

LOCATION MAP

LATITUDE: 41°01'43" LONGITUDE: 82°16'54"



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	-----

DESIGN EXCEPTIONS
NONE REQUIRED

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
D03-TSG-FY2018 (A)

VILLAGE OF CASTALIA
VILLAGE OF CRESTLINE
VILLAGE OF DOYLESTOWN
VILLAGE OF LEXINGTON

CALISLE, GRANGER, GREENFIELD,
MILAN, PERKINS, SHEFFIELD TOWNSHIP

ASHLAND, CRAWFORD, ERIE,
HURON, LORAIN, MEDINA,
RICHLAND, WAYNE COUNTY

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2-4
GENERAL SUMMARY	5
FLASHER SUBSUMMARY	6
SIGNAL DETAIL:	
ERI-250-2.10	7
HUR-162-8.85	8
LOR-301-12.44	9
MED-94-14.61	10
WAY-585-17.61	11
LOR-254-0.00	12
CRA-61-8.05	13
ERI-113-8.45	14
SCHOOL FLASHER DETAILS	15

PROJECT DESCRIPTION

THIS PROJECT WILL INSTALL SEVERAL DISCONNECT SWITCHES AND REPLACE OR RELAMP VARIOUS SCHOOL SIGN FLASHERS THROUGHOUT DISTRICT 3.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A
(MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
(MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA: N/A
(MAINTENANCE PROJECT)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE 2/2/18 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

ENGINEERS SEAL	STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
<p>SIGNED: <u>C. A. Devore</u> DATE: <u>2-2-2018</u></p>	HL-10.13	1/20/17	TC-21.20	7/21/17	800	1/19/18
	HL-20.11	4/21/17	TC-22.20	1/17/14	832	1/17/14
	HL-30.11	7/21/17	TC-41.40	10/18/13		
	HL-30.21	1/17/14	TC-42.20	10/18/13		
	HL-30.22	1/17/14	TC-52.10	10/18/13		
	HL-40.10	1/20/17	TC-52.20	7/21/17		
	HL-40.20	1/20/17	TC-71.10	1/20/17		
	HL-50.11	1/16/15	TC-83.10	7/15/16		
	HL-60.11	7/21/17	TC-83.20	7/21/17		
	HL-60.12	7/15/16				
	HL-60.31	7/21/17	DM-4.3	1/15/16		
			DM-4.4	1/15/16		
	MT-97.10	7/18/14				
	MT-105.10	7/19/13				

PLANS PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT THREE
PLANNING AND ENGINEERING

FEDERAL PROJECT NO. **NON-FEDERAL**
PID NO. **103119**
CONSTRUCTION PROJECT NO. _____
D03-TSG-FY2018 (A)
1/15

I:\BProj\proj\Dat\03119\Design\Roadway\Sheet\103119_GT001.dgn

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CABLE
CHARTER COMMUNICATIONS
5520 WHIPPLE AVENUE NW
NORTH CANTON, OH 44720
330.494.9200

CABLE
BUCKEYE CABLE SYSTEMS
4818 ANGOLA ROAD
TOLEDO, OH 43615
419.724.3768

CITY
CITY OF ELYRIA
131 COURT STREET
ELYRIA, OH 44035
440.326.1444

COMMUNICATION
WINDSTREAM
560 TERNES AVENUE
ELYRIA, OH 44035
440.329.4245

COMMUNICATION
FRONTIER COM
83 TOWNSEND AVENUE
NORWALK, OH 44857
419.744.3613

COMMUNICATION
AT&T OHIO
130 N ERIE STREET
TOLEDO, OH 43604
419.245.7244

COUNTY
WAYNE COUNTY ENGINEER
3151 WEST OLD LINCOLN WAY
WOOSTER, OHIO 44691
330.287.5500

COUNTY
HURON COUNTY ENGINEER DEPT.
150 JEFFERSON STREET
NORWALK, OH 44857
419.668.1997

COUNTY
ERIE COUNTY SEWER
554 RIVER ROAD
HURON, OH 44839
419.433.7303

ELECTRIC
OHIO EDISON

GAS
DOMINION
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OH 44333
800.362.7557

GAS
ASPIRE ENERGY
300 TRACY BIRDGE ROAD
ORRVILLE, OH 44667
330.682.7726

TRAFFIC
ODOT DISTRICT THREE
906 CLARK AVENUE
ASHLAND, OH 44805
419.207.7045

CABLE
BUCKEYE CABLE
4818 ANGOLA ROAD
TOLEDO, OH 43615
419.724.3768

CITY
WILLARD BOARD OF EDUCATION
110 MYRTLE AVENUE
WILLARD, OH 44890
419.935.1541

COMMUNICATION
ONE COMMUNITY
800 W ST CLAIR, 2ND FLOOR
CLEVELAND, OH 44113
216.581.7972

COMMUNICATION
CENTURYLINK
175 ASHLAND AVENUE
MANSFIELD, OH 44907
419.755.7956

COMMUNICATION
WINDSTREAM
100 OWEN BROWN STREET
HUDSON, OH 44236
330.650.8212

COMMUNICATION
MEDINA COUNTY FIBER NETWORK
144 NORTH BROADWAY ST.
MEDINA, OHIO 44256
216.832.7059

COUNTY
LORAIN COUNTY ENGINEER
247 HADAWAY STREET
ELYRIA, OH 44035
440.329.5586

COUNTY
ERIE COUNTY ENGINEERS
2700 COLUMBUS AVENUE
SANDUSKY, OH 44870
419.627.7710

ELECTRIC
OHIO EDISON
1717 ASHLAND ROAD
MANSFIELD, OH 44905
419.521.6214

GAS
COLUMBIA GAS OF OHIO
780 FRY ROAD
MIDDLEBURG HEIGHTS, OH 44130
440.891.2428

GAS
COLUMBIA GAS OF OHIO
1021 N MAIN STREET
MANSFIELD, OH 44903
419.528.1137

GAS
COLUMBIA GAS OF OHIO
1800 BROAD AVENUE
FINDLAY, OH 45840
419.427.3225

WATER
RLCWA
42401 S.R. 303
LAGRANGE, OH 44050
440.355.6060

UTILITIES (CONTINUED)

WATER
NORTHERN OHIO RURAL WATER
P.O. BOX 96
COLLINS, OH 44826
419.668.7213

WATER
ERIE COUNTY WATER
2614 COLUMBUS AVENUE
SANDUSKY, OH 44870
419.627.7666

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

ITEM 631 - SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 48", AS PER PLAN

THE SCHOOL SPEED LIMIT SIGN ASSEMBLIES AS SHOWN IN THE PLANS SHALL BE INSTALLED PER THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 631.09 & 731.07 AND SHOULD INCLUDE 15 YEAR LED BEACONS ON EXISTING MAST ARMS AND PEDESTALS, FLASHER CONTROL UNIT WITH ENCLOSURE AND LAMPS SHALL NOT HAVE MECHANICAL PARTS.

THE SCHOOL SPEED LIMIT SIGN ASSEMBLY SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING ITEMS, INCLUDING ALL THE NECESSARY WIRING AND POWER CABLE IN ORDER TO COMPLETE A FULLY OPERATIONAL SCHOOL SPEED LIMIT SIGN FLASHER ASSEMBLY.

- 1. SIGN HANGER ASSEMBLY, POLE OR MAST ARM MOUNTED
- 2. SCHOOL SPEED LIMIT SIGN ASSEMBLY, S5-HI 24" X 48" OR 30" X 60" AS LISTED IN PLANS
- 3. YELLOW POLYCARBONATE 12" FLASHING BEACONS WITH 15 YEAR LED UNITS.
- 4. THE EXISTING CONTROLLERS & COMMUNICATIONS SHALL NOT BE DISTURBED.

THE VISOR AND EACH LENS CLIP THAT HOLDS THE LED SIGNAL LAMP IN PLACE SHALL BE FASTENED TO THE SIGNAL HEAD HOUSING DOOR BY USE OF STAINLESS STEEL SOCKET SET SCREWS AND STAINLESS STEEL NUTS. EACH CONNECTION SHALL INCLUDE A SINGLE 1.50" LONG STAINLESS STEEL SOCKET SET SCREW WITH THE SOCKET END ON THE VISOR SIDE OF THE DOOR PLUS TWO STAINLESS STEEL NUTS, ONE FOR THE VISOR AND ONE FOR THE LENS CLIP.

ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE REQUIRED WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID OF EACH ITEM 631 - SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 48", AS PER PLAN.

ITEM 631 - SCHOOL SPEED LIMIT SIGN ASSEMBLY, MISC.: 30" X 60"

THE SCHOOL SPEED LIMIT SIGN ASSEMBLIES AS SHOWN IN THE PLANS SHALL BE INSTALLED PER THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 631.09 & 731.07 AND SHOULD INCLUDE 15 YEAR LED BEACONS, FLASHER CONTROL UNIT WITH ENCLOSURE AND LAMPS SHALL NOT HAVE MECHANICAL PARTS.

THE SCHOOL SPEED LIMIT SIGN ASSEMBLY SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING ITEMS, INCLUDING ALL THE NECESSARY WIRING AND POWER CABLE IN ORDER TO COMPLETE A FULLY OPERATIONAL SCHOOL SPEED LIMIT SIGN FLASHER ASSEMBLY.

- 1. SIGN HANGER ASSEMBLY, POLE OR MAST ARM MOUNTED
- 2. SCHOOL SPEED LIMIT SIGN ASSEMBLY, S5-HI - 30" X 60"
- 3. YELLOW POLYCARBONATE 12" FLASHING BEACONS WITH 15 YEAR LED UNITS.
- 4. RTC AP22 TIMER, 120V AC OR 12V DC.
- 5. RTC M2M COMMUNICATION UNIT WITH 5 YEAR SERVICE PLAN.

THE VISOR AND EACH LENS CLIP THAT HOLDS THE LED SIGNAL LAMP IN PLACE SHALL BE FASTENED TO THE SIGNAL HEAD HOUSING DOOR BY USE OF STAINLESS STEEL SOCKET SET SCREWS AND STAINLESS STEEL NUTS. EACH CONNECTION SHALL INCLUDE A SINGLE 1.50" LONG STAINLESS STEEL SOCKET SET SCREW WITH THE SOCKET END ON THE VISOR SIDE OF THE DOOR PLUS TWO STAINLESS STEEL NUTS, ONE FOR THE VISOR AND ONE FOR THE LENS CLIP.

ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE REQUIRED WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID OF EACH ITEM 631 - SCHOOL SPEED LIMIT SIGN ASSEMBLY, MISC.: 30" X 60".

ITEM 631 - REMOVAL, MISC.: SCHOOL SPEED LIMIT SIGN ASSEMBLY

THIS ITEM SHALL INCLUDE THE REMOVAL OF ALL COMPONENTS OF AN EXISTING SCHOOL SPEED LIMIT SIGN ASSEMBLY. THE FOLLOWING ITEMS SHALL BE REMOVED FOR DISPOSAL:

- 1. SCHOOL FLASHER SIGN ASSEMBLIES (INCLUDING BEACONS, SIGN, AND INCIDENTAL HARDWARE)
- 2. OTHER ITEMS AS DIRECTED BY ENGINEER

EXISTING CABINETS, CONTROLLERS & COMMUNICATIONS SHALL NOT BE DISTURBED EXCEPT FOR AT THE CRA-61 LOCATION.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH REMOVAL AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 631 - REMOVAL, MISC.: SIGN FLASHER ASSEMBLY

THIS ITEM SHALL CONSIST OF REMOVING DOWNLIGHTS & ASSEMBLY FROM POST (USE A THREADED PLUG TO PLUG HOLES WHEN REMOVING DOWNLIGHTS). ALSO REMOVE THE CONDUIT FROM THE POLE TO THE BEACON.

EXISTING SIGNS AND CONTROLLERS SHALL NOT BE DISTURBED.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH REMOVAL AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 631 - SIGN FLASHER ASSEMBLY, AS PER PLAN

THE SIGN FLASHER ASSEMBLIES AS SHOWN IN THE PLANS SHALL BE INSTALLED PER THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 631.09 & 731.06. THE EXISTING FLASHING BEACONS SHALL BE REPLACED WITH BLACK POLYCARBONATE 12" FLASHING HEADS WITH 15 YEAR LED LENSES. ALSO REPLACE THE CONDUIT FROM THE POLE TO THE BEACON.

THE VISOR AND EACH LENS CLIP THAT HOLDS THE LED SIGNAL LAMP IN PLACE SHALL BE FASTENED TO THE SIGNAL HEAD HOUSING DOOR BY USE OF STAINLESS STEEL SOCKET SET SCREWS AND STAINLESS STEEL NUTS. EACH CONNECTION SHALL INCLUDE A SINGLE 1.50" LONG STAINLESS STEEL SOCKET SET SCREW WITH THE SOCKET END ON THE VISOR SIDE OF THE DOOR PLUS TWO STAINLESS STEEL NUTS, ONE FOR THE VISOR AND ONE FOR THE LENS CLIP.

ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID OF EACH ITEM 631 - SIGN FLASHER ASSEMBLY, AS PER PLAN.

ITEM 631 - REMOVAL, MISC.: METER BASE FOR REUSE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING THE EXISTING METER BASE AND STORING FOR REUSE AT THE LOCATIONS SHOWN IN PLANS. ANY HOLES RESULTING FROM THE REMOVAL SHALL BE PLUGGED WITH A THREADED PLUG OR SIMILAR MATERIAL APPROVED BY THE ENGINEER.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH "REMOVAL, MISC.: METER BASE FOR REUSE" AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 631 - REMOVAL, MISC.: DISCONNECT SWITCH FOR REUSE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING THE EXISTING DISCONNECT SWITCH AND STORING FOR REUSE AT THE LOCATIONS SHOWN IN PLANS. ANY HOLES RESULTING FROM THE REMOVAL SHALL BE PLUGGED WITH A THREADED PLUG OR SIMILAR MATERIAL APPROVED BY THE ENGINEER.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH "REMOVAL, MISC.: DISCONNECT SWITCH FOR REUSE" AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 632 - SIGNALIZATION, MISC.: INSTALL RACK MOUNTED SYSTEM

USE SCD HL-40.20 AS REFERENCE. IN ADDITION TO THE REQUIREMENTS OF C&M 632 THE FOLLOWING SHALL APPLY:

- 1. USE METER BASES AND DISCONNECT SWITCHES PREVIOUSLY REMOVED FOR REUSE UNLESS NEW ITEMS CALLED OUT SEPARATELY. INSTALL A RACK MOUNTED METER BASE & DISCONNECT SWITCH AT THE LOCATIONS SPECIFIED IN THE PLANS.

- 2. ANY CONDUIT, CABLE, TRENCHING, FOUNDATION, GROUND RODS OR ADDITIONAL MATERIALS TO CREATE A FULLY OPERATING SYSTEM SHALL BE CONSIDERED INCIDENTAL.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH "SIGNALIZATION, MISC.: RACK MOUNTED SYSTEM" AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

CALCULATED
MAE
CHECKED
CAD

GENERAL NOTES

D03-TSG-FY2018 (A)

ITEM 631 - SCHOOL SPEED LIMIT SIGN ASSEMBLY, SOLAR-POWERED, AS PER PLAN

THIS SPECIFICATION APPLIES TO SCHOOL SIGN FLASHERS POWERED BY BATTERIES AND RECHARGED BY SOLAR PANELS.

THE ENTIRE SCHOOL ZONE FLASHER AND SIGN ASSEMBLY SHALL CONFORM TO THE CONTRACT DOCUMENTS AND MEET THE REQUIREMENTS SET FORTH IN THE OMTCD. THE SIGN SIZE SHALL BE 30" X 60" AND SIGN CODE S5-H1.

THE FLASHER CONTROL AND BATTERY WILL BE HOUSED IN ONE OR MORE STAINLESS STEEL OR ALUMINUM ENCLOSURES WITH A NEMA RATING OF AT LEAST 3X. ENCLOSURE EXTERIOR SURFACES SHALL BE BARE OR POWDER COAT ALUMINUM OR STAINLESS STEEL. THE ENCLOSURE INTERIOR SURFACES SHALL BE THE SAME AS THE EXTERIOR.

IF CONTAINED IN A SINGLE ENCLOSURE, THE CONTROL ELECTRONICS AND BATTERY SHALL BE SEPARATED IN A MANNER TO PREVENT DAMAGE TO THE CONTROL ELECTRONICS IF THE BATTERY ENVELOPE IS COMPROMISED.

A PAIR OF 15 YEAR LED SIGNAL BEACONS, ONE ABOVE AND ONE BELOW THE SIGN, MEETING THE CURRENT ITE VEHICLE TRAFFIC CONTROL SIGNAL HEADS (VTC SH) STANDARD WILL BE USED UNLESS OTHERWISE SPECIFIED. THE MANUFACTURER OF THE SIGNAL BEACON SHALL BE LISTED ON THE DEPARTMENT'S QUALIFIED PRODUCTS LIST FOR LED SIGNAL LAMPS.

THE SOLAR PANEL AND/OR CONTROLLER MANUFACTURER WILL PROVIDE SIGNED COPIES OF CALCULATIONS USED TO SIZE THE SOLAR PANEL AND BATTERIES. INCLUDED IN THESE CALCULATIONS WILL BE THE ISOLATION VALUE USED AND ITS SOURCE, THE SOLAR PANEL EFFICIENCY, CHARGER/CONTROLLER EFFICIENCY, INVERTER EFFICIENCY, PROPOSED LED LAMP LOAD, AND A FIGURE REPRESENTING ANTICIPATED MISCELLANEOUS LOSSES.

SOLAR PANEL MANUFACTURER MUST TEST PANEL ACCORDING TO IEC61215 OR EQUIVALENT APPROVED STANDARD. SOLAR PANEL MOUNTING MUST BE RATED FOR 90MPH DESIGN WIND.

RUN REQUIREMENTS ARE 4 HOURS PER DAY FOR TWO WEEKS UNDER CONTINUOUS WORST-CASE (MINIMUM) ISOLATION FIGURES (USUALLY DECEMBER) FOR THE PROPOSED GEOGRAPHIC LOCATION, USING A PANEL ELEVATION ANGLE APPROPRIATE TO THE SITE LATITUDE, AT A SUSTAINED TEMPERATURE OF 25 DEGREES FAHRENHEIT (-4 DEGREES CELSIUS).

IF VOLTAGES OVER 50V AC OR DC ARE PRESENT, GROUNDING AND BONDING REQUIREMENTS SPECIFIED IN THE ODOT CMS WILL BE FOLLOWED.

RTC AP22 TIMER, 120V AC OR 12V DC. & RTC M2M COMMUNICATION UNIT WITH 5 YEAR SERVICE PLAN SHALL BE INCLUDED.

PAYMENT FOR 631 SCHOOL SPEED LIMIT SIGN ASSEMBLY, SOLAR POWERED, AS PER PLAN, SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH THE SOLAR POWERED SCHOOL ZONE FLASHER COMPLETE IN PLACE, INCLUDING THE SIGN, ALL CONNECTIONS MADE, WIRING COMPLETE, TESTED AND ACCEPTED.

ITEM 632 - SIGNALIZATION, MISC.: UNLASH AND RELASH MESSENGER WIRE

THE CONTRACTOR SHALL REMOVE EXISTING MESSENGER WIRE LASHING RODS AND REINSTALL THEM AS NECESSARY FOR THE INSTALLATION OF ANY NEW CABLES ON THE EXISTING INTERSECTION SIGNAL SPANS. THE CABLES SHALL ENTER THE EXISTING STRAIN POLE THROUGH THE POLE CABLE ENTRANCE FITTING AND USE THE EXISTING CONDUIT SYSTEM TO GET TO THE CONTROLLER CABINET. THE NEW CABLES SHALL BE SUPPORTED BY A NEW CABLE SUPPORT ASSEMBLY AT THE TOP OF THE STRAIN POLE.

THE NEW SIGNAL CABLES SHALL BE BID BY SEPARATE BID ITEMS. PAYMENT FOR ITEM 632 "SIGNALIZATION MISC.: UNLASH AND RELASH MESSENGER WIRE" SHALL BE MADE AT THE CONTRACT UNIT PRICE PER PER FOOT AND SHALL INCLUDE ALL LABOR, MATERIALS, CABLE SUPPORT ASSEMBLIES AND EQUIPMENT TO INSTALL NEW CABLES ON EXISTING SIGNAL SPAN WIRE INSTALLATIONS.

ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
4. THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.
5. NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED
6. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

ITEM 632 - POWER SERVICE, AS PER PLAN

THIS ITEM SHALL CONSIST OF INSTALLING A DISCONNECT SWITCH AT THE LOCATIONS SHOWN IN THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE POWER COMPANY TO DE-ENERGIZE AND RE-ENERGIZE THE POWER. ALL CONDUIT, CABLES AND FITTINGS NEEDED TO HAVE A FUNCTIONING SYSTEM SHALL BE INCIDENTAL.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH DISCONNECT SWITCH AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 632 - SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632, THE FOLLOWING APPLY:

1. THE EXISTING SIGNAL CABLE SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR.
2. THIS ITEM SHALL INCLUDE A FUSED PULL APART CONNECTION & A UNFUSED PULL APART CONNECTION.
2. ANY ADDITIONAL ITEMS REQUIRED TO REPLACE THE SIGNAL CABLE SHALL BE CONSIDERED INCIDENTAL.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF SIGNAL CABLE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

ITEM 632 - PEDESTAL, MISC.: 15' PEDESTAL, TRANSFORMER BASE

IN ADDITION TO THE REQUIREMENTS OF CMS 632.19 & 732.15, THE PEDESTAL HEIGHT SHALL BE 15 FEET.

PAYMENT FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH PEDESTAL AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PERFORM THIS ITEM OF WORK AS DESCRIBED ABOVE.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
 - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
 - C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
 - D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
 - E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
 - F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.
2. CONDUITS.
 - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
 - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
 - C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
 - D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRE FOR GROUNDING AND BONDING.
 - A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
 - I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
 - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

GROUNDING AND BONDING (CONTINUED)

- IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
 - B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
4. GROUND ROD.
- A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
 - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:
- | COND. NO. | COLOR | VEHICLE SIGNAL | PEDESTRIAN SIGNAL |
|-----------|--------------------|------------------|-------------------|
| 1 | BLACK | GREEN BALL | #1 WALK |
| 2 | WHITE | AC NEUTRAL | AC NEUTRAL |
| 3 | RED | RED BALL | #1 DW/FDW |
| 4 | GREEN | EQUIPMENT GROUND | EQUIPMENT GROUND |
| 5 | ORANGE | YELLOW BALL | #2 DW/FDW |
| 6 | BLUE | GREEN ARROW | #2 WALK |
| 7 | WHITE/BLACK STRIPE | YELLOW ARROW | NOT USED |
6. POWER SERVICE AND DISCONNECT SWITCH.
- A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UN-SPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
 - B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
 - I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
 - II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.
7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

ITEM 614 - MAINTAINING TRAFFIC LANE CLOSURE/REDUCTION REQUIRED

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ITEM 614 - MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$50 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

I:\Project+Data\0319\Design\Roadway\Sheets\0319_GN001.dgn

CALCULATED
MAE
CHECKED
CAD

GENERAL NOTES

D03-TSG-FY2018 (A)

I:\ProjectData\0319\Design\Roadway\Sheets\0319_G5001.dgn

Loc No.	County	Route	SLM	Location	Plan Split	SIGN SIZE	631	631	631	631	632	CALCULATED MAE CHECKED CAD
							SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 48", AS PER PLAN	REMOVAL, MISC.: SCHOOL SPEED LIMIT SIGN ASSEMBLY	SIGN FLASHER ASSEMBLY, AS PER PLAN	REMOVAL, MISC.: SIGN FLASHER ASSEMBLY	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG, AS PER PLAN	
							EACH	EACH	EACH	EACH	FT	
S1	ASD	SR 3	6.15	Budd School	03/STR/OT	24 X 48	2	2			20	
S2	ASD	SR 89	5.4	Jeromesville School	03/STR/OT	24 X 48	2	2			20	
S3	ERI	SR 601	0.5	Milan School	05/S<2/OT	24 X 48	2	2			20	
S4	HUR	US 20	7.4	Monroeville High School	01/NHS/OT	30 X 60	2	2			20	
S5	HUR	US 20	7.7	Monroeville St. Josephs	01/NHS/OT	30 X 60	2	2			20	
S6	LOR	SR 82	2.8	Christian Community School	03/STR/OT	24 X 48	2	2			20	
S7	MED	SR 252	1.5	Buckeye School	03/STR/OT	24 X 48	2	2			20	
S8	RIC	SR 39	12.12	John Sherman School	01/NHS/OT	30 X 60	2	2			20	
S9	RIC	SR 96	15.18	Crestview School	03/STR/OT	24 X 48	2	2			20	
S10	RIC	SR 97	1.93	Western Elementary School Flasher	05/S<2/OT	24 X 48	2	2			20	
S11	RIC	SR 97	12.03	Clear Fork School	03/STR/OT	24 X 48	2	2			20	
S12	WAY	SR 94	7.98	Dalton High School	03/STR/OT	24 X 48	2	2			20	
S13	WAY	SR 226	2.9	Shreve School	03/STR/OT	24 X 48	2	2			20	
S14	WAY	SR 241	2.59	Mt. Eaton School	03/STR/OT	24 X 48	2	2			20	
S15	WAY	US 250	18.06	Applecreek School	01/NHS/OT	24 X 48	2	2			20	
S16	WAY	SR 585	5.65	Smithville School	01/NHS/OT	24 X 48	2	2			20	
L1	ASD	US 224	0.75	EB Signal Ahead Flasher @ US 250	01/NHS/OT				1		20	
L2	ASD	US 224	1.05	WB Signal Ahead Flasher @ US 250	01/NHS/OT				1		20	
L3	ASD	US 250	1.46	SB Signal Ahead Flasher @ US 224	01/NHS/OT				1		20	
L4	ASD	US 250	1.76	NB Signal Ahead Flasher @ US 224	01/NHS/OT				1		20	
L5	ASD	US 250	20.23	1000' West of SR 89	01/NHS/OT				1		20	
L6	ERI	US 6	0.92	Wahl Rd	03/STR/OT				2		20	
L7	ERI	SR 101	2.72	SR 269	05/S<2/OT				1		20	
L8	ERI	US 250	4.18	700' North of Bogart Rd	01/NHS/OT				1		20	
L9	ERI	US 250	4.44	700' South of Bogart Rd	01/NHS/OT				1		20	
L10	ERI	US 250	5.1	SB Signal Ahead Flasher @ Kalahari	01/NHS/OT				1		20	
L11	ERI	US 250	5.4	NB Signal Ahead Flasher @ Kalahari	01/NHS/OT				1		20	
L12	HUR	US 20	2.35	EB Signal Ahead Flashers @ SR 4	01/NHS/OT				2		20	
L13	HUR	US 20	2.65	WB Signal Ahead Flashers @ SR 4	01/NHS/OT				2		20	
L14	HUR	US 20	17.82	SR 601	01/NHS/OT				1		20	
L15	HUR	SR 99	4.53	SR 162 (Stop Sign Beacon)	03/STR/OT				2		20	
L16	HUR	SR 162	8.85	Peru Center Road	03/STR/OT				1		20	
L17	HUR	US 250	15.49	SR 13	01/NHS/OT				2		20	
L18	LOR	US 20	16.82	NB Signal Ahead Flashers @ Chestnut Ridge Rd	01/NHS/OT				2		20	
L19	LOR	SR 57	12.22	NB Signal Ahead Flashers @ Grafton Rd	05/S<2/OT				1		20	
L20	LOR	SR 57	12.5	SB Signal Ahead Flashers @ Grafton Rd	05/S<2/OT				2		20	
L21	LOR	SR 113	10.79	EB Signal Ahead Flashers @ Murray Ridge Rd	05/S<2/OT				2		20	
L22	LOR	SR 113	11.09	WB Signal Ahead Flashers @ Murray Ridge Rd	05/S<2/OT				2		20	
L23	MED	SR 18	2.65	East Side SR 83 Circle	01/NHS/OT				2		20	
L24	MED	SR 18	2.65	West Side SR 83 Circle	01/NHS/OT				2		20	
L25	MED	US 42	3.42	US 42/ US 224 Ramp Sign	01/NHS/OT				2		20	
L26	MED	SR 57	6.18	830' South of Poe Road	03/STR/OT				1		20	
L27	MED	SR 57	18.61	B&O Underpass	03/STR/OT				2		20	
L28	MED	US 224	12.05	EB Signal Ahead Flashers @ Friendsville Rd	01/NHS/OT				2		20	
L29	MED	US 224	12.35	WB Signal Ahead Flashers @ Friendsville Rd	01/NHS/OT				2		20	
L30	MED	US 224	15.3	EB Signal Ahead Flashers @ Lake Rd	01/NHS/OT				2		20	
L31	MED	US 224	15.6	WB Signal Ahead Flashers @ Lake Rd	01/NHS/OT				2		20	
L32	RIC	US 30	17.12	West of IR-71 NB Ramp, EB	01/NHS/OT				4		20	
L33	RIC	SR 39	8.35	EB Signal Ahead Flashers @ Plym.-Springmill Rd	03/STR/OT				1		20	
L34	RIC	SR 39	8.65	WB Signal Ahead Flashers @ Plym.-Springmill Rd	03/STR/OT				1		20	
L35	RIC	SR 39	9.72	EB Signal Ahead Flashers @ Lex-Springmill Rd	03/STR/OT				1		20	
L36	RIC	SR 39	10.12	WB Signal Ahead Flashers @ Lex-Springmill Rd	01/NHS/OT				2		20	
L37	SUM	SR 21	0.1	EB Signal Ahead Flashers from SR 585 Ramp	01/NHS/OT				2		20	
L38	SUM	SR 21	0.15	SB Signal Ahead Flashers @ Eastern Rd	01/NHS/OT				2		20	
L39	WAY	SR 3	10.67	NB Signal Ahead Flashers @ SR 95	01/NHS/OT				2		20	
L40	WAY	SR 3	10.97	SB Signal Ahead Flashers @ SR 95	01/NHS/OT				2		20	
L41	WAY	SR 21	3.74	NB Signal Ahead Flashers @ Edwards Rd	01/NHS/OT				1		20	
L42	WAY	SR 21	4.14	SB Signal Ahead Flashers @ Edwards Rd	01/NHS/OT				1		20	
L43	WAY	SR 21	5.7	NB Signal Ahead Flashers @ Eastern Rd	01/NHS/OT				2		20	
L44	WAY	US 30	20	EB Signal Ahead Flashers @ SR 57	01/NHS/OT				2		20	
L45	WAY	US 30	20.31	WB Signal Ahead Flashers @ SR 57	01/NHS/OT				1		20	
L46	WAY	US 30	22.13	EB Signal Ahead Flashers @ Kurzen Rd	01/NHS/OT				2		20	
L47	WAY	US 30	23.88	EB Signal Ahead Flashers @ SR 94	01/NHS/OT				2		20	
L48	WAY	US 30	24.18	WB Signal Ahead Flashers @ SR 94	01/NHS/OT				2		20	
L49	WAY	SR 57	5.4	525' South of CR 29	03/STR/OT				1		20	
L50	WAY	SR 585	17.47	EB Signal Ahead Flashers @ Gates St.	01/NHS/OT				2		20	
L51	WAY	SR 585	17.75	WB Signal Ahead Flashers @ Gates St.	01/NHS/OT				2		20	
PLAN SPLIT TOTALS (01/NHS/OT)							10	10	63	63	840	
PLAN SPLIT TOTALS (03/STR/OT)							18	18	12	12	360	
PLAN SPLIT TOTALS (05/S<2/OT)							4	4	8	8	140	
TOTALS:							32	32	83	83	1340	

FLASHER SUBSUMMARY

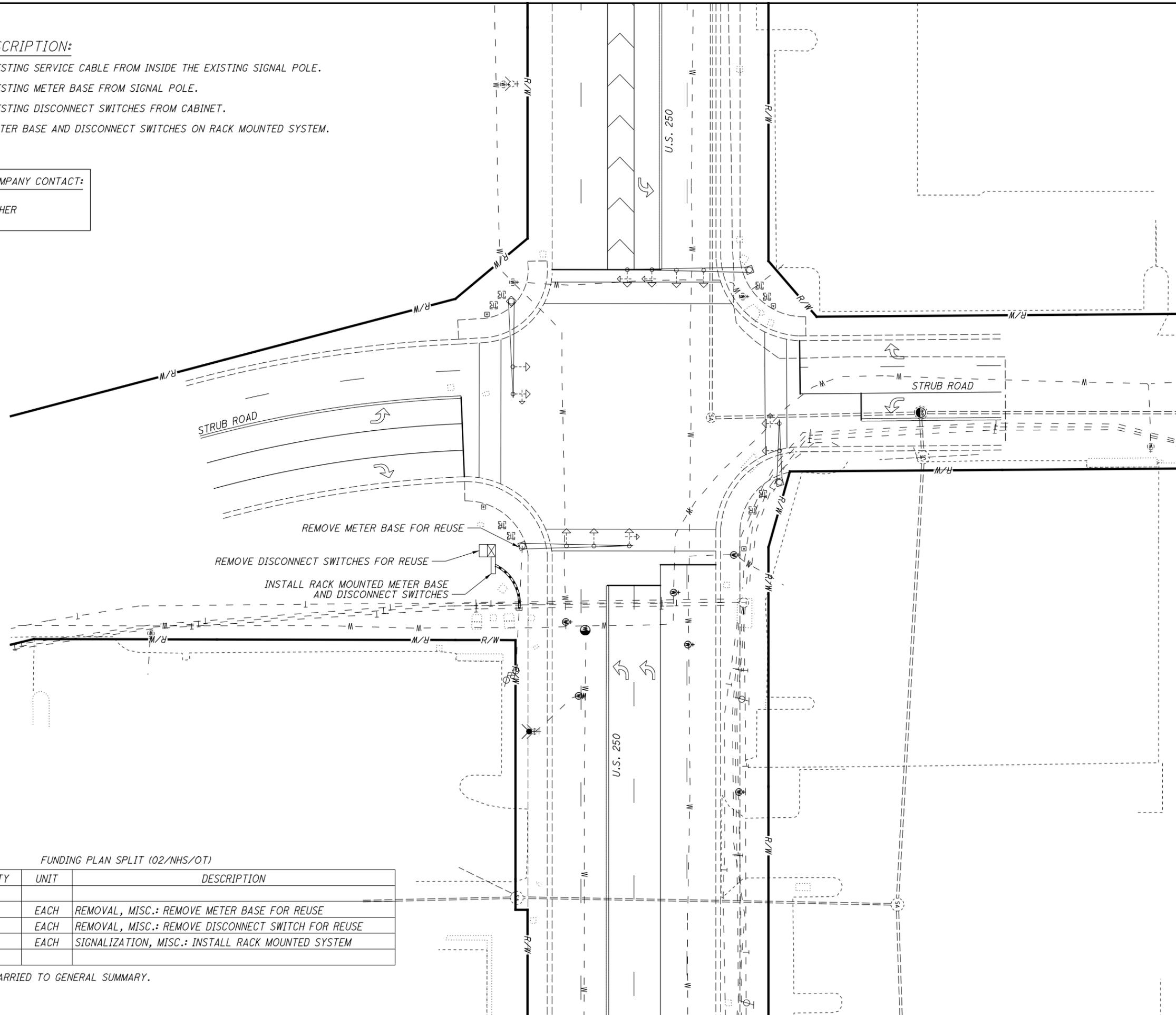
D03-TSG-FY 2018 (A)

WORK DESCRIPTION:

- REMOVE EXISTING SERVICE CABLE FROM INSIDE THE EXISTING SIGNAL POLE.
- REMOVE EXISTING METER BASE FROM SIGNAL POLE.
- REMOVE EXISTING DISCONNECT SWITCHES FROM CABINET.
- INSTALL METER BASE AND DISCONNECT SWITCHES ON RACK MOUNTED SYSTEM.

ELECTRIC COMPANY CONTACT:

OHIO EDISON
JIM ROHRBACHER
419-627-6881



FUNDING PLAN SPLIT (02/NHS/OT)

ITEM	QUANTITY	UNIT	DESCRIPTION
631	1	EACH	REMOVAL, MISC.: REMOVE METER BASE FOR REUSE
631	2	EACH	REMOVAL, MISC.: REMOVE DISCONNECT SWITCH FOR REUSE
632	1	EACH	SIGNALIZATION, MISC.: INSTALL RACK MOUNTED SYSTEM

ALL QUANTITIES CARRIED TO GENERAL SUMMARY.



CALCULATED	MAE	CHECKED	CAD
------------	-----	---------	-----

**SIGNAL DETAIL
ERI-250-2.10**

D03-TSG-FY2018 (A)

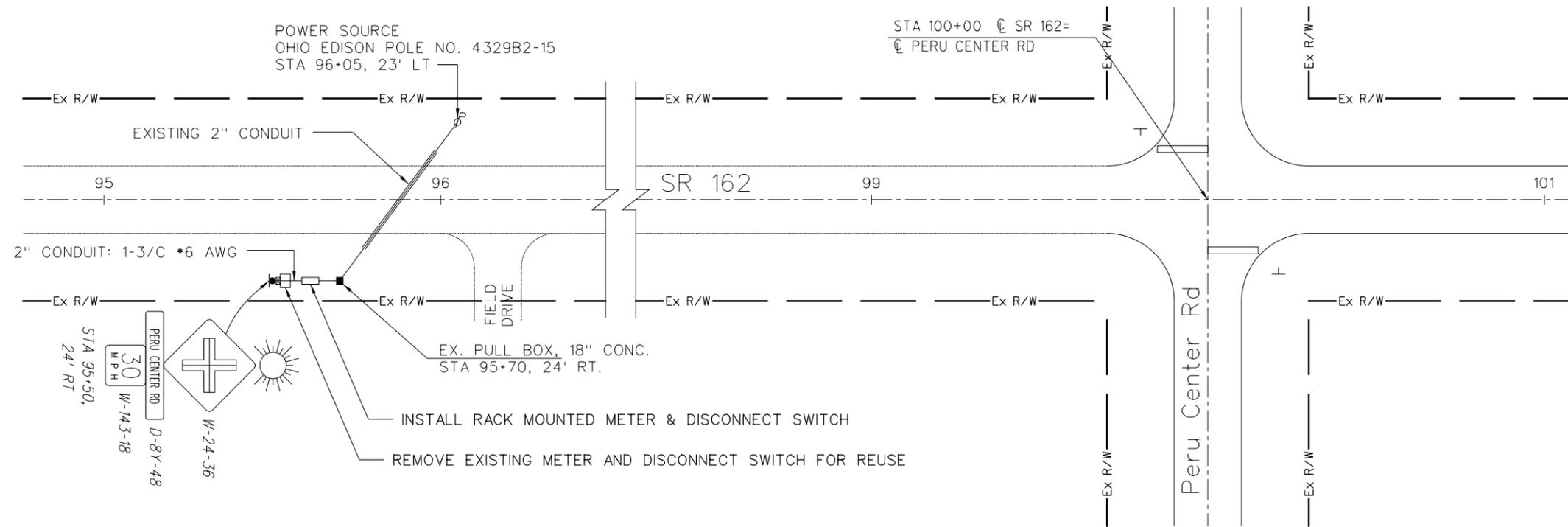
I:\ProjectData\0319\Design\Roadway\Sheets\0319_GP001.dgn ERI250 Sheet 2/5/2018 9:11:39 AM meppley

WORK DESCRIPTION:

- REMOVE EXISTING METER AND DISCONNECT SWITCH FOR REUSE.
- REINSTALL METER AND DISCONNECT ON NEW RACK SYSTEM.

ELECTRIC COMPANY CONTACT:

OHIO EDISON
 TRAVIS BALLOG
 419-521-6214



FUNDING PLAN SPLIT (04/STR/OT)

ITEM	QUANTITY	UNIT	DESCRIPTION
631	1	EACH	REMOVAL, MISC.: METER BASE FOR REUSE
631	1	EACH	REMOVAL, MISC.: DISCONNECT SWITCH FOR REUSE
632	1	EACH	SIGNALIZATION, MISC.: INSTALL RACK MOUNTED SYSTEM

ALL QUANTITIES CARRIED TO GENERAL SUMMARY.

CALCULATED
 MAE
 CHECKED
 CAD

0 20 40
 HORIZONTAL
 SCALE IN FEET

**SIGNAL DETAIL
 HUR-162-8.85**

D03-TSG-FY2018 (A)

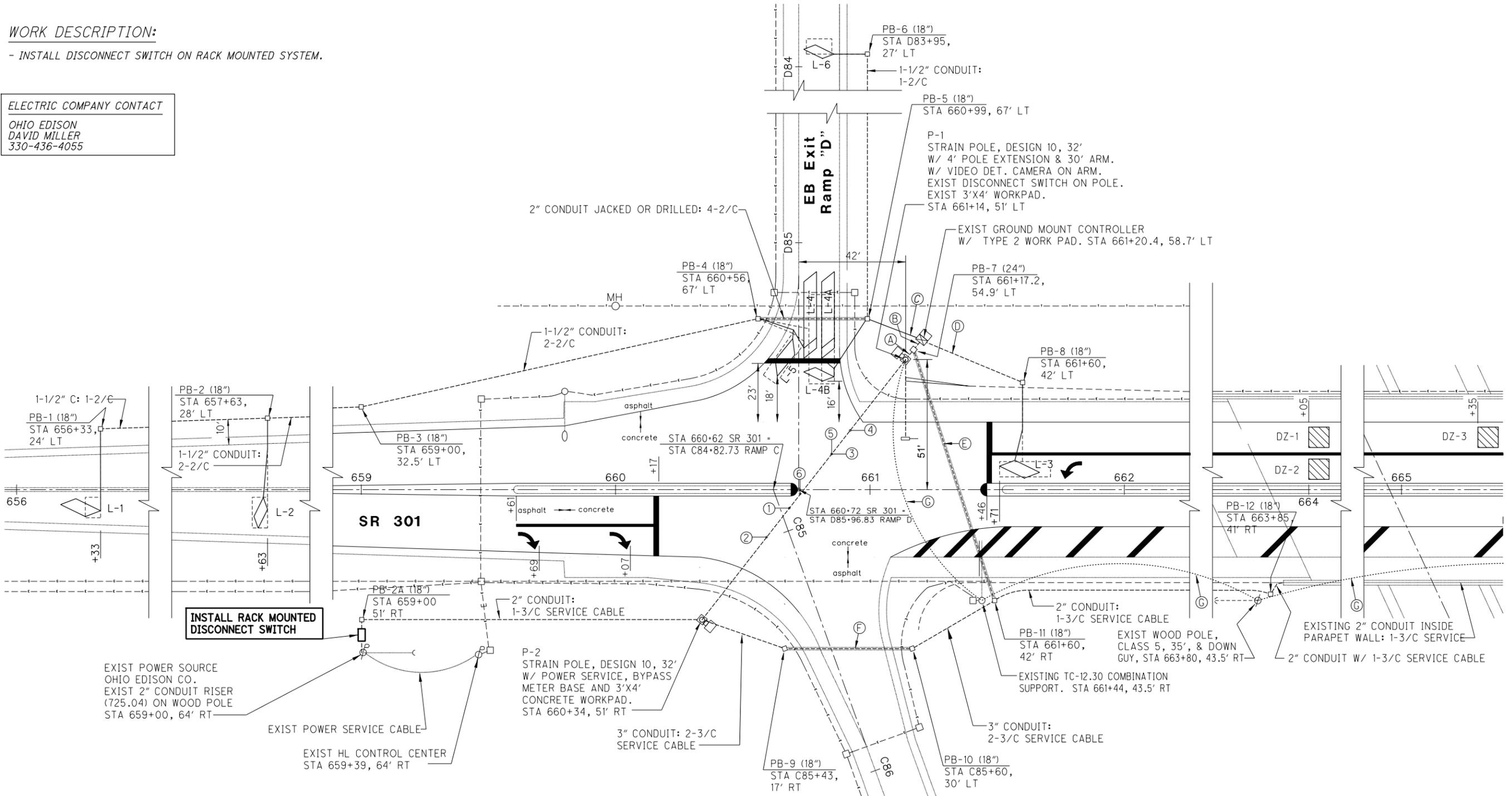
I:\ProjectData\0319\Design\Roadway\Sheets\0319_GP001.dgn HUR 162_Sheet 2/5/2018 9:11:39 AM meppley

WORK DESCRIPTION:

- INSTALL DISCONNECT SWITCH ON RACK MOUNTED SYSTEM.

ELECTRIC COMPANY CONTACT

OHIO EDISON
DAVID MILLER
330-436-4055



INSTALL RACK MOUNTED DISCONNECT SWITCH

EXIST POWER SOURCE
OHIO EDISON CO.
EXIST 2" CONDUIT RISER
(725.04) ON WOOD POLE
STA 659+00, 64' RT

EXIST POWER SERVICE CABLE

EXIST HL CONTROL CENTER
STA 659+39, 64' RT

P-2
STRAIN POLE, DESIGN 10, 32'
W/ POWER SERVICE, BYPASS
METER BASE AND 3'X4'
CONCRETE WORKPAD.
STA 660+34, 51' RT

3" CONDUIT: 2-3/C
SERVICE CABLE

FUNDING PLAN SPLIT (02/NHS/OT)

ITEM	QUANTITY	UNIT	DESCRIPTION
631	1	EACH	DISCONNECT SWITCH WITH ENCLOSURE
632	1	EACH	SIGNALIZATION, MISC.: INSTALL RACK MOUNTED SYSTEM

ALL QUANTITIES CARRIED TO GENERAL SUMMARY.

CALCULATED
MAE
CHECKED
CAD

0 20 40
10
HORIZONTAL
SCALE IN FEET

**SIGNAL DETAIL
LOR-301-12.44**

D03-TSG-FY2018 (A)

I:\Project+Data\0319\Design\Roadway\Sheets\0319_GPO01.dgn LOR 20 Sheet 2/5/2018 9:11:39 AM meppley

WORK DESCRIPTION:

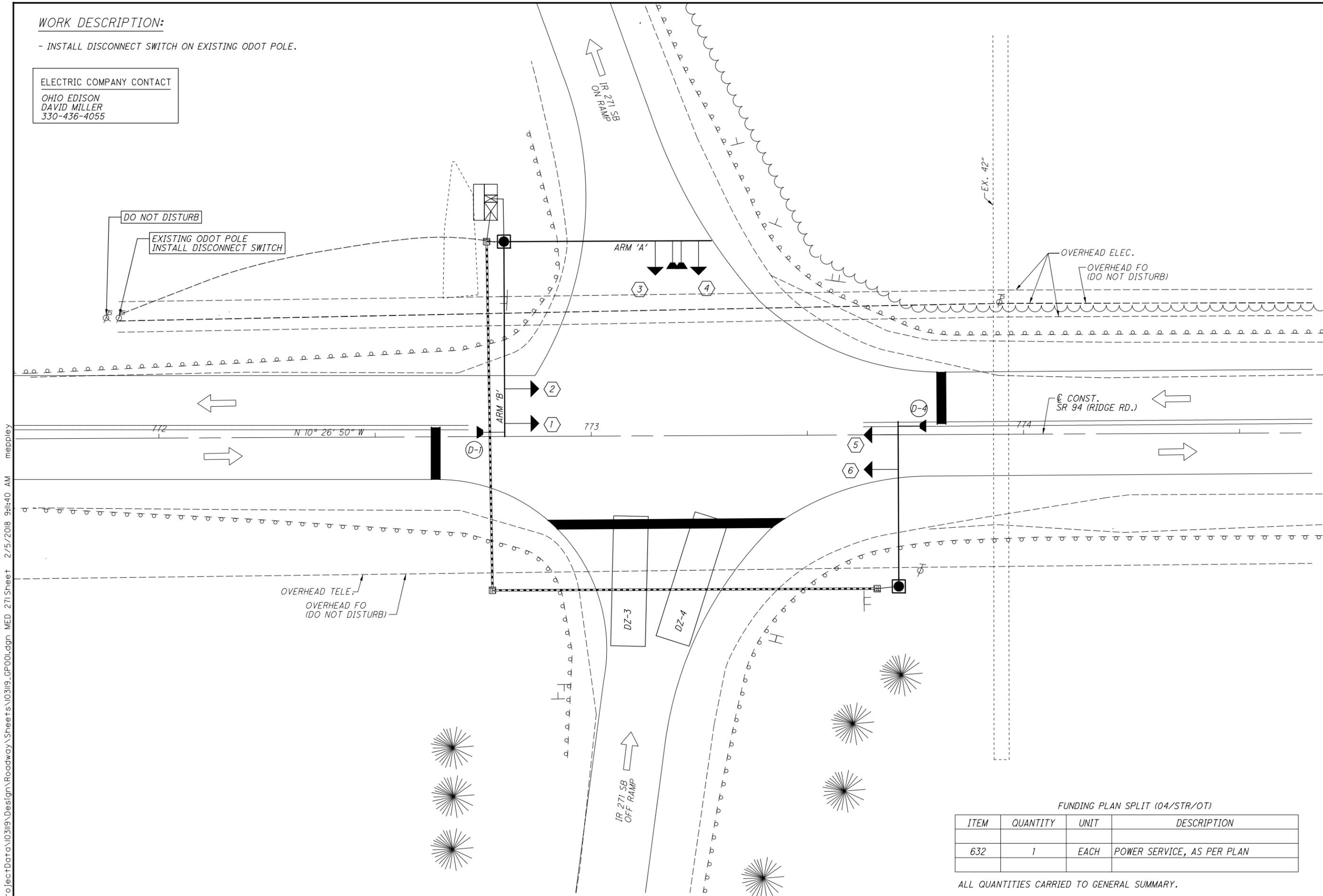
- INSTALL DISCONNECT SWITCH ON EXISTING ODOT POLE.

ELECTRIC COMPANY CONTACT

OHIO EDISON
DAVID MILLER
330-436-4055



CALCULATED
MAE
CHECKED
CAD



**SIGNAL DETAIL
MED-94-14.61**

D03-TSG-FY2018 (A)

10
15

I:\ProjectData\0319\Design\Roadway\Sheets\0319_GP001.dgn MED 271 Sheet 2/5/2018 9:11:40 AM meppley

FUNDING PLAN SPLIT (04/STR/OT)

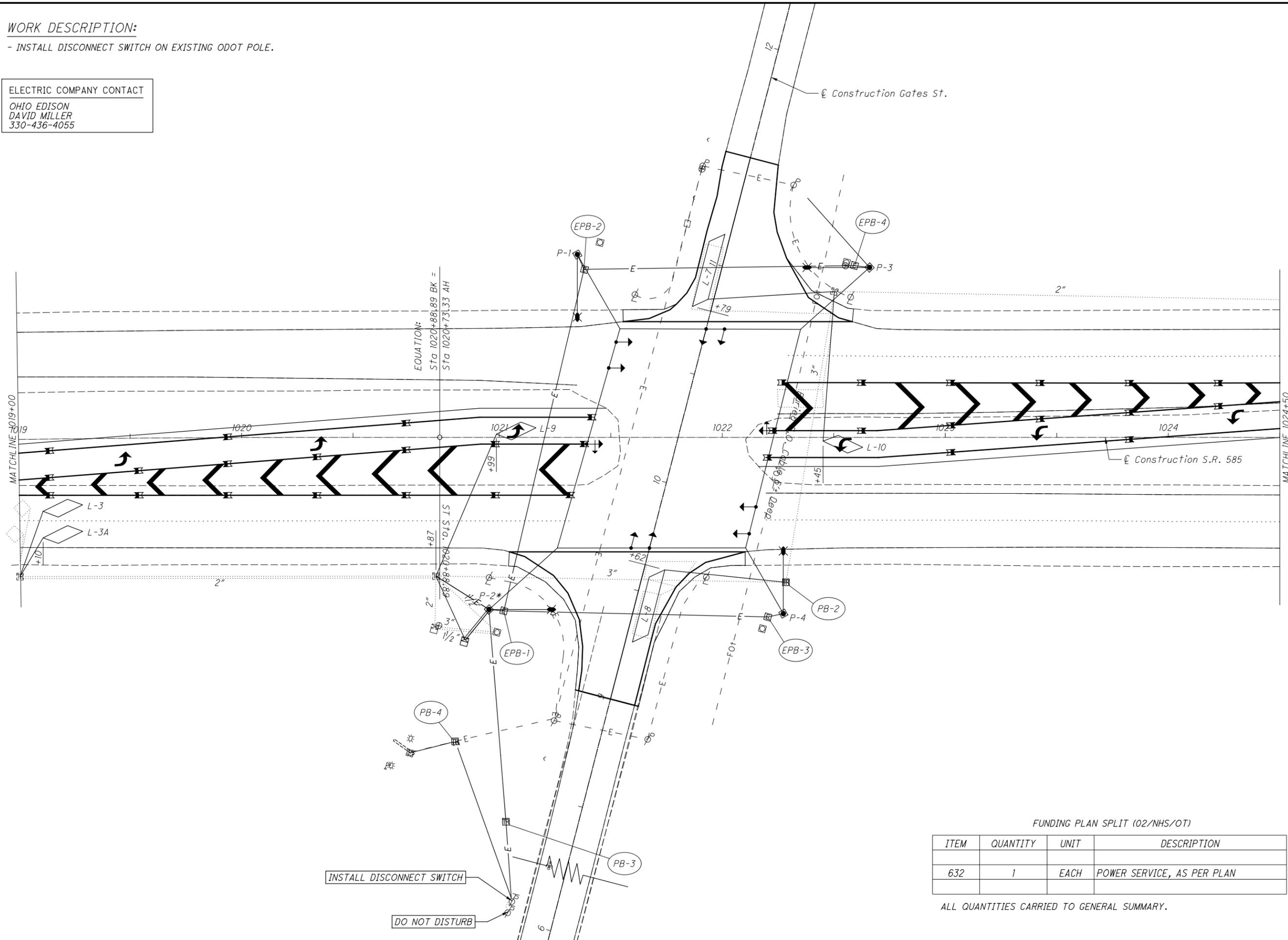
ITEM	QUANTITY	UNIT	DESCRIPTION
632	1	EACH	POWER SERVICE, AS PER PLAN

ALL QUANTITIES CARRIED TO GENERAL SUMMARY.

WORK DESCRIPTION:

- INSTALL DISCONNECT SWITCH ON EXISTING ODOT POLE.

ELECTRIC COMPANY CONTACT
 OHIO EDISON
 DAVID MILLER
 330-436-4055



CALCULATED
 MAE
 CHECKED
 CAD

0 20 40
 HORIZONTAL
 SCALE IN FEET

**SIGNAL DETAIL
 WAY - 585 - 17.61**

D03-TSG-FY2018 (A)

FUNDING PLAN SPLIT (02/NHS/OT)

ITEM	QUANTITY	UNIT	DESCRIPTION
632	1	EACH	POWER SERVICE, AS PER PLAN

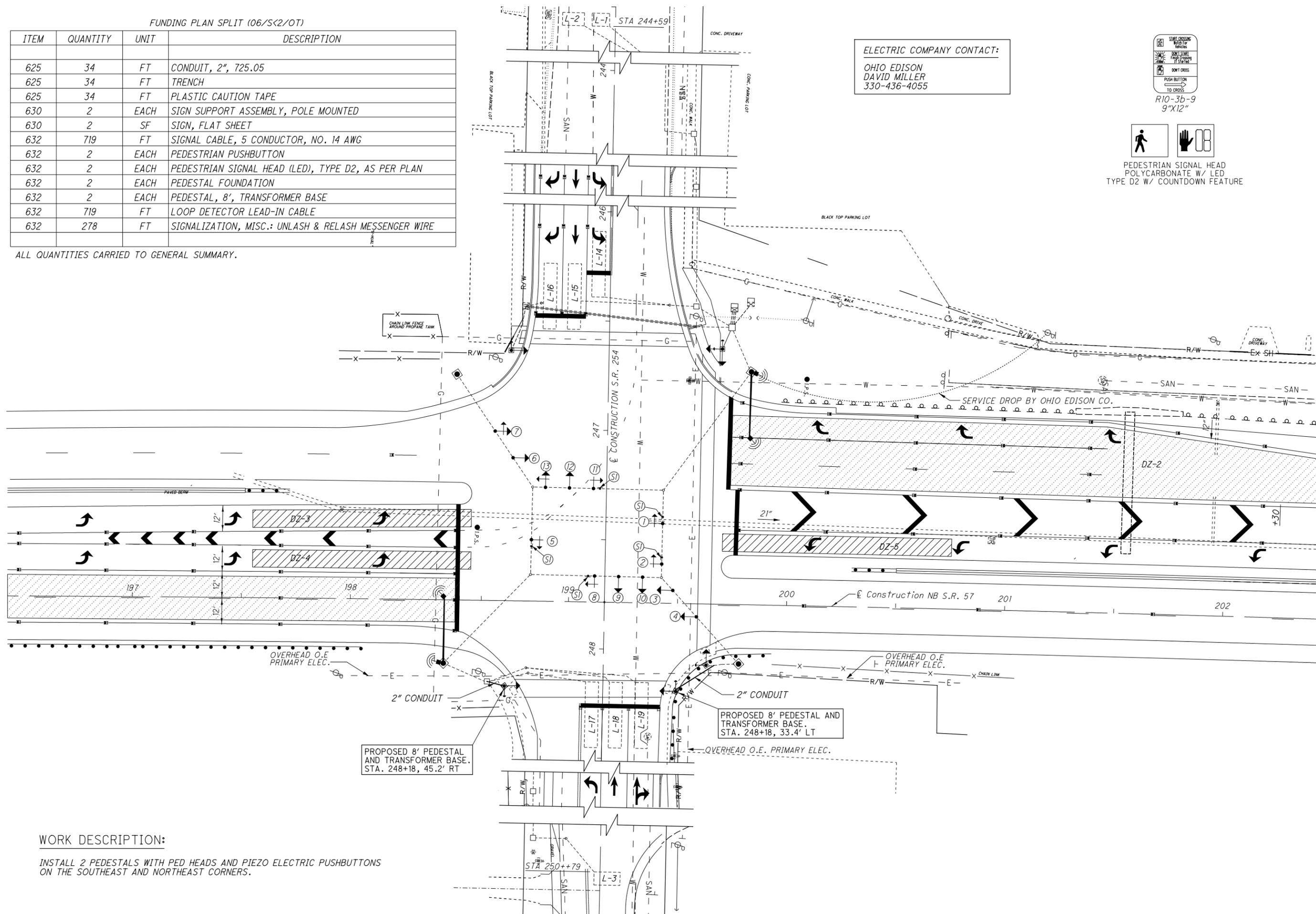
ALL QUANTITIES CARRIED TO GENERAL SUMMARY.

I:\ProjectData\0319\Design\Roadway\Sheets\0319_GP001.dgn WAY 585 Sheet 2/5/2018 9:11:40 AM meppley

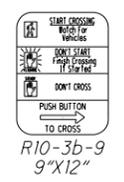
FUNDING PLAN SPLIT (06/SK2/OT)

ITEM	QUANTITY	UNIT	DESCRIPTION
625	34	FT	CONDUIT, 2", 725.05
625	34	FT	TRENCH
625	34	FT	PLASTIC CAUTION TAPE
630	2	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED
630	2	SF	SIGN, FLAT SHEET
632	719	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
632	2	EACH	PEDESTRIAN PUSHBUTTON
632	2	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, AS PER PLAN
632	2	EACH	PEDESTAL FOUNDATION
632	2	EACH	PEDESTAL, 8', TRANSFORMER BASE
632	719	FT	LOOP DETECTOR LEAD-IN CABLE
632	278	FT	SIGNALIZATION, MISC.: UNLASH & RELASH MESSENGER WIRE

ALL QUANTITIES CARRIED TO GENERAL SUMMARY.



ELECTRIC COMPANY CONTACT:
OHIO EDISON
DAVID MILLER
330-436-4055



PEDESTRIAN SIGNAL HEAD
POLYCARBONATE W/ LED
TYPE D2 W/ COUNTDOWN FEATURE

CALCULATED MAE CHECKED CAD

0 20 40
HORIZONTAL SCALE IN FEET

SIGNAL DETAIL
LOR-254-0.00

D03-TSG-FY2018 (A)

WORK DESCRIPTION:

INSTALL 2 PEDESTALS WITH PED HEADS AND PIEZO ELECTRIC PUSHBUTTONS ON THE SOUTHEAST AND NORTHEAST CORNERS.

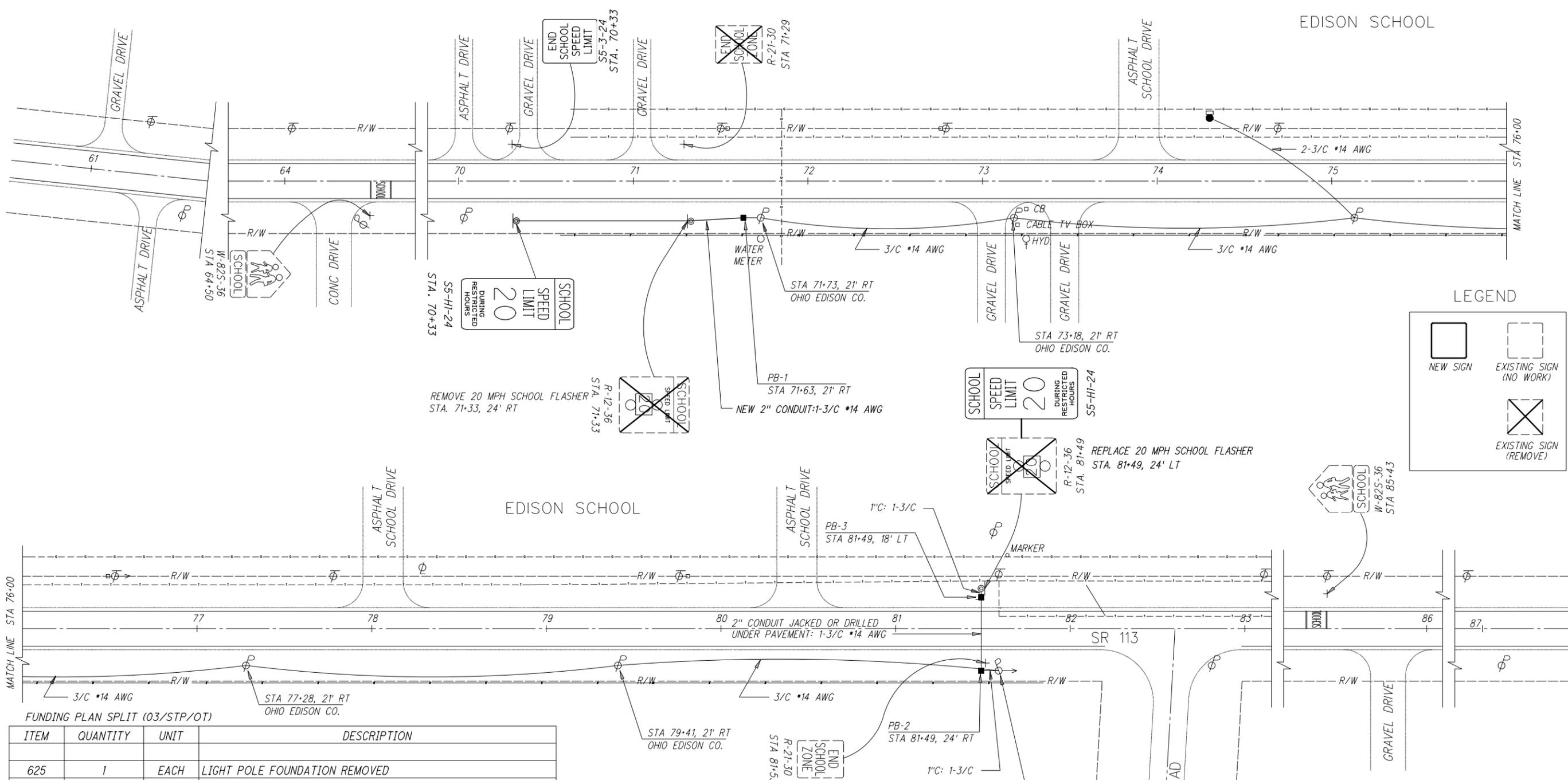
I:\ProjectData\0319\Design\Roadway\Sheets\0319_GP001.dgn LOR 57 Sheet 2/5/2018 9:11:40 AM meppley



CALCULATED
MAE
CHECKED
CAD

SIGNAL DETAIL
ERI-113-8.45

D03-TSG-FY2018 (A)



LEGEND

- NEW SIGN
- EXISTING SIGN (NO WORK)
- EXISTING SIGN (REMOVE)

FUNDING PLAN SPLIT (03/STP/OT)

ITEM	QUANTITY	UNIT	DESCRIPTION
625	1	EACH	LIGHT POLE FOUNDATION REMOVED
625	1	EACH	GROUND ROD
625	130	FT	CONDUIT, 2", 725.05
625	130	FT	TRENCH
625	130	FT	PLASTIC CAUTION TAPE
625	2	EACH	CONNECTION, UNFUSED PERMANENT
630	7	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
630	1	EACH	REMOVAL OF GROUND MOUNTED PIPE SUPPORT AND DISPOSAL
630	1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
630	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
630	5	SQ FT	SIGN, FLAT SHEET
631	2	EACH	REMOVAL, MISC.: SCHOOL SPEED LIMIT SIGN ASSEMBLY
631	2	EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24"X48", AS PER PLAN
632	1	EACH	POWER SERVICE, AS PER PLAN
632	1	EACH	PEDESTAL FOUNDATION
632	1	EACH	PEDESTAL, MISC.: 15' PEDESTAL, TRANSFORMER BASE
632	155	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG, AS PER PLAN

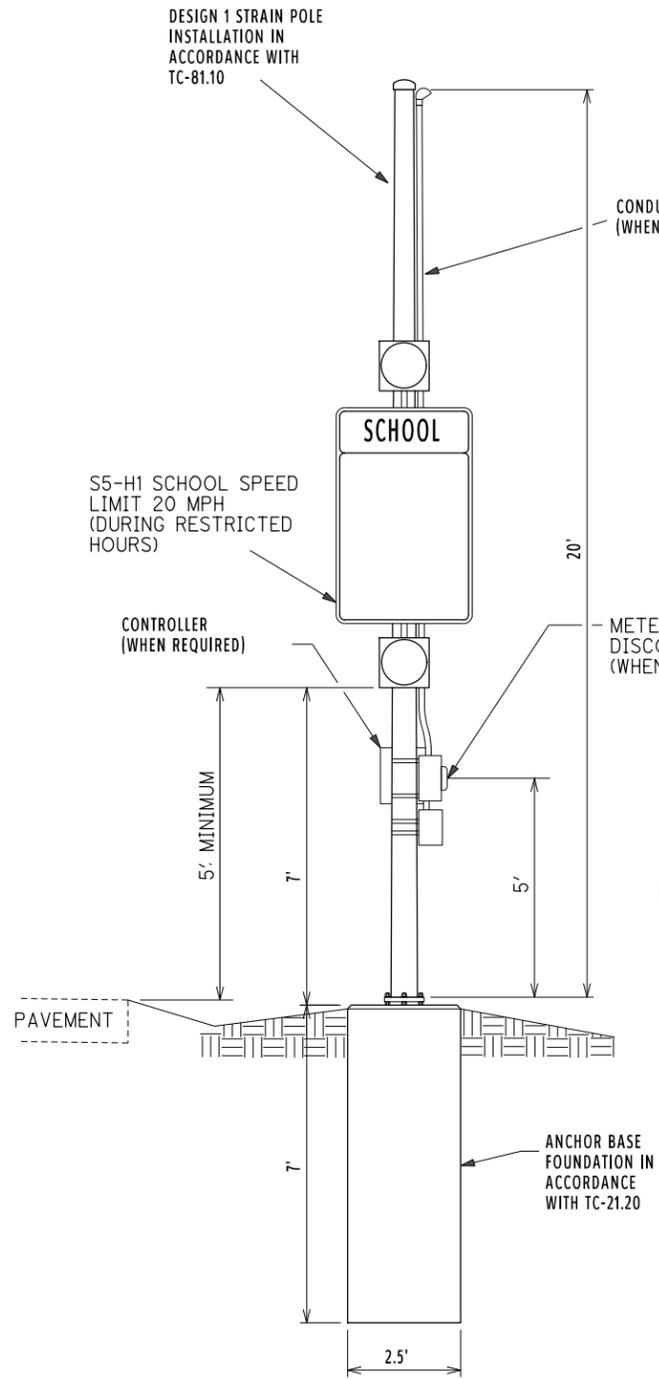
WORK DESCRIPTION:

- REPLACE EXISTING POLE MOUNTED SCHOOL ZONE FLASHER ON SR 113 WESTBOUND.
- REMOVE EXISTING POLE MOUNTED SCHOOL ZONE FLASHER ON SR 113 EASTBOUND. REPLACE CONDUIT & CABLE FROM PB-1 TO NEW SCHOOL ZONE FLASHER.
- INSTALL NEW POLE MOUNTED SCHOOL ZONE FLASHER AT LOCATION SHOWN ON PLANS.

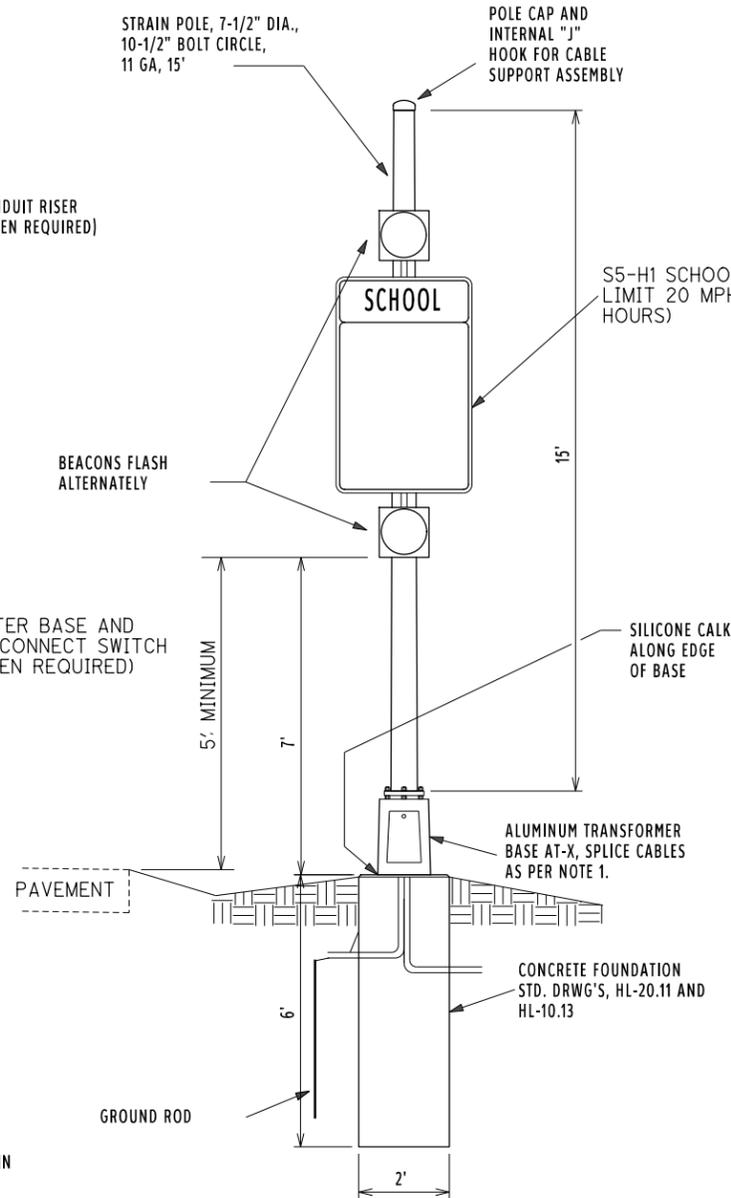
ALL QUANTITIES CARRIED TO GENERAL SUMMARY.

I:\ProjectData\0319\Design\Roadway\Sheets\0319_GPO01.dgn

DESIGN FILE: I:\ProjectData\103119\Design\Roadway\Sheets\School\Flasher_Detail.dgn
 WORKSTATION: meppley DATE: 2/5/2018



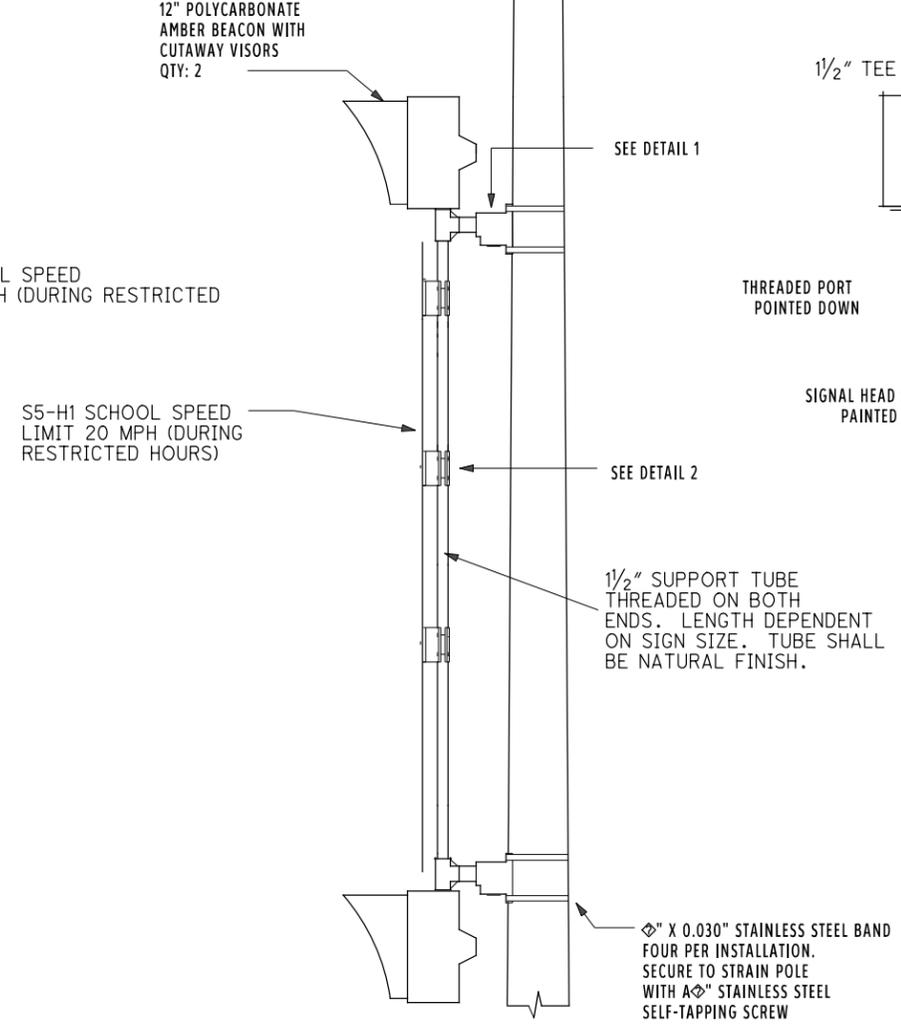
DESIGN 1 STRAIN POLE DETAIL
 NOT TO SCALE



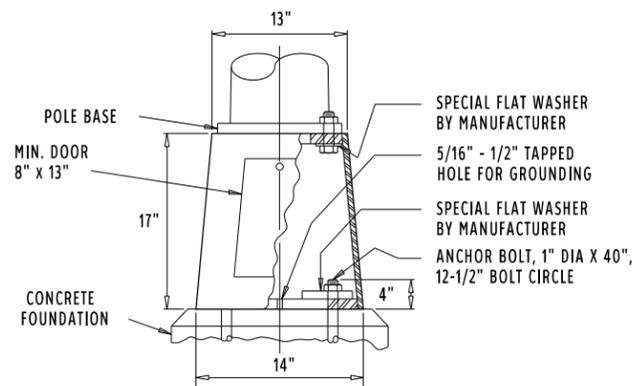
15' STEEL POLE DETAIL
 NOT TO SCALE

NOTES

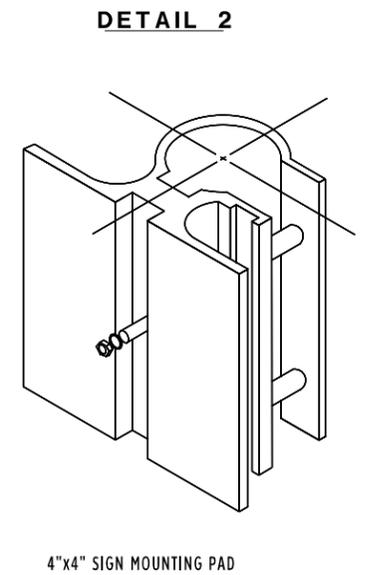
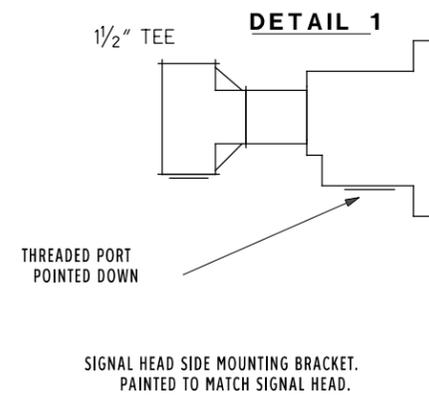
- 1) MAKE ELECTRICAL CONNECTIONS INSIDE AT-X BASE WITH 15 AMP FUSED PULL APART, CONNECTOR. NEUTRAL IS UNFUSED PULL APART.
- 2) FOR POLE GROUNDING DETAIL SEE STANDARD CONSTRUCTION DRAWING HL-60.11.



SCHOOL SPEED LIMIT SIGN FLASHER ASSEMBLY DETAIL
 NOT TO SCALE



AT-X BASE DETAIL
 NOT TO SCALE



DESIGNED
 MAE
 CHECKED
 CAD

SCHOOL FLASHER DETAILS

D03-TSG-FY2018 (A)