COUNTY OF	ITEM NO.	SHEET NO.
BOONE / KENTON	06-0444.00	T001

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

ITEM CODE	ITEM	UNIT	MINEOLA PK (KY 3076)	S AIRFIELD DR/ WAYFAIR	O HARA RD (KY 3147)	TURFWAY RD (KY 717)	MARYDALE RD/ SCHEBEN DR	CHERRY TREE LN	HOUSTON RD (KY 842)	SB KY 236 SCHOOL FLASHER	KY 717 SCHOOL FLASHER	NB KY 236 SCHOOL FLASHER	TOTAL
4780	FUSED CONNECTOR KIT	EACH	6	-	-	12	3	-	-	-	-	-	21
4820	TRENCHING AND BACKFILLING	LIN FT	70	30	50	220	95	10	30	-	-	-	505
4844	CABLE - NO. 14/5C	LIN FT	-	950	800	2200	1400	750	1250	100	40	100	7590
4845	CABLE - NO. 14/7C	LIN FT	1100	2350	800	1850	1900	800	1800	-	-	-	10600
4885	MESSENGER - 10800 LB	LIN FT	-	-	-	-	-	-	-	250	-	250	500
4886	MESSENGER - 15400 LB	LIN FT	-	630	525	625	550	500	580	-	-	-	3410
4932	INSTALL STEEL STRAIN POLE	EACH	-	4	4	4	4	4	4	2	-	2	28
4950	REMOVE SIGNAL EQUIPMENT	EACH	-	1	-	1	1	1	1	-	-	-	5
4953	TEMPORARY RELOCATION OF SIGNAL HEAD	EACH	16	24	14	30	20	20	28	-	-	-	152
6406	SBM ALUM SHEET SIGNS 0.080 IN	SQFT	39	93	8	98	45	30	108	18	18	18	475
6472	INSTALL SPAN MOUNTED SIGN	EACH	5	10	1	13	6	4	14	-	-	-	53
20093NS835	INSTALL PEDESTRIAN HEAD LED	EACH	4	8	4	8	8	4	8	-	-	-	44
20188NS835	INSTALL SIGNAL - 3 SECTION LED	EACH	1	7	6	15	10	10	12	-	-	-	61
20189NS835	INSTALL SIGNAL - 5 SECTION LED	EACH	-	2	-	-	-	-	2	-	-	-	4
20266ES835	INSTALL SIGNAL - 4 SECTION LED	EACH	-	3	1	-	-	-	-	-	-	-	4
20390NS835	INSTALL COORDINATING UNIT	EACH	-	1	1	1	1	1	1	-	-	-	6
21659NN	RELOCATE SIGNAL HEAD	EACH	7	-	-	-	-	-	-	-	-	-	7
21743NN	INSTALL PEDESTRIAN DETECTOR	EACH	4	8	4	8	8	4	8	-	-	-	44
22939ND	INSTALL LUMINAIRE POLE	EACH	-	-	-	-	-	-	-	-	1	-	1
23157EN	TRAFFIC SIGNAL POLE BASE	CU YD	1	24	21	28	23	18	22	7	1	7	152
23222EC	INSTALL SIGNAL PEDESTAL	EACH	2	-	-	4	1	-	-	-	1	-	8
23235EC	INSTALL PEDESTAL POST	EACH	-	2	3	2	2	-	1	-	-	-	10
23409EC	TRAFFIC SIGNAL POLE	EACH	-	-	-	-	4	-	-	-	-	-	4
24601EC	INSTALL - SOLAR SCHOOL FLASHER ASSEMBLY	EACH	-	-	-	-	-	-	-	1	1	1	3
24900EC	PVC CONDUIT-1 1/4 INCH-SCH 80	LIN FT	70	20	40	210	85	-	20	-	-	-	445
24901EC	PVC CONDUIT-2 INCH-SCH 80	LIN FT	-	40	40	50	40	40	40	-	-	-	250
24908EC	INSTALL SIGNAL CONTROLLER - TY ATC	EACH	-	1	1	1	1	1	1	-	-	-	6
26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A	EACH	2	4	3	4	4	4	4	-	-	-	25
26120EC	INSTALL RADAR PRESENCE DETECTOR TYPE B	EACH	3	2	2	2	2	2	2	-	-	-	15

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 PICKUP MATERIALS FOR INSTALL ITEMS, "RADAR DETECTION" AND "SCHOOL FLASHER ASSEMBLY" FROM KYTC DISTRICT 6 TRAFFIC. TO COORDINATE PICKUP TIME, LOCATION, AND REQUIREMENTS CALL KYTC DISTRICT 6 TRAFFIC AT (859) 321-2700.

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. CONRACTOR 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.

INSTALL - SCHOOL FLASHER ASSEMBLY

THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE FURNISHING ASSEMBLIES FOR MOUNTING EQUIPMENT, INSTALLING SOLAR PANEL, INSTALLING BATTERY CABINET, FURNISHING WIRE CONNECTIONS AND GROUNDING OF CABINET INCLUDING GROUND RODS/GROUND LUGS/GROUND WIRE, ELECTRICAL INSPECTION FEES, AND REQUIRED BUILDING FEES FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

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.

INSTALL RADAR ADVANCE DETECTOR TYPE B SHALL CONSIST OF INSTALLATION OF A POLE MOUNTED RADAR PRESENCE SENSOR, SENSOR MOUNTING RACKET, SENSOR CABLES, INTERFACE BOXES, LEAD-IN CABLE, CONNECTORS (FURNISHED BY CONTRACTOR), AND CONTROLLER INTERFACE ASSEMBLY. RADAR ADVANCE DETECTOR TYPE B BID ITEM SHALL INCLUDE ALL LABOR REQUIRED TO PROVIDE A FUNCTIONAL DETECTION SYSTEM. RADAR ADVANCE DETECTOR TYPE B SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH THE MANUFACTURERS 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. EPRESENTATIVES FROM KYTC AND/OR THE MNUFACTURER OR SALES REPRESENTATIVE.

DESIGNED BY: WSP
DATE SUBMITTED: 7-29-2022

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF

BOONE / KENTON

PROJECT NUMBERS: STATE: 9441001R
FEDERAL: STP 3002 326

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

4-5-2022

COUNTY OF	ITEM NO.	SHEET NO.
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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:

MAXIMUM SERVICE FORCES		DRILLED SHAFT DATA							
MAX SERVICE MOMENT (FT-KIPS)	DIAMETER (IN.)	DEPTH (FEET)				VERTICAL BARS		TIES OR SPIRAL	
		< 2:1 GROUND SLOPE		2:1 GROUND SLOPE"				BAR SIZE	SPACING OR PITCH (IN.)
		SOIL	ROCK	SOIL	ROCK	SIZE	TOTAL		
0-9.9	36	6	6	6.5	6	13	#8	#4	12
10-19.9	36	7	6	8	6	13	#8	#4	12
20-29.9	36	8	6	9	6	13	#8	#4	12
30-39.9	36	9	6	10	6	13	#8	#4	12
40-49.9	36	9.5	6	10.5	6	13	#8	#4	12
50-59.9	36	10	6	11	6	13	#8	#4	12
60-69.9	36	11	6	12	6	13	#8	#4	12
70-99.9	36	12.5	6	13.5	6	13	#8	#4	12
100-149.9	36	14.5	6	16	6	13	#8	#4	12
150-199.9	36	15.5	6	17.5	6	13	#8	#4	12
200-249.9	36	17	6	19.5	6	13	#8	#4	12
250-299.9	36	18.5	6.5	21	6.5	13	#8	#4	12
300-399.9	36	21	7	25	7	13	#8	#4	6
400-499.9	42	21.5	7.5	25	7.5	18	#9	#4	12
500-600	48	22.5	7.5	25.5	7.5	18	#9	#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.

TRAFFIC SIGNAL POLE - KY 236 @ MARYDALE ROAD / SCHEBEN DRIVE ONLY

THE FOLLOWING APPLIES TO THE FOUR PROPOSED STEEL STRAIN TRAFFIC SIGNAL POLES AT THE INTERSECTION OF KY 236 AND MARYDALE/SCHEBEN DRIVE:

TRAFFIC SIGNAL POLES (AT KY 236 AND MARYDALE/SCHEBEN DRIVE INTERSECTION ONLY) SHALL CONFORM TO SECTIONS 723 AND 835 OF THE 2012 KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS WELL AS THE STANDARD DRAWING FOR STEEL STRAIN POLES.

TRAFFIC SIGNAL POLES SHALL BLACK IN COLOR WITH A DECORATIVE BASE, TEXTURE, AND TOP AS SHOWN IN THE DETAILS ON THIS SHEET.

TRAFFIC SIGNAL POLES SHALL MEET SIZE AND STRUCTURE REQUIREMENTS SHOWN BELOW. IN ADDITION TO THESE REQUIREMENTS, POLES SHALL NOT HAVE A BOTTOM OPENING DIAMETER LESS THAN 13 INCHES.

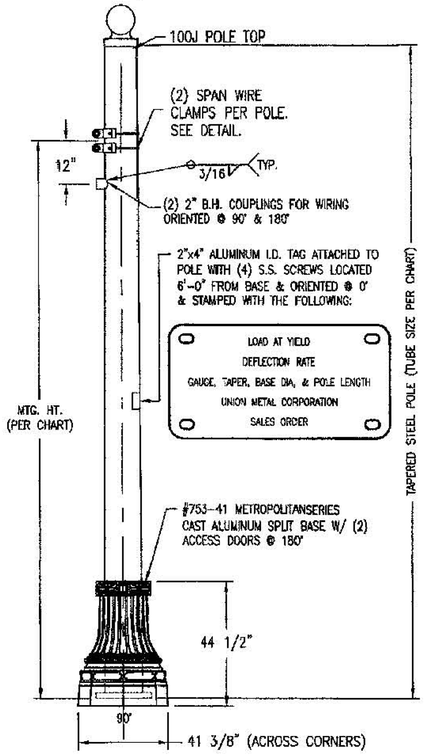
THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL BY THE PROJECT ENGINEER AND THE CITY OF FLORENCE, KY.

POLE A
(32 FEET) STEEL STRAIN POLE SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS:
HEIGHT (FEET): 32 FEET
TABLE 3-1 GROUP II SERVICE STRINGING TENSION (LBS): 7,380
MINIMUM DEFLECTION RATE (INCHES/100 LBS): 0.30

POLE B
(34 FEET) STEEL STRAIN POLE SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS:
HEIGHT (FEET): 34 FEET
TABLE 3-1 GROUP II SERVICE STRINGING TENSION (LBS): 8,175
MINIMUM DEFLECTION RATE (INCHES/100 LBS): 0.30

POLE C
(36 FEET) STEEL STRAIN POLE SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS:
HEIGHT (FEET): 36 FEET
TABLE 3-1 GROUP II SERVICE STRINGING TENSION (LBS): 8,970
MINIMUM DEFLECTION RATE (INCHES/100 LBS): 0.30

POLE D
(36 FEET) STEEL STRAIN POLE SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS:
HEIGHT (FEET): 36 FEET
TABLE 3-1 GROUP II SERVICE STRINGING TENSION (LBS): 8,970
MINIMUM DEFLECTION RATE (INCHES/100 LBS): 0.30



DESIGNED BY: WSP	
DATE SUBMITTED: 7-29-2022	

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF

BOONE / KENTON

PROJECT NUMBERS: STATE: 9441001R
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TRAFFIC SIGNAL
ESTIMATE OF QUANTITIES
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4-5-2022

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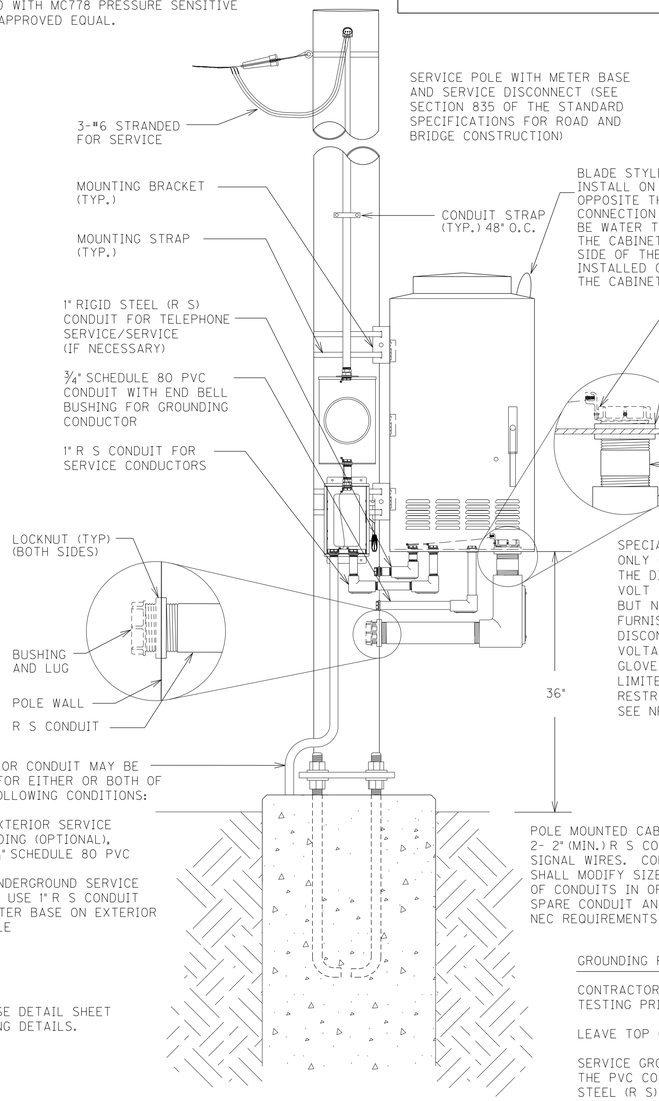
SPECIAL NOTE:
DISCONNECTS (SAFETY SWITCH) AND METER BASE SHALL BE UL RATED FOR COMMERCIAL USE. DISCONNECTS (SAFETY SWITCH) AND METER BASE SHALL BE ALUMINUM ENCLOSURE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALCULATED THE MAXIMUM AVAILABLE FAULT CURRENT FOR THE SERVICE EQUIPMENT THAT IS INSTALLED. THE 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.

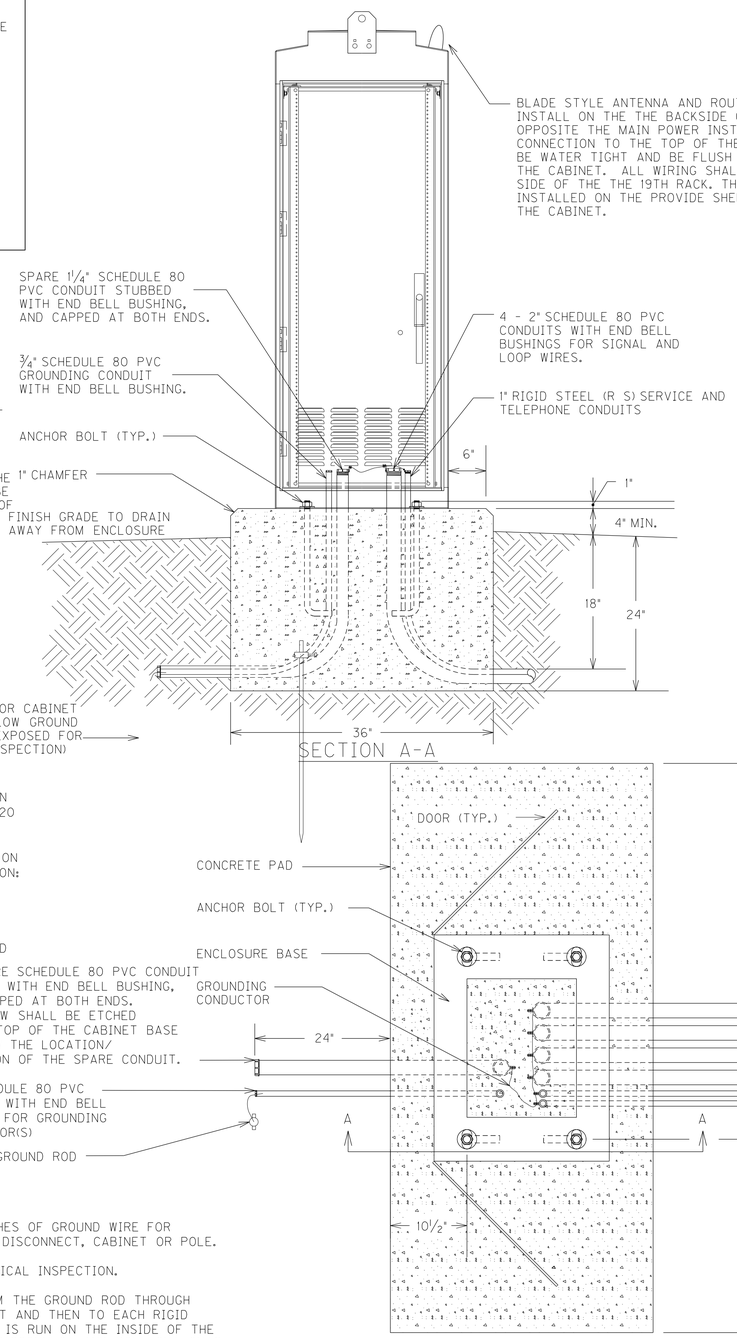
ALL CONDUITS SHALL BE INSTALLED BETWEEN 4 TO 6 INCHES ABOVE THE CONCRETE PAD, AND THEY CANNOT EXCEED THE 6 INCH HEIGHT.

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.

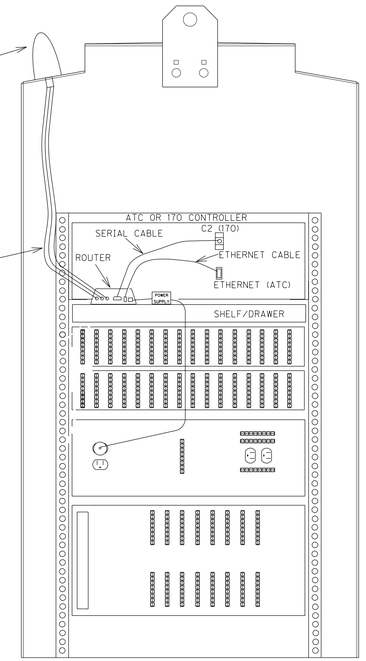


SEE POLE BASE DETAIL SHEET FOR GROUNDING DETAILS.

STEEL POLE MOUNT ENCLOSURE



PAD MOUNT ENCLOSURE



ROUTER INSTALLATION (REAR OF CABINET)

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.

CONTROLLER CABINET AND ANTENNA/ROUTER DETAIL

5/4/2021

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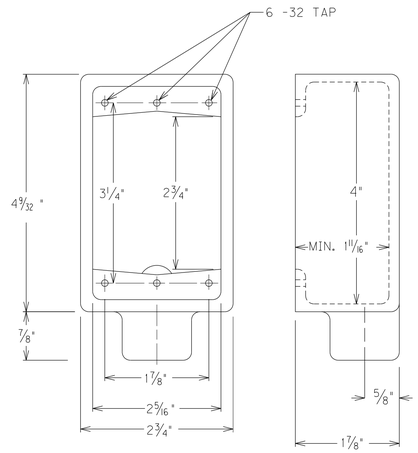
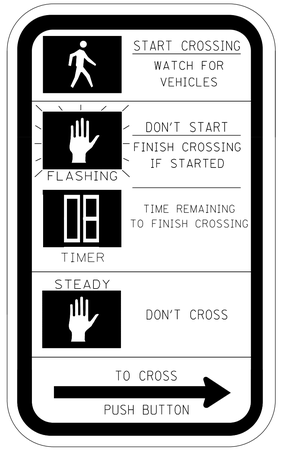
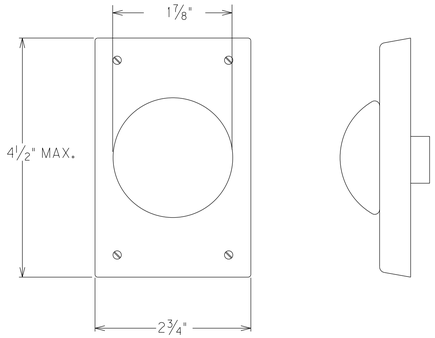


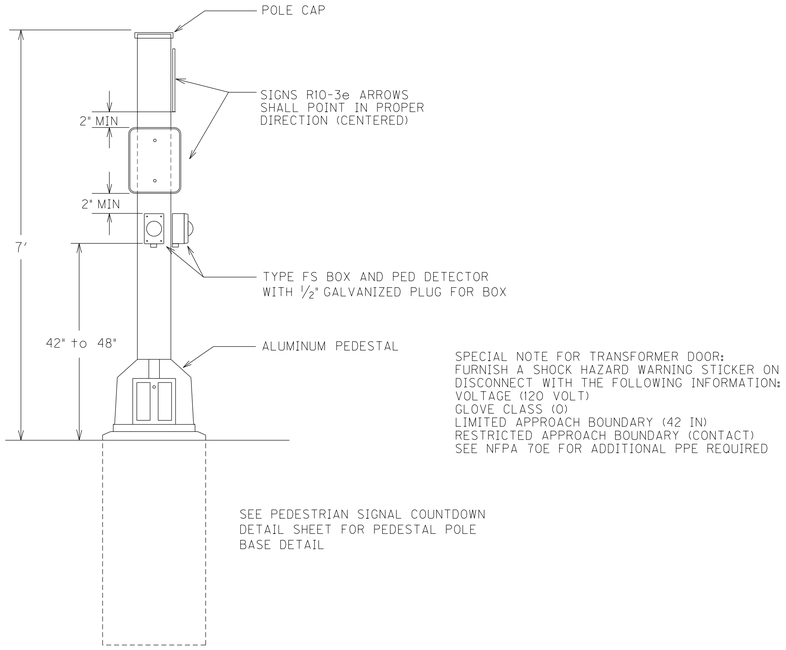
TYPE FS BOX FOR PED DETECTOR FOR USE WITH STEEL STRAIN POLE, WOOD POST, PEDESTAL, AND WOOD POLE



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

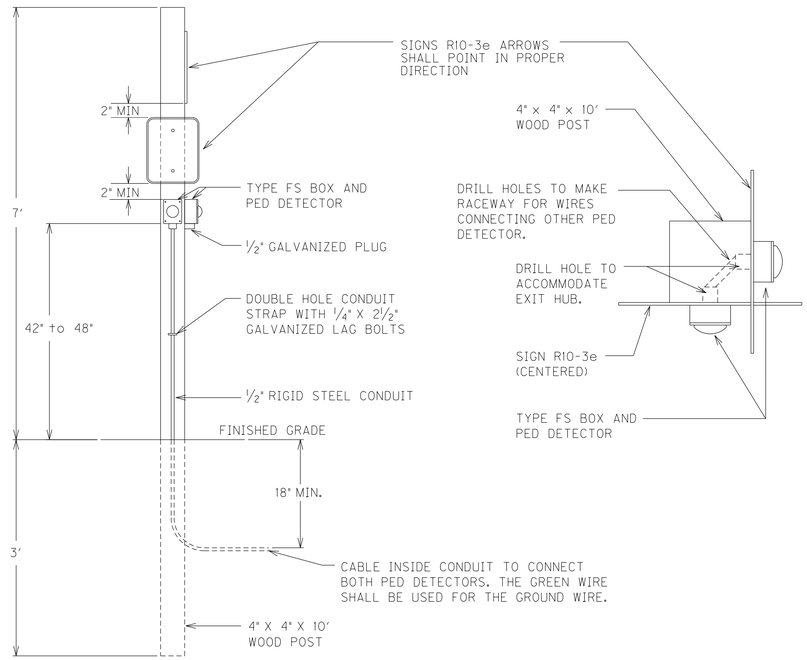


PED DETECTOR



PEDESTAL POST DETAIL FOR PED DETECTORS & SIGNS

#9 X 1 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

8/3/2021

PEDESTRIAN DETECTOR DETAIL

RECORD SET, CID 221059, DEC 08, 2022

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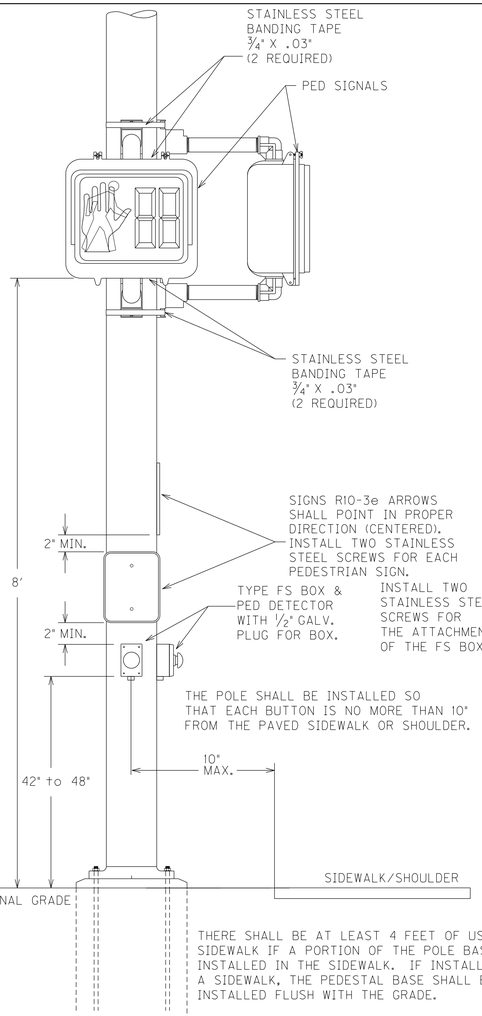


CONTRACTOR SHALL DRILL HOLES IN THE STEEL STRAIN POLE AND THE TYPE FS BOX NOT EXCEEDING ½" IN DIAMETER. CONTRACTOR SHALL USE A ROUND FILE TO REMOVE ALL BURRS AND SHARP EDGES FORM THE HOLES. WIRES SHALL BE PROTECTED WITH HEAT SHRINK TUBING OR VINYL TAPE WHERE THEY PASS THROUGH THE HOLES.

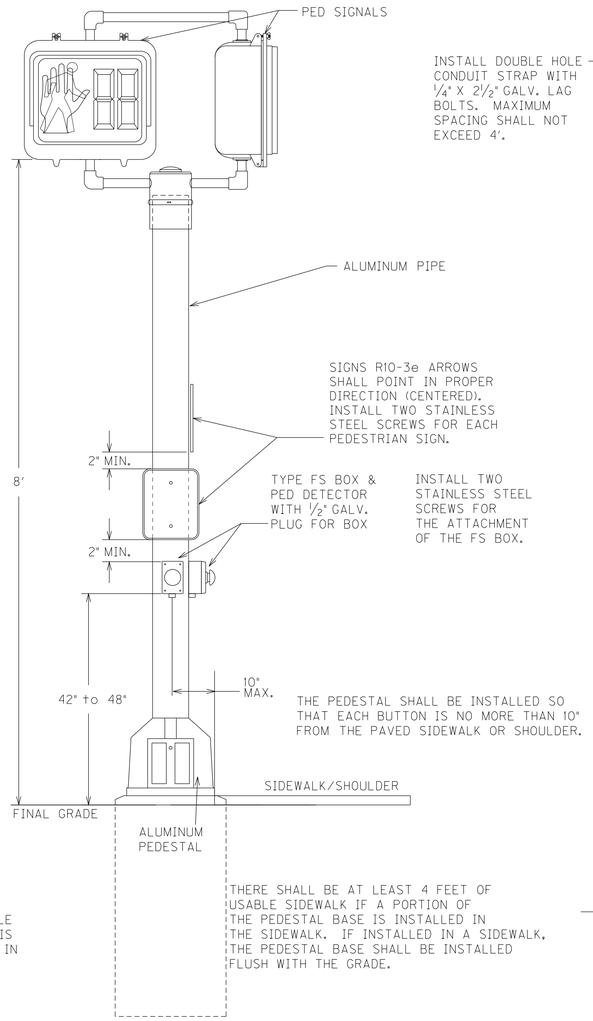
STEEL STRAIN POLE DETAIL FOR PED DETECTORS AND PED SIGNALS

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.

8/19/2021



CONTRACTOR SHALL DRILL HOLES IN THE PIPE AND THE TYPE FS BOX NOT EXCEEDING ½" 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.

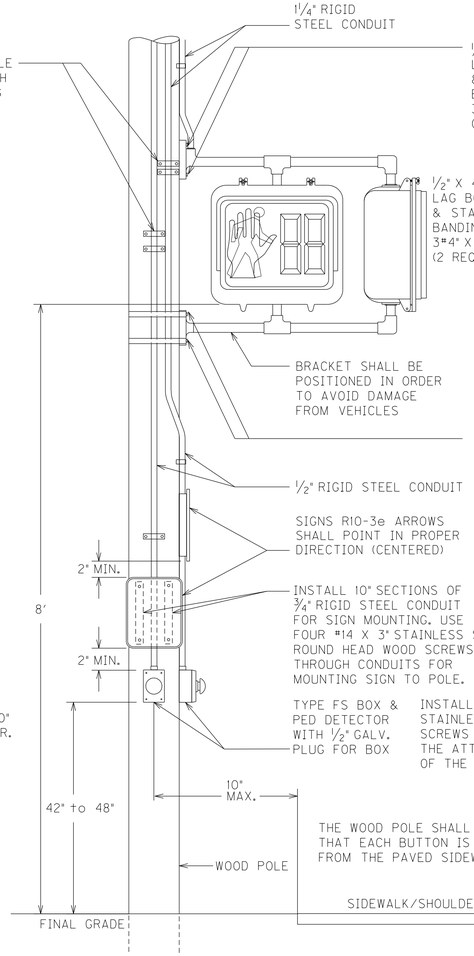
PEDESTAL POLE DETAIL FOR PED DETECTORS AND PED SIGNALS

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.

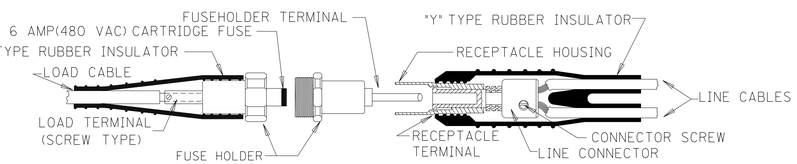
PEDESTAL POLE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO A GROUND LUG ON THE TRANSFORMER BASE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING.
ALL GROUND RODS SHALL BE 24" FROM THE CONCRETE POLE BASE.



#9 X 1½" 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

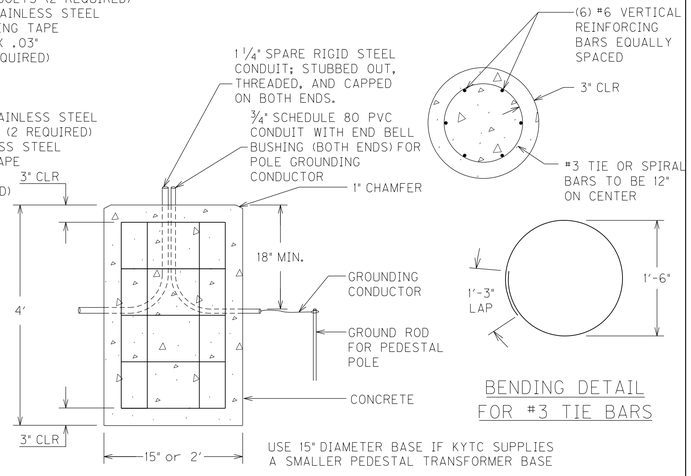
BREAKAWAY FUSE CONNECTOR KIT

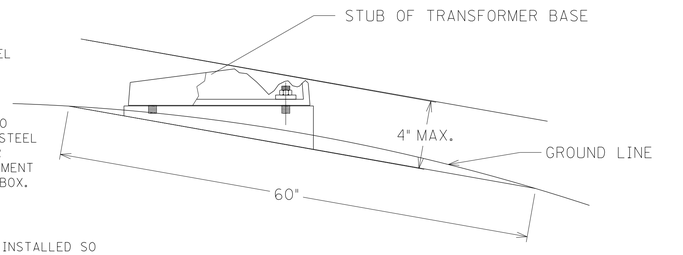


DETAILS OF TYPE HEB-JW-RYC CONNECTOR

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 PEDESTRAIN HEADS AND SIGNALS HEADS. PEDESTRAIN DETECTORS DO NOT REQUIRE FUSED CONNECTOR KITS. CONTRACTOR CAN USE ONE KIT FOR A COMMON NEUTRAL FOR ALL DEVICESIN THE TRANSFORMER BASE. THERE SHALL BEA 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

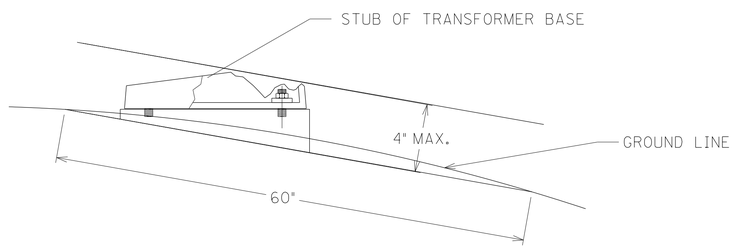
NOTE:
THE PEDESTAL BASE DOOR SHALL HAVE A 4" BY 6" SHOCK HAZARD WARNING STICKER (IF SMALLER TRANSFORMER BASE IS INSTALLED USE A 2" BY 3" INSTEAD). INSTALL 3" FROM THE TOP OF THE DOOR. THE STICKER SHALL BE METALCRAFT PLY695 PREM STYLEMARK LABEL WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, 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:\BMS\WSP-PB-US-PW-02\WSP_CORRIN.GULICK\D038999\06-PED SIGNAL COUNTDOWN (PO).DGN
USER: gulickcr
DATE PLOTTED: September 18, 2022
E-SHEET NAME:
Power InRoads v8.11.9.912

COUNTY OF	ITEM NO.	SHEET NO.
BOONE / KENTON	06-0444.00	T006

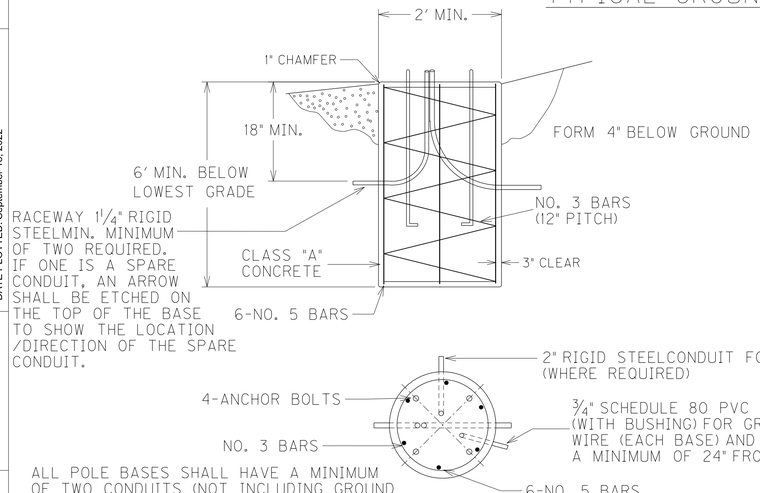


THE ANCHOR BOLTS AND CONDUITS SHALL NOT BE PROJECTED MORE 4 INCHES ABOVE A GROUND LINE BETWEEN THE STRADDLING WHEELS OF A VEHICLE.

BREAKAWAY SUPPORT STUB HEIGHT MEASUREMENT

DUCTED CABLE INSTALLED THROUGH 3" CONDUIT CROSSINGS TO LUMINAIRE POLE BASE: INSTALL DUCTED CABLE INTO THE POLE BASE. THE DUCT SHOULD BE EXTENDED 1" ABOVE THE CONDUIT. THE CONDUIT SWEEP SHOULD BE INSTALL ACCORDING TO THE MANUFACTURER OF THE DUCTED CABLE TO PREVENT THE DUCTED CABLE FROM CRIMPING.

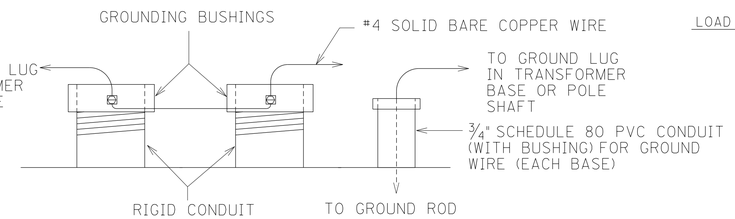
IF DUCTED CABLE INSTALLED BETWEEN POLE BASES:
INSTALL RIGID STEEL/DUCTED CABLE COUPLING. USE BONDUIT CONDUIT ADHESIVE OR APPROVED EQUAL TO CONNECT THE RIGID STEEL TO DUCTED CABLE. RACEWAYS SHALL BE THE SAME SIZE AS THE DUCTED CABLE WHICH ATTACHS TO THE RIGID STEEL CONDUIT. ALTERNATELY IF DUCTED CABLE IS USED, THE CONTRACTOR CAN INSTALL RIGID STEEL CONDUIT TWO TIMES THE SIZE OF THE DUCT AND RUN THE DUCT INSIDE THIS CONDUIT. THE SWEEP FOR THE CONDUIT SHALL BE INCREASED TO ADHERE TO THE BENDING RADIUS RECOMMENDED BY THE MANUFACTURER OF THE DUCT.



ALL POLE BASES SHALL HAVE A MINIMUM OF TWO CONDUITS (NOT INCLUDING GROUND CONDUIT). THE SPARE CONDUIT SHALL BE 180 DEGREE FROM THE CONDUIT FOR THE CONDUCTORS.

FOUNDATION DETAIL

4/28/2020



TYPICAL GROUNDING DETAIL

GROUNDING REQUIREMENTS:

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

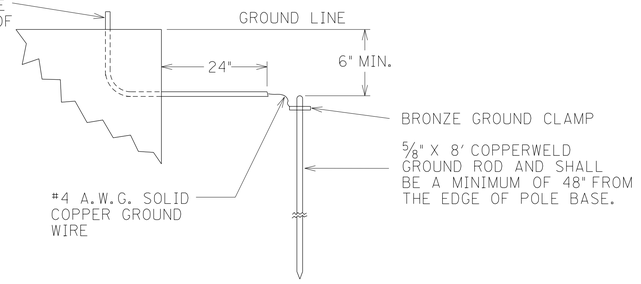
POLE/TRANSFORMER BASE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE TRANSFORMER BASE/POLE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING.

NOTES:

ALL CONDUITS USED FOR THE GROUNDING, SPARES AND CONDUCTORS THAT ARE INSTALLED IN THE POLE BASE ARE INCIDENTAL TO BID ITEM "4740". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE POLE BASE.

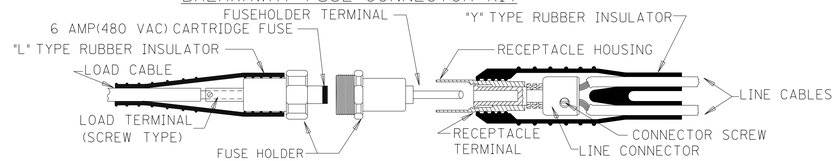
NOTE: PRECAST CONCRETE BASES ARE NOT ACCEPTABLE

GROUNDING DETAIL



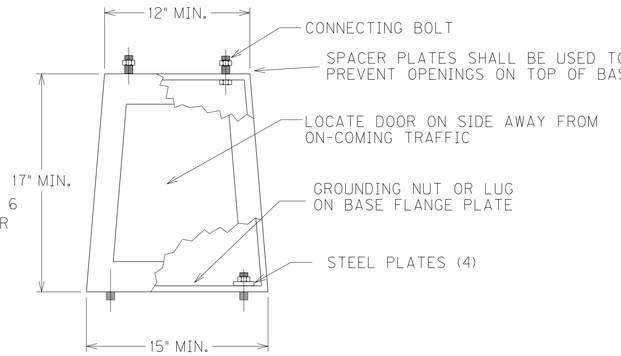
SPECIAL NOTE FOR THE TRANSFORMER BASE: FUSED CONNECTOR KITS SHALL BE INSTALLED FOR ALL 120 VOLT WIRING IN TRANSFORMER BASES. THIS WILL ONLY BE NEEDED FOR PEDESTRAIN HEADS AND SIGNALS HEADS. PEDESTRAIN DETECTORS DO NOT REQUIRE FUSED CONNECTOR KITS. CONTRACTOR CAN USE ONE KIT FOR A COMMON NEUTRAL FOR ALL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

BREAKAWAY FUSE CONNECTOR KIT



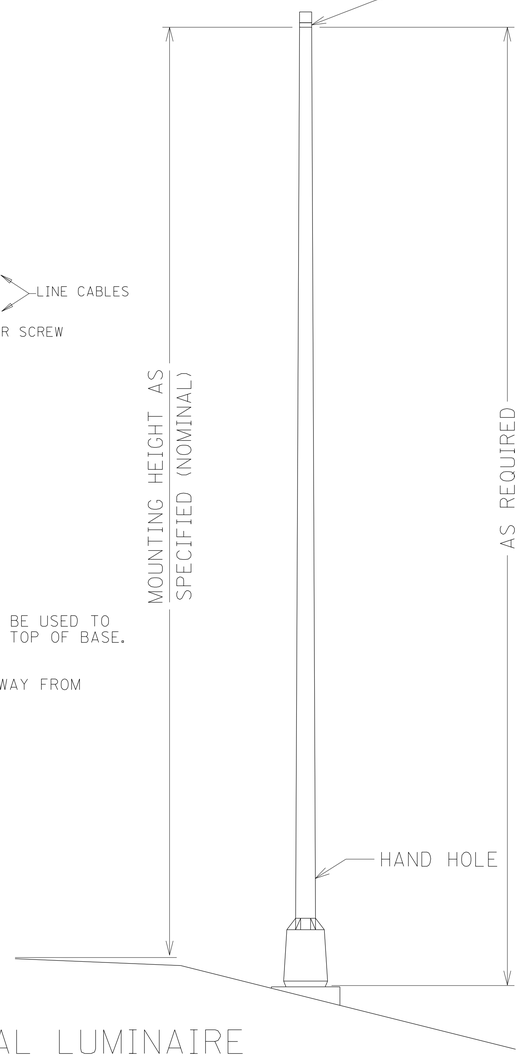
DETAILS OF TYPE HEB-JW-RYC CONNECTOR

TYPE HEB-JW-RYC CONNECTOR SHOWN



CONCRETE BASES SHALL BE POURED LEVEL. NO MORE THAN A ⅜" GAP SHALL EXIST BETWEEN CONCRETE BASE AND TRANSFORMER BASE WHEN THE POLE IS PLUMBED.

ALUMINUM POLE CAP WITH STAINLESS STEEL SET SCREWS



SIGNAL LUMINAIRE

TYPICAL CAST ALUMINUM TRANSFORMER BASE

NOTE:
THE TRANSFORMER BASE 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 POLYCARBINATE MATERIAL, AND WITH MC53FL PRESSURE SENSTIVE ADHESIVE OR APPROVAL EQUAL. THIS SHALL BE INCIDENTAL TO 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

SCALE: 1"=N/A

SIGNAL TRANSFORMER BASE DETAIL

COUNTY OF	ITEM NO.	SHEET NO.
BOONE / KENTON	06-0444.00	T007

NOTES:

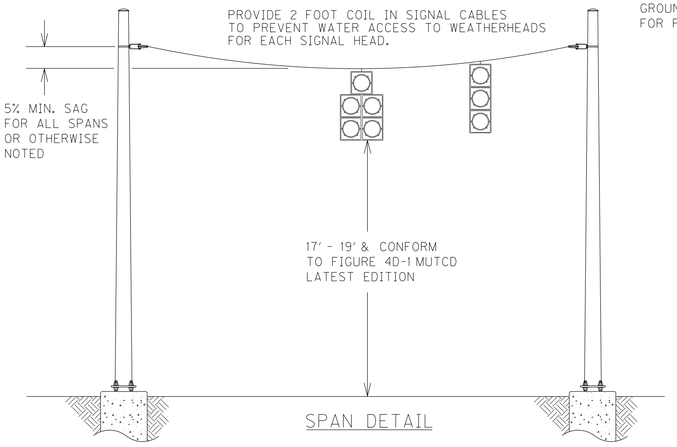
ALL CONDUITS USED FOR THE TELEPHONE, GROUNDING, SPARE, AND SERVICE THAT ARE INSTALLED IN THE POLE BASE ARE INCIDENTAL TO BID ITEM "23157EN". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE POLE BASE.

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

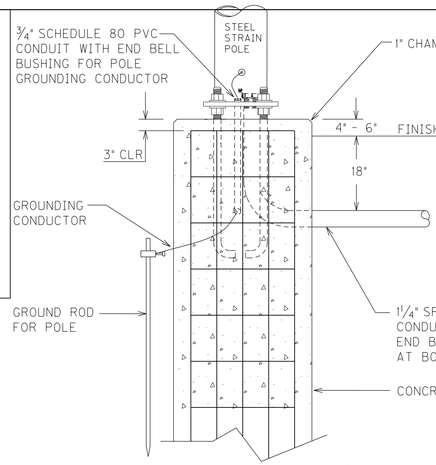
FOR POLE BASE DEPTH SEE CHART IN SECTION 723 OF THE KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

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.

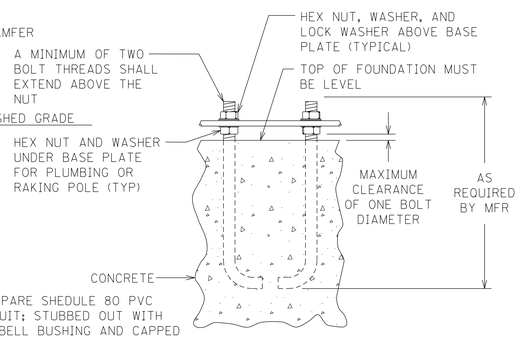


SPAN DETAIL



STEEL STRAIN POLE BASE WITH POLE GROUND DETAIL

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 SENSTIVE ADHESIVE OR APPROVED EQUAL. THIS SHALL BE INCIDENTAL TO THE PROJECT.



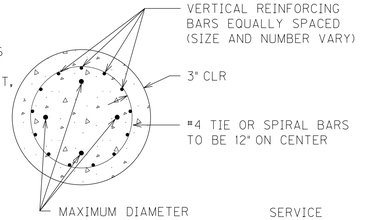
GROUNDING REQUIREMENTS:

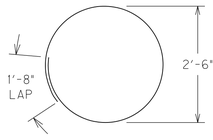
CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO ANY DISCONNECT, CABINET OR POLE.

LEAVE TOP OF GROUND RODS EXPOSED FOR ELECTRICAL INSPECTION.

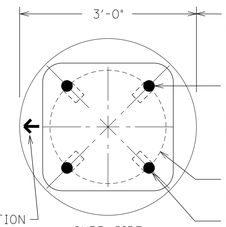
POLE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE POLE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING.

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

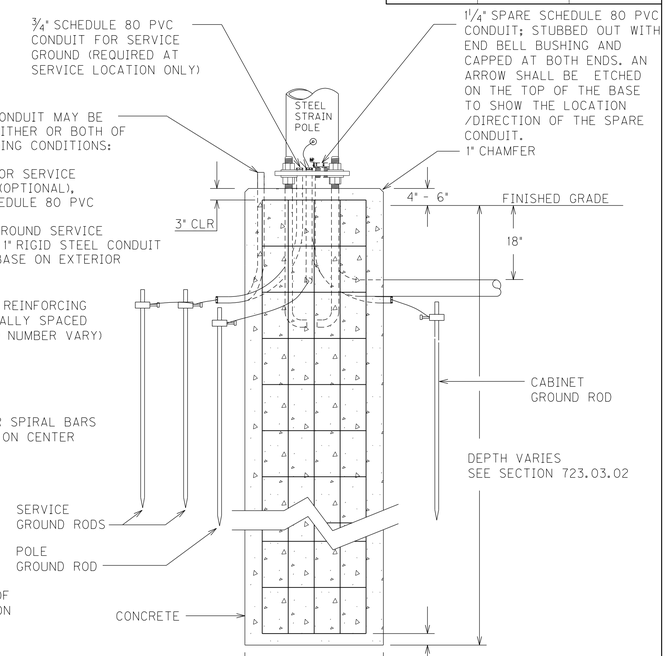




BENDING DETAIL FOR TIE BARS



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



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

CLAMP ASSEMBLY SPECIFCATIONS

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:

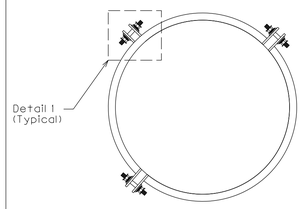
CLAMP/CLEVIS- ASTM A36 (GRADE 36)/ASTM A572 (GRADE 50)

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

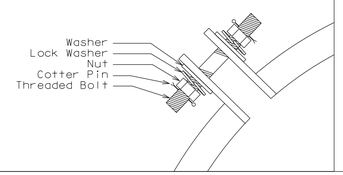
U- BOLTS- MINIMUM ASTM A36

GALVANIZING- ASTM A153

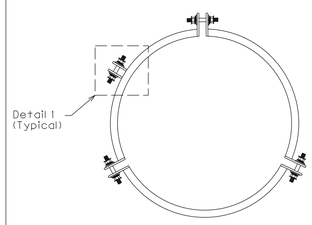
Clamp Assembly Alt. 1



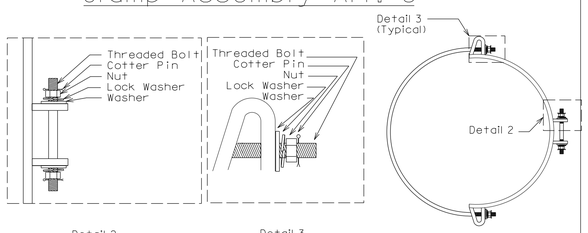
Detail 1

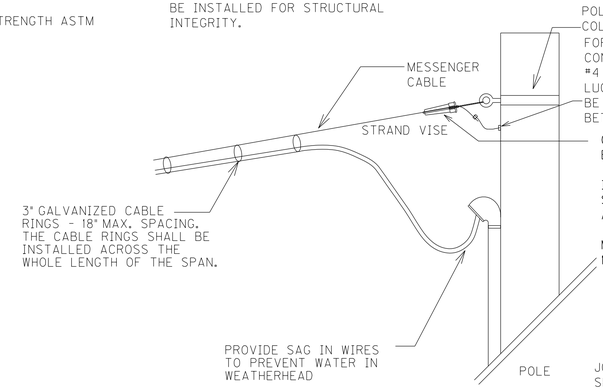


Clamp Assembly Alt. 2



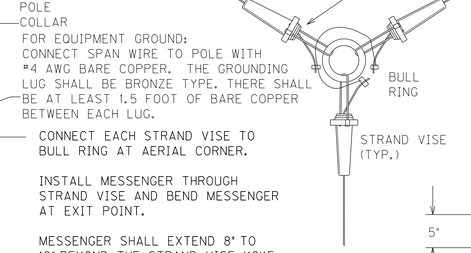
Clamp Assembly Alt. 3





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



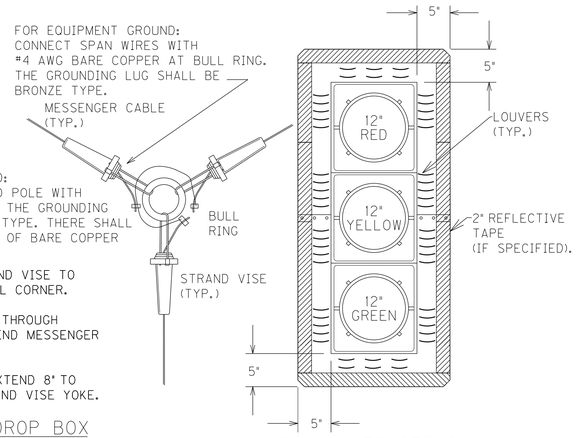
DROP BOX AERIAL CORNER DETAIL

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

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.



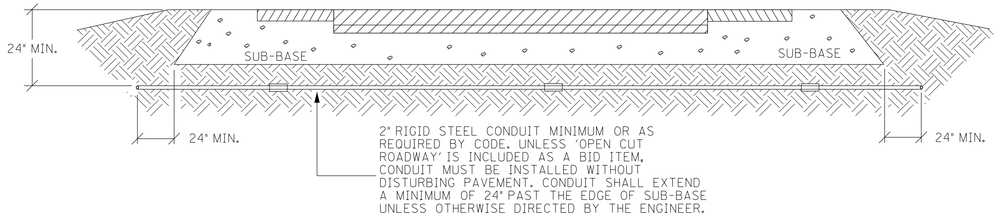
BACKPLATE DETAIL

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.

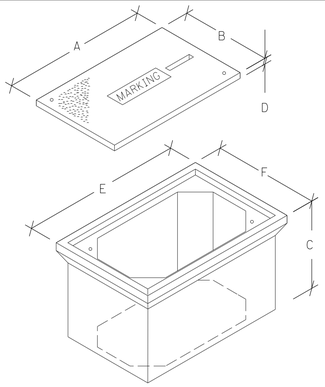
POLE BASE/SIGNAL HEAD DETAILS

4/15/2021

COUNTY OF	ITEM NO.	SHEET NO.
BOONE / KENTON	06-0444.00	T008

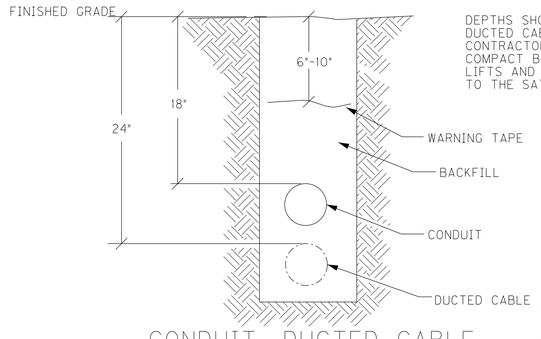


CONDUIT INSTALLATION UNDER EXISTING PAVEMENT DETAIL



JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D	E	F
TYPE A	23"	14"	27"	2"	25"	15"
TYPE B	18"	11"	12"	1¾" *	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

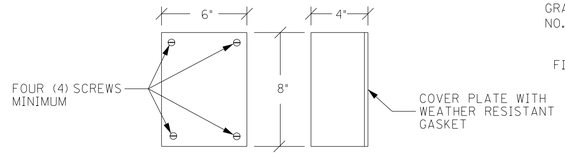
* MINIMUM
NOTE: STACKABLE BOXES ARE PERMITTED



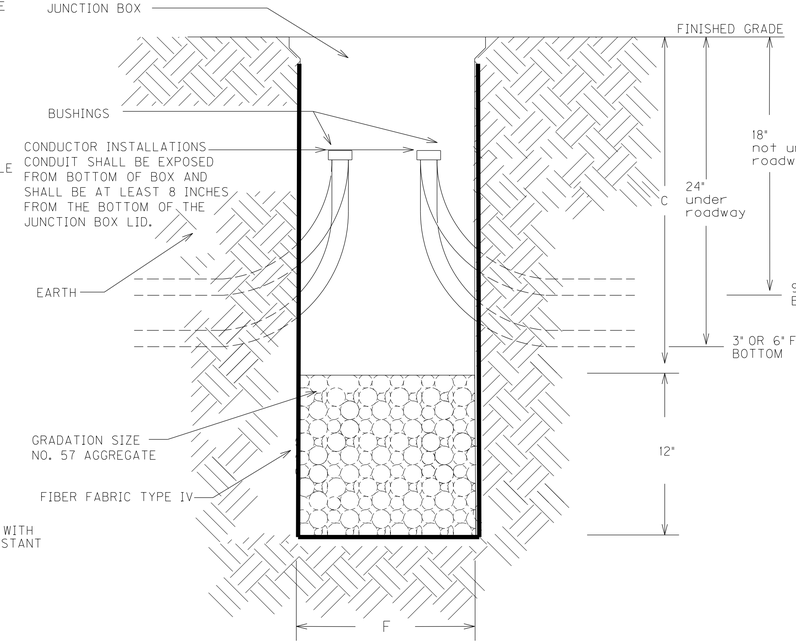
DEPTHS SHOWN FOR CONDUIT AND DUCTED CABLE ARE MINIMUMS. CONTRACTOR SHALL PLACE AND COMPACT BACKFILL IN 9" MAXIMUM LIFTS AND RETORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER.

CONDUIT, DUCTED CABLE, AND WARNING TAPE TRENCH

ABOVE GROUND BOX SHALL BE FABRICATED FROM MINIMUM 12 GAUGE STEEL AND GALVANIZED AFTER FABRICATION. BOXES SHALL HAVE NO KNOCKOUTS AND SHALL BE PROVIDED WITH A PLATE COVER WITH A WEATHER RESISTANT GASKET AND A MINIMUM OF FOUR SCREWS FOR ATTACHING THE PLATE COVER TO THE BOX. CABLE CLAMPS SHALL BE PROVIDED FOR CABLES ENTERING AND EXITING THE BOX.

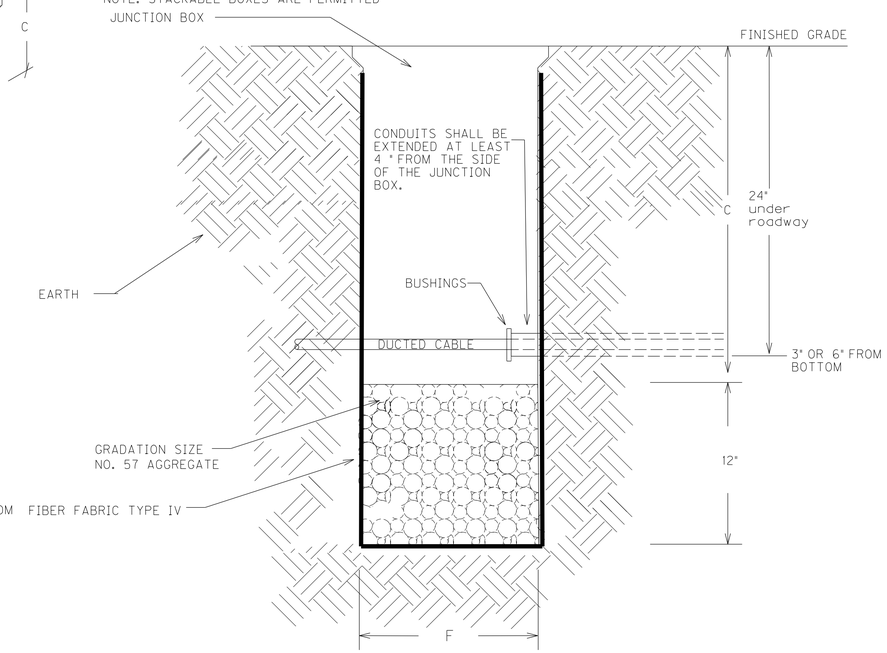


ABOVE GROUND BOX

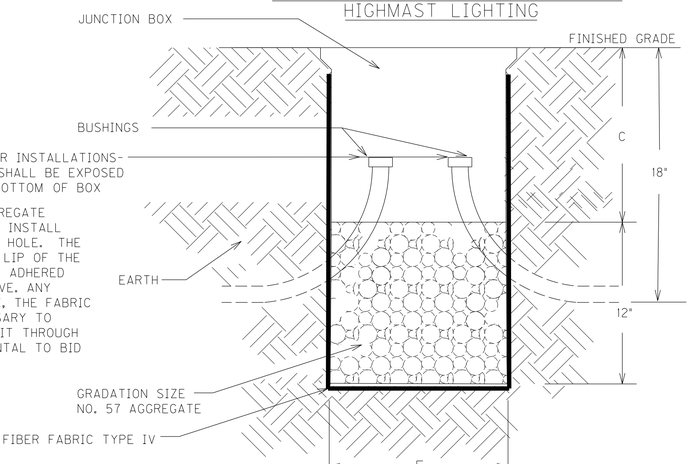


JUNCTION BOX INSTALLATION FOR CONVENTIONAL LIGHTING

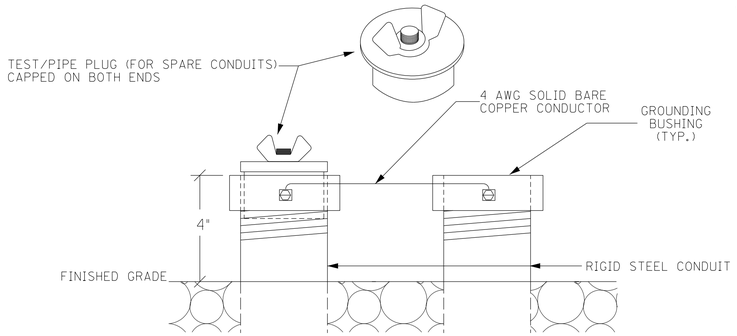
BEFORE THE INSTALLATION OF THE #57 AGGREGATE AND JUNCTION BOX, THE CONTRACTOR SHALL INSTALL GEOTEXTILE FILTER FABRIC TYPE IV IN THE HOLE. THE FABRIC SHALL EXTEND TO JUST BELOW THE LIP OF THE JUNCTION BOX AND SHALL BE CONTINUOUSLY ADHERED TO THE EXTERIOR OF THE BOX WITH ADHESIVE. ANY LOCATIONS WHERE CONDUITS ENTER THE BOX, THE FABRIC SHALL BE "X CUT" ONLY AS MUCH AS NECESSARY TO ALLOW PASSAGE OF EACH INDIVIDUAL CONDUIT THROUGH THE FABRIC. THE FABRIC SHALL BE INCIDENTAL TO BID ITEMS 4811, 2039INS835, OR 20392NS835.



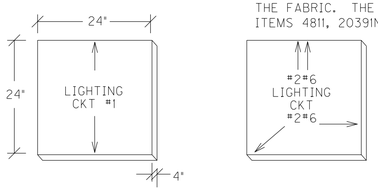
JUNCTION BOX INSTALLATION FOR HIGHMAST LIGHTING



JUNCTION BOX INSTALLATION FOR TRAFFIC SIGNALS



TEST/PIPE PLUG(FOR SPARE CONDUITS) AND GROUNDING DETAIL

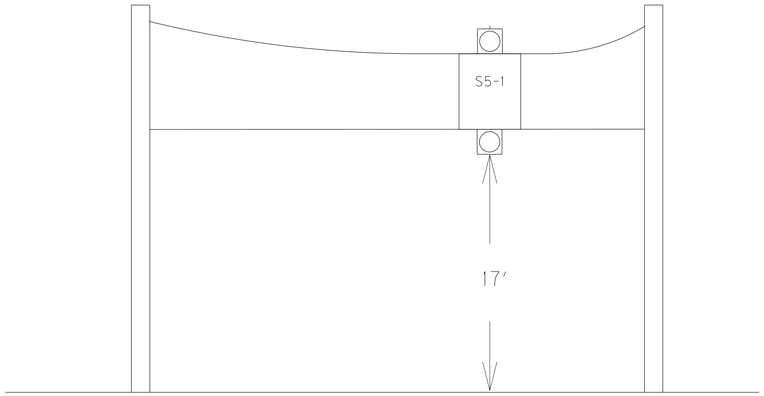


CONCRETE CABLE MARKERS

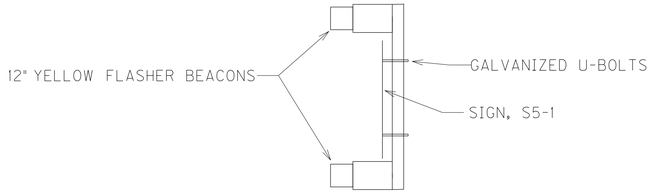
3/13/2017

TRAFFIC SIGNAL AND ROADWAY LIGHTING JUNCTION BOX AND CONDUIT DETAILS

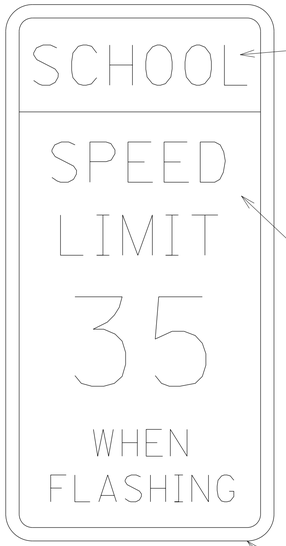
COUNTY OF	ITEM NO.	SHEET NO.
BOONE / KENTON	06-0444.00	T009



SCHOOL FLASHER SPAN DETAIL



THE BOTTOM HEIGHT OF THE LOWER SIGNAL FACE HOUSING SHALL NOT BE LESS THAN 17 FEET ABOVE THE PAVEMENT GRADE OF THE CENTER OF THE ROADWAY. THE TOP HEIGHT OF THE UPPER SIGNAL FACE HOUSING SHALL NOT BE MORE THAN 26 FEET ABOVE THE PAVEMENT GRADE OF THE CENTER OF THE ROADWAY.



Type XI Fluorescent Yellow Green
(see Approved Products List)

Type XI
white (see Approved
Products List)

S5-1
24" X 48" or 36" X 72"
(see Special Note for size)
.125 GA. ALUM
HIGH INTENSITY

Special Note:

Size of sign shall be noted on the plan sheet.

36" X 72" for four or more lanes with normal posted speed of 40 mph or greater.
24" X 48" for all other conditions.

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.

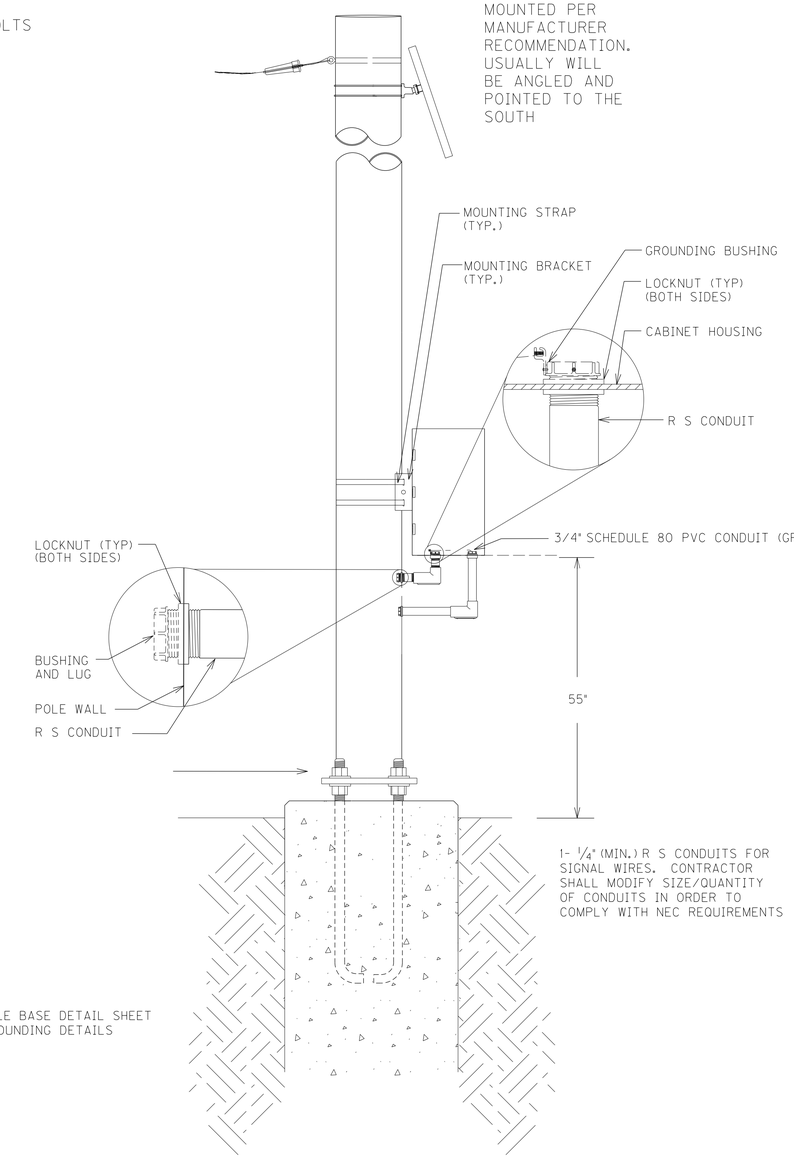
LEAVE TOP OF GROUND RODS EXPOSED FOR ELECTRICAL INSPECTION.

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 "24526ED".

CABINET GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE CABINET GROUND BUS AND THEN TO EACH R S GROUNDING BUSHING.

NOTES:

ALL CONDUITS USED FOR THE TELEPHONE, GROUNDING, AND SERVICE (INCLUDING FLEX CONDUIT IF IT IS RUN INSIDE THE POLE) THAT ARE INSTALLED ON THE POLE CABINET ARE INCIDENTAL TO BID ITEM "24526ED". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE CONCRETE PAD.

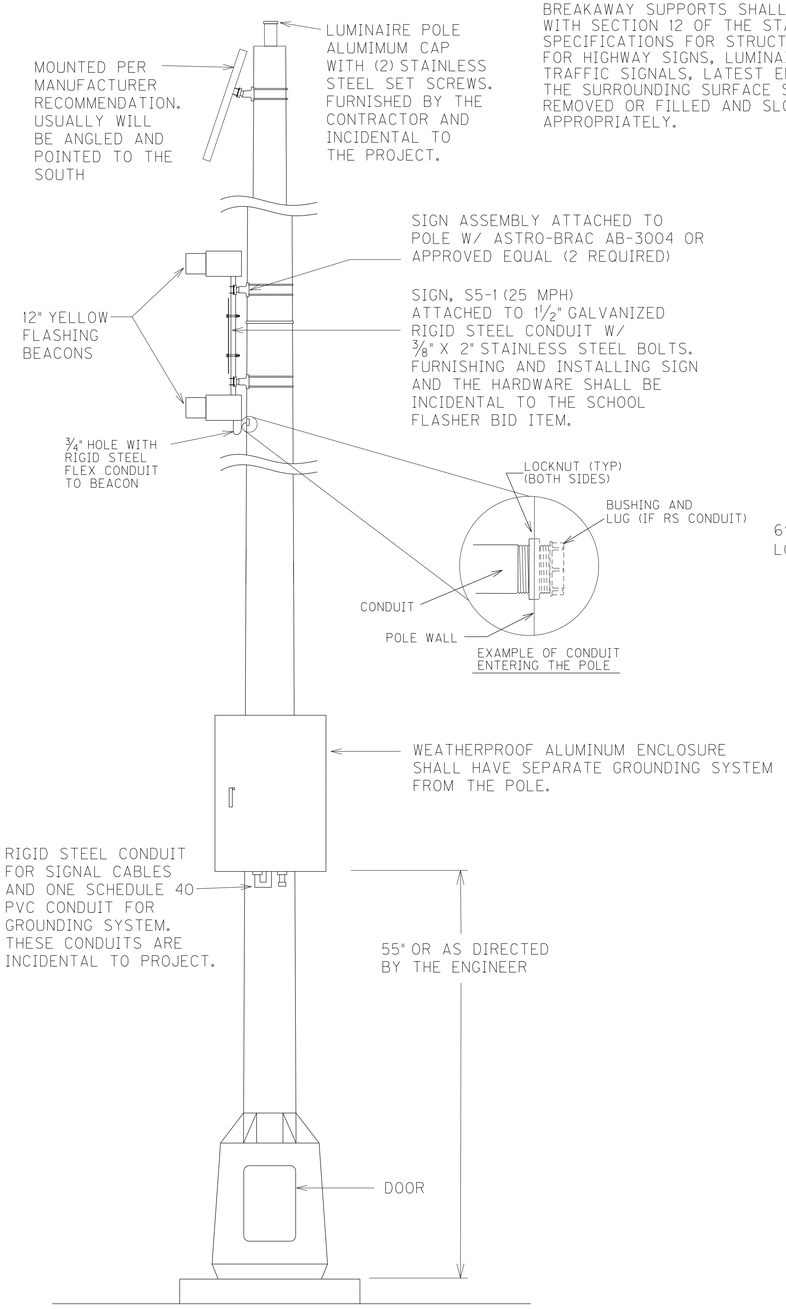


STEEL POLE MOUNT ENCLOSURE

1/27/2022

SPAN MOUNTED SCHOOL FLASHER DETAIL

COUNTY OF	ITEM NO.	SHEET NO.
BOONE / KENTON	06-0444.00	T010

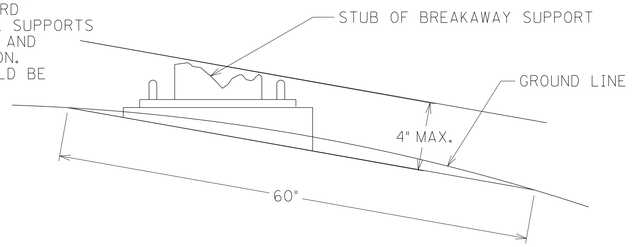


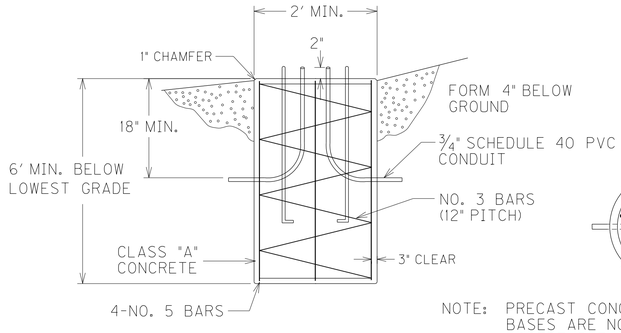
THE BOTTOM OF THE LOWER SIGNAL FACE HOUSING SHALL NOT BE LESS THAN 12 FEET ABOVE THE PAVEMENT GRADE OF THE CENTER OF THE ROADWAY. THE TOP OF THE UPPER SIGNAL FACE HOUSING SHALL NOT BE MORE THAN 24 FEET ABOVE THE PAVEMENT GRADE OF THE CENTER OF THE ROADWAY.

12-9-2020

BREAKAWAY SUPPORTS SHALL COMPLY WITH SECTION 12 OF THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LATEST EDITION. THE SURROUNDING SURFACE SHOULD BE REMOVED OR FILLED AND SLOPED APPROPRIATELY.

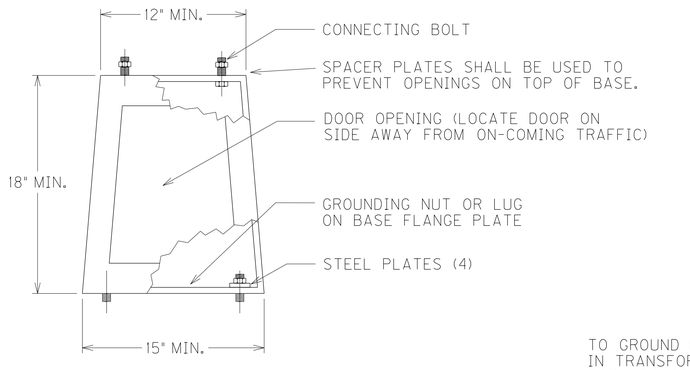
BREAKAWAY SUPPORT STUB HEIGHT MEASUREMENT





NOTE: PRECAST CONCRETE BASES ARE NOT ACCEPTABLE

FOUNDATION DETAIL



CONCRETE BASES SHALL BE POURED LEVEL. NO MORE THAN A ⅜" GAP SHALL EXIST BETWEEN CONCRETE BASE AND TRANSFORMER BASE WHEN THE POLE IS PLUMBED.

CAST ALUMINUM TRANSFORMER BASE

NOTE: ALL TRANSFORMER BASES SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, LATEST EDITION. ALL TRANSFORMER BASE DOORS SHALL BE CONSTRUCTED OF HIGH-DENSITY POLYETHYLENE IN A MATCHING COLOR.

S5-1

Type XI Fluorescent Yellow Green (see Approved Products List)

Type XI white (see Approved Products List)

24" X 48" or 36" X 72" (see Special Note for size)

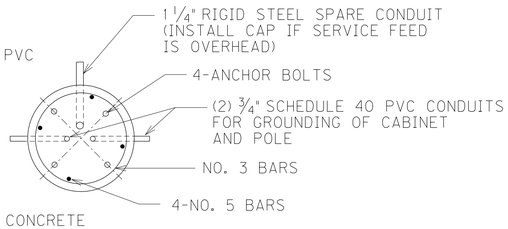
.125 GA. ALUM

HIGH INTENSITY

Special Note:

Size of sign shall be noted on the plan sheet.

36" X 72" for four or more lanes with normal posted speed of 40 mph or greater.
24" X 48" for all other conditions.



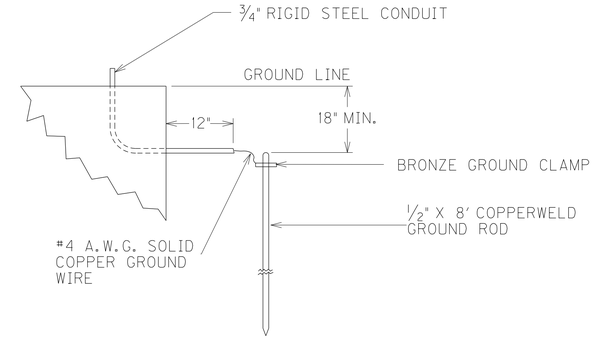
GROUNDING REQUIREMENTS:

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

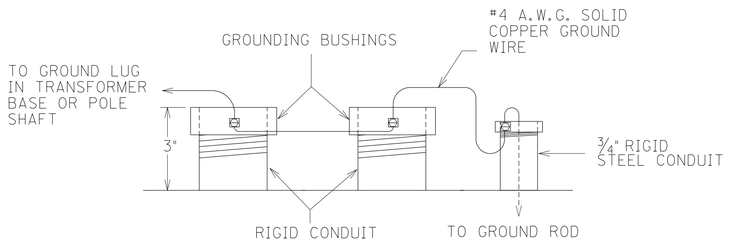
POLE/TRANSFORMER BASE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE TRANSFORMER BASE/POLE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING.

NOTES:

ALL CONDUITS USED FOR THE GROUNDING, SPARES AND CONDUCTORS THAT ARE INSTALLED IN THE POLE BASE ARE INCIDENTAL TO BID ITEM "4740". THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE POLE BASE.



POLE GROUNDING DETAIL

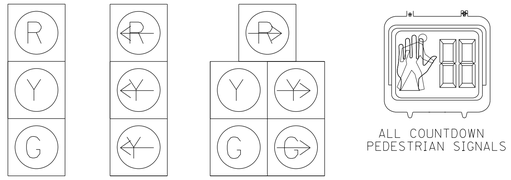


CONDUIT GROUNDING DETAIL

SOLAR SCHOOL FLASHER DETAIL

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T011

SIGNAL HEADS



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

HEAD # 1

HEAD # OLA

ALL COUNTDOWN PEDESTRIAN SIGNALS

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

NOTES:

EXISTING MESSENGER IS 15.4 M. ALL DETECTION BY RADAR.

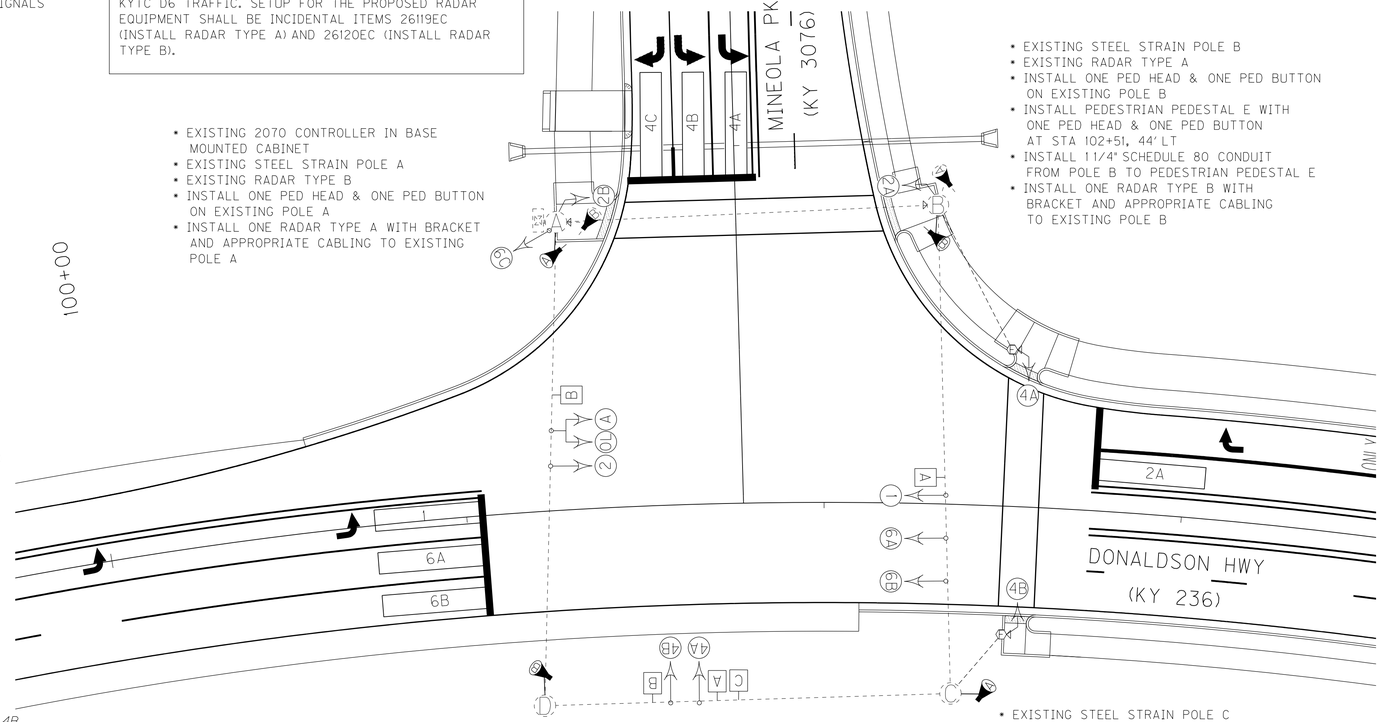
THE CONTRACTOR MAY HAVE TO PROVIDE A CLAMP ASSEMBLY FOR SOME OF THE ATTACHMENTS OF THE MESSENGER CABLE. THIS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STRAIN POLE. THE CLAMP ASSEMBLIES SHALL BE SUITABLE FOR ATTACHING MESSENGER CABLE AND SHALL CONSIST OF A MINIMUM OF TWO (2) SECTIONS. SECTIONS SHALL BE CONNECTED USING A MINIMUM OF ONE (1) BOLT WITH A MINIMUM TENSILE LOAD OF 17,050 LBS. ALL POLE CLAMP HARDWARE SHALL BE HOT-DIPPED GALVANIZED. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE PROPOSED ASSEMBLE TO THE DIVISION OF TRAFFIC OPERATIONS.

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.

EXISTING TYPE B RADAR ON POLE A AND TYPE A RADAR ON POLE B SHALL BE DISCONNECTED FROM THE EXISTING CARDS AND MODULES AND CONNECTED TO THE PROPOSED EQUIPMENT. INSTALLATION OF ALL CARDS, LOAD SWITCHES, AND OTHER 242 ITEMS SHALL BE INCIDENTAL TO ITEMS 26119EC (INSTALL RADAR TYPE A) AND 26120E (INSTALL RADAR TYPE B).

ALL REMOVED CARDS AND MODULES SHALL BE PROVIDED TO KYTC D6 TRAFFIC. SETUP FOR THE PROPOSED RADAR EQUIPMENT SHALL BE INCIDENTAL ITEMS 26119EC (INSTALL RADAR TYPE A) AND 26120EC (INSTALL RADAR TYPE B).



- EXISTING 2070 CONTROLLER IN BASE MOUNTED CABINET
- EXISTING STEEL STRAIN POLE A
- EXISTING RADAR TYPE B
- INSTALL ONE PED HEAD & ONE PED BUTTON ON EXISTING POLE A
- INSTALL ONE RADAR TYPE A WITH BRACKET AND APPROPRIATE CABLING TO EXISTING POLE A

- EXISTING STEEL STRAIN POLE B
- EXISTING RADAR TYPE A
- INSTALL ONE PED HEAD & ONE PED BUTTON ON EXISTING POLE B
- INSTALL PEDESTRIAN PEDESTAL E WITH ONE PED HEAD & ONE PED BUTTON AT STA 102+51, 44' LT
- INSTALL 1 1/4" SCHEDULE 80 CONDUIT FROM POLE B TO PEDESTRIAN PEDESTAL E
- INSTALL ONE RADAR TYPE B WITH BRACKET AND APPROPRIATE CABLING TO EXISTING POLE B

- EXISTING STEEL STRAIN POLE D
- INSTALL ONE RADAR TYPE B WITH BRACKET AND APPROPRIATE CABLING TO EXISTING POLE D

- EXISTING STEEL STRAIN POLE C
- INSTALL PEDESTRIAN PEDESTAL F WITH ONE PED HEAD & ONE PED BUTTON AT STA 102+37, 53' RT
- INSTALL 1 1/4" SCHEDULE 80 CONDUIT FROM POLE C TO PEDESTRIAN PEDESTAL F
- INSTALL ONE RADAR TYPE A WITH BRACKET AND APPROPRIATE CABLING TO EXISTING POLE C

EXISTING STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	30	A-B	29.5	155.58 K-FT	5%
		A-D	28.5		
B	30	B-A	27.5	165.08 K-FT	5%
		B-C	28.0		
C	36	C-B	33.0	218.61 K-FT	5%
		C-D	27.0		
D	36	D-A	35.5	235.08 K-FT	5%
		D-C	30.0		

SIGNAL EQUIPMENT SHOWN AS "EXISTING" TO BE INSTALLED AS PART OF THE KY 3076 WIDENING PROJECT (06-0445.00)

SIGNAL HEADS OLA, 2, 4A, 4B, 6B, & 6A ARE TO BE INSTALLED WITH KY 3076 WIDENING PROJECT (06-0445.00). SIGNAL HEADS ARE TO BE ADJUSTED AS SHOWN TO MATCH PROPOSED INTERSECTION CONFIGURATION.

SIGNAL HEAD 1 IS A PROPOSED THREE SECTION FLASHING YELLOW ARROW.

WIRING SCHEDULE

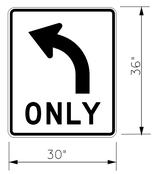
CABLE	ORIGIN	ENDING	CONNECTING
1-#14/7C	CONTROLLER	SH 1	EX SH 1
EX 1-#14/5C	CONTROLLER	EX SH 2	EX SH 2
EX 1-#14/5C	CONTROLLER	EX SH 4B	EX SH 4A & 4B
EX 1-#14/5C	CONTROLLER	EX SH 6B	EX SH 6A & 6B
EX 1-#14/5C	CONTROLLER	EX 6C	EX 6C
EX 1-#14/7C	CONTROLLER	EX SH OLA	EX SH OLA
1-#14/7C	CONTROLLER	PEDESTAL E	PED SH 4A & 1PB
1-#14/7C	CONTROLLER	PEDESTAL F	PED SH 4B & 1PB
1-#14/7C	CONTROLLER	EX POLE A	PED SH 2B & 1PB
1-#14/7C	CONTROLLER	EX POLE B	PED SH 2A & 1PB
EX SPECIAL	CONTROLLER	EX POLE A	EX ZONE 4D
SPECIAL	CONTROLLER	EX POLE A	ZONES 6A,6B,& 1
EX SPECIAL	CONTROLLER	EX POLE B	EX ZONES 4A,4B,& 4C
SPECIAL	CONTROLLER	EX POLE B	ZONE 2B
SPECIAL	CONTROLLER	EX POLE C	ZONE 2A
SPECIAL	CONTROLLER	EX POLE D	ZONE 6C

FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

7-CONDUCTOR THREE-SECTION FYA HEADS

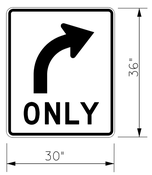
CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 1
RED ARROW	RED	PHASE 1 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN
NEUTRAL	WHITE	WHITE
EQUIPMENT GROUND	GREEN	
SPARE	BLUE	
SPARE	WHITE/TRACER	

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.



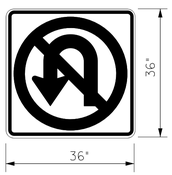
R3-5L SIGN
SIGN A

- INSTALL 30" x 36" "LEFT TURN ONLY" SIGN R3-5L, ON SPANS (AB, BC, DA) AS SHOWN.



R3-5R SIGN
SIGN B

- INSTALL 30" x 36" "RIGHT TURN ONLY" SIGN R3-5R, ON SPANS (AB, BC) AS SHOWN.



R3-4 SIGN
SIGN C

- INSTALL 36" x 36" "NO U-TURN" SIGN R3-4, ON SPANS (AB, DA) AS SHOWN.

RADAR DETECTION ZONE SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	I 1	1	6X30	0'
2A	2	I 2	1	6X30	0'
6A	2	J 2	1	6X30	0'
6B	2	J 2	2	6X30	0'
4A	6	I 6	1	6X30	0'
4B	8	I 6	2	6X30	0'
4C	2	I 7	1	6X12	0'
2B	6	I 2	2	6X12	350' *
4D	2	I 7	2	6X12	350' *
6C	6	J 3	2	6X12	350' *

- ZONES ACROSS BOTH THROUGH LANES, FINAL SPACING TO BE DETERMINED BY KYTC D6 TRAFFIC

LEGEND

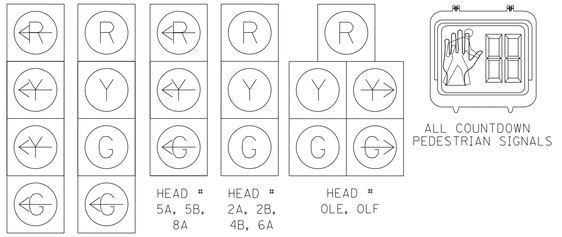
- BASE MOUNTED CONTROLLER
- NEW/ EXISTING STEEL STRAIN POLE
- PEDESTAL POLE
- SIGNAL HEAD
- PEDESTRIAN HEAD
- 5 SECTION SIG HEAD
- PEDESTRIAN DETECTOR
- SPAN MOUNTED SIGN
- RADAR DETECTOR (ARM SHOWN FOR CLARITY) (TYPE A OR B AS DESIGNATED)
- 1¼" SCHED 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
- RADAR DETECTION AREA
- JUNCTION BOXES TYPES A, B, & C (AS DESIGNATED)

SCALE: 1"=20'

KY 236 (DONALDSON HWY) AT KY 3076 (MINEOLA PIKE) SIGNAL PLAN

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T012

SIGNAL HEADS

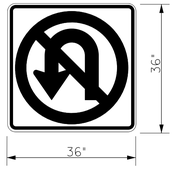


ALL COUNTDOWN PEDESTRIAN SIGNALS

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

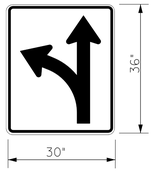
R3-5L SIGN
SIGN A

- INSTALL 30" x 36" "LEFT TURN ONLY" SIGN R3-5L, ON SPANS (AB, BC, DA) AS SHOWN.



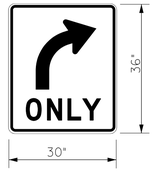
R3-4 SIGN
SIGN B

- INSTALL 36" x 36" "NO U-TURN" SIGN R3-4, ON SPANS (AB, DA) AS SHOWN.



R3-6L SIGN
SIGN C

- INSTALL 30" x 36" "LEFT THROUGH" SIGN R3-6L, ON SPAN (AB) AS SHOWN.



R3-5R SIGN
SIGN D

- INSTALL 30" x 36" "RIGHT TURN ONLY" SIGN R3-5R, ON SPANS (AB, BC) AS SHOWN.

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-#14/7C	CONTROLLER	SH 1	SH 1
1-#14/5C	CONTROLLER	SH 2B	SH 2A & 2B
1-#14/7C	CONTROLLER	SH 4B	SH 4A & 4B
1-#14/5C	CONTROLLER	SH 5B	SH 5A & 5B
1-#14/7C	CONTROLLER	SH 6A	SH 6A & OLE
1-#14/7C	CONTROLLER	SH 8A	SH 8A,8B & OLF
2-#14/7C	CONTROLLER	POLE A	PED SH 2B,4A & 2 PB
2-#14/7C	CONTROLLER	POLE B	PED SH 2A,8B & 2 PB
1-#14/7C	CONTROLLER	POLE C	PED SH 6B & 8A
1-#14/7C	CONTROLLER	POLE D	PED SH 4B & 6A
1-#14/5C	CONTROLLER	PED POST E	2 PED PB
1-#14/5C	CONTROLLER	PED POST F	2 PED PB
SPECIAL	CONTROLLER	POLE A	ZONES 1A,1B, 6A & 6B
SPECIAL	CONTROLLER	POLE B	ZONE 4
SPECIAL	CONTROLLER	POLE B	ZONE 2C
SPECIAL	CONTROLLER	POLE C	ZONES 2A,2B,5A & 5B
SPECIAL	CONTROLLER	POLE D	ZONES 8A,8B & 8C
SPECIAL	CONTROLLER	POLE D	ZONE 6C

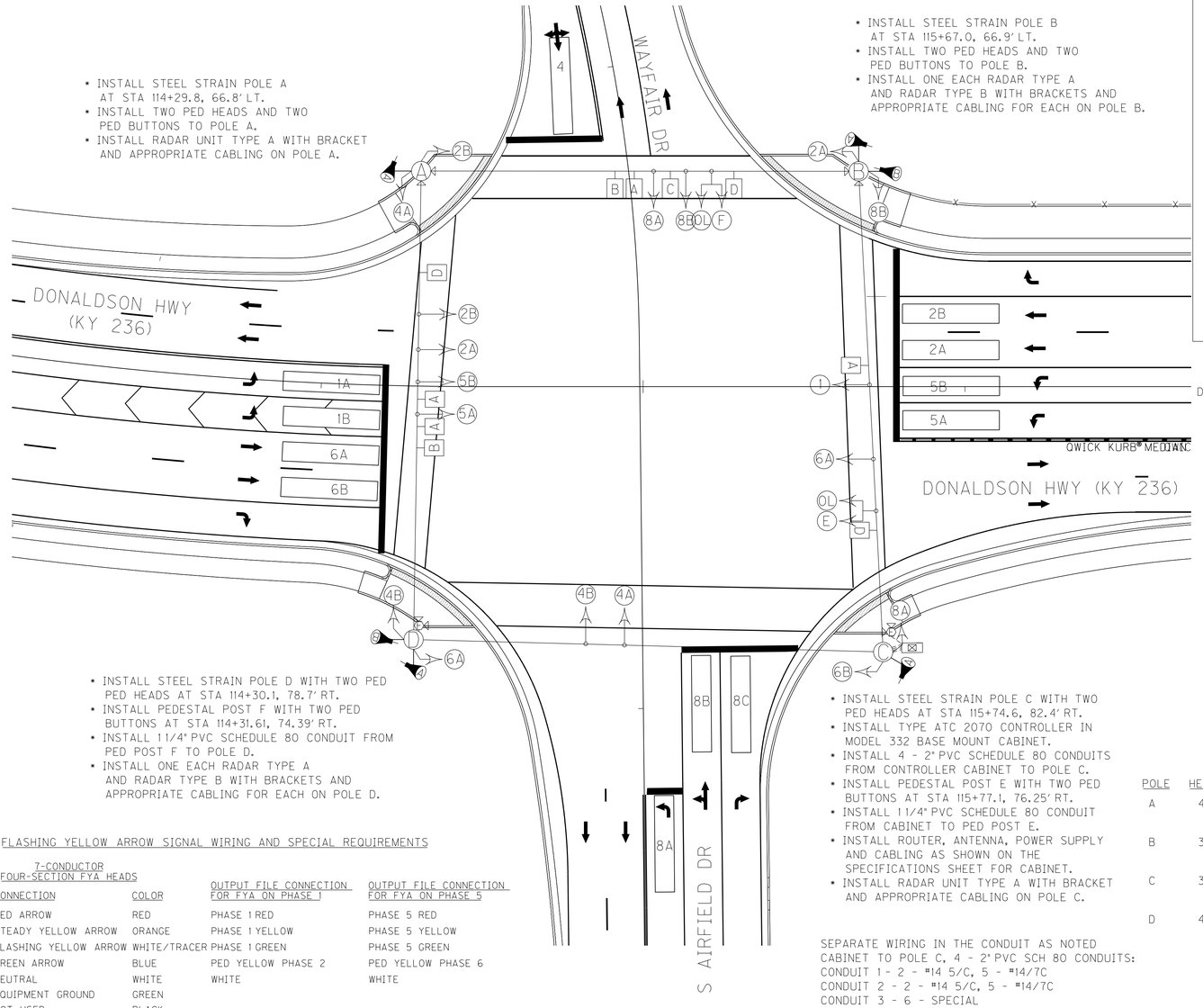
NOTES:

ALL MESSENGER IS 15.4 M. ALL DETECTION BY RADAR.

THE CONTRACTOR MAY HAVE TO PROVIDE A CLAMP ASSEMBLY FOR SOME OF THE ATTACHMENTS OF THE MESSENGER CABLE. THIS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STRAIN POLE. THE CLAMP ASSEMBLIES SHALL BE SUITABLE FOR ATTACHING MESSENGER CABLE AND SHALL CONSIST OF A MINIMUM OF TWO (2) SECTIONS. SECTIONS SHALL BE CONNECTED USING A MINIMUM OF ONE (1) BOLT WITH A MINIMUM TENSILE LOAD OF 17,050 LBS. ALL POLE CLAMP HARDWARE SHALL BE HOT-DIPPED GALVANIZED. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE PROPOSED ASSEMBLE TO THE DIVISION OF TRAFFIC OPERATIONS.

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.



- INSTALL STEEL STRAIN POLE A AT STA 114+29.8, 66.8' LT.
- INSTALL TWO PED HEADS AND TWO PED BUTTONS TO POLE A.
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE A.

- INSTALL STEEL STRAIN POLE B AT STA 115+67.0, 66.9' LT.
- INSTALL TWO PED HEADS AND TWO PED BUTTONS TO POLE B.
- INSTALL ONE EACH RADAR TYPE A AND RADAR TYPE B WITH BRACKETS AND APPROPRIATE CABLING FOR EACH ON POLE B.

- INSTALL STEEL STRAIN POLE D WITH TWO PED PED HEADS AT STA 114+30.1, 78.7' RT.
- INSTALL PEDESTAL POST F WITH TWO PED BUTTONS AT STA 114+31.61, 74.39' RT.
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM PED POST F TO POLE D.
- INSTALL ONE EACH RADAR TYPE A AND RADAR TYPE B WITH BRACKETS AND APPROPRIATE CABLING FOR EACH ON POLE D.

- INSTALL STEEL STRAIN POLE C WITH TWO PED HEADS AT STA 115+74.6, 82.4' RT.
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET.
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE C.
- INSTALL PEDESTAL POST E WITH TWO PED BUTTONS AT STA 115+77.1, 76.25' RT.
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM CABINET TO PED POST E.
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET.
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE C.

SEPARATE WIRING IN THE CONDUIT AS NOTED
CABINET TO POLE C, 4 - 2" PVC SCH 80 CONDUITS:
CONDUIT 1 - 2 - #14 5/C, 5 - #14/7C
CONDUIT 2 - 2 - #14 5/C, 5 - #14/7C
CONDUIT 3 - 6 - SPECIAL
CONDUIT 4 - SPARE

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	WHITE/TRACER	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	BLACK		

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.

SCALE 1" - 20'

LEGEND

- BASE MOUNTED CONTROLLER
- NEW/ EXISTING STEEL STRAIN POLE
- PEDESTAL POST
- SIGNAL HEAD
- PEDESTRIAN HEAD
- 5 SECTION SIG HEAD
- PEDESTRIAN DETECTOR
- SPAN MOUNTED SIGN
- RADAR DETECTOR (ARM SHOWN FOR CLARITY) (TYPE A OR B AS DESIGNATED)
- 1 1/4" SCHED 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
- RADAR DETECTION AREA
- JUNCTION BOXES TYPES A, B, & C (AS DESIGNATED)

DETECTION ZONE SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1A	1	I 1	1	6X30	0'
1B	1	I 1	2	6X30	0'
2A	2	I 2	1	6X30	0'
2B	2	I 2	2	6X30	0'
4	4	I 6	1	6X30	0'
5A	5	J 1	1	6X30	0'
5B	5	J 1	2	6X30	0'
6A	6	J 2	1	6X30	0'
6B	6	J 2	2	6X30	0'
8A	8	J 6	1	6X30	0'
8B	8	J 6	2	6X30	0'
8C	8	J 7	1	6X30	0'
2C	2	I 3	1	6X20	350' *
6C	6	J 3	1	6X20	350' *

* ZONES ACROSS BOTH THROUGH LANES, FINAL SPACING TO BE DETERMINED BY KYTC D6 TRAFFIC

STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	40	A-B	30.0	382.66	5%
		A-D	35.0		
B	38	B-A	31.0	362.71	5%
		B-C	32.0		
C	38	C-B	30.0	360.03	5%
		C-D	31.0		
D	40	D-A	36.0	389.19	5%
		D-C	32.0		

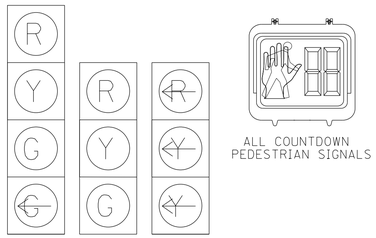
0' 20' 40' 80'

SCALE: 1"=20'

KY 236 (DONALDSON HWY) AT S AIRFIELD RD / WAYFAIR RD SIGNAL PLAN

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T013

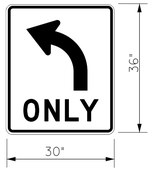
SIGNAL HEADS



ALL COUNTDOWN PEDESTRIAN SIGNALS

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

SIGNS



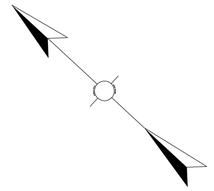
R3-5L SIGN

SIGN A

- INSTALL 30" x 36" "LEFT TURN ONLY" SIGN R3-5L, ON SPANS (DA) AS SHOWN.

125+00

- INSTALL STEEL STRAIN POLE A AT STA 125+13.6, 66' LT.
- INSTALL ONE RADAR UNIT TYPE A WITH BRACKET AT APPROPRIATE CABLING ON POLE A



- INSTALL STEEL STRAIN POLE B AT STA 126+56.1, 50' LT.
- INSTALL PEDESTAL POST E WITH ONE PED BUTTON AT STA. 126+58.6, 35' LT.
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE B TO PEDESTAL POST E
- INSTALL ONE RADAR UNIT TYPE B WITH BRACKET AND APPROPRIATE CABLING ON POLE B

STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	32	A-B	30.0	216.42	5%
		A-D	29.0		
B	32	B-A	30.0	199.08	5%
		B-C	27.0		
C	32	C-B	27.0	217.14	5%
		C-D	30.0		
D	32	D-A	28.0	215.11	5%
		D-C	30.0		

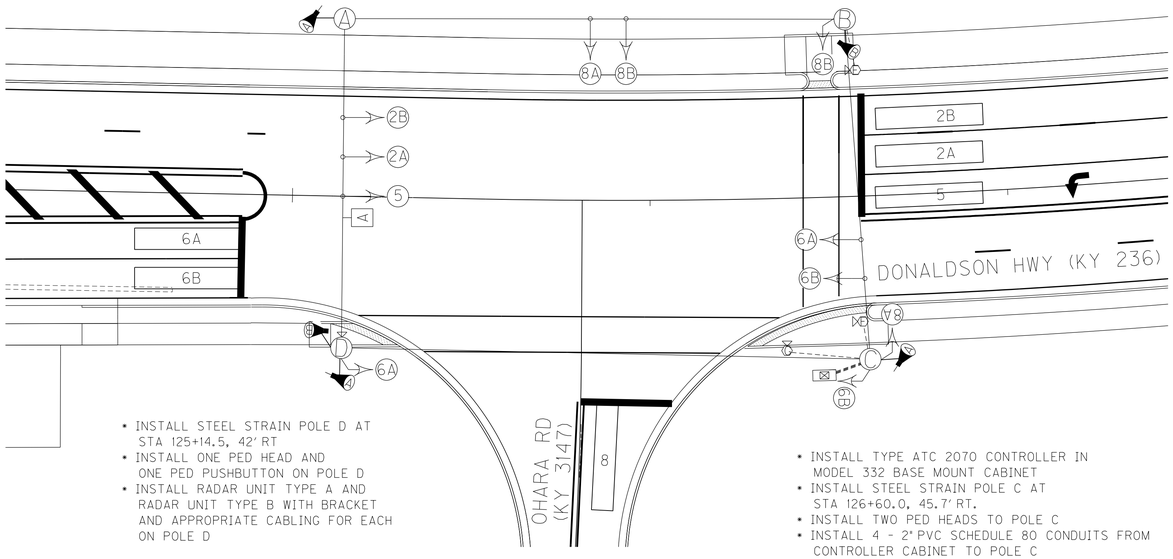
WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
I-#14/7C	CONTROLLER	SH 5	SH 5
I-#14/5C	CONTROLLER	SH 2B	SH 2A & 2B
I-#14/7C	CONTROLLER	SH 8A	SH 8A & 8B
I-#14/5C	CONTROLLER	SH 6A	SH 6A & 6B
I-#14/5C	CONTROLLER	PED POST E	1 PB
I-#14/5C	CONTROLLER	PED POST F	1 PB
I-#14/5C	CONTROLLER	PED POST G	1 PB
I-#14/5C	CONTROLLER	POLE B	PED SH 8B
I-#14/7C	CONTROLLER	POLE C	PED SH 8A & 6B
I-#14/7C	CONTROLLER	POLE D	PED SH 6A & 1 PB
SPECIAL	CONTROLLER	POLE A	ZONES 6A & 6B
SPECIAL	CONTROLLER	POLE B	ZONE 2C
SPECIAL	CONTROLLER	POLE C	ZONE 2A, 2B, & 5
SPECIAL	CONTROLLER	POLE D	ZONE 8
SPECIAL	CONTROLLER	POLE D	ZONE 6C

RADAR DETECTION ZONE SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
2A	2	I 2	1	6X30	0'
2B	2	I 2	2	6X30	0'
5	5	J 1	1	6X30	0'
6A	6	J 2	1	6X30	0'
6B	6	J 2	2	6X30	0'
8	8	J 6	1	6X30	0'
2C	2	I 3	1	6X20	350' *
6C	6	J 3	1	6X20	350' *

* ZONES ACROSS BOTH THROUGH LANES FINAL SPACING TO BE DETERMINED BY KYTC D6 TRAFFIC



- INSTALL STEEL STRAIN POLE D AT STA 125+14.5, 42' RT
- INSTALL ONE PED HEAD AND ONE PED PUSHBUTTON ON POLE D
- INSTALL RADAR UNIT TYPE A AND RADAR UNIT TYPE B WITH BRACKET AND APPROPRIATE CABLING FOR EACH ON POLE D

- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL STEEL STRAIN POLE C AT STA 126+60.0, 45.7' RT.
- INSTALL TWO PED HEADS TO POLE C
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE C
- INSTALL PEDESTAL POST F WITH ONE PED BUTTON AT STA 125+58.3, 35' RT
- INSTALL PEDESTAL POST G WITH ONE PED BUTTON AT STA 125+37.3, 43' RT
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM PED POST F TO POLE C
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM PED POST G TO POLE C
- INSTALL ROUTER, ANTENNA, POWER SUPPLY, AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE C

SEPARATE WIRING IN THE CONDUIT AS NOTED
CABINET TO POLE C, 4 - 2" PVC SCH 80 CONDUITS:
CONDUIT 1 - 6 - #14 5/C
CONDUIT 2 - 4 - #14/7C
CONDUIT 3 - 5 - SPECIAL
CONDUIT 4 - SPARE

LEGEND

- BASE MOUNTED CONTROLLER
- NEW/ EXISTING STEEL STRAIN POLE
- PEDESTAL POLE
- SIGNAL HEAD
- PEDESTRIAN HEAD
- PEDESTRIAN DETECTOR
- SPAN MOUNTED SIGN
- RADAR DETECTOR (ARM SHOWN FOR CLARITY) (TYPE A OR B AS DESIGNATED)
- 1¼" SCHED 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
- RADAR DETECTION AREA
- JUNCTION BOXES TYPES A, B, & C (AS DESIGNATED)

NOTES:

ALL MESSENGER IS 15.4 M. ALL DETECTION BY RADAR.

THE CONTRACTOR MAY HAVE TO PROVIDE A CLAMP ASSEMBLY FOR SOME OF THE ATTACHMENTS OF THE MESSENGER CABLE. THIS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STRAIN POLE. THE CLAMP ASSEMBLIES SHALL BE SUITABLE FOR ATTACHING MESSENGER CABLE AND SHALL CONSIST OF A MINIMUM OF TWO (2) SECTIONS. SECTIONS SHALL BE CONNECTED USING A MINIMUM OF ONE (1) BOLT WITH A MINIMUM TENSILE LOAD OF 17,050 LBS. ALL POLE CLAMP HARDWARE SHALL BE HOT-DIPPED GALVANIZED. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE PROPOSED ASSEMBLE TO THE DIVISION OF TRAFFIC OPERATIONS.

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

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 5 GREEN
NEUTRAL	WHITE	WHITE
EQUIPMENT GROUND	GREEN	
SPARE	BLUE	
SPARE	WHITE/TRACER	

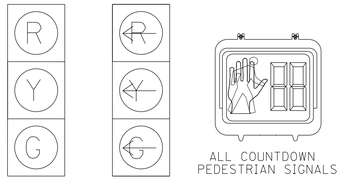
THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 6PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (SIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

SCALE: 1"= 20'

KY 236 (DONALDSON HWY) AT KY 3147 (OHARA RD) SIGNAL PLAN

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T014

SIGNAL HEADS



ALL COUNTDOWN PEDESTRIAN SIGNALS

HEAD # 2A, 2B, 4A, 4B 6A, 6B, 8A, 8B

HEAD # 1A, 1B, 3A, 3B, 5, 7A, 7B

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

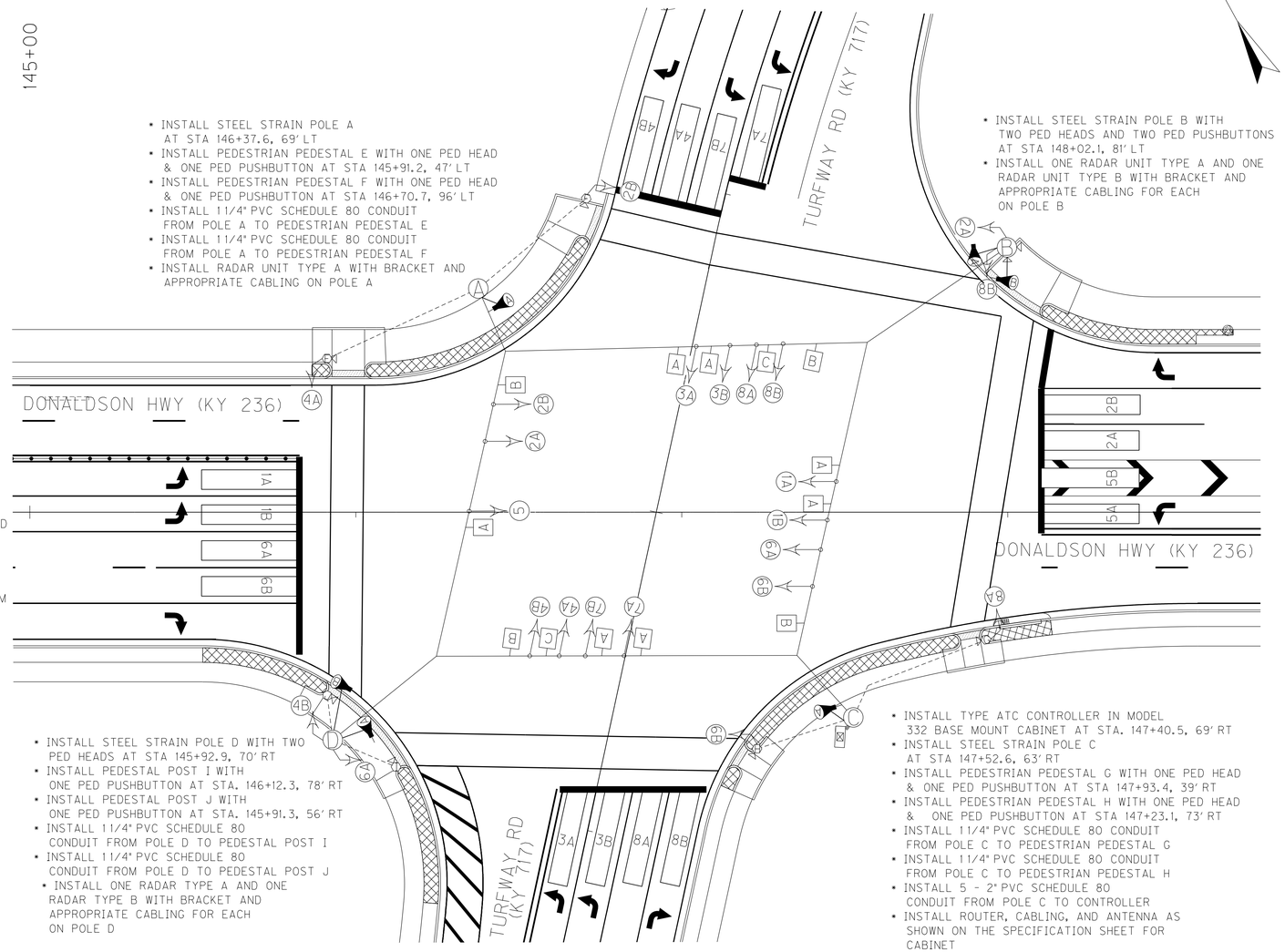
NOTES:

ALL MESSENGER IS 15.4 M. ALL DETECTION BY RADAR.

THE CONTRACTOR MAY HAVE TO PROVIDE A CLAMP ASSEMBLY FOR SOME OF THE ATTACHMENTS OF THE MESSENGER CABLE. THIS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STRAIN POLE. THE CLAMP ASSEMBLIES SHALL BE SUITABLE FOR ATTACHING MESSENGER CABLE AND SHALL CONSIST OF A MINIMUM OF TWO (2) SECTIONS. SECTIONS SHALL BE CONNECTED USING A MINIMUM OF ONE (1) BOLT WITH A MINIMUM TENSILE LOAD OF 17,050 LBS. ALL POLE CLAMP HARDWARE SHALL BE HOT-DIPPED GALVANIZED. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE PROPOSED ASSEMBLE TO THE DIVISION OF TRAFFIC OPERATIONS.

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.



- INSTALL STEEL STRAIN POLE A AT STA 146+37.6, 69' LT
- INSTALL PEDESTRIAN PEDESTAL E WITH ONE PED HEAD & ONE PED PUSHBUTTON AT STA 145+91.2, 47' LT
- INSTALL PEDESTRIAN PEDESTAL F WITH ONE PED HEAD & ONE PED PUSHBUTTON AT STA 146+70.7, 96' LT
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE A TO PEDESTRIAN PEDESTAL E
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE A TO PEDESTRIAN PEDESTAL F
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE A

- INSTALL STEEL STRAIN POLE B WITH TWO PED HEADS AND TWO PED PUSHBUTTONS AT STA 148+02.1, 81' LT
- INSTALL ONE RADAR UNIT TYPE A AND ONE RADAR UNIT TYPE B WITH BRACKET AND APPROPRIATE CABLING FOR EACH ON POLE B

STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	38	A-B	32.0	288.53	5%
		A-D	32.0		
B	40	B-A	32.0	399.59	5%
		B-C	32.0		
C	38	C-B	31.0	307.04	5%
		C-D	31.0		
D	40	D-A	32.0	398.41	5%
		D-C	32.0		

RADAR DETECTION ZONE SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1A	1	I 1	1	6X30	0'
1B	1	I 1	2	6X30	0'
2A	2	I 2	1	6X30	0'
2B	2	I 2	2	6X30	0'
3A	3	I 5	1	6X30	0'
3B	3	I 5	2	6X30	0'
4A	4	I 6	1	6X30	0'
4B	4	I 6	2	6X30	0'
5A	5	J 1	1	6X30	0'
5B	5	J 1	2	6X30	0'
6A	6	J 2	1	6X30	0'
6B	6	J 2	2	6X30	0'
7A	7	J 5	1	6X30	0'
7B	7	J 5	2	6X30	0'
8A	8	J 6	1	6X30	0'
8B	8	J 6	2	6X30	0'
2C	2	I 3	1	6X30	350' •
6C	6	J 4	1	6X30	350' •

• ZONES ACROSS BOTH THROUGH LANES FINAL SPACING TO BE DETERMINED BY KYTC D6 TRAFFIC

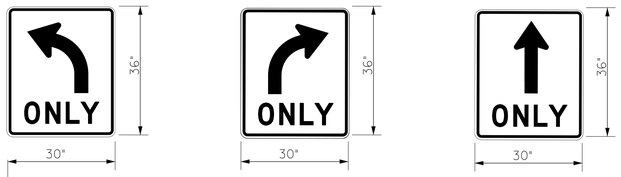
WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-#14/5C	CONTROLLER	SH 1A	SH 1A & 1B
1-#14/5C	CONTROLLER	SH 2B	SH 2A & 2B
1-#14/5C	CONTROLLER	SH 3A	SH 3A & 3B
1-#14/5C	CONTROLLER	SH 4B	SH 4A & 4B
1-#14/5C	CONTROLLER	SH 5	SH 5
1-#14/5C	CONTROLLER	SH 6A	SH 6A & 6B
1-#14/5C	CONTROLLER	SH 7B	SH 7A & 7B
1-#14/5C	CONTROLLER	SH 8A	SH 8A & 8B
1-#14/7C	CONTROLLER	PEDESTAL E	PED SH 2B & 1PB
1-#14/7C	CONTROLLER	PEDESTAL F	PED SH 4A & 1PB
1-#14/7C	CONTROLLER	PEDESTAL G	PED SH 8A & 1PB
1-#14/7C	CONTROLLER	PEDESTAL H	PED SH 6B & 1PB
1-#14/5C	CONTROLLER	PED POST I	1PB
1-#14/5C	CONTROLLER	PED POST J	1PB
2-#14/7C	CONTROLLER	POLE B	PED SH 2A & 8B & 2 PB
1-#14/7C	CONTROLLER	POLE D	PED SH 4B & 6A
SPECIAL	CONTROLLER	POLE A	RADAR ZONES 4A, 4B, 7A, & 7B
SPECIAL	CONTROLLER	POLE B	RADAR ZONE 2A, 2B, 5A & 5B
SPECIAL	CONTROLLER	POLE B	RADAR ZONE 2C
SPECIAL	CONTROLLER	POLE C	RADAR ZONES 3A, 3B, 8A, & 8B
SPECIAL	CONTROLLER	POLE D	RADAR ZONES 1A, 1B, 6A, & 6B
SPECIAL	CONTROLLER	POLE D	RADAR ZONE 6C

- INSTALL STEEL STRAIN POLE D WITH TWO PED HEADS AT STA 145+92.9, 70' RT
- INSTALL PEDESTAL POST I WITH ONE PED PUSHBUTTON AT STA. 146+12.3, 78' RT
- INSTALL PEDESTAL POST J WITH ONE PED PUSHBUTTON AT STA. 145+91.3, 56' RT
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE D TO PEDESTAL POST I
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE D TO PEDESTAL POST J
- INSTALL ONE RADAR TYPE A AND ONE RADAR TYPE B WITH BRACKET AND APPROPRIATE CABLING FOR EACH ON POLE D

- INSTALL TYPE ATC CONTROLLER IN MODEL 332 BASE MOUNT CABINET AT STA. 147+40.5, 69' RT
- INSTALL STEEL STRAIN POLE C AT STA 147+52.6, 63' RT
- INSTALL PEDESTRIAN PEDESTAL G WITH ONE PED HEAD & ONE PED PUSHBUTTON AT STA 147+93.4, 39' RT
- INSTALL PEDESTRIAN PEDESTAL H WITH ONE PED HEAD & ONE PED PUSHBUTTON AT STA 147+23.1, 73' RT
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE C TO PEDESTRIAN PEDESTAL G
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE C TO PEDESTRIAN PEDESTAL H
- INSTALL 5 - 2" PVC SCHEDULE 80 CONDUIT FROM POLE C TO CONTROLLER
- INSTALL ROUTER, CABLING, AND ANTENNA AS SHOWN ON THE SPECIFICATION SHEET FOR CABINET
- INSTALL RADAR TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE C

SEPARATE WIRING IN THE CONDUIT AS NOTED -
CABINET TO POLE C, 5 - 2" PVC SCH 80 CONDUITS:
CONDUIT 1 - 5 - #14/5C
CONDUIT 2 - 7 - #14/7C
CONDUIT 3 - 5 - #14/5C
CONDUIT 4 - 6 - SPECIAL
CONDUIT 5 - SPARE



R3-5L SIGN
SIGN A

- INSTALL 30" x 36" "LEFT TURN ONLY" SIGN R3-5L, ON SPANS (AB, BC, CD, DA) AS SHOWN.

R3-5R SIGN
SIGN B

- INSTALL 30" x 36" "RIGHT TURN ONLY" SIGN R3-5L, ON SPANS (AB, BC, CD, DA) AS SHOWN.

R3-5a SIGN
SIGN C

- INSTALL 30" x 36" "THROUGH ONLY" SIGN R3-5a, ON SPANS (AB & CD) AS SHOWN.

LEGEND

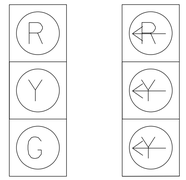
- BASE MOUNTED CONTROLLER
- (A) (A) NEW/ EXISTING STEEL STRAIN POLE
- PEDESTAL POLE
- SIGNAL HEAD
- PEDESTRIAN HEAD
- PEDESTRIAN DETECTOR
- A # SPAN MOUNTED SIGN
- RADAR DETECTOR (ARM SHOWN FOR CLARITY) (TYPE A OR B AS DESIGNATED)
- 1¼" SCHED 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
- RADAR DETECTION AREA
- B9 JUNCTION BOXES TYPES A, B, & C (AS DESIGNATED)

SCALE: 1"= 20'

KY 236 (DONALDSON HWY) AT
KY 717 (TURFWAY RD)
SIGNAL PLAN

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T015

SIGNAL HEADS



HEAD #
2A, 2B, 4A,
4B, 6A, 6B,
8A, 8B

HEAD #
1, 5

ALL COUNTDOWN
PEDESTRIAN SIGNALS

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

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
I-#14/7C	CONTROLLER	SH 1	SH 1
I-#14/5C	CONTROLLER	SH 2B	SH 2A & 2B
I-#14/5C	CONTROLLER	SH 4B	SH 4A & 4B
I-#14/7C	CONTROLLER	SH 5	SH 5
I-#14/5C	CONTROLLER	SH 6A	SH 6A & 6B
I-#14/5C	CONTROLLER	SH 8A	SH 8A & 8B
I-#14/7C	CONTROLLER	PEDESTAL E	PED SH 4A & 1PB
I-#14/5C	CONTROLLER	PED POST F	1PB
I-#14/5C	CONTROLLER	PED POST G	1PB
I-#14/7C	CONTROLLER	POLE A	PED SH 2B & 1PB
I-#14/7C	CONTROLLER	POLE B	PED SH 2A & 8B
2-#14/7C	CONTROLLER	POLE C	PED SH 8A & 6B & 2 PB
2-#14/7C	CONTROLLER	POLE D	PED SH 6A & 4B & 2 PB
SPECIAL	CONTROLLER	POLE A	ZONE 4A & 4B
SPECIAL	CONTROLLER	POLE B	ZONES 5A,5B,2A,& 2B
SPECIAL	CONTROLLER	POLE B	ZONE 2C
SPECIAL	CONTROLLER	POLE C	ZONES 8A,8B,& 8C
SPECIAL	CONTROLLER	POLE D	ZONES 1A,1B,6A,& 6B
SPECIAL	CONTROLLER	POLE D	ZONE 6C

NOTES:

ALL MESSENGER IS 15.4 M. ALL DETECTION BY RADAR.

THE CONTRACTOR MAY HAVE TO PROVIDE A CLAMP ASSEMBLY FOR SOME OF THE ATTACHMENTS OF THE MESSENGER CABLE. THIS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STRAIN POLE. THE CLAMP ASSEMBLIES SHALL BE SUITABLE FOR ATTACHING MESSENGER CABLE AND SHALL CONSIST OF A MINIMUM OF TWO (2) SECTIONS. SECTIONS SHALL BE CONNECTED USING A MINIMUM OF ONE (1) BOLT WITH A MINIMUM TENSILE LOAD OF 17,050 LBS. ALL POLE CLAMP HARDWARE SHALL BE HOT-DIPPED GALVANIZED. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE PROPOSED ASSEMBLE TO THE DIVISION OF TRAFFIC OPERATIONS.

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.

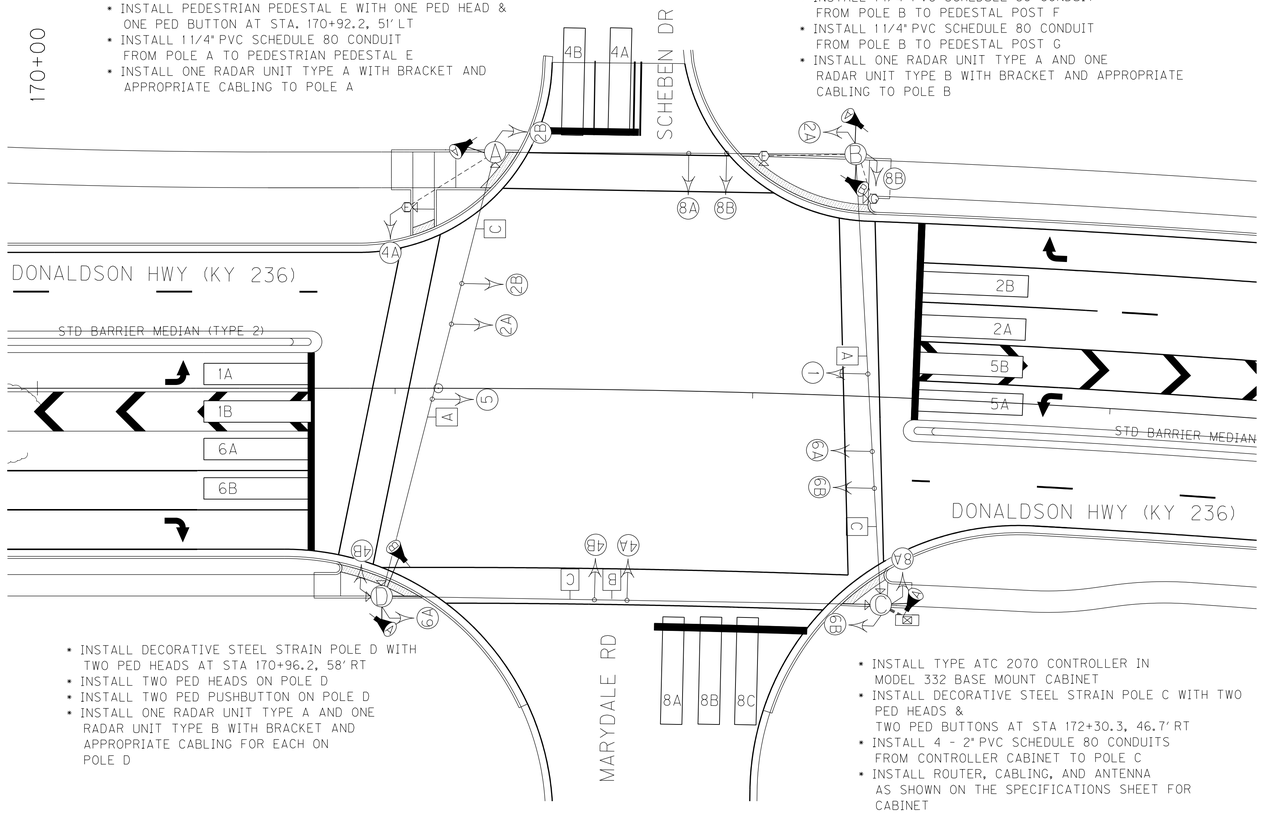
CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

7-CONDUCTOR
THREE-SECTION FYA HEADS

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
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
SPARE	BLUE		
SPARE	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.



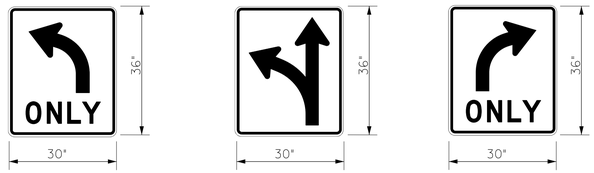
- INSTALL DECORATIVE STEEL STRAIN POLE A WITH ONE PED HEAD & ONE PED BUTTON AT STA 171+27.6, 66' LT
- INSTALL PEDESTRIAN PEDESTAL E WITH ONE PED HEAD & ONE PED BUTTON AT STA. 170+92.2, 51' LT
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE A TO PEDESTRIAN PEDESTAL E
- INSTALL ONE RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING TO POLE A

- INSTALL DECORATIVE STEEL STRAIN POLE B WITH TWO PED HEADS AT STA 172+27.6, 66' LT
- INSTALL PEDESTAL POST F WITH ONE PED BUTTON AT STA 172+01.2, 66' LT
- INSTALL PEDESTAL POST G WITH ONE PED BUTTON AT STA 172+39.5, 56' LT
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE B TO PEDESTAL POST F
- INSTALL 1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE B TO PEDESTAL POST G
- INSTALL ONE RADAR UNIT TYPE A AND ONE RADAR UNIT TYPE B WITH BRACKET AND APPROPRIATE CABLING TO POLE B

- INSTALL DECORATIVE STEEL STRAIN POLE D WITH TWO PED HEADS AT STA 170+96.2, 58' RT
- INSTALL TWO PED HEADS ON POLE D
- INSTALL TWO PED PUSHBUTTON ON POLE D
- INSTALL ONE RADAR UNIT TYPE A AND ONE RADAR UNIT TYPE B WITH BRACKET AND APPROPRIATE CABLING FOR EACH ON POLE D

- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL DECORATIVE STEEL STRAIN POLE C WITH TWO PED HEADS & TWO PED BUTTONS AT STA 172+30.3, 46.7' RT
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE C
- INSTALL ROUTER, CABLING, AND ANTENNA AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING TO POLE C

SEPARATE WIRING IN THE CONDUIT AS NOTED
CABINET TO POLE C, 4-2" PVC SCH 80 CONDUITS:
CONDUIT 1 - 7 - #14 7/C
CONDUIT 2 - 6 - #14 5/C, 2 - #14 7/C
CONDUIT 3 - 6 - SPECIAL
CONDUIT 4 - SPARE



R3-5L SIGN
SIGN A

- INSTALL 30" x 36" "LEFT TURN ONLY" SIGN R3-5L, ON SPANS (AB, BC, DA) AS SHOWN.

R3-6L SIGN
SIGN B

- INSTALL 30" x 36" "LEFT THROUGH" SIGN R3-6L, ON SPAN (AB & CD) AS SHOWN.

R3-5R SIGN
SIGN C

- INSTALL 30" x 36" "RIGHT TURN ONLY" SIGN R3-5R, ON SPANS (AB, BC) AS SHOWN.

SEE PAGE T02 FOR PLAN NOTES REGUARDING DECORATIVE STRAIN POLES AT THIS INTERSECTION (KY 236 @ SCHEBEN DRIVE/MARYDALE ROAD)

STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	32	A-B	31.0	213.90	5%
		A-D	30.0		
B	34	B-A	30.0	240.75	5%
		B-C	31.0		
C	36	C-B	32.0	289.13	5%
		C-D	30.0		
D	36	D-A	31.0	300.77	5%
		D-C	29.0		

RADAR DETECTION ZONE SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1A	1	I 1	1	6X30	0'
1B	1	I 1	2	6X30	0'
2A	2	I 2	1	6X30	0'
2B	2	I 2	2	6X30	0'
4A	4	I 6	1	6X30	0'
4B	4	I 6	2	6X30	0'
5A	5	J 1	1	6X30	0'
5B	5	J 1	2	6X30	0'
6A	6	J 2	1	6X30	0'
6B	6	J 2	2	6X30	0'
8A	8	J 6	1	6X30	0'
8B	8	J 6	2	6X30	0'
8C	8	J 7	1	6X30	0'
2C	2	I 3	1	6X30	350' *
6C	6	J 3	1	6X30	350' *

* ZONES ACROSS BOTH THROUGH LANES FINAL SPACING TO BE DETERMINED BY KYTC D6 TRAFFIC

LEGEND

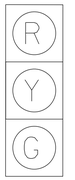
- BASE MOUNTED CONTROLLER
- NEW/ EXISTING STEEL STRAIN POLE
- PEDESTAL POLE
- SIGNAL HEAD
- PEDESTRIAN HEAD
- PEDESTRIAN DETECTOR
- SPAN MOUNTED SIGN
- RADAR DETECTOR TYPE A (ARM SHOWN FOR ATTACHMENT CLARITY)
- 1 1/4" SCHED 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
- RADAR DETECTION AREA
- JUNCTION BOXES TYPES A, B, & C (AS DESIGNATED)

SCALE: 1"= 20'

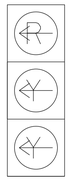
KY 236 (DONALDSON HWY) AT SCHEBEN DR / MARYDALE RD SIGNAL PLAN

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T016

SIGNAL HEADS



HEAD #
2A, 2B,
4A, 4B,
6A, 6B,
8A, 8B



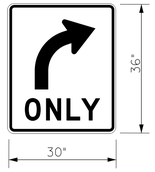
HEAD #
1, 5

ALL COUNTDOWN PEDESTRIAN SIGNALS

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

R3-5L SIGN
SIGN A

- INSTALL 30" x 36" "LEFT TURN ONLY" SIGN R3-5L, ON SPANS (BC, CD, DA) AS SHOWN.

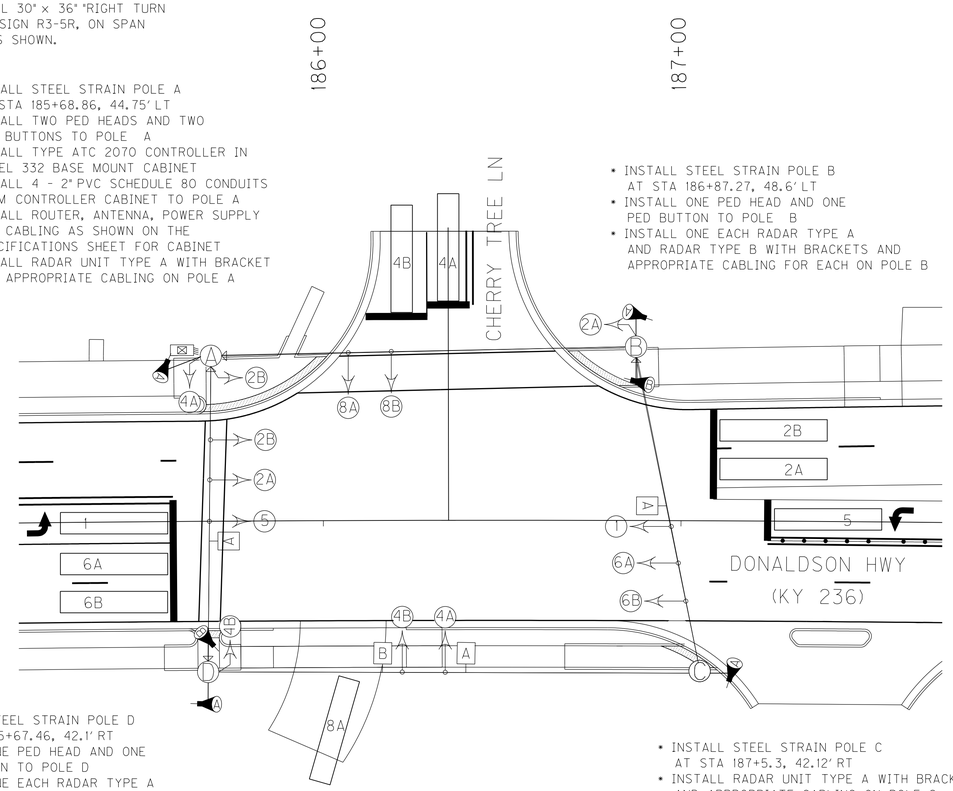


R3-5R SIGN
SIGN B

- INSTALL 30" x 36" "RIGHT TURN ONLY" SIGN R3-5R, ON SPAN (CD) AS SHOWN.

SEPARATE WIRING IN CONDUIT AS NOTED
CABINET TO POLE A, 4-2" PVC SCH 80 CONDUITS:
CONDUIT 1: 6 - #14/7C
CONDUIT 2: 6 - #14/5C
CONDUIT 3: 6 - SPECIAL
CONDUIT 4: SPARE

- INSTALL STEEL STRAIN POLE A AT STA 185+68.86, 44.75' LT
- INSTALL TWO PED HEADS AND TWO PED BUTTONS TO POLE A
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE A
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE A



- INSTALL STEEL STRAIN POLE B AT STA 186+87.27, 48.6' LT
- INSTALL ONE PED HEAD AND ONE PED BUTTON TO POLE B
- INSTALL ONE EACH RADAR TYPE A AND RADAR TYPE B WITH BRACKETS AND APPROPRIATE CABLING FOR EACH ON POLE B

- INSTALL STEEL STRAIN POLE D AT STA 185+67.46, 42.1' RT
- INSTALL ONE PED HEAD AND ONE PED BUTTON TO POLE D
- INSTALL ONE EACH RADAR TYPE A AND RADAR TYPE B WITH BRACKETS AND APPROPRIATE CABLING FOR EACH ON POLE D

- INSTALL STEEL STRAIN POLE C AT STA 187+5.3, 42.12' RT
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE C

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-#14/7C	CONTROLLER	SH 1	SH 1
1-#14/5C	CONTROLLER	SH 2A	SH 2A & 2B
1-#14/5C	CONTROLLER	SH 4A	SH 4A & 4B
1-#14/7C	CONTROLLER	SH 5	SH 5
1-#14/5C	CONTROLLER	SH 6B	SH 6A & 6B
1-#14/5C	CONTROLLER	SH 8B	SH 8A & 8B
2-#14/7C	CONTROLLER	POLE A	PED SH 2B, 4A & 2 PB
1-#14/7C	CONTROLLER	POLE B	PED SH 2A & 1PB
1-#14/7C	CONTROLLER	POLE D	PED SH 4B & 1PB
SPECIAL	CONTROLLER	POLE A	ZONES 6A, 6B, & 1
SPECIAL	CONTROLLER	POLE B	ZONES 4A,4B
SPECIAL	CONTROLLER	POLE B	ZONE 2C
SPECIAL	CONTROLLER	POLE C	ZONES 2A, 2B, & 5
SPECIAL	CONTROLLER	POLE D	ZONE 8A
SPECIAL	CONTROLLER	POLE D	ZONE 6C

NOTES:

ALL MESSENGER IS 15.4 M. ALL DETECTION BY RADAR.

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

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
NEUTRAL	WHITE	WHITE	WHITE
EQUIPMENT GROUND	GREEN		
SPARE	BLUE		
SPARE	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.

SCALE 1" - 20'

LEGEND

- BASE MOUNTED CONTROLLER
- NEW/ EXISTING STEEL STRAIN POLE
- PEDESTAL POLE
- SIGNAL HEAD
- PEDESTRIAN HEAD
- PEDESTRIAN DETECTOR
- SPAN MOUNTED SIGN
- RADAR DETECTOR (ARM SHOWN FOR CLARITY) (TYPE A OR B AS DESIGNATED)
- 1¼" SCHED 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
- RADAR DETECTION AREA
- JUNCTION BOXES TYPES A, B, & C (AS DESIGNATED)

DETECTION ZONE SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	I 1	1	6X30	0'
2A	2	I 2	1	6X30	0'
2B	2	I 2	2	6X30	0'
4A	4	I 6	1	6X30	0'
4B	4	I 6	2	6X30	0'
5	5	J 1	1	6X30	0'
6A	6	J 2	1	6X30	0'
6B	6	J 2	2	6X30	0'
8A	8	J 6	1	6X30	0'
2C	2	I 3	1	6X20	350' •
6C	6	J 3	1	6X20	350' •

• ZONE ACROSS BOTH LANES
FINAL SPACING TO BE DETERMINED
BY KYTC D6 TRAFFIC

STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	32	A-B	27.0	210.28	5%
		A-D	29.0		
B	32	B-A	29.5	203.83	5%
		B-C	28.0		
C	34	C-B	28.0	260.62	5%
		C-D	30.0		
D	32	D-A	29.0	229.53	5%
		D-C	28.0		

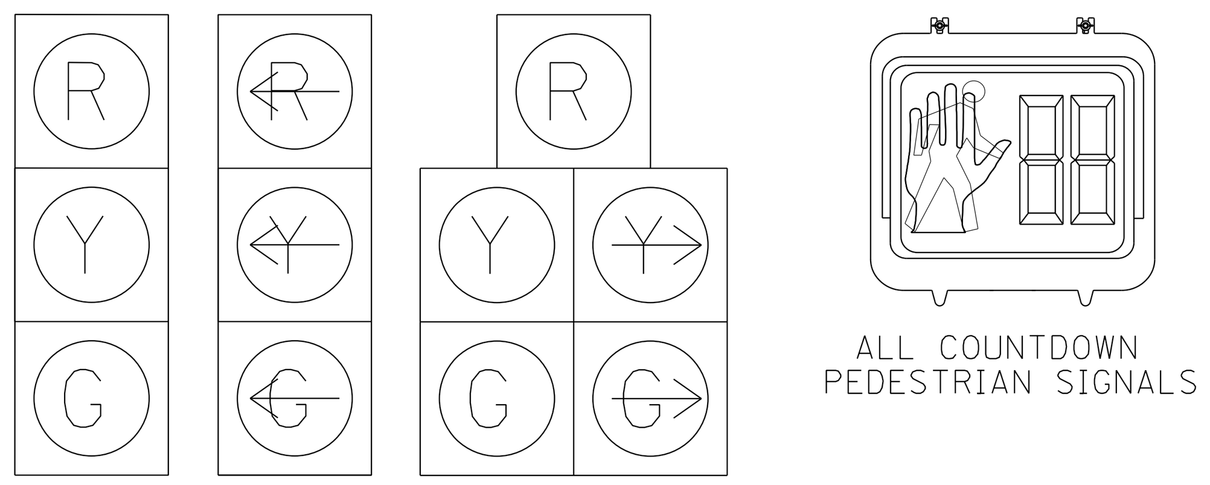
0' 20' 40' 80'

SCALE: 1"= 20'

KY 236 (DONALDSON HWY) AT CHERRY TREE LN SIGNAL PLAN

COUNTY OF	ITEM NO.	SHEET NO.
KENTON	06-0444.00	T017

SIGNAL HEADS

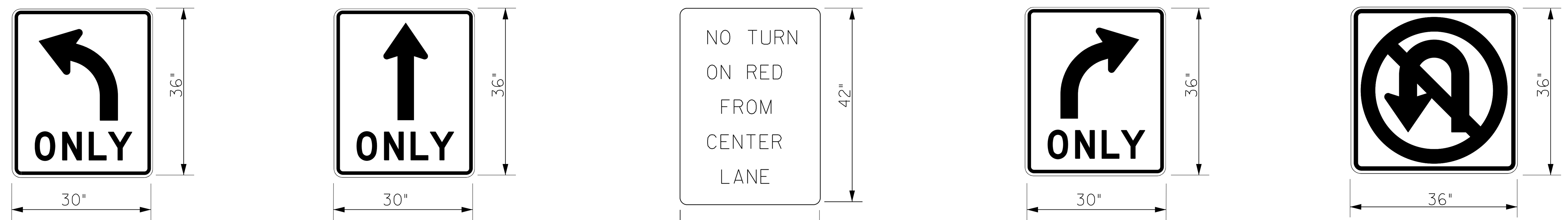


HEAD # 2A, 2B, 4C, 4D, 6A, 6B,

HEAD # 1, 4A, 4B, 5A, 5B, 8A

HEAD # OLE (X2)

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



R3-5L SIGN
SIGN A
- INSTALL 30" x 36" "LEFT TURN ONLY" SIGN R3-5L, ON SPANS (AB, BC, CD, DA) AS SHOWN.

R3-5A SIGN
SIGN B
- INSTALL 30" x 36" "THRU ONLY" SIGN R3-5A, ON SPANS (AB, CD) AS SHOWN.

R10-11d SIGN
SIGN C
- INSTALL 30" x 42" "NO TURN ON RED FROM CENTR LANE" SIGN R10-11d, ON SPAN (AB) AS SHOWN.

R3-5R SIGN
SIGN D
- INSTALL 30" x 36" "RIGHT TURN ONLY" SIGN R3-5R, ON SPANS (AB, BC, CD) AS SHOWN.

R3-4 SIGN
SIGN E
- INSTALL 36" x 36" "NO U-TURN" SIGN R3-4, ON SPAN (DA) AS SHOWN.

SCALE 1" - 20'

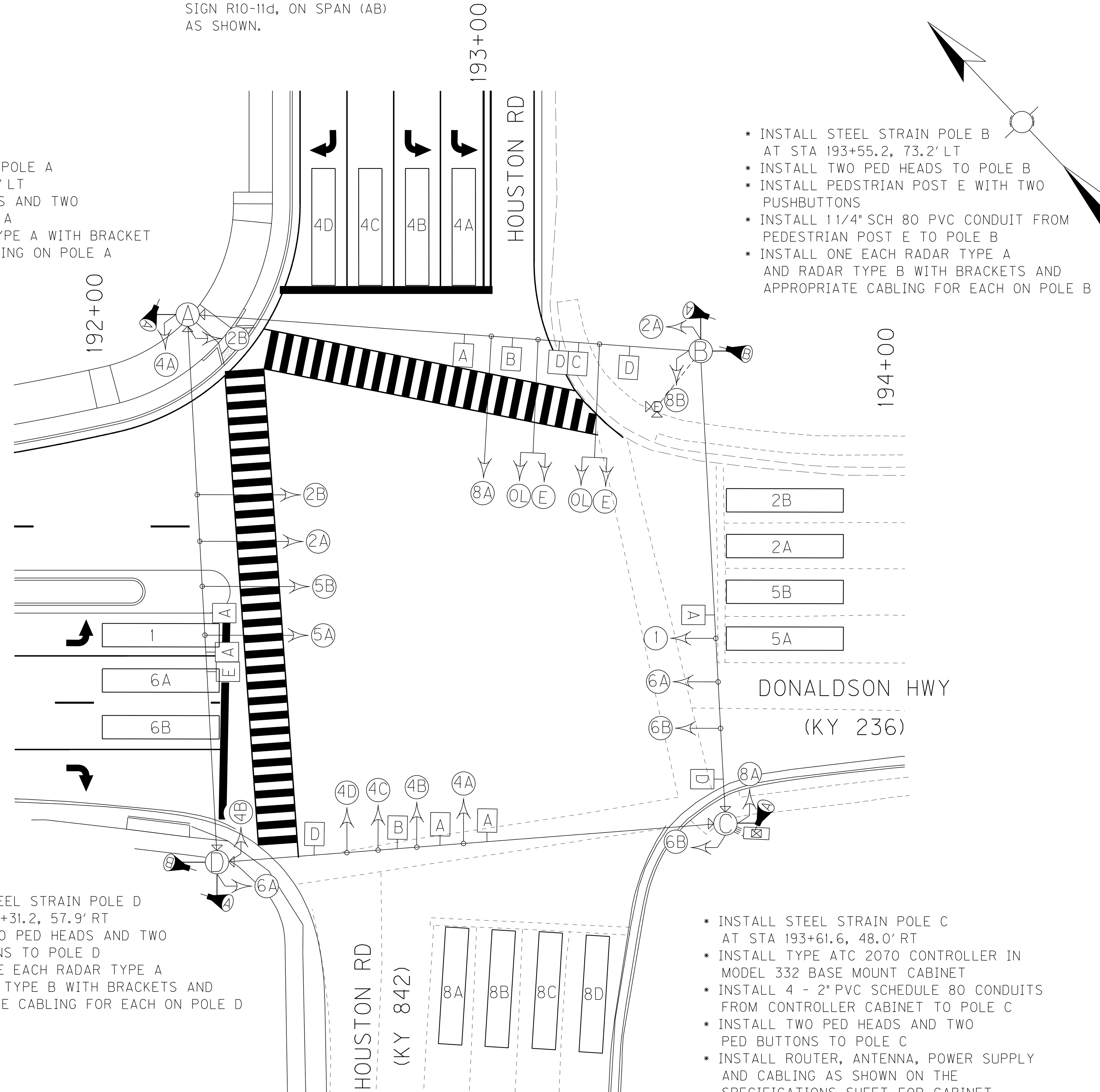
LEGEND	
⊠	BASE MOUNTED CONTROLLER
Ⓐ Ⓐ	NEW/ EXISTING STEEL STRAIN POLE
⬡	PEDESTAL POLE
	SIGNAL HEAD
	PEDESTRIAN HEAD
◁	PEDESTRIAN DETECTOR
A #	SPAN MOUNTED SIGN
	RADAR DETECTOR TYPE A (ARM SHOWN FOR ATTACHMENT CLARITY)
- - - -	$1^1/_4$" SCHED 80 PVC CONDUIT (UNLESS OTHERWISE NOTED)
▭	RADAR DETECTION AREA
B9	JUNCTION BOXES TYPES A, B, & C (AS DESIGNATED)

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-#14/5C	CONTROLLER	SH 1	SH 1
1-#14/5C	CONTROLLER	SH 2B	SH 2A & 2B
1-#14/5C	CONTROLLER	SH 4D	SH 4A,4B,4C & 4D
1-#14/5C	CONTROLLER	SH 5B	SH 5A & 5B
1-#14/5C	CONTROLLER	SH 6A	SH 6A & 6B
1-#14/7C	CONTROLLER	SH 8A	SH 8A,OLE & OLE
2-#14/7C	CONTROLLER	POLE A	PED SH 2B,4A & 2 PB
1-#14/7C	CONTROLLER	POLE B	PED SH 2A & 8B
2-#14/7C	CONTROLLER	POLE C	PED SH 6B,8A & 2 PB
2-#14/7C	CONTROLLER	POLE D	PED SH 4B,6A & 2 PB
1-#14/5C	CONTROLLER	POST E	2 PB
SPECIAL	CONTROLLER	POLE A	ZONES 1,6A & 6B
SPECIAL	CONTROLLER	POLE A	ZONES 4A,4B,4C & 4D
SPECIAL	CONTROLLER	POLE B	ZONE 2C
SPECIAL	CONTROLLER	POLE C	ZONES 2A,2B,5A & 5B
SPECIAL	CONTROLLER	POLE D	ZONES 8A,8B,8C & 8D
SPECIAL	CONTROLLER	POLE D	ZONE 6C

- INSTALL STEEL STRAIN POLE A AT STA 192+23.7, 82.6' LT
- INSTALL TWO PED HEADS AND TWO PED BUTTONS TO POLE A
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE A

- INSTALL STEEL STRAIN POLE B AT STA 193+55.2, 73.2' LT
- INSTALL TWO PED HEADS TO POLE B
- INSTALL PEDSTRIAN POST E WITH TWO PUSHBUTTONS
- INSTALL 1 1/4" SCH 80 PVC CONDUIT FROM PEDESTRIAN POST E TO POLE B
- INSTALL ONE EACH RADAR TYPE A AND RADAR TYPE B WITH BRACKETS AND APPROPRIATE CABLING FOR EACH ON POLE B



- INSTALL STEEL STRAIN POLE D AT STA 192+31.2, 57.9' RT
- INSTALL TWO PED HEADS AND TWO PED BUTTONS TO POLE D
- INSTALL ONE EACH RADAR TYPE A AND RADAR TYPE B WITH BRACKETS AND APPROPRIATE CABLING FOR EACH ON POLE D

- INSTALL STEEL STRAIN POLE C AT STA 193+61.6, 48.0' RT
- INSTALL TYPE ATC 2070 CONTROLLER IN MODEL 332 BASE MOUNT CABINET
- INSTALL 4 - 2" PVC SCHEDULE 80 CONDUITS FROM CONTROLLER CABINET TO POLE C
- INSTALL TWO PED HEADS AND TWO PED BUTTONS TO POLE C
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATIONS SHEET FOR CABINET
- INSTALL RADAR UNIT TYPE A WITH BRACKET AND APPROPRIATE CABLING ON POLE C

DETECTION ZONE SCHEDULE

DETECTION ZONE	PHASE	SLOT	CHANNEL	SIZE	DIST. FROM STOP BAR
1	1	I 1	1	6X30	0'
2A	2	I 2	1	6X30	0'
2B	2	I 2	2	6X30	0'
4A	4	I 6	1	6X30	0'
4B	4	I 6	2	6X30	0'
4C	4	I 7	1	6X30	0'
4D	4	I 7	2	6X30	0'
5A	5	J 1	1	6X30	0'
5B	5	J 1	2	6X30	0'
6A	6	J 2	1	6X30	0'
6B	6	J 2	2	6X30	0'
8A	8	J 6	1	6X30	0'
8B	8	J 6	2	6X30	0'
8C	8	J 7	1	6X30	0'
8D	8	J 7	2	6X30	0'
2C	2	I 3	1	6X20	350' •
6C	6	J 3	1	6X20	350' •

• ZONES ACROSS BOTH THROUGH LANES FINAL SPACING TO BE DETERMINED BY KYTC D6 TRAFFIC

STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATT. HT.	CALC. SERV. MOMENT	SAG
A	38	A-B	30.0	360.14	5%
		A-D	29.0		
B	36	B-A	30.0	269.50	5%
		B-C	28.0		
C	36	C-B	28.0	288.30	5%
		C-D	32.0		
D	38	D-A	28.0	337.99	5%
		D-C	31.0		

0' 20' 40' 80'

NOTES:

ALL MESSENGER IS 15.4 M. ALL DETECTION BY RADAR.

THE CONTRACTOR MAY HAVE TO PROVIDE A CLAMP ASSEMBLY FOR SOME OF THE ATTACHMENTS OF THE MESSENGER CABLE. THIS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE STRAIN POLE. THE CLAMP ASSEMBLIES SHALL BE SUITABLE FOR ATTACHING MESSENGER CABLE AND SHALL CONSIST OF A MINIMUM OF TWO (2) SECTIONS. SECTIONS SHALL BE CONNECTED USING A MINIMUM OF ONE (1) BOLT WITH A MINIMUM TENSILE LOAD OF 17,050 LBS. ALL POLE CLAMP HARDWARE SHALL BE HOT-DIPPED GALVANIZED. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING OF THE PROPOSED ASSEMBLE TO THE DIVISION OF TRAFFIC OPERATIONS.

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.

SEPARATE WIRING IN THE CONDUIT AS NOTED
CABINET TO POLE C, 4 - 2" PVC SCH 80 CONDUITS:
CONDUIT 1 - 6 - #14 5/C, 2 - #14 7/C
CONDUIT 2 - 6 - #14 7/C
CONDUIT 3 - 6 - SPECIAL
CONDUIT 4 - SPARE

SCALE: 1"= 20'

KY 236 (DONALDSON HWY) AT
KY 842 (HOUSTON RD)
SIGNAL PLAN

FILE NAME: C:\BMS\WSP-PB-US-PW-02\WSP__CORRIN.GULICK\D0389990\06_0444_00_SIGNALS_SHEET7.DGN

E-SHEET NAME:

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T018

NOTES:

ALL MESSENGER IS 10.8 M.

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.

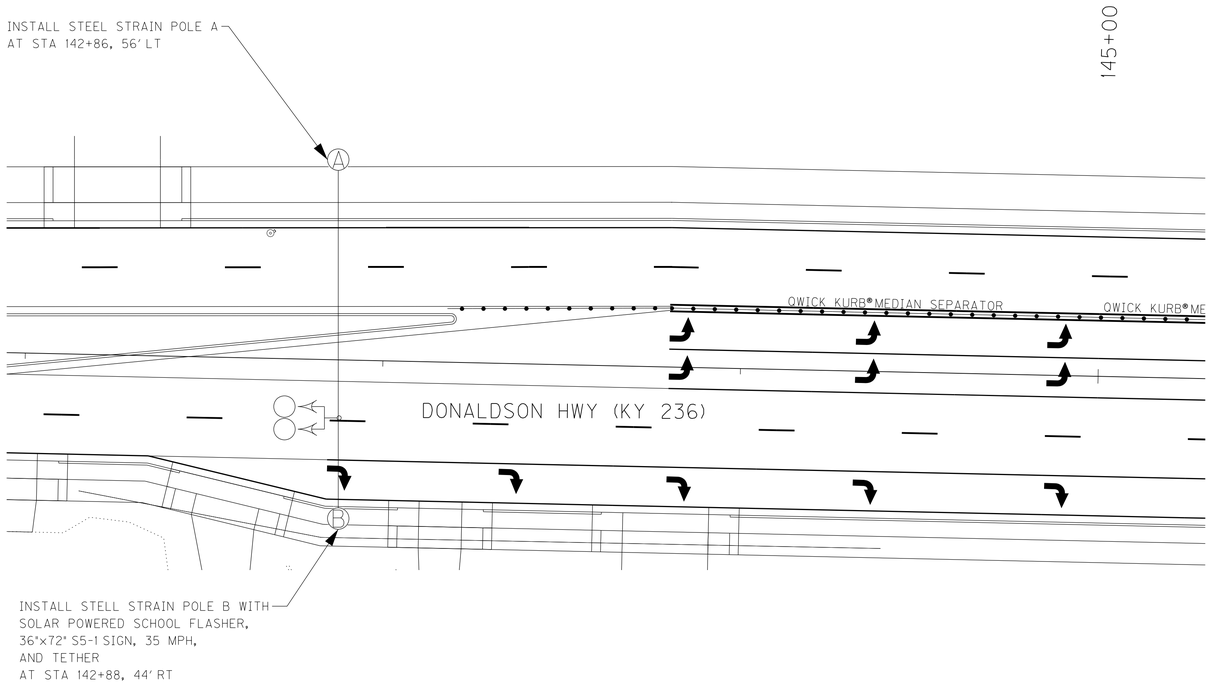
WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
I-#14/5C	*CONTROLLER*	*SCH FLASH*	*SCH FLASH*

STEEL STRAIN POLES FOR SCHOOL FLASHER

POLE	HEIGHT	ATT. HT.	CALC. SERV. MOMENT	SAG	TETHER ATT. HT.	MAX. TETHER TENSION
A	34	31	106.67	5%	20	6348.58
B	34	30	103.55	5%	19	6346.58

A-B SPAN LENGTH = 100'



SCALE 1" - 20'

LEGEND

NEW/ EXISTING STEEL STRAIN POLE

SCHOOL FLASHER ASSEMBLY 36" x 72"

KY 236 (DONALDSON HWY)
SOUTHBOUND
SCHOOL FLASHER

FILE NAME: C:\BMS\WSP-PB-US-PW-02\WSP__CORRIN.GULICK\D038999\06_0444_00_SIGNALS_SHEET8.DGN
USER: gulickcr
DATE PLOTTED: September 18, 2022
E-SHEET NAME:
Power InRoads v8.11.9.912

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T019

NOTES:

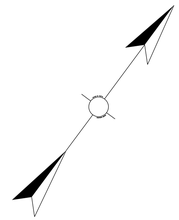
CONTRACTOR SHALL EXERCISE EXTREME CAUTION AROUND ALL UTILITIES TO INCLUDE THE GAS AND WATER LINES AND OVERHEAD UTILITIES. HAND DIG WHEN WITHIN FOUR FEET. NOTE THAT ALL UTILITIES MAY NOT BE SHOWN.

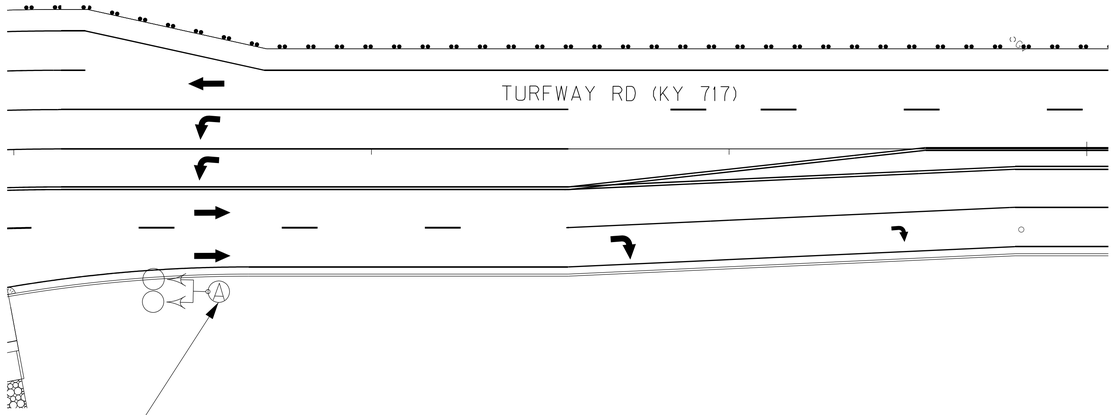
CONTRACTOR SHALL VERIFY ALL ATTACHMENT HEIGHTS IN THE FIELD SO THAT ALL SIGNAL HEADS ARE BETWEEN 17' AND 19' FROM FINISHED GRADE TO BOTTOM OF SIGNAL HEAD. ADJUST ATTACHMENT HEIGHTS AND SAG APPROPRIATELY TO AVOID OVERHEAD UTILITIES.

CONTRACTOR SHALL SUPPLY AND INSTALL ALUMINUM POLE CAP WITH STAINLESS STEEL SCREWS ON POLE A. ALL MATERIALS AND WORK ASSOCIATED WITH INSTALLATION OF THE POLE CAP AND SCREWS SHALL BE INCIDENTAL TO BID ITEM 22939ND (INSTALL LUMINAIRE POLE).

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
I-#14/5C	*CONTROLLER*	*SCH FLASH*	*SCH FLASH*





INSTALL SIDE MOUNTED SCHOOL FLASHER ON 30' LIGHT POLE A WITH SOLAR POWER SCHOOL FLASHER ASSEMBLY, AND 36"X72" S5-1, 35 MPH AT STA 142+88, 44' RT

SCALE 1" - 20'

LEGEND

Ⓐ (A) NEW/ EXISTING LUMINAIRE POLE

SCHOOL FLASHER ASSEMBLY 36" x 72"

KY 717 (TURFWAY ROAD)
SCHOOL FLASHER

COUNTY OF	ITEM NO.	SHEET NO.
BOONE	06-0444.00	T020

NOTES:

ALL MESSENGER IS 10.8 M.

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.

STEEL STRAIN POLES FOR SCHOOL FLASHER

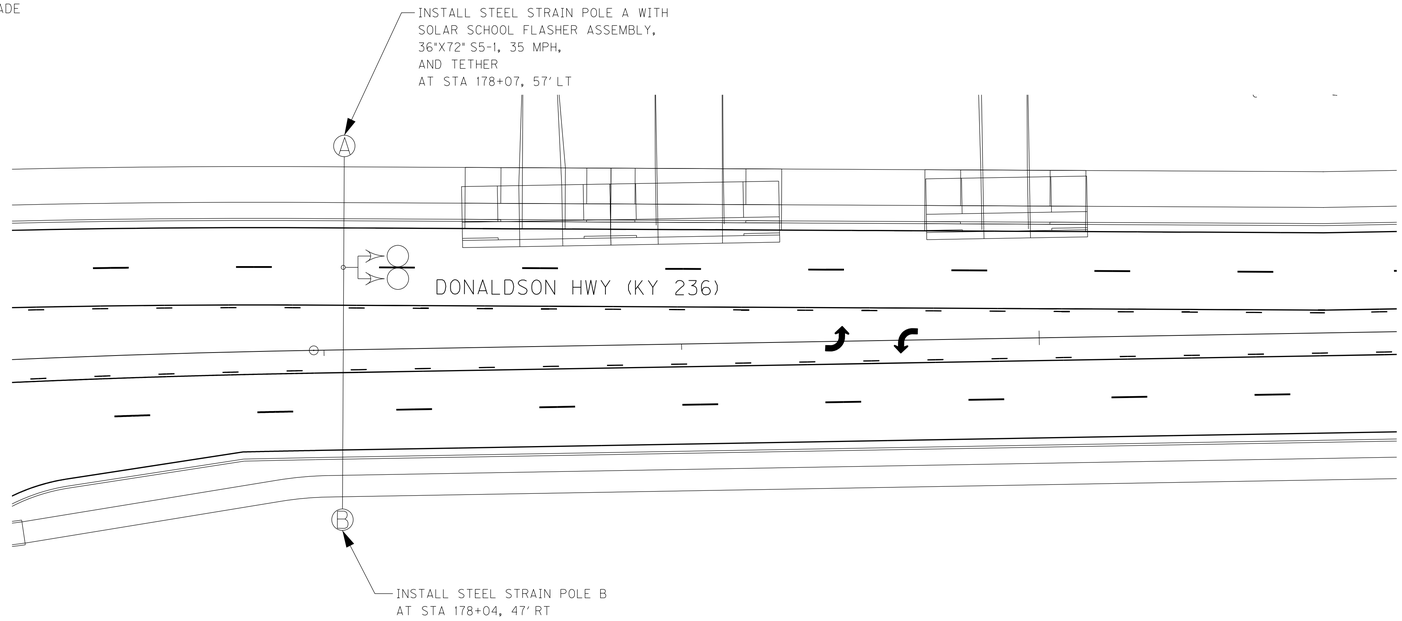
POLE	HEIGHT	ATT. HT.	CALC. SERV. MOMENT	SAG	TETHER ATT. HT.	MAX. TETHER TENSION
A	40	36	132.75	5%	25	8,833
B	38	33	120.86	5%	22	8,833

A-B SPAN LENGTH = 101'

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
I-#14/5C	*CONTROLLER*	*SCH FLASH*	*SCH FLASH*

180+00



SCALE 1" - 20'

LEGEND

Ⓐ (A)	NEW/ EXISTING STEEL STRAIN POLE
	SCHOOL FLASHER ASSEMBLY 36" x 72"

SCALE: 1"= 20'

KY 236 (DONALDSON HWY)
NORTHBOUND
SCHOOL FLASHER PLAN

FILE NAME: C:\BMS\WSP-PB-US-PW-02WSP__CORRIN.GULICK\D038999006_0444_00_SIGNALS_SHEET10.DGN
USER: gulickcr
DATE PLOTTED: September 18, 2022
E-SHEET NAME:
Power InRoads v8.11.9.912