

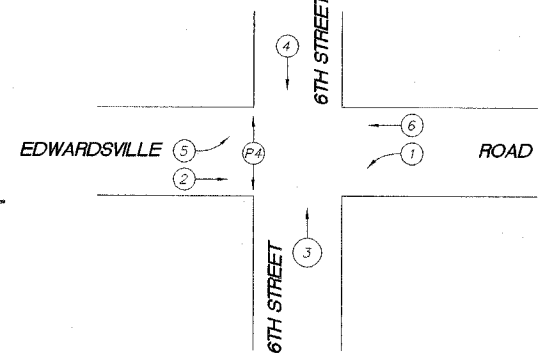
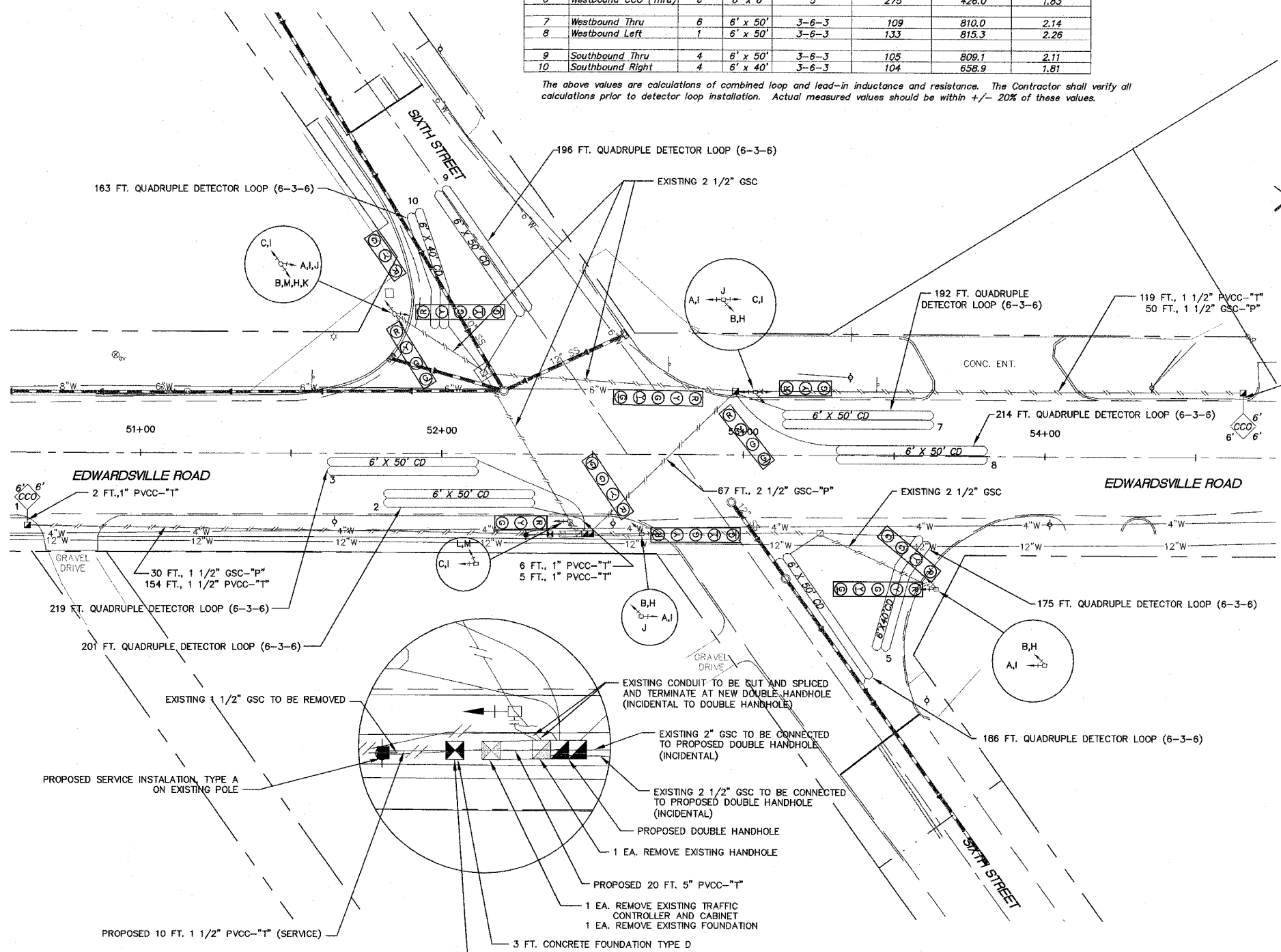
**DETECTOR LOOP REQUIREMENTS AND CALCULATIONS**

Loop #	Loop	Phase	Loop Size	Required No. of Turns	Lead-In Length (ft)	Required Inductance (μH)	Calculated Resistance (Ω)
1	Eastbound CCO (Thru)	2	6' x 6'	5	217	413.7	1.54
2	Eastbound Thru	2	6' x 50'	3-6-3	46	796.1	1.82
3	Eastbound Left	5	6' x 50'	3-6-3	48	796.6	1.83
4	Northbound Thru	3	6' x 50'	3-6-3	118	812.0	2.18
5	Northbound Right	3	6' x 40'	3-6-3	138	666.4	1.98
6	Westbound CCO (Thru)	6	6' x 6'	5	275	426.0	1.83
7	Westbound Thru	6	6' x 50'	3-6-3	109	810.0	2.14
8	Westbound Left	1	6' x 50'	3-6-3	133	815.3	2.26
9	Southbound Thru	4	6' x 50'	3-6-3	105	809.1	2.11
10	Southbound Right	4	6' x 40'	3-6-3	104	658.9	1.81

The above values are calculations of combined loop and lead-in inductance and resistance. The Contractor shall verify all calculations prior to detector loop installation. Actual measured values should be within +/- 20% of these values.

**TRAFFIC SIGNAL LEGEND**

- ⊙ EXISTING PEDESTRIAN PUSH BUTTON
- ⊠ PROPOSED CONTROLLER
- ⊡ EXISTING CONTROLLER
- /—/— EXISTING ELECTRIC CABLE IN CONDUIT
- /—/— PROPOSED ELECTRIC CABLE IN CONDUIT
- 2/C INDICATES NUMBER OF CONDUCTORS IN CABLE
- |— CABLE SPLICE (SEE GENERAL NOTES)
- LD-IN ELECTRIC CABLE LEAD-IN, 1 PAIR
- CD CALL DELAY (SEE GENERAL NOTES)
- CCO CALL CARRY OVER (SEE GENERAL NOTES)
- |— PROPOSED SERVICE INSTALLATION, TYPE A
- #6 INDICATES AMERICAN WIRE GAUGE (AWG) SIZE & CONDUCTORS (SEE GENERAL NOTES)
- ⊞ EXISTING HANDHOLE
- ⊠ PROPOSED HANDHOLE
- ⊡ PROPOSED DOUBLE HANDHOLE

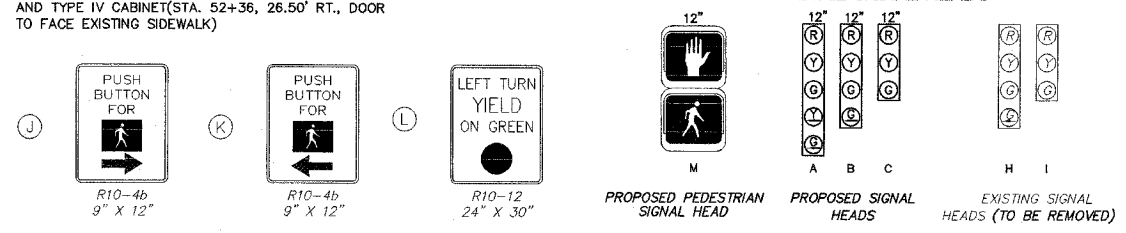


**PHASE DESIGNATION DIAGRAM**

**ELECTRICAL GENERAL NOTES**

1. ALL VEHICLE SIGNAL HEADS SHALL HAVE 12" SECTIONS. MOUNTING HARDWARE SHALL BE UNPAINTED ALUMINUM. ALL BOLTS, SCREWS, NUTS AND WASHERS SHALL BE STAINLESS STEEL. ANTI-SEIZE PASTE COMPOUND SHALL BE USED ON ALL MOUNTING HARDWARE FIELD CONNECTIONS.
2. BACKPLATES SHALL BE ABS PLASTIC.
3. THE CONTROLLER CABINET SHALL BE UNPAINTED ALUMINUM.
4. ALL TRAFFIC SIGNAL CABLES SHALL BE #14 AWG STANDARD COPPER UNLESS OTHERWISE SPECIFIED.
5. THE LOCATION OF ALL DETECTOR LOOPS SHALL BE APPROVED BY THE ENGINEER BEFORE ANY SLOTS ARE SAWS IN THE PAVEMENT.
6. DETECTOR LOOP LEAD-IN SPLICES SHALL BE MADE IN A HANDHOLE PER SECTION 873 OF THE STANDARD SPECIFICATIONS. CONDUCTORS SHALL BE SPLICED IN A RIGID MOLD FILLED WITH NON-HARDENING EPOXY FILLER. ROSIN-CORE SOLDER SHALL BE USED.
7. CALL DELAY SHALL NOT FUNCTION WHEN THE RELATED PHASES ARE IN THE GREEN MODE.
8. CALL CARRY OVER SHALL FUNCTION ONLY WHEN THE RELATED PHASES ARE IN THE GREEN MODE.
9. ALL INDUCTIVE LOOP DETECTORS SUPPLIED FOR THIS PROJECT SHALL HAVE THE CAPACITY OF OPERATING WITH BOTH DELAY AND EXTENSION MODES ACTIVE. IF A TIME SETTING IS PROGRAMMED, THEY SHALL BE RACK MOUNTED.
11. SLOPE HANDHOLE COVERS TO MATCH PROPOSED GRADE ELEVATIONS. ALL HANDHOLES SHALL BE CAST-IN PLACE WITH P.C. CONCRETE.
12. ANCHOR BOLTS, NUTS AND WASHERS REQUIRED WITH TYPE D FOUNDATION SHALL BE INCLUDED IN THE PAY ITEM "FULL-ACTUATED CONTROLLER AND TYPE IV CABINET".
13. THE CONTRACTOR SHALL INSTALL FOUR (4) GROUND RODS (3/4" DIA. X 12' LONG) AND #6 AWG BARE COPPER GROUND CONDUCTORS IN THE CONTROLLER FOUNDATION AS PER SPECIAL PROVISION, "CONCRETE FOUNDATION, TYPE D".
14. REMOVAL OF EXISTING CABLE FROM CONDUIT SHALL BE IN ACCORDANCE WITH ARTICLE 895.05 OF THE STANDARD SPECIFICATIONS EXCEPT PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER LUMP SUM.

**DETAIL SIGNAL HEADS**



REVISIONS

**SMS ENGINEERS**  
 Sheppard, Morgan & Schwaab, Inc.  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 215 Market Street, P.O. Box E, Alton, IL 62002-8184  
 618-462-9755 • Email: mail@smsengineers.com  
 19 Central Industrial Drive, Granite City, IL 62040-6188  
 618-877-9700 • E-mail: mail@smsengineers.com

WOOD RIVER, ILLINOIS  
 RESURFACING PROJECT  
 EDWARDSVILLE ROAD (FAU 8980)  
 SECTION 02-00043-00-RS  
 TRAFFIC SIGNAL PLAN