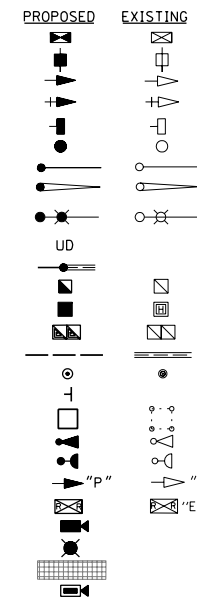


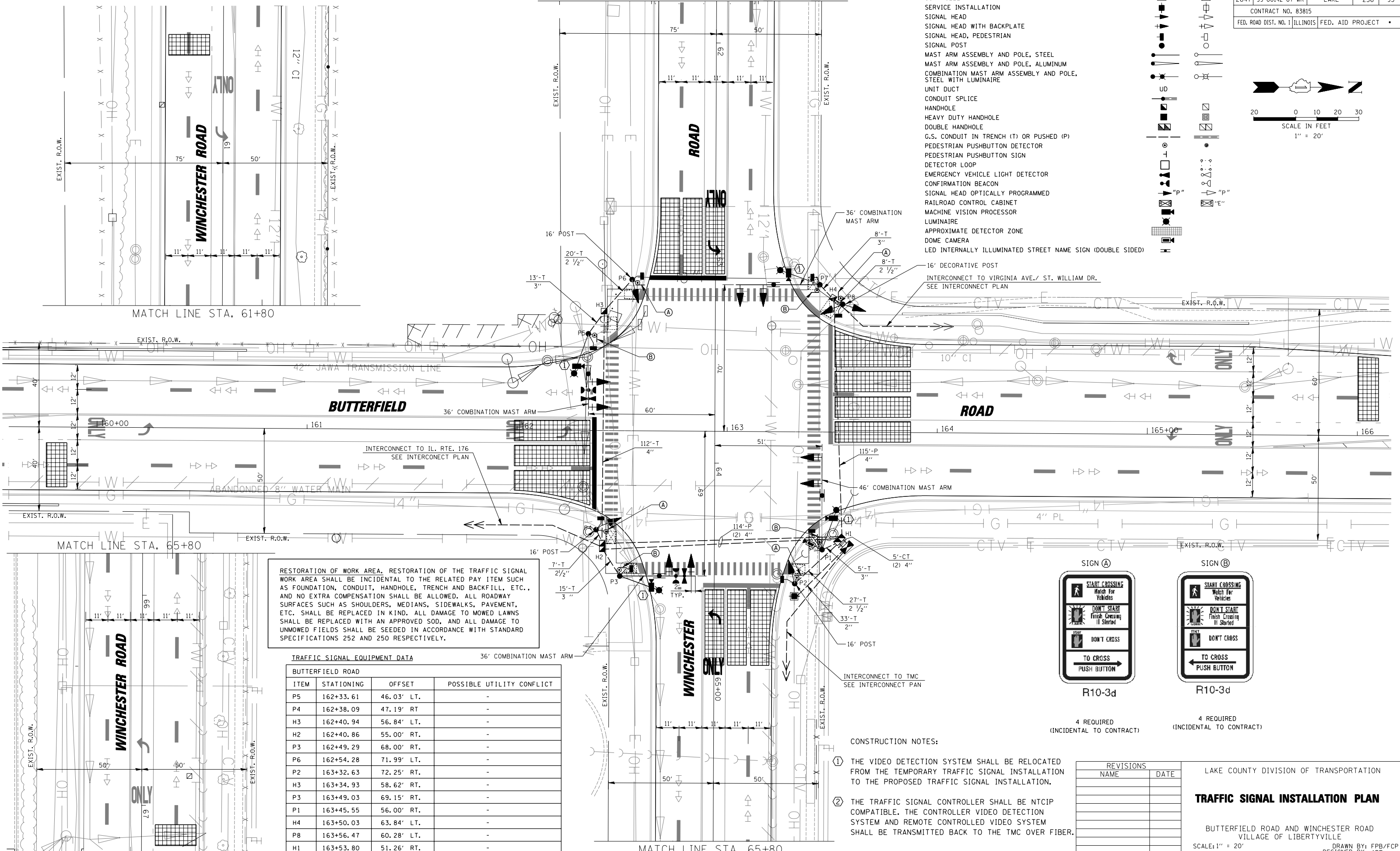
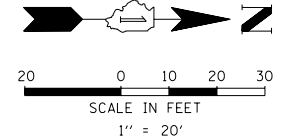
MATCH LINE STA. 61+80

TRAFFIC SIGNAL LEGEND



|   |                |        |              |           |
|---|----------------|--------|--------------|-----------|
| F.A.U.  | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2647  | 99-00142-07-WR | LAKE   | 256          | 93        |
| CONTRACT NO. 83815                              |                |        |              |           |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT |                |        |              |           |

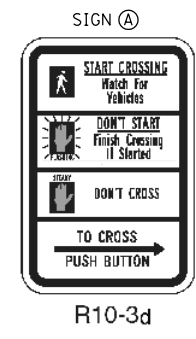
- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE
- UNIT DUCT
- CONDUIT SPLICE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
- PEDESTRIAN PUSHBUTTON DETECTOR
- PEDESTRIAN PUSHBUTTON SIGN
- DETECTOR LOOP
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED
- RAILROAD CONTROL CABINET
- MACHINE VISION PROCESSOR
- LUMINAIRE
- APPROXIMATE DETECTOR ZONE
- DOME CAMERA
- LED INTERNALLY ILLUMINATED STREET NAME SIGN (DOUBLE SIDED)



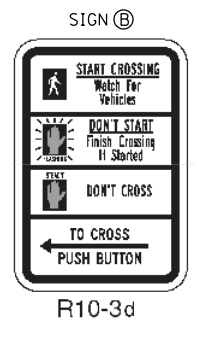
RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

TRAFFIC SIGNAL EQUIPMENT DATA

| BUTTERFIELD ROAD |            |            |                           |
|------------------|------------|------------|---------------------------|
| ITEM             | STATIONING | OFFSET     | POSSIBLE UTILITY CONFLICT |
| P5               | 162+33.61  | 46.03' LT. | -                         |
| P4               | 162+38.09  | 47.19' RT. | -                         |
| H3               | 162+40.94  | 56.84' LT. | -                         |
| H2               | 162+40.86  | 55.00' RT. | -                         |
| P3               | 162+49.29  | 68.00' RT. | -                         |
| P6               | 162+54.28  | 71.99' LT. | -                         |
| P2               | 163+32.63  | 72.25' RT. | -                         |
| H3               | 163+34.93  | 58.62' RT. | -                         |
| P3               | 163+49.03  | 69.15' RT. | -                         |
| P1               | 163+45.55  | 56.00' RT. | -                         |
| H4               | 163+50.03  | 63.84' LT. | -                         |
| P8               | 163+56.47  | 60.28' LT. | -                         |
| H1               | 163+53.80  | 51.26' RT. | -                         |



4 REQUIRED (INCIDENTAL TO CONTRACT)



4 REQUIRED (INCIDENTAL TO CONTRACT)

- CONSTRUCTION NOTES:
- THE VIDEO DETECTION SYSTEM SHALL BE RELOCATED FROM THE TEMPORARY TRAFFIC SIGNAL INSTALLATION TO THE PROPOSED TRAFFIC SIGNAL INSTALLATION.
  - THE TRAFFIC SIGNAL CONTROLLER SHALL BE NTCIP COMPATIBLE. THE CONTROLLER VIDEO DETECTION SYSTEM AND REMOTE CONTROLLED VIDEO SYSTEM SHALL BE TRANSMITTED BACK TO THE TMC OVER FIBER.

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

LAKE COUNTY DIVISION OF TRANSPORTATION

**TRAFFIC SIGNAL INSTALLATION PLAN**

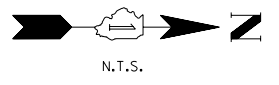
BUTTERFIELD ROAD AND WINCHESTER ROAD  
VILLAGE OF LIBERTYVILLE

SCALE: 1" = 20"  
DATE: 3/19/2008

DRAWN BY: FPB/FCP  
DESIGNED BY: ABR  
CHECKED BY: GMZ

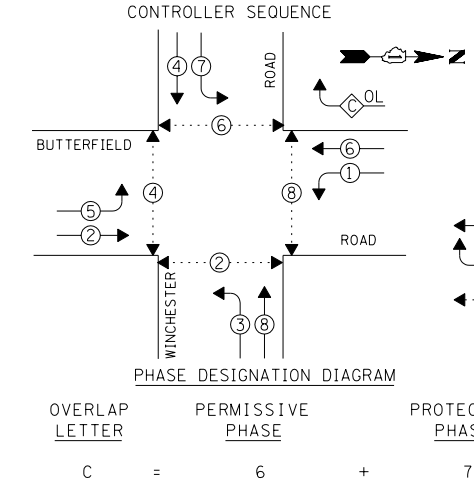
|   |                |        |              |           |
|---|----------------|--------|--------------|-----------|
| F.A.U.  | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
| 2647  | 99-00142-07-WR | LAKE   | 256          | 94        |
| CONTRACT NO. 83815                              |                |        |              |           |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT |                |        |              |           |

| SCHEDULE OF QUANTITIES  |       |       |
|---|-------|-------|
| ITEM  | UNIT  | TOTAL |
| CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL                                  | FOOT  | 33    |
| CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL                              | FOOT  | 60    |
| CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL                                  | FOOT  | 41    |
| CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL                                  | FOOT  | 10    |
| CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL                                     | FOOT  | 455   |
| HANDHOLE  | EACH  | 2     |
| DOUBLE HANDHOLE   | EACH  | 2     |
| TRENCH AND BACKFILL FOR ELECTRICAL WORK                                       | FOOT  | 146   |
| ELECTRIC CABLE IN CONDUIT, 600V (EPR-TYPE RHW) 2-1/C NO. 10                   | FOOT  | 885   |
| LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, PHOTO-CELL CONTROL, 250 WATT       | EACH  | 4     |
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)                        | EACH  | 1     |
| TRANSCEIVER - FIBER OPTIC   | EACH  | 1     |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C                                   | FOOT  | 2092  |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C                                   | FOOT  | 1990  |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C                                   | FOOT  | 482   |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C                                   | FOOT  | 2037  |
| ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C                                  | FOOT  | 48    |
| ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1C                                 | FOOT  | 642   |
| ELECTRIC CABLE IN CONDUIT NO. 20 3C, TWISTED, SHIELDED                        | FOOT  | 526   |
| CONCRETE FOUNDATION, TYPE A   | FOOT  | 16    |
| CONCRETE FOUNDATION, TYPE D   | FOOT  | 4     |
| CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER                                  | FOOT  | 60    |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                                  | EACH  | 8     |
| LIGHT DETECTOR  | EACH  | 2     |
| LIGHT DETECTOR AMPLIFIER  | EACH  | 1     |
| PEDESTRIAN PUSH-BUTTON  | EACH  | 8     |
| TEMPORARY TRAFFIC SIGNAL INSTALLATION   | EACH  | 1     |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                      | EACH  | 1     |
| REMOVE EXISTING HANDHOLE  | EACH  | 14    |
| REMOVE EXISTING CONCRETE FOUNDATION   | EACH  | 9     |
| ELECTRIC CABLE IN CONDUIT, COAXIAL  | FOOT  | 66    |
| VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)                                | L SUM | 1     |
| REMOTE-CONTROLLED VIDEO SYSTEM  | EACH  | 1     |
| ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 16, 5 1/2 PAIR                   | FOOT  | 885   |
| SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED                      | EACH  | 3     |
| SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED                       | EACH  | 3     |
| SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                      | EACH  | 5     |
| SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED                       | EACH  | 1     |
| SERVICE INSTALLATION, POLE MOUNT  | EACH  | 1     |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. (SPECIAL)                        | EACH  | 4     |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 36 FT. (SPECIAL)                 | EACH  | 3     |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 46 FT. (SPECIAL)                 | EACH  | 1     |
| L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN                                | EACH  | 4     |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER | EACH  | 8     |
| UNINTERRUPTIBLE POWER SUPPLY  | EACH  | 1     |
| LAYER II (DATALINK) SWITCH  | EACH  | 1     |
| RELOCATE EXISTING VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)              | EACH  | 1     |

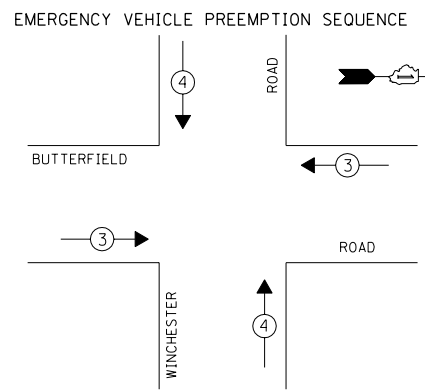


**CABLE PLAN LEGEND**

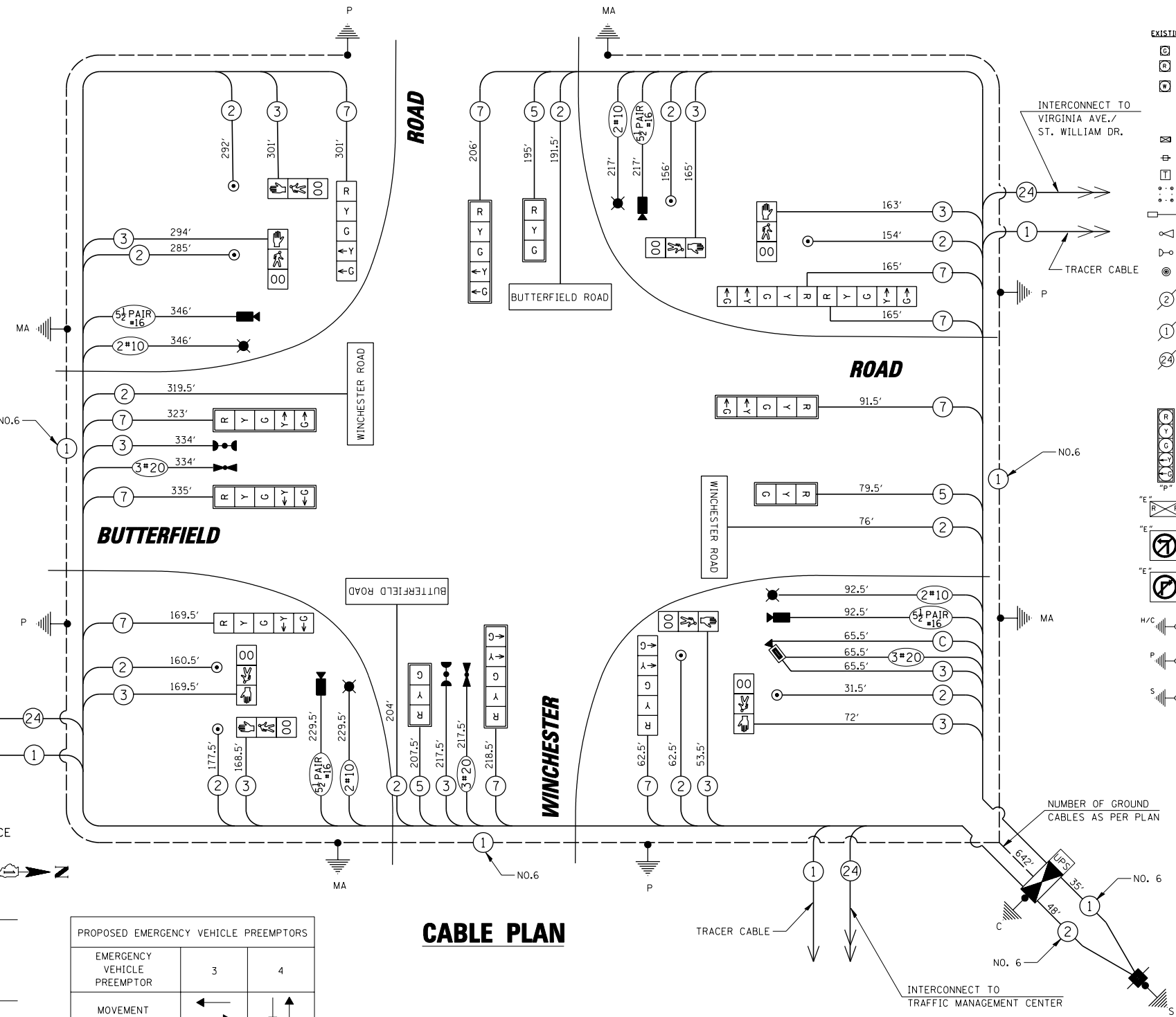
- 8" (200mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER
- CONTROLLER CABINET
- SERVICE INSTALLATION
- TELEPHONE INSTALLATION
- VEHICLE DETECTOR, INDUCTION LOOP
- MAGNETIC DETECTOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PUSHBUTTON DETECTOR
- GROUND CABLE IN CONDUIT, ALL CABLE NO. 14 EXCEPT AS INDICATED, ALL LOOP DETECTOR CABLE TO BE SHIELDED.
- FIBER OPTIC CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
- FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F
- FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM24F SM12F
- SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD.
- RAILROAD CONTROL CABINET
- ILLUMINATED SIGN "NO LEFT TURN"
- ILLUMINATED SIGN "NO RIGHT TURN"
- GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
- GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
- GROUND ROD AT ELECTRIC SERVICE INSTALLATION
- LUMINAIRE
- MACHINE VISION PROCESSOR
- DOME CAMERA
- UNINTERRUPTIBLE POWER SUPPLY



- LEGEND**
- DUAL ENTRY PHASE
  - OVERLAP
  - PEDESTRIAN PHASE
  - NUMBER REFERS TO ASSOCIATED PHASE



| PROPOSED EMERGENCY VEHICLE PREEMPTORS |   |   |
|---------------------------------------|---|---|
| EMERGENCY VEHICLE PREEMPTOR           | 3 | 4 |
| MOVEMENT                              |   |   |



| L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |              |                 |      |             | TOTAL WATTAGE |
|--|--------------|-----------------|------|-------------|---------------|
| TYPE   | NO. OF LAMPS | WATTAGE INCAND. | LED  | % OPERATION |               |
| SIGNAL (RED)   | 13           | 10              | 0.50 | 0.50        | 65.00         |
| (YELLOW)   | 13           | 19              | 0.25 | 0.25        | 61.75         |
| (GREEN)  | 13           | 11              | 0.25 | 0.25        | 35.75         |
| ARROW  | 20           | 9               | 0.10 | 0.10        | 18.00         |
| PED. SIGNAL  | 8            | 9               | 1.00 | 1.00        | 72.00         |
| CONTROLLER   | 1            | 100             | 1.00 | 1.00        | 100.00        |
| ILLUM. ST. NAME SIGN   | 4            | 60              | 0.50 | 0.50        | 120.00        |
| VIDEO SYSTEM   | 1            | 150             | 1.00 | 1.00        | 150.00        |
| LUMINAIRE  | 4            | 250             | 0.50 | 0.50        | 500.00        |
| FLASHER  | -            | -               | -    | 0.50        | -             |
| BATTERY BACK UP SYSTEM   | 1            | 25              | -    | 1.00        | 25.00         |
| ENERGY COSTS TO: TOTAL =   |              |                 |      |             | 1147.50       |

LAKE COUNTY DIVISION OF TRANSPORTATION  
 600 WEST WINCHESTER ROAD  
 LIBERTYVILLE, ILLINOIS 60048-1381  
 ENERGY SUPPLY: CONTACT: MIKE TYSON  
 PHONE: (847) 816-5500  
 COMPANY: COMED

| FOUNDATION (DEPTH) | FT. | (m)   | CABLE SLACK      | FT. | (m)   | VERTICAL          | FT.          | (m)   |
|--------------------|-----|-------|------------------|-----|-------|-------------------|--------------|-------|
| TYPE A - POST      | 4   | (1.2) | HANDHOLE         | 6.5 | (2.0) | ALL FOUNDATIONS   | 3.5          | (1.0) |
| D - CONTROLLER     | 4   | (1.2) | DOUBLE HANDHOLE  | 13  | (4.0) | MAST ARM (L) POLE | 20'+L-2'     |       |
| E - M. ARM POLE    | 2   | (0.6) | SIGNAL POST      | 2   | (0.6) |                   | (6m+L-0.6m)= |       |
| 24" (600mm)        | 10  | (3.0) | CONTROLLER CAB.  | 1   | (0.5) | BRACKET MOUNTED   | 13           | (4.0) |
| 30" (750mm)        | 15  | (4.6) | FIBER OPTIC      | 13  | (4.0) | PED. PUSHBUTTON   | 4            | (1.2) |
| 36" (900mm)        | 15  | (4.6) | ELECTRIC SERVICE | 1   | (0.5) | ELECTRIC SERVICE  | 13.5         | (4.1) |
|                    |     |       | GROUND CABLE     | 1   | (0.5) | SERVICE TO GROUND | 13.5         | (4.1) |
|                    |     |       |                  |     |       | POST MOUNTED      | 6            | (1.8) |

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

LAKE COUNTY DIVISION OF TRANSPORTATION  
**SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM**  
 BUTTERFIELD ROAD AND WINCHESTER ROAD  
 VILLAGE OF LIBERTYVILLE  
 SCALE: N.T.S.  
 DATE: 3/19/2008  
 DRAWN BY: FBP/FCP  
 DESIGNED BY: ABR  
 CHECKED BY: GMZ