

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
V1	OKLA.	HS1PG-247B(019)	2017	1	3
DESCRIPTION		REVISIONS		DATE	
REVISED PROJECT NUMBER		1		JUNE 27, 2017	
REVISED PROJECT NUMBER		2		JULY 10, 2017	

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
LIGHTING
SAFETY IMPROVEMENT PROJECT

FEDERAL AID PROJECT NO.

HS1PG-247B(019) Δ 1

STATE JOB NO. 27005(07)

DIVISION VI

MAJOR COUNTY

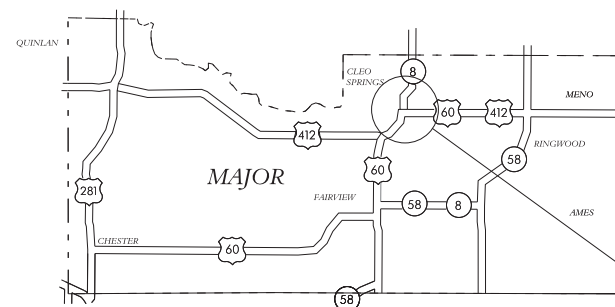
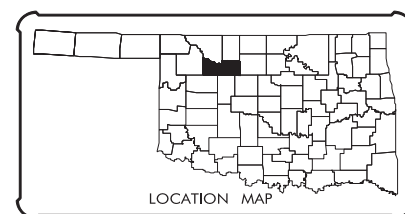
SH-8 / US-60

INDEX OF SHEETS

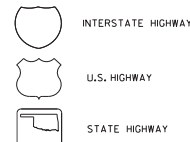
0001.	TITLE SHEET
AT01.	SUMMARY OF PAY QUANTITIES & NOTES (LIGHTING)
T001.	LIGHTING PLAN SHEET #1
T002.	SCHEDULES SHEET
T003.	TRAFFIC CONTROL SHEET

STANDARDS

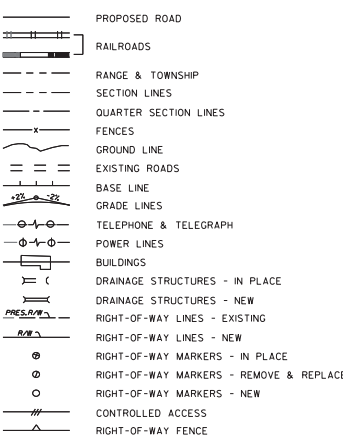
TRAFFIC LIGHTING	TRAFFIC CONTROL
CCD1-1-00	TCS1-1-01
PBD1-1-00	TCS2-1-00
GMF1-2-00	TCS3-1-01
HLBP1-1-00	TCS5-1-00
HLGN1-1-00	TCS6-1-02
PPD1-2-00	TCS7-1-02
HLD1-1-01	TCS9-1-01
HLD2-1-00	TCS11-1-01
HLD2-2-00	TCS14-1-00
HLMA2-1-00	TCS15-1-00
HLMA3-1-00	TCS19-1-01
SPD1-1-00	TCS20-1-00
SCD1-1-00	
TEWD1-2-00	



CONVENTIONAL SIGNS



CONVENTIONAL SYMBOLS



2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

END PROJECT STA. 1040+00

BEGIN PROJECT STA. 1010+00

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ENGINEER MANAGER: JAMIL L. SHORT, PE
PROJECT ENGINEER: SAAD EL BAKKOURI DESIGN MEMBER: STEVEN WILLIAMS
CHECKED BY: AMET FREZGI
P.E. NO.: 22542

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION
Jami L. Short
DATE: 07-10-17
OKLA. REG. NO. 22542

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED: _____	DATE APPROVED: _____
BY: _____	BY: _____
CHIEF ENGINEER	DIVISION ADMINISTRATOR
SWO	PROJECT NO. HS1PG-247B(019) SHEET NO. 0001

TRAFFIC LIGHTING 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 ENGINEER AT (580) 735-2561.

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.

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 1-800-522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR QUESTIONS CONCERNING COMPLIANCE AND INTERPRETATIONS TO THE A.A.S.H.T.O. "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".

THE CONTRACTOR SHALL COOPERATE WITH THE ENGINEER, THE CITY AND THE LOCAL UTILITY CO. TO KEEP THE EXISTING LIGHTING SYSTEM IN SERVICE AS MUCH AS POSSIBLE WHILE DOING THE WORK SPECIFIED BY THIS CONTRACT. IF TEMPORARY CONNECTIONS ARE FEASIBLE AND JUSTIFIABLE, THE ENGINEER MAY REQUIRE THAT THE CONTRACTOR PROVIDE THESE TEMPORARY POWER CONNECTION, TEMPORARY CONNECTIONS WILL BE PAID FOR AT THE UNIT BID FOR THE MATERIALS USED.

THE CONTRACTOR SHALL PROVIDE RGE ENGINEER WITH A BOLT CIRCLE TEMPLATE(S). THE TEMPLATE(S) SHALL BE 1/4" THICK STEEL PLATE(S), AND BE PERMANENTLY LABELED WITH THE CONTRACTOR'S COMPANY NAME, BOLT CIRCLE DIAMETER AND THE ANCHOR BOLT DIAMETER. THE COST OF THE TEMPLATE(S) SHALL BE PAID FOR IN OTHER ITEMS OF WORK.

THE ITEMS THAT ARE TO BE REMOVED AND/OR RESET SHALL BE HANDED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OCCURRING DURING THESE OPERATIONS.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE O.D.O.T. STANDARDS DETAIL DRAWING FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

PRIOR TO CONSTRUCTION OF FOOTINGS THE CONTRACTOR SHALL VISUALLY INSPECT THE PLAN LOCATION OF ALL CONVENTIONAL LIGHT POLES FOR PROPER OVERHEAD WIRE CLEARANCE. THESE CLEARANCES SHALL BE ACCORDANCE TO THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SECTION 1910. THERE SHALL BE MINIMUM RADIUS OF 10 FOOT CLEARANCE OF ANY OVERHEAD LINES FROM THE CLOSEST POINT ON THE LIGHT POLE. ANY NEW FOOTINGS PUT IN CLOSER THAN THIS 10 FOOT MINIMUM SHALL BE RELOCATED AT THE EXPENSE OF THE CONTRACTOR, INCLUDING REMOVAL OF THE FOOTING AND ALL MATERIALS TO CONSTRUCT THE NEW FOOTING.

TRAFFIC LIGHTING PAY QUANTITY NOTES

(TL-9) QUANTITIES INCLUDES STRUCTURAL CONCRET TO BE USED FOR THE FOLLOWING:
GROUND MOUNTED FOOTING.....=10.68 C.Y.

(TL-10) QUANTITIES INCLUDES REINFORCONG STEEL TO BE USED FOR THE FOLLOWING:
GROUND MOUNTED FOOTING.....=3408 C.Y.

(TL-35) FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE AND LOCATIONS, CONTACT THE FOLLOWING PRIOR TO INSTALLATION:
PERSON'S NAME RICHARD DODGION
WITH THE COMPANY/CITY OF ODOT DIV. VI
COMPANY'S/CITY'S TELEPHONE NO.(580)735-2561

TRAFFIC CONSTRUCTION PAY QUANTITY NOTES

(TC-25) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF HE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENCE AND SUBSEQUENT REMOVAL OF ALL NECESSARYCONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THE PROJECT.

ALL SIGNS AND BARRICADES, WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.

(TC-52) ANY USED CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

(TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

(TC-84) 30 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT ODOT STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR AN APPROVED LIST, GO TO THE QUALIFIED PRODUCT LIST WEBSITE AT <http://www.okladot.state.ok.us/traffic/api/index.php>

SPECIAL NOTES

- (SP-1) 12 POLES WITH SINGLE DAVIT MAST ARM 10' LONG. SEE SHEET T001.
- (SP-2) PULL BOXES SHALL BE PLASTIC (POLYMER CONCRETE) MEETING REQUIREMENTS OF THE WESTERN UNDERGROUND COMMITTEE AND ANSI/SCTE 77 2002. TIER 15, WITH MINIMUM VERTICAL TEST LOAD OF 20K LBS.
- (SP-3) FUSED "Y" CONNECTORS SHALL BE APPROVED BY THE ENGINEER AND INSTALLED AT EACH POLE BASE OR BRANCH CIRCUIT AS REQUIRED. THE COST OF THESE CONNECTORS SHALL BE INCLUDED IN THE PRICE BID FOR THE INSULATED CABLES. THE "HOT" CONDUCTOR SHALL BE BLACK AND THE "NEUTRAL" CONDUCTOR SHALL BE WHITE.
- (SP-4) THE SERVICE POLE FOR THIS PROJECT SHALL BE TESCO SERVICE PEDESTAL MODEL 27-000, OR AN APPROVED EQUAL.
- (SP-5) LUMINAIRES USED ON THIS PROJECT SHALL BE LIGHT EMITTING DIODE (LED) TYPE BY AMERICAN ELECTRIC LIGHTING OR APPROVED EQUAL. LIGHTING LAYOUT PRESENTED IN THE PLANS IS BASED ON THE PHOTOMETRICS AND LIGHT DISTRIBUTION OF AMERICAN ELECTRIC LIGHTING (MODEL LIGHT AUTOBAHN ATBL B 480 R2) LIGHT FIXTURE. OTHER LIGHT FIXTURES SATISFYING THE SPECIFICATION WILL BE CONSIDERED AS LONG AS THE LIGHT DISTRIBUTION MEETS ODOT DESIGN CRITERIA.
- (SP-6) PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE LOCATED WHERE DEEMED NECESSARY BY THE ENGINEER.
- (SP-7) PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE PLACED 14 DAYS PRIOR TO CONSTRUCTION.
- (SP-8) 12-ROADWAY LED LUMINAIRES SHALL BE 181 WATT LED, W/TOTAL LUMINARE LUMENS OF 20,771 ILLUMINATIONTION ENGINEER SOCIETY DISTRIBUTION AS FOLLOW:
VERTICAL = M; LATERAL TYPE = 2; CONTROL = A3. SEE STD. HLD1-2-(LATEST REVISION).

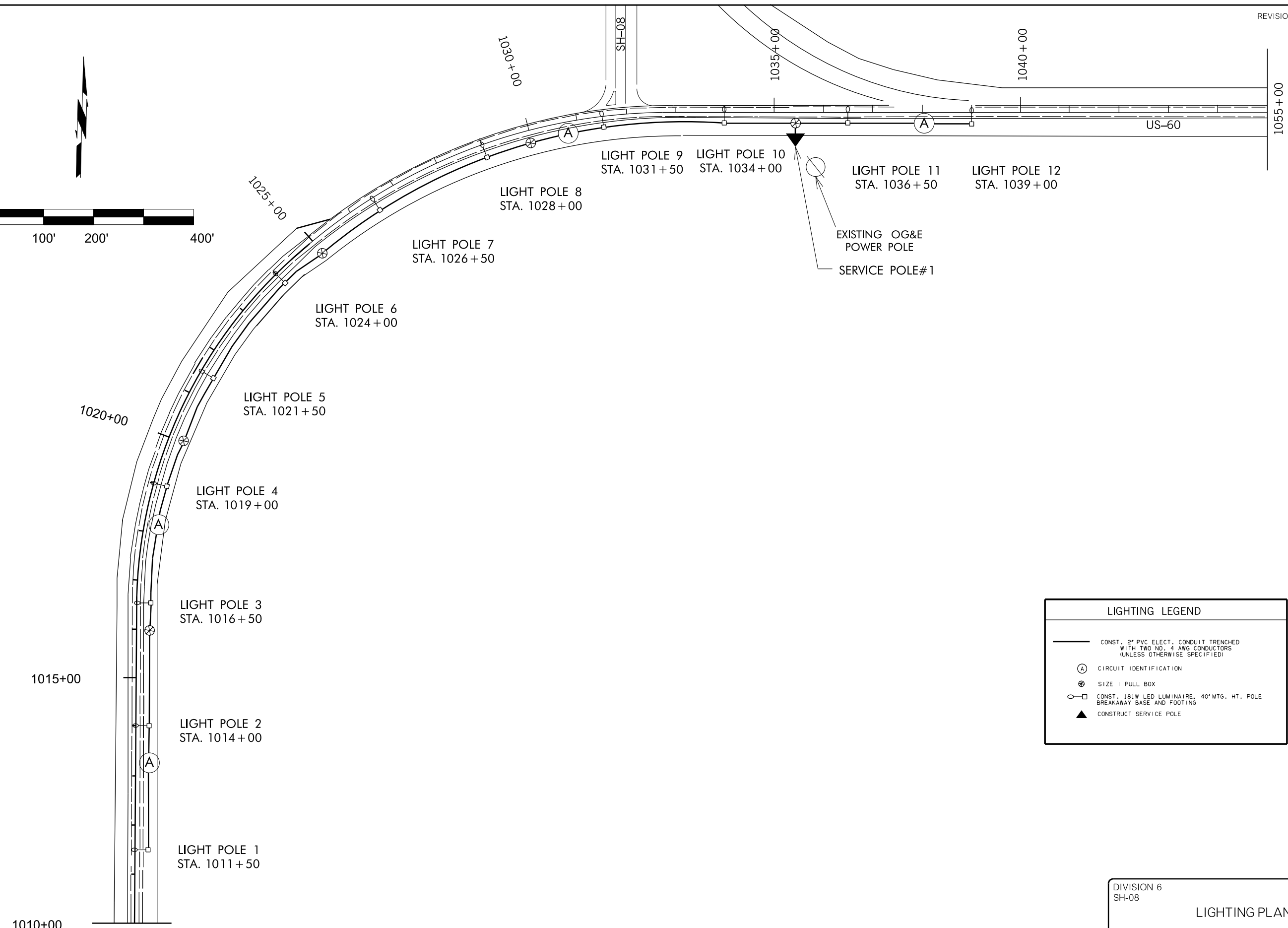
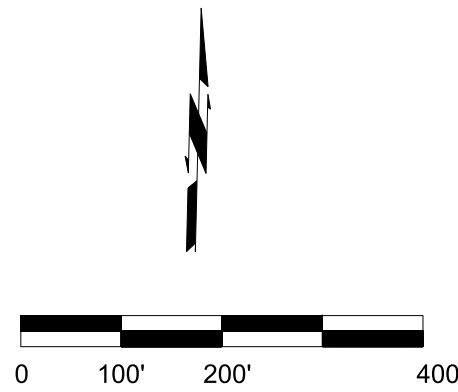
REVISIONS		
REV. NO.	DESCRIPTION	DATE

PAY QUANTITIES SCHEDULE				
305 LIGHTING				
ITEM	DESCRIPTION	UNIT	QUANTITY	
802(A)	8306	1-1/4" G. STEEL ELEC. CONDUIT EXPOSED	L.F.	100.00
802(B)	8342	2" PVC SCHED 40 PLASTIC CONDUIT TRENCHED	L.F.	3,400.00
803(A)	8065	PULL BOX SIZE 1	(SP-2) E.A.	5.00
804(A)	2915	STRUCTURAL CONCRETE	(TL-9) CY	19.68
804(B)	2916	REINFORCING STEEL	(TL-10) LB	3,408.00
806(C)	8924	40' MTG. HT. POLE & 10' HLMA (G. STL.)	(SP-1) EA.	12.00
807	8092	BREAKAWAY BASE (DESIGN B)	EA.	12.00
809(A)	8090	ROADWAY LUMINAIRE	(SP-5, 8) EA.	12.00
810(A)	3118	SERVICE POLE	(TL-35)(SP-4) EA.	1.00
811	8038	1/C NO. 4 ELEC. CONDUCTOR	(SP-3) L.F.	10,176.00
811	8044	1/C NO. 10 ELEC. CONDUCTOR	L.F.	1560.00

PAY QUANTITIES SCHEDULE				
300 TRAFFIC CONTROL				
ITEM	DESCRIPTION	UNIT	QUANTITY	
880(J)	8905	CONSTRUCTION TRAFFIC CONTROL	(TC-25, 84) LSUM	1.00
882(A)	8306	PORTABLE CHANGEABLE MESSAGE SIGN	(SP-6, 7)(TC-52, 70, 85) SD	58.00

DIVISION 6 SH-08	MAJOR COUNTY	DETAIL: JLS 5/17
SUMMARY OF PAY QUANTITIES LIGHTING & TRAFFIC CONTROL		CHECK: SRW 5/17
		ENGINEER: SEB 5/17
GROUP: WILLIAMS		EM: SHORT
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB/PIECE NO. 27005(07) SHEET NO. AT01

REVISIONS		REVISIONS	
REV. NO.	DESCRIPTION	REV. NO.	DATE



LIGHTING LEGEND	
	CONST. 2" PVC ELECT. CONDUIT TRENCHED WITH TWO NO. 4 AWG CONDUCTORS (UNLESS OTHERWISE SPECIFIED)
	CIRCUIT IDENTIFICATION
	SIZE 1 PULL BOX
	CONST. 181W LED LUMINAIRE, 40' MTG. HT. POLE BREAKAWAY BASE AND FOOTING
	CONSTRUCT SERVICE POLE

DIVISION 6 SH-08	MAJOR COUNTY	DETAIL:	SRW	5/17
LIGHTING PLAN		CHECK:	JLS	5/17
		ENGINEER:	SEB	5/17
STATE OF OKLAHOMA		GROUP:	WILLIAMS	EM: SHORT
DEPARTMENT OF TRANSPORTATION		JOB/PIECE NO.:	27005(07)	SHEET NO.:
				T001

REVISIONS		
REV. NO.	DESCRIPTION	DATE

LIGHT POLE SCHEDULE

SHEET NUMBER	POLE NUMBER	LOCATION STATION (APPROXIMATE)	CLEARANCE DISTANCE (from the edge of the driving lane to the pole)	FOOTING			POLE ASSEMBLY					REMARKS	
				TYPE OF FOOTING DESIGN NO. OR SIZE	STRUCTURAL CONC.	REINFORCING STEEL	BREAKAWAY BASE DESIGN "B"	MOUNTING HEIGHT	MAST ARM	LUMINAIRE	I/C NO. 10 AWG TYPE THW ELECT. COND.		LIGHTNING ARRESTOR
			FT.	C.Y.	LBS.		FT.	FT.	EA-WATT	FT.	EA.		
T001	1	STA. 1011+50, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	1	
T001	2	STA. 1014+00, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	3	STA. 1016+50, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	4	STA. 1019+00, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	5	STA. 1021+50, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	6	STA. 1024+00, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	1	
T001	7	STA. 1026+50, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	8	STA. 1028+00, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	9	STA. 1031+50, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	10	STA. 1034+00, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	11	STA. 1036+50, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	--	
T001	12	STA. 1039+00, 28' RT FR. THE C	16	GMF 30x108	1.64	284	B	40	10	181	130	1	
TOTAL /SUBTOTAL /GRAND TOTAL					19.68	3408	12=B	12 = 40'-10'	12=181W	1560	3		

SERVICE POLE SCHEDULE

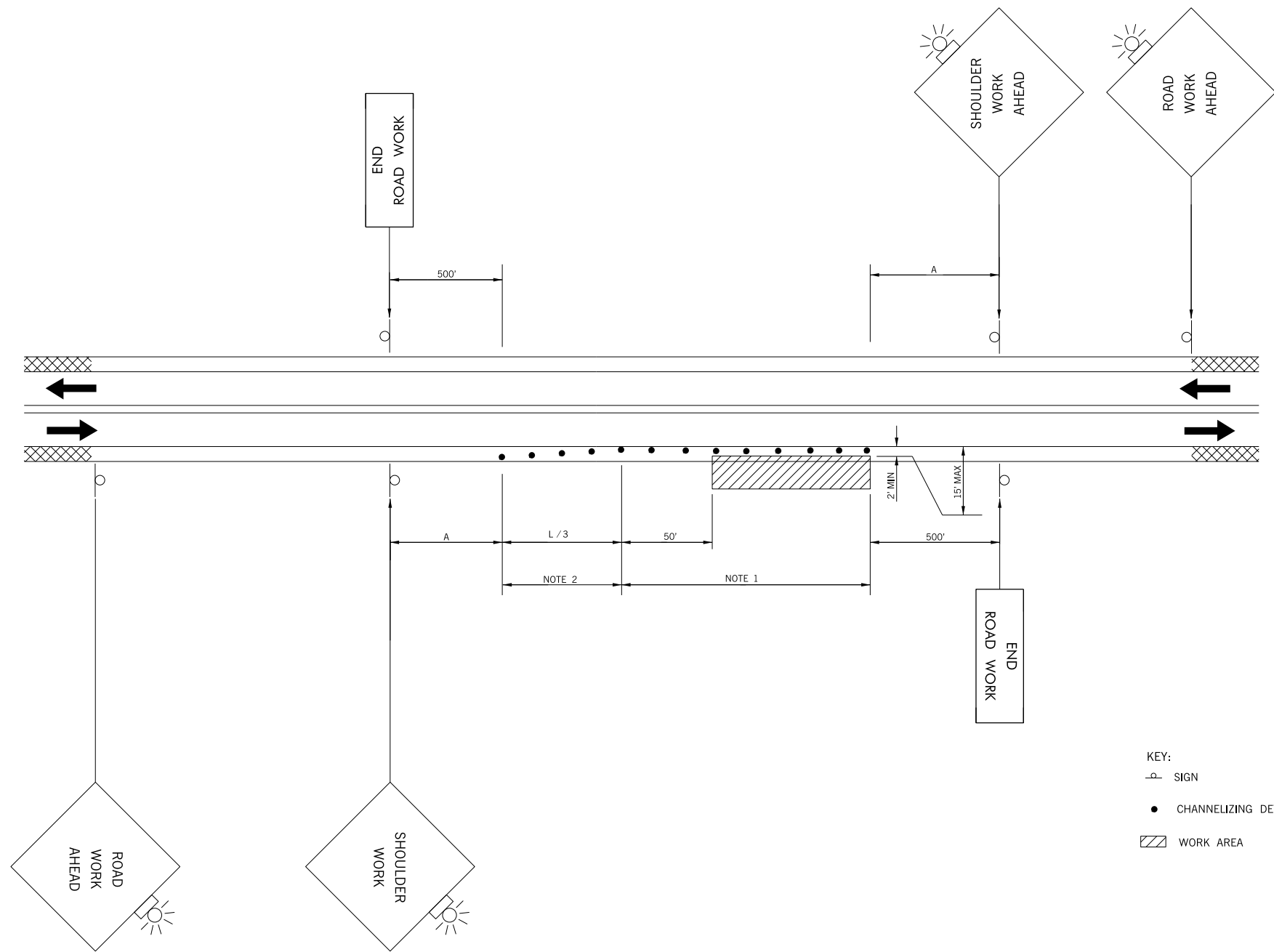
SHEET NUMBER	SERVICE POLE NUMBER	LOCATION STATION (APPROXIMATE)	TYPE	SECONDARY VOLTAGE AND NO. PHASE	CONTROLLER				WOOD POLE		METER	REMARKS		
					QUANTITY	RATING		CIRCUIT LOADING		N E = EXISTING	TOTAL LENGTH		CLASS	IM = INSTALL METER NM = NOT METERED
						NO. OF POLES / CONTROLLER	AMP/REE RATING OF CONTACTS	CIRCUIT ID.	ESTIMATED AMPS./ CIRCUIT					
					EA.	EA.	EA.	AMP.	AMP.	FT.				
T001	1	1035+40	UG/1	480-1	1	1	60	A	15	N	30	6	IM	

SHEET ESTIMATE SCHEDULE

SHEET NUMBER	CONDUITS		CONDUCTORS		PULL BOX (SIZE 1)	REMARKS
	TRENCHED 2" PVC SCH. 40 CONDUIT	1-1/4" G. STEEL ELEC. CONDUIT EXPOSED	INSULATED COPPER I/C NO. 4 AWG TYPE XHHW	INSULATED COPPER I/C NO. 10 AWG TYPE THW		
	FT.	FT.	FT.	FT.	EA.	
T001	3400	100	10176	1560	5	

DIVISION 6 SH-08	MAJOR COUNTY	DETAIL: SRW	5/17
LIGHTING SCHEDULE		CHECK: JLS	5/17
		ENGINEER: SEB	5/17
		GROUP: WILLIAMS	
		EM: SHORT	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB/PIECE NO. 27005(07)	SHEET NO. T002

REVISIONS		
REV. NO.	DESCRIPTION	DATE



WORK ON SHOULDERS

NOTE 1
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 25 FEET FOR CONES OR TUBE CHANNELIZERS, SPACING SHALL NOT EXCEED 50 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 2
 A MINIMUM OF FIVE (5) CHANNELIZING DEVICES SHALL BE PLACED THRU THIS AREA.

RECOMMENDED DISTANCE BETWEEN SIGNS (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	200	200	200
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,600	2,600

THE "ROAD WORK AHEAD" SIGN MAY BE REPLACED WITH OTHER APPROPRIATE SIGNS SUCH AS "SHOULDER WORK" IF CONDITIONS DICTATE.

IF THE WORKSPACE IS LOCATED IN THE MEDIAN OF A DIVIDED ROADWAY AN ADVANCE WARNING SIGN SHOULD ALSO BE PLACED ON THE LEFT SIDE OF THE ROADWAY.

FOR WORK REQUIRING (60 MINUTES OR LESS), OR MOBILE OPERATION, ALL SIGNS AND CHANNELIZING DEVICES MAY BE ELIMINATED IF A VEHICLE WITH AN ACTIVATED FLASHING OR REVOLVING YELLOW LIGHT IS USED.

ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS) AND THEIR ACTIVITIES SHALL BE RESTRICTED TO ONE SIDE OF THE ROADWAY.

- KEY:
- P SIGN
 - CHANNELIZING DEVICE
 - ▨ WORK AREA

DIVISION 6 SH-08	MAJOR COUNTY	DETAIL: SRW	5/17
TRAFFIC CONTROL SHEET		CHECK: JLS	5/17
		ENGINEER: SEB	5/17
GROUP: WILLIAMS		EM: SHORT	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOBPIECE NO. 27005(07)	SHEET NO. T003