STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0275-01	2001	11	18

4. ONE SEVEN CONDUCTOR CABLE PER CONFLICTING MOVEMENT SHALL BE RUN FROM THE CONTROLLER TO EACH SIGNAL POLE. THE FOLLOWING COLOR CODES SHALL BE USED:

WHITE	COMMON
RED	RED BALL
GREEN	GREEN BALL
ORANGE	YELLOW BALL
BLUE	GREEN ARROW
BLACK	YELLOW ARROW

WHITE W/BLACK STREET NAME SIGN (WHERE APPLICABLE A FIVE-SECTION SIGNAL HEAD (LEFT TURN SIGNAL) SHALL HAVE A SEVEN CONDUCTOR CABLE.)

5. EACH SIGNAL HEAD MOUNTED ON A SIGNAL POLE OR MAST ARM SHALL HAVE ONE CONTINUOUS MULTI-CONDUCTOR CABLE RUN FROM THE POLE BASE TO THE SIGNAL HEAD. A FIVE-SECTION SIGNAL HEAD (LEFT TURN SIGNAL) SHALL HAVE A SEVEN CONDUCTOR CABLE. A THREE-SECTION SIGNAL HEAD (THROUGH MOVEMENT) SHALL HAVE A FIVE CONDUCTOR CABLE; PEDESTRIAN SIGNAL HEADS SHALL HAVE A FIVE CONDUCTOR CABLE; EACH PUSH-BUTTON SHALL HAVE A TWO CONDUCTOR CABLE.

6. A SINGLE CONDUCTOR STRANDED NO. 8 GREEN WIRE SHALL CARRY THE EQUIPMENT GROUND FROM THE GROUNDING LUG OF ALL SIGNAL POLES TO THE CONTROLLER CABINET AND THE POWER DISCONNECT BOX.

7. ONE FIVE CONDUCTOR CABLE SHALL BE RUN FROM THE POLE BASE TO PEDESTRIAN SIGNAL HEAD. THE FOLLOWING COLOR CODES SHALL BE USED:

WHITE	COMMON (ALL PHASES)
RED	DON'T WALK (PHASE 2 OR 6)
GREEN	WALK (PHASE 2 OR 6)
ORANGE	DON'T WALK (PHASE 4 OR 8)
BLACK	WALK (PHASE 4 OR 8)

8. IDENTIFY CABLE RUNS IN CABINET.

G. CABINET WIRING

1. ALL CABLES SHALL HAVE ADEQUATE EXCESS CABLE AT THE TERMINATION ENDS SO THERE IS NO TENSION ON THE CONDUCTORS.

(A) TRAFFIC SIGNAL CABLES SHALL BE 1.5 m IN LENGTH AND STRIPPED BACK 1 m.

(B) PEDESTRIAN SIGNAL CABLES SHALL BE THE SAME AS THE SIGNAL CABLES EXCEPT THE PUSH BUTTON CONDUCTORS SHALL BE 2 m IN LENGTH TO REACH THE PROPER TERMINATION POINT WITHOUT THE USE OF A BUTT SPLICE.

(C) DETECTOR FEEDER CABLE SHALL BE 2.5 m IN LENGTH AND STRIPPED BACK 200 mm.

2. THE CABLES SHALL BE FORMED IN SUCH A MANNER SO THAT ANY ACCESS PANELS CAN BE LOWERED WITHOUT INTERFERENCE.

3. THERE SHALL NOT BE ANY USE OF TAPE ON THE STRIPPED OUT CONDUCTORS.

4. NYLON-CABLE TIES SHALL NOT BE USED ON ANY FIELD CABLES EXCEPT THOSE USED FOR IDENTIFICATION.

5. THE DRAIN WIRE OF EACH DETECTOR FEEDER SHALL BE COVERED WITH A TUBE TYPE COVERING (I.E., SHRINK TUBE) NOT MORE THAN THREE (3) TIMES THE DIAMETER OF THE WIRE.

6. ALL CABLE FILLERS SHALL BE REMOVED FROM STRIPPED BACK CABLE.

7. EACH CONDUCTOR SHALL BE SEPARATELY TERMINATED WITH A NON-LOCKING, INSULATED BLOCK FORK TERMINAL OF THE APPROPRIATE SIZE.

8. ALL CONDUITS ENTERING THE CABINET BASE SHALL BE CLOSED WITH AN APPROVED DUCT SEAL.

9. ALL EXCESS CABLE SHALL BE NEATLY FORMED IN THE BOTTOM OF THE CABINET.

10. ALL CABLES TERMINATING AT THE INPUT FILES SHALL BE RUN IN THE PROVIDED PAN DUCTS.

11. ALL TRAFFIC AND PEDESTRIAN SIGNAL CABLES, ALSO DETECTOR FEEDERS, SHALL BE PERMANENTLY AND LEGIBLY IDENTIFIED BY THE USE OF NYLON IDENTIFI-CATION CABLE TIES. TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL CABLES SHALL HAVE A MARKING PAD SIZE OF 12 mm X 24 mm (I.E., TY-RAP #TY546M). DETECTOR FEEDERS SHALL HAVE A MARKING PAD SIZE OF 25 mm X 8 mm (I.E., TYP-RAP #TY551M). THE LEGENDS SHALL BE MADE WITH A PERMANENT TYPE MARKING PEN.

THE FOLLOWING LEGENDS SHALL BE USED:

"NW SIGS." = TRAFFIC SIGNAL CABLE TO NW CORNER

"NW PEDS." = PEDESTRIAN SIGNAL CABLE TO NW CORNER

"NE SIGS." = TRAFFIC SIGNAL CABLE TO NE CORNER

"NE PEDS." = PEDESTRIAN SIGNAL CABLE TO NE CORNER

"SW SIGS." = TRAFFIC SIGNAL CABLE TO SW CORNER

"SW PEDS." = PEDESTRIAN SIGNAL CABLE TO SW CORNER

"SE SIGS." = TRAFFIC SIGNAL CABLE TO SE CORNER

"SE PEDS." = PEDESTRIAN SIGNAL CABLE TO SE CORNER

12. THE TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL FIELD WIRES SHALL TERMINATE AT THE FOLLOWING LOCATIONS IN THE CABINET:

WBLT – RED 125, YELLOW 126, GREEN 127

EB SIGS. – RED 128, YELLOW 129, GREEN 130

EB PEDS. – DW 113, WALK 115

SBLT – RED 116, YELLOW 117, GREEN 118

NB SIGS. – RED 101, YELLOW 102, GREEN 103

NB PEDS. – DW 104, WALK 106

EBLT – RED 131, YELLOW 132, GREEN 133

WB SIGS. – RED 134, YELLOW 135, GREEN 136

WB PEDS. – DW 119, WALK 121

NBLT – RED 122, YELLOW 123, GREEN 124

SB SIGS. – RED 107, YELLOW 108, GREEN 109

SB PEDS. – DW 110, WALK 112

13. THE PEDESTRIAN PUSHBUTTON FIELD WIRES SHALL TERMINATE AT THE FOLLOWING LOCATIONS:

EB PEDS. – I-12-D

NB PEDS. – I-12-J

WB PEDS. – I-13-D

SB PEDS. – I-13-J

14. IF ANY ADDITIONAL FIELD WIRE TERMINATIONS ARE NECESSARY, THEIR LOCATION WILL BE DETERMINED BY THE ENGINEER OR HIS REPRESENTATIVE.

H. MAST ARM AND POLE BASE CABLE IDENTIFICATION

THE FOLLOWING IS THE SPECIFICATION FOR IDENTIFYING ALL CABLES USED IN THE COMPLETE OPERATION OF THE TRAFFIC SIGNALS WHICH ARE LOCATED IN MAST ARMS AND POLE BASES.

THE THROUGH TRAFFIC AND PEDESTRIAN SIGNAL CABLES SHALL BE LEGIBLY IDENTIFIED WITH THE USE OF NYLON IDENTIFICATION CABLE TIES. THE MARKING PAD SIZE SHALL BE 12 mm X 22 mm (I.E., TY-RAP #TY546M). THE LEGEND SHALL BE MADE WITH A PERMANENT TYPE MARKING PEN.

THE PUSHBUTTON CABLES SHALL BE LEGIBLY IDENTIFIED WITH THE USE OF NYLON IDENTIFICATION CABLE TIES. THE MARKING PAD SIZE SHALL BE 25 mm X 8 mm (I.E., TY-RAP #TY551M). THE LEGENDS SHALL BE MADE WITH A PERMANENT TYPE MARKING PEN.

A. MAST ARM TRAFFIC AND PEDESTRIAN SIGNAL CABLE LEGENDS

1. MAST ARM SIGNAL CABLES

"LT. TURN SIG." – LEFT TURN SIGNAL

"OUT BD. SIG." – FARTHEST THROUGH TRAFFIC SIGNAL FROM POLE

"CENTER SIG." – NEXT FARTHEST THROUGH TRAFFIC SIGNAL FROM POLE (IF APPLICABLE)

"IN BD. SIG." – CLOSEST THRU TRAFFIC SIGNAL TO POLE

"SOP SIG." – SIDE OF POLE THROUGH TRAFFIC SIGNAL

2. POLE MOUNTED PEDESTRIAN SIGNALS AND PUSHBUTTONS

"PED. SIG." – PEDESTRIAN SIGNAL

"PH.2 P.B." – ALL PHASE 2 PUSHBUTTONS

"PH.4 P.B." – ALL PHASE 4 PUSHBUTTONS

"PH.6 P.B." – ALL PHASE 6 PUSHBUTTONS

"PH.8 P.B." – ALL PHASE 8 PUSHBUTTONS

I. MULTICONDUCTOR CABLE:

1. GENERAL: ALL CONDUCTOR CABLE FOR INTERSECTION SIGNALIZATION AND INTERCONNECTION SHALL BE NO. 14 AMERICAN WIRE GAUGE MULTICONDUCTOR CABLE FOR OPERATION ON A 600 VOLT MAXIMUM, AND SUITABLE FOR USE AT CONDUCTOR TEMPERATURES NOT EXCEEDING 75 DEGREES CELSIUS. MATERIAL, CONSTRUCTION, AND TESTS SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE LATEST EDITION OF THE INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION, INC. SPECIFICATION 19-1 FOR POLYETHYLENE- INSULATED, POLYVINYL CHLORIDE JACKETED SIGNAL CABLE.

J. LEAD-IN WIRE

1. CONDUCTOR: POWER LEAD-IN WIRE FOR INTERSECTION SIGNALIZATION SHALL BE NO. 6 AMERICAN WIRE GAUGE SINGLE CONDUCTOR CABLE FOR OPERATION ON A 600 VOLT MAXIMUM, AND SUITABLE FOR USE AT CONDUCTOR TEMPERATURES NOT EXCEEDING 165 DEGREES FAHRENHEIT. MATERIAL, CONSTRUCTION, AND TESTS SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE LATEST EDITION OF THE INSULATED POWER CABLE ENGINEERS' ASSOCIATION STANDARD S-66-524 "CROSS-LINKED-THERMOSETTING-POLYETHYLENE-INSULATED WIRE AND CABLE FOR THE TRANSMISSION AND DISTRIBUTION OF ELECTRICAL ENERGY".

2. COPPER WIRE: CONDUCTORS SHALL BE STRANDED, ANNEALED COATED COPPER. COPPER WIRE, BEFORE INSULATING OR STRANDING, SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN SOCIETY FOR TESTING

AND MATERIALS (ASTM) STANDARD B33 "SPECIFICATION FOR TINNED SOFT OR ANNEALED COPPER WIRE FOR ELECTRICAL PURPOSES" (FOR COATED WIRE). STRANDING SHALL BE CLASS B, IN ACCORDANCE WITH THE LATEST EDITION OF ASTM B8 "SPECIFICATION FOR CONCENTRIC-LAY-STRANDED COPPER CONDUCTORS, HARD, MEDIUM-HARD, OR SOFT".

3. INSULATION: INSULATION SHALL CONSIST OF CROSS-LINKED THERMOSETTING POLYETHYLENE, MEETING THE REQUIREMENTS OF COLUMN A OF THE INSULATED POWER CABLE ENGINEERS' ASSOCIATION AND LISTED BY UNDERWRITERS' LABORATORY AS TYPE U.S.E. RHW-75 DEGREES CELSIUS.

TRAFFIC SIGNAL SPECIFICATIONS

PROJECT NUMBER

DRAWN BY: TM	APPROVED BY	REVISED:
DATE: FEB. 98		DATE:

CITY OF WICHITA

DEPARTMENT OF PUBLIC WORKS

TRAFFIC ENGINEERING DIVISION — SCALE

WM. G. McKINLEY, TRAFFIC ENGINEER