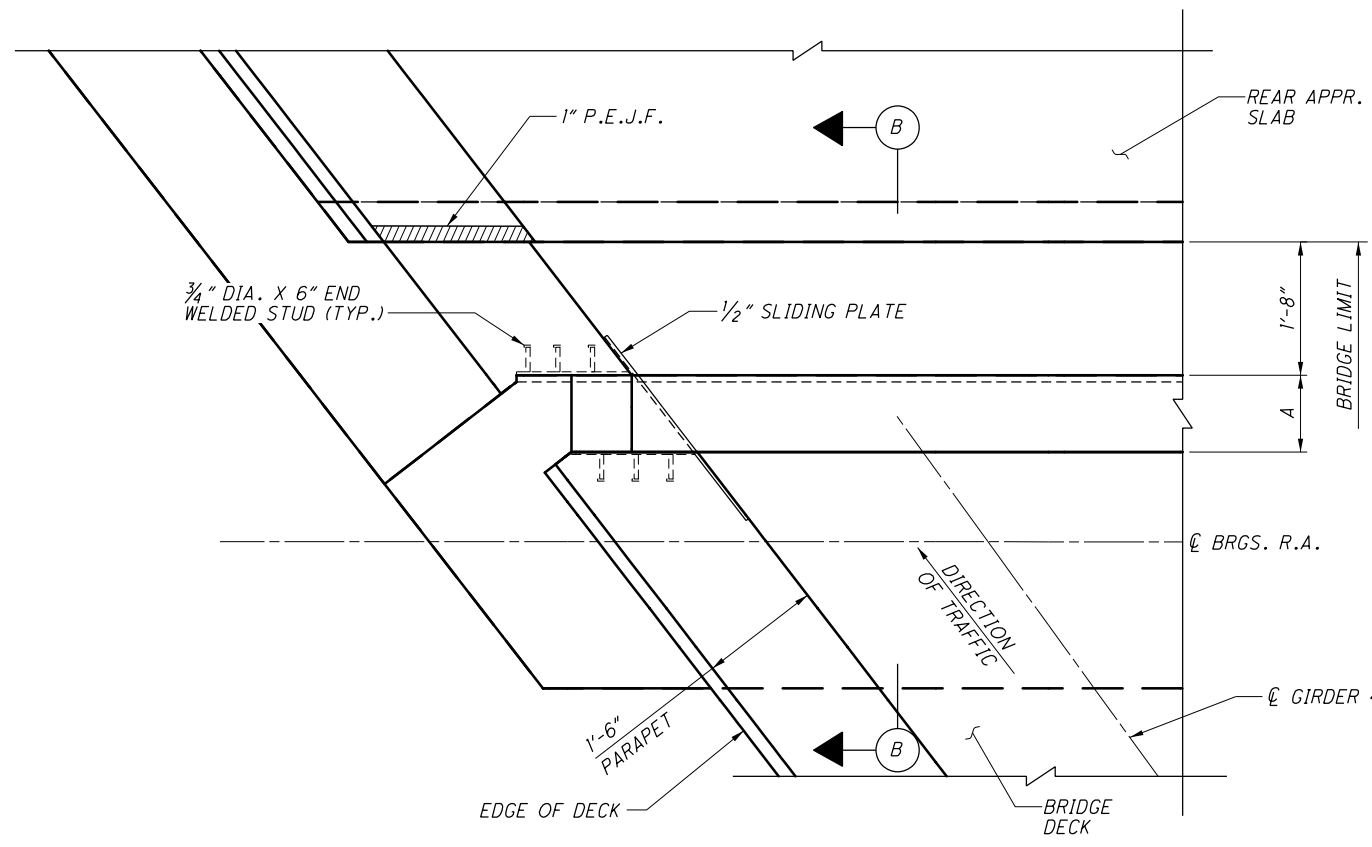
FRAMING PLAN	SHEET 27/58
GIRDER ELEVATION	SHEET 28/58
GIRDER DETAILS	SHEET 29/58
INTERMEDIATE CROSSFRAME DETAILS AND STIFFENERS	SHEET 30/58
END CROSSFRAME DETAILS	SHEET 31/58
HAND HOLD ROD DETAILS	SHEET 32/58
BOLTED FIELD SPLICE TABLES	SHEET 33/58
CAMBER DIAGRAM	SHEET 34/58
CAMBER AND DEFLECTIONS	SHEET 35/58 AND 36/58
BEARING DETAILS	SHEET 37/58 AND 38/58
TRANSVERSE SECTION	SHEET 39/58



LIMITS OF PAINTING STRUCTURAL STEEL



NO.	DESCRIPTION	REV. BY	DATE
7	ADDED NOTE	ACW	11/20/23



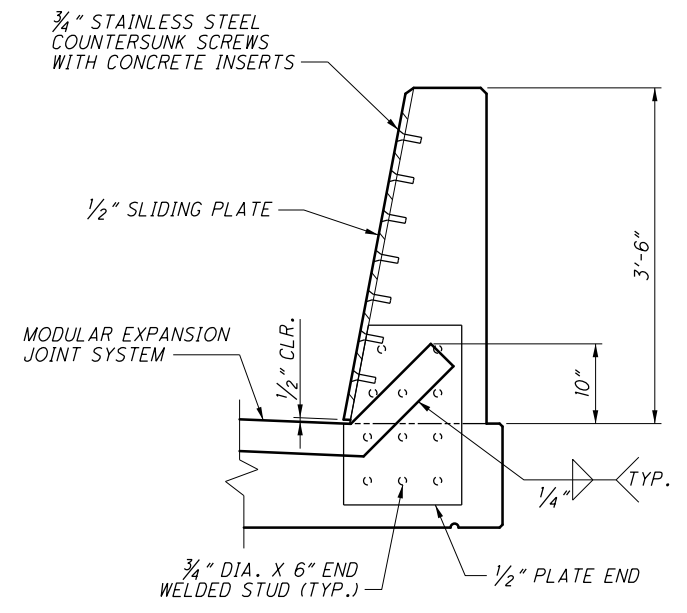
REAR ABUTMENT - PARTIAL PLAN (FORWARD ABUTMENT SIMILAR)
(TYPICAL EACH SIDE OF BRIDGE)



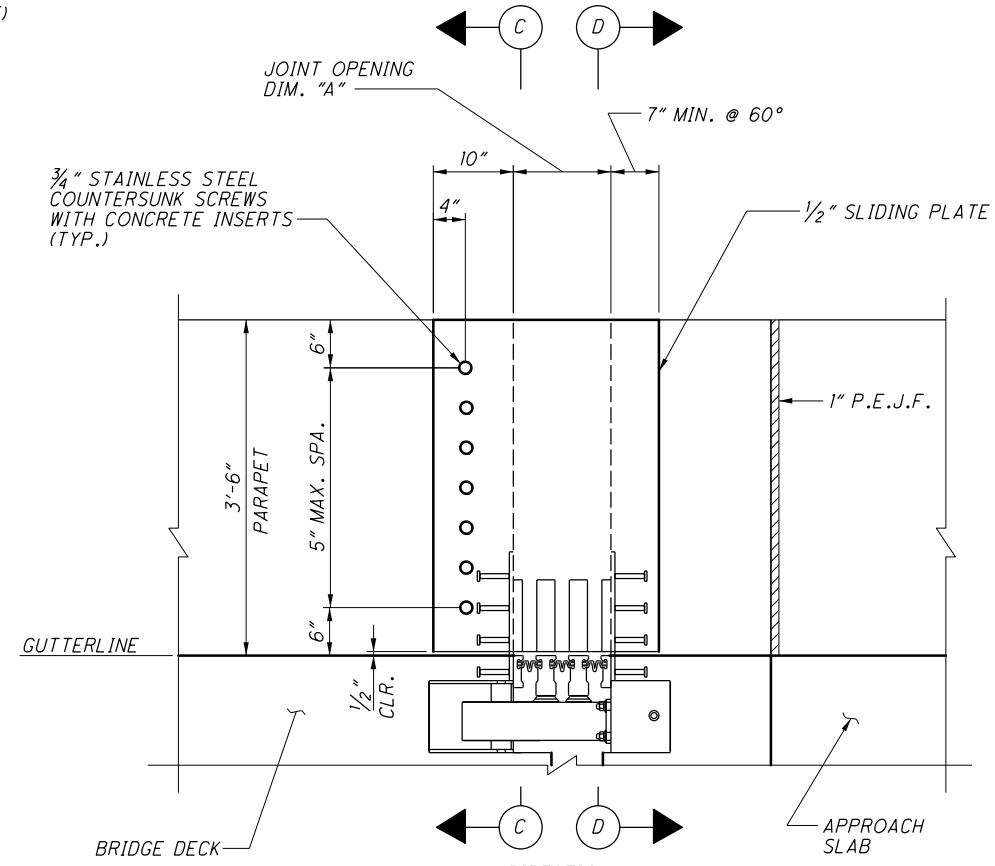
NOTES:

- FOR DIMENSION "A" TABLE, SEE SHEET 49/58.
- PAYMENT FOR BARRIER COVER PLATES ARE INCIDENTAL TO THE COST OF ITEM 516 - SPECIAL - MODULAR EXPANSION JOINT

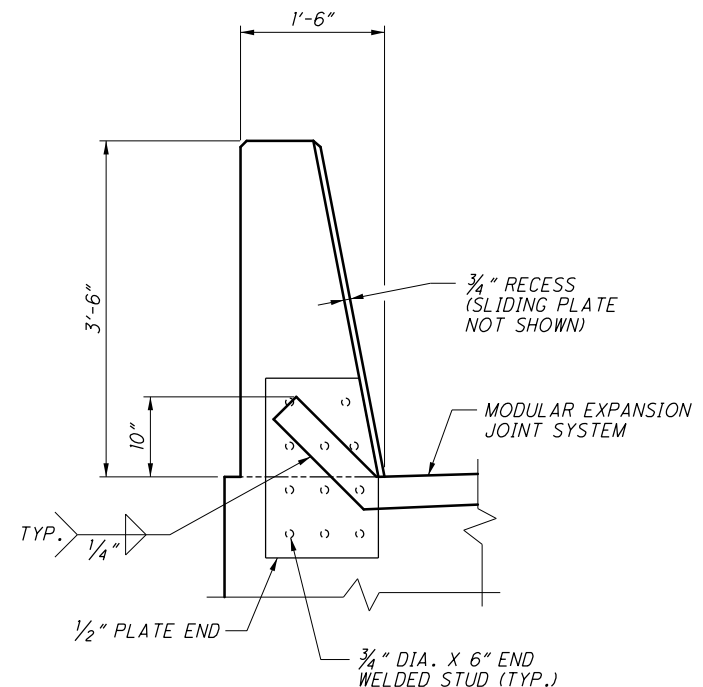
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SECTION C-C



SECTION B-B

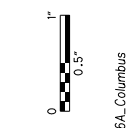


SECTION D-D

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED NOTE	ACW	11/20/23



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By: amcdaniel

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ESTIMATED QUANTITIES						CALC:	ELS/DBL	DATE:	12/07/21
						CHECK:	ATM	DATE:	12/07/21
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET REF.
202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				1	5/70
202	22900	745	SY	APPROACH SLAB REMOVED				745	
202	23500	10,500	SY	WEARING COURSE REMOVED				10,500	
202	32800	278	SY	CONCRETE SLOPE PROTECTION REMOVED	278				
202	98100	14	EACH	REMOVAL MISC.: PILE REMOVED, EXISTING STRUCTURE	14				
503	21101	3,242	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	3,242				6/70
505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				1	
507	00100	5,830	FT	STEEL PILES HPI0X42, FURNISHED	5,830				
507	00150	5,370	FT	STEEL PILES HPI0X42, DRIVEN	5,370				
507	93300	92	EACH	STEEL POINTS OR SHOES	92				
509	10001	876,855	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	106,589	187,109	581,813	1,344	6/70 25/70 67/70
511	34447	1,710	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK, AS PER PLAN			1,710		6/70
511	34450	360	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK (PARAPET)			360		
511	44112	394	CY	CLASS QC1 CONCRETE WITH QC/OA, ABUTMENT NOT INCLUDING FOOTING	394				
511	45602	596	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/OA		596			
511	46012	277	CY	CLASS QC1 CONCRETE WITH QC/OA, RETAINING/WINGWALL NOT INCLUDING FOOTING	277				
511	46512	579	CY	CLASS QC1 CONCRETE WITH QC/OA, FOOTING	579				
512	10001	843	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	751	92			6/70
512	10100	2,389	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		320	2,069		
512	33000	51	SY	TYPE 2 WATERPROOFING	51				
513	10300	355,667	LB	STRUCTURAL STEEL MEMBERS, LEVEL FIVE			355,667		6/70 32/70
513	10401	2,213,561	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN			2,213,561		
513	20000	12,801	EACH	WELDED STUD SHEAR CONNECTORS			12,801		
514	00060	29,490	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			29,490		
514	00066	29,490	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			29,490		
516	12400	134	FT	SPECIAL - MODULAR EXPANSION JOINT				134	6/70 7/70
516	13600	377	SF	1" PREFORMED EXPANSION JOINT FILLER				377	
516	13900	216	SF	2" PREFORMED EXPANSION JOINT FILLER				216	
518	12200	5	EACH	SCUPPERS, INCLUDING SUPPORTS			5		
518	21200	481	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	481				
518	40000	361	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	361				
518	40010	45	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	45				
518	51200	49	FT	PIPE DOWNSPOUT, INCLUDING SPECIALS (10")			49		
524	95475	156	FT	DRILLED SHAFTS, 60" DIAMETER, INTO BEDROCK WITH QC/OA, AS PER PLAN		156			7/70
524	95483	496	FT	DRILLED SHAFTS, 66" DIAMETER, ABOVE BEDROCK WITH QC/OA, AS PER PLAN		496			7/70
526	30010	351	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/OA (T=17")				351	61/70 62/70
526	90010	134	FT	TYPE A INSTALLATION				134	
601	21000	280	SY	CONCRETE SLOPE PROTECTION *	280				
601	32104	4,358	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC *	995	3,363			
SPECIAL	690E98400	LS		SPECIAL - EMERGENCY ACTION PLAN COORDINATION **				1	5/70
846	00110	56	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				56	
869	00101	30	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS, AS PER PLAN	10	20			7/70
894	10000	12	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST		12			7/70

LEGEND:

- * QUANTITY CARRIED TO EROSION CONTROL IN THE GENERAL SUMMARY.
- ** QUANTITY CARRIED TO ROADWAY IN THE GENERAL SUMMARY.

NO.	DESCRIPTION	REV. BY	DATE
4	QUANTITY CHANGES	ACW	10/30/23
5	QUANTITY CHANGES	ACW	11/6/23
6	QUANTITY CHANGES	ACW	11/13/23
7	QUANTITY CHANGE	ACW	11/20/23

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

REVIEWED DATE
GLG/Y/SJ 03/08/23
STRUCTURE FILE NUMBER
2510026

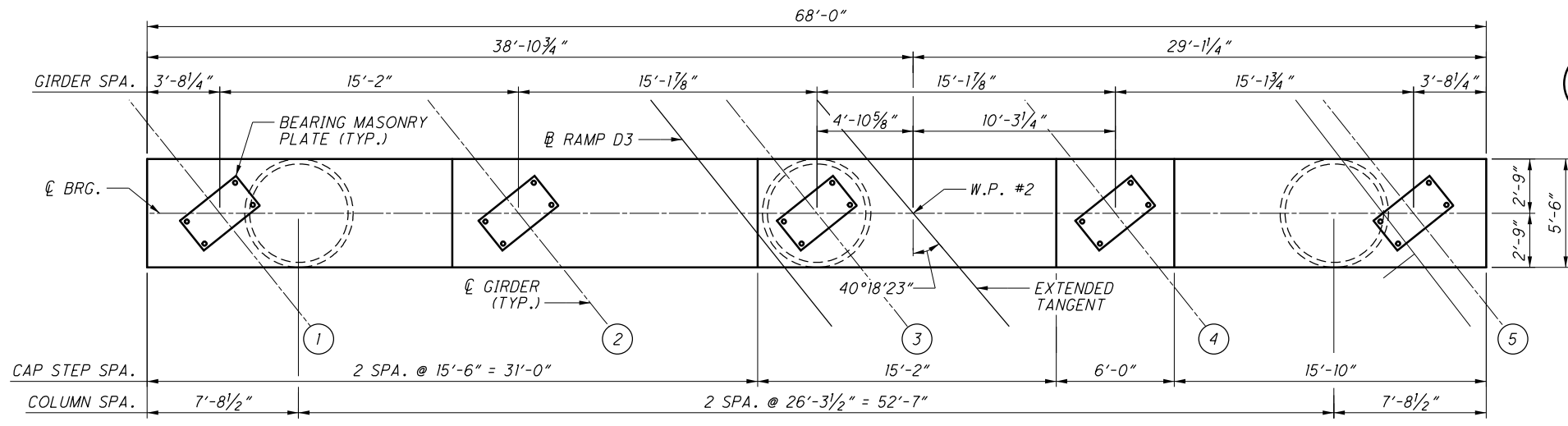
DRAWN ELS
ELLS
REVISD
ABD

ESTIMATED QUANTITIES
BRIDGE NO. FRA-70-1323C
RAMP D3 OVER SCIOTO RIVER

FRA-70-13.10
PID No. 77372

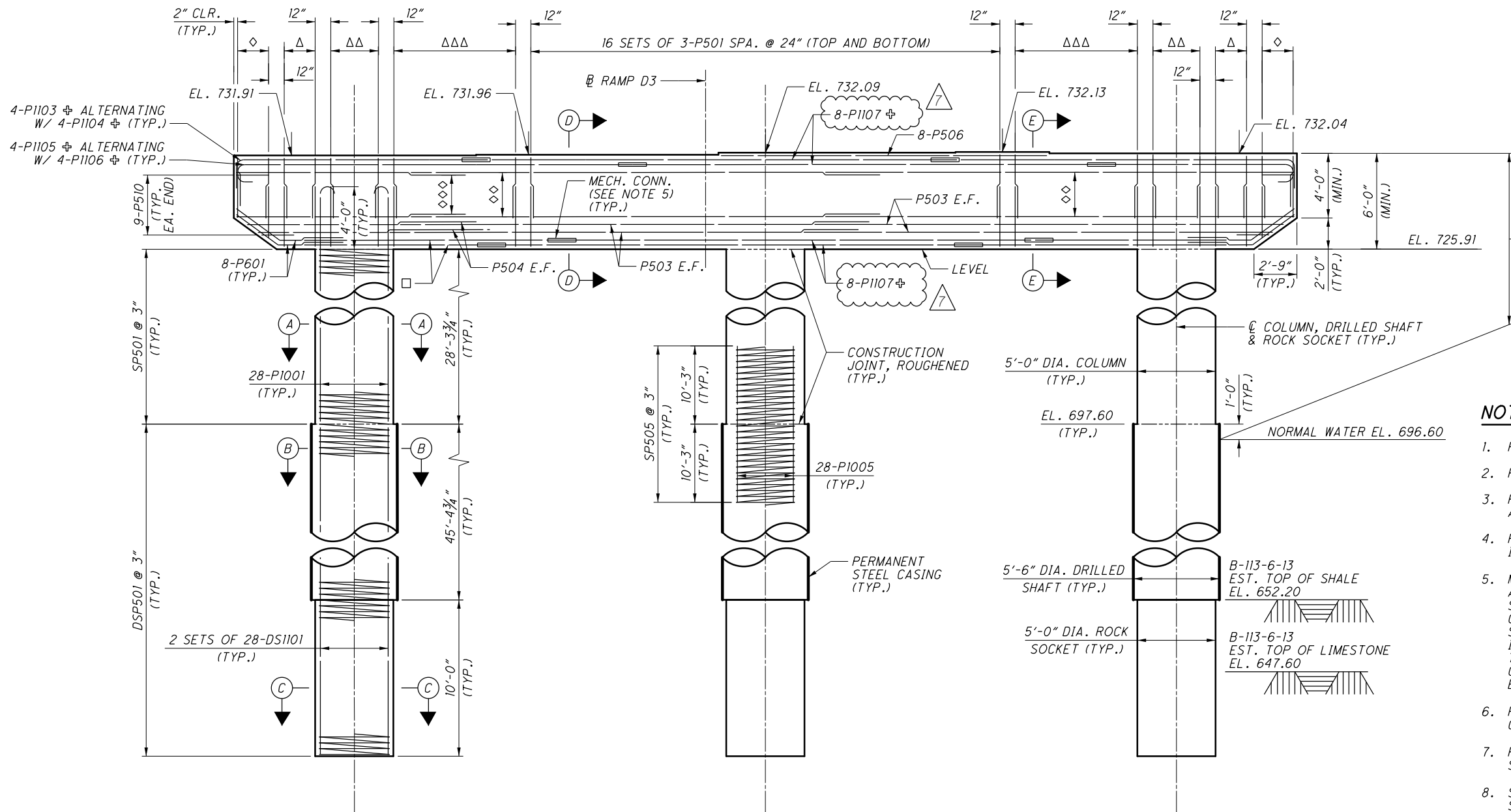
8 / 70

538
702



- LEGEND:**
- # DENOTES PROPOSED GIRDER NUMBER
 - △ 3 SETS OF 3-P501 SPA. @ 12" (TOP AND BOTTOM)
 - △△ 4 SETS OF 2-P501 SPA. @ 24" (TOP AND BOTTOM)
 - △△△ 10 SETS OF 3-P501 SPA. @ 12" (TOP AND BOTTOM)
 - ◇ SERIES OF 4 SETS OF 3-P502 SPA. @ 12" (TOP AND BOTTOM)
 - ◇◇ 7-P503 E.F.
 - ◇◇◇ 7-P504 E.F.
 - 4-P1101 ⇄ ALTERNATING W/ 4-P1102 ⇄ IN ALL DIRECTIONS (TYP.)
 - ⇄ DENOTES BAR REQUIRING MECHANICAL CONNECTOR

MIN. REBAR LAP	
#5 VERT.	= 2'-5"
#5 HORIZ.	= 3'-5"
#6	= 2'-11"
#10	= 10'-3"
#11	= 12'-7"



LIMITS OF CONCRETE SURFACE SEALING. SEAL ENTIRE SURFACE AREA WITH EPOXY-URETHANE

- NOTES:**
- FOR FOUNDATION PLAN, SEE SHEETS 9/70 AND 10/70.
 - FOR SECTIONS A-A TO E-E, SEE SHEET 26/70.
 - FOR BEARING DETAILS, SEE SHEETS 44/70 AND 45/70.
 - REINFORCING LABELED "DS" TO BE INCLUDED WITH ITEM 524 FOR PAYMENT.
 - MECHANICAL CONNECTORS TO BE STAGGERED IN ALL DIRECTIONS IN ORDER TO OBTAIN AMPLE SPACE TO MAKE THE CONNECTION. MECHANICAL CONNECTORS IN THE TOP MAT ARE TO BE STAGGERED AT 3'. MECHANICAL CONNECTORS IN THE BOTTOM MAT ARE TO BE STAGGERED AT 7'-6" ABOUT THE CENTER COLUMN. MECHANICAL CONNECTORS SHALL BE INCIDENTAL TO ITEM 509 EPOXY COATED REINFORCING STEEL.
 - ROUGHEN THE SURFACE OF ALL CONCRETE CONSTRUCTION JOINTS.
 - FOR WORK POINT (W.P.) LOCATIONS, SEE SHEET 4/70.
 - SPIRAL REINFORCEMENT AT TOP OF COLUMN SHALL BE EMBEDDED A MINIMUM OF 2" INTO CAP.

DESIGN AGENCY: ms consultants, inc. 2221 Schrock Road Columbus, Ohio 43229

DATE: 11/20/2023

REVIEWED: GLG/YSJ 03/08/23

DRAWN: ABD

CHECKED: FBW

DESIGNED: ABD

STRUCTURE FILE NUMBER: 2510026

PIER 1 PLAN AND ELEVATION

BRIDGE NO. FRA-70-1323C

RAMP D3 OVER SCIOTO RIVER

FRA-70-13-10

PID No. 77372

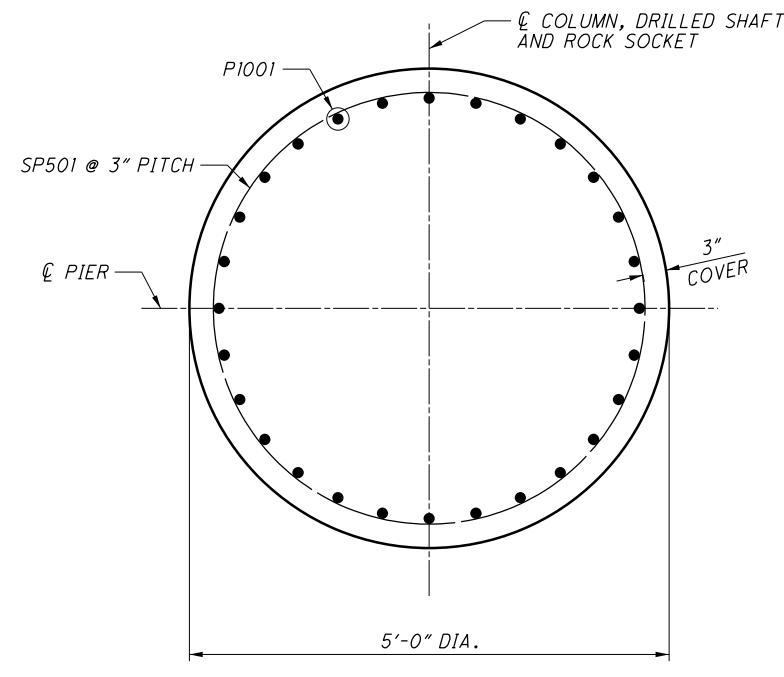
25/70

555

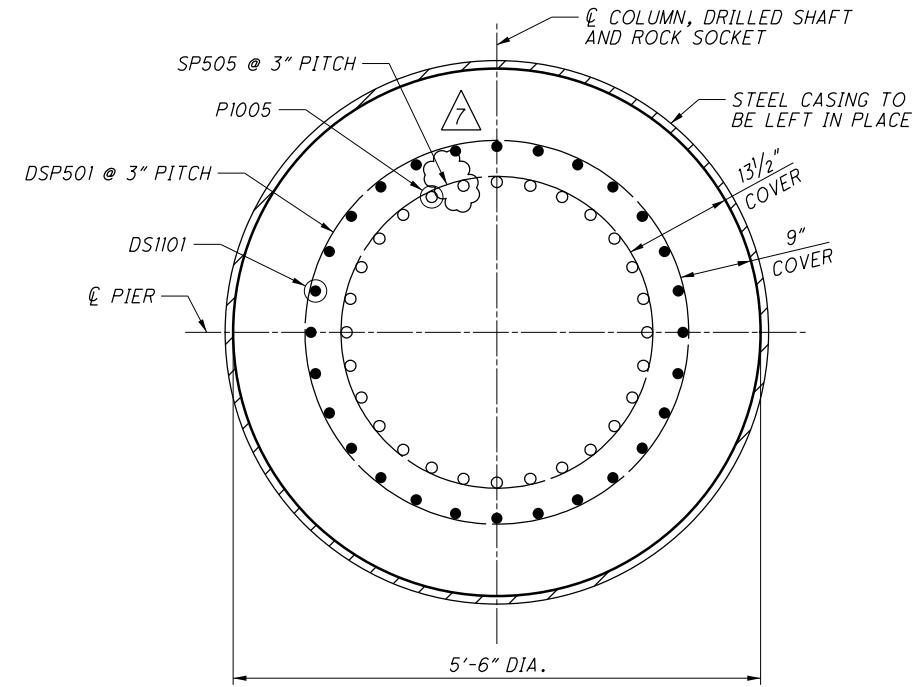
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NO.	DESCRIPTION	REV. BY	DATE
7	LEGEND SYMBOL ADDED	ACW	11/20/23

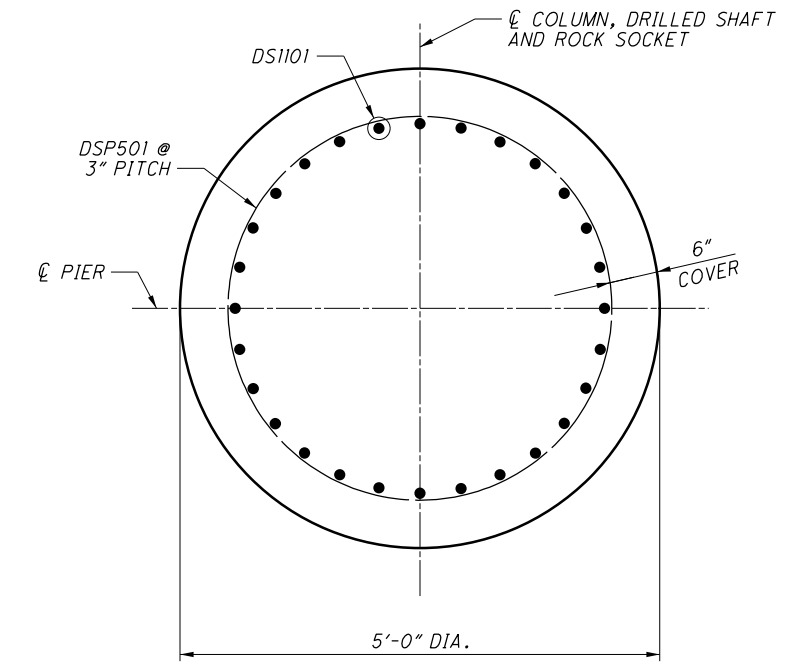
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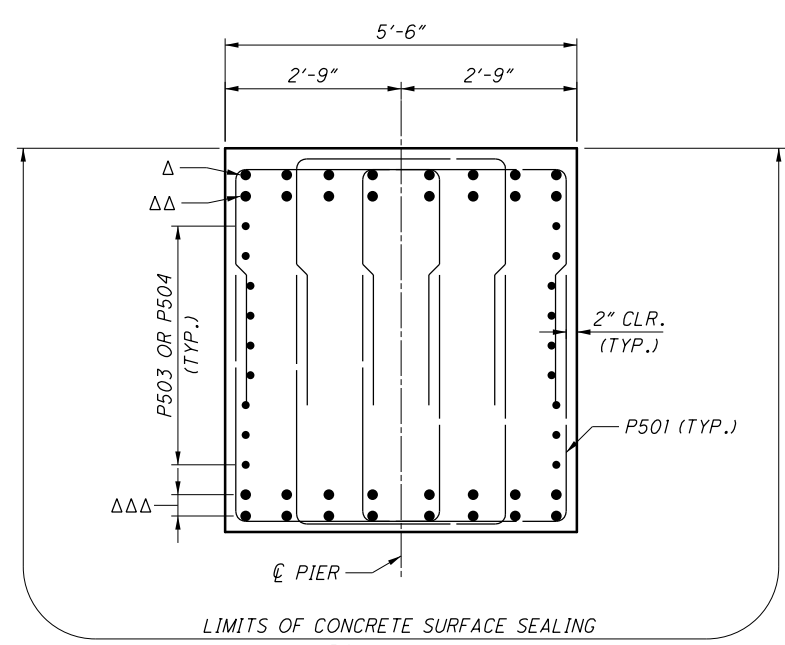
SECTION A-A
COLUMN



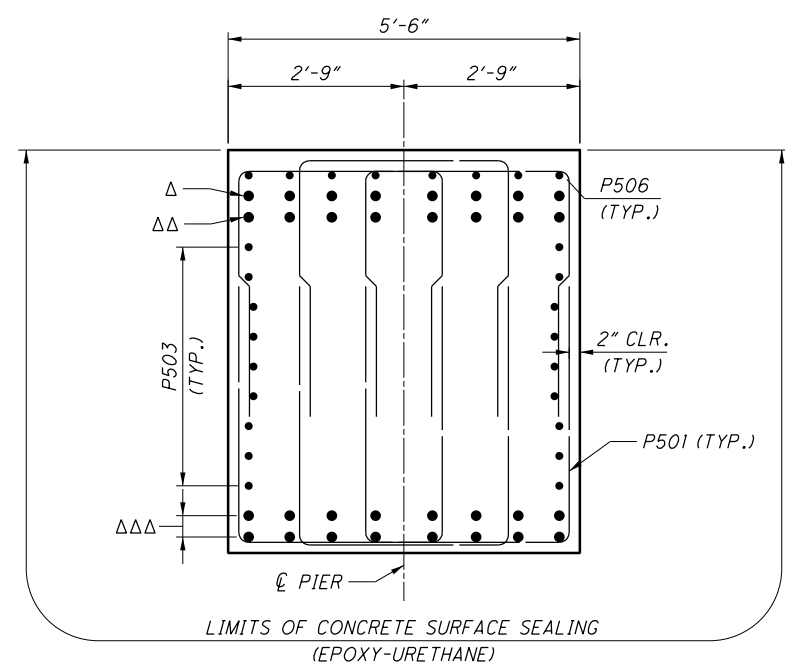
SECTION B-B
DRILLED SHAFT



SECTION C-C
ROCK SOCKET



SECTION D-D



SECTION E-E

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS		
					A	B	C
PIER DRILLED SHAFT BARS							
DSP501	3	55'-0"	8,770	27	0'-3"	4'-0"	55'-0"
DSP502	3	48'-9"	7,669	27	0'-3"	4'-0"	48'-9"
DSP503	3	53'-7"	8,547	27	0'-3"	4'-0"	53'-7"
DSP504	3	58'-3"	9,281	27	0'-3"	4'-0"	58'-3"
DS1101	168	33'-9"	30,154	ST			
DS1102	168	30'-8"	27,387	ST			
DS1103	168	33'-1"	29,529	ST			
DS1104	168	35'-5"	31,627	ST			
		152,965		FOR INFORMATIONAL PURPOSES ONLY			

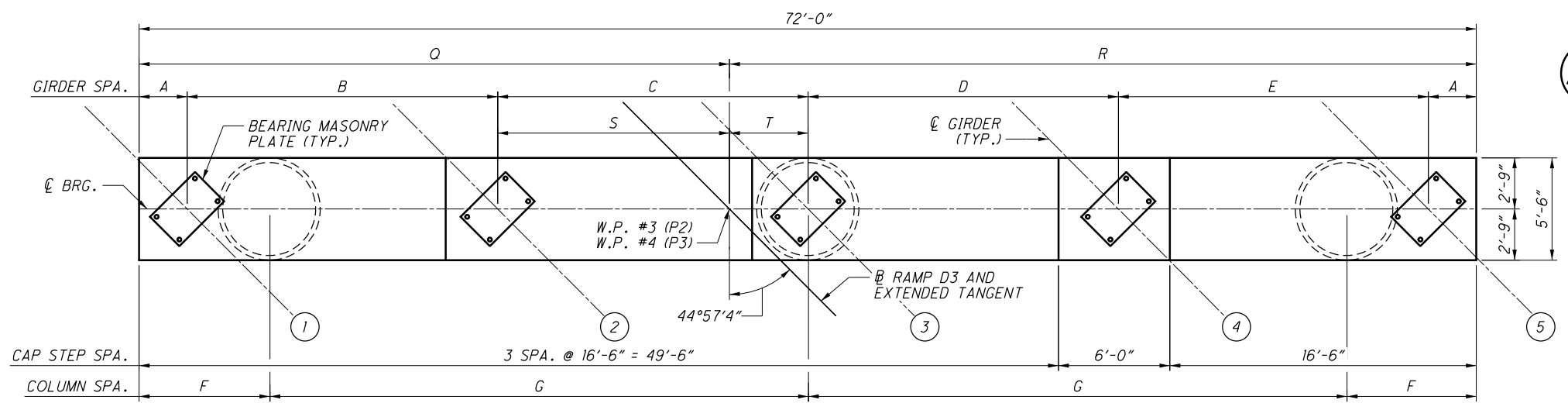
LEGEND:

- △ 4-P1103 ALTERNATING W/ 4-P1104 (EACH END), 8-P1107 STAGGERED
- △△ 4-P1105 ALTERNATING W/ 4-P1106 (EACH END), 8-P1107 STAGGERED
- △△△ 2 MATS OF 4-P1101 ALTERNATING W/ 4-P1102 IN ALL DIRECTIONS, 8-P1107 STAGGERED

NOTES:

1. SECTIONS A-A, B-B AND C-C TYPICAL FOR ALL COLUMNS. FOR LOCATION OF SECTIONS A-A TO E-E AND ADDITIONAL NOTES, SEE SHEET [25/70].
2. CAP TO BE PAID FOR UNDER ITEM 511 - CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA.
3. FOR TRANSVERSE SPACING OF BARS IN TOP OF CAP, SEE SHEET [31/70].
4. FOR REINFORCEMENT NOTES, SEE SHEET [67/70].

NO.	DESCRIPTION	REV. BY	DATE
7	ADJUSTED LEADER	ACW	11/20/23

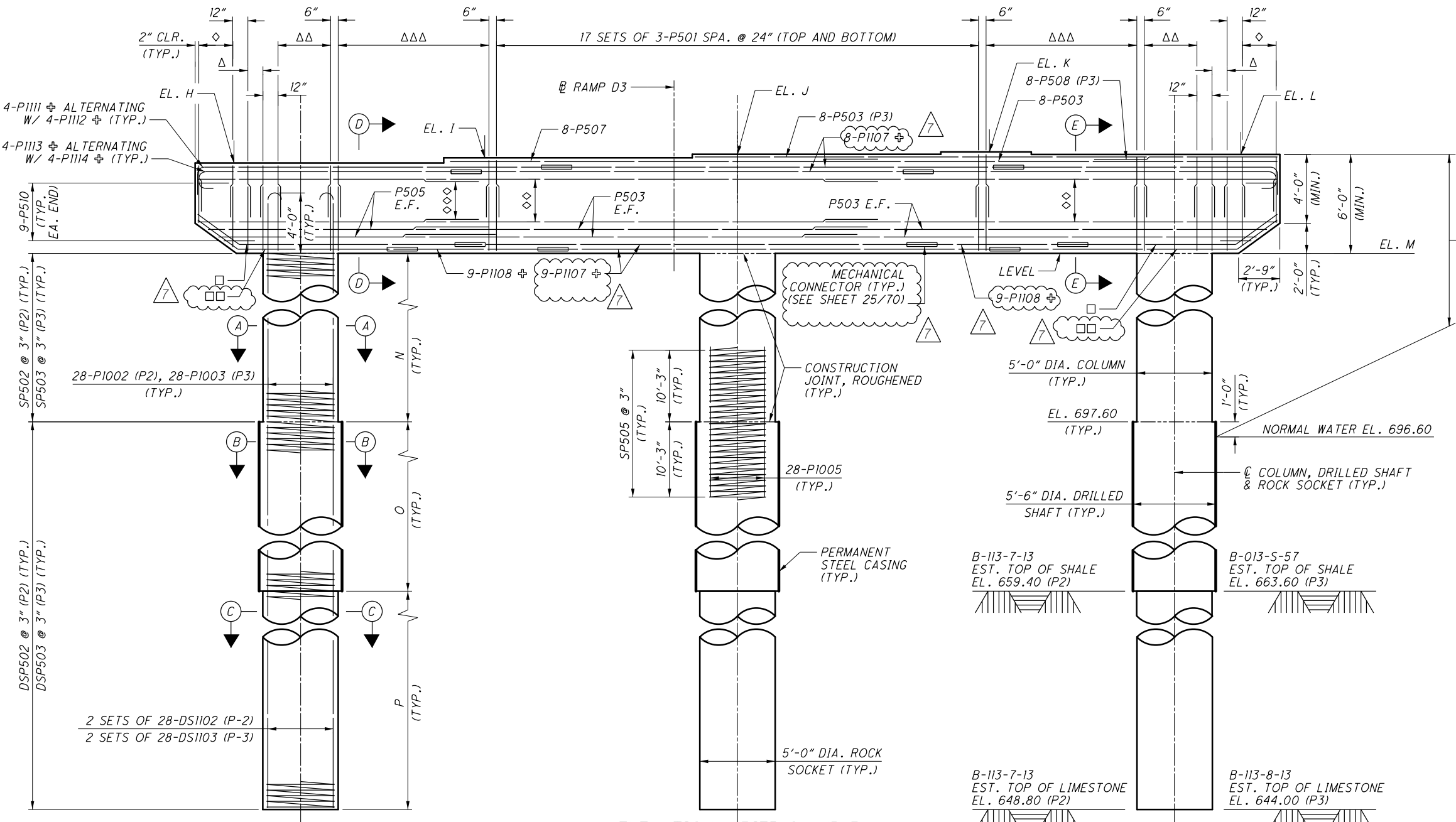


PLAN - PIER 2 AND 3

- LEGEND:**
- # DENOTES PROPOSED GIRDER NUMBER
 - Δ 2 SETS OF 3-P501 SPA. @ 12" (TOP AND BOTTOM)
 - ΔΔ 4 SETS OF 2-P501 SPA. @ 24" (TOP AND BOTTOM)
 - ΔΔΔ 22 SETS OF 3-P501 SPA. @ 6" (TOP AND BOTTOM)
 - ◇ 4 SETS OF 3 SERIES OF P502 SPA. @ 12" (TOP AND BOTTOM)
 - ◇◇ 7-P503 E.F.
 - ◇◇◇ 7-P505 E.F.
 - 5-P1109 + ALTERNATING W/ 4-P1110 +
 - ◇ 4-P1109 ALTERNATING W/ 5-P1110 (WITH CROSSES FOR MECH CONNECTORS)
 - + DENOTES BAR REQUIRING MECHANICAL CONNECTOR

MIN. REBAR LAP

#5 VERT. = 2'-5"
#5 HORIZ. = 3'-5"
#10 = 10'-3"
#11 = 12'-7"



ELEVATION - PIER 2 AND 3

PIER 3 SHOWN
LOOKING UPSTATION

LIMITS OF CONCRETE SURFACE SEALING.
SEAL ENTIRE SURFACE AREA WITH EPOXY-URETHANE

	PIER 2	PIER 3
A	3'-0 1/2"	2'-7"
B	16'-5 7/8"	16'-8 5/8"
C	16'-5 3/4"	16'-8 5/8"
D	16'-5 5/8"	16'-8 3/8"
E	16'-5 1/2"	16'-8 1/4"
F	7'-5"	7'-0"
G	28'-7"	29'-0"
H	732.82	732.53
I	733.08	732.87
J	733.24	733.11
K	733.30	733.26
L	733.07	733.10
M	726.82	726.53
N	29'-2 3/4"	28'-11 1/8"
O	38'-2 3/8"	34'-0"
P	11'-0"	20'-0"
Q	34'-4 1/8"	31'-9 1/2"
R	37'-7 7/8"	40'-2 1/2"
S	14'-9 3/4"	12'-5 3/4"
T	1'-8"	4'-2 7/8"

- NOTES:**
- FOR ADDITIONAL NOTES, SEE SHEET 25/70.
 - FOR SECTIONS A-A TO E-E, SEE SHEET 28/70.

NO.	DESCRIPTION	REV. BY	DATE
7	CALLOUTS/SYMBOLS EDITED	ACW	11/20/23

DESIGN AGENCY: ms consultants, inc. 2221 Schrock Road Columbus, Ohio 43229

DESIGNED: ABD

CHECKED: FBW

DATE: 03/08/23

STRUCTURE FILE NUMBER: 2510026

BRIDGE NO. FRA-70-1323C

RAMP D3 OVER SCIOTO RIVER

PIER 2 AND 3 PLAN AND ELEVATION

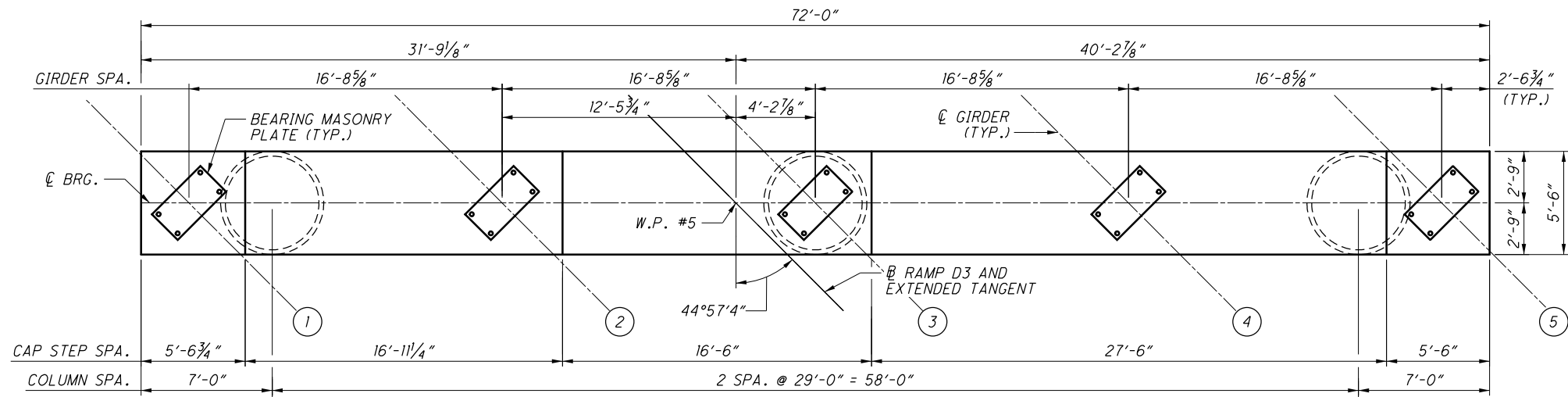
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PID No. 77372

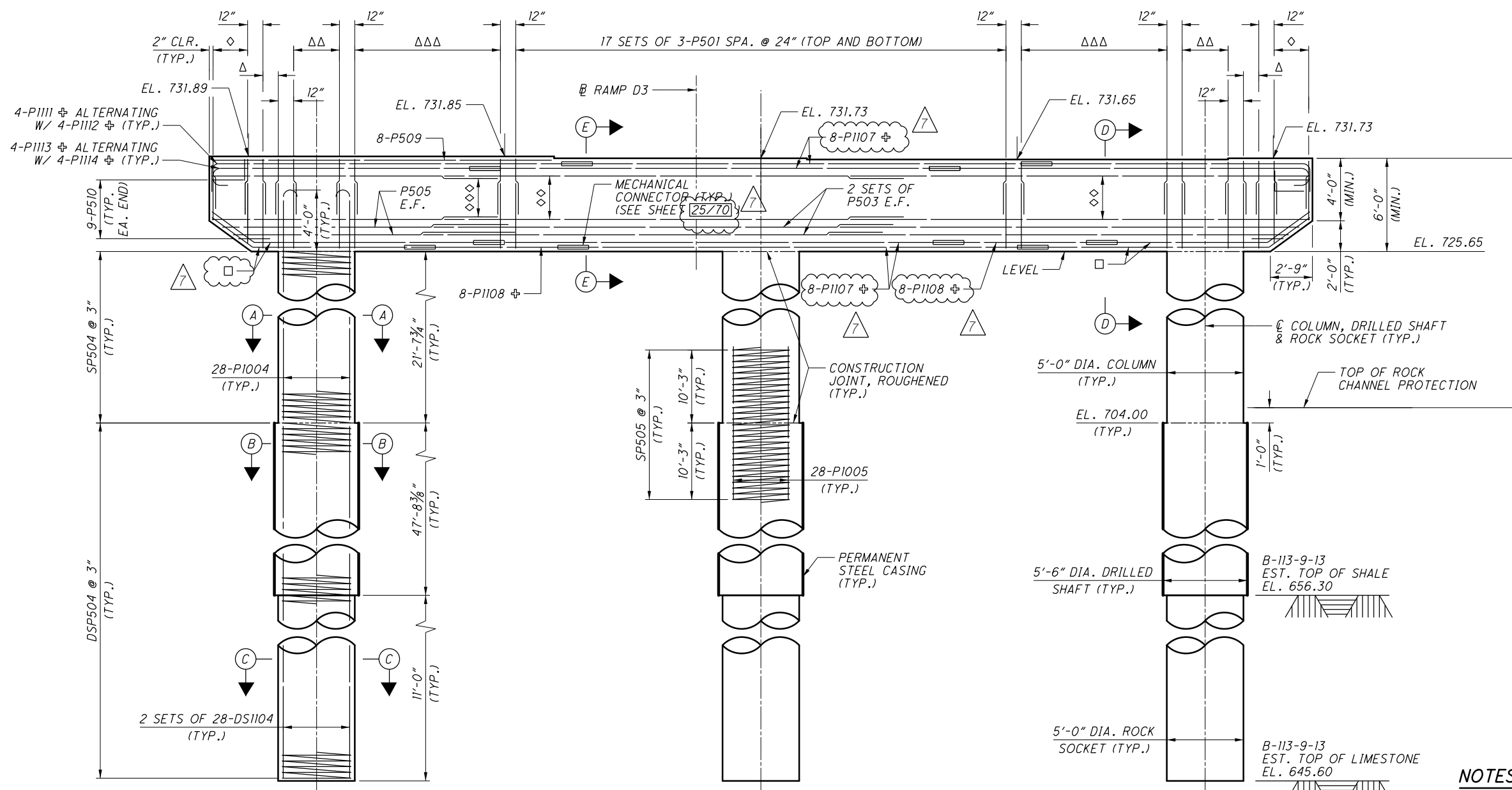
27/70

557

702



PLAN - PIER 4



ELEVATION - PIER 4
LOOKING UPSTATION

LEGEND:

- # DENOTES PROPOSED GIRDER NUMBER
- Δ 2 SETS OF 3-P501 SPA. @ 12" (TOP AND BOTTOM)
- ΔΔ 4 SETS OF 2-P501 SPA. @ 24" (TOP AND BOTTOM)
- ΔΔΔ 12 SETS OF 3-P501 SPA. @ 12" (TOP AND BOTTOM)
- ◇ 4 SETS OF 3 SERIES OF P502 SPA. @ 12" (TOP AND BOTTOM)
- ◇◇ 7-P503 E.F.
- ◇◇◇ 7-P505 E.F.
- 4-P1115 ⊕ ALTERNATING W/ 4-P1116 ⊕ IN ALL DIRECTIONS
- ⊕ DENOTES BAR REQUIRING MECHANICAL CONNECTOR

LIMITS OF CONCRETE SURFACE SEALING. SEAL ENTIRE SURFACE AREA WITH EPOXY-URETHANE

MIN. REBAR LAP	
#5 VERT.	= 2'-5"
#5 HORIZ.	= 3'-5"
#10	= 10'-3"
#11	= 12'-7"

NOTES:

1. FOR ADDITIONAL NOTES, SEE SHEET 25/70.
2. FOR SECTIONS A-A TO E-E, SEE SHEET 30/70.

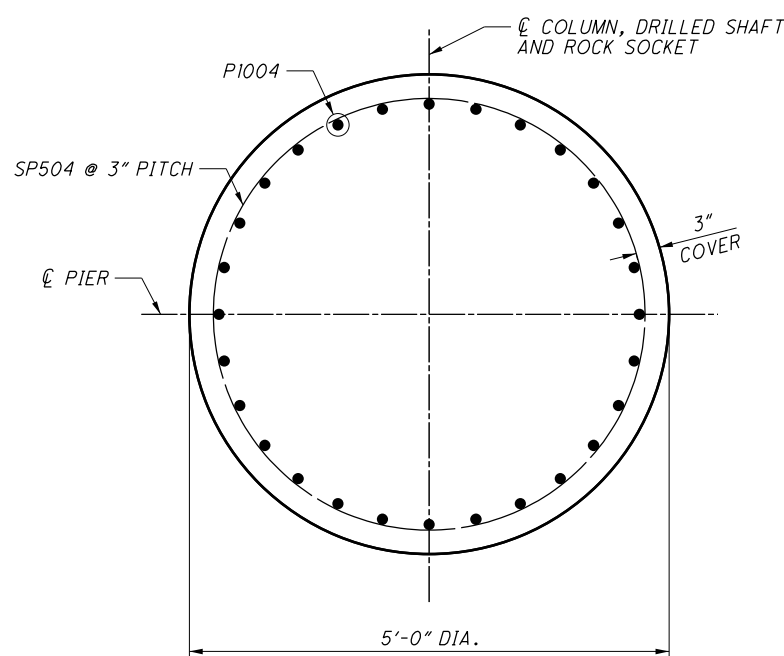
NO.	DESCRIPTION	REV. BY	DATE
7	CALLOUTS/LEGEND EDITED	ACW	11/20/23

Ohio DOT Workspace
70171 East Interchange 6A
www.msconsultants.com

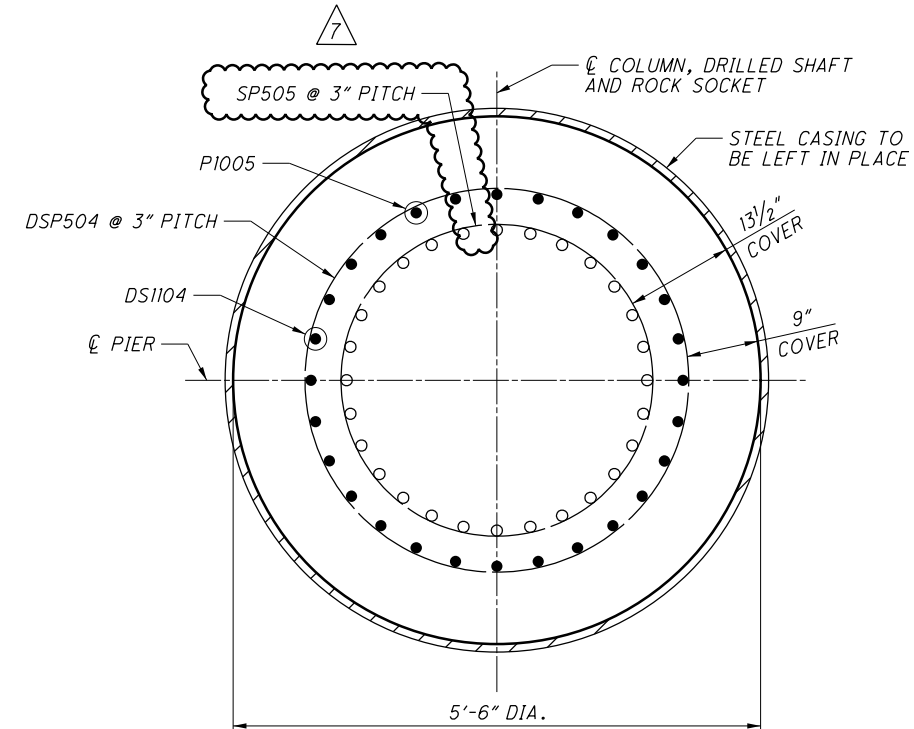
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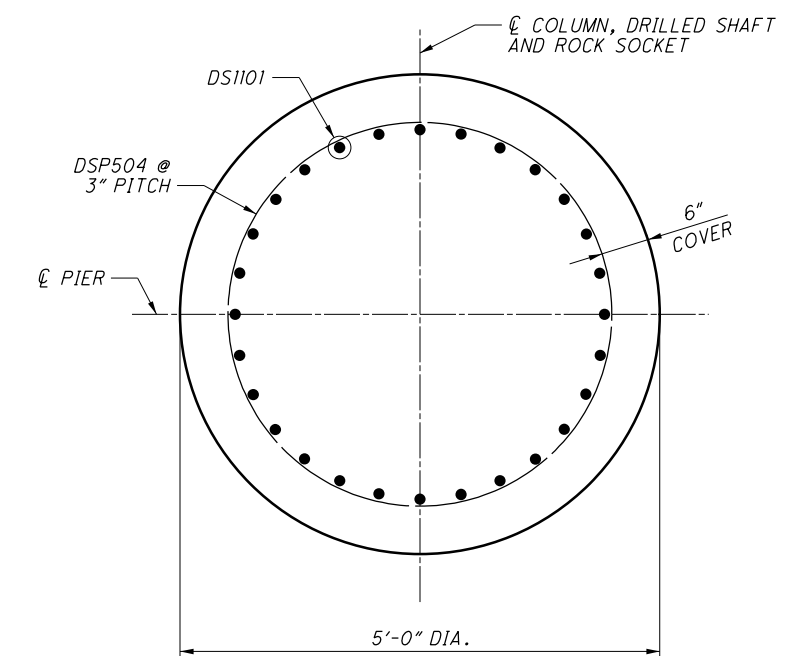
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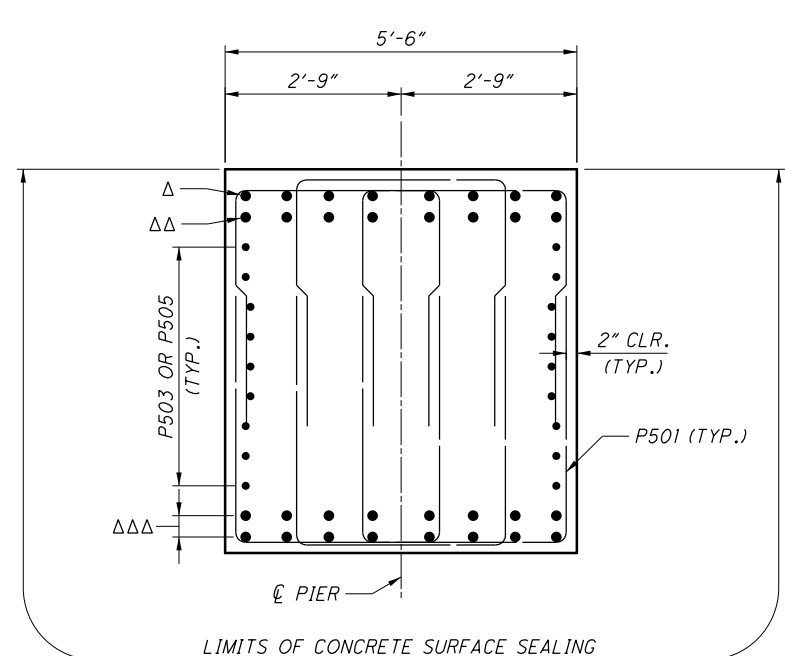
SECTION A-A
COLUMN



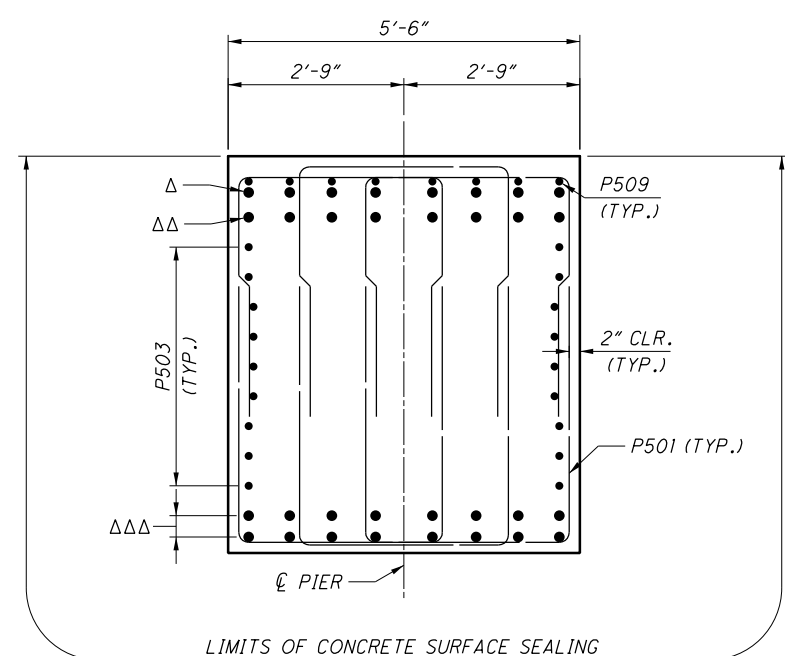
SECTION B-B
DRILLED SHAFT



SECTION C-C
ROCK SOCKET



SECTION D-D



SECTION E-E

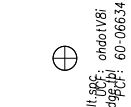
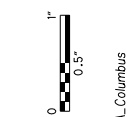
LEGEND:

- △ 4-P1111 ALTERNATING W/ 4-P1112 (EACH END) OR 8-P1107 STAGGERED
- △△ 4-P1113 ALTERNATING W/ 4-P1114 (EACH END) OR 8-P1107 STAGGERED
- △△△ 2 MATS OF 4-P1115 ALTERNATING W/ 4-P1116 (IN ALL DIRECTIONS @ EACH END) OR 2 MATS OF 9-P1107 STAGGERED IN ALL DIRECTIONS W/ P1108 STAGGERED BETWEEN P1107 AND P1115/P1116 (SEE ELEVATION)
- △ 7

NOTES:

1. SECTIONS A-A, B-B AND C-C TYPICAL FOR ALL COLUMNS. FOR LOCATION OF SECTIONS A-A TO E-E, SEE SHEET 29/70.
2. FOR ADDITIONAL NOTES AND DRILLED SHAFT REBAR DATA, SEE SHEET 26/70.

NO.	DESCRIPTION	REV. BY	DATE
7	UPDATING CALLOUTS	ATM	11/20/23

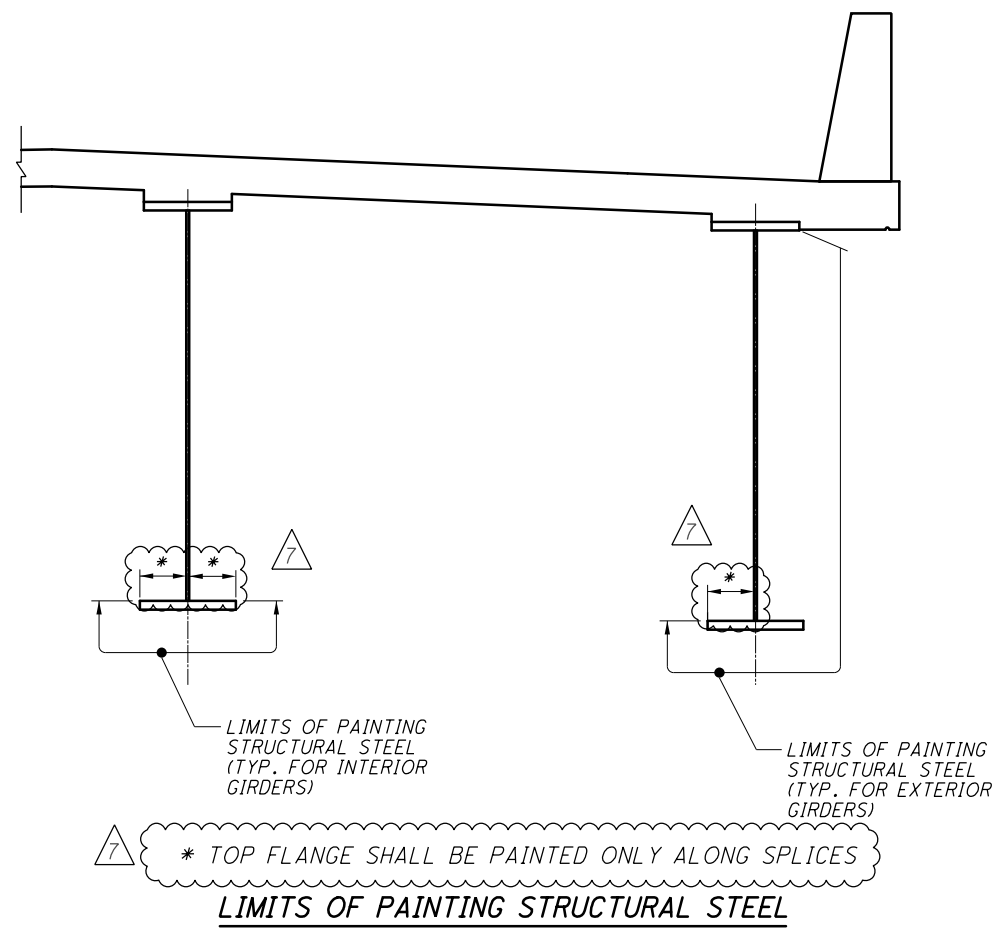


STRUCTURAL STEEL NOTES:

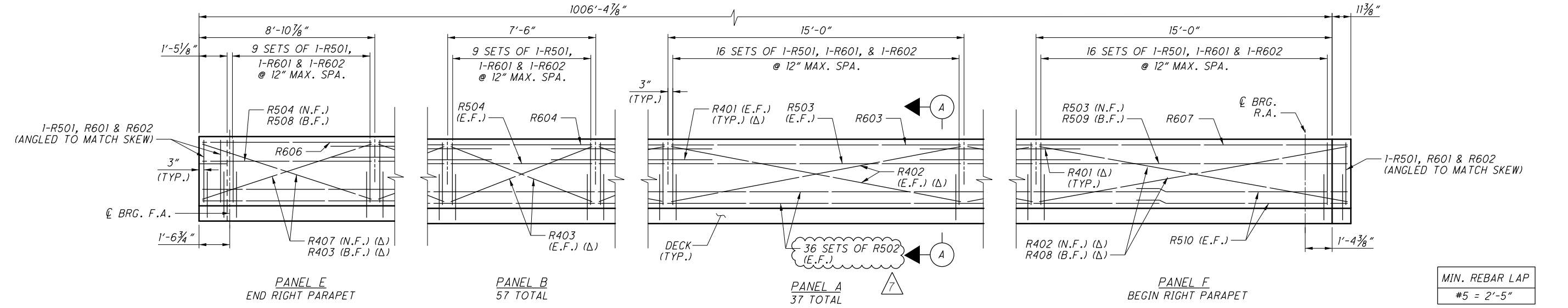
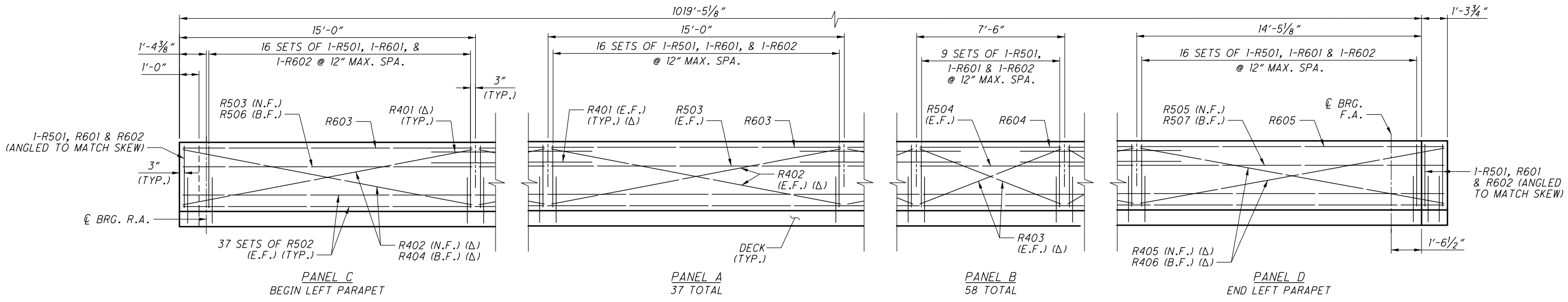
- ALL DIMENSIONS SHOWN ARE HORIZONTAL.
- ALL STRUCTURAL STEEL EXCEPT GIRDER FLANGES SHALL BE ASTM A709 GRADE 50W, YIELD STRENGTH 50 KSI, UNLESS NOTED OTHERWISE.
- GIRDER FLANGES SHALL BE ASTM A709 GRADE 50W, YIELD STRENGTH 50 KSI, OR ASTM A709 GRADE HPS 70W, AS INDICATED IN THE DRAWINGS.
- THE FOLLOWING MEMBERS SHALL BE DESIGNATED (CVN): ALL GIRDER WEB AND FLANGE PLATES; FIELD SPLICE PLATES; CROSS FRAME MEMBERS; INTERMEDIATE STIFFENERS; CROSSFRAME CONNECTION STIFFENERS; CROSSFRAME CONNECTION GUSSET PLATES AND JACKING STIFFENERS.
- WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENT AS SPECIFIED IN CMS 711.01.
- ALL BOLTED CONNECTIONS SHALL BE SLIP CRITICAL USING 1" DIAMETER ASTM A325 TYPE III BOLTS, UNLESS OTHERWISE NOTED. HOLES IN CROSSFRAME CONNECTIONS MAY BE OVERSIZED AT 1 1/16" DIAMETER IN ONE PLY ONLY.
- EXCLUDE BOLT THREADS FROM THE SHEAR PLANE FOR ALL CONNECTIONS.
- AT ALL FIELD SPLICES, BOLT HEADS SHALL BE PLACED ON THE OUTSIDE FACE OF THE EXTERIOR BEAMS, ON THE BOTTOM OF THE BOTTOM FLANGE SPLICE PLATES, AND ON THE TOP OF THE TOP FLANGE SPLICE PLATES.
- BUTT WELDS AT SHOP SPLICES SHALL BE COMPLETE PENETRATION WELDS. WELD REINFORCEMENT SHALL BE REMOVED BY GRINDING IN THE DIRECTION OF THE MAIN STRESS.
- SHEAR STUD CONNECTORS COINCIDING WITH WELDED SHOP SPLICES SHALL BE REPOSITIONED TO CLEAR SPLICE LOCATIONS BY 3" MINIMUM.
- BEARING STIFFENERS SHALL BE VERTICAL UNDER FULL DEAD LOAD. ALL INTERMEDIATE STIFFENERS, INTERIOR CROSSFRAMES, AND FIELD SPLICES MAY BE NORMAL TO GRADE.
- GIRDERS AND CROSSFRAMES SHALL BE FABRICATED SUCH THAT WEBS ARE PLUMB UNDER THE STEEL DEAD LOAD CONDITION.
- GIRDER ENDS AT THE ABUTMENT SHALL BE VERTICAL (PARALLEL TO ABUTMENT BACKWALL) UNDER FULL DEAD LOAD ROTATION, EXCLUDING FUTURE WEARING SURFACE.
- WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION." FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
- FOR STEEL ERECTION, TWO OR MORE ADJACENT GIRDERS MUST BE ERRECTED AND FULLY BRACED BEFORE SUSPENDING OPERATIONS. GIRDERS SHALL BE TEMPORARILY ANCHORED, BRACED, OR OTHERWISE SUPPORTED TO MAINTAIN STABILITY UNTIL THE CROSSFRAMES ARE CONNECTED.
- PARTIAL PAINTING OF A709 GRADE 50W STEEL: EXCEPT AS INDICATED IN THE PLANS, PAINT THE LAST 10 FT OF EACH GIRDER END ADJACENT TO THE ABUTMENT JOINTS INCLUDING ALL CROSSFRAMES AND OTHER STEEL WITHIN THESE LIMITS. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B - 20045 OR 20059 (THE COLOR OF WEATHERING STEEL).

- PARTIAL PAINTING OF A709 GRADE 50W AND A709 GRADE HPS 70W STEEL: IN ACCORDANCE WITH THE DETAIL PROVIDED "LIMITS OF PAINTING OF STRUCTURAL STEEL." PAINT THE OUTSIDE FACE OF EXTERIOR GIRDERS AND THE BOTTOM AND VERTICAL FACES OF BOTTOM FLANGES (INCLUDING SPLICE PLATES) IN ACCORDANCE WITH CMS 514 USING INORGANIC ZINC PRIME COAT, EPOXY INTERMEDIATE COAT, AND URETHANE FINISH COAT. THE COLOR OF THE FINISH COAT SHALL BE FEDERAL STANDARD NO. 17038 (BLACK).
- STRUCTURAL STEEL DETAIL CROSS REFERENCES:

FRAMING PLAN	SHEET 33/70
GIRDER ELEVATION AND DETAILS	SHEETS 34/70 THRU 38/70
HAND HOLD ROD AND STIFFENER DETAIL	SHEET 38/70
CROSSFRAME DETAILS	SHEET 39/70
SPLICE DETAILS	SHEET 40/70
CAMBER AND DEFLECTION TABLE	SHEETS 41/70 THRU 43/70
BEARING DETAILS	SHEETS 44/70 THRU 45/70
TRANSVERSE SECTION	SHEET 46/70
SUGGESTED ERECTION SEQUENCE	SHEETS 63/70 THRU 66/70



NO.	DESCRIPTION	REV. BY	DATE
7	ADDED NOTE	ACW	11/20/23



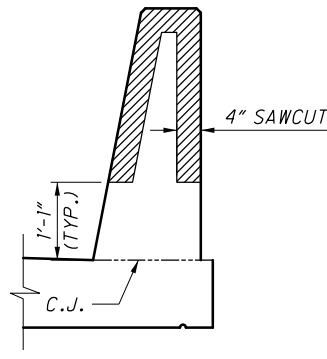
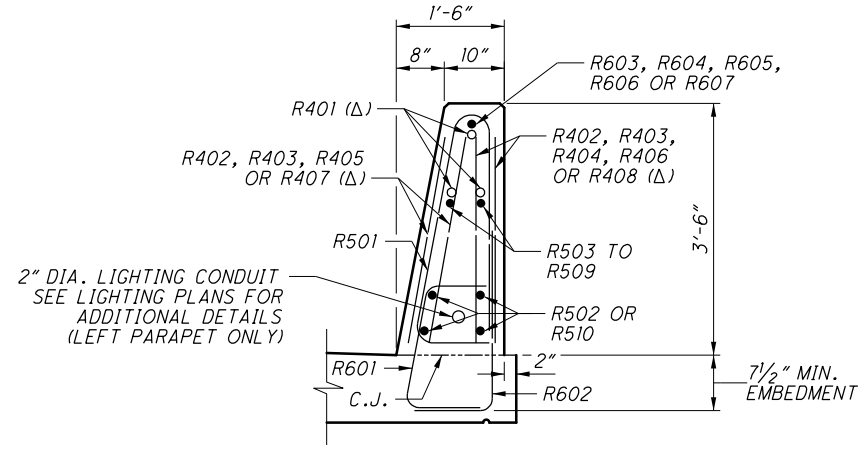
MIN. REBAR LAP
#5 = 2'-5"

LEGEND:

- Δ USE NO. 4 GLASS FIBER REINFORCING POLYMER (G.F.R.P.) FOR HORIZONTAL REINFORCING BAR R401 AND STIFFENING BARS R402 THROUGH R408 (SEE NOTE 7)

NOTES:

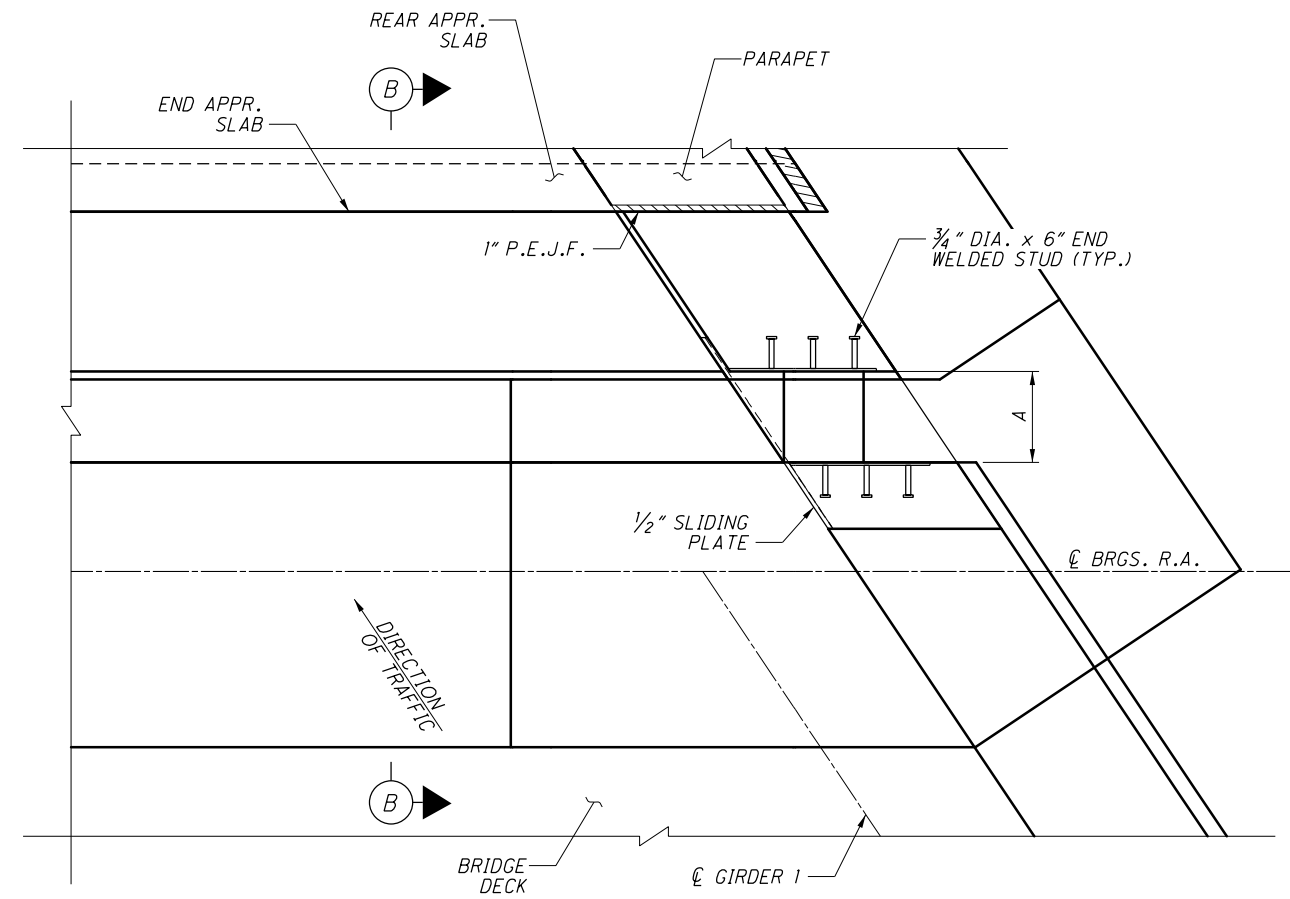
- FOR ADDITIONAL PARAPET DETAILS, SEE ODOT STD. DWG. SBR-1-13
- FOR LIGHT POLE PILASTER LOCATIONS, SEE SHEET 4770.
- FOR LIGHT POLE PILASTER DETAILS, SEE SHEET 4970.
- FOR DECK REINFORCING PLAN, SEE SHEETS 4770 AND 4870.
- FOR PANEL LOCATIONS AND DEFLECTION JOINT SPACING, SEE SHEETS 4770 & 4870.
- FIELD CUT LONGITUDINAL PARAPET REINFORCEMENT AS NECESSARY.
- PAYMENT FOR GLASS FIBER REINFORCED POLYMER STIFFENING BARS IS INCIDENTAL TO COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.



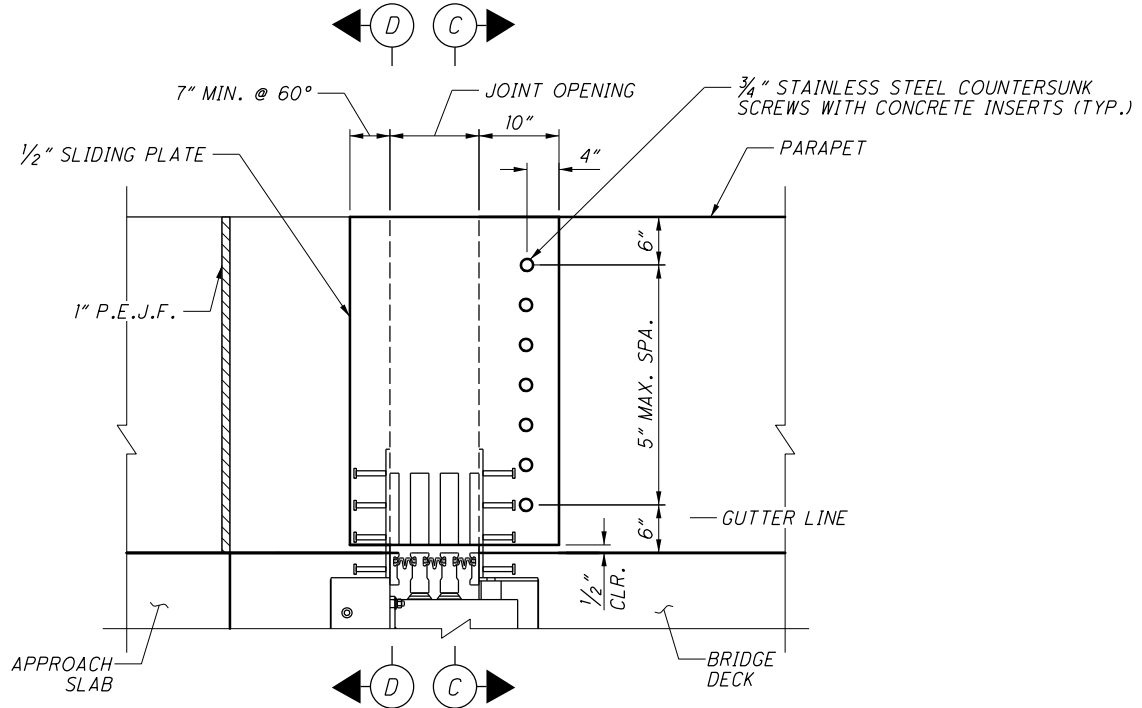
PARAPET GFRP REINFORCEMENT			
BAR MARK	TOTAL NUMBER	LENGTH	TYPE
R401	573	4'-6"	ST
R402	300	14'-10"	ST
R403	462	7'-8"	ST
R404	2	13'-10"	ST
R405	2	14'-3"	ST
R406	2	15'-6"	ST
R407	2	8'-11"	ST
R408	4	15'-9"	ST

NO.	DESCRIPTION	REV. BY	DATE
7	EDITED CALLOUT	ACW	11/20/23

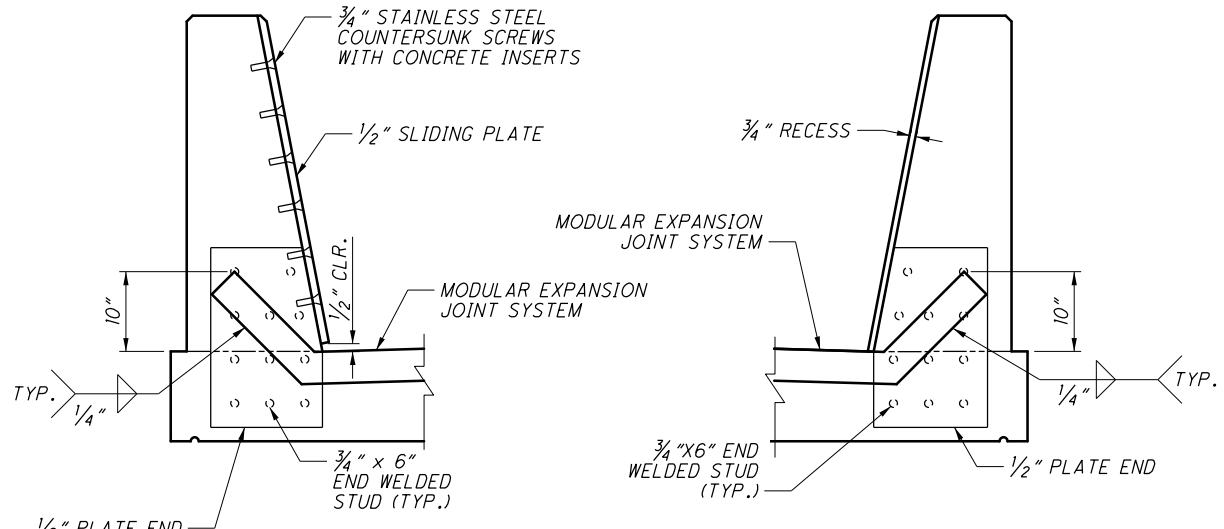




REAR ABUTMENT - PARTIAL PLAN
LEFT SIDE OF ABUTMENT SHOWN
REAR ABUTMENT, RIGHT SIDE AND FORWARD ABUTMENT, RIGHT & LEFT SIDES SIMILAR



SECTION B-B
DIRECTION OF TRAFFIC



SECTION C-C
SECTION D-D
(SLIDING PLATE NOT SHOWN)

- NOTES:**
- FOR BACKWALL REINFORCEMENT DETAILS, SEE SHEETS [3/70] AND [9/70].
 - FOR END CROSSFRAME DETAILS, SEE SHEET [39/70].
 - FOR DIMENSION "A" & "B" TABLE, SEE SHEET [56/70].
 - FOR ADDITIONAL NOTES, SEE SHEET [56/70].
 - FOR ADDITIONAL DECK REINFORCING DETAILS, SEE SHEETS [46/70] THRU [48/70].
 - PAYMENT FOR BARRIER COVER PLATES ARE INCIDENTAL TO THE COST OF ITEM 516 - SPECIAL - MODULAR EXPANSION JOINT

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED NOTE	ACW	11/20/23

DESIGN AGENCY: **ms consultants, inc.**
2221 Schrock Road, Columbus, Ohio 43229

DATE: 12/07/21
REVIEWED: GLG/YJS
STRUCTURE FILE NUMBER: 2510026

DESIGNED: ELS
CHECKED: PEG

MODULAR EXPANSION JOINT DETAILS (2 OF 2)
BRIDGE NO. FRA-70-1323C
RAMP D3 OVER SCIOTO RIVER

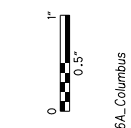
FRA-70-13.10
PID No. 77372

57/70

587
702



Ohio DOT Workspace
70171 East Interchange 6A
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34'' x 22''



MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				
	TOTAL				A	B	C	D	E
RAILING BARS									
R501	2,570	7'-4"	19,648	23	0'-11"	3'-3"	3'-0"		
R502	292	30'-0"	9,137	ST					
R503	150	14'-8"	2,295	ST					
R504	231	8'-7"	1,727	ST					
R505	1	14'-1"	15	ST					
R506	1	16'-8"	14	ST					
R507	1	15'-5"	16	ST					
R508	1	7'-2"	9	ST					
R509	1	15'-7"	16	ST					
R510	4	14'-3"	59	ST					
R511	2	15'-1"	31	ST					
R512	1	14'-3"	15	ST					
R513	1	15'-3"	16	ST					
R514	1	13'-8"	14	ST					
R515	1	14'-8"	15	ST					
R516	2	14'-7"	30	ST					
R517	2	15'-4"	32	ST					
R518	1	14'-1"	15	ST					
R519	1	15'-6"	16	ST					
R520	24	16'-10"	421	ST					
R521	4	14'-10"	62	ST					
R522	20	15'-2"	317	ST					
R523	36	22'-9"	854	ST					
R524	16	4'-0"	66	ST					
R525	24	8'-3"	207	21	1'-2"	1'-10"	1'-0"	1'-10"	
R526	16	4'-1"	68	2	1'-2"	2'-0"	1'-2"		
R527	16	8'-1"	135	9	0'-5"	3'-0"	2'-4"	3'-0"	
R601	2,382	3'-9"	13,417	28	1'-0"	1'-7"	1'-1'		
R602	2,382	2'-5"	8,647	1	1'-0'	1'-7"			
R603	75	14'-8"	1,652	ST					
R604	115	7'-2"	1,238	ST					
R605	1	15'-5"	23	ST					
R606	1	8'-8"	11	ST					
R607	1	15'-7"	23	ST					
R608	1	15'-1"	23	ST					
R609	1	15'-3"	23	ST					
R610	1	14'-8"	22	ST					
R611	1	14'-7"	22	ST					
R612	1	15'-4"	23	ST					
R613	1	15'-6"	23	ST					
R614	188	3'-5"	965	38	2'-4'	0'-11"	0'-11"		
R615	188	4'-0"	1,130	1	1'-0'	3'-3"			
R616	2	14'-10"	44	ST					
R617	10	15'-2"	228	ST					
TOTAL			62,764						

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS				
	TOTAL				A	B	C	D	E
PIER BARS									
SP501	3	28'-6"	5,176	27	0'-3"	4'-6"	28'-6"		
SP502	3	29'-5"	5,339	27	0'-3"	4'-6"	29'-5"		
SP503	3	29'-2"	5,294	27	0'-3"	4'-6"	29'-2"		
SP504	3	21'-9"	3,982	27	0'-3"	4'-6"	21'-9"		
SP505	12	20'-6"	10,865	27	0'-3"	3'-3"	20'-6"		
P501	1,430	11'-0"	16,406	2	4'-1"	3'-1"	4'-1"		
	48	9'-0"			3'-1"	3'-1"	3'-1"		
P502	SER. OF	TO	2,003	2	TO	TO	TO		0'-8"
	4	11'-0"			4'-1"	3'-1"	4'-1"		
P503	168	30'-0"	5,257	ST					
P504	18	14'-6"	272	ST					
P505	54	18'-6"	1,042	ST					
P506	8	20'-10"	174	ST					
P507	16	28'-7"	476	ST					
P508	8	12'-1"	101	ST					
P509	8	22'-2"	185	ST					
P510	72	9'-1"	682	2	2'-1"	5'-2"	2'-1"		
P601	32	14'-11"	717	19	11'-8"	2'-7"	2'-0"		
P1001	84	33'-9"	12,199	16	32'-4"				
P1002	84	34'-8"	12,532	16	33'-3"				
P1003	84	34'-4"	12,409	16	32'-11"				
P1004	84	27'-1"	9,788	16	25'-8"				
P1005	336	20'-6"	29,639	ST					
* P1101	16	21'-10"	1,856	ST					
* P1102	16	15'-10"	1,346	ST					
* P1103	8	19'-2"	815	1	3'-8"	15'-10"			
* P1104	8	25'-2"	1,070	1	3'-8"	21'-10"			
* P1105	8	17'-5"	740	16	15'-10"				
* P1106	8	23'-5"	995	16	21'-10"				
P1107	132	30'-0"	21,039	ST					
* P1108	52	10'-0"	2,763	ST					
P1109	36	14'-3"	2,726	19	11'-0"	2'-7"	2'-0"		
P1110	36	18'-9"	3,586	19	15'-6"	2'-7"	2'-0"		
* P1111	24	21'-2"	2,699	1	3'-8"	17'-10"			
* P1112	24	27'-2"	3,464	1	3'-8"	23'-10"			
* P1113	24	19'-5"	2,476	16	17'-10"				
* P1114	24	25'-5"	3,241	16	23'-10"				
* P1115	16	19'-1"	1,622	19	15'-10"	2'-7"	2'-0"		
* P1116	16	25'-1"	2,132	19	21'-10"	2'-7"	2'-0"		
TOTAL			187,109						

LEGEND:

* DENOTES BAR REQUIRING MECHANICAL CONNECTOR

NOTES:

1. FOR NOTES AND BAR BEND DIAGRAM, SEE SHEET [67/70].

NO.	DESCRIPTION	REV. BY	DATE
7	BAR QUANTITIES UPDATED	ATM	11/20/23

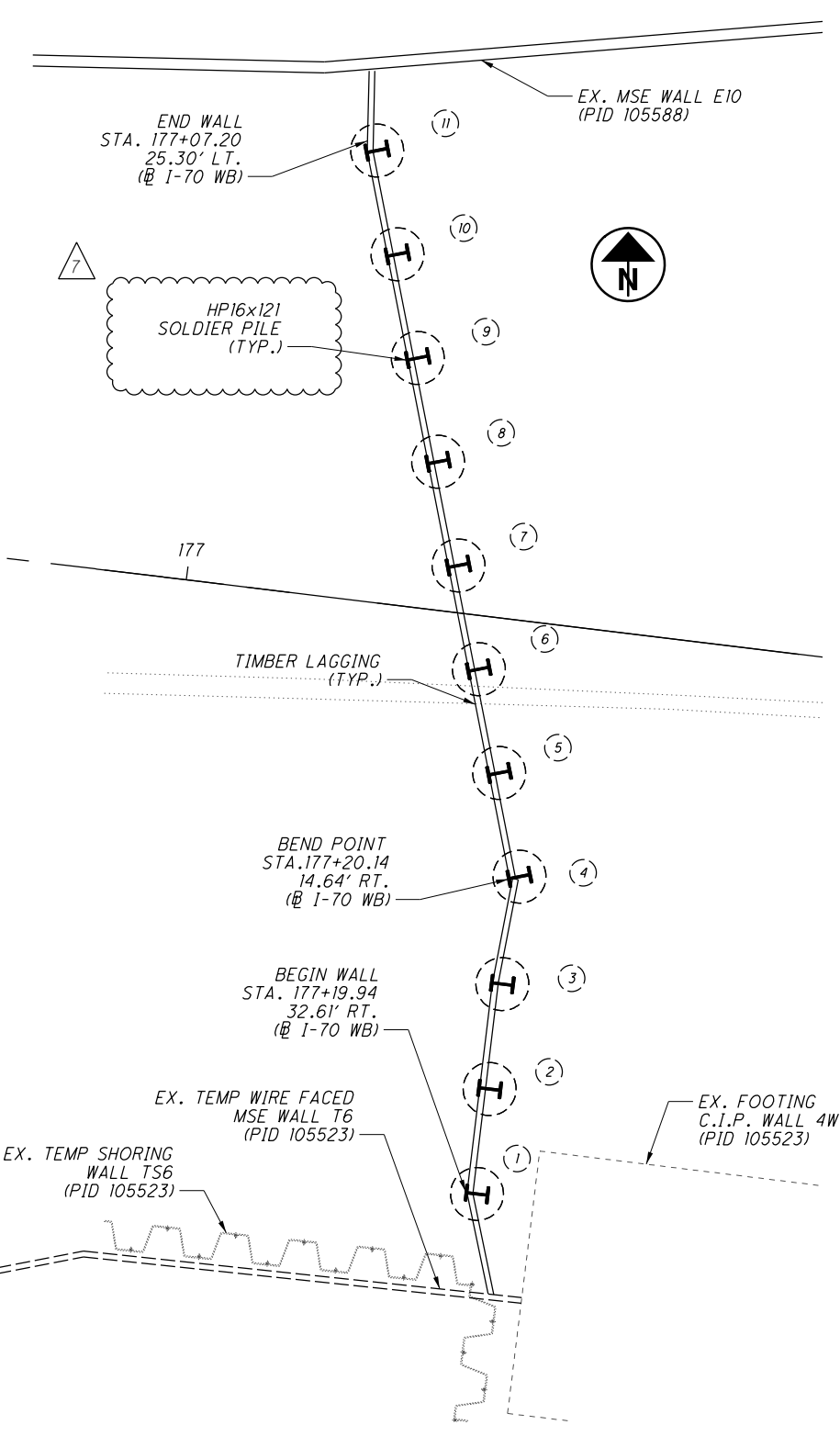
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 ms consultants, inc.
 Ohio DOT Workspace
 70271 East Interchange 64
 Columbus, OH 43229
 www.msconsultants.com

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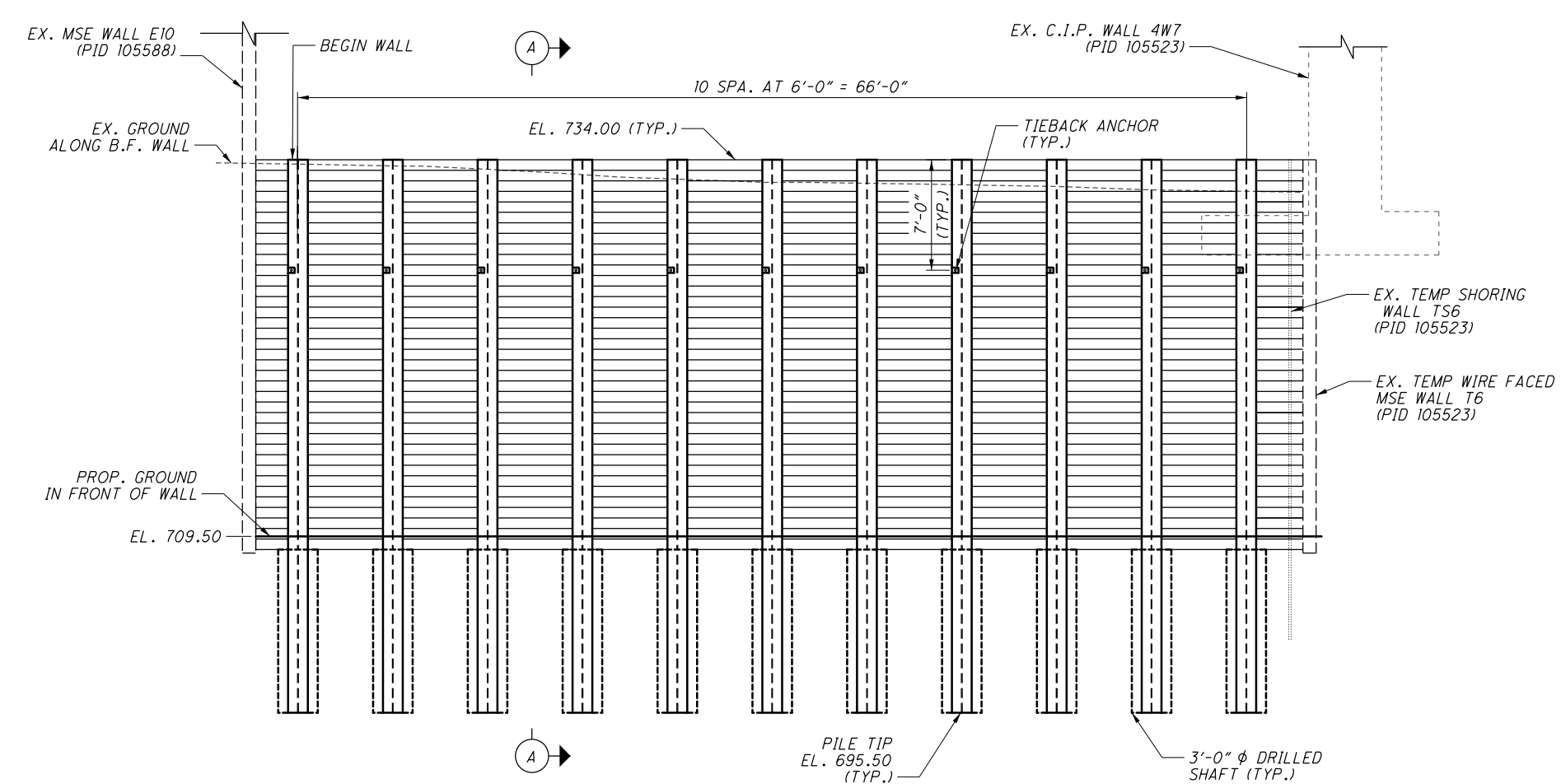
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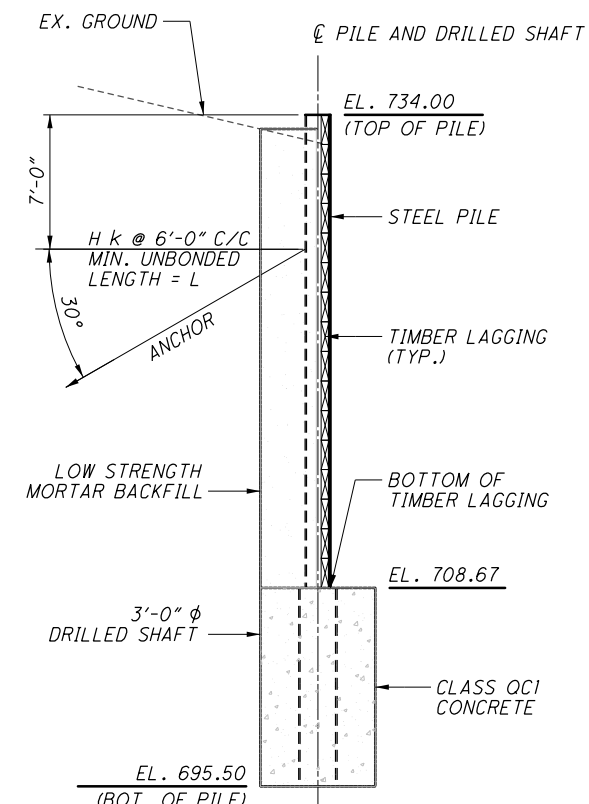


TEMPORARY SOLDIER PILE WALL - PLAN

PILE GEOMETRY							
PILE NUMBER	TOP OF PILE ELEVATION	TOP OF CLASS OCI CONCRETE ELEVATION	BOT. OF PILE ELEVATION	PILE TYPE	PILE LENGTH	TIEBACK HORIZONTAL FORCE 'H'	MINIMUM UNBONDED LENGTH 'L'
1-11	734.00	708.67	695.50	HP16x121	38.50'	94.0 k	14.10'



TEMPORARY SOLDIER PILE WALL - ELEVATION



SECTION A-A

NOTES:

- CONTRACTOR SHALL DESIGN AND INSTALL TIMBER LAGGING AND BLOCKING AS REQUIRED. (LAGGING SHALL HAVE A 4" NOMINAL THICKNESS MIN.)
- SOLDIER PILES SHALL BE ASTM A572, GRADE 50
- THE SOLDIER PILES ARE TO BE INSTALLED PRIOR TO EXCAVATION AND THE WOOD LAGGINGS ARE TO BE INSTALLED AS EXCAVATION PROCEEDS DOWNWARD.
- BACKFILL PREDRILLED HOLES WITH CLASS OCI CONCRETE, COMPRESSIVE STRENGTH 4000 PSI, TO BOTTOM OF TIMBER LAGGING.
- ALL COSTS ASSOCIATED WITH TEMPORARY SHORING INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL TEMPORARY SHORING AS SHOWN IN THE PLANS ARE INCLUDED WITH ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, FOR PAYMENT.

LEGEND:

(X) SOLDIER PILE NUMBER

DESIGN AGENCY: ms consultants, inc. 2221 Schrock Road Columbus, Ohio 43229

DATE: 11-17-2021

REVIEWED: YSU

DRAWN: DEB

DESIGNED: DEB

STRUCTURE FILE NUMBER: 2510029

SOLDIER PILE WALL E11 DETAILS

BRIDGE NO. FRA-70-1373L

I-70 WB OVER SHORT STREET

FRA-70-13-10

PID No. 77372

6/27

NO.	DESCRIPTION	REV. BY	DATE
7	EDITED CALLOUTS	ACW	11/20/23

638

702

ms consultants, inc.

WATER WORK

CITY OF COLUMBUS WATER MAIN

SPECIFICATIONS, RULES AND REGULATIONS

1. THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2018 EDITION AND ALL REVISIONS, INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN, UNLESS OTHERWISE NOTED.

2. ALL WATER MAIN MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF COLUMBUS, DIVISION OF WATER. ALL CITY OF COLUMBUS, DIVISION OF WATER STANDARD DRAWINGS SHALL APPLY TO THE PROJECT, UNLESS OTHERWISE NOTED.

3. FOR ANY EMERGENCIES INVOLVING THE WATER DISTRIBUTION SYSTEM, PLEASE CONTACT THE DIVISION OF WATER DISTRIBUTION MAINTENANCE OFFICE AT 614-645-7788.

4. IT SHALL BE UNLAWFUL FOR ANY PERSON TO PERFORM ANY WORK ON CITY OF COLUMBUS WATER MAIN SYSTEMS WITHOUT FIRST SECURING LICENSE TO ENGAGE IN SUCH WORK, AS INDICATED IN COLUMBUS CITY CODE SECTION 1103.02 AND 1103.06. THIS WORK INCLUDES ANY ATTACHMENTS, ADDITIONS TO OR ALTERATIONS IN ANY CITY SERVICE PIPE OR APPURTENANCES (INCLUDING WATER SERVICE LINES AND TAPS). THIS REQUIREMENT MAY BE MET BY UTILIZATION OF A SUBCONTRACTOR WHO HOLDS A CITY OF COLUMBUS WATER CONTRACTOR LICENSE OR A COMBINED WATER/SEWER CONTRACTOR LICENSE TO PERFORM THIS WORK. UTILIZATION OF A SUBCONTRACTOR MUST MEET THE LICENSING REQUIREMENTS OF CITY OF COLUMBUS BUILDING CODE, IN PARTICULAR SECTION 4114.119 AND 4114.529.

5. NO PERSON SHALL BEGIN CONSTRUCTION OR INSTALLATION OF A PUBLIC WATER MAIN UNTIL PLANS HAVE BEEN APPROVED BY THE STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA).

6. THE CONTRACTOR SHALL OBTAIN THE PROPER HYDRANT PERMITS, AND PAY ANY APPLICABLE FEES, FOR ANY APPROVED HYDRANT USAGE DEEMED NECESSARY FOR WORK UNDER THIS IMPROVEMENT. PERMITS MAY BE OBTAINED THROUGH THE DIVISION OF WATER PERMIT OFFICE (645-7330). THE CONTRACTOR SHALL ADHERE TO ALL RULES AND REGULATIONS GOVERNING SAID PERMIT AND MUST HAVE THE ORIGINAL PERMIT ON SITE ANYTIME IN WHICH THE HYDRANT IS IN USE. COST TO BE INCLUDED IN THE VARIOUS BID ITEMS.

7. ALL WATER MAINS SHALL BE CLEANED AND FLUSHED, AND ANY WATER MAIN 12-INCH AND LARGER MUST BE PROPERLY PIGGED, IN ACCORDANCE WITH SECTION 801.15 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS.

8. ALL WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH SECTION 801.16 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS. 150 PSI OF PRESSURE SHALL BE MAINTAINED FOR AT LEAST TWO HOURS IN ANY TESTED SECTION. THE CITY MAY NOT APPROVE ANY TESTING LESS THAN TWO HOURS REGARDLESS OF THE AMOUNT OF LEAKAGE.

9. ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 801.17 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS. SPECIAL ATTENTION IS DIRECTED TO APPLICABLE SECTION OF A.W.W.A. C-651. WHEN THE WATER MAINS ARE READY FOR DISINFECTION, THE INSPECTOR SHALL SUBMIT A WRITTEN REQUEST FOR CHLORINATION OF THE MAINS THAT NEED DISINFECTED, THREE (3) SETS OF "AS-BUILT" PLANS (FULL SIZE SHEETS ONLY), THE AS-BUILT SURVEY COORDINATES, WATER SERVICE REPORTS AND A PRESSURE TEST TO THE CITY OF COLUMBUS, DIVISION OF WATER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DISINFECTION OF ALL WATER MAINS CONSTRUCTED UNDER THIS PLAN.

10. ALL FIRE HYDRANTS TO BE INSTALLED IN THE CITY OF COLUMBUS SHALL BE PAINTED WITH THE COLOR "SAFETY ORANGE". THE FIRE HYDRANTS SHALL BE PROVIDED WITH TWO COATS IN A GLOSS ENAMEL OF THE "SAFETY ORANGE" COLOR FOR THE ENTIRE HYDRANT. THE TOPS OF THE FIRE HYDRANTS ARE NO LONGER REQUIRED TO BE PAINTED BLACK. AFTER INSTALLATION OF THE FIRE HYDRANTS, THE CONTRACTOR IS RESPONSIBLE TO APPLY TOUCH UP PAINT TO ANY DAMAGE TO THE FACTORY APPLIED HYDRANT PAINT. HYDRANTS WILL NOT BE ACCEPTED UNTIL ANY PAINT DAMAGE FROM SHIPPING OR INSTALLATION HAS BEEN REPAIRED. USE HYDRANT TOUCH UP PAINT IN ACCORDANCE WITH THE APPROVED MATERIALS LIST. THIS GENERAL NOTE SHALL SUPERCEDE THE CURRENT PAINT DESCRIPTION SPECIFIED IN ITEM 809.02 IN THE 2018 CITY OF COLUMBUS CONSTRUCTION AND MATERIALS SPECIFICATIONS.

11. MAINTAIN EIGHTEEN (18) INCHES VERTICAL AND TEN (10) FEET HORIZONTAL SEPARATION BETWEEN ANY SANITARY OR STORM SEWER PIPING AND ALL PROPOSED WATER MAINS.

12. WHEN CROSSING THE EXISTING WATER MAIN, AND LOW STRENGTH MORTAR (ITEM 613) IS TO BE USED AS BACKFILL, THE CONTRACTOR SHALL PROVIDE SIZE NO. 57 CRUSHED CARBONATE STONE (CCS) 1 FOOT BELOW TO 1 FOOT ABOVE THE EXISTING WATER LINE.

13. ALL VALVE BOXES, SERVICE BOXES, AND FIRE HYDRANTS SHALL BE LOCATED WITHIN THE EASEMENT AREA.

14. DURING CONSTRUCTION, THE CONTRACTOR SHALL USE EXTREME CAUTION NOT TO DAMAGE THE EXISTING WATER MAIN DUE TO MINIMAL COVER.

15. ALL BRASS FITTINGS ASSOCIATED WITH WATER WORK, INCLUDING REPAIRS TO THE EXISTING SYSTEM, SHALL CONFORM TO THE REVISED ALLOWABLE LEAD EXTRACTION LIMIT PER THE UPDATED NSF/ANSI 61 STANDARD. THE DIVISION OF WATER'S APPROVED MATERIALS LIST HAS BEEN UPDATED TO REFLECT THIS REQUIREMENT.

16. ALL WATER METERS ASSOCIATED WITH THIS PROJECT SHALL BE INSTALLED INSIDE THE PROPOSED STRUCTURE UNLESS A METER PIT IS APPROVED BY THE ADMINISTRATOR OF THE DIVISION OF WATER. ALL METER PITS MUST BE APPROVED PRIOR TO THE ISSUING OF ANY SERVICE PERMITS AND MUST CONFORM TO STANDARD DRAWING L-7103 FOR 5/8" THROUGH 1" METERS, OR L-6317 A,B,C,D, & E FOR 1-1/2" OR LARGER METERS.

17. WATER SERVICE BOXES SHALL BE PLACED 1' FROM THE EDGE OF THE PROPOSED OR EXISTING SIDEWALK BETWEEN THE SIDEWALK AND THE CURB, OR 2' INSIDE THE RIGHT OF WAY OR EASEMENT LINE WHEN NO SIDEWALK IS PRESENT OR PROPOSED. REFER TO STANDARD DRAWING L-9901 FOR ADDITIONAL INFORMATION.

18. ALL WATER MAIN VALVE BOXES, WATER TAP BOXES, TEST STATIONS, PITOMETER TAP STRUCTURES, METER PIT COVERS, AND OTHER SURFACE UTILITY STRUCTURES WITHIN THE DISTURBED AREA SHALL BE ADJUSTED TO GRADE. ANY OF THESE STRUCTURES LOCATED WITHIN PAVEMENT, DRIVEWAYS, OR OTHER TRAVELED AREAS, WHETHER EXISTING OR PROPOSED, SHALL BE EQUIPPED WITH A TRAFFIC RATED, HEAVY DUTY VALVE BOX AND/OR COVER IN ACCORDANCE WITH THE STANDARD DRAWINGS. EXISTING WATER TAP BOXES TO REMAIN THAT ARE ENCOUNTERED WITHIN THE PROJECT LIMITS SHALL BE CLEANED OUT, CENTERED OVER THE CURB STOP, AND ADJUSTED TO THE PROPOSED GRADE.

19. WHERE NEW CONDUIT IS PROPOSED TO CROSS AN EXISTING OR PROPOSED WATER MAIN OR WATER TAP/SERVICE LINE, A MINIMUM OF 12" OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE CONDUIT AND THE WATER MAIN OR TAP/SERVICE LINE. A MINIMUM OF 3' OF HORIZONTAL CLEARANCE (OUT TO OUT) IS REQUIRED AT LOCATIONS WHERE THE CONDUIT IS PARALLEL TO THE WATER MAIN AND AT LOCATIONS OF WATER LINE THRUST BLOCKS.

20. A MINIMUM OF 3' OF HORIZONTAL CLEARANCE (OUT TO OUT) SHALL BE MAINTAINED BETWEEN ALL EXISTING WATER MAINS AND FOUNDATIONS FOR POLES, PULL BOXES, PUSH BUTTON PEDESTALS, ANY OTHER MISCELLANEOUS ELECTRICAL STRUCTURE.

21. A MINIMUM OF 4' OF COVER IS REQUIRED PRIOR TO PRESSURE TESTING ANY WATER MAIN. A SUFFICIENT AMOUNT OF BACKFILL SHALL BE INSTALLED TO PROVIDE THE ADEQUATE RESTRAINT IN AREAS WHERE REQUIRED.

22. THE PROPOSED WATER MAIN SHALL BE LOCATED A MINIMUM DISTANCE OF 20' AWAY FROM ANY EXISTING OR PROPOSED STRUCTURE, OVERHANG OR FOOTER.

23. ANY BYPASS PUMPING, DEWATERING, PERMITS AND/OR FEES REQUIRED SHALL BE INCIDENTAL TO THE COST OF THE PERTINENT ITEM 638 WATER WORK ITEM.

24. ANY SECTION OF WATER MAIN THAT IS LONGER THAN 20 FEET IN LENGTH SHALL BE CHLORINATED. HAND SWABBING METHODS WILL ONLY BE PERMITTED FOR SECTIONS LESS THAN OR EQUAL TO 20 FEET IN LENGTH. USE UNSCENTED HOUSEHOLD BLEACH FOR HAND SWABBING OF PIPE AND FITTINGS.

25. CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE OHIO ADMINISTRATIVE CODE CHAPTER 3745-83-02 WATER DISRUPTION OF SERVICE RULE. EXCAVATE PITS SUFFICIENTLY BELOW THE AREA TO BE CONNECTED TO IN ORDER TO MAINTAIN WATER LEVELS BELOW THE WATER MAIN. IF WATER FROM THE PIT ENTERS THE EXISTING MAIN, CONTACT DIVISION OF WATER IMMEDIATELY. ENSURE THAT SUFFICIENTLY SIZED PUMPS ARE UTILIZED TO REMOVE WATER FROM THE TRENCH AND BACKUP PUMPS ARE KEPT ON SITE FOR REDUNDANCY.

26. RISER RINGS WILL NOT BE PERMITTED ON ANY NEWLY INSTALLED VALVE BOXES TO BRING VALVES TO FINAL GRADE. THE CONTRACTOR SHALL ENSURE THAT THE BOXES ARE INSTALLED AT THE CORRECT GRADE FOR FINAL PAVING OPERATIONS AND THAT THEIR PAVING CONTRACTOR INSTALLS PAVEMENT CORRECTLY AT LIDS DURING PAVING OPERATIONS. VALVE LIDS ARE NOT PERMITTED TO SET ABOVE FINAL GRADE AND SHALL BE A MAXIMUM OF 1/4" BELOW FINAL GRADE.

27. ANY WORK ON THE PRIVATE WATER SERVICE LINE (BETWEEN CURB STOP AND METER) WILL REQUIRE ADDITIONAL INSPECTION BY THE UTILITY METER SERVICES SECTION (FOR 2 INCH AND SMALLER SERVICE LINES) OR THE UTILITY PERMIT OFFICE (FOR 3 INCH AND LARGER SERVICE LINES). FOR 2 INCH AND SMALLER WATER SERVICE LINES, CALL 614-645-8276, AND FOR 3 INCH AND LARGER WATER SERVICE LINES, CALL 614-645-8229, PRIOR TO 1:00 P.M. FOR SAME DAY INSPECTION.

28. THE CONTRACTOR IS REQUIRED TO SUBMIT A SEQUENCE OF CONSTRUCTION TO THE CITY AT THE PRECONSTRUCTION CONFERENCE. THIS SEQUENCE OF CONSTRUCTION SHOULD ALSO DETAIL THE CONTRACTOR'S PLAN FOR TESTING AND CHLORINATION OF THE NEW MAINS, INCLUDING THE SOURCE OF THE WATER AND LOCATION OF TEMPORARY CHLORINATION AND BLOW-OFF TAPS. THE CITY SHALL HAVE THE RIGHT TO APPROVE, REJECT OR MODIFY THE CONSTRUCTION SEQUENCE TO ENSURE THAT THE INTERRUPTIONS ARE HELD TO A MINIMUM. NOTE: THE CITY MAY TAKE UP TO 10 WORKING DAYS TO RESPOND TO THIS SUBMITTAL.

29. ONLY ONE CONNECTION TO AN EXISTING WATER MAIN IS PERMITTED BEFORE DISINFECTION OF A NEW WATER MAIN HAS BEEN COMPLETED. ALL OTHER CONNECTIONS MUST BE MADE AFTER THE MAIN HAS BEEN DISINFECTED.

30. IF DURING EXCAVATION, THE POLYETHYLENE ENCASUREMENT ON THE EXISTING WATER MAIN BECOMES DAMAGED, THE CONTRACTOR SHALL REPAIR THE POLYETHYLENE ENCASUREMENT PER MANUFACTURER'S SPECIFICATIONS AND DOW STANDARD DRAWINGS L-1003 AND L-1004, AT THEIR OWN EXPENSE. ENSURE THAT THE ENTIRE EXPOSED AREA IS COVERED WITH NEW POLYETHYLENE ENCASUREMENT AND SECURELY TAPED, PRIOR TO BACKFILLING.

31. THE CONTRACTOR SHALL COORDINATE HIS WORK SUCH THAT NO WATER CUSTOMER WILL HAVE THEIR SERVICE DISRUPTED MORE THAN TWO (2) TIMES THROUGHOUT THE DURATION OF THIS PROJECT.

32. THE CONTRACTOR SHALL PROVIDE CHLORINATION TAPS AND BLOWOFFS AS PER THE REQUIREMENTS OF SECTION 801.17 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS. IN ADDITION TO THE BLOWOFF LOCATIONS NOTED IN 801.17, THE CONTRACTOR SHALL ALSO INSTALL BLOWOFFS AT EVERY 1,100 LINEAR FEET OF THE WATER MAIN INSTALLED FOR SAMPLING.

33. IF A LEAD WATER TAP IS ENCOUNTERED AND IS NEITHER DAMAGED NOR PART OF A PLANNED RELOCATION/REPLACEMENT, THE CONTRACTOR SHALL REPORT THE PRESENCE OF THE LEAD TAP TO THE DIVISION OF WATER DISTRIBUTION MAINTENANCE GROUP AT 614-645-7788.

IF A LEAD TAP IS EITHER DAMAGED DURING CONSTRUCTION OR IS PART OF A PLANNED WATER TAP RELOCATION/REPLACEMENT, THE CONTRACTOR SHALL TAKE THE FOLLOWING STEPS:

1. IMMEDIATELY CONTACT LEW FLEMISTER, DIVISION OF WATER, (CELL 614-266-5447), TO REQUEST THE SHUT OFF OF THE EXISTING CURB STOP. IF LEW CANNOT BE REACHED, CONTACT THE DIVISION OF WATER DISTRIBUTION ENGINEERING OFFICE AT 614-645-7677 TO REQUEST THE SHUT OFF.

2. CONTRACTOR SHALL EXPOSE THE OWNER'S SIDE OF THE WATER SERVICE TO CONFIRM THE MATERIAL. THE INSPECTOR SHALL BE PRESENT FOR THIS.

3. IF THE CUSTOMER'S PRIVATE SERVICE MATERIAL IS LEAD, STOP WORK AND NOTIFY THE DIVISION OF WATER DISTRIBUTION ENGINEERING OFFICE (614-645-7677) IMMEDIATELY. IF THE MATERIAL IS NOT LEAD, THE CONTRACTOR SHALL REPLACE THE LEAD TAP (FROM EXISTING CORPORATION STOP TO CURB STOP) AND REINSTATE SERVICE TO THE CUSTOMER. PARTIAL REPAIRS OF THE LEAD TAP ARE NOT PERMITTED.

4. REFER TO DIVISION OF WATER STANDARD DRAWINGS L-7102C AND L-9901 FOR INFORMATION ON WATER TAP RELOCATIONS, PLACING NEW CURB STOPS, AND RELOCATING CURB BOXES.

SERVICE AND WATER LINE ABANDONMENT

WHERE INDICATED ON THE PLANS, THE EXISTING WATER MAIN SHALL BE ABANDONED; AND ANY EXISTING WATER SERVICES OFF THIS MAIN SHALL BE TRANSFERRED TO THE NEW WATER MAIN. PRIOR TO ABANDONMENT OF THE EXISTING WATER MAIN, THE PROPOSED WATER MAIN SHALL BE PIGGED (IF REQUIRED), TESTED, CHLORINATED AND PUT IN SERVICE AND THEN THE EXISTING WATER SERVICES SHALL BE TRANSFERRED. THE CONTRACTOR SHALL MAINTAIN WATER SERVICES TO ALL PROPERTIES DURING

NO.	DESCRIPTION	REV. BY	DATE
7	REVISED NOTE	CWL	11-12-23

SERVICE AND WATER LINE ABANDONMENT-CONTINUED

CONSTRUCTION OF THE NEW WATER MAIN AND SHALL NOTIFY ALL CUSTOMERS AFFECTED BY THE TRANSFER OF SERVICE LINES. TO ENSURE THAT ALL EXISTING SERVICE LINES ARE TRANSFERRED TO THE NEW MAIN, NO WATER MAIN SHALL BE ABANDONED UNTIL THE NEW WATER MAIN HAS BEEN PUT IN SERVICE; ALL AFFECTED WATER SERVICE LINES HAVE BEEN TRANSFERRED; AND THE EXISTING WATER MAIN TO BE ABANDONED HAS BEEN SHUT DOWN FOR 24 HOURS. ALL VISIBLE VALVE BOXES, FIRE HYDRANTS, AND WATER TAP BOXES ON THE WATER MAIN TO BE ABANDONED, WHICH WILL NO LONGER BE IN SERVICE, SHALL BE REMOVED. ALL WATER MAINS TO BE ABANDONED SHALL BE MADE WATER TIGHT. THE REQUIRED SERVICE RESTORATION SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS).

ITEM 638 - WATER WORK, MISC.: SURVEY COORDINATES

ITEM 638 - WATER WORK, MISC.: SURVEY COORDINATES SHALL INCLUDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO OBTAIN HORIZONTAL AND VERTICAL (NORTHING, EASTING, AND CENTERLINE ELEVATION) SURVEY COORDINATES FOR THE WATER MAIN IMPROVEMENTS. THE SURVEY COORDINATES SHALL BE OBTAINED FOR THE COMPLETED WATER MAIN CONSTRUCTION AND SHALL INCLUDE ALL VALVES, TEES, CROSSES, BENDS, HORIZONTAL DEFLECTIONS, PLUGS, REDUCERS, TAPPING SLEEVES, BLOW OFFS, CHLORINATION TAPS, FIRE HYDRANTS, AIR RELEASES, CURB STOPS, CASING PIPE TERMINI, AND OTHER FITTINGS. ADDITIONAL SURVEY COORDINATES ARE REQUIRED ON THE WATER MAIN EVERY 200' WHERE NO FITTING OR OTHER WATER MAIN STRUCTURE IS BEING INSTALLED WITHIN THAT LENGTH OF THE IMPROVEMENT.

ALL SURVEY COORDINATES SHALL BE REFERENCED TO THE APPLICABLE COUNTY ENGINEER'S MONUMENTS, AND SHALL BE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) WITH THE (NSRS2007) ADJUSTMENT, WITH FURTHER REFERENCE MADE TO THE OHIO STATE PLANE SOUTH COORDINATE SYSTEM, SOUTH ZONE, WITH ELEVATIONS BASED ON NAVD 88 DATUM. ALL COORDINATES (NORTHING, EASTING, CENTERLINE ELEVATION) SHALL BE REFERENCED TO THE NEAREST HUNDRETH (N xxxxxx.xx, E xxxxxx.xx, @ ELEV. xxx.xx). ALL SURVEY COORDINATES SHALL BE ACCURATE TO WITHIN 1.0 FOOT HORIZONTAL AND A TENTH OF A FOOT (0.10) OR LESS VERTICAL.

THE COORDINATES SHALL BE DOCUMENTED TO THE ENGINEER IN DIGITAL SPREADSHEET FORM AND SHALL INCLUDE THE APPLICABLE ITEM, STATION, NORTHING, EASTING, AND CENTERLINE ELEVATION. COORDINATES SHALL BE SUBMITTED TO THE ENGINEER ON A BI-WEEKLY BASIS. COORDINATES SHALL ALSO BE REQUIRED TO BE SUBMITTED TO THE DIVISION OF WATER AS PART OF THE REQUEST FOR CHLORINATION.

LUMP SUM PAYMENT IS FULL COMPENSATION FOR ALL WORK INVOLVED IN OBTAINING AND DOCUMENTING THE SURVEY COORDINATES AS DESCRIBED IN THIS SPECIFICATION.

FIRE HYDRANT RELOCATION

FIRE HYDRANT RELOCATIONS SHALL CONFORM TO APPLICABLE SECTIONS OF ITEM 809 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS. WORK SHALL CONSIST OF REMOVING THE EXISTING HYDRANT, INSTALLING NEW 6" PIPE AND FITTINGS AS REQUIRED TO LOCATE THE FIRE HYDRANT 2 FEET BACK OF PROPOSED CURB OR 8 FEET OFF EDGE OF PAVEMENT, RESETTING BLOCKING AND HYDRANT AS REQUIRED. ALL 6" PIPE SHALL BE INSTALLED AT 4"-0" MINIMUM COVER. HYDRANT EXTENSION SHALL BE PROVIDED PER ITEM 810, AS REQUIRED. RELOCATED FIRE HYDRANTS SHALL BE ADJUSTED TO PROPER GRADE AND FACED IN THE PROPER DIRECTION. WHEN A HYDRANT IS RELOCATED FIFTEEN (15) FEET OR MORE FROM THE "TYPICAL HYDRANT SETTING" VALVE LOCATION (SEE L-6409 & L-6637), AS ADDITIONAL VALVE SHALL BE INSTALLED, AND RESTRAINED, WITHIN TWO (2) FEET OF THE RELOCATED HYDRANT. PAYMENT IS TO BE INCLUDED UNDER ITEM 809, FIRE HYDRANT RELOCATED.

NO TWO (2) ADJACENT FIRE HYDRANTS SHALL BE TAKEN OUT OF SERVICE CONCURRENTLY.

THE CONTRACTOR SHALL NOTIFY THE DIVISION OF FIRE ALARM OFFICE, 221-3132, WHENEVER FIRE HYDRANTS ARE TAKEN OUT OF SERVICE AND PLACED BACK IN SERVICE.

RELOCATED FIRE HYDRANTS SHALL BE PUT BACK IN SERVICE AS SOON AS POSSIBLE.

ALL WORK FOR THIS ITEM SHALL BE PAID FOR UNDER ITEM 638 - WATER WORK, MISC.: FIRE HYDRANT, RELOCATED (COLUMBUS 809)

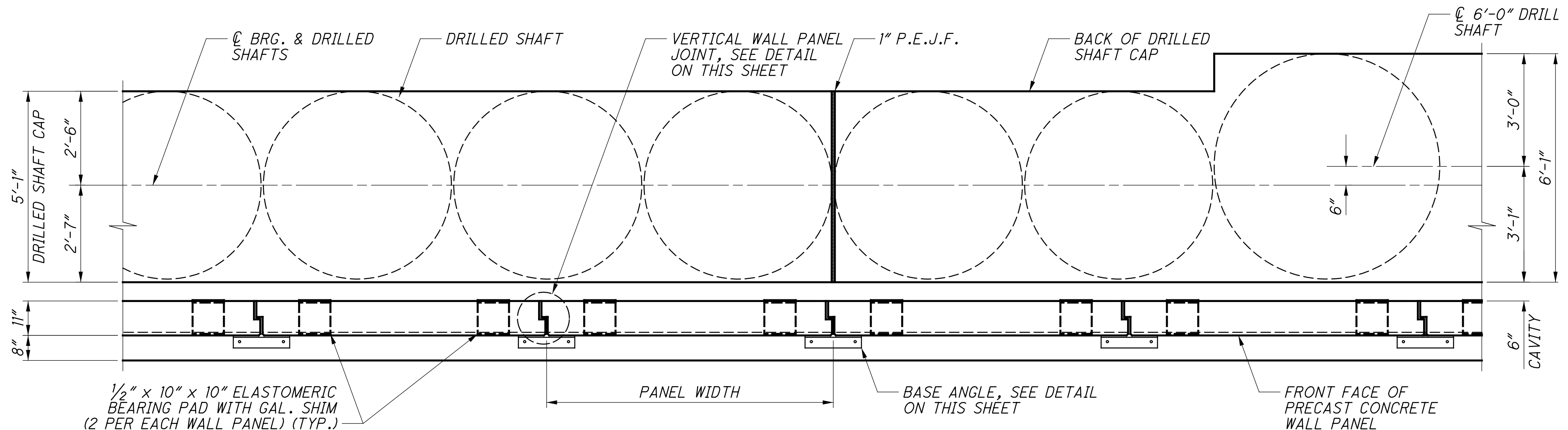
QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 40

CALCULATED
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CHECKED
CWL

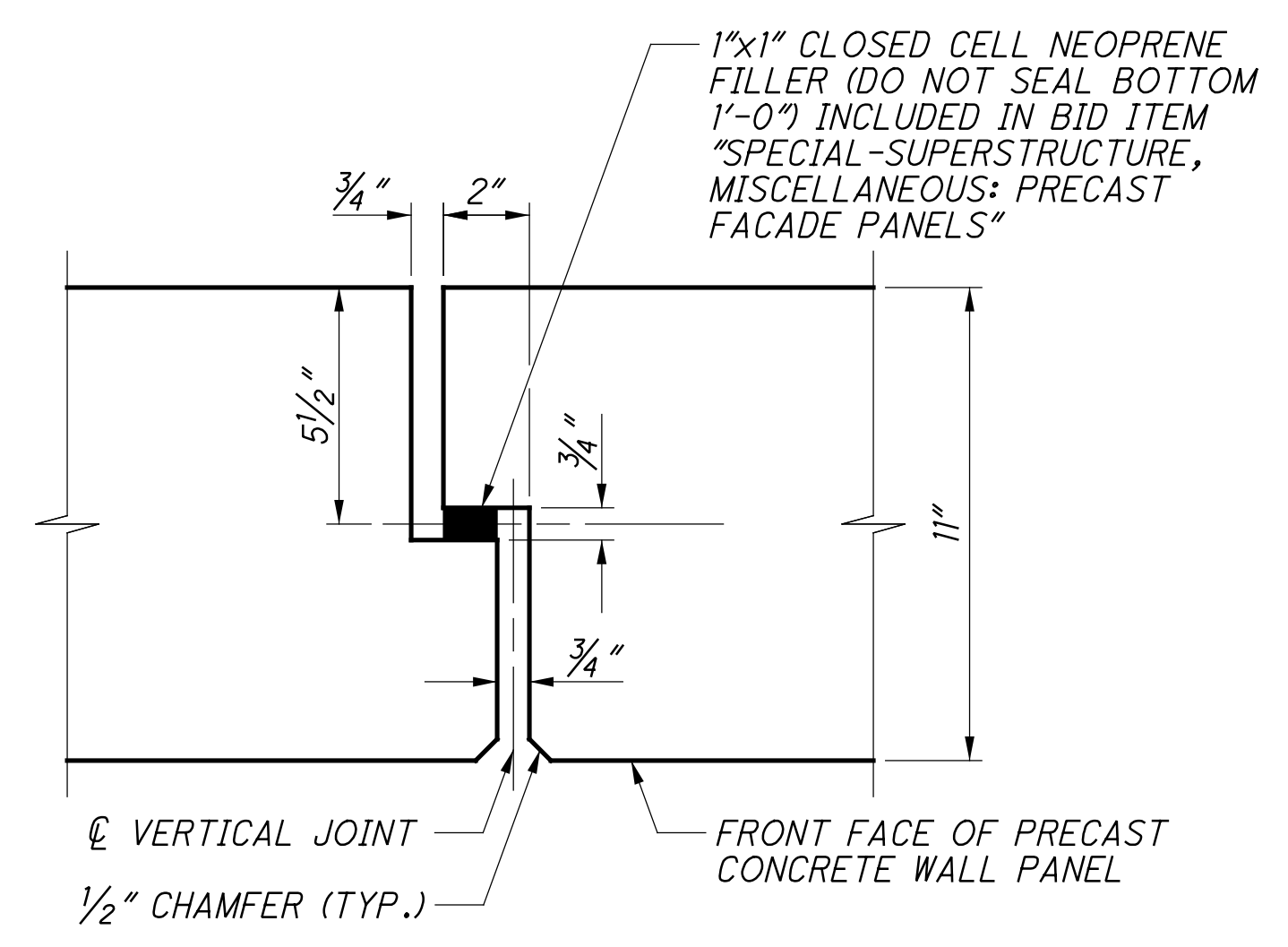
GENERAL NOTES

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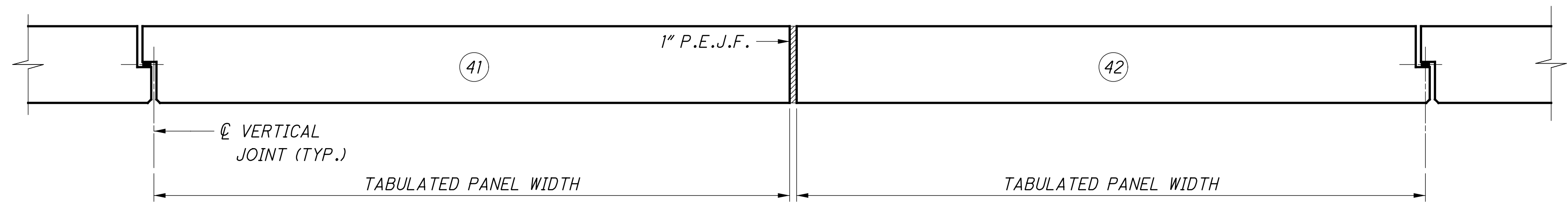
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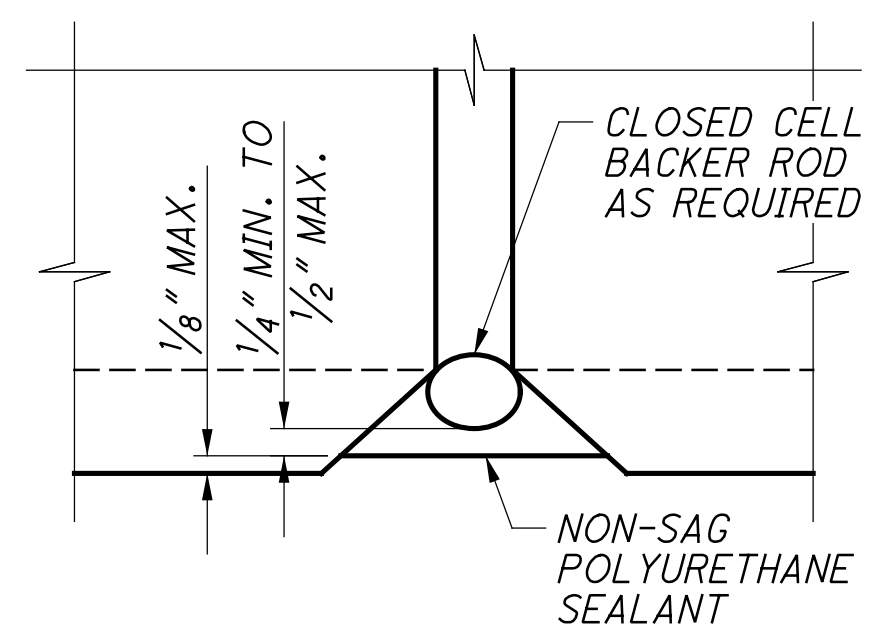
TYPICAL DRILLED SHAFT AND FOOTING PLAN



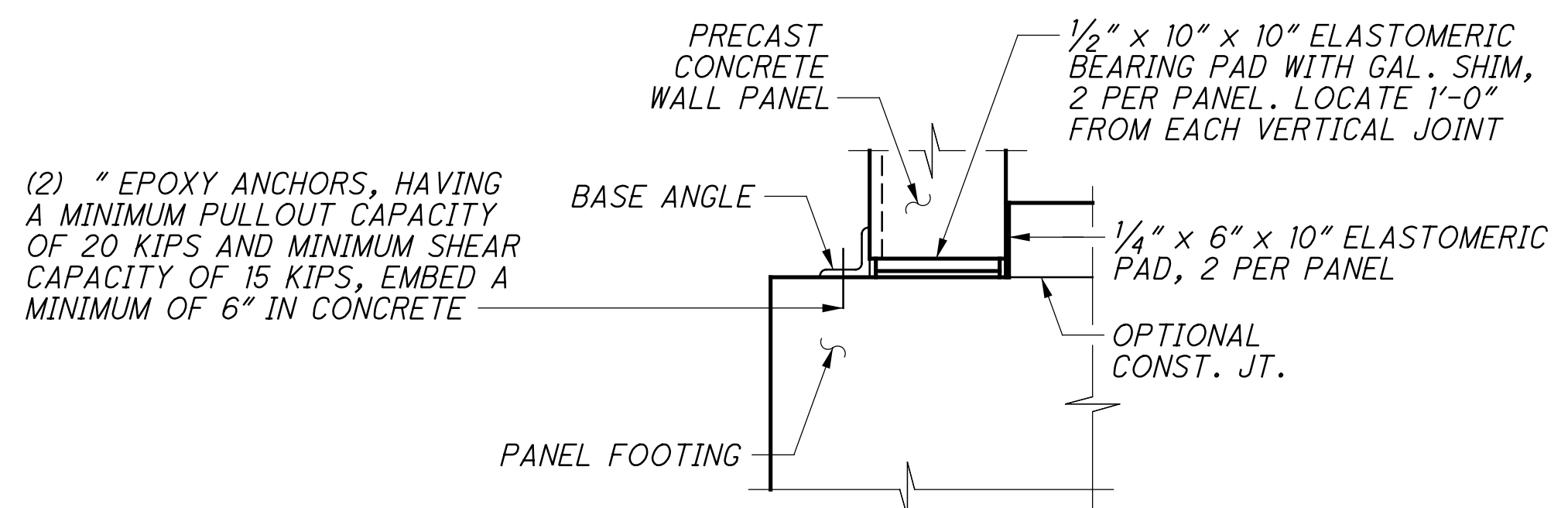
VERTICAL WALL PANEL JOINT DETAIL



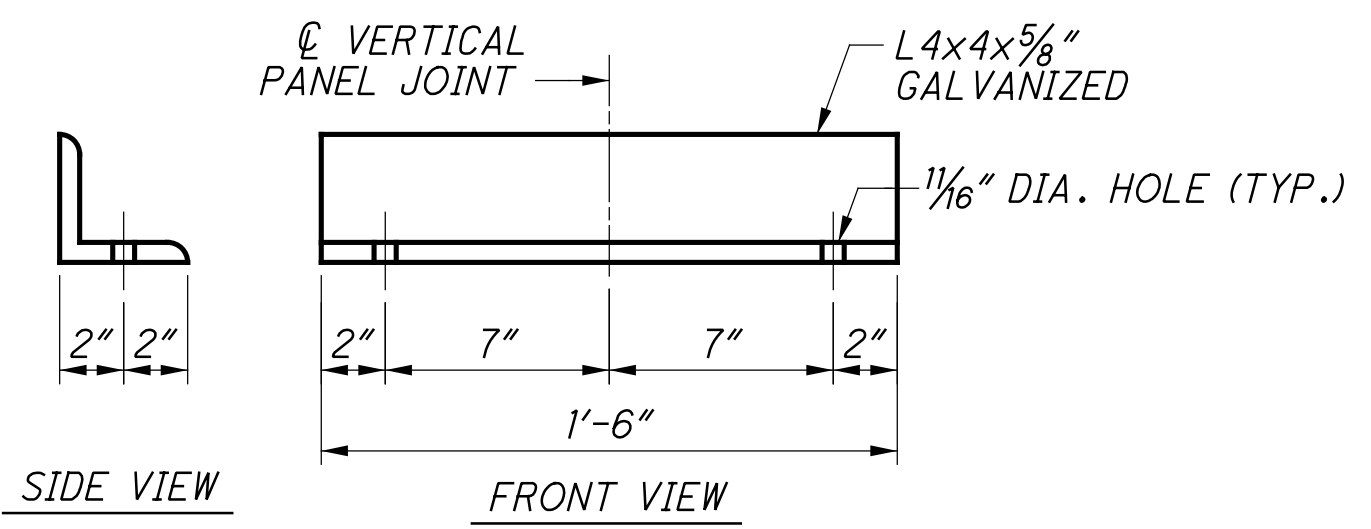
PRECAST PANEL EXPANSION JOINT DETAILS



CAULKING DETAIL
TYPICAL ALL PRECAST PANEL JOINTS



WALL BASE DETAILS



BASE ANGLE DETAIL

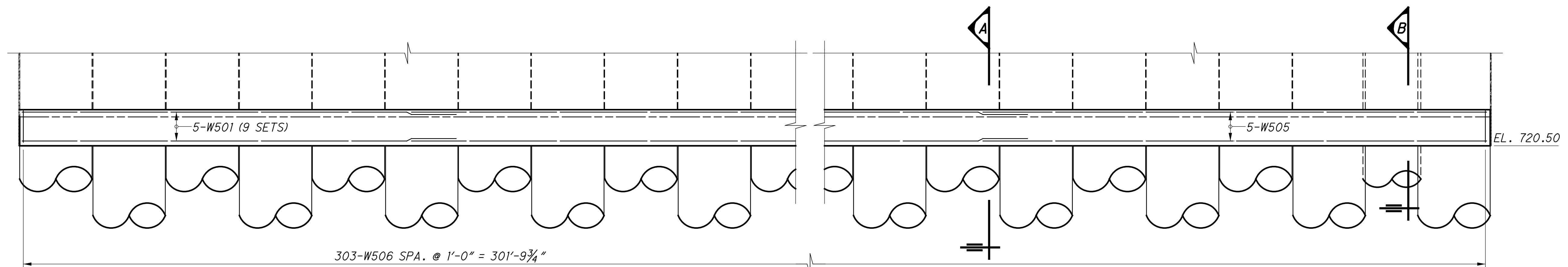
NOTES:

- ALL PANEL RELATED CONNECTION HARDWARE: PLATES, EPOXY ANCHORS, EXPANDED POLYSTYRENE, NEOPRENE FILLER, AND ELASTOMERIC BEARING PADS ARE INCIDENTAL TO BID ITEM "SPECIAL - STRUCTURE, MISC.: PRECAST FACADE PANELS".
- ALL ATTACHMENT PLATES, ANCHOR BOLTS, NUTS, WASHERS, AND OTHER STEEL APPURTENANCE ARE TO BE GALVANIZED, UNLESS NOTES OTHERWISE.
- FOR TOP OF WALL PANEL CONNECTION, SEE DETAILS ON SHT. NO. 21/22.

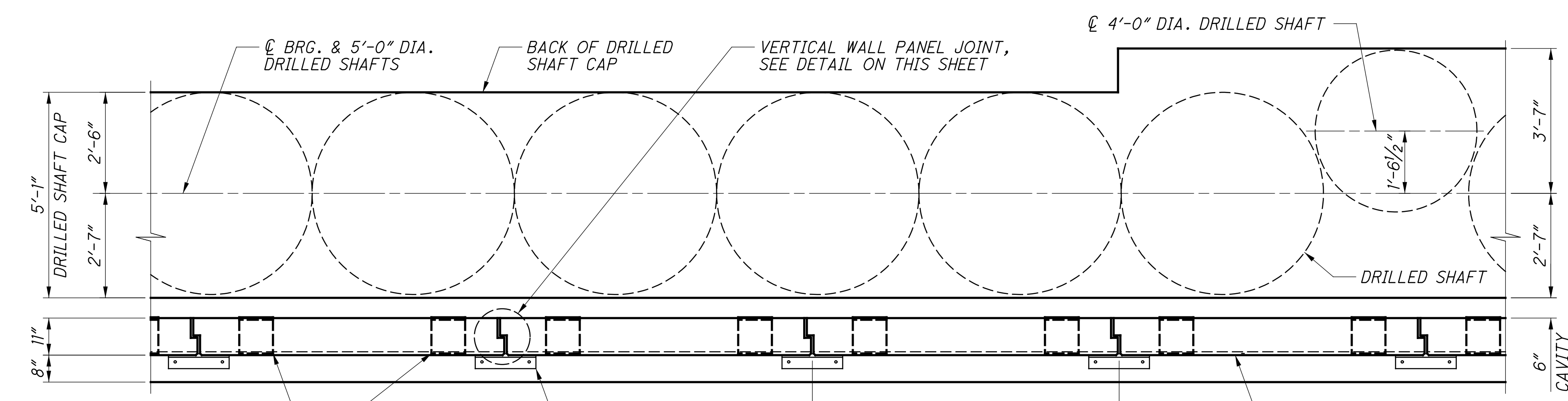
MINIMUM LAP LENGTH	
#5 HORIZONTAL	3'-1"

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-9-23
7	NOTE REVISED	GTP	11-15-23

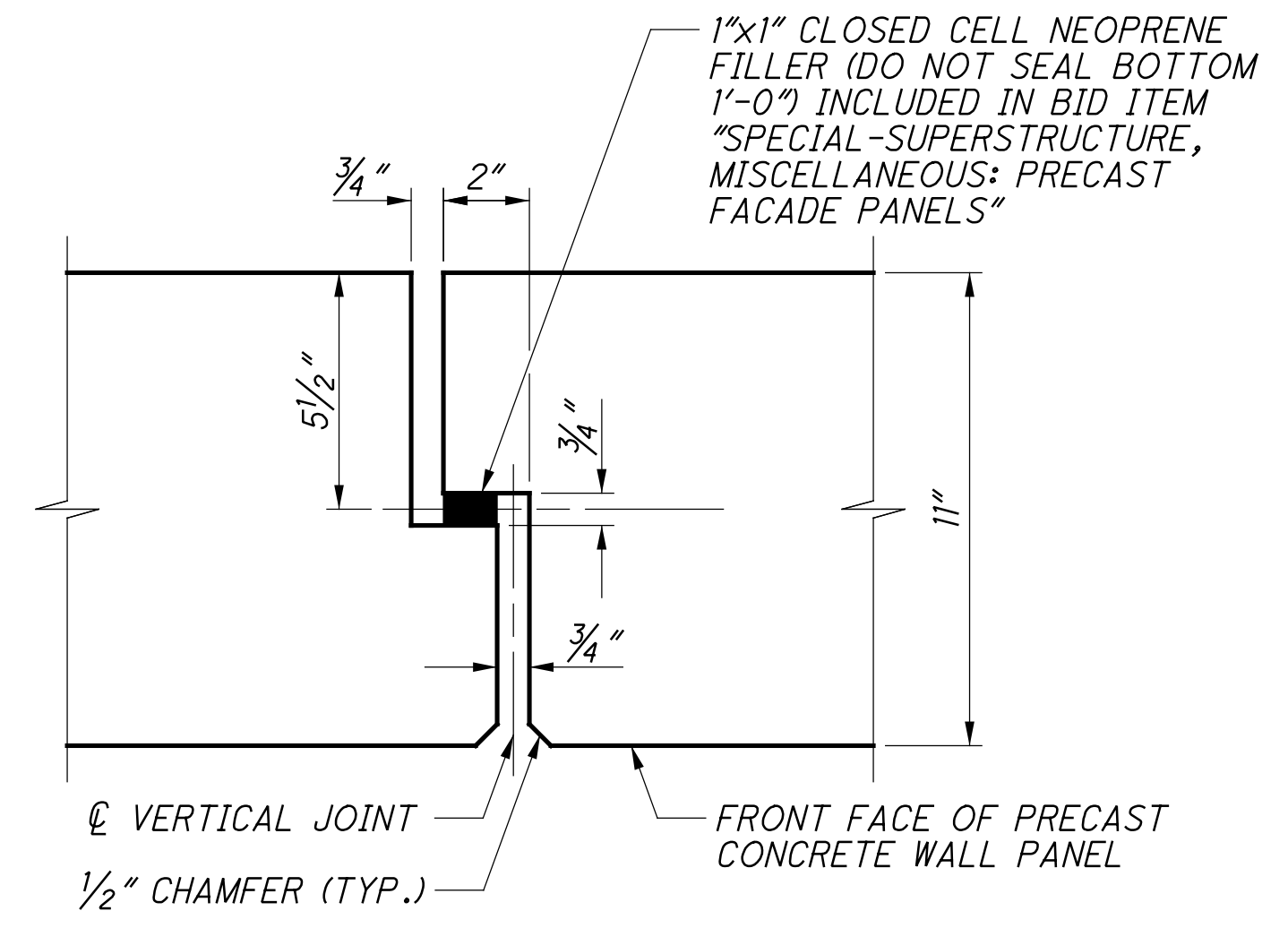
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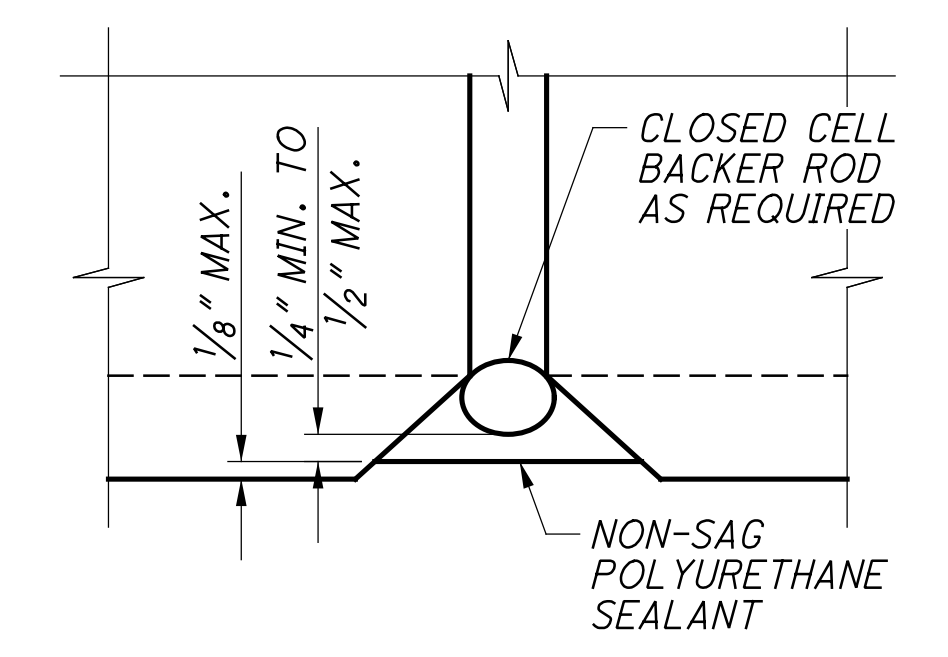
FOOTING ELEVATION



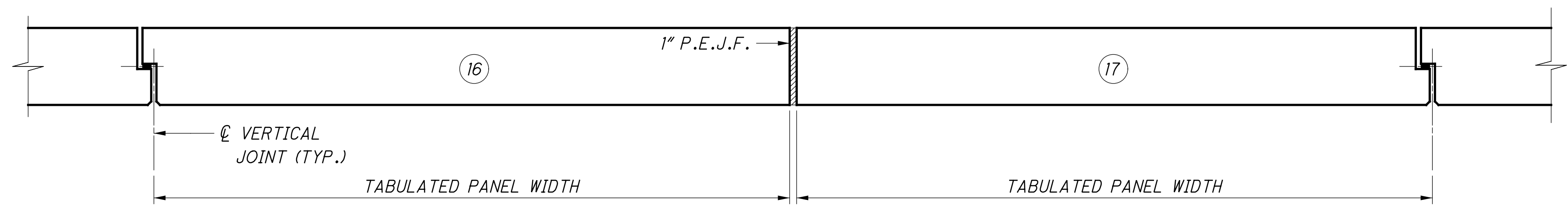
TYPICAL DRILLED SHAFT AND FOOTING PLAN



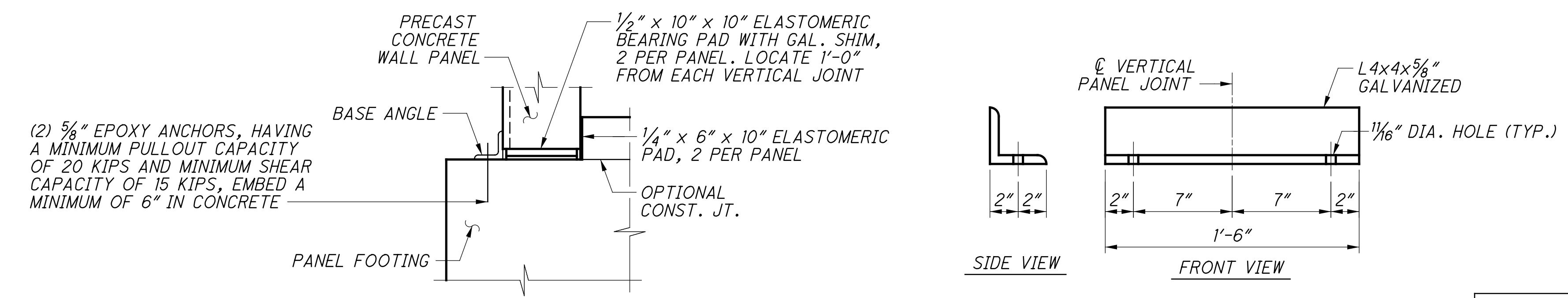
VERTICAL WALL PANEL JOINT DETAIL



CAULKING DETAIL
 TYPICAL ALL PRECAST PANEL JOINTS



PRECAST PANEL EXPANSION JOINT DETAILS



WALL BASE DETAILS

BASE ANGLE DETAIL

MINIMUM LAP LENGTH	
#5 HORIZONTAL	3'-1"

NOTES:

- ALL PANEL RELATED CONNECTION HARDWARE: PLATES, EPOXY ANCHORS, EXPANDED POLYSTYRENE, NEOPRENE FILLER, AND ELASTOMERIC BEARING PADS ARE INCIDENTAL TO BID ITEM "SPECIAL - STRUCTURE: PRECAST FACADE PANELS".
- ALL ATTACHMENT PLATES, ANCHOR BOLTS, NUTS, WASHERS, AND OTHER STEEL APPURTENANCE ARE TO BE GALVANIZED, UNLESS NOTED OTHERWISE.
- FOR TOP OF WALL PANEL CONNECTION, SEE DETAILS ON SHT. NO. 10/11.
- FOR SECTIONS A & B, SEE SHT. NO. 9/11.

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-9-23
7	NOTE REVISED	GTP	11-15-23

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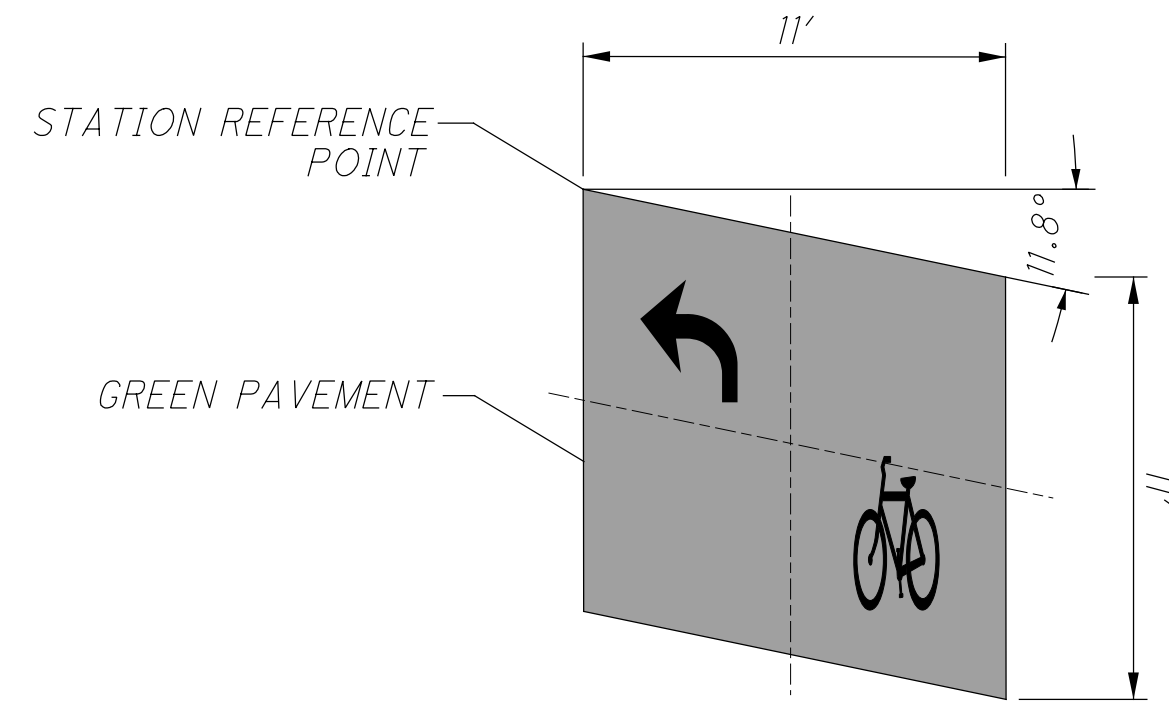
ITEM 647 - PAVEMENT MARKING, MISC.: TURN QUEUE BOX, TYPE B90

THIS ITEM SHALL MEET THE REQUIREMENTS OF ITEM 647, TYPE B90.

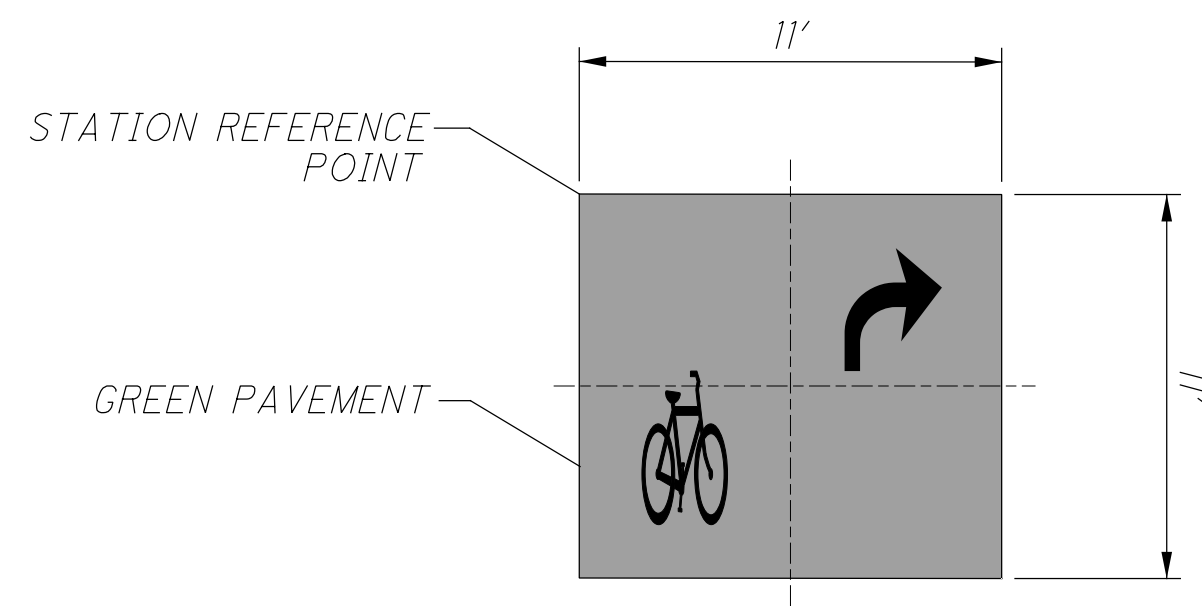
PAYMENT FOR THIS ITEM SHALL BE EACH AT THE CONTRACT UNIT PRICE FOR ITEM 647 - PAVEMENT MARKING, MISC.: TURN QUEUE BOX, TYPE B90.

INCLUDED IN THE PAY ITEM SHALL BE THE ITEM 644 - 4" WHITE BORDER FOR ALL SIDES OF THE QUEUE BOX.

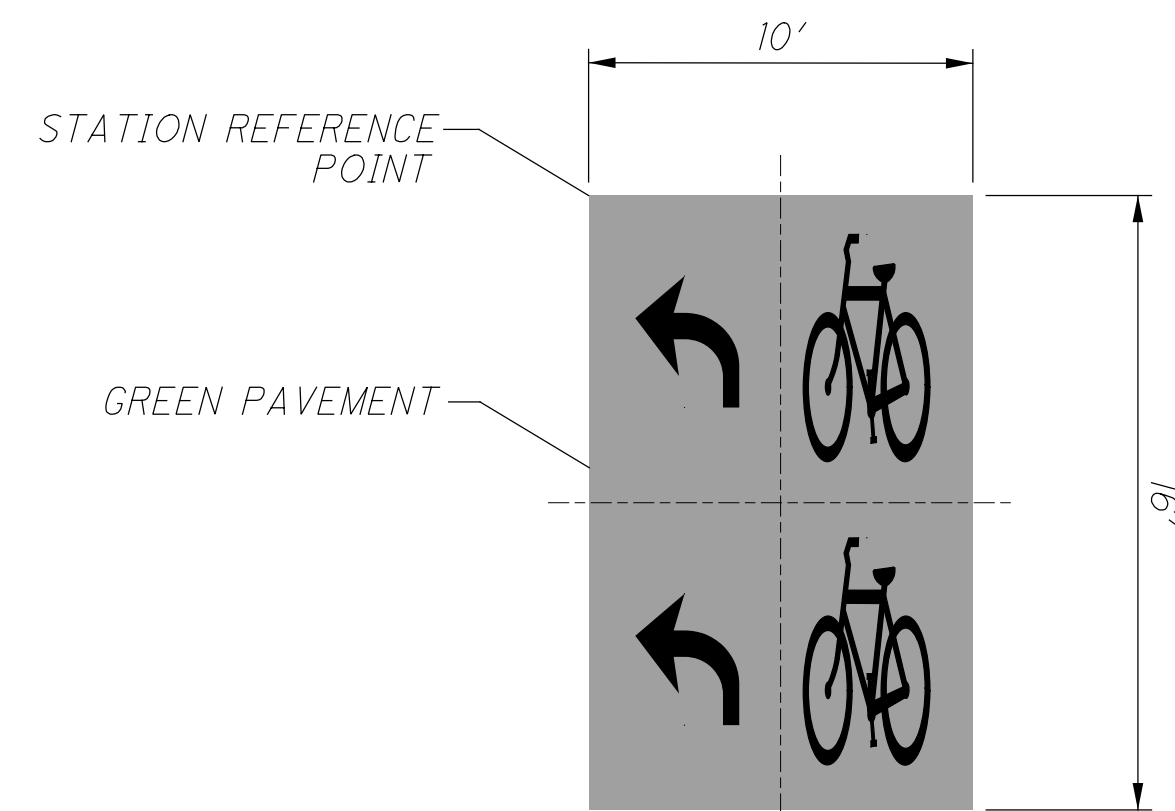
THE FOLLOWING DETAILS SHALL BE UTILIZED FOR THE TURN QUEUE BOXES.



SKewed LEFT TURN QUEUE BOX
N.T.S.



RIGHT TURN QUEUE BOX
N.T.S.



LEFT TURN QUEUE BOX
N.T.S.

LAYOUT OF PAVEMENT MARKINGS FOR MAINTENANCE OF TRAFFIC RESTORATION

ALTHOUGH PERMANENT PAVEMENT MARKINGS ARE TO BE INSTALLED AT THE END OF CONSTRUCTION, PAVEMENT MARKING PLAN SHEETS HAVE NOT BEEN INCLUDED IN THE CONTRACT PLANS FOR THE AREAS OF PAVEMENT MARKING RESTORATION DUE TO MAINTENANCE OF TRAFFIC LIMITS ON THE SURFACE STREETS. IN LIEU OF A PAVEMENT MARKING PLAN, THE CONTRACTOR SHALL, PRIOR TO THE START OF CONSTRUCTION, PREPARE AN INVENTORY LOG OF ALL EXISTING PAVEMENT MARKINGS FOR USE IN RESTORING THE MARKINGS AT THE END OF CONSTRUCTION. THE CONTRACTOR SHALL DELIVER TWO (2) COPIES OF THE INVENTORY AND LOG TO THE DISTRICT BEFORE BEGINNING ANY PAVEMENT REMOVALS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF THE VARIOUS FINAL PAVEMENT MARKINGS IN ACCORDANCE WITH SECTION 641.06.

UNLESS DIRECTED OTHERWISE BY THE DISTRICT, THE FINAL PAVEMENT MARKINGS SHALL BE RESTORED IN THEIR ORIGINAL PATTERNS AND LOCATION. FINAL LOCATION OF ALL PAVEMENT MARKINGS (PRE-LINE LAYOUT) SHALL BE APPROVED BY THE DISTRICT IN THE FIELD.

THE TABLE TO THE RIGHT PROVIDES ESTIMATED QUANTITIES BASED ON THE PRESENT LOCATIONS OF THE EXISTING PAVEMENT MARKINGS WITHIN THE PROJECT MAINTENANCE OF TRAFFIC LIMITS.

THE COST OF LOGGING AND PREMARKING SHALL BE INCLUDED FOR THE VARIOUS PAVEMENT MARKING ITEMS. NO SEPARATE PAYMENT SHALL BE MADE.

REF. NO.	LOCATION	STATION		SIDE	644	644	644	644	644	644	644	644	645	645	646	647	
		FROM	TO		PARKING LOT STALL MARKING	LANE ARROW	PAVEMENT MARKING, MISC.: BIKE LANE DOTTED LINE, 6"	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12"	PAVEMENT MARKING, MISC.: STOP LINE, 24"	PAVEMENT MARKING, MISC.: TRANSVERSE / DIAGONAL LINE, 24"	PAVEMENT MARKING, MISC.: EDGE LINE, 6"	PAVEMENT MARKING, MISC.: LANE LINE, 6"	PAVEMENT MARKING, MISC.: EDGE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST	PAVEMENT MARKING, MISC.: LANE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST	LANE ARROW	BIKE LANE SYMBOL MARKING, TYPE B90	
					FT	EACH	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	
LA	RAMP C5	5088+06		RT											1		
LA	RAMP C5	5088+72		RT											1		
LA	RAMP C5	5089+38		RT											1		
LA	RAMP C5	5090+70		RT											1		
PS	FULTON ST	22+80		RT	8												
PS	FULTON ST	22+57		RT	8												
PS	FULTON ST	22+34		RT	8												
PS	FULTON ST	22+11		RT	8												
PS	FULTON ST	21+88		RT	8												
PS	FULTON ST	21+65		RT	8												
PS	FULTON ST	21+42		RT	8												
PS	FULTON ST	21+19		RT	8												
PS	FULTON ST	20+96		RT	8												
PS	FULTON ST	20+73		RT	8												
LA	FULTON ST	21+26		RT		1											
LA	FULTON ST	21+84		RT		1											
LA	FULTON ST	22+40		RT		1											
LA	FULTON ST	22+98		RT		1											
DW	FULTON ST	23+58	24+43	LT			85										
DW	FULTON ST	23+58	24+43	LT			85										
DW	FULTON ST	23+58	24+43	LT			85										
DW	FULTON ST	40+27	41+27	LT			100										
CH	FULTON ST	21+03	23+28	RT				225									
SL	FULTON ST	23+32		LT/RT					48								
TW	FULTON ST	19+54	19+75	LT						12							
TW	FULTON ST	19+75	23+28	LT						164							
EW	FULTON ST	19+75	23+28	LT							353						
EW	FULTON ST	19+75	23+28	LT							353						
EW	FULTON ST	36+95	40+27	LT							332						
EW	FULTON ST	37+10	41+07	LT							397						
LL	FULTON ST	19+87	21+03	RT								116					
LL	FULTON ST	19+87	23+28	LT								341					
LL	FULTON ST	36+95	40+96	LT								401					
LL	FULTON ST	36+95	40+96	RT								401					
EW	FULTON ST	19+54	19+75	LT									21				
EW	FULTON ST	19+54	19+75	LT									21				
LL	FULTON ST	19+55	19+75	LT										20			
LL	FULTON ST	19+55	19+75	RT										20			
BI	FULTON ST	21+43		LT												1	
BI	FULTON ST	23+13		LT												1	
BI	FULTON ST	37+11		LT												1	
BI	FULTON ST	40+18		LT												1	
TW	3RD ST	1157+00	1157+80	LT					30								
EW	3RD ST	1157+00	1157+80	LT							80						
EW	3RD ST	1157+00	1157+80	LT							80						
LL	3RD ST	1155+63	1157+80	LT								217					
LL	3RD ST	1155+63	1157+80	RT								217					
LL	3RD ST	1155+63	1157+80	RT								217					
LA	3RD ST	1159+06		LT											1		
LA	3RD ST	1159+65		LT											1		
BI	3RD ST	1157+54		LT												1	
EW	4TH ST	1154+84	1155+19	LT						35							
EW	4TH ST	1154+84	1155+19	LT						35							
LL	4TH ST	1154+84	1156+75	RT							191						
LL	4TH ST	1154+84	1156+75	LT							191						
BI	4TH ST	1155+01		LT												1	
TOTALS					80	4	355	225	48	206	1665	2292	42	40	6	6	
TOTALS (MILE)											0.32	0.44	0.01	0.01			
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY					80	4	355	225	48	206	0.32	0.44	0.01	0.01	6	6	

NO.	DESCRIPTION	DATE	REV. BY
7	REVISED DESCRIPTION	AKF	11-16-23

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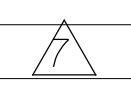
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OFFIC CALCS		404	409	413	414	415	416	417	418	458	01/IMS/04								
			438										621	00100	438	EACH	RPM		
			438										621	54000	438	EACH	RAISED PAVEMENT MARKER REMOVED		
									7				625	32000	7	EACH	GROUND ROD		
99													626	00102	99	EACH	BARRIER REFLECTOR, TYPE 1, ONE-WAY		
					50.0	135.6	218.0						630	02100	403.6	FT	GROUND MOUNTED SUPPORT, NO. 2 POST		
					64.8	106.4	99.6						630	03100	270.8	FT	GROUND MOUNTED SUPPORT, NO. 3 POST		
								79.4					630	07000	79.4	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18		
								150.8					630	07500	150.8	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22		
								39.5					630	07600	39.5	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		
									197.6				630	08000	197.6	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30		
						28.7							630	08004	28.7	FT	ONE WAY SUPPORT, NO. 3 POST		
						3	2						630	08600	5	EACH	SIGN POST REFLECTOR		
								18					630	09000	18	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION		
								1					630	72330	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.31, DESIGN 10		
									3				630	72420	3	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2		
										7			630	79101	7	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	446	
					1								630	79500	1	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED		
								2		4			630	79501	6	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	403	
					112.0	102.7	102.3			46.8			630	80100	363.8	SF	SIGN, FLAT SHEET		
									1239.0				630	80200	1239.0	SF	SIGN, GROUND MOUNTED EXTRUSHEET		
									369.0				630	80224	369.0	SF	SIGN, OVERHEAD EXTRUSHEET		
									51.0				630	80400	51.0	SF	SIGN, PERMANENT OVERLAY		
										3			630	80500	3	EACH	SIGN, DOUBLE FACED, STREET NAME		
					4								630	81020	4	EACH	CONCRETE MEDIAN BARRIER SIGN BRACKET		
									12				630	82000	12	EACH	SIGN BACKING ASSEMBLY		
									3				630	84010	3	EACH	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TC-21.50		
									18				630	84500	18	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION		
									4				630	84510	4	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION		
					5	29	16						630	84900	50	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
													630	85400	5	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL		
													630	86002	40	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
													630	86102	4	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL		
													630	87100	17	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION		
													630	87400	9	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL		
													630	87500	11	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL		
													630	89706	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30		
													630	89802	5	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65		
										LS			630	95000	LS		SIGNING, MISC.: TRAFFIC SIGNAL SIGNS	445	
				400									644	00720	400	FT	CHEVRON MARKING		
		80											644	01200	80	FT	PARKING LOT STALL MARKING		
		4		16									644	01300	20	EACH	LANE ARROW		
				2									644	01350	2	EACH	LANE REDUCTION ARROW		
				8									644	01630	8	EACH	BIKE LANE SYMBOL MARKING		
													644	50100	1	EACH	PAVEMENT MARKING, MISC.: BIKE DETECTOR MARKING	403	
													644	50300	505	FT	PAVEMENT MARKING, MISC.: BIKE LANE DOTTED LINE, 6"	403	
													644	50300	584	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12"	403	
													644	50300	205	FT	PAVEMENT MARKING, MISC.: STOP LINE, 24"	403	
													644	50300	244	FT	PAVEMENT MARKING, MISC.: TRANSVERSE / DIAGONAL LINE, 24"	403	
													644	50400	0.93	MILE	PAVEMENT MARKING, MISC.: EDGE LINE, 6"	403	
													644	50400	0.92	MILE	PAVEMENT MARKING, MISC.: LANE LINE, 6"	403	
													645	90000	0.31	MILE	PAVEMENT MARKING, MISC.: EDGE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST	403	
													645	90000	0.12	MILE	PAVEMENT MARKING, MISC.: LANE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST	403	
													645	98000	239	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12", TYPE A1, GROOVED, WITH CONTRAST	403	
													646	20300	6	EACH	LANE ARROW		

TRAFFIC CONTROL GENERAL SUMMARY

FRA - 70 - 14.05

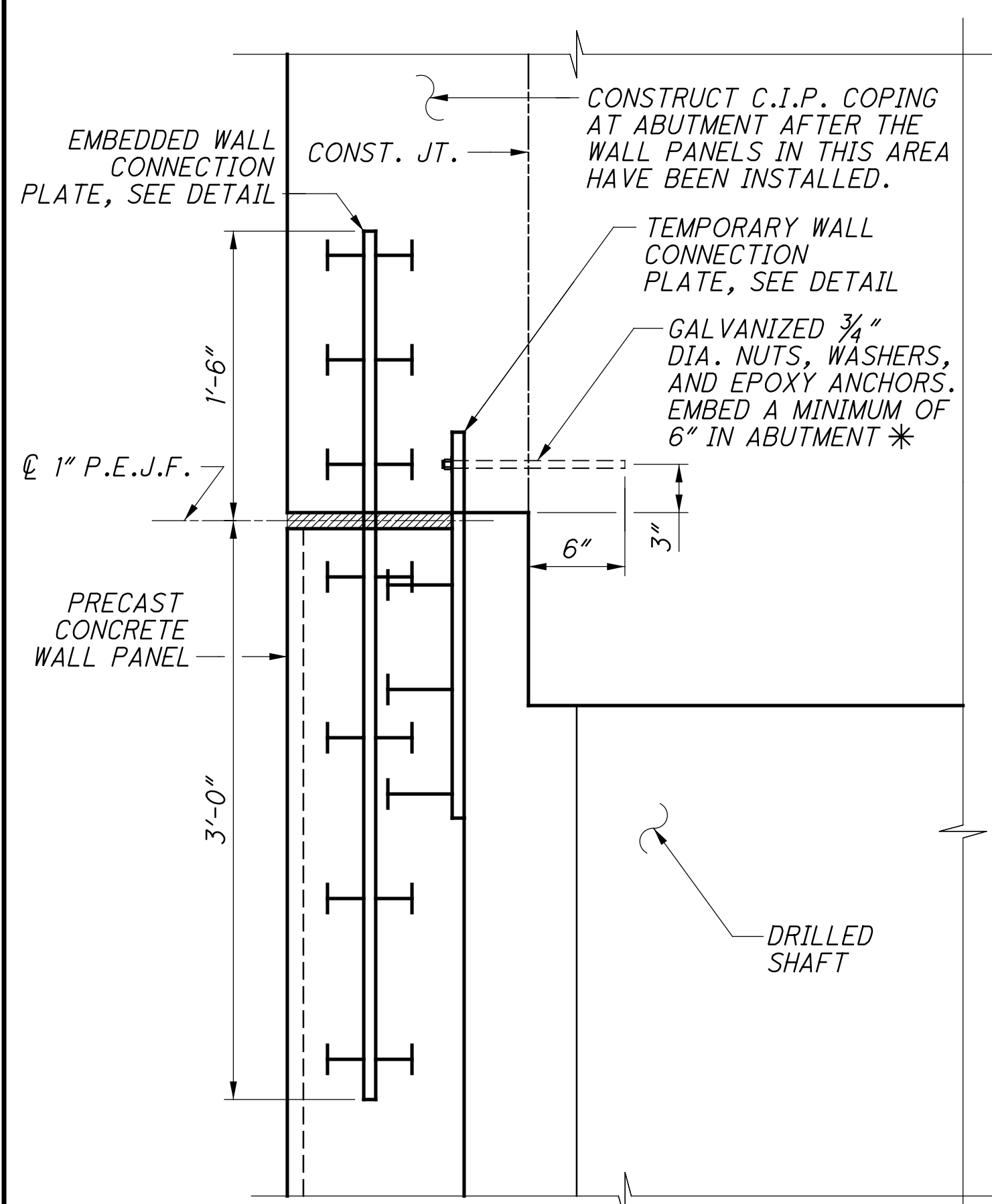
407
855

PAVEMENT MARKING, MISC.: EDGE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST
 PAVEMENT MARKING, MISC.: LANE LINE, 6", TYPE A1, GROOVED, WITH CONTRAST
 PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 12", TYPE A1, GROOVED, WITH CONTRAST



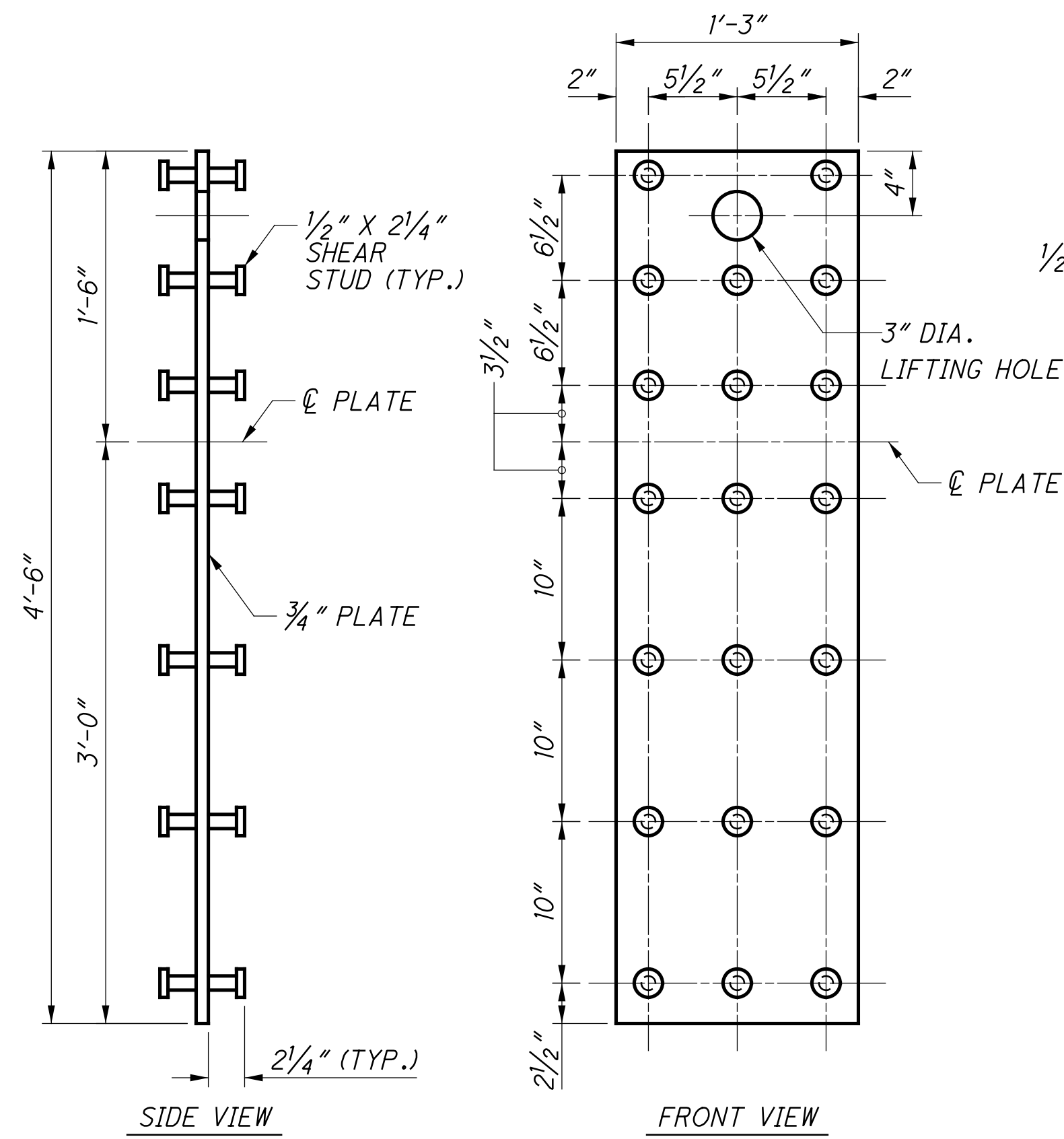
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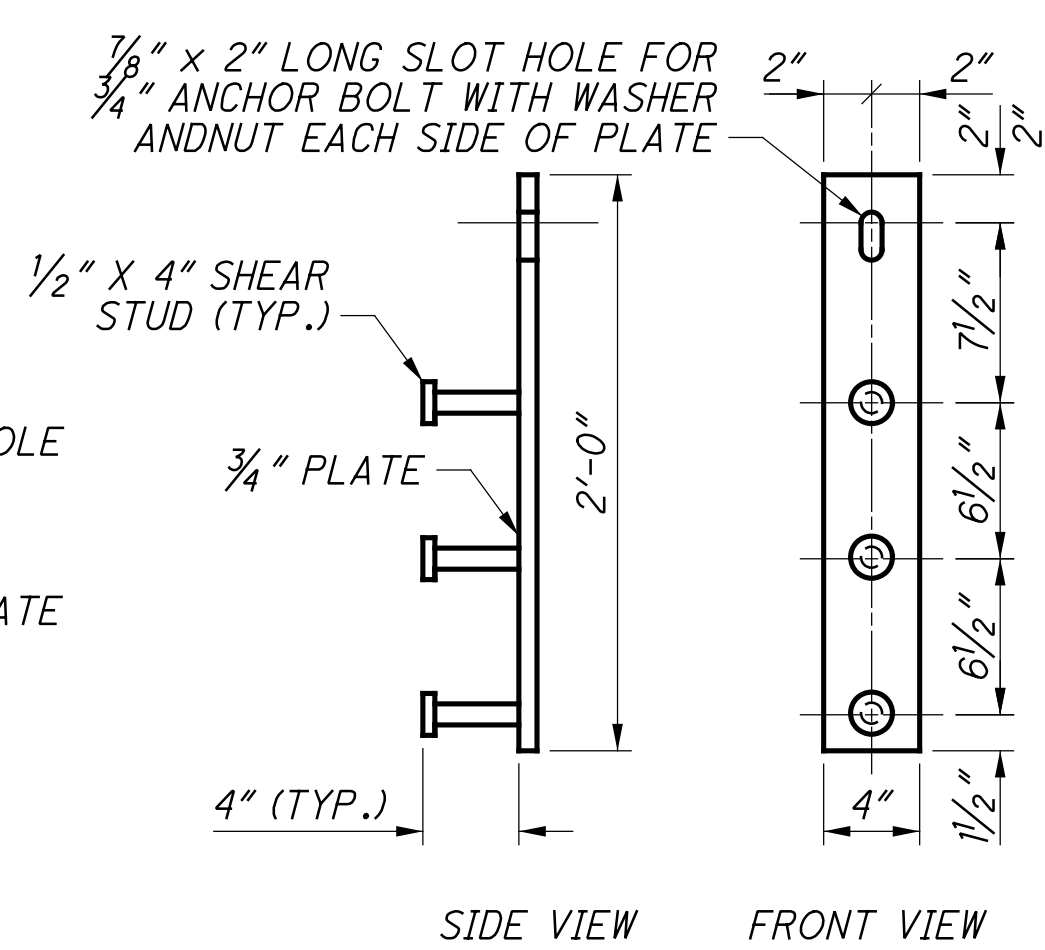


TOP WALL PANEL CONNECTION DETAIL

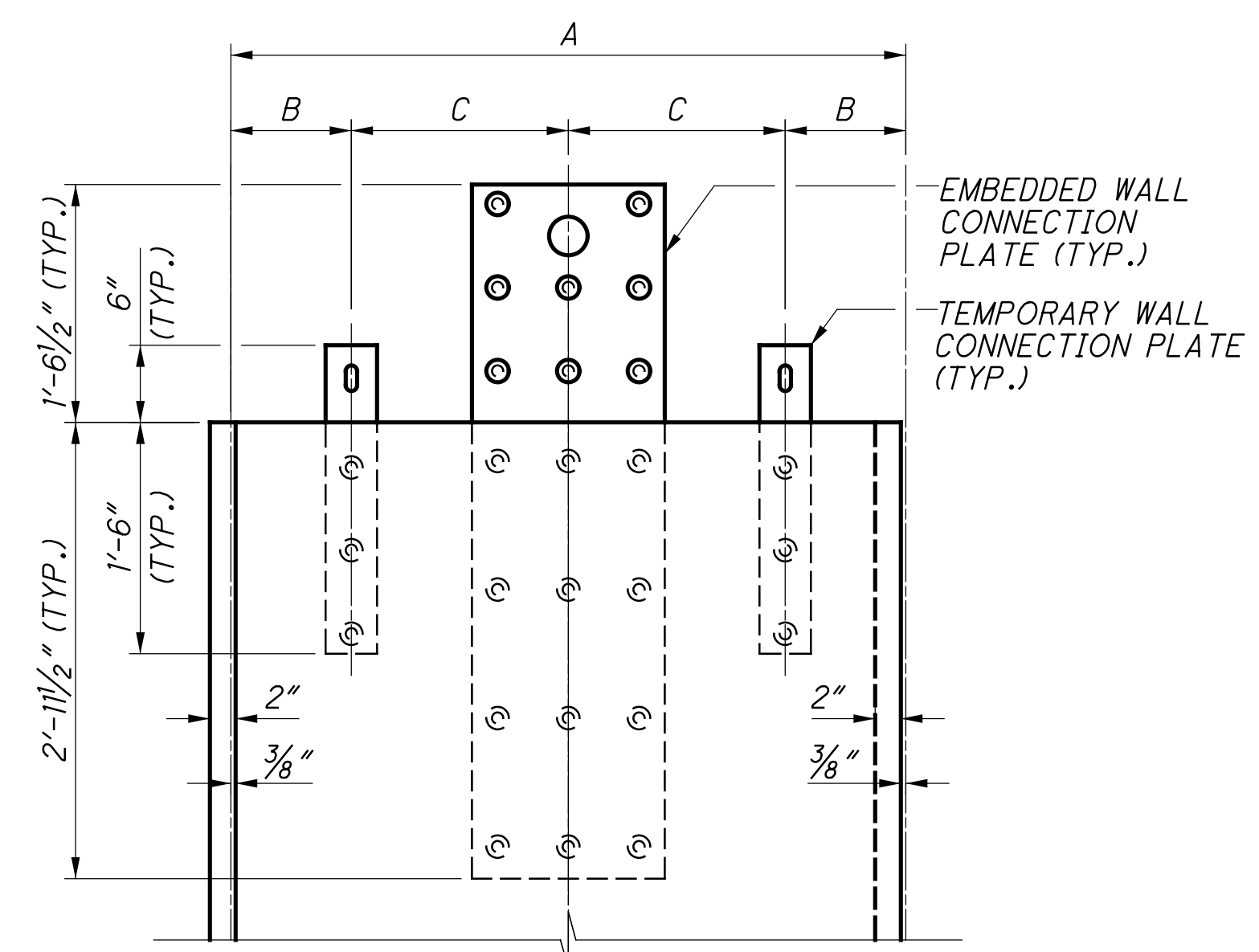
* - INSTALL 3/4" EPOXY ANCHOR PRIOR TO THE CONSTRUCTION OF THE C.I.P. COPING



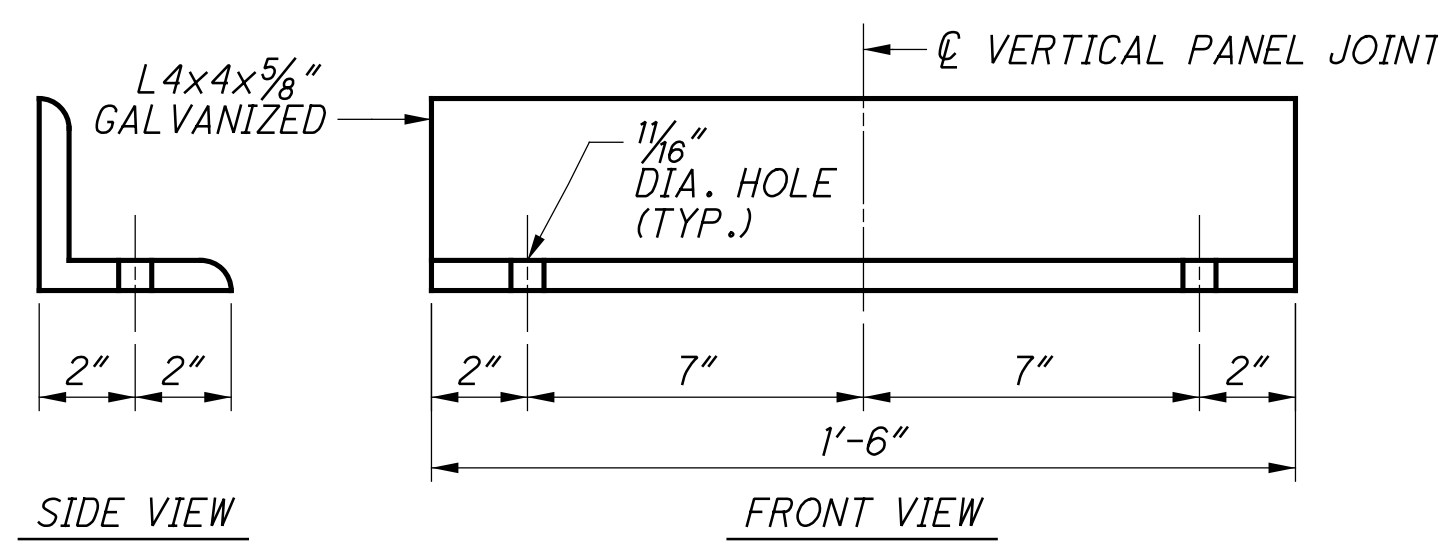
EMBEDDED WALL CONNECTION PLATE



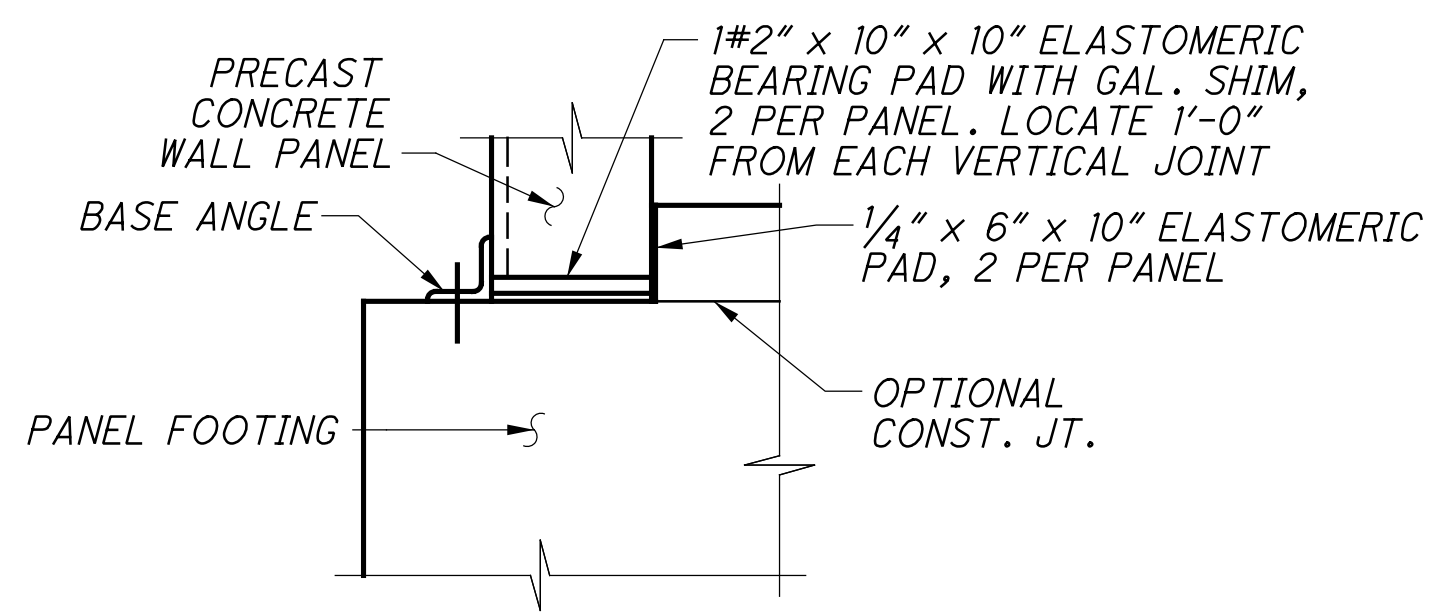
TEMPORARY WALL CONNECTION PLATE



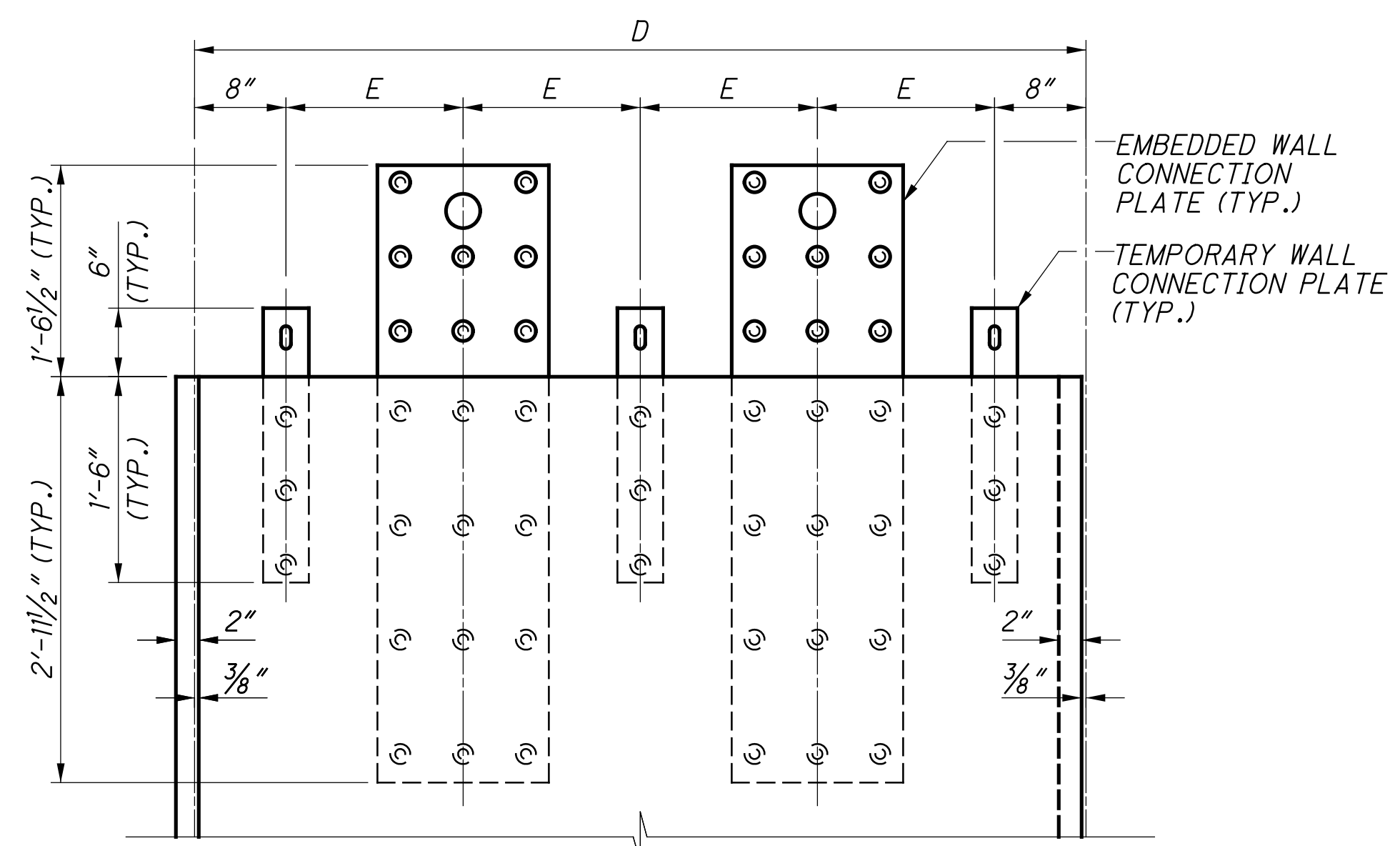
PRECAST WALL PLATE ELEVATION



BASE ANGLE DETAIL



WALL BASE DETAILS



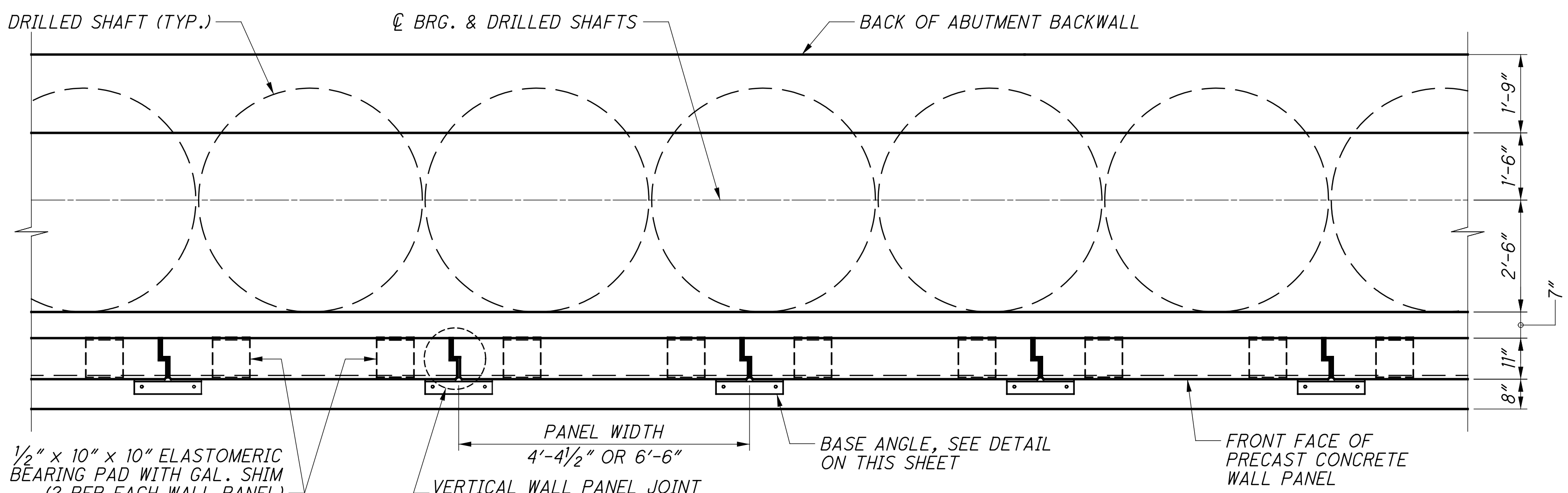
PRECAST WALL PLATE ELEVATION

PRECAST WALL PLATE SPACING DIMENSIONS

NO. OF PANELS	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"
1	3'-7 1/2"	7 1/8"	1'-2 5/8"	-	-
1	4'-4 1/2"	9 3/8"	1'-4 7/8"	-	-
1	4'-8 1/4"	EQ. SPA.	EQ. SPA.	-	-
19	-	-	-	6'-6"	1'-3 1/2"
8	-	-	-	7'-0"	1'-5"

NOTES:

- THE CONTRACTOR OR PRECAST PANEL MANUFACTURER IS RESPONSIBLE FOR DESIGNING OF THE LIFTING DEVICE. A MODIFICATION TO THE CONNECTION PLATE AS SHOWN MAY BE REQUIRED TO RESIST TEMPORARY CONSTRUCTION LOADS INCLUDING BUT NOT LIMITED TO WIND LOAD DURING ERECTION.
- ALL PANEL RELATED CONNECTION HARDWARE: PLATES, EPOXY ANCHORS, EXPANDED POLYSTYRENE, NEOPRENE FILLER, AND ELASTOMERIC BEARING PADS ARE INCIDENTAL TO BID ITEM "SPECIAL - STRUCTURE, MISC.: PRECAST FACADE PANELS".
- ALL ATTACHMENT PLATES, ANCHOR BOLTS, NUTS, WASHERS, AND OTHER STEEL APPURTENANCE ARE TO BE GALVANIZED, UNLESS NOTED OTHERWISE.



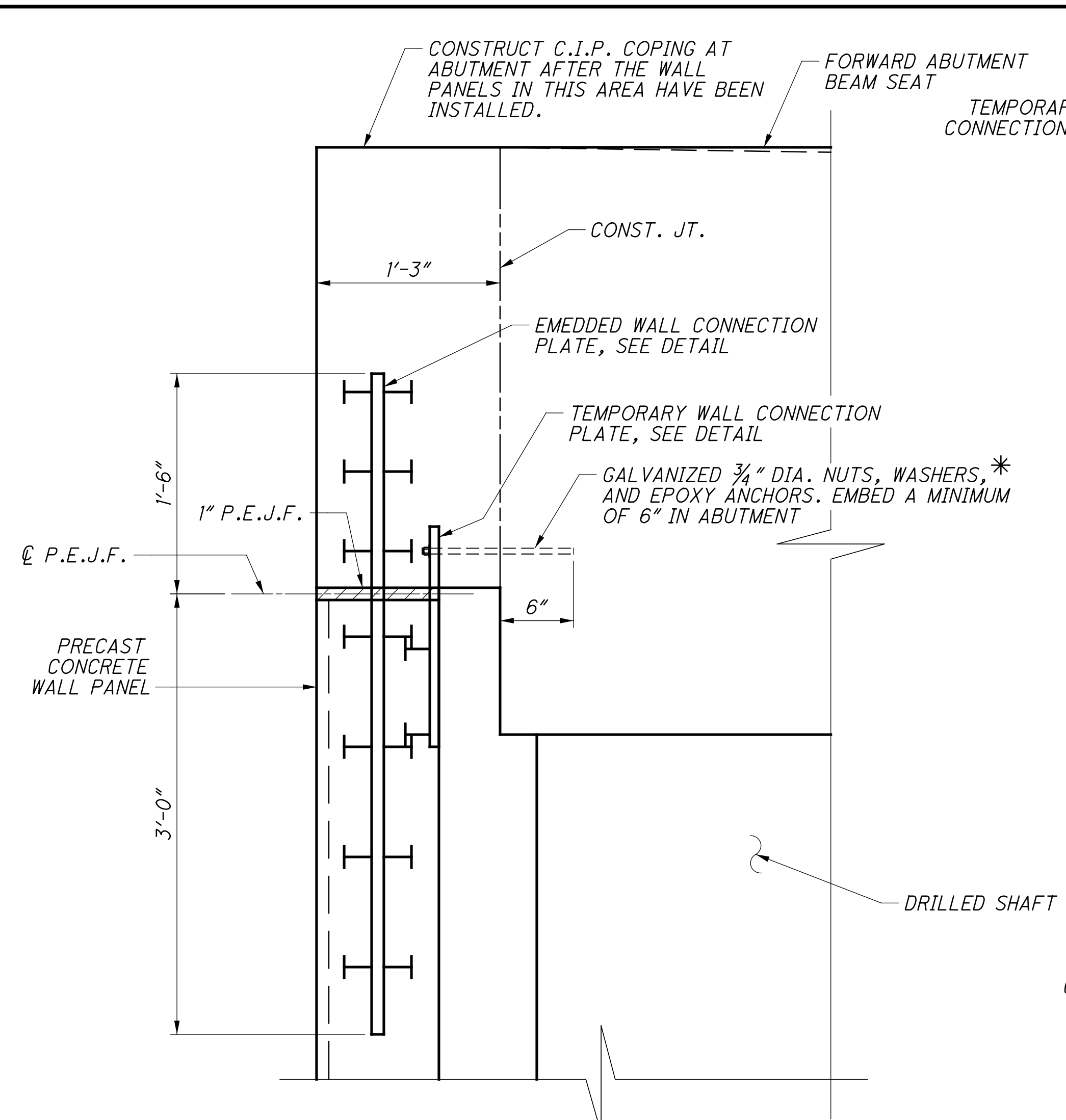
TYPICAL DRILLED SHAFT AND FOOTING PLAN

FOR TOP OF WALL PANEL CONNECTION, SEE DETAILS ON THIS SHEET

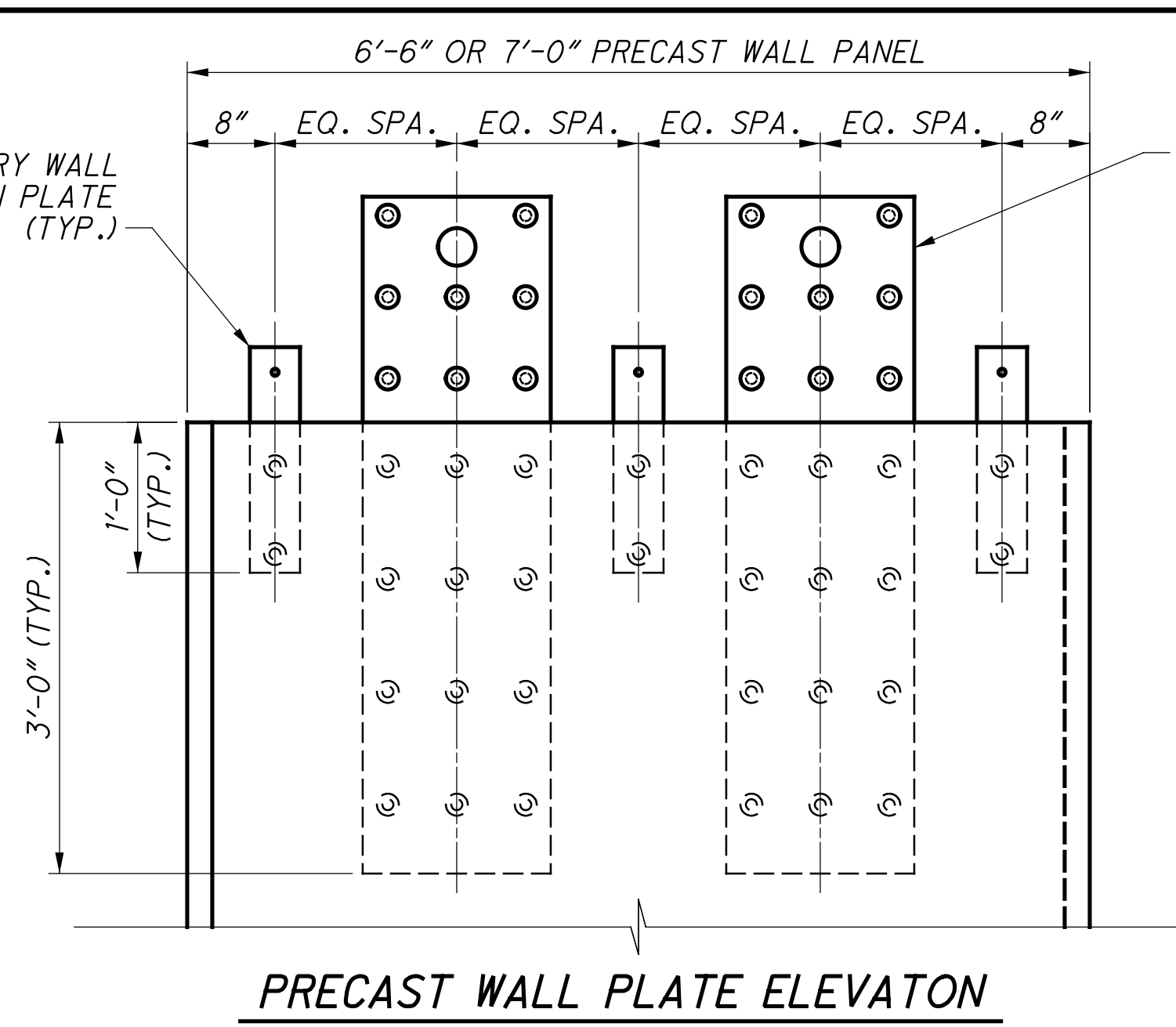
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6	NOTE REVISED	RSN	11-9-23
7	NOTE REVISED	GTP	11-15-23

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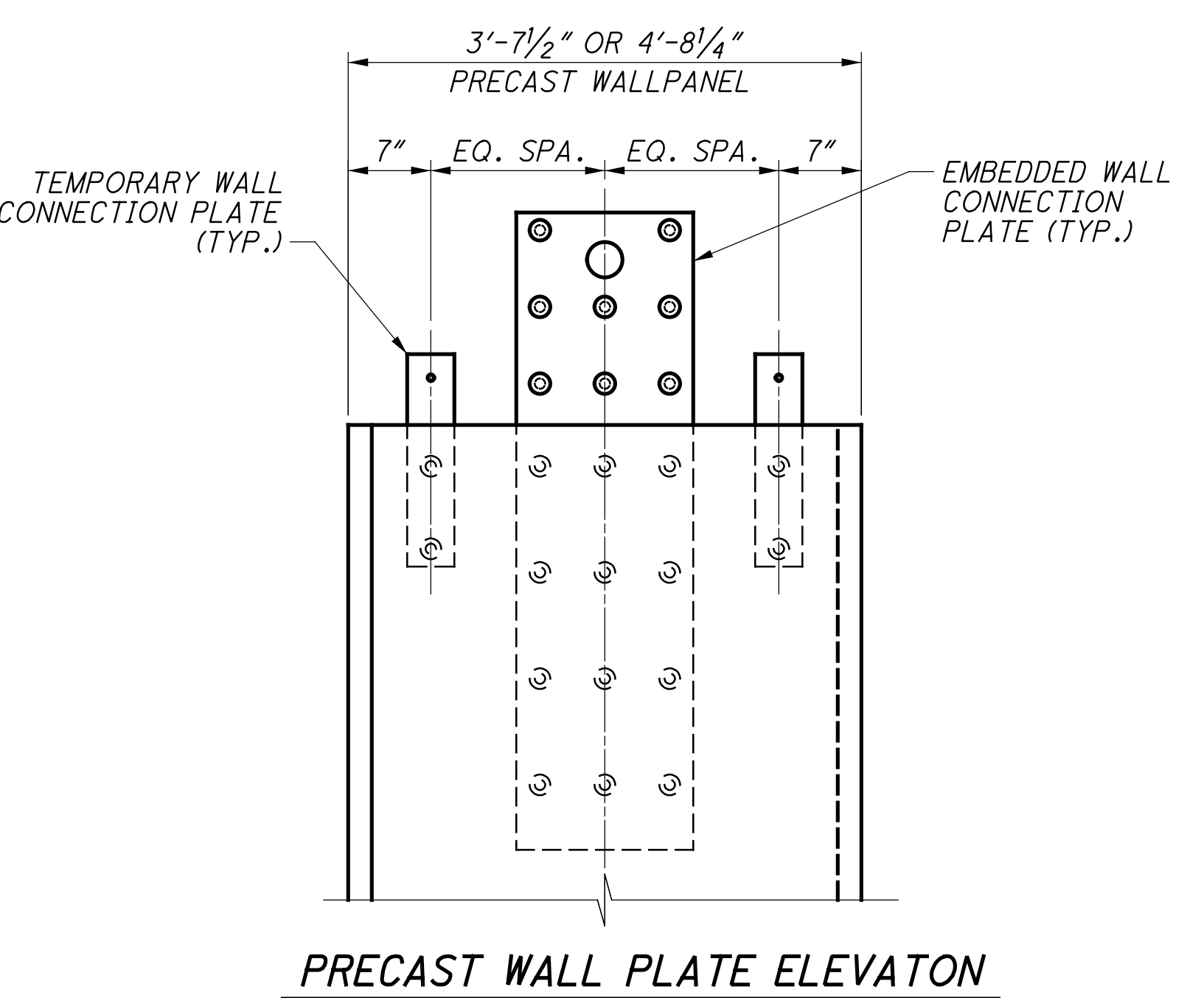
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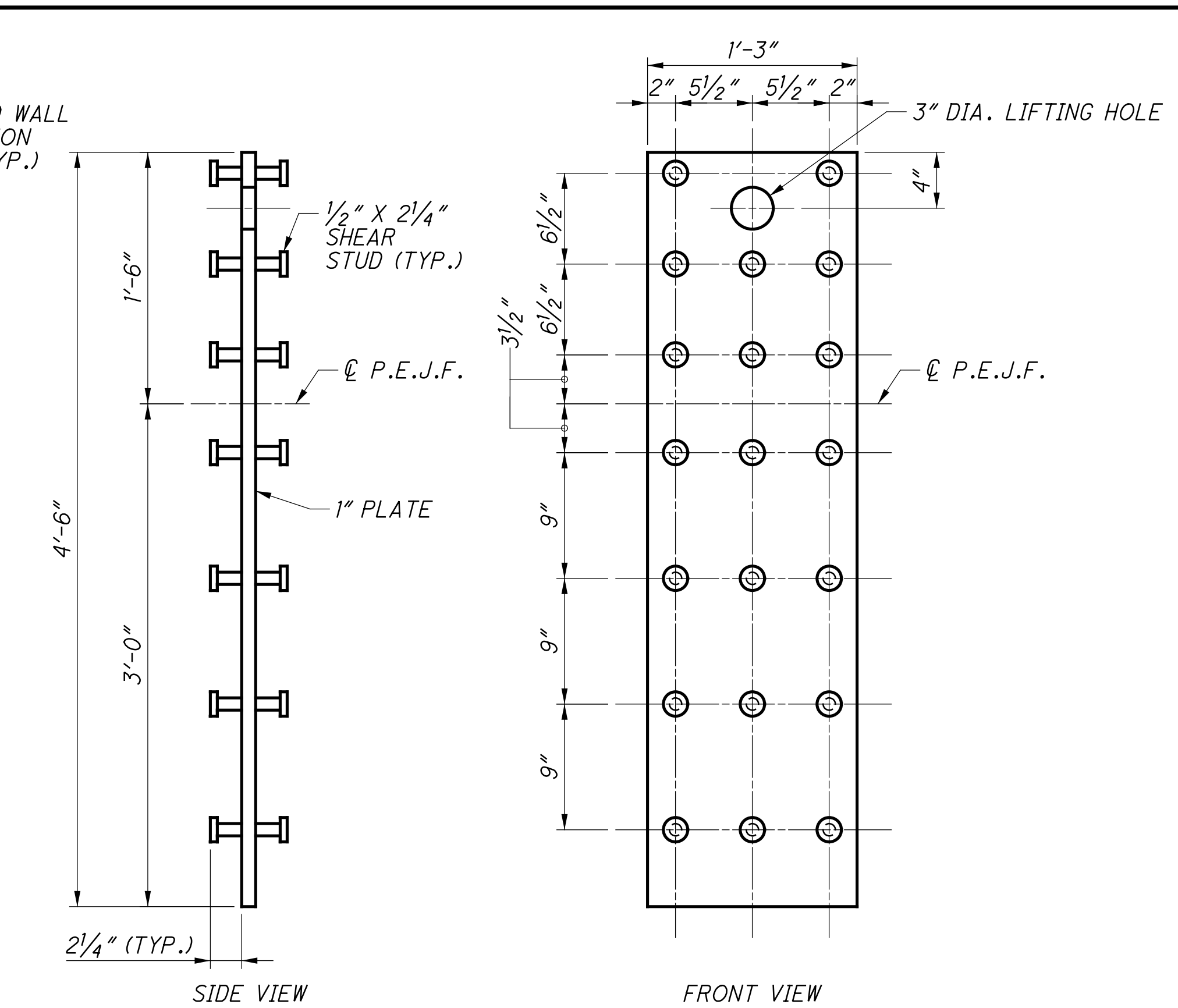
TOP WALL PANEL CONNECTION DETAIL
 * - INSTALL 3/4" EPOXY ANCHOR PRIOR TO THE CONSTRUCTION OF THE C.I.P. COPING



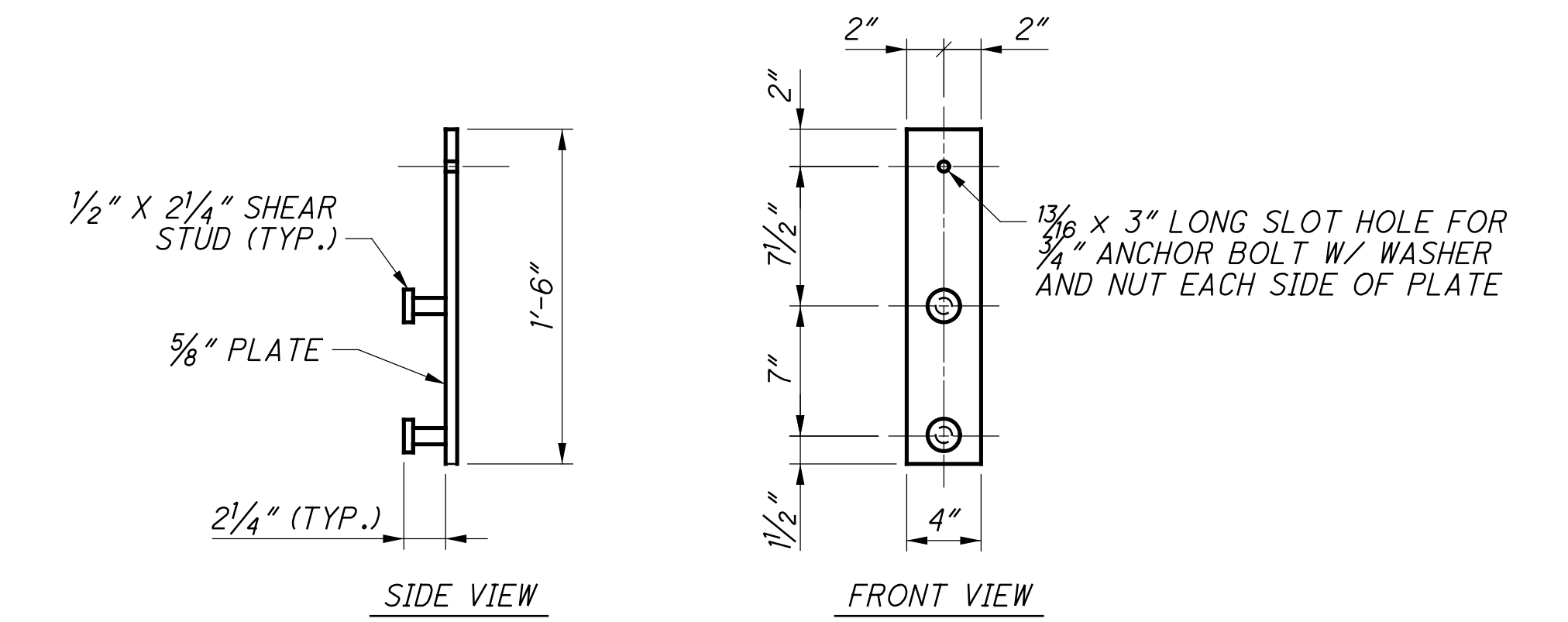
PRECAST WALL PLATE ELEVATOR



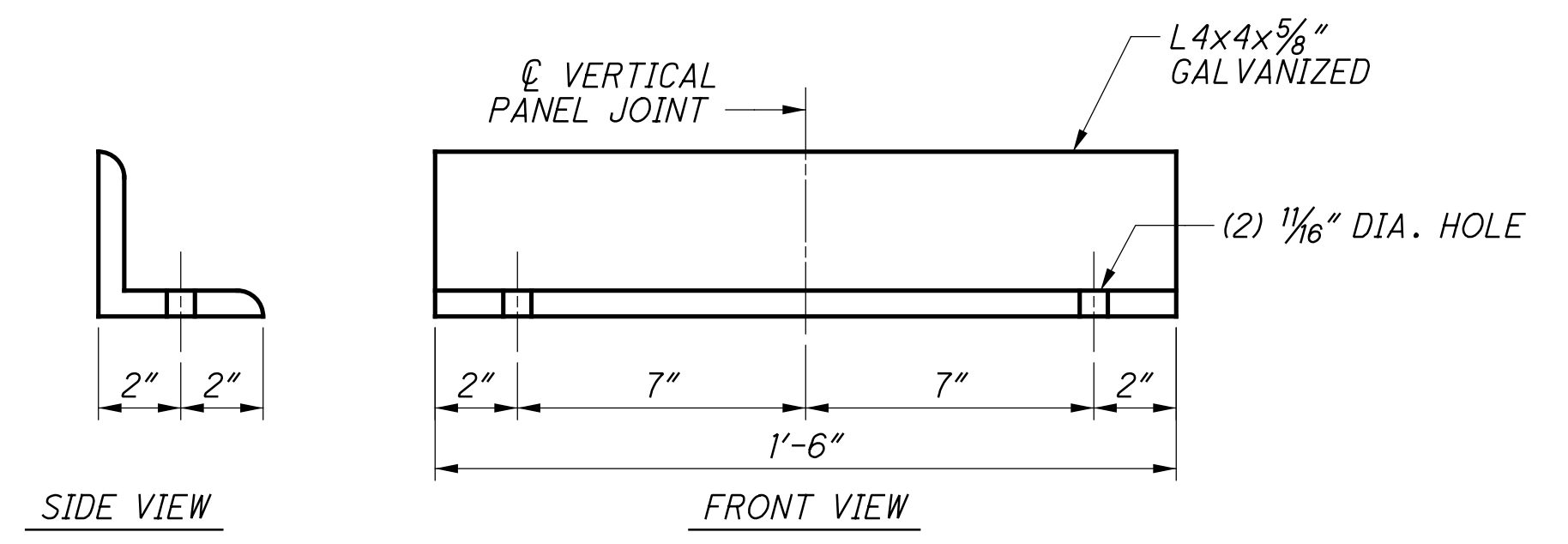
PRECAST WALL PLATE ELEVATOR



EMBEDDED WALL CONNECTION PLATE



TEMPORARY WALL CONNECTION PLATE



BASE ANGLE DETAIL

NOTES:

1. THE CONTRACTOR OR PRECAST PANEL MANUFACTURER IS RESPONSIBLE FOR DESIGNING OF THE LIFTING DEVICE. A MODIFICATION TO THE CONNECTION PLATE AS SHOWN MAY BE REQUIRED TO RESIST TEMPORARY CONSTRUCTION LOADS INCLUDING BUT NOT LIMITED TO WIND LOAD DURING ERECTION.

2. ALL PANEL RELATED CONNECTION HARDWARE: PLATES, EPOXY ANCHORS, EXPANDED POLYSTYRENE, NEOPRENE FILLER, AND ELASTOMERIC BEARING PADS ARE INCIDENTAL TO BID ITEM "SPECIAL - STRUCTURE, MISC.: PRECAST FACADE PANELS".

3. ALL ATTACHMENT PLATES, ANCHOR BOLTS, NUTS, WASHERS, AND OTHER STEEL APPURTENANCE ARE TO BE GALVANIZED, UNLESS NOTED OTHERWISE.

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-9-23
7	NOTE REVISED	GTP	11-15-23

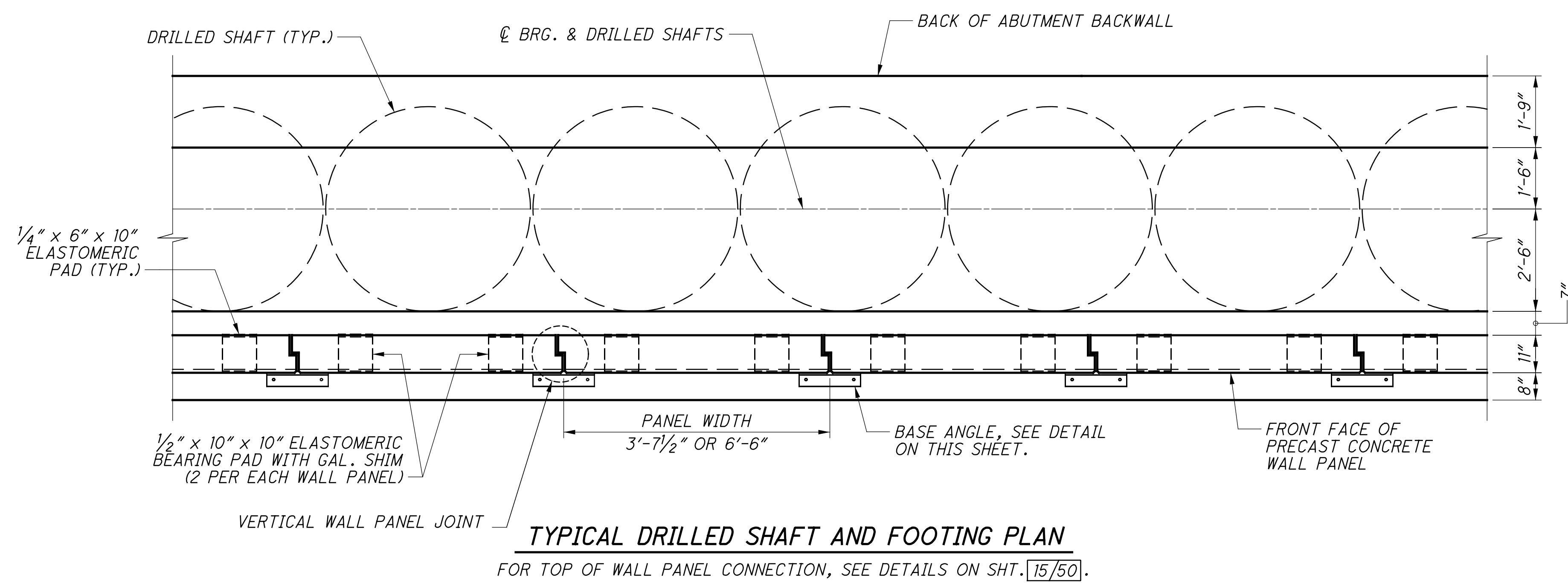
DESIGN AGENCY: **GPD GROUP**
 1000 Westwood Drive, Suite 200, Co. (PH) 424-1111
 Copyright © 2023, GPD Group, Inc.

DESIGNED	RHC	CHECKED	TJW
DRAWN	MLS	REVISED	
REVIEWED	DGN	STRUCTURE FILE NUMBER	2501554
DATE	4-21-23		

PRECAST FACADE PANEL CONNECTION DETAILS
 BRIDGE NO. FRA-33-1747C - CAPS
 S. 3RD STREET (U.S. 33) OVER I-70/71

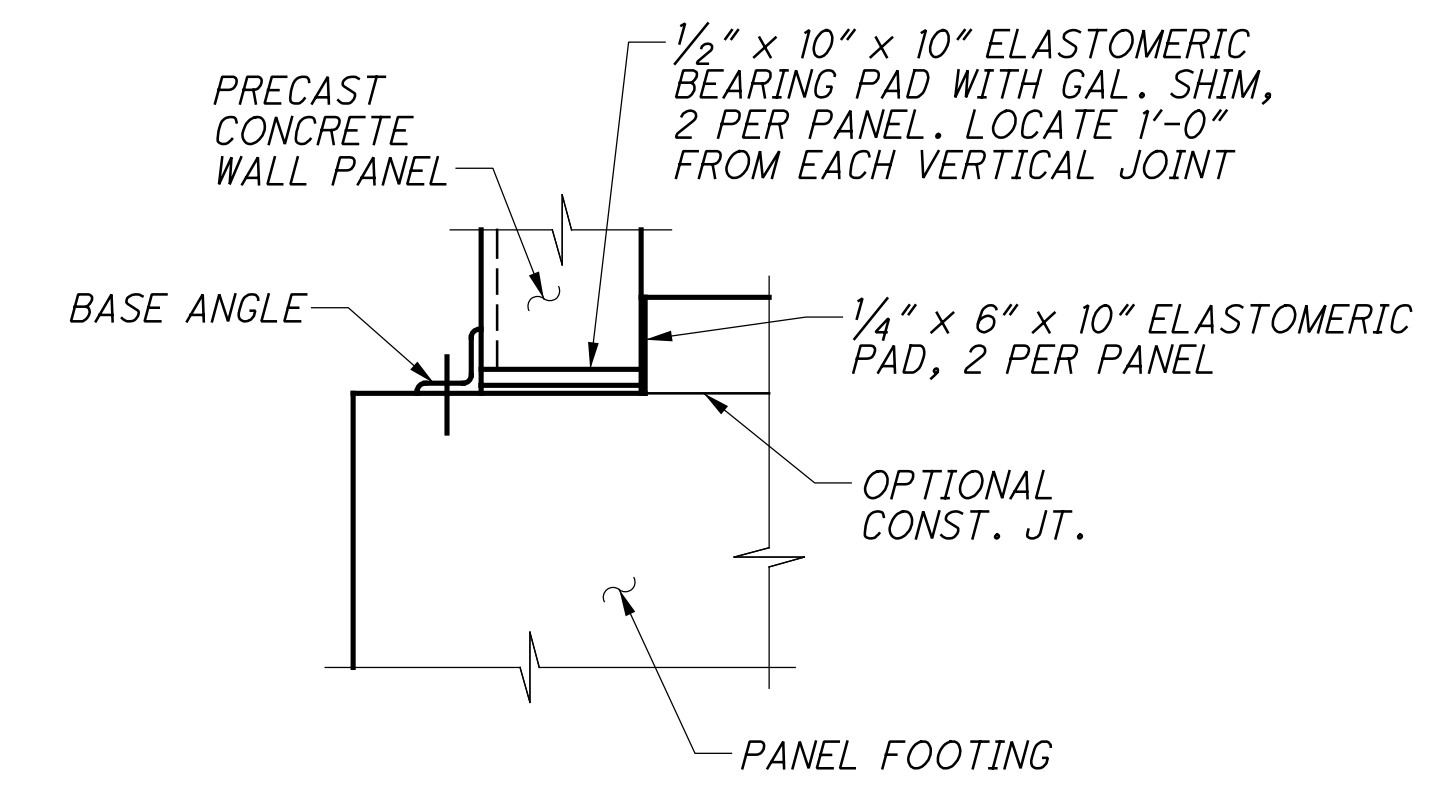
FRA-70-14.05
 PID No. 96053

15 / 38
 615 / 855

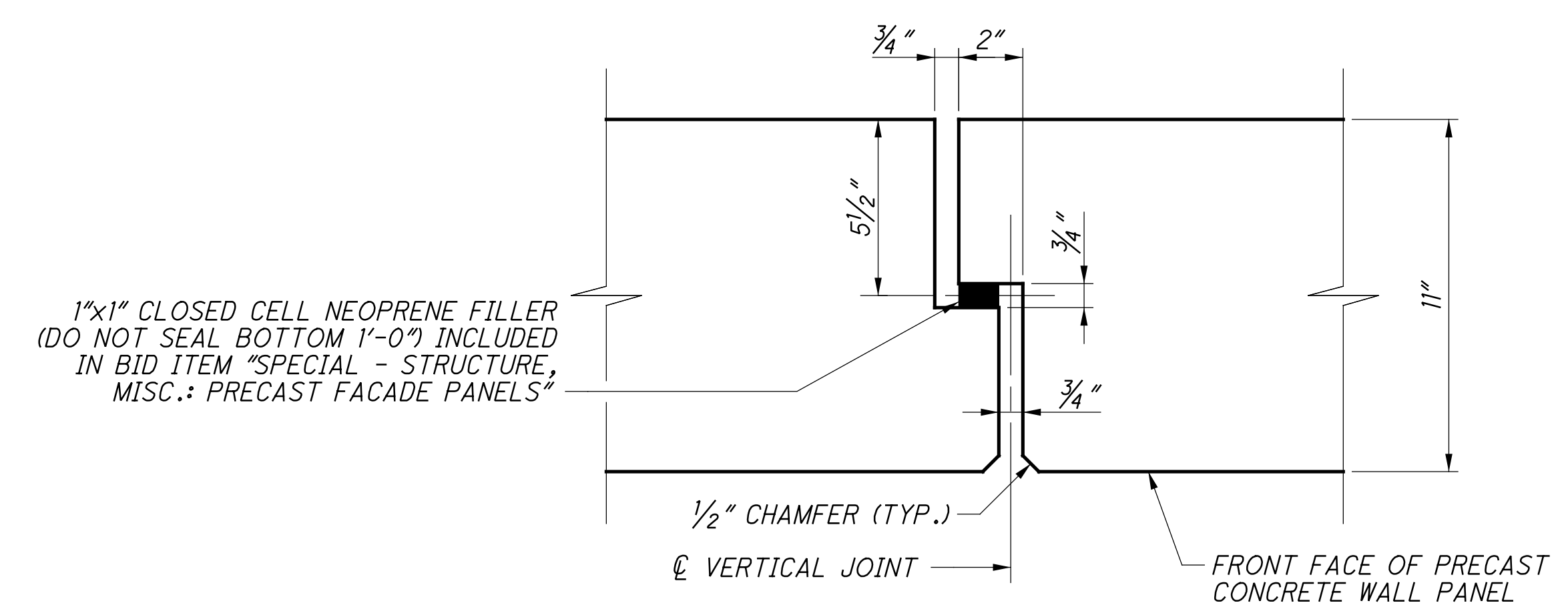


TYPICAL DRILLED SHAFT AND FOOTING PLAN

FOR TOP OF WALL PANEL CONNECTION, SEE DETAILS ON SHT. [15/50].



WALL BASE DETAILS



VERTICAL WALL PANEL JOINT DETAIL

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-9-23
7	NOTE REVISED	GTP	11-15-23

NOTES:

1. THE CONTRACTOR OR PRECAST PANEL MANUFACTURER IS RESPONSIBLE FOR DESIGNING OF THE LIFTING DEVICE. A MODIFICATION TO THE CONNECTION PLATE AS SHOWN MAY BE REQUIRED TO RESIST TEMPORARY CONSTRUCTION LOADS INCLUDING BUT NOT LIMITED TO WIND LOAD DURING ERECTION.

- 2. ALL PANEL RELATED CONNECTION HARDWARE: PLATES, EPOXY ANCHORS, EXPANDED POLYSTYRENE, NEOPRENE FILLER, AND ELASTOMERIC BEARING PADS ARE INCIDENTAL TO BID ITEM "SPECIAL - STRUCTURE, MISC.: PRECAST FACADE PANELS".
- 3. ALL ATTACHMENT PLATES, ANCHOR BOLTS, NUTS, WASHERS, AND OTHER STEEL APPURTENANCE ARE TO BE GALVANIZED, UNLESS NOTED OTHERWISE.

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DESIGN AGENCY
GPD GROUP
GPD GROUP, INC. 1001 WILLOWHART DRIVE, SUITE 200, COVINGTON, LA 70021
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DESIGNED	RHC	CHECKED	TJW
DRAWN	MLS	REVISED	
REVIEWED	DGN	STRUCTURE FILE NUMBER	2501554
DATE	4-21-23		

PRECAST FACADE PANEL DETAILS
 BRIDGE NO. FRA-33-1747C - CAPS
 S. 3RD STREET (U.S. 33) OVER I-70/71

FRA-70-14.05
PID No. 96053

16 / 38
 616
 855

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SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	15A	44	54	85	OFFICE CALCS	02/IMS/11	05/IMS/14										
PAVEMENT																	
	464						464	254	01000	464	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AVERAGE DEPTH 4.33"					
	2,272						2,215	57	302	56000	2,272	CY	ASPHALT CONCRETE BASE, PG64-22, (449)				
	1,327						1,298	29	304	20000	1,327	CY	AGGREGATE BASE				
	1,426						1,344	82	407	20000	1,426	GAL	NON-TRACKING TACK COAT				
	442						398	44	442	00100	442	CY	ANTI-SEGREGATION EQUIPMENT				
	342						305	37	442	10001	342	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN			9	
	409						366	43	442	10080	409	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)				
1,491							1,070	421	609	24510	1,491	FT	CURB, TYPE 4-C				
					587			587	872	10000	587	FT	VOID REDUCING ASPHALT MEMBRANE (VRAM)				
TRAFFIC CONTROL																	
		25					15	10	621	00100	25	EACH	RPM				
		4					4		630	87400	4	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL				
		1					1		630	89804	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-15.115				
		68					68		644	00700	68	FT	TRANSVERSE/DIAGONAL LINE				
		204					204		646	10600	204	FT	TRANSVERSE/DIAGONAL LINE				
		0.53					0.15	0.38	807	14010	0.53	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6"				
		0.27					0.07	0.2	807	14110	0.27	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"				
		0.46					0.27	0.19	807	12010	0.46	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6"				
		0.23					0.13	0.1	807	12110	0.23	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"				
		0.8					0.22	0.58	850	10010	0.8	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)				
		0.69					0.4	0.29	850	20010	0.69	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)				
STRUCTURE OVER 20 FOOT SPAN (FRA-70-1301L)																	
								LUMP	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			53	
		225						225	202	22900	225	SY	APPROACH SLAB REMOVED				
								LUMP	503	21300	LS		UNCLASSIFIED EXCAVATION				
		270,460						270,460	509	10000	270,460	LB	EPOXY COATED REINFORCING STEEL				
		332						332	510	10000	332	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT				
		858						858	511	34446	858	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK				
		222						222	511	34451	222	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			53	
		20						20	511	44110	20	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING				
		1,570						1,570	512	10100	1,570	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				
		11,970						11,970	513	20000	11,970	EACH	WELDED STUD SHEAR CONNECTORS				
		2,520						2,520	513	21600	2,520	LB	STRUCTURAL STEEL FOR REHABILITATION, AS PER PLAN			53	
		630						630	514	00050	630	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL				
		630						630	514	00056	630	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT				
		630						630	514	00060	630	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT				
		630						630	514	00066	630	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT				
		128						128	516	11210	128	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL				
		62						62	516	13600	62	SF	1" PREFORMED EXPANSION JOINT FILLER				
		12						12	516	46701	12	EACH	RESET BEARING, AS PER PLAN			53	
								LUMP	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			53	
		200						200	519	11100	200	SF	PATCHING CONCRETE STRUCTURE			53	
		225						225	526	25010	225	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				
		81						81	526	90010	81	FT	TYPE A INSTALLATION				
								LUMP	SPECIAL	53000200	LS		STRUCTURES: ACCESS DOOR			53	
		34						34	846	00110	34	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				
STRUCTURE OVER 20 FOOT SPAN (FRA-70-1301R)																	
								LUMP	202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			83	
					246			246	202	22900	246	SY	APPROACH SLAB REMOVED				
					3,789			3,789	202	23500	3,789	SY	WEARING COURSE REMOVED				
					2			2	SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM				84

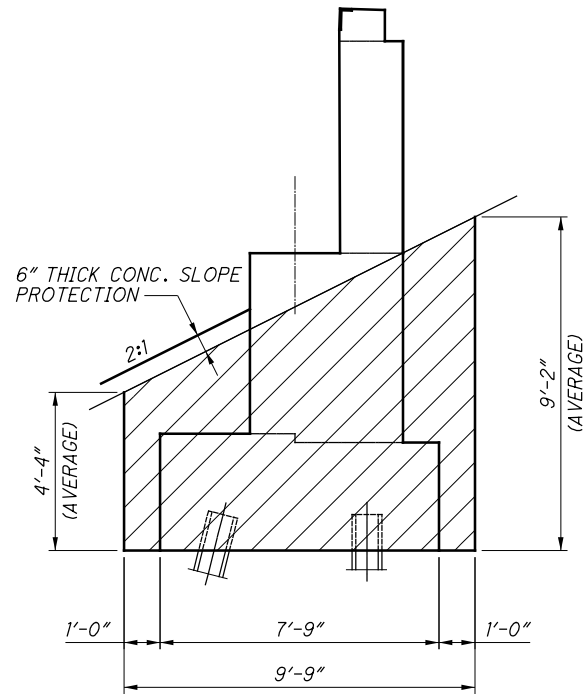
GENERAL SUMMARY

FRA-70-13.01

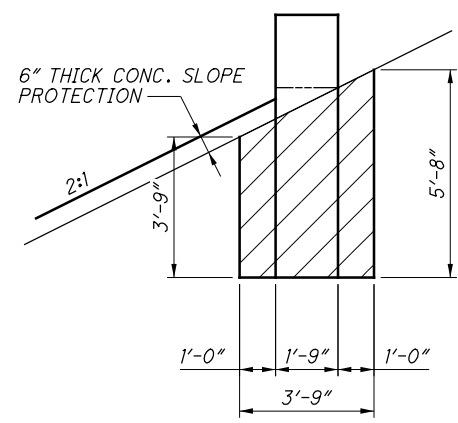
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3	QUANTITY CHANGED	ACW	10/23/23
7	ITEM/QUANTITY REMOVED	ACW	11/17/23

14
137

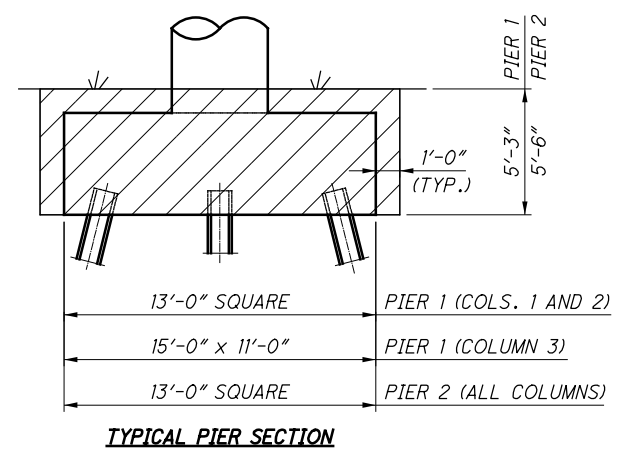
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FORWARD ABUTMENT SECTION
LENGTH = 82'-0"



FORWARD ABUTMENT WINGWALL SECTION
LENGTH = 7'-11" (EACH SIDE)



TYPICAL PIER SECTION

LIMITS OF EXCAVATION

- ITEM 503, UNCLASSIFIED EXCAVATION

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE FRA-70-1301R, SFN 2504677 AND FRA-70-1301R, SFN 2504766 BRIDGES WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT ASBESTOS IS PRESENT AT THE BRIDGES.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

OHIO EPA/DIVISION OF AIR POLLUTION CONTROL
CENTRAL DISTRICT OFFICE
P.O. BOX 1049
COLUMBUS, OHIO 43216-1049
KELLY TOH
PHONE: 614-728-3778
FAX: 614-728-3898

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTOR'S NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED.

BASIS OF PAYMENT:
THE CONTRACTOR SHALL FURNISH ALL THE FEES LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE OEPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM AND PROPERLY REMOVE, ENCAPSULATE, HANDLE, TRANSPORT AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE LOCAL HEALTH DEPARTMENT AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID OF LUMP SUM.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN

THE GIRDERS SHALL BE DETAILED FOR A NO-LOAD FIT (NLF).

GIRDERS MAY BE HEAT CURVED PER CMS 513.15 EXCEPT HEAT CURVING SHALL CONFORM TO THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION, CURRENT EDITION. IF HEAT CURVING IS USED, THE FABRICATOR SHALL ACCOUNT FOR EXPECTED LOSS OF CAMBER PER THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, CURRENT EDITION.

ITEM SPECIAL - SETTLEMENT PLATFORMS:

SPECIFICATIONS:

DESCRIPTION:
THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT ADDITIONAL LOCATIONS ACCEPTED BY ENGINEER.

SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND DURING ANY SPECIFIED WAITING PERIOD. THE READINGS SHALL BE PLOTTED UTILIZING THE SETTLEMENT PLATFORM READINGS EXCEL SPREADSHEET AS DEVELOPED BY ODOT'S OFFICE OF GEOTECHNICAL ENGINEERING. A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, AFTER EACH SETTLEMENT READING IS RECORDED.

VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS MAY BE CONSIDERED IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHALL PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED PLATFORM AND CABLING LAYOUT TO ODOT AT LEAST 14 DAYS PRIOR TO CONSTRUCTION.

THE DESIGN DRAWINGS SHALL ILLUSTRATE THE PROPOSED SETTLEMENT VIBRATING WIRE SETTLEMENT PLATFORM LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING SHALL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES.

THE CONTRACTOR SHALL IDENTIFY, SET AND MAINTAIN AN APPROPRIATE NUMBER OF FIXED BENCHMARKS, REFERENCE POINTS, ETC. TO FACILITATE THE SURVEYING OF THE SETTLEMENT PLATFORMS.

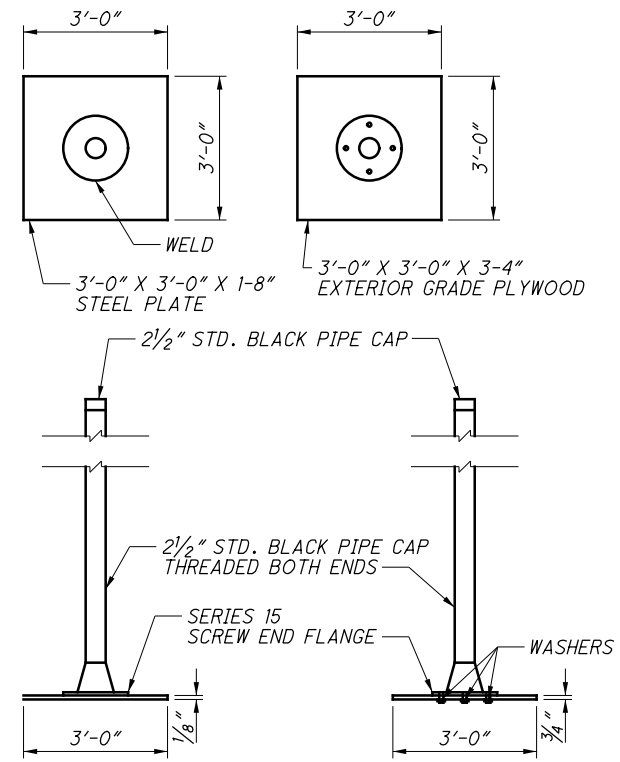
MATERIALS:
SOUND LUMBER SUCH AS 3#4" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2-1#2" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 3'-0"x 3'-0"x 1#8" MAY BE SUBSTITUTED FOR THE LUMBER, AT THE CONTRACTOR'S OPTION.

ITEM SPECIAL - SETTLEMENT PLATFORMS (CONTINUED):

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS. SETTLEMENT PLATFORMS SHALL BE PLACED AT THE BOTTOM OF THE MSE WALL FILL AT THE LOCATION INDICATED BELOW, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF EXISTING PAVEMENT IS ENCOUNTERED AT THE SPECIFIED LOCATIONS, THE PAVEMENT (INCLUDING ANY BASE MATERIAL) SHALL BE REMOVED AND THE SETTLEMENT PLATFORM SHALL BE SET ON THE EXPOSED SUBGRADE. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING CONSTRUCTION OF THE MSE WALL. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

THE CONTRACTOR SHALL PROTECT SETTLEMENT PLATFORMS FROM CONSTRUCTION TRAFFIC/ACTIVITIES USING APPROPRIATE METHODS SUCH AS BARRICADES, CONES, GUARD-STAKES WITH HIGH VISIBILITY RIBBON, ETC. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT CONTRACTOR'S EXPENSE.

PRIOR TO PAVING: THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE. WHICHEVER IS APPLICABLE.



SETTLEMENT PLATFORM
NOT TO SCALE

WAITING PERIOD:
THE ENGINEER WILL CONSIDER THE WAITING PERIOD COMPLETE WHEN CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER WALL CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN 1/8 INCH.

SEE PILE DRIVING CONSTRAINTS NOTES FROM STRUCTURE GENERAL NOTES SHEET FOR MORE INFORMATION REGARDING WAITING PERIOD.

METHOD OF MEASUREMENT:
THE DEPARTMENT WILL MEASURE SETTLEMENT PLATFORMS BY THE NUMBER EACH, COMPLETE IN PLACE.

BASIS OF PAYMENT:
THE UNIT PRICE BID FOR ITEM SPECIAL - SETTLEMENT PLATFORM SHALL INCLUDE FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS.

ITEM SPECIAL - SETTLEMENT PLATFORMS (CONTINUED):

LOCATION INFORMATION:

REAR ABUTMENT AT STA 137+20
FORWARD ABUTMENT AT STA 142+42

ABBREVIATIONS

ABUT.	- ABUTMENT	N.T.S.	- NOT TO SCALE
APPR.	- APPROACH	NE	- NORTHEAST
B.F.	- BACK FACE	NO.	- NUMBER
@	- BASELINE	NW	- NORTHWEST
BOT.	- BOTTOM	O/O	- OUT-TO-OUT
BRG.	- BEARING	P.E.J.F.	- PREFORMED EXPANSION JOINT FILLER
C.J.	- CONSTRUCTION JOINT	P.G.	- PROPOSED GRADE
C.P.P.	- CORRUGATED PLASTIC PIPE	P	- PALTE
C/C	- CENTER TO CENTER	PROP.	- PROPOSED
CL	- CENTERLINE	PT.	- POINT
CLR.	- CLEAR	R	- RADIUS
CONN.	- CONNECTION	R.A.	- REAR ABUTMENT
CONSTR.	- CONSTRUCTION	RT.	- RIGHT
CONT.	- CONTRACTION	SAN.	- SANITARY
DIA.	- DIAMETER	SB	- SOUTHBOUND
E.F.	- EACH FACE	SHLDR.	- SHOULDER
EA.	- EACH	SPA.	- SPACES
EB	- EASTBOUND	S.R.	- STATE ROUTE
EL./ELEV.	- ELEVATION	STA.	- STATION
EOP	- EDGE OF PAVEMENT	STD.	- STANDARD
E.S.	- EQUAL SPACING	SW	- SOUTHWEST
EQ.	- EQUAL	T/ROCK	- TOP OF ROCK
EX.	- EXISTING	T/SLOPE	- TOP OF SLOPE
EXP.	- EXPANSION	T/WALL.	- TOP OF WALL
F.A.	- FORWARD ABUTMENT	TEMP.	- TEMPORARY
F.F.	- FRONT FACE	TYP.	- TYPICAL
FL	- FLOW LINE	VAR.	- VARIES
FWD.	- FORWARD	W.P.	- WORK POINT
JT.	- JOINT	W.R.T.	- WITH RESPECT TO
LT.	- LEFT	W/	- WITH
MAX.	- MAXIMUM	WB	- WESTBOUND
MEAS.	- MEASURED	WW	- WINGWALL
MIN.	- MINIMUM		

NO.	DESCRIPTION	REV. BY	DATE
5	UPDATED NOTE	ACW	11/6/23
7	DELETED NOTE	ACW	11/17/23

DESIGN AGENCY: **ms consultants, inc.**
2221 Schrock Road, Columbus, Ohio 43229

DATE: 11/5/2021
REVIEWED: YSU
DRAWN: SJR/ATM
DESIGNED: SJR/ATM
CHECKED: DEB

STRUCTURE FILE NUMBER: 2504767


GENERAL NOTES (2 OF 2)
BRIDGE NO. FRA-70-1301R
EASTBOUND I-70 OVER S.R. 315

FRA-70-13.01
PID No. 105430

5/58
84
137

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CALC.	DBL	DATE	9/30/2021
CHECK	ATM/DEA	DATE	12/15/2021

ESTIMATED QUANTITIES									
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GENERAL	SHEET REF.
202	11003	LS	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					4/58
202	22900	246	SY	APPROACH SLAB REMOVED			246		
202	23500	3,789	SY	WEARING COURSE REMOVED			3,789		
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM 	2				5/58
<hr style="border-top: 1px dashed black;"/>									
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING					
503	21100	479	CY	UNCLASSIFIED EXCAVATION	211	268			
505	11100	LS	LS	PILE DRIVING EQUIPMENT MOBILIZATION					
507	00100	1,700	FT	STEEL PILES HP10X42, FURNISHED	1,700				
507	00150	1,615	FT	STEEL PILES HP10X42, DRIVEN	1,615				
507	00200	4,890	FT	STEEL PILES HP12X53, FURNISHED	1,615	3,275			
507	00250	4,450	FT	STEEL PILES HP12X53, DRIVEN	1,520	2,930			
507	92200	266	FT	PREBORED HOLES	266				
507	93300	105	EACH	STEEL POINTS OR SHOES	36	69			
509	10000	408,419	LB	EPOXY COATED REINFORCING STEEL	22,224	99,458	286,737		
511	34446	948	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			948		
511	34451	172	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			172		4/58
511	41012	236	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		236			
511	44112	173	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	173				
511	46512	303	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	135	168			
512	10100	1,835	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	265	346	1,224		
513	10301	1,553,954	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5, AS PER PLAN			1,553,954		5/58
513	20000	7,926	EACH	WELDED STUD SHEAR CONNECTORS			7,926		
514	00060	10,859	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			10,859		
514	00066	10,859	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			10,859		
516	10010	65	FT	ARMORLESS PREFORMED JOINT SEAL				65	
516	11210	127	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	127				
516	13600	104	SF	1" PREFORMED EXPANSION JOINT FILLER			104		
516	13900	43	SF	2" PREFORMED EXPANSION JOINT FILLER			43		
518	21200	137	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	137				
518	40000	178	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	178				
518	40010	28	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	28				
526	25010	176	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")			176		
526	30010	212	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")			212		
526	90010	64	FT	TYPE A INSTALLATION	64				
526	90030	64	FT	TYPE C INSTALLATION	64				
601	21000	675	SY	CONCRETE SLOPE PROTECTION*	675				
625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM				1	
846	00110	27	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM			27		
869	00100	28	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS	14	14			

LEGEND:

* CARRIED TO ROADWAY GENERAL SUMMARY

NO.	DESCRIPTION	REV. BY	DATE
7	ITEM/QUANTITY REMOVED	ACW	11/17/23

NOTES:

1. FOR MSE WALL W4 AND W6 ESTIMATED QUANTITIES, SEE SHEET 53/58

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

REVIEWED DATE
Y.S.J. 11/5/2021
STRUCTURE FILE NUMBER
2504767

DRAWN DBL
DBL REVISOR
DESIGNED ATM/DBL
ATM/DBL CHECKED
CHECKED DEB

ESTIMATED QUANTITIES
BRIDGE NO. FRA-70-1301R
EASTBOUND I-70 OVER S.R. 315

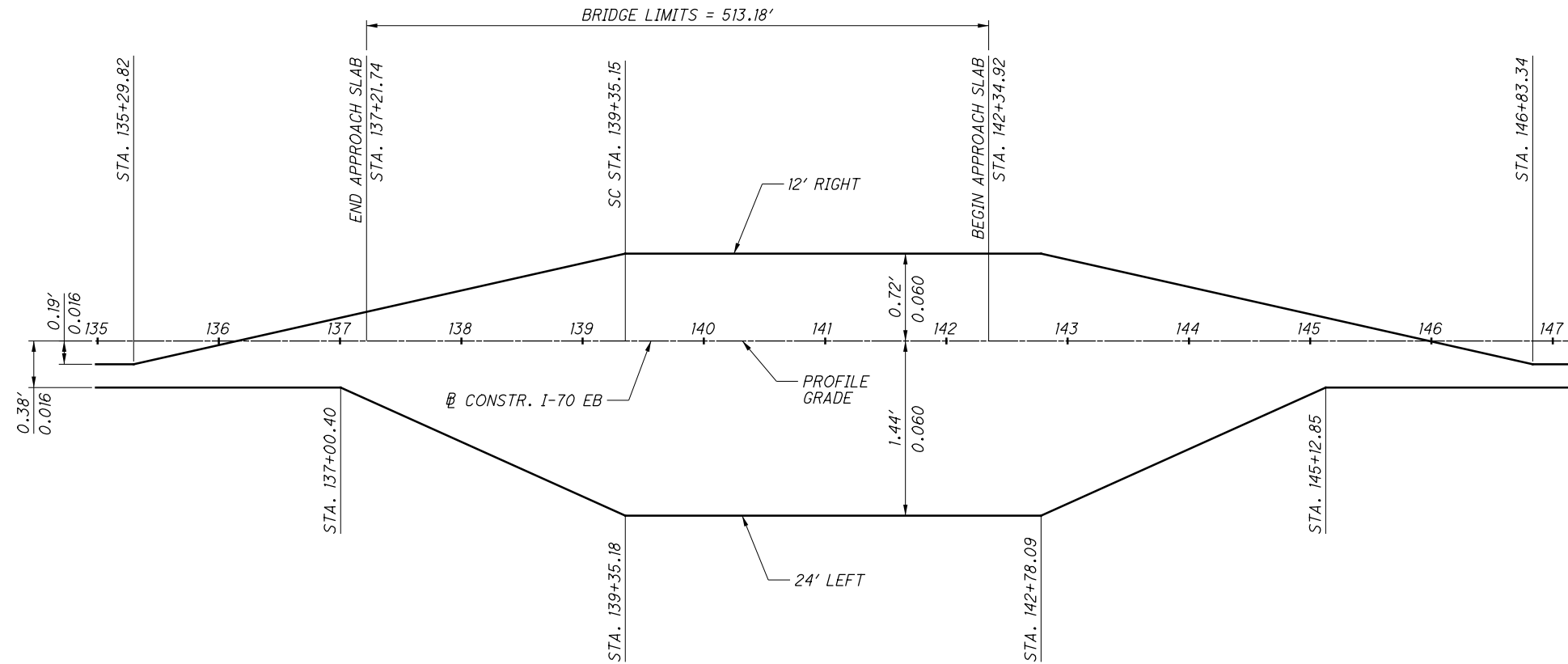
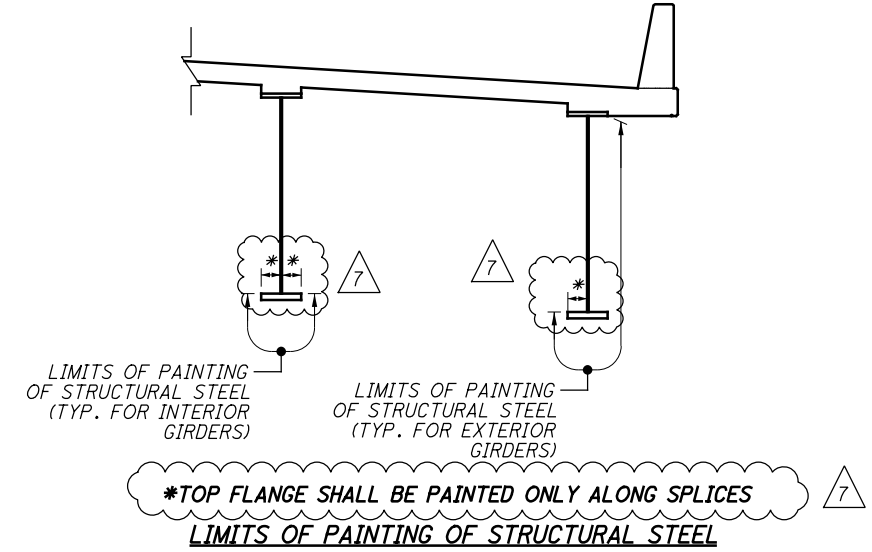
FRA-70-13.01
PID No. 105430

STRUCTURAL STEEL NOTES:

1. ALL GIRDER DIMENSIONS SHOWN ARE HORIZONTAL AND MEASURED ALONG THE CURVATURE. INCLUDE PROPER ALLOWANCE FOR THE EFFECTS OF LONGITUDINAL GRADE FOR FABRICATION.
2. ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50W, YIELD STRENGTH 50 KSI, UNLESS NOTED OTHERWISE.
3. THE FOLLOWING MEMBERS SHALL BE DESIGNATED (CVN): ALL GIRDER WEB AND FLANGE PLATES; FIELD SPLICE PLATES; CROSS FRAME MEMBERS; INTERMEDIATE STIFFENERS; CROSSFRAME CONNECTION STIFFENERS; CROSSFRAME CONNECTION GUSSET PLATES AND JACKING STIFFENERS.
4. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENT AS SPECIFIED IN CMS 711.01.
5. ALL BOLTED CONNECTIONS SHALL BE SLIP CRITICAL USING 1" DIAMETER ASTM A325 TYPE III BOLTS, UNLESS OTHERWISE NOTED. HOLES IN CROSSFRAME CONNECTIONS MAY BE OVERSIZED AT 1/16" DIAMETER IN ONE PLY ONLY.
6. AT ALL FIELD SPLICES, BOLT HEADS SHALL BE PLACED ON THE OUTSIDE FACE OF THE EXTERIOR BEAMS, ON THE BOTTOM OF THE BOTTOM FLANGE SPLICE PLATES, AND ON THE TOP OF THE TOP FLANGE SPLICE PLATES.
7. BUTT WELDS AT SHOP SPLICES SHALL BE COMPLETE PENETRATION WELDS. WELD REINFORCEMENT SHALL BE REMOVED BY GRINDING IN THE DIRECTION OF THE MAIN STRESS.
8. SHEAR STUD CONNECTORS COINCIDING WITH WELDED SHOP SPLICES SHALL BE REPOSITIONED TO CLEAR SPLICE LOCATIONS BY 3" MINIMUM.
9. BEARING STIFFENERS SHALL BE VERTICAL UNDER FULL DEAD LOAD. ALL INTERMEDIATE STIFFENERS, INTERIOR CROSSFRAMES, AND FIELD SPLICES MAY BE NORMAL TO GRADE.
10. GIRDERS SHALL BE DETAILED FOR NO-LOAD FIT (NLF), SUCH THAT THE CROSSFRAMES AND SPLICES ARE DETAILED TO FIT THE GIRDERS IN THEIR FABRICATED, PLUMB, FULLY-CAMBERED POSITION UNDER ZERO DEAD LOAD.
11. GIRDER ENDS AT THE ABUTMENT SHALL BE VERTICAL (PARALLEL TO ABUTMENT BACKWALL) UNDER FULL DEAD LOAD ROTATION, EXCLUDING FUTURE WEARING SURFACE.
12. WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION." FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
13. FOR STEEL ERECTION, TWO OR MORE ADJACENT GIRDERS MUST BE ERECTED AND FULLY BRACED BEFORE SUSPENDING OPERATIONS. GIRDERS SHALL BE TEMPORARILY ANCHORED, BRACED, OR OTHERWISE SUPPORTED TO MAINTAIN STABILITY UNTIL THE CROSSFRAMES ARE CONNECTED.
14. PARTIAL PAINTING OF A709 GRADE 50W STEEL: EXCEPT AS INDICATED IN THE PLANS, PAINT THE LAST 10 FT OF EACH GIRDER END ADJACENT TO THE ABUTMENT JOINTS INCLUDING ALL CROSSFRAMES AND OTHER STEEL WITHIN THESE LIMITS. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B - 20045 OR 20059 (THE COLOR OF WEATHERING STEEL).
15. PARTIAL PAINTING OF A709 GRADE 50W STEEL: IN ACCORDANCE WITH THE DETAIL PROVIDED "LIMITS OF PAINTING OF STRUCTURAL STEEL." PAINT THE OUTSIDE FACE OF EXTERIOR GIRDERS AND THE BOTTOM AND VERTICAL FACES OF BOTTOM FLANGES (INCLUDING SPLICE PLATES) IN ACCORDANCE WITH CMS 514 USING INORGANIC ZINC PRIME COAT, EPOXY INTERMEDIATE COAT, AND URETHANE FINISH COAT. THE COLOR OF THE FINISH COAT SHALL BE FEDERAL STANDARD NO. 17038 (BLACK).

16. STRUCTURAL STEEL DETAIL CROSS REFERENCES:

SUGGESTED ERECTION SEQUENCE	SHEETS 7/58 THRU 10/58
FRAMING PLAN	SHEETS 26/58 AND 27/58
GIRDER ELEVATION AND DETAILS	SHEETS 28/58 AND 29/58
CROSSFRAME AND STIFFENER DETAILS	SHEETS 30/58 THRU 32/58
BOLTED SPLICE DETAILS	SHEETS 33/58 AND 34/58
DEFLECTION AND CAMBER TABLE	SHEETS 35/58 AND 36/58
BEARING DETAILS	SHEETS 37/58 AND 38/58
TRANSVERSE SECTION	SHEET 39/58



SUPERELEVATION TRANSITION DIAGRAM

NO.	DESCRIPTION	REV. BY	DATE
7	ADDED NOTE	ACW	11/20/23

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

DESIGNED
SUR
ATM/DEA

CHECKED
ATM/DEA

DRAWN
ATM
REVISED

REVIEWED
YSJ
STRUCTURE FILE NUMBER
2504767

DATE
11/5/2021

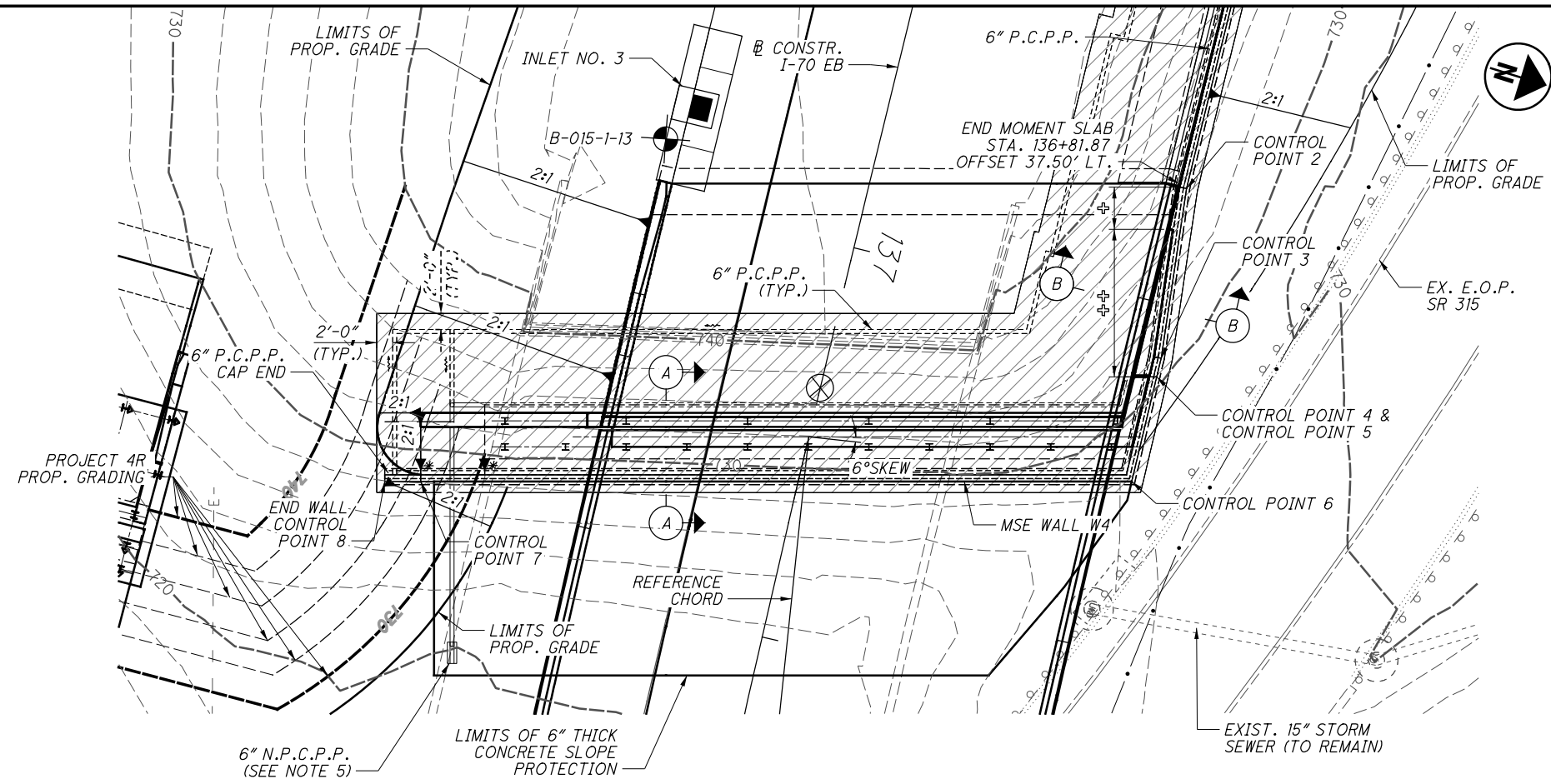
NO. 104
137

25/58

FRA-70-13.01
PID No. 105430

STRUCTURAL STEEL NOTES
BRIDGE NO. FRA-70-1301R
EASTBOUND I-70 OVER S.R. 315

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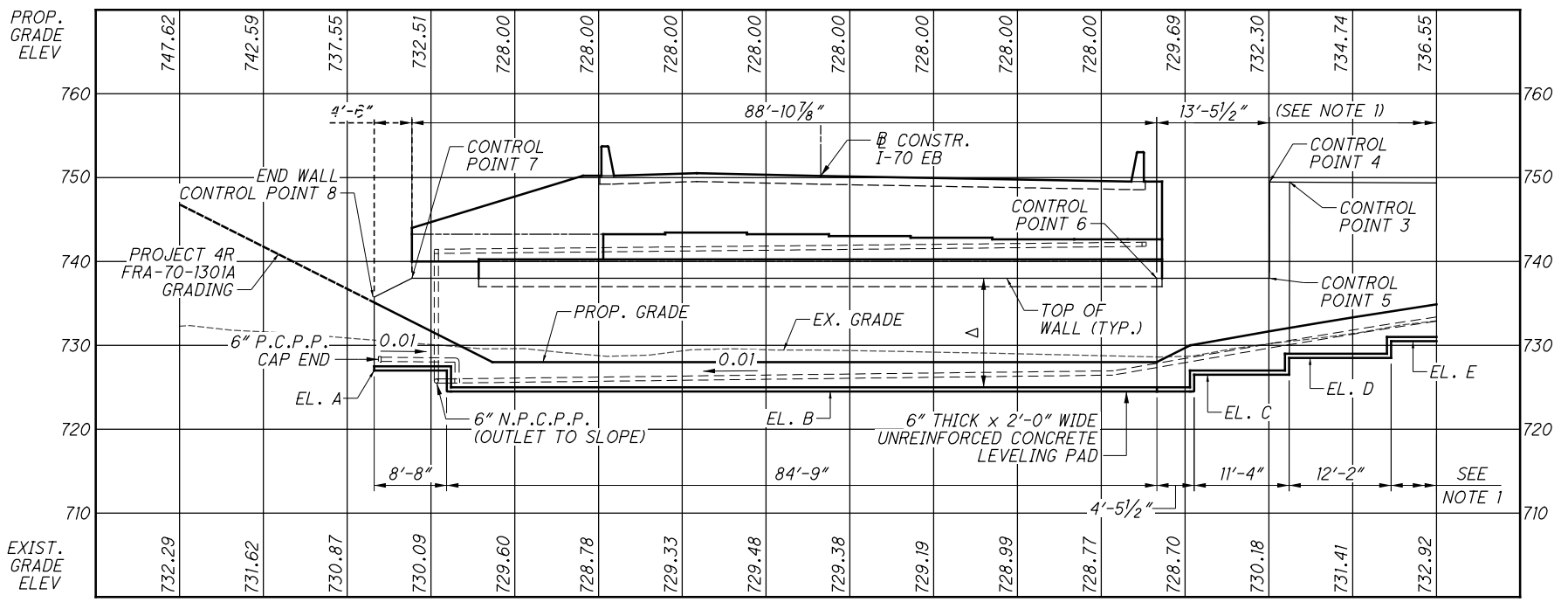
- PROJECT BORING LOCATION
- APPROXIMATE LIMITS OF MSE WALL W4 EXCAVATION
- * FLAT
- SETTLEMENT PLATFORM
- SEALING OF CONCRETE SURFACES (EPOXY-URETHANE): SEAL EXTERIOR SURFACES OF ALL PANELS AND COPING
- PROVIDE VARIABLE WIDTH COPING FROM STA. 136+82.94 TO STA. 136+88.42
- PROVIDE VARIABLE WIDTH, 6" THICK CONCRETE SLOPE PROTECTION FROM STA. 136+88.42 TO STA. 137+07.36

NOTES:

1. FOR ADDITIONAL MSE WALL W4 DETAILS, SEE SHEET [51/58].
2. FOR SECTION A-A, SEE SHEET [15/58].
3. FOR ADDITIONAL MOMENT SLAB DETAILS, SEE SHEET [55/58].
4. FOR SECTION B-B SEE SHEET [54/58].
5. FOR DRAIN PIPE OUTLET DETAILS, SEE SHEET [16/58].

MSE WALL	LOCATION	MAX. WALL HEIGHT (FT)	** REINF. LENGTH (FT)
W4	REAR ABUTMENT (B-015-1-13)	25.2	*** 0.80H
W6	FORWARD ABUTMENT (B-108-5-13, B-012-E-68)	21.4	*** 0.70H

** REINFORCEMENT SHALL HAVE A MINIMUM LENGTH OF 8 FEET
 *** "H" DENOTES WALL HEIGHT AND IS DEFINED AS THE DISTANCE FROM THE TOP OF CONCRETE LEVELING PAD TO THE TOP OF WALL



CONTROL POINT NO.	STATION	OFFSET	TOP/WALL ELEV.
1	135+50.00	38.66' LT.	747.41
2	136+82.94	38.66' LT.	749.32
3	137+04.46	38.66' LT.	749.50
4	137+06.87	40.58' LT.	749.51
5	137+06.87	40.58' LT.	738.00
6	137+20.43	40.58' LT.	738.00
7	137+40.71	46.24' RT.	738.00
8	137+41.71	50.36' RT.	735.75

LOCATION	ELEVATION
A	727.00
B	724.50
C	726.50
D	728.50
E	730.50
F	732.50
G	734.50
H	736.50
I	738.50
J	740.50

THE CONTRACTOR AND MANUFACTURER SHALL COMPLY WITH THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 840, EXCEPT AS MODIFIED BELOW.

FOR EACH WALL, PROVIDE MINIMUM SOIL REINFORCEMENT LENGTHS AS LISTED IN THE PLAN NOTES ON THIS SHEET.

THE DEPARTMENT WILL NOT ADJUST PAY QUANTITIES FOR VARIATIONS IN THE CONCRETE LEVELING PAD ELEVATIONS AND/OR OTHER PAY QUANTITIES ASSOCIATED WITH ADDITIONAL SOIL REINFORCEMENT LENGTH BEYOND THE LISTED LENGTHS IN THE PLANS. ANY DEVIATION DUE TO THE CHANGE OF SITE CONDITIONS OR FROM THE RESULT OF THE INTERNAL STABILITY ANALYSIS FOR THE FINAL CONDITION (NOT FOR CONDITIONS DURING CONSTRUCTION) MUST HAVE AN APPROVAL FROM ODOT IN ORDER TO BE ELIGIBLE FOR ADDITIONAL PAYMENT. THE CONTRACTOR SHALL INFORM THE ENGINEER OF ANY SITE CONDITION DEVIATIONS PRIOR TO PREPARATION OF SHOP DRAWINGS. THE EXTERNAL STABILITY ANALYSIS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

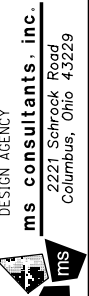
NO.	DESCRIPTION	REV. BY	DATE
7	ADDED NOTE	ACW	11/17/23

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ESTIMATED QUANTITIES					CALC.	DATE
					DBL	2/15/2023
					CHK'D	DATE
					ATM	2/21/2023
ITEM	ITEM EXT.	UNIT	DESCRIPTION	TOTAL	SHT. REF.	
MSE WALL W4						
203	20001	CY	EMBANKMENT, AS PER PLAN	6	4/58	
203	35110	CY	GRANULAR MATERIAL, TYPE B	427	5	
509	10000	LB	EPOXY COATED REINFORCING STEEL	9,226	55/58 58/58	
511	53012	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET WITH QC/QA	78	55/58	
512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	530	51/58	
516	13600	SF	1" PREFORMED EXPANSION JOINT FILLER	91		
516	13900	SF	2" PREFORMED EXPANSION JOINT FILLER	409		
601	21000	SY	CONCRETE SLOPE PROTECTION	20		
840	20001	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	3,252	50/58 7	
840	21000	CY	WALL EXCAVATION	1,139		
840	22000	SY	FOUNDATION PREPARATION	491		
840	23000	CY	SELECT GRANULAR BACKFILL	1,666		
840	25010	FT	6" DRAINAGE PIPE, PERFORATED	543		
840	25020	FT	6" DRAINAGE PIPE, NON-PERFORATED	22		
840	26000	FT	CONCRETE COPING	277		
840	26050	SF	AESTHETIC SURFACE TREATMENT	3,252		
840	27000	DAY	ON-SITE ASSISTANCE	5	6	

ESTIMATED QUANTITIES					CALC.	DATE
					DBL	2/17/2023
					CHK'D	DATE
					ATM	2/21/2023
ITEM	ITEM EXT.	UNIT	DESCRIPTION	TOTAL	SHT. REF.	
MSE WALL W6						
512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	122	5	
840	20001	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	1,005	50/58 7	
840	21000	CY	WALL EXCAVATION	227		
840	22000	SY	FOUNDATION PREPARATION	111		
840	23000	CY	SELECT GRANULAR BACKFILL	479		
840	25010	FT	6" DRAINAGE PIPE, PERFORATED	156		
840	25020	FT	6" DRAINAGE PIPE, NON-PERFORATED	24		
840	26000	FT	CONCRETE COPING	73		
840	26050	SF	AESTHETIC SURFACE TREATMENT	1,005		
840	27000	DAY	ON-SITE ASSISTANCE	5	6	

NO.	DESCRIPTION	REV. BY	DATE
5	QUANTITY CHANGED	ACW	10/23/23
6	ITEM REMOVED	ACW	11/13/23
7	ITEM REMOVED	ACW	11/17/23



DESIGN AGENCY
ms consultants, inc.
 2021 Schrock Road
 Columbus, Ohio 43229

DESIGNED
 DBL
 CHECKED
 DEB

DRAWN
 DBL
 REVISED

REVIEWED
 YSU
 DATE
 11/5/2021

STRUCTURE FILE NUMBER
 2504767

MSE WALL ESTIMATED QUANTITIES
 BRIDGE NO. FRA-70-1301R
 EASTBOUND I-70 OVER S.R. 315

FRA-70-13.01
 PID No. 105430

132
 137