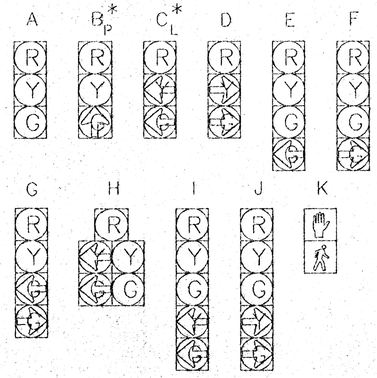
FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87-N-0099-01	1999	34	68

CHART A SIGNAL SUMMARY

SIGNAL FACE ARRANGEMENT	NO. SECTIONS (PER FACE)	SIGNAL MOUNTING TYPE	QUANTITY
I	5 @ 12"	RIGID MAST ARM (TYPE I)	4
A	3 @ 12"	RIGID MAST ARM (TYPE I)	8
A	3 @ 12"	POLE MOUNTED (TYPE B)	4
K	2 @ 12"	POLE MOUNTED (TYPE B)	8
		TOTAL	24



* SUBSCRIPT "P" INDICATES PROGRAMMED SIGNALS;
SUBSCRIPT "L" INDICATES L.E.D. RED LENS.

* ONLY CLAMP-ON MAST ARM WILL BE ACCEPTED.

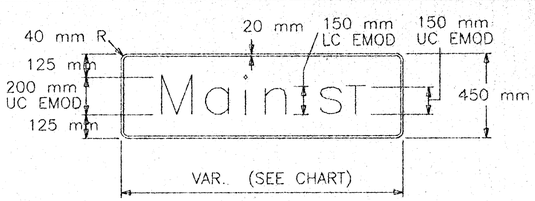
CHART B TRAFFIC SIGNAL POLES

POLE HEIGHT	SIGNAL ARM LENGTH	SIGNAL ARM MOUNTING HEIGHT*	NO. OF SIGNALS ON ARM	SIGNAL SPACING	LUMINAIRE ARM LENGTH	LUMINAIRE MOUNTING HEIGHT	QUANT.
10.7 m	16.0 m	5.8 m	3	16.0-12.2-8.8		10 m	1
10.7 m	13.0 m	5.8 m	3	13.0-9.5-6.0		10 m	1
10.7 m	13.0 m	5.8 m	3	13.0-9.5-6.0		10 m	1
10.7 m	12.0 m	5.8 m	3	12.0-8.8-5.2		10 m	1
						TOTAL	4

Pole to be drilled for Credenza Fixture.

CHART C OVERHEAD STREET NAME SIGNS

SIGN	LEGEND	LENGTH	QUANTITY
	Maple	1.5 m	2
	Seneca	1.5 m	2



NOTE :

THE TRAFFIC SIGNAL SYSTEM SHALL BE COMPLETE AND THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS NECESSARY FOR THE SATISFACTORY OPERATION OF ELECTRICAL APPARATUS AND FOR COMPLETE OPERATION OF THE TRAFFIC SIGNAL SYSTEM WHETHER SPECIFICALLY MENTIONED OR NOT.

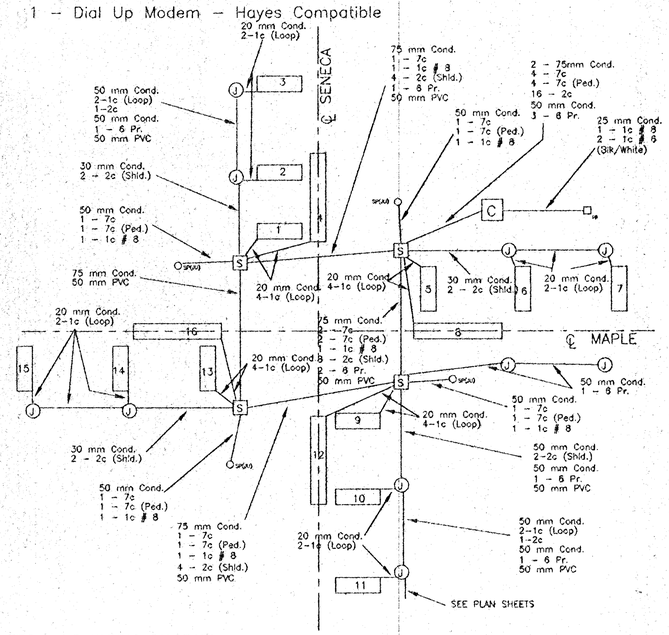
BILL OF MATERIALS

ITEM	QUANT.	UNIT
PAD MOUNTED CONTROLLER AND CABINET	1	EACH
PROGRAM MODULE	1	EACH
CONFLICT MONITOR	1	EACH
FLASHER	2	EACH
LOAD SWITCH	12	EACH
FLASH TRANSFER RELAY	4	EACH
SURGE PROTECTOR	1	EACH
DC ISOLATOR	3	EACH
AC ISOLATOR		EACH
DETECTOR, 2-CHANNEL	12	EACH
DETECTOR, 4-CHANNEL		EACH
POLE MOUNTED CABINET		EACH
PAD MOUNTED CABINET		EACH
TRAFFIC SIGNAL LAMP, 150 WATTS	72	EACH
TRAFFIC SIGNAL HEAD	CHART A	EACH
SIGNAL HEAD MOUNTING BRACKET	CHART A	EACH
BACK PLATE	CHART A	EACH
VEHICLE TRAFFIC SIGNAL LAMP		EACH
PEDESTRIAN TRAFFIC SIGNAL LAMP		EACH
PEDESTRIAN PUSHBUTTON & SIGN	8	EACH
TRAFFIC SIGNAL POLE	CHART B	EACH
TRAFFIC SIGNAL PEDESTAL ALUMINUM		EACH
TERMINAL BLOCK		EACH
CONC. CONTROLLER PAD	1	
JUNCTION BOX	16	EACH
SERVICE BOX	4	EACH
CONC. FOOTING, POLE	4	
LUMINAIRE		EACH
LUMINAIRE LAMP WATT		EACH
PHOTOCELL		EACH
UNFUSED STREET LIGHT CONNECTOR KIT		EACH
FUSED STREET LIGHT CONNECTOR KIT		EACH
OVERHEAD STREET NAME SIGN	CHART C	EACH
R10-10 SIGN (600 mm X 750 mm)		EACH
R10-12 SIGN (600 mm X 750 mm)	4	EACH
BLANK OUT SIGN		EACH
ENTRANCE HEAD	1	EACH
SERVICE ENCLOSURE, AMP.		EACH
CIRCUIT BREAKER, TRAFFIC SIGNAL, AMP.	1	EACH
CIRCUIT BREAKER, LUMINAIRE, AMP.		EACH
AERIAL SPLICE BOX	1	EACH
DEAD END CLAMP	1	EACH
WEATHERPROOF REENTERABLE COMM. SPLICE KIT	1	EACH
REMOVAL OF EXISTING SIGNALS	1	EACH
GROUND ROD & CLAMP	6	EACH
SERVICE WIRE NO. 6 AWG 1/C	15	METER
LIGHTING DISTRIBUTION WIRE NO. 8 AWG 1/C	170	METER
POLE & BRACKET WIRE NO. 10 AWG 1/C		METER
GROUND WIRE NO. 6 AWG 1/C	150	METER
MULTI-CONDUCTOR CABLE NO. 14 AWG 5/C		METER
MULTI-CONDUCTOR CABLE NO. 14 AWG 7/C	500	METER
MULTI-CONDUCTOR CABLE NO. 14 AWG /C		METER
MULTI-CONDUCTOR CABLE NO. 14 AWG 1/C	1350	
DETECTOR LOOP WIRE NO. 19 AWG (6 PAIR) (COMMUNICATION)	750	METER
SHEILED DETECTOR LEAD-IN CABLE, 14 AWG 2/C	1500	METER
LOOP SEALANT	AS REQ'D	EACH
CONDUIT, 25 mm & FITTINGS	6	METER
CONDUIT, 30 mm & FITTINGS	100	METER
CONDUIT, 50 mm & FITTINGS	930	METER
CONDUIT, 75 mm & FITTINGS	160	METER
RIGID STEEL CONDUIT, 20 MM	100	METER

MAJOR ITEMS OF ELECTRONIC EQUIPMENT

ITEM	QUANTITY
Controller, Model 170E with 400 Modem	1
Controller cabinet, pad mounted 332	1
Conflict monitor ECL or MS	1
Detector Unit, 2 Channel C 800	12
Flasher	2
Flasher Transfer Relay	4
Load Switch	12
Surge Protector	1
Isolators	3

470i Pro Module
1 – Stand Alone 400 Modem
1 – Dial Up Modem – Hayes Compatible



CONTROL AND WIRING DIAGRAM

50 mm PVC is for Street Lighting

RECAP OF BID QUANTITY

ITEM	UNIT	QUANTITY
TRAFFIC SIGNAL INSTALLATION	L.S.	L.S.

–QUANTITIES FOR INFORMATION ONLY–

NO.	DATE		BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TYPE 170E SYSTEM
TRAFFIC SIGNAL QUANTITIES SHEET
(SENECA & MAPLE)

TE130BSI 04/28/98

FHWA APPROVAL		05/13/98		APP'D		Linda G. Voss, P.E.	
DESIGNED	J.F.F.	DETAILED	J.F.F.	QUANTITIES		TRACED	
DESIGN CK.	D.A.C.	DETAIL CK.	D.A.C.	QUAN. CK.		TRACE CK.	

Plotted By : @@USERNAME@@thacher Bldg., 4th Floor
Plot File : @@@@@@@@@@@@DGNSPEC@@@@@@@@@@@@
Plot Date : @@@@@@SYTIME@@@@@@