

REVISIONS		
NO.	DESCRIPTION	DATE

TRAFFIC SIGNAL GENERAL CONSTRUCTION NOTES

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.

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.....STUART CHAI. WITH THE COMPANY/CITY OF.....OKLAHOMA CITY. COMPANY'S/CITY'S TELEPHONE NO.(405)297-2003.
- (TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- (1) P.C. CONCRETE AND/OR POLYMER CONCRETE PULL BOXES SHALL BE USED. POLYMER CONCRETE PULL BOXES SHALL HAVE A POLYMER CONCRETE COVER, FRAME AND BODY AND A MINIMUM LOAD RATING OF 20,000 LBS. POLYMER CONCRETE PULL BOXES SHALL BE ARMORCAST, QUAZITE OR AN APPROVED EQUAL. FIBERGLASS AND/OR PLASTIC PULL BOXES OR COMPOSITES OF SAME WILL NOT BE ACCEPTED.
- (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.
- (4) THE CONTROLLER FURNISHED ON THIS PROJECT SHALL BE A NAZTEC SERIES 900 TS2 TYPE 2. A MINIMUM OF SIXTEEN (16) LOAD SWITCH RECEPTACLES SHALL BE FURNISHED AND WIRED TO THE MOUNTING FRAME. ALL WIRING FROM THE FIELD TERMINALS SHALL BE WIRED TO THE MOUNTING FRAME FOR 8 PHASE OPERATION. ALL CORRESPONDING RECEPTACLE WIRING IN THE CABINET AND THE FIELD WIRING SHALL BE INSTALLED FOR THE CONTROLLER AS REQUIRED EXCEPT FOR ADDITIONAL DETECTOR CONNECTOR CABLES WHEN THE CONTROLLER IS EXPANDED. CONTROLLER(S) SHALL BE CAPABLE OF PERFORMING AS SHOWN ON THE PHASE AND SEQUENCE DIAGRAMS. PEDESTRIAN ISOLATION SHALL BE PROVIDED IN THE CONTROLLER CABINET. THE CONTROLLER CABINET SHALL BE A TS2 TYPE 1 CABINET AND SHALL BE POWDER COATED WITH TIGER DRYLAC SUPER DURABLE SERIES 38 (038/91020), ANODIZED SILVER, IN A LIGHT MATTE FINISH.
- (5) THE TRAFFIC SIGNAL CONTROLLER PROVIDED ON THIS PROJECT SHALL MEET ALL SPECIFICATION REQUIREMENTS AS CONTAINED WITHIN THE SPECIAL PROVISIONS TECHNICAL. CONTROLLERS FURNISHED MUST HAVE A REMOVABLE DATA TRANSFER DEVICE. THE DATA TRANSFER DEVICE SHALL ALLOW THE TRANSFER OF PROGRAMMING DATA FROM ONE CONTROLLER TO ANOTHER BY COPYING DATA FROM A SOURCE CONTROLLER TO THE DEVICE IN ORDER TO BE LOADED INTO RAM ON ANOTHER CONTROLLER.
- (6) AN INNOVATIVE TECHNOLOGY MODEL #HS-P-SP-120A-30A-RH PROTECTOR TRANSIENT VOLTAGE SURGE SUPPRESSOR OR EQUIVALENT SHALL BE INSTALLED BETWEEN THE AC POWER AND CABINET. THE SUPPRESSOR SHALL BE MOUNTED ON THE SIDE OF THE CABINET IMMEDIATELY ADJACENT TO THE AC TERMINAL BLOCK.

- (7) THIS BID ITEM CONSISTS OF THE INSTALLATION OF FOUR MAST ARM MOUNTED INTEGRATED THERMAL TRAFFIC SENSORS, ASSOCIATED WIRING/CABLES, INTERFACE PANELS, NEMA TS-2 SDLC CONTROLLER INTERFACE MODULES AND ALL OTHER NECESSARY ITEMS OF WORK FOR A COMPLETE OPERATIONAL VEHICLE DETECTION SYSTEM. THE INTEGRATED THERMAL TRAFFIC SENSORS SHALL UTILIZE FORWARD LOOKING INFRARED CAMERA TECHNOLOGY AND DETECTION PROCESSING WITHIN THE SINGLE SENSOR WITHOUT REQUIRING DETECTION PROCESSORS IN THE TRAFFIC CONTROLLER CABINET, AND SHALL BE ABLE TO DETECT AND REPORT PRESENCE OF VEHICLES 24 HOURS PER DAY WITHOUT NEEDING ARTIFICIAL LIGHTING IN ALL WEATHER AND NATURAL LIGHTING CONDITIONS WITHIN A 17, 25, 35, OR 90 DEGREE FIELD OF VIEW INTEGRATED THERMAL TRAFFIC SENSORS SHALL BE ABLE TO DETECT AND REPORT PRESENCE IN CURVED LANES AND AREAS WITH ISLANDS AND MEDIANS. THE INTEGRATED THERMAL TRAFFIC SENSORS SHALL UTILIZE ONLY THREE CONDUCTOR WIRES FOR POWER AND COMMUNICATIONS AND SHALL NOT REQUIRE COAXIAL CABLE. FIELD SETUP SHALL BE DONE USING A SETUP COMPUTER RUNNING MICROSOFT WINDOWS 7/WINDOWS 8 OR A TOUCH-SCREEN TABLET RUNNING WINDOWS SURFACE PRO OPERATING SYSTEM. INTERFACE SOFTWARE SHALL BE PROVIDED TO THE CITY AT NO ADDITIONAL COST. CONTRACTOR SHALL NOT BE REQUIRED TO PROVIDE A SETUP COMPUTER OR TABLET UNLESS SPECIFICALLY CALLED OUT ELSEWHERE IN THE PROJECT SPECIFICATIONS.
- (8) CONTRACTOR SHALL PROVIDE POLARA 2-WIRE NAVIGATOR ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON OR APPROVED EQUAL. R10-3B PEDESTRIAN PUSH BUTTON SIGNS SHALL BE USED. PUSH BUTTON HOUSING SHALL BE POWDER COATED WITH TIGER DRYLAC SUPER DURABLE SERIES 38 (38/91020), ANODIZED SILVER, IN A LIGHT MATTE FINISH.
- (9) 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 (VTCSH) STANDARDS IN EFFECT AT THE TIME THAT THE ORDER IS PLACED. LED HEADS SHALL BE CAPABLE OF OPERATING WITHOUT A REFLECTOR.
- (10) LED INTERNATIONAL HEADS DISPLAYING INCANDESCENT LOOKING FULLY-ILLUMINATED SYMBOLS (WALKING PERSON AND UPRAISED HAND) SHALL BE REQUIRED ON THIS PROJECT.
- (11) PAY ITEM IS TO RUN FROM THE PEDESTRIAN PUSH BUTTONS TO THE TERMINAL STRIP AT THE BASE OF THE POLES.

- (12) 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
- (13) SIGNAL POLE HANDHOLE COVERS SHALL BE ONE PIECE FORMED FROM ABS PLASTIC, MATCHING SIGNAL POLES IN COLOR AND SHALL BE SUITABLE FOR EXPOSURE TO SUNLIGHT AND ALL WEATHER CONDITIONS. HANDHOLE COVERS SHALL LATCH WITH TWO SCREW LATCHES AND SHALL FIT TIGHTLY TO THE ENCLOSURE RING TO CREATE A RAINPROOF SEAL. LATCH SCREWS SHALL BE 1/4"-20 STAINLESS STEEL FLAT SOCKET HEAD SCREWS WITH TAMPER-RESISTANT FEATURES. THE HAND HOLE COVERS SHALL MATCH THE EXISTING PROJECT 180 ARCHITECTURAL DESIGN IN THIS AREA OF DOWNTOWN.
- (14) TRAFFIC SIGNAL POLES AND MAST ARMS AND PEDESTRIAN POLES TO BE POWDER COATED WITH TIGER DRYLAC SUPER DURABLE SERIES 38 (038/91020), ANODIZED SILVER, IN A LIGHT MATTE FINISH.
- (15) THE FACEPLATES SUPPLIED FOR EACH HEAD ON THIS PROJECT SHALL BE CURVED FACEPLATES AND MOUNTING BRACKETS.
- (16) QUANTITY SHOWN IS TO BE INSTALLED ADJACENT TO 3" CONDUIT AND LEFT EMPTY. OTHERS WILL INSTALL FIBER IN THE EMPTY 2" CONDUIT AT A LATER DATE.
- (17) ROADWAY LUMINAIRE SHALL BE A BEGA #9252 MH POLE TOP MODIFIED LUMINAIRE IN ORDER TO MATCH THE EXISTING PROJECT 180 ARCHITECTURAL DESIGN IN THIS AREA OF DOWNTOWN.
- (18) EQUIPMENT INCLUDING CONTROLLER, SIGNAL POLES, MAST ARMS, LUMINAIRES, MINI POWER ZONES, PEDESTRIAN POLES, BACKPLATES/FACEPLATES, ETC. ON THIS PROJECT SHALL MATCH ALL EQUIPMENT UTILIZED FOR PROJECT 180. THE LATEST STANDARDS AND SPECIFICATIONS FOR PROJECT 180 ARE TO BE USED FOR THESE ITEMS. STRUCTURAL MODIFICATIONS MADE TO THE DESIGN OF THE SIGNAL POLES DURING AND AFTER PROJECT 180 SHALL ALSO BE INCLUDED IN THE STRUCTURAL DESIGN OF THESE POLES.

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.

SHALL BE REMOVED IN A MANNER APPROVED BY THE ENGINEER. AFTER REMOVAL, THE HOLES SHALL BE PATCHED WITH CONCRETE. THE NEW LOCATION OF SIGN FOOTINGS IN CONCRETE ISLAND SHALL BE SAWED IN A MANNER APPROVED BY THE ENGINEER. CONCRETE PATCHING, SAWING, LABOR, AND ALL OTHER ASSOCIATED COSTS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

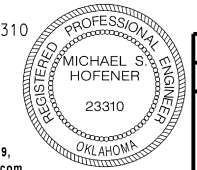
TRAFFIC SIGNAL PAY QUANTITIES

Reno Ave. & Western Ave. and Classen Blvd. & Sheridan Ave. in OKC, OK

0300 TRAFFIC			Reno Ave. & Western Ave.	Classen Blvd. & Sheridan Ave.	TOTAL
ITEM	DESCRIPTION	UNIT			
802(B) 8340	2" PVC SCH. 40 PLASTIC CONDUIT BORED (TP-1)(14)	LF	265	290	555
802(B) 8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED (TP-1)	LF	290	270	560
802(B) 8344	3" PVC SCH. 40 PLASTIC CONDUIT BORED (TP-1)	LF	265	290	555
802(B) 8346	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED (TP-1)	LF	50	40	90
803(A) 8066	PULL BOX (SIZE II) (1)	EA	4	4	8
804(A) 2915	STRUCTURAL CONCRETE (TP-1)	CY	12.7	4.7	17.4
804(B) 2916	REINFORCING STEEL (TP-1)	LB	1776.4	547.8	2324.2
806(A) 8350	32' MH POLE, 30' TS & 10' LMA (G.STL.) (2,13)	EA	1		1
806(A) 8311	32' MH POLE 35' TS & 10' LMA (G.STL.) (2,13)	EA	3	1	4
806(B) 8897	12' MTG. HT. TS PED. POLE (ALUMINUM)	EA	5	4	9
809(A) 8090	ROADWAY LUMINAIRE	EA	4	1	5
810(A) 3118	SERVICE POLE (TL-35)	EA	1		1
811 8040	1/C NO. 6 ELECTRICAL CONDUCTOR (TP-1)(3)	LF	200		200
811 8044	1/C NO. 10 ELECTRICAL CONDUCTOR (TP-1)	LF	2005	440	2445
825 8550	TRAFFIC SIGNAL CONTROLLER ASSEMBLY (4,5,6)	EA	1	1	2
828 8132	(PL)DETECTION SYSTEM (VIDEO) (7)	LSUM	1	1	1
830 8000	PEDESTRIAN PUSH BUTTON (8)	EA	8	8	16
831 8231	1WAY 3SEC. ADJ. SIG. HD. S-6 (9)	EA	8	2	10
831 8280	1WAY 4SEC. ADJ. SIG. HD. S-13 (9)	EA	4	2	6
831 8295	1WAY 2SEC. ADJ. PED. SIG. HD. S-20 (10)	EA	8	8	16
833 3030	BACKPLATE	EA	12	4	16
834(A) 8207	5/C TRAFFIC SIGNAL ELECTRICAL CABLE (TP-1)	LF	3300	3105	6405
834(A) 8208	7/C TRAFFIC SIGNAL ELECTRICAL CABLE (TP-1)	LF	225	135	360
834(A) 8213	21/C TRAFFIC SIGNAL ELECTRICAL CABLE (TP-1)	LF	810	845	1655
834(B) 8220	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE (TP-1)(11)	LF	40	40	80
840(A) 8592	E.P.S. OPTICAL EMITTER (12)	EA	2		2
840(B) 8593	E.P.S. OPTICAL DETECTOR (12)	EA	4	4	8
840(C) 8594	E.P.S. OPTICAL DETECTOR CABLE (TP-1)(12)	LF	1035	1080	2115
840(D) 8595	E.P.S. 2 CHANNEL PHASE SELECTOR (12)	EA	2	2	4
850(C) 8118	MAST ARM MOUNTED SIGNS (ALUMINUM)	SF	61.5	27	88.5

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

04-08-16
DATE



Design	RWR	08/08/17
Drawn	SB	08/08/17



**TRAFFIC SIGNAL
PAY QUANTITIES AND NOTES
RENO AVE. / SHERIDAN BLVD.**
State Job No. 17428(88) Sheet No. 15

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