

09/28/17 G:\0\Projects\T-22024 Pedestrian Hybrid Beacon on Western north of I78th\CAD\QUANT PED.dgn

TRAFFIC SIGNAL GENERAL CONSTRUCTION NOTES

- (C-1) ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.
- (C-2) EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS. CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS.
- (C-3) THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES.
- (C-6) THE STRUCTURAL DESIGN OF ALL POLES, MAST ARMS, HIGH-MAST POLES, AND OTHER SUPPORTS FOR SIGNS, LUMINAIRES, AND SIGNALS, AS WELL AS THEIR CONNECTIONS, SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS. THE MANUFACTURER SHALL ENSURE THE FOLLOWING ARE APPLIED TO THE DESIGN:

 THE MINIMUM DESIGN WIND SPEED AND DESIGN LIFE AS REQUIRED IN THE AASHTO SPECIFICATIONS;

 THE CALCULATED STRESSES AND FORCES FROM THE DESIGN LOADINGS DO NOT EXCEED THOSE REQUIRED IN THE AASHTO SPECIFICATIONS;

 A CATEGORY I FATIGUE IMPORTANCE FACTOR (IF) FOR ALL STRUCTURES; NO VIBRATORY MITIGATION SHALL BE ALLOWED. TRUCK-INDUCED GUSTS SHALL BE APPLIED TO ALL OVERHEAD TRAFFIC SIGNAL SUPPORTS.

 ALL MEMBERS ARE AT LEAST THE MINIMUM THICKNESS AS REQUIRED IN THE AASHTO SPECIFICATIONS;

 LUMINAIRE MAST ARMS SHALL BE DESIGNED TO SUPPORT AT LEAST A 50 LB. (22.7 KG) LUMINAIRE WITH AN EFFECTIVE PROJECTED AREA OF 2.5 FT² (0.23 M²); THE ANCHOR BOLT DESIGN AND AMOUNT OF ANCHOR BOLTS TO BE USED SHALL BE AS REQUIRED IN THE AASHTO SPECIFICATIONS.

 SIGNAL MAST ARMS AND POLES SHALL BE DESIGNED FOR SPECIFIC SIGNAL HEAD AND SIGN PLACEMENT.

 UNLESS SITE SPECIFIC GEOTECHNICAL DATA IS AVAILABLE, FOUNDATIONS SHALL BE DESIGNED UTILIZING THESE PARAMETERS: SHEAR STRENGTH OF COHESIVE SOIL (C) OF 500 PSF, ANGLE OF INTERNAL FRICTION (?) OF 22 DEGREES, AND EFFECTIVE UNIT WEIGHT OF SOIL (?) OF 120 PCF.

 MINIMUM HAND HOLE SIZE OF 3 INCH WIDTH BY 5 INCH HEIGHT.
- (C-150) SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE TRAFFIC ENGINEERING DIVISION AT (405)521-2861.
- (C-151) THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.
- (C-152) ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
- (C-155) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:
 THE "OKIE" NOTIFICATION CENTER 811 OR (405)522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

TRAFFIC SIGNAL 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.....CHAD HARRIS. WITH THE COMPANY/CITY OF.....OKLAHOMA CITY. COMPANY'S/CITY'S TELEPHONE NO.(405) 297-2581.
- (TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- TS-20 CONTROLLER MUST BE ABLE TO COMMUNICATE OVER THE EXISTING CITY OF OKLAHOMA CITY VERIZON CELLULAR SYSTEM VIA A SIERRA AIRLINK GX440 MODEM PURCHASED THROUGH THE CITY OF OKLAHOMA CITY'S EXISTING CONTRACT WITH TURN KEY MOBILE AND INSTALLED BY THE CONTRACTOR. ALL DEVICES INSTALLED MUST BE COMPATIBLE WITH EXISTING CITY CELLULAR SYSTEM. THE CITY WILL VERIFY COMMUNICATION EXISTS WITH THE CONTROLLER AT THIS LOCATION PRIOR TO FINAL ACCEPTANCE. COST OF ALL EQUIPMENT AND INSTALLATION NECESSARY TO ESTABLISH COMMUNICATION WITH CITY OF OKLAHOMA CITY CELLULAR SYSTEM SHALL BE INCLUDED IN THE COST OF THIS ITEM.

 ELECTRONIC COPIES OF THE CONTROLLER CABINET SHEET SHALL BE PROVIDED TO THE CITY OF OKLAHOMA CITY VIA TRAFFICWARE. COST TO BE INCLUDED IN THIS ITEM.
- (1) POLYMER CONCRETE PULL BOXES SHALL BE USED.
- (2) 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.
- (3) THIS PAY ITEM IS TO BRING POWER TO THE CONTROLLER CABINET FROM THE SERVICE POLE.
- (8) CONTRACTOR SHALL PROVIDE POLARA 2-WIRE NAVIGATOR ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON OR APPROVED EQUAL. R10-3E PEDESTRIAN PUSH BUTTON SIGNS SHALL BE USED.
- (9) THE PRICE BID FOR THIS PAY ITEM SHALL INCLUDE THE FOLLOWING ITEMS NECESSARY FOR THE INSTALLATION OF A PEDESTRIAN HYBRID BEACON (PHB) SYSTEM.

 QTY. 1 - PHB TRAFFIC CONTROLLER CAPABLE OF PERFORMING AS SHOWN IN THE SEQUENCE AND TIMING SCHEDULE TABLE IN THE PLANS. TRAFFIC CONTROLLER TO BE COMPATIBLE WITH OKLAHOMA CITY ATMS.NOW CENTRAL COMPUTER SYSTEM.

 QTY. 1 - TWO PHASE TERMINAL FACILITY MODIFIED TO PROVIDE PLAN SIGNAL SEQUENCE. INCLUDING LOAD SWITCHES, FLASHERS, FLASH TRANSFER RELAY,MMU, NSM-3L CONFLICT MONITOR. ALL ENCLOSED IN A SIZE M ALUMINUM CABINET CONFIGURED FOR SIDE OF POLE MOUNTING AND INCLUDING MOUNTING BRACKETS. THE CABINET SHALL BE PROVIDED WITH 8 LOAD SWITCH POSITIONS ON THE BACK PANEL IN ORDER TO HANDLE THE SPECIAL PHASING OF THE SOLID/ALTERNATE FLASHING RED LIGHTS AT THIS SIGNAL.

 QTY. 4 - SINGLE SECTION, 12" PHB SIGNAL ASSEMBLY WITH YELLOW LED INDICATION. LED TO BE IN ACCORDANCE WITH THE LATEST ITE SPECIFICATIONS. THIS HEAD SHALL BE YELLOW IN COLOR.

 QTY. 8 - SINGLE SECTION, 12" PHB SIGNAL ASSEMBLY WITH RED LED INDICATION. LED TO BE IN ACCORDANCE WITH THE LATEST ITE SPECIFICATIONS. THIS HEAD SHALL BE YELLOW IN COLOR.

 QTY. 4 - PHB SIGNAL MOUNTING BRACKET ASSEMBLY CONSISTING OF ABO186-96 ASTRO-BRAC, INCLUDING ALL NECESSARY CONNECTING HARDWARE.

 QTY. 4 - MULTI PIECE, ALUMINUM BACKPLATE FOR PHB SIGNAL CONFIGURATION. THESE ITEMS SHALL BE BLACK IN COLOR.

 QTY. 1 ? SIERRA GX 440 MODEM WITH AC POWER AND NO WIFI. THIS ITEM IS TO BE PURCHASED ON THE OKLAHOMA CITY CONTRACT. TO PURCHASE THIS ITEM CONTACT MARK MCWHINNEY AT (405) 297-2817. THIS ITEM IS ALSO TO BE CONFIGURED BY THE CITY OF OKLAHOMA CITY IT DEPARTMENT PRIOR TO INSTALLATION.

- QTY. 1 ? ANTENNAPLUS AP-CELL/LTE ANTENNA IN THE COLOR WHITE. PART NUMBER AP-C-Q-ST-WH. ANTENNA IS TO BE MOUNTED ON THE TOP OF THE CONTROLLER CABINET VIA MOUNTING HARDWARE INCLUDED WITH THE ANTENNA. THIS ITEM IS TO BE PURCHASED ON THE OKLAHOMA CITY CONTRACT. TO PURCHASE THIS ITEM CONTACT MARK MCWHINNEY AT (405) 297-2817.
- (11) PAY ITEM IS TO RUN FROM THE PEDESTRIAN PUSH BUTTONS TO THE TERMINAL STRIP AT THE BASE OF THE POLES.

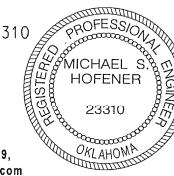
REVISIONS		
NO.	DESCRIPTION	DATE
1	UPDATED CATEGORY #	09/28/17

TRAFFIC SIGNAL PAY QUANTITIES				
Western Ave. & Signalized Pedestrian Crossing				
0302 TRAFFIC				
ITEM	DESCRIPTION	UNIT	PEDESTRIAN HYBRID BEACON	
802(B) 8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1) L.F.	45	
802(B) 8344	3" PVC SCH. 40 PLASTIC CONDUIT BORED	(TP-1) L.F.	100	
803(A) 8065	PULL BOX (SIZE I)	(1) EA.	2	
804(A) 2915	STRUCTURAL CONCRETE	(TP-1) C.Y.	6	
804(B) 2916	REINFORCING STEEL	(TP-1) LBS.	867.4	
806(A) 8726	POLE & 25' TS MST. ARM (G.STL.)	(2) EA.	1	
806(A) 8728	POLE & 30' TS MST. ARM (G.STL.)	(2) EA.	1	
810(A) 3118	SERVICE POLE	(TL-35) EA.	1	
811 8040	1/C NO. 6 ELECTRICAL CONDUCTOR	(TP-1)(3) L.F.	200	
830 8000	PEDESTRIAN PUSH BUTTON	(8) EA.	2	
831 8295	1WAY 2SEC. ADJ. PED. SIG. HD. S-20	(TS-18) EA.	2	
834(A) 8207	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) L.F.	380	
834(A) 8208	7/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) L.F.	182	
834(B) 8220	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE	(TP-1)(11) L.F.	50	
850(A) 8110	SHEET ALUMINUM SIGNS	S.F.	44	
850(C) 8118	MAST ARM MOUNTED SIGNS (ALUMINUM)	S.F.	22	
851(B) 3217	2 1/2"@5.79 GALV. STEEL PIPE POST	L.F.	52	
890 7700	(PL) TRAFFIC ITEMS	(9) L.SUM	1	

Michael S. Hofener
 MICHAEL S. HOFENER, P.E. # 23310
 C.A. # 1160, RENEWAL 06-30-17

09-16-16
 DATE

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Design	MSH	09/28/17
Drawn	CCC	09/28/17



**PEDESTRIAN HYBRID BEACON
 PAY QUANTITIES & NOTES
 WESTERN AVE.**

State Job No. 30326(04) Sheet No. 7