

12/14/2016 G:\0\Projects\T-2280 Cleveland St & Chestnut Ave - Enid, OK\CAD\18-31A INTERSECTION\QUANT SIG 2.dgn

**PAY QUANTITY NOTES**

- (TL-35) SEE SERVICE POLE SCHEDULE; FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE, CONTACT THE FOLLOWING PRIOR TO INSTALLATION:  
PERSON'S NAME.....JOMARA ORTIZ  
WITH THE COMPANY/CITY OF.....ENID.  
COMPANY'S/CITY'S TELEPHONE NO. ....(580)484-9092.
- (TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- (1) POLYMER CONCRETE PULL BOXES SHALL BE USED.
- (2) SIGNAL EQUIPMENT REMOVED FROM THE PROJECT SHALL BECOME THE PROPERTY OF THE CITY AND SHALL BE DELIVERED TO A CITY YARD AS DESIGNATED BY THE ENGINEER. ALL REMOVED BROKEN CONCRETE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF AS DESCRIBED IN THE GENERAL NOTES.
- (3) ALL SIGNAL POLE AND MAST ARM ASSEMBLIES SHALL CONFORM TO ODOT MINIMUM STANDARDS, INCLUDING WIND AND ICE LOADING. SIGNAL POLE, MAST ARM AND LUMINAIRE ARM ASSEMBLIES SHALL BE PELCO PART NUMBERS SP-3080-OK-30, SP-3080-OK-50, SP-3056-OK-30, AND SP-3056-OK-50, THAT INCLUDE THE ORNAMENTAL POLE TOPS, ORNAMENTAL POLE BASES AND ANCHOR BOLTS. ALUMINUM POLE TOPS AND POLE BASES SHALL BE POWDER COATED TEXTURED BLACK (P59) OVER HOT DIP GALVANIZE. ALL SIGNAL POLES THAT HAVE LUMINAIRES SHALL HAVE A 4"x6" REINFORCED HAND HOLE WITH GALVANIZED AND POWDER COATED P59 COVER AT THE MAST ARM. ALL SIGNAL POLES SHALL HAVE ITC ACCESS COMPARTMENT ASSEMBLY WITH COMPRESSION TYPE TERMINAL BLOCKS IN ACCORDANCE WITH PELCO PART NUMBER AP-1083, LESS THE COVER.
- (4) THE HAND HOLES AT THE BASE OF THE POLES SHALL BE PLACED AT 135 DEGREES CLOCKWISE FROM THE MAST ARMS IN ORDER TO AVOID CONFLICTS WITH THE PEDESTRIAN PUSH BUTTONS AND SIGNS BEING INSTALLED ON THIS PROJECT.
- (5) THE PEDESTRIAN POLES SHALL MATCH THE DECORATIVE DESIGN OF THE SIGNAL POLES EXACTLY WITH ORNAMENTAL POLE TOPS AND BASES WITH THE SAME POWDER COATED TEXTURED BLACK (P59) COLOR.
- (6) THIS PAY ITEM IS FOR THE INSTALLATION OF 2 PELCO HARRISBURG LIGHT FIXTURES, MODEL NO. AP-7501-136W-60LED- (12) 4K-480V-NPC-T3PL-P59, OR APPROVED EQUAL, TO BE INSTALLED ON THIS PROJECT.
- (7) THIS PAY ITEM IS TO BRING POWER TO THE CONTROLLER CABINET FROM THE SERVICE POLE.
- (8) THE CONTROLLER(S) TO BE FURNISHED ON THIS PROJECT SHALL HAVE BE VEHICLE ACTUATED SOLID STATE DIGITAL CONTROLLER(S) WITH VOLUME DENSITY FEATURES. THE CONTRACTOR SHALL FURNISH THE CONTROLLER(S) AND MOUNTING FRAMES AS FOLLOWS:  

INTERSECTION	TYPE	CONFLICT & USER FLASH
CLEVELAND ST. & CHESTNUT AVE.	8 PHASE	ALL RED

THE CONTROLLER(S) WITH 2P - 4P CAPABILITY SHALL BE FURNISHED WITH 8 LOAD RECEPTACLE BAYS. CONTROLLER(S) WITH 5P - 8P CAPABILITY SHALL BE FURNISHED WITH 16 LOAD SWITCH RECEPTACLE BAYS. ALL CORRESPONDING RECEPTACLE WIRING IN THE CABINET AND FIELD WIRING SHALL BE INSTALLED FOR THE CONTROLLER AS REQUIRED EXCEPT FOR ADDITIONAL DETECTOR CONNECTING CABLES WHEN THE CONTROLLER IS EXPANDED. THE CONTROLLER(S) SHALL BE CAPABLE OF PERFORMING AS SHOWN ON PHASE & SEQUENCE DIAGRAMS. PEDESTRIAN ISOLATION SHALL BE PROVIDED IN THE CONTROLLER CABINET. ALL N.E.M.A. FUNCTIONS SHALL TERMINATE IN THE CONTROLLER CABINET.

CABINET SHALL HAVE A 120V RECEPTACLE INSTALLED INSIDE OF THE CABINET IN ADDITION TO OR IN LIEU OF A RECEPTACLE INSTALLED ON THE DOOR. ALSO, ALL CABINETS THAT ARE TO BE INSTALLED IN A SIGNAL INTERCONNECT SYSTEM SHALL HAVE A PULL- OUT COMPUTER SHELF AND DRAWER INSTALLED FOR LAPTOP USE AT THE CONTROLLER CABINET.
- (9) CONTROLLER SHALL BE EQUIPPED WITH CONTINUOUS POWER UNIT. THIS UNIT SHALL PROVIDE 400 WATTS OF CONTINUOUS POWER FOR A MINIMUM OF 8 HOURS. THIS UNIT SHALL ALSO INCLUDE BATTERIES, CABINET, WIRING AND PAD IF NECESSARY. THIS POWER UNIT SHALL INCLUDE AN INTERCHANGEABLE HARD DISK THAT IS CAPABLE OF STORING AND RETRIEVING ALL ACTIVITY DATA, SUCH AS TIME, DATE, AND DURATION OF EVENTS. ALSO THE SURGE PROTECTORS TO BE SUPPLIED ON THIS PROJECT FOR THE TRAFFIC SIGNALS SHALL BE INNOVATIVE TECHNOLOGY, INC. SURGE PROTECTORS, MODEL NO. HS-P-SP-120A-60A-RJ, OR APPROVED EQUAL.
- (10) THE CONTROLLER AND CONTINUOUS POWER UNIT CABINETS SHALL BOTH BE BLACK POWDER COAT, PELCO POWDER COAT NUMBER P-59, IN ORDER TO MATCH THE TRAFFIC SIGNAL POLES EXACTLY.


- (11) THIS PROJECT INVOLVES THE INSTALLATION OF A VIDEO VEHICLE DETECTION SYSTEM. THEREFORE, THE CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING:
  - A. A PEEK VIDEO TRAK, ITERIS, OR ECONOLITE AUTOSCOPE SOLO TERRA 8 CHANNEL PROCESSOR (OR APPROVED EQUAL) VEHICLE DETECTION SYSTEM UNIT INCLUDING A LAPTOP COMPUTER. ALL NECESSARY CABLES, HARNESSSES, MATERIALS, FITTINGS AND MISCELLANEOUS COMPONENTS NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM AT ONE (1) INTERSECTION. MINIMUM SPECIFICATIONS FOR THE COMPUTER SYSTEM - INTEL 4TH GENERATION CORE I7 2.3 GHz PROCESSOR, 16 GB RAM, 1 TB HARD DRIVE, DIGITAL MEDIA READER AND USB 2.0 PORTS.
  - ANY "APPROVED EQUAL" SHALL BE APPROVED BY BOTH TRAFFIC ENGINEERING DIVISION OF ODOT AND THE CITY. SUCH A SYSTEM SHALL BE CONSIDERED EXPERIMENTAL UNTIL A 12 MONTH TEST PERIOD HAS PROVEN THAT THE SYSTEM CAN OPERATE SUCCESSFULLY WITH NO PROBLEMS. AT THE END OF THE 12 MONTH TEST PERIOD BOTH THE TRAFFIC ENGINEERING DIVISION OF ODOT AND THE CITY WILL NEED TO SIGN OFF THAT THE SYSTEM HAS OPERATED SUCCESSFULLY AND IS THEREBY APPROVED.
  - B. FOUR (4) CAMERAS WITH ZOOM LENSE CAPABILITY.
  - C. MODEMS AND CABLES SHALL BE FURNISHED AND INSTALLED TO ALLOW REMOTE DETECTOR SET UP AND RETRIEVAL OF DATA IN THE DETECTION UNIT.
  - D. HARNESSSES TO CONNECT AND OPERATE THE NEW SYSTEM IN THE LOCAL MAINTAINING AGENCY OFFICE.
  - E. VIDEO POWER CABLE SHALL BE AS PER THE MANUFACTURER SPECIFICATIONS.
  - F. VIDEO COAXIAL CABLE SHALL BE LOW LOSS PRECISION CABLE SUITED FOR OUTDOOR APPLICATION. VIDEO CABLE SHALL BE BELDON 8281, WEST PENN P 806, OR APPROVED EQUAL.
  - G. THE VIDEO FEEDBACK TO THE LOCAL MAINTAINING AGENCY OFFICE SHALL OCCUR OVER LOCAL TELEPHONE LINES.
  - H. ONE DAY OF TRAINING FOR CITY PERSONNEL IN THE USE AND MAINTENANCE OF THE SYSTEM SHALL BE PROVIDED BY A MANUFACTURERS REPRESENTATIVE. DOCUMENTATION OF THE TRAINING PROVIDED SHALL BE PROVIDED FOR THE ENGINEER.
- CONTRACTOR SHALL PROVIDE POLARA 2-WIRE NAVIGATOR ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON OR APPROVED EQUAL. R10-3E PEDESTRIAN PUSH BUTTON SIGNS SHALL BE USED.
- (13) RED, YELLOW AND GREEN LED TRAFFIC SIGNAL HEADS SHALL BE FURNISHED AND INSTALLED ON THIS PROJECT. THE LED TRAFFIC MODULES, LENSES, AND ALL ASSOCIATED MATERIAL AND EQUIPMENT SHALL CONFORM TO I.T.E. VEHICLE TRAFFIC CONTROL SIGNAL HEAD (VTC SH) STANDARDS IN EFFECT AT THE TIME THAT THE ORDER IS PLACED. LED HEADS SHALL BE CAPABLE OF OPERATING WITHOUT A REFLECTOR.
- (14) LED INTERNATIONAL HEADS DISPLAYING INCANDESCENT LOOKING FULLY-ILLUMINATED SYMBOLS (WALKING PERSON AND UPRaised HAND) SHALL BE REQUIRED ON THIS PROJECT.
- THESE PEDESTRIAN HEADS SHALL ALSO BE COUNTDOWN TYPE HEADS.
- (15) PAY ITEM IS TO RUN FROM THE PEDESTRIAN PUSH BUTTONS TO THE TERMINAL STRIP AT THE BASE OF THE POLES.
- (16) THE PREEMPTION CONTROL SYSTEM SHALL INTERFACE WITH THE TRAFFIC CONTROLLER TO GIVE EMERGENCY VEHICLES APPROACHING THE INTERSECTION A GREEN WITH ALL OTHER INDICATIONS BEING RED. THE SYSTEM SHALL BE CAPABLE OF TWO PRIORITY LEVELS AND LOG THE LAST 100 EVENTS WITH TIME DATE STAMP. EMITTER SHALL BE SELECTABLE TO TRANSMIT UP TO 9999 VEHICLE CODES. ALL EQUIPMENT IN THE SYSTEM SHALL MEET NEMA ENVIRONMENTAL STANDARDS.
- THE MANUFACTURER OR MANUFACTURER'S REPRESENTATIVES SHALL PROVIDE ASSISTANCE TO THE CONTRACTOR OR AGENCY INSTALLING THE EQUIPMENT AS TO THE BEST LOCATION FOR THE DETECTOR PLACEMENT AT EACH INTERSECTION INVOLVED WITH THE PROJECT. ALL EQUIPMENT MUST BE PLAINLY MARKED AS TO THE MANUFACTURER OF THE EQUIPMENT TO PROVIDE CLEAR IDENTIFICATION AS TO THE MANUFACTURER'S MODEL AND SERIAL NUMBER OF EACH UNIT. NEMA CERTIFICATION, TEST REPORTS SHALL BE PROVIDED UPON REQUEST BY THE ENGINEER.
- (17) THE STREET NAME SIGNS FOR THIS PROJECT SHALL BE "CLEAN PROFILE INTERNALLY-ILLUMINATED LED SIGNS" BY SOUTHERN MANUFACTURING, OR AN APPROVED EQUAL. THE SIGNS SHALL BE MOUNTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE PRICE BID FOR THIS ITEM SHALL INCLUDE ALL CONDUIT, CONNECTORS, WIRE AND INCIDENTAL EQUIPMENT TO MAKE THE SIGNS OPERATIONAL. THE CONTRACTOR SHALL ALSO VERIFY WITH THE POLE MANUFACTURER THAT THE SIGNAL MAST ARMS ARE DESIGNED FOR THE ADDITIONAL WEIGHT OF THESE ILLUMINATED SIGNS.
- (18) MAST ARM MOUNTED STREET NAME SIGNS SHOWN ON THE PLANS ARE LARGER THAN THE MAXIMUM SIZE USED IN STANDARD ODOT POLE AND FOOTING DESIGNS. THE CONTRACTOR AND SUPPLIER SHALL PROVIDE CERTIFICATION AND DESIGN CALCULATIONS FOR HIGHER LOADING REQUIREMENTS.

REVISIONS		
NO.	DESCRIPTION	DATE

*R. Wayne Russell*  
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**SIGNAL PAY QUANTITIES AND NOTES**  
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 Project No. R-1311A Sheet No. 8A