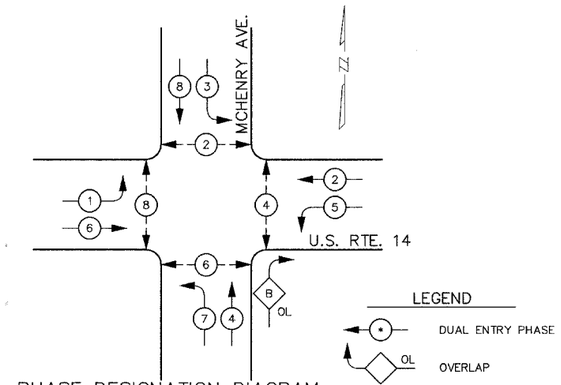
D:\LD2\03100134_PHASEII\DWG\MCHENRY-TS.DWG
October 17, 2003 11:19:28 a.m.

F.A.U. ROUTE	SECTION	COUNTY	TOTAL SHTS.	SHEET NO.
120	00-00097-00-CH STATE SECTION	MCHENRY	28	15
TRAFFIC SIGNALS				
F.H.W.A. REG.5	ILLINOIS	PROJECT NO. F-0305(023)		

83725

PROPOSED CONTROLLER SEQUENCE



LEGEND

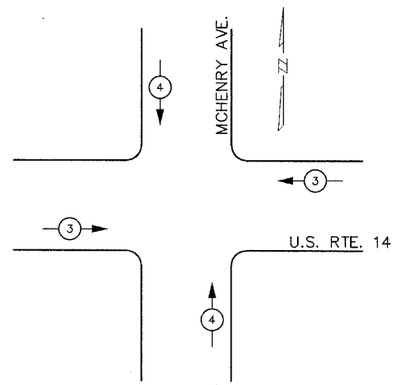
- DUAL ENTRY PHASE
- OVERLAP
- PEDESTRIAN PHASE

* NUMBER REFERS TO ASSOCIATED PHASE

PHASE DESIGNATION DIAGRAM

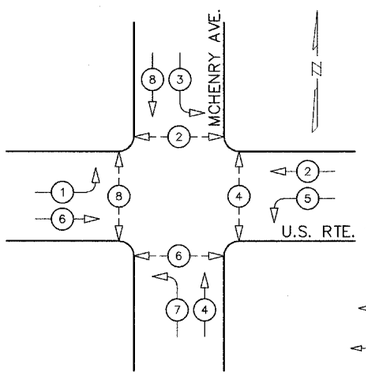
OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
B	=	4	+	5

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	⇄	⇅

EXISTING CONTROLLER SEQUENCE

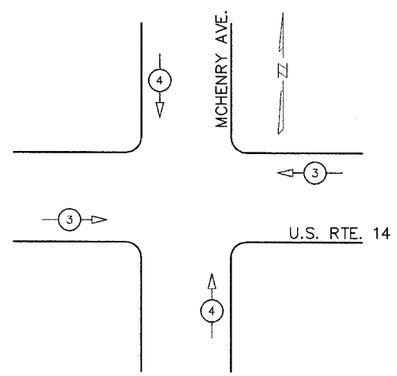


LEGEND

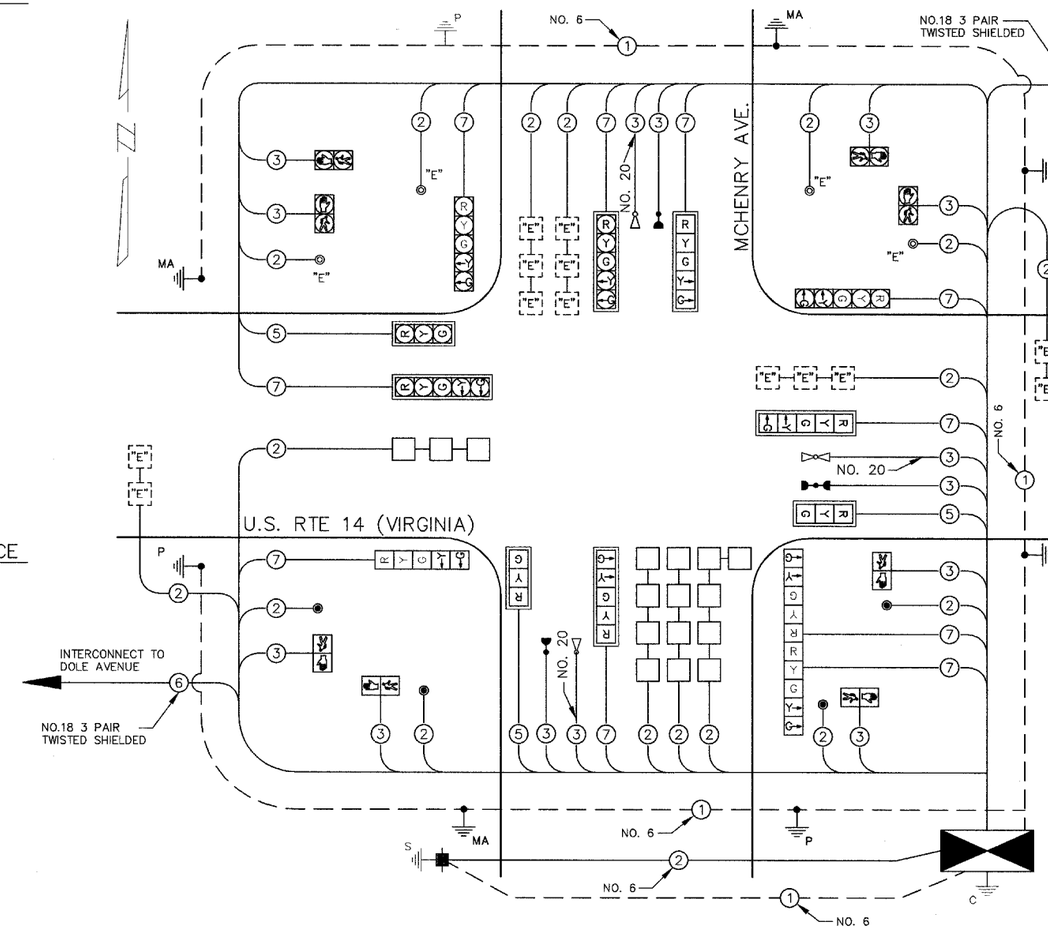
- DUAL ENTRY PHASE
- PEDESTRIAN PHASE

* NUMBER REFERS TO ASSOCIATED PHASE

EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE



EXISTING EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	⇄	⇅



CABLE PLAN

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" (200mm) TRAFFIC SIGNAL SECTION
R	R	12" (300mm) TRAFFIC SIGNAL SECTION
W	W	12" (300mm) PEDISTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
	T	TELEPHONE CONNECTION
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
"E"		PUSHBUTTON DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
2	2	DENOTES NUMBER OF CONDUCTORS ALL CABLE NO. 14 EXCEPT AS INDICATED ALL LOOP DETECTOR CABLE TO BE SHIELDED
"P"	"P"	SIGNAL FACE WITH BACK PLATE, "P" INDICATES PROGRAMMED HEAD.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING SYSTEM.

SCHEDULE OF QUANTITIES

QTY	UNIT	ITEM
2	EACH	RELOCATE SIGN PANEL ASSEMBLY-TYPE A
299	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
32	FOOT	CONDUIT TRENCH, 2" DIA., GALVANIZED STEEL
48	FOOT	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL
10	FOOT	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
198	FOOT	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
1	EACH	HANDHOLE
1	EACH	DOUBLE HANDHOLE
90	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1087	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
1738	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
518	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
1526	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
1503	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
4613	FOOT	ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 18 3 PAIR
122	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16FT.
8	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE D
30	FOOT	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER
2	EACH	DRILL EXISTING HANDHOLE
2	EACH	SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, 1-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, 2-FACE, 5-SECTION, BRACKET MOUNTED
4	EACH	PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED
5	EACH	TRAFFIC SIGNAL BACKPLATE
1	EACH	INDUCTIVE LOOP DETECTOR
849	FOOT	DETECTOR LOOP, TYPE 1
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 32FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 38FT.
4	EACH	PEDESTRIAN PUSH-BUTTON

	QTY	UNIT	ITEM
	1	EACH	RELOCATE EXISTING TRAFFIC SIGNAL CONTROLLER
*	2	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
	1	EACH	MODIFY EXISTING CONTROLLER
	9987	FOOT	REMOVE ELECTRIC CABLE FROM CONDUIT
	1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
	3	EACH	REMOVE EXISTING HANDHOLE
	4	EACH	REMOVE EXISTING CONCRETE FOUNDATION
*	2	EACH	CONFIRMATION BEACON
	1	EACH	SERVICE INSTALLATION, POLE MOUNT
	1	L. SUM	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM
*	472	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 20 3C, TWISTED SHIELDED
	631	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1C

* NON PARTICIPATING ITEM

I.D.O.T TEMPORARY TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	x WATTAGE INCAND.	x WATTAGE LED	% OPERATION	
SIGNAL (RED)	13	135	~~17~~	0.50	877.50
(YELLOW)	13	135	~~25~~	0.25	438.75
(GREEN)	13	135	~~15~~	0.25	438.75
ARROW	18	135	~~12~~	0.10	243.00
PED. SIGNAL	16	90	~~25~~	1.00	1440.00
CONTROLLER	1	100	~~100~~	1.00	100.00
ILLUM. SIGN		84		0.05	
					0.00
-					
-					
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	3538.00

City of Crystal Lake
P.O. BOX 597
Crystal Lake, IL 60039-0597

ENERGY SUPPLY CONTACT: Rick Correnti
PHONE: 815-490-2283
COMPANY: Commonwealth Edison

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL CABLE	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - D-CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(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)
		ELECTIRC 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)

NAME	DATE
REVISIONS	

ILLINOIS DEPARTMENT OF TRANSPORTATION
CABLE PLAN
PHASE DESIGNATION DIAGRAM
SHEDULE OF QUANTITIES

McHENRY AVENUE AND
U.S. ROUTE 14

SCALE: NONE
DATE: OCT. 10, 2003
DRAWN BY: EF
DESIGNED BY: JL
CHECKED BY: PK