# 103

# LIGHTING

#### PROPOSED WORK

IT IS THE INTENT OF THESE PLANS TO REPLACE THE EXISTING RICHMOND STREET (S.R. 283) INTERCHANGE LIGHTING WITH A COMPLETE NEW LIGHTING SYSTEM. ADDITIONAL WORK INCLUDES THE PROVIDING OF POWER (110 VOLTS) TO THE ILLUMINATED TRAFFIC CONTROL SIGNS ELSEWHERE ON THIS PROJECT.

#### SEQUENCE OF OPERATIONS

THE EXISTING LIGHTS SHALL REMAIN OPERATIVE UNTIL THE PROPOSED LIGHTING IS IN PLACE AND READY TO BE CONNECTED TO THE EXISTING CIRCUIT. THE FOLLOWING SEQUENCE OF OPERATIONS SHALL BE USED:

- 1.) CONSTRUCT EMBANKMENT (IF REQUIRED)
- •) INSTALL FOUNDATIONS
- 3.) CONSTRUCT UNDERGROUND CIRCUITS AND INSTALL LIGHT STANDARDS
- CONNECT NEW CIRCUIT INTO EXISTING CIRCUIT
- REMOVE EXISTING LIGHT STANDARDS, FOUNDATIONS AND PULLBOXES

#### SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THESE PLANS.

#### GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

PAINESVILLE ELECTRIC POWER COMPANY 7 RICHMOND STREET PAINESVILLE, OH 44077

THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP WITH A MAXIMUM UNIFORMITY RATIO OF 4.0 TO 1 FOR CONVENTIONAL UNITS. SUPPLIED POWER SHALL BE 480 VOLT, 2 WIRE, ONE SIDE GROUNDED.

#### ITEM SPECIAL - PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND DUCT CABLE OR NON-METALLIC CONDUIT, WHEN INSTALLED IN LOCATIONS OTHER THAN THE NORMAL OR ALTERNATE TRENCH ALIGNMENT SHOWN ON STANDARD CONSTRUCTION DRAWING HL-20-11, SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL. APPROXIMATELY 6" WIDE, COMPOSED OF POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE BRIGHT YELLOW WITH IDENTIFYING PRINTING "ELECTRIC" IN BLACK LETTERS, ONE SIDE ONLY. TAPES SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. IDENTIFYING TAPES SHALL BE BURIED IN THE ELECTRIC LINE TRENCH WITH ONE STRIP PLACED APPROXIMATELY DOWN THE CENTER AND LOCATED APPROXIMATELY 8" TO 12" BELOW THE FINAL FINISHED GRADE. THE TAPE SHALL BE PLACED IN THE TRENCH WITH PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED. DISTORTED OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL. TAPE SHALL BE ALLEN SYSTEMS, TERRA TAPE, TECTA TAPE OR AN APPROVED EQUAL. PAYMENT SHALL BE PER LINEAR FOOT OF "ITEM SPECIAL - PLASTIC CAUTION TAPE", COMPLETE AND IN PLACE

# LUMINAIRES

STYLE B LUMINAIRES SHALL HAVE SINGLE RATED 480 VOLT, 200 WATT, INTEGRAL REGULATOR BALLAST FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M400, CROUSE-HINDS OVM, AMERICAN 25/26, OR EQUAL APPROVED BY THE ENGINEER.

### LAMPS-HIGH PRESSURE SODIUM (HPS)

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX", CROUSE-HINDS "CERAMALUX", SYLVANIA "LUMALUX", OR EQUAL APPROVED BY THE ENGINEER.

#### HAZARDOUS MATERIAL

NO MATERIAL FURNISHED UNDER THIS SPECIFICATION SHALL CONTAIN POLYCHLORINATED BIPHENYLS (PCB'S). TRANSFORMERS, BALLASTS AND CAPACITORS SHALL BE MARKED "NO PCB'S" IN ACCORDANCE WITH FEDERAL ENVIRONMENTAL PROTECTION AGENCY REGULATION 40 CFR 761.

#### STANDARD CONSTRUCTION DRAWING HL-10-13

POLE BASE DETAILS SHOWN ON THIS DRAWING ARE ESSENTIALLY FOR GALVANIZED STEEL POLES. FOR ALUMINUM DESIGNS, OR OTHER PERMITTED STEEL MATERIAL DESIGNS, VARIATIONS FROM THESE DETAILS WILL BE ACCEPTABLE, AS APPROVED BY THE ENGINEER.

# REMOVAL OF EXISTING ITEMS

SUPPLEMENTING ITEM 202 OF THE SPECIFICATIONS, THE CONTRACTOR SHALL REMOVE EXISTING ROADWAY LIGHTING UNITS, POLE AND FOUNDATION, AND THE ADJACENT PULLBOX WHERE DESCRIBED IN THE PLANS.

THE CONTRACTOR SHALL CAREFULLY REMOVE AND STORE ON THE PROJECT, AT THE LOCATION SPECIFIED BY THE ENGINEER, THE LIGHT POLE, BRACKET ARM, LAMP AND LUMINAIRE AND ANY OTHER INCIDENTAL ITEMS DETERMINED TO BE SALVAGEABLE BY THE ENGINEER. CIRCUIT CABLE IS TO BE ABANDONED IN PLACE OR REMOVED AS DIRECTED IN THE PLANS. WHEN SUFFICIENT SALVAGEABLE LIGHTING MATERIALS HAVE BEEN REMOVED AND STORED THE CONTRACTOR SHALL CONTACT THE CITY OF PAINESVILLE TO ARRANGE FOR PICK UP BY CITY FORCES. ALL NON-SALVAGEABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

# ITEM 202 - LIGHT POLE FOUNDATION REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE FOUNDATION TO A MINIMUM OF ONE FOOT BELOW FINISHED GRADE. BACKFILLING THE RESULTANT DEPRESSION WITH COMPACTED SOIL AND RESTORING THE DISTURBED AREA. WHEN THE FOUNDATION ABUTS A CONTIGUOUS PULLBOX THE REMOVAL OF SAID PULLBOX SHALL BE CONSIDERED AS INCIDENTAL TO THE REMOVAL OF THE LIGHT POLE FOUNDATION.

# ITEM 202 - PULL BOX REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING PULL BOX WHICH SHALL THEN BE PROPERLY DISPOSED OF OFF THE PROJECT SITE. THE RESULTANT OPENING SHALL THEN BE BACKFILLED TO GRADE WITH SUITABLE COMPACTED SOIL AND RESTORED TO MATCH THE SURROUNDING AREA.

# ITEM 202 - LUMINAIRE REMOVED FOR STORAGE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE AND STORING IT ON THE PROJECT SITE FOR REMOVAL BY CITY OF PAINESVILLE FORCES.

#### ITEM 202 - LIGHT POLE REMOVED FOR STORAGE

THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL OF THE EXISTING LIGHT POLE AND BRACKET ARM AND STORING IT ON THE PROJECT FOR PICK-UP BY CITY FORCES.

#### ITEM 603 - UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHEREVER POSSIBLE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE TO DRAIN BOTH EXISTING AND PROPOSED PULLBOXES:

# ITEM 625 - CONDUIT CLEANED AND CABLES REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF LOCATING AND CLEANING AN EXISTING CONDUIT OF ALL EXISTING CABLES, MUD, AND DEBRIS SO THAT NEW CABLES MAY BE INSTALLED. INCIDENTAL TO THE CLEANING IS THE INSTALLATION OF BUSHINGS AND/OR COUPLINGS ON THE ENDS OF THE EXISTING CONDUIT AS REQUIRED. UPON THE EXPOSING OF THE EXISTING CONDUIT ENDS BY THE CONTRACTOR THE ENGINEER WILL DETERMINE WHETHER THIS ITEM SHALL BE USED OR A NEW DUCT INSTALLED BY TRENCHING (SEPARATE PAY ITEM). THE REMOVAL OF OBSTRUCTIONS FROM DRAIN OUTLETS SHALL BE INCIDENTAL TO THE CONDUITS CLEANED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE PROJECT SITE. DISTURBED AREAS SHALL BE PROPERLY RESTORED.

PAYMENT WILL BE MADE FOR EACH LINEAR FOOT OF ITEM 625 "CONDUIT CLEANED AND CABLES REMOVED, AS PER PLAN" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE INSTALLATION IN A SATISFACTORY WORKMANLIKE MANNER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE.

#### ITEM 625 - JUNCTION BOX, TYPE II, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE CONSTRUCTION OF A STRUCTURE JUNCTION BOX AND ALL APPURTENANCES AS SHOWN ON SHEET NO. 135.

TO MAINTAIN THE CONTINUITY OF THE EXISTING STRUCTURE GROUNDING SYSTEM TO THE PROPOSED JUNCTION BOXES AND CONDUITS THE CONTRACTOR SHALL PROVIDE AND INSTALL A COPPER GROUNDING CABLE BETWEEN THE GROUNDING BUSHING ON THE CONDUIT AT THE JUNCTION BOX AND THE EXISTING GROUNDED ANCHOR BOLT. THIS CABLE SHALL BE ROUTED THROUGH THE LIGHTING CONDUIT. FOR ADDITIONAL DETAILS SEE STANDARD CONSTRUCTION DRAWING HL-50.21. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE WHICH ANCHOR BOLT WAS ORIGINALLY GROUNDED.

ALL COSTS FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 625 - JUNCTION BOX, TYPE II, AS PER PLAN

#### ITEM 625 - TRENCH IN PAVED AREAS, TYPE B, AS PER PLAN

THIS ITEM OF WORK SHALL BE AS SHOWN ON THE DETAIL ON SHEET NO. 111

WHEN THE EXISTING CONDUITS UNDER PAVEMENT ARE DEEMED UNUSABLE, AS DETERMINED BY THE ENGINEER, THE PROPOSED CABLE OR CONDUIT SHALL BE INSTALLED BY TRENCHING. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO PERFORM THIS WORK AS OUTLINED ABOVE:

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ITEM 625 -	TRENCH IN PAVED AREAS, TYPE B, AS PER PLAN	230 L.F
ITEM 625 -	TRENCH, 24" DEEP	<u>60</u> L • F
ITEM 625 -	CONDUIT, 3" METAL, 713.04	230 L.F

THIS WORK SHALL BE DONE A MINIMUM OF TWO WEEKS PRIOR TO RESURFACING.