

STATE	PROJECT NO.	YEAR	SHEET NO.	SHEETS
KANSAS	87 N-0235-01	2006	74	120

BILL OF MATERIALS (for Information Only)		
ITEM	UNIT	QUANTITY
Traffic Signal Pole Steel w/Mastarm (Joint Use)	Each	1
Traffic Signal Pole Steel w/Mastarm (Std)	Each	3
Concrete Controller Pad	Each	1
Concrete Footing - Pole	Each	4
Service Box - 36" Dia.	Each	4
Junction Box - 24" Dia. (includes Interconnect)	Each	17
Ground Rod & Clamp	Each	6
Conduit Clamp	Each	As Needed
Pedestrian Signal Lamp L.E.D. (12" Combination)	Each	8
L.E.D. Unit	Each	42
Back Plate For Signal Head (Type A)	Each	6
Back Plate For Signal Head (Type I)	Each	4
Entrance Head	Each	1
Circuit Breaker and Box	Each	1
Traffic Signal Head - 12" (Type A) w/Mounting Bracket	Each	10
Traffic Signal Head - 12" (Type I) w/Mounting Bracket	Each	4
Pedestrian Signal - 12" (Type K) w/Mounting Bracket	Each	8
Pedestrian Pushbutton w/Sign	Each	8
Pad Mounted Cabinet & Controller System-Type 170 (See Note)	Each	1
Lead-In Wire No. 6 Awg 1/c (Type THHN)	Lin. Ft.	60
Multi-Conductor Cable No. 14 Awg 2/c	Lin. Ft.	30
Multi-Conductor Cable No. 14 Awg 5/c	Lin. Ft.	446
Multi-Conductor Cable No. 14 Awg 7/c	Lin. Ft.	1,428
Stranded No. 8 Awg 1/c (Type THHN)(Ground)	Lin. Ft.	743
6-pr #19 IMSA 20-2, 600 V Shielded Communication Cable (Includes Crosswalk)	Lin. Ft.	3,179
Traffic Signal Removal (Subsidiary)	Each	1
Temporary Traffic Signal (Subsidiary)	Each	1
Conduit 1"	Lin. Ft.	28
Conduit 2" (Includes Interconnect)	Lin. Ft.	2,661
Conduit 3"	Lin. Ft.	432
Video Detection Camera And Mounting Hardware (Riser Brackets)	Each	4
Video Detection Processor Unit (Iteris Vantage Or Apr'vd Equal)	Each	1
Video Power Cable No. 16 Awg 3/c	Lin. Ft.	586
Video Cable 75 ohm Coaxial (Belden #8281)	Lin. Ft.	586
TV Monitor	Each	1
Video System Programming Unit	Each	1
Street Name Signs	Each	4
Left Turn Yield On Green (R10-12) w/Mounting Hardware	Each	4

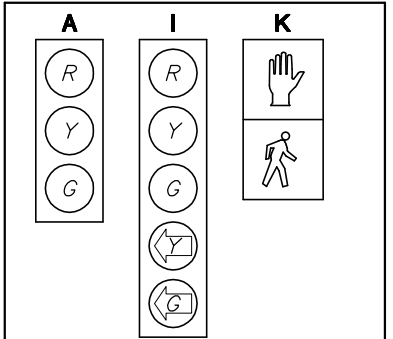
Type 170 Traffic Controller System to include:

- One (1) model 170 controller unit complete with 412b2 system memory module capable of supporting Wapiti Micro System W4IKS (56a or latest revision) traffic program on 27256 eeprom.
- One (1) model 332 cabinet complete with all accessories including four (4) model 430 transfer relays, two (2) model 204 flasher units and one (1) model 210pc (ecl or ms) conflict monitor.
- Three (3) model 242 two channel isolators.
- Twelve (12) model 200 switch packs.
- One (1) surge protector.

Note: The contractor shall supply and install all necessary material and equipment for the complete installation and operation of the Traffic Signal whether specifically mentioned or not.

TRAFFIC SIGNAL HEAD SUMMARY				
SIGNAL NO.	TYPE	SIZE	MOUNTING BRACKET	QUANTITY
1	I	5-12"	TYPE I	1
2	A	3-12"	TYPE I	2
3	A	3-12"	TYPE III	1
4a, 4b	K	2-12"	TYPE II	2
5	I	5-12"	TYPE I	1
6	A	3-12"	TYPE I	1
7	A	3-12"	TYPE III	1
8a, 8b	K	2-12"	TYPE II	2
9	I	5-12"	TYPE I	1
10	A	3-12"	TYPE I	2
11	A	3-12"	TYPE III	1
12a, 12b	K	2-12"	TYPE II	2
13	I	4-12"	TYPE I	1
14	A	3-12"	TYPE I	1
15	A	3-12"	TYPE III	1
16a, 16b	K	2-12"	TYPE II	2

All Signal Heads to be L.E.D.



SIGNAL FACE ARRANGEMENT

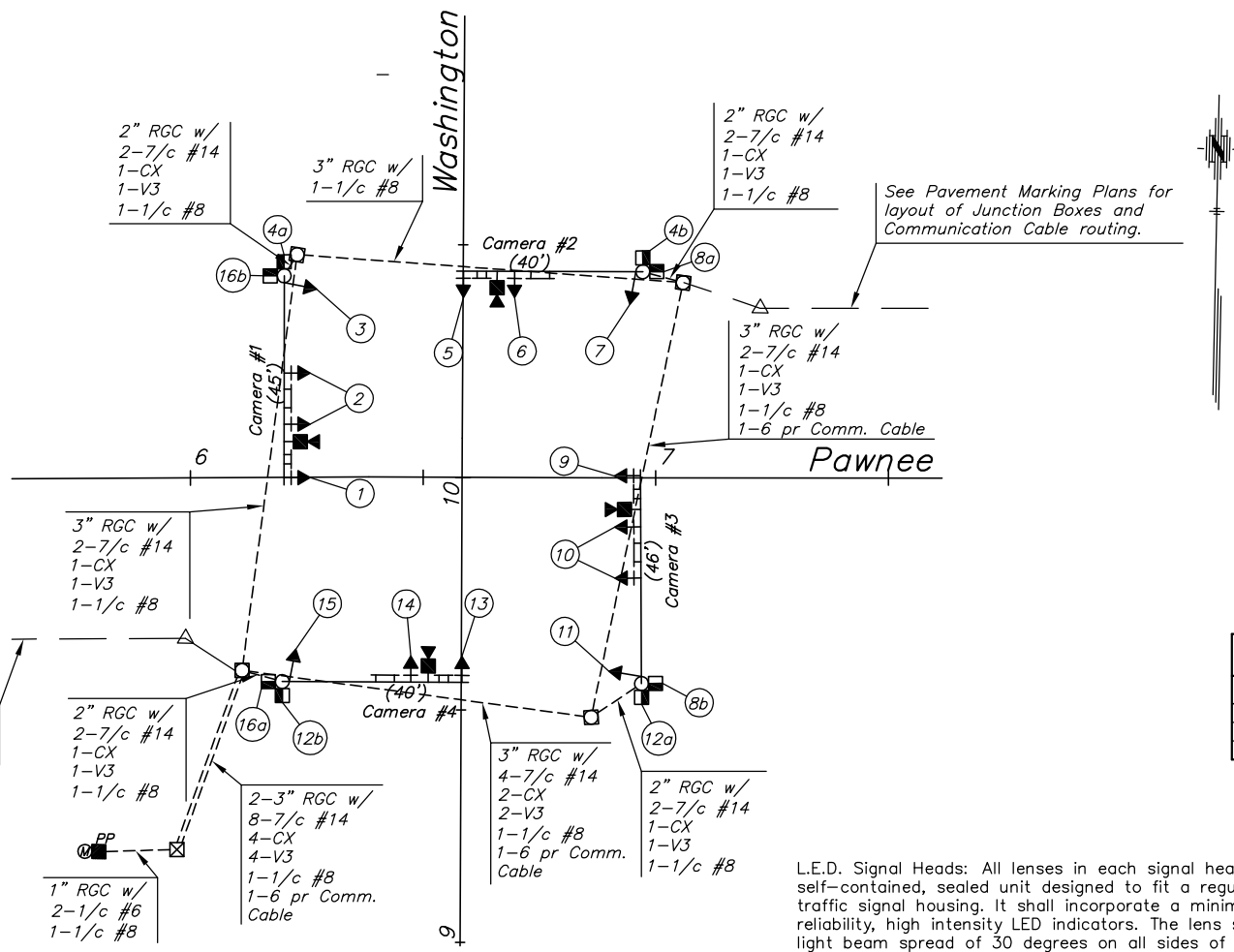
All lenses in each head shall be L.E.D. unit per note.

TRAFFIC SIGNAL POLE SUMMARY						
STATION	TYPE	ARM LENGTH	SIGNALS ON ARM	X1	X2	OTHER EQUIP. ON ARM
36+19.5, Rt.	B	40'	2-D	11		1C, 1F, 1G
36+20.4, Lt.	A	45'	3-D	11.5	11	1C, 1F, 1G
36+97.0, Rt.	B	46'	3-D	11.5	11	1C, 1F, 1G
36+97.2, Lt.	B	40'	2-D	11		1C, 1F, 1G

- A Joint Use Steel Pole With Mast Arm
- B Standard Steel Pole With Mast Arm
- C Left Turn Sign
- D Traffic Signal
- E Pedestrian Signal With Push Button
- F Street Name Sign
- G Video Detection Camera

STREET NAME SIGN SUMMARY	
LEGEND	QUANTITY
Pawnee	2
Washington	2
TOTAL	4

Letters shall be series "E Modified".



See Pavement Marking Plans for layout of Junction Boxes and Communication Cable routing.

RECAPITULATION OF TRAFFIC SIGNAL QUANTITIES		
BID ITEM	QUANTITY	UNIT
TRAFFIC SIGNAL INSTALLATION	1	L.S.

L.E.D. Signal Heads: All lenses in each signal head shall be a self-contained, sealed unit designed to fit a regular 12-inch traffic signal housing. It shall incorporate a minimum of 186 high reliability, high intensity LED indicators. The lens shall provide a light beam spread of 30 degrees on all sides of its center axis which shall be designed to provide a 5 to 7 degree downward angle.

The lens shall be made of UV stabilized plastic. The rear cover shall be of non-flammable material and the entire unit shall be totally sealed to preclude the entrance of water, dust or other contaminants.

The self-contained, regulated power supply shall allow the unit to operate over an input voltage range between 89 and 135 volts A.C. and shall be configured in at least 3 parallel circuits for reliability. Light output shall be comparable to that provided by a standard, 12 inch traffic signal lens illuminated by a 150 watt incandescent lamp. The red wave length shall be 630 to 660 nm.

The manufacturer shall warrant the unit against defects in workmanship and materials for a period of at least five years after date of shipment. This warranty shall be assigned to the maintenance agency.

All portions of the existing traffic signal at the intersection of Central and Edgemoor shall be removed including the traffic signal manholes along all approaches. Refer to the previous note on this page concerning salvaging of portions of the signal.

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KANSAS DEPARTMENT OF TRANSPORTATION
PAWNEE IMPROVEMENTS
PAWNEE & WASHINGTON INTERSECTION
WIRING PLAN

PROJECT NO. _____ SEDGWICK CO.
M K E C ENGINEERING CONSULTANTS, INC.
 WICHITA, KANSAS

DESIGNED BY: JRA CHECKED BY: JRA
 DRAWN BY: WNJ DATE: JULY 2004 SHEET 74 OF 120