

MAINTENANCE OF TRAFFIC SIGNAL (CONT.)

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE PROJECT ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN (DIAMETER),

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 625 CONDUIT, EXCEPT AS HEREIN MODIFIED.

ALL MATERIALS, PROCEDURES, AND TESTING USED SHALL CONFORM WITH THE ENCLOSED STANDARDS AND SPECIFICATIONS.

ALL CONDUIT CAPABLE OF HORIZONTAL DIRECTIONAL DRILLING SHALL BE EPEC-40-HDPE.

THE HORIZONTAL DIRECTIONAL DRILLING SHALL BE IN ACCORDANCE WITH ASTM F1962 AT THE LOCATIONS SHOWN ON THE PLANS.

AN EXTRA PULL STRING, FOR FUTURE USE, SHALL BE INSTALLED IN ALL CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE FURNISHING AND INSTALLING ALL FITTINGS, BENDS, TEES, COUPLINGS, RESTRAINTS, TRACING WIRE, PULL STRING, ETC. AND SHALL INCLUDE THE COST FOR THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT. THIS INCLUDES ANY REQUIRED BORING PITS, DEWATERING, BACKFILLING OF PITS, COMPACTION, ASPHALT, GRAVEL AND CONCRETE REPAIR, SEEDING AND MULCHING, LANDSCAPING REPAIR, ETC. NECESSARY TO RESTORE THE AREA BACK TO EQUAL OR BETTER CONDITIONS.

PAYMENT FOR ITEM 625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, (DIAMETER), FOR ALL OPERATIONS DESCRIBED (INCLUDING TESTING AND PURITIES) ABOVE SHALL BE AT THE CONTRACT FOOT BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 OVERHEAD SIGN SUPPORT, MISC.: SIGN SUPPORT, TYPE TC-9.31, DESIGN 2

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATION 630 OVERHEAD SIGN SUPPORT, TYPE TC-9.31 THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL SUPPLY THE CENTER MOUNTED OVERHEAD SIGN SUPPORT TYPE TC-9.31 ASSEMBLY FOR THE EXISTING BACK-TO-BACK IR-75 OVERHEAD GUIDE SIGN TO BE ATTACHED TO THE PROPOSED SIGNAL SUPPORT #3 (SP-3). THE CONTRACTOR SHALL SUPPLY NEW MOUNTING ASSEMBLY, HARDWARE AND ALL NECESSARY MATERIAL TO MOUNT THE EXISTING BACK-TO-BACK SIGNS TO THE PROPOSED SIGNAL SUPPORT (SP-3).

PAYMENT FOR ITEM 632 OVERHEAD SIGN SUPPORT, MISC.: SIGN SUPPORT, TYPE 9.31, DESIGN 2 FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS ITEM 630, 730, AND ODOT SCD TC-16.22 THE CONTRACTOR SHALL RIGIDLY ATTACH A SIGN TO THE MAST ARM. THE SIGN ATTACHMENT ASSEMBLY SHALL HAVE A BLACK FINISH AND BE DESIGNED WITHOUT SET SCREWS, PIPE THREADS, RETAINER RINGS, AND SCREW LOCK BUCKLES. THE SADDLE USED TO FASTEN THE SUPPORT MEMBER TO THE MAST ARM SHALL ALSO HAVE A MULTI-TOOTH MOUNTING SURFACE TO INHIBIT MOVEMENT OR ROTATION. THIS ITEM SHALL INCLUDE ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES. ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES SHALL BE STAINLESS STEEL AND HAVE A BLACK FINISH.

PAYMENT FOR ITEM 630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS ITEM 630 AND 730, THE CONTRACTOR SHALL RIGIDLY ATTACH A SIGN TO THE MAST ARM. THE SIGN ATTACHMENT ASSEMBLY SHALL HAVE A BLACK FINISH AND BE DESIGNED WITHOUT SET SCREWS, PIPE THREADS, RETAINER RINGS, AND SCREW LOCK BUCKLES. THE SADDLE USED TO FASTEN THE SUPPORT MEMBER TO THE MAST ARM SHALL ALSO HAVE A MULTI-TOOTH MOUNTING SURFACE TO INHIBIT MOVEMENT OR ROTATION. THIS ITEM SHALL INCLUDE ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES. ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES SHALL BE STAINLESS STEEL AND HAVE A BLACK FINISH.

PAYMENT FOR ITEM 630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN, STREET NAME, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 630 TRAFFIC SIGNS AND SIGN SUPPORTS, EXCEPT AS HEREIN MODIFIED.

THE WORK SHALL INCLUDE THE PAINTING OF THE BACK OF THE MAST ARM MOUNTED STREET NAME SIGNS FLAT BLACK. THIS ITEM SHALL ALSO INCLUDE ALL NECESSARY HARDWARE FOR INSTALLATION TO THE MAST ARMS. THE EXPOSED HARDWARE SHALL BE STAINLESS STEEL. THE TYPE OF PAINT SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO USE AND SHALL BE CAPABLE TO ADHERE TO ALUMINUM AND STAINLESS STEEL.

THE CITY OF VANDALIA WILL PROVIDE THE STREET NAME SIGNS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ATTACHING THE STREET NAME SIGN TO THE APPROPRIATE MAST ARM AS PER PLAN.

PAYMENT FOR ITEM 630 SIGN, STREET NAME, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN, FLAT SHEET, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 630 TRAFFIC SIGNS AND SIGN SUPPORTS, EXCEPT AS HEREIN MODIFIED.

THE WORK SHALL INCLUDE THE PAINTING OF THE BACK OF THE MAST ARM MOUNTED FLAT SHEET SIGNS FLAT BLACK. THE TYPE OF PAINT SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO USE AND SHALL BE CAPABLE TO ADHERE TO ALUMINUM.

PAYMENT FOR ITEM 630 SIGN, FLAT SHEET, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT SQUARE FOOT PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATION 630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL REMOVE THE EXISTING IR-75 OVERHEAD GUIDE SIGN AND REINSTALL ON THE PROPOSED SP-3 SIGNAL SUPPORT POLE. THE SIGN SHALL UTILIZE A CENTER MOUNTED OVERHEAD SUPPORT TYPE TC-9.31. ITEM 630 OVERHEAD SIGN SUPPORT TYPE 9.31 WILL BE PAID BY A SEPARATE BID ITEM.

PAYMENT FOR ITEM 632 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK

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

1. SIGNAL HEADS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.
4. PIPE SPACERS AND FITTINGS SHOULD BE CONSTRUCTED OF GALVANIZED STEEL OR ALUMINUM AND HAVE A BLACK FINISH, INCLUDING MAST ARM ATTACHMENT STEEL CABLES.
5. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
6. ALL SIGNAL HEADS AND SIGNS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH YELLOW LENS LOCATED IN FRONT OF THE MAST ARM.
7. ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.
8. THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE THE ENGINEER, 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.
9. SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.
10. SIGNAL HEADS SHALL INCLUDE CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.
11. APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.
12. BALANCE ADJUSTERS SHALL NOT BE USED ON RIGID MOUNTED HEADS OR TETHERED HEADS.
13. ALL SIGNAL HEADS SHALL BE FIELD LOCATED AND APPROVED BY THE ENGINEER BEFORE FINAL WIRING.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK AND ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 TRAFFIC SIGNAL EQUIPMENT, THE SIGNAL SUPPORT FOUNDATIONS SHALL BE INSTALLED PER 632.14 AND HAVE A FINISHED ELEVATION FLUSH TO THE SIDEWALK (WHERE APPLICABLE) WHEN WITHIN 6" OF THE SIDEWALK.

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD. THEN, THE CONTRACTOR SHALL MEET THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORTS.

DUE TO THE FURTHER POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATION FOR THIS ITEM, AND CONSEQUENTLY, THE DESIGN OF THE SUPPORT AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THE ITEM UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED, AT FINAL GRADE, AND THE CONTRACTOR HAS RECEIVED, FROM ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THE ITEM.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAINTAINING AGENCY, WHO WILL DETERMINE THE REVISED LOCATION AND IF NEEDED, THE SUPPORT DESIGN. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT.

THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

A 3" CONDUIT ELL IN LIEU OF A STANDARD 2" CONDUIT ELL SHALL BE INSTALLED IN EACH SIGNAL SUPPORT FOUNDATION AS REQUIRED BY ODOT SCD TC-21.21. SEE THE POLE ORIENTATION DIAGRAM FOR THE RESPECTIVE TRAFFIC SIGNAL PLAN FOR FURTHER INFORMATION.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN.

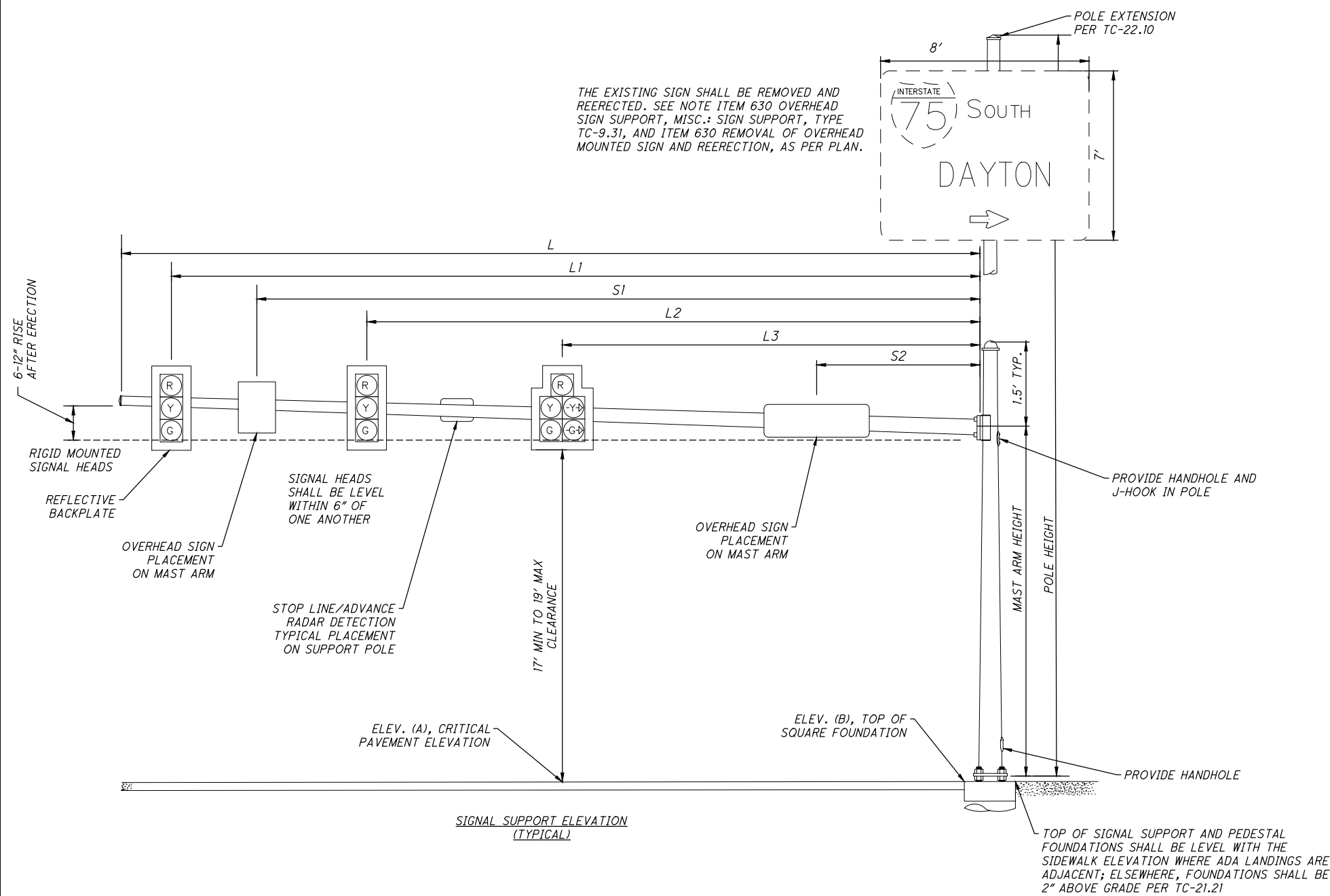
PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 632 POWER SERVICE, AS PER PLAN

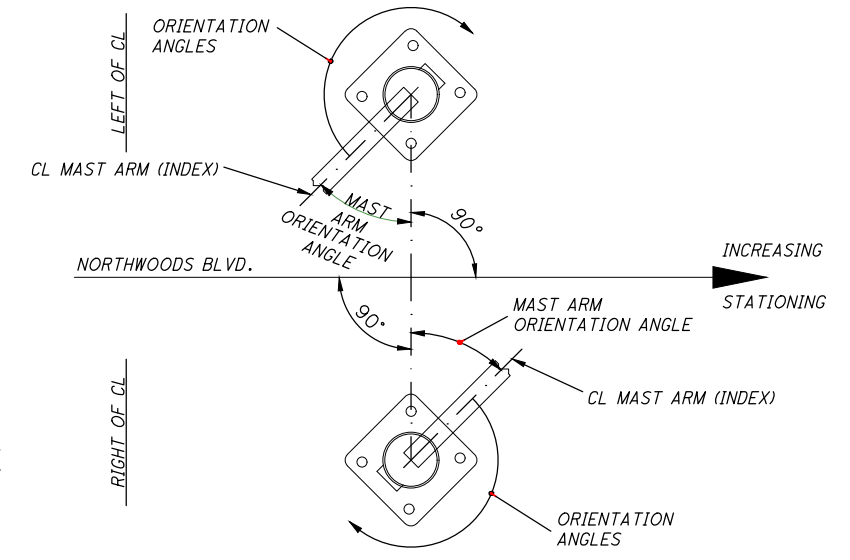
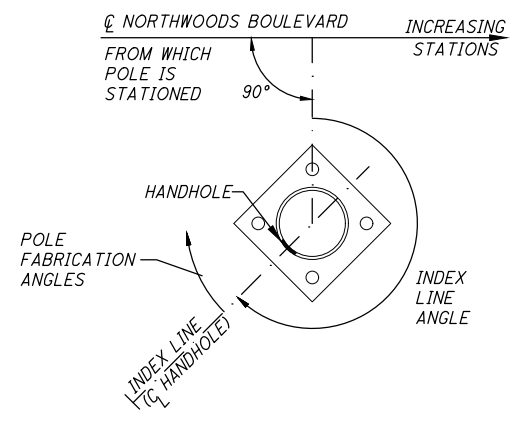
IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 AND 732 AND SCD TC-83.10, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. THE POWER SHALL BE PROVIDED FROM THE EXISTING ITS/HIGHWAY LIGHTING METER NEAR STATION 107+02.50, 45.76' LT.
2. THE DISCONNECT SWITCH SHALL BE MOUNTED ON THE WEST SIDE OF THE METER, OR THE NORTH SIDE OF THE EXISTING UTILITY POLE AT STA. 107+02.50, 45.76' LT. THE DISCONNECT WILL USE THE ADDITIONAL PUNCHOUT OF THE OWNER SIDE OF THE METER. THE CONTRACTOR SHALL ALSO PROVIDE THE CONDUIT RISER FOR THE POWER SERVICE FEED TO THE CONTROLLER CABINET AND THE RISER TO GROUND THE POWER SERVICE. THESE ITEMS SHALL BE INCIDENTAL TO THIS PAY ITEM.
3. DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.
4. THE CONTRACTOR SHALL CONTACT AES OHIO, ODOT AND THE PROJECT ENGINEER FOR INFORMATION REGARDING THE POWER SERVICE INSTALLATION PRIOR TO ORDERING POLES AND CABINET. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120/240 VOLTS.

PAYMENT FOR ITEM 632 POWER SERVICE, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.



PEDESTRIAN POLE ORIENTATION DETAIL



MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS			SIGNAL SUPPORT DETAILS							ORIENTATION ANGLES FROM MAST ARM				
			A (PAVEMENT ELEVATION)	B (TOP OF FOUNDATION)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	MAST ARM ATTACHMENT HEIGHT	BOTTOM OF IR-75 SIGN	L	L1	L2	L3	S1	S2	MAST ARM A ANGLE	SIGNAL CONDUIT ELL	BASE HANDHOLE	MAST ARM HANDHOLE
SP-1	107+31.80	59.27' LT	977.04	974.30	TC-81.22	*14	27.5	22.5	-	65	58.5	47	35.5	60.5	30.5	0	90	180	180
SP-2	107+31.63	49.30' RT	977.10	976.16	TC-81.22	14	22	20.5	-	50	45.5	35	21	-	28	90	30	180	180
SP-3	108+36.10	50.16' RT	979.34	977.95	TC-81.22	14	33	21	25	57	37.5	26	-	49.5	-	0	215	180	180

*MECHANICAL DAMPER FOR TC-81.22 MAST ARM (GREATER THAN 59' IN LENGTH) INCLUDED AND PAID UNDER ITEM 632 SIGNAL SUPPORT.