



COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET

[www.transportation.ky.gov/](http://www.transportation.ky.gov/)

Andy Beshear  
GOVERNOR

Jim Gray  
SECRETARY

July 20, 2022

CALL NO. 102  
CONTRACT ID NO. 221333  
ADDENDUM # 1

Subject: LAUREL COUNTY, NHPP 0251 (037)  
Letting July 21, 2022

- (1) Revised - Proposal Bid Items - Pages 224-232 of 232
- (2) Revised - Plan Sheets T1, T2, T4, T5, T6, T8, T9, T10, T11, T12, T13, T14

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

Rachel Mills,

A handwritten signature in cursive script that reads "Rachel Mills".

Rachel Mills, P.E.  
Director  
Division of Construction Procurement

RM:mr  
Enclosures

**PROPOSAL BID ITEMS**

221333

Page 1 of 9

Report Date 7/20/22

**Section: 0001 - PAVING - ALT 1 - ASPHALT**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	37,877.00	TON		\$	
0020	00100		ASPHALT SEAL AGGREGATE	476.00	TON		\$	
0030	00103		ASPHALT SEAL COAT	58.00	TON		\$	
0040	00190		LEVELING & WEDGING PG64-22	600.00	TON		\$	
0050	00214		CL3 ASPH BASE 1.00D PG64-22	5,329.00	TON		\$	
0060	00216		CL3 ASPH BASE 1.00D PG76-22	4,186.00	TON		\$	
0070	00223		CL3 ASPH BASE 0.75D PG64-22	5,027.00	TON		\$	
0080	00225		CL3 ASPH BASE 0.75D PG76-22	4,875.00	TON		\$	
0090	00336		CL3 ASPH SURF 0.38A PG76-22	5,299.00	TON		\$	
0100	00339		CL3 ASPH SURF 0.38D PG64-22	14,799.00	TON		\$	
0110	00356		ASPHALT MATERIAL FOR TACK	148.00	TON		\$	
0120	02064		PCC BASE-9 IN	3,303.00	SQYD		\$	
0130	02069		JPC PAVEMENT-10 IN	11,115.00	SQYD		\$	
0140	02084		JPC PAVEMENT-8 IN	23,090.00	SQYD		\$	
0150	10203ND		PAVEMENT ADJUSTMENT (ASPHALT)	1.00	LS	\$401,420.0	\$	\$401,420.00
0160	24904EC		CL3 ASPH BASE CK PG64-22	22,647.00	TON		\$	

**Section: 0002 - PAVING - ALT 2 - CONCRETE**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0170	00003		CRUSHED STONE BASE	37,865.00	TON		\$	
0180	00100		ASPHALT SEAL AGGREGATE	476.00	TON		\$	
0190	00103		ASPHALT SEAL COAT	58.00	TON		\$	
0200	00190		LEVELING & WEDGING PG64-22	600.00	TON		\$	
0210	00214		CL3 ASPH BASE 1.00D PG64-22	5,117.00	TON		\$	
0220	00216		CL3 ASPH BASE 1.00D PG76-22	4,037.00	TON		\$	
0230	00223		CL3 ASPH BASE 0.75D PG64-22	5,100.00	TON		\$	
0240	00336		CL3 ASPH SURF 0.38A PG76-22	1,989.00	TON		\$	
0250	00339		CL3 ASPH SURF 0.38D PG64-22	14,965.00	TON		\$	
0260	00356		ASPHALT MATERIAL FOR TACK	100.00	TON		\$	
0270	02064		PCC BASE-9 IN	8,696.00	SQYD		\$	
0280	02069		JPC PAVEMENT-10 IN	12,011.00	SQYD		\$	
0290	02084		JPC PAVEMENT-8 IN	60,306.00	SQYD		\$	
0300	10203ND		PAVEMENT ADJUSTMENT (CONCRETE)	1.00	LS	\$203,944.0	\$	\$203,944.00
0310	24904EC		CL3 ASPH BASE CK PG64-22	10,968.00	TON		\$	

**Section: 0003 - ROADWAY**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0320	00020		TRAFFIC BOUND BASE	1,000.00	TON		\$	
0330	00078		CRUSHED AGGREGATE SIZE NO 2	12,815.00	TON		\$	
0340	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		\$	
0350	01584		CAP DROP BOX INLET	2.00	EACH		\$	

**PROPOSAL BID ITEMS**

221333

Page 2 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	01691		FLUME INLET TYPE 2	4.00	EACH		\$	
0370	01810		STANDARD CURB AND GUTTER	3,626.00	LF		\$	
0380	01825		ISLAND CURB AND GUTTER	2,079.00	LF		\$	
0390	01830		STANDARD INTEGRAL CURB	2,346.00	LF		\$	
0400	01875		STANDARD HEADER CURB	1,459.00	LF		\$	
0410	01890		ISLAND HEADER CURB TYPE 1	561.00	LF		\$	
0420	01891		ISLAND HEADER CURB TYPE 2	100.00	LF		\$	
0430	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	65.00	EACH		\$	
0440	01983		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	16.00	EACH		\$	
0450	01984		DELINEATOR FOR BARRIER - WHITE	8.00	EACH		\$	
0460	01985		DELINEATOR FOR BARRIER - YELLOW	8.00	EACH		\$	
0470	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	41.00	EACH		\$	
0480	02014		BARRICADE-TYPE III	20.00	EACH		\$	
0490	02091		REMOVE PAVEMENT	2,180.00	SQYD		\$	
0500	02101		CEM CONC ENT PAVEMENT-8 IN	3,549.00	SQYD		\$	
0510	02155		PAVED DITCH TYPE 1 MOD	11.00	SQYD		\$	
0520	02159		TEMP DITCH	4,750.00	LF		\$	
0530	02160		CLEAN TEMP DITCH	2,375.00	LF		\$	
0540	02200		ROADWAY EXCAVATION	80,225.00	CUYD		\$	
0550	02203		STRUCTURE EXCAV-UNCLASSIFIED	462.00	CUYD		\$	
0560	02204		SPECIAL EXCAVATION	300.00	CUYD		\$	
0570	02242		WATER	100.00	MGAL		\$	
0580	02351		GUARDRAIL-STEEL W BEAM-S FACE	6,901.00	LF		\$	
0590	02352		GUARDRAIL-STEEL W BEAM-D FACE	275.00	LF		\$	
0600	02360		GUARDRAIL TERMINAL SECTION NO 1	12.00	EACH		\$	
0610	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	11.00	EACH		\$	
0620	02365		CRASH CUSHION TYPE IX-A	2.00	EACH		\$	
0630	02367		GUARDRAIL END TREATMENT TYPE 1	14.00	EACH		\$	
0640	02369		GUARDRAIL END TREATMENT TYPE 2A	4.00	EACH		\$	
0650	02371		GUARDRAIL END TREATMENT TYPE 7	1.00	EACH		\$	
0660	02381		REMOVE GUARDRAIL	6,894.50	LF		\$	
0670	02382		GUARDRAIL CONNECT-SHLD BRIDGE PIER TY A	2.00	EACH		\$	
0680	02384		GUARDRAIL CONNECT SHLD BRIDGE PIER TY A1	1.00	EACH		\$	
0690	02387		GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	1.00	EACH		\$	
0700	02397		TEMP GUARDRAIL	300.00	LF		\$	
0710	02429		RIGHT-OF-WAY MONUMENT TYPE 1	37.00	EACH		\$	
0720	02430		RIGHT-OF-WAY MONUMENT TYPE 1A	5.00	EACH		\$	
0730	02431		WITNESS R/W MONUMENT TYPE 2	1.00	EACH		\$	
0740	02432		WITNESS POST	5.00	EACH		\$	
0750	02483		CHANNEL LINING CLASS II	3,044.00	TON		\$	
0760	02484		CHANNEL LINING CLASS III	3,108.00	TON		\$	
0770	02545		CLEARING AND GRUBBING (21 ACRES)	1.00	LS		\$	
0780	02555		CONCRETE-CLASS B	294.20	CUYD		\$	
0790	02562		TEMPORARY SIGNS	1,200.00	SQFT		\$	

**PROPOSAL BID ITEMS**

221333

Page 3 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0800	02587		HOOK BOLT WITH EXPAN ANCHOR	1,900.00	EACH		\$	
0810	02603		FABRIC-GEOTEXTILE CLASS 2	24,205.00	SQYD		\$	
0820	02611		HANDRAIL-TYPE A-1	430.00	LF		\$	
0830	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0840	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		\$	
0850	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0860	02677		ASPHALT PAVE MILLING & TEXTURING	1,850.00	TON		\$	
0870	02690		SAFELoading	69.00	CUYD		\$	
0880	02701		TEMP SILT FENCE	4,750.00	LF		\$	
0890	02703		SILT TRAP TYPE A	20.00	EACH		\$	
0900	02704		SILT TRAP TYPE B	20.00	EACH		\$	
0910	02705		SILT TRAP TYPE C	20.00	EACH		\$	
0920	02706		CLEAN SILT TRAP TYPE A	20.00	EACH		\$	
0930	02707		CLEAN SILT TRAP TYPE B	20.00	EACH		\$	
0940	02708		CLEAN SILT TRAP TYPE C	20.00	EACH		\$	
0950	02720		SIDEWALK-4 IN CONCRETE	1,541.00	SQYD		\$	
0960	02726		STAKING	1.00	LS		\$	
0970	02731		REMOVE STRUCTURE	1.00	LS		\$	
0980	02775		ARROW PANEL	2.00	EACH		\$	
0990	02998		MASONRY COATING	534.00	SQYD		\$	
1000	03225		TUBULAR MARKERS	80.00	EACH		\$	
1010	05950		EROSION CONTROL BLANKET	11,847.00	SQYD		\$	
1020	05952		TEMP MULCH	61,491.00	SQYD		\$	
1030	05953		TEMP SEEDING AND PROTECTION	46,118.00	SQYD		\$	
1040	05963		INITIAL FERTILIZER	5.30	TON		\$	
1050	05964		MAINTENANCE FERTILIZER	3.20	TON		\$	
1060	05985		SEEDING AND PROTECTION	85,651.00	SQYD		\$	
1070	05990		SODDING	6,536.00	SQYD		\$	
1080	05992		AGRICULTURAL LIMESTONE	57.20	TON		\$	
1090	06401		FLEXIBLE DELINEATOR POST-M/W	126.00	EACH		\$	
1100	06510		PAVE STRIPING-TEMP PAINT-4 IN	44,850.00	LF		\$	
1110	06511		PAVE STRIPING-TEMP PAINT-6 IN	112,750.00	LF		\$	
1120	06549		PAVE STRIPING-TEMP REM TAPE-B	250.00	LF		\$	
1130	06550		PAVE STRIPING-TEMP REM TAPE-W	15,040.00	LF		\$	
1140	06551		PAVE STRIPING-TEMP REM TAPE-Y	10,560.00	LF		\$	
1150	06585		PAVEMENT MARKER TY IVA-MW TEMP	880.00	EACH		\$	
1160	06600		REMOVE PAVEMENT MARKER TYPE V	720.00	EACH		\$	
1170	06610		INLAID PAVEMENT MARKER-MW	314.00	EACH		\$	
1180	06612		INLAID PAVEMENT MARKER-BY	105.00	EACH		\$	
1190	06613		INLAID PAVEMENT MARKER-B W/R	258.00	EACH		\$	
1200	06614		INLAID PAVEMENT MARKER-B Y/R	9.00	EACH		\$	
1210	08100		CONCRETE-CLASS A	59.10	CUYD		\$	
1220	08150		STEEL REINFORCEMENT	1,456.00	LB		\$	
1230	08900		CRASH CUSHION TY VI CLASS B TL2	2.00	EACH		\$	
1240	20191ED		OBJECT MARKER TY 3	16.00	EACH		\$	
1250	21289ED		LONGITUDINAL EDGE KEY	1,910.00	LF		\$	
1260	23158ES505		DETECTABLE WARNINGS	485.00	SQFT		\$	
1270	24540		R/W MONUMENT TYPE 3	14.00	EACH		\$	
1280	24541		R/W MONUMENT TYPE 3A	13.00	EACH		\$	
1290	24651ED		CONCRETE ISLAND	1,347.00	SQYD		\$	

**PROPOSAL BID ITEMS**

221333

Page 4 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1300	24814EC		PIPELINE INSPECTION	4,940.00	LF		\$	
1310	24889EC		PAVE MARKING-THERMO U-TURN	1.00	EACH		\$	

**Section: 0004 - ROADWAY - ALT 1 - ASPHALT**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1320	02107		BREAKING AND SEATING PAVEMENT	32,013.00	SQYD		\$	
1330	02655		CROSSOVER	1.00	LS		\$	
1340	06542		PAVE STRIPING-THERMO-6 IN W	24,363.00	LF		\$	
1350	06543		PAVE STRIPING-THERMO-6 IN Y	10,932.00	LF		\$	
1360	06546		PAVE STRIPING-THERMO-12 IN W	1,056.00	LF		\$	
1370	06556		PAVE STRIPING-DUR TY 1-6 IN W	10,869.00	LF		\$	
1380	06557		PAVE STRIPING-DUR TY 1-6 IN Y	5,514.00	LF		\$	
1390	06560		PAVE STRIPING-DUR TY 1-12 IN W	85.00	LF		\$	
1400	06568		PAVE MARKING-THERMO STOP BAR-24IN	846.00	LF		\$	
1410	06569		PAVE MARKING-THERMO CROSS-HATCH	1,600.00	SQFT		\$	
1420	06574		PAVE MARKING-THERMO CURV ARROW	95.00	EACH		\$	
1430	06575		PAVE MARKING-THERMO COMB ARROW	27.00	EACH		\$	
1440	06576		PAVE MARKING-THERMO ONLY	7.00	EACH		\$	
1450	10020NS		FUEL ADJUSTMENT	140,527.00	DOLL	\$1.00	\$	\$140,527.00
1460	10030NS		ASPHALT ADJUSTMENT	244,948.00	DOLL	\$1.00	\$	\$244,948.00
1470	23253ES717		PAVE MARK TY 1 TAPE CROSS-HATCH	1,380.00	SQFT		\$	
1480	23256ES717		PAVE MARK TY 1 TAPE -ONLY	7.00	EACH		\$	
1490	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	389.00	LF		\$	
1500	23269ES717		PAVE MARK TY 1 TAPE-COMBO ARROW	20.00	EACH		\$	
1510	23270ES717		PAVE MARK TY 1 TAPE-CURV ARROW	56.00	EACH		\$	
1520	23791EC		PAVE STRIPING-CHEVRON MARKINGS	2,200.00	SQFT		\$	
1530	24401EC		DURABLE WATERBORNE MARKING-4 IN W	14,304.00	LF		\$	
1540	24402EC		DURABLE WATERBORNE MARKING-4 IN Y	13,338.00	LF		\$	
1550	24679ED		PAVE MARK THERMO CHEVRON	660.00	SQFT		\$	

**Section: 0005 - ROADWAY - ALT 2 - CONCRETE**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1560	06542		PAVE STRIPING-THERMO-6 IN W	8,041.00	LF		\$	
1570	06543		PAVE STRIPING-THERMO-6 IN Y	3,228.00	LF		\$	
1580	06546		PAVE STRIPING-THERMO-12 IN W	780.00	LF		\$	
1590	06556		PAVE STRIPING-DUR TY 1-6 IN W	26,973.00	LF		\$	
1600	06557		PAVE STRIPING-DUR TY 1-6 IN Y	13,217.00	LF		\$	
1610	06560		PAVE STRIPING-DUR TY 1-12 IN W	362.00	LF		\$	
1620	06568		PAVE MARKING-THERMO STOP BAR-24IN	459.00	LF		\$	
1630	06569		PAVE MARKING-THERMO CROSS-HATCH	1,420.00	SQFT		\$	
1640	06574		PAVE MARKING-THERMO CURV ARROW	137.00	EACH		\$	
1650	06575		PAVE MARKING-THERMO COMB ARROW	11.00	EACH		\$	
1660	06576		PAVE MARKING-THERMO ONLY	10.00	EACH		\$	
1670	10020NS		FUEL ADJUSTMENT	122,051.00	DOLL	\$1.00	\$	\$122,051.00
1680	10030NS		ASPHALT ADJUSTMENT	166,791.00	DOLL	\$1.00	\$	\$166,791.00

**PROPOSAL BID ITEMS**

221333

Page 5 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1690	23253ES717		PAVE MARK TY 1 TAPE CROSS-HATCH	1,380.00	SQFT		\$	
1700	23256ES717		PAVE MARK TY 1 TAPE -ONLY	5.00	EACH		\$	
1710	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	776.00	LF		\$	
1720	23269ES717		PAVE MARK TY 1 TAPE-COMBO ARROW	7.00	EACH		\$	
1730	23270ES717		PAVE MARK TY 1 TAPE-CURV ARROW	8.00	EACH		\$	
1740	23791EC		PAVE STRIPING-CHEVRON MARKINGS	2,200.00	SQFT		\$	
1750	24401EC		DURABLE WATERBORNE MARKING-4 IN W	14,304.00	LF		\$	
1760	24402EC		DURABLE WATERBORNE MARKING-4 IN Y	13,340.00	LF		\$	
1770	24679ED		PAVE MARK THERMO CHEVRON	580.00	SQFT		\$	

**Section: 0006 - DRAINAGE**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1780	00078		CRUSHED AGGREGATE SIZE NO 2	36.00	TON		\$	
1790	00440		ENTRANCE PIPE-15 IN	261.00	LF		\$	
1800	00441		ENTRANCE PIPE-18 IN	117.00	LF		\$	
1810	00443		ENTRANCE PIPE-24 IN	85.00	LF		\$	
1820	00461		CULVERT PIPE-15 IN	95.00	LF		\$	
1830	00462		CULVERT PIPE-18 IN	1,843.00	LF		\$	
1840	00464		CULVERT PIPE-24 IN	167.00	LF		\$	
1850	00466		CULVERT PIPE-30 IN	186.00	LF		\$	
1860	00468		CULVERT PIPE-36 IN	54.00	LF		\$	
1870	00474		CULVERT PIPE-72 IN	80.00	LF		\$	
1880	00521		STORM SEWER PIPE-15 IN	684.00	LF		\$	
1890	00522		STORM SEWER PIPE-18 IN	1,652.00	LF		\$	
1900	00524		STORM SEWER PIPE-24 IN	275.00	LF		\$	
1910	00526		STORM SEWER PIPE-30 IN	134.00	LF		\$	
1920	00528		STORM SEWER PIPE-36 IN	60.00	LF		\$	
1930	00529		STORM SEWER PIPE-42 IN	205.00	LF		\$	
1940	01000		PERFORATED PIPE-4 IN	19,344.00	LF		\$	
1950	01001		PERFORATED PIPE-6 IN	3,344.00	LF		\$	
1960	01010		NON-PERFORATED PIPE-4 IN	1,303.00	LF		\$	
1970	01011		NON-PERFORATED PIPE-6 IN	54.00	LF		\$	
1980	01020		PERF PIPE HEADWALL TY 1-4 IN	9.00	EACH		\$	
1990	01028		PERF PIPE HEADWALL TY 3-4 IN	22.00	EACH		\$	
2000	01029		PERF PIPE HEADWALL TY 3-6 IN	3.00	EACH		\$	
2010	01032		PERF PIPE HEADWALL TY 4-4 IN	7.00	EACH		\$	
2020	01202		PIPE CULVERT HEADWALL-15 IN	2.00	EACH		\$	
2030	01204		PIPE CULVERT HEADWALL-18 IN	16.00	EACH		\$	
2040	01208		PIPE CULVERT HEADWALL-24 IN	1.00	EACH		\$	
2050	01210		PIPE CULVERT HEADWALL-30 IN	2.00	EACH		\$	
2060	01212		PIPE CULVERT HEADWALL-36 IN	2.00	EACH		\$	
2070	01214		PIPE CULVERT HEADWALL-42 IN	1.00	EACH		\$	
2080	01381		METAL END SECTION TY 2-18 IN	1.00	EACH		\$	
2090	01433		SLOPED BOX OUTLET TYPE 1-18 IN	10.00	EACH		\$	
2100	01434		SLOPED BOX OUTLET TYPE 1-24 IN	1.00	EACH		\$	
2110	01450		S & F BOX INLET-OUTLET-18 IN	14.00	EACH		\$	
2120	01451		S & F BOX INLET-OUTLET-24 IN	3.00	EACH		\$	

**PROPOSAL BID ITEMS**

221333

Page 6 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2130	01452		S & F BOX INLET-OUTLET-30 IN	2.00	EACH		\$	
2140	01453		S & F BOX INLET-OUTLET-36 IN	1.00	EACH		\$	
2150	01456		CURB BOX INLET TYPE A	3.00	EACH		\$	
2160	01480		CURB BOX INLET TYPE B	16.00	EACH		\$	
2170	01487		CURB BOX INLET TYPE F	1.00	EACH		\$	
2180	01490		DROP BOX INLET TYPE 1	7.00	EACH		\$	
2190	01505		DROP BOX INLET TYPE 5B	6.00	EACH		\$	
2200	01517		DROP BOX INLET TYPE 5F	5.00	EACH		\$	
2210	01538		DROP BOX INLET TYPE 7	3.00	EACH		\$	
2220	01544		DROP BOX INLET TYPE 11	17.00	EACH		\$	
2230	01568		DROP BOX INLET TYPE 13S	1.00	EACH		\$	
2240	01650		JUNCTION BOX	13.00	EACH		\$	
2250	01653		JUNCTION BOX-SPECIAL	1.00	EACH		\$	
2260	01740		CORED HOLE DRAINAGE BOX CON-4 IN	40.00	EACH		\$	
2270	01741		CORED HOLE DRAINAGE BOX CON-6 IN	2.00	EACH		\$	
2280	01756		MANHOLE TYPE A	1.00	EACH		\$	
2290	01761		MANHOLE TYPE B	2.00	EACH		\$	
2300	01767		MANHOLE TYPE C	1.00	EACH		\$	
2310	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	4,327.00	SQYD	\$2.00	\$	\$8,654.00
2320	08100		CONCRETE-CLASS A	39.40	CUYD		\$	
2330	23610NC		CORED HOLE DRAINAGE BOX CON	1.00	EACH		\$	
2340	23952EC		DRAINAGE JUNCTION BOX TY B	2.00	EACH		\$	
2350	24025EC		PIPE CULVERT HEADWALL-72 IN	2.00	EACH		\$	

**Section: 0007 - BRIDGE - #27653 RCBC**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2360	02223		GRANULAR EMBANKMENT	10.00	CUYD		\$	
2370	08002		STRUCTURE EXCAV-SOLID ROCK	181.00	CUYD		\$	
2380	08003		FOUNDATION PREPARATION	1.00	LS		\$	
2390	08100		CONCRETE-CLASS A	73.30	CUYD		\$	
2400	08150		STEEL REINFORCEMENT	6,526.00	LB		\$	

**Section: 0008 - BRIDGE - #27652 KY1223 OVER HORSE CREEK**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2410	02231		STRUCTURE GRANULAR BACKFILL	67.00	CUYD		\$	
2420	02998		MASONRY COATING	183.00	SQYD		\$	
2430	03299		ARMORED EDGE FOR CONCRETE	52.00	LF		\$	
2440	08001		STRUCTURE EXCAVATION-COMMON	462.00	CUYD		\$	
2450	08002		STRUCTURE EXCAV-SOLID ROCK	38.00	CUYD		\$	
2460	08019		CYCLOPEAN STONE RIP RAP	110.00	TON		\$	
2470	08100		CONCRETE-CLASS A	151.00	CUYD		\$	
2480	08104		CONCRETE-CLASS AA	27.90	CUYD		\$	
2490	08150		STEEL REINFORCEMENT	14,250.00	LB		\$	
2500	08151		STEEL REINFORCEMENT-EPOXY COATED	6,250.00	LB		\$	
2510	08668		PRECAST PC BOX BEAM SB17	94.50	LF		\$	

**PROPOSAL BID ITEMS**

221333

Page 7 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2520	21532ED		RAIL SYSTEM TYPE III	63.00	LF		\$	

**Section: 0009 - SEWER - CORBIN**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2530	15000		S BYPASS PUMPING	20.00	EACH		\$	
2540	15014		S ENCASMENT STEEL BORED RANGE 1	60.00	LF		\$	
2550	15016		S ENCASMENT STEEL BORED RANGE 3	60.00	LF		\$	
2560	15017		S ENCASMENT STEEL BORED RANGE 4	90.00	LF		\$	
2570	15018		S ENCASMENT STEEL BORED RANGE 5	75.00	LF		\$	
2580	15023		S ENCASMENT STEEL OPEN CUT RANGE 4	175.00	LF		\$	
2590	15024		S ENCASMENT STEEL OPEN CUT RANGE 5	180.00	LF		\$	
2600	15036		S FORCE MAIN DUCTILE IRON 12 INCH	675.00	LF		\$	
2610	15057		S FORCE MAIN PVC 02 INCH	600.00	LF		\$	
2620	15058		S FORCE MAIN PVC 03 INCH	45.00	LF		\$	
2630	15060		S FORCE MAIN PVC 06 INCH	605.00	LF		\$	
2640	15071		S FORCE MAIN TIE-IN 02 INCH	1.00	EACH		\$	
2650	15072		S FORCE MAIN TIE-IN 03 INCH	1.00	EACH		\$	
2660	15074		S FORCE MAIN TIE-IN 06 INCH	1.00	EACH		\$	
2670	15077		S FORCE MAIN TIE-IN 12 INCH	3.00	EACH		\$	
2680	15086		S LATERAL CLEANOUT	5.00	EACH		\$	
2690	15088		S LATERAL LONG SIDE 06 INCH	5.00	EACH		\$	
2700	15092		S MANHOLE	34.00	EACH		\$	
2710	15093		S MANHOLE ABANDON/REMOVE	17.00	EACH		\$	
2720	15095		S MANHOLE CASTING STANDARD	34.00	EACH		\$	
2730	15106		S PIPE DUCTILE IRON 12 INCH	551.00	LF		\$	
2740	15112		S PIPE PVC 08 INCH	2,395.00	LF		\$	
2750	15113		S PIPE PVC 10 INCH	1,275.00	LF		\$	
2760	15114		S PIPE PVC 12 INCH	325.00	LF		\$	
2770	15120		S SPECIAL ITEM - S CAP EXISTING MAIN	4.00	EACH		\$	

**Section: 0010 - SIGNALIZATION**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2800	04820		TRENCHING AND BACKFILLING (REVISED 7-20-22)	370.00	LF		\$	
2820	04845		CABLE-NO. 14/7C (REVISED 7-20-22)	8,905.00	LF		\$	
2850	04886		MESSENGER-15400 LB (REVISED 7-20-22)	3,435.00	LF		\$	
2870	04932		INSTALL STEEL STRAIN POLE	28.00	EACH		\$	
2880	04953		TEMP RELOCATION OF SIGNAL HEAD	76.00	EACH		\$	
2890	06472		INSTALL SPAN MOUNTED SIGN	10.00	EACH		\$	
2900	20093NS835		INSTALL PEDESTRIAN HEAD-LED	2.00	EACH		\$	
2910	20188NS835		INSTALL LED SIGNAL-3 SECTION (REVISED 7-20-22)	65.00	EACH		\$	
2920	20266ES835		INSTALL LED SIGNAL- 4 SECTION	13.00	EACH		\$	



**PROPOSAL BID ITEMS**

221333

Page 8 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2930	20390NS835		INSTALL COORDINATING UNIT	7.00	EACH		\$	
2940	21743NN		INSTALL PEDESTRIAN DETECTOR	2.00	EACH		\$	
2950	23157EN		TRAFFIC SIGNAL POLE BASE	118.30	CUYD		\$	
2960	23235EC		INSTALL PEDESTAL POST	1.00	EACH		\$	
2970	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80 (REVISED 7-20-22)	20.00	LF		\$	
2980	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80 (REVISED 7-20-22)	560.00	LF		\$	
2990	24908EC		INSTALL SIGNAL CONTROLLER-TY ATC	7.00	EACH		\$	
3000	24955ED		REMOVE SIGNAL EQUIPMENT	7.00	EACH		\$	
3010	26119EC		INSTALL RADAR PRESENCE DETECTOR TYPE A	26.00	EACH		\$	

**Section: 0011 - WATERLINE - BARBOURVILLE**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3020	14000		W AIR RELEASE VALVE 1 INCH	1.00	EACH		\$	
3030	14003		W CAP EXISTING MAIN	4.00	EACH		\$	
3040	14011		W ENCASEMENT STEEL BORED RANGE 6	690.00	LF		\$	
3050	14017		W ENCASEMENT STEEL OPEN CUT RANGE 6	390.00	LF		\$	
3060	14055		W PIPE DUCTILE IRON SPECIAL	4,736.00	LF		\$	
3070	14101		W TIE-IN SPECIAL	4.00	EACH		\$	
3080	14124		W VALVE SPECIAL	5.00	EACH		\$	
3090	14126		W ENCASEMENT SPECIAL -3' WIDE X 6" THICK CONCRETE CAP	25.00	LF		\$	

**Section: 0012 - WATERLINE - CORBIN**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3100	14003		W CAP EXISTING MAIN	6.00	EACH		\$	
3110	14009		W ENCASEMENT STEEL BORED RANGE 4	100.00	LF		\$	
3120	14010		W ENCASEMENT STEEL BORED RANGE 5	190.00	LF		\$	
3130	14019		W FIRE HYDRANT ASSEMBLY	1.00	EACH		\$	
3140	14037		W PIPE DUCTILE IRON 08 INCH	335.00	LF		\$	
3150	14039		W PIPE DUCTILE IRON 12 INCH	430.00	LF		\$	
3160	14060		W PIPE PVC 08 INCH	250.00	LF		\$	
3170	14089		W TAPPING SLEEVE AND VALVE SIZE 1	3.00	EACH		\$	
3180	14097		W TIE-IN 12 INCH	2.00	EACH		\$	
3190	14108		W VALVE 12 INCH	2.00	EACH		\$	
3200	14636		W SPECIAL ITEM INST (12 INCH LINE STOP)	1.00	EACH		\$	
3210	14636		W SPECIAL ITEM INST (8 INCH LINE STOP)	3.00	EACH		\$	

**Section: 0013 - WATERLINE - LAUREL CO WATER DISTRICT #2**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
------	----------	-----	-------------	----------	------	-----------	----	--------

### PROPOSAL BID ITEMS

221333

Page 9 of 9

Report Date 7/20/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3220	14003		W CAP EXISTING MAIN	2.00	EACH		\$	
3230	14014		W ENCASEMENT STEEL OPEN CUT RANGE 3	95.00	LF		\$	
3240	14059		W PIPE PVC 06 INCH	130.00	LF		\$	
3250	14066		W PIPE PVC SPECIAL	75.00	LF		\$	
3260	14094		W TIE-IN 06 INCH	2.00	EACH		\$	

#### Section: 0014 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3270	02568		MOBILIZATION	1.00	LS		\$	
3280	02569		DEMOBILIZATION	1.00	LS		\$	

**TRAFFIC SIGNAL ESTIMATE OF QUANTITIES**

KY 770 e	US 25E e	US 25E e	US 25E e	US 25E e	US 25E e	US 25E e	TOTAL	UNITS	CODE	ITEM DESCRIPTION
ADAMS RD	175 SB RAMP	175 NB RAMP	PILOT/ McDs	STEWART RD	CHESTNUT LOWES	CHERRY AVE				
0	0	0	0	0	0	0	0	LIN FT	4792	CONDUIT 1 INCH
0	0	0	0	0	0	0	0	EACH	4811	ELECTRICAL JUNCTION BOX TYPE B
50	50	50	50	70	50	50	370	LIN FT	4820	TRENCHING AND BACKFILLING
0	0	0	0	0	0	0	0	LIN FT	4830	LOOP WIRE
0	0	0	0	0	0	0	0	LIN FT	4844	CABLE-NO. 14/5C
1220	890	1245	1360	1815	1150	1225	8905	LIN FT	4845	CABLE-NO. 14/7C
0	0	0	0	0	0	0	0	LIN FT	4850	CABLE-NO. 14/1 PAIR
0	0	0	0	0	0	0	0	LIN FT	4885	MESSENGER-10800 LB
475	550	680	610	565	20	535	3435	LIN FT	4886	MESSENGER-15400 LB
0	0	0	0	0	0	0	0	LIN FT	4895	LOOP SAW SLOT AND FILL
4	4	4	4	4	4	4	28	EACH	4932	INSTALL STEEL STRAIN POLE
2	1	1	1	2	1	2	10	EACH	6472	INSTALL SPAN MOUNTED SIGN
0	0	0	0	2	0	0	2	EACH	20093NS835	INSTALL PEDESTRIAN HEAD LED
9	10	9	13	14	10	11	76	EACH	4953	TEMPORARY RELOCATION OF SIGNAL HEAD
11	9	8	11	11	8	7	65	EACH	20188NS835	INSTALL SIGNAL-3 SECTION LED
0	1	1	2	3	2	4	13	EACH	20266ES835	INSTALL SIGNAL-4 SECTION LED
1	1	1	1	1	1	1	7	EACH	20390NS835	INSTALL COORDINATING UNIT
0	0	0	0	2	0	0	2	EACH	21743NN	INSTALL PEDESTRIAN DETECTOR
16	16.5	17.3	17.5	17.1	16.8	17.1	118.3	CU YD	23157EN	TRAFFIC SIGNAL POLE BASE
0	0	0	0	1	0	0	1	EACH	23235EC	INSTALL PEDESTAL POST
0	0	0	0	20	0	0	20	LIN FT	24900EC	PVC CONDUIT - 1 1/4 INCH - SCHEDULE 80
80	80	80	80	80	80	80	560	LIN FT	24901EC	PVC CONDUIT - 2 INCH - SCHEDULE 80
1	1	1	1	1	1	1	7	EACH	24908EC	INSTALL SIGNAL CONTROLLER-TY ATC
1	1	1	1	1	1	1	7	EACH	24955ED	REMOVE SIGNAL EQUIPMENT
4	3	3	4	4	4	4	26	EACH	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A

**CONSTRUCTION AND MEASUREMENT NOTES THAT ARE CONTRARY TO SECTION 723**

SUBSECTION: 03.02 POLES AND BASES INSTALLATION, B)  
 REVISION: REPLACE ENTIRE TABLE WITH THE FOLLOWING:

MAX SERVICE FORCES	DIAMETER (IN.)	DEPTH (FEET)				VERTICAL BARS		TIES OR SPIRAL	
		< 2:1 GROUND SLOPE		2:1 GROUND SLOPE		SIZE	TOTAL	BAR SIZE	SPACING OR PITCH (IN.)
		SOIL	ROCK	SOIL	ROCK				
0-9	3	6	6	6.5	6	13	4	12	
10-19	3	6	6	6.5	6	13	4	12	
20-29	3	6	6	6.5	6	13	4	12	
30-39	3	6	6	6.5	6	13	4	12	
40-49	3	6	6	6.5	6	13	4	12	
50-59	3	6	6	6.5	6	13	4	12	
60-69	3	6	6	6.5	6	13	4	12	
70-79	3	6	6	6.5	6	13	4	12	
80-89	3	6	6	6.5	6	13	4	12	
90-99	3	6	6	6.5	6	13	4	12	
100-149	3	6	6	6.5	6	13	4	12	
150-199	3	6	6	6.5	6	13	4	12	
200-249	3	6	6	6.5	6	13	4	12	
250-299	3	6	6	6.5	6	13	4	12	
300-349	3	6	6	6.5	6	13	4	12	
350-399	3	6	6	6.5	6	13	4	12	
400-499	3	6	6	6.5	6	13	4	12	
500-600	3	6	6	6.5	6	13	4	12	

SUBSECTION: 04.22 REMOVE SIGNAL EQUIPMENT. (CONSTRUCTION ONLY)  
 REVISION: REPLACE THE PARAGRAPH WITH THE FOLLOWING:  
 THE DEPARTMENT WILL MEASURE THE QUANTITY BY EACH. THE DEPARTMENT WILL NOT MEASURE BACKFILLING AND THE DISPOSAL OR TRANSPORTATION OF EQUIPMENT AND MATERIALS ASSOCIATED WITH ANY STRUCTURAL OR ELECTRICAL COMPONENT OF THE SIGNAL SYSTEM INCLUDING, BUT NOT LIMITED TO POLE BASES, POLES, JUNCTION BOXES, CABINETS, AND WOOD POLES FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

**MATERIAL NOTES THAT ARE CONTRARY TO SECTION 835**

SUBSECTION: .21 WARNING TAPE.  
 REVISION: REPLACE FIRST SENTENCE WITH THE FOLLOWING IN 834.33:  
 PROVIDE DETECTABLE TYPE TAPE THAT IS 6 INCHES WIDE AND 7.0 MILS (NOMINAL) THICK.

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT. SEE SECTION 706, 723, AND 112 FOR MEASUREMENT AND OTHER DETAILS. SEE SECTION 602 FOR SPIRAL REINFORCEMENT SPLICING.

THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS. SUBMISSIONS OF A BID WILL BE CONSIDERED AN AFFIRMATION OF THIS INSPECTION HAVING BEEN COMPLETED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PICKING UP MATERIALS FOR INSTALL ITEMS AT KYTC'S DIVISION OF EQUIPMENT WAREHOUSE (1239 WILKINSON BOULEVARD, FRANKFORT, KY 40622). THE FOLLOWING PROCEDURES SHALL BE FOLLOWED FOR MATERIAL RELEASE. FAILURE TO FOLLOW THESE PROCEDURES MAY RESULT IN LONG DELAYS OR REFUSAL TO DISTRIBUTE MATERIALS UPON ARRIVAL.

1. CONTRACTOR SHALL SECURE THE SIGNATURES OF KYTC'S PROJECT ENGINEER AND THE ELECTRICAL CONTRACTOR'S FOREMAN ON THE PROJECT MATERIALS RELEASE FORM. IF THE RELEASE FORM IS NOT IN THE PROPOSAL, CONTACT TED SWANSEGAR OR KERRY ROBERTS WITH THE DIVISION OF TRAFFIC OPERATIONS BY PHONE (502-782-5540/502-782-5536) OR EMAIL (TED.SWANSEGAR@KY.GOV/KERRY.ROBERTS@KY.GOV).
2. CONTRACTOR SHALL CONTACT THE WAREHOUSE TO PREARRANGE PICK UP OF MATERIALS. CONTRACTOR SHALL EMAIL THE PROJECT MATERIALS RELEASE FORM WITH REQUIRED SIGNATURES TO THE WAREHOUSE AT KIM.STAMPER@KY.GOV AND SHALL NOTIFY THE WAREHOUSE BY PHONE (502-782-8994/502-330-8153) OR EMAIL KIM.STAMPER@KY.GOV AT LEAST TWO (2) WORKING DAYS PRIOR TO ARRIVAL.
3. CONTRACTOR SHALL ALSO CONTACT THE SIGNAL SYSTEM BRANCH OF THE DIVISION OF TRAFFIC OPERATIONS BY PHONE (502-782-5543/502-782-5547) OR EMAIL (JOE.THOMPSON@KY.GOV/LARRY.IRISH@KY.GOV) AT LEAST TWO (2) WORKING DAYS PRIOR TO ARRIVAL TO FACILITATE PROGRAMMING OF ROUTERS.
4. CONTRACTOR SHALL ARRIVE AT THE KYTC'S DIVISION OF EQUIPMENT WAREHOUSE (1239 WILKINSON BOULEVARD, FRANKFORT, KY 40622) AT THE PREARRANGED DATE/TIME FOR MATERIAL PICK UP. TO FACILITATE THIS PROCESS, ENSURE CONTRACTOR'S DELIVERY DRIVER HAS A COPY OF THE PROJECT MATERIALS RELEASE FORM WITH THE REQUIRED SIGNATURES.

ADD SENTENCE TO SECTION 835.17: ALL WIRE SHALL HAVE WORDING ADDED TO THE OUTER JACKET THAT STATES : "PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501".

CONTRACTOR SHALL MAINTAIN WORKING SIGNAL INSTALLATIONS AT ALL INTERSECTIONS ALL TIMES. UPON INSTALLATION OF NEW POLES AND FUNCTIONING SIGNAL EQUIPMENT, CONTRACTOR TO REMOVE ALL SIGNAL EQUIPMENT AT THE ABOVE LOCATIONS. CONTACT DISTRICT II TRAFFIC ENGINEER FOR INSTRUCTIONS REGARDING EQUIPMENT DISPOSITION AND RETURN LOCATION.

CONTRACTOR TO MOVE EXISTING INTERSECTION NUMBER SIGNS TO NEW SPANS USING NEW KYTC PROVIDED SIGNAL SPAN HANGER. CONTACT D-II TRAFFIC ENGINEER AT (606) 598-2145 EXT. 279 FOR OTHER NEW PROVIDED SPAN MOUNTED SIGNS.

**MEASUREMENT NOTES THAT ARE IN ADDITION TO SECTION 723**

INSTALL SIGNAL CONTROLLER TYPE ATC. THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE CONCRETE BASE, MOUNTING THE CABINET, CONNECTING THE SIGNAL AND DETECTORS, EXCAVATION, BACKFILLING, RESTORATION, ANY NECESSARY POLE MOUNTING HARDWARE, ELECTRIC SERVICE, ELECTRICAL INSPECTION FEES, AND REQUIRED BUILDING FEES INVOLVING UTILITY SECONDARY/PRIMARY SERVICE FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE CONNECTING THE INDUCTION LOOP AMPLIFIERS, PEDESTRIAN ISOLATORS, LOAD SWITCHES, MODEL 400 MODEM CARD FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE FURNISHING AND INSTALLING ELECTRICAL SERVICE CONDUCTORS, CONDUITS, ANCHORS, METER BASE, FUSED CUTOUT, FUSES, GROUND RODS, GROUND LUGS, AND GROUND WIRES FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

INSTALL RADAR PRESENCE DETECTOR TYPE A SHALL CONSIST OF INSTALLATION OF A POLE MOUNTED RADAR PRESENCE SENSOR, SENSOR MOUNTING BRACKET, SENSOR CABLES, INTERFACE BOXES, LEAD-IN CABLE, CONNECTORS (FURNISHED BY CONTRACTOR), AND CONTROLLER INTERFACE ASSEMBLY. RADAR PRESENCE DETECTOR TYPE A BID ITEM SHALL INCLUDE ALL LABOR REQUIRED TO PROVIDE A FUNCTIONAL DETECTION SYSTEM. RADAR PRESENCE DETECTOR TYPE A SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. AFTER THE DETECTOR IS INSTALLED AND BEFORE THE DETECTOR IS POWERED ON, THE CONTRACTOR SHALL COORDINATE WITH DISTRICT TRAFFIC DIVISION'S REPRESENTATIVES TO SCHEDULE A TIME TO PERFORM THE DETECTOR SETUP. THE CONTRACTOR SHALL DOUBLE CHECK TO VERIFY THAT ALL WIRING IS CORRECTLY INSTALLED AND CONNECTED BEFORE SCHEDULING THE SETUP WORK. REPRESENTATIVES FROM KYTC AND/OR THE MANUFACTURER OR SALES REPRESENTATIVE WILL ASSIST WITH SETUP AND CALIBRATION. THE CONTRACTOR SHALL PROVIDE A BUCKET TRUCK AND OPERATORS AT THIS TIME FOR FINAL AIMING OF THE SENSORS. THE CONTRACTOR SHALL PROVIDE INDIVIDUALS CAPABLE OF OPERATING THE SETUP SOFTWARE AND LEARNING THE SETUP PROCESS SO THAT FUTURE INSTALLATIONS MAY BE COMPLETED WITHOUT ASSISTANCE FROM OTHERS.

DESIGNED BY: <b>CDM SMITH</b>
DATE SUBMITTED: <b>12-09-2019</b>
<b>Commonwealth of Kentucky</b> DEPARTMENT OF HIGHWAYS COUNTY OF <b>LAUREL</b>
PROJECT NUMBERS: <b>F052 063 0025 000-002/MSPP 0251 (037)</b>
<b>TRAFFIC SIGNAL ESTIMATE OF QUANTITIES MEASUREMENT, CONST, AND MISC NOTES</b>

FILE NAME: G:\PWORK\KYTE.CHARLES.WEITZEL\2022\287\T00100SU.DGN  
 USER: charles.weitzel  
 DATE PLOTTED: July 19, 2022  
 E-SHEET NAME:  
 Power\_InRoads v8.11.19.397  
 4-5-2022

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

KY 770 @	US 25E @	US 25E @	US 25E @	US 25E @	US 25E @	US 25E @	TOTAL	UNITS	CODE	ITEM DESCRIPTION
ADAMS RD	175 SB RAMP	175 NB RAMP	PILOT/ McDs	STEWART RD	CHESTNUT LOWES	CHERRY AVE				
0	0	0	0	0	0	0	0	LIN FT	4792	CONDUIT 1 INCH
0	0	0	0	0	0	0	0	EACH	4811	ELECTRICAL JUNCTION BOX TYPE B
50	50	50	50	70	50	50	370	LIN FT	4820	TRENCHING AND BACKFILLING
0	0	0	0	0	0	0	0	LIN FT	4830	LOOP WIRE
0	0	0	0	0	0	0	0	LIN FT	4844	CABLE-NO. 14/5C
1220	890	1245	1360	1815	1150	1225	8905	LIN FT	4845	CABLE-NO. 14/7C
0	0	0	0	0	0	0	0	LIN FT	4850	CABLE-NO. 14/1 PAIR
0	0	0	0	0	0	0	0	LIN FT	4885	MESSENGER-10800 LB
475	550	680	610	565	20	535	3435	LIN FT	4886	MESSENGER-15400 LB
0	0	0	0	0	0	0	0	LIN FT	4895	LOOP SAW SLOT AND FILL
4	4	4	4	4	4	4	28	EACH	4932	INSTALL STEEL STRAIN POLE
2	1	1	1	2	1	2	10	EACH	6472	INSTALL SPAN MOUNTED SIGN
0	0	0	0	2	0	0	2	EACH	20093NS835	INSTALL PEDESTRIAN HEAD LED
9	10	9	13	14	10	11	76	EACH	4953	TEMPORARY RELOCATION OF SIGNAL HEAD
11	9	8	11	11	8	7	65	EACH	20188NS835	INSTALL SIGNAL-3 SECTION LED
0	1	1	2	3	2	4	13	EACH	20266ES835	INSTALL SIGNAL-4 SECTION LED
1	1	1	1	1	1	1	7	EACH	20390NS835	INSTALL COORDINATING UNIT
0	0	0	0	2	0	0	2	EACH	21743NN	INSTALL PEDESTRIAN DETECTOR
16	16.5	17.3	17.5	17.1	16.8	17.1	118.3	CU YD	23157EN	TRAFFIC SIGNAL POLE BASE
0	0	0	0	1	0	0	1	EACH	23235EC	INSTALL PEDESTAL POST
0	0	0	0	20	0	0	20	LIN FT	24900EC	PVC CONDUIT - 1 1/4 INCH - SCHEDULE 80
80	80	80	80	80	80	80	560	LIN FT	24901EC	PVC CONDUIT - 2 INCH - SCHEDULE 80
1	1	1	1	1	1	1	7	EACH	24908EC	INSTALL SIGNAL CONTROLLER-TY ATC
1	1	1	1	1	1	1	7	EACH	24955ED	REMOVE SIGNAL EQUIPMENT
4	3	3	4	4	4	4	26	EACH	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A

CONSTRUCTION AND MEASUREMENT NOTES THAT ARE CONTRARY TO SECTION 723

SUBSECTION: 03.02 POLES AND BASES INSTALLATION, B)  
 REVISION: REPLACE ENTIRE TABLE WITH THE FOLLOWING:

REVISED 7/19/2022

MAXIMUM SERVICE FORCES		DRILLED SHAFT DATA					
MAX SERVICE MOMENT (FT-KIPS)	DIAMETER (IN.)	DEPTH (FEET)				TIES OR SPIRAL	
		< 2:1 GROUND SLOPE		2:1 GROUND SLOPE		VERTICAL BARS	BAR SIZE
		SOIL	ROCK	SOIL	ROCK	SIZE	TOTAL
10	18	6	6	6.5	6	1 1/2	4
20	18	6	6	6.5	6	1 1/2	4
30	18	6	6	6.5	6	1 1/2	4
40	18	6	6	6.5	6	1 1/2	4
50	18	6	6	6.5	6	1 1/2	4
60	18	6	6	6.5	6	1 1/2	4

SUBSECTION: 04.22 REMOVE SIGNAL EQUIPMENT. (CONSTRUCTION ONLY)  
 REVISION: REPLACE THE PARAGRAPH WITH THE FOLLOWING:  
 THE DEPARTMENT WILL MEASURE THE QUANTITY BY EACH. THE DEPARTMENT WILL NOT MEASURE BACKFILLING AND THE DISPOSAL OR TRANSPORTATION OF EQUIPMENT AND MATERIALS ASSOCIATED WITH ANY STRUCTURAL OR ELECTRICAL COMPONENT OF THE SIGNAL SYSTEM INCLUDING, BUT NOT LIMITED TO POLE BASES, POLES, JUNCTION BOXES, CABINETS, AND WOOD POLES FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

MATERIAL NOTES THAT ARE CONTRARY TO SECTION 835

SUBSECTION: .21 WARNING TAPE.  
 REVISION: REPLACE FIRST SENTENCE WITH THE FOLLOWING IN 834.33:  
 PROVIDE DETECTABLE TYPE TAPE THAT IS 6 INCHES WIDE AND 7.0 MILS (NOMINAL) THICK.

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT. SEE SECTION 706, 723, AND 112 FOR MEASUREMENT AND OTHER DETAILS. SEE SECTION 602 FOR SPIRAL REINFORCEMENT SPLICING.

CONTRACTOR SHALL MAINTAIN WORKING SIGNAL INSTALLATIONS AT ALL INTERSECTIONS ALL TIMES. UPON INSTALLATION OF NEW POLES AND FUNCTIONING SIGNAL EQUIPMENT CONTRACTOR TO REMOVE ALL SIGNAL EQUIPMENT AT THE ABOVE LOCATIONS. CONTACT DISTRICT II TRAFFIC ENGINEER FOR INSTRUCTIONS REGARDING EQUIPMENT DISPOSITION AND RETURN LOCATION.

THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS. SUBMISSIONS OF A BID WILL BE CONSIDERED AN AFFIRMATION OF THIS INSPECTION HAVING BEEN COMPLETED.

CONTRACTOR TO MOVE EXISTING INTERSECTION NUMBER SIGNS TO NEW SPANS USING NEW KYTC PROVIDED SIGNAL SPAN HANGER. CONTACT D-II TRAFFIC ENGINEER AT (606) 598-2145 EXT. 279 FOR OTHER NEW PROVIDED SPAN MOUNTED SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PICKING UP MATERIALS FOR INSTALL ITEMS AT KYTC'S DIVISION OF EQUIPMENT WAREHOUSE (1239 WILKINSON BOULEVARD, FRANKFORT, KY 40622). THE FOLLOWING PROCEDURES SHALL BE FOLLOWED FOR MATERIAL RELEASE. FAILURE TO FOLLOW THESE PROCEDURES MAY RESULT IN LONG DELAYS OR REFUSAL TO DISTRIBUTE MATERIALS UPON ARRIVAL.

1. CONTRACTOR SHALL SECURE THE SIGNATURES OF KYTC'S PROJECT ENGINEER AND THE ELECTRICAL CONTRACTOR'S FOREMAN ON THE PROJECT MATERIALS RELEASE FORM. IF THE RELEASE FORM IS NOT IN THE PROPOSAL, CONTACT TED SWANSEGAR OR KERRY ROBERTS WITH THE DIVISION OF TRAFFIC OPERATIONS BY PHONE (5502-782-5540/502-782-5536) OR EMAIL (TED.SWANSEGAR@KY.GOV/KERRY.ROBERTS@KY.GOV).
2. CONTRACTOR SHALL CONTACT THE WAREHOUSE TO PREARRANGE PICK UP OF MATERIALS. CONTRACTOR SHALL EMAIL THE PROJECT MATERIALS RELEASE FORM WITH REQUIRED SIGNATURES TO THE WAREHOUSE AT KIM.STAMPER@KY.GOV AND SHALL NOTIFY THE WAREHOUSE BY PHONE (502-782-8994/502-330-8153) OR EMAIL KIM.STAMPER@KY.GOV AT LEAST TWO (2) WORKING DAYS PRIOR TO ARRIVAL.
3. CONTRACTOR SHALL ALSO CONTACT THE SIGNAL SYSTEM BRANCH OF THE DIVISION OF TRAFFIC OPERATIONS BY PHONE (502-782-5543/502-782-5547) OR EMAIL (JOE.THOMPSON@KY.GOV/LARRY.IRISH@KY.GOV) AT LEAST TWO (2) WORKING DAYS PRIOR TO ARRIVAL TO FACILITATE PROGRAMMING OF ROUTERS.
4. CONTRACTOR SHALL ARRIVE AT THE KYTC'S DIVISION OF EQUIPMENT WAREHOUSE (1239 WILKINSON BOULEVARD, FRANKFORT, KY 40622) AT THE PREARRANGED DATE/TIME FOR MATERIAL PICK UP. TO FACILITATE THIS PROCESS, ENSURE CONTRACTOR'S DELIVERY DRIVER HAS A COPY OF THE PROJECT MATERIALS RELEASE FORM WITH THE REQUIRED SIGNATURES.

MEASUREMENT NOTES THAT ARE IN ADDITION TO SECTION 723

INSTALL SIGNAL CONTROLLER TYPE ATC. THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE CONCRETE BASE, MOUNTING THE CABINET, CONNECTING THE SIGNAL AND DETECTORS, EXCAVATION, BACKFILLING, RESTORATION, ANY NECESSARY POLE MOUNTING HARDWARE, ELECTRIC SERVICE, ELECTRICAL INSPECTION FEES, AND REQUIRED BUILDING FEES INVOLVING UTILITY SECONDARY/PRIMARY SERVICE FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE CONNECTING THE INDUCTION LOOP AMPLIFIERS, PEDESTRIAN ISOLATORS, LOAD SWITCHES, MODEL 400 MODEM CARD FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE FURNISHING AND INSTALLING ELECTRICAL SERVICE CONDUCTORS, CONDUITS, ANCHORS, METER BASE, FUSED CUTOFF, FUSES, GROUND RODS, GROUND LUGS, AND GROUND WIRES FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

INSTALL RADAR PRESENCE DETECTOR TYPE A SHALL CONSIST OF INSTALLATION OF A POLE MOUNTED RADAR PRESENCE SENSOR, SENSOR MOUNTING BRACKET, SENSOR CABLES, INTERFACE BOXES, LEAD-IN CABLE, CONNECTORS (FURNISHED BY CONTRACTOR), AND CONTROLLER INTERFACE ASSEMBLY. RADAR PRESENCE DETECTOR TYPE A BID ITEM SHALL INCLUDE ALL LABOR REQUIRED TO PROVIDE A FUNCTIONAL DETECTION SYSTEM. RADAR PRESENCE DETECTOR TYPE A SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. AFTER THE DETECTOR IS INSTALLED AND BEFORE THE DETECTOR IS POWERED ON, THE CONTRACTOR SHALL COORDINATE WITH DISTRICT TRAFFIC DIVISION'S REPRESENTATIVES TO SCHEDULE A TIME TO PERFORM THE DETECTOR SETUP. THE CONTRACTOR SHALL DOUBLE CHECK TO VERIFY THAT ALL WIRING IS CORRECTLY INSTALLED AND CONNECTED BEFORE SCHEDULING THE SETUP WORK. REPRESENTATIVES FROM KYTC AND/OR THE MANUFACTURER OR SALES REPRESENTATIVE WILL ASSIST WITH SETUP AND CALIBRATION. THE CONTRACTOR SHALL PROVIDE A BUCKET TRUCK AND OPERATORS AT THIS TIME FOR FINAL AIMING OF THE SENSORS. THE CONTRACTOR SHALL PROVIDE INDIVIDUALS CAPABLE OF OPERATING THE SETUP SOFTWARE AND LEARNING THE SETUP PROCESS SO THAT FUTURE INSTALLATIONS MAY BE COMPLETED WITHOUT ASSISTANCE FROM OTHERS.

ADD SENTENCE TO SECTION 835.17: ALL WIRE SHALL HAVE WORDING ADDED TO THE OUTER JACKET THAT STATES: "PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501".

DESIGNED BY: CDM SMITH  
 DATE SUBMITTED: 12-09-2019

**Commonwealth of Kentucky**  
**DEPARTMENT OF HIGHWAYS**  
 COUNTY OF  
**LAUREL**

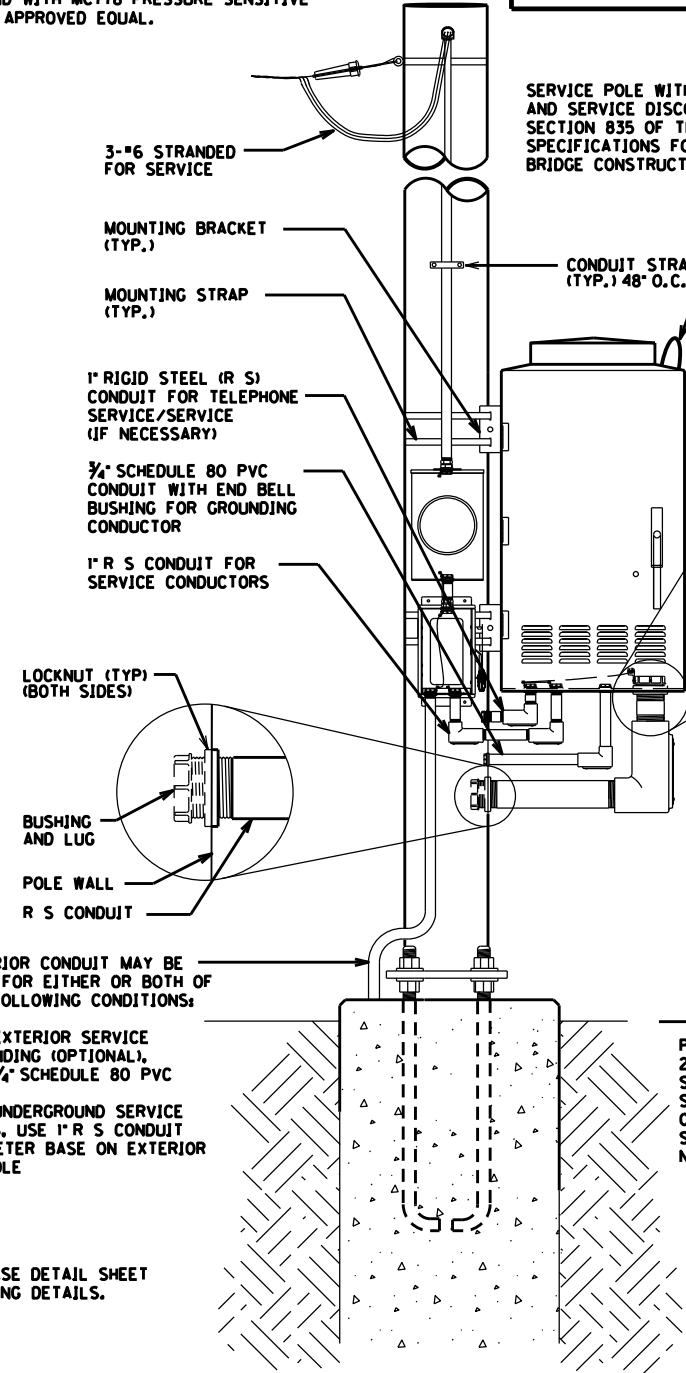
PROJECT NUMBERS: FD52 063 0025 000-002/146PP 0251 (037)

**TRAFFIC SIGNAL ESTIMATE OF QUANTITIES MEASUREMENT, CONST. AND MISC NOTES**

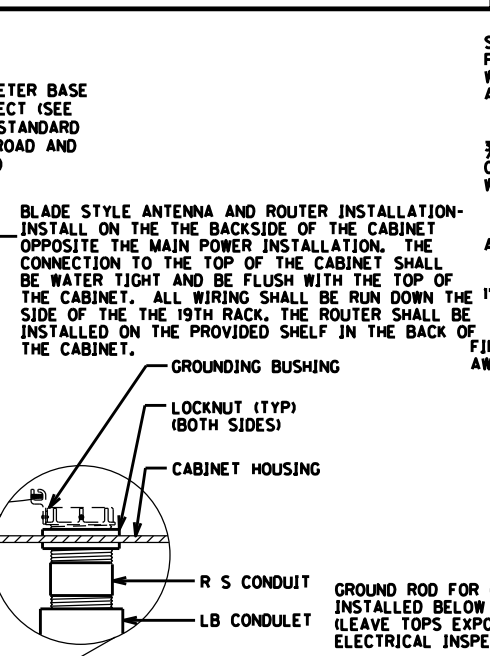
FILE NAME: C:\PWORK\KYTC\_CHARLES.WEITZEL\020922871\0010050.DGN  
 USER: charles.weitzel  
 DATE PLOTTED: July 19, 2022  
 E-SHEET NAME:  
 Power InRoads v8.11.9.397  
 4-5-2022

**SPECIAL NOTE:**  
DISCONNECTS (SAFETY SWITCH) AND METER BASE SHALL BE UL RATED FOR COMMERCIAL USE. DISCONNECTS (SAFETY SWITCH) AND METER BASE SHALL BE ALUMINUM ENCLOSURE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALCULATE THE MAXIMUM AVAILABLE FAULT CURRENT FOR THE SERVICE EQUIPMENT THAT IS INSTALLED. THE CONTRACTOR SHALL SUPPLY A STICKER THAT WILL BE INSTALLED IN THE DISCONNECT WITH THE SYMMETRICAL RMS AMPERES AND THE DATE THAT THIS FAULT CURRENT IS CALCULATED. THE STICKER SHALL BE 4" LONG AND 4" WIDE AND BE METALCRAFT PLY425 PREM STYLEMARK LABEL (OR APPROVED EQUAL) WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, AND WITH MC778 PRESSURE SENSITIVE ADHESIVE OR APPROVED EQUAL.

**NOTES:**  
ALL CONDUITS USED FOR THE TELEPHONE, GROUNDING, SPARES, AND SERVICE (INCLUDING FLEX CONDUIT IF IT IS RUN INSIDE THE POLE) THAT ARE INSTALLED ON THE POLE AND/OR IN THE CABINET BASE ARE INCIDENTAL TO BID ITEM \*4931\*. THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE PAD.  
ALL CONDUITS SHALL BE INSTALLED BETWEEN 4 TO 6 INCHES ABOVE THE CONCRETE PAD, AND THEY CANNOT EXCEED THE 6 INCH HEIGHT.  
SERVICE WIRES FOR BASE MOUNTED CABINETS MAY BE INSTALLED IN FLEXIBLE CONDUIT FROM THE DISCONNECT TO THE 1" RIGID STEEL CONDUIT INSIDE THE POLE BASE. USE THE PROPER CONNECTIONS FOR TRANSITION FROM FLEXIBLE CONDUIT TO R S CONDUIT. FLEXIBLE CONDUIT SHALL NOT BLOCK THE HAND HOLE OR THE ABILITY TO ACCESS THE GROUNDING SYSTEM.



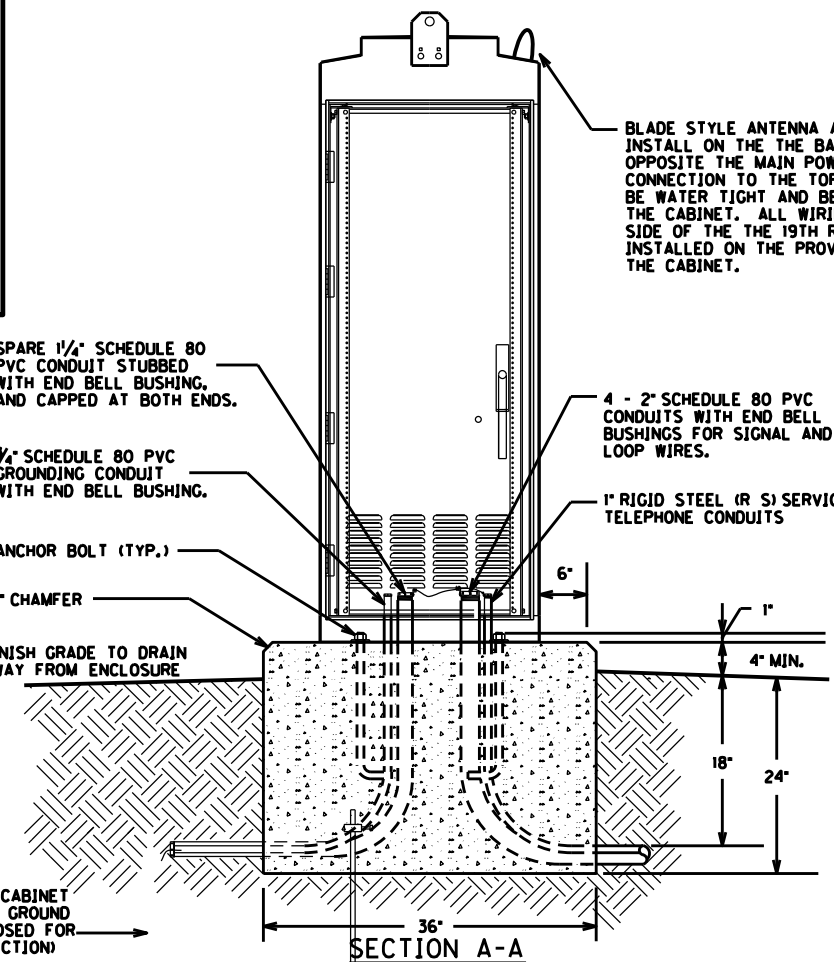
STEEL POLE MOUNT ENCLOSURE



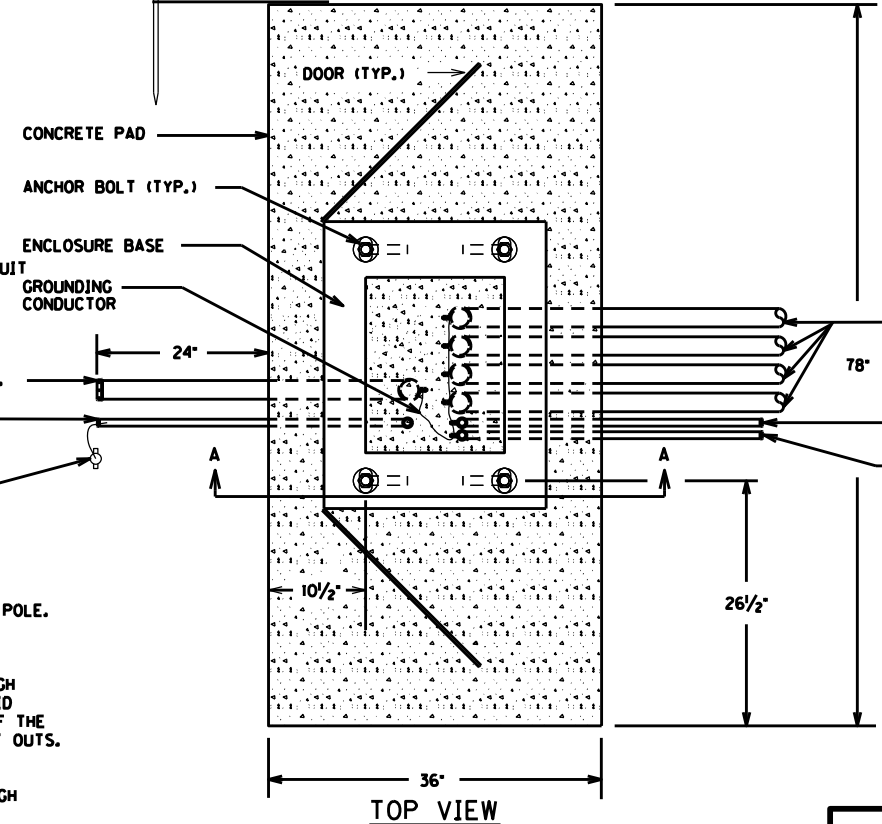
**SPECIAL NOTE FOR THE DISCONNECT:**  
ONLY CONNECT ONE SIDE OF THE 120 VOLT IN THE DISCONNECT. THE OTHER SIDE OF THE 120 VOLT SHALL STILL BE INSTALL IN METER BUT NOT FEED DOWN TO THE DISCONNECT. FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION:  
VOLTAGE (120 VOLT)  
GLOVE CLASS (0)  
LIMITED APPROACH BOUNDARY (42 IN)  
RESTRICTED APPROACH BOUNDARY (CONTACT)  
SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

**POLE MOUNTED CABINETS:**  
2- 2" (MIN.) R S CONDUITS FOR SIGNAL WIRES. CONTRACTOR SHALL MODIFY SIZE/QUANTITY OF CONDUITS IN ORDER TO PROVIDE 1 SPARE CONDUIT AND COMPLY WITH NEC REQUIREMENTS

**GROUNDING REQUIREMENTS:**  
CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO ANY DISCONNECT, CABINET OR POLE.  
LEAVE TOP OF GROUND RODS EXPOSED FOR ELECTRICAL INSPECTION.  
SERVICE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE DISCONNECT AND THEN TO EACH RIGID STEEL (R S) GROUNDING BUSHING. IF GROUND WIRE IS RUN ON THE INSIDE OF THE POLE, RUBBER GROMMETS SHALL BE PROVIDED AT DISCONNECT AND POLE CUT OUTS. THEY SHALL BE INCIDENTAL TO BID ITEM \*4931\*.  
CABINET GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE CABINET GROUND BUS.

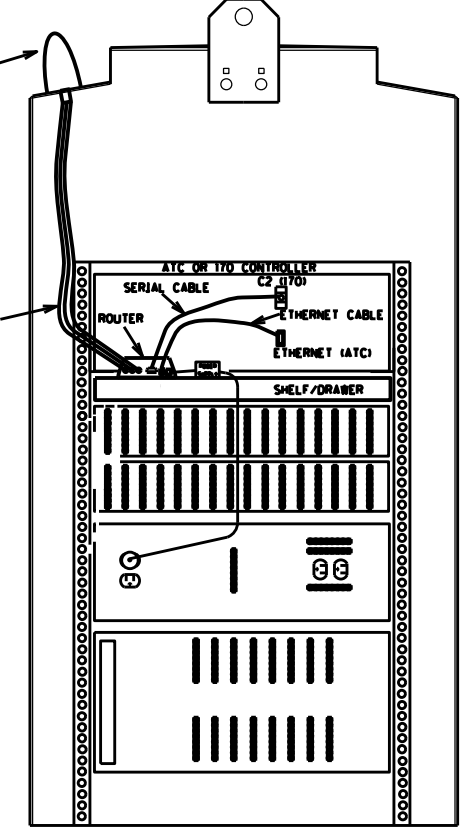


SECTION A-A



TOP VIEW

PAD MOUNT ENCLOSURE



ROUTER INSTALLATION (REAR OF CABINET)

4- 2" (MIN.) SCHEDULE 80 PVC CONDUITS TO POLE BASE WITH END BELL BUSHING. CONTRACTOR SHALL MODIFY QUANTITY OF CONDUITS IN ORDER TO PROVIDE 1 SPARE CONDUIT AND COMPLY WITH NEC REQUIREMENTS

1" R S CONDUIT FOR SERVICE  
1" R S CONDUIT FOR TELEPHONE (IF NECESSARY)

**SPECIAL NOTE FOR THE CABINET:**  
FURNISH A WARNING STICKER ON CABINET WITH THE FOLLOWING INFORMATION:  
ARC FLASH HAZARD  
NO ARC FLASH PPE REQUIRED PER NFPA 70E  
SHOCK FLASH HAZARD  
VOLTAGE (120 VOLT)  
GLOVE CLASS (0)  
LIMITED APPROACH BOUNDARY (42 IN)  
RESTRICTED APPROACH BOUNDARY (CONTACT)  
SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

CONTROLLER CABINET AND ANTENNA/ROUTER DETAIL

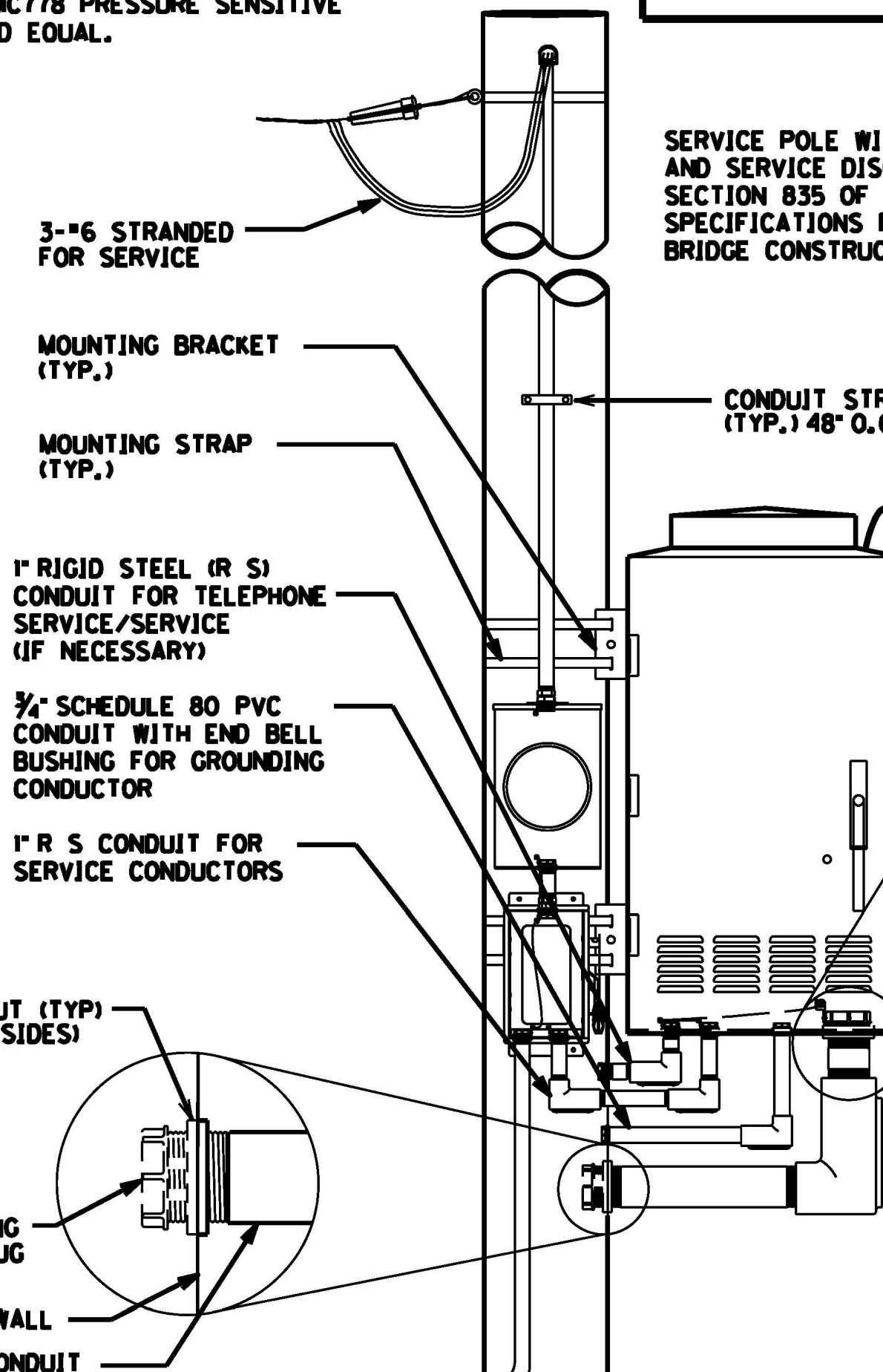
FILE NAME: G:\PWORK\K\YTC.CHARLES.WEITZEL\2092286\100200CA.DGN  
USER: charles.weitzel  
DATE PLOTTED: July 19, 2022  
E-SHEET NAME:  
Power\_InRoads v8.11.3.397  
5/4/2021

COUNTY OF	ITEM NO.	SHEET NO.
LAUREL	11-185.00	T2

REPLACED 7/19/2022

**SPECIAL NOTE:**  
DISCONNECTS (SAFETY SWITCH) AND METER BASE SHALL BE UL RATED FOR COMMERCIAL USE. DISCONNECTS (SAFETY SWITCH) AND METER BASE SHALL BE ALUMINUM ENCLOSURE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALCULATE THE MAXIMUM AVAILABLE FAULT CURRENT FOR THE SERVICE EQUIPMENT THAT IS INSTALLED. THE CONTRACTOR SHALL SUPPLY A STICKER THAT WILL BE INSTALLED IN THE DISCONNECT WITH THE SYMMETRICAL RMS AMPERES AND THE DATE THAT THIS FAULT CURRENT IS CALCULATED. THE STICKER SHALL BE 4" LONG AND 4" WIDE AND BE METALCRAFT PLY425 PREM STYLE MARK LABEL (OR APPROVED EQUAL) WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, AND WITH MC778 PRESSURE SENSITIVE ADHESIVE OR APPROVED EQUAL.

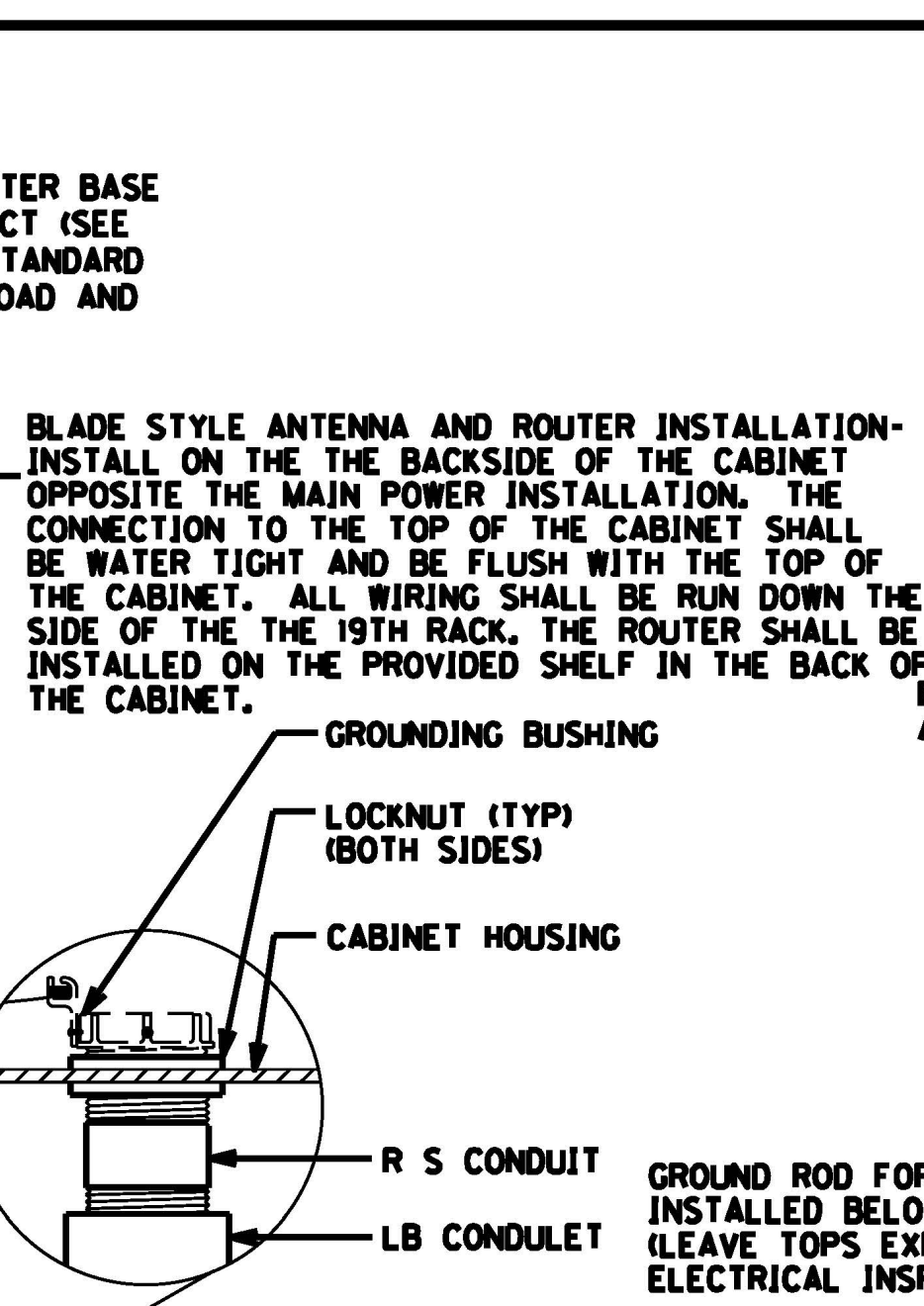
**NOTES:**  
ALL CONDUITS USED FOR THE TELEPHONE, GROUNDING, SPARES, AND SERVICE (INCLUDING FLEX CONDUIT IF IT IS RUN INSIDE THE POLE) THAT ARE INSTALLED ON THE POLE AND/OR IN THE CABINET BASE ARE INCIDENTAL TO BID ITEM "493". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE PAD.  
ALL CONDUITS SHALL BE INSTALLED BETWEEN 4 TO 6 INCHES ABOVE THE CONCRETE PAD, AND THEY CANNOT EXCEED THE 6 INCH HEIGHT.  
SERVICE WIRES FOR BASE MOUNTED CABINETS MAY BE INSTALLED IN FLEXIBLE CONDUIT FROM THE DISCONNECT TO THE 1" RIGID STEEL CONDUIT INSIDE THE POLE BASE. USE THE PROPER CONNECTIONS FOR TRANSITION FROM FLEXIBLE CONDUIT TO R S CONDUIT. FLEXIBLE CONDUIT SHALL NOT BLOCK THE HAND HOLE OR THE ABILITY TO ACCESS THE GROUNDING SYSTEM.



EXTERIOR CONDUIT MAY BE USED FOR EITHER OR BOTH OF THE FOLLOWING CONDITIONS:  
FOR EXTERIOR SERVICE GROUNDING (OPTIONAL), USE 3/4" SCHEDULE 80 PVC  
FOR UNDERGROUND SERVICE FEEDS, USE 1" R S CONDUIT TO METER BASE ON EXTERIOR OF POLE

SEE POLE BASE DETAIL SHEET FOR GROUNDING DETAILS.

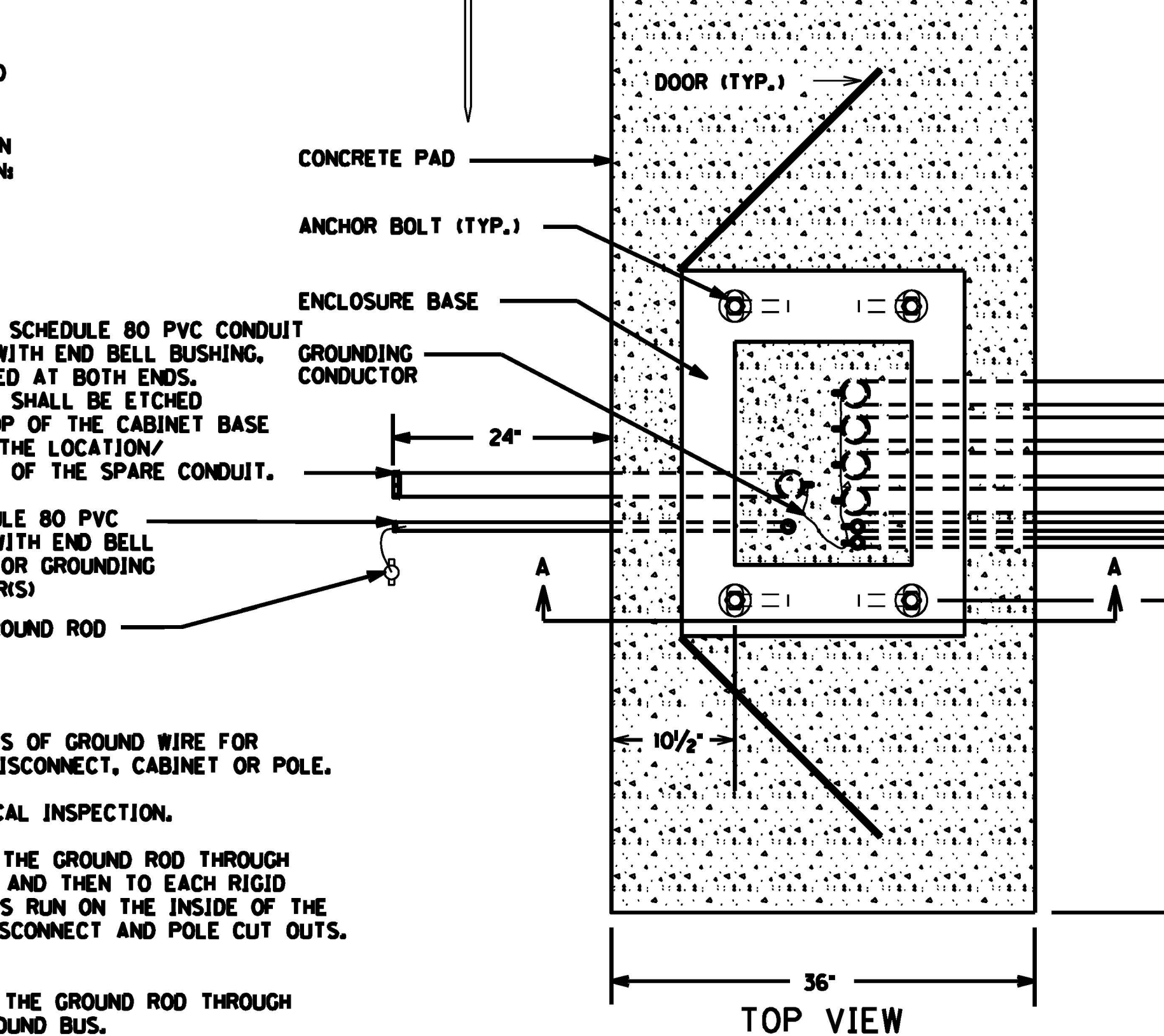
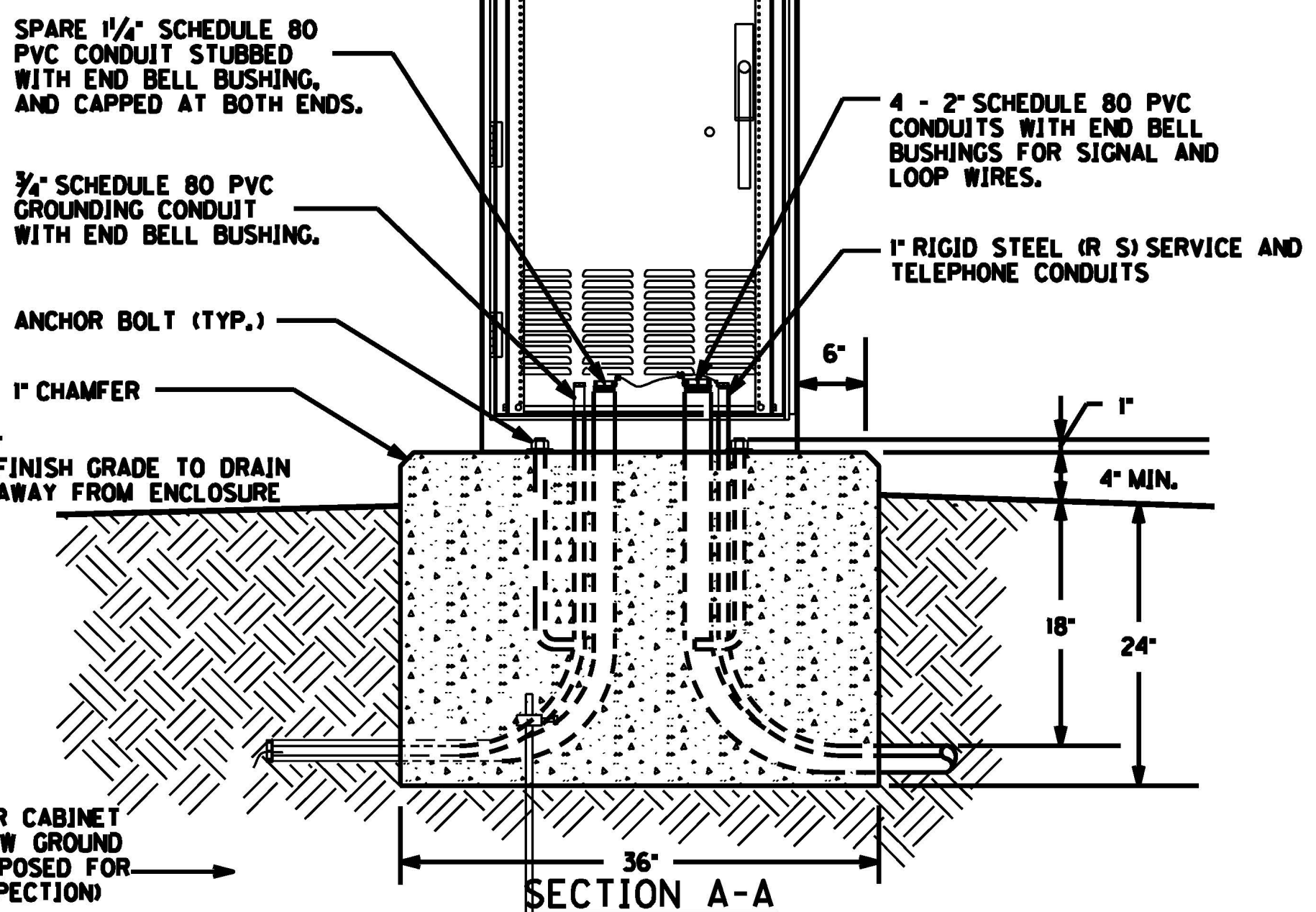
STEEL POLE MOUNT ENCLOSURE



**SPECIAL NOTE FOR THE DISCONNECT:**  
ONLY CONNECT ONE SIDE OF THE 120 VOLT IN THE DISCONNECT. THE OTHER SIDE OF THE 120 VOLT SHALL STILL BE INSTALLED IN METER BUT NOT FEED DOWN TO THE DISCONNECT. FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION:  
VOLTAGE (120 VOLT)  
GLOVE CLASS (0)  
LIMITED APPROACH BOUNDARY (42 IN)  
RESTRICTED APPROACH BOUNDARY (CONTACT)  
SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

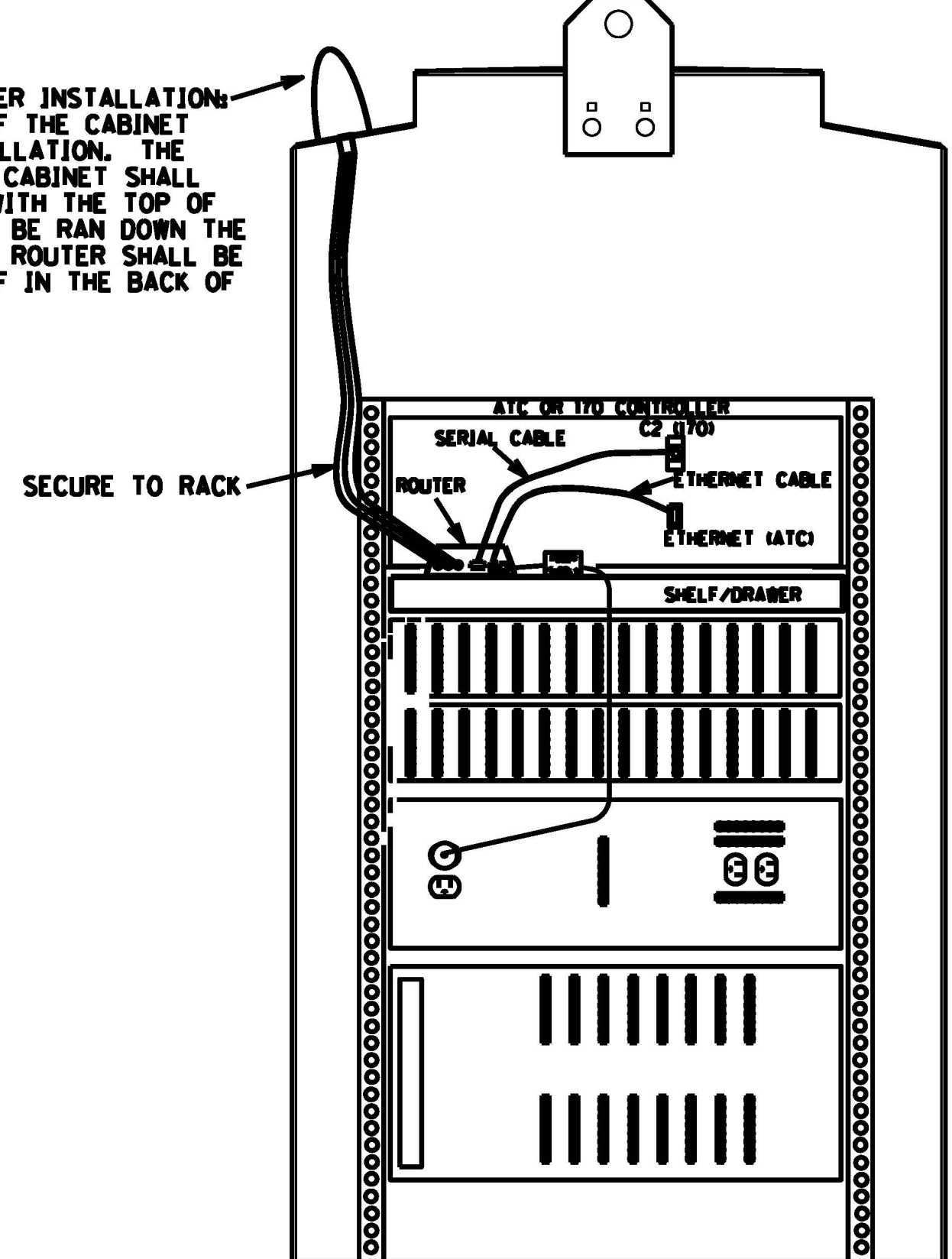
**POLE MOUNTED CABINETS:**  
2- 2" (MIN.) R S CONDUITS FOR SIGNAL WIRES. CONTRACTOR SHALL MODIFY SIZE/QUANTITY OF CONDUITS IN ORDER TO PROVIDE 1 SPARE CONDUIT AND COMPLY WITH NEC REQUIREMENTS

**GROUNDING REQUIREMENTS:**  
CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO ANY DISCONNECT, CABINET OR POLE.  
LEAVE TOP OF GROUND RODS EXPOSED FOR ELECTRICAL INSPECTION.  
SERVICE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE DISCONNECT AND THEN TO EACH RIGID STEEL (R S) GROUNDING BUSHING. IF GROUND WIRE IS RUN ON THE INSIDE OF THE POLE, RUBBER GROMMETS SHALL BE PROVIDED AT DISCONNECT AND POLE CUT OUTS. THEY SHALL BE INCIDENTAL TO BID ITEM "493".  
CABINET GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE CABINET GROUND BUS.



PAD MOUNT ENCLOSURE

BLADE STYLE ANTENNA AND ROUTER INSTALLATION: INSTALL ON THE THE BACKSIDE OF THE CABINET OPPOSITE THE MAIN POWER INSTALLATION. THE CONNECTION TO THE TOP OF THE CABINET SHALL BE WATER TIGHT AND BE FLUSH WITH THE TOP OF THE CABINET. ALL WIRING SHALL BE RUN DOWN THE SIDE OF THE THE 19TH RACK. THE ROUTER SHALL BE INSTALLED ON THE PROVIDED SHELF IN THE BACK OF THE CABINET.



ROUTER INSTALLATION (REAR OF CABINET)

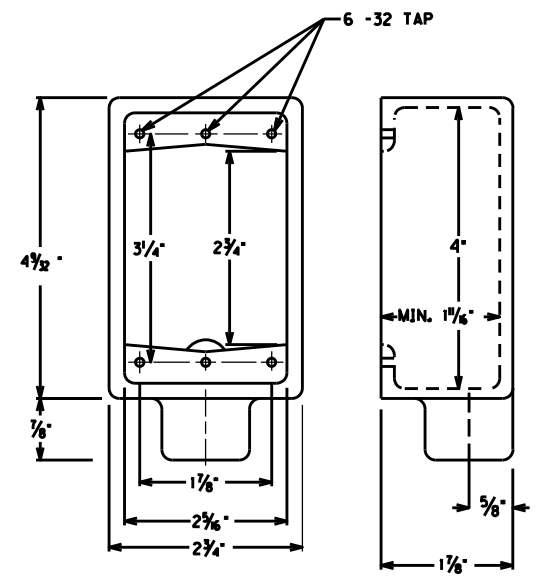
4- 2" (MIN.) SCHEDULE 80 PVC CONDUITS TO POLE BASE WITH END BELL BUSHING. CONTRACTOR SHALL MODIFY QUANTITY OF CONDUITS IN ORDER TO PROVIDE 1 SPARE CONDUIT AND COMPLY WITH NEC REQUIREMENTS

1" R S CONDUIT FOR SERVICE  
1" R S CONDUIT FOR TELEPHONE (IF NECESSARY)

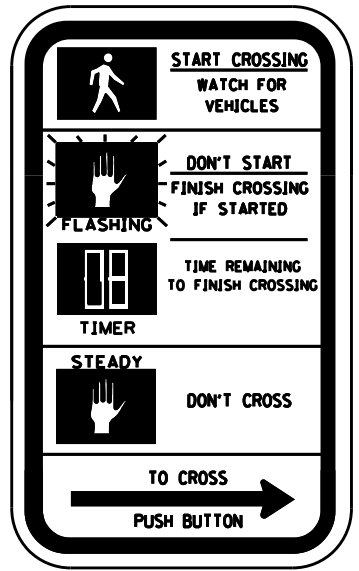
**SPECIAL NOTE FOR THE CABINET:**  
FURNISH A WARNING STICKER ON CABINET WITH THE FOLLOWING INFORMATION:  
ARC FLASH HAZARD  
NO ARC FLASH PPE REQUIRED PER NFPA 70E  
SHOCK FLASH HAZARD  
VOLTAGE (120 VOLT)  
GLOVE CLASS (0)  
LIMITED APPROACH BOUNDARY (42 IN)  
RESTRICTED APPROACH BOUNDARY (CONTACT)  
SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

CONTROLLER CABINET AND ANTENNA/ROUTER DETAIL

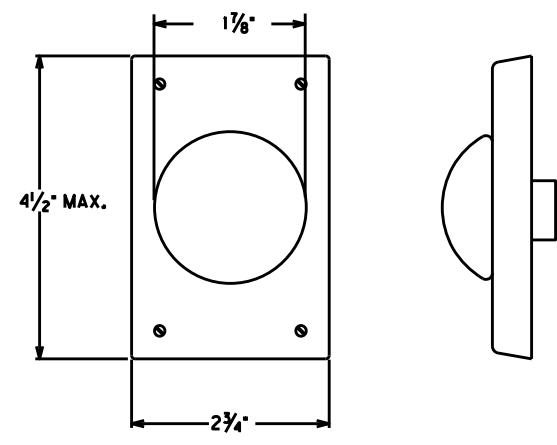
FILE NAME: C:\P\WORK\K\T.C.CHARLES.WEITZEL\02092286\100200CA.DGN  
USER: charles.weitzel  
DATE PLOTTED: July 19, 2022  
E-SHEET NAME:  
Power InRoads v8.11.9.397  
5/4/2021



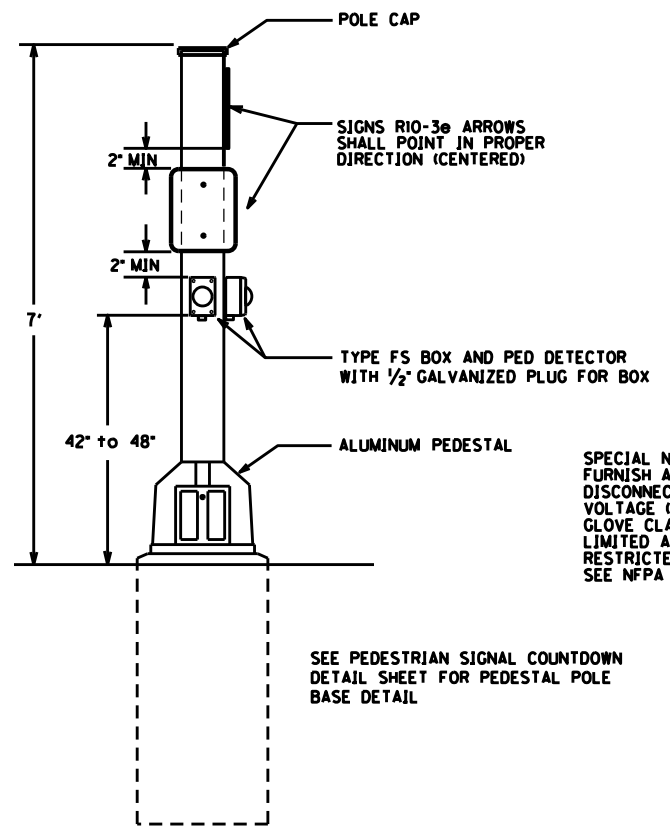
TYPE FS BOX FOR PED DETECTOR FOR USE WITH STEEL STRAIN POLE, WOOD POST, PEDESTAL, AND WOOD POLE



R10-3e SIGN (9' X 15') FOR COUNTDOWN ONLY



PED DETECTOR

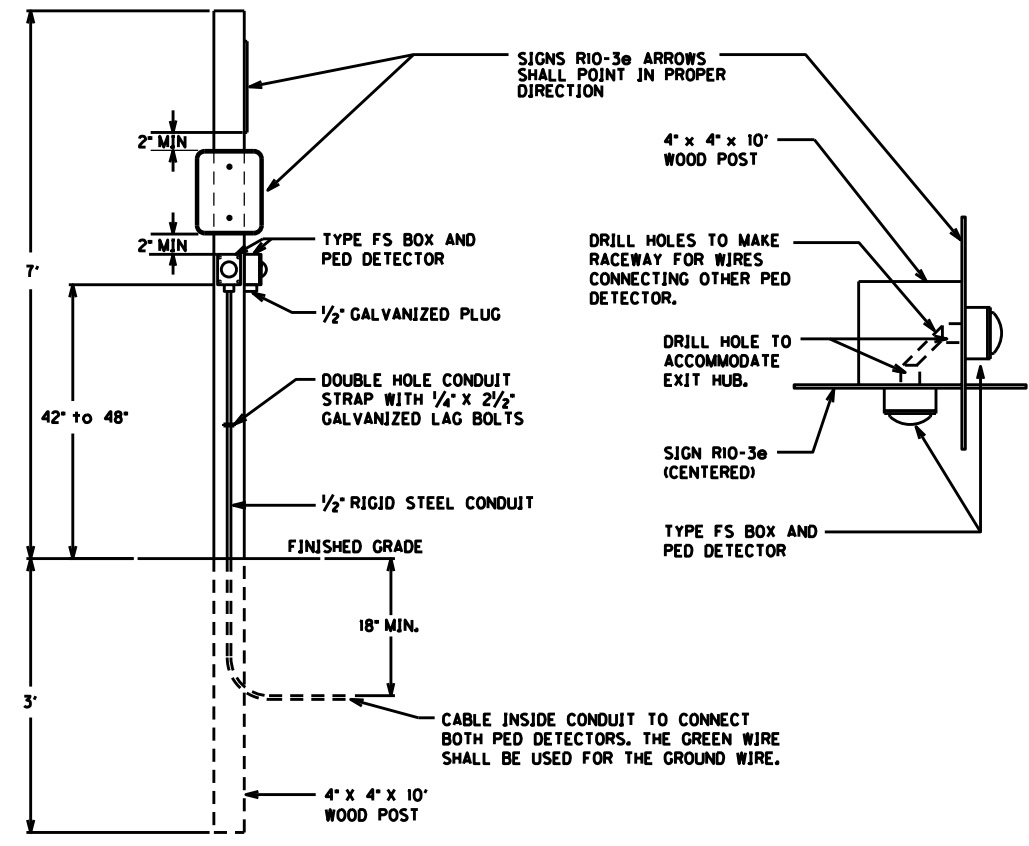


PEDESTAL POST DETAIL FOR PED DETECTORS & SIGNS

SPECIAL NOTE FOR TRANSFORMER DOOR: FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION: VOLTAGE (120 VOLT) GLOVE CLASS (0) LIMITED APPROACH BOUNDARY (42 IN) RESTRICTED APPROACH BOUNDARY (CONTACT) SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

SEE PEDESTRIAN SIGNAL COUNTDOWN DETAIL SHEET FOR PEDESTAL POLE BASE DETAIL

\*9 X 1/2" PAN HEAD OR ROUND HEAD WOOD SCREWS TO SECURE BOX TO POST. MINIMUM OF 2 SCREWS FOR EACH BOX. SCREWS SHALL BE INSTALLED DIAGONALLY.



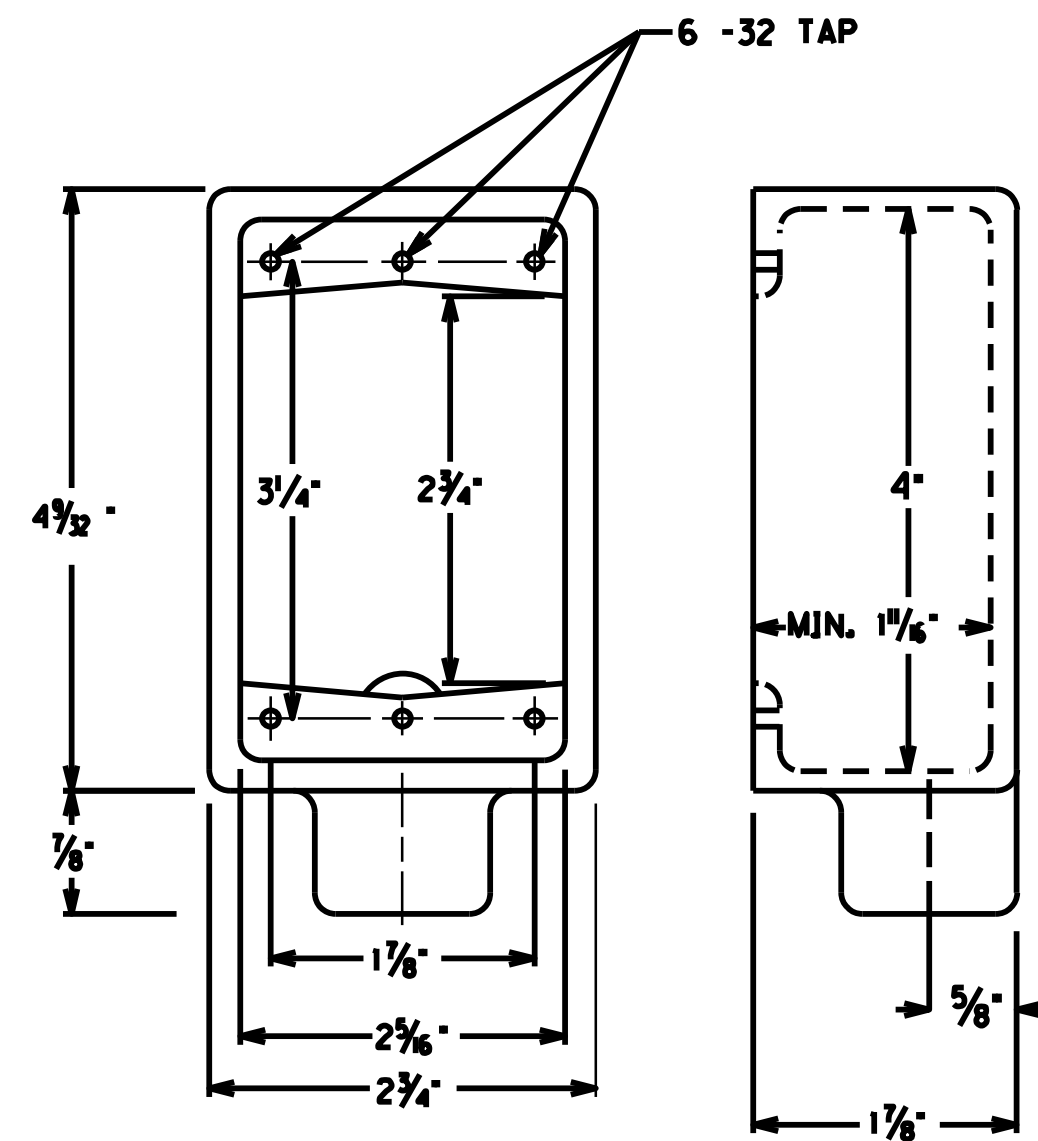
PED DETECTOR ON WOOD POST DETAIL

**PEDESTRIAN DETECTOR DETAIL**

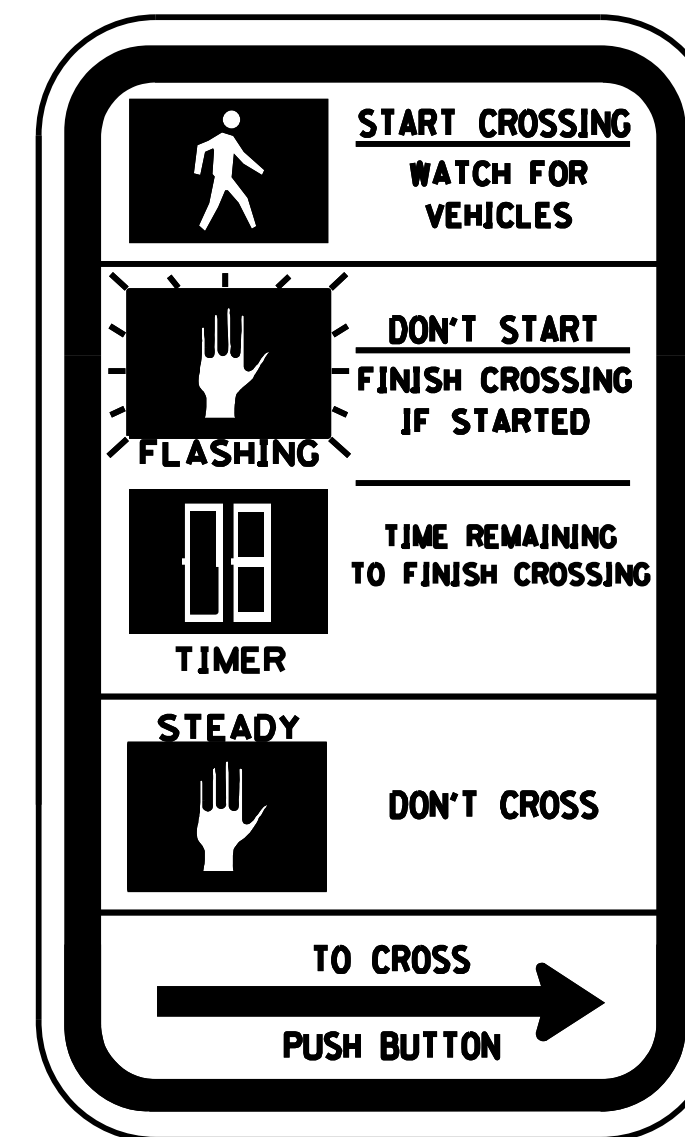
FILE NAME: G:\P\WORK\K\T.C.CHARLES.WEITZEL\202286\100400P.DGN  
 USER: charles.weitzel  
 DATE PLOTTED: July 19, 2022  
 E-SHEET NAME:  
 MicroStation v8.11.9.838  
 8/3/2021

COUNTY OF	ITEM NO.	SHEET NO.
LAUREL	11-185.00	14

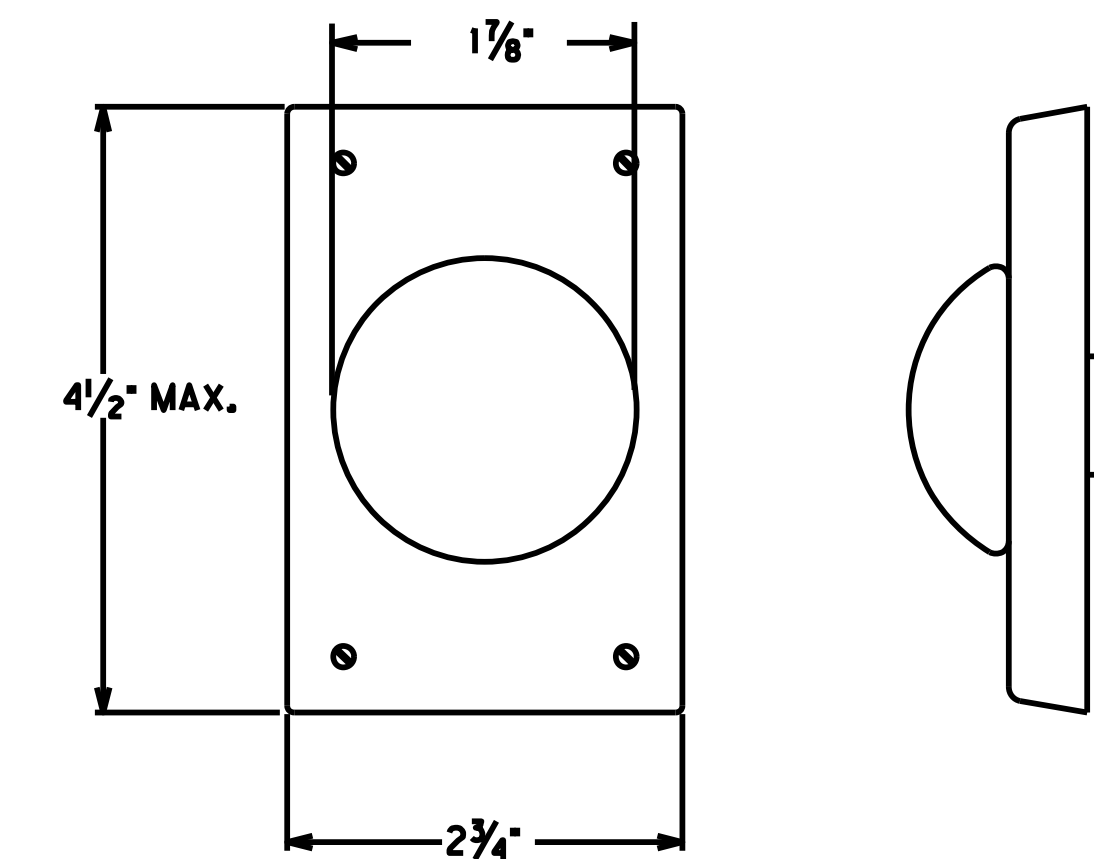
REPLACED 7/19/2022



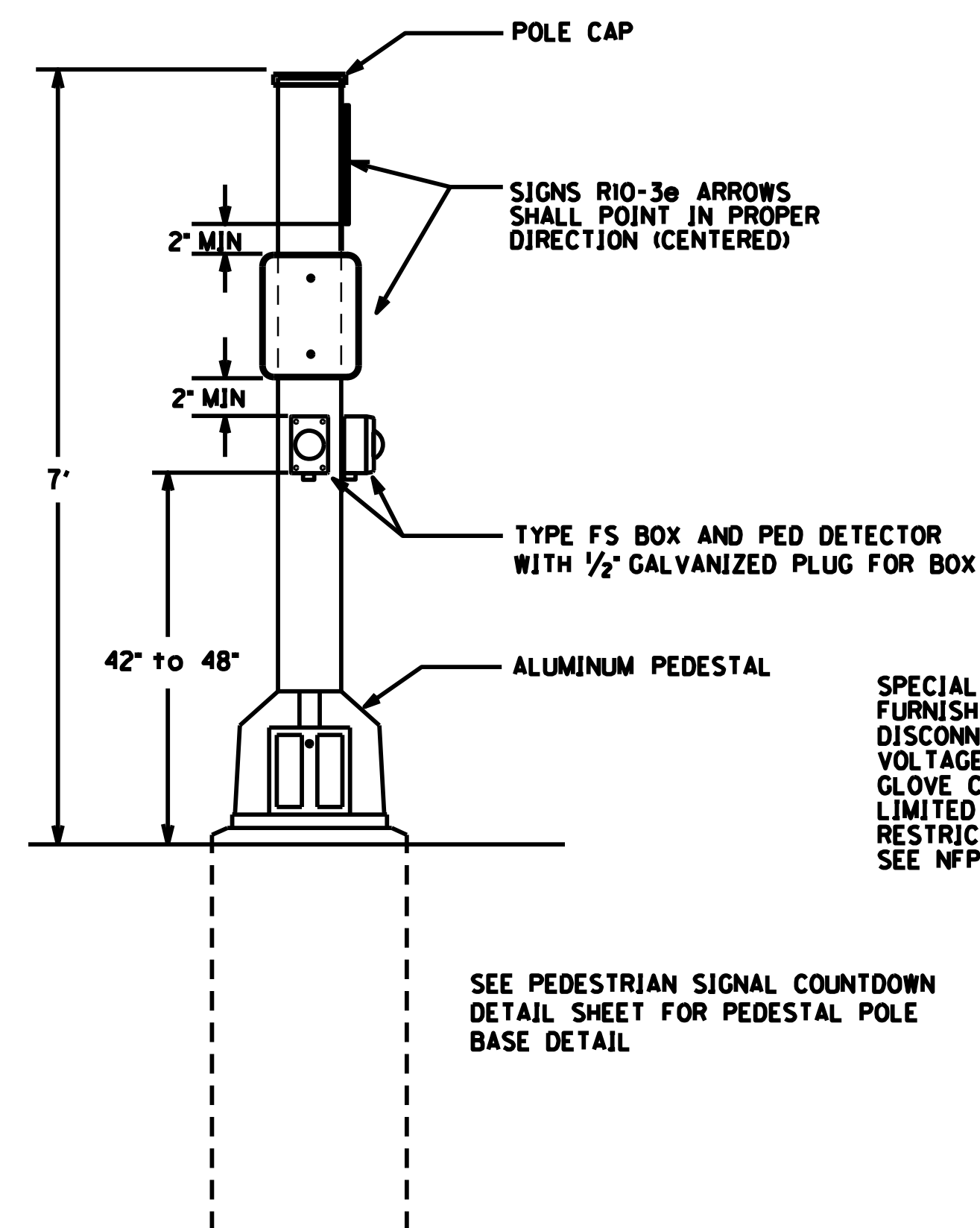
TYPE FS BOX FOR PED DETECTOR FOR USE WITH STEEL STRAIN POLE, WOOD POST, PEDESTAL, AND WOOD POLE



RIO-3e SIGN (9" X 15") FOR COUNTDOWN ONLY

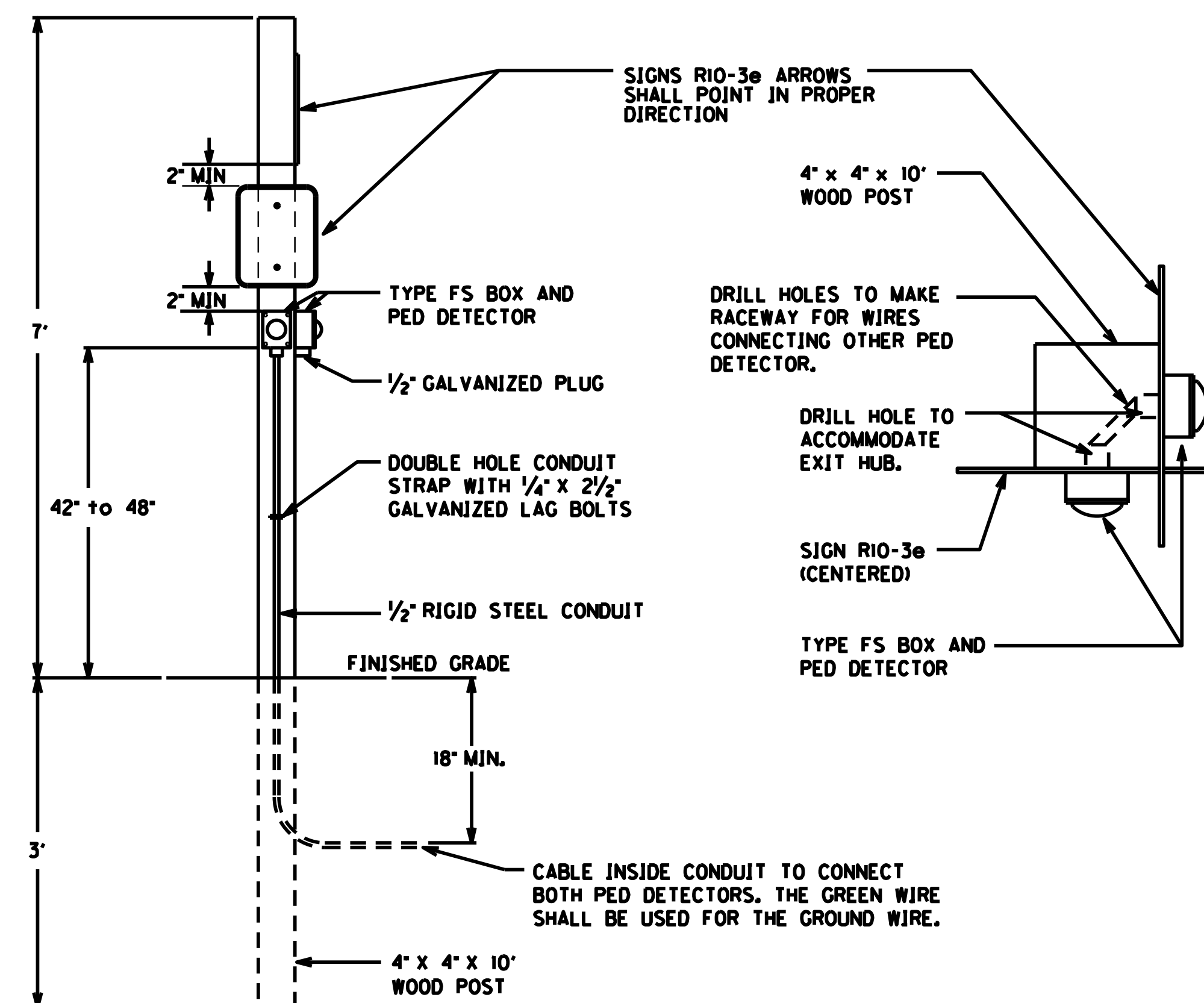


PED DETECTOR



PEDESTAL POST DETAIL FOR PED DETECTORS & SIGNS

\*9 x 1/2" PAN HEAD OR ROUND HEAD WOOD SCREWS TO SECURE BOX TO POST. MINIMUM OF 2 SCREWS FOR EACH BOX. SCREWS SHALL BE INSTALLED DIAGONALLY.



PED DETECTOR ON WOOD POST DETAIL

PEDESTRIAN DETECTOR DETAIL

FILE NAME: C:\PWORK\KTYC.CHARLES.WEITZEL\02092286\100400PD.DGN

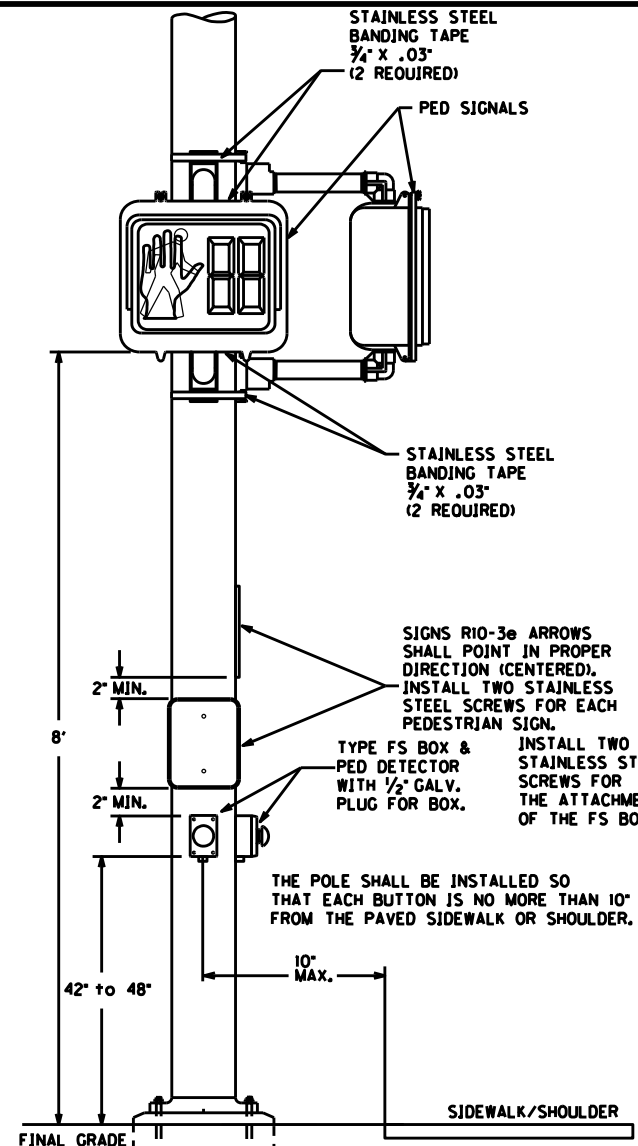
USER: charles.weitzel  
DATE PLOTTED: July 19, 2022

E-SHEET NAME:

MicroStation v8.11.9.838  
8/3/2021



COUNTY OF	ITEM NO.	SHEET NO.
LAUREL	11-185.00	15



**STEEL STRAIN POLE DETAIL FOR PED DETECTORS AND PED SIGNALS**

CONTRACTOR SHALL DRILL HOLES IN THE STEEL STRAIN POLE AND THE TYPE FS BOX NOT EXCEEDING 1/2" IN DIAMETER. CONTRACTOR SHALL USE A ROUND FILE TO REMOVE ALL BURRS AND SHARP EDGES FROM THE HOLES. WIRES SHALL BE PROTECTED WITH HEAT SHRINK TUBING OR VINYL TAPE WHERE THEY PASS THROUGH THE HOLES.

SEE POLE BASE DETAIL SHEET FOR CONCRETE BASE DETAIL AND GROUNDING DETAILS

THE POLE SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10" FROM THE PAVED SIDEWALK OR SHOULDER.

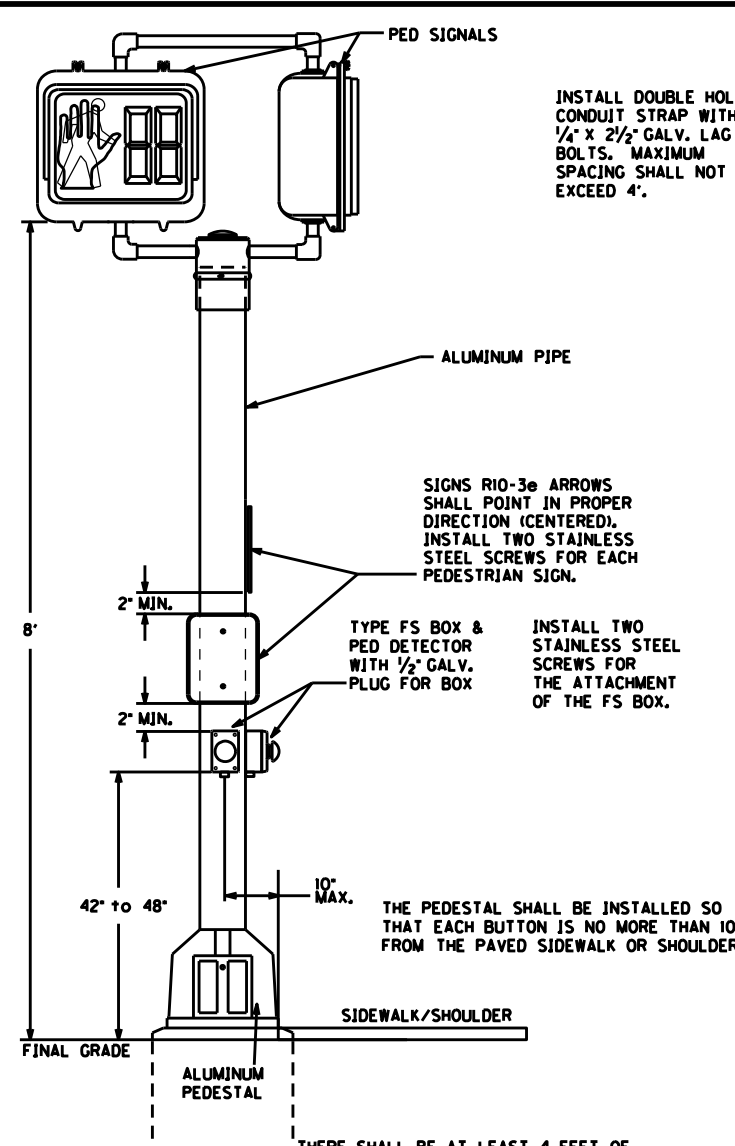
SIGNS R10-3e ARROWS SHALL POINT IN PROPER DIRECTION (CENTERED). INSTALL TWO STAINLESS STEEL SCREWS FOR EACH PEDESTRIAN SIGN.

STAINLESS STEEL BANDING TAPE 3/4" X .03" (2 REQUIRED)

STAINLESS STEEL BANDING TAPE 3/4" X .03" (2 REQUIRED)

STAINLESS STEEL BANDING TAPE 3/4" X .03" (2 REQUIRED)

STAINLESS STEEL BANDING TAPE 3/4" X .03" (2 REQUIRED)



**PEDESTAL POLE DETAIL FOR PED DETECTORS AND PED SIGNALS**

CONTRACTOR SHALL DRILL HOLES IN THE PIPE AND THE TYPE FS BOX NOT EXCEEDING 1/2" IN DIAMETER. CONTRACTOR SHALL USE A ROUND FILE TO REMOVE ALL BURRS AND SHARP EDGES FROM THE HOLES. WIRES SHALL BE PROTECTED WITH HEAT SHRINK TUBING OR VINYL TAPE WHERE THEY PASS THROUGH THE HOLES.

SEE PEDESTAL POLE BASE DETAIL FOR CONCRETE BASE DETAIL AND GROUNDING DETAILS

THE PEDESTAL SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10" FROM THE PAVED SIDEWALK OR SHOULDER.

SIGNS R10-3e ARROWS SHALL POINT IN PROPER DIRECTION (CENTERED). INSTALL TWO STAINLESS STEEL SCREWS FOR EACH PEDESTRIAN SIGN.

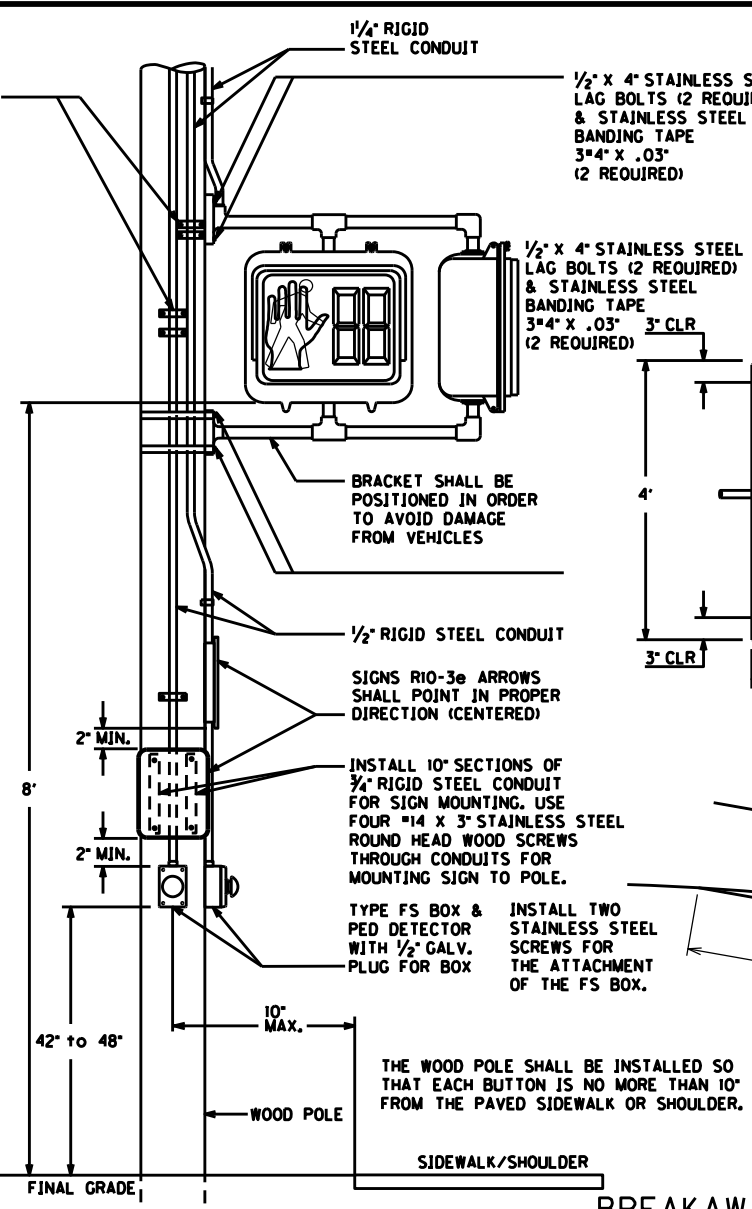
INSTALL TWO STAINLESS STEEL SCREWS FOR THE ATTACHMENT OF THE FS BOX.

ALUMINUM PIPE

ALUMINUM PIPE

ALUMINUM PIPE

ALUMINUM PIPE



**WOOD POLE DETAIL FOR PED DETECTORS AND PED SIGNALS**

\*9 X 1/2" STAINLESS STEEL PAN HEAD OR ROUND HEAD WOOD SCREWS SHALL BE USED TO SECURE TYPE FS BOX TO POLE. A MINIMUM OF 2 SCREWS PER BOX, INSTALLED DIAGONALLY, SHALL BE USED.

THE WOOD POLE SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10" FROM THE PAVED SIDEWALK OR SHOULDER.

INSTALL 10" SECTIONS OF 3/4" RIGID STEEL CONDUIT FOR SIGN MOUNTING. USE FOUR #14 X 3" STAINLESS STEEL ROUND HEAD WOOD SCREWS THROUGH CONDUITS FOR MOUNTING SIGN TO POLE.

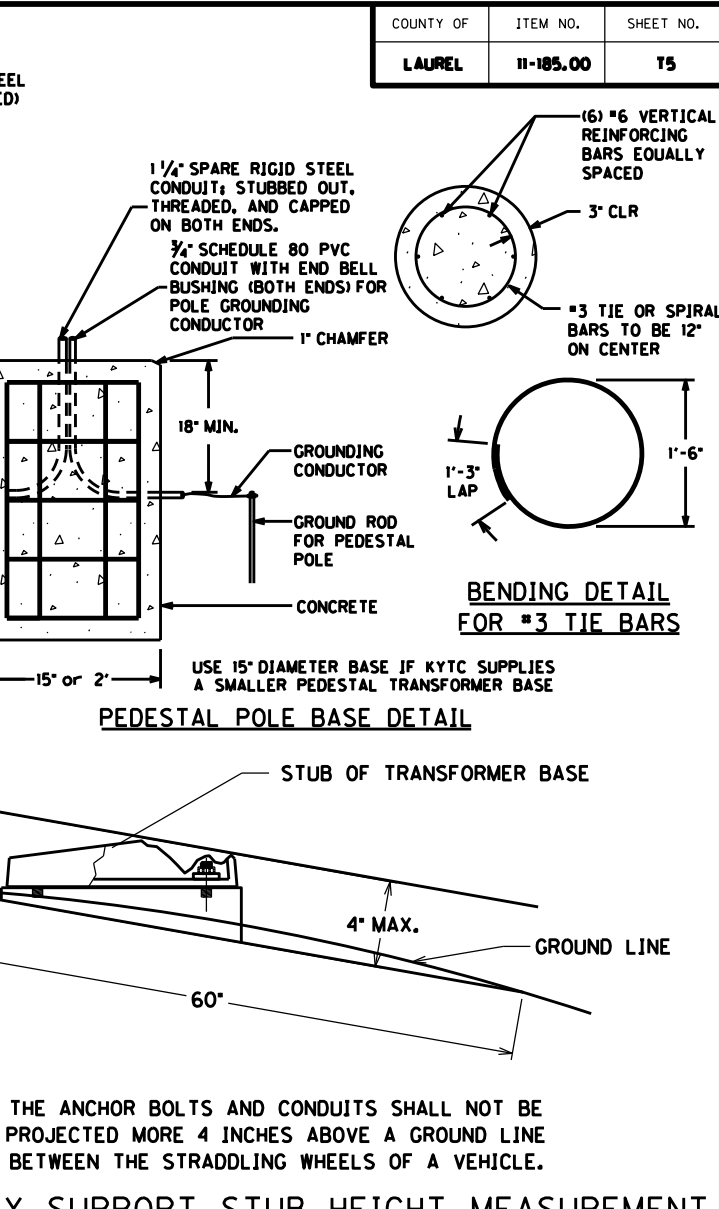
BRACKET SHALL BE POSITIONED IN ORDER TO AVOID DAMAGE FROM VEHICLES

1/2" RIGID STEEL CONDUIT

1/2" RIGID STEEL CONDUIT

1/2" RIGID STEEL CONDUIT

1/2" RIGID STEEL CONDUIT



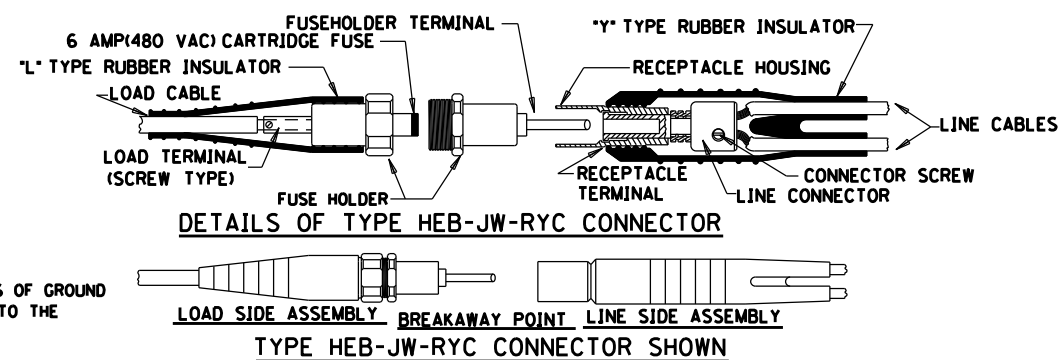
**PEDESTAL POLE BASE DETAIL**

THE ANCHOR BOLTS AND CONDUITS SHALL NOT BE PROJECTED MORE 4 INCHES ABOVE A GROUND LINE BETWEEN THE STRADDLING WHEELS OF A VEHICLE.

NOTE: THE PEDESTAL BASE DOOR SHALL HAVE A 4" BY 6" SHOCK HAZARD WARNING STICKER (IF SMALLER TRANSFORMER BASE IS INSTALLED USE A 2" BY 3" INSTEAD). INSTALL 3" FROM THE TOP OF THE DOOR. THE STICKER SHALL BE METALCRAFT PLY695 PREM STYLEMARK LABEL WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, AND WITH MC53FL PRESSURE SENSITIVE ADHESIVE OR APPROVAL EQUAL. THIS SHALL BE INCIDENTAL TO THE PROJECT.

SPECIAL NOTE FOR THE TRANSFORMER BASE: FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION: VOLTAGE (120 VOLT) GLOVE CLASS (0) LIMITED APPROACH BOUNDARY (42 IN) RESTRICTED APPROACH BOUNDARY (CONTACT) SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

**PEDESTRIAN SIGNAL COUNTDOWN DETAIL**



**DETAILS OF TYPE HEB-JW-RYC CONNECTOR**

**TYPE HEB-JW-RYC CONNECTOR SHOWN**

SPECIAL NOTE FOR THE TRANSFORMER BASE: FUSED CONNECTOR KITS SHALL BE INSTALLED FOR ALL 120 VOLT WIRING IN TRANSFORMER BASES. THIS WILL ONLY BE NEEDED FOR PEDESTRIAN HEADS AND SIGNALS HEADS. PEDESTRIAN DETECTORS DO NOT REQUIRE FUSED CONNECTOR KITS. CONTRACTOR CAN USE ONE KIT FOR A COMMON NEUTRAL FOR ALL DEVICES IN THE TRANSFORMER BASE. THERE SHALL BE A METAL LUG INSTALLED IN THE NEUTRAL WIRE KIT INSTEAD OF A FUSE.

GROUNDING REQUIREMENTS: CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO THE TRANSFORMER BASE.

LEAVE TOP OF GROUND RODS EXPOSED FOR ELECTRICAL INSPECTION. PEDESTAL POLE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO A GROUND LUG ON THE TRANSFORMER BASE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING. ALL GROUND RODS SHALL BE 24" FROM THE CONCRETE POLE BASE.

THERE SHALL BE A 2.5' (MIN.) X 4' (MIN.) CLEAR SPACE AT ALL PEDESTRIAN BUTTONS PER SECTION 404 OF PROWAG REQUIREMENTS.

NOTE: ALL GROUNDING AND SPARE CONDUITS THAT ARE INSTALLED IN THE CONCRETE PEDESTAL POLE BASE ARE INCIDENTAL TO BID ITEM \*23222EC\*. THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE BASE. AN ARROW SHALL BE ETCHED INTO THE TOP OF THE PEDESTAL BASE TO SHOW LOCATION AND DIRECTION OF THE SPARE CONDUIT.

FILE NAME: G:\P\WORK\KYTC.CHARLES.WEITZEL\202286\100500PO.DGN

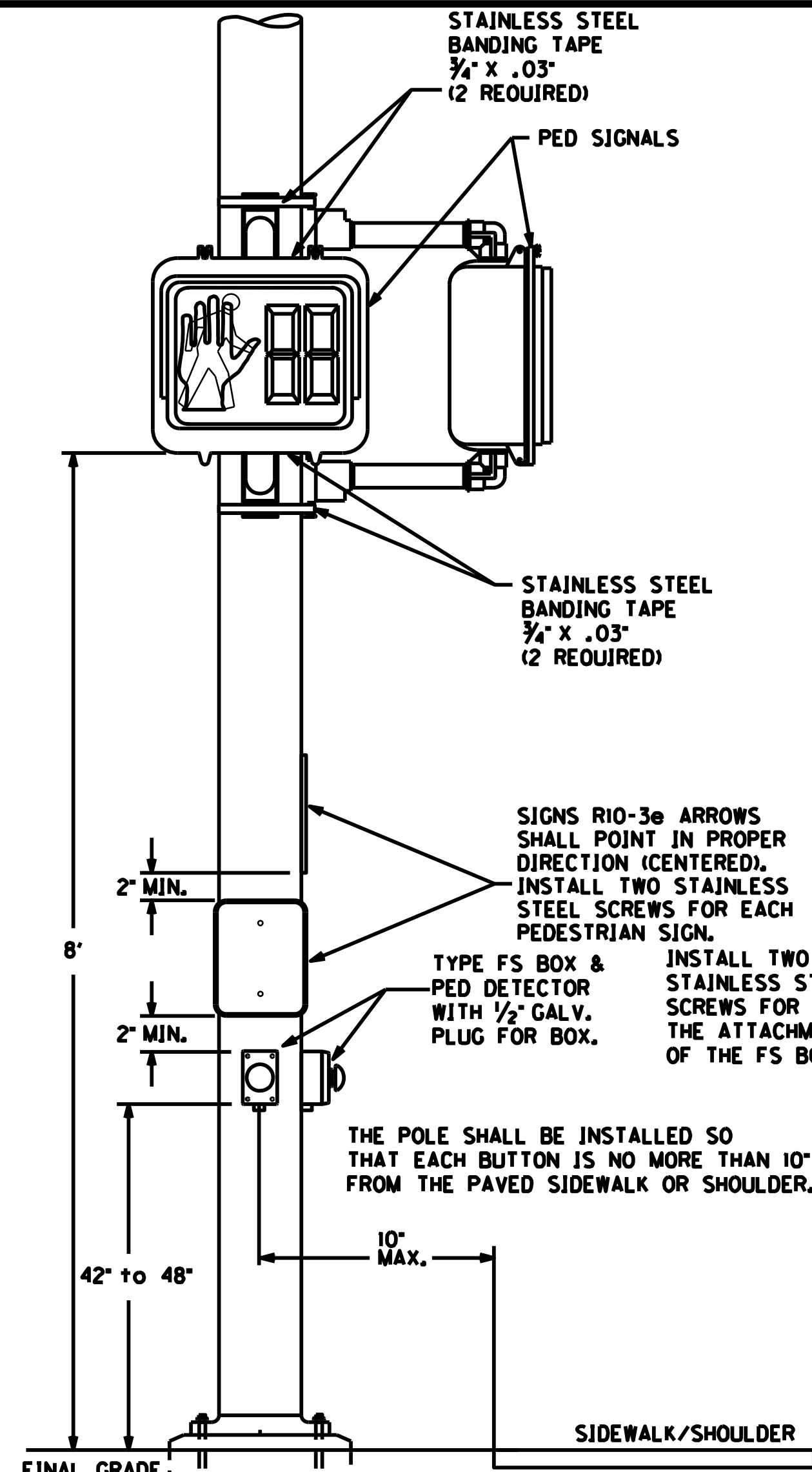
USER: FRANKED DATE PLOTTED: July 19, 2022

E-SHEET NAME:

MicroStation v8.11.9.838 8/19/2021

REPLACED 7/19/2022

COUNTY OF	ITEM NO.	SHEET NO.
LAUREL	11-185.00	T5



THE POLE SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10' FROM THE PAVED SIDEWALK OR SHOULDER.

THERE SHALL BE AT LEAST 4 FEET OF USABLE SIDEWALK IF A PORTION OF THE POLE BASE IS INSTALLED IN THE SIDEWALK. IF INSTALLED IN A SIDEWALK, THE PEDESTAL BASE SHALL BE INSTALLED FLUSH WITH THE GRADE.

SEE POLE BASE DETAIL SHEET FOR CONCRETE BASE DETAIL AND GROUNDING DETAILS

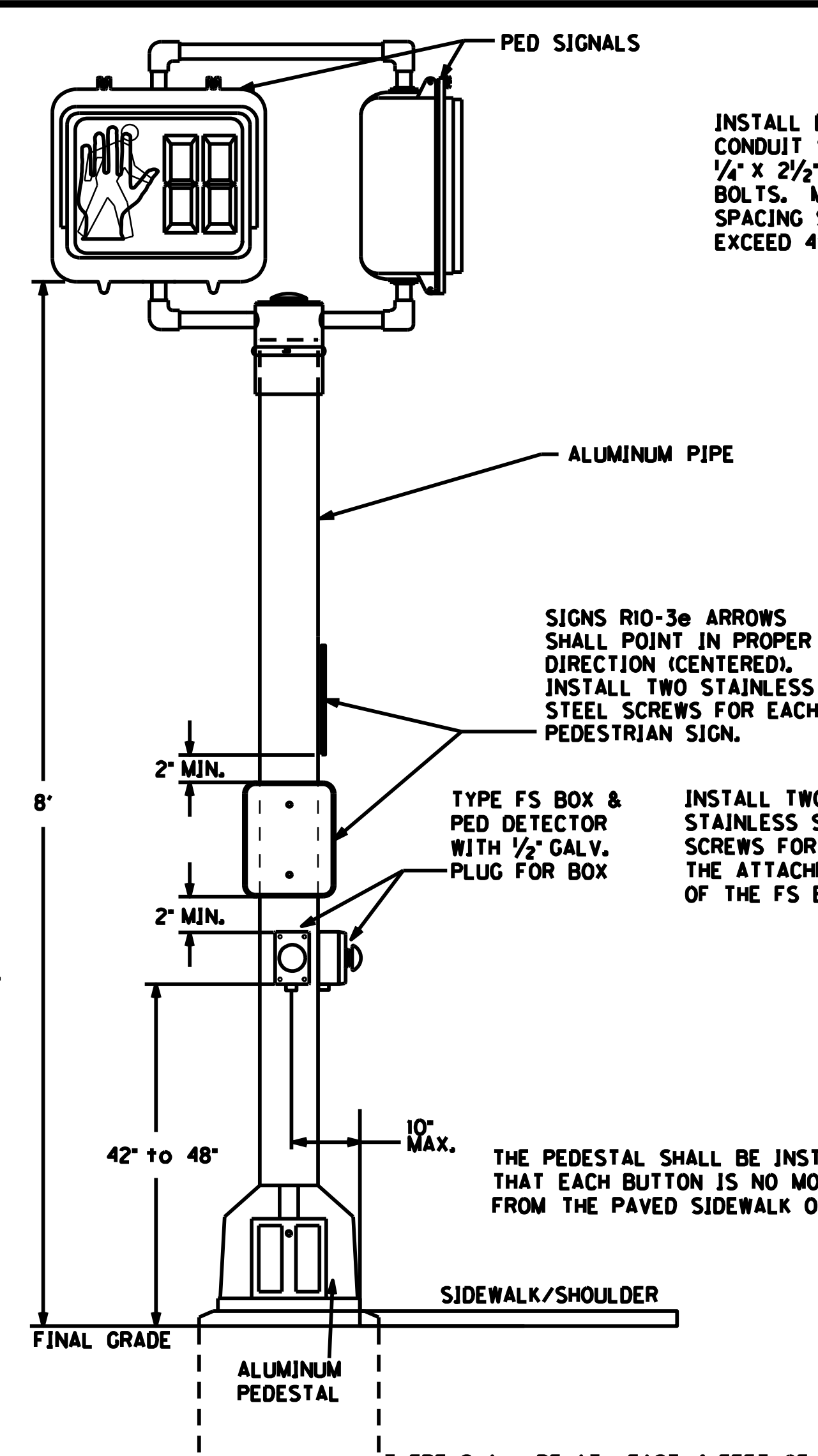
CONTRACTOR SHALL DRILL HOLES IN THE STEEL STRAIN POLE AND THE TYPE FS BOX NOT EXCEEDING 1/2" IN DIAMETER. CONTRACTOR SHALL USE A ROUND FILE TO REMOVE ALL BURRS AND SHARP EDGES FROM THE HOLES. WIRES SHALL BE PROTECTED WITH HEAT SHRINK TUBING OR VINYL TAPE WHERE THEY PASS THROUGH THE HOLES.

**STEEL STRAIN POLE DETAIL FOR PED DETECTORS AND PED SIGNALS**

**NOTE:**

ALL GROUNDING AND SPARE CONDUITS THAT ARE INSTALLED IN THE CONCRETE PEDESTAL POLE BASE ARE INCIDENTAL TO BID ITEM "23222EC". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE BASE. AN ARROW SHALL BE ETCHED INTO THE TOP OF THE PEDESTAL BASE TO SHOW LOCATION AND DIRECTION OF THE SPARE CONDUIT.

THERE SHALL BE A 2.5' (MIN.) X 4' (MIN.) CLEAR SPACE AT ALL PEDESTRIAN BUTTONS PER SECTION 404 OF PROWAG REQUIREMENTS.



THE PEDESTAL SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10' FROM THE PAVED SIDEWALK OR SHOULDER.

THERE SHALL BE AT LEAST 4 FEET OF USABLE SIDEWALK IF A PORTION OF THE PEDESTAL BASE IS INSTALLED IN THE SIDEWALK. IF INSTALLED IN A SIDEWALK, THE PEDESTAL BASE SHALL BE INSTALLED FLUSH WITH THE GRADE.

SEE PEDESTAL POLE BASE DETAIL FOR CONCRETE BASE DETAIL AND GROUNDING DETAILS

CONTRACTOR SHALL DRILL HOLES IN THE PIPE AND THE TYPE FS BOX NOT EXCEEDING 1/2" IN DIAMETER. CONTRACTOR SHALL USE A ROUND FILE TO REMOVE ALL BURRS AND SHARP EDGES FROM THE HOLES. WIRES SHALL BE PROTECTED WITH HEAT SHRINK TUBING OR VINYL TAPE WHERE THEY PASS THROUGH THE HOLES.

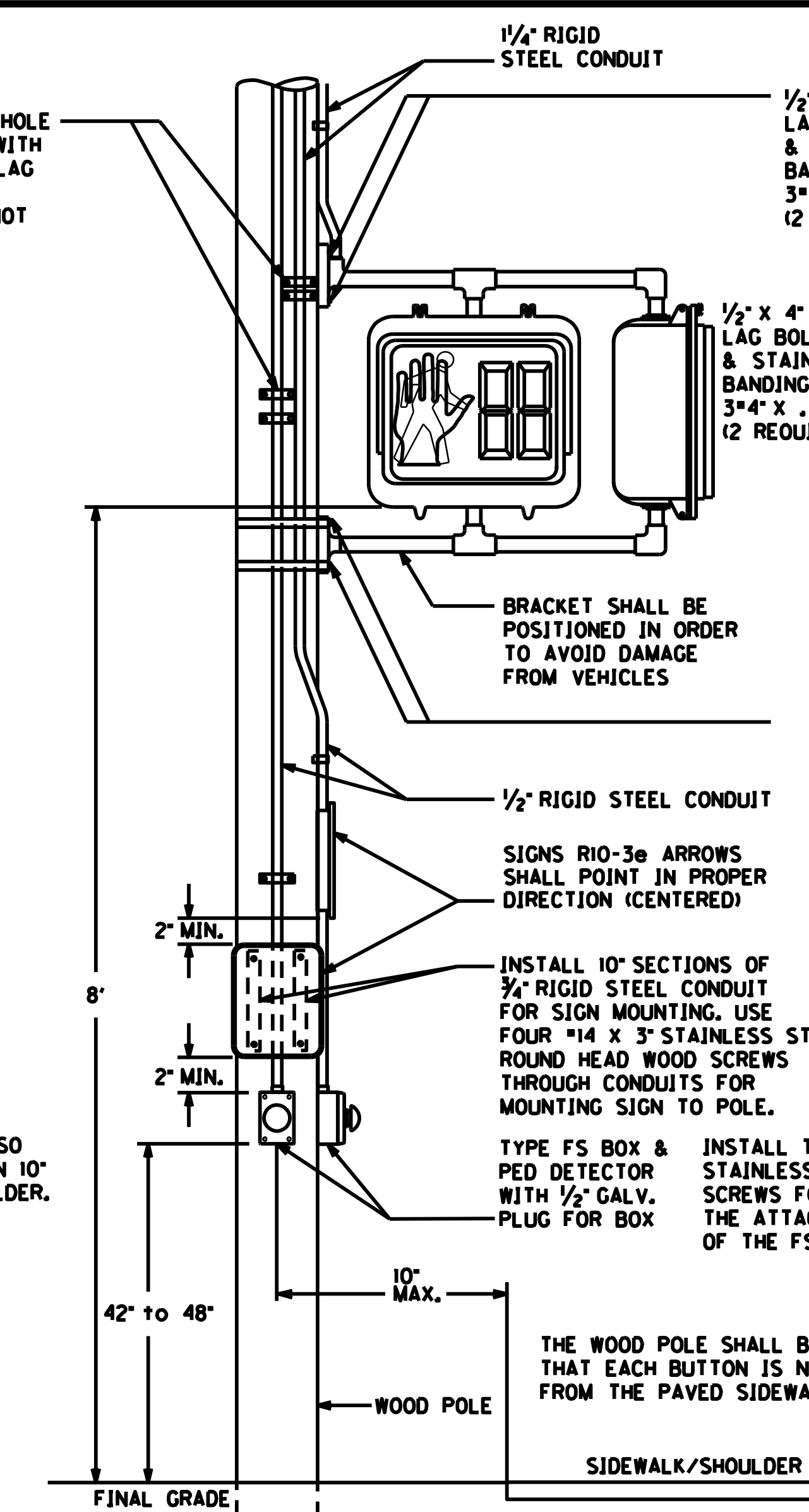
**PEDESTAL POLE DETAIL FOR PED DETECTORS AND PED SIGNALS**

**GROUNDING REQUIREMENTS:**

CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO THE TRANSFORMER BASE.

LEAVE TOP OF GROUND RODS EXPOSED FOR ELECTRICAL INSPECTION.

PEDESTAL POLE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO A GROUND LUG ON THE TRANSFORMER BASE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING. ALL GROUND RODS SHALL BE 24" FROM THE CONCRETE POLE BASE.

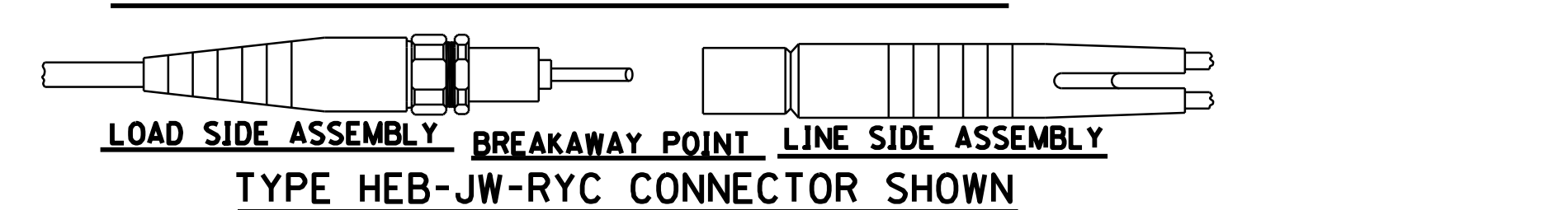
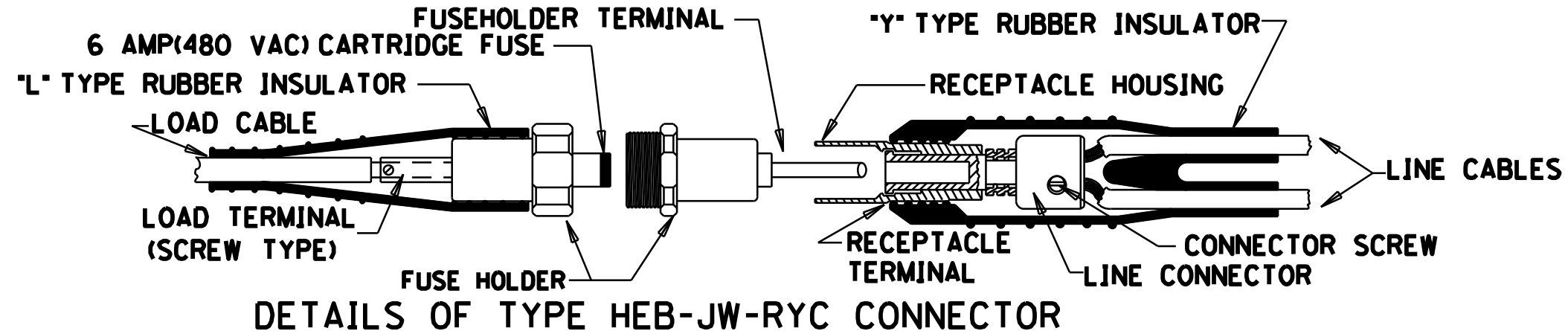


THE WOOD POLE SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10' FROM THE PAVED SIDEWALK OR SHOULDER.

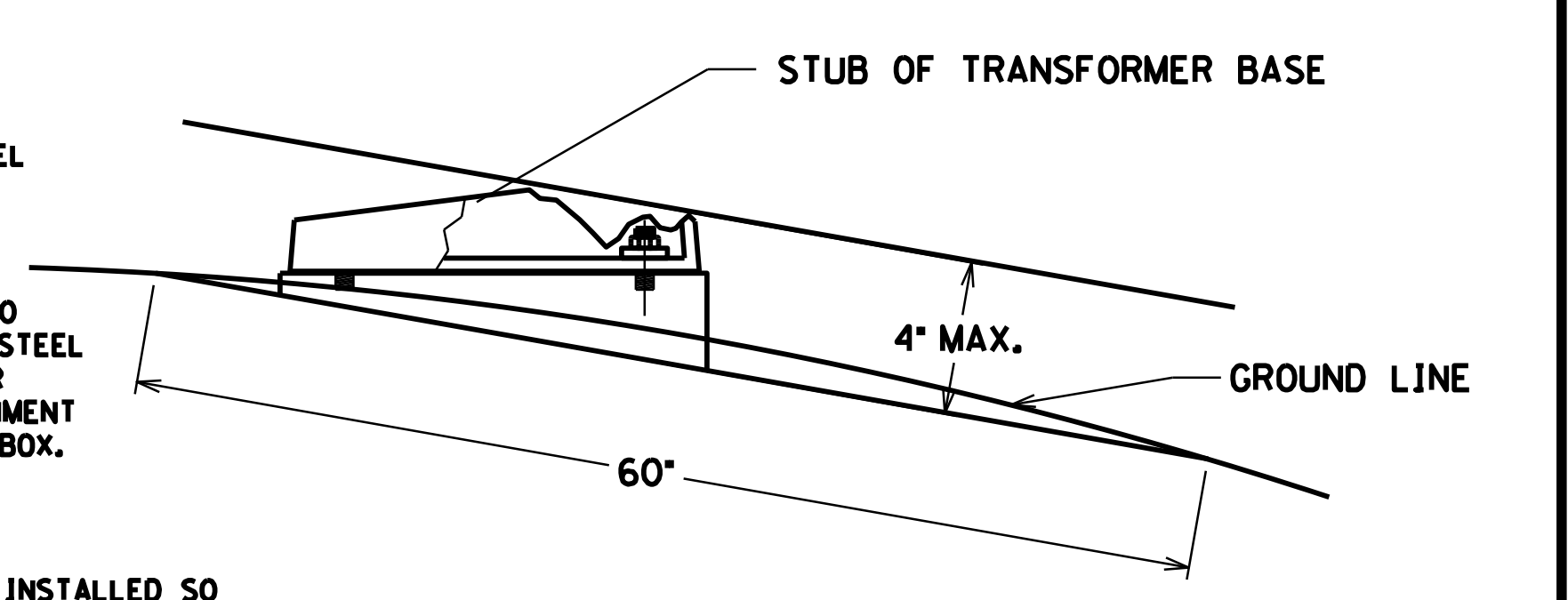
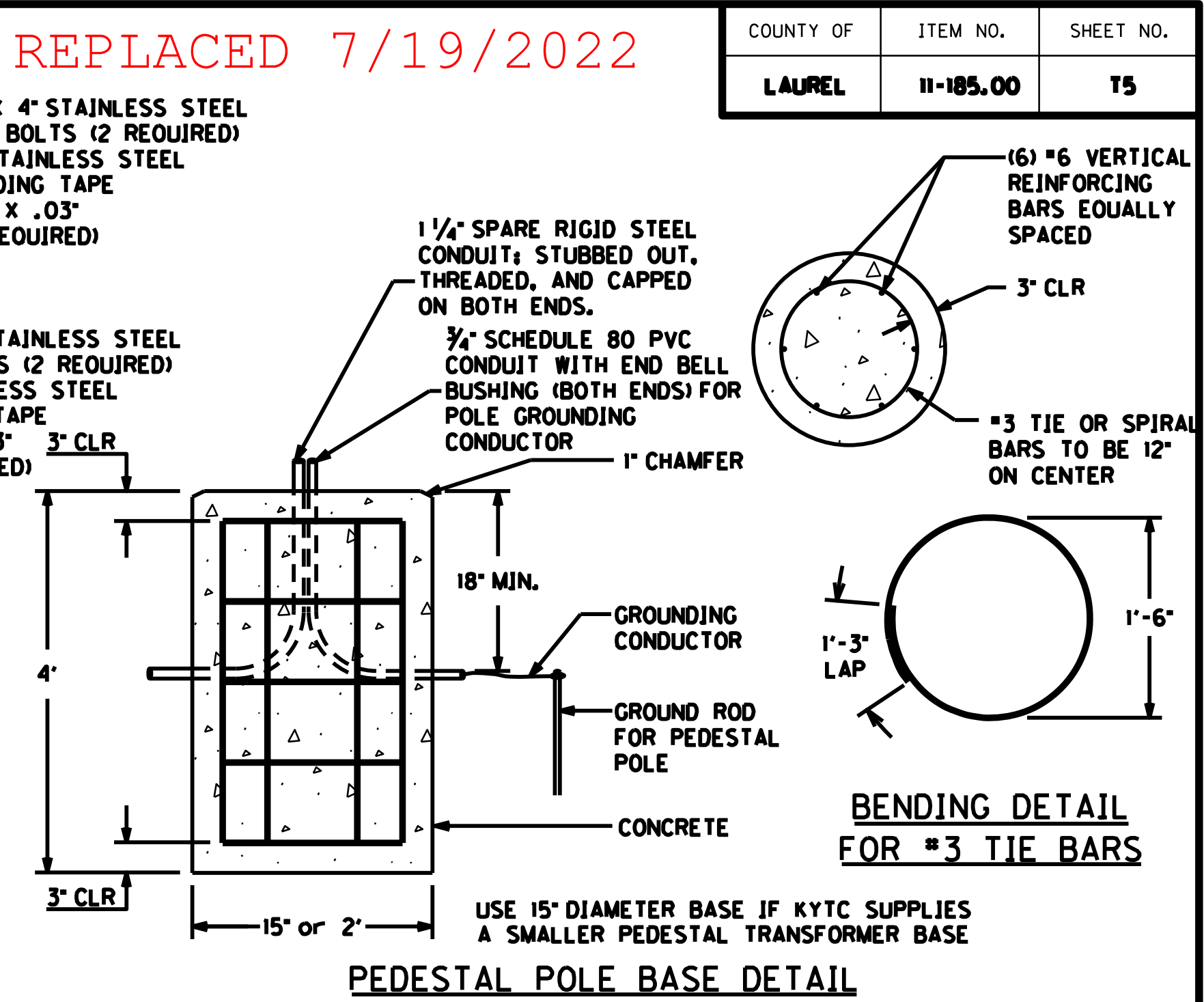
\*9 X 1 1/2" STAINLESS STEEL PAN HEAD OR ROUND HEAD WOOD SCREWS SHALL BE USED TO SECURE TYPE FS BOX TO POLE. A MINIMUM OF 2 SCREWS PER BOX, INSTALLED DIAGONALLY, SHALL BE USED.

**WOOD POLE DETAIL FOR PED DETECTORS AND PED SIGNALS**

**BREAKAWAY FUSE CONNECTOR KIT**



**SPECIAL NOTE FOR THE TRANSFORMER BASE:** FUSED CONNECTOR KITS SHALL BE INSTALLED FOR ALL 120 VOLT WIRING IN TRANSFORMER BASES. THIS WILL ONLY BE NEEDED FOR PEDESTRIAN HEADS AND SIGNALS HEADS. PEDESTRIAN DETECTORS DO NOT REQUIRE FUSED CONNECTOR KITS. CONTRACTOR CAN USE ONE KIT FOR A COMMON NEUTRAL FOR ALL DEVICES IN THE TRANSFORMER BASE. THERE SHALL BE A METAL LUG INSTALLED IN THE NEUTRAL WIRE KIT INSTEAD OF A FUSE.



THE ANCHOR BOLTS AND CONDUITS SHALL NOT BE PROJECTED MORE 4 INCHES ABOVE A GROUND LINE BETWEEN THE STRADDLING WHEELS OF A VEHICLE.

**BREAKAWAY SUPPORT STUB HEIGHT MEASUREMENT**

**NOTE:**

THE PEDESTAL BASE DOOR SHALL HAVE A 4" BY 6" SHOCK HAZARD WARNING STICKER (IF SMALLER TRANSFORMER BASE IS INSTALLED USE A 2" BY 3" INSTEAD). INSTALL 3" FROM THE TOP OF THE DOOR. THE STICKER SHALL BE METALCRAFT PLY695 PREM STYLEMARK LABEL WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, AND WITH MC53FL PRESSURE SENSITIVE ADHESIVE OR APPROVAL EQUAL. THIS SHALL BE INCIDENTAL TO THE PROJECT.

**SPECIAL NOTE FOR THE TRANSFORMER BASE:** FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION:  
 VOLTAGE (120 VOLT)  
 GLOVE CLASS (0)  
 LIMITED APPROACH BOUNDARY (42 IN)  
 RESTRICTED APPROACH BOUNDARY (CONTACT)  
 SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

**PEDESTRIAN SIGNAL COUNTDOWN DETAIL**

FILE NAME: C:\PWORK\KYTC.CHARLES.WEITZEL\02092286\100500P0.DGN  
 USER: FRANKEDC  
 DATE PLOTTED: July 19, 2022  
 E-SHEET NAME:  
 MicroStation v8.11.9.838  
 8/19/2021

**NOTES:**

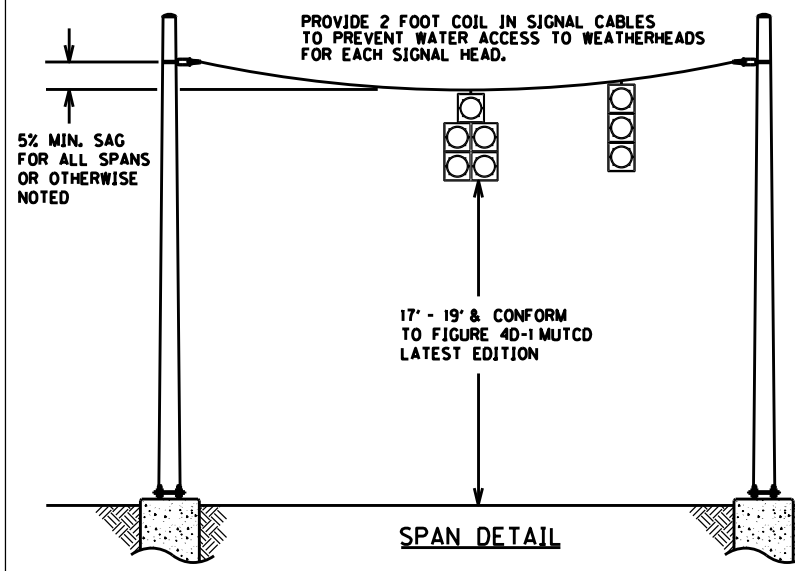
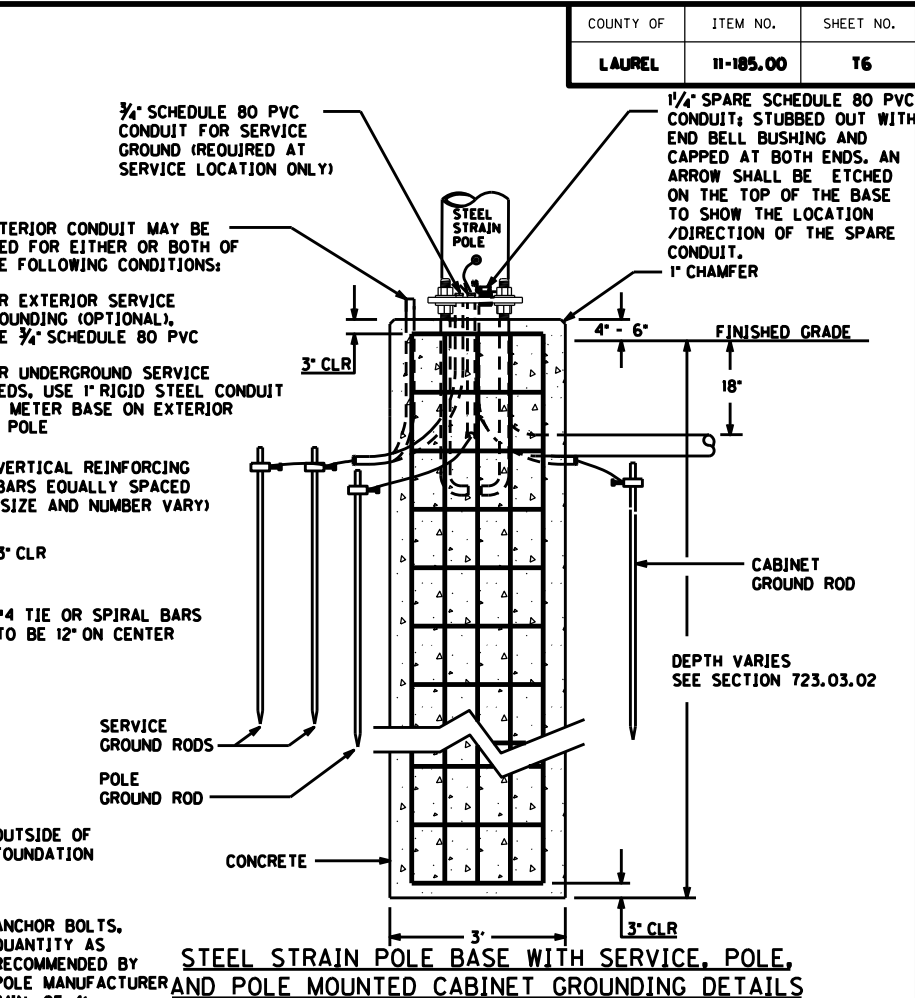
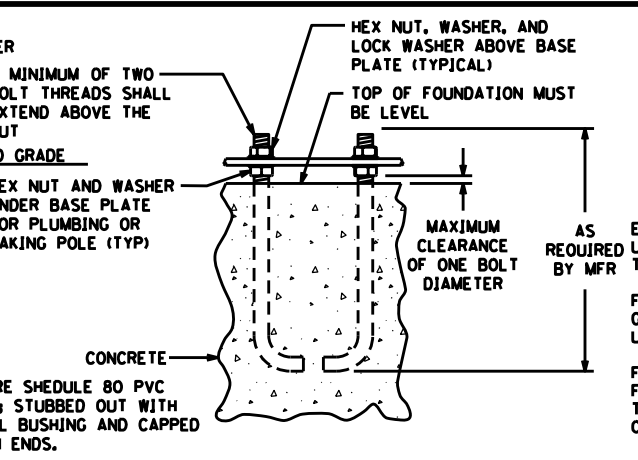
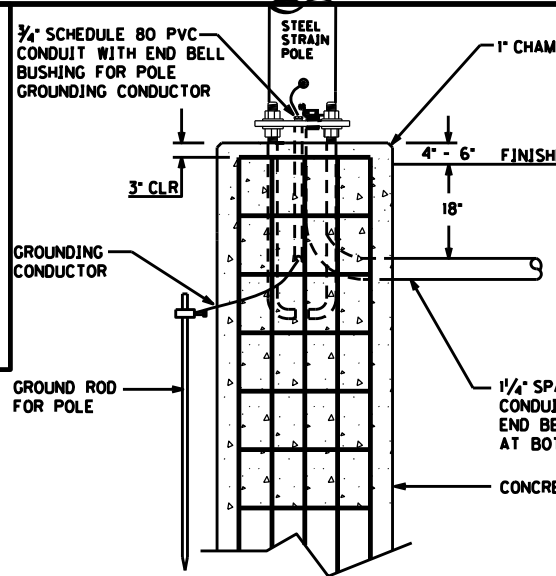
ALL CONDUITS USED FOR THE TELEPHONE, GROUNDING, SPARE, AND SERVICE THAT ARE INSTALLED IN THE POLE BASE ARE INCIDENTAL TO BID ITEM "23157EN". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE POLE BASE.

ALL CONDUITS SHALL BE INSTALLED BETWEEN 4 TO 6 INCHES ABOVE THE CONCRETE PAD, AND THEY CANNOT EXCEED THE 6 INCH HEIGHT.

FOR POLE BASE DEPTH SEE CHART IN SECTION 723 OF THE KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

OVERHEAD SERVICE WIRES SHALL BE INSTALLED ON THE EXTERIOR OF THE POLE IN A 1" RIGID STEEL CONDUIT WITH WEATHERHEAD, OR ON THE INSIDE THE STEEL STRAIN POLE IN FLEXIBLE CONDUIT.

UNDERGROUND SERVICE WIRES SHALL BE INSTALLED IN 1" RIGID STEEL CONDUIT AS SHOWN ON THE CONTROLLER CABINET DETAIL SHEET.



**CONCRETE GROUNDING REQUIREMENTS:**

CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO ANY DISCONNECT, CABINET OR POLE.

LEAVE TOP OF GROUND RODS EXPOSED FOR ELECTRICAL INSPECTION.

POLE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE POLE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING.

ALL GROUND RODS SHALL BE 24" FROM THE CONCRETE POLE BASE.

**NOTE:** THE STEEL STRAIN DOOR SHALL HAVE A 4" BY 6" SHOCK HAZARD WARNING STICKER INSTALLED 3" FROM THE TOP OF THE DOOR. THE STICKER SHALL BE METALCRAFT PLY695 PREM STYLEMARK LABEL WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, AND WITH MC53FL PRESSURE SENSITIVE ADHESIVE OR APPROVED EQUAL. THIS SHALL BE INCIDENTAL TO THE PROJECT.

**CLAMP ASSEMBLY SPECIFICATIONS**

CLAMP ASSEMBLIES MUST BE DESIGNED IN ACCORDANCE TO THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SIXTH EDITION 2013. ADDITIONAL DESIGN PROVISIONS NOT ADDRESSED IN THE FOREMENTIONED CODE SHALL BE OBTAINED FROM THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (2002). CLAMP ASSEMBLIES SHALL CONFORM TO SECTION 835.07.01 AND THE DRAWINGS SHOWN ON THIS STANDARD.

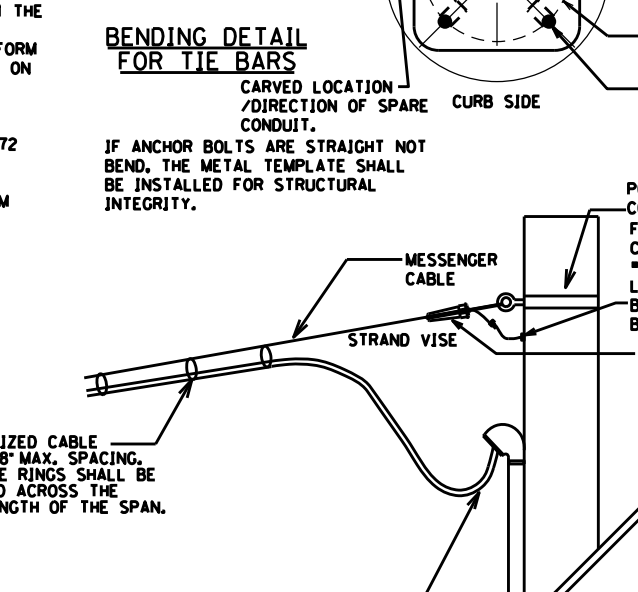
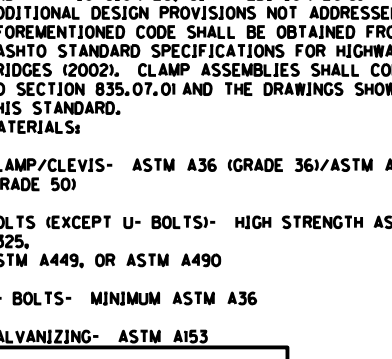
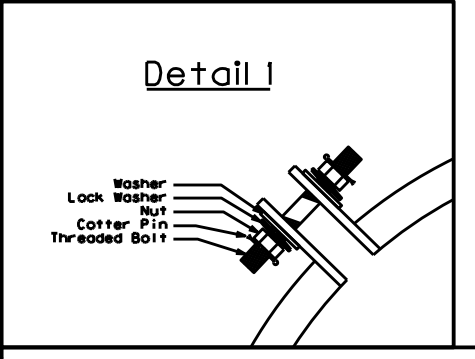
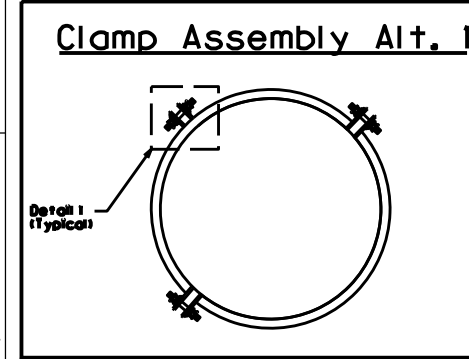
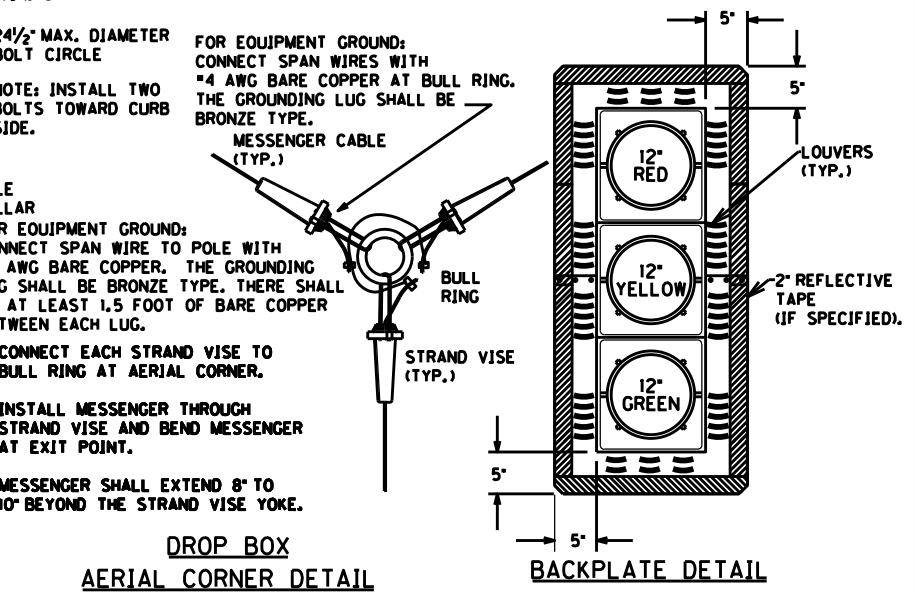
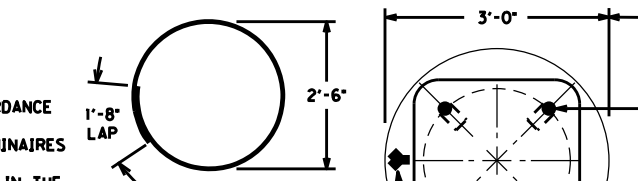
**MATERIALS:**

CLAMP/CLEVIS- ASTM A36 (GRADE 36)/ASTM A572 (GRADE 50)

BOLTS (EXCEPT U- BOLTS)- HIGH STRENGTH ASTM A325, ASTM A449, OR ASTM A490

U- BOLTS- MINIMUM ASTM A36

GALVANIZING- ASTM A153



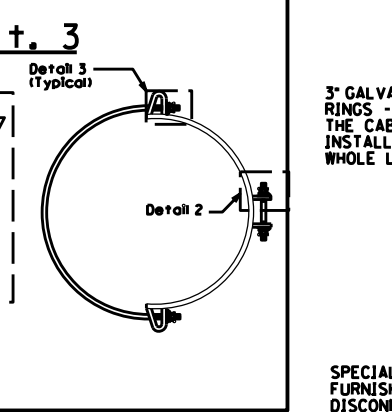
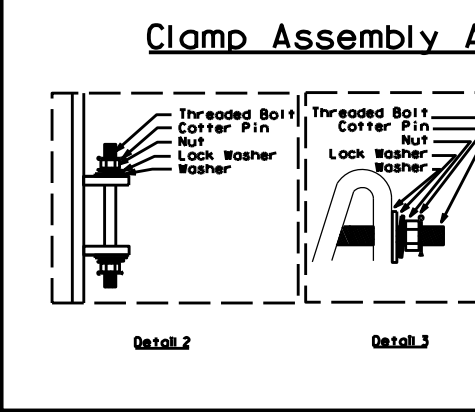
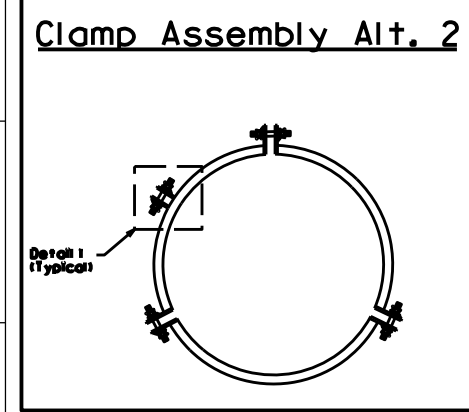
**FOR EQUIPMENT GROUND SIGNAL/PED HEADS:** CONNECT GREEN WIRE FROM 5C/7C IMSA CABLE TO CONNECTOR THAT WILL BE INSTALLED UNDER ONE OF THE BOLTS FOR THE TRI STUD ASSEMBLY THAT CONNECTS THE HEADS. WE RECOMMEND BUTTED SEAM CLOSED BARREL FOR THIS CONNECTION.

JOHNNYBALLS OR STRAIN ISOLATORS SHALL NOT BE USED ON THE ATTACHMENT OF THE SPAN WIRE TO THE POLE.

INSTALL MESSENGER THROUGH STRAND VISE AND BEND MESSENGER AT EXIT POINT.

MESSENGER SHALL EXTEND 8" TO 10" BEYOND THE STRAND VISE YOKE.

THERE SHALL BE A SEPARATE COLLAR USED FOR EACH SPAN.



**SPECIAL NOTE FOR POLE DOOR:** FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION: VOLTAGE (120 VOLT) GLOVE CLASS (0) LIMITED APPROACH BOUNDARY (42 IN) RESTRICTED APPROACH BOUNDARY (CONTACT) SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

FILE NAME: G:\P\WORK\K\KTC.CHARLES.WEITZEL\202286\100600PO.DGN  
 USER: charles.weitzel  
 DATE PLOTTED: July 19, 2022  
 E-SHEET NAME:  
 MicroStation v8.11.9.838

COUNTY OF	ITEM NO.	SHEET NO.
LAUREL	11-185.00	T6

REPLACED 7/19/2022

**NOTES:**

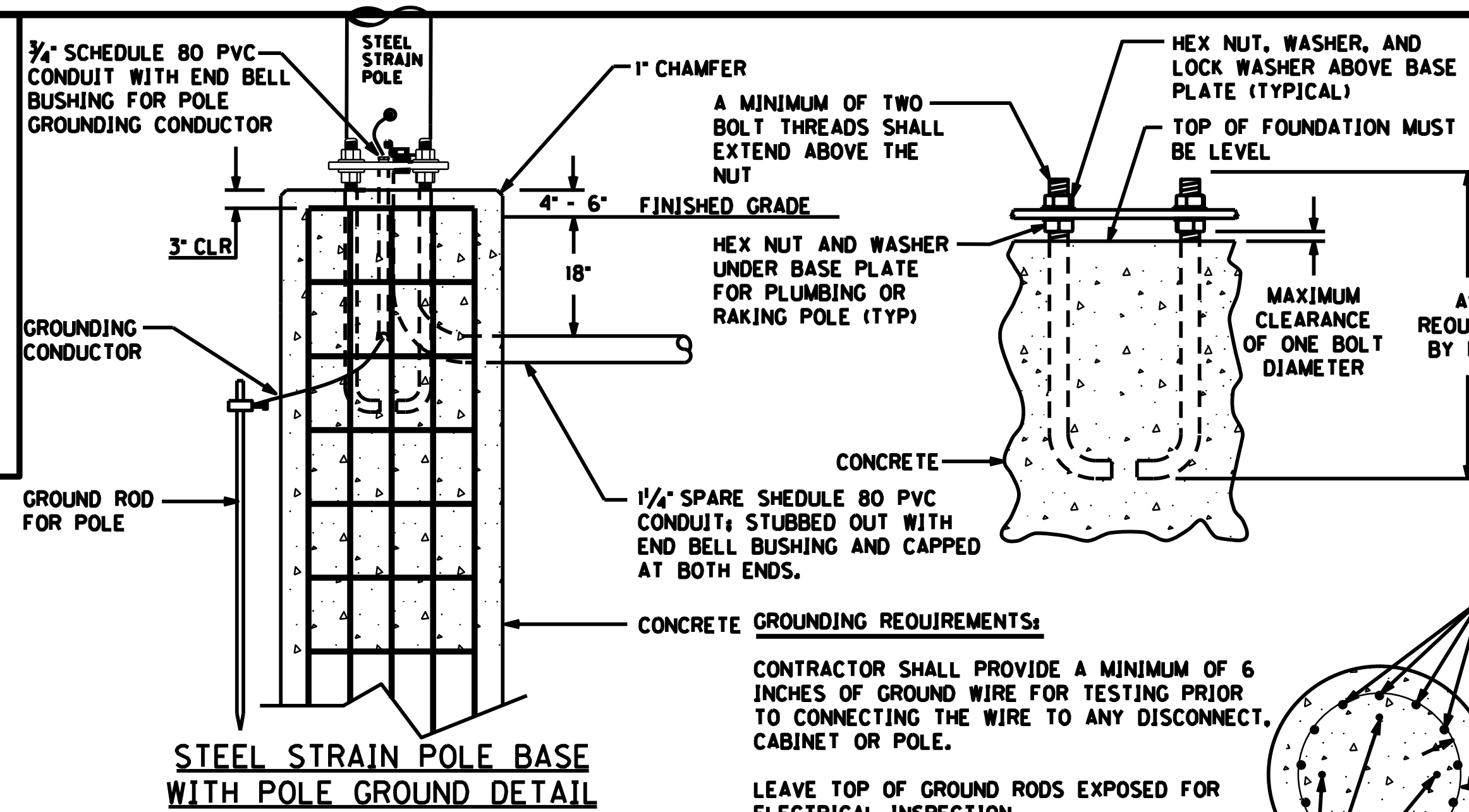
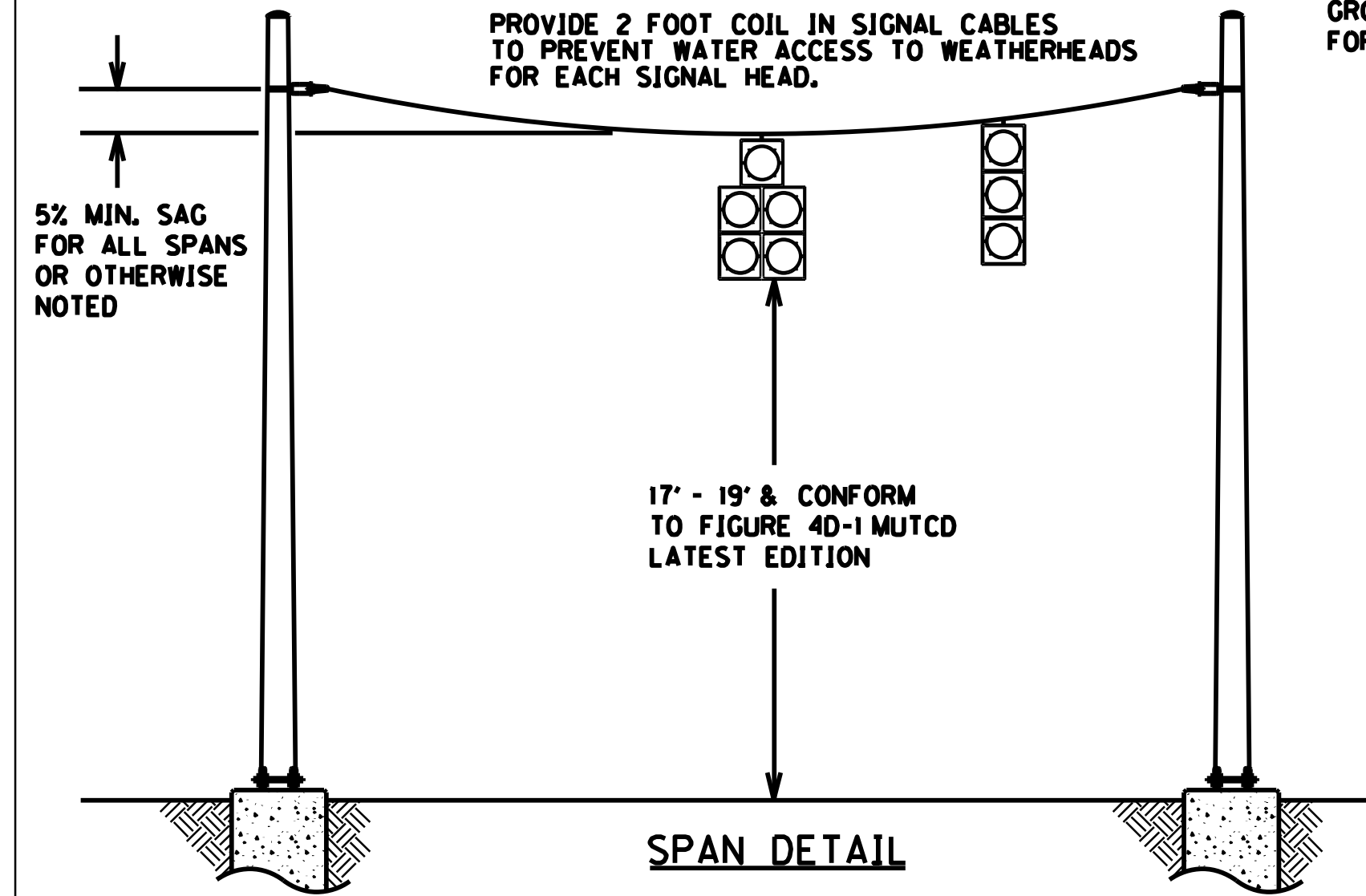
ALL CONDUITS USED FOR THE TELEPHONE, GROUNDING, SPARE, AND SERVICE THAT ARE INSTALLED IN THE POLE BASE ARE INCIDENTAL TO BID ITEM "23157EN". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE POLE BASE.

ALL CONDUITS SHALL BE INSTALLED BETWEEN 4 TO 6 INCHES ABOVE THE CONCRETE PAD, AND THEY CANNOT EXCEED THE 6 INCH HEIGHT.

FOR POLE BASE DEPTH SEE CHART IN SECTION 723 OF THE KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

OVERHEAD SERVICE WIRES SHALL BE INSTALLED ON THE EXTERIOR OF THE POLE IN A 1" RIGID STEEL CONDUIT WITH WEATHERHEAD, OR ON THE INSIDE THE STEEL STRAIN POLE IN FLEXIBLE CONDUIT.

UNDERGROUND SERVICE WIRES SHALL BE INSTALLED IN 1" RIGID STEEL CONDUIT AS SHOWN ON THE CONTROLLER CABINET DETAIL SHEET.



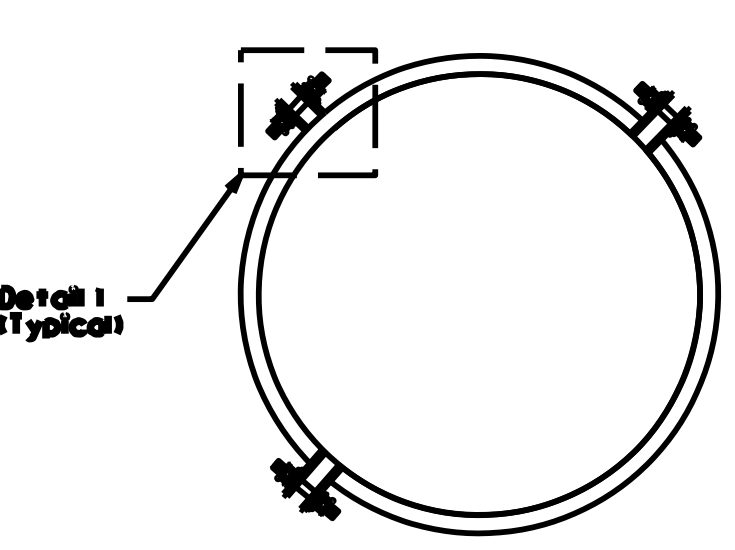
**NOTE:**  
THE STEEL STRAIN DOOR SHALL HAVE A 4" BY 6" SHOCK HAZARD WARNING STICKER INSTALL 3" FROM THE TOP OF THE DOOR. THE STICKER SHALL BE METALCRAFT PLY695 PREM STYLEMARK LABEL WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, AND WITH MC53FL PRESSURE SENSITIVE ADHESIVE OR APPROVED EQUAL. THIS SHALL BE INCIDENTAL TO THE PROJECT.

**CLAMP ASSEMBLY SPECIFICATIONS**

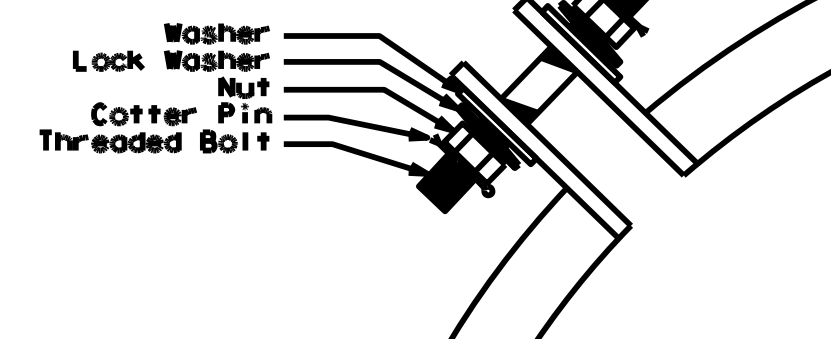
CLAMP ASSEMBLIES MUST BE DESIGNED IN ACCORDANCE TO THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SIXTH EDITION 2013. ADDITIONAL DESIGN PROVISIONS NOT ADDRESSED IN THE AFOREMENTIONED CODE SHALL BE OBTAINED FROM THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (2002). CLAMP ASSEMBLIES SHALL CONFORM TO SECTION 835.07.01 AND THE DRAWINGS SHOWN ON THIS STANDARD.

- MATERIALS:**
- CLAMP/CLEVIS- ASTM A36 (GRADE 36)/ASTM A572 (GRADE 50)
  - BOLTS (EXCEPT U- BOLTS)- HIGH STRENGTH ASTM A325, ASTM A449, OR ASTM A490
  - U- BOLTS- MINIMUM ASTM A36
  - GALVANIZING- ASTM A153

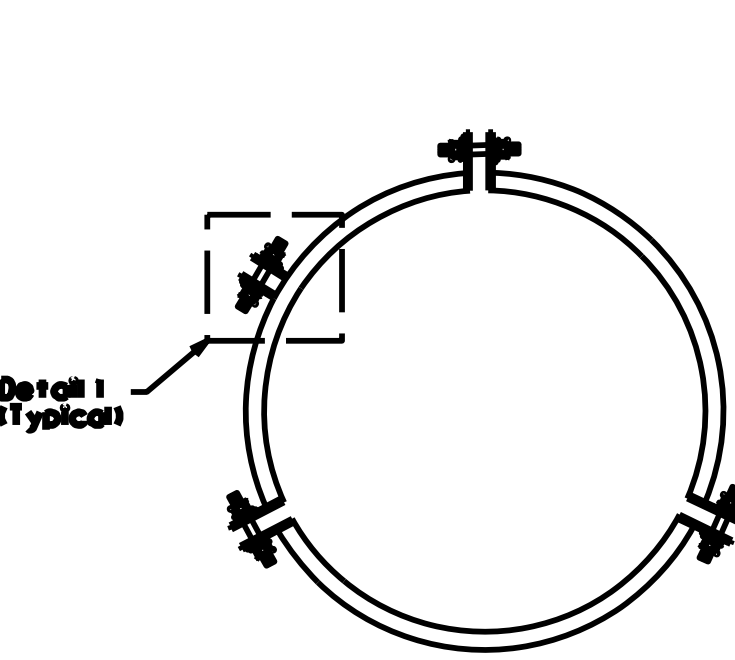
**Clamp Assembly Alt. 1**



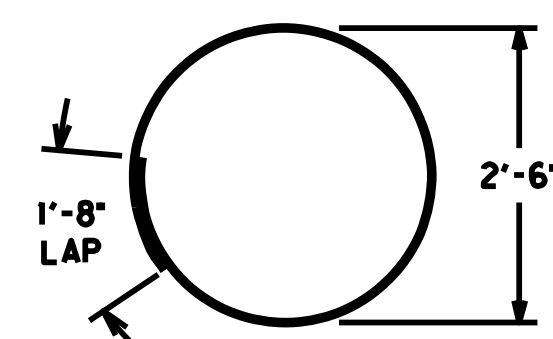
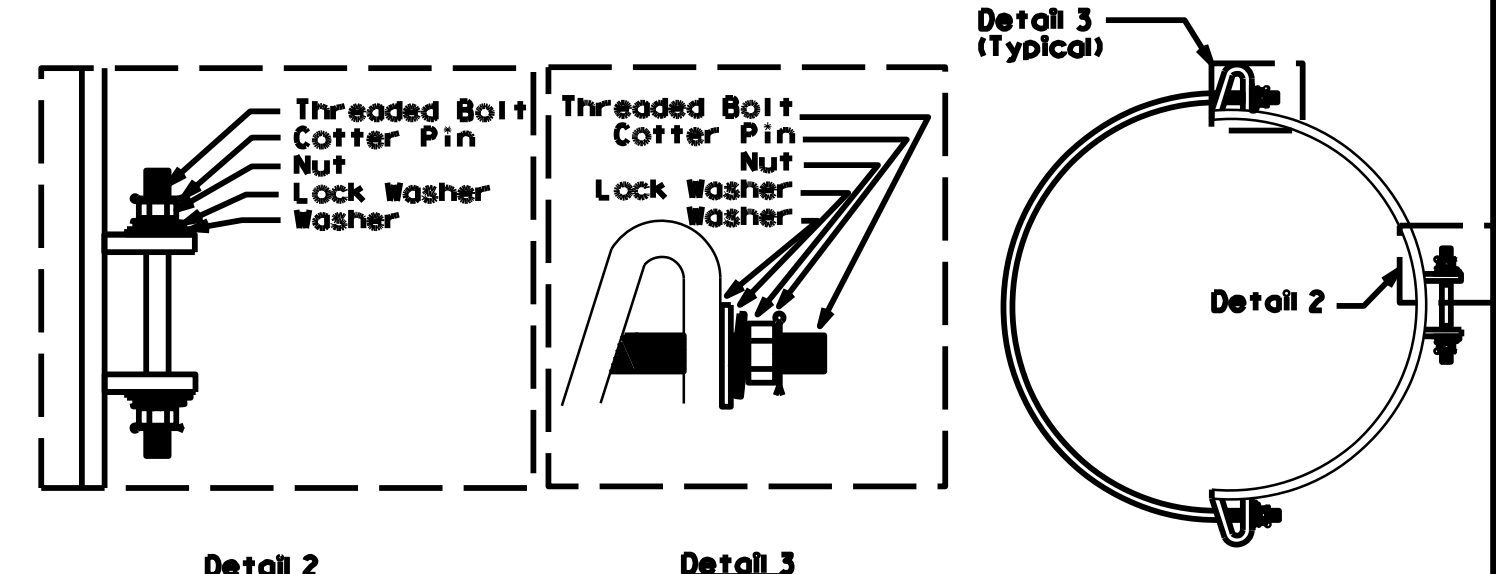
**Detail 1**



**Clamp Assembly Alt. 2**

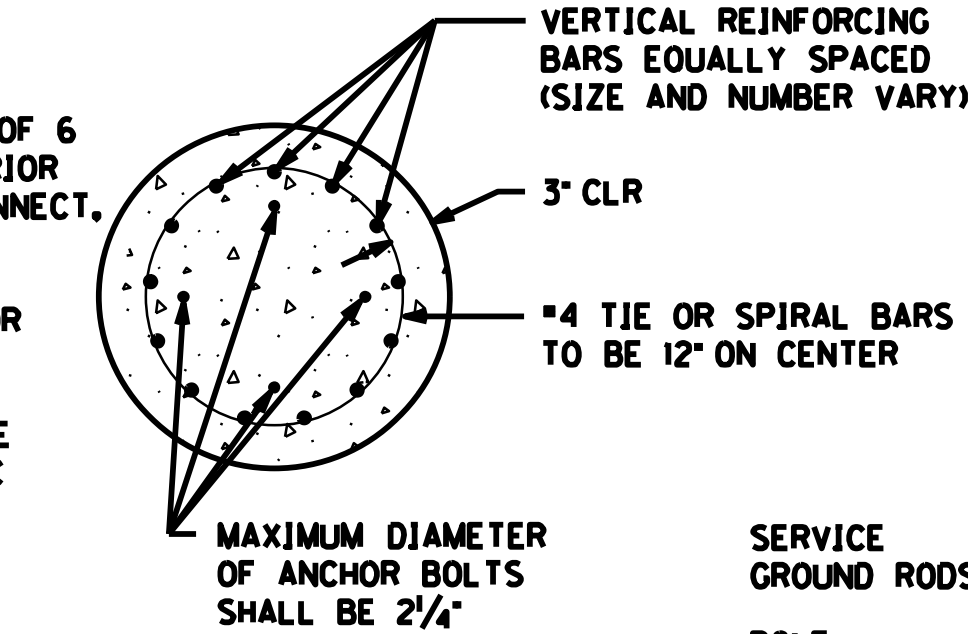


**Clamp Assembly Alt. 3**



**BENDING DETAIL FOR TIE BARS**

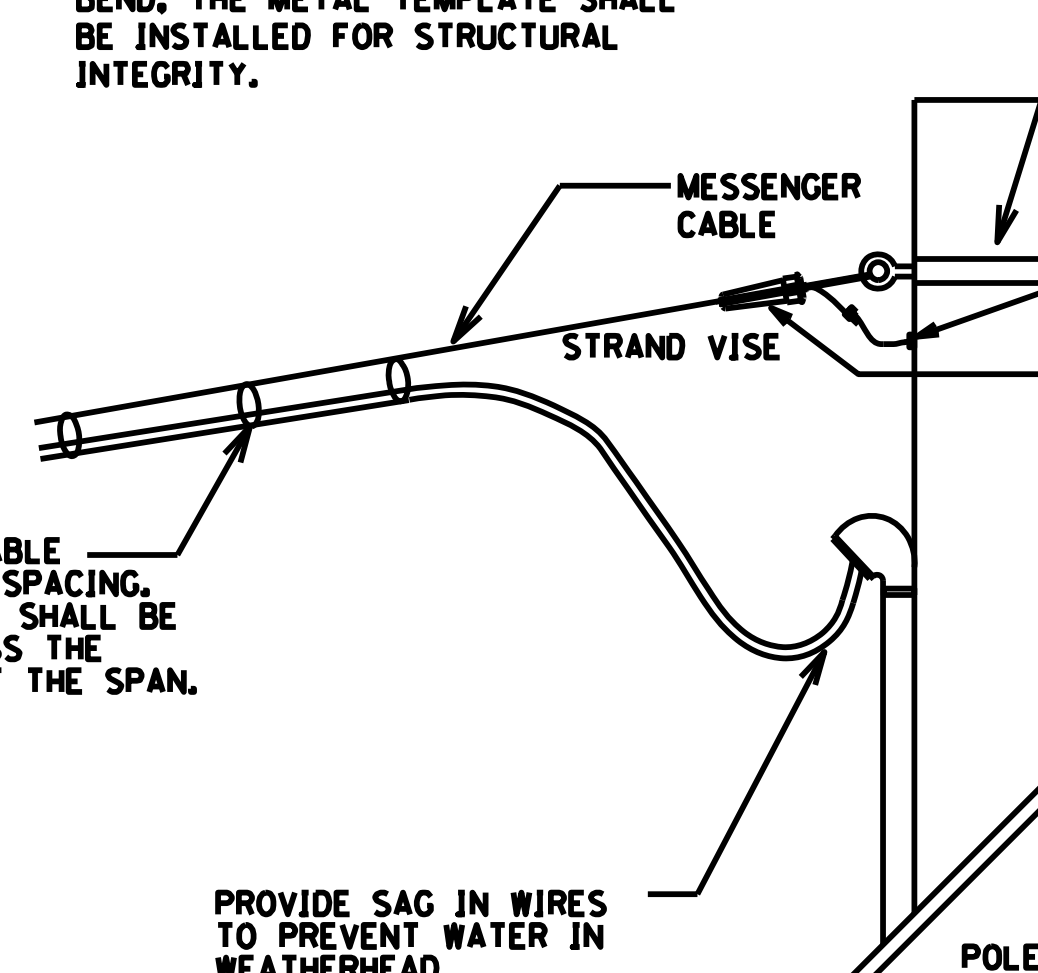
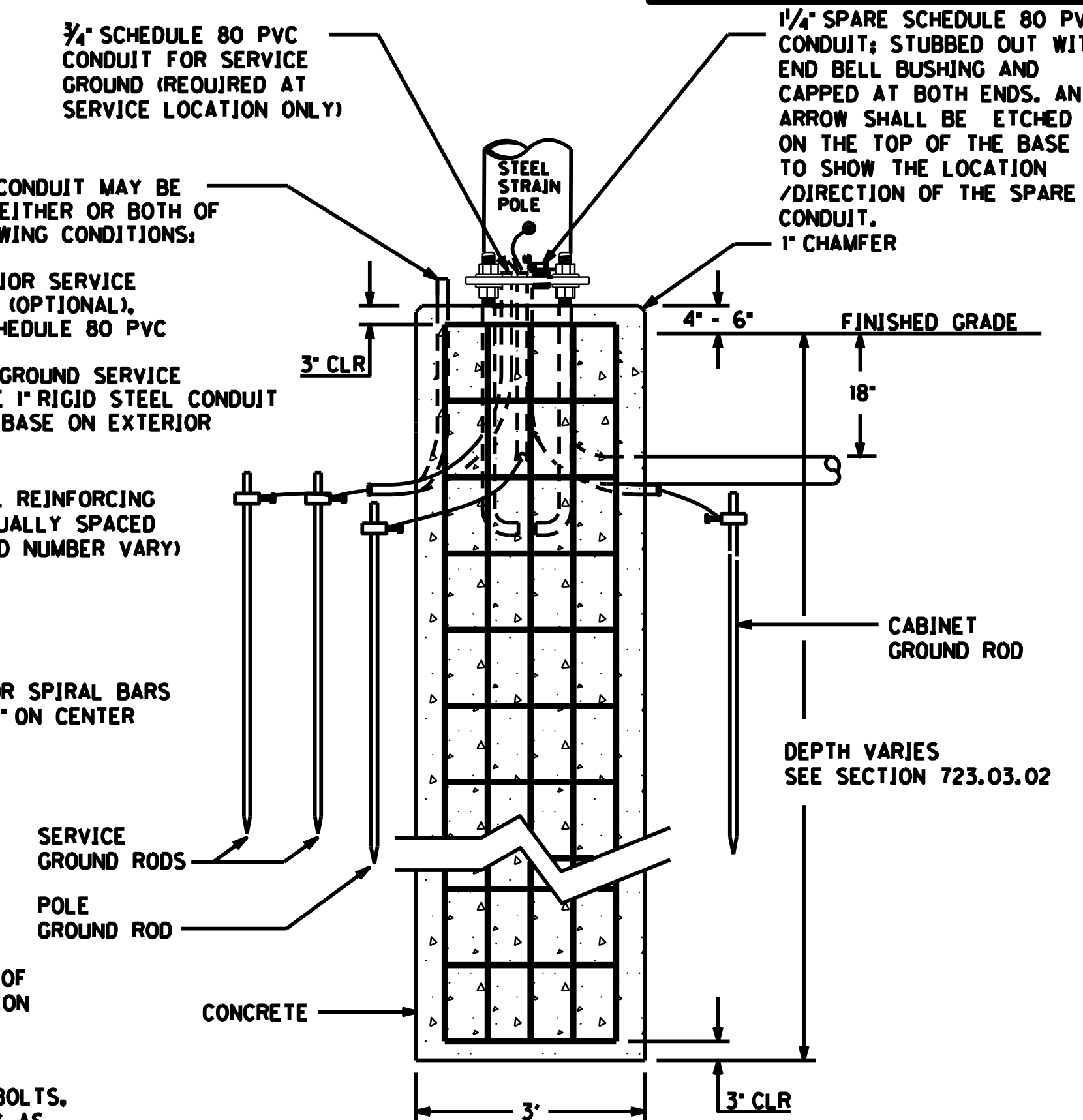
IF ANCHOR BOLTS ARE STRAIGHT NOT BEND, THE METAL TEMPLATE SHALL BE INSTALLED FOR STRUCTURAL INTEGRITY.



EXTERIOR CONDUIT MAY BE USED FOR EITHER OR BOTH OF THE FOLLOWING CONDITIONS:

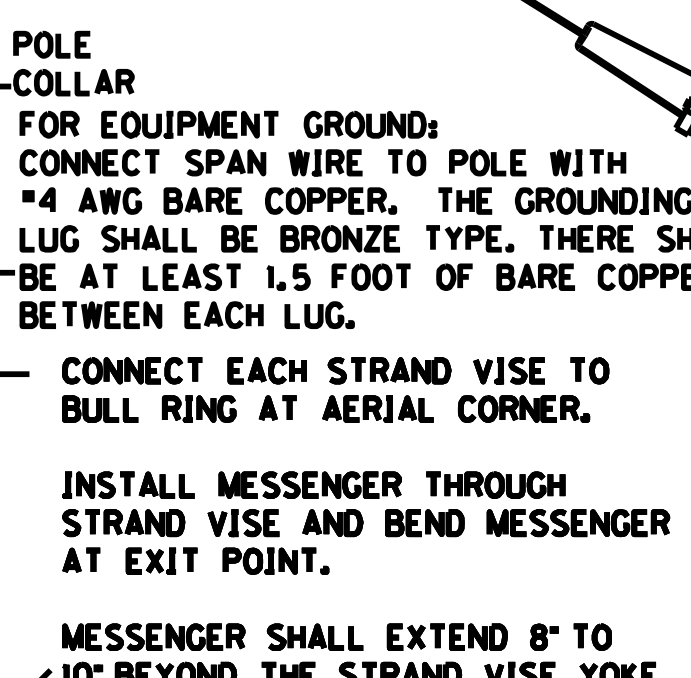
- FOR EXTERIOR SERVICE GROUNDING (OPTIONAL), USE 3/4" SCHEDULE 80 PVC
- FOR UNDERGROUND SERVICE FEEDS, USE 1" RIGID STEEL CONDUIT TO METER BASE ON EXTERIOR OF POLE

**STEEL STRAIN POLE BASE WITH SERVICE, POLE, AND POLE MOUNTED CABINET GROUNDING DETAILS**



**SPAN WIRE DETAIL**

**SPECIAL NOTE FOR POLE DOOR:**  
FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION:  
VOLTAGE (120 VOLT)  
GLOVE CLASS (0)  
LIMITED APPROACH BOUNDARY (42 IN)  
RESTRICTED APPROACH BOUNDARY (CONTACT)  
SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED

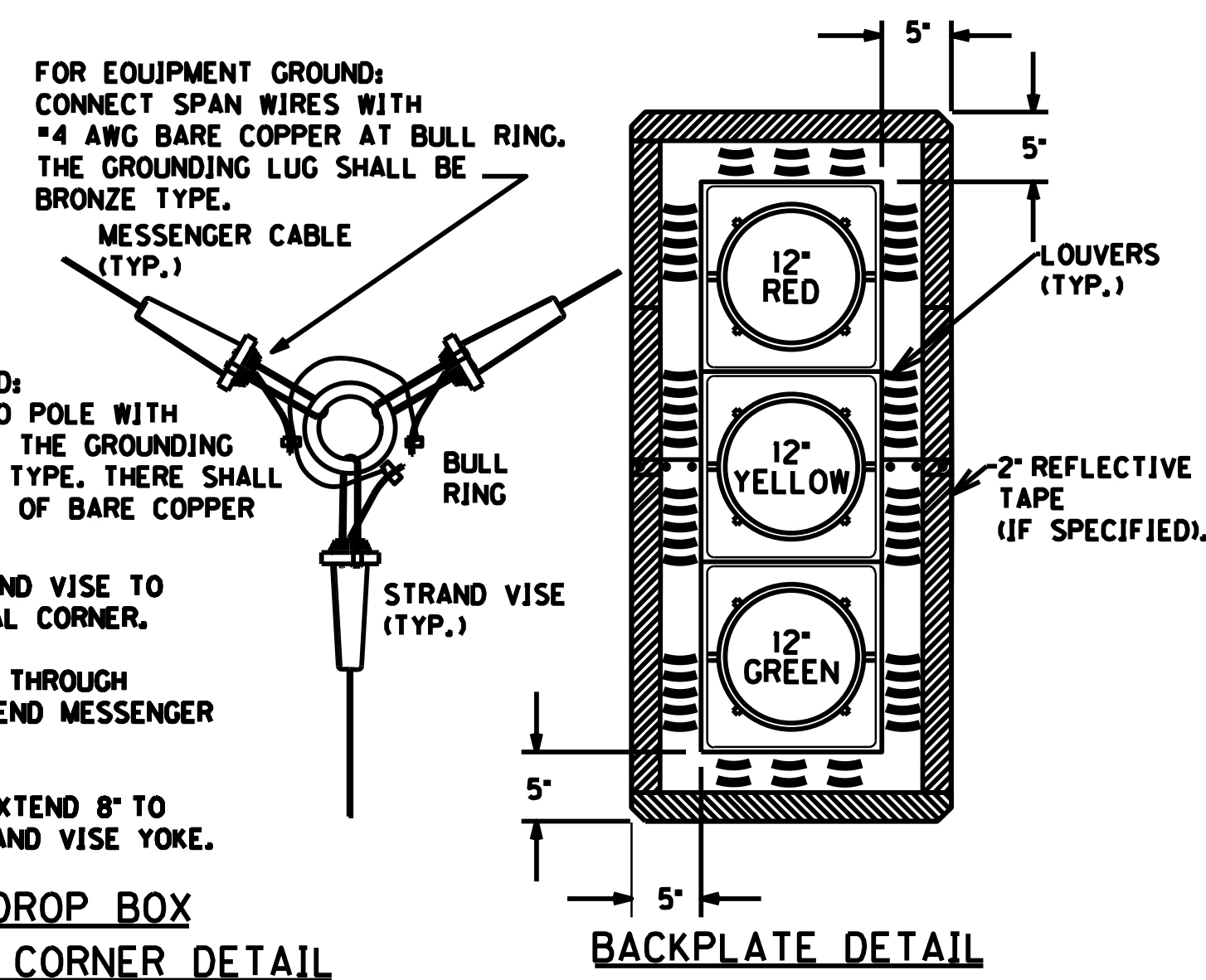


**DROP BOX AERIAL CORNER DETAIL**

JOHNNYBALLS OR STRAIN ISOLATORS SHALL NOT BE USED ON THE ATTACHMENT OF THE SPAN WIRE TO THE POLE.

MESSENGER SHALL EXTEND 8" TO 10" BEYOND THE STRAND VISE YOKE.

THERE SHALL BE A SEPARATE COLLAR USED FOR EACH SPAN.



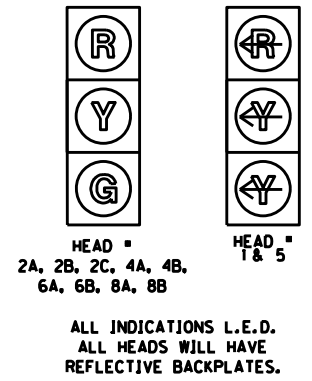
**BACKPLATE DETAIL**

FOR EQUIPMENT GROUND SIGNAL/PED HEADS: CONNECT GREEN WIRE FROM 5C/7C IMSA CABLE TO CONNECTOR THAT WILL BE INSTALLED UNDER ONE OF THE BOLTS FOR THE TRI STUD ASSEMBLY THAT CONNECTS THE HEADS. WE RECOMMEND BUTTED SEAM CLOSED BARREL FOR THIS CONNECTION.

**POLE BASE/SIGNAL HEAD DETAILS**

FILE NAME: C:\PWORK\KTYC.CHARLES.WEITZEL\02092286\100600P0.DGN  
 USER: charles.weitzel  
 DATE PLOTTED: July 19, 2022  
 E-SHEET NAME:  
 MicroStation v8.11.9.838  
 4/15/2021

**SIGNAL HEADS**

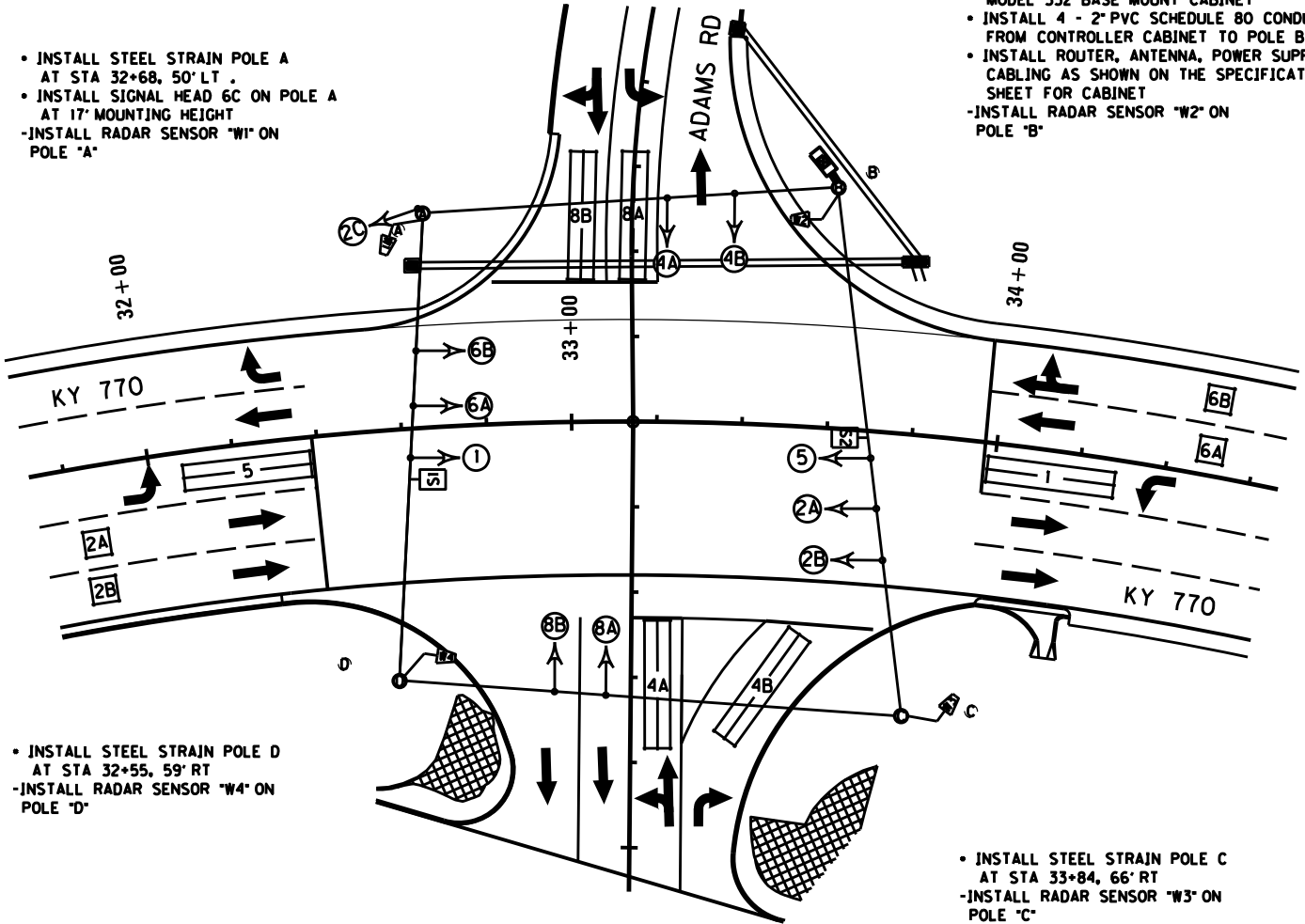


**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	30	A-B	26.0	126.11	5%
		A-D	27.0		
		B-A	30.0	148.88	5%
B	32	B-A	30.0	148.88	5%
		B-C	30.5		
		C-B	31.0	173.10	5%
C	32	C-B	31.0	173.10	5%
		C-D	30.5		
		D-A	29.0	141.83	5%
D	30	D-A	29.0	141.83	5%
		D-C	28.0		

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 1	SH 1
1-1/4" TC	CONTROLLER	SH 2B	SH 2A & 2B
1-1/4" TC	CONTROLLER	POLE A	SH 2C
1-1/4" TC	CONTROLLER	SH 4A	SH 4A & 4B
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6A	SH 6A & 6B
1-1/4" TC	CONTROLLER	SH 8B	SH 8A & 8B



- INSTALL STEEL STRAIN POLE B AT STA 33+59, 56.5' LT.
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR SENSOR "W2" ON POLE "B"

- INSTALL STEEL STRAIN POLE A AT STA 32+68, 50' LT.
- INSTALL SIGNAL HEAD 6C ON POLE A AT 17' MOUNTING HEIGHT
- INSTALL RADAR SENSOR "W1" ON POLE "A"

- INSTALL STEEL STRAIN POLE D AT STA 32+55, 59' RT
- INSTALL RADAR SENSOR "W4" ON POLE "D"

- INSTALL STEEL STRAIN POLE C AT STA 33+84, 66' RT
- INSTALL RADAR SENSOR "W3" ON POLE "C"

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

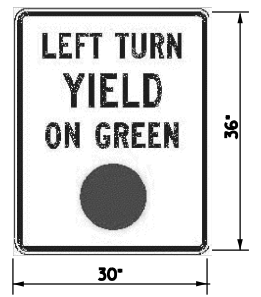
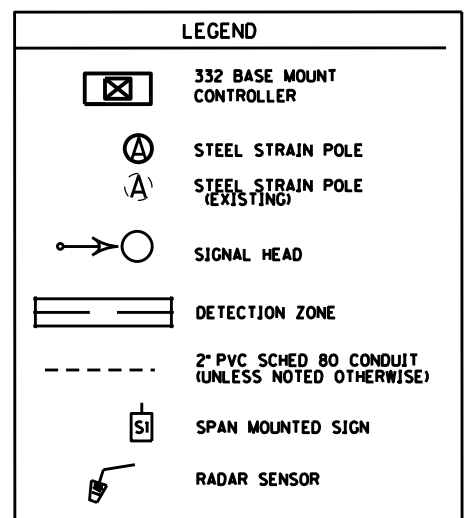
THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR THREE-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1		OUTPUT FILE CONNECTION FOR FYA ON PHASE 7	
CONNECTION	COLOR				
RED ARROW	RED	PHASE 1 RED		PHASE 5 RED	
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW		PHASE 5 YELLOW	
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN		PHASE 5 GREEN	
NOT USED	BLUE	N/A		N/A	
NEUTRAL	WHITE	WHITE		WHITE	
EQUIPMENT GROUND	GREEN				
NOT USED	WHITE/TRACER				



R10-12 SIGN  
SIGNS S1, S2

• INSTALL 30" x 36" LEFT TURN YIELD ON GREEN BALL SIGN R10-12, ON SPANS BC AND DA AS SHOWN.

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'

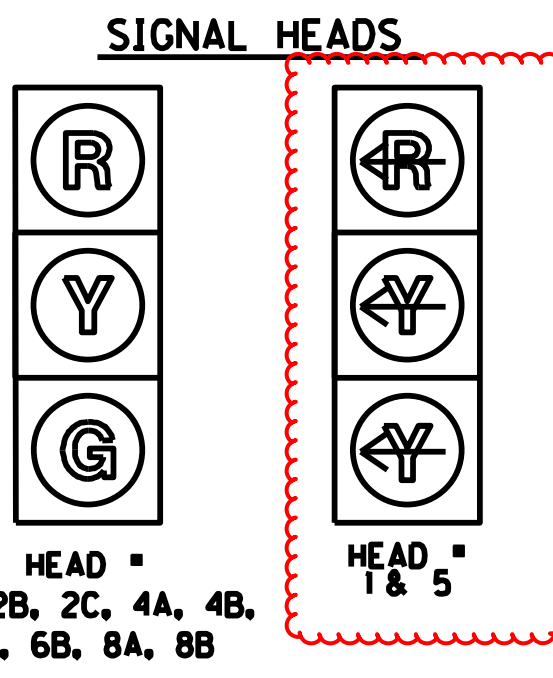
FILE NAME:   
 USER: FRAMEDG   
 DATE PLOTTED: March 30, 2020   
 E-SHEET NAME: T008005G   
 Power: JnrRoads v8.11.3.397   
 E-SHEET NAME: T008005G

APPROVED FOR CONSTRUCTION

SCALE: 1"=20'

KY 770  
AT  
ADAMS ROAD

REVISED 7/19/2022



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE REFLECTIVE BACKPLATES.



**STEEL STRAIN POLES**

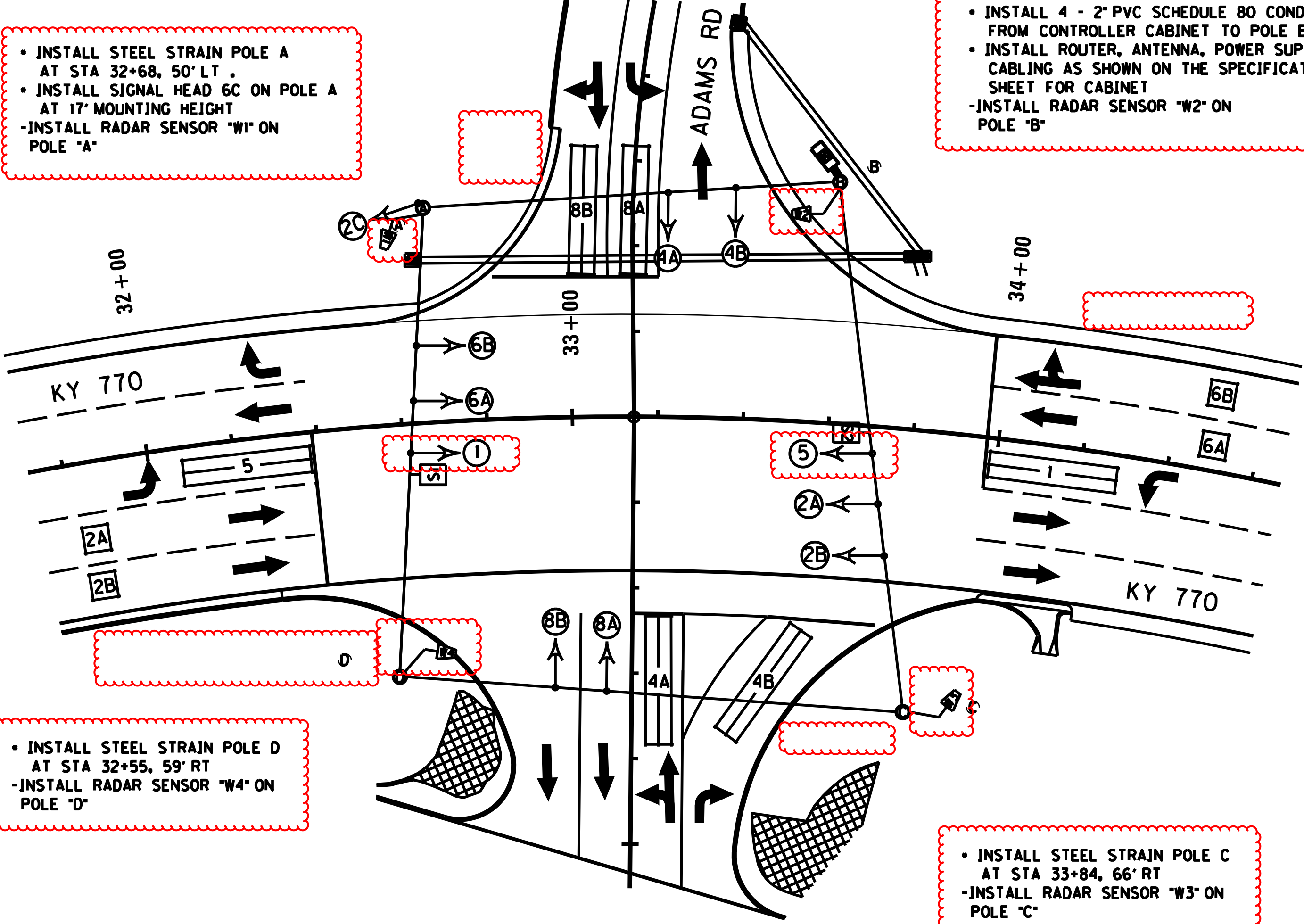
POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	30	A-B	26.0	126.11	5%
		A-D	27.0		
B	32	B-A	30.0	148.88	5%
		B-C	30.5		
C	32	C-B	31.0	173.10	5%
		C-D	30.5		
D	30	D-A	29.0	141.83	5%
		D-C	28.0		

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 1	SH 1
1-1/4" TC	CONTROLLER	SH 2B	SH 2A & 2B
1-1/4" TC	CONTROLLER	POLE A	SH 2C
1-1/4" TC	CONTROLLER	SH 4A	SH 4A & 4B
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6A	SH 6A & 6B
1-1/4" TC	CONTROLLER	SH 8B	SH 8A & 8B

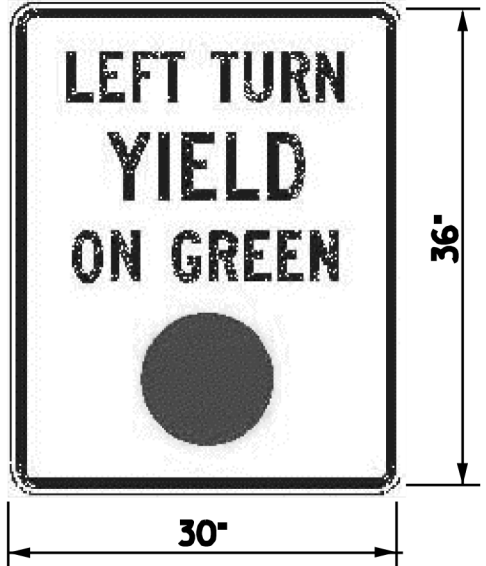
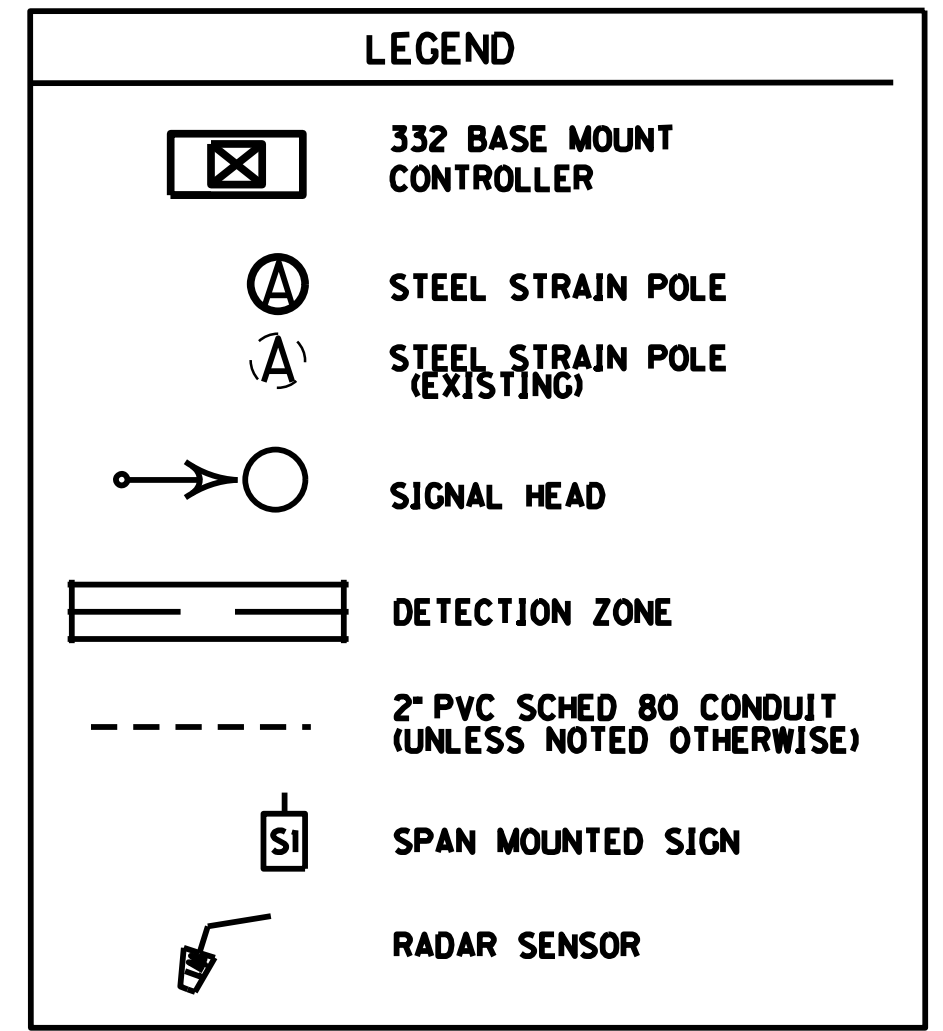
• INSTALL STEEL STRAIN POLE A AT STA 32+68, 50' LT.  
• INSTALL SIGNAL HEAD 6C ON POLE A AT 17' MOUNTING HEIGHT  
• INSTALL RADAR SENSOR "W1" ON POLE "A"

• INSTALL STEEL STRAIN POLE B AT STA 33+59, 56.5' LT.  
• INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET  
• INSTALL RADAR SENSOR "W2" ON POLE "B"



• INSTALL STEEL STRAIN POLE D AT STA 32+55, 59' RT  
• INSTALL RADAR SENSOR "W4" ON POLE "D"

• INSTALL STEEL STRAIN POLE C AT STA 33+84, 66' RT  
• INSTALL RADAR SENSOR "W3" ON POLE "C"



R10-12 SIGN  
SIGNS S1, S2  
- INSTALL 30" x 36" LEFT TURN YIELD ON GREEN BALL SIGN R10-12, ON SPANS BC AND DA AS SHOWN.

**NOTES:**  
ALL MESSENGER IS 15.4 M. ALL 6"x30" LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR THREE-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 2
CONNECTION	COLOR		
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
NOT USED	BLUE	N/A	N/A
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

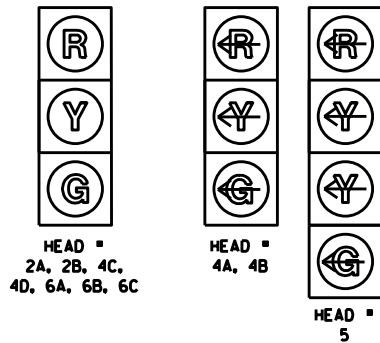
**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'

APPROVED FOR CONSTRUCTION

SCALE: 1"=20'  
KY 770 AT ADAMS ROAD

**SIGNAL HEADS**



HEAD #  
2A, 2B, 4C,  
4D, 6A, 6B, 6C

HEAD #  
4A, 4B

HEAD #  
5

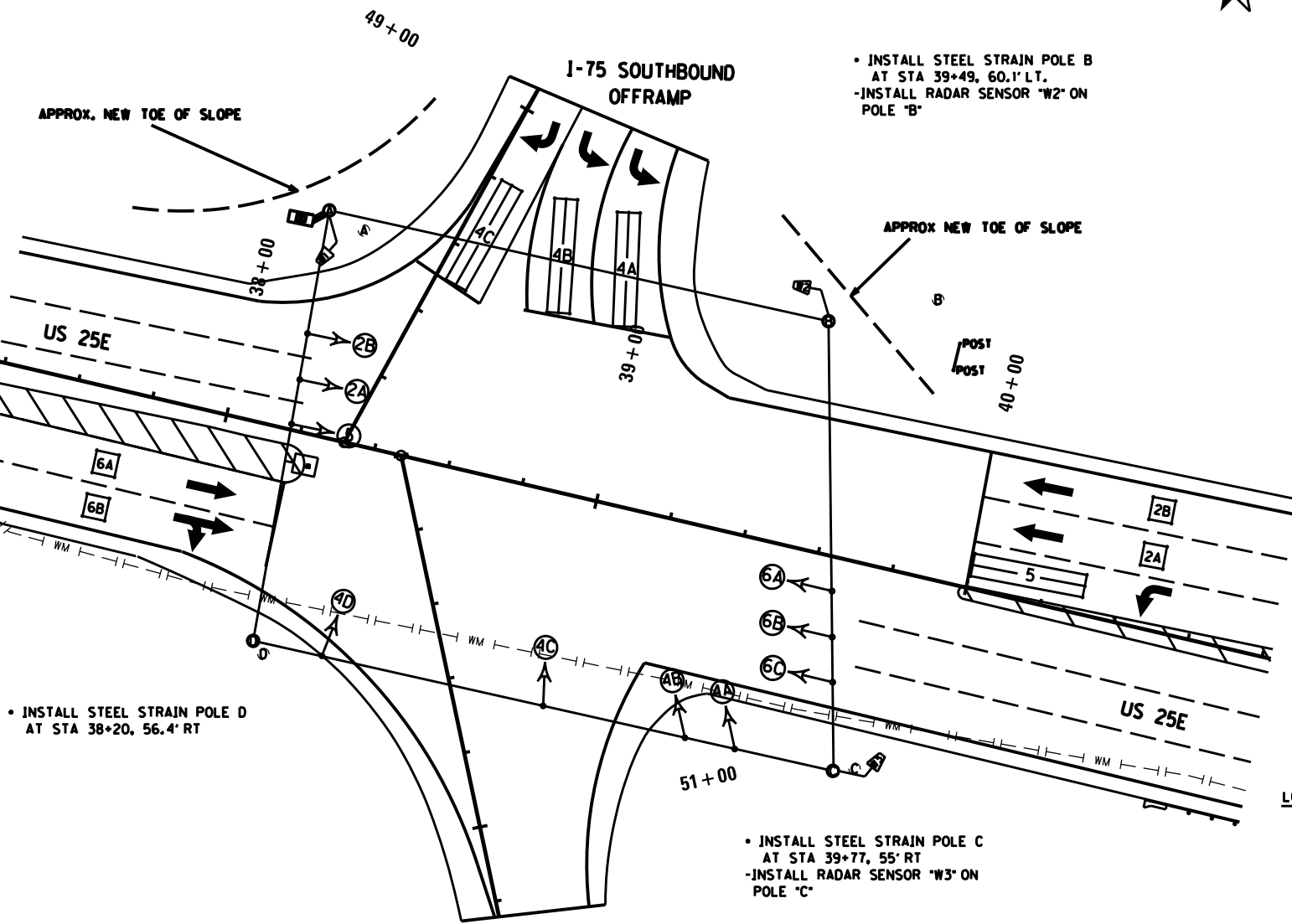
ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE  
REFLECTIVE BACKPLATES.

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	32	A-B	29.0	180.77	5%
		A-D	30.0		
B	32	B-A	30.0	146.92	5%
		B-C	29.5		
C	34	C-B	31.5	188.21	5%
		C-D	32.0		
D	34	D-A	32.0	177.99	5%
		D-C	31.5		

- INSTALL STEEL STRAIN POLE A AT STA 38+14, 58.6' LT.
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR SENSOR "W1" ON POLE "A"

- INSTALL STEEL STRAIN POLE B AT STA 39+49, 60.1' LT.
- INSTALL RADAR SENSOR "W2" ON POLE "B"



**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 2A	SH 2A & 2B
1-1/4" TC	CONTROLLER	SH 4A	SH 4A, 4B, 4C & 4D
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6C	SH 6A, 6B & 6C

**NOTES:**

- ALL MESSENGER IS 15.4 M. ALL 6"x30" LOOPS SHALL BE QUADRAPOLE.
- THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.
- CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.
- REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

- INSTALL STEEL STRAIN POLE D AT STA 38+20, 56.4' RT

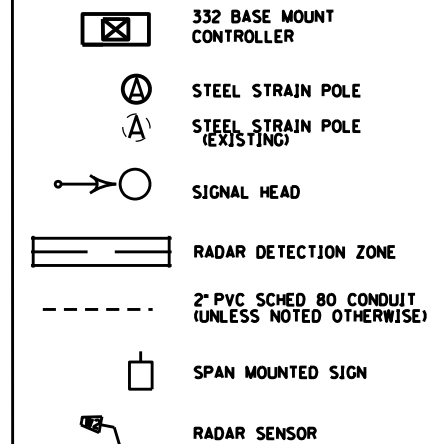
- INSTALL STEEL STRAIN POLE C AT STA 39+77, 55' RT
- INSTALL RADAR SENSOR "W3" ON POLE "C"

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS			
CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,19" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**LEGEND**



**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
2A	2	12	1	6'x6'	50'
2B	2	12	2	6'x6'	50'
4A	4	16	1	6'x30'	0'
4B	4	16	2	6'x30'	0'
4C	4	17	1	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'

**US 25E (CUMBERLAND GAP PKWY)  
AT  
I-75 SOUTHBOUND RAMP**

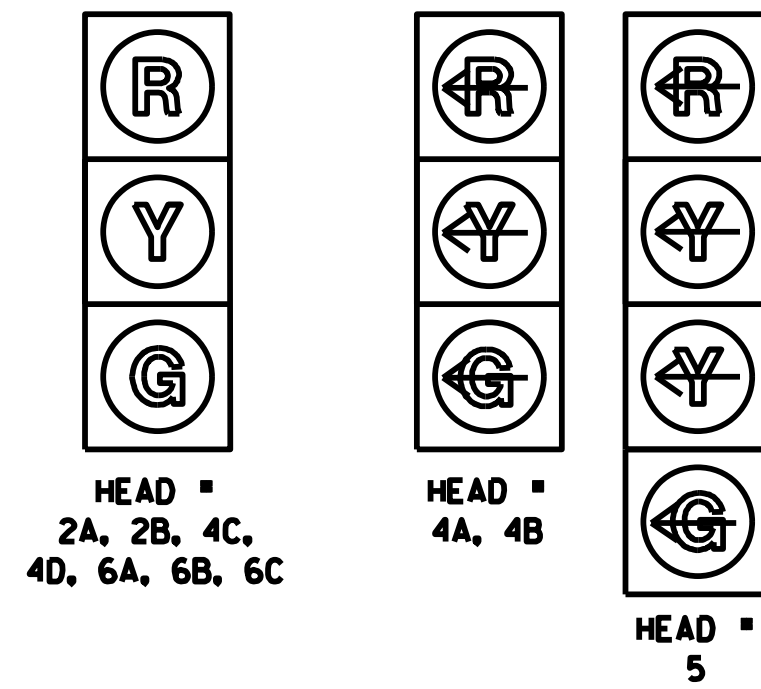
SCALE: 1"=20'

APPROVED FOR CONSTRUCTION

Power: JnrRoads v8.11.13.397 E-SHEET NAME: T00900SG DATE PLOTTED: March 30, 2020 USER: FRANKEDG FILE NAME:

REVISED 7/19/2022

**SIGNAL HEADS**



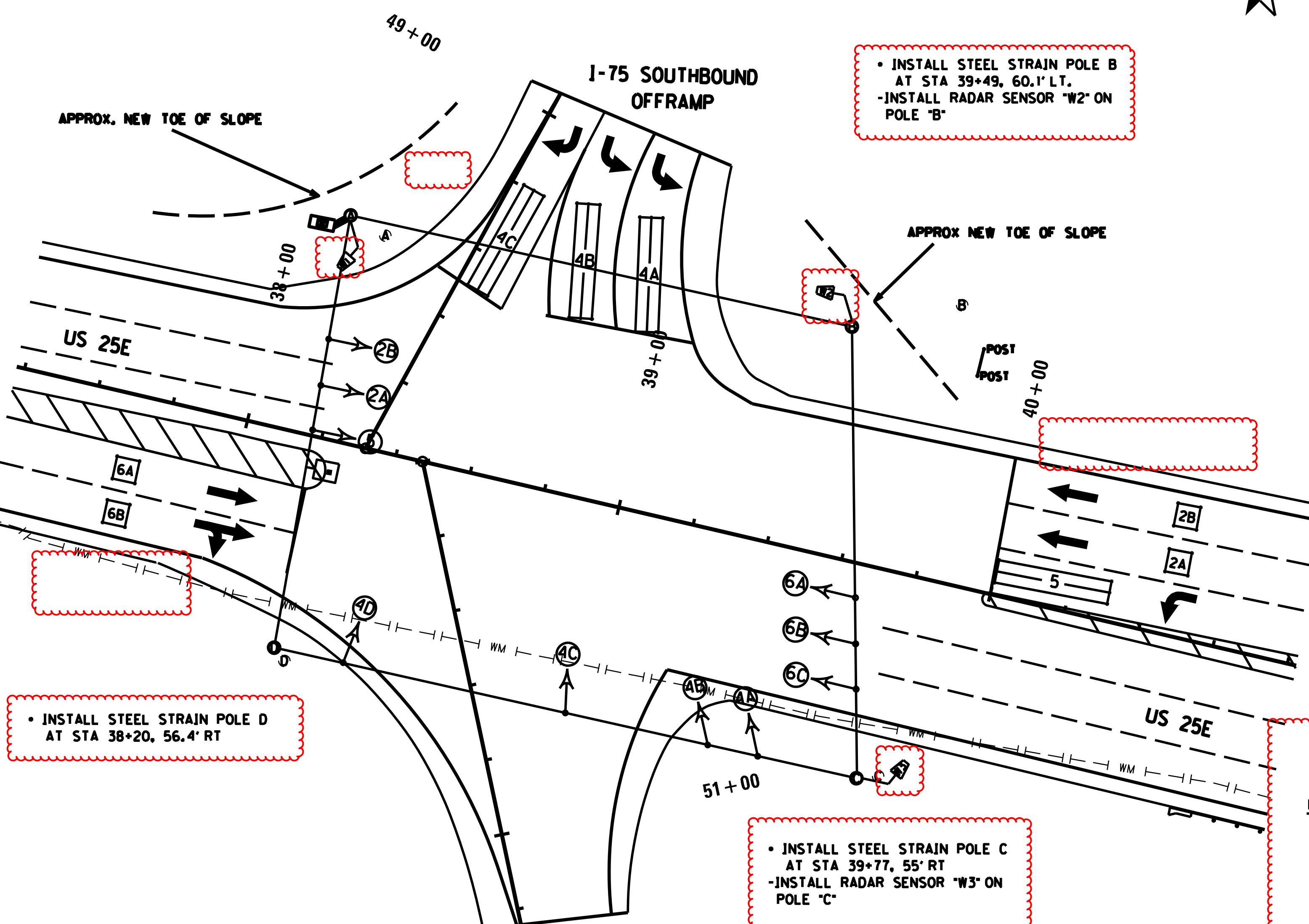
ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE  
REFLECTIVE BACKPLATES.

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	32	A-B	29.0	180.77	5%
		A-D	30.0		
B	32	B-A	30.0	146.92	5%
		B-C	29.5		
C	34	C-B	31.5	188.21	5%
		C-D	32.0		
D	34	D-A	32.0	177.99	5%
		D-C	31.5		

- INSTALL STEEL STRAIN POLE A AT STA 38+14, 58.6' LT.
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR SENSOR "W1" ON POLE "A"

- INSTALL STEEL STRAIN POLE B AT STA 39+49, 60.1' LT.
- INSTALL RADAR SENSOR "W2" ON POLE "B"



**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 2A	SH 2A & 2B
1-1/4" TC	CONTROLLER	SH 4A	SH 4A, 4B, 4C & 4D
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6C	SH 6A, 6B & 6C

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

- INSTALL STEEL STRAIN POLE D AT STA 38+20, 56.4' RT

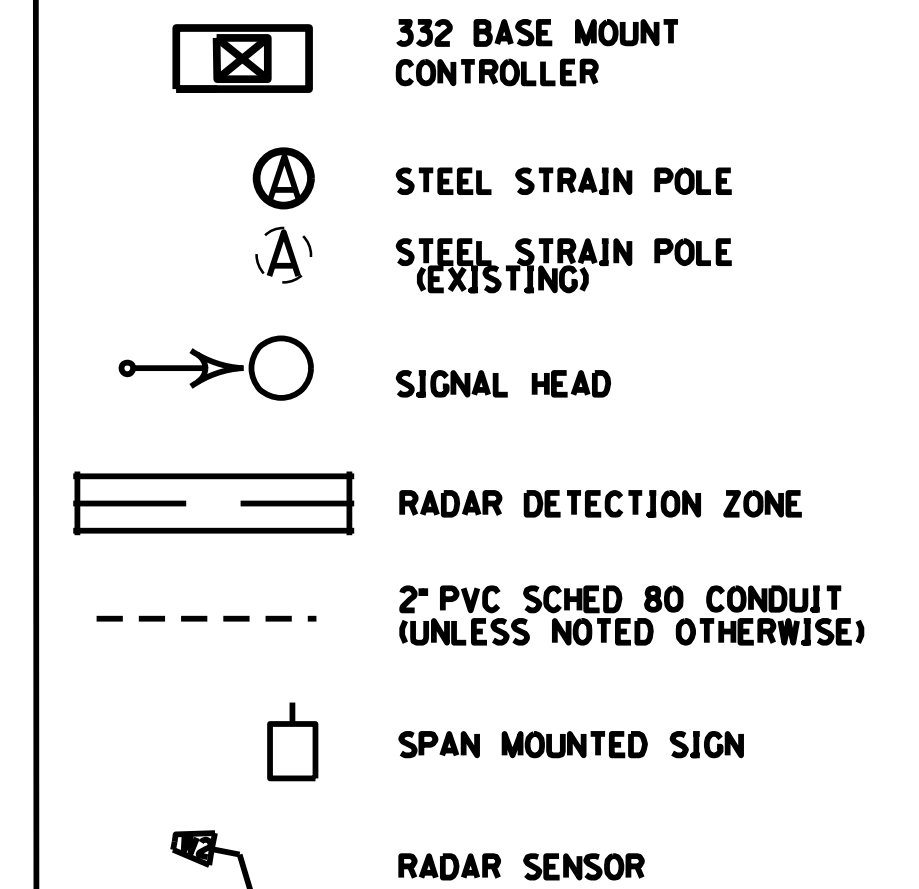
- INSTALL STEEL STRAIN POLE C AT STA 39+77, 55' RT
- INSTALL RADAR SENSOR "W3" ON POLE "C"

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PHASE 2 YELLOW	PHASE 6 YELLOW
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 1316RJ" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**LEGEND**



SCALE: 1"=20'

US 25E (CUMBERLAND GAP PKWY)  
AT  
175 SOUTHBOUND RAMP

APPROVED FOR CONSTRUCTION

FILE NAME:

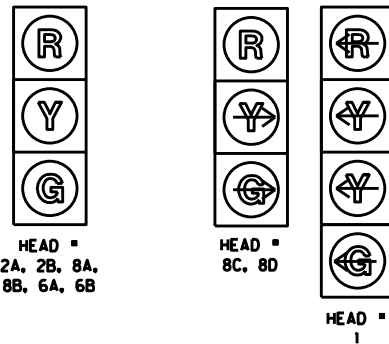
USER: FRANKEDC  
DATE PLOTTED: March 30, 2020

E-SHEET NAME: T0090050

Power InRoads v8.11.9.397



**SIGNAL HEADS**



HEAD #  
2A, 2B, 8A,  
8B, 6A, 6B

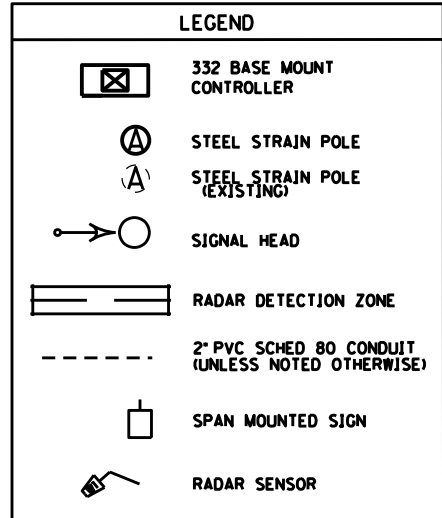
HEAD #  
8C, 8D

HEAD #  
1

ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE  
REFLECTIVE BACKPLATES.

**STEEL STRAIN POLES**

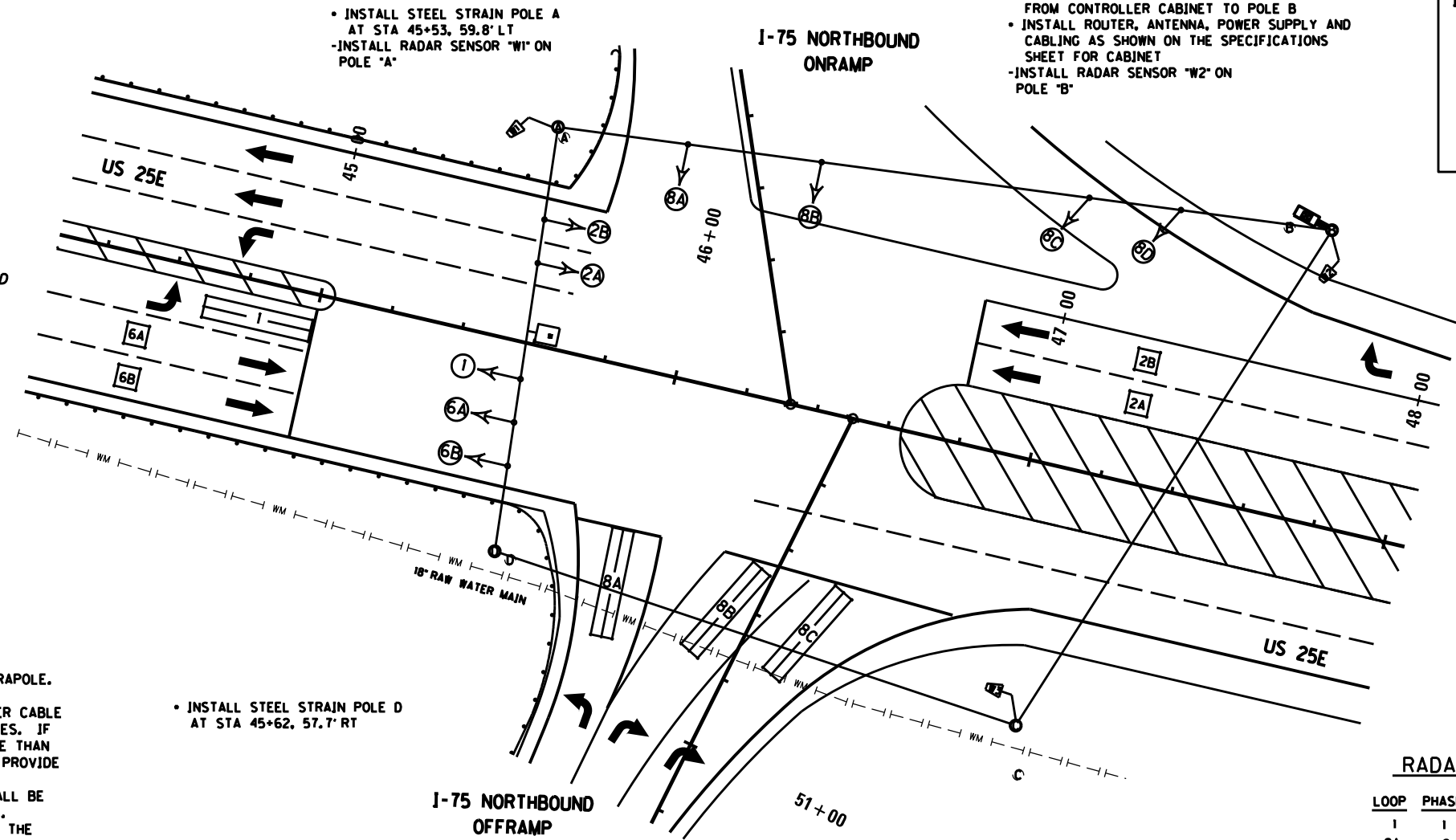
POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	34	A-B	32.5	213.13	5%
		A-D	32.0		
		B-C	34.0		
B	36	B-A	35.0	223.94	5%
		B-C	34.0		
C	32	C-B	30.5	115.57	5%
		C-D	30.0		
D	32	D-A	31.0	158.70	5%
		D-C	30.5		



- INSTALL STEEL STRAIN POLE B AT STA 47+66.6, 80.2' LT.
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR SENSOR "W2" ON POLE "B"

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-14/7C	CONTROLLER	SH 1	SH 1
1-14/7C	CONTROLLER	SH 2A	SH 2A & 2B
1-14/7C	CONTROLLER	SH 6B	SH 6A & 6B
1-14/7C	CONTROLLER	SH 8A	SH 8A, 8B, 8C & 8D



- INSTALL STEEL STRAIN POLE A AT STA 45+53, 59.8' LT
- INSTALL RADAR SENSOR "W1" ON POLE "A"

- INSTALL STEEL STRAIN POLE D AT STA 45+62, 57.7' RT

- INSTALL STEEL STRAIN POLE C AT STA 47+13, 72' RT
- INSTALL RADAR SENSOR "W3" ON POLE "C"

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PHASE 2 YELLOW	PHASE 6 YELLOW
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13.16.RJ" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'
8C	8	J7	1	6'x30'	0'

US 25E (CUMBERLAND GAP PKWY)  
AT  
I-75 NORTHBOUND RAMP

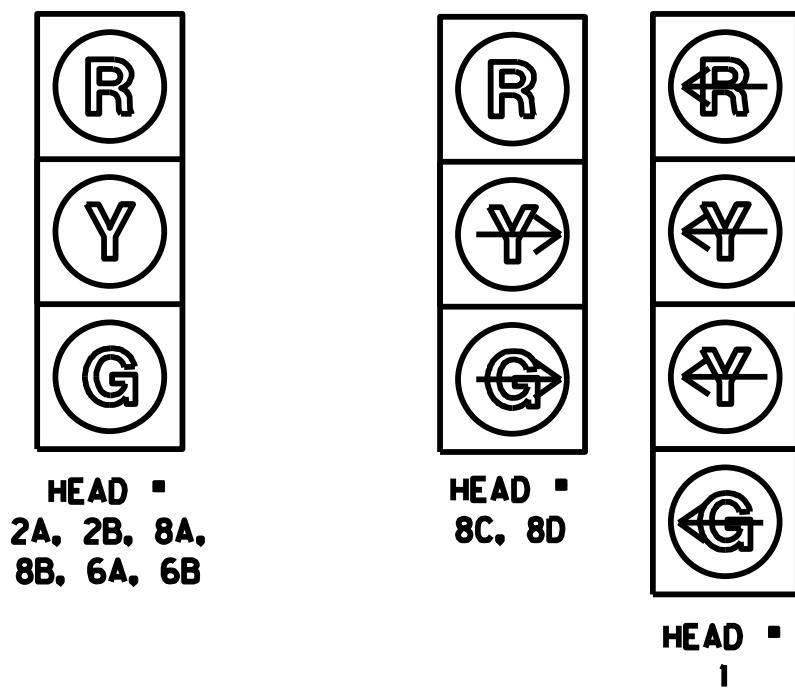
SCALE: 1"=20'

APPROVED FOR CONSTRUCTION

FILE NAME: Power\_InRoads v8.11.3.397 E-SHEET NAME: T01000SG DATE PLOTTED: March 30, 2020 USER: FRANKED

REVISED 7/19/2022

**SIGNAL HEADS**

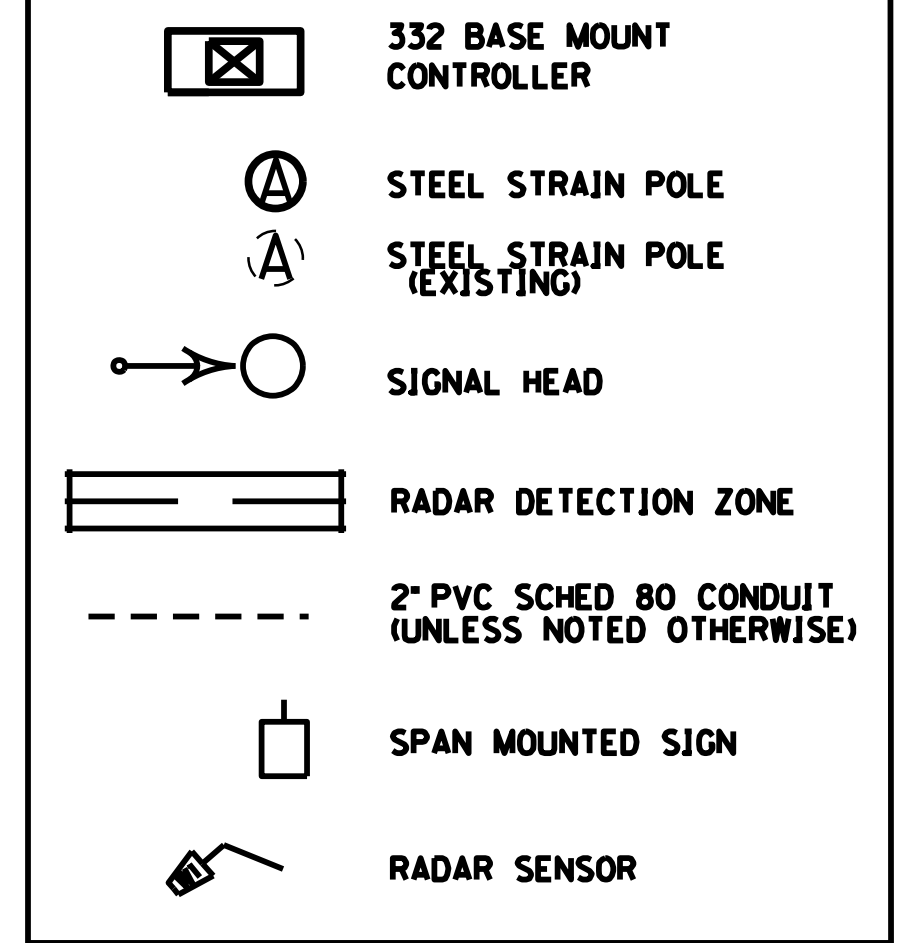


ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE  
REFLECTIVE BACKPLATES.

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	34	A-B	32.5	213.13	5%
B	36	A-D	32.0	223.94	5%
		B-A	35.0		
C	32	B-C	34.0	115.57	5%
		C-B	30.5		
D	32	C-D	30.0	158.70	5%
		D-A	31.0		
		D-C	30.5		

**LEGEND**



**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4"/7C	CONTROLLER	SH 1	SH 1
1-1/4"/7C	CONTROLLER	SH 2A	SH 2A & 2B
1-1/4"/7C	CONTROLLER	SH 6B	SH 6A & 6B
1-1/4"/7C	CONTROLLER	SH 8A	SH 8A, 8B, 8C & 8D

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

• INSTALL STEEL STRAIN POLE A AT STA 45+53, 59.8' LT  
-INSTALL RADAR SENSOR "W1" ON POLE "A"

• INSTALL STEEL STRAIN POLE B AT STA 47+66.6, 80.2' LT.  
• INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET  
-INSTALL RADAR SENSOR "W2" ON POLE "B"

• INSTALL STEEL STRAIN POLE D AT STA 45+62, 57.7' RT

• INSTALL STEEL STRAIN POLE C AT STA 47+13, 72' RT  
-INSTALL RADAR SENSOR "W3" ON POLE "C"

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
CONNECTION	COLOR		
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMJ 13.16.RJ" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'
8C	8	J7	1	6'x30'	0'

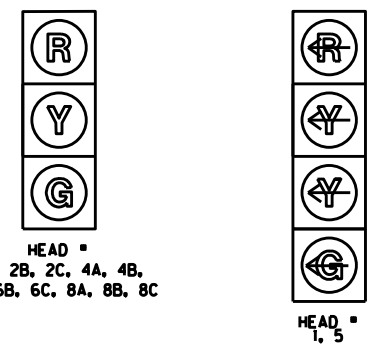
APPROVED FOR CONSTRUCTION

US 25E (CUMBERLAND GAP PKWY)  
AT  
I-75 NORTHBOUND RAMP

SCALE: 1"=20'

Power InRoads v8.11.9.397 E-SHEET NAME: TO1000SC DATE PLOTTED: March 30, 2020 USER: FRANKED FILE NAME:

**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE REFLECTIVE BACKPLATES.

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 1	SH 1
1-1/4" TC	CONTROLLER	SH 2C	SH 2A, 2B & 2C
1-1/4" TC	CONTROLLER	SH 4B	SH 4A & 4B
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6A	SH 6A, 6B & 6C
1-1/4" TC	CONTROLLER	SH 8A	SH 8A & 8B

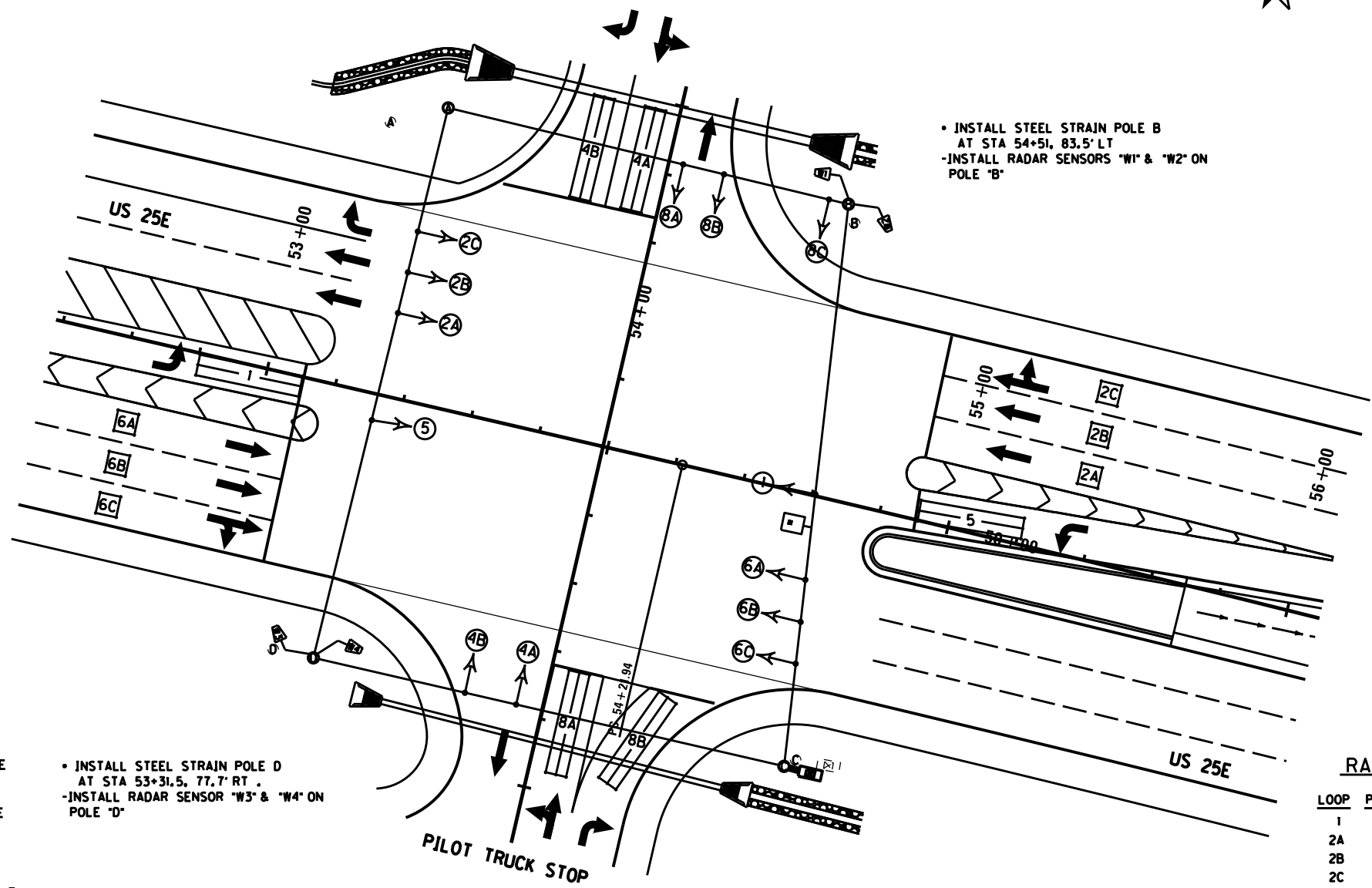
**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	36	A-B	32.5	201.17	5%
		A-D	35.0		
B	34	B-A	31.0	180.44	5%
		B-C	32.0		
C	36	C-B	34.0	211.68	5%
		C-D	32.0		
D	36	D-A	34.5	195.58	5%
		D-C	31.0		

• INSTALL STEEL STRAIN POLE A AT STA 53+33.5, 84.4' LT

• INSTALL STEEL STRAIN POLE B AT STA 54+51, 83.5' LT  
• INSTALL RADAR SENSORS "W1" & "W2" ON POLE "B"

• INSTALL STEEL STRAIN POLE D AT STA 53+31.5, 77.7' RT  
• INSTALL RADAR SENSOR "W3" & "W4" ON POLE "D"



**LEGEND**

- 332 BASE MOUNT CONTROLLER
- STEEL STRAIN POLE
- STEEL STRAIN POLE (EXISTING)
- SIGNAL HEAD
- RADAR DETECTION ZONE
- 2" PVC SCHED 80 CONDUIT (UNLESS NOTED OTHERWISE)
- SPAN MOUNTED SIGN
- RADAR SENSOR



**NOTES:**

ALL MESSENGER AT THIS INTERSECTION IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS			
CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PHASE 1 GREEN	PHASE 5 GREEN
NEUTRAL	WHITE	PHASE 1 GREEN	PHASE 5 GREEN
EQUIPMENT GROUND	GREEN	PHASE 1 GREEN	PHASE 5 GREEN
NOT USED	WHITE/TRACER	PHASE 1 GREEN	PHASE 5 GREEN

• INSTALL STEEL STRAIN POLE C AT STA 54+70, 77.4' RT  
• INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 1316.R.U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
2C	2	J3	1	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
6C	6	J3	1	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'

**US 25E (CUMBERLAND GAP PKWY) AT PILOT TRUCK STOP**

SCALE: 1"=20'

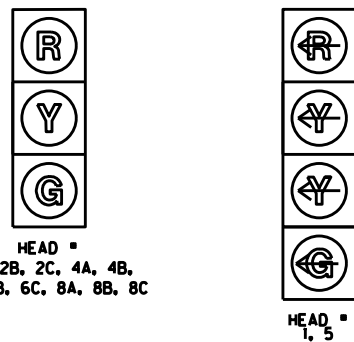
APPROVED FOR CONSTRUCTION

USER: FRANKED DATE PLOTTED: March 30, 2020  
 FILE NAME:  
 E-SHEET NAME: T01005G  
 Power\_InRoads v8.11.3.397

REVISED 7/19/2022

COUNTY OF	ITEM NO.	SHEET NO.
LAUREL	11-185.00	T11

**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE  
REFLECTIVE BACKPLATES.

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	36	A-B	32.5	201.17	5%
		A-D	35.0		
B	34	B-A	31.0	180.44	5%
		B-C	32.0		
C	36	C-B	34.0	211.68	5%
		C-D	32.0		
D	36	D-A	34.5	195.58	5%
		D-C	31.0		

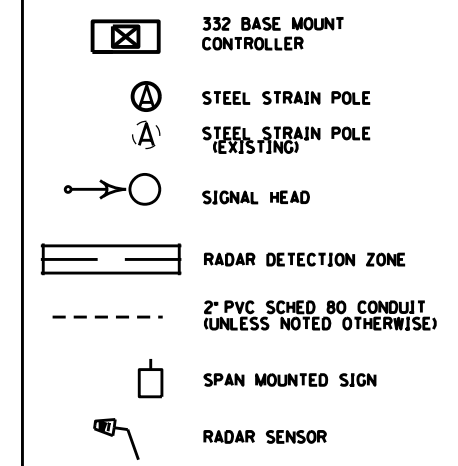
• INSTALL STEEL STRAIN POLE A  
AT STA 53+33.5, 84.4' LT

• INSTALL STEEL STRAIN POLE B  
AT STA 54+51, 83.5' LT  
•INSTALL RADAR SENSORS "W1" & "W2" ON  
POLE "B"

• INSTALL STEEL STRAIN POLE D  
AT STA 53+31.5, 77.7' RT .  
•INSTALL RADAR SENSOR "W3" & "W4" ON  
POLE "D"

• INSTALL STEEL STRAIN POLE C  
AT STA 54+70, 77.4' RT .  
• INSTALL TYPE ATC 2070 CONTROLLER IN  
MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS  
FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND  
CABLING AS SHOWN ON THE SPECIFICATIONS  
SHEET FOR CABINET

**LEGEND**



**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 1	SH 1
1-1/4" TC	CONTROLLER	SH 2C	SH 2A, 2B & 2C
1-1/4" TC	CONTROLLER	SH 4B	SH 4A & 4B
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6A	SH 6A, 6B & 6C
1-1/4" TC	CONTROLLER	SH 8A	SH 8A & 8B

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
2C	2	J3	1	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
6C	6	J3	1	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
CONNECTION	COLOR	PHASE 1 RED	PHASE 5 RED
RED ARROW	RED	PHASE 1 YELLOW	PHASE 5 YELLOW
STEADY YELLOW ARROW	ORANGE	PHASE 1 GREEN	PHASE 5 GREEN
FLASHING YELLOW ARROW	BLACK	PHASE 1 BLUE	PHASE 5 BLUE
GREEN ARROW	BLUE	PHASE 1 WHITE	PHASE 5 WHITE
NEUTRAL	WHITE	PHASE 1 TRACER	PHASE 5 TRACER
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 1316.RJ" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**NOTES:**

ALL MESSENGER AT THIS INTERSECTION IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

SCALE: 1"=20'

US 25E (CUMBERLAND GAP PKWY)  
AT  
PILOT TRUCK STOP

APPROVED FOR CONSTRUCTION

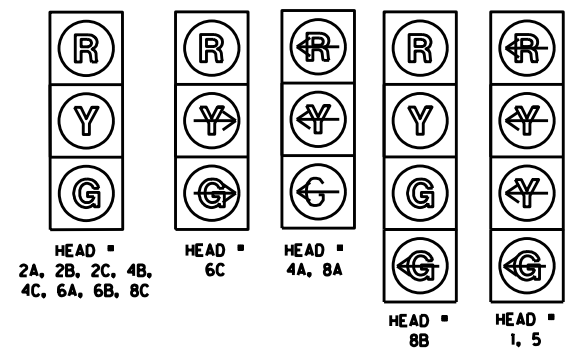
FILE NAME:

USER: FRANKEDG  
DATE PLOTTED: March 30, 2020

E-SHEET NAME: T01005G

Power\_InRoads v8.11.13.397

**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE  
REFLECTIVE BACKPLATES.

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4"/7C	CONTROLLER	SH 1	SH 1
1-1/4"/7C	CONTROLLER	SH 2A	SH 2A, 2B & 2C
1-1/4"/7C	CONTROLLER	SH 4C	SH 4A, 4B & 4C
1-1/4"/7C	CONTROLLER	SH 5	SH 5
1-1/4"/7C	CONTROLLER	SH 6C	SH 6A, 6B & 6C
1-1/4"/7C	CONTROLLER	SH 8A	SH 8A, 8B & 8C
2-1/4"/7C	CONTROLLER	POLE C	PED HD 8A & PB
1-1/4"/7C	CONTROLLER	POLE B	PED HD 8B
1-1/4"/7C	CONTROLLER	POST E	PED PB

**NOTES:**

ALL MESSENGER AT THIS INTERSECTION IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

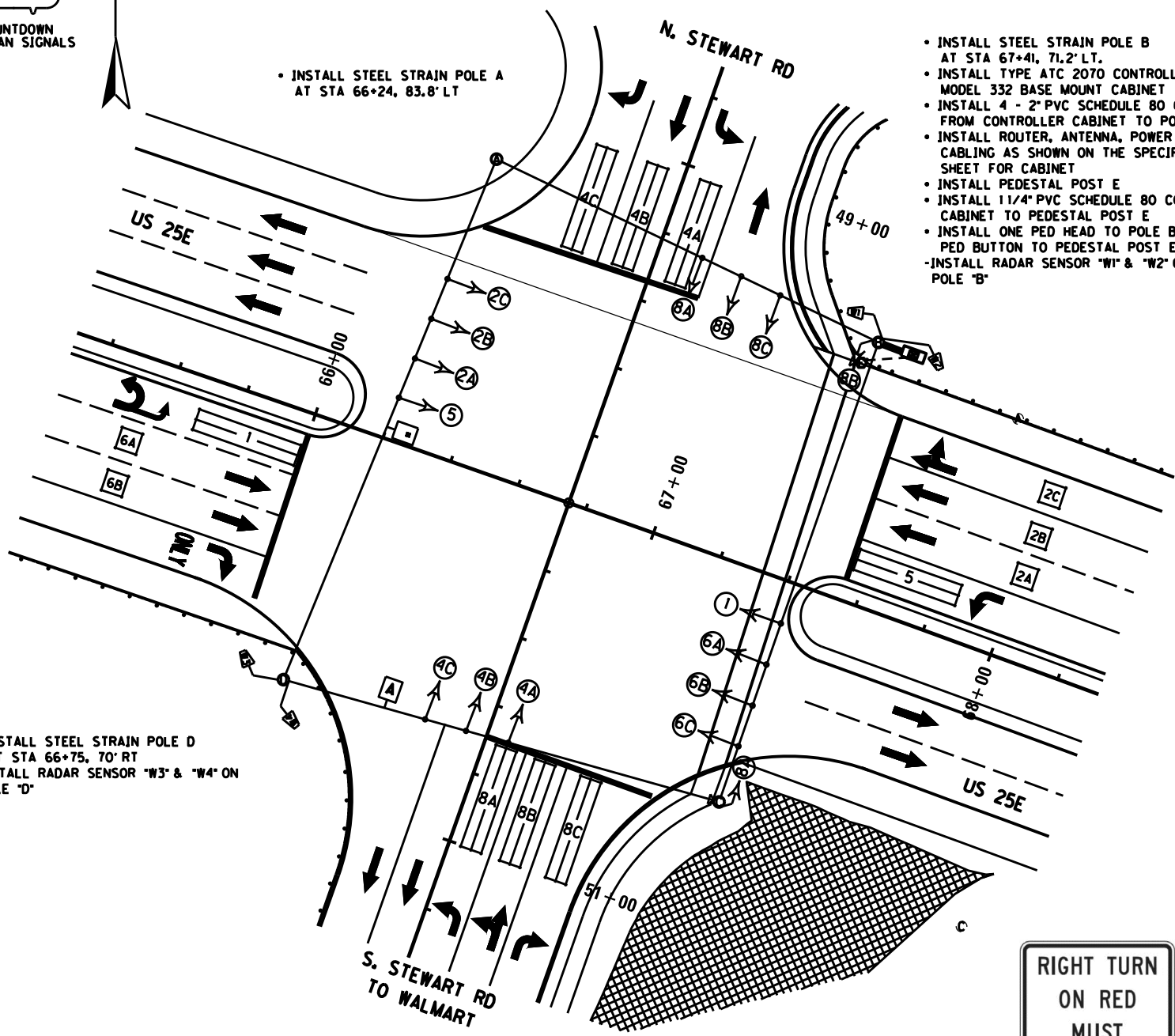
CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

THE SS POLE C AND PEDESTAL E SHALL BE INSTALLED SO THAT THE PEDESTRIAN BUTTON IS NO MORE THAN 10 INCHES FROM THE PAVED SIDEWALK.

- INSTALL STEEL STRAIN POLE D AT STA 66+75, 70' RT
- INSTALL RADAR SENSOR "W3" & "W4" ON POLE "D"



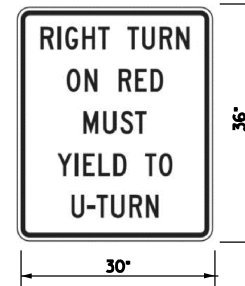
- INSTALL STEEL STRAIN POLE B AT STA 67+41, 71.2' LT.
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL PEDESTAL POST E
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM CABINET TO PEDESTAL POST E
- INSTALL ONE PED HEAD TO POLE B AND ONE PED BUTTON TO PEDESTAL POST E
- INSTALL RADAR SENSOR "W1" & "W2" ON POLE "B"

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL, IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

- INSTALL STEEL STRAIN POLE C AT STA 67+42.6, 64.5' RT.
- INSTALL ONE PED HEAD WITH ONE PED BUTTON TO POLE C



R10-30 SIGN SIGN A

- INSTALL 30" x 36" "RIGHT TURN ON RED MUST YIELD TO U-TURN" SIGN R10-30, ON SPAN (C) AS SHOWN.

**LEGEND**

- 332 BASE MOUNT CONTROLLER
- STEEL STRAIN POLE
- STEEL STRAIN POLE (EXISTING)
- PEDESTAL POST
- SIGNAL HEAD
- PEDESTRIAN HEAD
- PEDESTRIAN DETECTOR
- RADAR DETECTION ZONE
- 1/4" PVC SCHED 80 CONDUIT (UNLESS NOTED OTHERWISE)
- SPAN MOUNTED SIGN
- RADAR SENSOR

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	32	A-B	29.5	198.68	5%
		A-D	30.0		
		B-C	30.0		
B	32	B-A	29.5	160.02	5%
		B-C	30.0		
		C-D	29.0		
C	32	C-B	30.0	173.24	5%
		C-D	29.0		
D	36	D-A	34.0	238.01	5%
		D-C	32.5		

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
2C	2	J3	1	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
4C	4	J7	1	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'
8C	8	J7	1	6'x30'	0'

SCALE: 1"=20'

**US 25E (CUMBERLAND GAP PKWY) AT STEWART RD/WALMART**

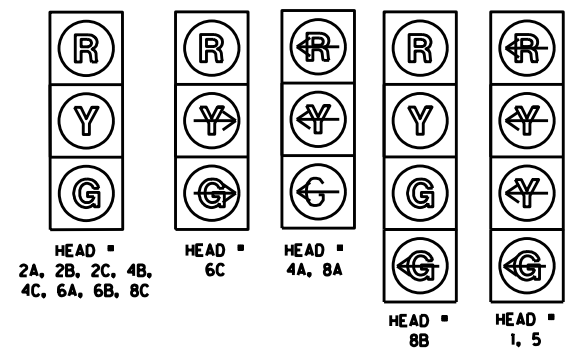
APPROVED FOR CONSTRUCTION

FILE NAME: USER: FRANKDG DATE PLOTTED: March 30, 2020 E-SHEET NAME: T0200SG Power\_InRoads v8.11.3.397

REVISED 7/19/2022

COUNTY OF	ITEM NO.	SHEET NO.
LAUREL	11-185.00	T12

**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE REFLECTIVE BACKPLATES.

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1"-14/7C	CONTROLLER	SH 1	SH 1
1"-14/7C	CONTROLLER	SH 2A	SH 2A, 2B & 2C
1"-14/7C	CONTROLLER	SH 4C	SH 4A, 4B & 4C
1"-14/7C	CONTROLLER	SH 5	SH 5
1"-14/7C	CONTROLLER	SH 6C	SH 6A, 6B & 6C
1"-14/7C	CONTROLLER	SH 8A	SH 8A, 8B & 8C
2"-14/7C	CONTROLLER	POLE C	PED HD 8A & 8B
1"-14/7C	CONTROLLER	POLE B	PED HD 8B
1"-14/7C	CONTROLLER	POST E	PED PB

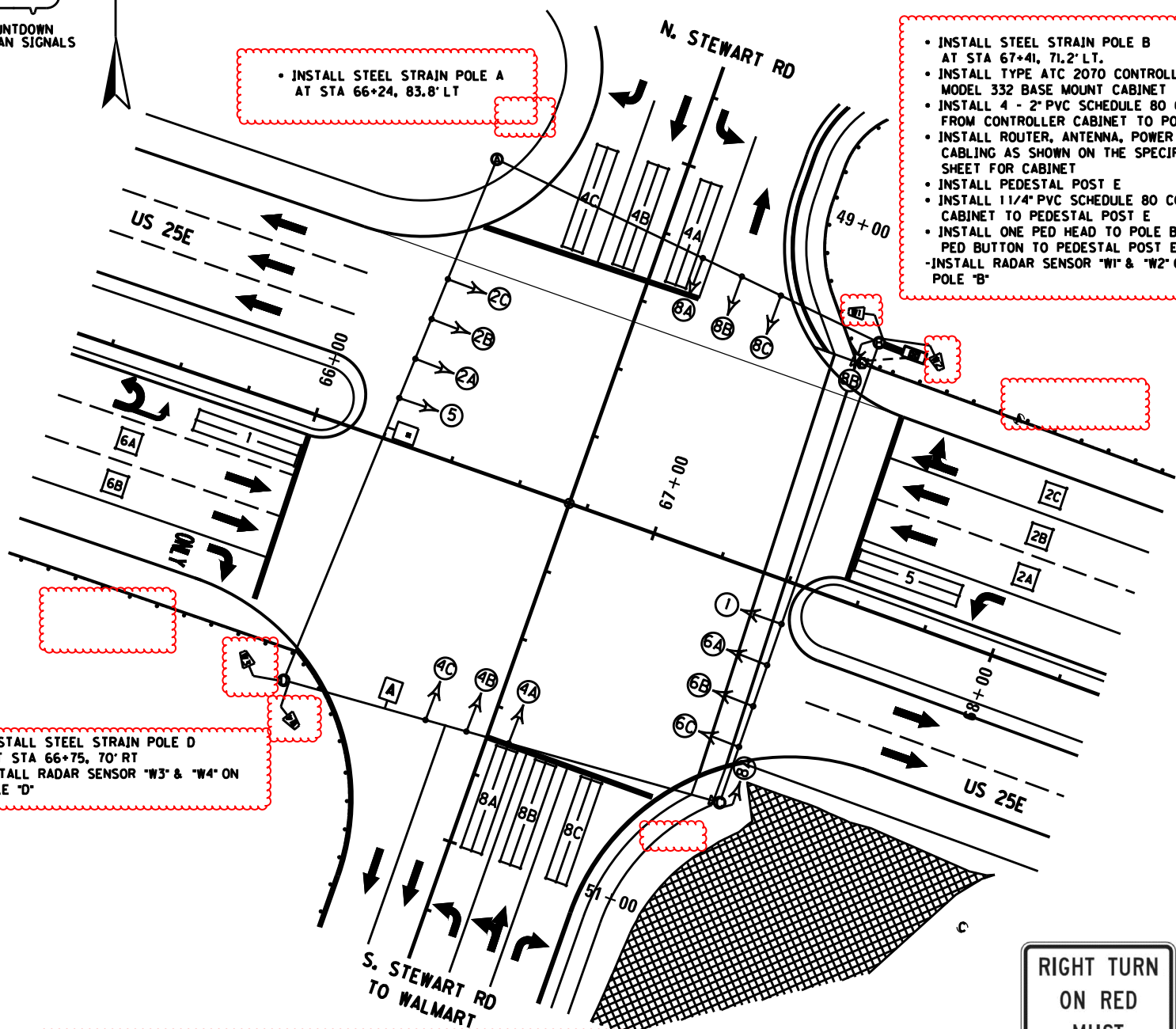
**NOTES:**  
ALL MESSENGER AT THIS INTERSECTION IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.  
THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

THE SS POLE C AND PEDESTAL E SHALL BE INSTALLED SO THAT THE PEDESTRIAN BUTTON IS NO MORE THAN 10 INCHES FROM THE PAVED SIDEWALK.



INSTALL STEEL STRAIN POLE A AT STA 66+24, 83.8' LT

- INSTALL STEEL STRAIN POLE B AT STA 67+41, 71.2' LT.
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL PEDESTAL POST E
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM CABINET TO PEDESTAL POST E
- INSTALL ONE PED HEAD TO POLE B AND ONE PED BUTTON TO PEDESTAL POST E
- INSTALL RADAR SENSOR "W1" & "W2" ON POLE "B"

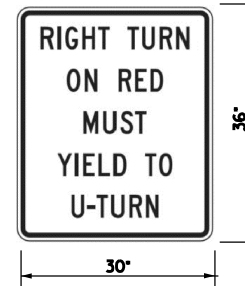
INSTALL STEEL STRAIN POLE D AT STA 66+75, 70' RT  
INSTALL RADAR SENSOR "W3" & "W4" ON POLE "D"

INSTALL STEEL STRAIN POLE C AT STA 67+42.6, 64.5' RT.  
INSTALL ONE PED HEAD WITH ONE PED BUTTON TO POLE C

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FVA HEADS		OUTPUT FILE CONNECTION FOR FVA ON PHASE 1	OUTPUT FILE CONNECTION FOR FVA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL, IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.



R10-30 SIGN SIGN A

INSTALL 30" x 36" RIGHT TURN ON RED MUST YIELD TO U-TURN SIGN R10-30, ON SPAN (C) AS SHOWN.

**LEGEND**

- 332 BASE MOUNT CONTROLLER
- STEEL STRAIN POLE
- STEEL STRAIN POLE (EXISTING)
- PEDESTAL POST
- SIGNAL HEAD
- PEDESTRIAN HEAD
- PEDESTRIAN DETECTOR
- RADAR DETECTION ZONE
- 1/4" PVC SCHED 80 CONDUIT (UNLESS NOTED OTHERWISE)
- SPAN MOUNTED SIGN
- RADAR SENSOR

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	32	A-B	29.5	198.68	5%
		A-D	30.0	160.02	5%
		B-C	30.0		
C	32	C-B	30.0	173.24	5%
		C-D	29.0		
		D-A	34.0	238.01	5%
D	36	D-C	32.5		

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
2C	2	J3	1	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
4C	4	J7	1	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'
8C	8	J7	1	6'x30'	0'

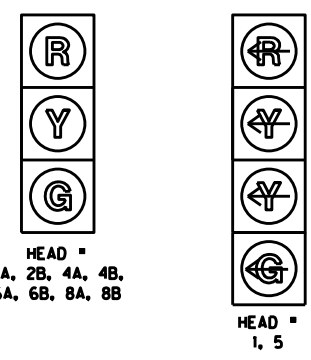
US 25E (CUMBERLAND GAP PKWY) AT STEWART RD/WALMART

SCALE: 1"=20'

APPROVED FOR CONSTRUCTION

FILE NAME: USER: FRANKEDG DATE PLOTTED: March 30, 2020 E-SHEET NAME: T0200SG Power\_InRoads v8.11.3.397

**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE REFLECTIVE BACKPLATES.

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 1	SH 1
1-1/4" TC	CONTROLLER	SH 2A	SH 2A & 2B
1-1/4" TC	CONTROLLER	SH 4B	SH 4A & 4B
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6B	SH 6A & 6B
1-1/4" TC	CONTROLLER	SH 8A	SH 8A & 8B

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	36	A-B	28.0	165.89	5%
B	34	A-D	34.0	163.14	5%
		B-C	32.0		
C	34	C-B	32.0	182.10	5%
		C-D	31.5		
D	34	D-A	32.0	180.71	5%
		D-C	28.5		

• INSTALL STEEL STRAIN POLE A AT STA 80+20, 76.1' LT.  
-INSTALL RADAR SENSOR "W1" ON POLE "A"

• INSTALL STEEL STRAIN POLE B AT STA 81+09, 74.9' LT.  
• INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET  
-INSTALL RADAR SENSOR "W2" ON POLE "B"

• INSTALL STEEL STRAIN POLE D AT STA 80+04, 71.4' RT.  
-INSTALL RADAR SENSOR "W4" ON POLE "D"

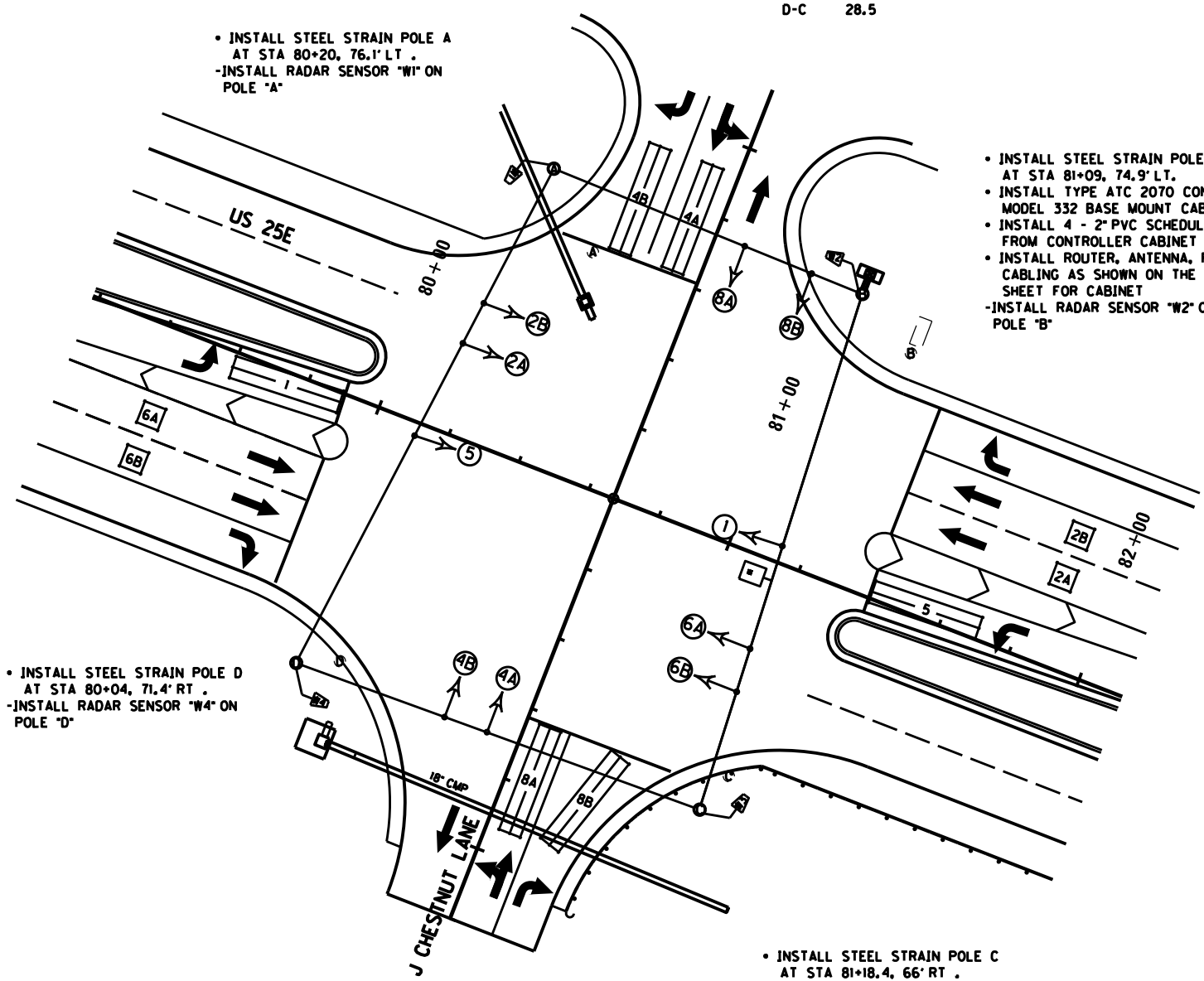
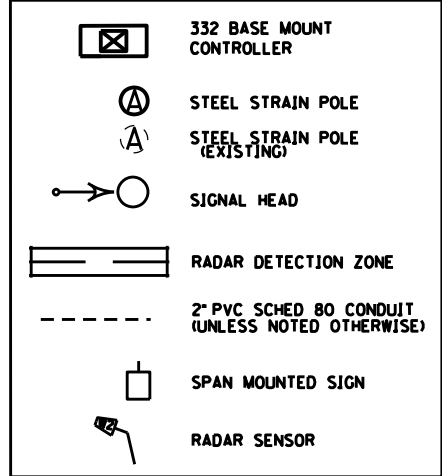
• INSTALL STEEL STRAIN POLE C AT STA 81+18.4, 66' RT.  
-INSTALL RADAR SENSOR "W3" ON POLE "C"

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
CONNECTION	COLOR	PHASE 1 RED	PHASE 5 RED
RED ARROW	RED	PHASE 1 YELLOW	PHASE 5 YELLOW
STEADY YELLOW ARROW	ORANGE	PHASE 1 GREEN	PHASE 5 GREEN
FLASHING YELLOW ARROW	BLACK	PHASE 2 YELLOW	PHASE 6 YELLOW
GREEN ARROW	BLUE	WHITE	WHITE
NEUTRAL	WHITE		
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**LEGEND**



**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'

US 25E (CUMBERLAND GAP PKWY)  
AT  
J CHESTNUT LANE/LOWES

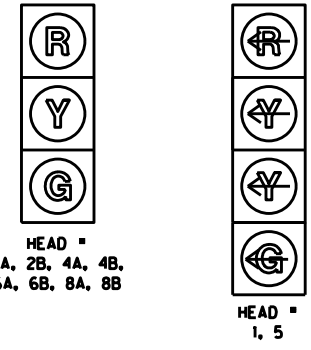
SCALE: 1"=20'

APPROVED FOR CONSTRUCTION

FILE NAME: Power\_InRoads v8.11.9.397 E-SHEET NAME: T01300SC USER: FRANKEDG DATE PLOTTED: March 30, 2020

REVISED 7/19/2022

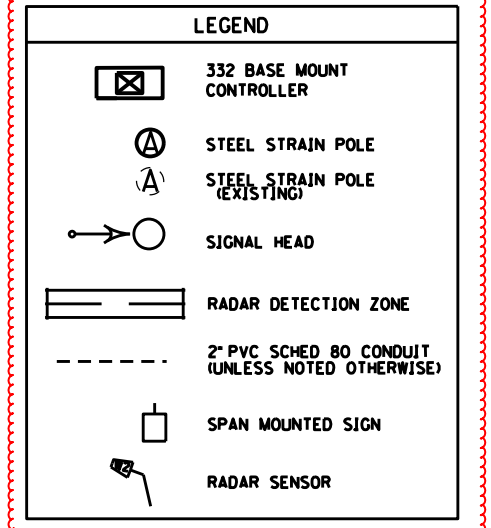
**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE REFLECTIVE BACKPLATES.

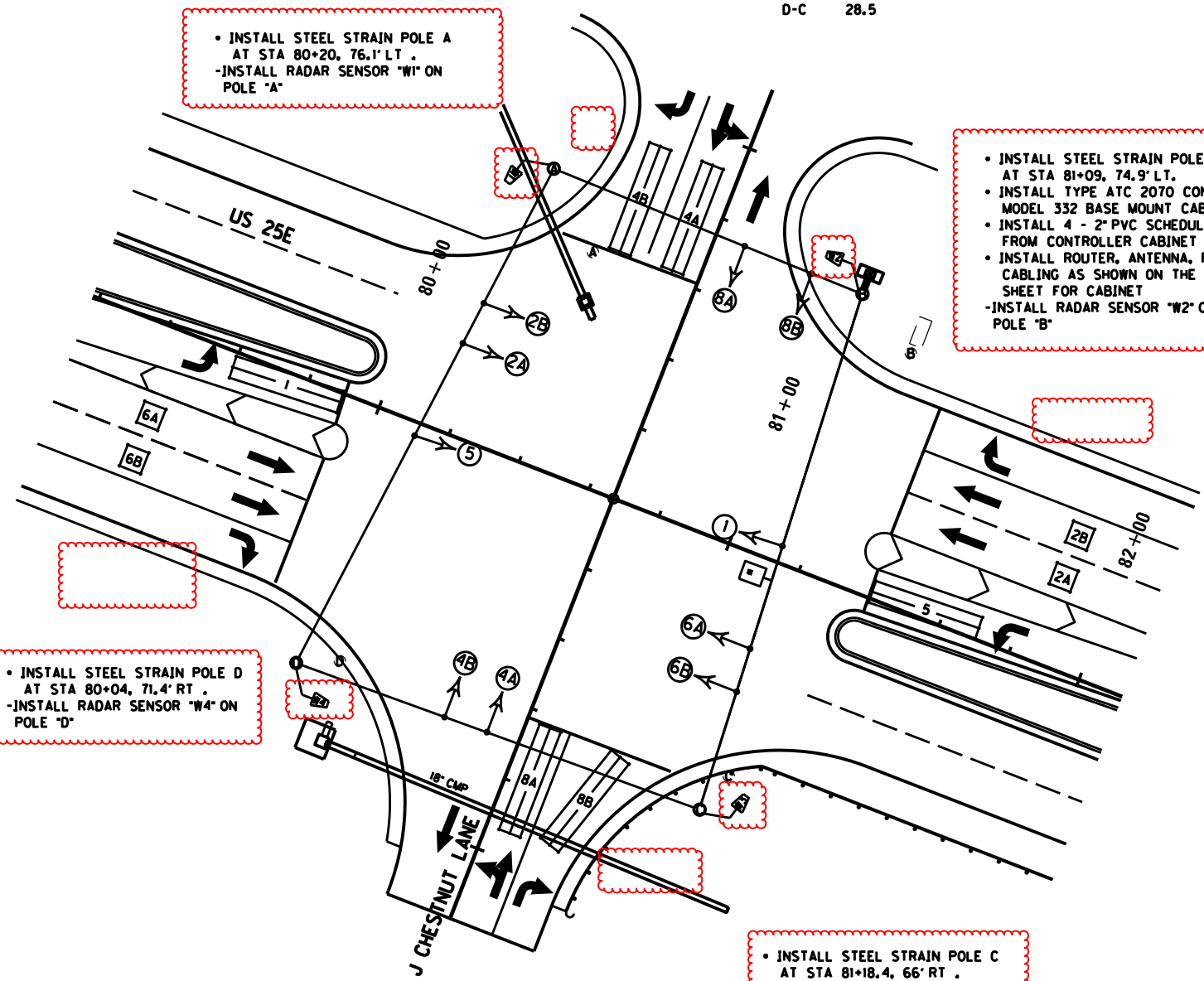
**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	36	A-B	28.0	165.89	5%
		A-D	34.0		
B	34	B-A	31.0	163.14	5%
		B-C	32.0		
C	34	C-B	32.0	182.10	5%
		C-D	31.5		
D	34	D-A	32.0	180.71	5%
		D-C	28.5		



**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 1	SH 1
1-1/4" TC	CONTROLLER	SH 2A	SH 2A & 2B
1-1/4" TC	CONTROLLER	SH 4B	SH 4A & 4B
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6B	SH 6A & 6B
1-1/4" TC	CONTROLLER	SH 8A	SH 8A & 8B



• INSTALL STEEL STRAIN POLE A AT STA 80+20, 76.1' LT.  
• INSTALL RADAR SENSOR "W1" ON POLE "A"

• INSTALL STEEL STRAIN POLE B AT STA 81+09, 74.9' LT.  
• INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET  
• INSTALL RADAR SENSOR "W2" ON POLE "B"

• INSTALL STEEL STRAIN POLE D AT STA 80+04, 71.4' RT.  
• INSTALL RADAR SENSOR "W4" ON POLE "D"

• INSTALL STEEL STRAIN POLE C AT STA 81+18.4, 66' RT.  
• INSTALL RADAR SENSOR "W3" ON POLE "C"

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6"x30" LOOPS SHALL BE QUADRAPOLE.  
THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.  
CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.  
CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.  
REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
CONNECTION	COLOR		
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW BLACK		PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	BLUE	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'

FILE NAME: E-SHEET NAME: T01300SC USER: FRANKEDG DATE PLOTTED: March 30, 2020 Power InRoads v8.11.9.397

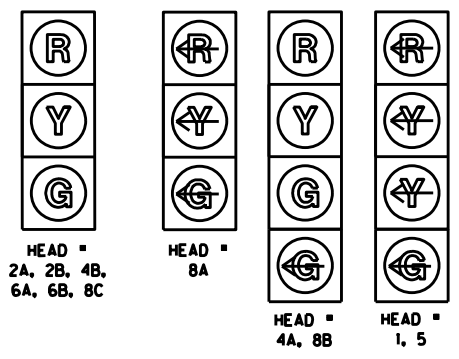
APPROVED FOR CONSTRUCTION

US 25E (CUMBERLAND GAP PKWY) AT J CHESTNUT LANE/LOWES

SCALE: 1"=20'



**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE REFLECTIVE BACKPLATES.

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-14/7C	CONTROLLER	SH 1	SH 1
1-14/7C	CONTROLLER	SH 2A	SH 2A & 2B
1-14/7C	CONTROLLER	SH 4B	SH 4A & 4B
1-14/7C	CONTROLLER	SH 5	SH 5
1-14/7C	CONTROLLER	SH 6B	SH 6A & 6B
1-14/7C	CONTROLLER	SH 8A	SH 8A, 8B & 8C

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6'x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

• INSTALL STEEL STRAIN POLE A AT STA 100+18, 78.7' LT .  
-INSTALL RADAR SENSOR "W1" ON POLE "A"

• INSTALL STEEL STRAIN POLE B AT STA 101+37.6, 76.1' LT.  
• INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET  
-INSTALL RADAR SENSOR "W2" ON POLE "B"

• INSTALL STEEL STRAIN POLE D AT STA 100+64.4, 72.1' RT .  
-INSTALL RADAR SENSOR "W4" ON POLE "D"

• INSTALL STEEL STRAIN POLE C AT STA 101+44.5, 75.2' RT .  
-INSTALL RADAR SENSOR "W3" ON POLE "C"

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
CONNECTION	COLOR	PHASE 1 RED	PHASE 5 RED
RED ARROW	RED	PHASE 1 YELLOW	PHASE 5 YELLOW
STEADY YELLOW ARROW	ORANGE	PHASE 1 GREEN	PHASE 5 GREEN
FLASHING YELLOW ARROW	BLACK	PED YELLOW PHASE 2	PED YELLOW PHASE 6
GREEN ARROW	BLUE	WHITE	WHITE
NEUTRAL	WHITE		
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,19" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**LEGEND**

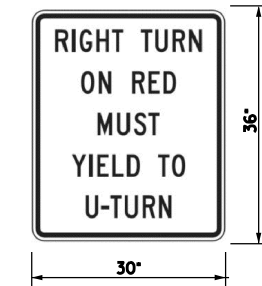
- 332 BASE MOUNT CONTROLLER
- STEEL STRAIN POLE
- STEEL STRAIN POLE (EXISTING)
- SIGNAL HEAD
- RADAR DETECTION ZONE
- 2" PVC SCHED 80 CONDUIT (UNLESS NOTED OTHERWISE)
- SPAN MOUNTED SIGN
- RADAR SENSOR

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	36	A-B	34.0	246.45	5%
		A-D	34.5		
B	36	B-A	31.0	194.12	5%
		B-C	34.0		
C	36	C-B	34.0	185.67	5%
		C-D	29.0		
D	34	D-A	32.0	156.81	5%
		D-C	31.5		

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'



R10-30 SIGN SIGN A

- INSTALL 30" x 36" RIGHT TURN ON RED MUST YIELD TO U-TURN SIGN R10-30, ON SPAN (CD) AS SHOWN.

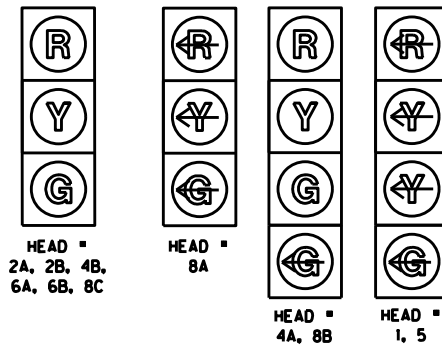
SCALE: 1"=20'

US 25E (CUMBERLAND GAP PKWY)  
AT  
KY 1223 N CHERRY AVE/KY 3431

APPROVED FOR CONSTRUCTION

FILE NAME: USER: FRAMEDG DATE PLOTTED: March 30, 2020 E-SHEET NAME: T01400SC Power\_InRoads v8.11.13.397

**SIGNAL HEADS**



ALL INDICATIONS L.E.D.  
ALL HEADS WILL HAVE REFLECTIVE BACKPLATES.

**WIRING SCHEDULE**

CABLE	ORIGIN	ENDING	CONNECTING
1-1/4" TC	CONTROLLER	SH 1	SH 1
1-1/4" TC	CONTROLLER	SH 2A	SH 2A & 2B
1-1/4" TC	CONTROLLER	SH 4B	SH 4A & 4B
1-1/4" TC	CONTROLLER	SH 5	SH 5
1-1/4" TC	CONTROLLER	SH 6B	SH 6A & 6B
1-1/4" TC	CONTROLLER	SH 8A	SH 8A, 8B & 8C

**NOTES:**

ALL MESSENGER IS 15.4 M. ALL 6"x30' LOOPS SHALL BE QUADRAPOLE.

THE CABINET SHALL SUPPLY CLAMP ASSEMBLIES FOR MESSENGER CABLE ATTACHMENTS BASED ON THE PRELIMINARY DESIGN OF THE POLES. IF THE ATTACHMENT LOCATIONS FOR CLAMP ASSEMBLIES ARE MORE THAN 2 FEET FROM THE TOP OF THE POLE, THE CONTRACTOR SHALL PROVIDE REPLACEMENT CLAMP ASSEMBLIES THAT WILL FACILITATE THE INSTALLATION. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STEEL STRAIN POLE. CONTRACTOR SUPPLIED CLAMP ASSEMBLIES SHALL CONFORM TO THE SPECIFICATIONS STATED ON THE POLE BASE/SIGNAL HEAD DETAILS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE REPLACEMENT ASSEMBLIES TO THE DIVISION OF TRAFFIC OPERATIONS FOR APPROVAL.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

REMOVE EXISTING INTERSECTION NUMBER SIGN AND ATTACH TO NEW SPAN USING NEW KYTC PROVIDED SIGN SPAN HANGER. THIS WILL BE INCIDENTAL TO INSTALL SPAN MOUNTED SIGN BID ITEM.

• INSTALL STEEL STRAIN POLE A AT STA 100+18, 78.7' LT.  
• INSTALL RADAR SENSOR "W1" ON POLE "A"

• INSTALL STEEL STRAIN POLE B AT STA 101+37.6, 76.1' LT.  
• INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET  
• INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE B  
• INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET  
• INSTALL RADAR SENSOR "W2" ON POLE "B"

• INSTALL STEEL STRAIN POLE D AT STA 100+64.4, 72.1' RT.  
• INSTALL RADAR SENSOR "W4" ON POLE "D"

• INSTALL STEEL STRAIN POLE C AT STA 101+44.5, 75.2' RT.  
• INSTALL RADAR SENSOR "W3" ON POLE "C"

**FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS**

7-CONDUCTOR FOUR-SECTION FYA HEADS		OUTPUT FILE CONNECTION FOR FYA ON PHASE 1	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
CONNECTION	COLOR	PHASE 1 RED	PHASE 5 RED
RED ARROW	RED	PHASE 1 YELLOW	PHASE 5 YELLOW
STEADY YELLOW ARROW	ORANGE	PHASE 1 GREEN	PHASE 5 GREEN
FLASHING YELLOW ARROW	BLACK	PED YELLOW PHASE 2	PED YELLOW PHASE 6
GREEN ARROW	BLUE	WHITE	WHITE
NEUTRAL	WHITE		
EQUIPMENT GROUND	GREEN		
NOT USED	WHITE/TRACER		

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,19" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

**LEGEND**

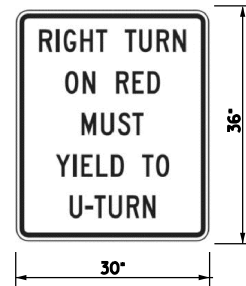
- 332 BASE MOUNT CONTROLLER
- STEEL STRAIN POLE
- STEEL STRAIN POLE (EXISTING)
- SIGNAL HEAD
- RADAR DETECTION ZONE
- 2" PVC SCHED 80 CONDUIT (UNLESS NOTED OTHERWISE)
- SPAN MOUNTED SIGN
- RADAR SENSOR

**STEEL STRAIN POLES**

POLE	HEIGHT	SPAN	ATT. HI.	CALC. SERV. MOMENT	SAG
A	36	A-B	34.0	246.45	5%
		A-D	34.5		
B	36	B-A	31.0	194.12	5%
		B-C	34.0		
C	36	C-B	34.0	185.67	5%
		C-D	29.0		
D	34	D-A	32.0	156.81	5%
		D-C	31.5		

**RADAR DETECTION SCHEDULE**

LOOP	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	J1	1	6'x30'	0'
2A	2	J2	1	6'x6'	50'
2B	2	J2	2	6'x6'	50'
4A	4	J6	1	6'x30'	0'
4B	4	J6	2	6'x30'	0'
5	5	J1	1	6'x30'	0'
6A	6	J2	1	6'x6'	50'
6B	6	J2	2	6'x6'	50'
8A	8	J6	1	6'x30'	0'
8B	8	J6	2	6'x30'	0'



• INSTALL 30" x 36" RIGHT TURN ON RED MUST YIELD TO U-TURN SIGN RIO-30, ON SPAN (CD) AS SHOWN.

SCALE: 1"=20'

US 25E (CUMBERLAND GAP PKWY)  
AT  
KY 1223 N CHERRY AVE/KY 3431

APPROVED FOR CONSTRUCTION

FILE NAME: USER: FRAMEDG DATE PLOTTED: March 30, 2020 E-SHEET NAME: T01400SC Power\_InRoads v8.11.19.397