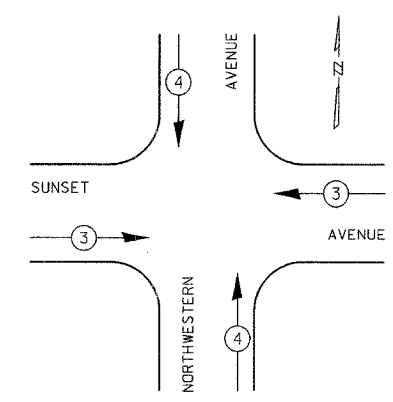


| FILE NO.            | SECTION        | COUNTY | TOTAL SHEETS  | SHEET NO. |
|---------------------|----------------|--------|---------------|-----------|
| 1215                | 99-00169-05-WR | LAKE   | 153           | 74        |
| TRAFFIC SIGNAL PLAN |                |        |               |           |
| CONTRACT NO. 83847  |                | ALWAYS | SUNSET AVENUE |           |

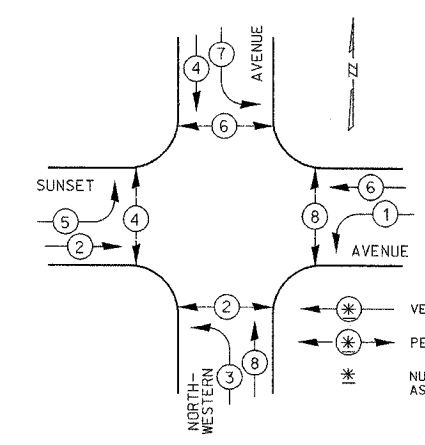
SCHEDULE OF TRAFFIC SIGNAL QUANTITIES

| PAY CODE | DESCRIPTION  | UNIT | QTY  |
|----------|--|------|------|
| 81000600 | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL                               | FOOT | 5110 |
| 81000700 | CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL                           | FOOT | 153  |
| 81001000 | CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL                               | FOOT | 175  |
| 81018500 | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL                                  | FOOT | 168  |
| 81018900 | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL                                  | FOOT | 207  |
| 81400100 | HANDHOLE   | EACH | 13   |
| 81400300 | DOUBLE HANDHOLE  | EACH | 1    |
| 81602010 | UNIT DUCT, WITHOUT CABLE, IN TRENCH 1"                                     | FOOT | 12   |
| 85000200 | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION                        | EACH | 2    |
| 85700200 | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET                               | EACH | 1    |
| 86400100 | TRANSCIEVER - FIBER OPTIC  | EACH | 2    |
| 87301215 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14, 2C                               | FOOT | 1292 |
| 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14, 3C                               | FOOT | 2862 |
| 87301245 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14, 5C                               | FOOT | 849  |
| 87301255 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14, 7C                               | FOOT | 1629 |
| 87301805 | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C                               | FOOT | 90   |
| 87502500 | TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.                              | EACH | 4    |
| 87600100 | PEDESTRIAN PUSH-BUTTON POST, TYPE I  | EACH | 1    |
| 87704080 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 30 FT. (SPECIAL)              | EACH | 2    |
| 87704090 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 32 FT. (SPECIAL)              | EACH | 1    |
| 87704120 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 38 FT. (SPECIAL)              | EACH | 1    |
| 87800100 | CONCRETE FOUNDATION, TYPE A  | FOOT | 16   |
| 87800150 | CONCRETE FOUNDATION, TYPE C  | FOOT | 4    |
| 87800400 | CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER                               | FOOT | 60   |
| 87900200 | DRILL EXISTING HANDHOLE  | EACH | 1    |
| 88030020 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED                      | EACH | 4    |
| 88030100 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED                       | EACH | 4    |
| 88030110 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED                      | EACH | 4    |
| 88102717 | PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED, WITH COUNTDOWN TIMER | EACH | 8    |
| 88200110 | TRAFFIC SIGNAL BACKPLATE, LOUVERED   | EACH | 8    |
| 88600600 | DETECTOR LOOP REPLACEMENT  | FOOT | 72   |
| 88700200 | LIGHT DETECTOR   | EACH | 2    |
| 88700300 | LIGHT DETECTOR AMPLIFIER   | EACH | 1    |
| 88800100 | PEDESTRIAN PUSH-BUTTON   | EACH | 8    |
| 89000100 | TEMPORARY TRAFFIC SIGNAL INSTALLATION                                      | EACH | 1    |
| 89502300 | REMOVE ELECTRIC CABLE FROM CONDUIT   | FOOT | 258  |
| 89502375 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                   | EACH | 10   |
| 89502380 | REMOVE EXISTING HANDHOLE   | EACH | 4    |
| 89502385 | REMOVE EXISTING CONCRETE FOUNDATION  | EACH | 8    |
| XX003553 | VIDEO TRANSMISSION SYSTEM  | EACH | 2    |
| XX003582 | ELECTRIC CABLE IN CONDUIT, NO. 20 3/C                                      | FOOT | 558  |
| XX003660 | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM24F SM12F                    | FOOT | 6074 |
| XX003661 | ELECTRIC CABLE IN CONDUIT, COAXIAL   | FOOT | 446  |
| XX004804 | CONDUIT IN TRENCH, TRANSITION  | EACH | 1    |
| XX005940 | REMOTE CONTROLLED VIDEO SYSTEM   | EACH | 2    |
| XX005922 | ELECTRIC CABLE IN CONDUIT COMMUNICATION NO 16 5-1/2 PAIR                   | FOOT | 868  |
| XX005937 | LED INTERNALLY ILLUMINATED STREET NAME SIGNS                               | EACH | 4    |
| XX006025 | INTERSECTION MONITOR MODULE  | EACH | 1    |
| XX006027 | VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)                             | EACH | 1    |
| X0300739 | UNINTERRUPTIBLE POWER SUPPLY   | EACH | 1    |
| X0322966 | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 2C                               | FOOT | 5678 |
| X0324603 | CIRCUIT BREAKER, 1-POLE, 20 AMP, 120V IN EXISTING TSC CABINET              | EACH | 1    |
| X0329863 | INTERCEPT EXISTING CONDUIT   | EACH | 1    |
| X8050015 | SERVICE INSTALLATION - POLE MOUNTED  | EACH | 1    |
| X8730027 | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C                            | FOOT | 669  |



| PROPOSED EMERGENCY VEHICLE PREEMPTORS |         |
|---------------------------------------|---------|
| EMERGENCY VEHICLE PREEMPTORS          | 3 4     |
| MOVEMENT                              | ← → ↓ ↑ |

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PHASE DESIGNATION  
CONTROLLER SEQUENCE

CABLE PLAN LEGEND

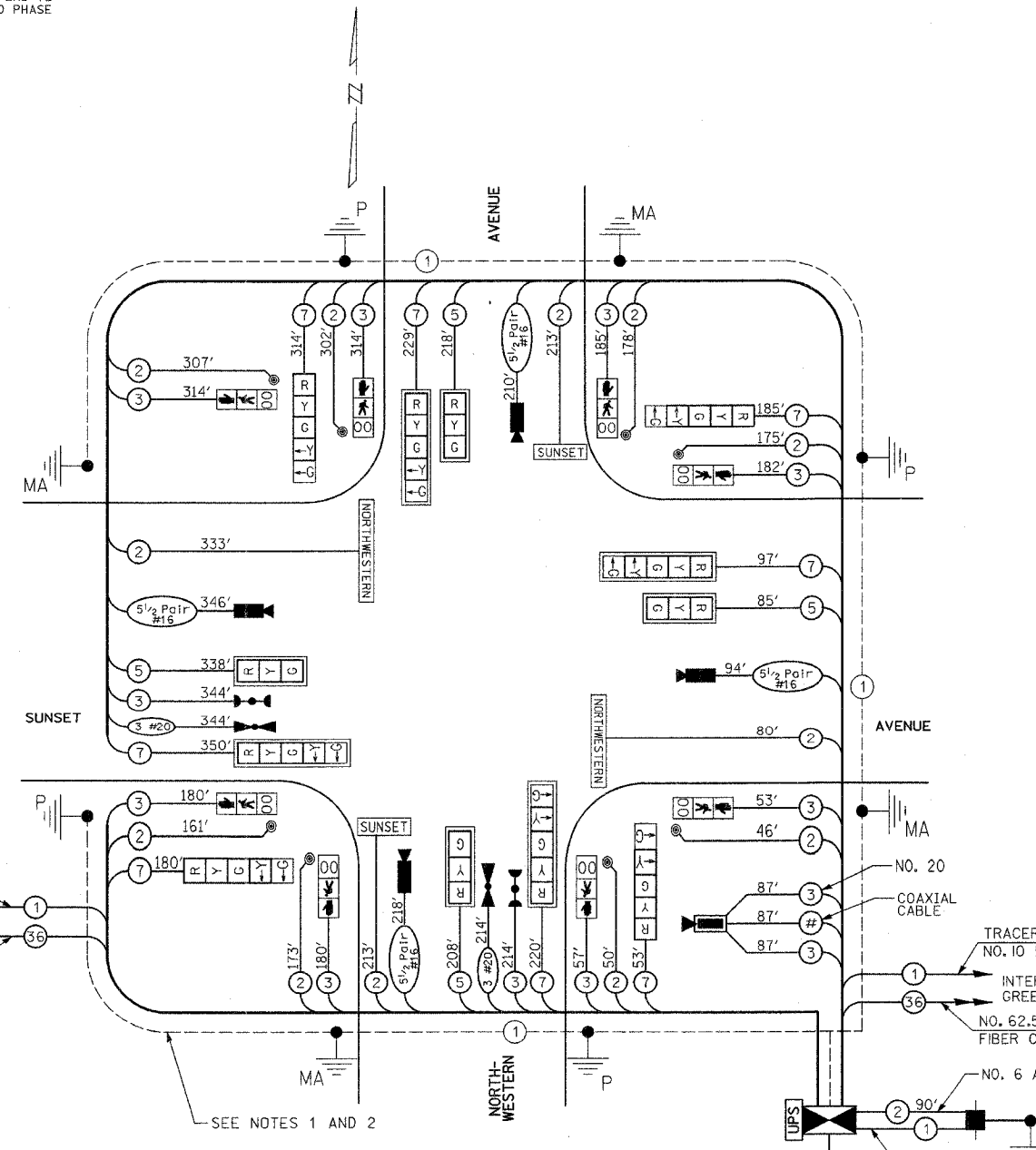
| DESCRIPTION  | PROPOSED SYMBOL | DESCRIPTION  | PROPOSED SYMBOL |
|--|-----------------|--|-----------------|
| 8" TRAFFIC SIGNAL SECTION                          | G               | CONFIRMATION BEACON  | ●               |
| 12" TRAFFIC SIGNAL SECTION                         | R               | PUSHBUTTON DETECTOR  | ⊙               |
| 12" PEDESTRIAN SIGNAL SECTION                      | W               | MACHINE VISION PROCESSOR   | ⊠               |
| 12" PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER | W               | LUMINAIRE  | ⊗               |
| CONTROLLER CABINET                                 | ⊠               | LED INTERNALLY ILLUMINATED STREET NAME SIGN WITH PHOTO CELL        | ⊠               |
| SERVICE INSTALLATION                               | ⊠               | PTZ  | ⊠               |
| VEHICLE DETECTOR, INDUCTION LOOP                   | ⊠               | DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED | 2               |
| MAGNETIC DETECTOR                                  | ⊠               | SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMED HEAD            | ⊠               |
| EMERGENCY VEHICLE LIGHT DETECTOR                   | ⊠               |  |                 |

NOTE:  
VIDEO FROM THE SUNSET INTERSECTION WILL BE TRANSMITTED OVER FIBER-OPTIC CABLE TO THE RYAN ROAD VIDEO CABINET. ALL MODIFICATIONS TO THE RYAN ROAD CABINET WILL BE DONE PER THE SPECIAL PROVISIONS.

| TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |              |         |                   |               |
|---|--------------|---------|-------------------|---------------|
| TYPE  | No. OF LAMPS | WATTAGE | PERCENT OPERATION | TOTAL WATTAGE |
| SIGNAL (RED)  | 12           | 17      | 0.50              | 102.00        |
| (YELLOW)  | 12           | 25      | 0.25              | 75.00         |
| (GREEN)   | 12           | 15      | 0.25              | 45.00         |
| ARROW   | 16           | 12      | 0.10              | 19.20         |
| PED. SIGNALS  | 8            | 25      | 1.00              | 200.00        |
| CONTROLLER  | 1            | 300     | 1.00              | 300.00        |
| LUMINAIRE   | 0            | 250     | 0.50              | 0.00          |
| LED SIGN  | 4            | 30      | 1.00              | 120.00        |
| UPS   | 1            | 25      | 1.00              | 25.00         |
| TOTAL   |              |         |                   | 886.20        |

ENERGY COST TO: LAKE COUNTY DIVISION OF TRANSPORTATION  
600 WEST WINCHESTER ROAD  
LIBERTYVILLE, ILLINOIS 60048-1341  
ENERGY SUPPLY CONTACT: ALICE TAYLOR  
PHONE: (847) 816-5338  
COMPANY: COMMONWELTH EDISON

| FOUNDATION          | DEPTH (FT) | CABLE SLACK          | SLACK (FT) | VERTICAL CABLE LENGTHS (FT) | LENGTH (FT) |
|---------------------|------------|----------------------|------------|-----------------------------|-------------|
| TYPE A - POST       | 4.0        | HANDHOLE             | 6.5        | FOUNDATION                  | 3.0         |
| TYPE D - CONTROLLER | 4.0        | DOUBLE HANDHOLE      | 13.0       | MAST ARM POST               | 20.0        |
| TYPE E - MAST ARM   | 24"        | SIGNAL POST/MAST ARM | 3.0        | MAST ARM BRACKET            | 13.0        |
|                     | 30"        | CONTROLLER           | 1.0        | SIGNAL POST                 | 13.0        |
|                     | 36"        |                      |            | PED SIGNAL HEAD             | 13.0        |
|                     |            |                      |            | PED PUSH BUTTON             | 6.0         |



CABLE PLAN  
NOT TO SCALE

- NOTE:
- SYSTEM GROUND THAT SHALL INTERCONNECT ALL GROUND RODS WITH NO. 6 1/C COPPER AWG.
  - THE NEUTRAL AND GROUND SHALL BE TIED AT THE SERVICE INSTALLATION, BUT SHALL BE SEPARATED AT THE TRAFFIC SIGNAL CABINET.
- THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

| REVISIONS |      |
|-----------|------|
| NAME      | DATE |
|           |      |
|           |      |

Lake County  
Division of Transportation

CABLE PLAN AND PHASE DESIGNATION DIAGRAM

SUNSET AVENUE AND NORTHWESTERN AVENUE  
N.T.S.