

J:\2019\16\0001\FRA\105768_BROAD_HAMILTON\Design\Roadway\Sheets\105768_GG001.dgn 1/18/2024 3:07:36 PM rrhoops

SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
11	13	66	70	71	73	74	75	123	139		01/MPO/04 /WHIT	EXT	TOTAL				
	20					405					425	611	00510	425	FT	DRAINAGE CONTINUED	
					5						5	611	01800	5	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
					765	215					980	611	04400	980	FT	8" CONDUIT, TYPE B, 706.02	
					5	5					10	611	04400	10	FT	12" CONDUIT, TYPE B	
					48						48	611	04600	48	FT	12" CONDUIT, TYPE B, 706.02	
																12" CONDUIT, TYPE C	
					69						69	611	05900	69	FT	15" CONDUIT, TYPE B	
					25	28					53	611	05900	53	FT	15" CONDUIT, TYPE B, 706.02	
					76						76	611	06100	76	FT	15" CONDUIT, TYPE C	
					213						213	611	08900	213	FT	21" CONDUIT, TYPE B	
					40						40	611	08900	40	FT	21" CONDUIT, TYPE B, 706.02	
					1,120						1,120	611	10400	1,120	FT	24" CONDUIT, TYPE B	
					5						5	611	10400	5	FT	24" CONDUIT, TYPE B, 706.02	
					26	3					26	611	98150	26	EACH	CATCH BASIN, NO. 2	
					3						3	611	98370	3	EACH	CATCH BASIN, NO. 6	
					1						1	611	98450	1	EACH	CATCH BASIN, NO. 2-2A	
					1						1	611	98480	1	EACH	CATCH BASIN, NO. 2-2B WITH BICYCLE SAFE GRATE	
					1						1	611	98690	1	EACH	CATCH BASIN, MISC.: REPLACE TOP OF CASTING	
					6						6	611	98711	6	EACH	INLET, NO. 2-6, AS PER PLAN	
						1					1	611	98840	1	EACH	INLET, NO. 2-A-6	
					14	2					16	611	99574	16	EACH	MANHOLE, NO. 3	
					4		12				16	611	99654	16	EACH	MANHOLE ADJUSTED TO GRADE	
					41						41	SPECIAL	61199830	41	FT	TRENCH DRAIN	
																PAVEMENT	
125			21,697								21,822	254	01000	21,822	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
	49		1,310								1,359	302	56000	1,359	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
	32	651	1,413	93							2,189	304	20000	2,189	CY	AGGREGATE BASE	
			1,075								1,075	305	12010	1,075	SY	8" CONCRETE BASE, CLASS QC 1P	
18	32	128	2,944	23							3,145	407	20000	3,145	GAL	NON-TRACKING TACK COAT	
								1,689			1,689	409	30000	1,689	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
			11	15							26	441	50000	26	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
			13	20							33	441	50300	33	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
5	8		1,188								1,201	442	10000	1,201	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
6	9		279								294	442	20170	294	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (448)	
			105								105	442	20200	105	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)	
				374							374	452	12050	374	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
		448									448	609	10000	448	FT	ASPHALT CONCRETE CURB, TYPE 1	
		3,559									3,559	609	12000	3,559	FT	COMBINATION CURB AND GUTTER, TYPE 2	
		3,335									3,335	609	26000	3,335	FT	CURB, TYPE 6	
		210									210	609	26001	210	FT	CURB, TYPE 6, AS PER PLAN	
		25									25	609	28000	25	FT	CURB, TYPE 7	
		244									244	609	71000	244	SF	CONCRETE MEDIAN	
2,084											2,084	SPECIAL	69012040	2,084	SY	PAVEMENT CRACK AND JOINT REINFORCING FABRIC	
		89									89	823	10000	89	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448)	
		104									104	823	15000	104	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)	
																WATER WORK	
								94			94	SPECIAL	63820046	94	FT	6" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS, COC	
								695			695	SPECIAL	63820086	695	FT	8" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS, COC	
								1			1	SPECIAL	63820498	1	EACH	VALVE BOX, COC	
								4			4	SPECIAL	63820500	4	EACH	VALVE BOX ADJUSTED TO GRADE, COC	
								5			5	SPECIAL	63820538	5	EACH	6" GATE VALVE WITH VALVE BOX, COC	
								1			1	SPECIAL	63820554	1	EACH	8" GATE VALVE WITH VALVE BOX, COC	
								5			5	SPECIAL	63820750	5	EACH	6" FIRE HYDRANT, COC	
								2			2	SPECIAL	63820760	2	EACH	FIRE HYDRANT REMOVED AND DISPOSED OF, COC	
								142			142	SPECIAL	63820822	142	FT	EXTEND 1" COPPER WATER SERVICE CONNECTION, COC	
								2			2	SPECIAL	63820878	2	EACH	CUT AND PLUG EXISTING 6" WATER LINE, COC	

GENERAL SUMMARY

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SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	BMM	CHECKED	MJR	
148	149	150	151	152	186	187				01/MPO/04/WHIT	EXT	TOTAL									
															WATER WORK CONTINUED						
											1	63820902	1	EACH	SERVICE BOX ADJUSTED TO GRADE, COC	137					
											2	63820912	2	EACH	1" CURB VALVE AND BOX, COC	137					
											2	638	98000	2	EACH	WATER WORK, MISC.: PRIVATE WATER SPIGOT	138				
											2	638	98000	2	EACH	WATER WORK, MISC.: PRIVATE WATER SPIGOT REMOVED	138				
											LS	638	98100	LS		WATER WORK, MISC.: SURVEY COORDINATES	137				
															LIGHTING						
					30	32					62	625	00450	62	EACH	CONNECTION, FUSED PULL APART					
					6	18					24	625	00480	24	EACH	CONNECTION, UNFUSED PERMANENT					
					15	16					31	625	10503	31	EACH	LIGHT POLE (INSTALLATION ONLY), AS PER PLAN	185				
					15	16					31	625	14001	31	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN	185				
					8,160	7,395					15,555	625	23200	15,555	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE					
					1,044	231					1,275	625	23306	1,275	FT	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE					
					1,620	1,728					3,348	625	23400	3,348	FT	NO. 10 AWG POLE AND BRACKET CABLE					
					1,885	2,016					3,901	625	25408	3,901	FT	CONDUIT, 2", 725.051					
					548	342					890	625	25902	890	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"					
					6	16					22	625	27561	22	EACH	LUMINAIRE, INSTALLATION ONLY, AS PER PLAN, TYPE A	185				
											9	625	27561	9	EACH	LUMINAIRE, INSTALLATION ONLY, AS PER PLAN, TYPE B	185				
											3	625	27600	3	EACH	LUMINAIRE, MISC.: LANDSCAPE LIGHT	185				
					1,803	2,016					3,819	625	29000	3,819	FT	TRENCH					
					4	5					9	625	30700	9	EACH	PULL BOX, 725.08, 18"					
					2						2	625	30706	2	EACH	PULL BOX, 725.08, 24"					
					15	16					31	625	32000	31	EACH	GROUND ROD					
					1						1	625	34001	1	EACH	POWER SERVICE, AS PER PLAN	185				
					1,803	2,016					3,819	625	36010	3,819	FT	UNDERGROUND WARNING/MARKING TAPE					
					LS						LS	625	38000	LS		HIGH VOLTAGE TEST					
											LS	SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	185				
						3					3	625	98000	3	EACH	LIGHTING, MISC.: 120V RECEPTACLE	196A				
						LS					LS	625	98200	LS		LIGHTING, MISC.: POWER TO LANDSCAPE LIGHTING	196A				
																TRAFFIC CONTROL					
137											137	621	00100	137	EACH	RPM					
88											88	621	54000	88	EACH	RAISED PAVEMENT MARKER REMOVED					
											4	625	32000	4	EACH	GROUND ROD					
											280	630	03101	280	FT	GROUND MOUNTED SUPPORT, NO. 3 POST, AS PER PLAN	146				
											4	630	72551	4	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 13, AS PER PLAN	146				
											10	630	79501	10	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	146				
											287.69	630	80101	287.69	SF	SIGN, FLAT SHEET, AS PER PLAN	146				
											4	630	84511	4	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN	146				
											21	630	84900	21	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL					
											18	630	86002	18	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL					
											7	630	87400	7	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL					
											6	630	87500	6	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL					
											1	630	87520	1	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION					
											4	630	89790	4	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-17.11					
0.48											0.48	644	00100	0.48	MILE	EDGE LINE, 4"					
1.23											1.23	644	00200	1.23	MILE	LANE LINE, 4"					
0.96											0.96	644	00300	0.96	MILE	CENTER LINE					
4,454											4,454	644	00400	4,454	FT	CHANNELIZING LINE, 8"					
	318										318	644	00500	318	FT	STOP LINE					
	853										853	644	00620	853	FT	CROSSWALK LINE, 12"					
	667										667	644	00700	667	FT	TRANSVERSE/DIAGONAL LINE					
	105										105	644	00720	105	FT	CHEVRON MARKING					
											72	644	01300	72	EACH	LANE ARROW					
		33	39								284	644	01500	284	FT	DOTTED LINE, 4"					
											1,280	647	20080	1,280	FT	CROSSWALK LINE, 24", TYPE B90					

GENERAL SUMMARY

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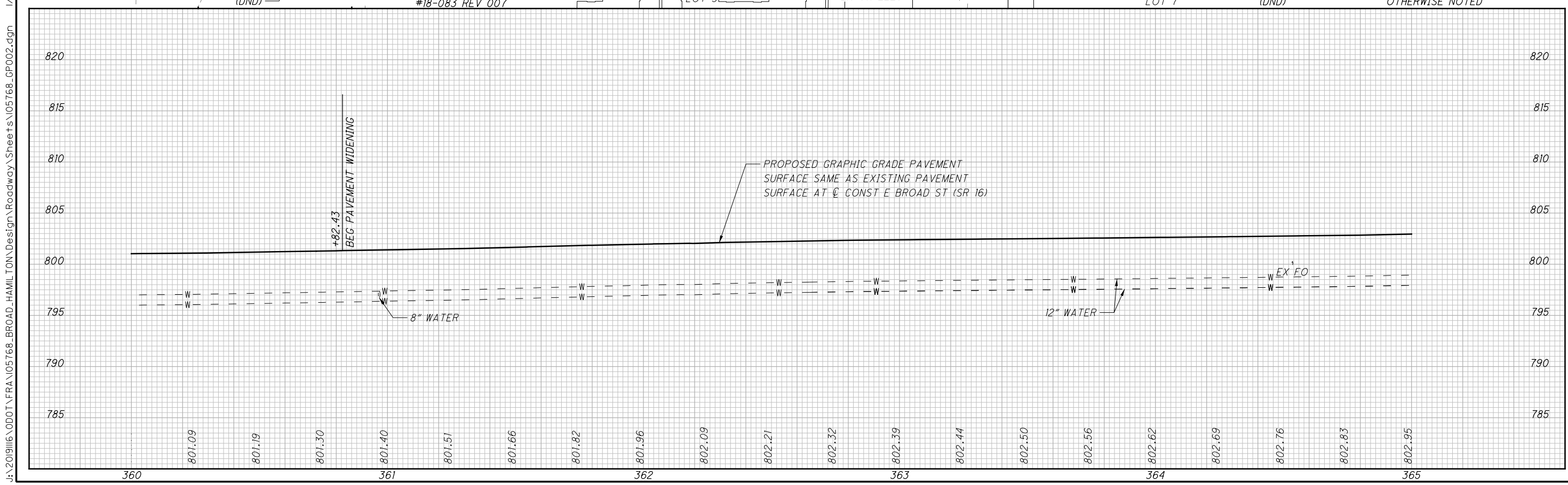
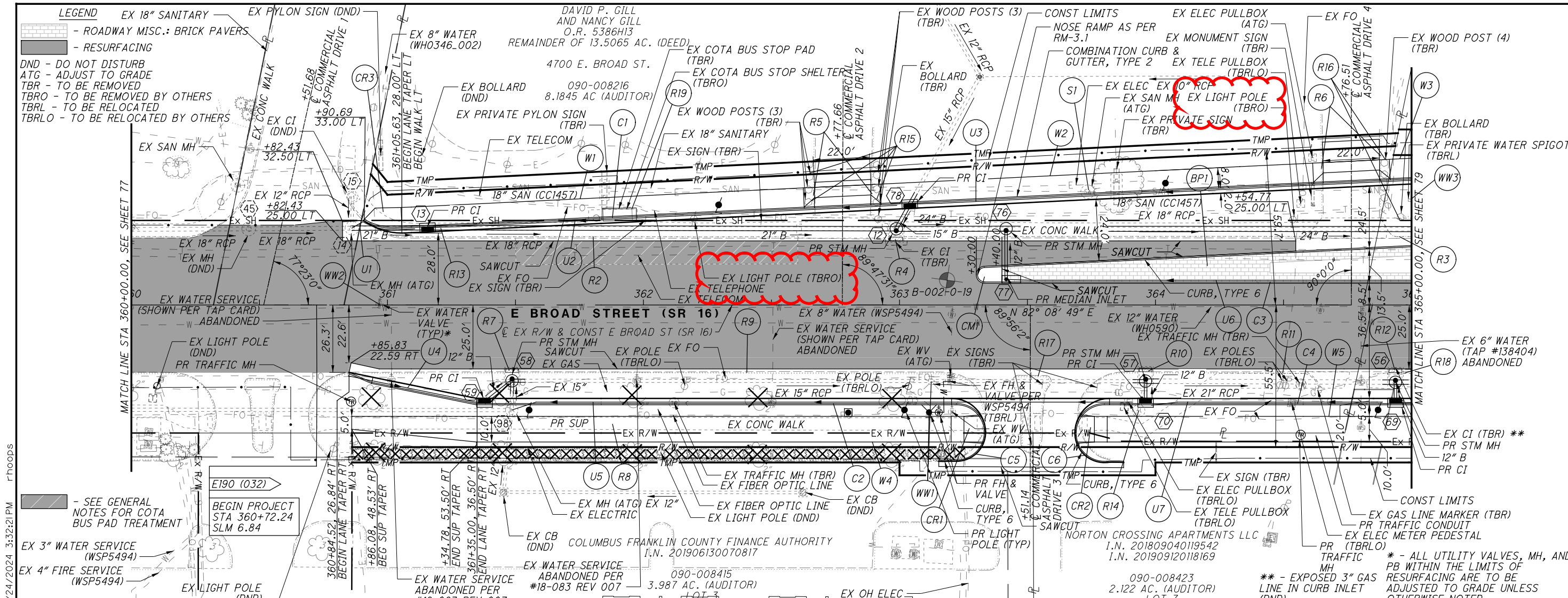
SHEET NO.	REF. NO.	STATION		SIDE	CENTERLINE ROADWAY REFERENCE	611	611	611	611	611	611	611	611	611	611	611	611	611	611	611	611	611	611		
		FROM	TO			8" CONDUIT, TYPE B, 706.02	12" CONDUIT, TYPE B	12" CONDUIT, TYPE B, 706.02	12" CONDUIT, TYPE C	15" CONDUIT, TYPE B	15" CONDUIT, TYPE B, 706.02	15" CONDUIT, TYPE C	21" CONDUIT, TYPE B	21" CONDUIT, TYPE B, 706.02	24" CONDUIT, TYPE B	24" CONDUIT, TYPE B, 706.02	CATCH BASIN, NO. 3	CATCH BASIN, NO. 6	CATCH BASIN, NO. 2-2A	CATCH BASIN, NO. 2-2B WITH BICYCLE SAFE GRATE	INLET, NO. 2-6, AS PER PLAN	MANHOLE, NO. 3	MANHOLE ADJUSTED TO GRADE	SPECIAL - TRENCH DRAIN	CATCH BASIN, MISC.: REPLACE TOP OF CASTING
						FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	
78	14	360+86	361+16	LT	E BROAD																				
78	13	361+16	362+99	LT	E BROAD																				
78	59	361+38	361+49	RT	E BROAD		14																		
78	58	361+49	361+54	RT	E BROAD					10															
78	98	361+49	361+49	RT	E BROAD																				
78	78	362+99	363+04	LT	E BROAD					11	5														
78	12	362+99	363+42	LT	E BROAD									43											
78	77	363+42	363+42	LT	E BROAD		20																		
78 - 79	76	363+42	365+32	LT	E BROAD									191											
78	57	363+96	364+01	RT	E BROAD						5			5											
78	70	363+96	363+96	RT	E BROAD																				
78	56	364+89	364+99	RT	E BROAD			8						10											
78	69	364+94	364+94	RT	E BROAD			8																	
79	97	365+32	365+32	LT	E BROAD			18																	
79	11	365+32	366+85	LT	E BROAD									153											
79	74	365+32	365+33	LT	E BROAD	5		19																	
79	75	365+33	365+63	LT	E BROAD			31																	
79	D1	365+85	365+95	RT	E BROAD									10											
79	55	366+43	366+53	RT	E BROAD									10											
79	66	366+49	366+49	RT	E BROAD			10																	
79	10	366+85	368+57	LT	E BROAD									172											
79	72	366+71	366+85	LT	E BROAD					25	5														
79	53	368+23	368+33	RT	E BROAD									5											
79	62	368+28	368+35	RT	E BROAD			6																	
79	63	368+35	368+45	RT	E BROAD					14															
79	21	368+57	368+57	LT	E BROAD						33														
79	22	368+57	368+59	LT	E BROAD							34													
79 , 81	7	368+57	370+57	LT	E BROAD									200											
79	29	277+09	278+48	RT	HAMILTON			139																	
79	28	278+48	278+79	RT	HAMILTON					34															
79	65	278+79	278+81	RT	HAMILTON			16																	
79	25	280+06	280+37	RT/LT	HAMILTON			57																	
79	24	280+37	280+40	RT/LT	HAMILTON			31																	
79	23	280+40	280+26	RT	HAMILTON							44													
81	52	370+50		RT	E BROAD																			1	
81	27	370+57	371+38	LT	E BROAD			31																	
81	6	371+38	372+70	LT	E BROAD			9																	
81	4	372+70	373+97	LT	E BROAD																				
81	18	372+70	372+72	LT	E BROAD			30																	
81	17	374+23	374+23	LT	E BROAD			14																	
83	35	271+23	271+23	LT	HAMILTON			9																	
83	36	271+23	271+48	LT	HAMILTON			25																	
84	31	272+87	272+87	LT	HAMILTON																				
84	37	272+87	272+88	LT	HAMILTON			9																	
84	38	274+39	274+42	LT	HAMILTON			18																	
84	40	275+43	276+00	LT	HAMILTON			56																	
84	34	275+98	275+98	LT	HAMILTON			20																	
84	39	275+98	275+98	LT	HAMILTON			7		5															
85	88	282+10	282+66	RT	HAMILTON			56																	
85	87	282+66	283+70	RT	HAMILTON			104																	
TOTALS CARRIED TO GENERAL SUMMARY						5	765	5	48	69	25	78	213	40	1,126	5	23	3	1	1	6	14	4	41	1

DRAINAGE SUBSUMMARY

FRA - 16 - 6.87

CALCULATED
ESF
CHECKED
RSH

73
206



LEGEND
 EX 18" SANITARY
 - ROADWAY MISC.: BRICK PAVERS
 - RESURFACING
 DND - DO NOT DISTURB
 ATG - ADJUST TO GRADE
 TBR - TO BE REMOVED
 TBRO - TO BE REMOVED BY OTHERS
 TBRL - TO BE RELOCATED
 TBRL0 - TO BE RELOCATED BY OTHERS

DAVID P. GILL AND NANCY GILL
 O.R. 5386H13
 REMAINDER OF 13.5065 AC. (DEED)
 4700 E. BROAD ST.
 090-008216
 8.1845 AC (AUDITOR)

COLUMBUS FRANKLIN COUNTY FINANCE AUTHORITY
 I.N. 201906130070817

NORTON CROSSING APARTMENTS LLC
 I.N. 201809040119542
 I.N. 201909120118169

090-008423
 2.122 AC. (AUDITOR)
 LOT 7

* - ALL UTILITY VALVES, MH, AND PB WITHIN THE LIMITS OF RESURFACING ARE TO BE ADJUSTED TO GRADE UNLESS OTHERWISE NOTED
 ** - EXPOSED 3" GAS LINE IN CURB INLET (DND)

PLAN AND PROFILE - E BROAD ST (SR 16)
 STA 360+00.00 TO STA 365+00.00

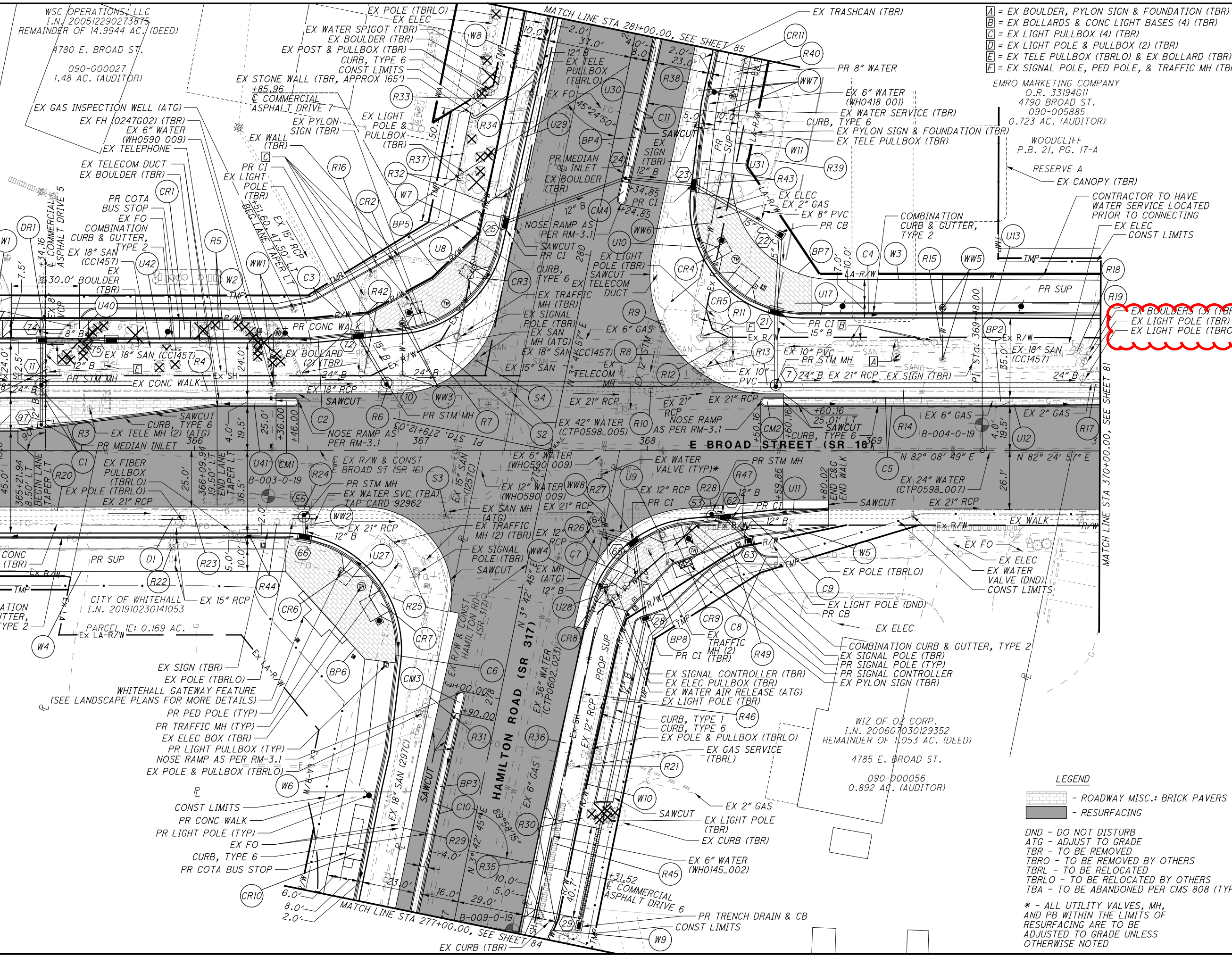
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CALCULATED JPT
 CHECKED MJR

HORIZONTAL SCALE IN FEET
 0 20 40

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- A = EX BOULDER, PYLON SIGN & FOUNDATION (TBR)
- B = EX BOLLARDS & CONC LIGHT BASES (4) (TBR)
- C = EX LIGHT PULLBOX (4) (TBR)
- D = EX LIGHT POLE & PULLBOX (2) (TBR)
- E = EX TELE PULLBOX (TBRLO) & EX BOLLARD (TBR)
- F = EX SIGNAL POLE, PED POLE, & TRAFFIC MH (TBR)

EMRO MARKETING COMPANY
 O.R. 33194611
 4790 BROAD ST.
 090-005885
 0.723 AC. (AUDITOR)

WOODCLIFF
 P.B. 21, PG. 17-A

EX BOULDERS (3) (TBR)
 EX LIGHT POLE (TBR)
 EX LIGHT POLE (TBRLO)

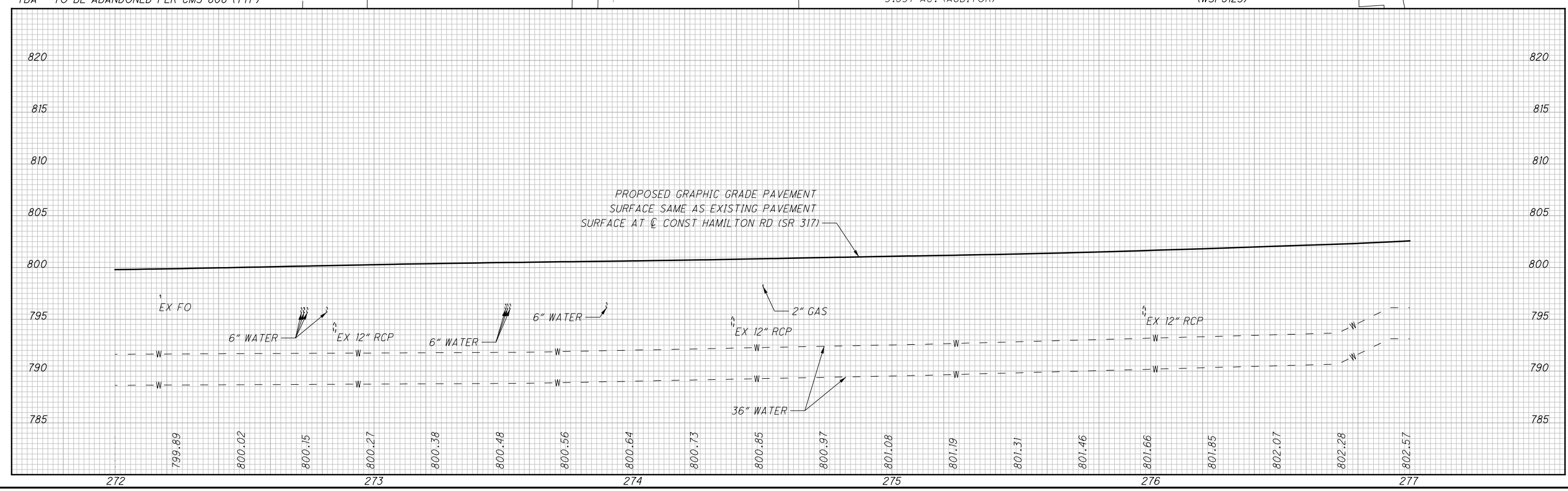
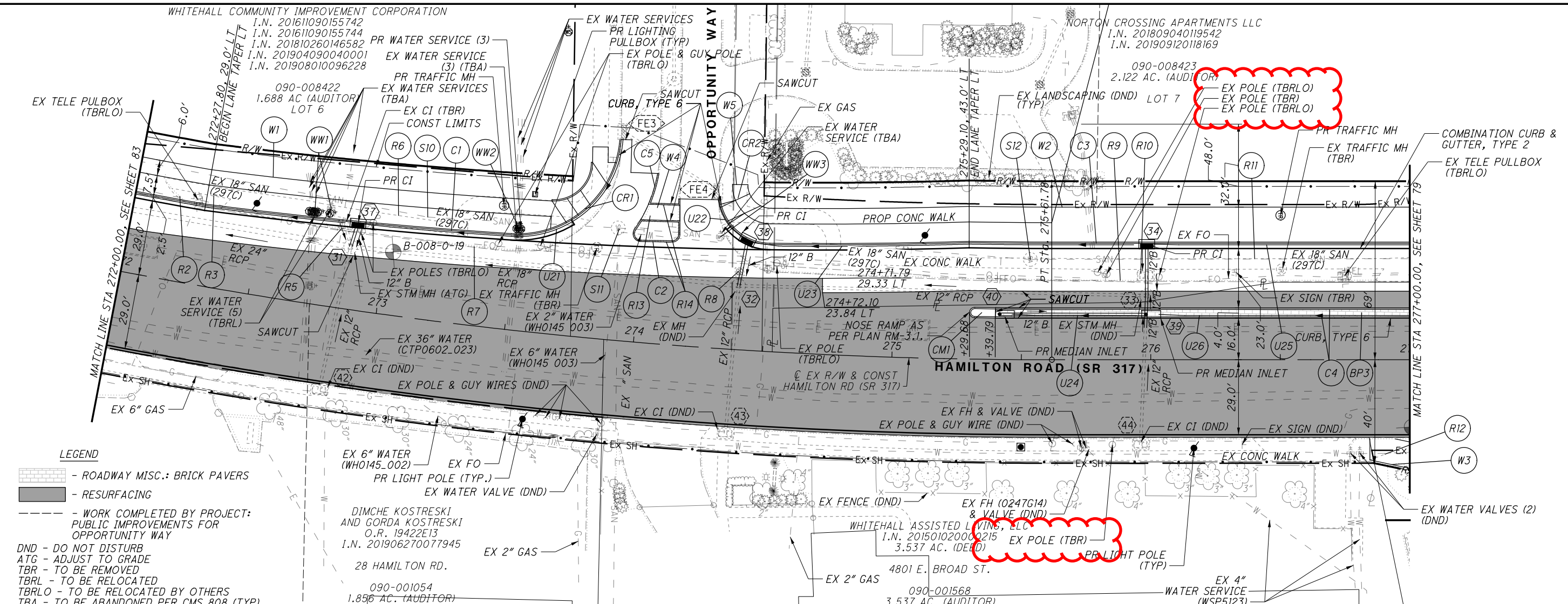
- LEGEND**
- ROADWAY MISC.: BRICK PAVERS
 - RESURFACING
- DND - DO NOT DISTURB
 ATG - ADJUST TO GRADE
 TBR - TO BE REMOVED
 TBRO - TO BE REMOVED BY OTHERS
 TBRL - TO BE RELOCATED
 TBRLO - TO BE RELOCATED BY OTHERS
 TBA - TO BE ABANDONED PER CMS 808 (TYP)
- * - ALL UTILITY VALVES, MH, AND PB WITHIN THE LIMITS OF RESURFACING ARE TO BE ADJUSTED TO GRADE UNLESS OTHERWISE NOTED

PLAN - E BROAD STREET (SR 16)
 STA 365+00.00 TO STA 370+00.00

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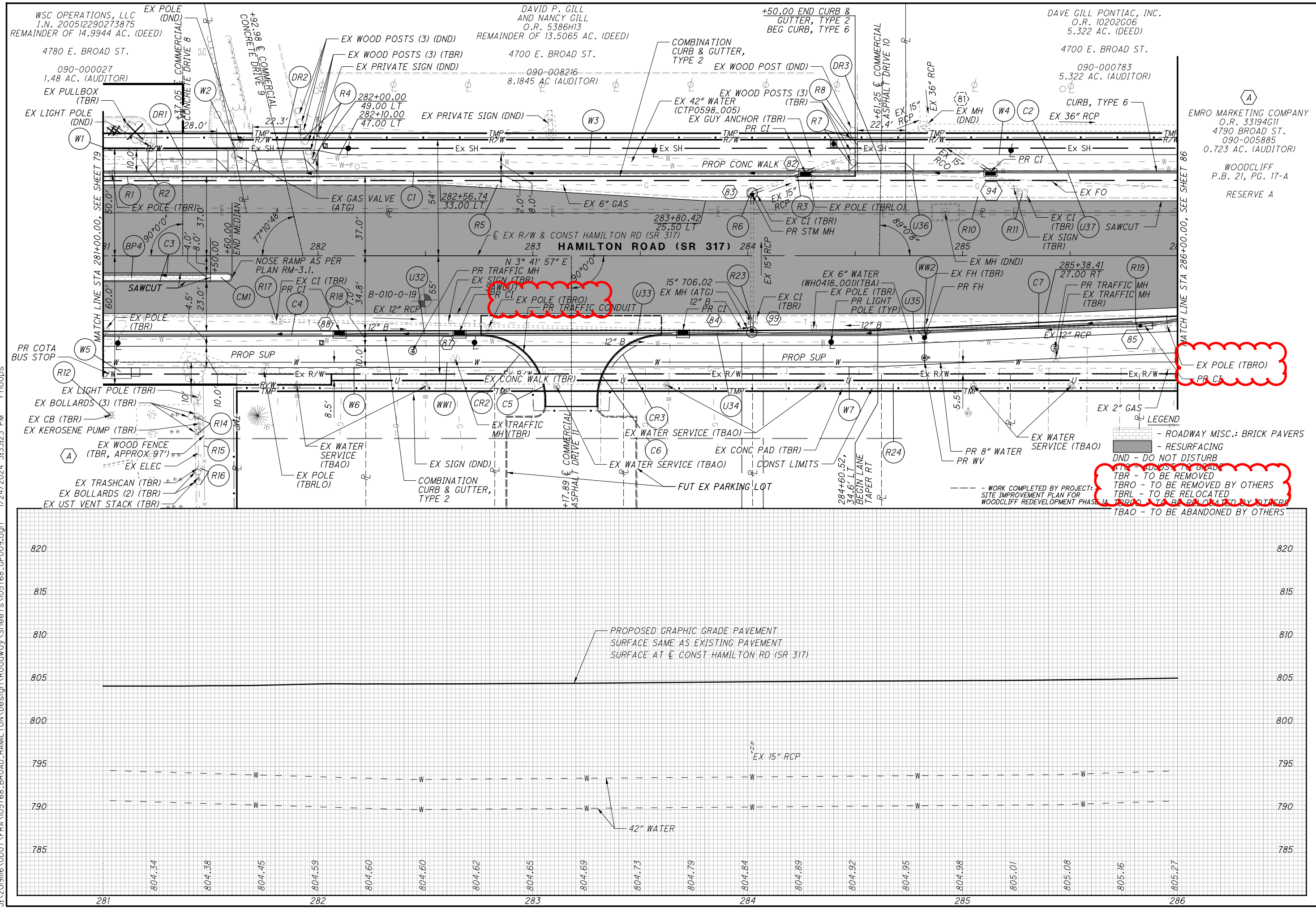
PLAN AND PROFILE - HAMILTON RD (SR 317)

STA 272+00.00 TO STA 277+00.00

FRA-16-6.87

84
206

CALCULATED: JPT
CHECKED: MJR



WSC OPERATIONS, LLC
I.N. 200512290273875
REMAINDER OF 14.9944 AC. (DEED)

DAVID P. GILL AND NANCY GILL
O.R. 5386H13
REMAINDER OF 13.5065 AC. (DEED)

+50.00 END CURB &
GUTTER, TYPE 2
BEG CURB, TYPE 6

DAVE GILL PONTIAC, INC.
O.R. 10202G06
5.322 AC. (DEED)

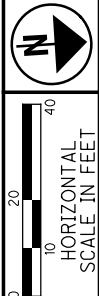
4780 E. BROAD ST.
090-000027
1.48 AC. (AUDITOR)

4700 E. BROAD ST.
090-008216
8.1845 AC (AUDITOR)

4700 E. BROAD ST.
090-000783
5.322 AC. (AUDITOR)

EMRO MARKETING COMPANY
O.R. 33194G11
4790 BROAD ST.
090-005885
0.723 AC. (AUDITOR)

WOODCLIFF
P.B. 21, PG. 17-A
RESERVE A



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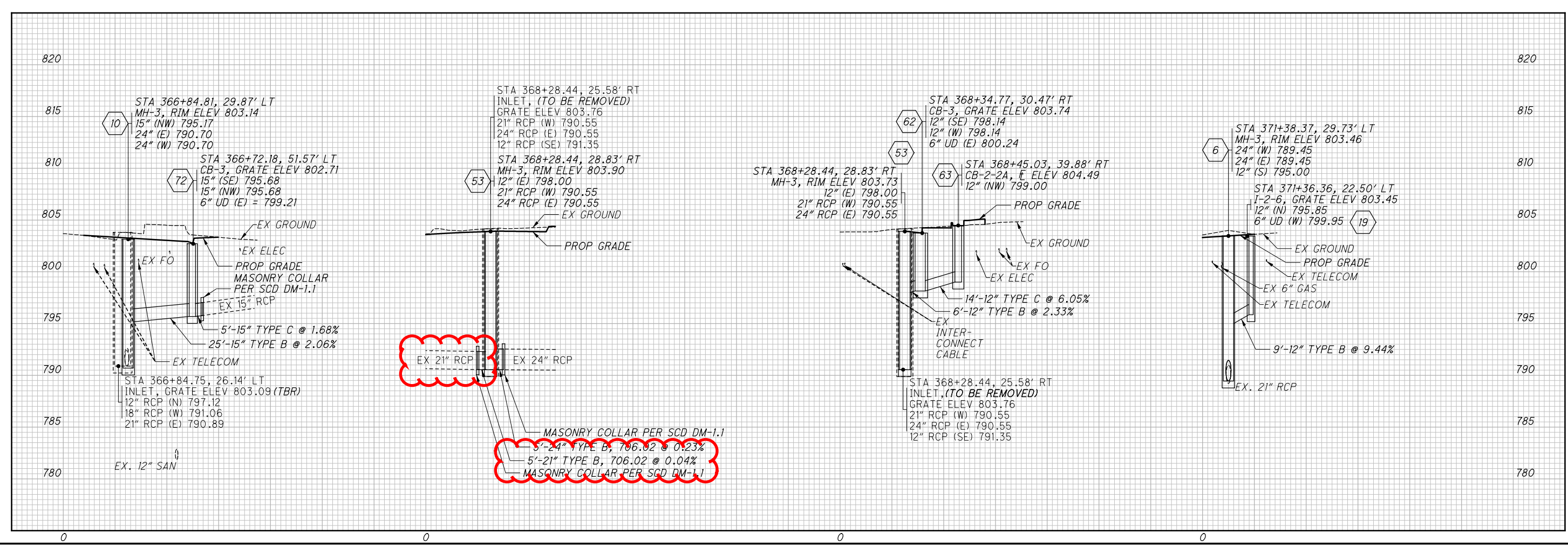
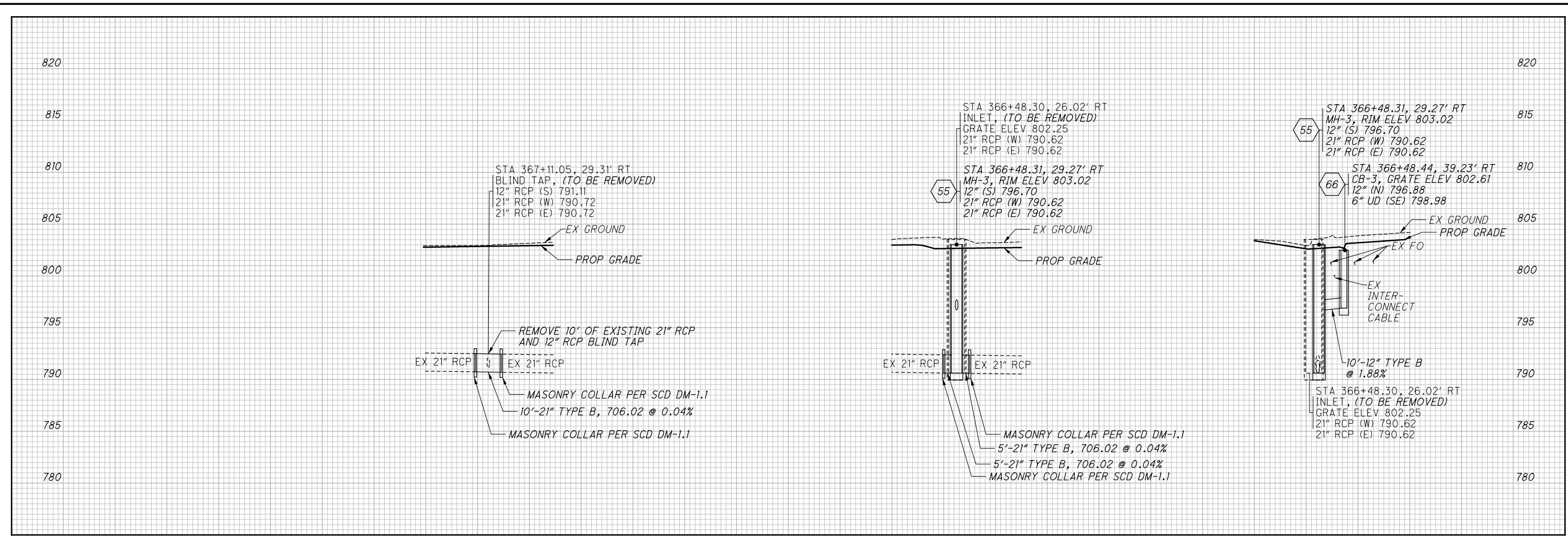
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PLAN AND PROFILE - HAMILTON RD (SR 317)
STA 281+00.00 TO STA 286+00.00

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ITEM 633 CONTROLLER ITEM, MISC.: CONTROLLER UNIT TS2/A2 WITH CABINET TYPE TSI

IN ADDITION TO THE REQUIREMENTS OF ODOT 633 & 733 THIS ITEM SHALL ADHERE TO THE REQUIREMENT OUTLINED HEREIN.

THE CONTROLLER UNIT, TIMING UNIT SOFTWARE, SIGNAL TIMING AND COMMUNICATION SOFTWARE WITH FUNCTIONAL ETHERNET MODULES SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM OF WORK.

THE CONTROLLER (TS2, TYPE 2/TS1 COMPATIBLE) SHALL BE ECONOLITE COBALT-C ATC WITH ETHERNET MODULE, YUNEX TRAFFIC M60 ATC, OR APPROVED EQUAL. THE CONTRACTOR SHALL VERIFY THAT CONTROLLER FIRMWARE IS NTCIP COMPLIANT AND COMPATIBLE AND CONTAIN A FUNCTIONAL ETHERNET PORT. THE CONTROLLER AND CABINET SHALL PROVIDE FOR THE ABILITY FOR FULL COMMUNICATION WITH THE CITY OF COLUMBUS SIGNAL SYSTEM.

THIS ITEM SHALL ALSO INCLUDE A CABINET RISER FOR THE GROUND MOUNTED CABINET.

THE CABINET SHALL BE FURNISHED WITH AN AUXILIARY GENERATOR INLET, AND SHALL INCLUDE A HEAVY DUTY TRANSFER RELAY, PLUG INLET, LED INDICATOR AND OTHER ANCLLARY EQUIPMENT FOR A COMPLETE INSTALLATION. THE EXTERIOR OF THE AUXILIARY INLET SHALL BE FACTORY PAINTED TO MATCH THE CABINET.

THE EXTERIOR OF THE CABINET SHALL BE COATED BLACK TO MATCH THE TRAFFIC SIGNAL SUPPORTS. THE CABINET INTERIOR SHALL BE FACTORY PAINTED WHITE.

IN ADDITION TO THE OTHER SPECIFICATION DOCUMENTS, THE CABINET ASSEMBLY SHALL MEET THE FOLLOWING SPECIFICATIONS.

- A) ALL LABELS SHALL BE PERMANENTLY SECURED TO THE CABINET. PLASTIC LABEL MARKER TAPE IS NOT CONSIDERED TO BE PERMANENT. CROY TYPE LABELS ARE ACCEPTABLE.
- B) IN LIEU OF A LAMP ASSEMBLY, A DOOR MOUNTED FLEX LIGHT THAT ILLUMINATES THE ENTIRE BACK PANEL SHALL BE INSTALLED. THE 120 VAC, CONVENIENCE OUTLET ASSEMBLY (GFI TYPE) SHALL BE MOUNTED ON THE RIGHT CABINET SIDE PANEL NEAR THE DOOR HINGE AREA AND FACE THE DOOR OR THE CENTER INTERIOR PORTION OF THE CABINET. THE OUTLET & FLEX LIGHT ASSEMBLIES SHALL NOT INTERFERE WITH THE REMOVAL OR INSTALLATION OF ANY EQUIPMENT.
- C) LOAD SWITCHES SHALL BE EDI MODEL 510, PDC MODEL SSS-86-3, OR APPROVED EQUAL. LIGHT INDICATIONS ON THE LOAD SWITCH SHALL BE PERMANENTLY LABELLED AS R, Y, G OR A, B, C. A LOAD SWITCH SHALL BE PROVIDED FOR EACH BACK PANEL LOAD SWITCH SOCKET POSITION WHETHER USED OR UNUSED. ALL LOAD SWITCHES SHALL REST IN A SUPPORT RACK. LOAD SWITCH POSITIONS 5-8 (4PH) OR 9-12 (8PH) SHALL BE USED FOR EITHER A PEDESTRIAN OR OVERLAP LOAD SWITCH UNLESS SPECIFIED OTHERWISE.
- D) LIGHTNING PROTECTION DEVICES SUCH AS ITT, SURRESTOR, GENERAL ELECTRIC, OR APPROVED EQUAL SHALL BE PROVIDED.
- E) THE MAIN CABINET DOOR LOCK (CCL ENCLOSURE LOCK 15481RS) SHALL HAVE A LOCK KEYHOLE COVER AND SHALL BE KEYED TO THE CITY OF COLUMBUS MASTER, #2 KEY (IR 6380). THE POLICE PANEL DOOR LOCK (CCL ENCLOSURE LOCK #R357SGS) SHALL HAVE A LOCK KEYHOLE COVER AND SHALL BE SUPPLIED WITH A R4266 KEY.
- F) THE NEMA 3R CABINET SHALL BE MADE BY APX ENCLOSURES, CALIFORNIA CHASSIS, EAGLE OR ECONOLITE. IT SHALL BE OF STANDARD SIZE AND SHALL BE SUPPLIED WITH A COMPLETE BACK PANEL AS PER PLAN. THE CABINET MATERIAL SHALL BE 5052 MARINE GRADE, .125 INCH THICK ALUMINUM SHEETING WITH A 32 HARDNESS AND SHALL BE PAINTED WHITE ON THE INSIDE. THE INSIDE OF THE CABINET SHALL BE TREATED WITH A THREE (3) STAGE IRON PHOSPHATE COATING AND A ZINC CHROMATE PRIMER COATING. A BAKED WHITE ALKALI ENAMEL FINISH SHALL THEN BE APPLIED. ALL COATINGS SHALL BE PROPERLY DRIED AND APPLIED SUCH THAT THE INSIDE WHITE PAINT WILL NOT PEEL FOR A GUARANTEED

PERIOD OF TWO (2) YEARS. ALL EXTERIOR SEAMS SHALL BE EITHER CONTINUOUSLY WELDED, TACK WELDED, SEALED WITH A 15 TO 20 YEAR SILICONE SEALER, AND/OR OVERLAPPED SUCH THAT WATER DOES NOT ENTER THE CABINET. ALL CABINET EDGES SHALL BE SMOOTH (FREE OF ANY SHARP EDGES). THE CABINET DOOR FRAME OPENING SHALL BE DOUBLE-FLANGED ON ALL FOUR SIDES. THE CABINET DOOR SHALL BE HINGED USING A HEAVY GAUGE CONTINUOUS HINGE THAT HAS A STAINLESS STEEL HINGE PIN. THE HINGE SHALL BE BOLTED TO THE CABINET SO THE DOOR CAN BE REMOVED. THE BOLTS AND NUTS SHALL BE MADE OF STAINLESS STEEL, TAMPERPROOF AND SECURELY FASTENED TO PREVENT VIBRATIONS FROM LOOSENING THE NUTS. THE DOOR, SEALED WITH A NEOPRENE GASKET, SHALL BE EQUIPPED WITH A THREE (3) POINT LATCHING MECHANISM AND A HANDLE WHICH CAN BE PADLOCKED. THE DOOR SHALL BE DESIGNED SUCH THAT THE DOOR CAN BE LOCKED IN AN OPEN POSITION AT 90, 135, AND 180 DEGREES TO THE CABINET FACE (NOMINAL VALUES). THE POLICE DOOR AND MAIN CABINET DOOR SHALL HAVE A KEYHOLE COVER. BOLT PATTERN SHALL CONSIST OF AN ANCHOR BOLT POSITIONED IN EACH CABINET CORNER. CABINET SIZE SHALL BE P44 CABINET SIZE - (55"H X 44"W X 26"D; DOOR OPENING - 44"H X 41.5"W).

- G) A THYRECTOR SURGE PROTECTOR WITH A RMS INPUT OF 150 VOLTS AND INPUT PEAK OF 210 VOLTS SHALL BE PROVIDED IN ADDITION TO ANY LIGHTNING PROTECTION DEVICE. THE THYRECTOR SHALL BE PLACED ACROSS THE INPUT AC POWER LINE.
- H) A 35 AMP LINE FILTER SHALL BE SUPPLIED AND SHALL BE MOUNTED ON THE POWER DISTRIBUTION PANEL.
- I) TWO (2) CIRCUIT SOLID STATE FLASHER, RATED AT 15 AMPS (MINIMUM) PER CIRCUIT, SHALL BE PROVIDED (NEMA TYPE 3). CIRCUIT 1 SHALL CONTROL THE MAINLINE FLASHING SIGNAL INDICATIONS. CIRCUIT 2 SHALL CONTROL THE SIDE STREET FLASHING SIGNAL INDICATIONS. THE FLASHER SHALL BE EDI MODEL 810, PDC MODEL SSF-88, OR APPROVED EQUAL.
- J) ONE (1) 30-AMP CIRCUIT BREAKER, LABELED AS "MAIN", SHALL BE WIRED AS THE MAIN POWER DISTRIBUTION BREAKER. A SECOND CIRCUIT BREAKER, LABELED AS "PED" AND RATED AT 10 AMPS, SHALL BE SUPPLIED FOR THE PEDESTRIAN SIGNAL LOAD ONLY. THE PEDESTRIAN SIGNAL BREAKER SHALL BE WIRED IN SERIES WITH BUT AFTER THE MAIN POWER BREAKER. A THIRD CIRCUIT BREAKER, LABELED AS "AUX" AND RATED AT 15 AMPS, SHALL SUPPLY A SEPARATE BRANCH OF AC+ POWER TO THE VENTILATING FAN, CONVENIENCE 'GFI' OUTLET AND LIGHT SO THAT THEY MAY OPERATE INDEPENDENTLY OF THE MAIN POWER BREAKER. THE POWER TO THE FAN AND LIGHT SHALL ALSO BE INTERRUPTED BY THE 'GFI' OUTLET. A FOURTH INDEPENDENT CIRCUIT BREAKER LABELED "LIGHTING" AND RATED 15 AMPS SHALL SUPPLY THE POLE LIGHT FIXTURES THROUGH AN HOA CONTROLLED LIGHTING CONTACTOR. CONTACTOR AND HOA SWITCH TO BE IN CONTROLLER CABINET. ALL BREAKERS SHALL BE MOUNTED SIDE-BY-SIDE ON THE POWER DISTRIBUTION PANEL. LIGHTING PHOTOCCELL AND 3/C PHOTOCNTROL WIRING SHALL BE INCIDENTAL.
- K) ALL CONTROLLER MS CONNECTOR HARNESSSES SHALL HAVE A CONDUCTOR FOR EACH PLUG PIN EXCEPT THE REMOTE RESET FUNCTION FOR THE CONFLICT MONITOR. THE CONTROLLER AND CONFLICT MONITOR MS HARNESS CONDUCTORS SHALL BE CONNECTED TO A BACK PANEL TERMINAL STRIP WHICH IS ACCESSIBLE FROM THE FRONT OF THE PANEL. DETECTOR UNIT HARNESS CONDUCTORS SHALL BE CONNECTED TO A LEFT SIDE CABINET MOUNTED TERMINAL STRIP. OTHER EQUIPMENT SHALL BE CONNECTED AS APPROPRIATE.
- L) THE CABINET ASSEMBLY SHALL CONTAIN ALL PEDESTRIAN SIGNAL CIRCUITRY FOR EACH NEMA DEFINED THROUGH PHASE.
- M) A POLICE DOOR MOUNTED SIGNAL SHUTDOWN SWITCH WITH SWITCH POSITIONS LABELED AS "SIG ON" AND "SIG OFF" SHALL BE INSTALLED.

- N) A POLICE DOOR MOUNTED SIGNAL-FLASH SWITCH WITH SWITCH POSITIONS LABELED AS "ON SIG" AND "ON FLASH" SHALL NOT ONLY PLACE THE SIGNALS ON FLASH BUT ALSO STOP-TIME THE CONTROLLER UNIT. A RUN/STOP-TIME SWITCH WITH SWITCH POSITIONS LABELED AS "CONT. RUN" AND "STOP-TIME" SHALL BE INSTALLED ON THE INSIDE OF THE CABINET DOOR. THE RUN/STOP-TIME SWITCH SHALL ALLOW THE CONTROLLER UNIT TO TIME NORMALLY BUT KEEP THE SIGNALS ON FLASH. THE SIGNAL-FLASH SWITCH SHALL NOT RETURN THE SIGNALS TO NORMAL OPERATION UNLESS THE RUN/STOP-TIME SWITCH IS RESET TO THE STOP-TIME POSITION SO THE SIGNAL FLASH SWITCH CAN AGAIN STOP-TIME THE CONTROLLER UNIT. THE SIGNAL-FLASH SWITCH SHALL NOT REMOVE POWER TO THE CONTROLLER UNIT OR ITS AUXILIARY EQUIPMENT.
- O) A POLICE DOOR MOUNTED AUTO-MANUAL TRANSFER SWITCH WITH SWITCH POSITIONS LABELED AS "AUTO" AND "MANUAL" SHALL BE INSTALLED. A MANUAL PUSHBUTTON CONTROL SHALL NOT BE INSTALLED UNLESS SPECIFIED, BUT WIRING FOR A PUSHBUTTON CONTROL SHALL BE PROVIDED UP TO THE POINT WHERE THE PUSHBUTTON WOULD HAVE BEEN CONNECTED.
- P) A CONTROLLER SHUTDOWN SWITCH WITH SWITCH POSITIONS LABELED AS "CONT ON" AND "CONT OFF" AND A COORDINATED/FREE SWITCH WITH SWITCH POSITIONS LABELED AS "COORD" AND "FREE" SHALL BE INSTALLED INSIDE THE CABINET NEXT TO THE RUN/STOP-TIME SWITCH. A COORDINATED/FREE SWITCH SHALL NOT BE REQUIRED IF THE CONTROLLER HAS A BUILT-IN COORD/FREE SWITCH.
- Q) AFTER A NEMA DEFINED POWER INTERRUPTION, THE CONFLICT MONITOR SHALL CAUSE THE INTERSECTION SIGNALS TO FLASH AS PER PLAN FOR 10 SECONDS BEFORE THE INITIALIZED CONTROLLER UNIT TAKES CONTROL OF THE INTERSECTION SIGNALS. THE CONFLICT MONITOR SHALL BE EDI MODEL SERIES SSM LE AND SHALL CONTAIN SUFFICIENT CHANNELS AS CALLED FOR IN THESE PLANS.
- R) THE CONFLICT MONITOR SHALL BE CONNECTED DIRECTLY TO THE FIELD TERMINALS. USING JUMPERS OR LINKS ON THE BACK PANEL TO FORM A CIRCUIT FOR THE CONFLICT MONITOR SHALL NOT BE ACCEPTABLE.
- S) THE CONFLICT MONITOR SETTINGS FOR MINIMUM YELLOW TIMING ON ALL CHANNELS SHALL BE SET AT THREE AND ONE HALF (3.5) SECONDS.
- T) THE WATCH DOG TIMER SHALL CAUSE THE CONTROLLER TO GO INTO A FLASH OPERATION IF A MICROPROCESSOR FAILURE IS DETECTED.
- U) ALL BACK PANEL HARDWARE SHALL BE MOUNTED WITH SCREWS. ALL SCREWS SHALL BE COMPLETELY SCREWED DOWN. RIVETS OR OTHER NON-REMOVABLE FASTENERS ARE NOT ACCEPTABLE.
- V) WIRE CONNECTIONS ON THE BACK PANEL SHALL BE MADE WITH CRIMP TERMINALS AND THREADED FASTENERS. TELEPHONE TYPE KNIFE CONNECTORS (SOLDERED OR OTHERWISE) ARE NOT ACCEPTABLE.
- W) ALL WIRES FASTENED TO THE LOAD SWITCH AND FLASHER PLUGS SHALL BE SOLDERED IN PLACE.
- X) THE BACK PANEL AND POWER DISTRIBUTION PANEL SHALL HAVE SILK SCREENED TERMINAL/SOCKET FUNCTION IDENTIFICATION LABELS SUCH AS AC COM, PHASE 3 GREEN, 115 VAC, SIGNAL BUS, ETC. REFERENCE NUMBERS SHALL NOT BE ACCEPTABLE IN LIEU OF FUNCTION LABELS BUT THEY CAN SUPPLEMENT THEM. ADDITIONAL TERMINAL BLOCKS AND AUXILIARY PANELS SHALL USE SILK SCREENED REFERENCE NUMBERS TO IDENTIFY TERMINAL CONNECTIONS.
- Y) ALL TERMINAL STRIPS IN CLOSE PROXIMITY OF SHELF MOUNTED CONTROL DEVICE EQUIPMENT SHALL BE COVERED WITH NON-CONDUCTIVE MATERIAL TO PREVENT ACCIDENTAL CONTACT WITH THE DEVICES. ALL TERMINAL STRIPS SHALL BE READILY ACCESSIBLE WITHOUT REMOVAL OF ANY EQUIPMENT.
- Z) THE CABINET SHALL HAVE TWO (2) NON-VENTED (SOLID) SHELVES SPACED AT LEAST 9" APART. BOTH SHELVES

- SHALL HAVE A WIDTH OF 13" AND THE BACK EDGE OF THE SHELF SHALL BE LIPPED WITH THE LIP POINTING UP. THE FRONT EDGE OF THE SHELF SHALL BE LIPPED WITH THE LIP POINTING DOWN. ALL LIP EDGES SHALL BE ROUNDED. THE SHELVES SHALL BE ATTACHED TO THE CABINET SIDE PANELS. THE SHELF ARRANGEMENT SHALL BE DESIGNED SO ALL SHELF DEVICES FIT ON THEM.
- AA) THERE SHALL BE A MINIMUM OF ONE (1) INCH EMPTY SPACE BETWEEN ALL ITEMS ATTACHED TO THE DOOR AND ALL SHELF MOUNTED DEVICES INCLUDING ITS CONNECTING HARNESS(IES), ALL LOAD SWITCHES, FLASHER AND ALL SIDE-PANEL-MOUNTED ITEMS.
- BB) "P" SIZED CABINETS SHALL HAVE TWO VENTILATION FANS. THE THERMOSTAT CONTROLLING THE VENTILATING FAN CIRCUIT SHALL BE SET AT 95 DEGREES FAHRENHEIT.
- CC) ALL FLASH TRANSFER RELAYS SHALL BE WIRED FOR FAIL-SAFE OPERATION (ENERGIZED DURING NORMAL OPERATION) AND WIRED WITH A MAXIMUM OF TWO PHASES PER RELAY.
- DD) THE CONTROLLER ASSEMBLY, WHEN PLACED IN OR COMING OUT OF AN AUTOMATIC FLASHING MODE, SHALL CONFORM TO THE AUTOMATIC FLASHING CRITERIA SET FORTH IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, SECTION 4D.29-4D.31, INCLUDING THE FOLLOWING ADDITIONS:
 - 1. A VEHICULAR CALL SHALL BE PLACED ON ALL PHASES IMMEDIATELY PRIOR TO ENTERING THE "FLASH" MODE SO THE CONTROLLER WILL CYCLE TO THE "FLASH" POINT. IT IS OPTIONAL TO HAVE ONE EXTERNAL VEHICULAR CALL PLACED IMMEDIATELY ON ALL PHASES WHEN THE "FLASH" MODE TERMINATES. THE CONTROLLER SHALL OPERATE NORMALLY ONCE THE "FLASH" MODE SEQUENCE IS TERMINATED.
 - 2. THE CONTROLLER SHALL ENTER THE "FLASH" MODE AT THE END OF THE THROUGH SIDE STREET PHASE(S) YELLOW (OR DURING THE SIDESTREET PHASE(S) RED CLEARANCE INTERVAL) BUT JUST PRIOR TO ANY MAIN STREET GREEN.
 - 3. THE FLASH TRANSFER LOGIC DEVICE SHALL TRIGGER THE "FLASH" OPERATION, SHALL BE SOLID STATE, SHALL BE EXTERNAL TO THE CONTROLLER (A CABINET ASSEMBLY DEVICE), AND SHALL FUNCTION WITH ANY NEMA CONTROLLER. THIS CIRCUITRY SHALL BE SUPPLIED IN ADDITION TO ANY INTERNAL CONTROLLER FLASH LOGIC PROVIDED BY THE CONTROLLER.
 - 4. EXCEPTION: FOR ON-STREET MASTER ARTERIAL CONTROLLERS ONLY, INTERNAL IC LOGIC CAN BE USED IN LIEU OF AN EXTERNAL DEVICE AS LONG AS THE INTERNAL IC LOGIC MEETS THE STANDARDS SET FORTH ABOVE.
- EE) THE POWER CABLE SHALL BE CONNECTED TO AN ACCESSIBLE TERMINAL STRIP THAT SHALL BE LOCATED NEAR THE BOTTOM OF THE CABINET AND SHALL BE OF SUFFICIENT SIZE TO ACCEPT A SUPPLIED #6 WIRE LUG. THE TERMINAL STRIP SHALL BE COVERED OR SHIELDED TO MINIMIZE ACCIDENTAL CONTACT DURING NORMAL SERVICING OPERATIONS. THE COVER SHALL BE SNAPPED ON/OFF OR SECURED BY STANDARD SCREWS. THE POWER CABLE LUG TERMINAL CONNECTION SHALL BE LOCATED IMMEDIATELY BELOW THE MAIN POWER DISTRIBUTION BREAKER. POWER SHALL BE JUMPED TO THE MAIN POWER DISTRIBUTION BREAKER. THE POWER DISTRIBUTION PANEL SHALL BE LOCATED IN THE BOTTOM RIGHT SIDE OF THE CABINET OR IT SHALL BE AN INTEGRAL PART OF THE RIGHT SIDE OF THE BACK PANEL. THERE SHALL BE A MINIMUM OF TWO (2) INCHES CLEARANCE BETWEEN THE POWER TERMINAL AND THE BOTTOM OF THE CABINET.
- FF) A #4 WIRE LUG SHALL BE PROVIDED FOR ATTACHING A GROUNDING WIRE FROM A GROUND ROD. THE GROUNDING WIRE LUG SHALL BE ATTACHED TO THE POWER DISTRIBUTION PANEL (LOWER LEFT CORNER), OR IF NONE, TO THE BACK PANEL (BOTTOM MIDDLE). IT SHALL BE DIRECTLY GROUND TO THE CABINET GROUND WITH A #4 WIRE. SEE THE GROUNDING AND BONDING NOTES.

GENERAL LIGHTING NOTE

THE CONTRACTOR SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, NATIONAL ELECTRICAL SAFETY CODE AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY IN PERFORMING CONTRACT WORK. THE STREET LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2023 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THIS DOCUMENT SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN.

**ITEM 625 LIGHT POLE (INSTALLATION ONLY), AS PER PLAN
ITEM 625 LUMINAIRE, INSTALLATION ONLY, AS PER PLAN, TYPE A
ITEM 625 LUMINAIRE, INSTALLATION ONLY, AS PER PLAN, TYPE B**

LIGHT POLES AND LUMINAIRES FOR THIS PROJECT WERE PRE-PURCHASED BY A SEPARATE CONTRACT AND ARE AVAILABLE FOR PICKUP BY THE CONTRACTOR AT 4605 POTH RD, COLUMBUS, OHIO, 43212. THE CONTRACTOR SHALL CONTACT JEFF HART, STREET SUPERINTENDENT, 614-205-7528, TO SCHEDULE A PICK-UP TIME.

A VARIETY OF LUMINAIRES WERE PRE-PURCHASED FOR INSTALLATION BY THIS PROJECT, AND THE CONTRACTOR SHALL ENSURE THAT THEY ARE INSTALLED AT THE INTENDED LOCATIONS WHERE SPECIFIED ON THE PLANS. TYPE A LUMINAIRES SHALL BE INSTALLED NORTH, SOUTH, AND WEST OF THE BROAD & HAMILTON INTERSECTION AND TYPE B LUMINAIRES SHALL BE INSTALLED EAST OF THE BROAD & HAMILTON INTERSECTION.

FOR REFERENCE, THE FOLLOWING SPECIFICATIONS FOR TYPE A LUMINAIRES WERE LISTED IN THE PRE-ORDER SPECIFICATIONS DOCUMENT:

- HOLOPHANE ESPLANADE 2, ESL2-P40S-40K-AS-TG-3
- STERNBERG LIBERTYVILLE, 1914LED-3L40T3-MDL09-G3

FOR REFERENCE, THE FOLLOWING SPECIFICATIONS FOR TYPE B LUMINAIRES WERE LISTED IN THE PRE-ORDER SPECIFICATIONS DOCUMENT:

- HOLOPHANE ESPLANADE 2, ESL2-P50S-40K-AS-TG-3
- STERNBERG LIBERTYVILLE, 1914LED-3L40T4-MDL09-G3

TYPE C LUMINAIRES SHALL BE INSTALLED ON THE COMBINATION SIGNAL SUPPORTS. REFERENCE THE SIGNAL PLAN FOR TYPE C LUMINAIRE INSTALLATIONS.

PAYMENT SHALL BE AS PER ITEM 625 FOR EACH LUMINAIRE THAT IS PICKED UP FROM THE DESIGNATED AREA, DELIVERED TO THE JOB SITE, AND INSTALLED ON A LIGHT POLE BY THE CONTRACTOR.

ITEM 625 LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN

LIGHT POLE FOUNDATIONS SHALL BE INSTALLED AS PER ODOT SCD HL-20.11 AT THE LOCATIONS SHOWN ON THE DRAWINGS. UNDER THIS ITEM OF WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ANCHOR BOLTS AND ENSURE THAT THE BOLT SIZE, LENGTH, ANCHOR BOLT CIRCLE, AND PATTERN MATCH THE PRE-PURCHASED LIGHT POLES.

PAYMENT SHALL BE AS PER ITEM 625.

ITEM 625 POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE ITEM 625 SPECIFICATIONS, THE FOLLOWING IS ADDED.

POWER CABLE SHALL BE PROVIDED AS PER 725.02 BETWEEN CONTROL CENTER ENCLOSURE AND THE TAP-IN LOCATION NOTED IN THE PLAN. WHEN THE POWER CABLE IS IN PLACE AND TWO WEEKS PRIOR TO THE TIME THAT ELECTRICAL POWER WILL BE REQUIRED, THE CONTRACTOR SHALL CONTACT THE AMERICAN ELECTRIC POWER COMPANY (1-800-672-2231) WHICH WILL MAKE

ITEM 625 POWER SERVICE, AS PER PLAN (CONTINUED)

THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR CONNECT POWER CABLE INTO THE POWER COMPANY'S CIRCUITS.

POWER SHALL BE METERED. THE METER SHALL BE MOUNTED NEXT TO THE CONTROL CENTER ENCLOSURE.

POWER CABLE CONDUCTORS SHALL BE COPPER. THE NEUTRAL OF THE POWER CABLE SHALL ONLY BE GROUNDED AT THE MAIN POWER SERVICE DISCONNECT SWITCH IN THE CONTROL CENTER ENCLOSURE.

PROVIDE AN AVAILABLE FAULT CURRENT SIGN ON THE OUTSIDE OF THE FRONT DOOR OF THE POWER SERVICE DISCONNECT SWITCH AT THE CONTROL CENTER ENCLOSURE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE PARAGRAPH 110.24.

PROVIDE AN ARC FLASH HAZARD WARNING SIGN ON THE OUTSIDE OF THE FRONT DOOR OF THE CONTROL CENTER ENCLOSURE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE PARAGRAPH 110.16.

PROVIDE A LIGHTNING ARRESTOR IN THE CONTROL CENTER ENCLOSURE.

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT. THE CONTRACTOR SHALL PROVIDE A PAD-MOUNTED POWER SERVICE PER HL-40.20 AND THE CONTROL CENTER WIRING ON SHEET 188.

THIS ITEM SHALL INCLUDE THE CONTROL EQUIPMENT, THE SUPPORT AND FOUNDATIONS ON WHICH THE EQUIPMENT IS MOUNTED, GROUND RODS, AS WELL AS ANY POLES, CONDUITS, CONDUIT RISERS, OR POWER SERVICE CABLES TO BE INSTALLED BY THE CONTRACTOR TO RECEIVE THE INCOMING POWER FROM THE POWER COMPANY, AS WELL AS ANY COORDINATION EFFORTS AND FEES REQUIRED TO OBTAIN THE APPROPRIATE POWER SERVICE TRANSFORMER PROVIDED BY THE POWER COMPANY FOR STREET LIGHTING USE. THE CONTRACTOR SHALL FURNISH AND INSTALL A CONDUIT RISER ON THE AEP-OWNED WOOD POLE FOR STREET LIGHTING POWER SERVICE THAT CONFORMS TO THE DETAIL INCLUDED ON TRAFFIC SIGNAL AND INTERCONNECT NOTES SHEET 169.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH C&MS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - a. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

- b. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
- c. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.11.
- d. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
2. CONDUITS.
 - a. ANY 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
 - b. ANY 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
 - c. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
 - d. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRE FOR GROUNDING AND BONDING.
 - a. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
 - i. USE SAME SIZE EQUIPMENT GROUNDING CONDUCTOR AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF #4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE #4 AWG.
 - ii. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR #4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

4. GROUND ROD.
 - a. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
 - b. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE #4 AWG, INSULATED, COPPER.
5. POWER SERVICE AND DISCONNECT SWITCH.
 - a. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
 - b. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE MAIN POWER SERVICE DISCONNECT SWITCH.

PAYMENT FOR GROUNDING AND BONDING SHALL BE CONSIDERED INCIDENTAL TO THE CONDUCTORS INSTALLED BY THE PROJECT.

ITEM 625 LUMINAIRE, MISC.: LANDSCAPE LIGHT

LANDSCAPE LIGHT SHALL BE MANUFACTURED BY HYDREL LIGHTING CATALOG NUMBER 4640 12LED WHT41K MVOLT MFL KM SMSA18 LP BL WITH BLACK POWDER COAT FINISH. LANDSCAPE LIGHTS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS WHERE SHOWN ON THE PLANS AND ALL MOUNTING HARDWARE SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

PAYMENT SHALL BE AS PER ITEM 625.

ITEM 625 SPECIAL - MAINTAIN EXISTING LIGHTING

BROAD STREET AND HAMILTON ROAD SHALL HAVE STREET LIGHTING MAINTAINED AS DESCRIBED HEREIN.

THE CONTRACTOR SHALL COORDINATE WITH AEP FOR THE REMOVAL OF THE EXISTING AEP-OWNED STREET LIGHTS WHERE SHOWN ON THE PLANS. IF THE EXISTING AEP-OWNED LIGHT POLES ARE REMOVED BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT A SET OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOT-CANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY TO NO EXCEED 3:1. TEMPORARY LUMINAIRES SHALL PROVIDE BETWEEN 16,000 AND 18,000 LUMENS AND SPACED BETWEEN 80-120 FEET. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL BE APPROXIMATELY 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "B" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHANG WIRING MAY BE USED, HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

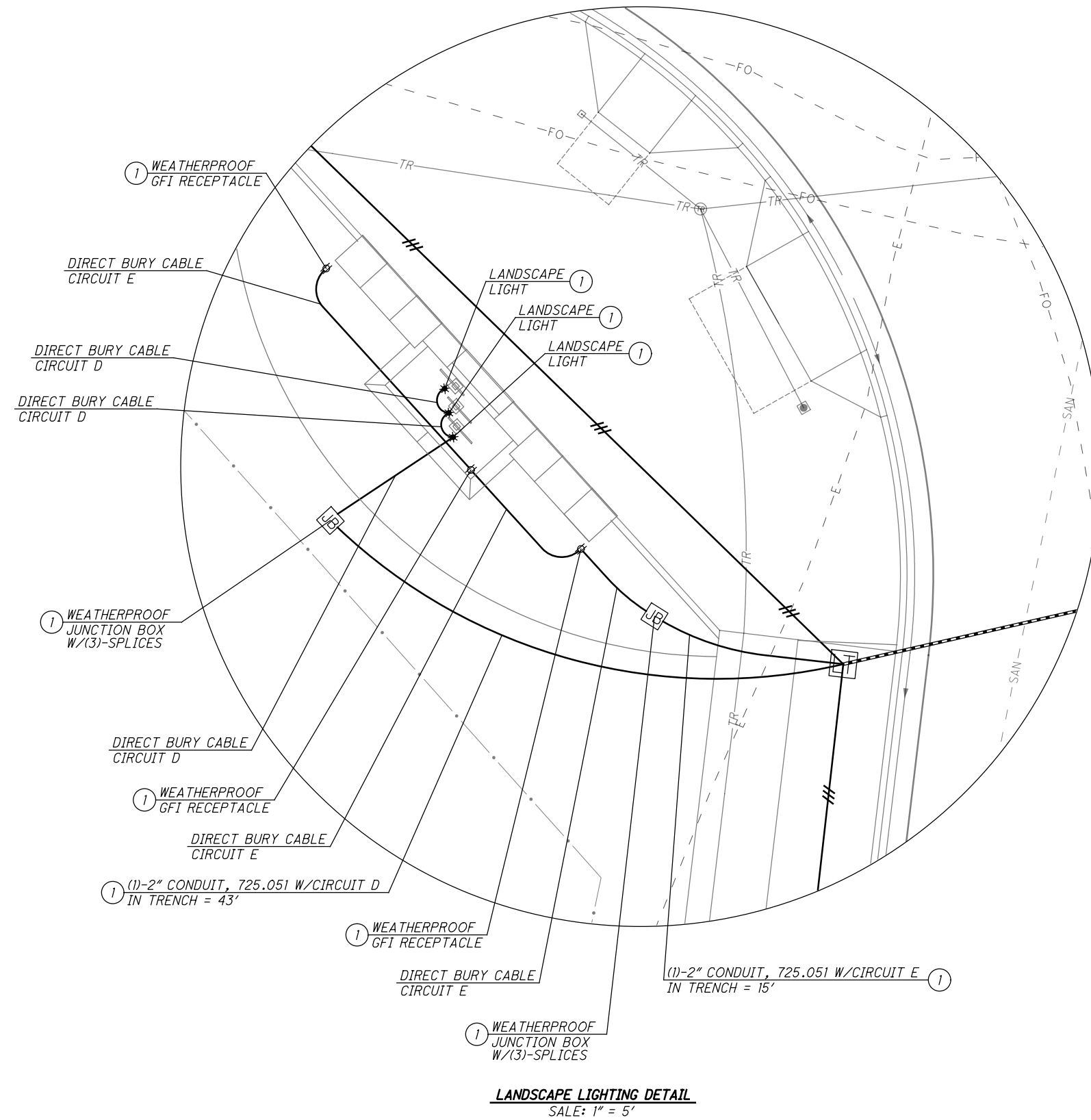
THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY LIGHTING POWER SERVICES.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INVESTIGATE AND REPAIR ALL STREET LIGHTING OUTAGES WITH A 72 HOUR TIMEFRAME.

THE LUMP SUM BID PRICE FOR ITEM 625, SPECIAL MAINTAIN EXISTING LIGHTING SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

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LANDSCAPE LIGHTING DETAIL
SCALE: 1" = 5'

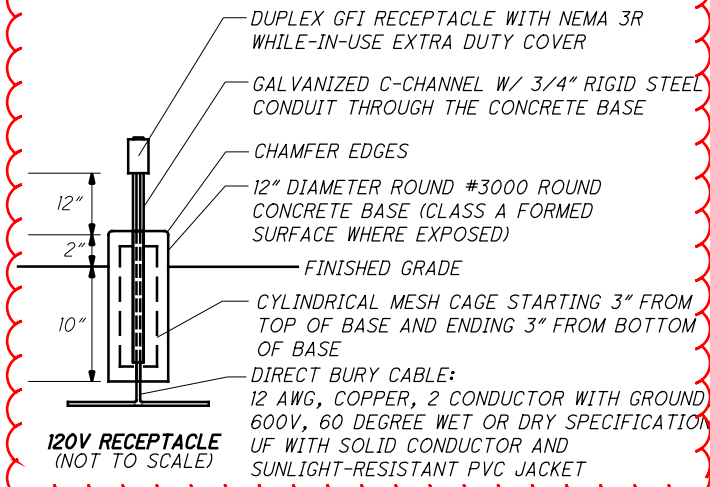
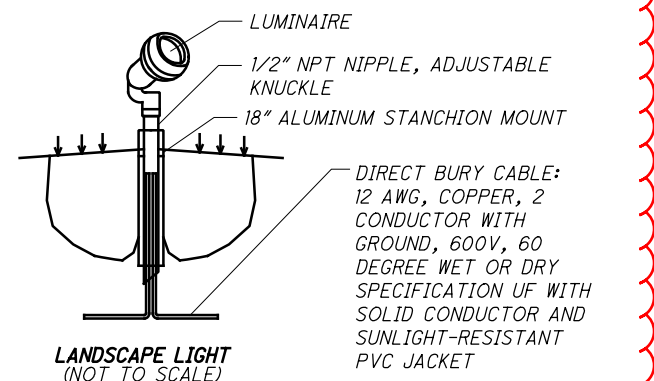
ITEM 625 LIGHTING, MISC.: 120V RECEPTACLE
THE PROPOSED RECEPTACLES SHALL BE FURNISHED WITH THE FOLLOWING FEATURES:
-DUPLEX 15 AMPERES GFCI WR RATED RECEPTACLE, BOX, AND COVER
-T&B RED DOT CATALOG #CKMUV CAST ALUMINUM WEATHERPROOF EXTRA DUTY COVER RATED NEMA 3R WHILE-IN-USE
-MOUNT ON GALVANIZED C-CHANNEL WITH BLACK PLASTIC END CAP ON TOP
-PROVIDE 3000# CONCRETE BASE (CLASS A FORMED SURFACE WHERE EXPOSED)
-MOUNT BOTTOM OF RECEPTACLE APPROXIMATELY 14" FROM FINISHED GRADE.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY ORDERING OF RECEPTACLES FOR THE PROJECT.

PAYMENT SHALL BE MADE AT THE UNIT BID PRICE FOR EACH RECEPTACLE TO BE FURNISHED,

ITEM 625 LIGHTING, MISC.: POWER TO LANDSCAPE LIGHTING
THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL POWER, EXCEPT FOR LUMINAIRES, #10 AWG CIRCUIT CABLE AND CONDUIT, AND CONTROL CENTER EQUIPMENT, FOR THE LANDSCAPE LIGHTING SYSTEM DETAILED WITHIN THE PLANS. THE INSTALLATION WORK SHALL INCLUDE, BEGINNING AT THE FIRST JUNCTION BOX PROPOSED FOR EACH CIRCUIT NEAR THE ENTRY FEATURE AND ENDING AT THE FINAL LUMINAIRE OR RECEPTACLE IN EACH SERIES, CABLE, CONDUITS, GROUNDING, MOUNTINGS, FITTINGS, JUNCTION BOXES, SPLICES, AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE POWER AS DETAILED IN THESE PLANS.

THE PRICE BID FOR ITEM 625 LIGHTING, MISC.: POWER TO LANDSCAPE LIGHTING SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED, BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM, SHALL BE FURNISHED AND INSTALLED AND CONSIDERED PAID FOR AS PART OF THE ITEM.



**LIGHTING PLAN
LANDSCAPE LIGHTING DETAIL**

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