

SHEET NO.	LOCATION	STATION TO STATION				254	407	442	614	614	614	614	614	614	614	614	614	618	622	630	630	630	CALCULATED JAR CHECKED KWR
		PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	NON-TRACKING TACK COAT	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), PG76-22M	INCREASED BARRIER DELINEATION	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	BARRIER REFLECTOR, TYPE I, ONE-WAY	OBJECT MARKER, ONE WAY	WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	WORK ZONE LANE LINE, CLASS II, 6", 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT, WHITE	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT, YELLOW	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE I, WHITE	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I, WHITE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE), AS PER PLAN	PORTABLE BARRIER, 32"	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	BREAKAWAY STRUCTURAL BEAM CONNECTION	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION		
		SY	GAL	CY	FT	EACH	EACH	EACH	EACH	MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	FT	EACH	EACH		
		TO																					
		PHASE 1																					
21	I-90 EB	881+25	RT	883+25	RT			200	1		4	4							200				
	I-90 WB	879+50	LT																	47.4	2	2	
		881+25	LT	883+25	LT			200	1		4	4							200				
		PHASE 2																					
25	I-90 EB	867+50	RT	M.L. B-B	RT	6348	571	265									2715						
		870+50	RT	M.L. B-B	RT								0.115	0.115			605						
	I-90 WB	869+30	LT	M.L. B-B	LT	4961	446	207									2160						
		869+30	LT	M.L. B-B	LT								0.080	0.080			420						
26	I-90 EB	M.L. B-B	RT	887+00	RT	7856	707	327			260					3150			1050				
		877+80	RT	884+00	RT			620	1		13	13							620				
	I-90 WB	M.L. B-B	LT	887+00	LT	7964	717	332			255					3150			1050				
		879+50	LT	885+90	LT			640	1		13	13							640				
27	I-90 EB	887+00	RT	894+20	RT	5332	480	222			180					2160							
		887+00	RT	891+20	RT								0.080	0.080			420						
	I-90 WB	887+00	LT	896+30	LT	7122	641	297			235					2790							
		887+00	LT	893+30	LT								0.119	0.119			630						
		PHASE 3																					
20-22	I-90 EB	867+50	RT	894+20	RT						1.517		0.506	0.506									
	I-90 WB	869+30	LT	896+30	LT						1.534		0.511	0.511									
21	I-90 EB	881+25	RT	883+25	RT			200	1		4	4							200				
	I-90 WB	881+25	LT	883+25	LT			200	1		4	4							200				
		S MARGINAL STEP 1																					
30	S MARG.	77+50	LT	81+70	LT								0.080	0.080			320						
		80+05	RT	82+05	LT				1		4	4							200				
	W 44TH	43+60	CL	44+00	CL						1	1							40				
		S MARGINAL STEP 2																					
30	S MARG.	77+50	L/R	81+70	L/R									0.080			320						
		80+05	LT	82+05	CL				1		4	4							200				
		N MARGINAL																					
31	N MARG.	49+80	LT	51+80	LT				1		4	4							200				
		50+43	LT	54+50	RT											0.077							
		51+50	LT	54+50	RT														300				
	W 44TH	BEGIN SHIFT	CL	END SHIFT	CL									0.057									
N/A	PRIOR TO FINAL PVMT MKGS. (NO PLAN SHEETS PROVIDED)																						
	I-90 EB	867+50	RT	894+20	RT									1.517									
	I-90 WB	869+30	LT	896+30	LT									1.534									
TOTALS CARRIED TO GENERAL SUMMARY					39583	3562	1650	2060	9	1340	55	55	3.06	3.06	3.86	0.14	16125	940	4175	2700	47.4	2	2

**MAINTENANCE OF TRAFFIC SUBSUMMARY**

**CUY-90-13.45**

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NOTES:

- 1. SEE SHEET 19 FOR MOT LEGEND AND DRUM SPACING CHART.
- 2. W 44TH ST SHALL BE CLOSED BETWEEN N MARGINAL RD AND S MARGINAL RD FOR THE ENTIRE PROJECT.

- DURING BRIDGE WORK: BARRICADES SHALL BE PLACED IMMEDIATELY NORTH OF THE INTERSECTION OF W 44TH ST AT S MARGINAL RD, BUT SHALL NOT EXTEND INTO THE INTERSECTION. RAMP 28 SHALL OPERATE PER EXISTING CONDITION.

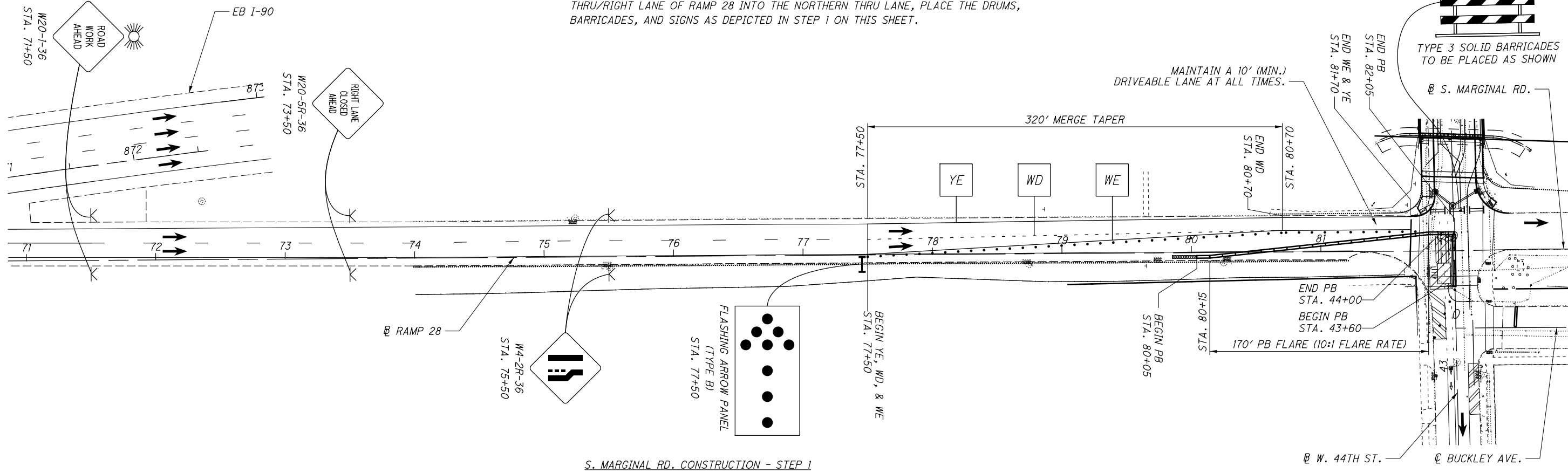
- DURING S MARGINAL INTERSECTION WORK - STEP 1: MERGE THE SOUTHERN THRU/RIGHT LANE OF RAMP 28 INTO THE NORTHERN THRU LANE, PLACE THE DRUMS, BARRICADES, AND SIGNS AS DEPICTED IN STEP 1 ON THIS SHEET.

- DURING S MARGINAL INTERSECTION WORK - STEP 2: MERGE THE NORTHERN THRU LANE OF RAMP 28 INTO THE SOUTHERN THRU/RIGHT LANE, PLACE THE DRUMS, BARRICADES, AND SIGNS AS DEPICTED IN STEP 2 ON THIS SHEET. IMMEDIATELY UPON COMPLETION OF THE INTERSECTION WORK REOPEN RAMP 28 TO EXISTING CONDITIONS (AND PLACE THE BARRICADES PER 'DURING BRIDGE WORK' DESCRIBED ABOVE IF THE PROJECT IS NOT COMPLETE).

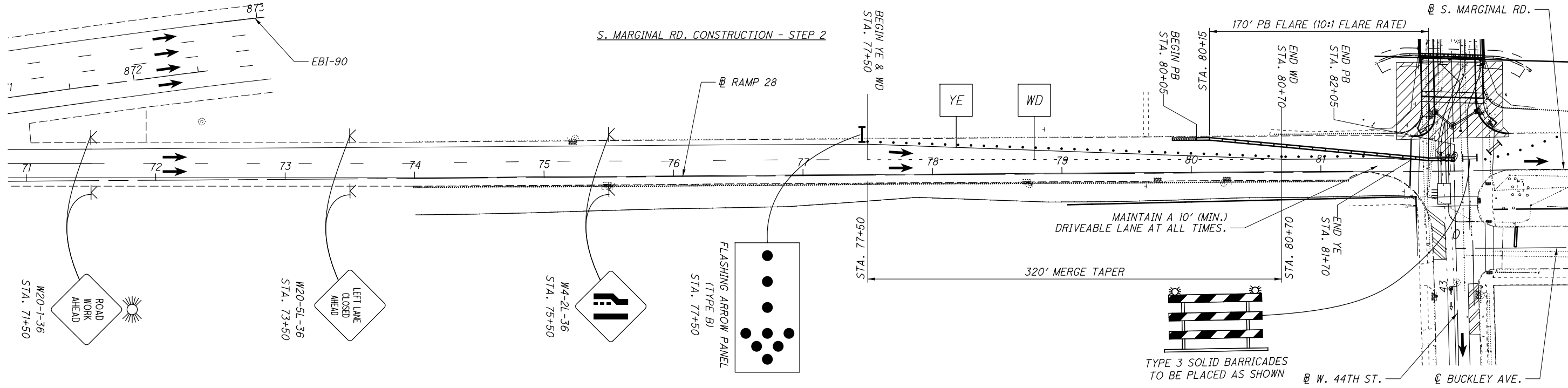
- 3. PAVEMENT MARKINGS PER ODOT SCD MT-95.30 SHALL BE REQUIRED AS SHOWN ON S MARGINAL RD.

CALCULATED  
JAR  
CHECKED  
DRB

0 40 80  
HORIZONTAL  
SCALE IN FEET



S. MARGINAL RD. CONSTRUCTION - STEP 1



S. MARGINAL RD. CONSTRUCTION - STEP 2

MAINTENANCE OF TRAFFIC  
S. MARGINAL RD. WORK AREA

CUY-90-13.45

30  
135



SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED MSN	CHECKED	SSR
8	11	12	14	15	84	85	95	97		01/BRO/B R	02/BRO/B R	03/BRO/B R									
					0.16					0.16			646	10000	0.16	MILE	TRAFFIC CONTROL (CONT.)				
					1.92					1.92			646	10010	1.92	MILE	EDGE LINE, 6"				
					3.13					3.13			646	10110	3.13	MILE	LANE LINE, 6"				
					392					392			646	10300	392	FT	CHANNELIZING LINE, 8"				
					171					171			646	10310	171	FT	CHANNELIZING LINE, 12"				
					95					95			646	10400	95	FT	STOP LINE				
					462					462			646	10500	462	FT	CROSSWALK LINE				
					185					185			646	10600	185	FT	TRANSVERSE/DIAGONAL LINE				
					14					14			646	20300	14	EACH	LANE ARROW				
					383					383			646	20502	383	FT	DOTTED LINE, 4"				
					89					89			646	20506	89	FT	DOTTED LINE, 8"				
					3					3			646	20600	3	EACH	BIKE LANE SYMBOL MARKING				
					2					2			646	20650	2	EACH	SHARED LANE MARKING				
																	TRAFFIC SIGNALS				
								498		498			625	25408	498	FT	CONDUIT, 2", 725.051				
								120		120			625	25504	120	FT	CONDUIT, 3", 725.051				
								163		163			625	29000	163	FT	TRENCH				
								4		4			625	29901	4	EACH	JUNCTION BOX, AS PER PLAN			96	
								7		7			625	31600	7	EACH	PULL BOX, MISC.: 13" X 24"			96	
								1		1			625	32000	1	EACH	GROUND ROD				
								163		163			625	36000	163	FT	PLASTIC CAUTION TAPE				
								1		1			632	20730	1	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN				
								1		1			632	26000	1	EACH	PEDESTRIAN PUSHBUTTON				
								105		105			632	40300	105	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG				
								113		113			632	40500	113	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG				
								1		1			632	64020	1	EACH	PEDESTAL FOUNDATION				
								423		423			632	68300	423	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG				
								2		2			632	70400	2	EACH	CONDUIT RISER, 2" DIAMETER				
								1		1			632	89900	1	EACH	PEDESTAL, 8", TRANSFORMER BASE			95	
							1			1			632	90101	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN			95	
								2		2			633	45000	2	EACH	GPS (GLOBAL POSITIONING SYSTEM) CLOCK ASSEMBLY			95	
								2		2			633	99000	2	EACH	CONTROLLER ITEM, MISC.: CONTROLLER CABINET MODIFICATION			95	
																	MAINTENANCE OF TRAFFIC				
			300							300			614	11110	300	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE			14	
				2,060						2,060			614	11630	2,060	FT	INCREASED BARRIER DELINEATION			13	
				9						9			614	12336	9	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)				
	LUMP									LUMP			614	12420	LS		DETOUR SIGNING			11	
				1,340						1,340			614	12801	1,340	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN			13	
	300									300			614	13000	300	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC			11	
				55						55			614	13310	55	EACH	BARRIER REFLECTOR, TYPE 1, ONE-WAY			13	
				55						55			614	13350	55	EACH	OBJECT MARKER, ONE WAY			13	
		14								14			614	18601	14	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN			12	
				3.06						3.06			614	20110	3.06	MILE	WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT				
				3.06						3.06			614	20510	3.06	MILE	WORK ZONE LANE LINE, CLASS II, 6", 642 PAINT				
				3.86						3.86			614	22110	3.86	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT				
				0.14						0.14			614	22200	0.14	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE I				
				16,125						16,125			614	23210	16,125	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT				
				940						940			614	24400	940	FT	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I				
	55									55			616	10000	55	MGAL	WATER			11	
				2,700						2,700			622	41000	2,700	FT	PORTABLE BARRIER, 32"				
				47.4						47.4			630	07500	47.4	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22				
				2						2			630	09000	2	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION				
				2						2			630	84500	2	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION				
																	STRUCTURES OVER 20 FOOT SPAN				
																	STRUCTURE CUY-90-1345 GENERAL SUMMARY			109	
																	INCIDENTALS				
	LUMP									LUMP			614	11000	LS		MAINTAINING TRAFFIC			11	
5										5			619	16011	5	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN			8	
										LUMP			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING				
										LUMP			624	10000	LS		MOBILIZATION				

GENERAL SUMMARY

CUY-90-13.45

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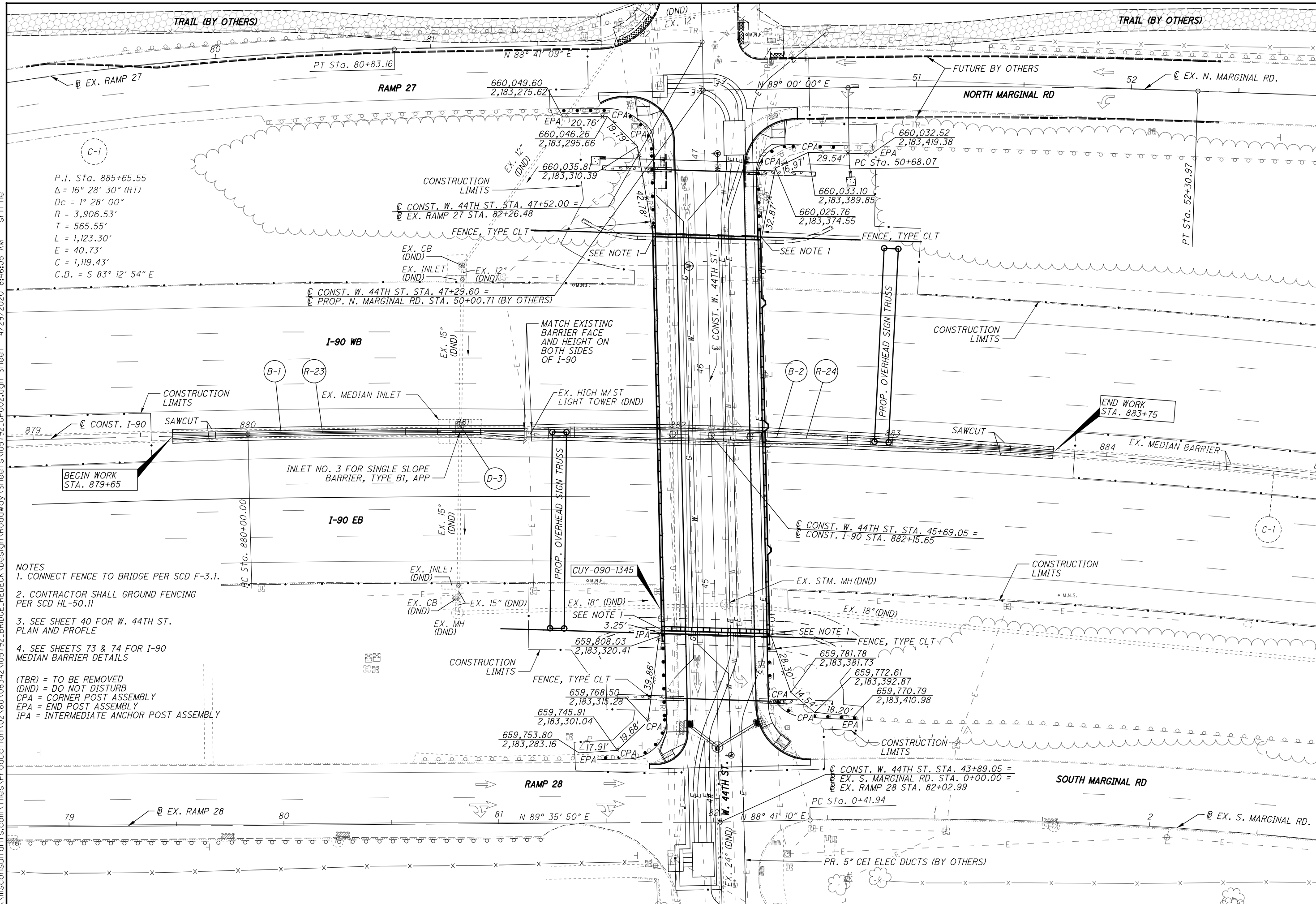
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 10' HORIZONTAL SCALE IN FEET

PLAN I-90

CUY-90-13.45

39  
135

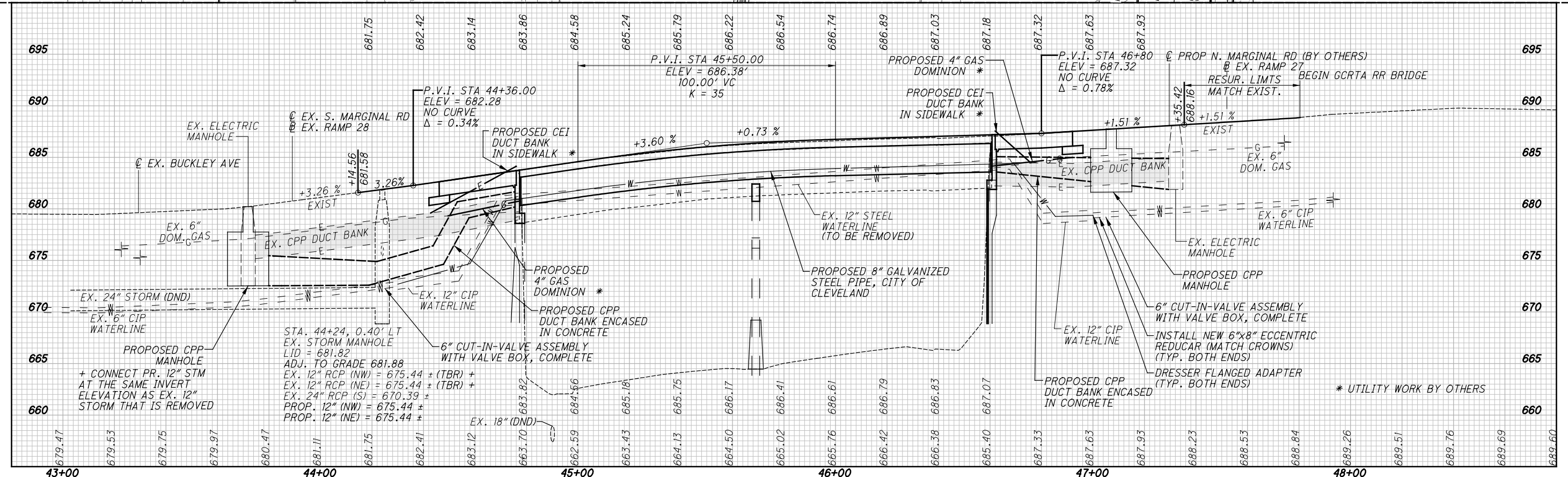
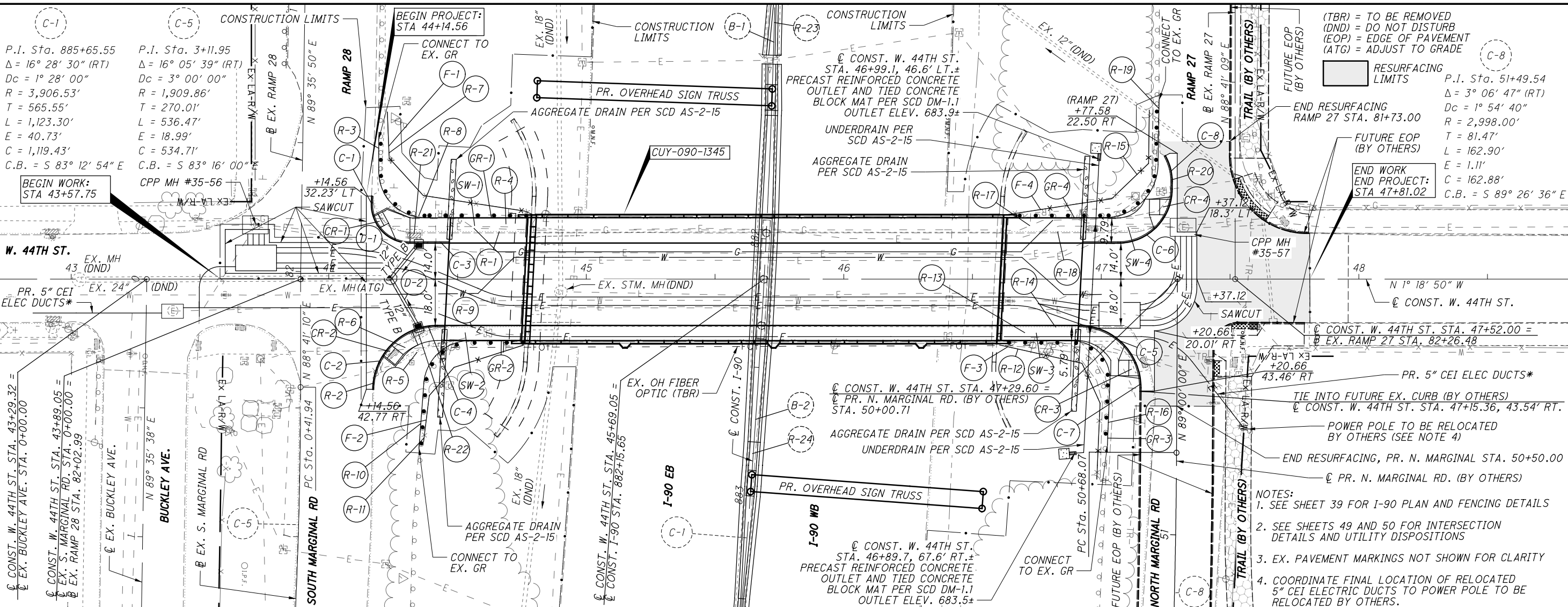


P.I. Sta. 885+65.55  
 $\Delta = 16^\circ 28' 30''$  (RT)  
 $D_c = 1^\circ 28' 00''$   
 $R = 3,906.53'$   
 $T = 565.55'$   
 $L = 1,123.30'$   
 $E = 40.73'$   
 $C = 1,119.43'$   
 $C.B. = S 83^\circ 12' 54'' E$

- NOTES
1. CONNECT FENCE TO BRIDGE PER SCD F-3.1.
  2. CONTRACTOR SHALL GROUND FENCING PER SCD HL-50.11
  3. SEE SHEET 40 FOR W. 44TH ST. PLAN AND PROFILE
  4. SEE SHEETS 73 & 74 FOR I-90 MEDIAN BARRIER DETAILS

(TBR) = TO BE REMOVED  
 (DND) = DO NOT DISTURB  
 CPA = CORNER POST ASSEMBLY  
 EPA = END POST ASSEMBLY  
 IPA = INTERMEDIATE ANCHOR POST ASSEMBLY

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**C-1**  
 P.I. Sta. 885+65.55  
 $\Delta = 16^\circ 28' 30''$  (RT)  
 $D_c = 1^\circ 28' 00''$   
 $R = 3,906.53'$   
 $T = 565.55'$   
 $L = 1,123.30'$   
 $E = 40.73'$   
 $C = 1,119.43'$   
 C.B. = S  $83^\circ 12' 54''$  E

**C-5**  
 P.I. Sta. 3+11.95  
 $\Delta = 16^\circ 05' 39''$  (RT)  
 $D_c = 3^\circ 00' 00''$   
 $R = 1,909.86'$   
 $T = 270.01'$   
 $L = 536.47'$   
 $E = 18.99'$   
 $C = 534.71'$   
 C.B. = S  $83^\circ 16' 00''$  E

(TBR) = TO BE REMOVED  
 (DND) = DO NOT DISTURB  
 (EOP) = EDGE OF PAVEMENT  
 (ATG) = ADJUST TO GRADE

**C-8**  
 P.I. Sta. 51+49.54  
 $\Delta = 3^\circ 06' 47''$  (RT)  
 $D_c = 1^\circ 54' 40''$   
 $R = 2,998.00'$   
 $T = 81.47'$   
 $L = 162.90'$   
 $E = 1.11'$   
 $C = 162.88'$   
 C.B. = S  $89^\circ 26' 36''$  E



**PLAN AND PROFILE**  
**W. 44TH ST.**

**CUY-90-13.45**

40  
 135

- NOTES:
1. SEE SHEET 39 FOR I-90 PLAN AND FENCING DETAILS
  2. SEE SHEETS 49 AND 50 FOR INTERSECTION DETAILS AND UTILITY DISPOSITIONS
  3. EX. PAVEMENT MARKINGS NOT SHOWN FOR CLARITY
  4. COORDINATE FINAL LOCATION OF RELOCATED 5" CEI ELECTRIC DUCTS TO POWER POLE TO BE RELOCATED BY OTHERS.

\* UTILITY WORK BY OTHERS

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ITEM 632 - POWER CABLE MISC. (VARIES) (CONT.)

I. BONDING

1. MAINTAIN SHIELD CONTINUITY AND CONNECTIONS TO METAL CONNECTION HARDWARE AT ALL CONNECTION POINTS.
2. GROUNDING CONDUCTORS: ROUTE ALONG SHORTEST AND STRAIGHTEST PATHS POSSIBLE UNLESS OTHERWISE INDICATED OR REQUIRED BY CODE. AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED TO STRAIN, IMPACT OR DAMAGE.
3. BONDING STRAPS AND JUMPERS: INSTALL IN LOCATIONS ACCESSIBLE FOR INSPECTION AND MAINTENANCE EXCEPT WHERE Routed THROUGH SHORT LENGTHS OF CONDUIT.
4. BONDING TO STRUCTURE: BOND STRAPS DIRECTLY TO BASIC STRUCTURE, TAKING CARE NOT TO PENETRATE ANY ADJACENT PARTS.

J. TESTING

1. VISUAL AND MECHANICAL INSPECTIONS.
2. INSPECT EXPOSED CABLE SECTIONS FOR PHYSICAL DAMAGE.
3. INSPECT SHIELD GROUNDING AND CABLE SUPPORT. VISUALLY INSPECT CABLE TERMINATIONS PERFORMED BY CPP.
4. INSPECT COMPRESSION CONNECTORS FOR CORRECT CABLE MATCH AND IDENTIFICATION.
5. TESTING AGENCY: ENGAGE A QUALIFIED TESTING TO PERFORM TESTS AND INSPECTIONS.
6. PERFORM THE FOLLOWING TESTS AND INSPECTIONS WITH THE ASSISTANCE OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE:
  - PERFORM EACH VISUAL AND MECHANICAL INSPECTION AND ELECTRICAL TEST STATED IN NETA ATS. CERTIFY CERTIFY COMPLIANCE TEST PARAMETERS.
  - AFTER INSTALLING MEDIUM-VOLTAGE CABLES BEFORE ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.
  - PERFORM DIRECT-CURRENT HIGH POTENTIAL TEST OF EACH NEW CONDUCTOR ACCORDING TO NETA ATS, CH. 7.3.3. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM TEST VOLTAGE.
7. MEDIUM-VOLTAGE CABLES WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.
8. PREPARE TEST AND INSPECTION REPORTS.

K. MEASUREMENT

THE NUMBER OF FEET OF CABLE TO BE PAID FOR SHALL INCLUDE CABLE LENGTH IN DUCT PLUS LENGTH IN MANHOLES PER THE CABLE WIRING PLANS, INSTALLED IN PLACE INCLUDING CABLE RACKING, TRAINING, TESTING, CABLE TAGS, SPLICE KITS, AND OTHER INCIDENTAL WORK, EXCLUDING SPLICE INSTALLATION.

L. PAYMENT

THE FOOTAGE MEASURED AS PROVIDED ABOVE SHALL BE PAID FOR AT THE CONTRACTOR PRICE BID PER FOOT FOR EACH INDIVIDUAL CABLE, UNDER ITEM 632 AS DIRECTED BELOW, CLASSIFIED AS TO SIZE AND TYPE, PAID FOR UNDER:

ITEM	UNIT	DESCRIPTION
632	FT	POWER CABLE, MISC.: 750 KCMIL-1C-CU-15KV EPR
632	FT	POWER CABLE, MISC.: 4/0-1C-CU-EPR-15KV WITH 133% INSULATION

ITEM 690 - SPECIAL MISC.: PRECAST ELECTRIC MANHOLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING COMPLETE IN PLACE PRECAST REINFORCED CONCRETE MANHOLE (VAULT) STRUCTURES IN ACCORDANCE WITH CLEVELAND PUBLIC POWER (CPP) REQUIREMENTS AND DESIGNED TO MEET OR EXCEED THE LATEST ASTM STANDARDS FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES (ASTM C858-10E1) AND MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST UTILITY STRUCTURES (ASTM 857-14) HS25 LOADING. THE FOLLOWING CPP DEVELOPED PLAN DETAILS HAVE BEEN INCLUDED IN THE PLAN SET FOR THIS WORK:

- SAMPLE INDIVIDUAL MANHOLE DETAILS INCLUDING WINDOW OPENING DETAILS AND LIST OF MANHOLE REQUIREMENTS TYPICAL INSTALLATION DETAILS
- TYPICAL INSTALLATION DETAILS
- SAMPLE PRECAST NECK RING SCHEDULE
- GENERAL UNDERGROUND CONSTRUCTION NOTES
- BACKFILL MATERIAL AND BACKFILLING PROCEDURES
- SAMPLE RACKING DETAILS

IT IS NOTED THAT VARIOUS UNDERGROUND UTILITIES ARE PRESENT ALONG THE PROJECT THAT COULD NECESSITATE CHANGES TO MANHOLE DEPTHS AND WINDOW DIMENSIONS. THE CONTRACTOR SHALL PERFORM UTILITY TEST HOLES AT ALL VAULT LOCATIONS PRIOR TO DEVELOPING SHOP DRAWINGS FOR ELECTRIC MANHOLES. IN ADDITION, THE CONTRACTOR WILL BE SUPPLYING AND INSTALLING ELECTRICAL RACK AND BOND SYSTEMS WITHIN THE MANHOLES. CABLE RACKING ASSEMBLIES SHALL CONSIST OF STEEL, HOT-DIP GALVANIZED STANCHIONS AND ARMS, AND PORCELAIN INSULATORS MANUFACTURED BY HUBBELL POWER SYSTEMS, INC OR APPROVED EQUIVALENT.

1. STANCHIONS: NOB-LOC; 1-3/4 INCH NOMINAL SIZE; DUIB SERIES FOR CABLE-ARM ATTACHMENT.
2. ARMS: 1.97 INCHES WIDE, LENGTHS RANGING FROM 3-7/8 INCHES WITH 400 LB MINIMUM CAPACITY TO 14-7/8 INCHES WITH 200 LB MINIMUM CAPACITY. ARMS SHALL BE ARRANGED FOR SECURE MOUNTING IN HORIZONTAL POSITION AT ANY VERTICAL LOCATION ON STANCHIONS.
3. INSULATORS: HIGH GLAZE, DRY-PROCESS PORCELAIN ARRANGED FOR MOUNTING ON CABLE ARMS. THE CONTRACTOR SHALL COORDINATE MANHOLE WORK WITH CPP TO ENSURE COMPATIBILITY AND TIMELY COMPLETION OF RELATED WORK ELEMENTS.

ITEM 690 - SPECIAL MISC.: PRECAST ELECTRIC MANHOLE (CONT.)

SEALING DUCT ENDS IN MANHOLES: USE SEALING COMPOUND IN DUCT ENDS CONTAINING CABLES AND PLUGS IN SPARE DUCTS TO WITHSTAND AT LEAST 15 PSIG HYDROSTATIC PRESSURE. DUCT SEALING COMPOUND SHALL BE NON-HARDENING, SAFE FOR CONTACT WITH HUMAN SKIN, NOT DELETERIOUS TO CABLE INSULATION AND WORKABLE AT TEMPERATURES AS LOW AS 35 DEG. CAPABLE OF WITHSTANDING TEMPERATURE OF 300 DEG F WITHOUT SLUMP, AND ADHERING TO CLEAN SURFACES OF PLASTIC DUCTS, METALLIC CONDUITS, CONDUIT COATINGS, CONCRETE, MASONRY, LEAD, CABLE SHEATHS, CABLE JACKETS, INSULATION MATERIALS AND COMMON METALS.

THE MANHOLES TO BE PAID WILL BE THE ACTUAL NUMBER COMPLETED AND ACCEPTED, INCLUDING CONCRETE LEVELING PAD, GROUND ROD (5/8 INCH X LENGTH PER CPP DETAILS), CLAMP, GROUND WIRE, BONDING, RACK SYSTEM, NECK RINGS, CAP RINGS, PULLING IRONS, AND CASTINGS.

PAYMENT: THE WORK INCLUDED IN THIS ITEM AND THE CONTRACT UNIT PRICE FOR EACH MANHOLE BID UNDER "ITEM 690 MISC.: PRECAST ELECTRIC MANHOLE" IN PLACE, COMPLETED AND ACCEPTED, SHALL FORM THE BASIS OF PAYMENT AND SHALL CONSTITUTE FULL COMPENSATION FOR ALL EXCAVATION AND BACKFILL, FOR FURNISHING, HAULING AND PLACING ALL CASTINGS AND TYING EXISTING OR NEW DUCTS INTO MANHOLES INCLUDING RAISING OR LOWERING DUCTS, REINFORCING STEEL, CONCRETE BRICK AND CONCRETE MASONRY, PULLING IRONS, GROUND RODS, BONDING, RACK SYSTEM AND OTHER MATERIAL, ETC., AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THESE ITEMS. ALL MANHOLE CUT SHEETS SHALL BE APPROVED BY CPP ENGINEERING BEFORE THEY ARE CAST.

ITEM 625 - LIGHTING, MISC.: MANHOLE RECONSTRUCTED

TIE INTO EXISTING MANHOLES MH 35-56 AND 35-57

- A. WHEN A NEW DUCT/BANK IS CONNECTED INTO AN EXISTING MANHOLE, A MINIMAL PART OF THE WALL SHALL BE CAREFULLY AND NEATLY CUT OR CORED TO RECEIVE THE DUCT/BANK. AFTER THE DUCT/BANK HAS BEEN INSTALLED, THE EXISTING MANHOLE SHALL BE REPAIRED, PATCHED AND SEALED WITH MORTAR OR AS DIRECTED.
- B. CABLES SHALL BE PROTECTED DURING THIS WORK WITH EXTREME CARE. ANY DAMAGE TO EXISTING CABLES SHALL BE REPAIRED AT NO COST TO THE PROJECT. THIS WORK SHALL BE ACCOMPLISHED UNDER THE DIRECT SUPERVISION OF CPP.

PAYMENT SHALL BE MADE AT THE CONTRACT PRICE PER EACH BID, WHICH SHALL BE FULL COMPENSATION FOR EXCAVATION AND BACKFILL, REMOVAL AND DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL, PROTECTION OF EXISTING CABLES, ALL LABOR, EQUIPMENT TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

THIS ITEM AS PROVIDED ABOVE SHALL BE PAID FOR UNDER:

ITEM	UNIT	DESCRIPTION
625	EACH	LIGHTING, MISC.: MANHOLE RECONSTRUCTED

MAINTAIN EXISTING POWER

THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER EXCEPT FOR SUCH PERIODS AS THE ENGINEER MAY REQUIRE FOR THE PROPER CONSTRUCTION OF NEW FACILITIES TO BE IN PLACE AND OPERATIONAL. FINAL CONNECTION SHALL BE MADE BY CPP AFTER ALL TESTING HAS BEEN CONDUCTED AND FACILITIES HAVE BEEN ACCEPTED BY CPP.

ITEM 202 - REMOVAL MISC.: CONCRETE ENCASED ELECTRIC DUCT BANK

EXISTING CPP FACILITIES TO BE REMOVED WITH THIS ITEM INCLUDE THE EXISTING CONCRETE ENCASED UTILITY DUCT BANK BETWEEN MANHOLES 35-56 AND 35-57, EXCLUDING THE BRIDGE SUPPORTED CONDUITS.

THE BRIDGE SUPPORTED CONDUITS SHALL BE REMOVED PER ITEM 202, PORTIONS OF EXISTING STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, AS NOTED ON THE BRIDGE PLANS. THE EXPOSED CONDUITS ARE MADE OF ASBESTOS CONTAINING MATERIALS (ACM) AS NOTED IN THE ASBESTOS NOTIFICATION NOTE ON THE BRIDGE PLANS.

IT IS POSSIBLE THAT THERE ARE NON-VISIBLE OR PREVIOUSLY UNIDENTIFIED ACM ENCOUNTERED DURING CONSTRUCTION. ANY MATERIAL SUSPECTED OF CONTAINING ASBESTOS SHALL BE EVALUATED BY A CERTIFIED ASBESTOS EVALUATION SPECIALIST TO DETERMINE WHETHER THE MATERIAL ACTUALLY CONTAINS ASBESTOS.

SINCE THE PRESENCE OF ACM IS UNKNOWN WITH THE CURRENTLY UN-EXPOSED CONDUITS, THE CONTRACTOR SHALL ISOLATE AND TEST THESE CONDUITS FOR ACM. IF ACM IS ENCOUNTERED, THEN THE ACM SHALL BE REMOVED AS DESCRIBED IN THE ASBESTOS NOTIFICATION NOTE ON THE BRIDGE PLANS AND SEPARATE PAYMENT WILL BE MADE FOR ADDITIONAL DISPOSAL COSTS IN ACCORDANCE WITH C&MS 109.05.

THE WORK IN THIS ITEM WILL BE PERFORMED AFTER THE EXISTING POWER CABLES ARE DE-ENERGIZED AND REMOVED BY CPP, AND AFTER RECEIVING APPROVAL FROM CPP THAT THE REMOVAL WORK CAN BE PERFORMED.

ITEM 804 - FIBER OPTIC CABLE, 24 CABLE, AS PER PLAN

THE FIBER OPTIC CABLE SHALL BE REPLACED FROM MH 44-07 TO THE CPP SUBSTATION, AS SHOWN IN THE PLANS.

CABLE SHALL MEET THE FOLLOWING REQUIREMENTS:

- A. LOOSE TUBE GEL-FILLED FIBER OPTIC CABLE FOR INSTALLATION IN DUCTS, UNDERGROUND CONDUIT OR AERIAL/LASHED. 24 FIBER SINGLE MODE FIBERS 8.3 μM CORE DIAMETER, 125 μM CLADDING WITH A MAXIMUM ATTENUATION OF 0.4 dB/km AT 1310 nm. COLOR CODED PER TIA/EIA 598A.
- B. FIBERGLASS (EPOXY-GLASS ROD) DIELECTRIC CENTRAL STRENGTH MEMBER, ARAMID FIBER YARN OR FIBERGLASS OVERALL STRENGTH MEMBER. MAXIMUM TENSILE LOAD 600 LBS. DURING INSTALLATION AND IN SERVICE.
- C. DUAL JACKET CONSTRUCTION WITH BLACK UV AND MOISTURE RESISTANT POLYETHYLENE (PE) INNER AND OUTER JACKETS.
- D. THE FIBER OPTIC CABLE SHALL COMPLY WITH THE FOLLOWING, ANSI/TIA/EIA 568A, ICEA S-87-640 AND BE ETL VERIFIED.
- E. GENERAL CABLE PART NUMBER AQ0244HIA-DWB OR EQUAL.

SPLICING SHALL BE COORDINATED WITH CPP BEFORE INSTALLATION.

CALCULATED  
JDH  
CHECKED  
JUK

CLEVELAND PUBLIC POWER (CPP) NOTES

CUY - 090 - 13.45

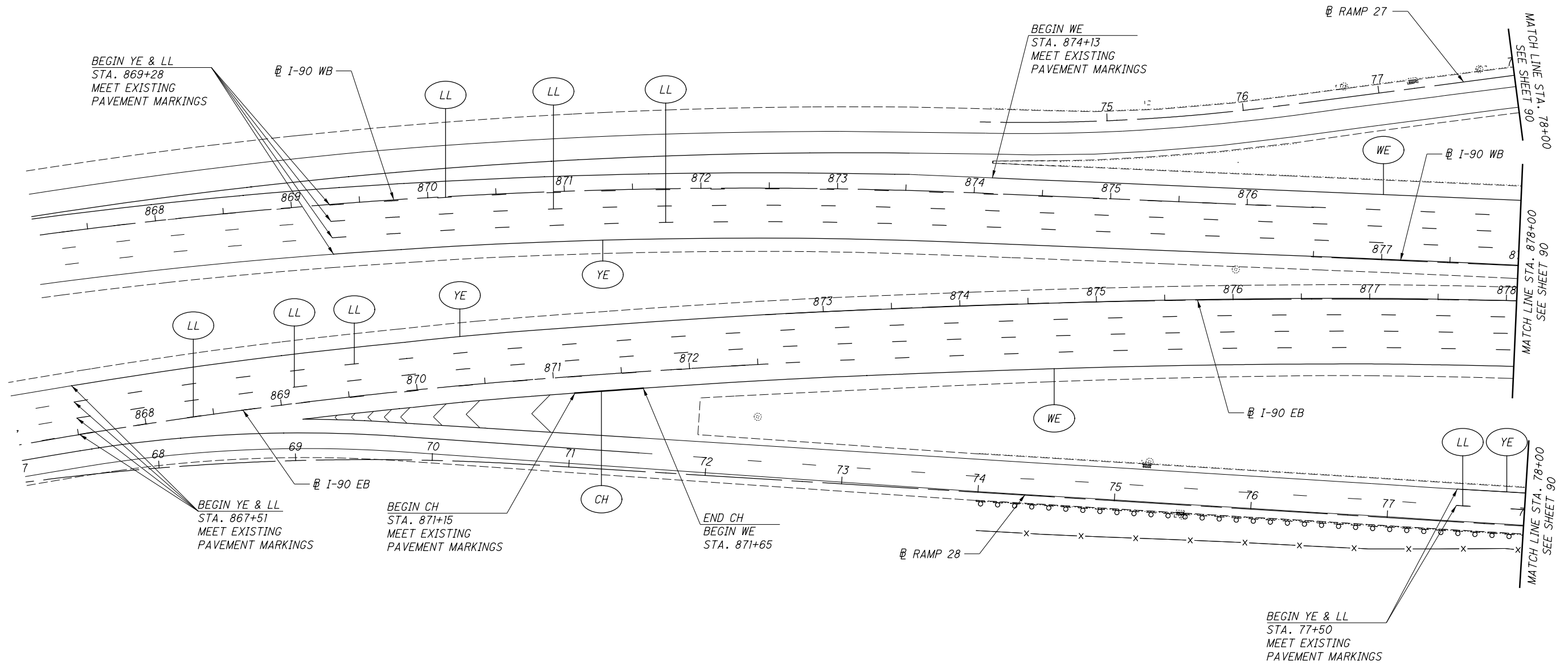








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NOTES:  
 1. SEE SHEET 86 FOR PAVEMENT MARKING LEGEND.

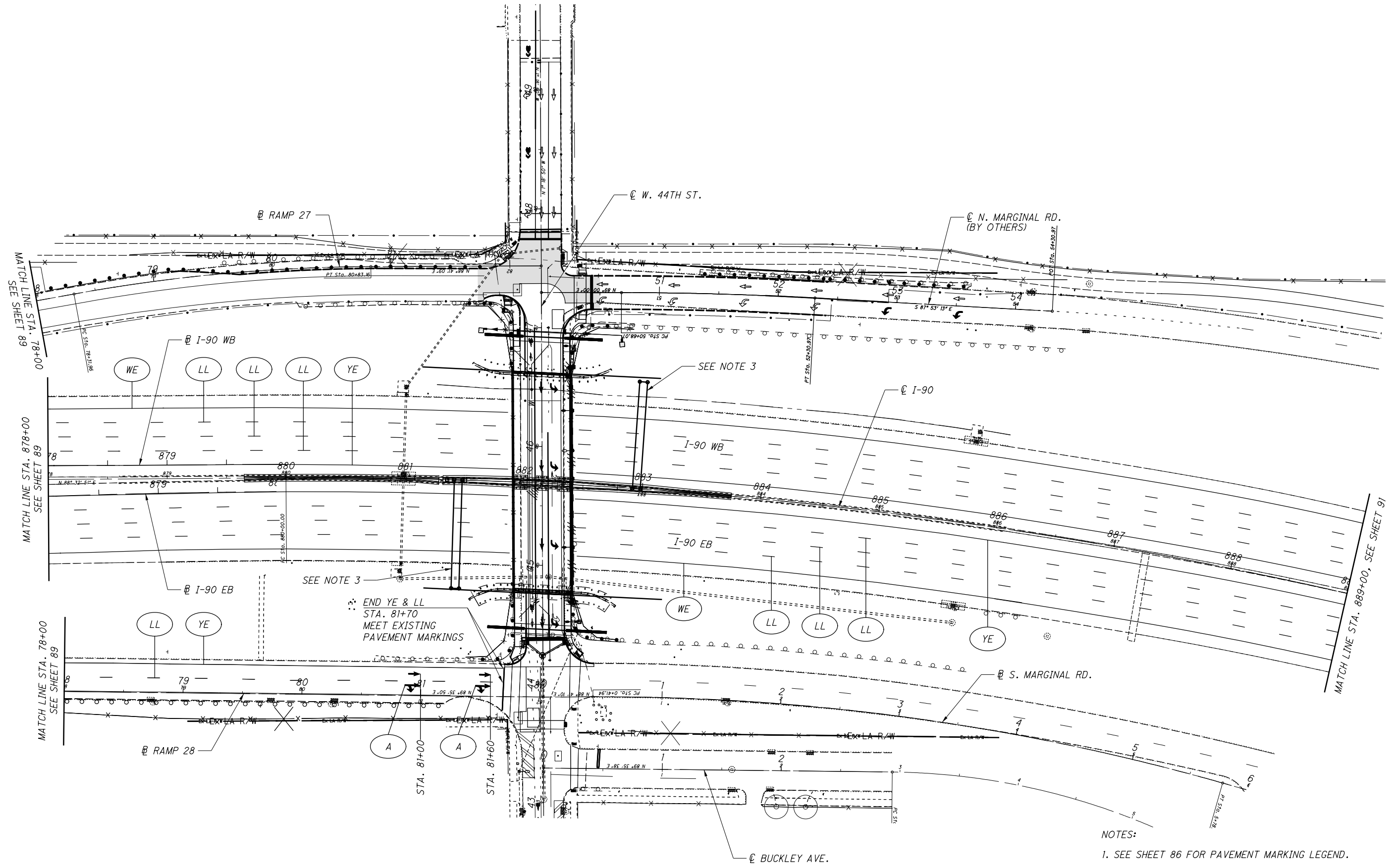
CALCULATED  
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0 20 40 80  
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SCALE IN FEET

**PAVEMENT MARKING PLAN**  
**I-90 - STA. 867+00 TO STA. 878+00**

**CUY-90-13.45**

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- NOTES:
1. SEE SHEET 86 FOR PAVEMENT MARKING LEGEND.
  2. SEE SHEET 86-87 FOR PAVEMENT MARKINGS ON W. 44TH ST./N. MARGINAL RD.
  3. SEE SHEET 92 FOR I-90 SIGNING DETAILS.

CALCULATED  
KWR  
CHECKED  
JAR

20  
40  
80  
HORIZONTAL  
SCALE IN FEET

**PAVEMENT MARKING PLAN**  
**I-90 - STA. 878+00 TO STA. 889+00**

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

DESCRIPTION OF ITEM TO BE REMOVED BY CONTRACTOR	REMOVED & DELIVERED TO CITY OF CLEVELAND	DISPOSED OF BY CONTRACTOR
SIGNAL CABLE		X
INTERCONNECT CABLE		X
POWER CABLE (TO N. SIGNAL)		X
(1) PEDESTRIAN PEDESTAL	X	
(1) PEDESTAL FOUNDATION		X
(1) PEDESTRIAN SIGNAL HEAD	X	
(1) PEDESTRIAN PUSHBUTTON	X	

**PEDESTRIAN SIGNS** **PEDESTRIAN HEADS**

R10-3e-9

R9-3-18 (SEE SIGNING PLAN)

EXIST.	PROP.	LEGEND
		TRAFFIC SIGNAL SUPPORT
		PEDESTRIAN PEDESTAL
		PEDESTRIAN SIGNAL HEAD
		PEDESTRIAN PUSHBUTTON
		PULL BOX/JUNCTION BOX
		2-2" CONDUITS (725.051, SCH 40)
		CONDUIT

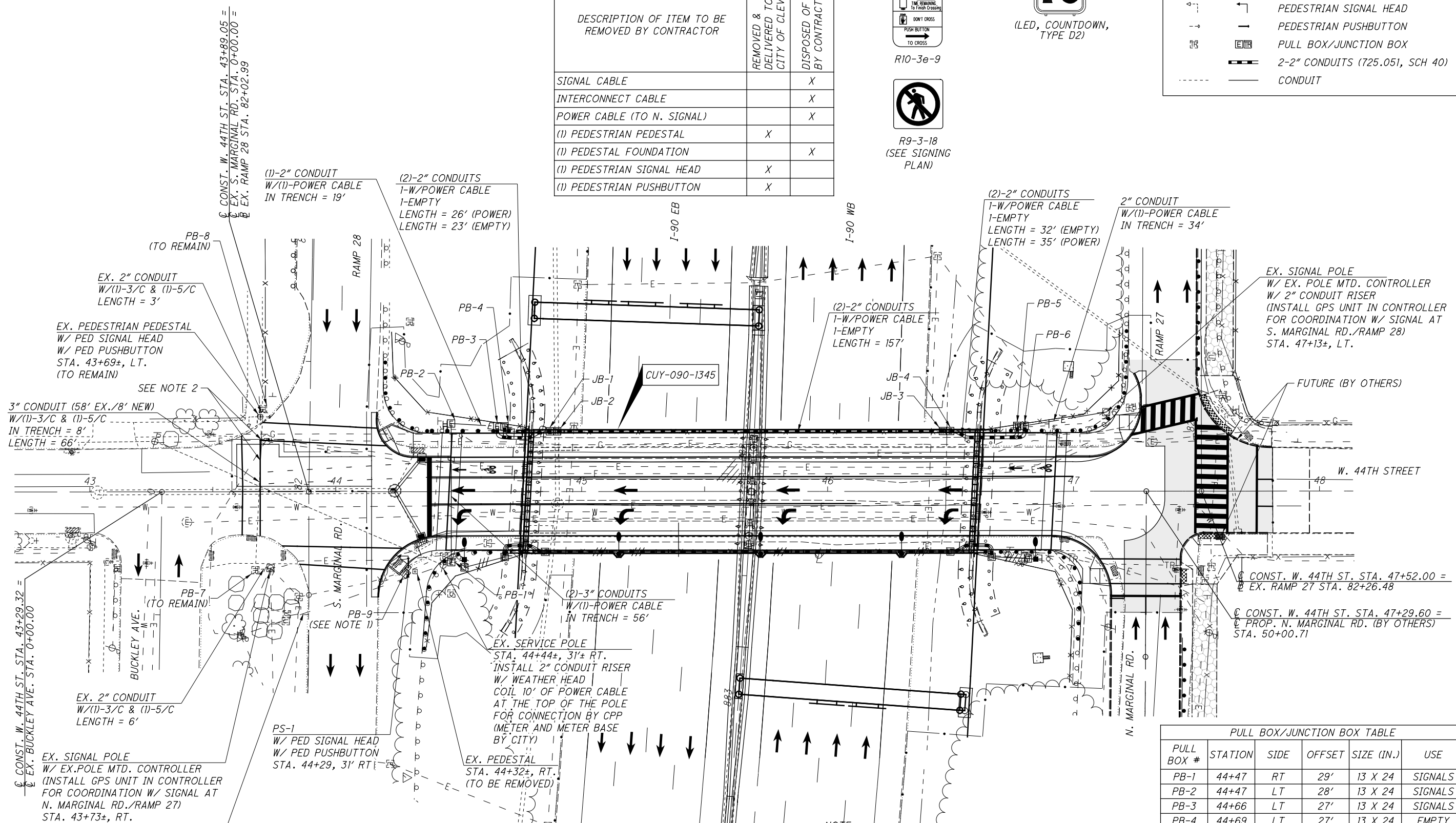
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TRAFFIC SIGNAL PLAN

W. 44TH ST & (N/S) MARGINAL RD / RAMP 27 / 28

CUY-90-13.45

98  
135



**NOTE:**

1. INSTALL THE NEW PULL BOX ON TOP OF THE EXISTING CONDUIT AND MAKE CONNECTION. REROUTE CABLE FROM THE EXISTING PEDESTAL AND CONNECT TO THE NEW PEDESTAL.
2. CUT EXISTING TRAFFIC CONDUIT AT SAW CUT LINES AND INSTALL NEW 3" CONDUIT BETWEEN SAW CUT LINES.
3. JUNCTION BOXES SHALL BE SIZED PER THE "JUNCTION BOX, AS PER PLAN" NOTE ON SHEET 96.

PULL BOX/JUNCTION BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)	USE
PB-1	44+47	RT	29'	13 X 24	SIGNALS
PB-2	44+47	LT	28'	13 X 24	SIGNALS
PB-3	44+66	LT	27'	13 X 24	SIGNALS
PB-4	44+69	LT	27'	13 X 24	EMPTY
PB-5	46+77	LT	26'	13 X 24	EMPTY
PB-6	46+80	LT	26'	13 X 24	SIGNALS
PB-7	43+67	RT	32'	EXISTING	SIGNALS
PB-8	43+70	LT	34'	EXISTING	SIGNALS
PB-9	44+28	RT	33'	13 X 24	SIGNALS
JB-1	44+87	LT	24.5'	NOTE 3	SIGNALS
JB-2	44+90	LT	24.5'	NOTE 3	EMPTY
JB-3	46+47	LT	24.5'	NOTE 3	EMPTY
JB-4	46+50	LT	24.5'	NOTE 3	SIGNALS

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**ITEM SPECIAL - FORM LINER:**

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS AND THE NECESSARY LABOR TO PROVIDE A REUSABLE ARCHITECTURAL TREATMENT ON THE INSIDE FACE OF BRIDGE AND APPROACH SLAB PARAPET RAILINGS.

ALL WORK SHALL CONFORM TO THE APPLICABLE PROVISIONS OF ITEM 511 EXCEPT AS MODIFIED AND ADDED HEREIN.

ARCHITECTURAL TREATMENT OF CONCRETE PARAPETS SHALL BE AS FOLLOWS:

GENERAL: THE WORK SHALL INCLUDE:

- CONSTRUCTION OF TEXTURED CONCRETE SURFACES USING FORM LINERS DESIGNED TO DUPLICATE CLOSELY THE APPEARANCE OF NATURAL STONE.
- DESIGN AND PATTERN OF THE CONCRETE SURFACES SHALL FOLLOW THE MANUFACTURER'S STANDARD DRAWING SELECTED.
- PATTERN SHALL BE: CUSTOM ROCK #1203, NEW ENGLAND DRYSTACK; GREENSTREAK #330, ASHLAR STONE; ARCHITECTURAL POLYMERS #911, LARGE STONE DRYSTACK; OR APPROVED EQUAL.
- SHOP DRAWINGS: PLAN, ELEVATION, AND DETAILS TO SHOW OVERALL PATTERN, JOINT LOCATIONS, FORM TIE LOCATIONS, AND END, EDGE AND OTHER SPECIAL CONSIDERATIONS.
- SAMPLES: FORM TIES, SAMPLE AND DESCRIPTION, SHOWING METHOD OF SEPARATION WHEN FORMS ARE REMOVED.
- MANUFACTURER OF FORM LINERS MUST HAVE A MINIMUM FIVE YEARS EXPERIENCE MAKING CUSTOM FORM LINERS AND COLOR STAINS TO CREATE FORMED CONCRETE SURFACES TO MATCH NATURAL STONE SHAPES AND SURFACE TEXTURES.
- PRE-INSTALLATION MEETING: SCHEDULE CONFERENCE WITH MANUFACTURER'S REPRESENTATIVE TO ASSURE UNDERSTANDING OF FORM LINER USE, REQUIREMENTS FOR CONSTRUCTION OF MOCK-UP, AND TO COORDINATE THE WORK.

**PRODUCTS:**

- FORM LINERS AS MANUFACTURED BY:
 

CUSTOM ROCK FORMLINER 2020 WEST 7TH STREET ST. PAUL, MN 55116 (615) 699-1345 WWW.CUSTOMROCK.COM	ARCHITECTURAL POLYMERS 1220 LITTLE GAP ROAD PALMERTON, PA 18071 (610) 824-3322 WWW.APFORMLINER.COM
GREENSTREAK 3400 TREE COURT INDUSTRIAL BLVD. ST. LOUIS, MO 63122-6614 (636) 225-9400 WWW.GREENSTREAK.COM	
- RELEASE AGENT: COMPATIBLE WITH FORM LINER. CONSULT MANUFACTURER.
- FORM TIES: DESIGNED TO SEPARATE AT LEAST 1 INCH BACK FROM FINISHED SURFACE, LEAVING ONLY A NEAT HOLE THAT CAN BE PLUGGED WITH PATCHING MATERIAL.

**EXECUTION:**

- FORMED CONCRETE CONSTRUCTION: INSTALLER SHALL HAVE A MINIMUM FIVE YEARS OF EXPERIENCE WITH VERTICALLY FORMED ARCHITECTURAL CONCRETE. INSTALLER SHALL BE TRAINED IN MANUFACTURER'S SPECIAL TECHNIQUES IN ORDER TO ACHIEVE REALISTIC SURFACES.
- FORM LINER PREPARATION: CLEAN AND MAKE FREE OF BUILDUP PRIOR TO EACH POUR. INSPECT FOR BLEMISHES OR TEARS. REPAIR IF NEEDED FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
- FORM LINER ATTACHMENT: PLACE ADJACENT LINERS WITH LESS THAN 1/4 INCH SEPARATION BETWEEN LINERS. ATTACH LINERS TO FORM SECURELY, FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
- FORM RELEASE AGENT: APPLY FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
- FORM STRIPPING AND RELATED CONSTRUCTION SHALL AVOID CREATING DEFECTS IN THE FINISHED SURFACES.
- WHERE FORM LINERS ABUT, CAREFULLY BLEND TO MATCH THE BALANCE OF THE STONE PATTERN, AVOIDING VISIBLE SEAMS OR FORM MARKS.
- PLACE FORM TIES AT THE THINNESS POINTS OF LINER (HIGHER POINTS OF FINISHED WALL). NEATLY PATCH THE HOLE REMAINING AFTER DISENGAGING THE PROTRUDING PORTION OF THE TIE SO THAT IT WILL NOT BE VISIBLE AFTER SEALING THE CONCRETE SURFACE.
- WHERE AN EXPANSION JOINT MUST OCCUR AT A POINT OTHER THAN AT MORTAR OR RUSTICATION JOINTS, SUCH AS AT THE FACE OF CONCRETE TEXTURE WHICH IS TO HAVE THE APPEARANCE OF STONE, CONSULT MANUFACTURER FOR PROPER TREATMENT OF EXPANSION MATERIAL.

BASIS OF PAYMENT: PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL - FORM LINER. THIS PRICE SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED.

**ITEM 690 - DOMINION ENERGY ROLLER GUIDE/SUPPORT**

UNDER THIS ITEM, THE CONTRACTOR WILL PROVIDE AND INSTALL PIPE ROLLER GUIDE/SUPPORT WHERE SHOWN ON THE PLANS TO SUPPORT THE PROPOSED DOMINION ENERGY (DE) 6" DIAMETER GAS LINE. ROLLERS/SUPPORTS WILL BE SIZED TO CARRY THE PROPOSED GAS LINE. FOR PIPE SUPPORTS, ROLLERS SHALL BE DOUBLE ROLLERS USING NON-CONDUCTIVE MATERIAL. THESE ROLLERS WILL BE FULLY FIELD-ADJUSTABLE AND BE PROVIDED WITH ALL REQUIRED HARDWARE AND FASTENERS FOR A COMPLETE OPERABLE SYSTEM. DOMINION ENERGY WILL SUPPLY AND INSTALL THE GAS MAIN. BEFORE ORDERING THE CONTRACTOR SHALL GET APPROVAL FROM DOMINION ENERGY. THE CONTRACTOR SHALL COORDINATE WITH DOMINION ENERGY TO SCHEDULE THE WORK. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SCHEDULE DELAYS WHEN COORDINATING THIS WORK WITH DOMINION ENERGY.

PAYMENT WILL BE MADE AT THE PRICE PER EACH PER ITEM 690 - DOMINION ENERGY ROLLER GUIDE/SUPPORT.

**ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN**

THE ANCHORS SHALL BE CAST IN PLACE. ALL FENCE FABRIC SHALL BE BLACK VINYL COATED AND ALL RAILS, POSTS, PLATES AND ADDITIONAL VISUAL HARDWARE SHALL BE PAINTED WITH BLACK EPOXY-URETHANE SHOP APPLIED. ALL TIE WIRES AND CAULK SHALL BE BLACK.

PAYMENT SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ABBREVIATIONS**

- ABUT. - ABUTMENT
- APPR. - APPROACH
- APPROX. - APPROXIMATE
- BOT. - BOTTOM
- BRG. - BEARING
- C/C - CENTER TO CENTER
- CEI - CLEVELAND ELECTRIC ILLUM.
- C.J. - CONSTRUCTION JOINT
- COL. - COLUMN
- CONST. - CONSTRUCTION
- C.P.P. - CORRUGATED PLASTIC PIPE
- CPP. - CLEVELAND PUBLIC POWER
- CWD. - CLEVELAND WATER DEPARTMENT
- DIA. - DIAMETER
- E.F. - EACH FACE
- EL. - ELEV.
- EQ. SPA. - EQUAL SPACE
- E.W. - EACH WAY
- EX. - EXIST.
- EXP. - EXPANSION
- F.A. - FORWARD ABUTMENT
- F.F. - FAR FACE
- FTG. - FOOTING
- FWD. - FORWARD
- H.M.W.M. - HIGH MOLECULAR WEIGHT METHACRYLATE
- MAX. - MAXIMUM
- M.O.T. - MAINTENANCE OF TRAFFIC
- MIN. - MINIMUM
- N.F. - NEAR FACE
- P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
- R.A. - REAR ABUTMENT
- RT. - RIGHT
- S.B. - SOUTHBOUND
- SER. - SERIES
- SPA. - SPACING
- STA. - STATION
- T & B - TOP AND BOTTOM
- T.H. - TEST HOLE
- TYP. - TYPICAL
- T/T - TOE TO TOE
- VAR. - VARIES
- V.C. - VERTICAL CURVE
- VERT. - VERTICAL
- U.N.O. - UNLESS NOTED OTHERWISE

**CEI FIRST ENERGY COORDINATION**

THE CONTRACTOR SHALL COORDINATE DE-ENERGIZING OF THE EXISTING CEI ELECTRIC CABLE(S) WHICH ARE SUPPORTED BY THE EXISTING BRIDGE GIRDERS AND WHICH EXTEND UNDERGROUND UNDER SOUTH MARGINAL AND NORTH MARGINAL ROADS. CEI WILL INSTALL TWO (2) NEW 5" DIA. DUCTS IN THE BRIDGE SIDEWALK AND APPROACH ROADWAYS, AND WILL ALSO INSTALL NEW CABLE(S) IN THE NEW CONDUITS. THE CONTRACTOR SHALL COORDINATE WITH CEI TO PROVIDE ACCESS AND TO SCHEDULE THEIR WORK.

THE EXISTING CEI CONDUITS WILL BE REMOVED BEFORE THE CPP DUCT BANK IS RELOCATED.

THE WORK FOR THIS ITEM SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE.

**ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN**

THE CONCRETE PATCHING DEPTH SHALL BE 7". THE REINFORCING STEEL WITHIN THE PATCH IS INCLUDED WITH ITEM 509 EPOXY COATED REINFORCING STEEL FOR PAYMENT. ANODES SHALL BE SPACED AT 30 INCHES ON CENTERS EACH WAY.

**ASBESTOS NOTIFICATION**

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT 6415 SQUARE FEET OF ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM  
OHIO EPA, DAPC  
P.O. BOX 1049  
COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM  
OHIO EPA, DAPC  
50 W. TOWN ST., SUITE 700  
COLUMBUS, OH 43215

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE: 1) THE CONTRACTORS 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. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

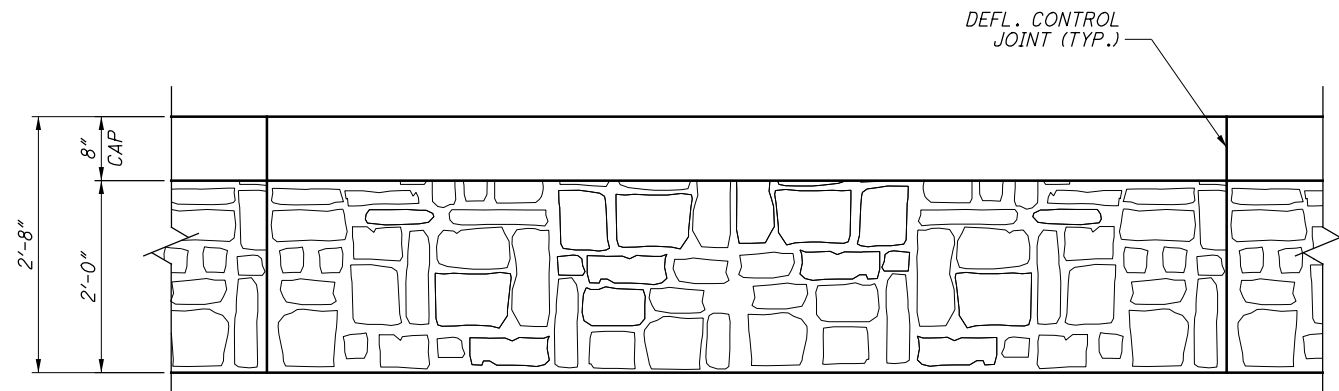
BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM, AND REMOVAL, HANDLING AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

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

IN ADDITION TO THE REQUIREMENTS OF CMS 511, THE CONTRACTOR MAY INSTALL GALVANIZED STEEL STAY-IN-PLACE DECK FORMS (SIP FORMS) BETWEEN GIRDER 4 AND GIRDER 5 IF THE FOLLOWING REQUIREMENTS ARE MET:

- SIP FORMS SHALL NOT BE INSTALLED WITHIN APPROXIMATELY 8 FEET OF THE EXPANSION JOINTS.
- THE SIP FORMS AND THEIR SUPPORT SYSTEM SHALL HAVE A MINIMUM MATERIAL THICKNESS AS FOLLOWS: SIP FORMS (20 GAGE), SUPPORT ANGLES (12 GAGE), AND SUPPORT BARS (12 GAGE).
- THE SIP FORMS AND THEIR SUPPORT SYSTEM SHALL BE HOT-DIPPED GALVANIZED PER ASTM A653 WITH A COATING DESIGNATION OF G235.
- THE SIP FORMS AND THEIR SUPPORT SYSTEM SHALL NOT BE CUT OR PERFORATED AFTER THEY HAVE BEEN HOT-DIP GALVANIZED, EXCEPT TO INSTALL SELF-DRILLING FASTENERS.
- THE SELF-DRILLING FASTENERS SHALL BE CADMIUM PLATED PER ASTM B766 AND HAVE A MINIMUM PLATING THICKNESS OF 5, TEN THOUSANDTHS OF AN INCH (0.0005 INCH).
- THE FLUTES OF THE SIP FORMS SHALL BE COMPLETELY FILLED WITH CONCRETE.
- THE WEIGHT OF THE SIP FORMS PLUS THE WEIGHT OF THE CONCRETE WITHIN THE SIP FORM FLUTES SHALL NOT EXCEED 18 PSF.
- THE SIP FORMS SHALL MEET THE DEFLECTION REQUIREMENTS OF CMS 508.
- THE SIP FORMS SHALL BE PLACED ON FORM SUPPORTS. THE SIP FORMS SHALL NOT BE INSTALLED DIRECTLY ON THE BRIDGE'S STRUCTURAL MEMBERS.
- THE SIP FORMS AND/OR THEIR SUPPORTS SHALL NOT BE WELDED TO STEEL BRIDGE MEMBERS.
- THE ELEVATIONS OF THE SIP FORM SUPPORTS SHALL BE SET TO ACHIEVE THE DECK THICKNESS AND SCREED ELEVATIONS, AS SPECIFIED IN THE CONSTRUCTION PLANS.
- THE SIP FORMS SHALL BE PLACED ON THE FORM SUPPORTS TO ACHIEVE THE MINIMUM BEARING LENGTH PER THE MANUFACTURE'S DESIGN.

ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS FOR THE DESIGN, FABRICATION, DELIVERY, AND INSTALLATION OF THE STAY-IN-PLACE DECK FORMS AND THEIR SUPPORT SYSTEM SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN. DECK HANGERS USED TO CONSTRUCT AS SPECIFIED IN THE PLANS ARE THE MEANS AND METHODS OF THE CONTRACTOR, SUBJECT TO ACCEPTANCE BY THE DEPARTMENT. GALVANIZE ALL DECK HANGERS NOT ENCASED IN CONCRETE PER 711.02.



**TYPICAL FORM LINER ELEVATION**  
(AS VIEWED FROM SIDEWALK)

DESIGN AGENCY: **ms consultants, inc.**  
4608 St. Clair Avenue  
Cleveland, Ohio 44103-1206

DATE: 7/17/2019  
REVIEWED: JDH  
DRAWN: JSP  
DESIGNED: LAW  
CHECKED: SUR

STRUCTURE FILE NUMBER: 1807811

GENERAL NOTES (2 OF 2)  
BRIDGE NO. CUY-090-1345  
WEST 44TH STREET OVER I-90

CUY-090-13.45  
PID No. 105792

3 / 30

108  
135

BY: TVB 6/24/2019  
 CHECKED: LAW 9/20/2019

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	PARTICIPATION			TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTRUCTURE	GENERAL	SHEET REF.
		01/BRO/BR	02/BRO/BR	03/BRO/BR								
202	11203	LS			LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					LS	2
202	22900	240			240	APPROACH SLAB REMOVED					240	
202	23500	240			240	WEARING COURSE REMOVED			240			
503	11100	LS			LS	COFFERDAMS AND EXCAVATION BRACING					LS	
509	10000	106,810			106,810	EPOXY COATED REINFORCING STEEL	10,317	1,309	91,824		3,360	
510	10000	362			362	EACH DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	268	94				
511	34447	269			269	CY CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			269			3
511	34450	45			45	CY CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			45			
511	42510	12			12	CY CLASS QC1 CONCRETE, PIER CAP		12				
511	45710	55			55	CY CLASS QC1 CONCRETE, ABUTMENT	55					
511	51512	133			133	CY CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK			107		26	
512	10050	462			462	SY SEALING OF CONCRETE SURFACES (NON-EPOXY)			462			
512	10100	1,082			1,082	SY SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	492	120	470			
512	10600	33			33	FT CONCRETE REPAIR BY EPOXY INJECTION	33					
512	33000	11			11	SY TYPE 2 WATERPROOFING	11					
513	10280	265,003			265,003	LB STRUCTURAL STEEL MEMBERS, LEVEL 4			265,003			
513	20000	3,168			3,168	EACH WELDED STUD SHEAR CONNECTORS			3,168			
514	00060	14,468			14,468	SF FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14,468			
514	00066	14,468			14,468	SF FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14,468			
516	11210	101			101	FT STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			101			
516	13600	86			86	SF 1" PREFORMED EXPANSION JOINT FILLER	86					
516	44100	12			12	EACH ELASTOMERIC BEARING (10" X 16" X 2.0488") WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (11" X 19" X 1.5" MIN.)	12					
516	44200	6			6	EACH ELASTOMERIC BEARING (18" X 20" X 3.1235") WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (19" X 30.5" X 1.5" MIN.)		6				
518	21200	45			45	CY POROUS BACKFILL WITH GEOTEXTILE FABRIC	45					
519	11101	537			537	SF PATCHING CONCRETE STRUCTURE, AS PER PLAN	153	384				2
526	30011	318			318	SY REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN					318	2
526	90010	96			96	FT TYPE A INSTALLATION					96	
SPECIAL	530E13000	733			733	SF FORMLINER			733			3
601	20010	37			37	CY CRUSHED AGGREGATE SLOPE PROTECTION					37	
607	39901	367			367	FT VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			367			3
SPECIAL	690E98000			11	11	EACH DOMINION ENERGY ROLLER GUIDE/SUPPORT			11			3
844	10001	743			743	SF CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	743					3



DESIGN AGENCY  
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DESIGNED  
 TVB  
 CHECKED  
 SUR

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 KRM  
 REVISED  
 SSR

ESTIMATED QUANTITIES  
 BRIDGE NO. CUY-090-1345  
 WEST 44TH STREET OVER I-90

REVIEWED  
 JDH 7/17/2019  
 STRUCTURE FILE NUMBER  
 1807811

CUY-090-13.45  
 PID No. 105792