GENERAL NOTES

625 PEDESTRIAN PUSHBUTTON, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 632 AND 732.06, PEDESTRIAN PUSHBUTTONS SHALL HAVE THE FOLLOWING:

1. INCORPORATE A "PALM" TYPE PUSHBUTTON.
2. THE PUSHBUTTON SHALL BE RAISED OR FLUSH AND SHALL BE A MINIMUM OF OF 51 mm (2 INCHES) AT ITS SMALLEST DIMENSION.
3. THE MAXIMUM FORCE SHALL BE 22.2 N (5 POUNDS PER FOOT).
4. THE PUSHBUTTONS SHALL ALSO HAVE THEIR HOUSING SEALED WITH A SILICONE SEALANT TO THE SIGNAL POLE OR PEDESTAL.

632 VEHICULAR SIGNAL HEAD, (BY SIZE AND BY TYPE), AS PER PLAN

SECTION 732.01 OF THE SPECIFICATIONS IS MODIFIED FOR THIS PROJECT AS FOLLOWS:

A) SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF INJECTION MOLDED, UV STABILIZED, POLYCARBONATE PLASTIC AND MEET I.T.E. SPECIFICATIONS.

B) PLASTIC LENSES SHALL BE USED.

C) PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

D) SIGNAL HEADS SHALL BE RIGIDLY MOUNTED AS SHOWN ON TC-85.20M OR ALTERNATE RIGID SIGNAL HEAD MOUNTING DEVICES AS SPECIFIED IN NOTE 5 ON TC-85.20M.

632 PEDESTRIAN SIGNAL HEAD, TYPE D2, AS PER PLAN

SECTION 732.05 OF THE SPECIFICATIONS IS MODIFIED FOR THIS PROJECT AS FOLLOWS:

A) PEDESTRIAN SIGNAL HOUSINGS MAY BE CONSTRUCTED OF POLYCARBONATE PLASTIC. IF POLYCARBONATE IS SUPPLIED, THEN THEY SHALL BE INJECTION MOLDED, UV STABILIZED, AND MEET I.T.E. SPECIFICATIONS.

B) VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET I.T.E. SPECIFICATIONS.

C) PLASTIC LENSES SHALL BE USED.

D) PIPE, SPACERS, AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

E) SIGNALS SHALL BE ATTACHED TO POLES AS SHOWN ON TC-85.10M.

F) SIGNALS SHALL DISPLAY THE INTERNATIONAL SYMBOLS OF THE UPRAISED PALM AND WALKING PERSON IN LIEU OF WORD MESSAGES.

632 LOOP DETECTOR UNITS, BY TYPE, AS PER PLAN
632 MAGNETOMETER DETECTOR UNITS, BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732.07, 732.08 OR 732.09, LOOP OR MAGNETOMETER DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OR FEATURES:

THE OUTPUT DEVICE SHALL BE A RELAY, AND ALL CONTACTS SHALL BE INCLUDED IN THE WIRE HARNESS.

THE UNITS ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY REPLACEMENT WITH A SINGLE CHANNEL AMPLIFIER AS DESCRIBED IN THE FINAL PARAGRAPH OF 732.07.

THE LOOP AND MAGNETOMETER DETECTOR UNITS FOR NON-SYSTEM LOOPS SHALL HAVE TWO (2) OUPUTS. ONE OUTPUT TO BE PRESENCE AND THE OTHER TO BE PULSE TO ENABLE ACCURATE COUNTING OF VEHICLES ENTERING THE LOOP OR MAGNETOMETER EVEN WHEN PRECEDING VEHICLES REMAIN PRESENT OVER THE LOOP. THE COUNT OUTPUT SHALL BE WIRED TO THE SYSTEM INPUT OF THE TRANSCEIVER MODULE. THE PRESENCE OUTPUT SHALL WIRED TO THE CONTROLLER'S DETECTOR INPUT AND THE TRANSCEIVER MODULE'S GRAPHICS DETECTOR INPUT.

THE UNIT SHALL BE SELF TUNING.

EACH AMPLIFIER SHALL BE NUMBERED TO CORRESPOND WITH ITS LOOP OR MAGNETOMETER NUMBER. THE LOOP OR MAGNETOMETER NUMBERS ARE SHOWN ON EACH PLAN SHEET.

632 SIGNAL SUPPORT, (BY TYPE AND DESIGN), AS PER PLAN - (ENGLISH UNITS)

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732.11, SIGNAL SUPPORTS SHALL HAVE THE FOLLOWING REQUIREMENTS:

THE SUPPORTS SHALL HAVE THE INTERIOR AIR SPRAYED WITH A RUST INHIBITIVE WAX BASE COATING. THE OUTSIDE SHALL BE SANDBLASTED TO SSPC-SP6 COMMERCIAL BLAST AND PRIMERED WITH TILE CLAD II HI-BUILD PRIMER B62 N71/B60V70 AT 3 TO 4 MILS DRY FILM. THE OUTSIDE SHALL HAVE ONE COAT OF POLANE POLYURETHANE ENAMEL 1 TO 2 MILS OF FEDERAL BLACK COLOR NUMBER 17038 APPLIED.

THE POLE SHALL CONSIST OF A SHAFT FABRICATED FROM A MINIMUM OF 7 GAUGE (.179 IN.) HOT ROLLED COMMERCIAL STEEL. THE SHAFT SHALL BE COLD ROLLED OVER A HARDENED STEEL MANDREL USING HYDRAULIC PRESSURE TO PROVIDE NO EXTERNALLY VISIBLE LONGITUDINAL WELDS. THE POLE SHALL MEET THE CHEMICAL AND PHYSICAL PROPERTIES OF ASTM-A595 GRADE A WITH A 55,000 PSI MINIMUM YIELD. THE CROSS SECTION OF THE SHAFT SHALL HAVE SIXTEEN (16) EQUALLY SPACED CRISP FLUTES WITH THE RADIUS OF THE FLUTE'S CREST NOT TO EXCEED THE THICKNESS OF THE MATERIAL. THE SHAFT SHALL BE ONE PIECE CONSTRUCTION WITH A CONTINUOUS TAPER OF 0.14 INCHES PER FOOT.

THE MAST ARM SHALL CONSIST OF A TAPERED STEEL SHAFT, FABRICATED FROM A MINIMUM 11 GAUGE (.120 IN.) HOT ROLLED COMMERCIAL STEEL. THE CROSS SECTION OF THE ARM SHALL HAVE EIGHT (8) EQUALLY SPACED FLUTES. IT SHALL HAVE A TAPER OF 0.14 INCHES PER FOOT AND MEET THE CHEMICAL AND PHYSICAL PROPERTIES OF ASTM-A595 GRADE A WITH A 55,000 PSI MINIMUM YIELD. ARM DIMENSIONS SHALL BE DESIGNED IN ACCORDANCE WITH 90 MPH AASHTO REQUIREMENTS. MAST ARM SHALL BE MONOCURVE FLANGE PLATE MOUNTED WITH A 60 INCH RISE AND SHALL INCLUDE A STEEL ARM PLATE WITH FOUR (4) CONNECTING BOLTS CONFORMING TO THE REQUIREMENTS OF ASTM-A325.

THE SUPPORTS SHALL INCLUDE AN ORNAMENTAL BASE ASSEMBLY. THE BASE SHALL BE AN ALUMINUM TWO PIECE SPLIT CLAM SHELL WITH TWO (2) REMOVABLE DOORS AT 180 DEGREES. THE BASE SHALL BE 45 INCHES IN HEIGHT AND 30 INCHES IN DIAMETER AT THE BASE.

ANCHOR BOLTS SHALL BE A MINIMUM OF FOUR (4) WITH DOUBLE HEX NUTS AND WASHERS. NUTS, WASHERS AND THREADED AREAS OF ANCHOR BOLTS SHALL BE HOT-DIPPED GALVANIZED TO ASTM-A153. ANCHOR BOLTS SHALL HAVE A 55,000 PSI MINIMUM YIELD STRENGTH.

THE FOLLOWING INTERSECTIONS WILL HAVE THESE TYPES OF SUPPORTS AND PEDESTALS:

1. MAIN ST/ERIE ST/WATSON ST/ WOOD ST - PAGE 36
2. MENTOR ST AND LIBERTY ST - PAGE 45
3. MAIN ST AND ST. CLAIR ST - PAGE 61
4. MAIN ST AND STATE ST - PAGE 65

THE SUPPORTS AND PEDESTALS SHALL BE LIMITED TO THE FOLLOWING MANUFACTURERS AND MODEL OR APPROVED EQUAL:

1. UNION METAL COMPANY
   1432 MAPLE AVENUE, NE
   CANTON, OH 44705-1700
   PHONE: (330) 456-7653
   SUPPORT MODEL: 50608
   ORNAMENTAL BASE MODEL: SERIES 230
2. VALMONT INDUSTRIES, INC.
   P.O. BOX 358, HIGHWAY 275
   VALLEY, NEVADA 68064-0358
   PHONE: (402) 359-2201
   SUPPORT MODEL:
   ORNAMENTAL BASE MODEL:
3. VISCO
   29579 AWBREY LANE
   EUGENE, OREGON 97402
   PHONE: 1-800-341-1444
   SUPPORT MODEL:
   ORNAMENTAL BASE MODEL:

632 PEDESTAL, 2.4 m, TRANSFORMER BASE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732.15, PEDESTALS SHALL HAVE THE FOLLOWING REQUIREMENTS:

THE PEDESTALS SHALL BE INSTALLED IN THE LOCATIONS SHOWN IN THE PLANS AND SHALL MEET ALL OF THE MATERIAL AND COATING REQUIREMENTS FOR ITEM 632, SIGNAL SUPPORT, AS PER PLAN AS STATED ABOVE.

632 INTERCONNECT CABLE, INTEGRAL MESSENGER WIRE TYPE, 6 PAIR NO. 19 AWG, SOLID, REA (PE-38), AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING INTERCONNECT CABLE AS FOLLOWS:

1. WHERE INTERCONNECT CABLE IS TO BE PLACED IN CONTROLLERS, POLES, CONDUITS, CONDUIT RISERS AS SHOWN ON THE PLAN, THE CONTRACTOR SHALL CAREFULLY REMOVE THE MESSENGER WIRE AND JACKET WEB FROM THE CABLE WITHOUT DAMAGING THE INSULATION OR JACKET OF THE CABLE, USING A TOOL SPECIFICALLY DESIGNED AND SIZED FOR THIS PURPOSE. DEVIATIONS FROM THE CABLE ROUTING SHOWN IN THE PLAN, FOR THE SOLE PURPOSE OF REDUCING THE AMOUNT OF MESSENGER TO BE REMOVED, WILL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER.
2. THE CABLE SHALL BE INSTALLED WITH APPROXIMATELY ONE TWIST FOR EACH 4.5 METERS (15 FEET) OF SPAN LENGTH.
3. SPLICES SHALL OCCUR AT THE TERMINAL END OF THE HARDWARE INTERCONNECT PANEL AND AT OTHER LOCATIONS SHOWN IN THE PLANS. NO OTHER SPLICES SHALL BE PERMITTED.
4. PRUNING OF TREES IN ACCORDANCE WITH LA-1 TO PREVENT CONTACT WITH INTERCONNECT CABLE SHALL BE INCIDENTAL TO THE COST OF THE BID ITEM.
5. IN ADDITION TO THE REQUIREMENTS OF 632, WORK UNDER THIS ITEM INCLUDES THE INSTALLATION OF INTERCONNECT CABLE ON EXISTING UTILITY POLES OWNED BY THE CITY OF PAINESVILLE. BEFORE THE INTERCONNECT CABLE CAN BE ATTACHED TO UTILITY OWNED POLES, IT WILL BE NECESSARY FOR THE RESPECTIVE UTILITY COMPANY TO MAKE CERTAIN ALTERATIONS TO ITS EXISTING FACILITIES TO ENSURE THAT THE INTERCONNECT CABLE WILL BE ATTACHED IN A MANNER THAT MEETS THE PROVISIONS OF THE CITY OF PAINESVILLE ELECTRIC DEPARTMENT.
6. THE INTERCONNECT CABLE MUST BE INSTALLED ON A STAND-OFF BRACKET. THE LOCATION OF THE AFFECTED POLES CAN BE FOUND ON PAGE 95. THE SPECIFICATIONS OF THIS BRACKET CAN BE FOUND BY CONTACTING MR. GARY FAIRBANKS AT (440) 639-4826.

MEASUREMENT SHALL BE BASED UPON THE NUMBER OF LINEAR FEET "INTERCONNECT CABLE, INTEGRAL MESSENGER WIRE TYPE, 6 PAIR NO. 19 AWG, SOLID, REA (PE-38), AS PER PLAN" IN PLACE IN ACCORDANCE WITH THE METHOD DESCRIBED IN 632.28M.

PAYMENT FOR ALL LABOR, MATERIAL, TOOLS, EQUIPMENT, ARRANGING UTILITY ALTERATION WORK, REIMBURSEMENT FOR PAYING EACH UTILITY FOR ALTERATIONS AND OTHER INCIDENTIALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT INSTALLED FOR ITEM 632 INTERCONNECT CABLE, INTEGRAL MESSENGER WIRE TYPE, 6 PAIR, NO. 19 AWG, REA (PE-38), AS PER PLAN.

CALCULATED | CHECKED

GENERAL NOTES

LAKE COUNTY
LAK-20-22.916/VARIOUS