

ELECTRICAL GENERAL NOTES

- 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.
- BACKPLATES SHALL BE ABS PLASTIC.
- THE CONTROLLER CABINET 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 10' FROM THE EDGE OF PAVEMENT OR 2' FROM THE EDGE OF SHOULDER, WHICHEVER DISTANCE IS GREATER. IN CURBED SECTIONS, THE MAST ARM POLES SHALL BE LOCATED A MINIMUM OF 5' FROM THE FACE OF THE CURB. THESE DISTANCES ARE TO THE NEAR FACE OF THE MAST ARM POLE.
- ALL TRAFFIC SIGNAL CABLES SHALL BE #14 AWG STRANDED COPPER UNLESS OTHERWISE SPECIFIED. NO TERMINAL ENDS FOR DETECTOR LOOP LEAD-INS.
- THE LOCATION OF ALL DETECTOR LOOPS SHALL BE APPROVED BY THE ENGINEER BEFORE ANY SLOTS ARE SAWED IN THE PAVEMENT. THE NUMBER OF TURNS OF WIRE FOR INDUCTIVE LOOP DETECTOR INSTALLATION SHALL BE AS SHOWN ON THE PLANS.
- 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 A NON-HARDENING EPOXY FILLER. ROSIN-CORE SOLDER SHALL BE USED.
- ALL DETECTOR LOOP LEAD-IN SPLICES SHALL BE CONSIDERED INCIDENTAL TO THIS CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 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 INDUCTIVE LOOP DETECTORS SUPPLIED FOR THIS PROJECT SHALL BE RACK MOUNTED AND SHALL HAVE THE CAPACITY OF OPERATING WITH BOTH DELAY AND EXTENSION MODES ACTIVE, IF A TIME SETTING IS PROGRAMMED.
- ALL HANDHOLES SHALL BE CONSTRUCTED OF CLASS SI PORTLAND CEMENT CONCRETE (PER SECTION 1020). THE CAST IN PLACE LEGEND IN THE COVER SHALL BE "TRAFFIC SIGNALS". 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 UNDERGROUND FACILITIES WITHIN THE LIMITS OF THIS IMPROVEMENT ARE THE FOLLOWING: (MEMBERS OF J.U.L.I.E., PHONE (800)-892-0123 ARE INDICATED BY *)
- ESTIMATED DEPTH OF CONCRETE FOUNDATIONS FOR THE MAST ARM SUPPORT POLES IS 15'. FINAL DEPTH WILL BE DETERMINED BY THE DEPARTMENT FROM THE SOIL BORING DATA.
- THE CONTRACTOR SHALL FURNISH AND INSTALL THREE (3) STREET NAME SIGNS AT THE SPECIFIED LOCATIONS. THE SIGNS AND INSTALLATION SHALL CONFORM TO SECTION 720 OF THE STANDARD SPECIFICATIONS AND STANDARDS 720016 AND 720001 EXCEPT THAT THE SIGN PANELS SHALL BE POSITIONED ADJACENT TO THE LEFT TURN SIGNAL
- THE CONTRACTOR SHALL INSTALL THE STREET NAME SIGNS ON THE MAST ARMS AS FOLLOWS:
 ONE SIGN, S.W. QUAD, VISIBLE TO WB TRAFFIC
 ONE SIGN, S.W. QUAD, VISIBLE TO SB TRAFFIC.
 ONE SIGN, N.E. QUAD, VISIBLE TO NB TRAFFIC.
- THE GROUND ROD ARRAY SHALL CONSIST OF FOUR (4) 12' X 3/4" DIA. GROUND RODS LOCATED IN THE CONTROLLER FOUNDATION. A #6 AWG STRANDED BARE COPPER WIRE SHALL BE BONDED TO EACH ROD WITH MOLDED SLEEVED, EXOTHERMIC, N.E.C. APPROVED FIELD WELDS AND COILED FOR FUTURE USE. ONE OF THE RODS AND #6 AWG STRANDED BARE COPPER WIRE SHALL BE WIRED TO THE APPROPRIATE CONTROLLER TERMINAL. PRESSURE CONNECTORS OR CLAMPS ARE NOT ACCEPTABLE.
- A 9-1-1 ADDRESS MUST BE OBTAINED FROM THE MADISON COUNTY 9-1-1 COORDINATOR PRIOR TO OBTAINING ELECTRICAL / TELEPHONE SERVICE AT (LOCATION). THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER / TECHNICIAN A MINIMUM OF SIX WEEKS IN ADVANCE OF THE ANTICIPATED DATE THAT THE ELECTRICAL / TELEPHONE SERVICE WILL BE REQUIRED IN ORDER THAT THE NECESSARY ADDRESS CAN BE OBTAINED. IF THERE ARE ANY QUESTIONS REGARDING THE ABOVE, CONTACT THE MADISON COUNTY 9-1-1 COORDINATOR AT (618) 692-7080 EXTENSION 5911

TRAFFIC SIGNALS LEGEND

- GSC GALVANIZED STEEL CONDUIT
- PVCC POLYVINYL CHLORIDE CONDUIT
- PROPOSED SIGNAL HEAD WITH BACKPLATE, MAST ARM MOUNTED
- PROPOSED HANDHOLE
- PROPOSED DOUBLE HANDHOLE
- PROPOSED HEAVY DUTY HANDHOLE
- PROPOSED DETECTOR LOOP
- PROPOSED CONTROLLER
- PROPOSED CONDUIT: "T" TRENCH, "P" PUSH, SIZE AS SPECIFIED
- PROPOSED STREET NAME SIGN/TRAFFIC SIGN
- PROPOSED SERVICE INSTALLATION
- PROPOSED SIGNAL POST

DETECTOR LOOP REQUIREMENTS & CALCULATION

LOOP	PHASE	LOOP SIZE (FT.)	REQUIRED NO. OF TURNS	CALCULATED INDUCTANCE microhenries (uh)	CALCULATED RESISTANCE ohms (Ω)
1. NB CCO	2	6' X 6'	8	639.4	3.5
2. NB CCO	2	6' X 6'	8	635.9	3.4
3. NB THRU CD	2	6' X 50' (Q)	3-6-3	846.3	3.0
4. NB THRU CD	2	6' X 50' (Q)	3-6-3	849.6	3.0
5. NB LT. CD	5	6' X 50' (Q)	3-6-3	854.0	3.1
6. EB THRU CD	4	6' X 50' (Q)	3-6-3	816.3	2.3
7. SB CCO	6	6' X 6'	6	340.1	2.3
8. SB CCO	6	6' X 6'	6	332.3	2.2
9. SB THRU CD	6	6' X 50' (Q)	3-6-3	797.9	1.9
10. SB THRU CD	6	6' X 50' (Q)	3-6-3	800.1	1.9
11. SB LT CD	1	6' X 50' (Q)	3-6-3	804.0	2.0
12. WB CCO	8	6' X 6'	6	334.0	2.2
13. WB CCO	8	6' X 6'	6	336.6	2.2
14. WB LT CD	3	6' X 50' (Q)	3-6-3	834.4	2.7
15. WB THRU CD	8	6' X 50' (Q)	3-6-3	831.8	2.6
16. WB RT CD	8	6' X 50' (Q)	3-6-3	828.9	2.7

THE ABOVE VALUES ARE CALCULATIONS OF COMBINED LOOP & LEAD-IN INDUCTANCES AND RESISTANCES. ACTUAL MEASURED VALUES SHOULD BE WITHIN ±20% OF THESE VALUES.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ELECTRICAL GENERAL NOTES
TRAFFIC SIGNAL LEGEND
AND DETECTOR LOOP REQUIREMENTS
GODFREY RD. & BENJAMIN DR.
FAP RTE. 310 - SECTION 60-16
MADISON COUNTY

SCALE: NONE DRAWN BY: J.T.C.
 DATE: 09-04-09 CHECKED BY: K.C.