



REF NO.	SHEET NO.	LOCATION	STATION		SIDE	601	611	611	611	614	614	614	614	614	614	614	614	614	614	614	615	622			
			FROM	TO		ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	12" CONDUIT, TYPE B	CATCH BASIN, NO. 6	CATCH BASIN, MISC.: GRATE REMOVED AND REPLACED	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)	WORK ZONE RAISED PAVEMENT MARKER (YELLOW/YELLOW)	WORK ZONE RAISED PAVEMENT MARKER (WHITE/RED)	BARRIER REFLECTOR, TYPE 1, (IWA)	OBJECT MARKER, ONE WAY	WORK ZONE CENTER LINE, CLASS I (DOUBLE SOLID)	WORK ZONE CENTER LINE, CLASS I (SOLID-DASHED)	WORK ZONE EDGE LINE, CLASS I, 6" (WHITE)	WORK ZONE EDGE LINE, CLASS I, 6" (YELLOW)	WORK ZONE CHANNELIZING LINE, CLASS I, 12"	WORK ZONE STOP LINE, CLASS I	WORK ZONE CROSSOVER LIGHTING SYSTEM	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PORTABLE BARRIER, UNANCHORED		
						CY	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	MILE	MILE	MILE	FT	FT	EACH	SY	FT	
PHASE 1																									
PMT-1	65	E. WILLIAM	585+53	590+12	LT																				
D-1	65	E. WILLIAM	585+67		LT				1																
D-2	65	E. WILLIAM	588+13		LT				1																
D-3	65	E. WILLIAM	590+11		LT				1																
D-4	65	E. WILLIAM	590+42		LT				1																
PMT-2	65	E. WILLIAM	590+44	592+41	LT																				
D-5	66	E. WILLIAM	591+36		LT				1																
IA-1	66	E. WILLIAM	593+10		RT					1															
PB-1	66	E. WILLIAM	593+30	595+30	RT									5	5										200
ELW-1	66	E. WILLIAM	593+30	597+00	RT															0.07					
ELW-2	66	CENTRAL/WILLIAM	34+00	595+57	RT/LT															0.06					
CH-1	66	CENTRAL/WILLIAM	34+00	593+47	RT/LT																				
PB-2	66	CENTRAL/WILLIAM	34+79	595+06	RT/LT																				
PMT-3	66	E. WILLIAM	593+70	595+01	LT																				
IA-2	66	E. WILLIAM	595+25		LT					1															
IA-3	66	E. WILLIAM	595+50		RT					1															
PMT-4	66	SUNBURY	596+47	597+21	LT																				
PMT-5	67	SUNBURY	613+92	614+22	CL																				
PMT-6	68	SUNBURY	621+77	627+57	CL																				
D-6	68	SUNBURY	623+60		LT																				
D-7	68	SUNBURY	623+60	625+85	LT																				
D-8	68	SUNBURY	625+85	625+95	LT	1.5	226																		
D-9	66	SUNBURY	596+60		RT		28																		
PHASE 2																									
ELW-1	69	E. WILLIAM	585+00	590+00	RT/GL																				
ELW-2	69	E. WILLIAM	585+50	590+10	LT																				
DYL-1	69	E. WILLIAM	585+50	589+65	LT																				
IA-1	69	E. WILLIAM	586+25		RT					1															
PB-1	69	E. WILLIAM	586+65	589+80	RT																				
SL-1	70	E. WILLIAM	589+65		LT																				
IA-2	70	E. WILLIAM	590+00		RT					1															
ELW-3	70	E. WILLIAM	590+44	592+40	LT																				
ELW-4	70	WILLIAM/SUNBURY	590+92	618+93	RT/LT																				
SL-2	70	E. WILLIAM	591+20		LT																				
DYL-2	70	WILLIAM/SUNBURY	591+20	597+30	LT																				
IA-3	70	E. WILLIAM	591+12		RT					1															
PB-2	70	WILLIAM/SUNBURY	591+32	597+90	RT																				
CH-1	70	E. WILLIAM	592+40	593+26	LT																				
CH-2	70	CENTRAL/WILLIAM	34+04	593+26	RT/LT																				
ELW-5	70	WILLIAM/SUNBURY	593+78	597+30	LT																				
ELW-6	71	SUNBURY	598+00	618+93	LT																				
DYL-3	71	SUNBURY	598+00	606+00	LT																				
IA-4	71	SUNBURY	598+10		RT					1															
IA-5	71	SUNBURY	598+50		RT					1															
PB-3	71	SUNBURY	598+70	601+20	RT																				
IA-6	72	SUNBURY	601+40		RT					1															
IA-7	72	SUNBURY	602+00		RT					1															
PB-4	72	SUNBURY	602+20	603+25	RT																				
IA-8	72	SUNBURY	603+45		CL					1															
IA-9	72	SUNBURY	603+90		LT					1															
PB-5	72	SUNBURY	604+10	613+70	LT																				
SUBTOTAL						1.5	254	1	5	12	23	9	57	57	0.35	1.35	215	22	1	1391.4	2660				
TOTALS CARRIED TO SUBSUMMARY SHEET - 34						1.5	254	1	5	12	32	57	57	0.35	1.35	215	22	1	1391.4	2660					

CALCULATED ACW CHECKED PRS  
**MOT ESTIMATED QUANTITIES (US 36 FUNDING)**  
**DEL -36 -11.03**  
 36  
 644

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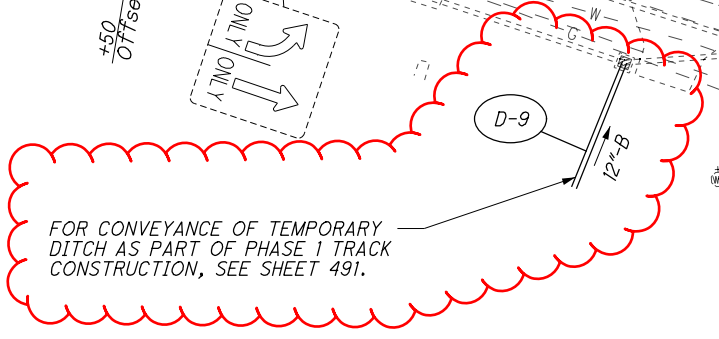
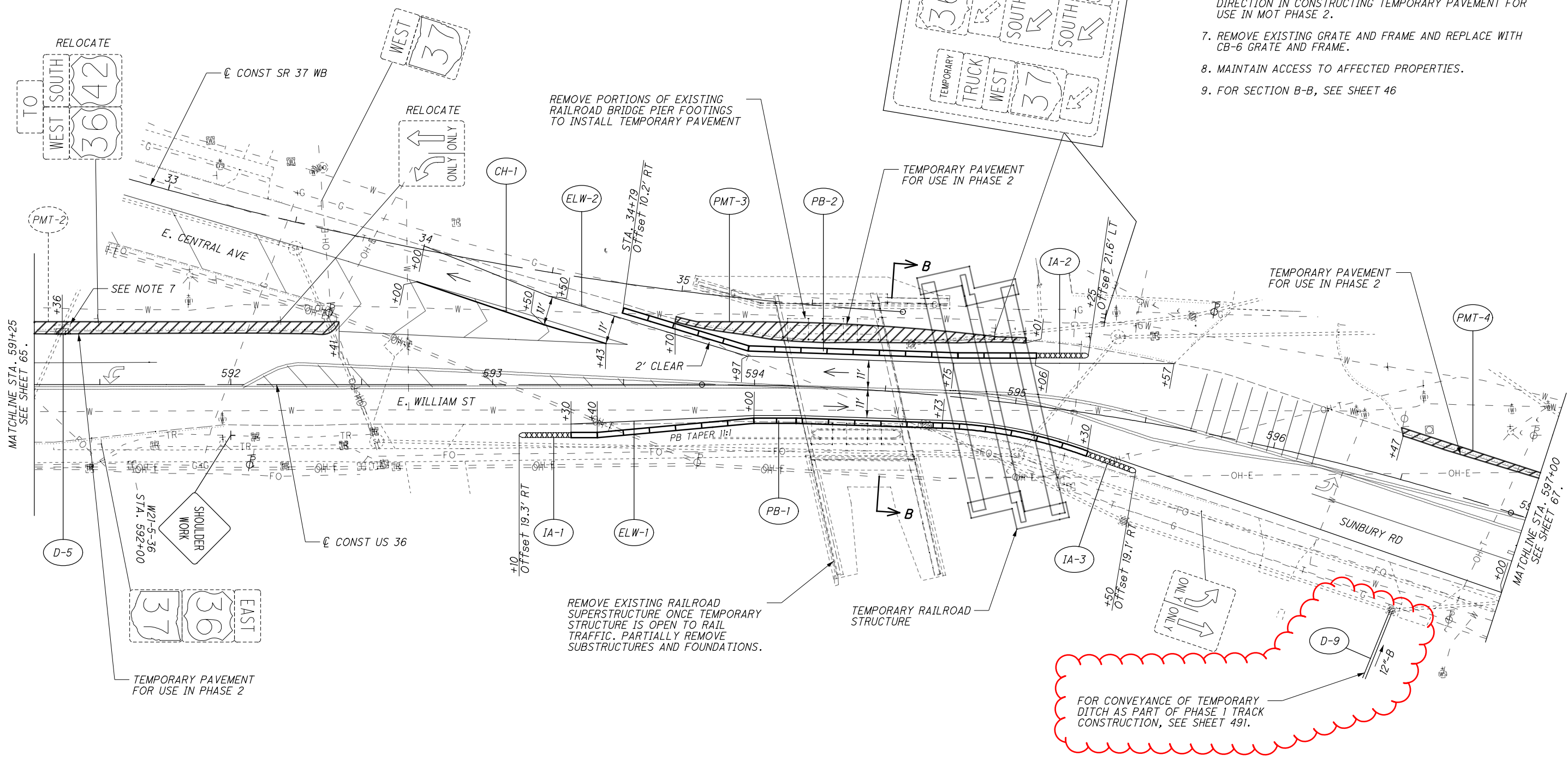
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**PMT-3**  
 PAVEMENT FOR MAINTAINING TRAFFIC  
 (CONSTRUCTION VERTICES)  
 STA. 593+70.2, OFFSET 25.9' LT  
 STA. 593+78.1, OFFSET 24.0' LT  
 STA. 594+00.0, OFFSET 24.2' LT  
 STA. 594+50.0, OFFSET 24.7' LT  
 STA. 594+90.7, OFFSET 24.5' LT  
 STA. 595+01.0, OFFSET 25.4' LT

**PMT-4**  
 PAVEMENT FOR MAINTAINING TRAFFIC  
 (CONSTRUCTION VERTICES)  
 STA. 596+45.1, OFFSET 19.2' LT  
 STA. 597+16.2, OFFSET 18.0' LT  
 STA. 597+20.2, OFFSET 19.0' LT

RELOCATE TO  
 STA. 595+29 LT

- NOTES:**
1. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 65
  2. MAINTAIN EXISTING STRIPING UNLESS OTHERWISE NOTED. REMOVE CONFLICTING PAVEMENT MARKINGS.
  3. COVER CONFLICTING SIGNAGE AS NOTED. RELOCATE SIGNAGE DISTURBED BY CONSTRUCTION ACTIVITIES.
  4. FOR SIGN REMOVALS AND RELOCATIONS, REFER TO TRAFFIC CONTROL SHEETS.
  5. MAINTAIN TRAFFIC DURING CONSTRUCTION OF PAVEMENT FOR MAINTAINING TRAFFIC. SAW CUT LINE IS A NOMINAL 1 FT FROM EDGE OF EXISTING PAVEMENT.
  6. CONTRACTOR SHALL REFER TO THE INCLUDED CHARTS FOR DIRECTION IN CONSTRUCTING TEMPORARY PAVEMENT FOR USE IN MOT PHASE 2.
  7. REMOVE EXISTING GRATE AND FRAME AND REPLACE WITH CB-6 GRATE AND FRAME.
  8. MAINTAIN ACCESS TO AFFECTED PROPERTIES.
  9. FOR SECTION B-B, SEE SHEET 46



**MAINTENANCE OF TRAFFIC PLANS - PHASE 1**  
 STA. 591+25 TO STA. 597+00



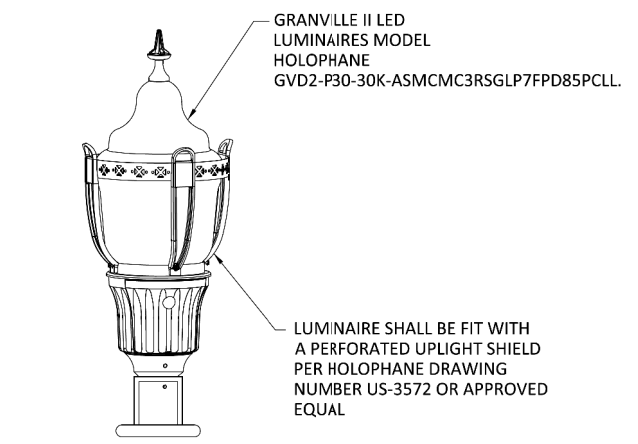
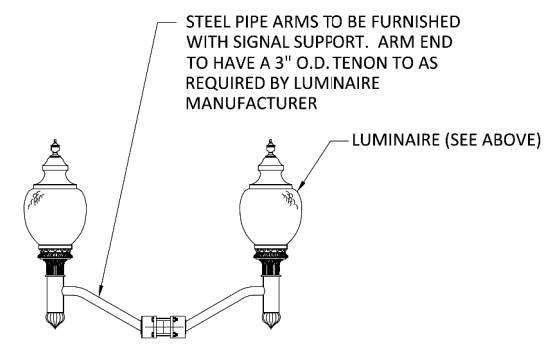


**ITEM 625 LUMINAIRE, DECORATIVE, IES-II-SEMI CUTTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 625.08, AND SS 813 THE LUMINAIRES SHALL BE GRANVILLE II LED LUMINAIRES WITH LEAF-STYLE HOUSING, MODEL HOLOPHANE GVD2-P30-30K-AS-M-CMC-R-S-GL-P7-FPD85-PC11. HOUSING, RIBS, AND BANDS SHALL BE PAINTED WITH A FINISH COAT TO MATCH THE PROPOSED SIGNAL SUPPORT POLE COLOR, WHICH IS SIMILAR TO FEDERAL SPECIFICATION 595-B COLOR #27038 BLACK.

SHOP DRAWINGS FOR ALL COMPONENTS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 625 LUMINAIRE, DECORATIVE, IES-II-SEMI CUTTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN



**ITEM 625 - CONDUIT MISC.: INTERCONNECT DUCT BANK**

IN ADDITION TO THE REQUIREMENT OS 625 AND 725, THE THREE (3) 1-1/4" CONDUITS, FOR FUTURE FIBER OPTIC INTERCONNECT USE, SHALL BE SDR11 HDPE MATERIAL AND INSTALLED EMPTY. THE THREE (2) CONDUITS SHALL BE INSTALLED AT ALL LOCATIONS SHOWN ON HE PLANS AND ONE EACH SHALL BE BLUE, ORANGE AND GREEN IN COLOR.

PLASTIC CAUTION TAPE SHALL BE INSTALLED ABOVE THE INTERCONNECT CONDUITS AND SHALL BE PLACED 18" BELOW THE FINISHED GRADE.

TRACER WIRE SHALL BE INSTALLED DIRECTLY ABOVE THE INTERCONNECT CONDUITS AND SHALL BE 12 AWG, 250# PULL RATED ADD SHALL BE COPPERHEAD REINFORCED TRACER WIRE BY COPPERHEAD INDUSTRIES.

THE CONDUITS SHALL BE INSTALLED SO THEY ENTER THE BOTTOM OF EACH PULL BOX.

THE CONDUITS SHALL MAINTAIN A MINIMUM OF 1.5' SEPARATION FROM ALL UTILITIES EXCEPT THE SIGNAL CONDUITS SINCE THE WILL BE SHARING A TRENCH AND PULL BOXES.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT OF ITEM 625-CONDUIT, MISC.: INTERCONNECT DUCT BANK INSTALLED AND ACCEPTED.

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

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 630 AND 730, THE SIGNS SHALL CONFORM TO THE CITY OF DELAWARE STANDARDS AND HAVE THE FOLLOWING SPECIFICATIONS:

HIGH INTENSITY REFLECTIVITY WHITE LETTERS  
 HIGH INTENSITY REFLECTIVITY BLUE SHEETING

STREE NAME SIGN SIZE AND LETTERING HEIGHTS SHALL FOLLOW OMUTCD, THE CITY OF DELAWARE ENGINEERING STANDARD DRAWING RDWD 36.0, AS APPROVED BY THE ENGINEER.

SHOP DRAWINGS FOR ALL COMPONENTS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 630 - SIGN, STREET NAME, AS PER PLAN.

**632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN**

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS. EXISTING COMMUNICATIONS AND DETECTION SYSTEMS SHALL NOT BE REMOVED UNTIL NEW SYSTEMS ARE IN PLACE AND OPERATIONAL, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. REMOVED ITEMS SHALL BE REUSED AS PART OF A NEW INSTALLATION ON THE PROJECT OR DELIVERED TO CITY OF DELAWARE PUBLIC WORKS, 440 E WILLIAM ST. DELAWARE, OHIO IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

AT LOCATIONS WHERE EXISTING DETECTION AND/OR INTERCONNECT IS BEING REPLACED, EXISTING WIRING SHALL BE REMOVED FROM THE CABINET, PULL BOXES, AND CONDUITS.

- ITEMS TO BE SALVAGED:
- WIRELESS COMMUNICATIONS (UBIQUITI RADIOS)
  - NETWORK SWITCHES AND PORT SERVERS
  - VIDEO DETECTION SYSTEMS
  - RADAR DETECTION SYSTEMS

THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

**ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-12.31 DESIGN 10 POLE, WITH MAST ARMS TC-81.22 DESIGN 14 AND DESIGN 4, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ITEM 632, SIGNAL SUPPORT AND MAST ARMS SHALL BE A BLACK POWDER COAT (FEDSTD-595b 17038) MEETING THE REQUIREMENTS OF SS916.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632, COMBINATION SIGNAL SUPPORT, TYPE TC-12.31 DESIGN 10 POLE, WITH MAST ARMS TC-81.22 DESIGN 14 AND DESIGN 4, AS PER PLAN.

**ITEM 632 PEDESTAL, BY SIZE, TRANSFORMER BASE, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF CMS 632, THE PEDESTAL FINISH SHALL CONSIST OF SEMI-GLOSS BLACK POLYESTER POWDER COAT FINISH. PAINT CHIP SAMPLES AND SHOP DRAWINGS FOR ALL COMPONENTS MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS. PROVIDE ADEQUATE PROTECTION FOR THE FINISH OF THE PEDESTAL. IF FINISH IS DAMAGED DURING HANDLING AND/OR INSTALLATION, THE CONTRACTOR SHALL REPAIR THE FINISH PER THE POLE MANUFACTURER'S RECOMMENDATIONS. ALL PROPOSED PEDESTAL LOCATIONS SHALL MATCH EXISTING SUPPORT COLORS UNLESS OTHERWISE NOTED. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632 PEDESTAL, BY SIZE, AS PER PLAN.

**ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, BY DESIGN, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ITEM 632, SIGNAL SUPPORT POLE AND MAST ARM SHALL BE A BLACK POWDER COAT (FEDSTD-595b 17038) MEETING THE REQUIREMENTS OF SS916.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, BY TYPE, AS PER PLAN.

**ITEM 632 POWER SERVICE, AS PER PLAN**

POWER SERVICE SHALL BE AS PER SPECIFICATION 632 AND STANDARD CONSTRUCTION DRAWING TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN FIVE (5) FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND.
2. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES.
3. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.
4. THE POWER SERVICE BLIND HALF COUPLING SHALL BE TWENTY-SEVEN (27) INCHES ABOVE THE BOTTOM OF THE STRAIN POLE BASE PLATE AND SHALL BE WELDED TO THE STRAIN POLE.
5. CONDUIT FROM THE BOTTOM OF THE DISCONNECT SWITCH ENCLOSURE INTO THE BOTTOM OF THE CONTROLLER CABINET WILL NOT BE PERMITTED. POWER SERVICE WIRES FROM THE DISCONNECT SWITCH ENCLOSURE TO THE CONTROLLER CABINET SHALL BE ROUTED THROUGH THE STRAIN POLE.
6. IF INTERSECTION LIGHTING IS SPECIFIED THEN SEPARATE DISCONNECT SWITCHES SHALL BE INSTALLED AND LABELED "LIGHTING" AND "TRAFFIC SIGNAL" WITH A WEATHER PROOF STICKER. MARKER ON THE OUTSIDE OF THE ENCLOSURE IS NOT ACCEPTABLE.

DISCONNECT SWITCH ENCLOSURES FURNISHED SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE MAINTAINING AGENCY.

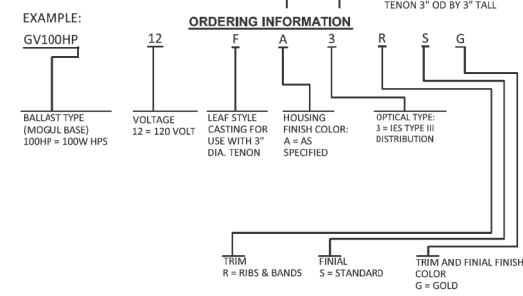
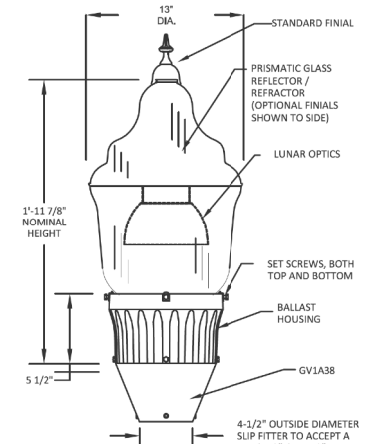
CONTRACTOR SHALL COORDINATE WITH THE CITY AND UTILITY TO REQUEST/ASSIGN AN ADDRESS FOR ANY NEW SERVICE OR EXISTING SERVICE THAT DOESN'T ALREADY HAVE AN ADDRESS ASSIGNED.

WHERE POWER SERVICE IS SPECIFIED IN THE PLANS TO REPLACE EXISTING POWER SERVICE (OR AS REFURBISHED), THIS ITEM SHALL INCLUDE THE REMOVAL AND REPLACEMENT OF THE SERVICE RISER, METER (IF APPLICABLE), DISCONNECT, AND ASSOCIATED CONDUIT AND FITTINGS TO REACH THE TRAFFIC SIGNAL CABINET.

PAYMENT SHALL BE AT THE CONTRACT UNIT BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT FOR A COMPLETE POWER SERVICE TESTED AND ACCEPTED.

**GRANVILLE® SERIES LUMINAIRE  
 LEAF STYLE CASTING with LUNAR OPTICS™**

MAXIMUM WEIGHT - 47 lbs.  
 MAXIMUM EFFECTIVE PROJECTED AREA - 1.26 sq. ft.



**Specifications**

**GENERAL DESCRIPTION**  
 The luminaire consists of three main components, a ballast housing, a reflector with socket, and a prismatic glass optical assembly.

**OPTICAL ASSEMBLY**  
 The optical assembly is a precisely molded thermal resistant borosilicate glass reflector and refractor with or without a decorative finial. The upper portion of this system incorporates a series of reflecting prisms that redirect over 50% of the upward light in to the controlling refractor while allowing a soft uplight component to define the traditional acorn shape of the luminaire. Two decorative aluminum top covers are available. The lower portion uses precisely molded refracting prisms to control the distribution of light to maximize utilization, uniformity, and luminaire spacing. Three unique optical assemblies are available, designed for IES type III, IV, and V lighting distributions.

**BALLAST HOUSING**  
 The ballast housing contains the ballast and other electrical components. The housing is cast of aluminum alloy with a fluted concave contour designed to flow gracefully from a 7" diameter decorative post capital and replicate the fluted pattern of a decorative post shaft. The ballast housing is secured by four hex head 1/4-20 set screws. Four uniquely designed stainless steel spring clips enclosed in a clear polyvinyl chloride sleeve and adjusted by hex head 1/4-20 bolts securely cradle the optical assembly.

**BALLAST**  
 (Refer to Ballast Data Sheet for specific operating characteristics)  
 35 - 100 watt 120 volt High Pressure Sodium (HPS) ballasts are High Power Factor Reactor type. All other HPS ballasts are High Power Factor Autotransformer type.  
 175 watt Metal Halide (MH) ballasts are Peak Lead Autotransformer type. 70 and 100 watt MH units are available only with (120V, 208V, 240V, 277V) multitap High Power Factor High Reactance type ballast.  
 All Mercury Vapor (MV) ballasts are High Power Factor Constant Wattage Autotransformer (CWA) type.

**REFLECTOR / SOCKET ASSEMBLY**  
 The reflector/socket assembly is designed to position the specified light source at the light center of the refractor.

**INSTALLATION**  
 Refer to the instruction manual provided with each luminaire as to the specific method of wiring and mounting the luminaire.

**FINISH**  
 The housing is finished with polyester powder paint applied after a seven stage pretreatment process to insure maximum durability.

**UL LISTING**  
 The luminaire is UL listed as suitable for wet locations at a maximum 40 degree C ambient temperature.

**OPTIONS**  
 P - PROTECTIVE STARTER

**ACCESSORIES**  
 DTP1212A - PHOTOCONTROL FOR 120 VOLT. LOCATED IN ACCESS COVER. FIELD INSTALLED. NOT UL LISTED  
 GVVA38 - COUPLING TO ADAPT THE LUMINAIRE TO FIT A 3-INCH LIGHT POLE TENON

**COLOR**  
 Y539A - DELAWARE GREEN

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SHEET NUM.								PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
						346	349	01/NHS/PV	02/S>2/PV	06/ENH/31						
											625	23200	815	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
											625	23400	350	FT	NO. 10 AWG POLE AND BRACKET CABLE	
											625	25400	444	FT	CONDUIT, 2", 725.04	
											625	25408	223	FT	CONDUIT, 2", 725.051	
											625	25604	135	FT	CONDUIT, 4", 725.051	
											625	26253	4	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT. AS PER PLAN	365
										6	625	27551	6	EACH	LUMINAIRE, DECORATIVE, IES-II-SEMI CUTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	341
											625	29001	472	FT	TRENCH, AS PER PLAN	340
											625	29401	160	FT	TRENCH IN PAVED AREAS, AS PER PLAN	340
											625	30700	3	EACH	PULL BOX, 725.08, 18"	
											625	30706	1	EACH	PULL BOX, 725.08, 24"	
											625	30730	5	EACH	PULL BOX, 725.08, 48", TYPE 1	
											625	32000	20	EACH	GROUND ROD	
											630	79100	4	EACH	SIGN HANGER ASSEMBLY, MAST ARM	
											630	79500	15	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
											630	80100	34.5	SF	SIGN, FLAT SHEET	
											630	80511	8	EACH	SIGN, STREET NAME, AS PER PLAN. HIGH INTENSITY REFLECTIVE WHITE LEGEND AND BLUE SHEETING	341
											632	05007	19	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, WITH BACKPLATES	344
											632	05087	9	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, WITH BACKPLATES	344
											632	20731	13	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	343
											632	20751	10	EACH	ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN	342
											632	25001	25	EACH	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	342
											632	25010	9	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
											632	40200	1,517	FT	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	
											632	40700	2,589	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
											632	64010	7	EACH	SIGNAL SUPPORT FOUNDATION	
											632	64020	9	EACH	PEDESTAL FOUNDATION	
											632	68200	377	FT	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	
											632	70001	2	EACH	POWER SERVICE, AS PER PLAN	341
											632	70400	2	EACH	CONDUIT RISER, 2" DIAMETER	
											632	78385	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-12.31 DESIGN 10, WITH MAST ARMS TC-81.22 DESIGN 14 AND DESIGN 4, AS PER PLAN	341
											632	79101	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2, AS PER PLAN	341
											632	79111	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	341
											632	79131	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	341
											632	79141	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	341
											632	79151	2	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 14, AS PER PLAN	341
											632	80700	3	EACH	SIGNAL SUPPORT, MISC.: SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.22 MAST ARM (GREATER THAN 39' IN LENGTH)	340
											632	90001	9	EACH	PEDESTAL, 11', TRANSFORMER BASE, AS PER PLAN	341
											632	90008	1	EACH	PEDESTAL, 15', TRANSFORMER BASE	341
											632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	341
											632	90104	7	EACH	REUSE OF TRAFFIC CONTROL ITEM, PREEMPT CONFIRMATION LIGHT	
											633	65511	2	EACH	CABINET, TYPE TS-2, AS PER PLAN	345
											633	67100	2	EACH	CABINET FOUNDATION	
											633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	345
											809	69001	1	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	344
											809	69123	2	EACH	ATC CONTROLLER, AS PER PLAN, V6.24	344
											809	69200	4	EACH	EMERGENCY VEHICLE PREEMPTION	
											816	30001	2	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN (360 DEGREE)	345
						LS		LS			632	90300	LS		SIGNALIZATION, MISC.: SYSTEM INTEGRATION	343

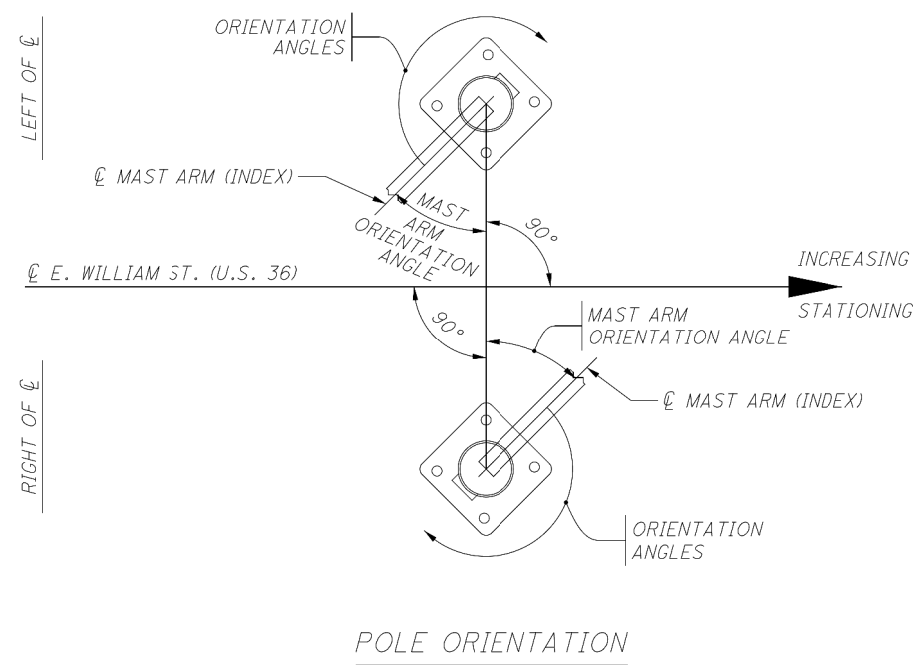
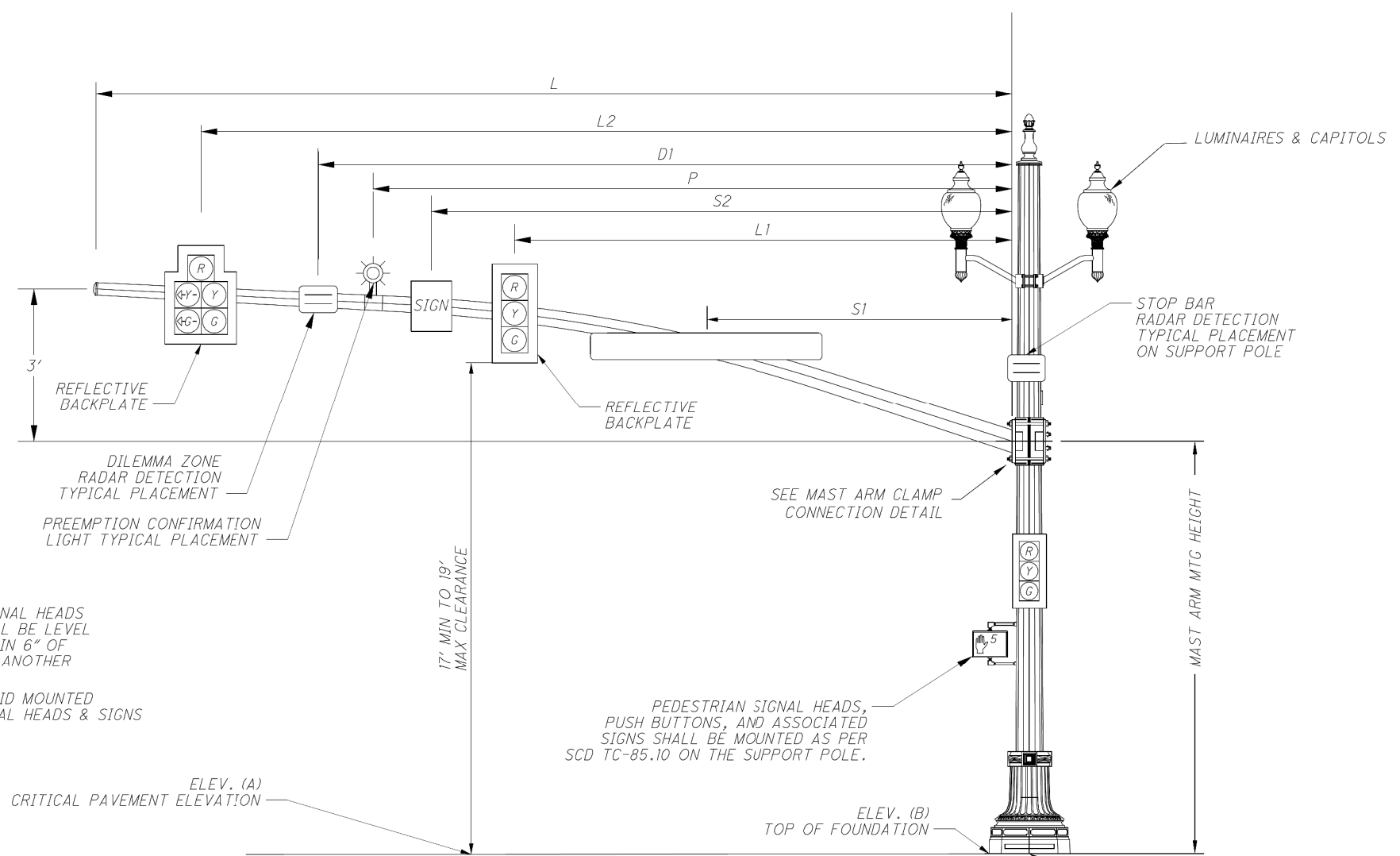
**SIGNAL SUBSUMMARY**

**DEL - 36 - 11.03**

CALCULATED  
TJS  
CHECKED  
MAS







\*SIGNAL HEADS SHALL BE LEVEL WITHIN 6" OF ONE ANOTHER  
\*RIGID MOUNTED SIGNAL HEADS & SIGNS

MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS											ORIENTATION ANGLES FROM MAST ARM										
			A (CRITICAL PAVEMENT)	B (TOP OF FOUNDATION)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	L3	L4	D1	S1	S2	P	MAST ARM A ANGLE	MAST ARM B ANGLE	HANDHOLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	SUPPLEMENTAL SIGNAL HEAD	BRACKET ARM	CABLE ENTRANCE 12" FROM TOP	SIGN - POLE MOUNTED
			FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG	DEG	DEG	DEG	DEG	DEG
SP-1	589+91.8	33.5' LT.	932.71	932.88	TC-81.22	2	35	20	30	27.5	15.5	-	-	-	10	-	20	0	-	180	90/180	90/225	180	180	180	-
SP-2	590+69.9	35.9' LT.	933.09	933.26	TC-81.22	4	35	20	38	35	25	6	-	-	-	-	28	90	-	270	-	-	180	270	270	0
SP-3-A	591+11.3	51.8' RT.	932.27	932.44	TC-12.31 DESIGN 10	TC-81.22 #14	35	20	43	39.8	27.8	-	-	-	41.5	-	32	0	-	180	90	135	-	180	180	0
SP-3-B	591+11.3	51.8' RT.					35	20	35	32.5	11.2	-	-	-	-	-	29	41	21	-	270	-	-	-	315	90
PS-1	590+00.5	36.5' LT.	-	-	-	PED	11'	-	-	-	-	-	-	-	-	-	-	-	90	-	45	-	-	-	-	
PS-2	589+94.3	22.6' LT.	-	-	-	PED	11'	-	-	-	-	-	-	-	-	-	-	-	-	-	180	-	-	-	-	
PS-3	589+92.5	37.1' RT.	-	-	-	PED	15'	-	-	-	-	-	-	-	-	-	-	-	-	-	90	180	270	-	-	
PS-4	590+06.6	44.9' RT.	-	-	-	PED	11'	-	-	-	-	-	-	-	-	-	-	-	-	-	270	270	-	-	-	
PS-5	590+45.7	57.1' LT.	-	-	-	PED	11'	-	-	-	-	-	-	-	-	-	-	-	-	-	135	130	-	-	-	
PS-6	590+58.2	55.0' RT.	-	-	-	PED	11'	-	-	-	-	-	-	-	-	-	-	-	-	-	20	20	-	-	-	

\* FOUNDATION FOR SP-3 SHALL BE 23' DEEP.

NOTE: EXISTING EQUIPMENT NOT LISTED IN MAST ARM TABLE SHALL REMAIN AT INSTALLED LOCATION ON MAST ARM OR SIGNAL POLE.

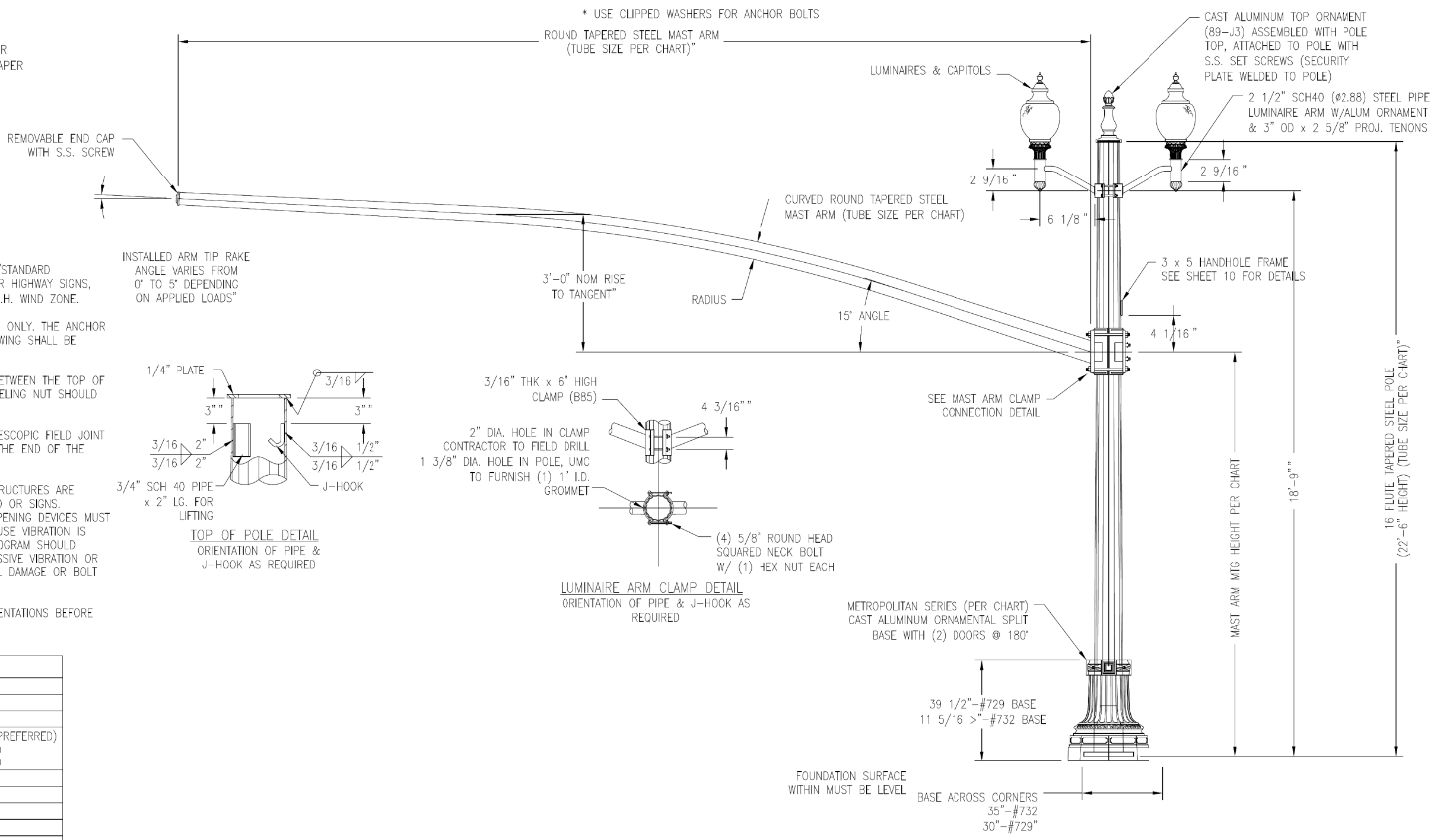
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**TC-81.22 COMBINATION SIGNAL SUPPORT DETAIL**

7 GA = 0.179" WALL THICKNESS  
 3 GA = 0.250" WALL THICKNESS  
 E = ROUND STEEL TUBE @ 0.14 in/ft TAPER  
 F = 16-FLUTE STEEL TUBE @ 0.14 in/ft TAPER

**DESIGN CRITERIA:**

- DESIGNED IN ACCORDANCE WITH 2009 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" FOR 90 M.P.H. WIND ZONE.
- ANCHOR BOLTS ANALYZED FOR STEEL STRENGTH ONLY. THE ANCHOR BOLT EMBEDMENT LENGTH SHOWN ON THIS DRAWING SHALL BE VERIFIED BY THE FOUNDATION ENGINEER.
- THE EXPOSED LENGTH OF THE ANCHOR BOLT BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT SHOULD NOT EXCEED ONE BOLT DIAMETER.
- PER AASHTO THE MINIMUM LENGTH OF ANY TELESCOPIC FIELD JOINT SHALL BE 1.5 TIMES THE INSIDE DIAMETER OF THE END OF THE FEMALE SECTION.
- VIBRATION IS MORE LIKELY TO OCCUR WHEN STRUCTURES ARE INSTALLED WITHOUT ATTACHING THE SIGNALS AND OR SIGNS. THEREFORE, THE INTENDED EQUIPMENT OR CAMPENING DEVICES MUST BE INSTALLED AT THE TIME OF ERECTION. BECAUSE VIBRATION IS GENERALLY UNPREDICTABLE, A MAINTENANCE PROGRAM SHOULD INCLUDE INSPECTION FOR INDICATIONS OF EXCESSIVE VIBRATION OR FATIGUE AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING.
- CUSTOMER TO CONFIRM ALL DIMENSIONS & ORIENTATIONS BEFORE RELEASING ORDER FOR MANUFACTURING.



**MATERIAL SPECIFICATIONS**

TAPERED TUBE	ASTM A595 GR. A
PLATE	ASTM A36
ORNAMENTAL DECORATIVE BASE	ASTM B26 (356.0F)
HANDHOLE FRAME	ASTM A529 GR. 50 (PREFERRED) or ASTM A572 GR. 50 or ASTM A709 GR. 50
HANDHOLE COVER	ASTM A36 or A1011
ARM CONNECTION STUDS	ASTM A449
ARM CONNECTION NUTS	ASTM A563 GR. DH
FLAT WASHERS	ASTM F436
ARM JOINT STUD	ASTM A36
"ANCO" LOCK NUTS	ASTM A563 GR. DH
ARM END CAP	ASTM A1011
DECORATIVE POLE TOP	ASTM B26 (356.0F)
ANCHOR BOLTS	ASTM F1554 GR 105
ANCHOR BOLT NUTS	ASTM A563 GR DH
PIPE	ASTM A501 or A53 GR B
S.S. HARDWARE	AISI-300 SERIES (18-8)
HARDWARE FNISH	PER SALES ORDER
HARDWARE FNISH	HD GALV TO ASTM A153

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← TO COLUMBUS

TO SANDUSKY →

NOTES:

- ① CONNECT INTO ROADWAY STORM SEWER SYSTEM. TEMPORARY CONNECTION SHOWN ON SHEET 66.
- ② EXISTING RAILROAD DITCH OUTLET TO EXISTING ROADWAY STORM SEWER SHALL BE MAINTAINED IN USE UNTIL PROPOSED ROADWAY STORM SEWER IS COMPLETED AND RUNOFF REROUTING IS APPROVED BY THE ENGINEER.

0 40 80  
20  
HORIZONTAL  
SCALE IN FEET

CALCULATED CDR  
CHECKED JLF

TRACK PLAN - PHASE 1  
EX. STA. 1248+50 TO EX. STA. 1258+50

DEL-36-11.03

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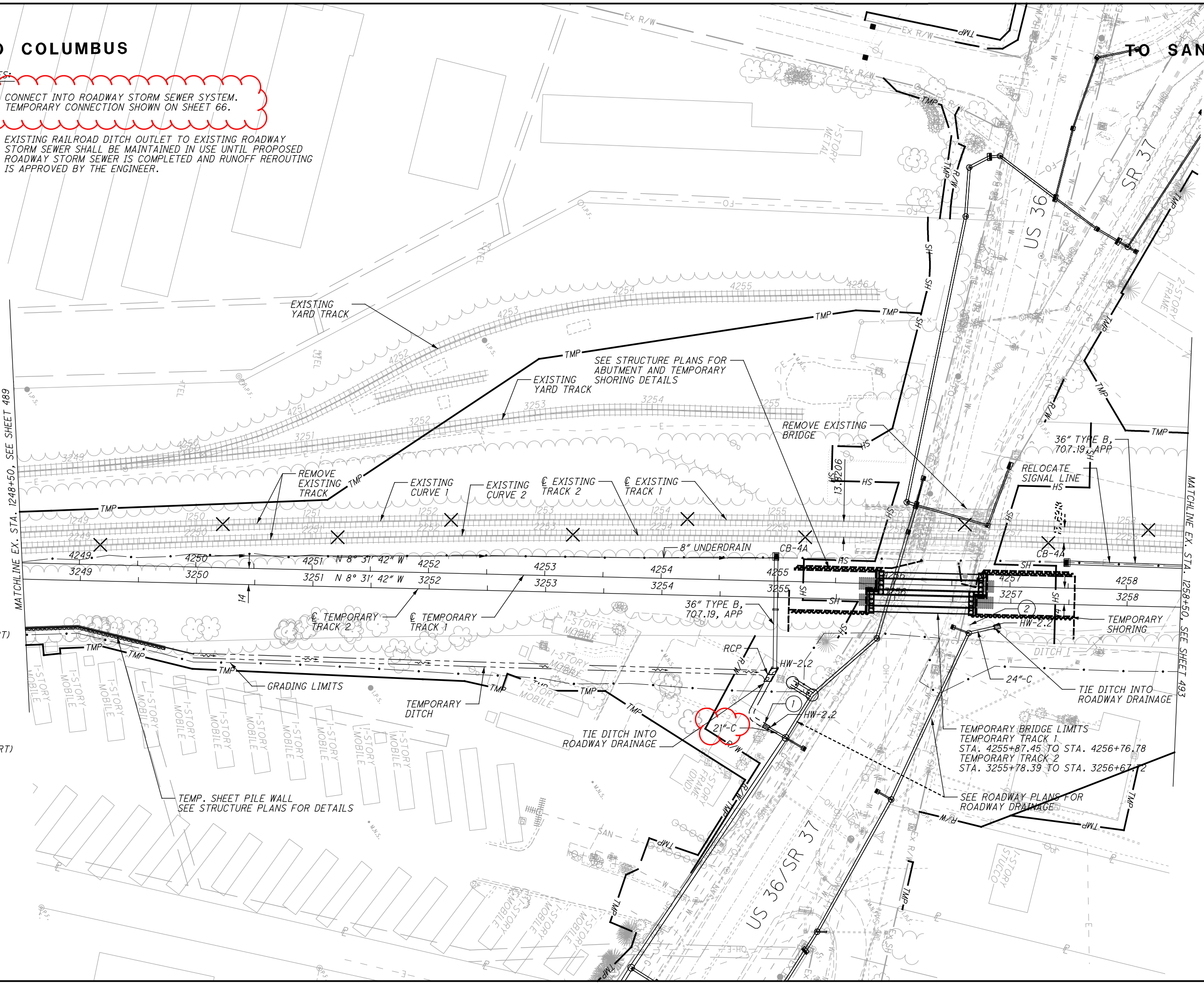
MATCHLINE EX. STA. 1248+50, SEE SHEET 489

MATCHLINE EX. STA. 1258+50, SEE SHEET 493

EX. CURVE 1 PI  
STA. 1254+71.62  
Dc = 0°30'00"  
Δc = 6°22'45" (RT)  
R = 11,459.19'  
Lc = 1,275.85'  
Ea = 1"  
Ls1 = 62.00'  
Ls2 = 62.00'  
DS = 60 MPH (F)

EX. CURVE 2 PI  
STA. 2254+75.10  
Dc = 0°29'30"  
Δc = 6°23'04" (RT)  
R = 11,653.41'  
Lc = 1,298.52'  
Ea = 1"  
Ls1 = 62.00'  
Ls2 = 62.00'  
DS = 60 MPH (F)

X = REMOVAL



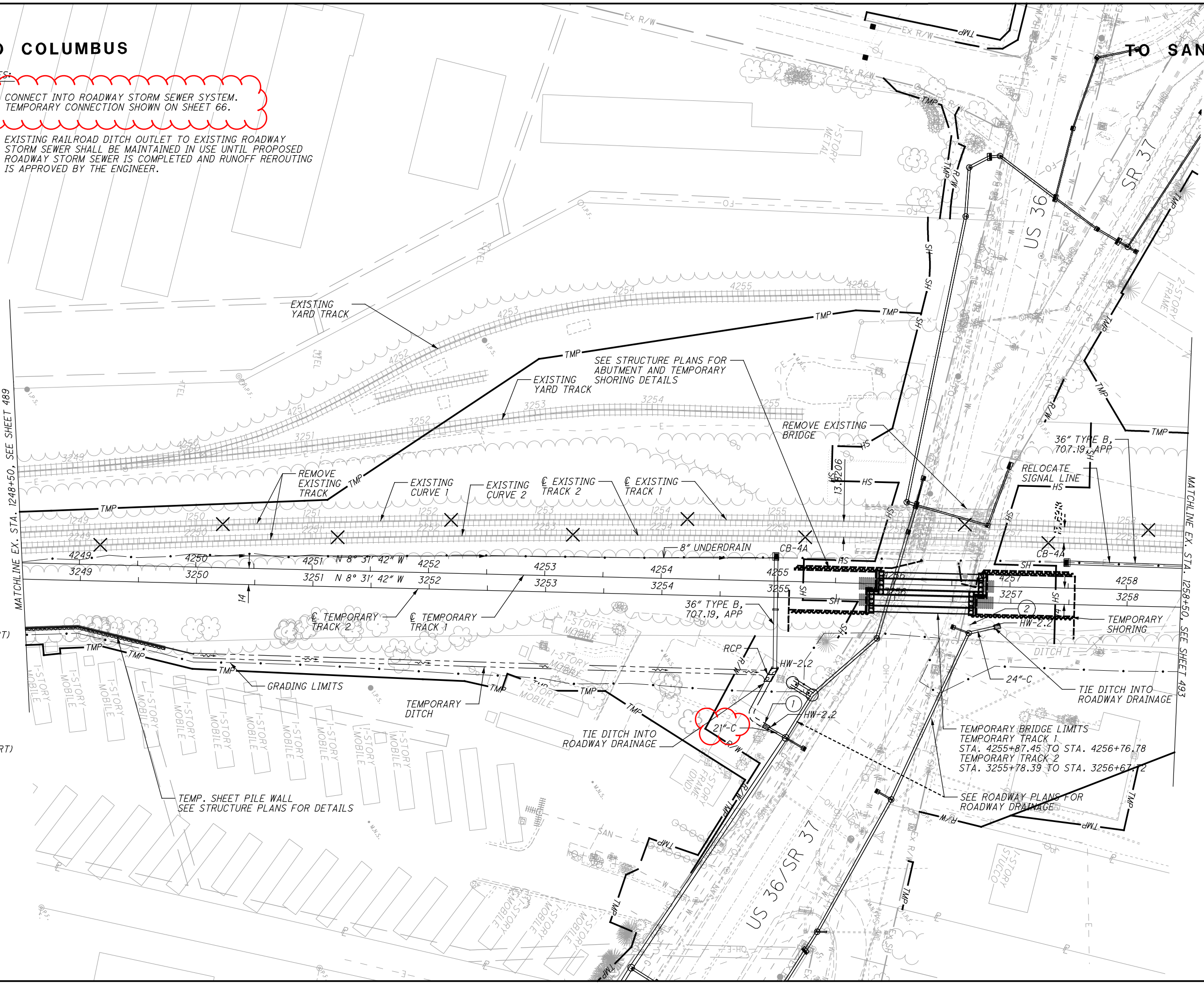
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