

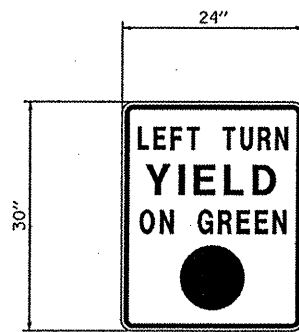
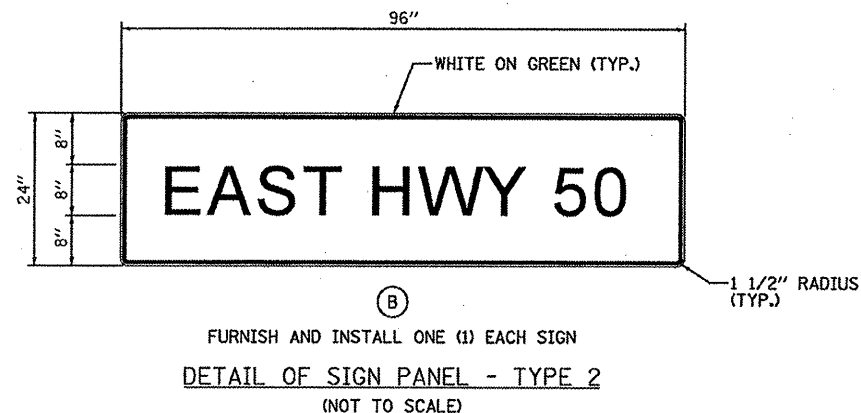
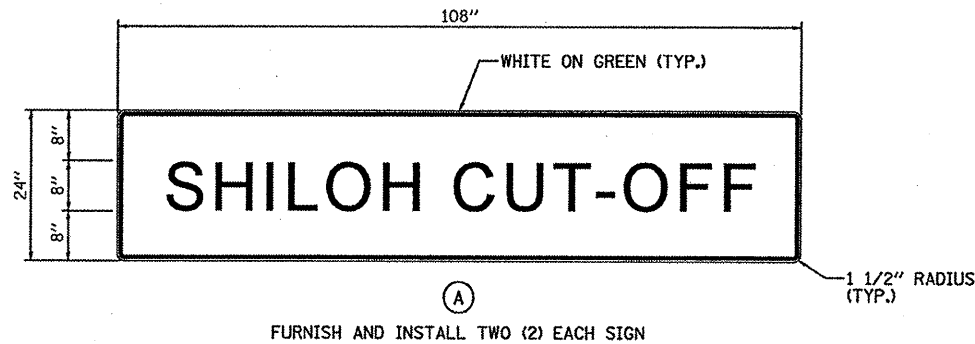
ELECTRICAL GENERAL NOTES

- ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE AND SHALL HAVE 12" LENSES, SIGNAL POSTS, MAST ARMS AND MOUNTING HARDWARE SHALL BE PAINTED BLACK. ALL BOLTS, SCREWS, NUTS AND WASHERS SHALL BE STAINLESS STEEL. ANTI-SIEZE PASTE COMPOUND SHALL BE USED ON ALL MOUNTING HARDWARE FIELD CONNECTIONS.
- BACK PLATES SHALL BE BLACK ABS PLASTIC.
- CONTROLLER CABINETS SHALL BE UNPAINTED ALUMINUM.
- THE LOCATION OF MAST ARM SUPPORTS SHALL BE APPROVED BY THE ENGINEER BEFORE FOUNDATIONS ARE CONSTRUCTED. MAST ARM POLES SHALL BE LOCATED A MINIMUM OF TEN (10) FEET FROM THE EDGE OF PAVEMENT OR TWO (2) FEET FROM SHOULDER, WHICHEVER DISTANCE IS GREATER. IN CURB/GUARDRAIL SECTIONS, THE MAST ARM POLES SHALL BE LOCATED A MINIMUM OF FIVE (5) FEET FROM THE FACE OF THE CURB/GUARDRAIL. THESE DISTANCES ARE TO THE NEAR FACE OF THE MAST ARM POLE.
- ALL TRAFFIC SIGNAL CABLE SHALL BE #14 AWG STRANDED COPPER UNLESS OTHERWISE SPECIFIED. THERE SHALL BE FOUR (4) GROUND RODS IN THE CONTROLLER CABINET. GROUND WIRES SHALL BE #6 AWG STRANDED, BARE COPPER.
- ALL PROPOSED CONDUIT SHALL BE PVC UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL BE PLACED AND BACKFILLED PRIOR TO CONSTRUCTION OF NEW PAVEMENT, SHOULDER AND CURB. AT A MINIMUM DEPTH OF TWO (2) FEET. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PUSHING CONDUIT AFTER SUCH WORK HAS BEEN COMPLETED.
- THE LOCATION OF ALL DETECTOR LOOPS SHALL BE APPROVED BY THE ENGINEER BEFORE ANY SLOTS ARE SAWED IN THE PAVEMENT.
- DETECTOR LOOP LEAD-IN SPLICES SHALL BE MADE IN A HANDHOLE PER SECTION 873 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION". CONDUCTORS SHALL BE SPLICED IN A RIGID MOLD FILLED WITH NON-HARDENING EPOXY FILLER, RESIN CORE SOLDER SHALL BE USED.
- CALL DELAY SHALL NOT FUNCTION WHEN THE RELATED PHASES ARE IN THE GREEN MODE. "CALL CARRY-OVER" SHALL FUNCTION ONLY WHEN THE RELATED PHASES ARE IN THE GREEN MODE.
- ALL INDUCTION LOOP DETECTOR AMPLIFIERS SUPPLIED FOR THIS INTERSECTION SHALL BE RACK MOUNTED AND SHALL HAVE THE CAPACITY OF OPERATING WITH BOTH DELAY AND EXTENSION MODES ACTIVE. IF A TIME SETTING IS PROGRAMMED.
- SLOPE HANDHOLE COVERS TO MATCH PROPOSED GRADE ELEVATIONS.
- ALL UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY ATTEMPT TO CONSTRUCT ANY COMPONENT OF THE VARIOUS TRAFFIC SIGNAL INSTALLATIONS. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE LIMITS OF THIS IMPROVEMENT ARE THE FOLLOWING:
 - AMEREN IP (GAS AND ELECTRIC)
 - AT&T (TELEPHONE)
 - CHARTER COMMUNICATIONS (CABLE TV)
 - CITY OF O'FALLON (SEWER AND WATER)
 - ILLINOIS AMERICAN WATER (WATER)
 - VILLAGE OF SHILOH (SANITARY SEWER)
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS HAVE BEEN LOCATED AT THE TIME OF SURVEY, OR BASED ON AVAILABLE EXISTING INFORMATION. NO GUARANTEE IS IMPLIED THAT ALL UTILITIES HAVE BEEN LOCATED OR DEPICTED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF ALL UTILITIES. IT MAY BE NECESSARY TO HAND DIG TEST HOLES TO EXPOSE EXISTING UTILITIES AT SOME LOCATIONS.
- SEE "JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS" (JULIE) IN THE SPECIAL PROVISIONS. CALL (800) 892-0123 ONE WEEK BEFORE PLANNING TO DIG.
- CONDUIT SPLICES WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED PART OF THE NEW CONDUIT INSTALLATION.
- THE CONTRACTOR SHALL INSTALL THE STREET NAME SIGNS ON THE MAST ARMS AS SHOWN ON THE PLANS AS FOLLOWS:
 - ONE SIGN N.W. QUAD., VISIBLE TO W.B. TRAFFIC (A)
 - ONE SIGN N.E. QUAD., VISIBLE TO N.B. TRAFFIC (B)
 - ONE SIGN S.E. QUAD., VISIBLE TO E.B. TRAFFIC (A)
- THE CONTRACTOR SHALL FABRICATE, DELIVER AND INSTALL A STREET NAME SIGN AT EACH OF THE ABOVE SPECIFIED LOCATIONS. THE SIGNS AND INSTALLATION SHALL CONFORM TO SECTION 720 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" AND HIGHWAY STANDARD NOS. 720001 AND 720016. STREET NAME SIGNS SHALL BE 8" SERIES D 2000.
- THE LOCATION OF SIGNAL HEADS ON MAST ARMS SHALL BE APPROVED BY THE ENGINEER BEFORE MAST ARMS ARE INSTALLED.
- SEE PLAN SHEETS FOR TRAFFIC CONTROL AND CONSTRUCTION STAGING REQUIREMENTS.
- MAST ARM FOUNDATION DEPTHS SHOWN ARE DESIGNED USING BORING DATA INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL VERIFY REQUIRED DEPTHS PRIOR TO STEEL FABRICATION AND CONSTRUCTION OF CONCRETE FOUNDATIONS. THE ENGINEER SHOULD BE CONTACTED FOR A REVISED DESIGN IF OTHER CONDITIONS ARE ENCOUNTERED.

DETECTOR LOOP REQUIREMENTS & CALCULATIONS

LOOP #	DIRECTION	PHASE	LOOP SIZE (FOOT)	REQUIRED NUMBER OF TURNS	LEAD-IN CABLE LENGTH (FOOT)	CALCULATED INDUCTANCE (microhenries)	CALCULATED RESISTANCE (ohms)
1	WB THRU	6	6' x 50'	3 - 6 - 3	89	805.47	2.03
2	WB LT	1	6' x 50'	3 - 6 - 3	89	805.47	2.03
3	WB C.C.O.	6	6' x 6'	6	447	353.11	2.59
4	NB LT	4	6' x 75'	3 - 6 - 3	91	1,180.91	2.79
5	NB RT	4	6' x 50'	3 - 6 - 3	91	805.91	2.04
6	EB THRU	2	6' x 6'	3 - 6 - 3	196	829.01	2.57
7	EB C.C.O.	2	6' x 50'	6	516	368.29	2.94

THE ABOVE VALUES ARE CALCULATIONS OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN 20% OF THESE VALUES.



F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9266	06-00062-06-PV	ST. CLAIR	80	45
FHWA REG. NO. 7 ILLINOIS		PROJECT NO. RS-0163(035)		
FEDERAL AID PROJECT		CONTRACT NO. 97457		

TRAFFIC SIGNAL PLANS

TRAFFIC SIGNAL SCHEDULE

ITEM	UNIT	IDOT QUANTITY	COUNTY QUANTITY	TOTAL QUANTITY
SIGN PANEL - TYPE 1	SQ FT	3.33	1.67	5
SIGN PANEL - TYPE 2	SQ FT	34.67	17.33	52
SERVICE INSTALLATION, TYPE A	EACH	0.67	0.33	1
CONDUIT IN TRENCH, 1" DIA., GALVANIZED STEEL	FOOT	61.33	30.67	92
CONDUIT IN TRENCH, 1 1/2" DIA., GALVANIZED STEEL	FOOT	61.33	30.67	92
CONDUIT IN TRENCH, 1" DIA., PVC	FOOT	37.33	18.67	56
CONDUIT IN TRENCH, 1 1/2" DIA., PVC	FOOT	534.00	267.00	801
CONDUIT IN TRENCH, 2" DIA., PVC	FOOT	166.00	83.00	249
CONDUIT IN TRENCH, 3" DIA., PVC	FOOT	9.33	4.67	14
CONDUIT PUSHED, 3" DIA., PVC	FOOT	39.33	19.67	59
HANDHOLE	EACH	4.67	2.33	7
DOUBLE HANDHOLE	EACH	0.67	0.33	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	0.67	0.33	1
INTERSECTION MONITOR UNIT	EACH	0.67	0.33	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	570.67	285.33	856
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	576.67	288.33	865
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1,022.67	511.33	1,534
ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 1C	FOOT	192.00	96.00	288
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	259.00	129.50	389
TRAFFIC SIGNAL POST, ALUMINUM 20 FT.	EACH	0.67	0.33	1
STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	0.67	0.33	1
STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	0.67	0.33	1
STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	0.67	0.33	1
CONCRETE FOUNDATION, TYPE A	FOOT	2.00	1.00	3
CONCRETE FOUNDATION, TYPE D (SPECIAL)	FOOT	2.00	1.00	3
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	24.67	12.33	37
SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	0.67	0.33	1
SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	3.33	1.67	5
SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	0.67	0.33	1
SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	0.67	0.33	1
SIGNAL HEAD, POLYCARBONATE, LED, 2-FACE, 1-3-SECTION, 1-5-SECTION, BRACKET MOUNTED	EACH	1.33	0.67	2
TRAFFIC SIGNAL BACKPLATE, PLASTIC	EACH	4.00	2.00	6
INDUCTION LOOP DETECTOR AMPLIFIER WITH EXTENDED CALL - DELAY CALL	EACH	4.67	2.33	7
DETECTOR LOOP, TYPE 1	FOOT	2,690.67	1,345.33	4,036

TRAFFIC SIGNAL STANDARDS

- 720001-01 873001-02
- 720016-02 877001-04
- 805001-01 880006-01
- 814001-02 886001-01
- 814006-02 886006-01
- 857001-01

MARTIN N. SLOAN
 062-054412
 4/20/2011
 Exp. 11/30/2011