



STATE OF OHIO DEPARTMENT OF TRANSPORTATION

LAK-90-14.67 VSL Signs



SEE SHEET 2 FOR LOCATION DETAILS

OHIO

LATITUDE: N 41.717727 LONGITUDE: W 81.153003

PROJECT EARTH DISTURBED AREA: <1 Ac
 EST. CONTRACTOR EARTH DISTURBED AREA: N/A*
 NOTICE OF INTENT EARTH DISTURBED AREA: N/A*
 RAILROAD INVOLVEMENT: NONE
 *TYPE OF PROJECT: SIGNALIZATION ITEMS

DESIGN DESIGNATION: N/A
 DESIGN EXCEPTION: NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig
1-800-362-2764

(Non-members must be called directly)

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

PID No. **105911** FEDERAL PROJECT No.
100% STATE

STATE JOB No. **527378** CONSTRUCTION PROJECT No.

PROJECT DESCRIPTION

INSTALL VARIABLE SPEED LIMIT (VSL) SIGNS AND ITS DEVICES ALONG I-90 FROM SR 44 TO SR 528.

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.

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 511.02 OF THE OHIO REVISED CODE.

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:
 DISTRICT DEPUTY DIRECTOR

DATE: 07-25-17

APPROVED: _____
 DIRECTOR, DEPARTMENT OF TRANSPORTATION

DATE: _____

PLANS PREPARED BY:



ENGINEERS SEAL:

SIGN:

DATE: 6/30/2017

STANDARD CONSTRUCTION DRAWINGS							SUPPLEMENTAL SPECIFICATIONS	
HL-10.11	01/20/17	MT-95.30	07/15/16	ITS-30.12	01/15/16	800	04/21/17	
HL-20.11	04/21/17	MT-95.31	01/20/17	ITS-30.13	01/15/16	804	01/20/17	
HL-30.11	01/20/17	MT-105.10	07/19/13	ITS-30.14	01/15/16	809	04/15/16	
HL-30.21	01/17/14			ITS-50.10	01/15/16	821	04/20/12	
HL-30.22	01/17/14	ITS-10.10	07/17/15	ITS-50.11	01/15/16	832	01/17/14	
HL-40.10	01/20/17	ITS-10.11	07/17/15	ITS-50.12	01/15/16	904	07/15/16	
HL-40.20	01/20/17	ITS-12.10	07/17/15	ITS-60.10	07/15/16	921	04/20/12	
HL-50.11	01/16/15	ITS-14.10	07/17/15			977	04/17/09	
		ITS-14.11	07/17/15					
TC-21.20	07/15/16	ITS-15.10	07/17/15					
TC-41.10	07/19/13	ITS-15.11	07/17/15					
TC-42.10	10/18/13	ITS-30.11	01/15/16			ITS	08/08/17	
TC-51.11	01/15/16							

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

ODOT FURNISHED AND CONTRACTOR INSTALLED ITEMS

ODOT WILL FURNISH AND THE CONTRACTOR WILL INSTALL THE FOLLOWING ITEMS:

- 5 - CCTV IP-CAMERA SYSTEM, DOME-TYPE
- 2 - DYNAMIC MESSAGE SIGN (DMS), FRONT-ACCESS
- 11 - ITS CABINET - GROUND MOUNTED
- 1 - ITS CABINET - POLE MOUNTED
- 19 - ITS DEVICE, MISC.: VARIABLE SPEED LIMIT SIGN
- 2 - ITS DEVICE, MISC.: ROAD WEATHER INFORMATION SYSTEM
- 3 - ITS DEVICE, MISC.: RWIS UPGRADES (SITES 87, 177 & 178)
 - 8 - NON-INVASIVE PAVEMENT SENSOR
 - 2 - PRESENT WEATHER VISIBILITY SENSOR
 - 2 - RWIS CABINET WITH RPU
 - 3 - RWIS SENSOR MONO POLE
 - 4 - SIDE-FIRED RADAR DETECTOR

ITEMS WILL BE STORED AT THE VROOMAN ROAD ODOT DISTRICT 12 YARD (6073 VROOMAN ROAD, LEROY TWP, OHIO 44077) FOR CONTRACTOR PICK-UP. PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR THE APPLICABLE ITEMS AND SHALL INCLUDE ALL LABOR NECESSARY TO INSTALL THE ODOT FURNISHED ITEMS.

ODOT FURNISHED AND INSTALLED ITEMS

ODOT WILL FURNISH AND INSTALL THE FOLLOWING ITEMS:

- GUARDRAIL (SITES 6, 7, 9 AND 11)
 - 606, GUARDRAIL, TYPE 5 - 450 FT
 - 606, ANCHOR ASSEMBLY, TYPE E - 1 EACH
 - 606, ANCHOR ASSEMBLY, TYPE T - 1 EACH
 - 606, ANCHOR ASSEMBLY REBUILT, TYPE E - 4 EACH

- GROUND MOUNTED STRUCTURAL BEAM SUPPORTS AND ANCILLARY ITEMS (SITES 2 AND 4 - 12)
 - 630, GROUND MOUNTED STRUCT. BEAM SUPPORT, S4X7.7 - 760 FT
 - 630, GROUND MOUNTED STRUCT. BEAM SUPPORT, W8X18 - 186 FT
 - 630, GROUND MOUNTED STRUCT. BEAM SUPPORT, W10X12 - 245 FT
 - 630, GROUND MOUNTED STRUCT. BEAM SUPPORT, W12X30 - 59 FT
 - 630, BREAKAWAY STRUCTURAL BEAM CONNECTION - 52 EACH
 - 630, GROUND MOUNTED STRUCT. BEAM SUPPORT FND. - 55 EACH

- POWER SERVICE (SITES 4 - 11)
 - 632, POWER SERVICE - 9 EACH
- TRAFFIC SURVEILLANCE
 - 804, FIBER OPTIC CABLE MODEM - 11 EACH
 - 804, FIBER OPTIC CABLE MEDIA CONVERTER, ETHERNET - 4 EACH
 - 809, ITS DEVICE, MISC.: NETWORK SWITCH - 11 EACH

THERE SHALL BE NO PAYMENT FOR THE ABOVE WORK INCLUDED IN THE CONTRACT BID PRICE. THE APPLICABLE ITEMS NECESSARY TO COMPLETE THE WORK SHALL BE FURNISHED AND INSTALLED BY ODOT AND HAVE BEEN SHOWN FOR INFORMATION ONLY.

CONDUIT, JACKED OR DRILLED

SITES WITH JACKED OR DRILLED CONDUIT HAVE BEEN LAID OUT ASSUMING THE JACKING PIT WILL BE LOCATED IN THE MEDIAN. THE CONTRACTOR IS NOT RESTRICTED TO THIS METHODOLOGY, HOWEVER, THEY SHOULD BE AWARE THAT ADDITIONAL SITE AND MATERIAL REQUIREMENTS MAY ARISE IF THE JACKING PIT IS PLACED ALONG THE OUTSIDE OF I-90.

TRACER WIRE

TRACER WIRE SHALL BE INSTALLED IN ONE OF THE MULTI-CELL INNERDUCTS IN ALL CONDUIT RUNS. TRACER WIRE SHALL BE NO SMALLER THAN #12 AWG WIRE. THE WIRE SHALL BE HDPE INSULATED, ORANGE IN COLOR, AND CONSTRUCTED OF COPPER CLAD STEEL. APPROXIMATELY 10 FEET OF SLACK OF THE TRACER WIRE SHALL BE LEFT INSIDE THE ADJACENT PULL BOXES CONNECTING THE CONDUIT RUNS. IN SITUATIONS WHERE A TYPE 2 FIBER OPTIC CABLE MARKER IS TO BE INSTALLED IN CONJUNCTION WITH THE TRACER WIRE, THE TRACER WIRE SHALL BE RUN THROUGH THE MARKER AND CONNECTED TO TERMINALS AT THE TOP OF THE MARKER.

PAYMENT FOR ALL TRACER WIRE SHALL BE INCLUDED IN THE BID ITEM FOR THE FIBER OPTIC CABLE PAY ITEM.

FIBER OPTIC CABLE MARKER

FIBER OPTIC CABLE MARKERS SHALL BE INSTALLED AS DIRECTED BY THE ODOT ENGINEER AND/OR AT EVERY PULL BOX CONTAINING FIBER OPTIC CABLE AND SHALL BE ONE OF TWO TYPES:

TYPE 1 – COTTMARK 511, FRICK FLEXPOST, OR CARSONITE CURV-FLEX MARKER

TYPE 2 – COTT BIGFINK, FRICK TESTPOST, OR RHINODOME TEST STATION

THE FIBER OPTIC CABLE MARKERS SHALL BE 6 FEET IN LENGTH AND SHALL BE SECURELY PLACED IN THE GROUND AT A DEPTH OF 2 FEET. CARE SHALL BE TAKEN DURING INSTALLATION NOT TO DAMAGE ANY UNDERGROUND CONDUIT IN THE VICINITY. THE CONTRACTOR SHALL USE A TYPE 2 MARKER WHEN THE PATH OF THE FIBER CROSSES UNDERNEATH A ROADWAY AND WHEN CAPABLE SHALL PLACE A MARKER ON BOTH SIDES OF THE ROADWAY AT CROSSING. THE CONTRACTOR SHALL CONNECT TRACER WIRE TO TERMINAL AT TOP OF TYPE 2 MARKER. TYPE 1 MARKERS SHALL ONLY BE PLACED ON STRAIGHT FIBER RUNS BETWEEN PULL BOXES IN THE SHOULDER, AND THE CONTRACTOR SHALL BE LIMITED TO THE USE OF TYPE 1 MARKERS SO THAT A TYPE 2 MARKER SHALL BE PLACED BETWEEN ANY TWO TYPE 1 MARKERS. TYPE 1 MARKERS SHALL NOT BE PLACED IN SUCCESSION DOWN A FIBER PATH. THE MARKERS SHALL BE ORANGE IN COLOR AND SHALL HAVE THE FOLLOWING INFORMATION LOCATED ON THE UPPER PORTION OF THE MARKER IN A READABLE FORMAT:

WARNING

CONTACT OUPS 48 HRS BEFORE DIGGING

(NAME OF OWNING AGENCY) FIBER OPTIC CABLE

(OWNING AGENCY CONTACT #)

PAYMENT FOR ALL FIBER OPTIC CABLE MARKERS SHALL BE INCLUDED IN THE BID ITEM FOR THE FIBER OPTIC CABLE PAY ITEM.

PLASTIC CAUTION TAPE, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT C&MS 625 EXCEPT THAT THE TAPE SHALL BE MAGNETIC.

ITS DEVICE, MISC.: VARIABLE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, THE MANUFACTURER'S RECOMMENDATIONS, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS.

ALL COSTS FOR DRILLING OF THE BEAMS, BOLTS, NUTS, WASHERS AND SHIMS NECESSARY TO CONNECT THE VSL SIGNS TO THE GROUND MOUNTED BEAMS SHALL BE INCLUDED IN THIS ITEM.

ITS DEVICE, MISC.: ROAD WEATHER INFORMATION SYSTEM

THIS ITEM SHALL INCLUDE THE INSTALLATION OF THE ODOT FURNISHED RWIS CABINET WITH RPU, NON-INVASIVE PAVEMENT SENSORS AND PRESENT WEATHER VISIBILITY SENSOR AS DETAILED IN THE PLANS. PAYMENT FOR ALL CONDUIT, CABLE, POLES AND PULL BOXES HAVE BEEN ITEMIZED SEPARATELY IN THE PLANS.

ITS DEVICE, MISC.: RWIS UPGRADES (SITE 87)

ITS DEVICE, MISC.: RWIS UPGRADES (SITE 177)

THIS ITEM SHALL INCLUDE THE INSTALLATION OF THE ODOT FURNISHED NON-INVASIVE PAVEMENT SENSOR ON THE EX. DMS. THE NEW SENSOR SHALL BE CONNECTED TO THE EX. RWIS AS DETAILED AND QUANTIFIED IN THE PLANS. PAYMENT FOR ALL CONDUIT, CABLE, POLES AND PULL BOXES HAVE BEEN ITEMIZED SEPARATELY IN THE PLANS.

ITS DEVICE, MISC.: RWIS UPGRADES (SITE 178)

THIS ITEM SHALL INCLUDE THE INSTALLATION OF THE ODOT FURNISHED NON-INVASIVE PAVEMENT SENSORS ON THE ODOT FURNISHED POLES. THE NEW SENSORS SHALL BE CONNECTED TO THE EX. RWIS AS DETAILED AND QUANTIFIED IN THE PLANS. PAYMENT FOR ALL CONDUIT, CABLE, POLES AND PULL BOXES HAVE BEEN ITEMIZED SEPARATELY IN THE PLANS.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

WORK AREAS

THE WORK AREAS SHOWN IN THESE PLANS ARE SPREAD OUT IN DIFFERENT AREAS OF THE COUNTY. THE WORK AREAS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK AREAS.

NOTIFICATION OF CONSTRUCTION AND ROAD CLOSURE OR RESTRICTION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF THIRTY (30) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND/OR ROAD CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY THE PROJECT ENGINEER WHEN WORK IS COMPLETED. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT 12:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (216) 584-2274 OR EMAIL AT D12.PUBLICINFORMATION@DOT.STATE.OH.US

CENTRAL OFFICE SPECIAL HAULING PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

ITEM 625: CONDUIT, 4", MULTICELL, 725.20, EPC-40

ITEM 625: CONDUIT, 4", MULTICELL, 725.20, SCHEDULE 80, JACKED OR DRILLED

DESCRIPTION

THIS CONDUIT IS INTENDED FOR THE USE IN UNDERGROUND SITUATIONS REQUIRING MORE THAN ONE SINGLE CONDUIT. THIS INCLUDES THE MAIN CONDUIT RACEWAY ALONG THE FREEWAY, CONNECTION FROM PULL BOXES TO THE ROAD SIDE CABINETS AND FOR RUNS OF CONDUIT FOR MULTIPLE PURPOSES, E.G., AT RAMP METER INSTALLATIONS, FOR LOOP LEAD-IN CABLE, SIGNALS CABLE FOR RAMP METER DISPLAYS, SIGNAL CABLE FOR RAMP METER SIGNING FLASHERS & ILLUMINATION AND POWER. THE CONTRACTOR SHALL PLUG ALL UNUSED CELLS WITH CONDUIT CAPS TO ASSURE AIR AND WATER INTEGRITY OF EACH INDIVIDUAL INNERDUCT.

MATERIALS:

THE TRAFFIC SURVEILLANCE RACEWAY SHALL CONSIST OF A FACTORY-ASSEMBLED SYSTEM OF FOUR (4) INNERDUCTS ASSEMBLED WITHIN A PROTECTIVE OUTER DUCT. THE INNERDUCTS SHALL BE NOMINAL 1.25 INCH INSIDE DIAMETER, TYPE DB PVC PER NEMA TC-8 WITH A BELL INSERTION DEPTH OF 1.75 INCHES MINIMUM. THE OUTER DUCT SHALL BE NOMINAL 4 INCH (INSIDE DIAMETER), SCHEDULE 40 PVC. CARLON TYPE SCHEDULE 40 AND 80 OR APPROVED EQUIVALENT.

THE COUPLING SHALL BE DESIGNED IN A MANNER TO PERMIT EASY FIELD ASSEMBLY. THE COUPLING SHALL BE MARKED OR KEYED IN A MANNER TO ENSURE THE INNERDUCTS ARE PROPERLY ALIGNED, ANY COLOR CODES ARE CONTINUED AND THE ADJOINING SECTION IS INSERTED TO THE PROPER DEPTH IN THE BELL. ALL KEYS AND/OR MARKINGS SHALL BE VISIBLE AFTER ASSEMBLY TO ALLOW THE INSPECTION OF EACH JOINT FOR PROPER ASSEMBLY BEFORE BURIAL. THE SEALING SYSTEM SHALL BE DESIGNED TO ASSURE AIR INTEGRITY OF EACH INDIVIDUAL INNERDUCT AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

ITEM 625: CONDUIT, 4", MULTICELL, 725.20, EPC-40

ITEM 625: CONDUIT, 4", MULTICELL, 725.20, SCHEDULE 80, JACKED OR DRILLED CONT.

WHERE INNERDUCT(S) WITHIN A MULTI-CELL DUCT ARE TO REMAIN EMPTY, ONE 1/4-INCH NYLON ROPE SHALL BE INSTALLED IN EACH OF THE OPEN INNERDUCTS, THE ROPE WILL REMAIN TO BE USED FOR A FUTURE CABLE INSTALLATION. ALSO, EACH INNERDUCT SHALL BE PLUGGED TO MAINTAIN THE AIR AND WATER INTEGRITY. IN ADDITION, THE OUTER DUCT SHALL BE CAPPED TO MAINTAIN THE AIR AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

INSTALLED IN TRENCH:

INSTALLATION WILL BE IN 30-INCH DEEP TRENCH, EXCEPT AS NOTED ON THE PLANS.

ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL MULTI-CELL CONDUIT INSTALLED OUTSIDE OF THE ROADWAY IN TRENCH SHALL BE SCHEDULE 40 UNLESS DIRECTED BY THE ODOT ENGINEER TO USE SCHEDULE 80 FOR USE IN WELL-TRAVELED VEHICULAR AREAS.

INSTALLED UNDER ROADWAY:

INSTALLATION WILL BE AT LEAST 30 INCHES DEEP JACKED OR DRILLED UNDER PAVEMENT, EXCEPT AS NOTED ON THE PLANS.

ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL MULTI-CELL CONDUIT INSTALLED UNDER THE ROADWAY SHALL BE SCHEDULE

METHOD OF MEASUREMENT:

THE CONDUIT WILL BE MEASURED BY THE AMOUNT OF CONDUIT IN FEET FURNISHED AND INSTALLED OF EACH TYPE SCHEDULE 40 OR 80 MEASURED FROM CENTER-TO-CENTER OF PULL BOXES, FOUNDATION, ETC., AND WILL INCLUDE ALL FITTINGS AND APPURTENANCES, JOINTS, BENDS, GROUNDS AND CONCRETE ENCASUREMENT WHERE SPECIFIED.

THE TRENCH WILL BE MEASURED BY THE NUMBER OF FEET OF TRENCH COMPLETED AS PER C&MS 625.21.

BASIS OF PAYMENT:

THE PAYMENT FOR THESE ITEMS WILL BE MADE FOR THE ACCEPTED LINER FOOT QUANTITIES AT THE CONTRACT BID PRICE.

ITEM 625: GROUND ROD, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL GROUND RODS PER STANDARD CONSTRUCTION DRAWING ITS-50.10. IN ADDITION, A GROUND ROD SHALL BE INSTALLED AT EACH SIDE-FIRED RADAR DETECTOR AND ELECTRIC PULL BOX INSTALLED ON THIS PROJECT AND CONNECTED TO THE PULL BOX FRAME. AT EACH PULL BOX LOCATION, THE GROUND ROD SHALL ALSO BE TIED INTO THE DISTRIBUTION CABLE USED AS THE GROUND WIRE TO SERVICE THE CAMERA CABINET, IN ORDER TO PROVIDE A COMPLETE GROUNDING SYSTEM.

ELECTRICAL NOTE

A MINIMUM OF 10 FEET SLACK CABLE SHALL BE COILED IN EACH ELECTRICAL PULL BOX. THE CABLE QUANTITIES ACCOUNT FOR THREE DISTRIBUTION CABLES (HOT, NEUTRAL, AND GROUND) FROM POWER SERVICE TO GROUND MOUNTED ITS CABINET. THE CABLE QUANTITIES ACCOUNT FOR THREE DISTRIBUTION CABLES (HOT, NEUTRAL, AND GROUND) FROM GROUND MOUNTED ITS CABINET TO VARIABLE SPEED LIMIT SIGN OR SIDE-FIRED RADAR DETECTOR. THE CABLE QUANTITIES ACCOUNT FOR FOUR DISTRIBUTION CABLES (HOT, HOT, NEUTRAL, AND GROUND) FROM GROUND MOUNTED ITS CABINET TO DYNAMIC MESSAGE SIGN. 10 FEET OF CABLE AT ALL SERVICE TERMINATIONS, 10 FEET OF CABLE FOR EACH PULL BOX, AND 15 FEET OF CABLE BETWEEN ODOT CABINETS AND NEAREST PULL BOX HAS BEEN ACCOUNTED FOR IN THE CABLE QUANTITIES.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

ITEM 632: POWER SERVICE, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS NECESSARY FOR A POWER SERVICE PER ODOT CONSTRUCTION AND MATERIAL SPECIFICATION SECTION 625.15.

THE EXISTING POWER SERVICE FOR THE SITE SHALL BE MAINTAINED. THIS POWER SERVICE SHALL CONSIST OF UTILIZING THE UNUSED 120V LEG IN THE DISCONNECT OF THE EXISTING 120/240V POWER SERVICE TO SUPPLY 120V TO THE CCTV ITS CABINET. THIS PAY ITEM SHALL INCLUDE THE REPLACEMENT OF THE EXISTING DISCONNECT SWITCH. THIS ITEM SHALL ALSO INCLUDE THE INSTALLATION OF A NEW DISCONNECT SWITCH USED TO DIRECTLY POWER THE CCTV. THE NEW DISCONNECT SWITCH SHALL BE INSTALLED ON SAME POLE AS EXISTING DISCONNECT SWITCH. INSTALL A NEW 30 AMP FUSE OR BREAKER AT LOCATIONS WHERE A NEW FUSE OR BREAKER MAY BE NEEDED. THIS ITEM SHALL ALSO INCLUDE ALL CONDUIT AND MATERIALS NECESSARY TO TIE INTO THE DISCONNECTS AND PROVIDE A COMPLETE AND FUNCTIONAL POWER SERVICE. THE CONTRACTOR SHALL DELIVER THE REMOVED DISCONNECT SWITCH TO THE PROJECT ENGINEER, TO THEN BE RETURNED TO THE DISTRICT SIGNAL ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE APPROPRIATE CONTACT WITH THE POWER COMPANY FOR DEENERGIZING AND ENERGIZING OF ANY POWER LINES. IF THE POWER IS TO BE TIED INTO THE SAME POWER SOURCE AS A SIGNALIZED INTERSECTION, THE CONTRACTOR SHALL PRESENT PLANS FOR APPROVAL TO THE PROJECT ENGINEER SHOWING HOW THEY PLAN TO KEEP THE SIGNALIZED INTERSECTION RUNNING AT 100% FOR THE DURATION OF TIME THAT THE POWER SERVICE IS DEENERGIZED.

THE CCTV RELATED POWER SERVICES SHALL BE MARKED WITH "ITS". SEPARATE DISCONNECT SWITCHES SHALL BE INSTALLED AND SHALL BE FUSIBLE, RATED FOR 60 AMPS WITH NEMA 4X ENCLOSURE, AND FUSED AT 30 AMPS.

GENERAL CCTV SITE LAYOUT

THE CONTRACTOR SHALL INSTALL THE CCTV 70 FOOT CONCRETE POLE, GROUND MOUNTED ITS CABINET, PULL BOXES, AND CONDUIT ACCORDING TO STANDARD CONSTRUCTION DRAWING ITS-10.11. THE LAYOUT MAY BE SHIFTED ACCORDING TO SITE SPECIFIC NEEDS BUT SHOULD TYPICALLY FOLLOW SCD ITS-10.11. EXAMPLE, A SITE MAY HAVE THE PULL BOXES REVERSED OR ON THE OPPOSITE SIDE OF THE WORK PAD BUT SHOULD STILL BE NEAREST THE CABINET. THE CCTV LOWERING UNIT ARM MAY ALSO BE ORIENTED SLIGHTLY DIFFERENT (AS DESCRIBED ON EACH PLAN SHEET) BUT SHALL NOT BE POSSIBLE TO BE LOWERED ON TOP OF THE CABINET OR TECHNICIAN OPERATING THE LOWERING DEVICE.

ITEM 633: CABINET FOUNDATION, AS PER PLAN

THE CONTRACTOR SHALL INSTALL A CABINET FOUNDATION FOR EACH ITS GROUND MOUNTED CABINET. SEE SUPPLEMENTAL SPECIFICATION 809 FOR CONDUIT REQUIREMENTS ENTERING THE ITS GROUND MOUNTED CABINET.

ITEM 809: CCTV IP-CAMERA SYSTEM, DOME-TYPE

THE CONTRACTOR SHALL INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS AND PER THE MANUFACTURER'S RECOMMENDATIONS.

ITEM 809: CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS AND PER THE MANUFACTURER'S RECOMMENDATIONS. IN ADDITION, THE CONTRACTOR SHALL INCLUDE A 1/2" ISOLATION JOINT MATERIAL BETWEEN THE CONCRETE POLE AND CONCRETE WORK PAD.

ITEM 809: ETHERNET CABLE, OUTDOOR-RATED

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS AND PER THE MANUFACTURER'S RECOMMENDATIONS.

ETHERNET CABLE NOTE

THE CABLE QUANTITIES ACCOUNT FOR 10 FEET OF CABLE AT ALL SERVICE TERMINATIONS, 10 FEET OF CABLE FOR EACH PULL BOX, AND 15 FEET OF CABLE BETWEEN ODOT CABINETS AND NEAREST PULL BOX HAS BEEN ACCOUNTED FOR IN THE CABLE QUANTITIES.

ITEM 809: ITS CABINET - GROUND MOUNTED

ITEM 809: ITS CABINET - POLE MOUNTED

THE CONTRACTOR SHALL INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS AND PER THE MANUFACTURER'S RECOMMENDATIONS.

ITEM 809: DYNAMIC MESSAGE SIGN INSTALLATIONS

THE CONTRACTOR SHALL INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS AND PER THE MANUFACTURER'S RECOMMENDATIONS.

ALL COSTS FOR DRILLING OF THE BEAMS, BOLTS, NUTS, WASHERS AND SHIMS NECESSARY TO CONNECT THE DYNAMIC MESSAGE SIGNS TO THE GROUND MOUNTED BEAMS SHALL BE INCLUDED IN THIS ITEM.

ITEM 809: VEHICLE DETECTION INSTALLATIONS

THE CONTRACTOR SHALL INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS AND PER THE MANUFACTURER'S RECOMMENDATIONS.

LOGOS SIGNS

THE CONTRACTOR SHALL NOTIFY OHIO LOGO, INC. AT 1-800-860-5646 ABOUT ALL LOGOS SIGNS REERECTED AND/OR RELOCATED.

GROUND MOUNTED STRUCTURAL BEAM SUPPORTS

ALL GROUND MOUNTED BEAM SUPPORTS, WITH THE EXCEPTION OF THE DYNAMIC MESSAGE SIGN SUPPORTS, SHALL INCLUDE BREAKAWAY BEAM CONNECTIONS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SEEDING AND MULCHING, CLASS 2: 4000 SY
659, COMMERCIAL FERTILIZER: 0.56 TON
659, WATER: 22 MGAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. QUANTITIES CARRIED TO THE GENERAL SUMMARY.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

ITEM 633: CONTROLLER WORK PAD, AS PER PLAN

THE CONTRACTOR SHALL INSTALL A WORK PAD AT EACH CAMERA POLE PER ODOT STANDARD CONSTRUCTION DRAWING ITS-10.11 OR AT EACH GROUND MOUNTED ITS CABINET PER C&MS 633.13 AS DETAILED IN THE PLANS. THE CONTRACTOR SHALL GRADE THE SURROUNDING AREA SLIGHTLY IN ORDER TO INSTALL A LEVEL WORK PAD AND RESTORE SITE CONDITIONS AS APPROVED BY THE PROJECT ENGINEER. AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A SLOPED AREA WORK PAD PER ODOT STANDARD CONSTRUCTION DRAWING ITS-50.12.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR ITEM 633, CONTROLLER WORK PAD, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT THE ITEM.

ITEM 633: CONTROLLER WORK PAD, AS PER PLAN 2

THE CONTRACTOR SHALL INSTALL A 5'x5' WORK PAD ADJACENT TO THE 32" PULL BOX AT EACH VARIABLE SPEED LIMIT (VSL) SIGN PER C&MS 633.13 TO CREATE AN OVERALL 5'x10' CONCRETE WORK AREA. IN GENERAL, THE 32" PULL BOX AND WORK PAD SHALL BE PLACED BEHIND THE VSL TO ALLOW FOR MAINTENANCE ACCESS. THE CONTRACTOR SHALL GRADE THE SURROUNDING AREA SLIGHTLY IN ORDER TO INSTALL A LEVEL WORK PAD AND RESTORE SITE CONDITIONS AS APPROVED BY THE PROJECT ENGINEER.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR ITEM 633, CONTROLLER WORK PAD, AS PER PLAN 2 AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT THE ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

633, CONTROLLER WORK PAD, AS PER PLAN 2 19 EACH

PROPOSED GUARDRAIL

ALL PROPOSED GUARDRAIL EXTENSIONS AND RECONSTRUCTION SHOWN IN THE PLANS IS FOR INFORMATION ONLY. THE WORK WILL BE PERFORMED BY OTHERS TO PROVIDE THE REQUIRED PROTECTION FOR THE PROPOSED WORK.

GEOTECHNICAL REPORT

THE PROJECT GEOTECHNICAL REPORT IS AVAILABLE FOR REVIEW ON THE PROJECT FTP SITE AS PART OF BIDDING/CONTRACT DOCUMENTS.

1. THE CCTV CONCRETE POLE EMBEDMENT RECOMMENDATIONS IN THE GEOTECHNICAL REPORT ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL HAVE A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OHIO VERIFY THE GEOTECHNICAL FINDINGS AND STAMP THE PROPOSED POLE SHOP DRAWING SUBMITTALS. THIS DESIGN MUST BE SUBMITTED FOR APPROVAL TO THE PROJECT ENGINEER PRIOR TO ORDERING OF SAID POLES.

2. ANY STATIONING LISTED ON THE EXISTING GEOTECHNICAL REPORT OR BORING LOGS IS BASED ON EXISTING PLAN INFORMATION AND MAY NOT COINCIDE WITH THE CONTROL LISTED WITHIN THE IMPROVEMENT PLANS.

UTILITIES

THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO THE OHIO UTILITIES PROTECTION SERVICE (OUPS), AND ANY NON-MEMBERS OF A REGISTERED PROTECTION SERVICE AT LEAST TWO WORKING DAYS BEFORE CONSTRUCTION AND IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE.

THE ODOT CONTRACTOR WILL TAKE ALL UTILITY MARKINGS INTO CONSIDERATION PRIOR TO INSTALLING ANY NEW EQUIPMENT TO AVOID ANY CONFLICTS. IT IS ODOT'S EXPECTATION THAT A MODIFICATION OF PLACEMENT OF NEW EQUIPMENT BE MADE TO ACCOMMODATE EXISTING UTILITIES SO THEY ARE NOT IMPACTED, IF POSSIBLE. IF THERE IS A CONFLICT THAT CANNOT BE AVOIDED, THE ODOT CONTRACTOR IS REQUIRED TO CONTACT THE IMPACTED UTILITY PRIOR TO INSTALLING THE EQUIPMENT AND FURTHER REVIEW OPTIONS WITH THE IMPACTED UTILITY OWNER FOR RESOLUTION.

IT IS REQUIRED OF THE ODOT CONTRACTOR TO SCHEDULE A FIELD REVIEW A MINIMUM OF 2 WEEKS PRIOR TO EQUIPMENT INSTALLATION TO INSURE ALL UTILITIES ARE CLEAR AND ALL CURRENT LOCATIONS ARE KNOWN. IF ANY UTILITY ISSUES ARISE IT IS THE RESPONSIBILITY OF THE ODOT CONTRACTOR TO WORK OUT AN ACCEPTABLE SOLUTION WITH THE UTILITY AND ODOT TO KEEP THE PROJECT MOVING FORWARD.

OHIO UTILITY PROTECTION SERVICE: 1-800-362-2764
NON-MEMBERS MUST BE CALLED DIRECTLY, INCLUDING ODOT DISTRICTS WHO CAN BE CONTACTED THROUGH THE PROJECT ENGINEER.

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

AT&T LONG LINE
ATTN: MICHAEL DIEDERICH
PHONE: (216) 750-0135
CELLULAR: (216) 212-8556

AT&T OHIO
ATTN: JAMES JANIS
13630 LORAIN AVENUE, 2ND FLOOR
CLEVELAND, OH 44111
PHONE: (216) 476-6142
FAX: (216) 476-6013
PJ8191@ATT.COM

CHARTER COMMUNICATIONS (FORMER TIME WARNER)
MATT HANNAH
7820 DIVISION DRIVE
MENTOR, OH 44060
PHONE: (216) 575-8016 EXT. 2165551105
CELLULAR: (440) 655-5590
MATHEW.HANNAH@CHARTER.COM

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

UTILITIES CONTINUED

CITY OF PAINESVILLE ELECTRIC
ATTN: JEFFREY MCHUGH
325 RICHMOND STREET
PAINESVILLE, OH 44077
PHONE: (440) 392-5939
JMCHUGH@PAINESVILLE.COM

CITY OF PAINESVILLE SEWER
ATTN: LEANNE EXUM, PE, SI
66 MENTOR AVENUE
PAINESVILLE, OH 44077
PHONE: (440) 392-5926
CELLULAR: (440) 479-8878
LEXUM@PAINESVILLE.COM

CITY OF PAINESVILLE WATER
ATTN: FRANK MCKEON
9565 HEADLANDS ROAD
MENTOR, OH 44060
PHONE: (440) 392-9565
FMCKEON@PAINESVILLE.COM

DOMINION EAST OHIO
ATTN: BRYAN D. DAYTON
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OH 44333
PHONE: (330) 664-2409
CELLULAR: (330) 612-7357
FAX: (888) 504-0126
RELOCATION@DEO.COM
BRYAN.D.DAYTON@DOM.COM

LAKE COUNTY DEPARTMENT UTILITIES
ATTN: SARAH CEROVSKI
105 MAIN STREET
PAINESVILLE, OH 44077
PHONE: (440) 350-2652
FAX: (440) 350-5784
SARAH.CEROVSKI@LAKECOUNTYOHIO.GOV

ORWELL NATURAL GAS CO.
ATTN: TIM REILLY
8470 STATION STREET, SUITE 100
MENTOR, OH 44060
PHONE: (440) 701-5100
CELLULAR: (440) 728-0575
FAX: (440) 205-8669
TREILLY@EGAS.NET

ORWELL TRUMBULL-COBRA PIPELINE
ATTN: KEITH KREJCI
3511 LOST NATION ROAD, SUITE 213
WILLOUGHBY, OH 44094
PHONE: (440) 255-1945
CELLULAR: (440) 669-1910
KKREJCI@COBRAPIPELINE.COM

THE ILLUMINATING COMPANY - FIRST ENERGY CORP. (CEI)
ATTN: TIMOTHY DENZLER
SUPERVISING ENGINEER
6896 MILLER ROAD
BRECKSVILLE, OH 44141
PHONE: (440) 346-8711
TJDENZLER@FIRSTENERGYCORP.COM

WINDSTREAM
ATTN: RAY FRENCH
PHONE: (440) 285-5537
RAMON.FRENCH@WINDSTREAM.COM

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.

ODOT DISTRICT 12 CONTACT INFORMATION

DISTRICT 12 UTILITY COORDINATOR
ATTN: JOHN THREAT
5500 TRANSPORTATION BLVD
GARFIELD HEIGHTS, OH 44125
(216) 584-2106
JOHN.THREAT@DOT.OHIO.GOV

DISTRICT 12
ATTN: TONY TOTH, P.E.
5500 TRANSPORTATION BLVD
GARFIELD HEIGHTS
(216) 584-2220
ANTHONY.TOTH@DOT.OHIO.GOV

ODOT CENTRAL OFFICE CONTACT INFORMATION

ODOT ITS LAB
1606 W. BROAD ST.
COLUMBUS, OH 43223
MAIN LINE: (614) 387-4113
CEN.ITS.LAB@DOT.OHIO.GOV

JAMIE FINK
OFFICE OF TRAFFIC OPERATIONS
1606 W. BROAD ST.
COLUMBUS, OH 43223
(614) 644-6588
JAMIE.FINK@DOT.OHIO.GOV

BRYAN COMER, P.E.
OFFICE OF TRAFFIC OPERATIONS
1606 W. BROAD ST.
COLUMBUS, OH 43223
(614) 387-1253
BRYAN.COMER@DOT.OHIO.GOV

OFFICE OF ENVIRONMENTAL SERVICES
1980 W. BROAD ST., MAIL STOP 4170
COLUMBUS, OH 43223
(614) 466-7100

CENTRAL OFFICE UTILITIES MANAGER
ATTN: WENDI SNYDER
1980 W BROAD ST
COLUMBUS, OH 43223
(614) 728-8062
WENDI.SNYDER@DOT.OHIO.GOV

UTILITIES, NEW POWER SERVICES (BY OTHERS)

TO CONNECT POWER FOR SITES REQUIRING A NEW POWER
SERVICE, THE DISTRICT SHALL CONTACT THE FOLLOWING
ELECTRIC COMPANY AT LEAST 30 DAYS PRIOR TO WORK NEEDING
TO BE PERFORMED.

ALL SITES EXCEPT SITE 3 (SR 44)

THE ILLUMINATING COMPANY - FIRST ENERGY CORP. (CEI)
ATTN: BOB ELLIOTT
7755 AUBURN ROAD
PAINESVILLE, OH 44077
(440) 358-4996
RELIOTT@FIRSTENERGYCORP.COM

BILLING ADDRESS

ALL NEW POWER SERVICES ARE SETUP WITH A BILLING ADDRESS
OF THE BELOW:

ODOT ITS PROGRAM - MS 2110
1980 W. BROAD ST.
COLUMBUS, OH 43223

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

ITEM 614 - MAINTAINING TRAFFIC

PERMITTED LANE CLOSURES

ALL LANE CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY THE "DISTRICT 12 PERMITTED LANE CLOSURE TIMES" LIST, WHICH IS LOCATED ON THE ODOT WEBSITE:

WWW.DOT.STATE.OH.US/DIST12/WORKZONE/LANECLO.HTM

ALL NOTES ON THE PERMITTED LANE CLOSURE TIMES LIST SHALL APPLY. THE LATEST REVISION, AT 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT.

NO LANE OR SHOULDER CLOSURES SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED, UNLESS DIRECTED BY THE ENGINEER. SHOULDER CLOSURES SHALL ONLY BE ALLOWED AT THE TIMES SPECIFIED FOR LANE CLOSURES.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

INTERIM COMPLETION DATE

NOVEMBER 15 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE TO HAVE ALL VSL SIGNS INSTALLED AND POWERED WITH THE ABILITY TO VARY THE SPEED LIMIT FUNCTIONAL.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/ DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 50 HOUR

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

SHEET NUMBER								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	9	12	13	14	15							
												ROADWAY	
								201	11000	LS		CLEARING AND GRUBBING	
												EROSION CONTROL	
4000								659	00510	4000	SY	SEEDING AND MULCHING, CLASS 2	
0.56								659	20000	0.56	TON	COMMERCIAL FERTILIZER	
22								659	35000	22	MGAL	WATER	
												TRAFFIC SURVEILLANCE	
			4					625	10490	4	EACH	LIGHT POLE, CONVENTIONAL, 30', MONOARM TYPE WITHOUT ARM, WITH BASE	
			4					625	14000	4	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP	
			8424					625	22990	8424	FT	NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	4
			4515					625	23100	4515	FT	NO. 2 AWG 600 VOLT DISTRIBUTION CABLE	4
			512					625	23304	512	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	4
			11796					625	23306	11796	FT	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	4
			6609					625	25408	6609	FT	CONDUIT, 2", 725.051	
			3329					625	25750	3329	FT	CONDUIT, 4", MULTICELL, 725.20, EPC-40	4
			1241					625	25752	1241	FT	CONDUIT, 4", MULTICELL, 725.20, EPC-80, JACKED OR DRILLED	3 & 4
			1791					625	25908	1791	FT	CONDUIT, JACKED OR DRILLED, 725.052, 2", EPC-80	3
			9938					625	29010	9938	FT	TRENCH, 30" DEEP	
			77					625	30700	77	EACH	PULL BOX, 725.08, 18"	
				93				625	30710	93	EACH	PULL BOX, 725.08, 32"	
				120				625	32001	120	EACH	GROUND ROD, AS PER PLAN	4
				9938				625	36001	9938	FT	PLASTIC CAUTION TAPE, AS PER PLAN	3
				192				630	80200	192	SF	SIGN, GROUND MOUNTED EXTRUSHEET	
				2				630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
				3				630	85600	3	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	
				6				630	86102	6	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
				1				632	70001	1	EACH	POWER SERVICE, AS PER PLAN	5
				11				633	67101	11	EACH	CABINET FOUNDATION, AS PER PLAN	5
				11				633	67201	11	EACH	CONTROLLER WORK PAD, AS PER PLAN	6
	19							633	67201	19	EACH	CONTROLLER WORK PAD, AS PER PLAN 2	6
								633	99300	LS		CONTROLLER ITEM, MISC.: CENTRAL SYSTEM SOFTWARE	

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

SHEET NUMBER								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	9	12	13	14	15							
				11				804	36000	11	EACH	SLACK INSTALLATION	
					1367			804	98000	1367	FT	FIBER OPTIC CABLE, MISC.: FIBER OPTIC CABLE, 12 FIBER	3
				5				809	60000	5	EACH	CCTV IP-CAMERA SYSTEM, DOME-TYPE	3 & 5
				4				809	61000	4	EACH	CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET	5
				2				809	63010	2	EACH	DYNAMIC MESSAGE SIGN (DMS), FRONT-ACCESS	3 & 5
				5823				809	64550	5823	FT	ETHERNET CABLE, OUTDOOR-RATED	5
				11				809	65000	11	EACH	ITS CABINET - GROUND MOUNTED	3 & 5
				1				809	65010	1	EACH	ITS CABINET - POLE MOUNTED	3
				19				809	65990	19	EACH	ITS DEVICE, MISC.: VARIABLE SPEED LIMIT SIGN	3
				2				809	65990	2	EACH	ITS DEVICE, MISC.: ROAD WEATHER INFORMATION SYSTEM	3
				1				809	65990	1	EACH	ITS DEVICE, MISC.: RWIS UPGRADES (SITE 87)	3
						1		809	65990	1	EACH	ITS DEVICE, MISC.: RWIS UPGRADES (SITE 177)	3
						1		809	65990	1	EACH	ITS DEVICE, MISC.: RWIS UPGRADES (SITE 178)	3
						4		809	68900	4	EACH	SIDE-FIRED RADAR DETECTOR	3 & 5
												TRAFFIC SURVEILLANCE ALTERNATES	
								633	99300	LS		CONTROLLER ITEM, MISC.: CENTRAL SYSTEM SOFTWARE, ALTERNATE BID (FORTIS)	
								633	99300	LS		CONTROLLER ITEM, MISC.: CENTRAL SYSTEM SOFTWARE, ALTERNATE BID (Q-FREE)	
												MAINTENANCE OF TRAFFIC	
		50						614	11110	50	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
												INCIDENTALS	
								614	11000	LS		MAINTAINING TRAFFIC	8 & 9
								623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
								624	10000	LS		MOBILIZATION	

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

SITE NO.	SHEET NO.	LOCATION	625	625	625	625	625	625	625	625	625	625	625	625
			30' LIGHT POLE, CONVENTIONAL, MONOARM TYPE WITHOUT ARM, WITH BASE	LIGHT POLE FOUNDATION, 24" X 6' DEEP	NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	NO. 2 AWG 600 VOLT DISTRIBUTION CABLE	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	CONDUIT, 2", 725.051	CONDUIT, 4", MULTICELL, 725.20, EPC 40	CONDUIT, 4", MULTICELL, 725.20, SCHEDULE-80, JACKED OR DRILLED	CONDUIT, JACKED OR DRILLED, 2", 725.052, EPC-80	TRENCH, 30" DEEP	PULL BOX, 725.08, 18"
			EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH
1	17	I-90 AT HERMITAGE ROAD								125			125	
2	18	I-90 WEST OF SR 44												
3	19	I-90 AT SR 44			765				255	255			510	2
4	20	I-90 AT AUBURN ROAD			336			366	262	38	84	84	300	5
5	21	I-90 AT OLD SR 44 (RAVENNA ROAD)	1	1	204			948	342	173	105	105	515	8
6	22	I-90 AT PAINESVILLE-WARREN ROAD				1479	136	789	899	392	105	255	1291	17
7	23	I-90 AT VROOMAN ROAD (EB)			252			738	372	209	37	37	581	6
7	24	I-90 AT VROOMAN ROAD (WB)			1782			552	1118	643	111	222	1761	8
8	25	I-90 AT PAINE ROAD	1	1	726			756	311	158	169	245	469	8
9	26	I-90 AT BAKER ROAD			435			747	366	81	168	168	447	6
10	27	I-90 AT DAYTON ROAD	2	2	1872	2406	96	1545	1739	849	194	582	2588	9
11	28	I-90 AT SR 528			702			1725	945	321	93	93	1266	8
12	29	I-90 WEST OF BATES ROAD												
13	30	I-90 AT S. COUNTY LINE ROAD								85	175		85	
5,7-8,10	16 - 27	DISTRIBUTION CABLE SLACK AT RADAR						120						
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT 18" PULL BOX			870	540	80	1740						
3,7,9-11	16 - 27	DISTRIBUTION CABLE SLACK AT CCTV						150						
6&10	16 - 27	DISTRIBUTION CABLE SLACK AT DMS					80							
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT ITS CABINET			450	90	120	1080						
4-11	16 - 27	DISTRIBUTION CABLE SLACK AT VSL			30			540						
1,4-11,13	16 - 27	ETHERNET CABLE, OUTDOOR-RATED SLACK												
TOTALS CARRIED TO GENERAL SUMMARY			4	4	8424	4515	512	11796	6609	3329	1241	1791	9938	77

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

SITE NO.	SHEET NO.	LOCATION	625	625	625	630	630	630	630	632	633	633	804	804
			PULL BOX, 725.08, 32"	GROUND ROD, AS PER PLAN	PLASTIC CAUTION TAPE, AS PER PLAN	SIGN, GROUND MOUNTED EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	POWER SERVICE, AS PER PLAN	CABINET FOUNDATION, AS PER PLAN	CONTROLLER WORK PAD, AS PER PLAN	SLACK INSTALLATION	FIBER OPTIC CABLE MODEM
			EACH	EACH	FT	SF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
1	17	I-90 AT HERMITAGE ROAD	2		125									
2	18	I-90 WEST OF SR 44				96	1	1	2					
3	19	I-90 AT SR 44	2	5	510					1	1	1		1
4	20	I-90 AT AUBURN ROAD	6	8	300						1	1		1
5	21	I-90 AT OLD SR 44 (RAVENNA ROAD)	10	12	515						1	1		1
6	22	I-90 AT PAINESVILLE-WARREN ROAD	14	22	1291						1	1		1
7	23	I-90 AT VROOMAN ROAD (EB)	7	9	581						1	1		1
7	24	I-90 AT VROOMAN ROAD (WB)	12	13	1761						2	2		2
8	25	I-90 AT PAINE ROAD	9	12	469						1	1		1
9	26	I-90 AT BAKER ROAD	7	10	447						1	1		1
10	27	I-90 AT DAYTON ROAD	11	16	2588						1	1	11	1
11	28	I-90 AT SR 528	9	13	1266						1	1		1
12	29	I-90 WEST OF BATES ROAD				96	1	2	4					
13	30	I-90 AT S. COUNTY LINE ROAD	4		85									
5,7-8,10	16 - 27	DISTRIBUTION CABLE SLACK AT RADAR												
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT 18" PULL BOX												
3,7,9-11	16 - 27	DISTRIBUTION CABLE SLACK AT CCTV												
6&10	16 - 27	DISTRIBUTION CABLE SLACK AT DMS												
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT ITS CABINET												
4-11	16 - 27	DISTRIBUTION CABLE SLACK AT VSL												
1,4-11,13	16 - 27	ETHERNET CABLE, OUTDOOR-RATED SLACK												
		*QUANTITIES FOR INFORMATIONAL PURPOSES ONLY												
TOTALS CARRIED TO GENERAL SUMMARY			93	120	9938	192	2	3	6	1	11	11	11	*11

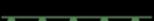
STATE OF OHIO DEPARTMENT OF TRANSPORTATION

SITE NO.	SHEET NO.	LOCATION	804	804	809	809	809	809	809	809	809	809	809
			FIBER OPTIC CABLE MEDIA CONVERTER, ETHERNET	FIBER OPTIC CABLE, MISC.: FIBER OPTIC CABLE; 12 FIBER	CCTV IP-CAMERA SYSTEM; DOME-TYPE	CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET	DYNAMIC MESSAGE SIGN (DMS), FRONT-ACCESS	ETHERNET CABLE, OUTDOOR-RATED	ITS CABINET - GROUND MOUNTED	ITS CABINET - POLE MOUNTED	ITS DEVICE, MISC.: VARIABLE SPEED LIMIT SIGN	ITS DEVICE, MISC.: ROAD WEATHER INFORMATION SYSTEM	ITS DEVICE, MISC.: RWIS UPGRADES (SITE 87)
			EACH	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH
1	17	I-90 AT HERMITAGE ROAD						125					
2	18	I-90 WEST OF SR 44											
3	19	I-90 AT SR 44			1	1		255	1				
4	20	I-90 AT AUBURN ROAD						122	1		2		
5	21	I-90 AT OLD SR 44 (RAVENNA ROAD)						321	1		2		
6	22	I-90 AT PAINESVILLE-WARREN ROAD					1	497	1		2	1	
7	23	I-90 AT VROOMAN ROAD (EB)						246	1		2		
7	24	I-90 AT VROOMAN ROAD (WB)			1	1		754	2		2		
8	25	I-90 AT PAINE ROAD						445	1		2		
9	26	I-90 AT BAKER ROAD			1	1		249	1		2		
10	27	I-90 AT DAYTON ROAD	4	1367	1		1	539	1	1	2	1	
11	28	I-90 AT SR 528			1	1		575	1		3		
12	29	I-90 WEST OF BATES ROAD											
13	30	I-90 AT S. COUNTY LINE ROAD						260					1
5,7-8,10	16 - 27	DISTRIBUTION CABLE SLACK AT RADAR											
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT 18" PULL BOX											
3,7,9-11	16 - 27	DISTRIBUTION CABLE SLACK AT CCTV											
6&10	16 - 27	DISTRIBUTION CABLE SLACK AT DMS											
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT ITS CABINET											
4-11	16 - 27	DISTRIBUTION CABLE SLACK AT VSL											
1,4-11,13	16 - 27	ETHERNET CABLE, OUTDOOR-RATED SLACK						1435					
		*QUANTITIES FOR INFORMATIONAL PURPOSES ONLY											
TOTALS CARRIED TO GENERAL SUMMARY			*4	1367	5	4	2	5823	11	1	19	2	1

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

SITE NO.	SHEET NO.	LOCATION	809	809	809	809									
			ITS DEVICE, MISC.: RWIS UPGRADES (SITE 177)	ITS DEVICE, MISC.: RWIS UPGRADES (SITE 178)	ITS DEVICE, MISC.: NETWORK SWITCH	SIDE-FIRED RADAR DETECTOR									
			EACH	EACH	EACH	EACH									
1	17	I-90 AT HERMITAGE ROAD	1												
2	18	I-90 WEST OF SR 44													
3	19	I-90 AT SR 44			1										
4	20	I-90 AT AUBURN ROAD			1										
5	21	I-90 AT OLD SR 44 (RAVENNA ROAD)			1	1									
6	22	I-90 AT PAINESVILLE-WARREN ROAD			1										
7	23	I-90 AT VROOMAN ROAD (EB)			1										
7	24	I-90 AT VROOMAN ROAD (WB)			2	1									
8	25	I-90 AT PAINE ROAD		1	1	1									
9	26	I-90 AT BAKER ROAD			1										
10	27	I-90 AT DAYTON ROAD			1	1									
11	28	I-90 AT SR 528			1										
12	29	I-90 WEST OF BATES ROAD													
13	30	I-90 AT S. COUNTY LINE ROAD													
5,7-8,10	16 - 27	DISTRIBUTION CABLE SLACK AT RADAR													
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT 18" PULL BOX													
3,7,9-11	16 - 27	DISTRIBUTION CABLE SLACK AT CCTV													
6&10	16 - 27	DISTRIBUTION CABLE SLACK AT DMS													
3-11	16 - 27	DISTRIBUTION CABLE SLACK AT ITS CABINET													
4-11	16 - 27	DISTRIBUTION CABLE SLACK AT VSL													
1,4-11,13	16 - 27	ETHERNET CABLE, OUTDOOR-RATED SLACK													
		*QUANTITIES FOR INFORMATIONAL PURPOSES ONLY													
TOTALS CARRIED TO GENERAL SUMMARY			1	1	*11	4									

LEGEND

-  EXISTING SIGN
-  PROPOSED SIGN
-  PROPOSED PULL BOX, 32", TRAFFIC
-  PROPOSED PULL BOX, 18", ELECTRIC
-  EXISTING GAS LINE
-  EXISTING SANITARY SEWER
-  EXISTING TELECOM LINE
-  EXISTING WATER LINE
-  PROPOSED COMMUNICATIONS CONDUIT (OPEN-CUT)
-  PROPOSED COMMUNICATIONS CONDUIT (JACKED OR DRILLED)
-  PROPOSED POWER CONDUIT (OPEN-CUT)
-  PROPOSED POWER CONDUIT (JACKED OR DRILLED)
-  PROPOSED GUARDRAIL (BY OTHERS - NOT PART OF THIS CONTRACT)
-  PROPOSED CCTV CAMERA, CONCRETE POLE, ITS CABINET AND WORK PAD
-  PROPOSED ITS CABINET AND WORK PAD
-  EXISTING POWER POLE
-  PROPOSED POWER POLE
-  EXISTING RWIS
-  PROPOSED RWIS OR SIDE-FIRED RADAR DETECTOR
-  EXISTING FULL-SIZE WALK-IN DMS
-  PROPOSED FRONT-ACCESS DMS

NOTE:
EXISTING UTILITY LOCATIONS ARE FOR REFERENCE ONLY AND MAY NOT BE EXACT. CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES MARKED BEFORE DIGGING. AERIAL/OVERHEAD UTILITY LINES ARE NOT SHOWN. SEE UTILITY NOTE IN PLAN GENERAL NOTES FOR MORE INFO.

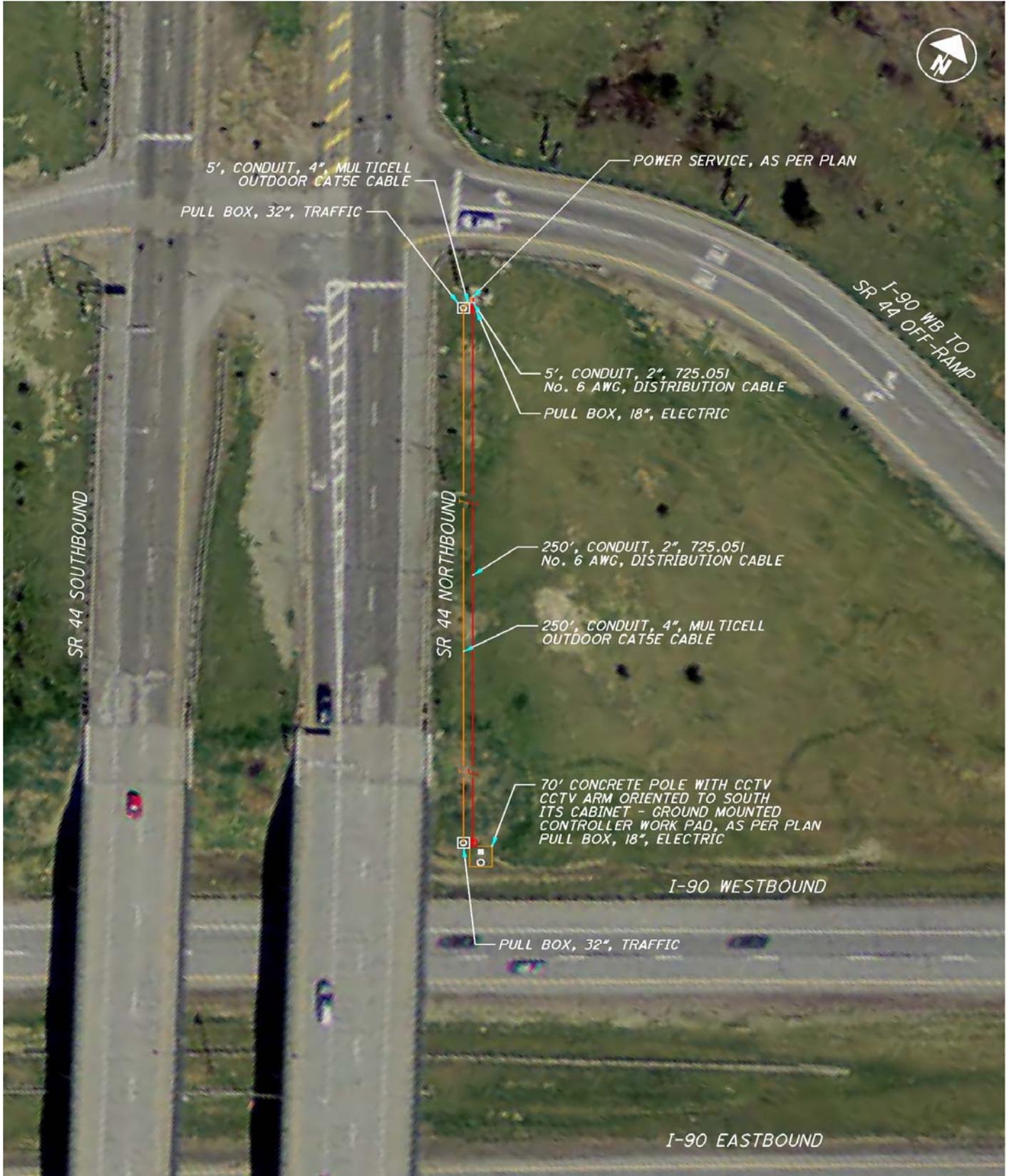
SITE 1, I-90 AT HERMITAGE ROAD, MM 199.7



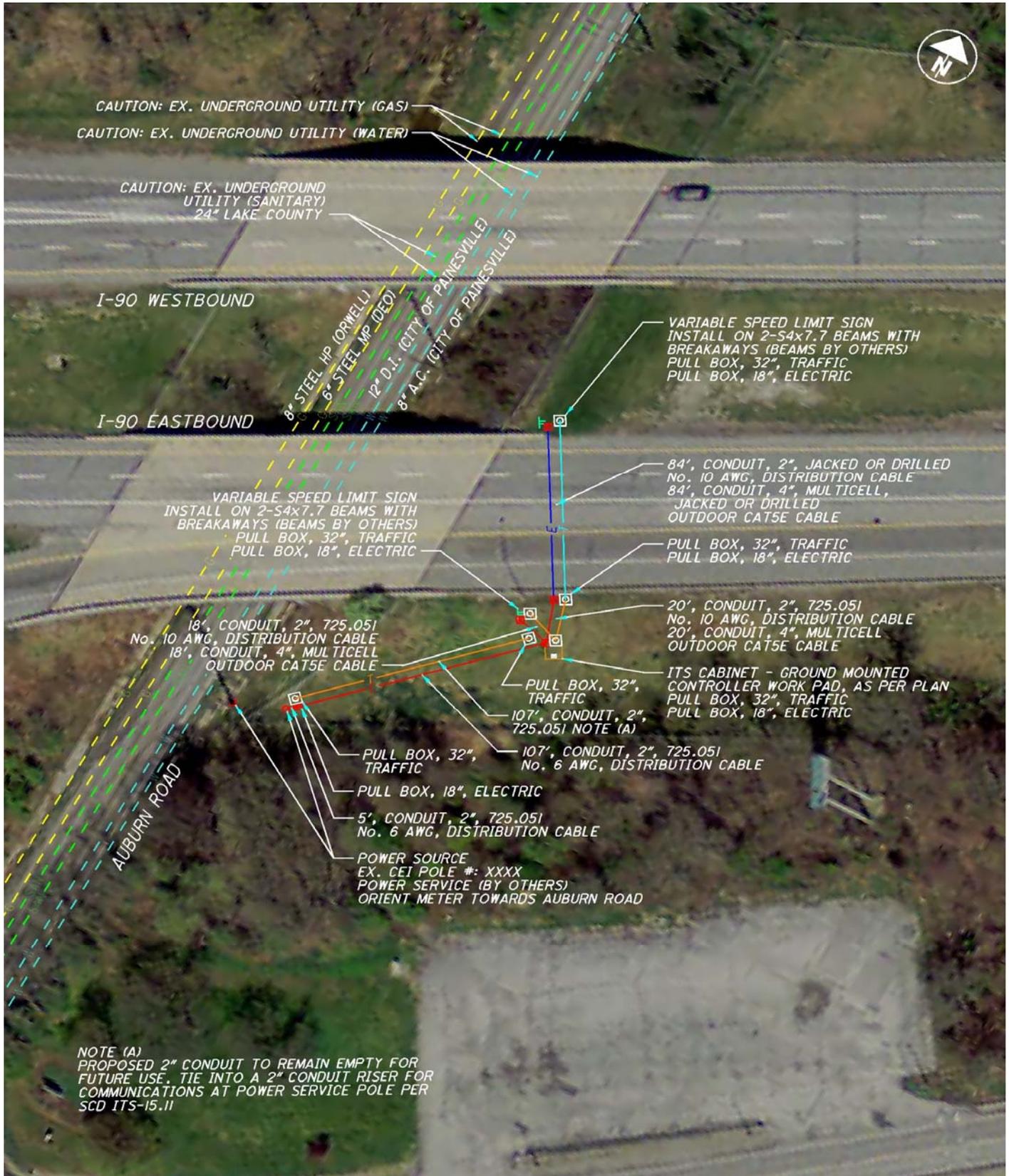
SITE 2, I-90 WEST OF SR 44, MM 200.1



SITE 3, I-90 AT SR 44, MM 200.8



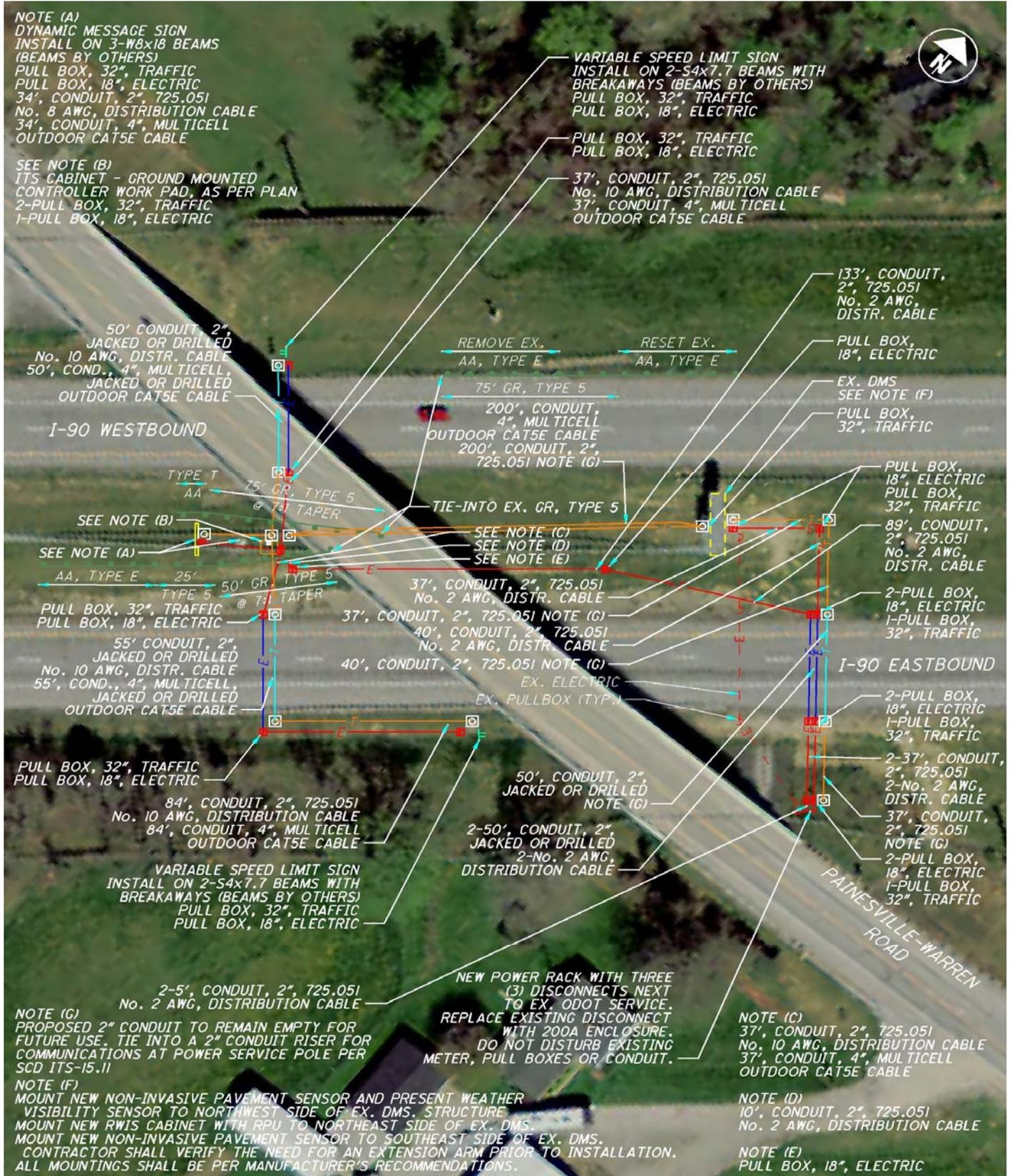
SITE 4, I-90 AT AUBURN ROAD, MM 201.0



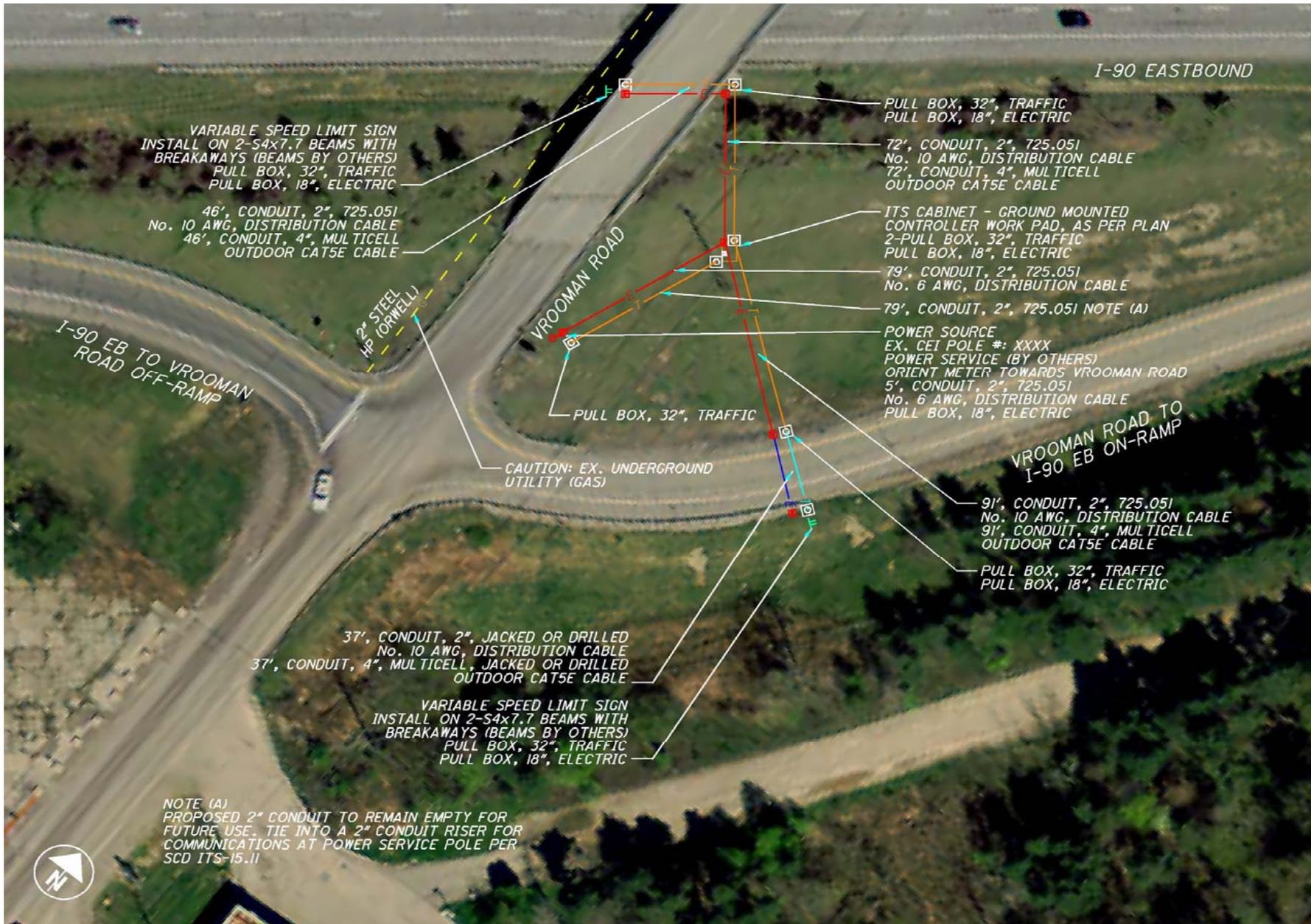
SITE 5, I-90 AT OLD SR 44 (RAVENNA ROAD), MM 202.1



SITE 6, I-90 AT PAINESVILLE-WARREN ROAD, MM 203.5



SITE 7, I-90 EB AT VROOMAN ROAD, MM 205.3

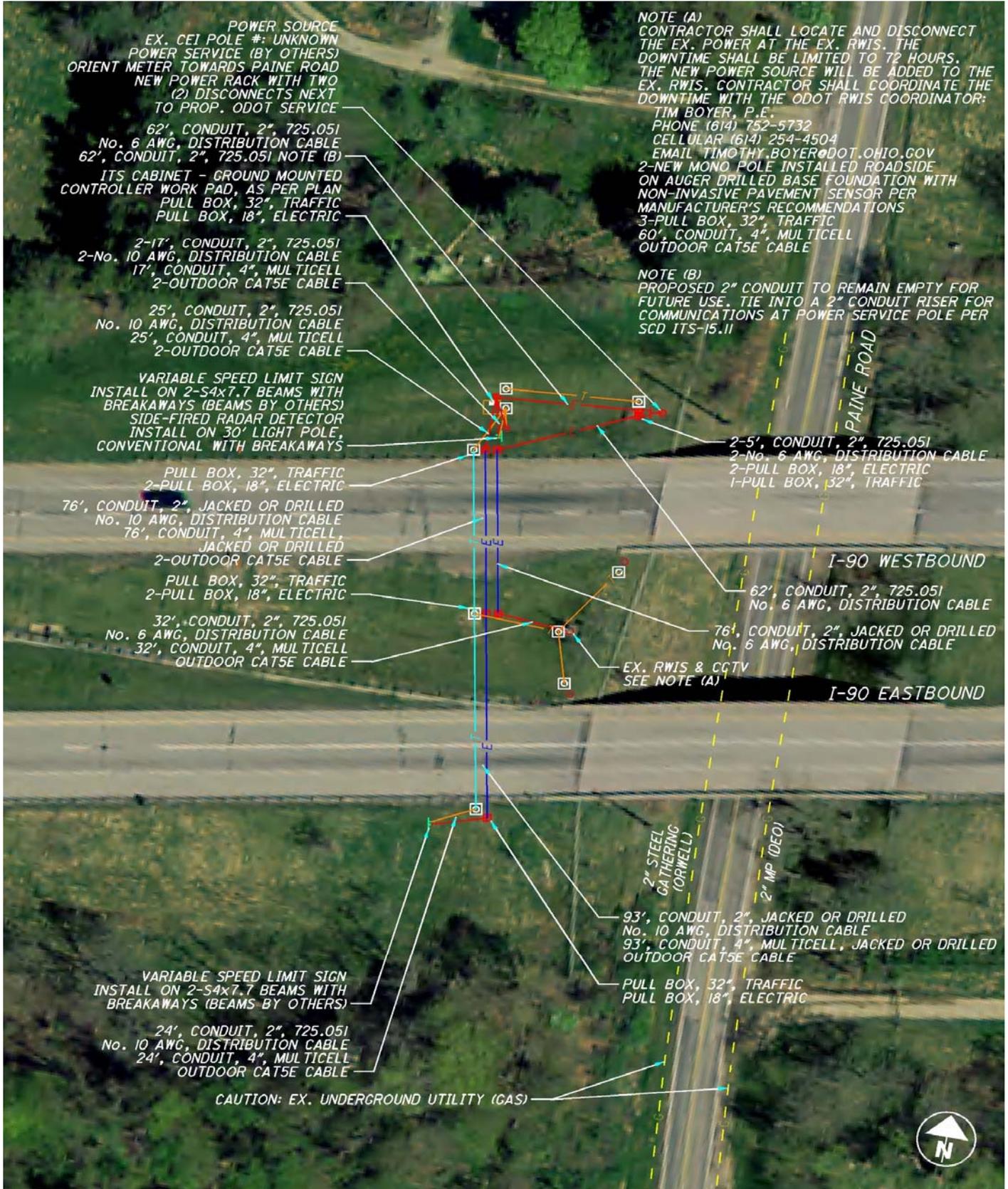


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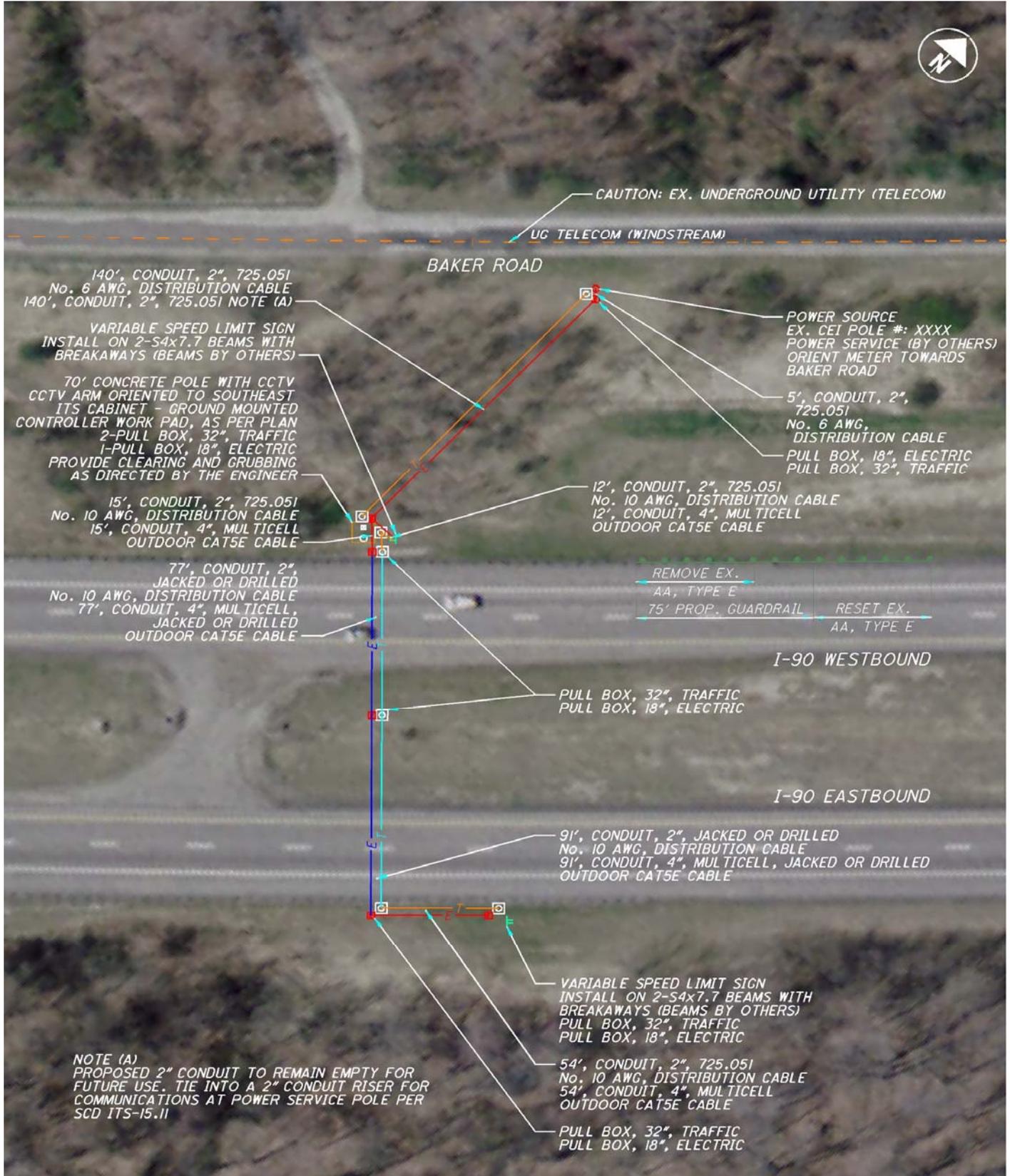
SITE 7, I-90 WB AT VROOMAN ROAD, MM 205.3



SITE 8, I-90 AT PAINE ROAD, MM 207.1

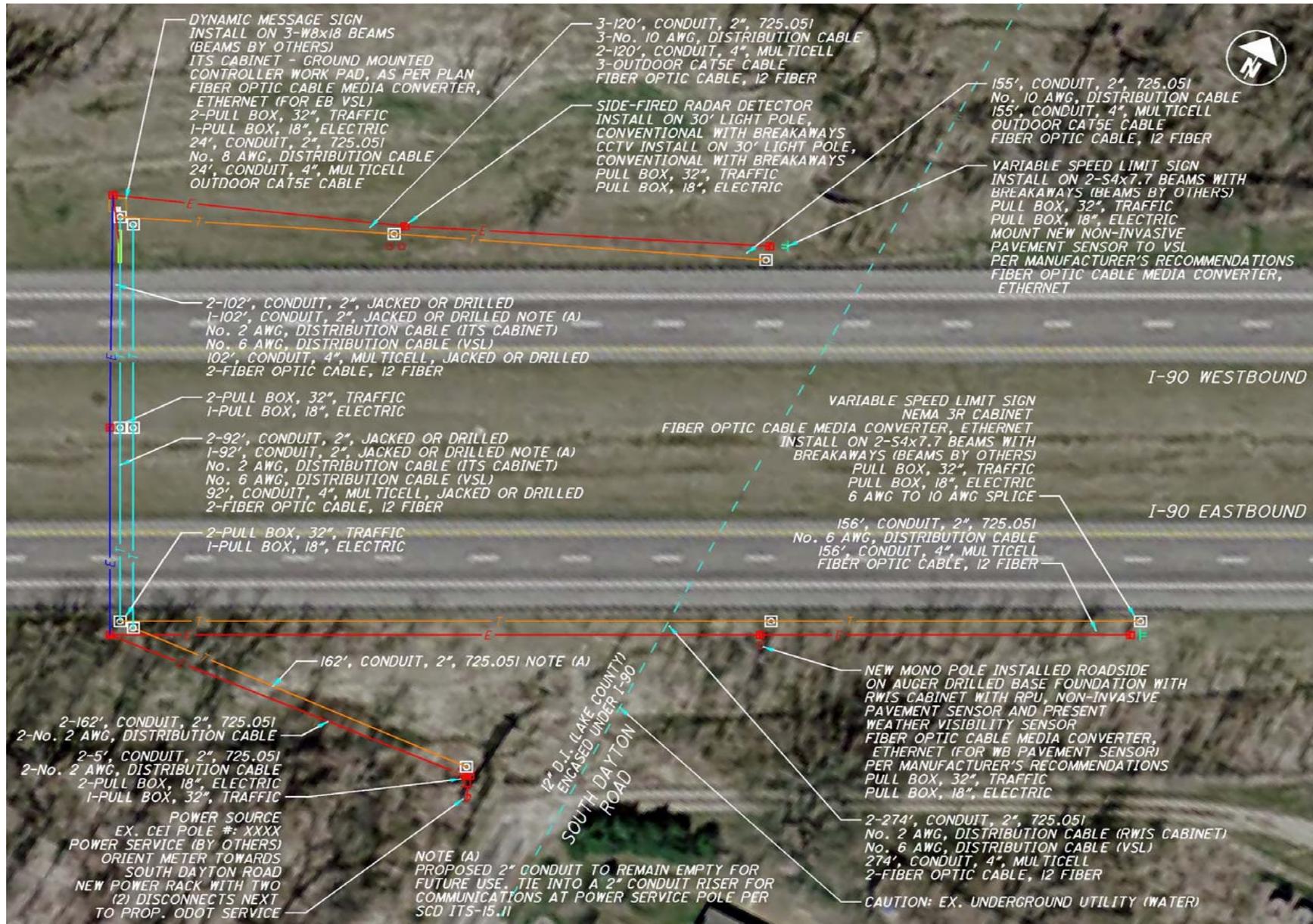


SITE 9, I-90 AT BAKER ROAD, MM 208.9

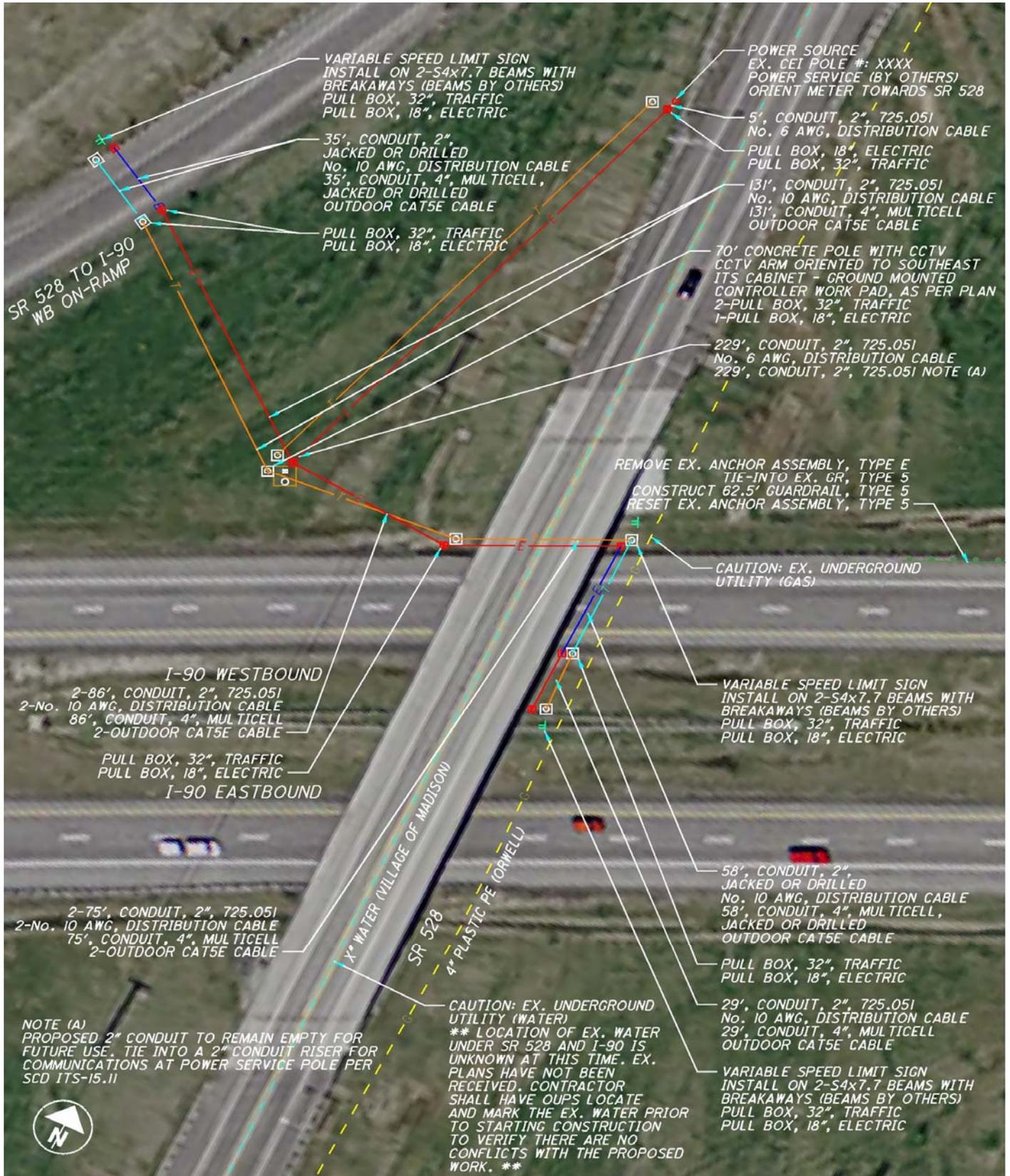


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SITE 10, I-90 AT DAYTON ROAD, MM 211.5



SITE 11, I-90 AT SR 528, MM 213.0



SITE 12, I-90 WEST OF BATES ROAD, MM 213.7

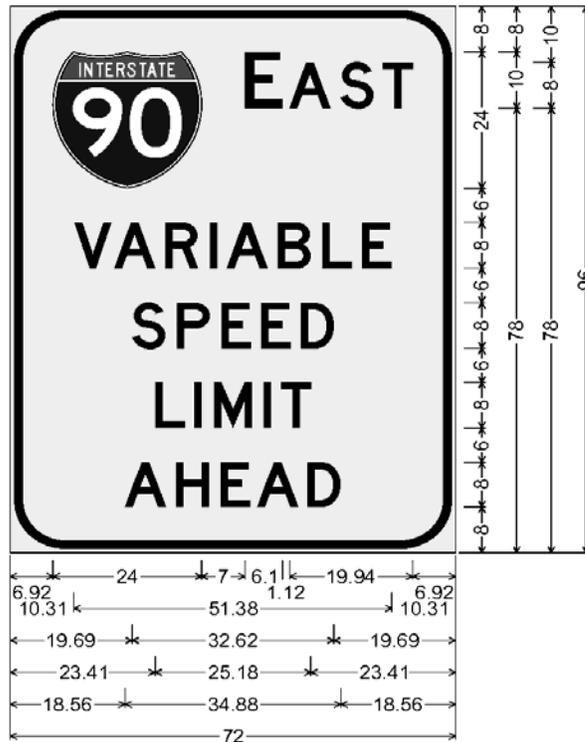


SITE 13, I-90 AT S. COUNTY LINE ROAD, MM 215.2



SIGN DETAILS

Border Radius - 9 inches

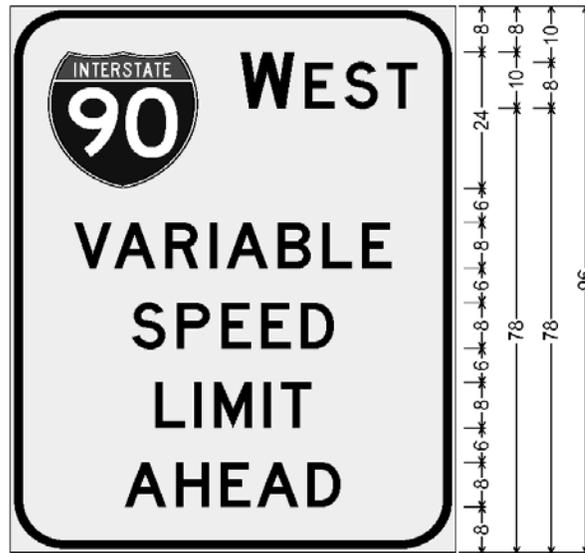


1.25" Border, 0.75" Indent, Black on Yellow;
 Interstate 90 M1-1; "EAST" D; "VARIABLE" D;
 "SPEED" D; "LIMIT" D; "AHEAD" D;
 Table of widths and spaces.

6.92	90																							
	7.00	E	6.10	1.12	A	6.69	1.50	S	5.37	1.50	T	4.88	6.92											
10.31	V	6.00	0.50	A	6.69	1.50	R	5.37	1.88	I	1.25	1.50	A	6.69	1.50	B	5.37	1.88	L	4.87	1.50	E	4.88	10.31
19.69	S	5.37	1.88	P	5.37	1.88	E	4.87	1.50	E	4.88	1.50	D	5.37	19.69									
23.41	L	4.87	1.50	I	1.25	1.88	M	6.18	1.88	I	1.25	1.50	T	4.87	23.41									
18.56	A	6.69	1.50	H	5.37	1.88	E	4.88	1.00	A	6.68	1.50	D	5.38	18.56									

SIGN DETAILS

Border Radius - 9 inches



6.22	24	7	8.75	1.69	18.12	6.22
10.31	51.38				10.31	
19.69	32.62				19.69	
23.41	25.18				23.41	
18.56	34.88				18.56	
72						

1.25" Border, 0.75" Indent, Black on Yellow;
 Interstate 90 M1-1; "WEST" D; "VARIABLE" D;
 "SPEED" D; "LIMIT" D; "AHEAD" D;
 Table of widths and spaces.

6.22	90																							
7.00	W	8.75	1.69	E	4.87	1.50	S	5.38	1.50	T	4.87	6.22												
10.31	V	6.00	0.50	A	6.69	1.50	R	5.37	1.88	I	1.25	1.50	A	6.69	1.50	B	5.37	1.88	L	4.87	1.50	E	4.88	10.31
19.69	S	5.37	1.88	P	5.37	1.88	E	4.87	1.50	E	4.88	1.50	D	5.37	19.69									
23.41	L	4.87	1.50	I	1.25	1.88	M	6.18	1.88	I	1.25	1.50	T	4.87	23.41									
18.56	A	6.69	1.50	H	5.37	1.88	E	4.88	1.00	A	6.68	1.50	D	5.38	18.56									