

CHART A SIGNAL SUMMARY

| NO. WAYS | NO. SECTIONS (per face) | SIGNAL FACE ARRANGEMENT | MOUNTING TYPE    | QUANTITY |
|----------|-------------------------|-------------------------|------------------|----------|
|          | 5                       | I                       | RIGID MAST ARM   | 4        |
|          | 3                       | A                       | RIGID MAST ARM   | 8        |
|          |                         |                         |                  |          |
|          | 3                       | A                       | VERTICAL BRACKET | 4        |

CHART B TRAFFIC SIGNAL POLES

| STATION   | ARM SIZE | NO. OF SIGNALS ON ARM | SIGNAL SPACING    |      |
|-----------|----------|-----------------------|-------------------|------|
| 109+79.05 | 60'      | 3                     | 37.2',48.2',58.7' |      |
| 109+83.32 | 41'      | 3                     | 17.5',28.5',39.5' |      |
| 108+59.73 | 60'      | 3                     | 37.5',48.5',58.5' |      |
| 108+50.32 | 40'      | 3                     | 16.6',27.6',38.6' | J.U. |
| 109+83.30 | -        | 1                     | -                 |      |
| 109+75.70 | -        | 1                     | -                 |      |
| 108+59.70 | -        | 1                     | -                 |      |
| 108+79.30 | -        | 1                     | -                 |      |

SERVICE BOX SUMMARY

| STATION   | DIST.-SIDE |
|-----------|------------|
| 108+59.07 | 39.70'-LT  |
| 108+64.19 | 40.71'-RT  |
| 108+78.95 | 66.12'-LT  |
| 109+75.75 | 44.40'-RT  |
| 109+79.37 | 63.75'-LT  |

JUNCTION BOX SUMMARY

| STATION   | DIST.-SIDE |
|-----------|------------|
| 108+73.93 | 48.71'-LT  |

CHART C

| CONDUIT | TRENCHED | PUSHED |
|---------|----------|--------|
| 3/4"    |          |        |
| 1"      |          |        |
| 1-1/4"  |          |        |
| 3"      | 604.8'   |        |

BILL OF MATERIALS

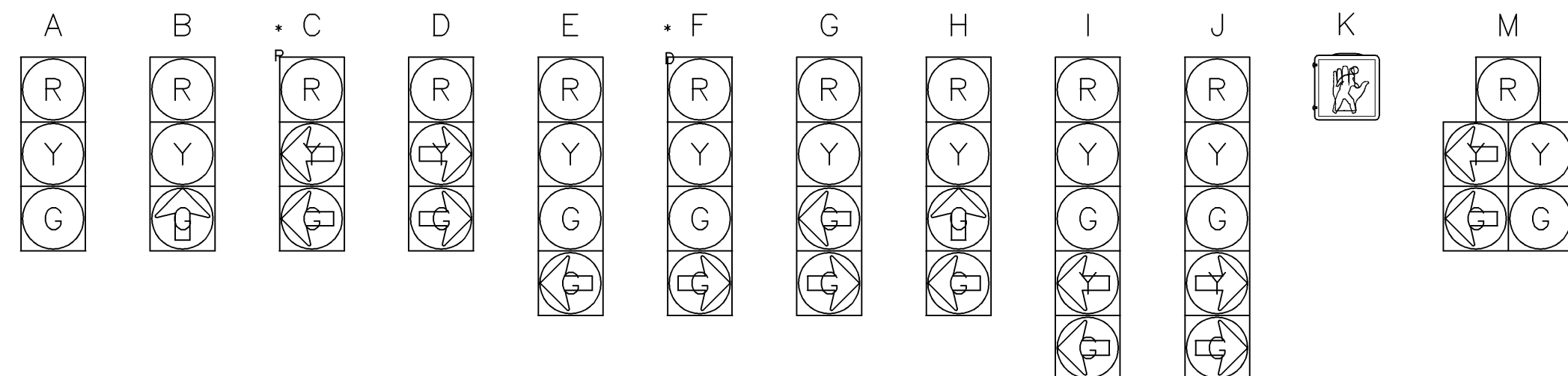
| ITEM   | UNIT        | QUANT.         |
|--|-------------|----------------|
| 2070 CONTROLLER  | EACH        | City           |
| PEDESTAL MOUNTED CONTROLLER & CABINET                  | EACH        | 0              |
| PAD MOUNTED CABINET                                    | EACH        | 1              |
| TRAFFIC SIGNAL HEAD (SEE CHART A) W/ MOUNTING HARDWARE | EACH        | 16             |
| TRAFFIC SIGNAL POLE (SEE CHART B) STEEL                | EACH        | 4              |
| TRAFFIC SIGNAL POLE (SEE CHART B) ALUMINUM             | EACH        | 0              |
| PEDESTRIAN PEDESTAL ALUMINUM 15'                       | EACH        | 4              |
| CONCRETE CONTROLLER PAD                                | EACH        | 1              |
| CONCRETE FOOTING - PEDESTAL                            | EACH        | 4              |
| CONCRETE FOOTING - POLE                                | EACH        | 4              |
| CONDUIT ELBOW 90 2"                                    | EACH        | As Required    |
| CONDUIT ELBOW 90 3"                                    | EACH        | As Required    |
| BACK PLATE 5" 3 SECTION                                | EACH        | 8              |
| BACK PLATE 5" 4 SECTION                                | EACH        | 0              |
| BACK PLATE 5" 5 SECTION                                | EACH        | 4              |
| TERMINAL BLOCK   | EACH        | 8              |
| SERVICE BOX  | EACH        | 5              |
| JUNCTION BOX   | EACH        | 1              |
| GROUND ROD & CLAMP                                     | EACH        | 8              |
| CONDUIT CLAMP  | EACH        | 0              |
| TRAFFIC SIGNAL LAMP LED                                | EACH        | 58             |
| TRAFFIC SIGNAL LAMP LED                                | EACH        | 0              |
| CLASS 4, WOOD POLE                                     | EACH        | 0              |
| ENTRANCE HEAD  | EACH        | 0              |
| CIRCUIT BREAKER & BOX 20 AMP                           | EACH        | 1              |
| GUY WIRE GUARD   | EACH        | 0              |
| GUY WIRE CLAMP   | EACH        | 0              |
| THIMBLE EYE ANCHOR ROD                                 | EACH        | 0              |
| 5' ASTRO BRACKET                                       | EACH        | 4              |
| PEDESTRIAN PUSHBUTTON W/SIGN                           | EACH        | 8              |
| PEDESTRIAN INDICATOR HEAD                              | EACH        | 8              |
| VIDEO COMM./POWER CABLE (BELDEN 9556 OR APP. EQUAL)    | LIN. FT.    | 785'           |
| COMMUNICATION CABLE 6 PAIR NO. 19 A.W.G.               | LIN. FT.    | 785'           |
| DETECTOR LOOP WIRE NO. 14 A.W.G 1/c (TYPE THHN)        | LIN. FT.    | -              |
| LEAD-IN WIRE NO. 6 A.W.G. 1/c (TYPE THHN)              | LIN. FT.    | 80'            |
| MULTI-CONDUCTOR CABLC NO. 14 A.W.G. 5/c                | LIN. FT.    | 583.4'         |
| MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 7/c                | LIN. FT.    | 2,354.3'       |
| MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 2/c                | LIN. FT.    | -              |
| SHIELDED DETECTOR LEAD-IN NO. 16 A.W.G. 2/c            | LIN. FT.    | -              |
| CONDUIT 3/4"   | SEE CHART C | LIN. FT. -     |
| CONDUIT 1"   | SEE CHART C | LIN. FT. -     |
| CONDUIT 1-1/4"   | SEE CHART C | LIN. FT. -     |
| CONDUIT 2"   |             | LIN. FT. -     |
| CONDUIT 3"   | SEE CHART C | LIN. FT. 604.8 |
| STANDARD IC #8 (GROUND)                                | LIN. FT.    | 1,375'         |
| TETHER WIRE 1/4" ASTM A475 Siemens-Martin Grade Min.   | LIN. FT.    | -              |
| REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT **        | L. S.       | 1              |
| STREET NAME SIGNS - SEE CHART D                        | EACH        | 4              |
| LEFT TURN YIELD ON GREEN W/ MOUNTING HARDWARE (R10-12) | EACH        | 4              |
| LIGHTING DISTRIBUTION CABLE NO. 10 A.W.G. 2/c          | LIN. FT.    | 785'           |

- Quantities For Information Only -

NOTE: The contractor shall supply and install all necessary materials and equipment for the complete installation and operation of the traffic signal system whether specifically mentioned or not.

\* Subscript "P" indicates programmed signals. Subscript "D" indicates dual-mode green/yellow arrow section.

\*\* Removal of existing traffic signal equipment shall include removal of foundations, service boxes, and junction boxes. See construction traffic control regarding removal of existing signals.



12" lenses - vehicular and pedestrian

PRELIMINARY TIMINGS

| Interval         | Phase |      |     |      |     |      |     |      |
|------------------|-------|------|-----|------|-----|------|-----|------|
|                  | 1     | 2    | 3   | 4    | 5   | 6    | 7   | 8    |
| Walk             |       | 7.0  |     | 7.0  |     | 7.0  |     | 7.0  |
| Flash Don't Walk |       | 23.0 |     | 16.0 |     | 23.0 |     | 16.0 |
| Minimum          | 4.0   | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 | 4.0 | 10.0 |
| Extension        | 1.5   | 4.0  | 1.5 | 4.0  | 1.5 | 4.0  | 1.5 | 4.0  |
| Max. Extension   | 0.5   | 21.5 | 1.5 | 13.5 | 1.0 | 21.5 | 1.5 | 13.5 |
| Yellow           | 3.5   | 4.0  | 3.5 | 4.0  | 3.5 | 4.0  | 3.5 | 4.0  |
| Red Clear        | 1.0   | 1.5  | 1.0 | 1.5  | 1.0 | 1.5  | 1.0 | 1.5  |

LOOP OPERATION CHART

| Camera No. (Pole #) | Detection Zone | Mode  | Size (ft) | Phase Called | Phase Extended | Delay/Stretch Timer | Initial Setting (sec.) |
|---------------------|----------------|-------|-----------|--------------|----------------|---------------------|------------------------|
| 1                   | 11             | P     | 6 x 50    | 1            | 1              |                     |                        |
| 1                   | 61,62,63       | P     | 6 x 50    | 6            | 6              | 62                  | 7.0                    |
| 1                   | 64,65,66,67    | Pulse | 6 x 6     | 6            | 6              |                     |                        |
| 2                   | 71             | P     | 6 x 50    | 7            | 7              |                     |                        |
| 2                   | 41,42,43       | P     | 6 x 50    | 4            | 4              |                     |                        |
| 2                   | 44,45,46,47    | Pulse | 6 x 6     | 4            | 4              |                     |                        |
| 3                   | 51             | P     | 6 x 50    | 5            | 5              |                     |                        |
| 3                   | 21,22,23       | P     | 6 x 50    | 2            | 2              | 22                  | 7.0                    |
| 3                   | 24,25,26,27    | Pulse | 6 x 6     | 2            | 2              |                     |                        |
| 4                   | 31             | P     | 6 x 50    | 3            | 3              |                     |                        |
| 4                   | 81,82,83       | P     | 6 x 50    | 8            | 8              |                     |                        |
| 4                   | 84,85,86,87    | Pulse | 6 x 6     | 8            | 8              |                     |                        |

P = Presence

CHART D STREET NAME SIGN SUMMARY

| NO. | LEGEND   | SIZE             |
|-----|----------|------------------|
| 1   | WOODLAWN | 1600 S 60" x 18" |
| 1   | WOODLAWN | 1200 S 60" x 18" |
| 1   | HARRY    | 6300 E 60" x 18" |
| 1   | HARRY    | 6400 E 60" x 18" |

REVISED

SEAL: KEVIN K. HOLLAND LICENSED PROFESSIONAL ENGINEER 16491 2/8/11 KANSAS

Cook, Flatt & Strobel ENGINEERS, P.A.

CFS

CFS PROJECT NO: 10-5048

CITY OF WICHITA, KANSAS

E. HARRY ST. & WOODLAWN ST. INTERSECTION

DESIGNED BY: KWB DRAWN BY: JR. CHECKED BY: KKH

DATE: 08-01-11

SHEET TITLE: SIGNAL QUANTITIES

PROJECT NUMBER: 87N-0494-01

FINAL PLANS

SHEET NUMBER: 50 of 69