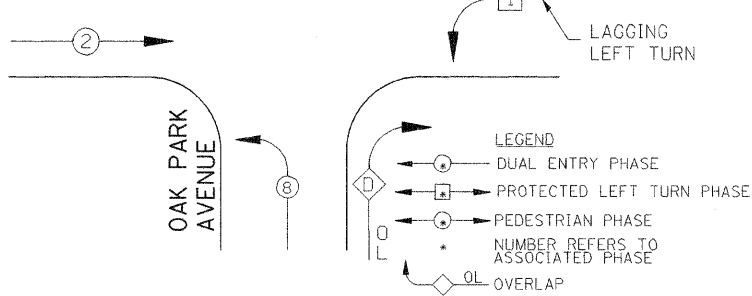


**PHASE DESIGNATION DIAGRAM**

ILL. ROUTE 43 (HARLEM AVENUE)



**CONTROLLER SEQUENCE**

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

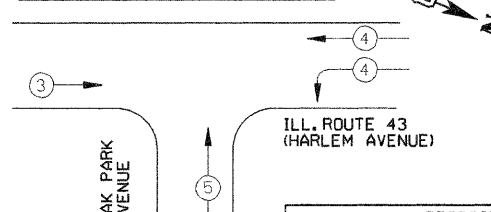
**CABLE PLAN LEGEND**

- | EXISTING | PROPOSED | DESCRIPTION   |
|----------|----------|---|
|          |          | 8" (200mm) TRAFFIC SIGNAL SECTION   |
|          |          | 12" (300mm) TRAFFIC SIGNAL SECTION  |
|          |          | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|          |          | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|          |          | CONTROLLER CABINET  |
|          |          | SERVICE INSTALLATION  |
|          |          | TELEPHONE   |
|          |          | MAGNETIC DETECTOR   |
|          |          | EMERGENCY VEHICLE LIGHT DETECTOR  |
|          |          | CONFIRMATION BEACON   |
|          |          | PUSHBUTTON DETECTOR   |
|          |          | VEHICLE DETECTOR, INDUCTION LOOP  |
|          |          | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED ALL LOOP DETECTOR CABLE TO BE SHIELDED |
|          |          | SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD   |
|          |          | LOUVERED  |
|          |          | RAILROAD CONTROL CABINET  |
|          |          | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"  |
|          |          | ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"   |
|          |          | GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER  |
|          |          | GROUND ROD AT POST OR MAST ARM POLE   |
|          |          | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
|          |          | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F   |
|          |          | LUMINAIRE   |
|          |          | VIDEO DETECTION CAMERA (SINGLE)   |
|          |          | UPS - BATTERY BACK-UP SYSTEM  |

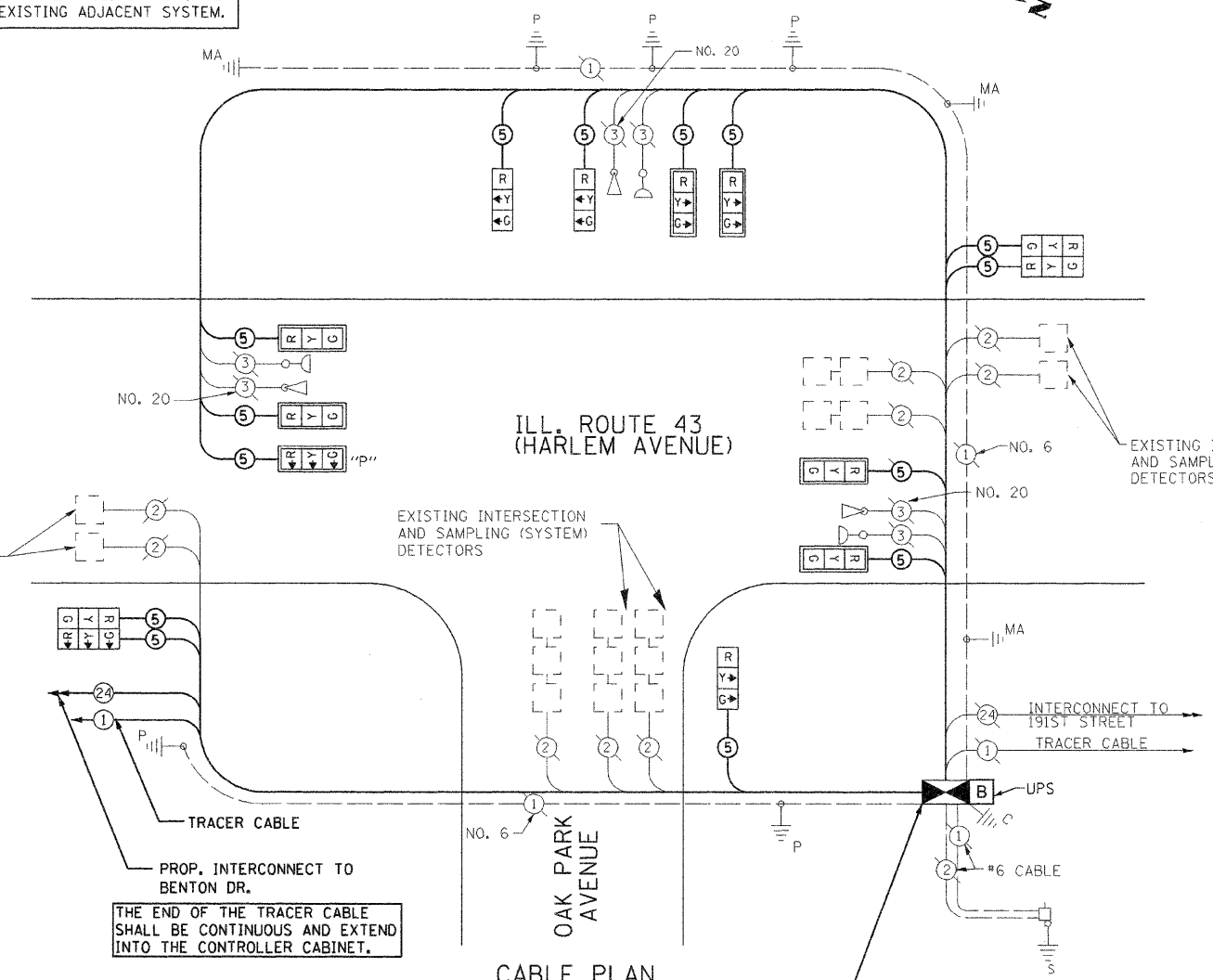
**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
D	= 8	+ 1

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↑



**CABLE PLAN**

REMOVE EXISTING ECONOLITE CONTROLLER AND INSTALL NEW ECONOLITE CONTROLLER AND UPS. EXISTING CABINET TO REMAIN.

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL
1	EACH	TRANSCEIVER - FIBER OPTIC
1891	EACH	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14, 5C
1	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
7	EACH	TRAFFIC SIGNAL BACK PLATE, LOUVERED, ALUMINUM
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
26	SQ FT	TEMPORARY INFORMATION SIGNING
1	EACH	DRILL EXISTING HANDHOLE

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

TYPE	NO. LAMPS	WATTAGE INCAND.	LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	13	17	0.50		110.50
(YELLOW)	13	25	0.25		81.25
(GREEN)	13	15	0.25		48.75
ARROW	16	12	0.10		19.20
PED. SIGNAL		25	1.00		
CONTROLLER	1	100	1.00		100
ILLUM. SIGN			0.05		

FLASHER 0.50  
ENERGY COSTS TO: IDOT TOTAL = 359.7

ENERGY SUPPLY CONTACT: JOE DOYLE  
PHONE: (708) 235-2349  
COMPANY: CQM, ED.

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 (1.0)
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)
		ELECTRIC 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)