

ELECTRICAL GENERAL NOTES

- THE LOCATION OF ALL DETECTOR LOOPS SHALL BE APPROVED BY THE ENGINEER BEFORE ANY SLOTS ARE SAWS IN THE PAVEMENT. THE NUMBER OF TURNS OF WIRE FOR INDUCTIVE LOOP DETECTOR INSTALLATION SHALL BE AS SHOWN ON THE PLANS. THE DETECTOR LOOPS SHALL BE PLACED IN THE PAVEMENT AFTER PATCHING AND PRIOR TO CONSTRUCTION OF THE BITUMINOUS SURFACE COURSE.
- 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 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.
- SLOPE HANDHOLE COVERS TO MATCH PROPOSED GRADE ELEVATIONS.
- ALL TRAFFIC SIGNAL CABLES SHALL BE #14 AWG STRANDED COPPER UNLESS OTHERWISE SPECIFIED. TERMINAL ENDS SHALL HAVE CRIMPED-ON RING TONGUE CONNECTORS. NO TERMINAL ENDS FOR DETECTOR LOOP LEAD-INS.
- 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-SIEZE 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 THE MAST ARM SUPPORTS SHALL BE APPROVED BY THE DEPARTMENT'S ENGINEER BEFORE FOUNDATIONS ARE CONSTRUCTED. MAST ARM POLES SHALL BE LOCATED A MINIMUM OF 10 FEET FROM THE EDGE OF PAVEMENT OR 2 FEET FROM THE EDGE OF SHOULDER, WHICHEVER IS GREATER, IN CURBED SECTIONS. THE MAST ARM POLES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM THE FACE OF THE CURB. THESE DISTANCES ARE TO THE NEAR FACE OF THE MAST ARM POLE.
- ALL UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY ATTEMPT TO CONSTRUCT ANY COMPONENT OF THIS TRAFFIC SIGNAL SYSTEM.
- THE CONTRACTOR SHALL INSTALL FOUR (4) GROUND RODS (3/4" x 12' LONG) AND #6 AWG BARE COPPER GROUND CONNECTORS IN THE CONTROLLER FOUNDATION AS PER THE SPECIAL PROVISION, "CONCRETE FOUNDATION, TYPE D".
- ESTIMATED DEPTHS OF CONCRETE FOUNDATIONS FOR THE MAST ARM SUPPORT POLES ARE AS FOLLOWS:
 N-E CORNER MAST ARM LENGTH = 48' (36" DIA.) : 13 FT. DEEP
 N-W CORNER MAST ARM LENGTH = 46' (36" DIA.) : 13 FT. DEEP
 S-W CORNER MAST ARM LENGTH = 34' (36" DIA.) : 11 FT. DEEP
 S-E CORNER MAST ARM LENGTH = 48' (36" DIA.) : 13 FT. DEEP
 ACTUAL DEPTHS WILL BE SPECIFIED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- THE SOIL BORINGS ARE INCLUDED IN THE SPECIAL PROVISIONS.
- CONTRACTOR IS REQUIRED TO OBTAIN A 9-1-1 ADDRESS FROM MADISON COUNTY PRIOR TO INSTALLING ELECTRICAL SERVICES.

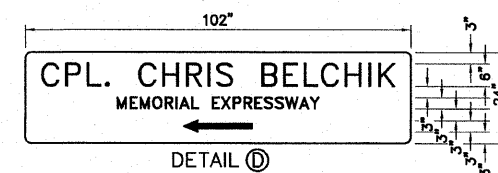
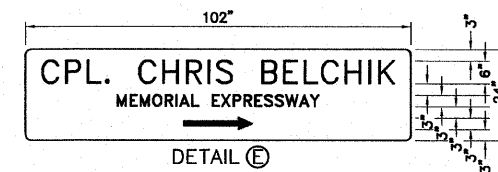
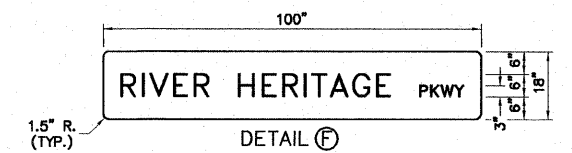
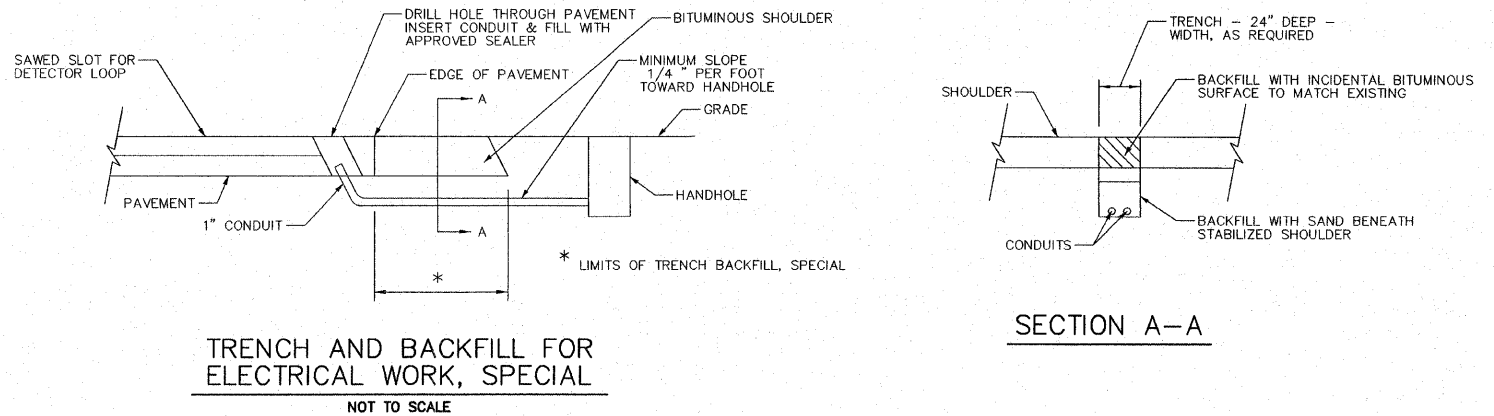
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS

	LOOP	PHASE	LOOP SIZE (FT.)	REQUIRED NO. OF TURNS	LEAD-IN LENGTH (FT.)	CALCULATED INDUCTANCE MICROHENRIES (-μH)	CALCULATED RESISTANCE OHMS (Ω)
1.	S.B. RIGHT CD	4	4x15	3-6-3	154.5	283.0	1.3
2.	S.B. THRU CD	4	6x50	3-6-3	162.5	821.8	2.4
3.	S.B. LEFT CD	4	6x50	3-6-3	185.5	826.8	2.5
4.	S.B. THRU CCO	4	6x6	6	464	357.0	2.7
5.	S.B. LEFT CCO	4	6x6	6	479	360.3	2.8
6.	W.B. RIGHT CD	6	6x50	3-6-3	104.5	809.0	2.1
7.	W.B. THRU CD	6	6x50	3-6-3	116.5	811.6	2.2
8.	W.B. THRU CD	6	6x50	3-6-3	128.5	814.3	2.2
9.	W.B. LEFT CD	1	6x50	3-6-3	140.5	816.9	2.3
10.	W.B. THRU CCO	6	6x6	6	490	362.7	2.8
11.	W.B. THRU CCO	6	6x6	6	504	365.8	2.9
12.	N.B. RIGHT CD	3	4x15	3-6-3	240	301.8	1.7
13.	N.B. THRU CD	3	6x50	3-6-3	264	844.1	2.9
14.	E.B. LEFT CD	5	6x50	3-6-3	384.5	870.6	3.5
15.	E.B. THRU CD	2	6x50	3-6-3	372.5	868.0	3.5
16.	E.B. THRU CD	2	6x50	3-6-3	360.5	865.3	3.4
17.	E.B. THRU CCO	2	6x6	7	818.5	546.1	4.5
18.	E.B. THRU CCO	2	6x6	7	806.5	543.5	4.5

NOTE: THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.

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 DETECTOR LOOP
- PROPOSED CONTROLLER
- PROPOSED CONDUIT: "T" TRENCH, "P" PUSH, SIZE SPECIFIED
- PROPOSED STREET NAME SIGN / TRAFFIC SIGN
- PROPOSED MAST ARM
- PROPOSED SERVICE INSTALLATION (SPECIAL)



DETAIL C
SIGN DETAILS
NOT TO SCALE

REVISIONS

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CITY OF ALTON, ILLINOIS
 SECTION 06 - 00208 - 02 - RP
 CPL. CHRIS BELCHIK MEMORIAL EXPRESSWAY
 TRAFFIC SIGNAL PLANS - AT RIVER HERITAGE PKWY.

DWG. NO.
 CABLE DIAGRAM AT IL 143.DWG
 REF. BK. INDIANA AVE.
 JOB NO. 406365.1
 DSN. BY: DEG
 DWN. BY: CAD
 CHK. BY: DEG
 DATE: OCTOBER, 2006
 SCALE: NOT TO SCALE
 SHEET 33 OF 61