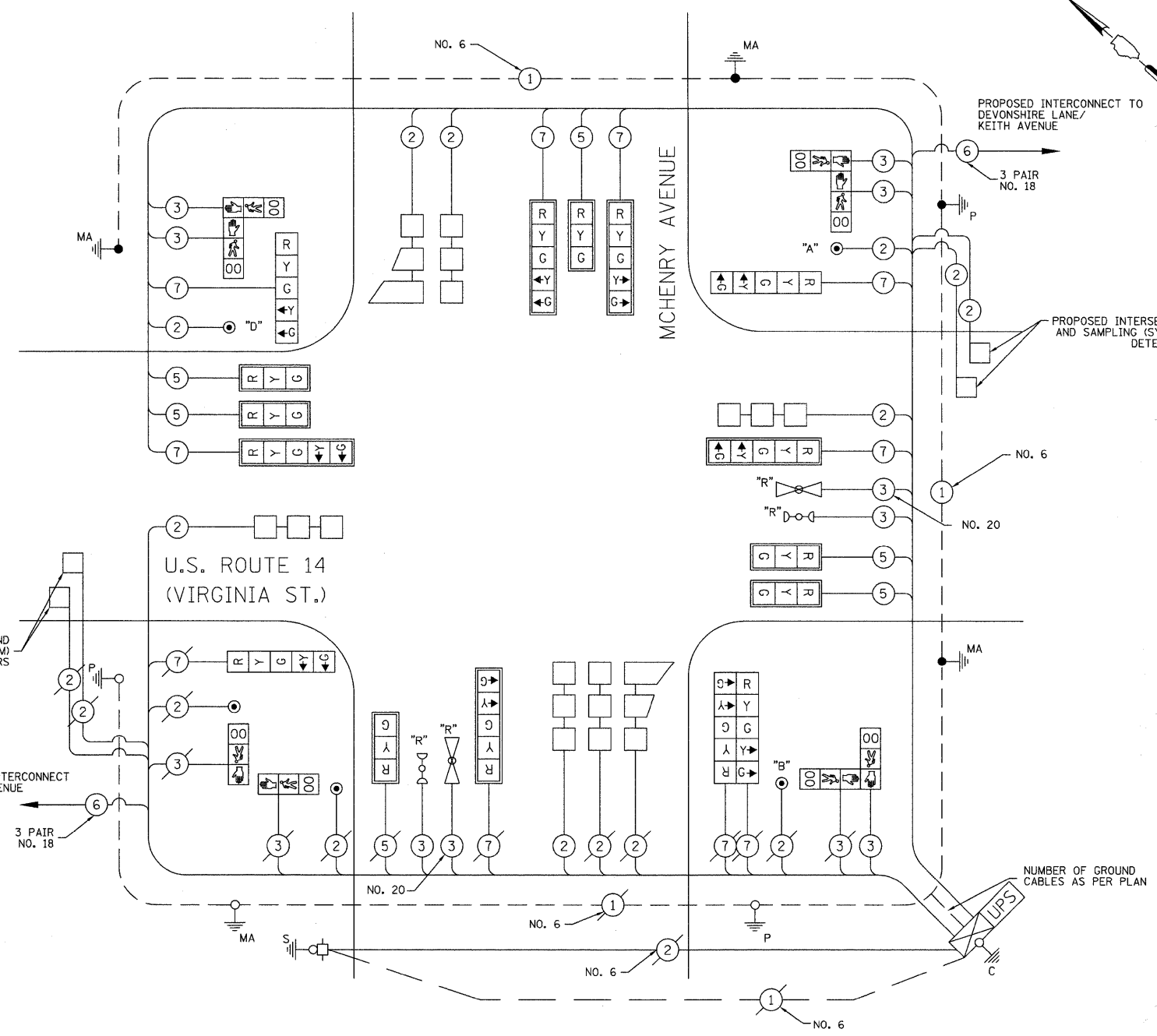


**CABLE PLAN LEGEND**

- |  |  |   |
|--|--|---|
|  |  | 8" (200mm) TRAFFIC SIGNAL SECTION   |
|  |  | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|  |  | 16"x18" PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER   |
|  |  | CONTROLLER CABINET  |
|  |  | TELEPHONE CONNECTION  |
|  |  | EMERGENCY VEHICLE LIGHT DETECTOR  |
|  |  | PUSHBUTTON DETECTOR   |
|  |  | VEHICLE DETECTOR, INDUCTION LOOP  |
|  |  | DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
|  |  | MICROWAVE VEHICLE SENSOR  |
|  |  | RAILROAD CONTROL CABINET  |
|  |  | ILLUMINATED SIGN "NO LEFT TURN"   |
|  |  | ILLUMINATED SIGN "NO RIGHT TURN"  |
|  |  | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).   |
|  |  | GROUND ROD AT POST (P), OR MAST ARM POLE (MA).  |
|  |  | GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
|  |  | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
|  |  | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F   |
|  |  | UNINTERRUPTIBLE POWER SUPPLY  |
|  |  | EXISTING EQUIPMENT TO BE RELOCATED  |



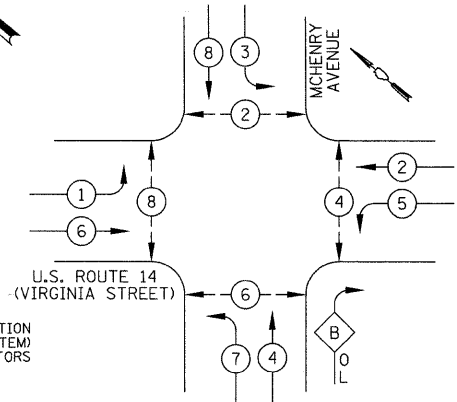
**CABLE PLAN**  
NOT TO SCALE

NOTE:  
PUSH-BUTTON "A" SHALL PLACE A CALL TO PHASES 2 AND 4  
PUSH-BUTTON "B" SHALL PLACE A CALL TO PHASES 4 AND 6  
PUSH-BUTTON "D" SHALL PLACE A CALL TO PHASES 8 AND 2

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (2.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2= (6m+L-0.6m)=
E - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

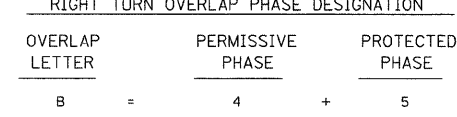
NOTE:  
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**EXISTING AND PROPOSED CONTROLLER SEQUENCE**

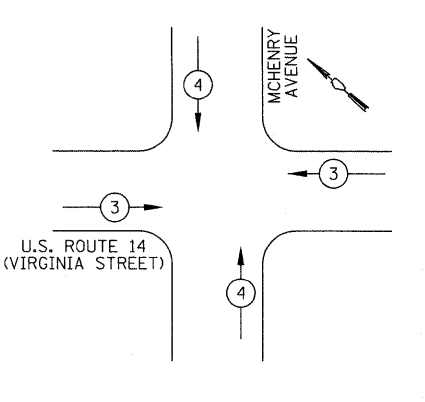


- LEGEND**
- DUAL ENTRY PHASE
  - OVERLAP
  - PEDESTRIAN PHASE
  - NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EXISTING AND PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**PROPOSED EMERGENCY VEHICLE PREEMPTORS**

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←	↑

**SCHEDULE OF QUANTITIES**

PAY ITEM	UNIT	QNTY.
SIGN PANEL - TYPE 1	SQ FT	18
SIGN PANEL - TYPE 2	SQ FT	25
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	172
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	8
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	220
CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	FOOT	26
CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	53
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	259
HANDHOLE	EACH	2
HEAVY-DUTY HANDHOLE	EACH	4
DOUBLE HANDHOLE	EACH	1
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	180
PAINT EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	398
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1004
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	922
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1202
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14 1 PAIR	FOOT	1466
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	45
DRILL EXISTING HANDHOLE	EACH	6
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	6
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	3
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	11
INDUCTIVE LOOP DETECTOR	EACH	2
DETECTOR LOOP, TYPE I	FOOT	842
PEDESTRIAN PUSH-BUTTON	EACH	5
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	2
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	782
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	5
REMOVE EXISTING CONCRETE FOUNDATION	EACH	5
PAINT NEW MAST ARM POLE, UNDER 40 FEET	EACH	3
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	376
ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED	FOOT	294
PAINT NEW TRAFFIC SIGNAL POST	EACH	1

**I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16		17	0.50	136
(YELLOW)	16		25	0.25	100
(GREEN)	16		15	0.25	60
ARROW	20		12	0.10	24
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
FLASHER				0.50	
<b>TOTAL =</b>					<b>620</b>

ENERGY COSTS TO: CITY OF CRYSTAL LAKE  
100 WEST MUNICIPAL COMPLEX, P.O. BOX 597  
CRYSTAL LAKE, IL 60039  
CONTACT: LISA COOK  
PHONE: (815) 477-5204  
COMPANY: COM ED