

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
--	2012-004 I	LAKE	97	1
		ILLINOIS	CONTRACT NO. 60T42	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

**PROPOSED  
HIGHWAY PLANS**

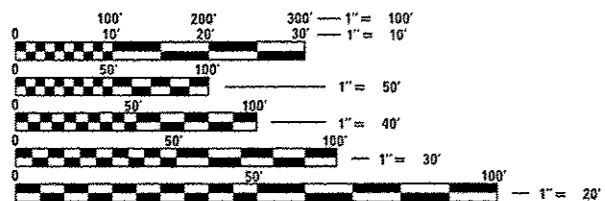
**VARIOUS LOCATIONS IN NORTHEAST LAKE COUNTY  
LIGHT EMITTING DIODE (LED) INSTALLATION**

**SECTION 2012-004 I  
LAKE COUNTY**

C-91-350-12

**HIGHWAY STANDARDS**

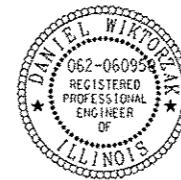
- 701006-03 OFF-ROAD OPERATIONS 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701101-02 OFF-ROAD OPERATIONS MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701701-08 URBAN LANE CLOSURE MULTILANE INTERSECTION
- 701901-02 TRAFFIC CONTROL DEVICES
- 720001-01 SIGN PANEL MOUNTING DETAIL
- 720006-03 SIGN PANEL ERECTION DETAILS
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTABLE POWER SUPPLY (UPS)
- 880001-01 SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

LAKE COUNTY  
LOCATION MAP  
SEE SHEET NO. 3



Signed *Daniel Wiktorszak*  
DANIEL WIKTORZAK, P.E., IL Lic. No. 062-060958  
Expires 11-30-2013  
Date 05/18/11

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED May 18 2012  
*Debra M. Allen*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 29 2012  
*John D. Baranzelli, P.E.*  
ENGINEER OF DESIGN AND ENVIRONMENT

June 29 2012  
*William R. Freyer*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PROJECT ENGINEER: SUDUD MAHMOUD  
PROJECT MANAGER: DARYLE DREW  
CONTRACT NO. 60T42

CIVIL ENGINEERING CONSULTANTS  
**RWA**  
Regina Webster & Associates, Inc.  
8619 W. Bryn Mawr Ave., Suite 602  
Chicago, IL 60631-3551  
773-283-2600 Fax: 773-283-2602  
www.RWAengineers.com

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OF THE STATE OF ILLINOIS**

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- 2 INDEX OF SHEETS
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- 4-9 SUMMARY OF QUANTITIES
- 10-15 DISTRICT I STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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17	21545	IL ROUTE 21 (MILWAUKEE AVE) AT GAGES LAKE ROAD
18	21544	IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 SOUTH RAMP
19	21543	IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 NORTH RAMP
20	21195	IL ROUTE 132 (GRAND AVE) AT BELLE PLAINE STREET
21	21119	IL ROUTE 132 (GRAND AVE.) AT STONEBROOK DRIVE
22	21118	IL RTE. 132 (GRAND AVE.) AT ROLLINS ROAD
23	21117	IL RTE 132 (GRAND AVE) AT ALMOND/HUTCHINS RD
24	21115	IL 132 (GRAND AVE.) AT GURNEE MILLS WEST / WELLS
25	21110	IL 132 (GRAND AVE.) AT GURNEE MILLS SE ACCESS/ TRI STATE
26	21000	IL 132 (GRAND AVE) AT GURNEE MILLS SW ACCESS
27	11930	IL ROUTE 120 AT HUNT CLUB ROAD
28	7085	IL ROUTE 132 (GRAND AVE) AT DILLEYS ROAD
29	7065	IL RTE 132 (GRAND AVE) AT O'PLAINE ROAD
30	7062	IL ROUTE 132 (GRAND AVE) AT BROOKSIDE DRIVE
31	7060	ILLINOIS RTE 132 (GRAND AVE) AT HUNT CLUB ROAD
32	7055	IL 132 (GRAND AVE) AT SIX FLAGS PKWY / LAWSON BLVD
33	6732	IL ROUTE 21 (MILWAUKEE AVE) AT SIX FLAGS
34	6730	IL ROUTE 21 (MILWAUKEE AVE) AT WASHINGTON STREET
35	6705	IL RTE 21 (RIVERSIDE DR) AT IL RTE 132 (GRAND AVE)
36	6551	IL RTE 132 (GRAND AVE) AT FIRST STREET
37	6618	US ROUTE 45 AT DADA DRIVE / GRANT DRIVE
38	21717	IL RTE 43 (WAUKEGAN RD.) AT ATKINSON AVENUE
39	21715	IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 4
40-41	21085	IL ROUTE 137 (SHERIDAN RD) AT 22ND ST / MARTIN LUTHER KING DR
42	21010	IL RTE 137 (AMSTUTZ EXPY) AT IL RTE 137 (BUCKLEY RD)
43	11598	SHERIDAN ROAD AT "D" STREET / METRA ENT.
44	11597	SHERIDAN ROAD AT FARRAGUT AVENUE
45	11596	SHERIDAN ROAD AT 24TH STREET
46	11595	SHERIDAN ROAD AT BUCKLEY ROAD
47	9415	IL ROUTE 137 (SHERIDAN RD.) AT 14TH STREET
48	9407	IL ROUTE 137 (SHERIDAN RD.) AT 10TH ST / ABBOTT LABORATORIES
49	9385	IL ROUTE 131 (GREEN BAY RD.) AT ARCONNE DRIVE
50	7175	IL RTE 137 (BUCKLEY RD) AT RAY STREET / FORRESTAL VILLAGE
51	7170	IL ROUTE 137 (BUCKLEY ROAD) AT ILLINOIS STREET
52	7160	ILLINOIS RTE 137 (BUCKLEY RD) AT LEWIS AVENUE
53	7125	IL ROUTE 137 AT ABBOTT NO ENTRANCE / GATE 3
54	7120	IL ROUTE 137 (BUCKLEY RD.) AT MISSISSIPPI STREET

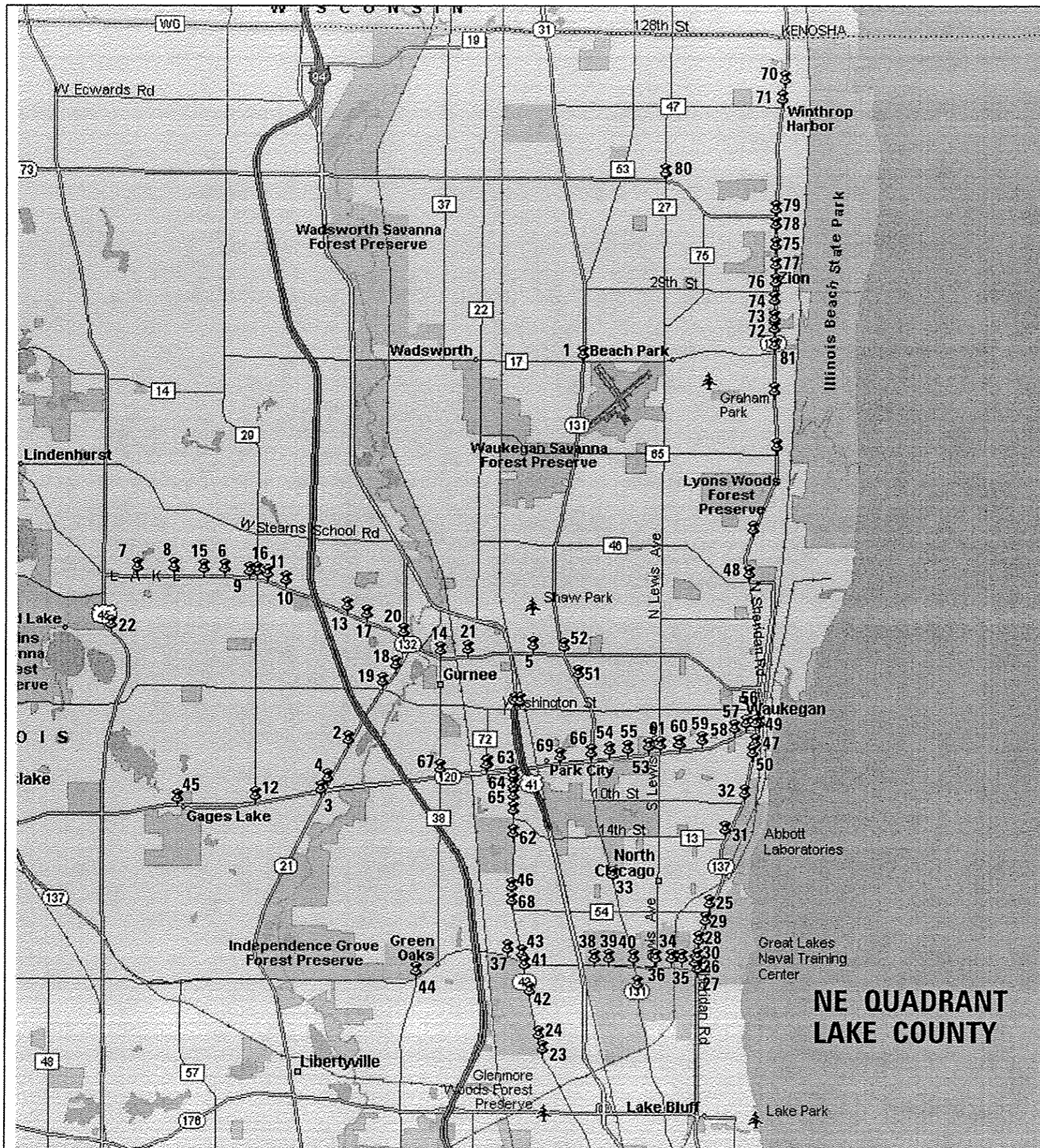
PAGE#	TS#	INTERSECTION NAME
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56	7015	IL RTE 131 (GREEN BAY RD) AT IL RTE 137 (BUCKLEY RD)
57	6820	IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 2
58	6815	IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 1/ WACKER PARK DR.
59	6800	IL RTE 43 (WAUKEGAN RD) AT IL RTE 137 (BUCKLEY RD)
60	7110	IL RTE 137 (BUCKLEY RD) AT ST MARY'S RD
61	21969	IL RTE 120 AT MILL ROAD
62	21695	IL ROUTE 43 (WAUKEGAN RD) AT BAXTER DR / NORMAN DR
63	15131	IL ROUTE 137 (SHERIDAN RD) AT S. GENESEE ST
64	15060	IL RTE. 137 (SHERIDAN RD.) AT GREENWOOD
65	15035	IL ROUTE 137 (SHERIDAN RD.) AT BELVIDERE ROAD
66	15030	IL ROUTE 137 (SHERIDAN RD.) AT SOUTH STREET
67	15022	IL ROUTE 131 (GREEN BAY RD) AT BROOKSIDE AVE
68	15020	IL ROUTE 131 (GREEN BAY RD) AT IL ROUTE 132 (GRAND AVE)
69	14974	BELVIDERE ROAD AT BELVIDERE MALL EAST ENTRANCE
70	14972	BELVIDERE RD. AT LAKE PLAZA / PIONEER ST
71	14970	BELVIDERE ROAD AT KELLER AVENUE
72	14965	BELVIDERE ROAD AT GENESEE STREET
73	14960	BEVIDERE ROAD AT MARTIN LUTHER KING JR. AVENUE / COUNTY ST.
74	14955	BELVIDERE STREET AT McALISTER AVENUE / LIBERTY STREET
75	14950	BELVIDERE ROAD AT JACKSON STREET
76	14945	BELVIDERE ROAD AT GLEN ROCK AVENUE
77	14940	BELVIDERE ST AT LEWIS AVENUE
78	14917	IL ROUTE 43 (WAUKEGAN RD) AT LAKESIDE DRIVE/BAXTER
79	14915	IL ROUTE 43 (WAUKEGAN RD) AT LAKEHURST NORTH DR / NORTHPOINT BLVD
80	14910	IL ROUTE 43 (WAUKEGAN RD) AT FOUNTAIN SQUARE PL
81	14905	IL ROUTE 43 (WAUKEGAN RD) AT LAKEHURST RD (SOUTH DR)
82	7820	IL ROUTE 131 (GREEN BAY RD) AT IL ROUTE 120 (BELVIDERE RD)
83	7010	IL ROUTE 120 AT O'PLAINE ROAD
84	6810	IL ROUTE 43 AT 22ND ST / M.L. KING JR. DRIVE
85	7005	IL ROUTE 120 AT KNIGHT AVENUE
86	12145	IL ROUTE 137 (SHERIDAN RD) AT 7TH STREET
87	8795	IL ROUTE 137 (SHERIDAN RD) AT 9TH STREET
88	20908	IL ROUTE 137 (SHERIDAN RD) AT 34TH STREET
89	20907	IL ROUTE 137 (SHERIDAN RD) AT 33RD STREET
90	20906	IL ROUTE 137 (SHERIDAN RD) AT 31ST STREET
91	20905	IL ROUTE 137 (SHERIDAN RD) AT 25TH STREET (SHILOH BLVD)
92	20904	IL ROUTE 137 (SHERIDAN RD) AT 29TH STREET
93	20903	IL ROUTE 137 (SHERIDAN RD) AT 27TH STREET
94	20902	IL ROUTE 137 (SHERIDAN RD) AT 23RD STREET
95	20901	IL ROUTE 137 (SHERIDAN RD) AT IL ROUTE 173 (21ST ST)
96	20900	IL ROUTE 173 AT LEWIS AVENUE
97	7195	IL RTE 137 (SHERIDAN RD) AT WADSWORTH RD

**GENERAL NOTES:**

- CONTRACTOR SHALL REPLACE BROKEN MOUNTING BRACKETS AT ALL RETROFIT SIGNAL HEAD INTERSECTIONS OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE CORRESPONDING SIGNAL HEAD, LED, RETROFIT PAY ITEM OF THE TYPE AND NUMBER OF SIGNAL HEADS, FACES, AND SECTIONS AS SPECIFIED IN THE PLANS.
- CONTRACTOR SHALL RELOCATE EXISTING SIGN PANELS FROM PAINTED POSTS THAT ARE INDICATED FOR REPLACEMENT TO A NEW POSTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL, RELOCATION AND ANY NEW MOUNTING HARDWARE NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE TRAFFIC SIGNAL POST, GALVANIZED STEEL PAY ITEM OF THE LENGTH AS SPECIFIED IN THE PLANS.
- DUE TO THE PRESENCE OF A RED LIGHT RUNNING (RLR) CAMERA FOR THE BELOW LISTED LOCATIONS, CONTRACTORS SHALL NOTIFY THE VILLAGE AND RLR CAMERA COMPANY PRIOR TO THE START OF CONSTRUCTION. THE VILLAGE OR THE RLR CAMERA COMPANY SHALL MAKE THE CAMERA INOPERATIVE FOR THE TIME OF CONSTRUCTION. ANY RLR CAMERA EQUIPMENT THAT IS IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY ITS RESPECTIVE OWNERS PRIOR TO THE START OF CONSTRUCTION.

<b>RLR CAMERA LOCATION:</b> 6705 - IL ROUTE 21 (RIVERSIDE DR) AT IL ROUTE 132 (GRAND AVE) 7060 - IL ROUTE 132 (GRAND AVE) AT HUNT CLUB ROAD 7085 - IL ROUTE 132 (GRAND AVE) AT DILLEYS ROAD	
<b>VILLAGE OF GURNEE</b> 325 N. O'PLAINE RD GURNEE, IL 60031-2636 847-599-7500	<b>REFLEX TRAFFIC SYSTEMS, INC.</b> 23751 N. 23RD AVE, STE 150 PHOENIX, AZ 85085-1854 623-207-2000
<b>RLR CAMERA LOCATION:</b> 6800 - IL ROUTE 43 (WAUKEGAN RD) AT IL ROUTE 137 (BUCKLEY RD) 7015 - IL ROUTE 131 (GREEN BAY RD) AT IL ROUTE 137 (BUCKLEY RD)	
<b>CITY OF NORTH CHICAGO</b> 1850 LEWIS AVE NORTH CHICAGO, IL 60064 847-596-8724	<b>REFLEX TRAFFIC SYSTEMS, INC.</b> 23751 N. 23RD AVE, STE 150 PHOENIX, AZ 85085-1854 623-207-2000
<b>RLR CAMERA LOCATION:</b> 7820 - IL ROUTE 131 (GREEN BAY RD) AT IL ROUTE 120 (BELVIDERE RD) 15020 - IL ROUTE 131 (GREEN BAY RD) AT IL ROUTE 132 (GRAND AVE)	
<b>CITY OF WAUKEGAN</b> 100 N. MARTIN LUTHER KING JR. AVE WAUKEGAN, IL 60085 847-599-2500	<b>REDSPEED ILLINOIS</b> 400 EISENHOWER LANE NORTH LOMBARD, IL 60148 630-317-5700

FILE NAME : N:\Projects\3\12004\Design\CAD\Sheet Files	USER NAME : *USER* 12-002 Sheets NE Lake Co\60142 LAKE.indd	DESIGNED - DW	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS</b>				F.A. RTE.	SECTION 2012-004 I	COUNTY LAKE	TOTAL SHEETS 97	SHEET NO. 2
	PLOT SCALE : *SCALE*	CHECKED - KMM	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT NO. 60T42			
	PLOT DATE : 5/16/2012	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



TS#	LOCATION
1.	7030 IL ROUTE 131 (GREEN BAY RD) AT WADSWORTH RD
2.	21545 IL ROUTE 21 (MILWAUKEE AVE) AT GAGES LAKE ROAD
3.	21544 IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 SOUTH RAMP
4.	21543 IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 NORTH RAMP
5.	21195 IL ROUTE 132 (GRAND AVE) AT BELLE PLAINE STREET
6.	21119 IL ROUTE 132 (GRAND AVE.) AT STONEBROOK DRIVE
7.	21118 IL RTE. 132 (GRAND AVE.) AT ROLLINS ROAD
8.	21117 IL RTE 132 (GRAND AVE) AT ALMOND/HUTCHINS RD
9.	21115 IL 132 (GRAND AVE.) AT GURNEE MILLS WEST / WELLS
10.	21110 IL 132 (GRAND AVE.) AT GURNEE MILLS SE ACCESS/ TRI STATE
11.	21000 IL 132 (GRAND AVE) AT GURNEE MILLS SW ACCESS
12.	11930 IL ROUTE 120 AT HUNT CLUB ROAD
13.	7085 IL ROUTE 132 (GRAND AVE) AT DILLEYS ROAD
14.	7065 IL RTE 132 (GRAND AVE) AT O'PLAINE ROAD
15.	7062 IL ROUTE 132 (GRAND AVE) AT BROOKSIDE DRIVE
16.	7060 ILLINOIS RTE 132 (GRAND AVE) AT HUNT CLUB ROAD
17.	7055 IL 132 (GRAND AVE) AT SIX FLAGS PKWY / LAWSOON BLVD
18.	6732 IL ROUTE 21 (MILWAUKEE AVE) AT SIX FLAGS
19.	6730 IL ROUTE 21 (MILWAUKEE AVE) AT WASHINGTON STREET
20.	6705 IL RTE 21 (RIVERSIDE DR) AT IL RTE 132 (GRAND AVE)
21.	6551 IL RTE 132 (GRAND AVE) AT FIRST STREET
22.	6618 US ROUTE 45 AT DADA DRIVE / GRANT DRIVE
23.	21717 IL RTE 43 (WAUKEGAN RD.) AT ATKINSON AVENUE
24.	21715 IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 4
25.	21085 IL ROUTE 137 (SHERIDAN RD) AT 22ND ST / MARTIN LUTHER KING DR
26.	21010 IL RTE 137 (AMSTUTZ EXPY) AT IL RTE 137 (BUCKLEY RD)
27.	11598 SHERIDAN ROAD AT "D" STREET / METRA ENT.
28.	11597 SHERIDAN ROAD AT FARRACUT AVENUE
29.	11596 SHERIDAN ROAD AT 24TH STREET
30.	11595 SHERIDAN ROAD AT BUCKLEY ROAD
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35.	7170 IL ROUTE 137 (BUCKLEY ROAD) AT ILLINOIS STREET
36.	7160 ILLINOIS RTE 137 (BUCKLEY RD) AT LEWIS AVENUE
37.	7125 IL ROUTE 137 AT ABBOTT NO ENTRANCE / GATE 3
38.	7120 IL ROUTE 137 (BUCKLEY RD.) AT MISSISSIPPI STREET
39.	7115 IL ROUTE 137 (BUCKLEY ROAD) AT GREAT LAKES DRIVE
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48.	15060 IL RTE. 137 (SHERIDAN RD.) AT GREENWOOD
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51.	15022 IL ROUTE 131 (GREEN BAY RD) AT BROOKSIDE AVE
52.	15020 IL ROUTE 131 (GREEN BAY RD) AT IL ROUTE 132 (GRAND AVE)
53.	14974 BELVIDERE ROAD AT BELVIDERE MALL EAST ENTRANCE
54.	14972 BELVIDERE RD. AT LAKE PLAZA / PIONEER ST
55.	14970 BELVIDERE ROAD AT KELLER AVENUE
56.	14965 BELVIDERE ROAD AT GENESEE STREET
57.	14960 BEVIDERE ROAD AT MARTIN LUTHER KING JR. AVENUE / COUNTY ST.
58.	14955 BELVIDERE STREET AT McALISTER AVENUE / LIBERTY STREET
59.	14950 BELVIDERE ROAD AT JACKSON STREET
60.	14945 BELVIDERE ROAD AT GLEN ROCK AVENUE
61.	14940 BELVIDERE ST AT LEWIS AVENUE
62.	14917 IL ROUTE 43 (WAUKEGAN RD) AT LAKESIDE DRIVE/BAXTER
63.	14915 IL ROUTE 43 (WAUKEGAN RD) AT LAKEHURST NORTH DR / NORTHPOINT BLVD
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66.	7820 IL ROUTE 131 (GREEN BAY RD) AT IL ROUTE 120 (BELVIDERE RD)
67.	7010 IL ROUTE 120 AT O'PLAINE ROAD
68.	6810 IL ROUTE 43 AT 22ND ST / M.L. KING JR. DRIVE
69.	7005 IL ROUTE 120 AT KNIGHT AVENUE
70.	12145 IL ROUTE 137 (SHERIDAN RD) AT 7TH STREET
71.	8795 IL ROUTE 137 (SHERIDAN RD) AT 9TH STREET
72.	20908 IL ROUTE 137 (SHERIDAN RD) AT 34TH STREET
73.	20907 IL ROUTE 137 (SHERIDAN RD) AT 33RD STREET
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75.	20905 IL ROUTE 137 (SHERIDAN RD) AT 25TH STREET (SHILOH BLVD)
76.	20904 IL ROUTE 137 (SHERIDAN RD) AT 29TH STREET
77.	20903 IL ROUTE 137 (SHERIDAN RD) AT 27TH STREET
78.	20902 IL ROUTE 137 (SHERIDAN RD) AT 23RD STREET
79.	20901 IL ROUTE 137 (SHERIDAN RD) AT IL ROUTE 173 (21ST ST)
80.	20900 IL ROUTE 173 AT LEWIS AVENUE
81.	7195 IL RTE 137 (SHERIDAN RD) AT WADSWORTH RD

**NE QUADRANT  
LAKE COUNTY**

FILE NAME	USER NAME	DESIGNED	REVISED
H:\Projects\212004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\6042 LAKE Locat	USER#	DW	DW
		DRAWN	REVISED
		JDH	JDH
		CHECKED	REVISED
		KMM	KMM
		DATE	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	3
			CONTRACT NO. 6042	
ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES HEADING LEGEND - URBAN 0021

FUNDING PARTICIPATION

COLUMN NUMBER	TS#	INTERSECTION	STATE	LAKE COUNTY	GURNEE	NORTH CHICAGO	WAUKEGAN	WINTHROP HARBOR	ZION	PARK CITY	THIRD LAKE	WARREN RD. DIST.	GURNEE M. L. P.	ABBOTT LABS	NAVY	NAV FAC MIDWEST	METRA	SIMON PROR. GROUP (ILLINOIS) L.P.	IMPERIAL REALTY	CARDINAL HEALTH
<del>3</del>	<del>7090</del>	<del>IL ROUTE 131 (GREEN BAY RD) AT WADSWORTH RD</del>	<del>95%</del>	<del>5%</del>																
3	21545	IL ROUTE 21 (MILWAUKEE AVE) AT GAGES LAKE ROAD	96.7%	3.3%																
1	21544	IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 SOUTH RAMP	100%																	
1	21543	IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 NORTH RAMP	100%																	
4	21195	IL ROUTE 132 (GRAND AVE) AT BELLE PLAINE STREET	95%		5%															
35	21119	IL ROUTE 132 (GRAND AVE.) AT STONEBROOK DRIVE	96.7%		3.3%															
5	21118	IL RTE. 132 (GRAND AVE.) AT ROLLINS ROAD	95%	2.5%	2.5%															
4	21117	IL RTE 132 (GRAND AVE) AT ALMOND/HUTCHINS RD	95%		5%															
7	21115	IL 132 (GRAND AVE.) AT GURNEE MILLS WEST / WELLS	95%										5%							
7	21110	IL 132 (GRAND AVE.) AT GURNEE MILLS SE ACCESS/ TRI STATE	95%										5%							
7	21000	IL 132 (GRAND AVE) AT GURNEE MILLS SW ACCESS	95%										5%							
2	11930	IL ROUTE 120 AT HUNT CLUB ROAD	96.7%	3.3%																
5	7085	IL ROUTE 132 (GRAND AVE) AT DILLEYS ROAD	95%	2.5%	2.5%															
3	7065	IL RTE 132 (GRAND AVE) AT O'PLAINE ROAD	95%	5%																
4	7062	IL ROUTE 132 (GRAND AVE) AT BROOKSIDE DRIVE	95%		5%															
3	7060	ILLINOIS RTE 132 (GRAND AVE) AT HUNT CLUB ROAD	95%	5%																
4	7055	IL 132 (GRAND AVE) AT SIX FLAGS PKWY / LAWSON BLVD	95%		5%															
4	6732	IL ROUTE 21 (MILWAUKEE AVE) AT SIX FLAGS	95%		5%															
3	6730	IL ROUTE 21 (MILWAUKEE AVE) AT WASHINGTON STREET	95%	5%																
1	6705	IL RTE 21 (RIVERSIDE DR) AT IL RTE 132 (GRAND AVE)	100%																	
4	6551	IL RTE 132 (GRAND AVE) AT FIRST STREET	95%		5%															
6	6618	US ROUTE 45 AT DADA DRIVE / GRANT DRIVE	95%		2.5%						2.5%									
9	21717	IL RTE 43 (WAUKEGAN RD.) AT ATKINSON AVENUE	95%			5%														
12	21715	IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 4	95%											5%						
10	21085	IL ROUTE 137 (SHERIDAN RD) AT 22ND ST / MARTIN LUTHER KING DR	95%	2.5%		2.5%														
1	21010	IL RTE 137 (AMSTUTZ EXPY) AT IL RTE 137 (BUCKLEY RD)	100%																	
17	11598	SHERIDAN ROAD AT "D" STREET / METRA ENT.	95%												2.5%		2.5%			
13	11597	SHERIDAN ROAD AT FARRAGUT AVENUE	96.7%												3.3%					
8	11596	SHERIDAN ROAD AT 24TH STREET	96.7%			3.3%														
1	11595	SHERIDAN ROAD AT BUCKLEY ROAD	100%																	
10	9415	IL ROUTE 137 (SHERIDAN RD.) AT 14TH STREET	95%	2.5%		2.5%														
9	9407	IL ROUTE 137 (SHERIDAN RD.) AT 10TH ST / ABBOTT LABORATORIES	95%			5%														
9	9385	IL ROUTE 131 (GREEN BAY RD.) AT ARGONNE DRIVE	95%			5%														
16	7175	IL RTE 137 (BUCKLEY RD) AT RAY STREET / FORRESTAL VILLAGE	95%												2.5%	2.5%				
14	7170	IL ROUTE 137 (BUCKLEY ROAD) AT ILLINOIS STREET	95%												5%					
15	7160	ILLINOIS RTE 137 (BUCKLEY RD) AT LEWIS AVENUE	95%	2.5%												2.5%				
11	7125	IL ROUTE 137 AT ABBOTT NO ENTRANCE / GATE 3	96.7%											3.3%						
13	7120	IL ROUTE 137 (BUCKLEY RD.) AT MISSISSIPPI STREET	96.7%												3.3%					
14	7115	IL ROUTE 137 (BUCKLEY ROAD) AT GREAT LAKES DRIVE	95%												5%					
1	7015	IL RTE 131 (GREEN BAY RD) AT IL RTE 137 (BUCKLEY RD)	100%																	
12	6820	IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 2	95%											5%						
12	6815	IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 1/ WACKER PARK DR.	95%											5%						
1	6800	IL RTE 43 (WAUKEGAN RD) AT IL RTE 137 (BUCKLEY RD)	100%																	
2	7110	IL RTE 137 (BUCKLEY RD) AT ST MARY'S RD	96.7%	3.3%																

Rev.







CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE																																		
				TRAFFIC SIGNAL																																		
				0021																																		
				URBAN																																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35				
88800100	PEDESTRIAN PUSH-BUTTON	EACH	89	2		14	2	3	2	8		2					4		4	8	2								8	28					2			
89500100	RELOCATE EXISTING SIGNAL HEAD	EACH	26	14													1		5						6													
89501410	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	EACH	2																													1	1					
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	72	8	4	5	6	2		2	1	2	1	1	3	2	2	1	1	1	1	1	1	6	4	1	1	1	1	1	1	1	1	1	7	1	1	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	62	6	4	4	6	1	1	2	1	3	2		2	2	2	1	1	1		1	5	6	1	1		1	1	1	1	1	1	6	1	1		
X8570226	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	2							1															1													
X8620050	UNINTERRUPTABLE POWER SUPPLY, GROUND MOUNTED	EACH	6			1	1																	1	1	1									1			
X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	69	8	4	4	5	2		3	1	3	1	1	3	2	2	1	1	1	1		5	4	1	1	1	1	1	1	1	1	1	1	1	6	1	1
X8803038	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED, RETROFIT	EACH	1			1																																
X8803040	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT	EACH	21			6				1	1	2		1	4													1						3	1		1	
X8803050	SIGNAL HEAD, LED, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED, RETROFIT	EACH	1							1																												
X8803082	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	41		3	2				2	4	1	3	4	3														4						9		3	
X8803084	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	125		2	25				5	3	14	7	6	20	3																				20	1	4
X8803086	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED, RETROFIT	EACH	12			12																																

Rev.

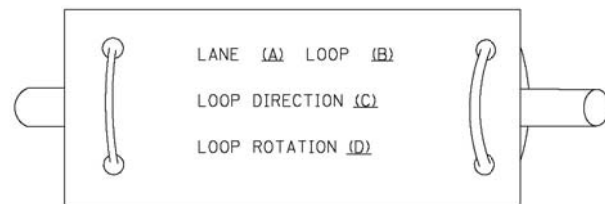




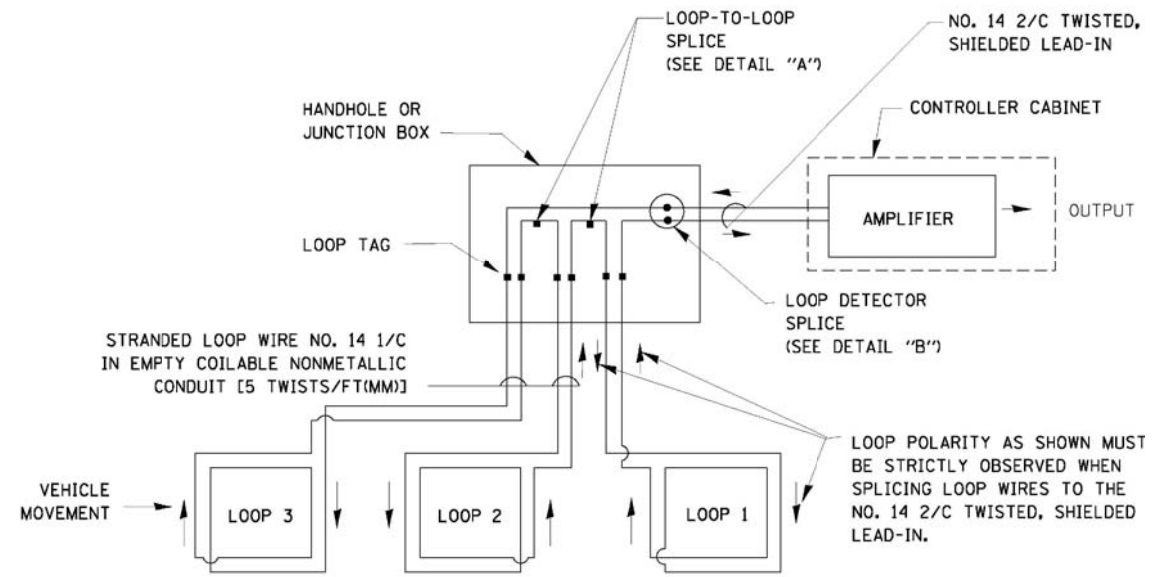
### LOOP DETECTOR NOTES

- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
- EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
- LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
- PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

#### LOOP LEAD-IN CABLE TAG

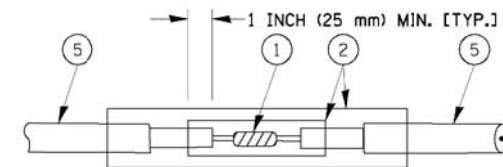


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

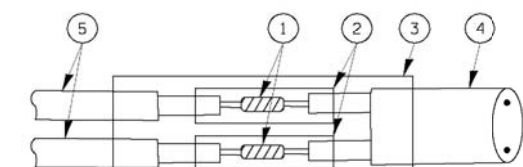


#### DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

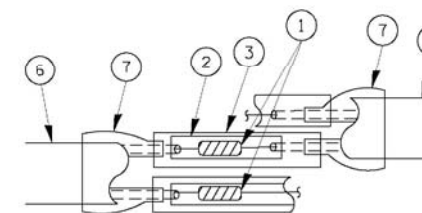


DETAIL "A"  
LOOP-TO-LOOP SPLICE

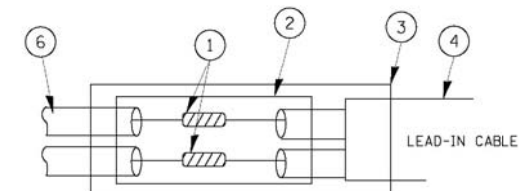


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

#### TYPE I LOOP



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

#### LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- NO. 14 2/C TWISTED, SHIELDED CABLE.
- LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- PREFORMED LOOP
- XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

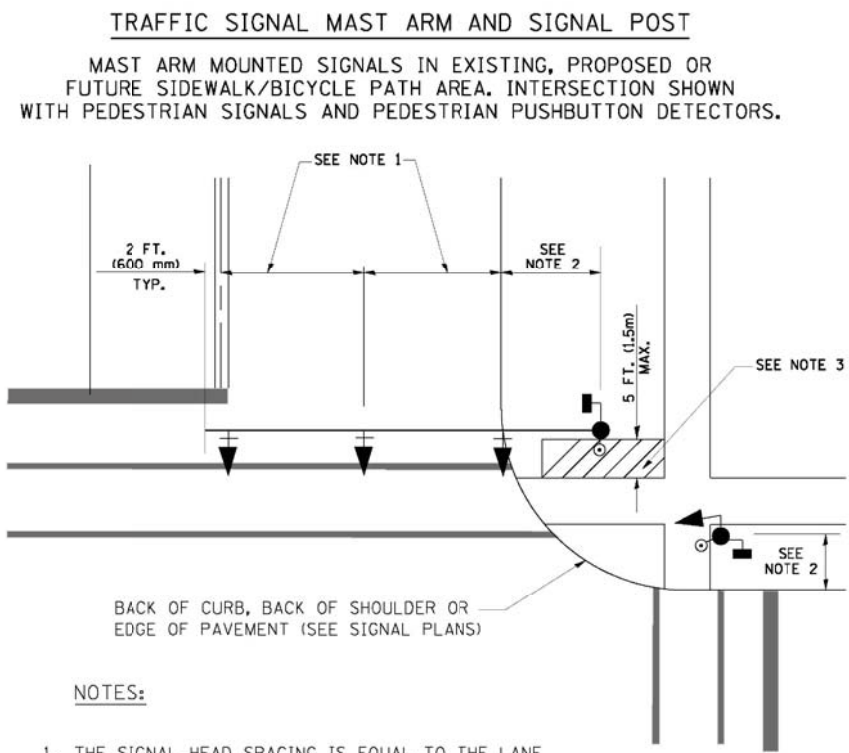
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	PLOT DATE = 5/16/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

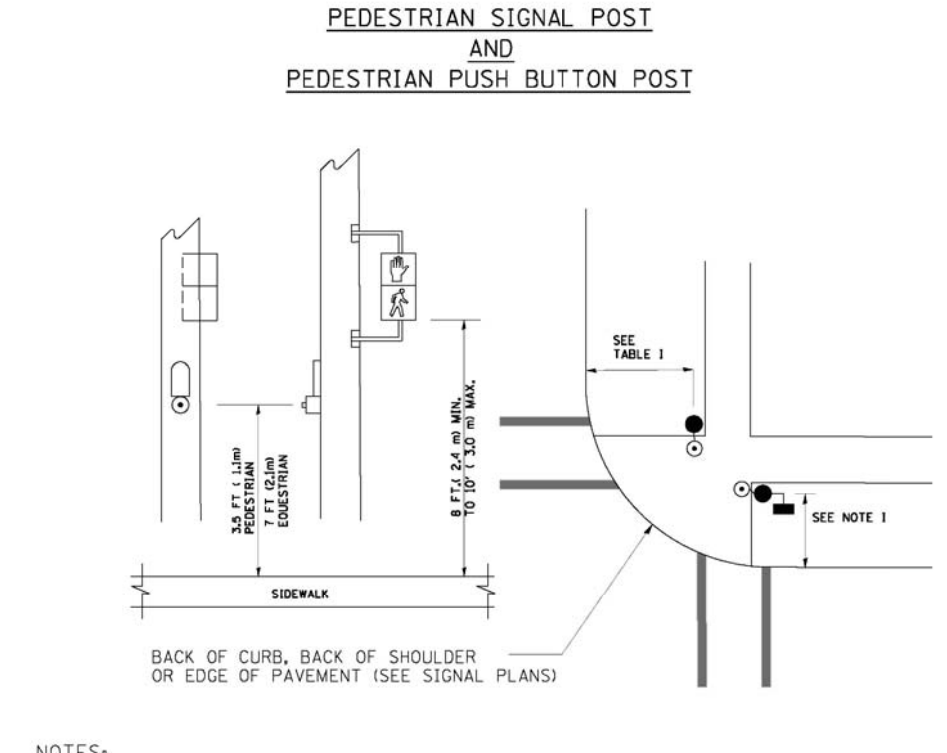
DISTRICT ONE - STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: N.T.S. SHEET NO. 1 OF 6 SHEETS STA. TO STA.

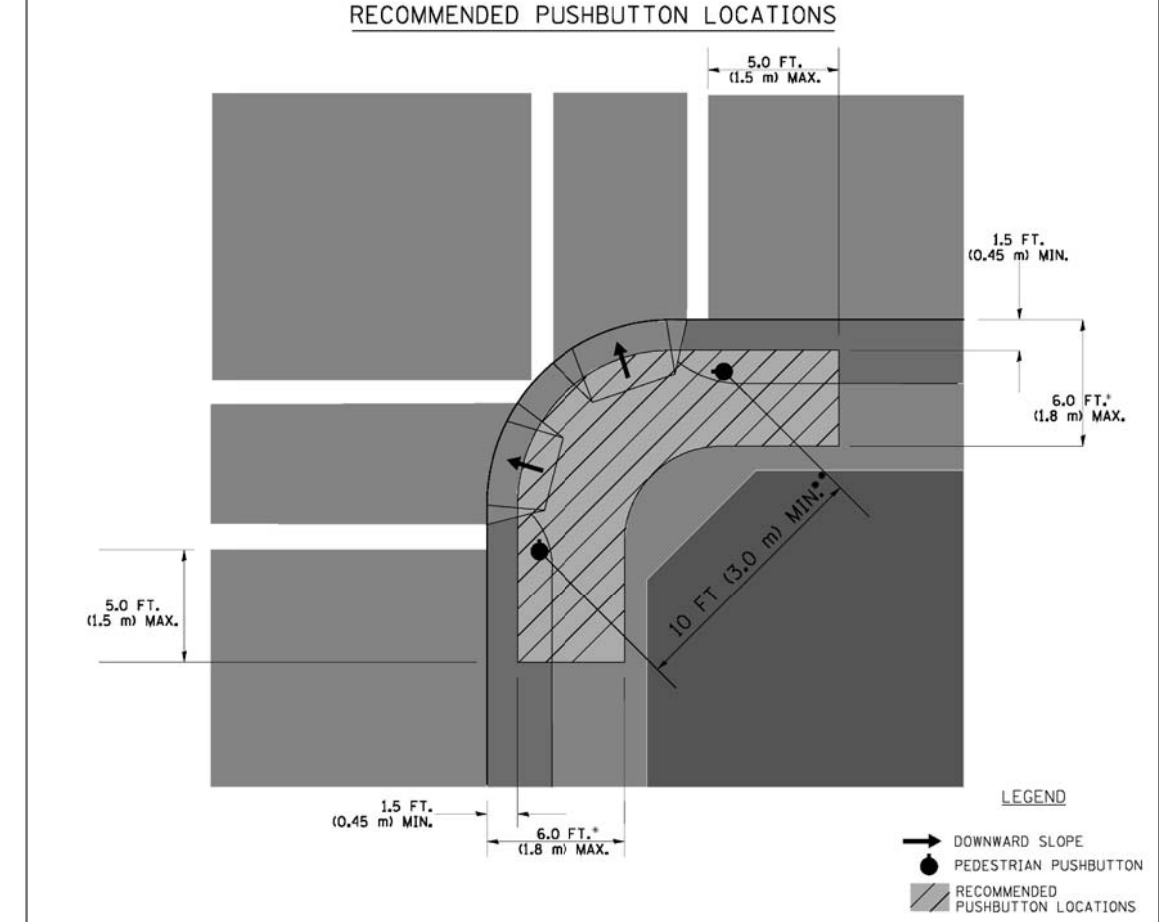
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	10
			CONTRACT NO. 60T42	
ILLINOIS FED. AID PROJECT				



- NOTES:**
1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
  2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
  3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
  4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
  5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."



- NOTES:**
1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
  2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
  3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
  4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."



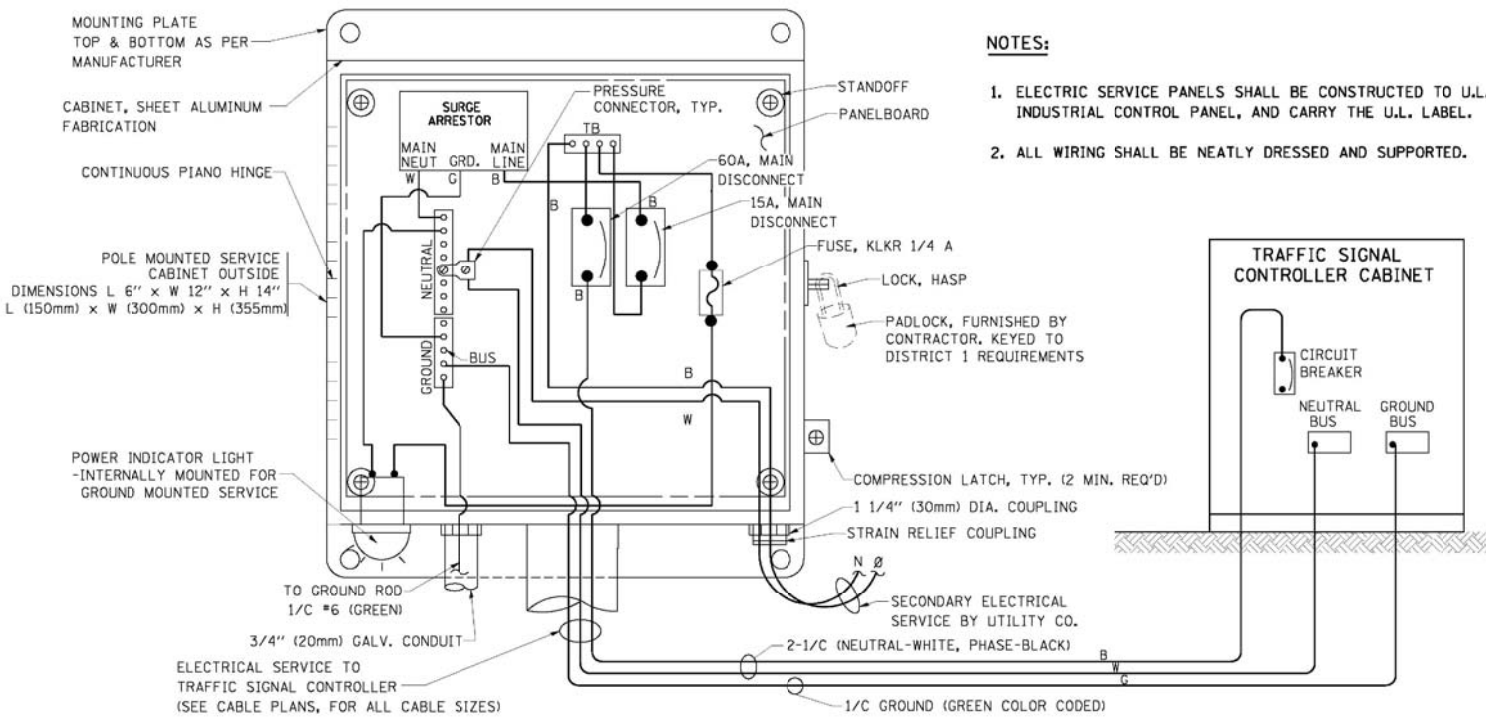
- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT ( 1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

- NOTES:**
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
  2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
  3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
  4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
  5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

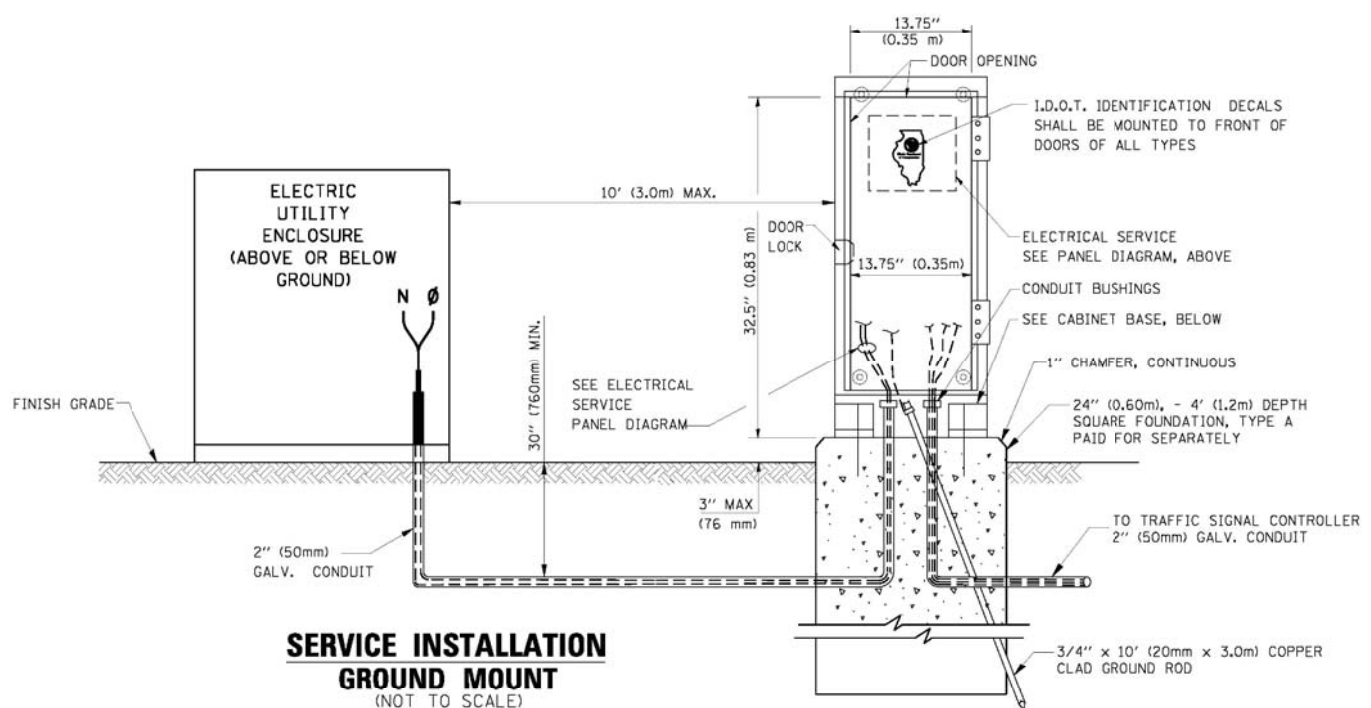
### TRAFFIC SIGNAL EQUIPMENT OFFSET

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

- NOTES:**
1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
  2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
  3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
  4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

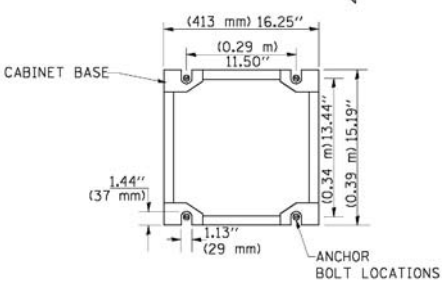


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



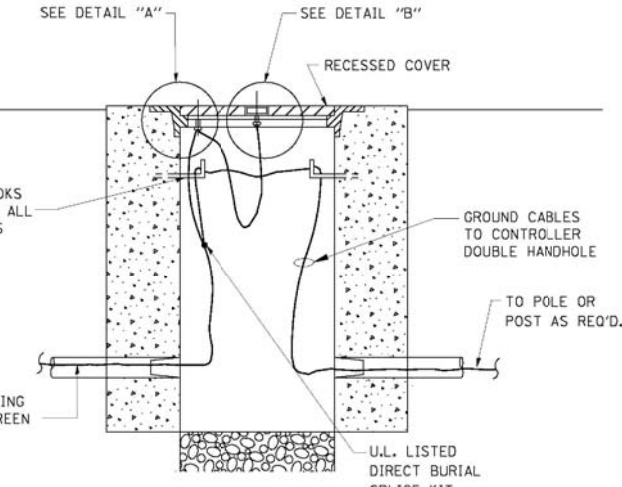
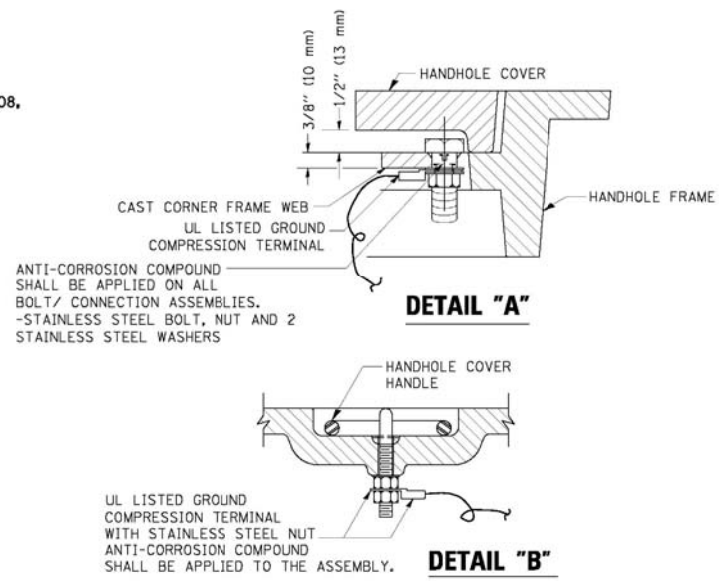
**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)

**CABINET - BASE BOLT PATTERN**  
 (NOT TO SCALE)

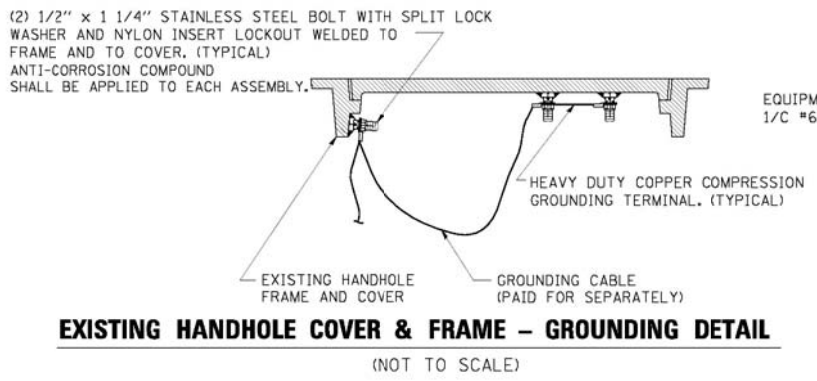


**NOTES:**

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



**HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)

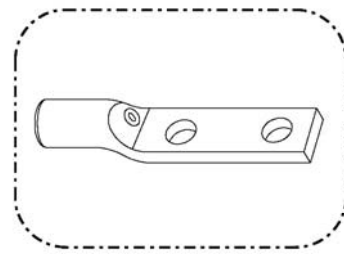


**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL**  
 (NOT TO SCALE)

**NOTES:**

**GROUNDING SYSTEM**

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4\"/>
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



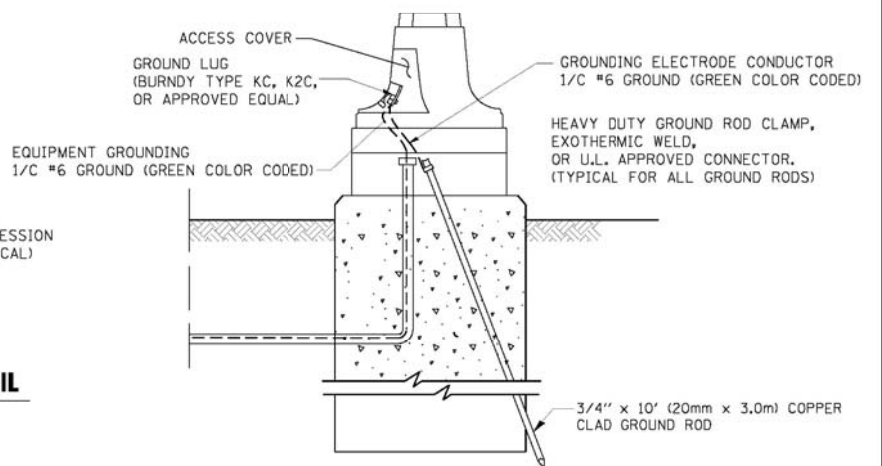
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4\"/>

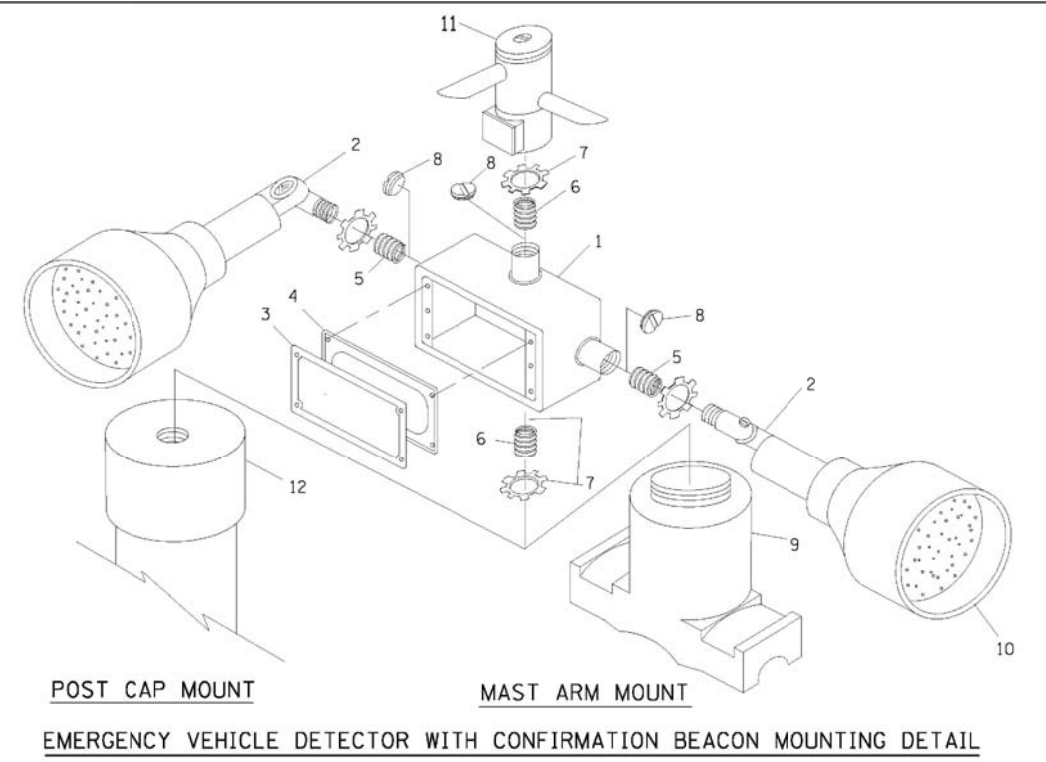
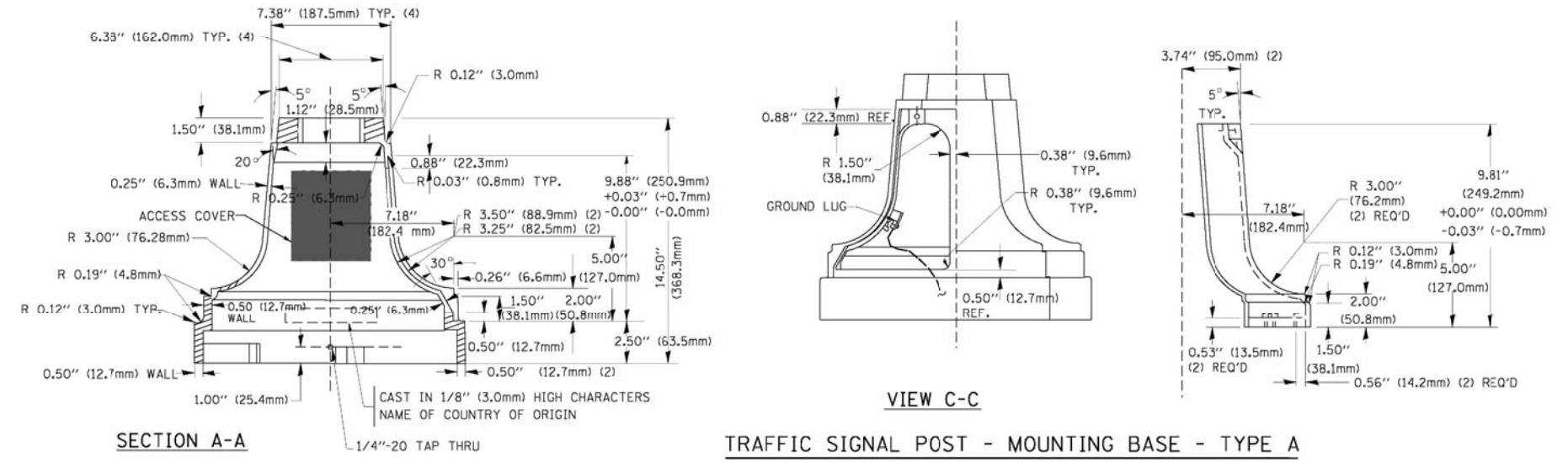
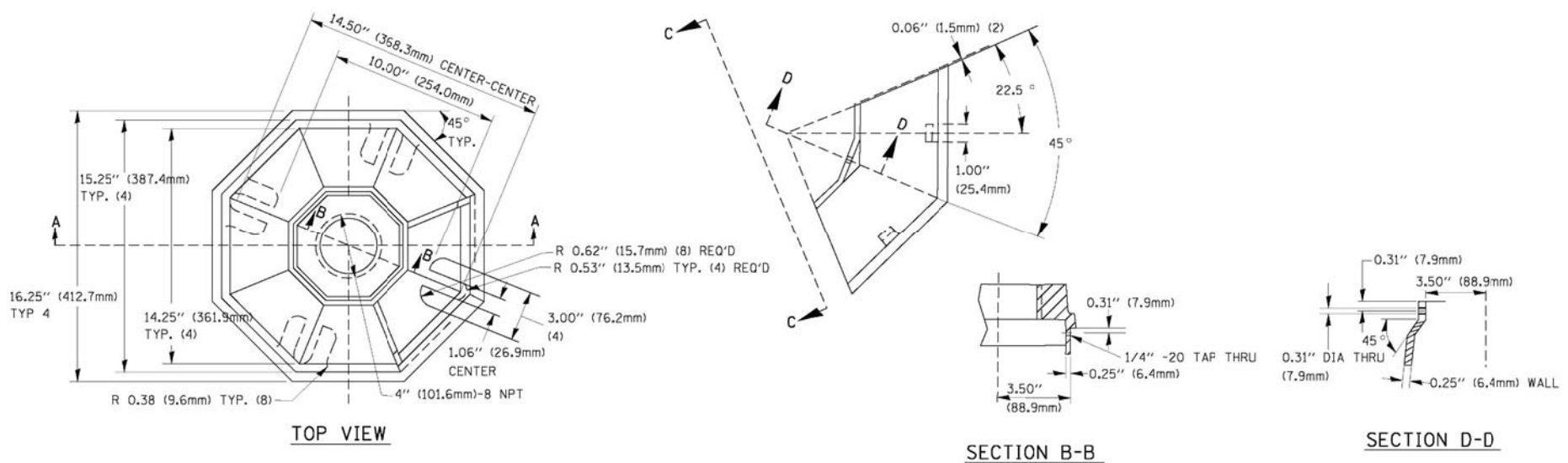
**NOTES:**

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES. 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES. 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



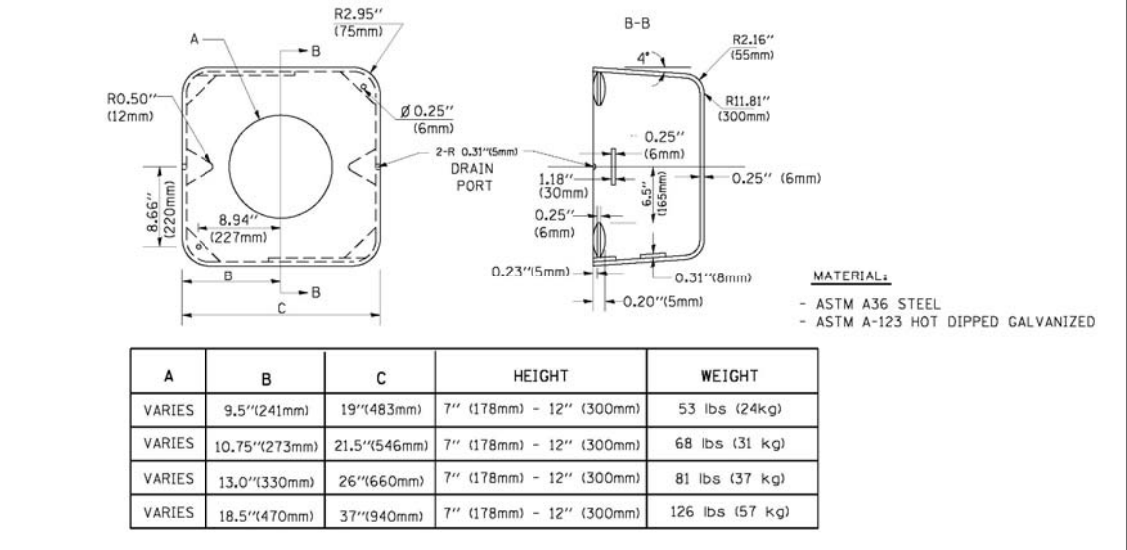
**MAST ARM POLE / POST-GROUNDING DETAIL**  
 (NOT TO SCALE)

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE - STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = 5/16/2012	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
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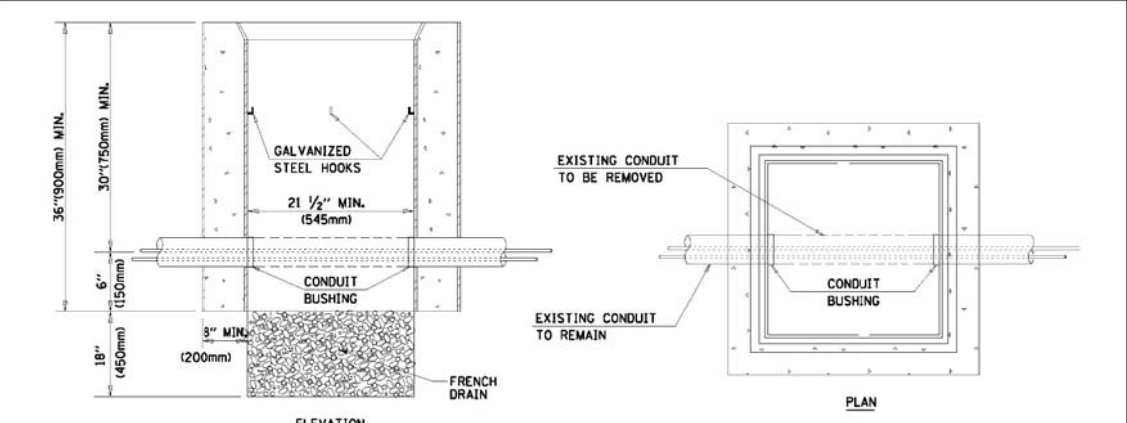
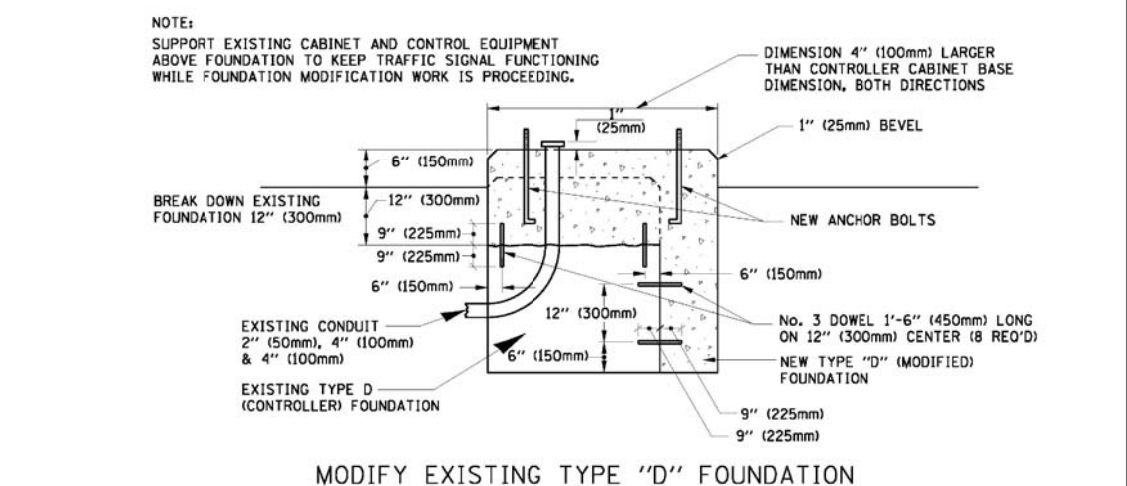


ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [8 FT. (5.4 m) POST MIN.]

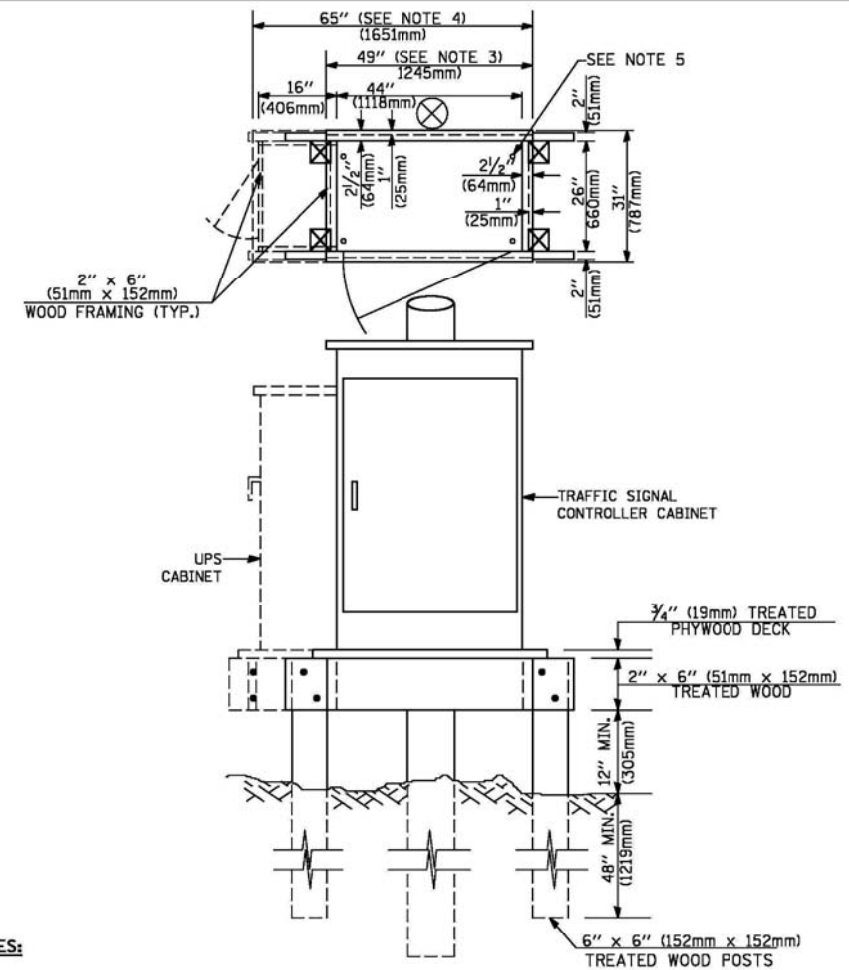
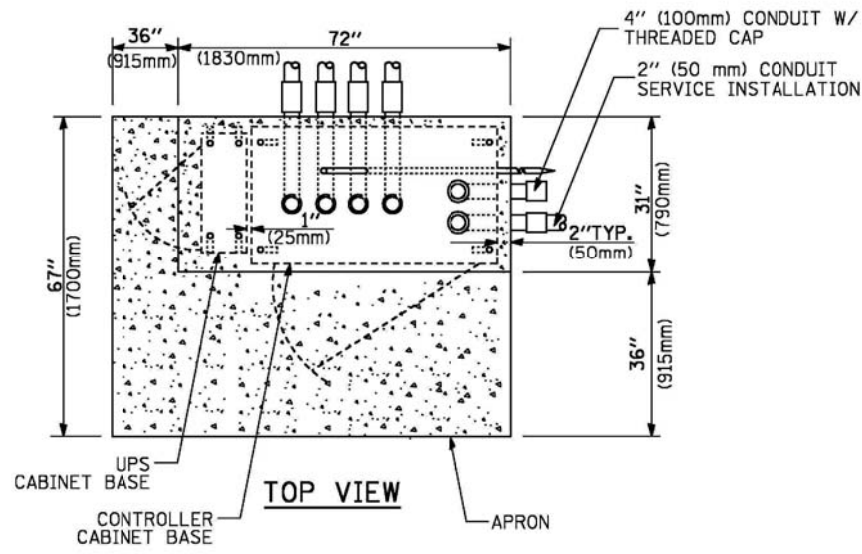
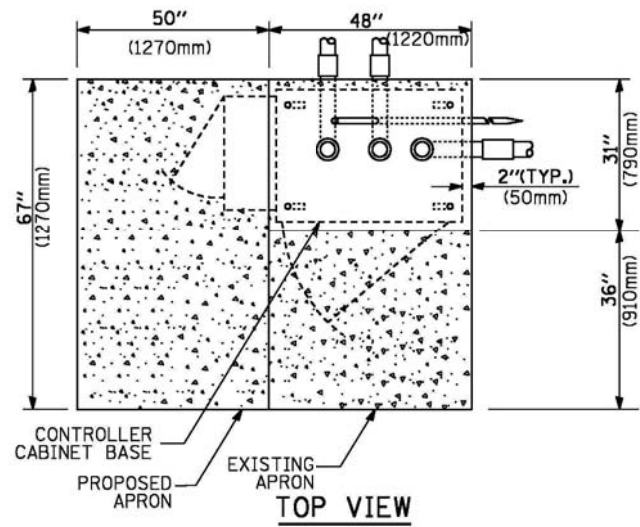
- NOTES:**
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
 ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
 ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
  - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
  - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
  - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

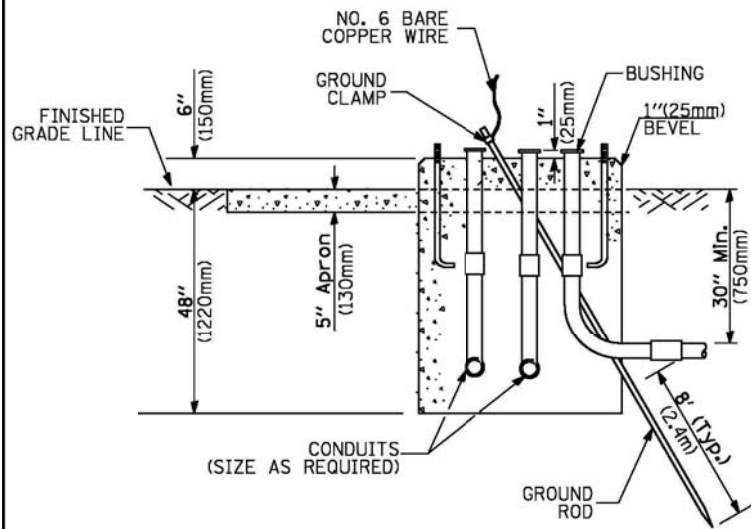


- NOTES:**
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
  - REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

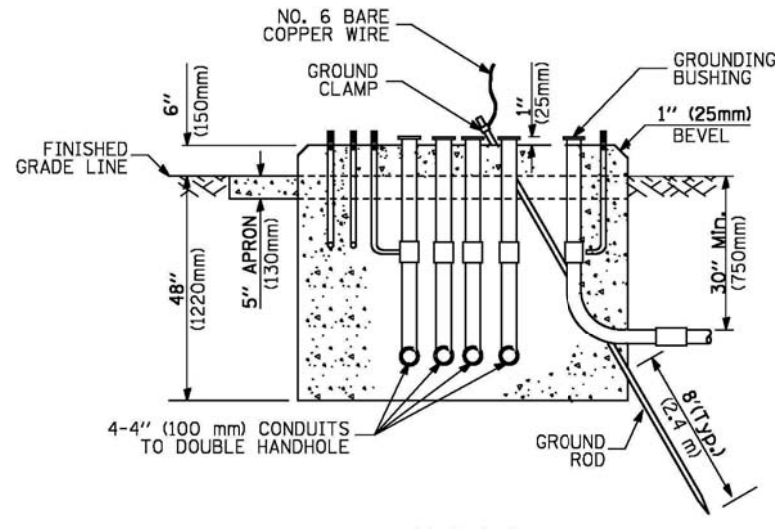


- NOTES:**
1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
  4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
  5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
  6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**



**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**



**TYPE C  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

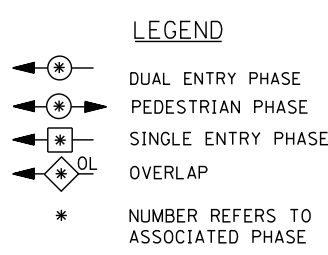
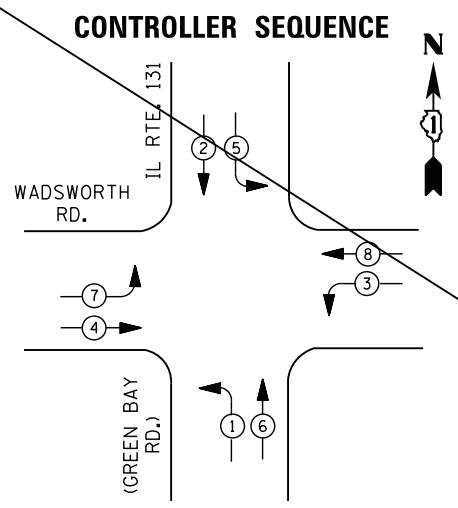
MAST ARM LENGTH	FOUNDATION DEPTH	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF REBARS	SIZE OF REBARS
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m) and up to 85' (25.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

- NOTES:**
1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & structures should be contacted for a revised design if other conditions are encountered.
  2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
  3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
  4. For mast arm assemblies with dual arms refer to state standard 878001.

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

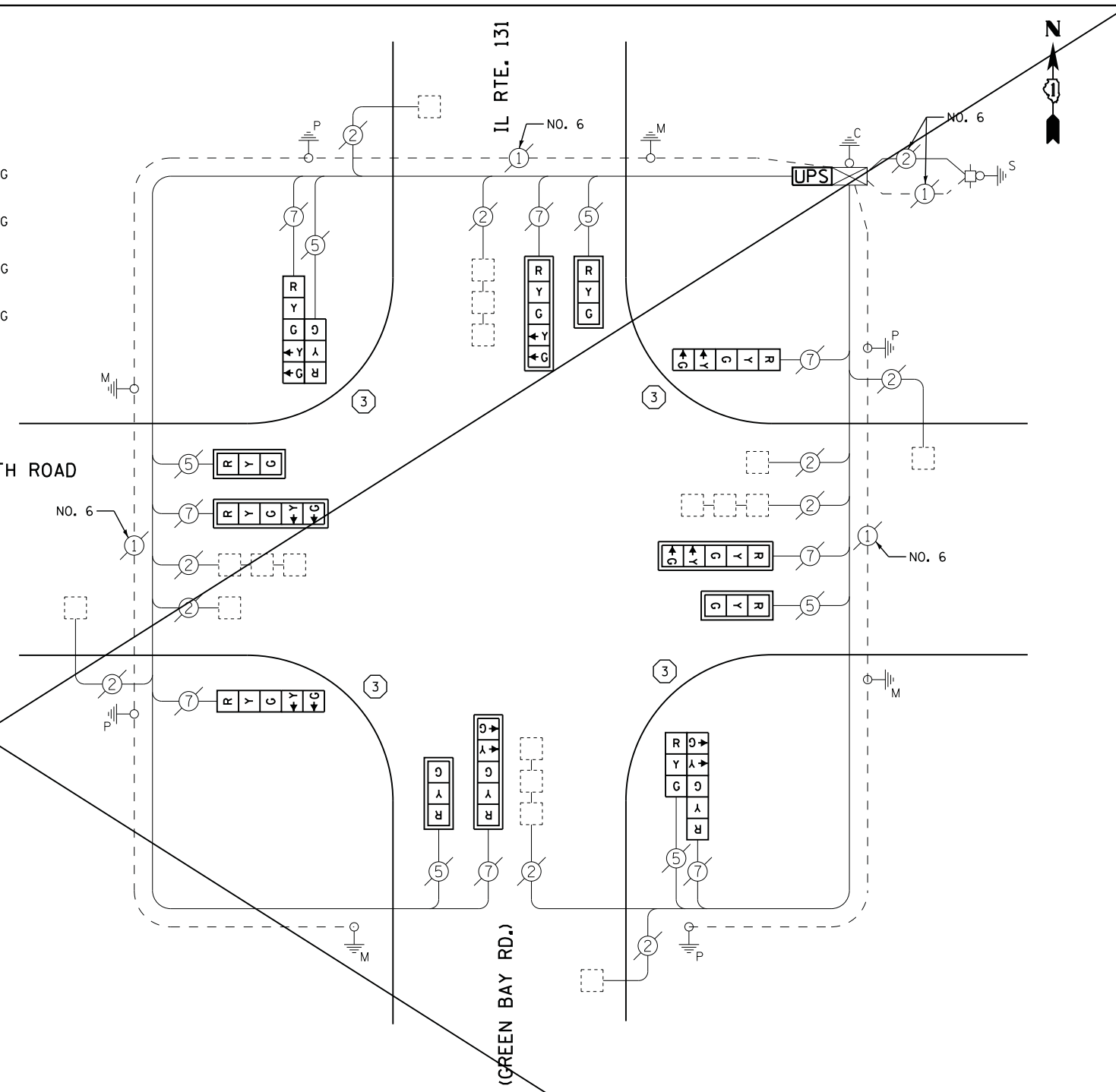
# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED																	
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE																				
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE																				
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA																				
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED																				
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F																				
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F																				
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F 5M12F																				
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)																				
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE																				
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED																				
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED																				
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED																				
SIGNAL POST				REMOVE ITEM				STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED																				
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM				SIGNAL POST AND FOUNDATION TO BE REMOVED																				
GUY WIRE				ABANDON ITEM				INTERSECTION & SAMPLING (SYSTEM) DETECTOR																				
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR																				
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																				
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																				
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																				
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED SAMPLING (SYSTEM) DETECTOR																				
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				<h2>RAILROAD SYMBOLS</h2> <table border="1"> <thead> <tr> <th></th> <th>EXISTING</th> <th>PROPOSED</th> </tr> </thead> <tbody> <tr> <td>RAILROAD CONTROL CABINET</td> <td></td> <td></td> </tr> <tr> <td>RAILROAD CANTILEVER MAST ARM</td> <td></td> <td></td> </tr> <tr> <td>FLASHING SIGNAL</td> <td></td> <td></td> </tr> <tr> <td>CROSSING GATE</td> <td></td> <td></td> </tr> <tr> <td>CROSSBUCK</td> <td></td> <td></td> </tr> </tbody> </table>				EXISTING	PROPOSED	RAILROAD CONTROL CABINET			RAILROAD CANTILEVER MAST ARM			FLASHING SIGNAL			CROSSING GATE			CROSSBUCK		
	EXISTING	PROPOSED																										
RAILROAD CONTROL CABINET																												
RAILROAD CANTILEVER MAST ARM																												
FLASHING SIGNAL																												
CROSSING GATE																												
CROSSBUCK																												
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID																								
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER																								
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT																								
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER																								
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED																								
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)																								
MICROWAVE VEHICLE SENSOR																												
VIDEO DETECTION CAMERA																												
VIDEO DETECTION ZONE																												
PAN, TILT, ZOOM CAMERA																												
WIRELESS DETECTOR SENSOR																												
WIRELESS ACCESS POINT																												



- ① REPLACE 14 FT. PAINTED POST, RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST, RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST, RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST, RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.

LOCATION REMOVED FROM THE PLAN SET.



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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	16	135	12	0.10	19
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	
VIDEO SYSTEM		150	-	1.00	
TOTAL =					379

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	SIGNAL HEAD, 3 - SECTION
8	EACH	SIGNAL HEAD, 5 - SECTION
8	EACH	TRAFFIC SIGNAL BACKPLATE
4	EACH	SIGNAL POST

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED - 6/18/12
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	PLOT DATE = 6/18/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 131 (GREEN BAY RD) AT WADSWORTH RD  
 SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM**

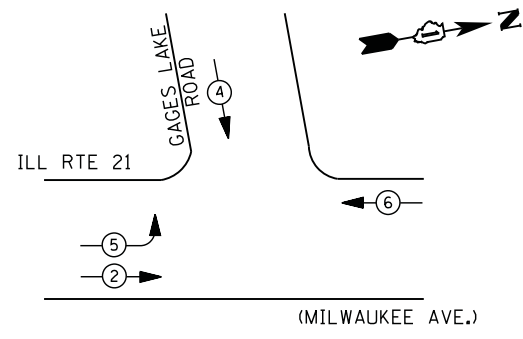
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

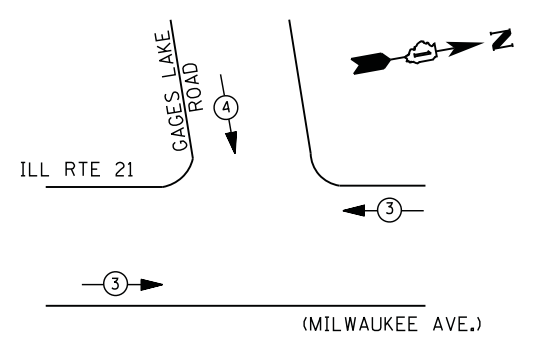
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 BEACH PARK



**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

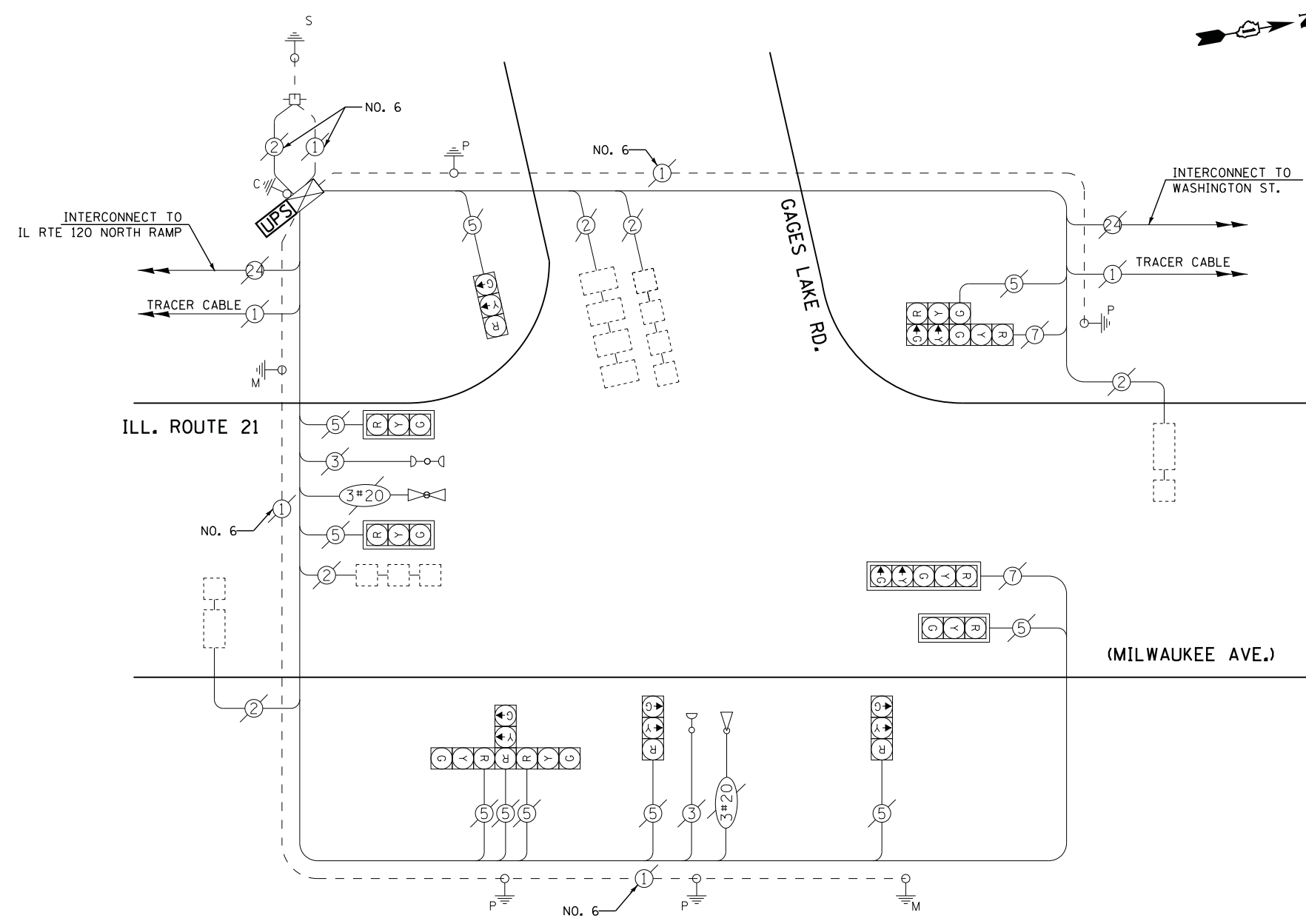


**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓

**LEGEND**

- ⊙ ← ⊙ → DUAL ENTRY PHASE
- ⊙ ← ⊙ → PEDESTRIAN PHASE
- ⊙ ← ⊙ → SINGLE ENTRY PHASE
- ⊙ ← ⊙ → OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					327

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED -
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	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

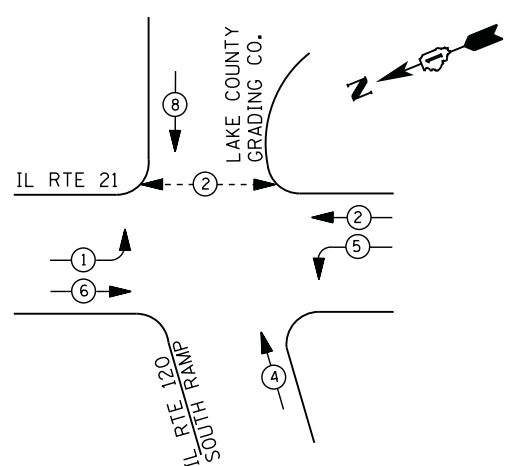
**IL ROUTE 21 (MILWAUKEE AVE) AT GAGES LAKE ROAD  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	17
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 21545  
 GURNEE

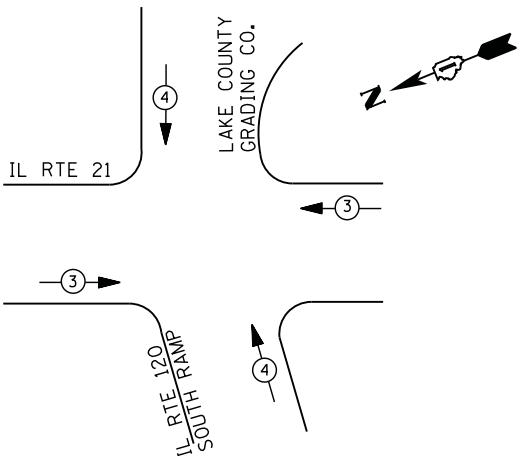
**CONTROLLER SEQUENCE**



**LEGEND**

- ⊛ DUAL ENTRY PHASE
- ⊙ PEDESTRIAN PHASE
- ⊚ SINGLE ENTRY PHASE
- ⊔ OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	→ ←	↑ ↓

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					401

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
201 WEST CENTER COURT  
SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
PHONE 847-816-5239  
COMMONWEALTH EDISON

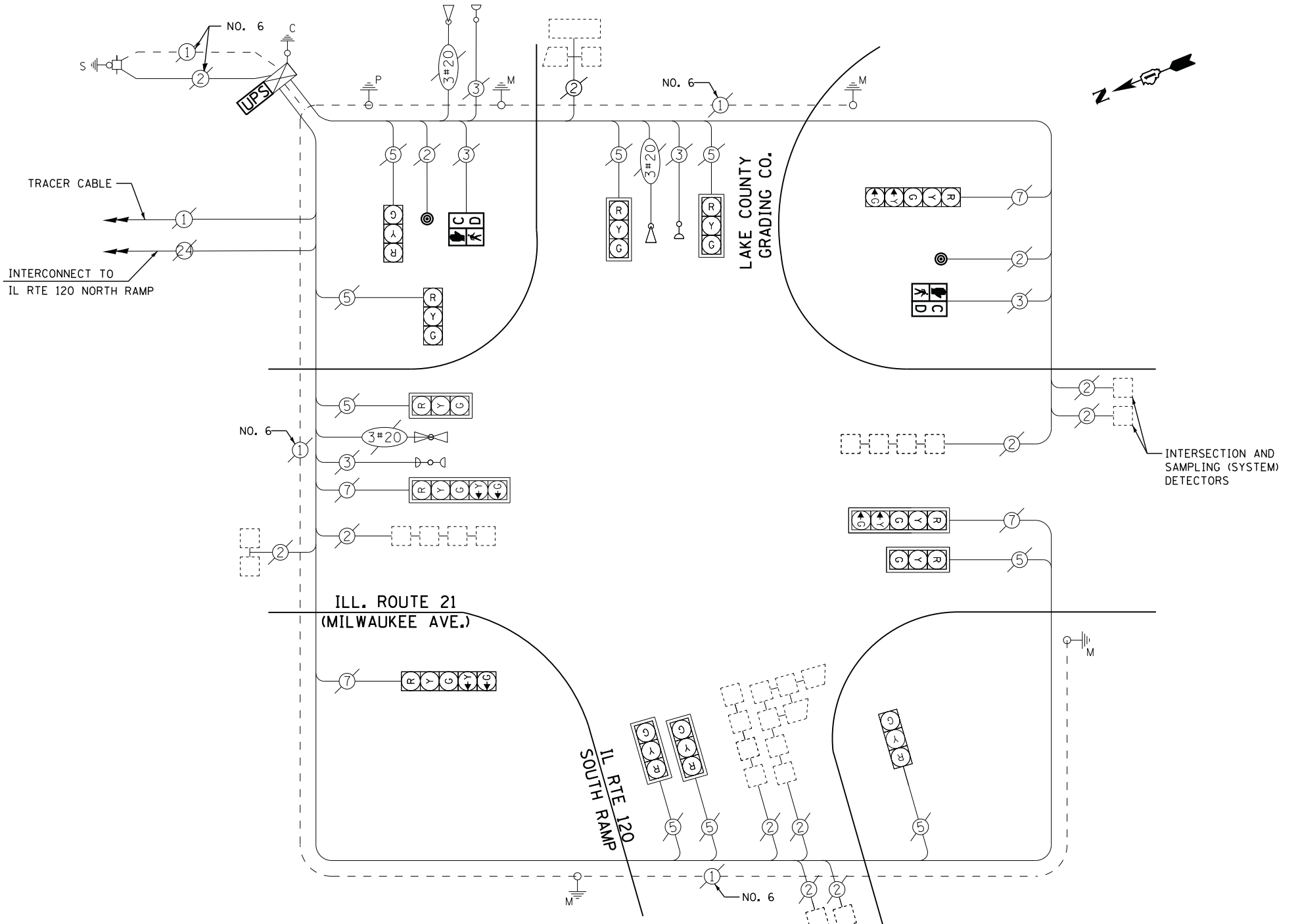
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON



**CABLE PLAN**

SAMPLING (SYSTEM) AND QUEUE DETECTORS

INTERSECTION AND SAMPLING (SYSTEM) DETECTORS

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
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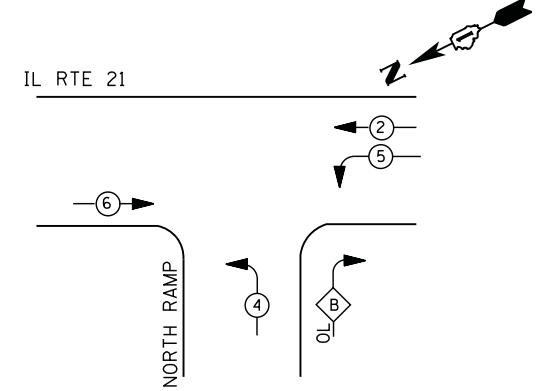
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 SOUTH RAMP SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE</b>			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	18
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 21544  
GURNEE

**CONTROLLER SEQUENCE**



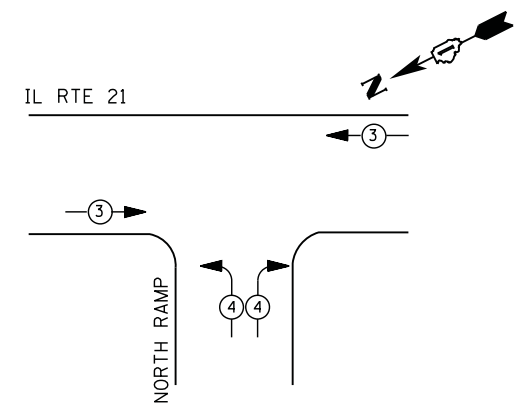
**LEGEND**

- ⊙ → ⊙ DUAL ENTRY PHASE
- ⊙ → ⊙ PEDESTRIAN PHASE
- ⊙ → ⊙ SINGLE ENTRY PHASE
- ⊙ → ⊙ OL OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5

**PHASE DESIGNATION DIAGRAMS**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	← →

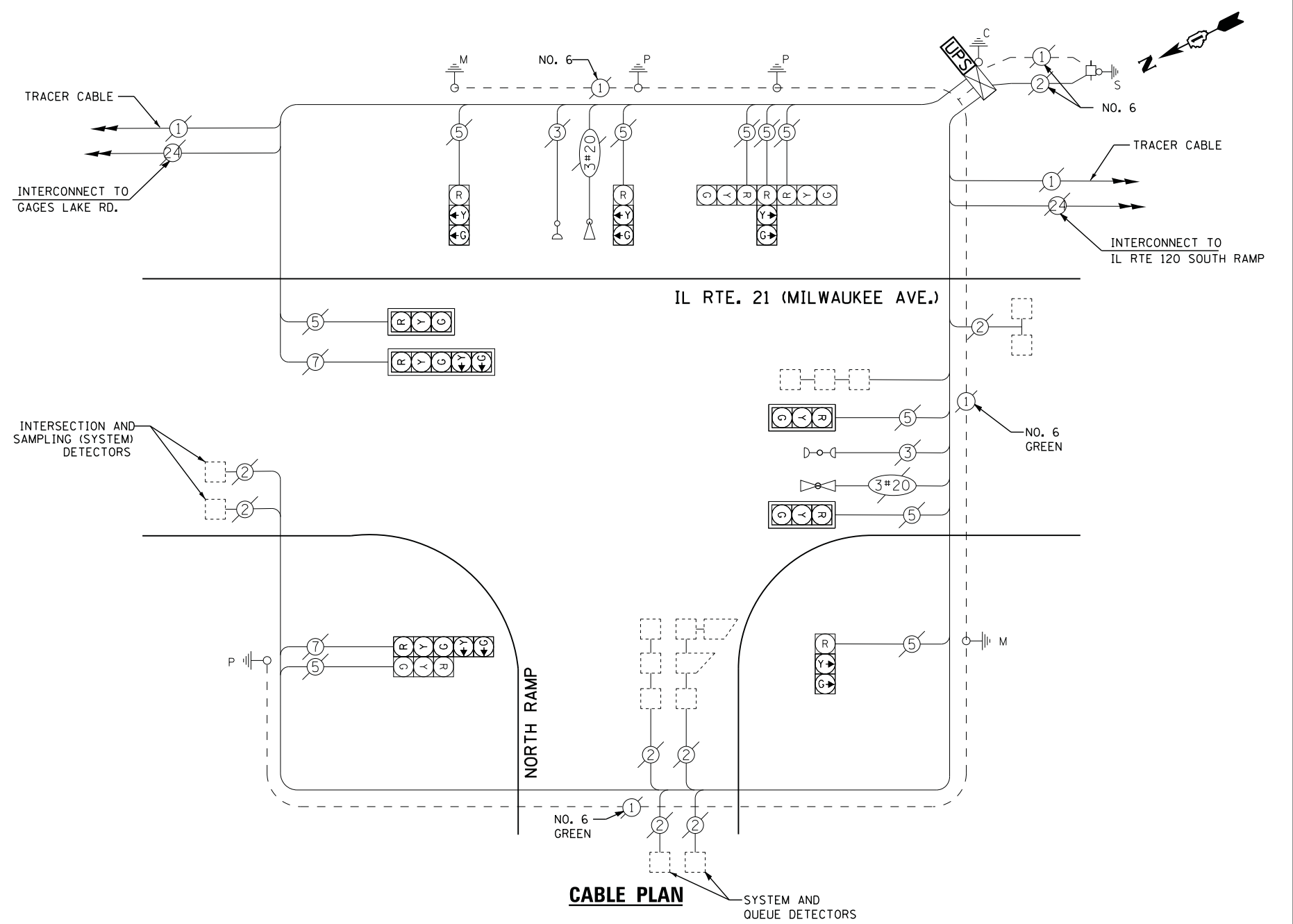
**I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					327

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\21543.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	



**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

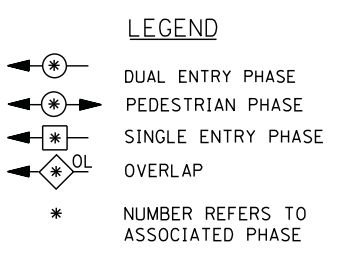
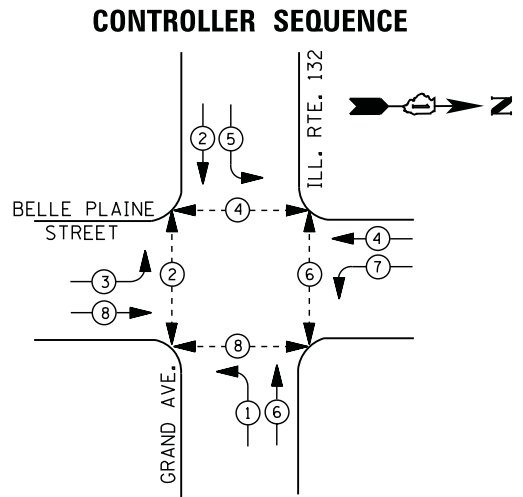
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 21 (MILWAUKEE AVE) AT IL 120 NORTH RAMP**  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE

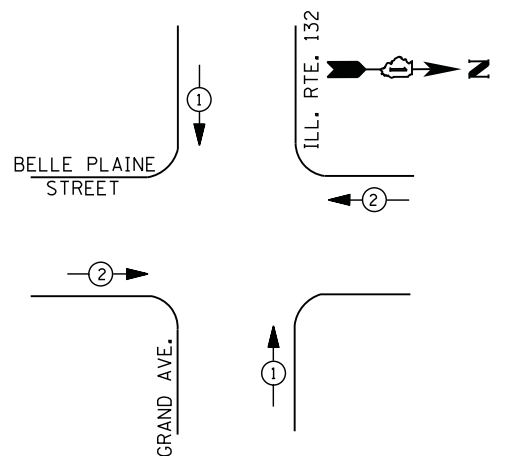
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	19
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 21543 GURNEE



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

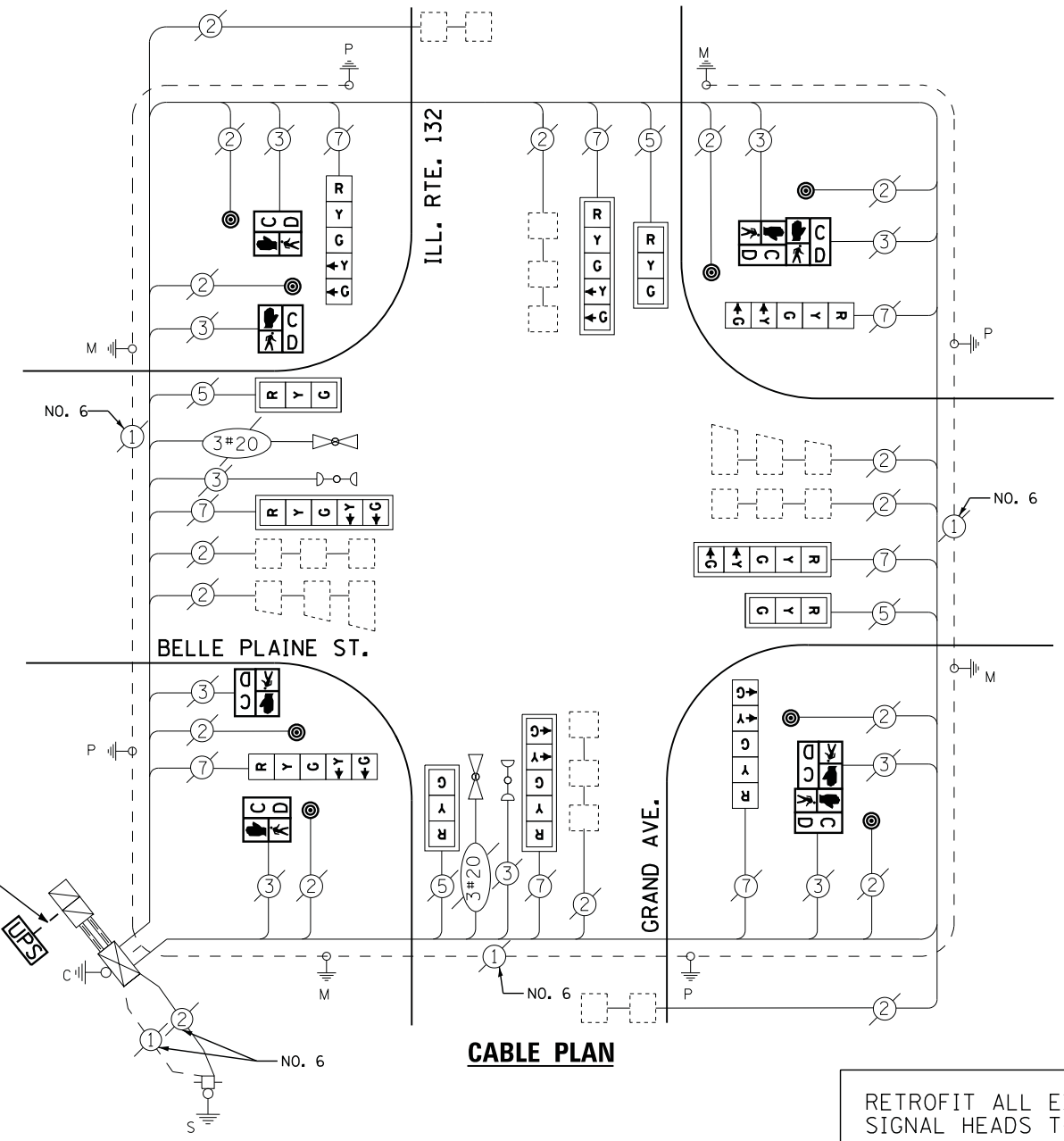
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	↑	←

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	--	252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					541
ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE					
325 N. O'PLAINE RD					
GURNEE, IL 60031-2636					
ENERGY SUPPLY - CONTACT TERRI BLECK					
PHONE 847-816-5239					
COMMONWEALTH EDISON					

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	DRILL EXISTING HANDHOLE
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

2" UNDERGROUND CONDUIT, GALVANIZED STEEL



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

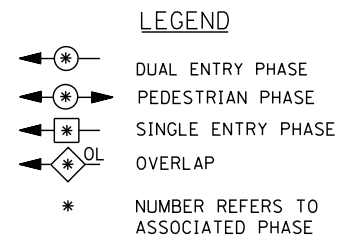
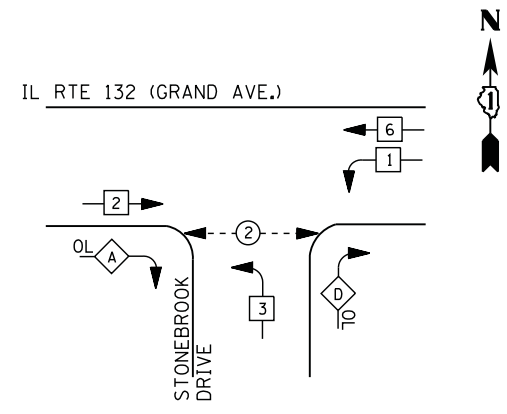
UPS SHALL BE INSTALLED ON A SEPARATE FOUNDATION DUE TO PHYSICAL CONSTRAINTS, OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED"

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON

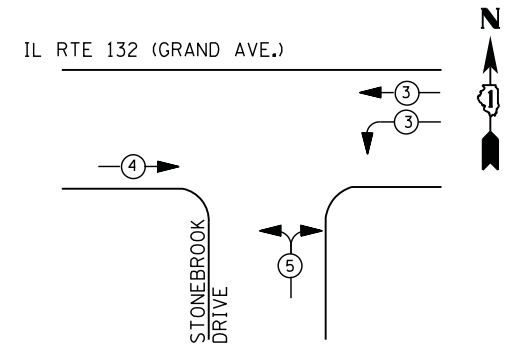
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A =	2 +	3 -	2
D =	3 +	1	

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	←	→	↔

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					396

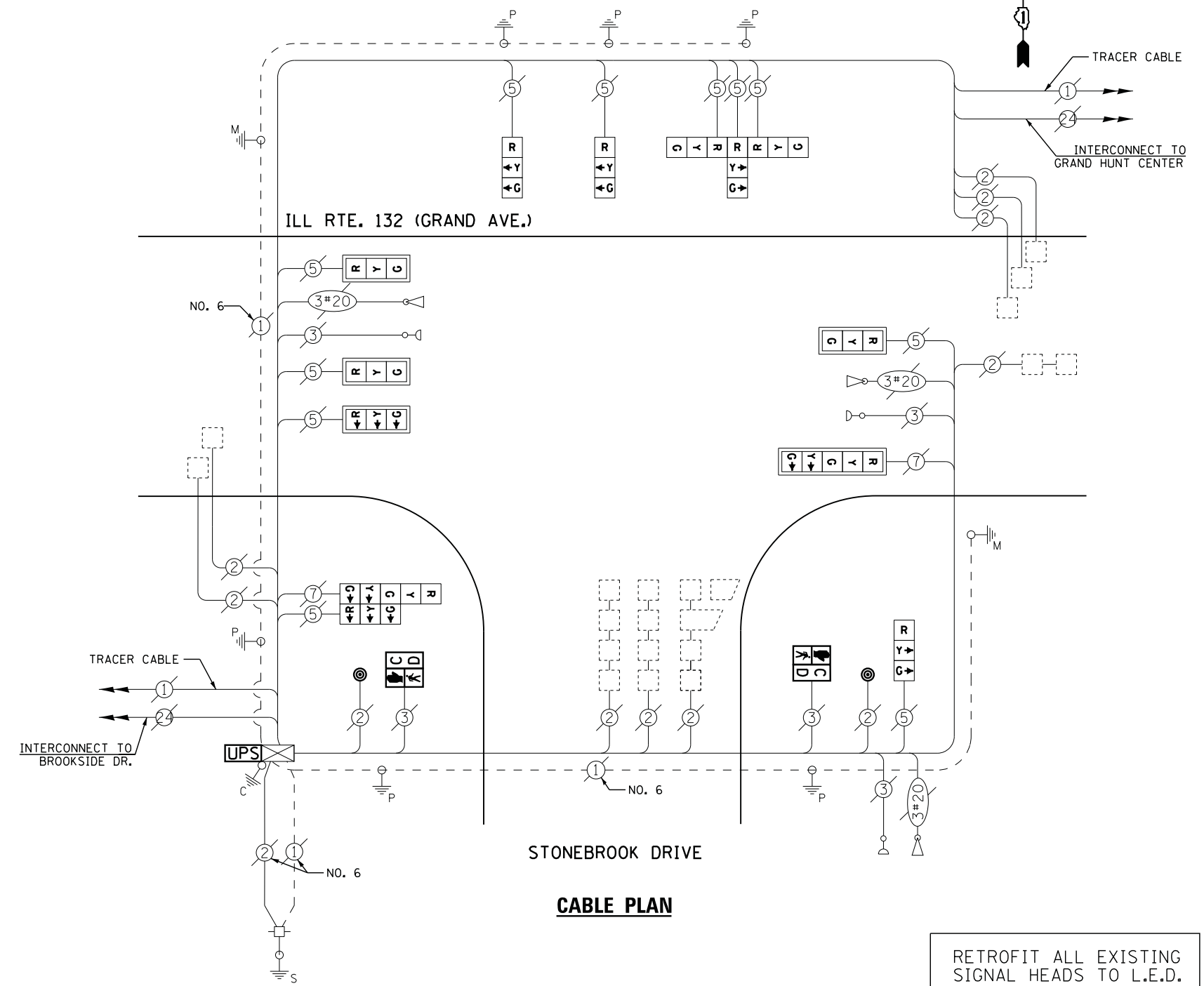
ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED RETROFIT

INTERCONNECT TO BROOKSIDE DR.



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON

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 PLOT DATE = 5/16/2012

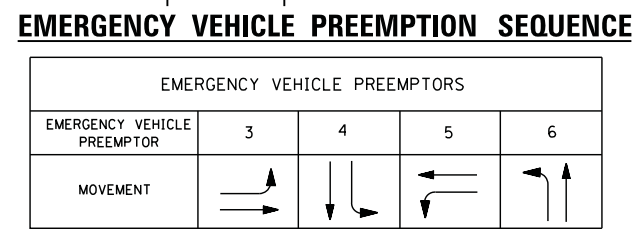
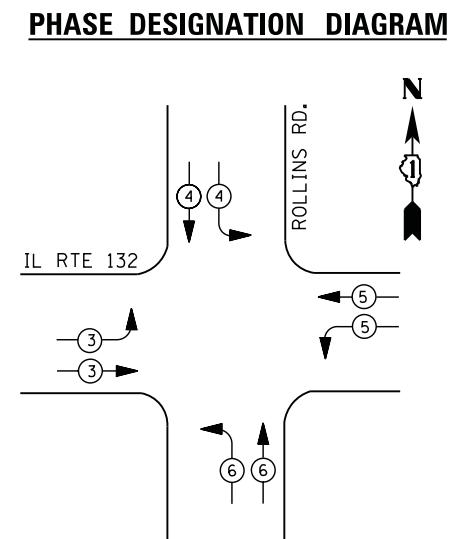
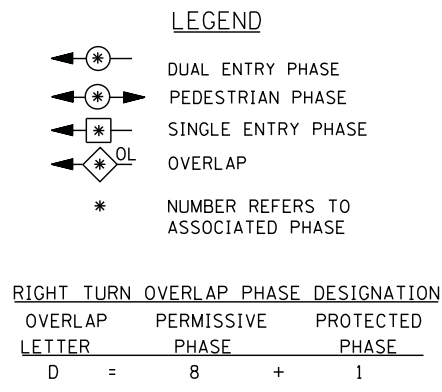
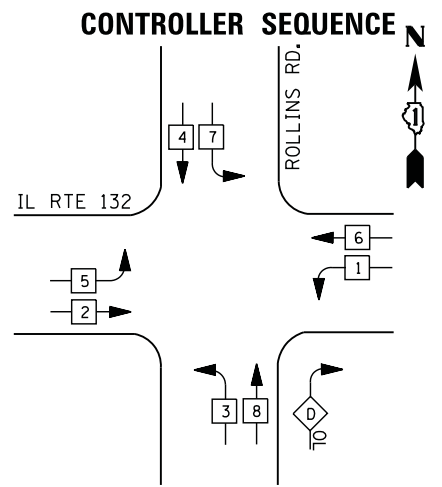
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 DRAWN - JDH  
 REVISIONS -  
 CHECKED - KMM  
 REVISIONS -  
 DATE -  
 REVISIONS -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

IL ROUTE 132 (GRAND AVE.) AT STONEBROOK DRIVE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.  
 2012-004 I LAKE 97 21  
 CONTRACT NO. 60T42  
 ILLINOIS FED. AID PROJECT

TS# 21119  
 GURNEE



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

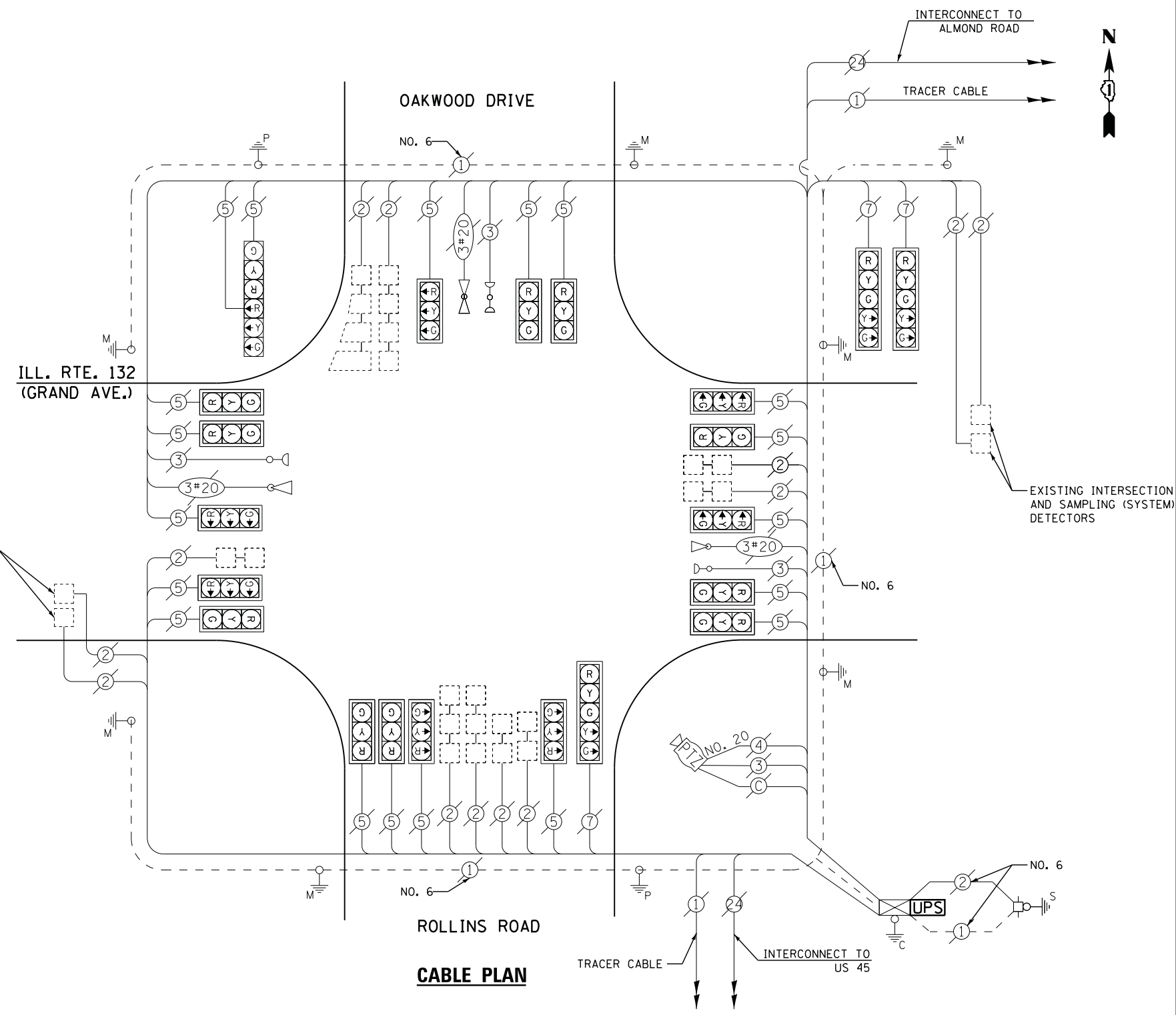
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL
		INCAND.	LED		
SIGNAL (RED)	22	135	17	0.50	187
(YELLOW)	22	135	25	0.25	138
(GREEN)	22	135	15	0.25	83
ARROW	6	135	12	0.10	7
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	1	252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					665

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



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 CHECKED - KMM  
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 PLOT DATE = 5/16/2012

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 DRAWN - JDH  
 CHECKED - KMM  
 DATE -

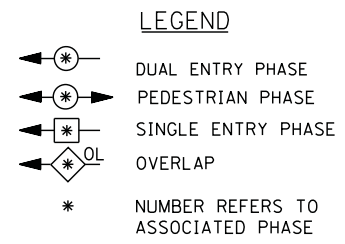
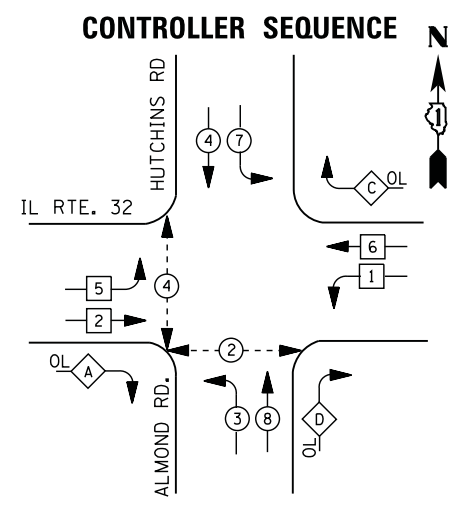
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

IL RTE. 132 (GRAND AVE.) AT ROLLINS ROAD  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	22

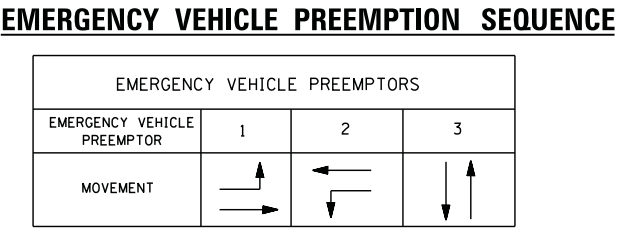
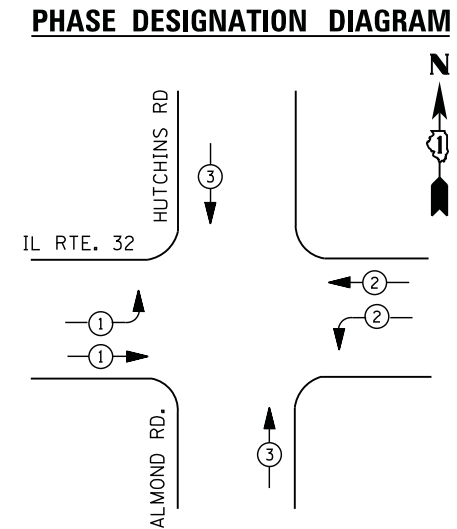
CONTRACT NO. 60T42  
 ILLINOIS FED. AID PROJECT

TS# 21118  
 GURNEE



### RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
A =	2 +	3 -	2
C =	6 +	7 -	6
D =	8 +	1 -	8



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

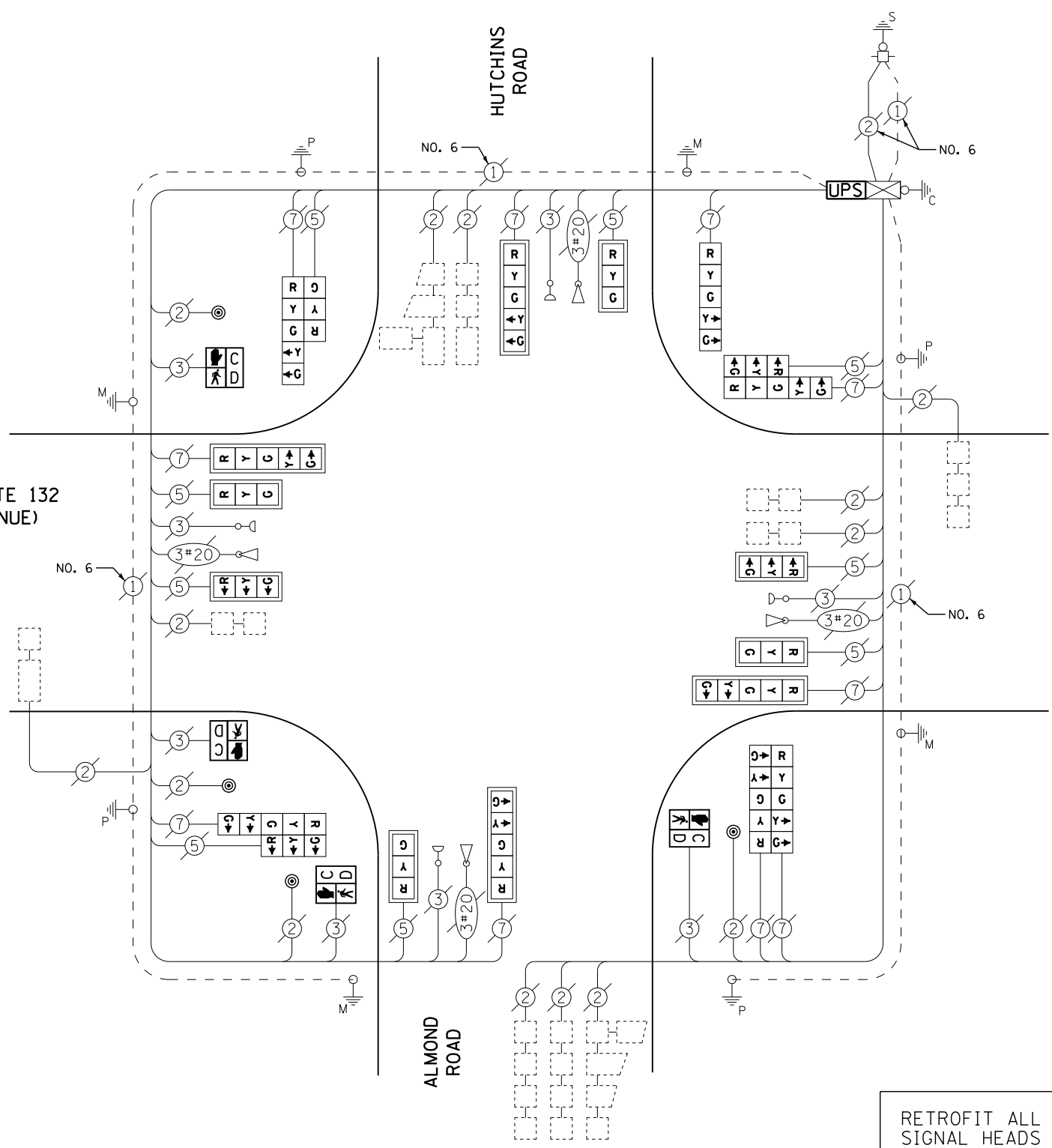
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	19	135	17	0.50	162
(YELLOW)	19	135	25	0.25	119
(GREEN)	19	135	15	0.25	71
ARROW	20	135	12	0.10	24
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	
VIDEO SYSTEM		150	-	1.00	
TOTAL =					576

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT



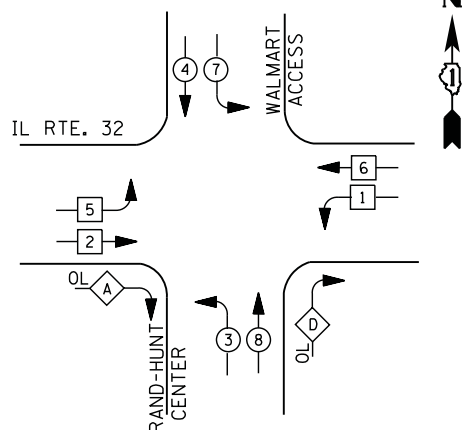
RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

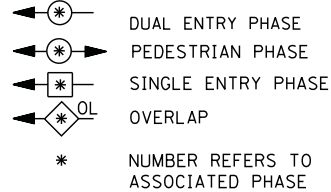
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON

**EXISTING & PROPOSED CONTROLLER SEQUENCE**



**LEGEND**



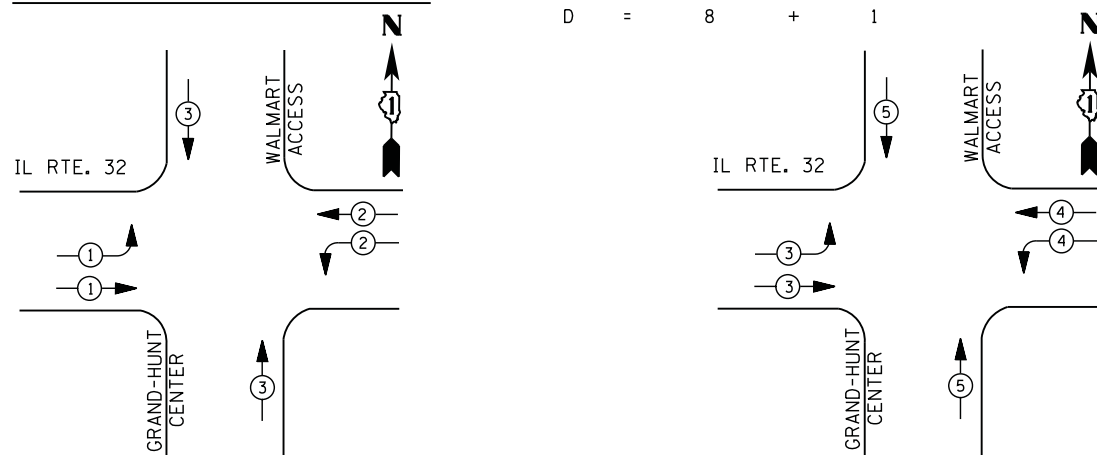
**EXISTING RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
A	= 2	+ 3	- 2
D	= 8	+ 1	- 8

**PROPOSED RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 2	+ 3
D	= 8	+ 1

**PHASE DESIGNATION DIAGRAM**



**EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	1	2	3	
MOVEMENT				

**PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	3	4	5	
MOVEMENT				

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	18	135	17	0.50	153
(YELLOW)	18	135	25	0.25	113
(GREEN)	18	135	15	0.25	68
ARROW	16	135	12	0.10	19
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	
VIDEO SYSTEM		150	-	1.00	
TOTAL =					453

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

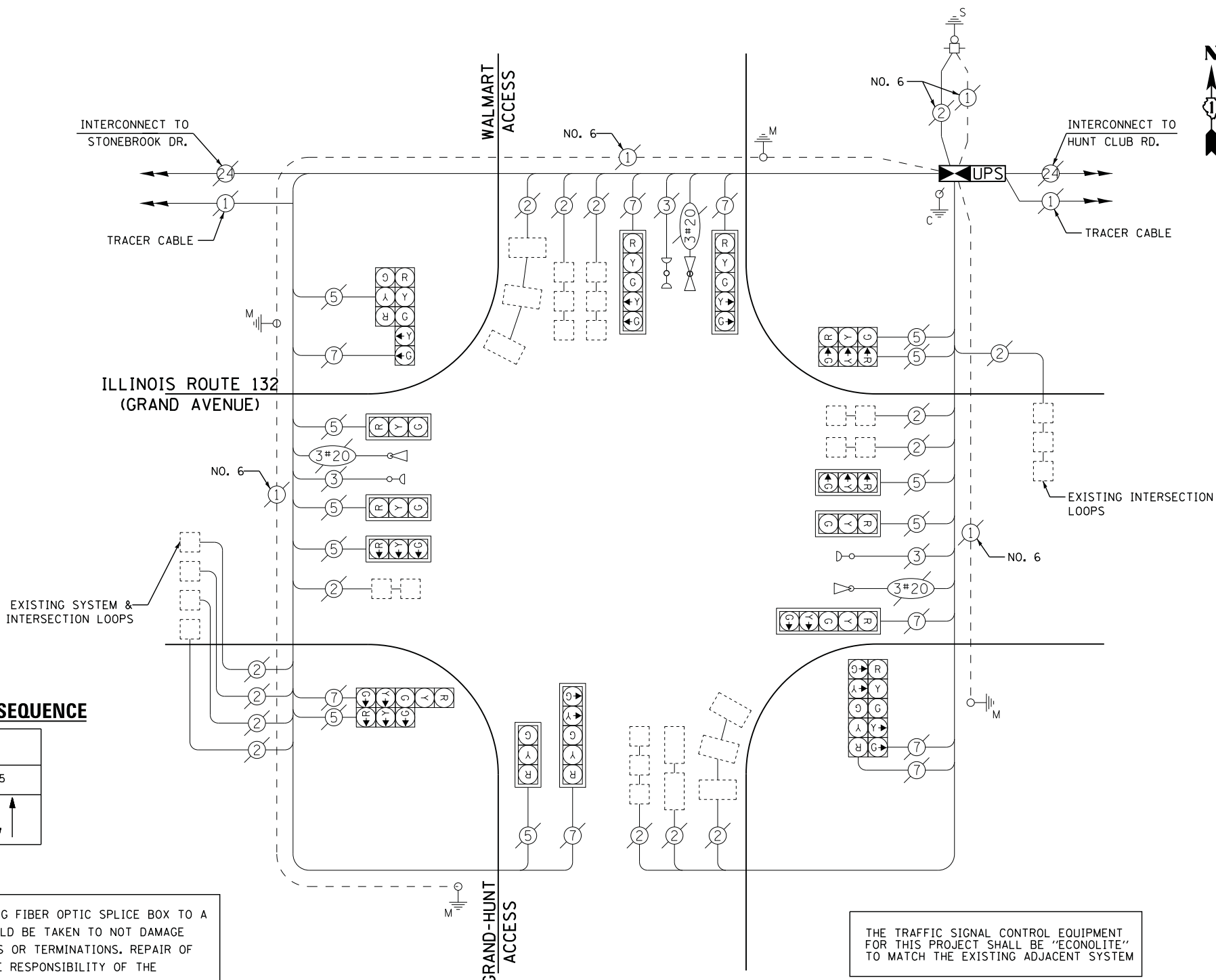
ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. CARE SHOULD BE TAKEN TO NOT DAMAGE EXISTING FIBER OPTIC CABLE, SPLICES OR TERMINATIONS. REPAIR OF ANY DAMAGED EQUIPMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
14	EACH	INDUCTIVE LOOP DETECTOR
1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**CABLE PLAN**



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

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

1 EACH CONTROLLER AND CABINET (COMPLETE)

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\21115_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**IL 132 (GRAND AVE.) AT GURNEE MILLS WEST / WELLS SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

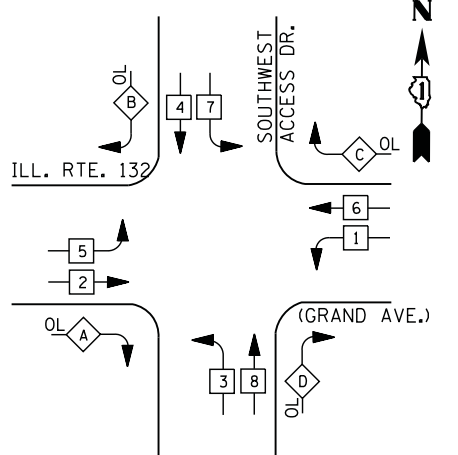
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	24
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

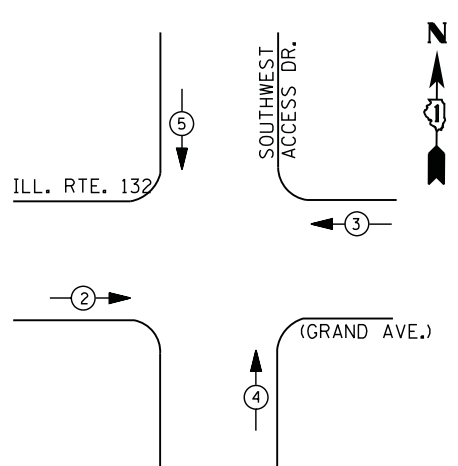
TS# 21115 GURNEE



**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	2	3	4	5
MOVEMENT	→	←	↑	↓

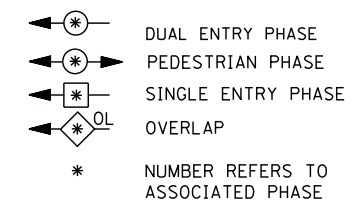
**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	22	135	17	0.50	187
( YELLOW )	22	135	25	0.25	138
( GREEN )	22	135	15	0.25	83
ARROW	16	135	12	0.10	19
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	
VIDEO SYSTEM		150	-	1.00	
FLASHER LED					
TOTAL =					527

ENERGY COSTS- **BILLED TO: VILLAGE OF GURNEE**  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

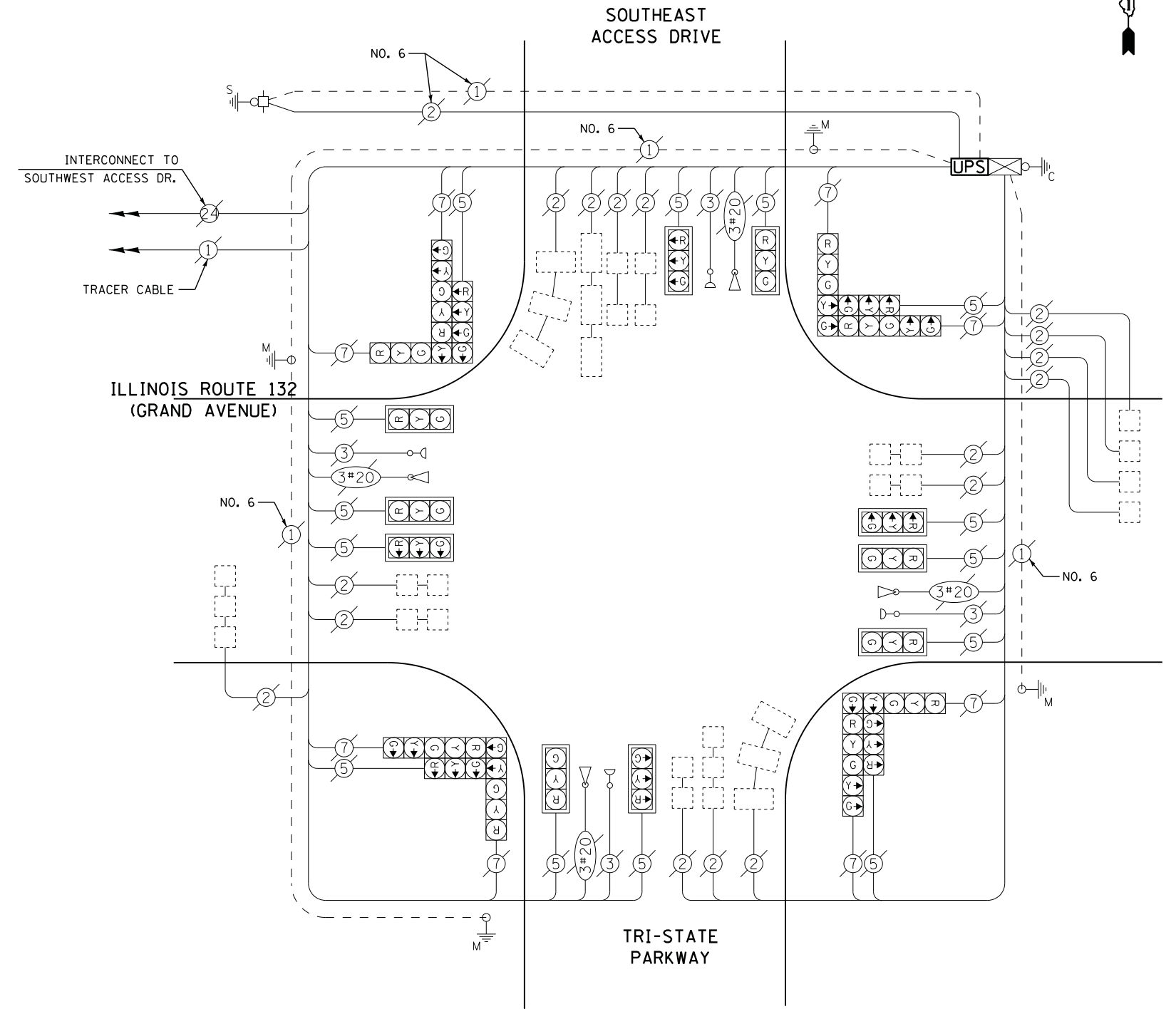
ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
B =	4 +	5
C =	6 +	7
D =	8 +	1



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\21110_CAB_LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

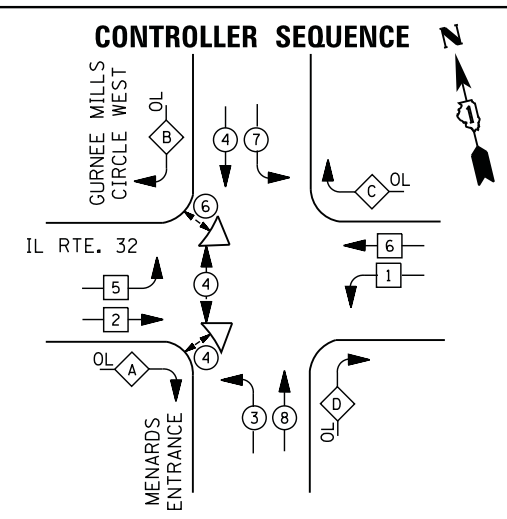
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL 132 (GRAND AVE.) AT GURNEE MILLS SE ACCESS/TRI STATE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	25
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 21110  
 GURNEE

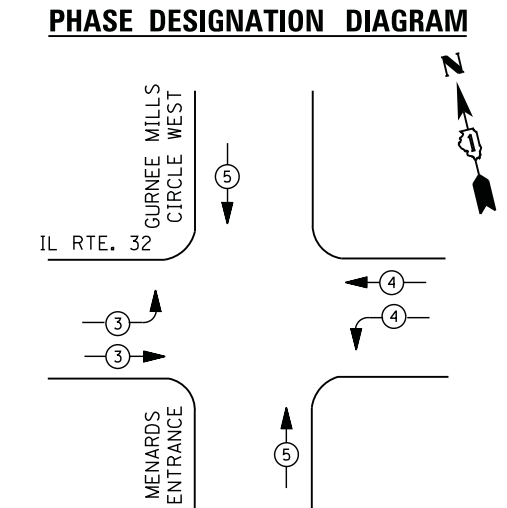


**LEGEND**

- ⊙ (with star) DUAL ENTRY PHASE
- ⊙ (with pedestrian) PEDESTRIAN PHASE
- ⊙ (with arrow) SINGLE ENTRY PHASE
- ⊙ (with OL) OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A =	2	+	3
B =	4	+	5
C =	6	+	7
D =	8	+	1



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	↕	↔	↕

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	19	135	17	0.50	162
(YELLOW)	19	135	25	0.25	119
(GREEN)	19	135	15	0.25	71
ARROW	24	135	12	0.10	29
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	
VIDEO SYSTEM		150	-	1.00	
TOTAL =					631

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
325 N. O'PLAINE RD  
GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT TERRI BLECK  
PHONE 847-816-5239  
COMMONWEALTH EDISON

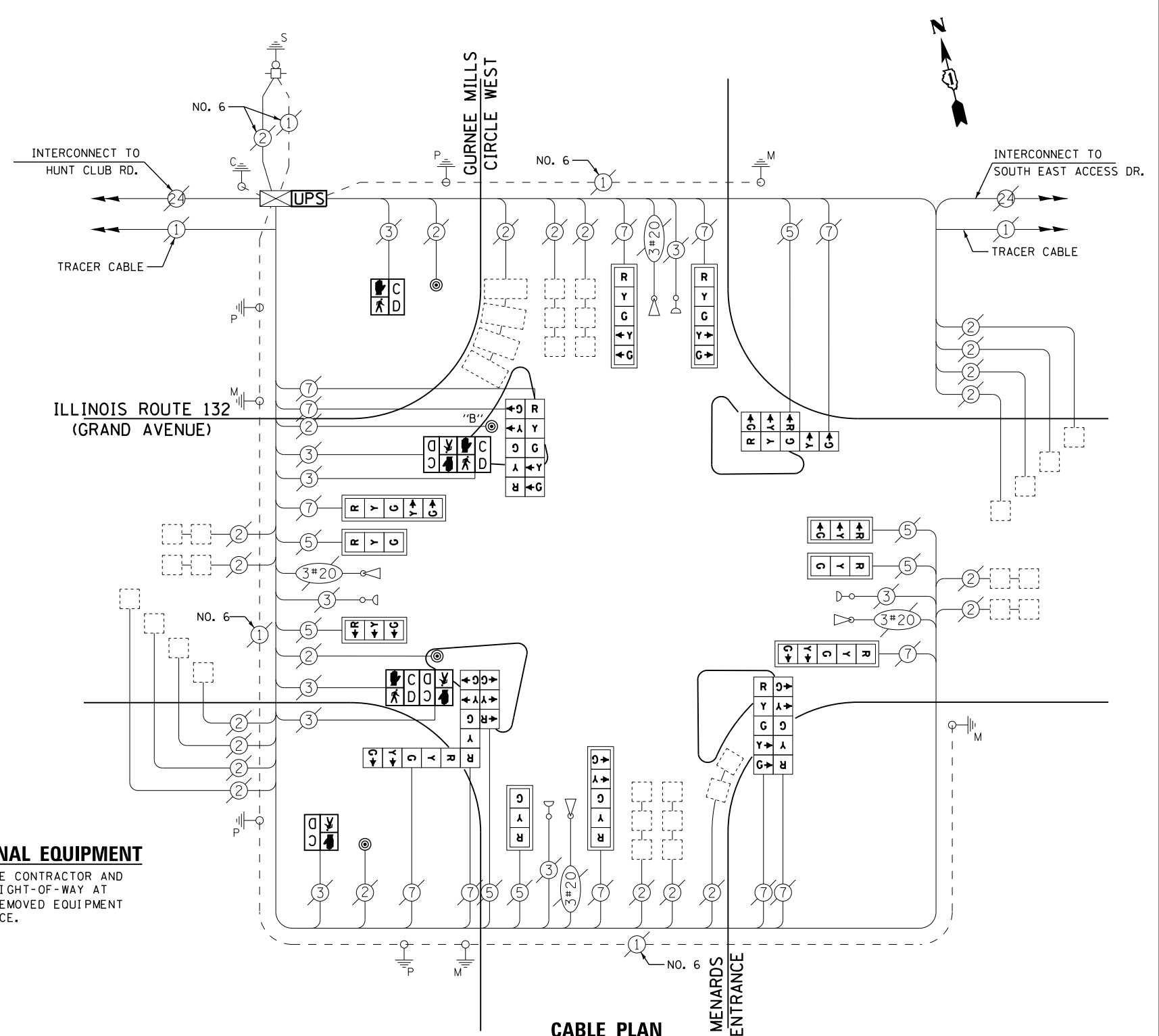
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 6 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

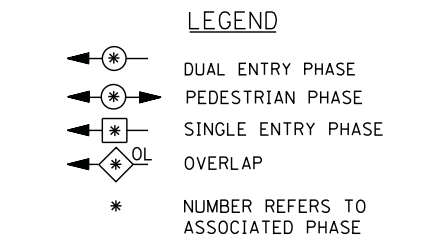
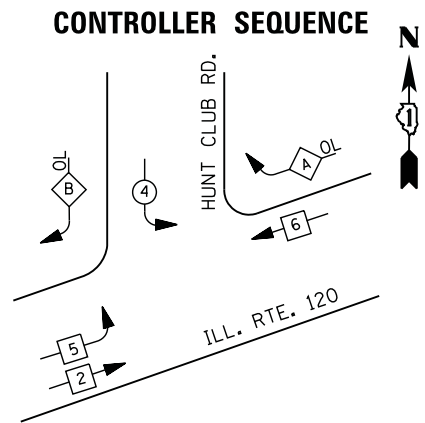


NOTES:  
PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

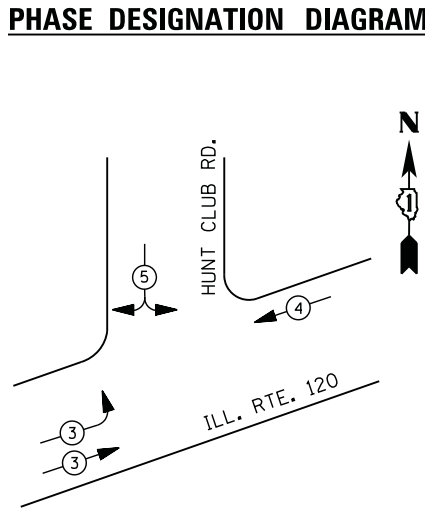
RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

TS# 21000  
GURNEE



### RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 6	+ 4
B	= 4	+ 5



### EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

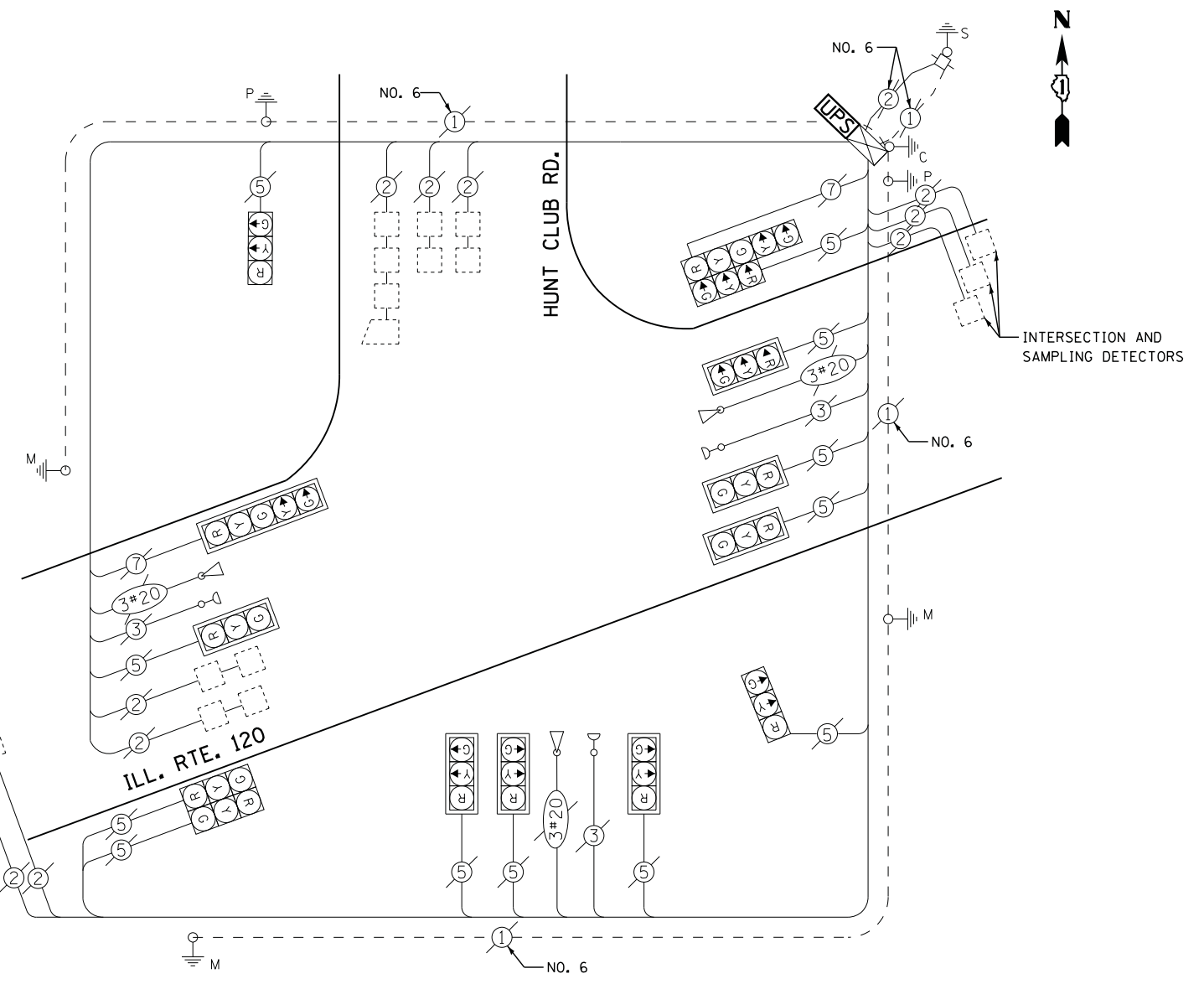
### I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					364

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

INTERSECTION AND SAMPLING DETECTORS

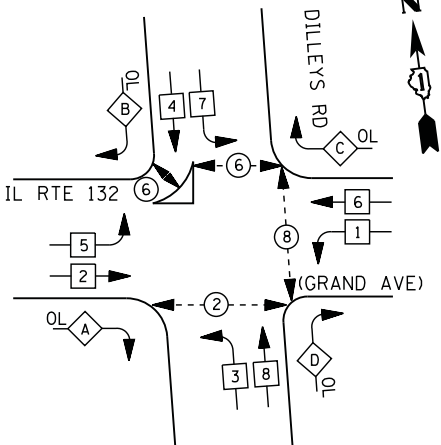


### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

TS# 11930  
 GURNEE

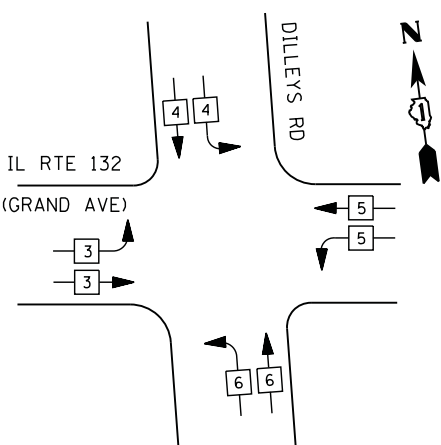
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
B =	4 +	5
C =	6 +	7
D =	8 +	1

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	3	4	5	6
MOVEMENT	→	↓	←	↖

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	25	135	17	0.50	213
(YELLOW)	25	135	25	0.25	156
(GREEN)	25	135	15	0.25	94
ARROW	18	135	12	0.10	22
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					935

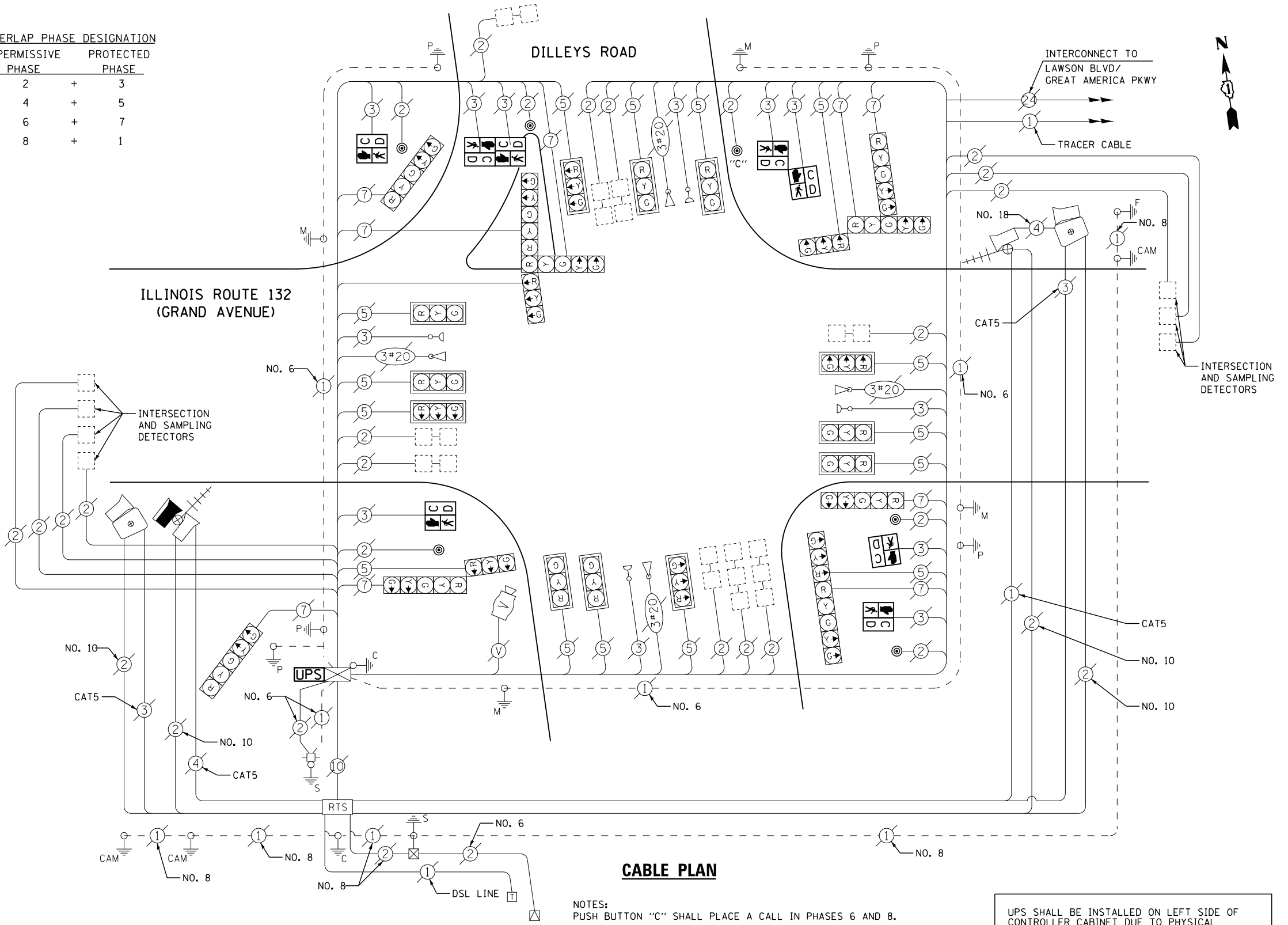
ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
6	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**CABLE PLAN**



NOTES:  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8.

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
6	EACH	PEDESTRIAN PUSH-BUTTON

FILE NAME = USER NAME = \*USER\*  
 N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\07085\_CAB\_LAKE.dgn  
 PLOT SCALE = \*SCALE\*  
 PLOT DATE = 5/16/2012

DESIGNED - DW  
 DRAWN - JDH  
 CHECKED - KMM  
 DATE -

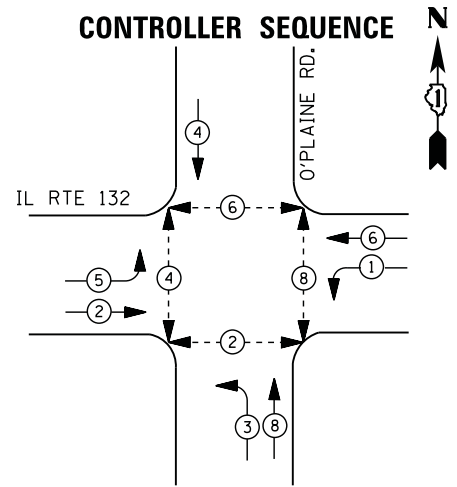
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 132 (GRAND AVE) AT DILLEYS ROAD  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

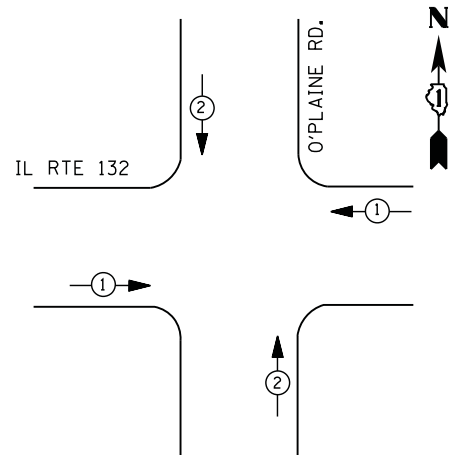
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	28
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

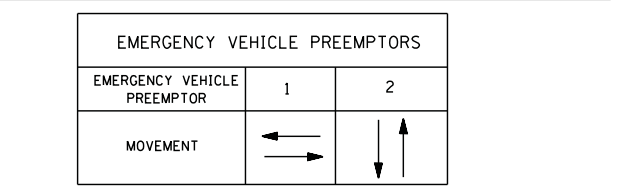
TS# 7085  
 GURNEE



**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

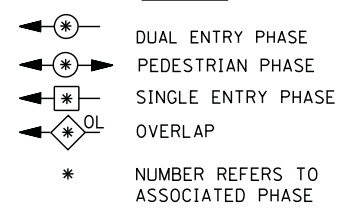
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	← →	↑ ↓

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	12	135	12	0.10	14
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					686

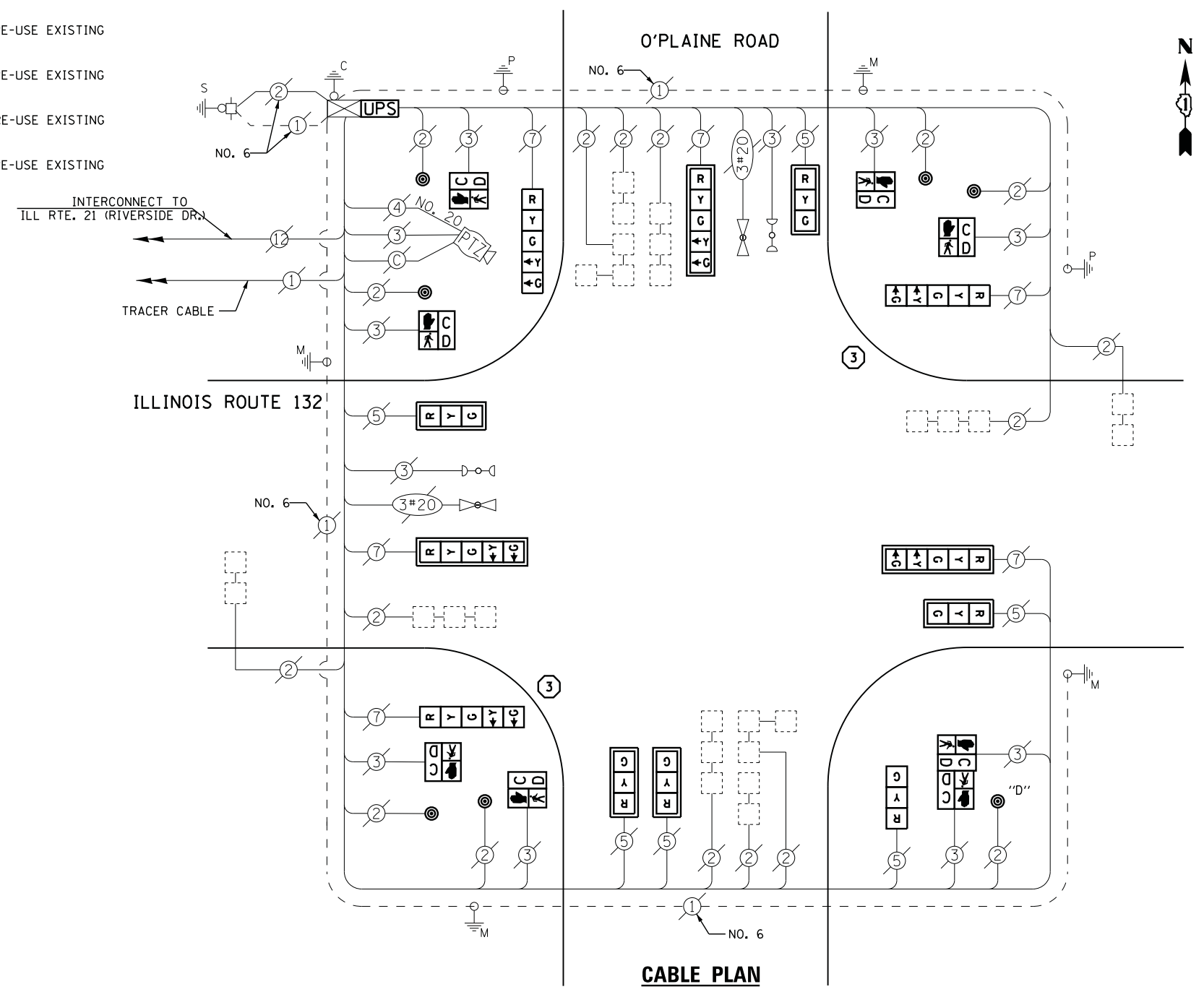
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.



**CABLE PLAN**

NOTES:  
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8.

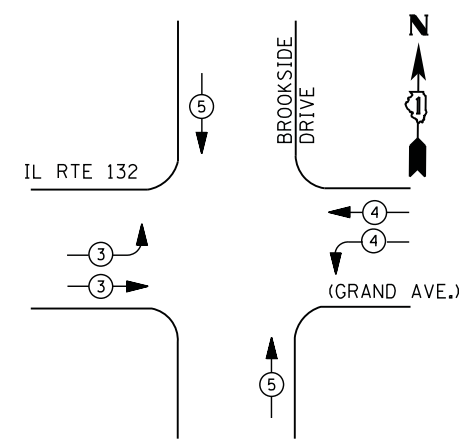
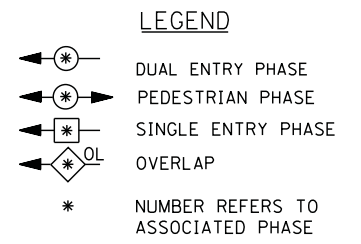
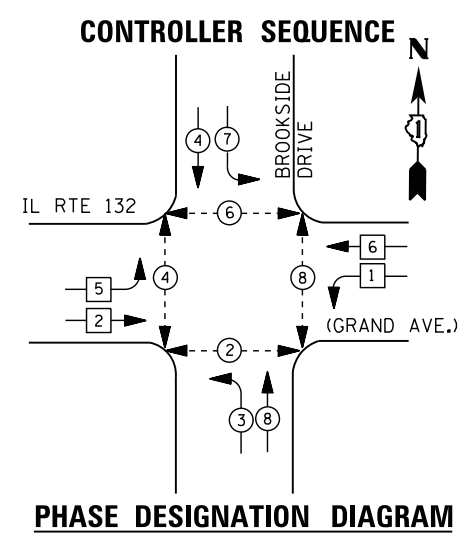
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
5	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	SIGNAL HEAD, 3 - SECTION
6	EACH	SIGNAL HEAD, 5 - SECTION
8	EACH	PEDESTRIAN SIGNAL HEAD
7	EACH	PEDESTRIAN PUSH-BUTTON
8	EACH	TRAFFIC SIGNAL BACKPLATE
2	EACH	SIGNAL POST



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

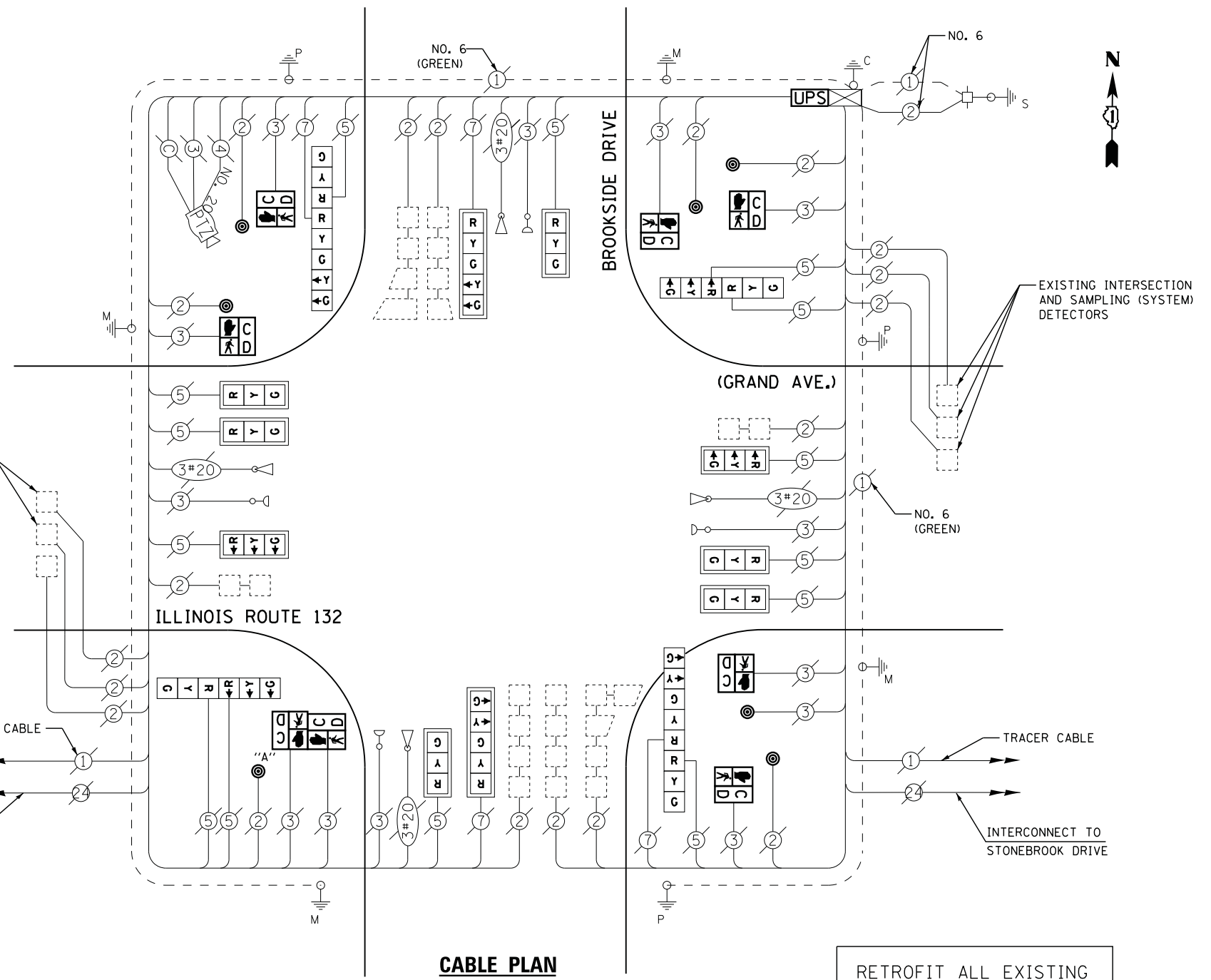
EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	→	←	↕

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	18	135	17	0.50	153
(YELLOW)	18	135	25	0.25	113
(GREEN)	18	135	15	0.25	105
ARROW	8	135	12	0.10	14
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					830

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



NOTE: PUSH-BUTTON "A" SHALL PLACE A CALL TO PHASES 2 AND 4.

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

**SCHEDULE OF QUANTITIES**

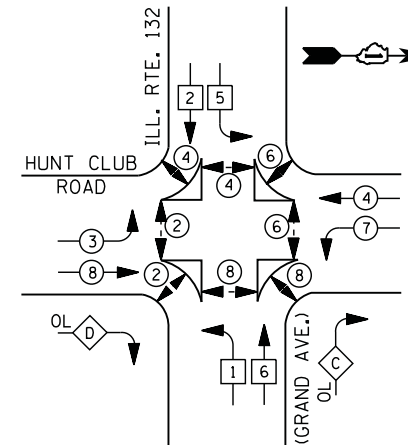
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
8	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 7 EACH PEDESTRIAN PUSH-BUTTON

**CONTROLLER SEQUENCE**

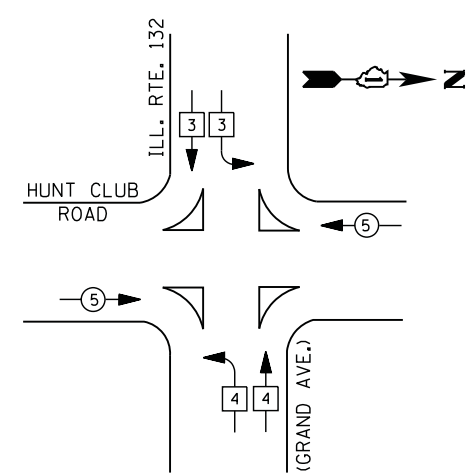


- LEGEND**
- ⊙ DUAL ENTRY PHASE
  - ⊙ PEDESTRIAN PHASE
  - ⊙ SINGLE ENTRY PHASE
  - ⊙ OVERLAP
  - \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
C	= 6	+ 7
D	= 8	+ 1

**PHASE DESIGNATION DIAGRAM**



**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 14 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	↙ ↘	↖ ↗	↔

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

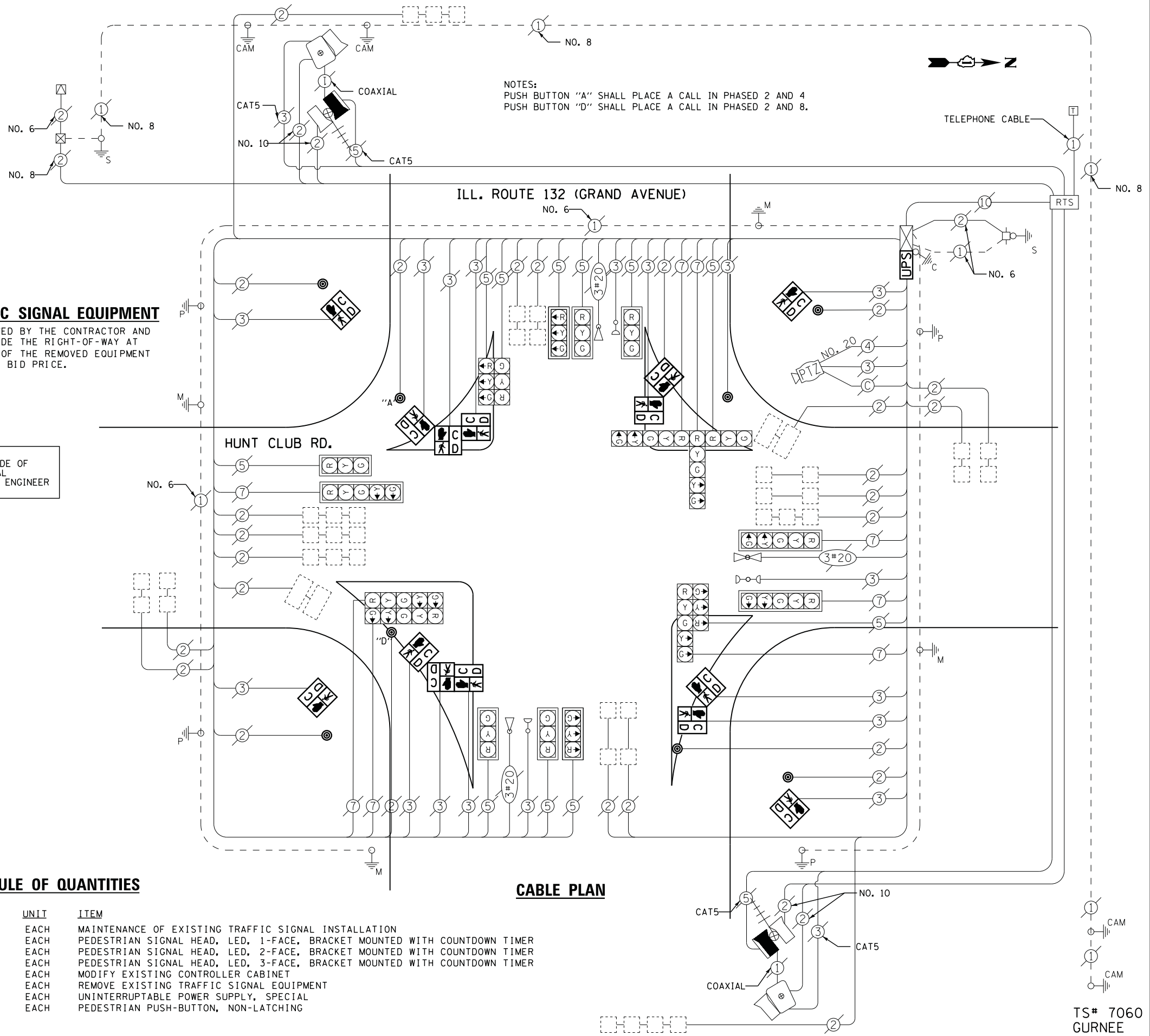
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	19	135	17	0.50	162
(YELLOW)	19	135	25	0.25	119
(GREEN)	19	135	15	0.25	71
ARROW	16	135	12	0.10	19
PED. SIGNAL	14	90	25	1.00	350
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	--	252	25	0.05	--
VIDEO SYSTEM	--	150	-	1.00	--
TOTAL =					821

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

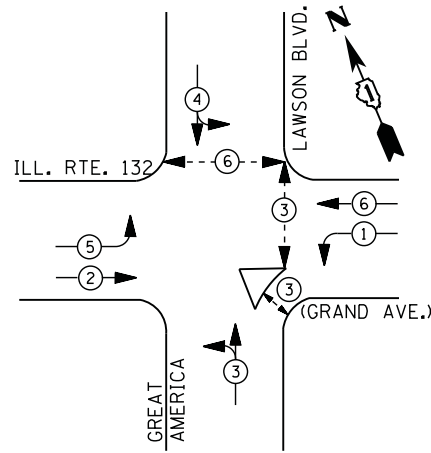
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
8	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



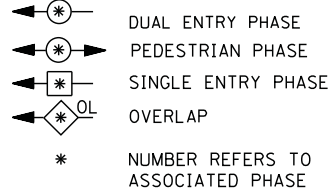
NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASE 2 AND 4  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASE 2 AND 8.

**CABLE PLAN**

**CONTROLLER SEQUENCE**

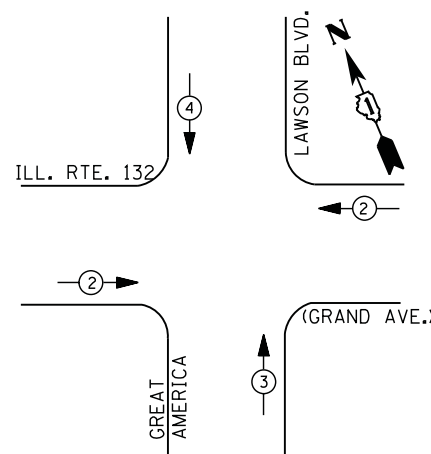


**LEGEND**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ⑤ REPLACE 10 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	2	3	4
MOVEMENT	←	↑	↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	20	135	15	0.25	75
ARROW	8	135	12	0.10	10
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					542

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

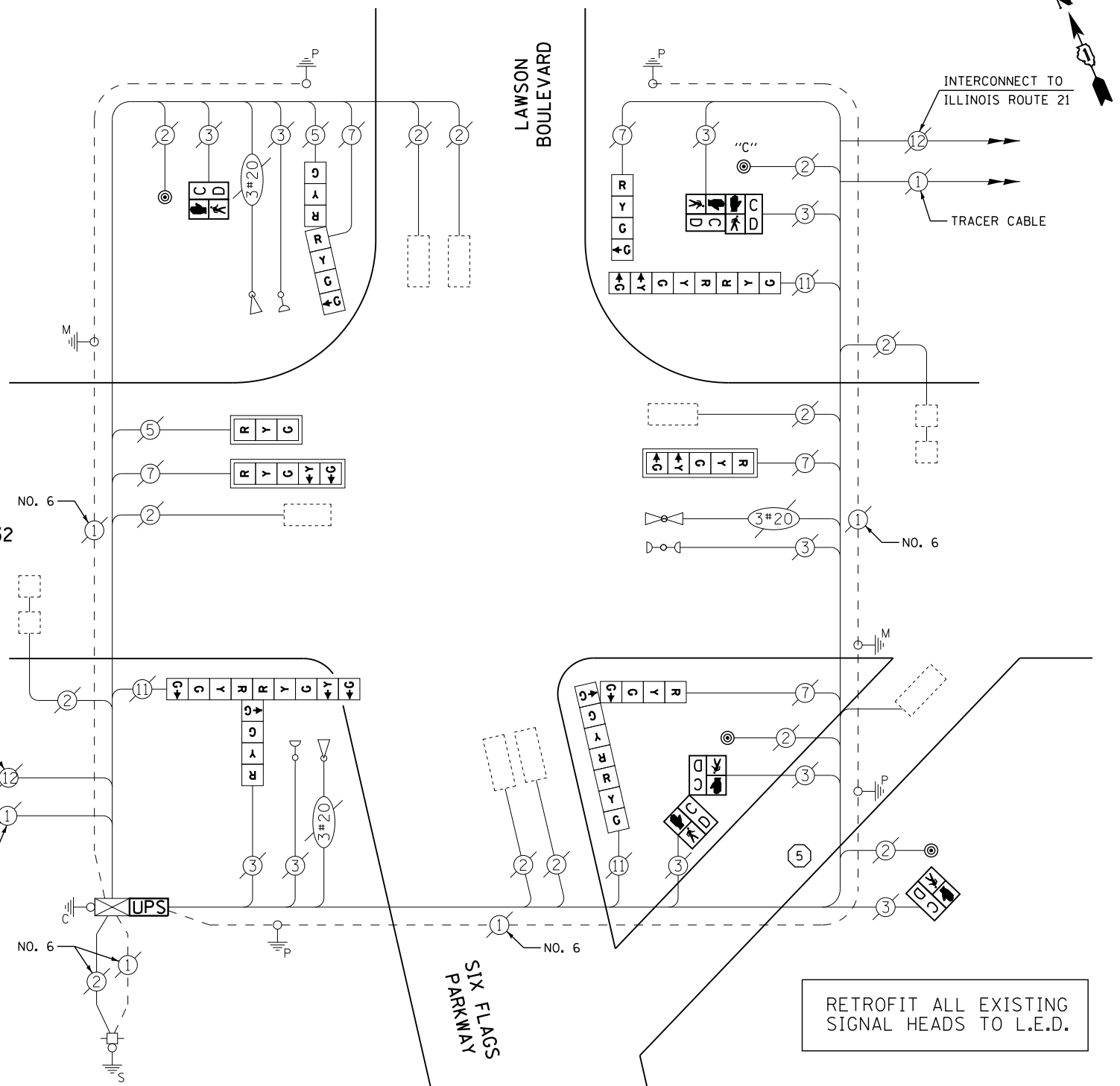
ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING
1	EACH	SIGNAL HEAD, LED, 3-FACE, 2-4 SECTION, 1-3 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 2-4 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT

**ILLINOIS ROUTE 132**

INTERCONNECT TO  
 DILLEYS RD.  
 TRACER CABLE



**CABLE PLAN**

RETROFIT ALL EXISTING  
 SIGNAL HEADS TO L.E.D.

NOTES:  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 3 AND 6

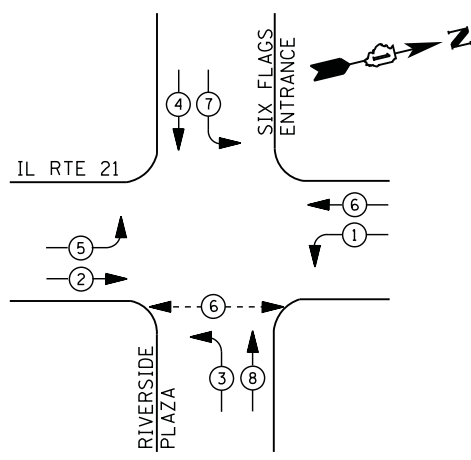
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

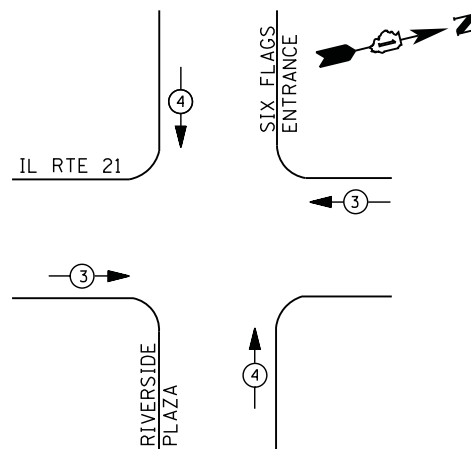
6	EACH	PEDESTRIAN SIGNAL HEAD
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	SIGNAL POST



**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	→ ←	↑ ↓

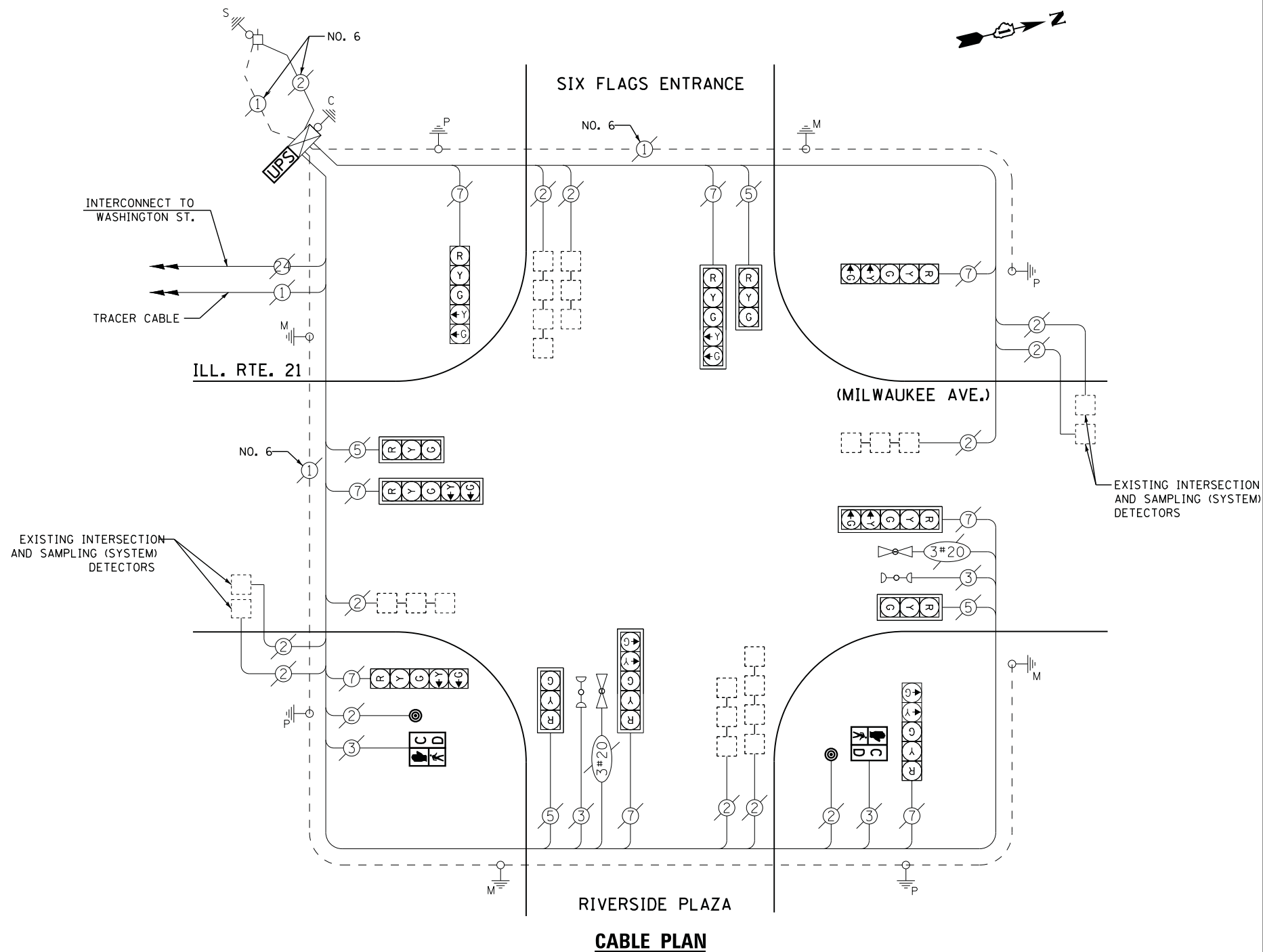
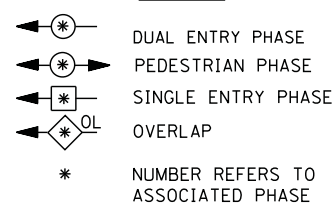
I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	--	150	-	1.00	--
TOTAL =					391

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**



**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\06732.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

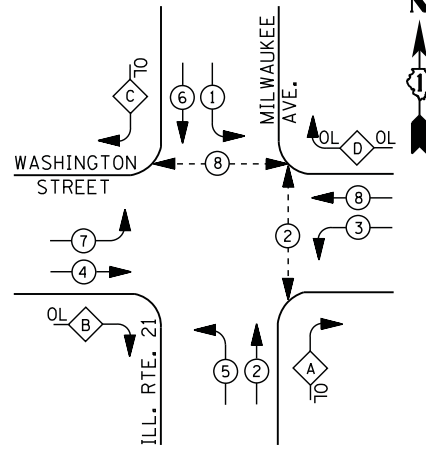
IL ROUTE 21 (MILWAUKEE AVE) AT SIX FLAGS  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

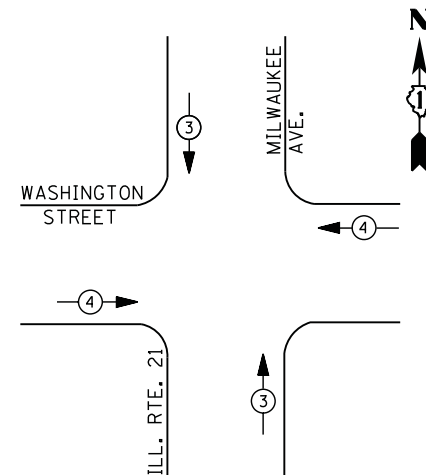
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	33
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 6732  
 GURNEE

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↑ ↓	← →

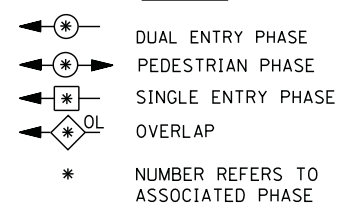
**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	32	135	12	0.10	38
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					684

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

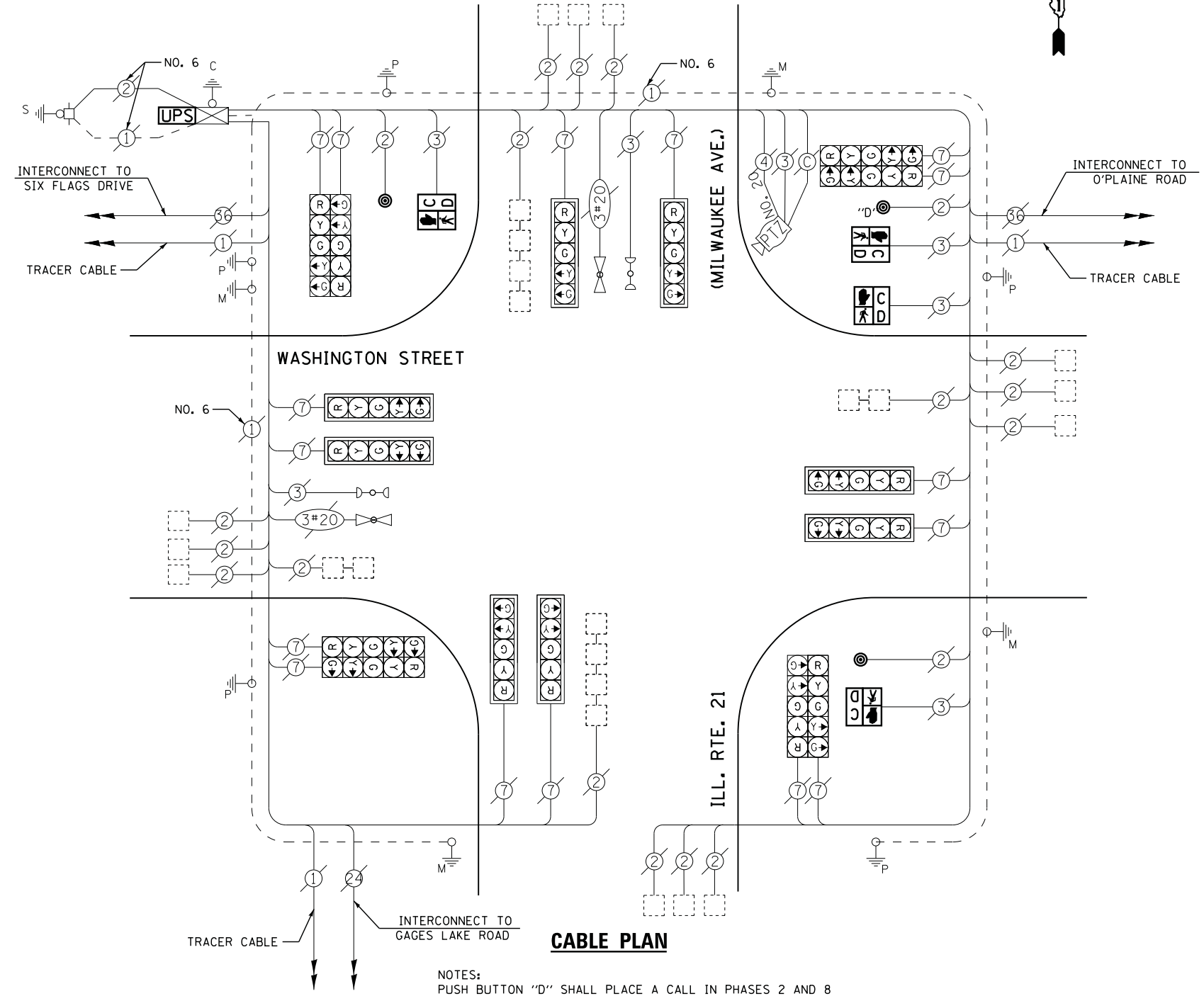
ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 2	+ 3
B	= 4	+ 5
C	= 6	+ 7
D	= 8	+ 1



**CABLE PLAN**

NOTES:  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
3	EACH	PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\06730_CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

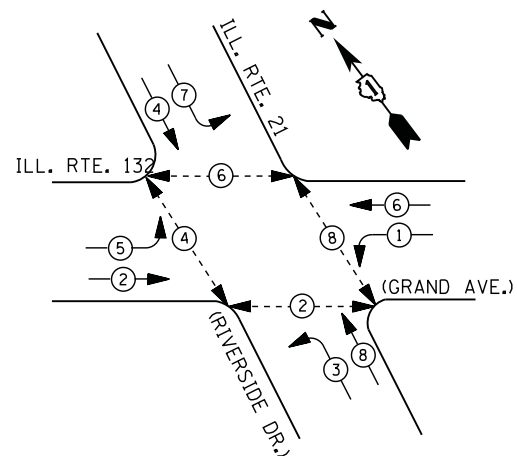
**IL ROUTE 21 (MILWAUKEE AVE) AT WASHINGTON STREET  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

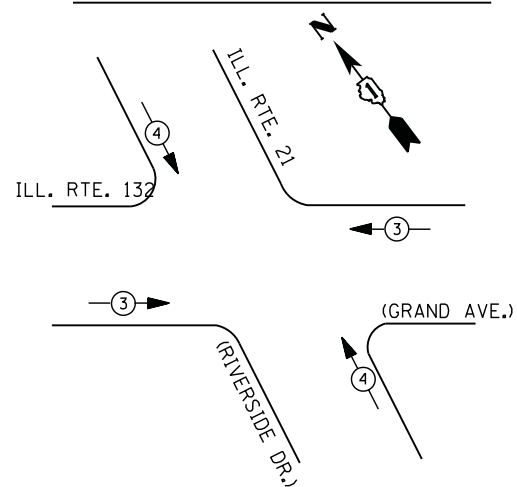
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	34
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS\* 6730  
 GURNEE

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	→ ←	↔

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					765

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**

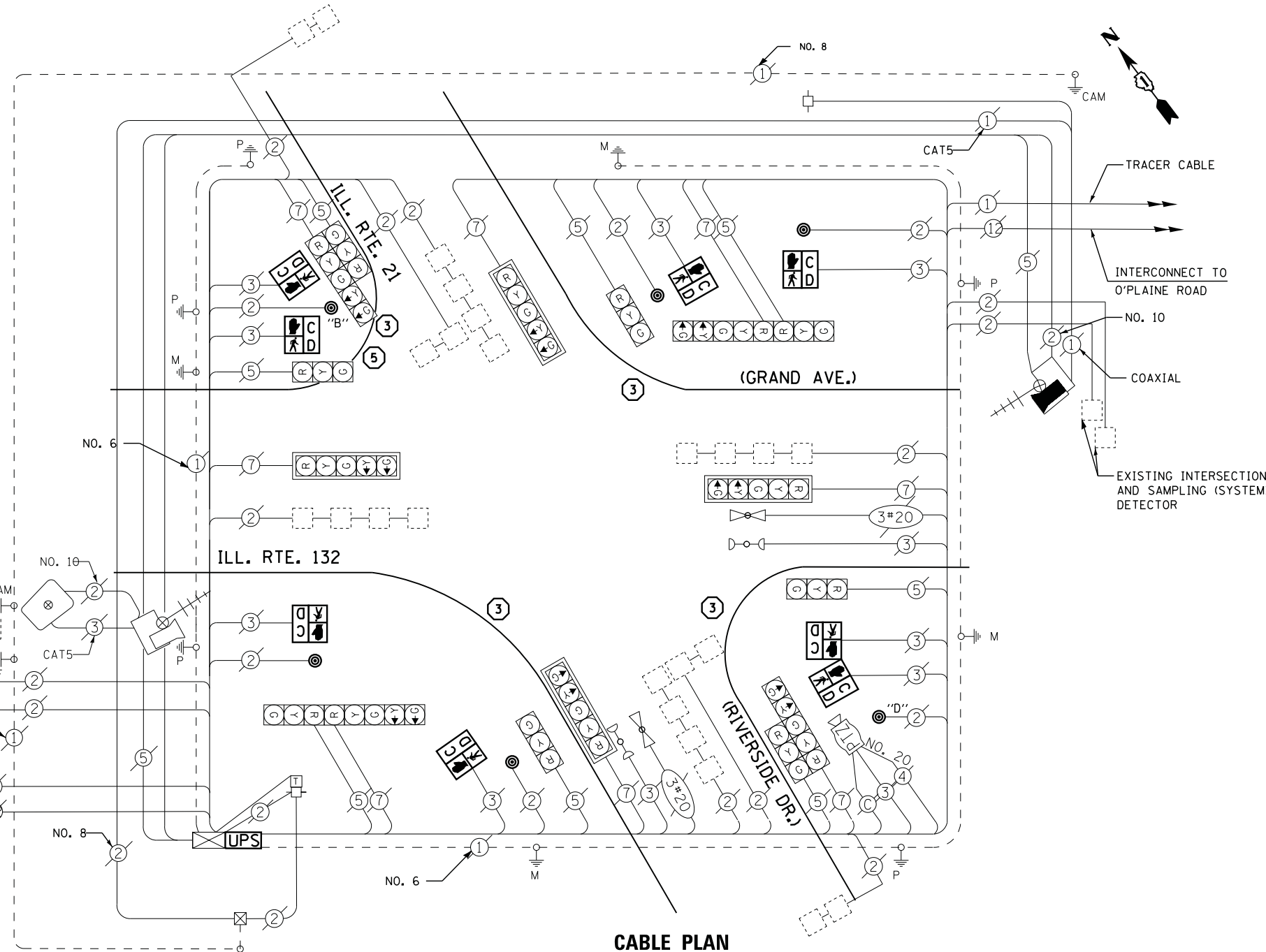
- ⊙ → ⊙ DUAL ENTRY PHASE
- ⊙ → ⊙ PEDESTRIAN PHASE
- ⊙ → ⊙ SINGLE ENTRY PHASE
- ⊙ → ⊙ OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ⑤ REPLACE 10 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

EXISTING INTERSECTION AND SAMPLING (SYSTEM) DETECTOR

TRACER CABLE

INTERCONNECT TO GREAT AMERICA PARKWAY



**CABLE PLAN**

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

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	RELOCATE EXISTING SIGNAL HEAD
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
6	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
6	EACH	PEDESTRIAN PUSH-BUTTON
5	EACH	SIGNAL POST

FILE NAME = USER NAME = \*USER\*  
 N:\Projects\312004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\06705\_CAB\_LAKE.dgn  
 PLOT SCALE = \*SCALE\*  
 PLOT DATE = 5/16/2012

DESIGNED - DW  
 REVISIONS -  
 DRAWN - JDH  
 REVISIONS -  
 CHECKED - KMM  
 REVISIONS -  
 DATE -  
 REVISIONS -

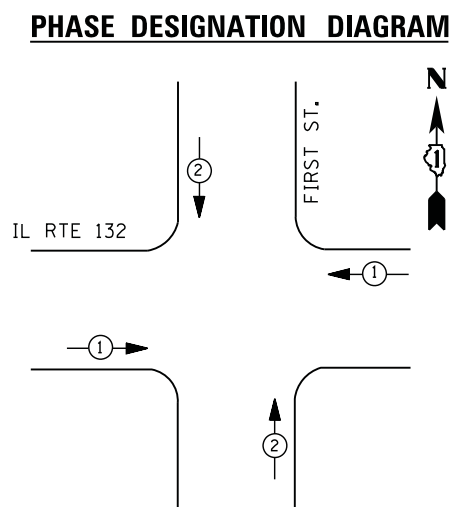
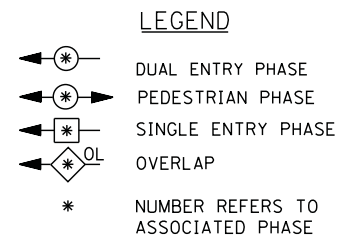
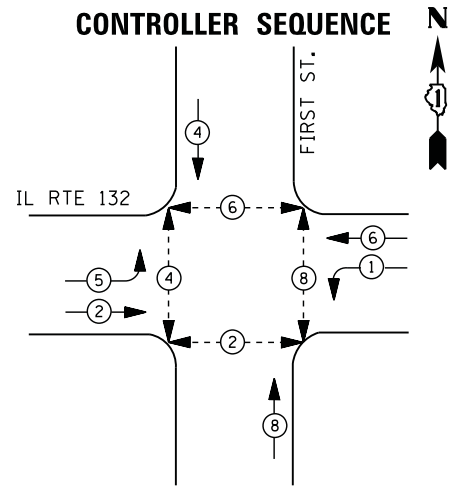
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ILL RTE 21 (RIVERSIDE DR) AT ILL RTE 132 (GRAND AVE)  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	35
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 6705  
 GURNEE



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	← →	↑ ↓

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

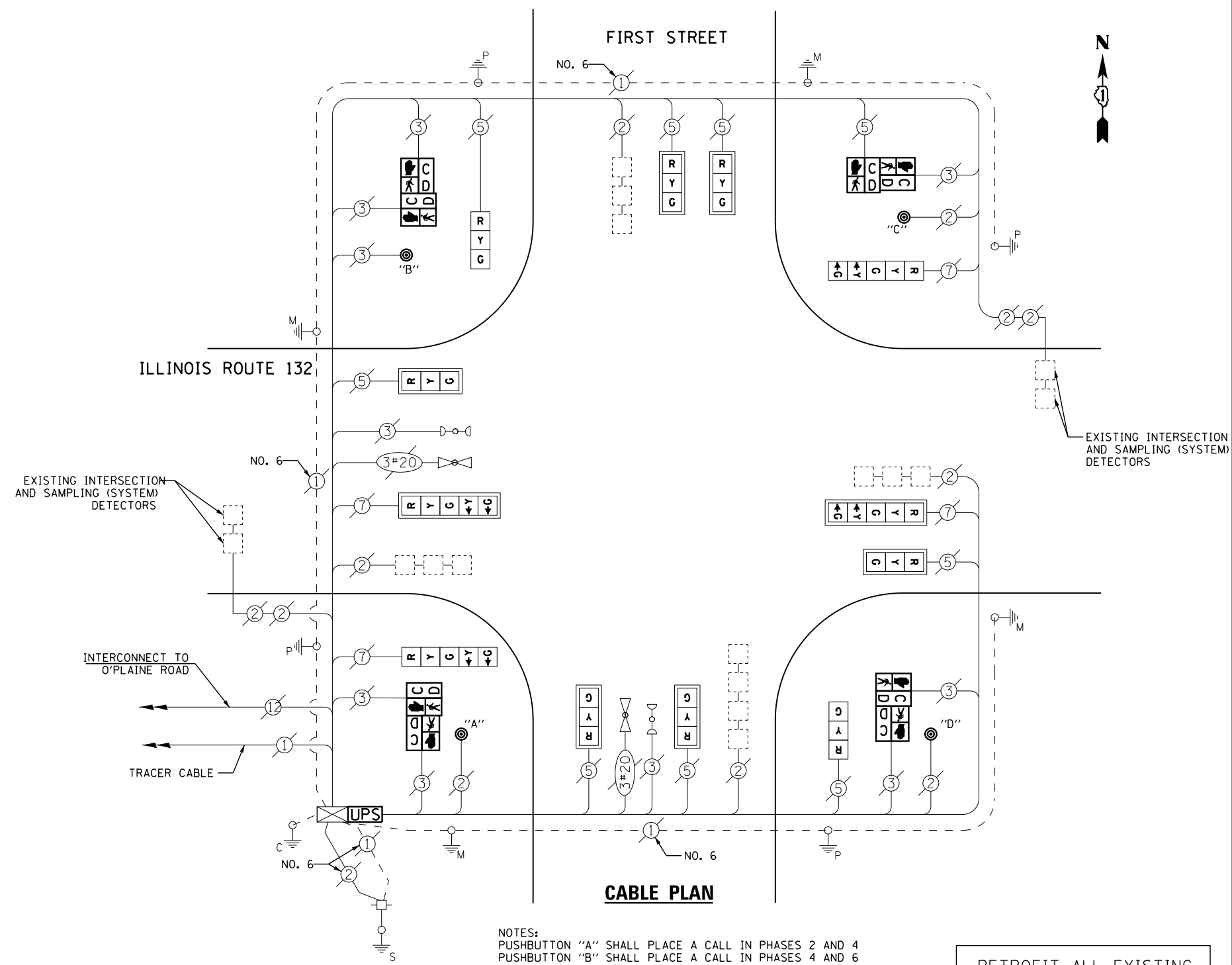
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					532

ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT: TERRI BLECK  
 PHONE: 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



NOTES:  
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8.

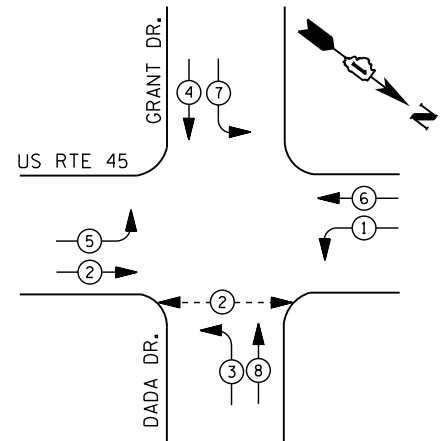
RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

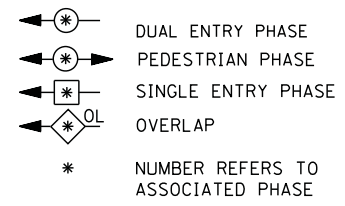
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
4	EACH	PEDESTRIAN PUSH-BUTTON

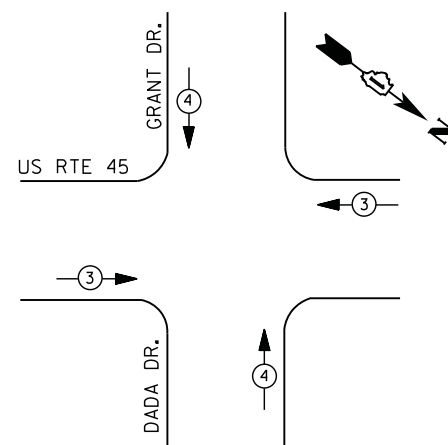
**CONTROLLER SEQUENCE**



**LEGEND**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					391

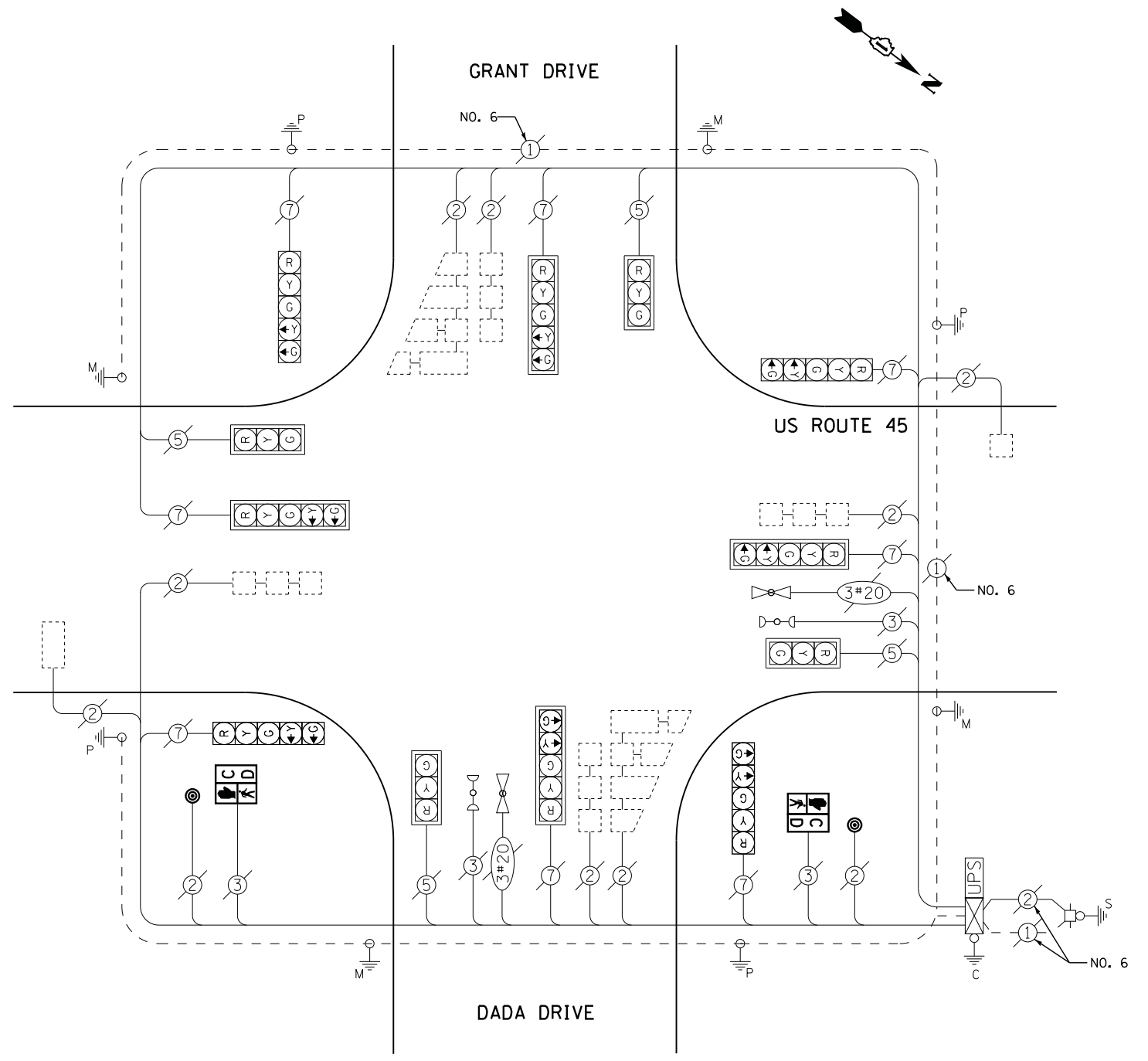
ENERGY COSTS- BILLED TO: VILLAGE OF GURNEE  
 325 N. O'PLAINE RD  
 GURNEE, IL 60031-2636

ENERGY SUPPLY - CONTACT: TERRI BLECK  
 PHONE: 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

**CABLE PLAN**

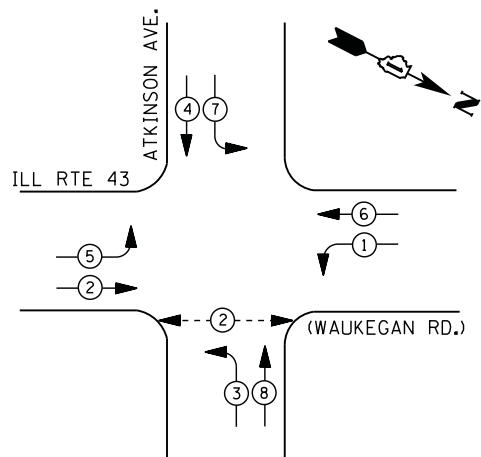


**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2 EACH PEDESTRIAN SIGNAL HEAD  
 2 EACH PEDESTRIAN PUSH-BUTTON

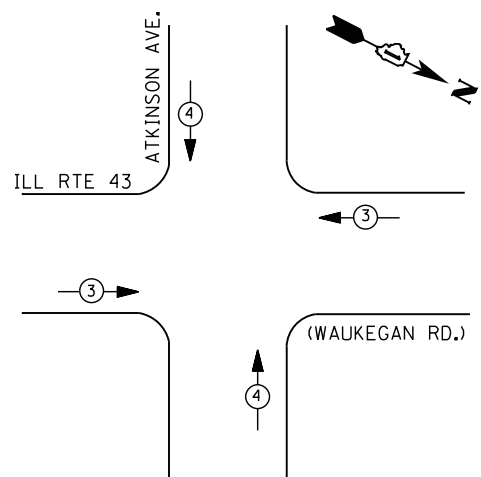
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

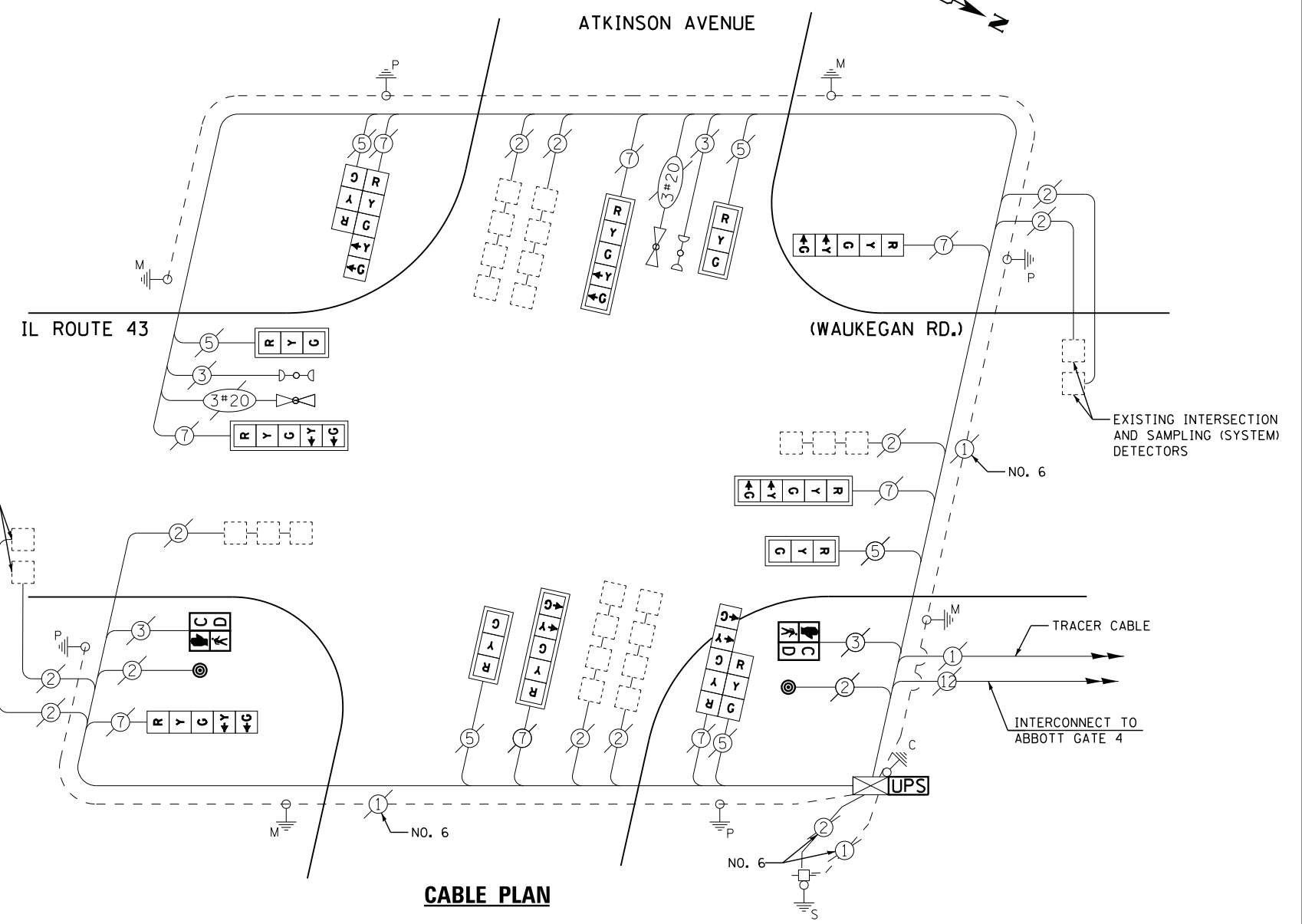
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	14	135	15	0.25	53
ARROW	16	135	12	0.10	19
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					429

ENERGY COSTS- **BILLED TO: CITY OF NORTH CHICAGO**  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
8	EACH	TRAFFIC SIGNAL BACKPLATE

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\21717_CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = \$SCALE\$	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

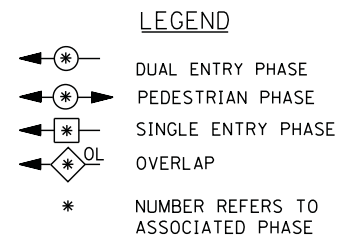
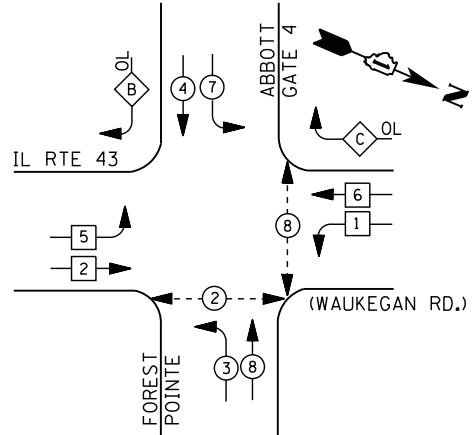
**IL RTE 43 (WAUKEGAN RD.) AT ATKINSON AVENUE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	38
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 21717  
 NORTH CHICAGO

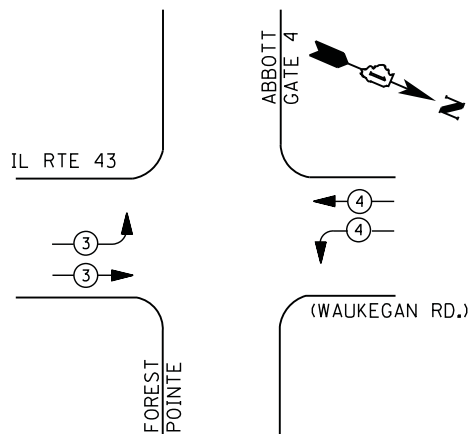
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4 +	5
C	= 6 +	7

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	→	←

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

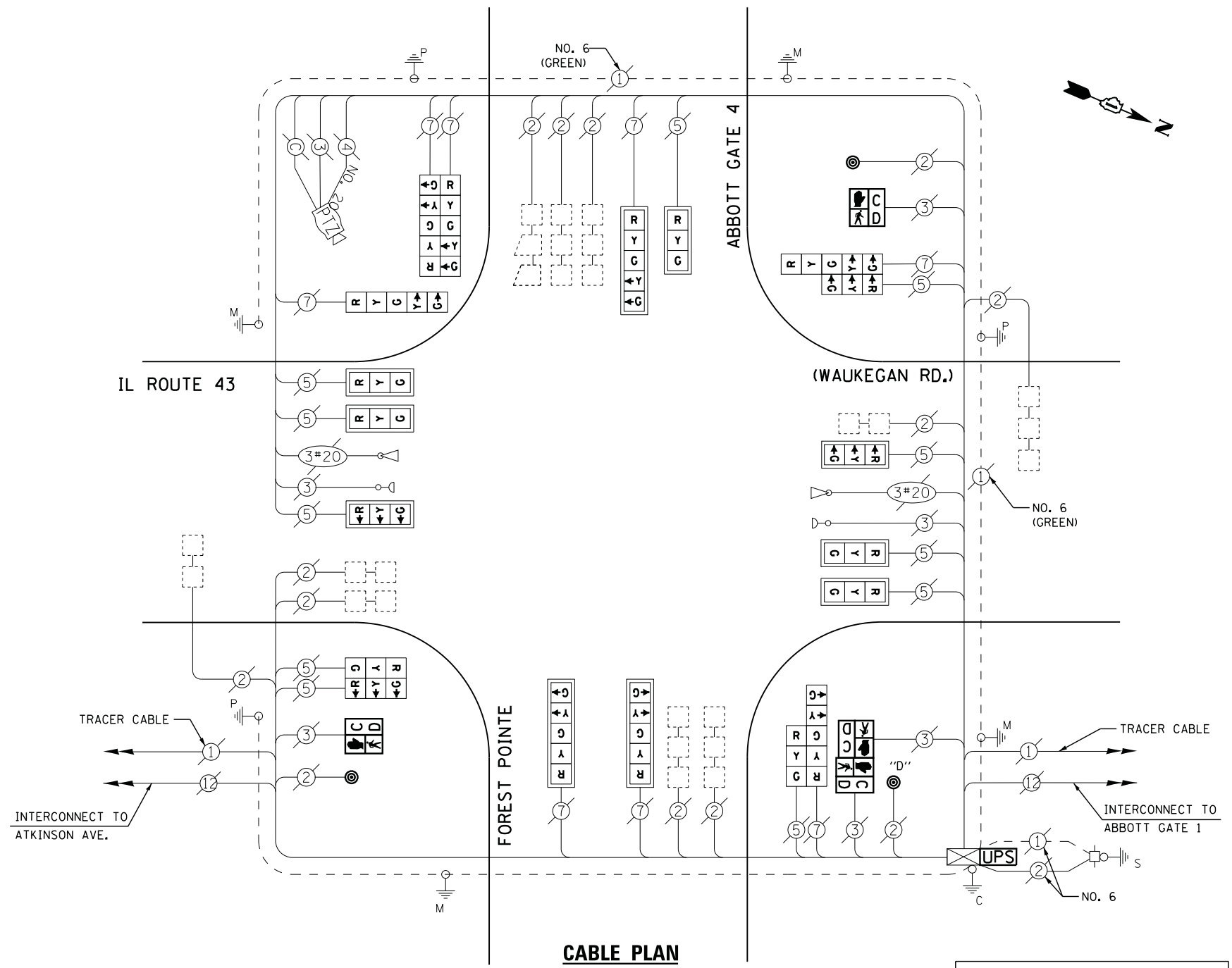
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	19	135	17	0.50	162
(YELLOW)	19	135	25	0.25	119
(GREEN)	19	135	15	0.25	71
ARROW	16	135	12	0.10	19
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					721

ENERGY COSTS- BILLED TO: CITY OF NORTH CHICAGO  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
7	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



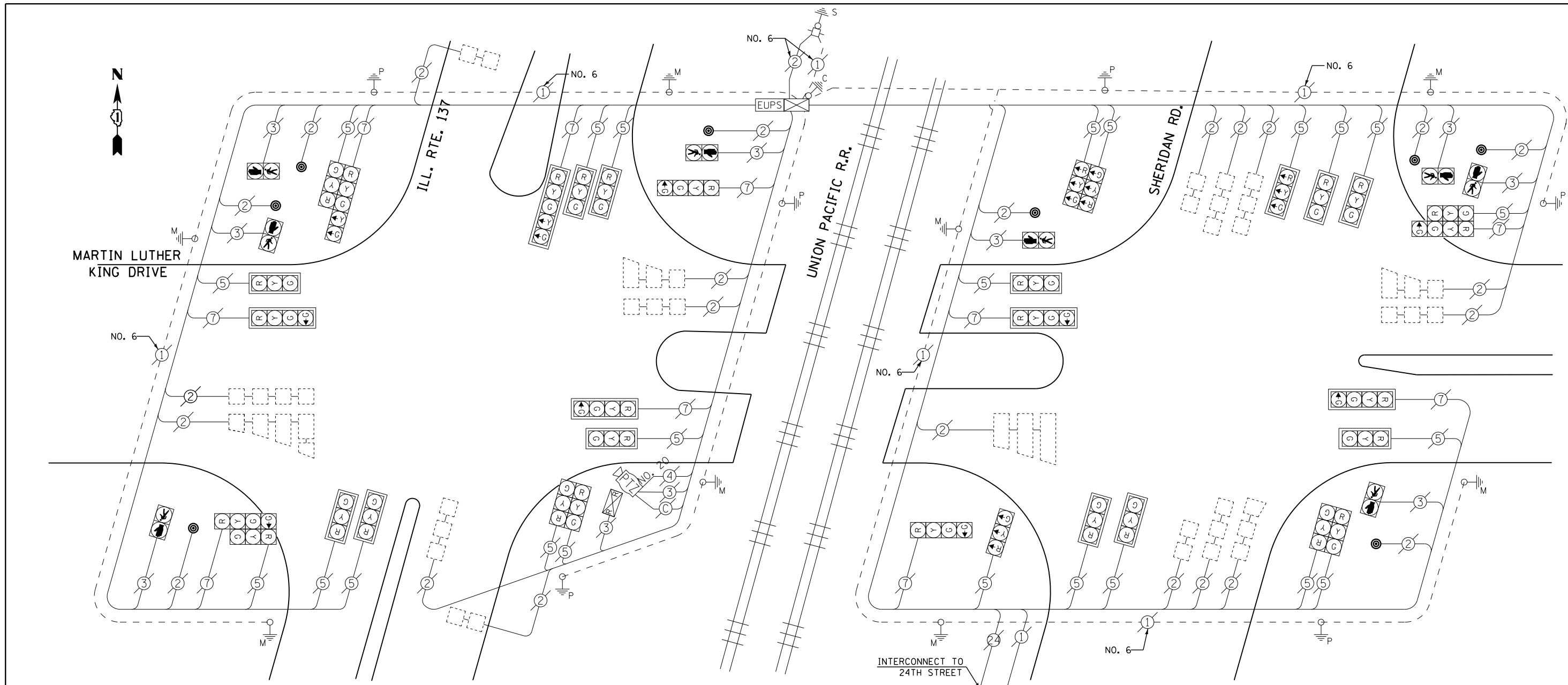
NOTE:  
 PUSH-BUTTON "D" SHALL PLACE A CALL TO PHASES 2 AND 8.

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
3	EACH	PEDESTRIAN PUSH-BUTTON
10	EACH	TRAFFIC SIGNAL BACKPLATE



**CABLE PLAN**

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	33	135	17	0.50	281
( YELLOW )	33	135	25	0.25	206
( GREEN )	41	135	15	0.25	154
ARROW	4	135	12	0.10	5
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					1096

ENERGY COSTS- BILLED TO: CITY OF NORTH CHICAGO  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

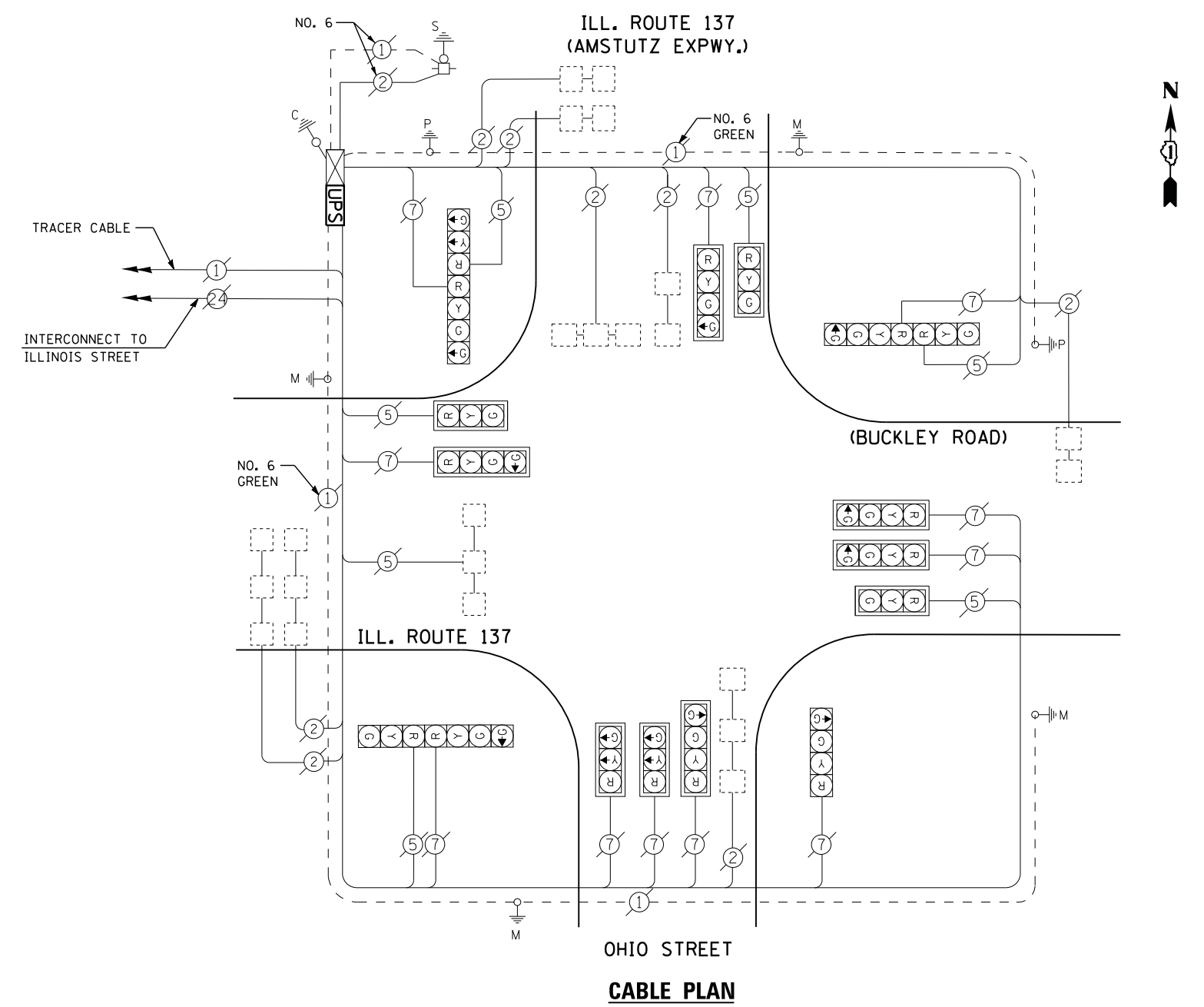
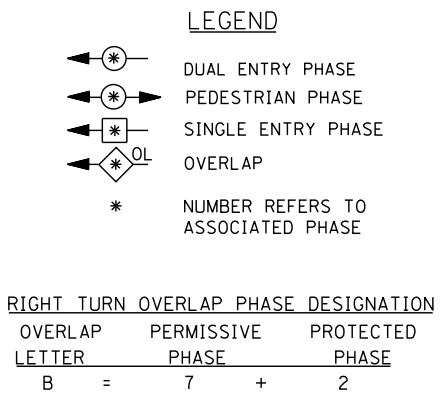
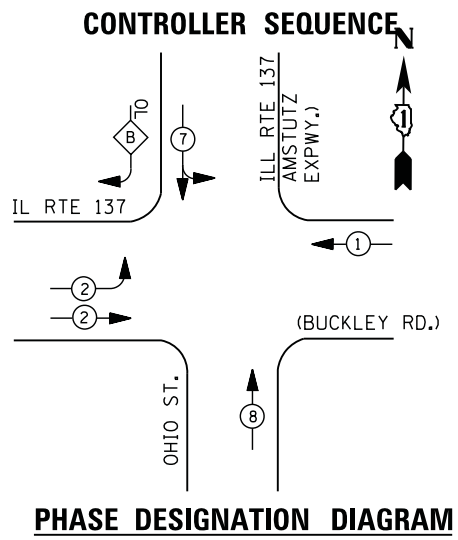
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN PUSH-BUTTON







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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	17	135	17	0.50	145
(YELLOW)	17	135	25	0.25	106
(GREEN)	26	135	15	0.25	98
ARROW	0	135	12	0.10	--
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					449

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\21010_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

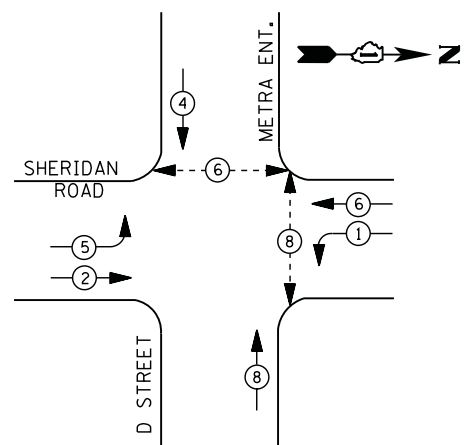
**IL RTE 137 (AMSTUTZ EXPY) AT IL RTE 137 (BUCKLEY RD)  
 SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	42
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

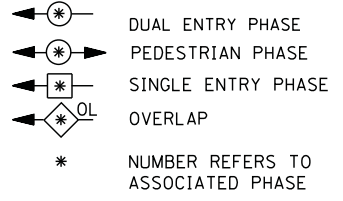
TS# 21010  
 NORTH CHICAGO

**CONTROLLER SEQUENCE**

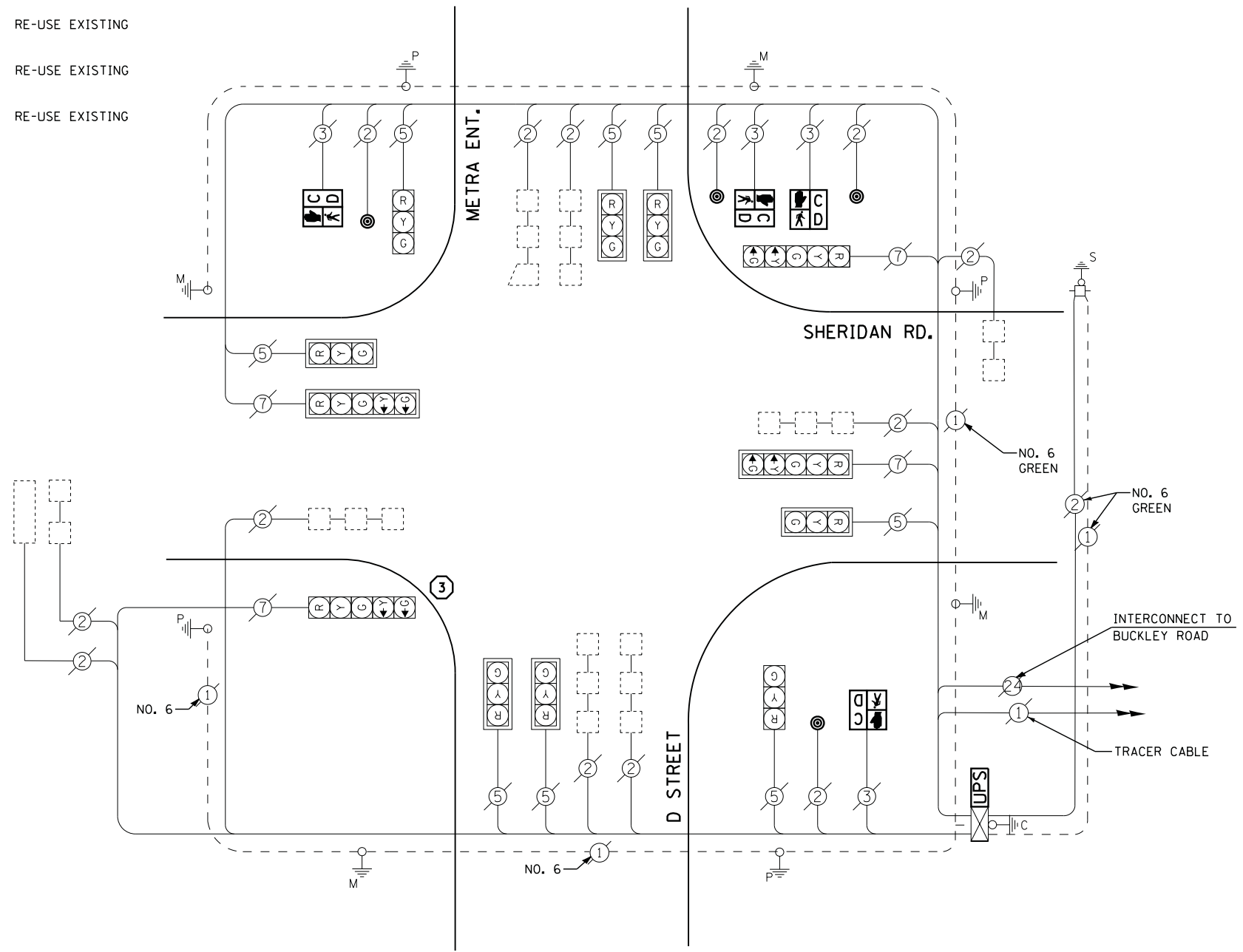


**PHASE DESIGNATION DIAGRAM**

**LEGEND**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.



**CABLE PLAN**

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	--	150	-	1.00	--
TOTAL =					432

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	RELOCATE EXISTING SIGNAL HEAD
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN PUSH-BUTTON
4	EACH	PEDESTRIAN SIGNAL HEAD
1	EACH	SIGNAL POST

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\11598_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

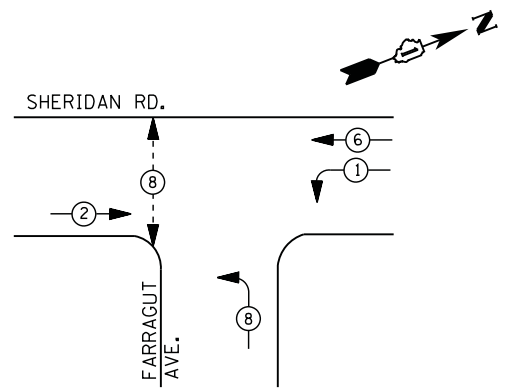
**SHERIDAN ROAD AT "D" STREET / METRA ENT.  
 SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	43
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 11598  
 NORTH CHICAGO

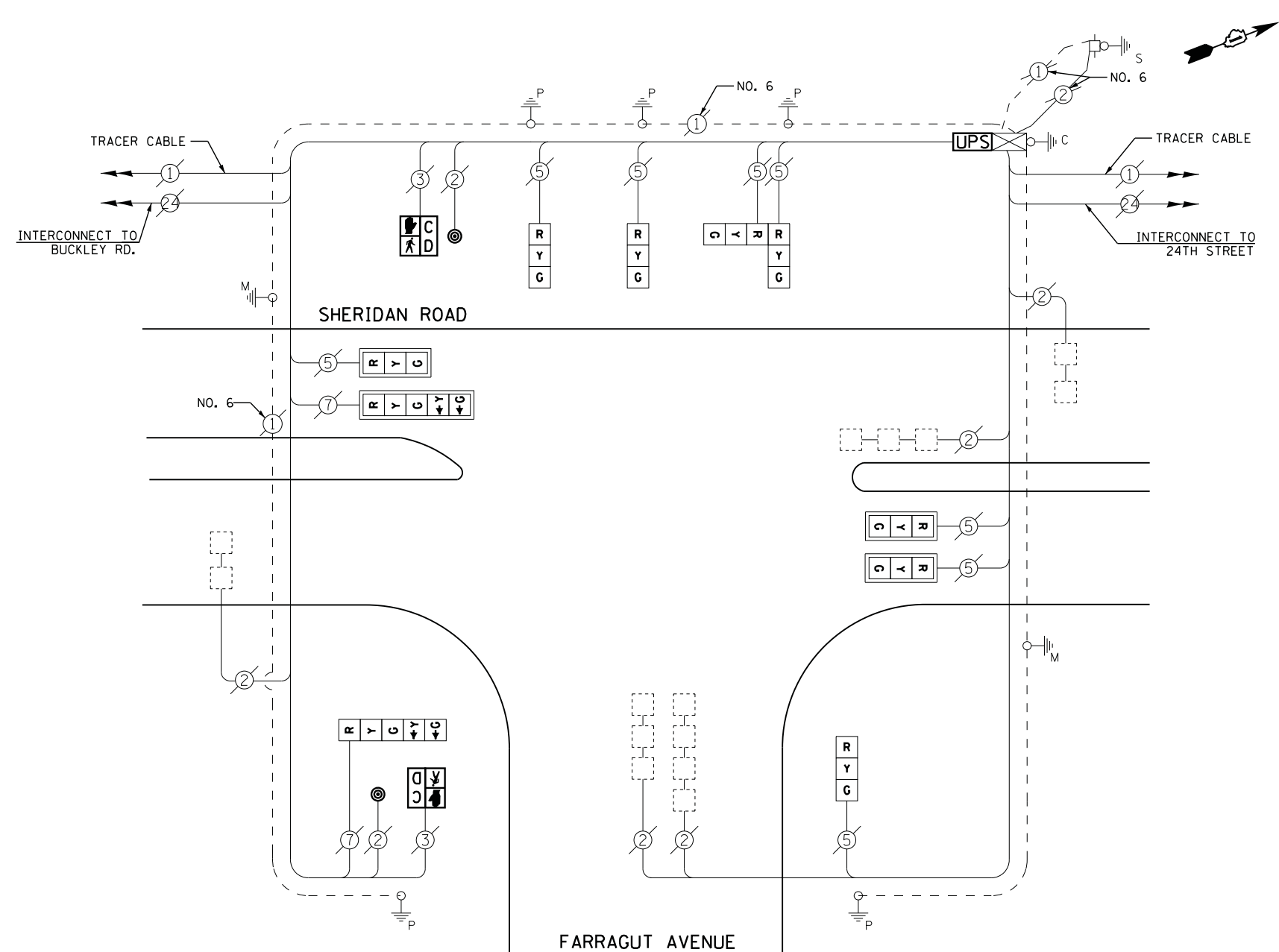
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

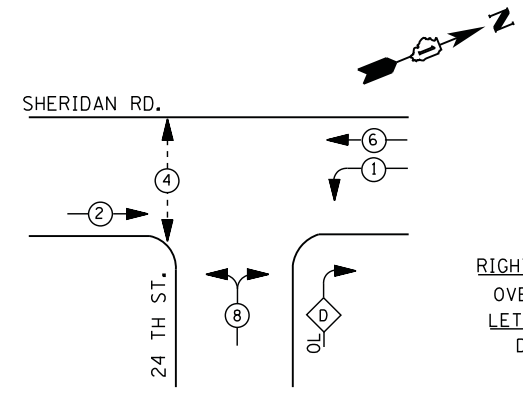
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					341

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

TS# 11597  
NORTH CHICAGO

**CONTROLLER SEQUENCE**



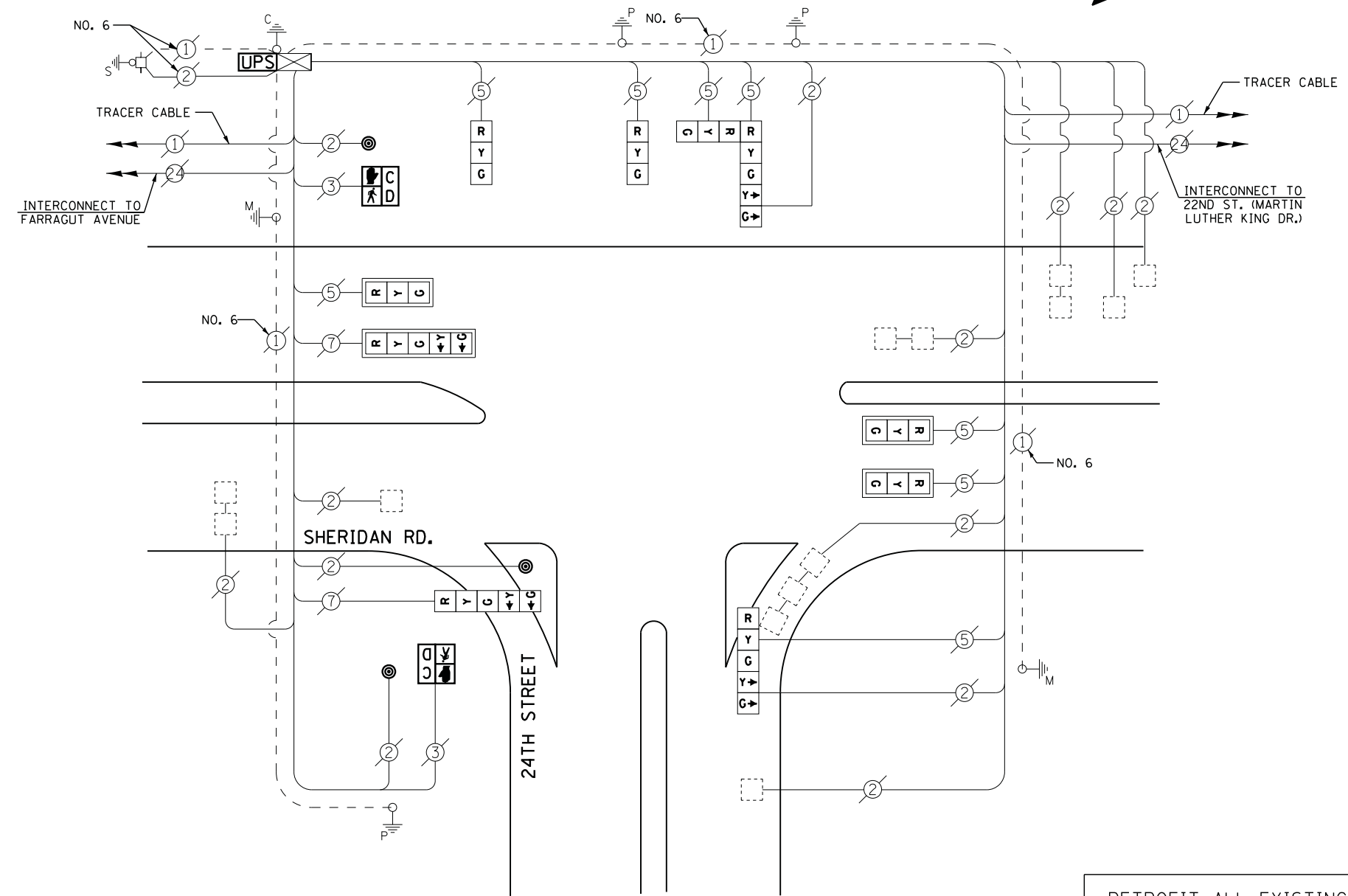
**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
D	= 8	+ 1

**PHASE DESIGNATION DIAGRAM**



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					346

ENERGY COSTS- **BILLED TO: CITY OF NORTH CHICAGO**  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
3	EACH	PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\11596_CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

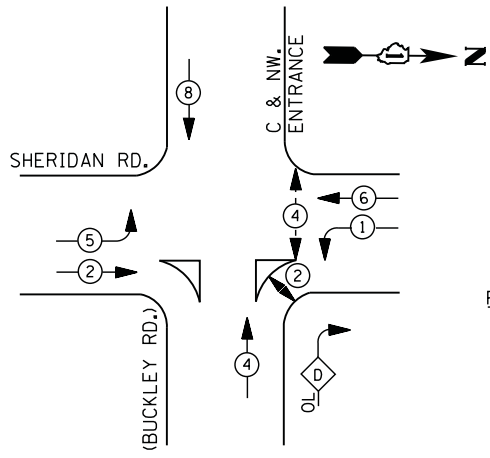
**SHERIDAN ROAD AT 24TH STREET SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	45
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

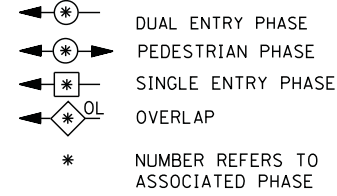
TS# 11596  
 NORTH CHICAGO

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

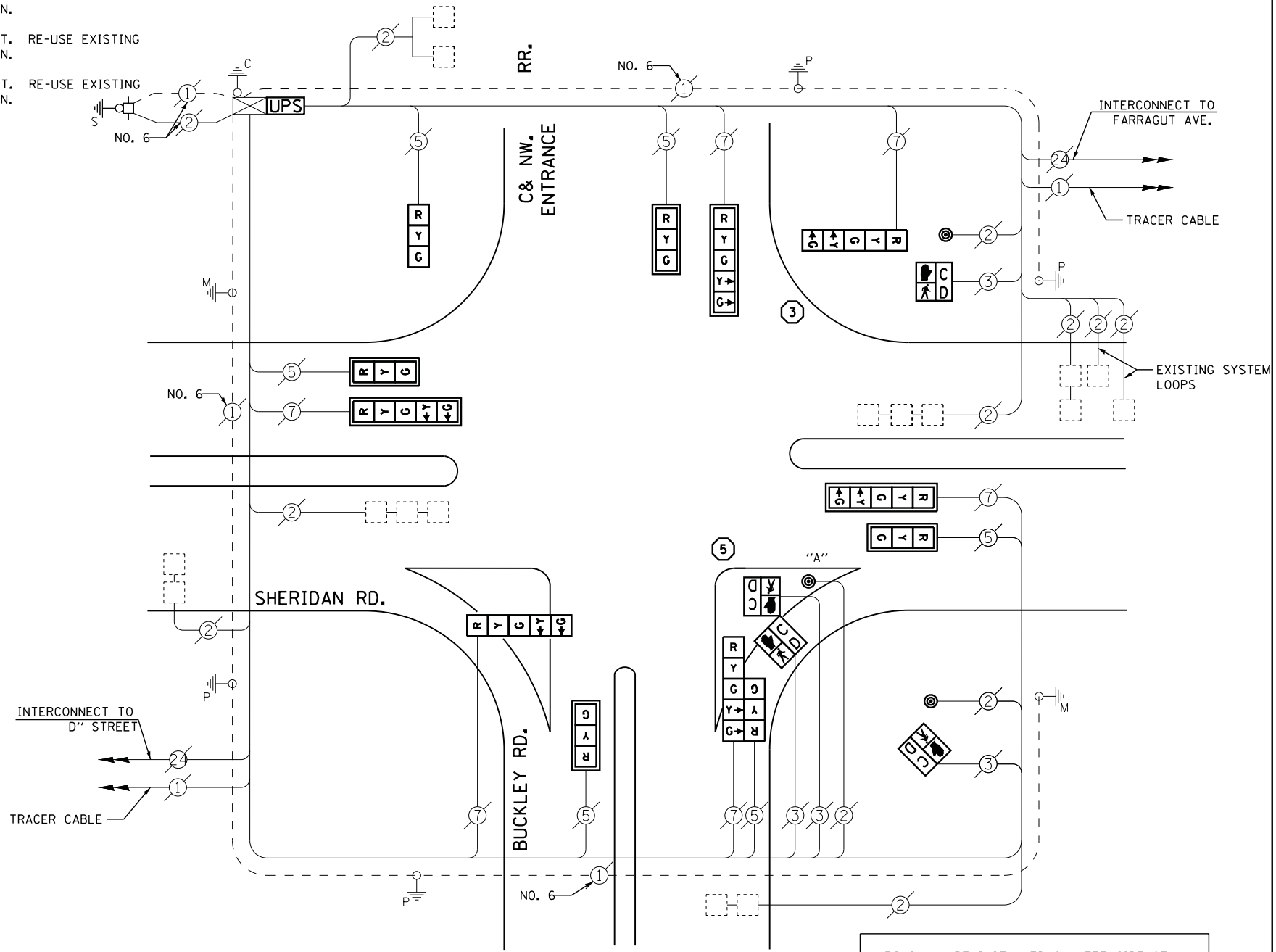
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
D	=	4 + 1

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ⑤ REPLACE 10 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.



**CABLE PLAN**

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 6 EACH SIGNAL HEAD, 3 - SECTION
- 6 EACH SIGNAL HEAD, 5 - SECTION
- 4 EACH PEDESTRIAN SIGNAL HEAD
- 3 EACH PEDESTRIAN PUSH-BUTTON
- 7 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH SIGNAL POST

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
7	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	12	135	12	0.10	14
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					436

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\11595_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

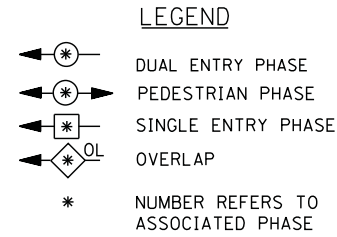
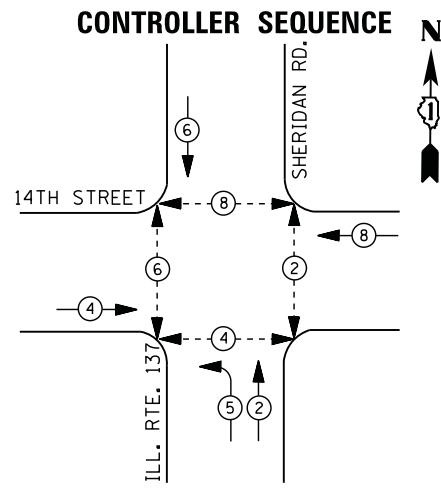
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHERIDAN ROAD AT BUCKLEY ROAD  
 SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM

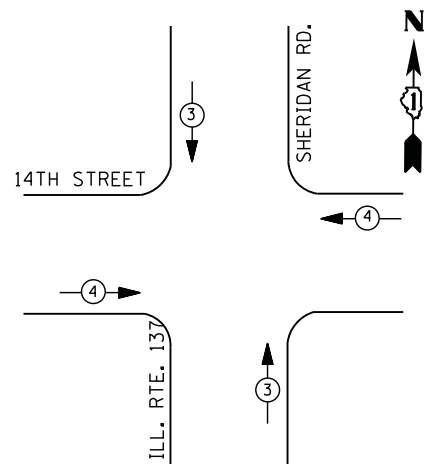
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	46
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 11595  
 NORTH CHICAGO



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↑	←

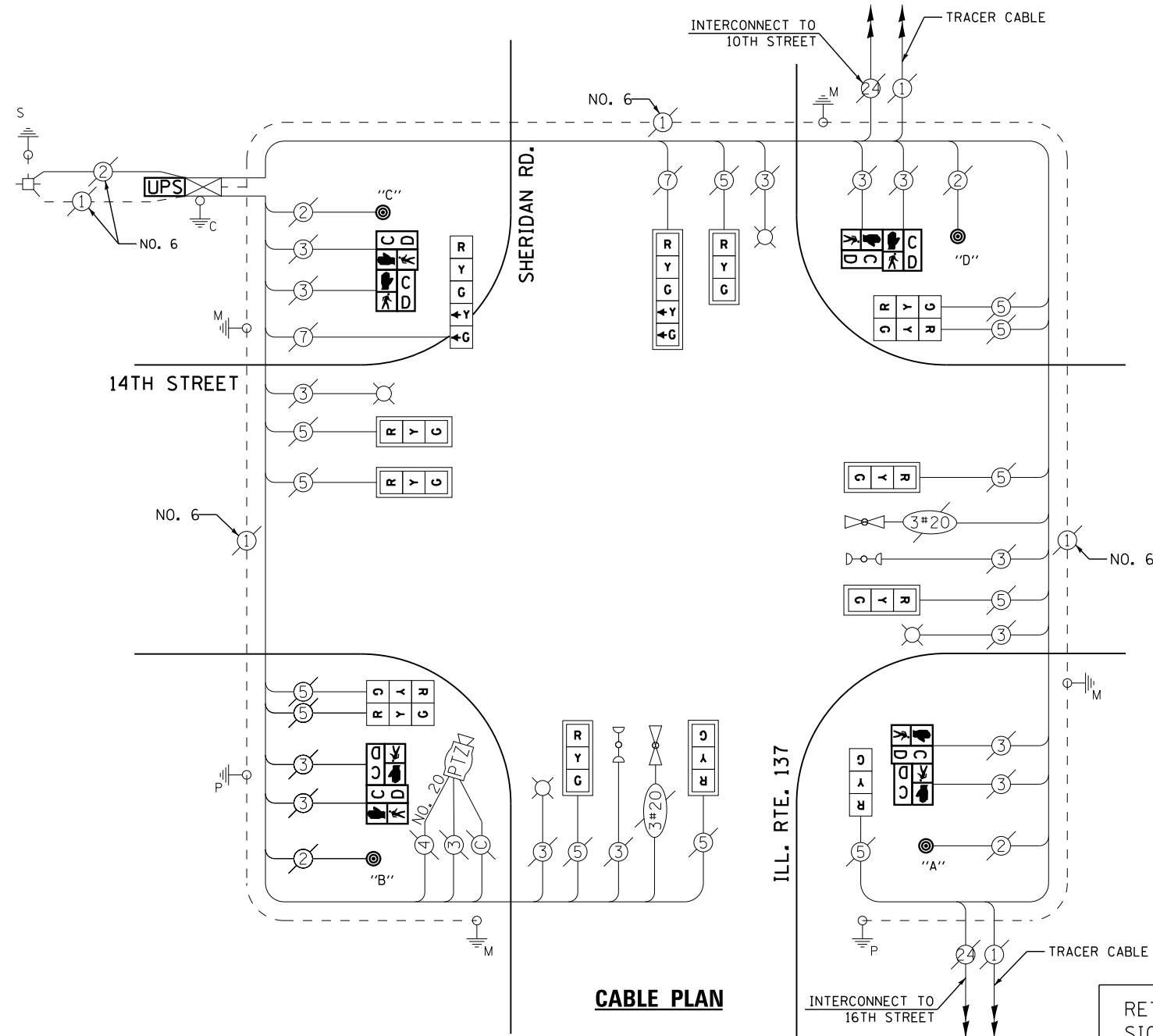
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	4	135	12	0.10	5
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					715

ENERGY COSTS- BILLED TO: CITY OF NORTH CHICAGO  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
7	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

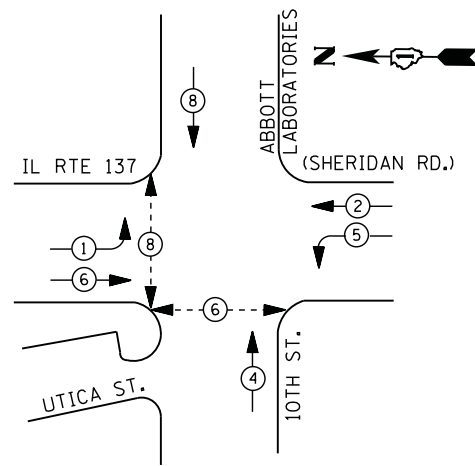
RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

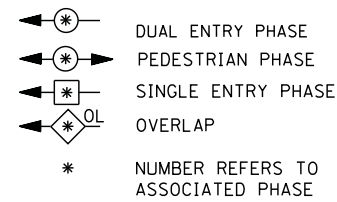
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON

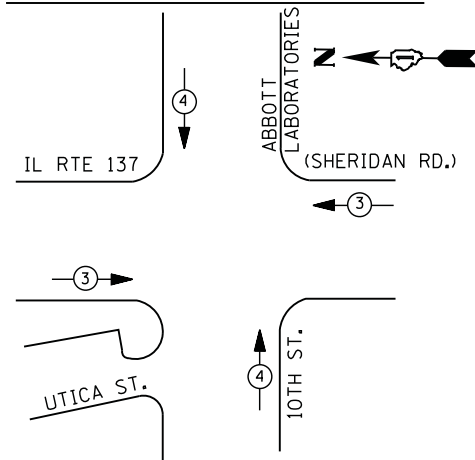
**CONTROLLER SEQUENCE**



**LEGEND**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					451

ENERGY COSTS- **BILLED TO: CITY OF NORTH CHICAGO**  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

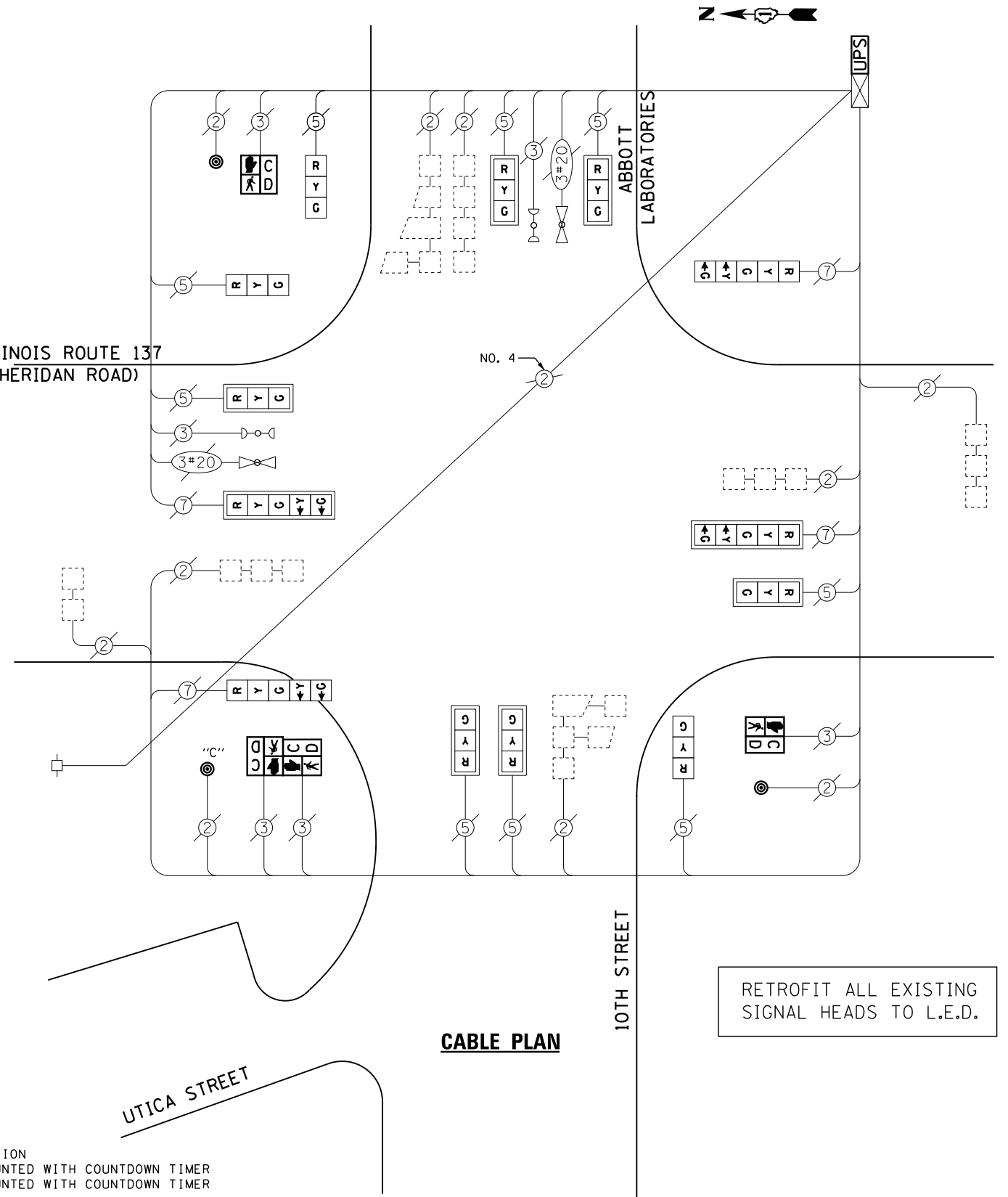
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEAD
- 3 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**ILLINOIS ROUTE 137  
 (SHERIDAN ROAD)**



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

NOTES:  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\312004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\09407.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 137 (SHERIDAN RD.) AT 10TH ST / ABBOTT LABORATORIES  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

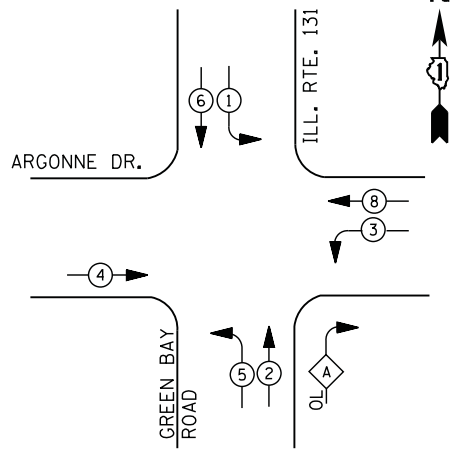
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	48
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 9407  
 NORTH CHICAGO

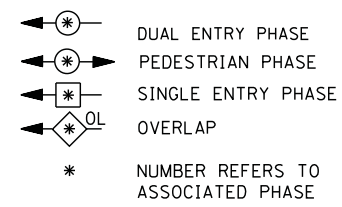


**EXISTING & PROPOSED CONTROLLER SEQUENCE**

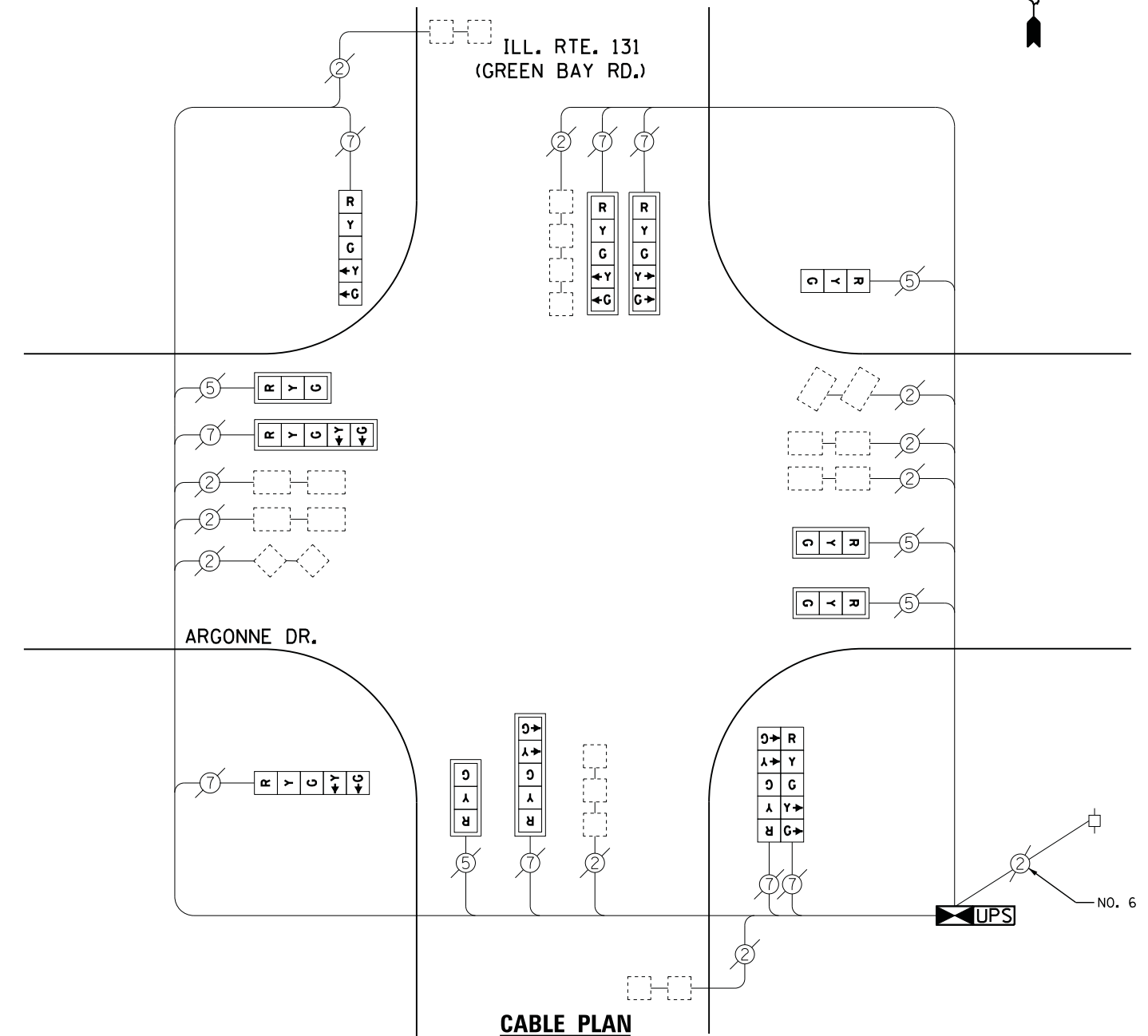


**PHASE DESIGNATION DIAGRAM**

**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**  
 OVERLAP PERMISSIVE PROTECTED  
 LETTER PHASE PHASE  
 A = 2 + 3



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	16	135	12	0.10	19
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	--	150	-	1.00	--
TOTAL =					360

ENERGY COSTS- BILLED TO: CITY OF NORTH CHICAGO  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET
10	EACH	INDUCTIVE LOOP DETECTOR
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)

**SEQUENCE OF OPERATION**

MOVEMENT	5 → 1				← 6		5 → 2		2 → 6		4 ↑ 8		F		
PHASE	1 + 5				1 + 6		2 + 5		2 + 6		4 + 8		L		
INTERVAL	1	2	3	4	5	6	7	8	9	10A	10B	11	12A	12B	A
CHANGE TO		1+6	2+5	2+6		2+6		2+6		4+8			1+5	1+6	S
ILL. ROUTE 137 (BUCKLEY ROAD) FAR RIGHT MAST ARM SIGNAL	E/B	R	R	R	R	R	G	G	G	Y	R	R	R	R	
ILL. ROUTE 137 (BUCKLEY ROAD) END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	R	R	R	G	G	G	Y	R	R	R	R	
ILL. ROUTE 137 (BUCKLEY ROAD) FAR RIGHT MAST ARM SIGNAL	W/B	R	R	R	R	G	G	R	R	G	Y	R	R	R	
ILL. ROUTE 137 (BUCKLEY ROAD) END MAST ARM AND FAR LEFT SIGNALS	W/B	R	R	R	R	G	G	R	R	G	Y	R	R	R	
RAY STREET ALL SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	G	Y	R	
RAY STREET ALL SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	G	Y	R	

PHASE 2+6 SHALL BE PLACED ON RECALL.

**RAILROAD PREEMPTION SEQUENCE OF OPERATION**

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	5	7	9	11	PREEMPTOR NUMBER 2						CLEAR TO NORMAL SEQUENCE	
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	2	3	4	5	
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	2	1D	2	1F	2	1H	2	3	4	5		
ILL. ROUTE 137 (BUCKLEY ROAD) FAR RIGHT MAST ARM SIGNAL	E/B	R	R	Y	R	Y	R	R	R	R	R	R	Δ
ILL. ROUTE 137 (BUCKLEY ROAD) END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	Y	R	Y	R	R	R	R	R	R	Δ
ILL. ROUTE 137 (BUCKLEY ROAD) FAR RIGHT MAST ARM SIGNAL	W/B	R	G	R	R	G	G	R	R	G	Y	R	Δ
ILL. ROUTE 137 (BUCKLEY ROAD) END MAST ARM AND FAR LEFT SIGNALS	W/B	R	G	R	R	G	G	R	R	G	Y	R	Δ
RAY STREET ALL SIGNALS	N/B	R	R	R	R	R	Y	R	R	R	R	G	Δ
RAY STREET ALL SIGNALS	S/B	R	R	R	R	R	Y	R	R	R	R	G	Δ

RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	10	135	17	0.50	85
(YELLOW)	10	135	25	0.25	63
(GREEN)	10	135	15	0.25	38
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					296

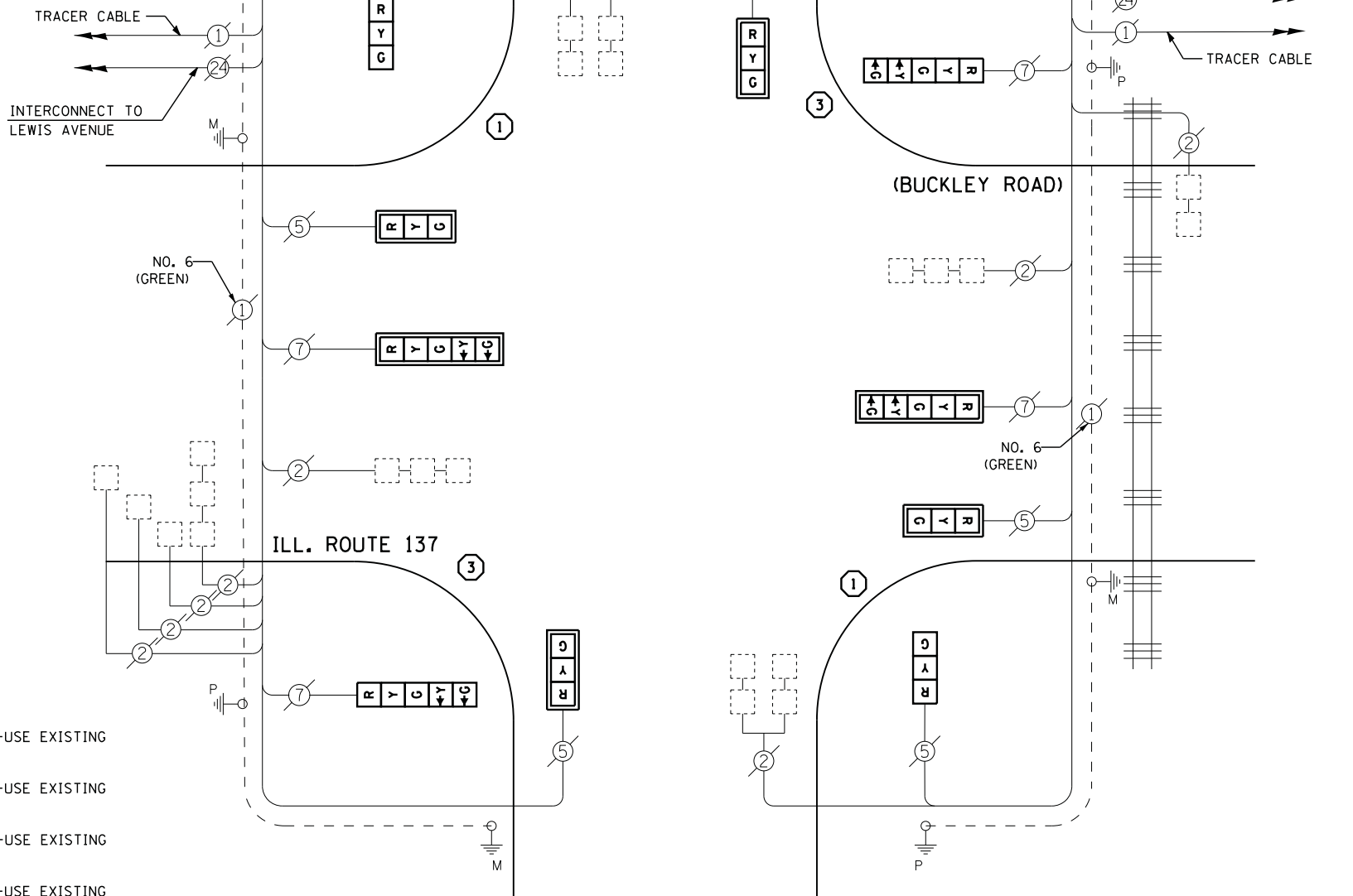
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096  
 CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\312004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\07175-CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

IL RTE 137 (BUCKLEY RD) AT RAY STREET /FORRESTAL VILLAGE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, SEQUENCE OF OPERATION  
 AND RAILROAD PREEMPTION SEQUENCE OF OPERATION  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	50
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				



**CABLE PLAN**

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**SCHEDULE OF QUANTITIES**

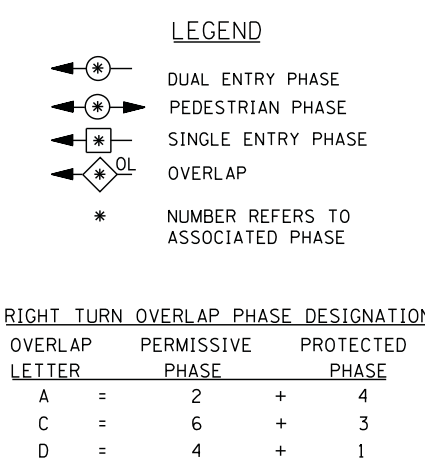
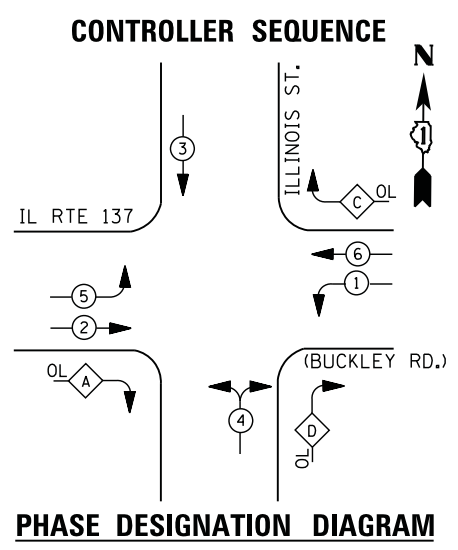
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
6	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

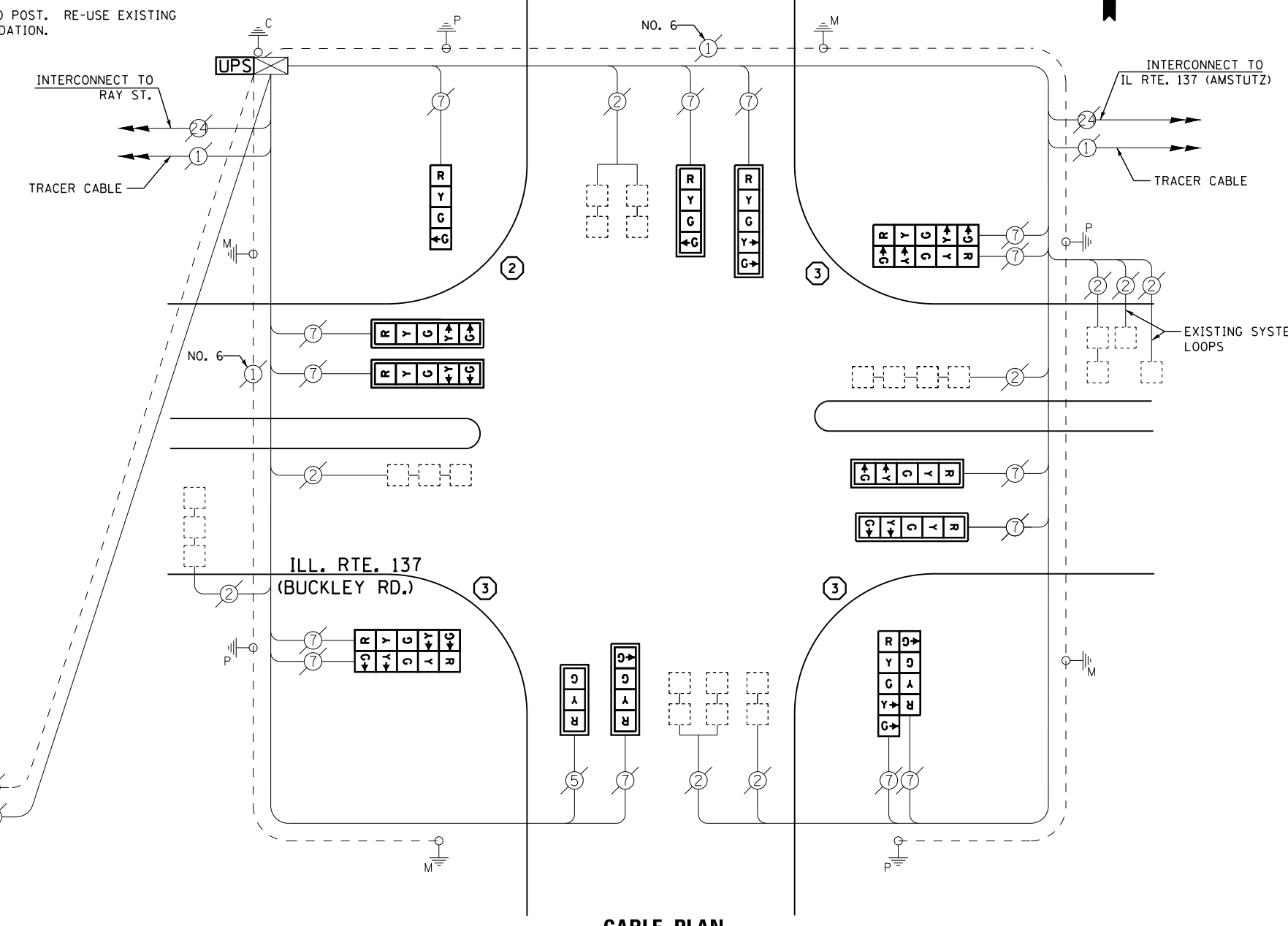
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	SIGNAL HEAD, 3 - SECTION
4	EACH	SIGNAL HEAD, 5 - SECTION
6	EACH	TRAFFIC SIGNAL BACKPLATE
4	EACH	SIGNAL POST

TS# 7175  
 NORTH CHICAGO



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.



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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	15	135	17	0.50	128
( YELLOW )	15	135	25	0.25	94
( GREEN )	19	135	15	0.25	71
ARROW	20	135	12	0.10	24
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					417

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

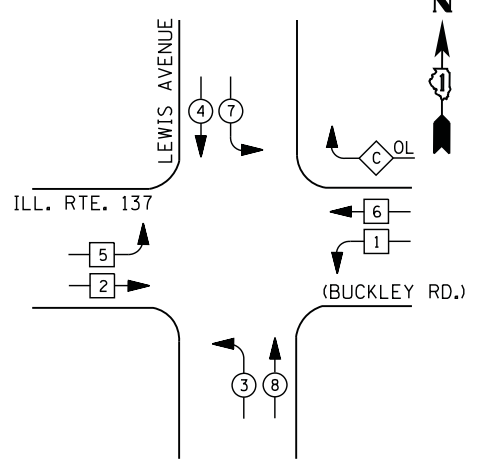
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 15 FT.
3	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-4 SECTION, 1-5 SECTION, BRACKET MOUNTED
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

1	EACH	SIGNAL HEAD, 3 - SECTION
4	EACH	SIGNAL HEAD, 4 - SECTION
10	EACH	SIGNAL HEAD, 5 - SECTION
4	EACH	SIGNAL POST
8	EACH	TRAFFIC SIGNAL BACKPLATE

**CONTROLLER SEQUENCE**



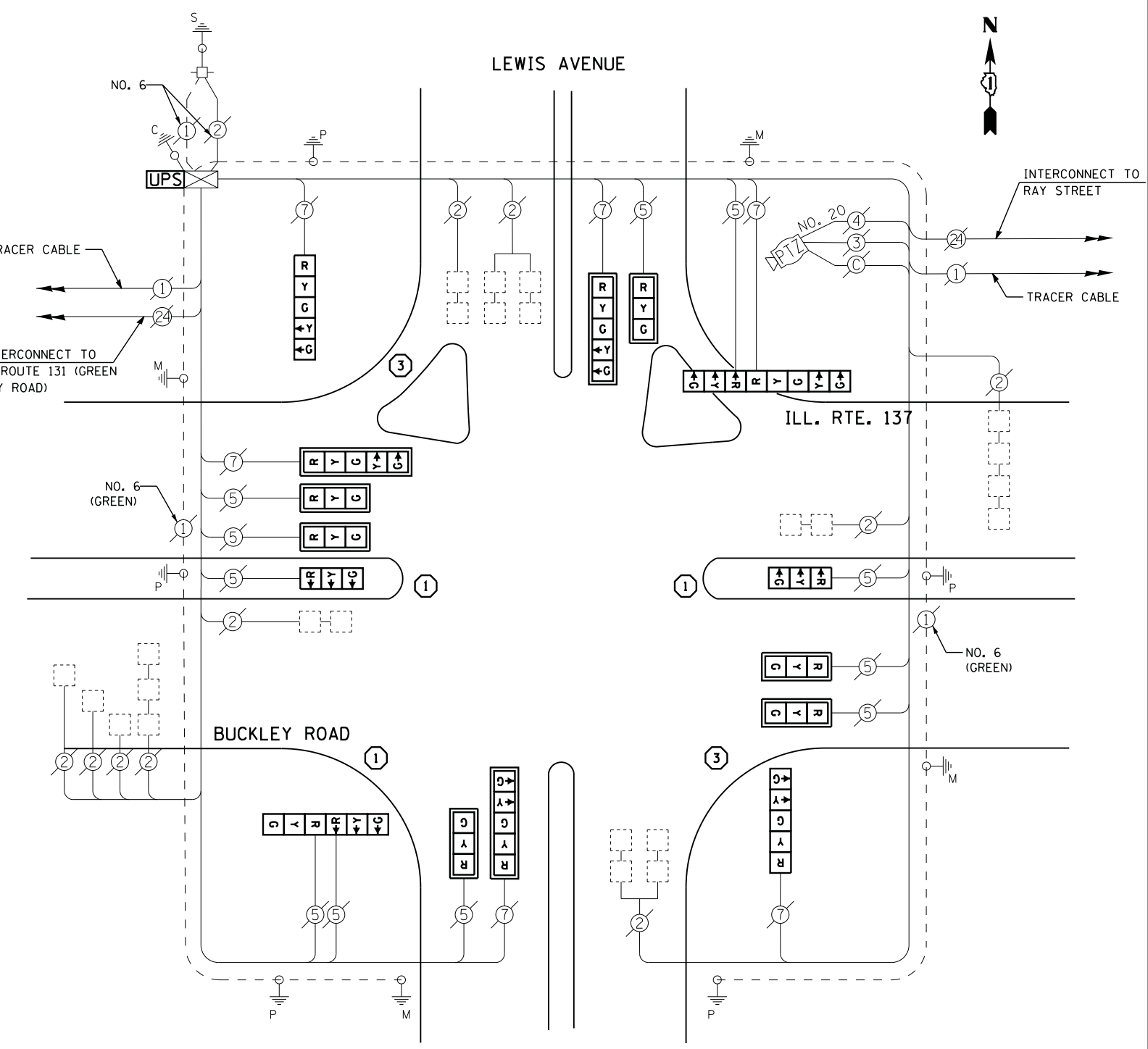
**PHASE DESIGNATION DIAGRAM**

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
C	= 6	+ 7

**LEGEND**

- ←\*→ DUAL ENTRY PHASE
- ←\*→ PEDESTRIAN PHASE
- ←\*→ SINGLE ENTRY PHASE
- ←\*→ OL OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE



**CABLE PLAN**

- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
3	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
9	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

11	EACH	SIGNAL HEAD, 3 - SECTION
6	EACH	SIGNAL HEAD, 5 - SECTION
9	EACH	TRAFFIC SIGNAL BACKPLATE
5	EACH	SIGNAL POST

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	17	135	17	0.50	145
( YELLOW )	17	135	25	0.25	106
( GREEN )	17	135	15	0.25	64
ARROW	12	135	12	0.10	14
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					579

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\07160.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

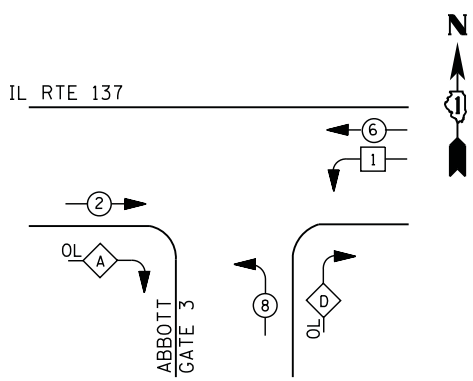
ILLINOIS RTE 137 (BUCKLEY RD) AT LEWIS AVENUE  
 SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

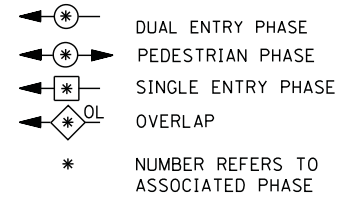
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	52
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 7160  
 NORTH CHICAGO

**CONTROLLER SEQUENCE**



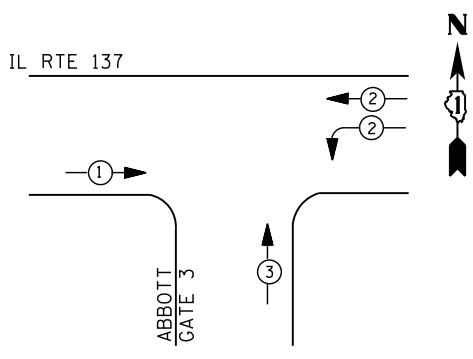
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A =	2 +	8 -	2
D =	8 +	1 -	

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	1	2	3
MOVEMENT	→	←	↔

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

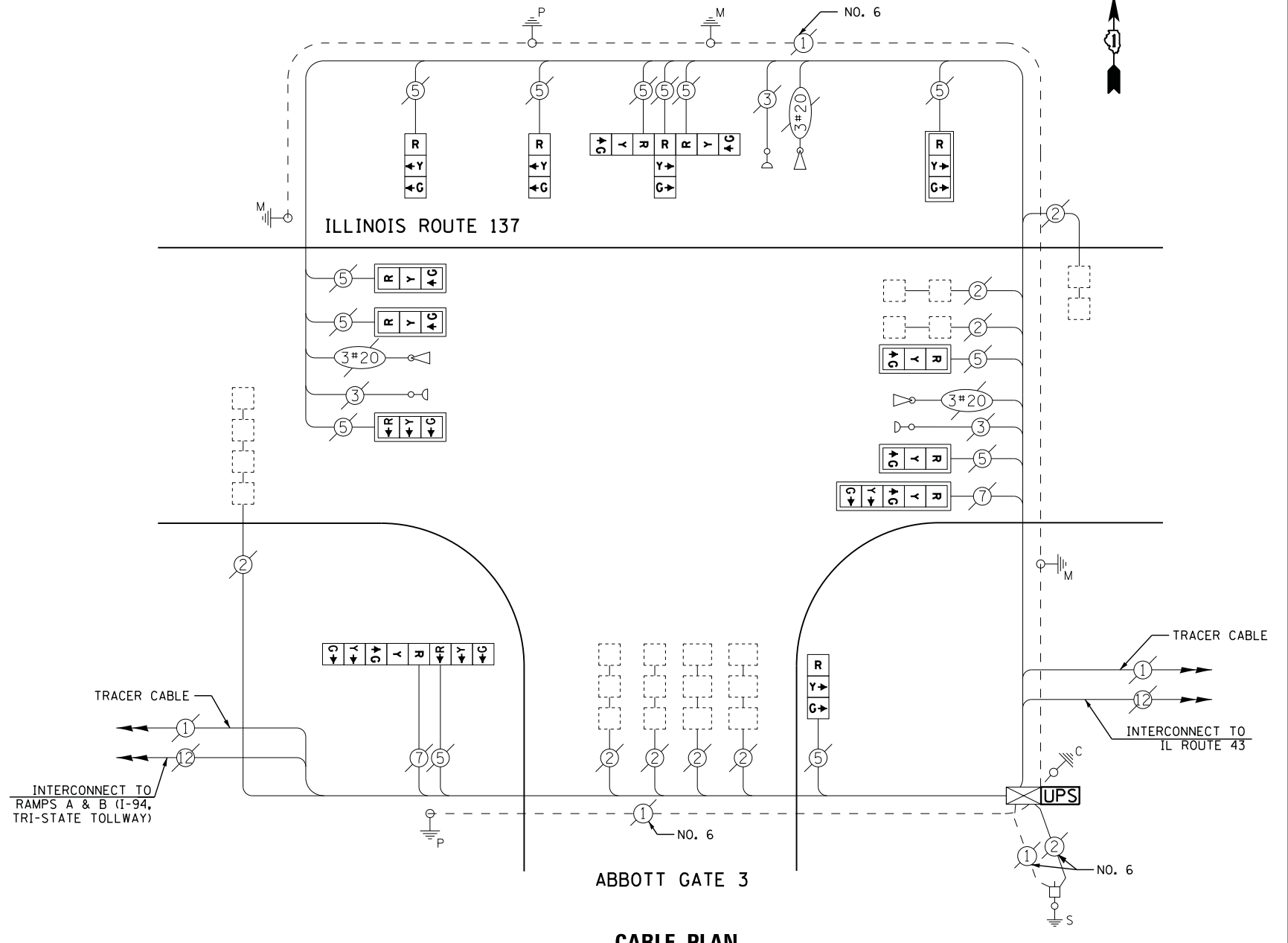
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	15	135	17	0.50	128
( YELLOW )	15	135	25	0.25	94
( GREEN )	15	135	15	0.25	56
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					383

ENERGY COSTS- BILLED TO: CITY OF NORTH CHICAGO  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED RETROFIT



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\07125_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

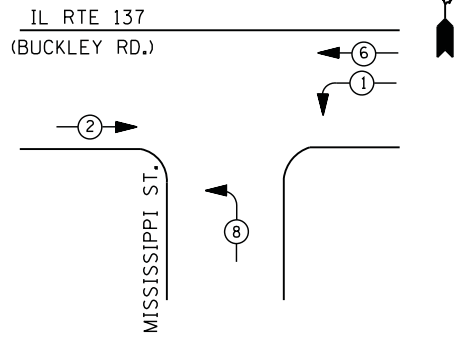
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

<b>IL ROUTE 137 AT ABBOTT NO ENTRANCE /GATE 3</b>			
<b>SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE</b>			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	53
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

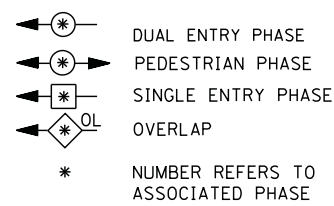
TS# 7125  
 NORTH CHICAGO

**CONTROLLER SEQUENCE**

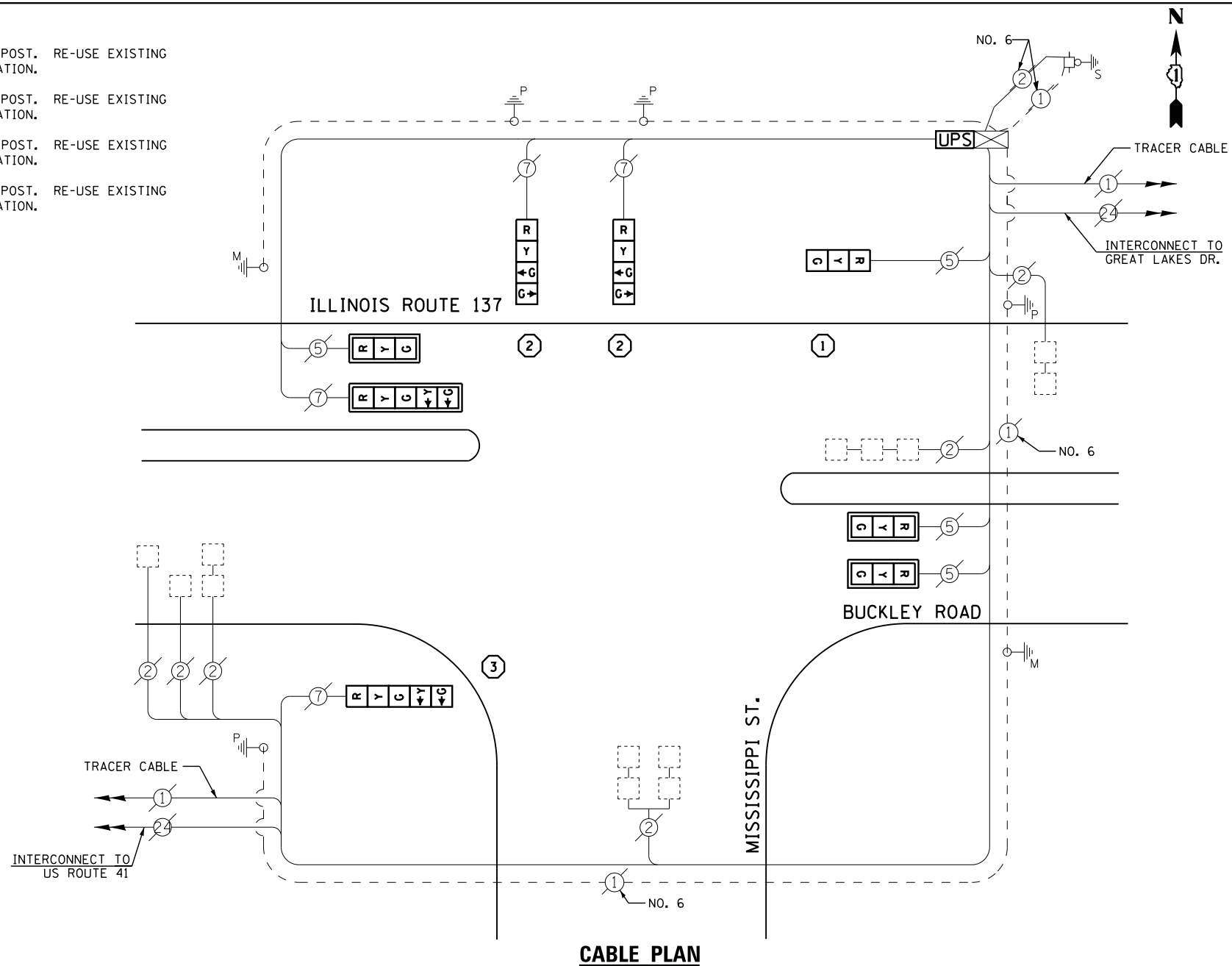


**PHASE DESIGNATION DIAGRAM**

**LEGEND**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING  
TYPE A CONCRETE FOUNDATION.



**CABLE PLAN**

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	8	135	17	0.50	68
( YELLOW )	8	135	25	0.25	50
( GREEN )	10	135	15	0.25	38
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					261

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 15 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	SIGNAL HEAD, 3 - SECTION
2	EACH	SIGNAL HEAD, 4 - SECTION
2	EACH	SIGNAL HEAD, 5 - SECTION
4	EACH	TRAFFIC SIGNAL BACKPLATE
4	EACH	SIGNAL POST

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME	USER NAME	DESIGNED	REVISED
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		DRAWN	JDH
		CHECKED	KMM
		DATE	-

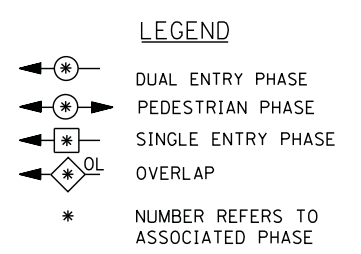
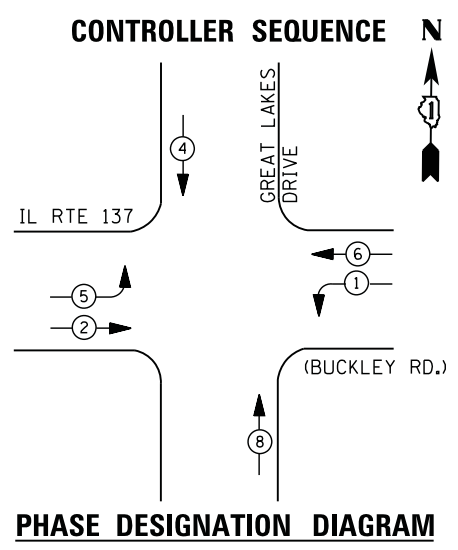
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 137 (BUCKLEY RD.) AT MISSISSIPPI STREET  
 SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM**

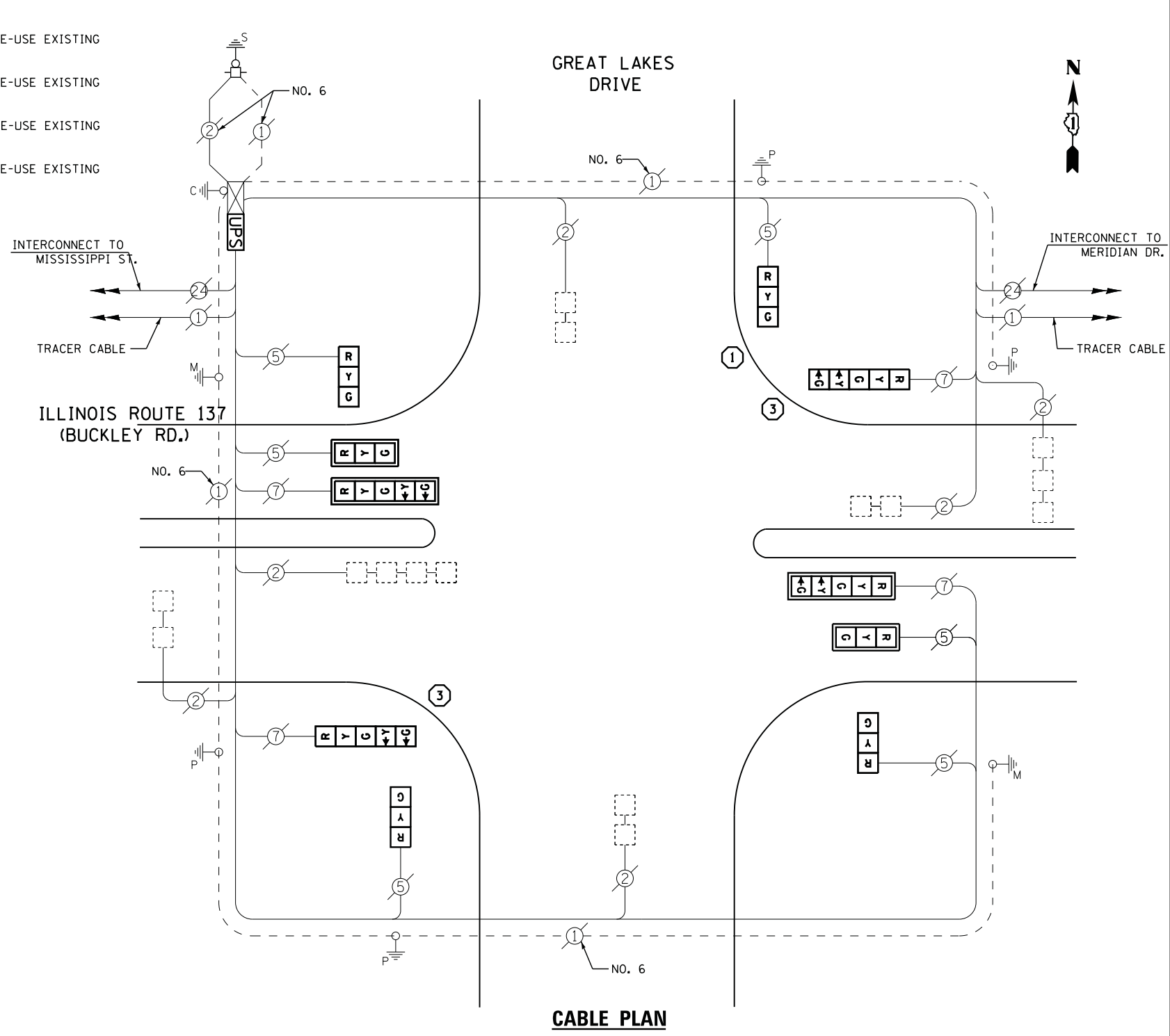
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	54
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 7120  
 NORTH CHICAGO



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.



I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					296

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	SIGNAL HEAD, 3 - SECTION
4	EACH	SIGNAL HEAD, 5 - SECTION
4	EACH	TRAFFIC SIGNAL BACKPLATE
3	EACH	SIGNAL POST

FILE NAME =	USER NAME = sUSERs	DESIGNED - DW	REVISED -
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	PLOT DATE = 5/16/2012	DATE -	REVISED -

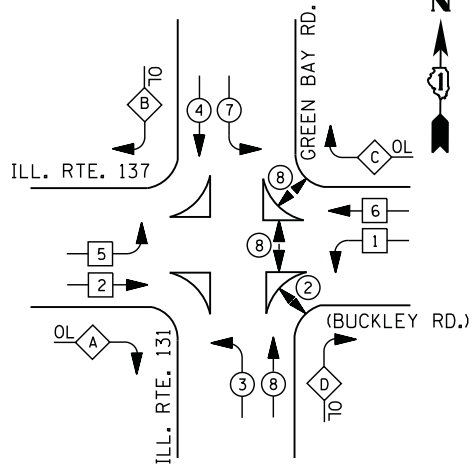
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

IL ROUTE 137 (BUCKLEY ROAD) AT GREAT LAKES DRIVE SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	55
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 7115  
 NORTH CHICAGO

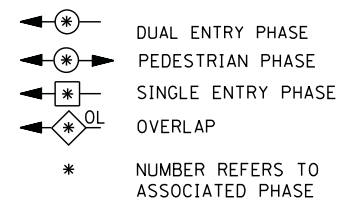
**CONTROLLER SEQUENCE**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ⑤ REPLACE 10 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**PHASE DESIGNATION DIAGRAM**

**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2	+ 3
B =	4	+ 5
C =	6	+ 7
D =	8	+ 1

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

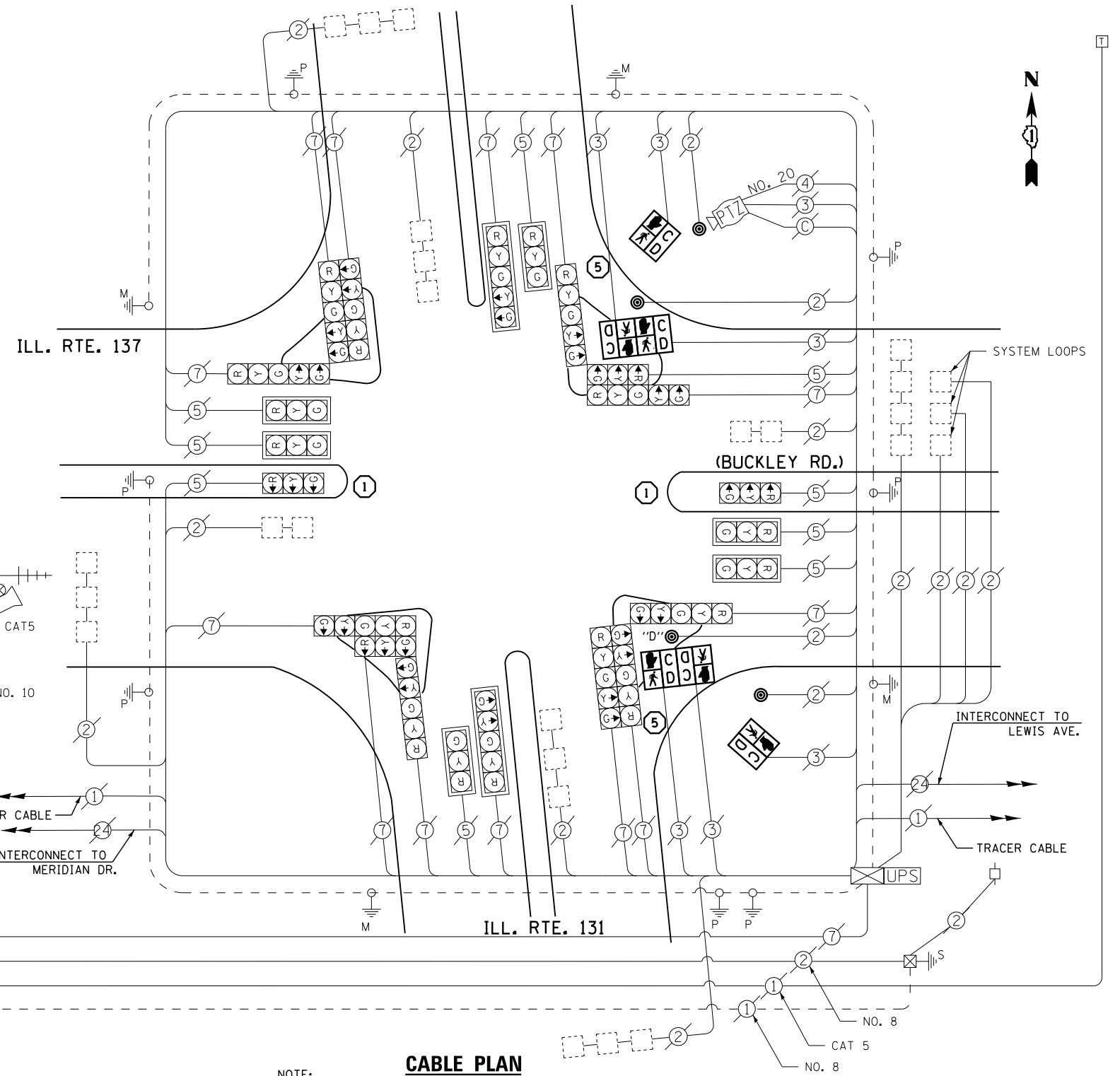
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	22	135	17	0.50	187
(YELLOW)	22	135	25	0.25	138
(GREEN)	22	135	15	0.25	83
ARROW	24	135	12	0.10	29
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					837

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096  
 CONTACT FERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	RELOCATE EXISTING SIGNAL HEAD
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**(GREEN BAY ROAD)**



**CABLE PLAN**

NOTE: PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	PEDESTRIAN SIGNAL HEAD
4	EACH	PEDESTRIAN PUSH-BUTTON
4	EACH	SIGNAL POST

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\07015-CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>IL RTE 131 (GREEN BAY RD) AT IL RTE 137 (BUCKLEY RD)</b>			
<b>SCHEDULE OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM</b>			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

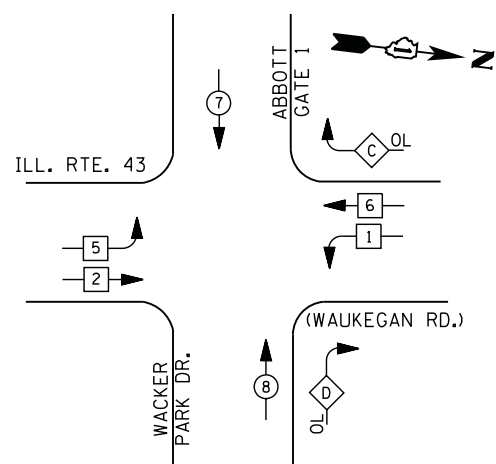
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	56
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 7015  
 NORTH CHICAGO

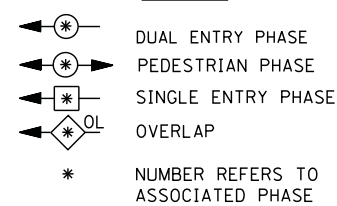




**CONTROLLER SEQUENCE**



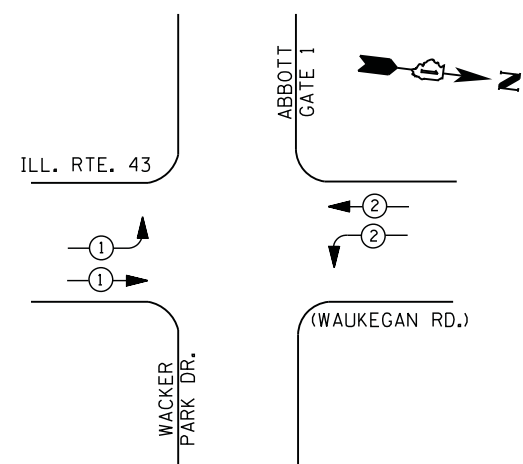
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
C	= 6	+ 7	- 6
D	= 8	+ 1	- 8

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT		

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

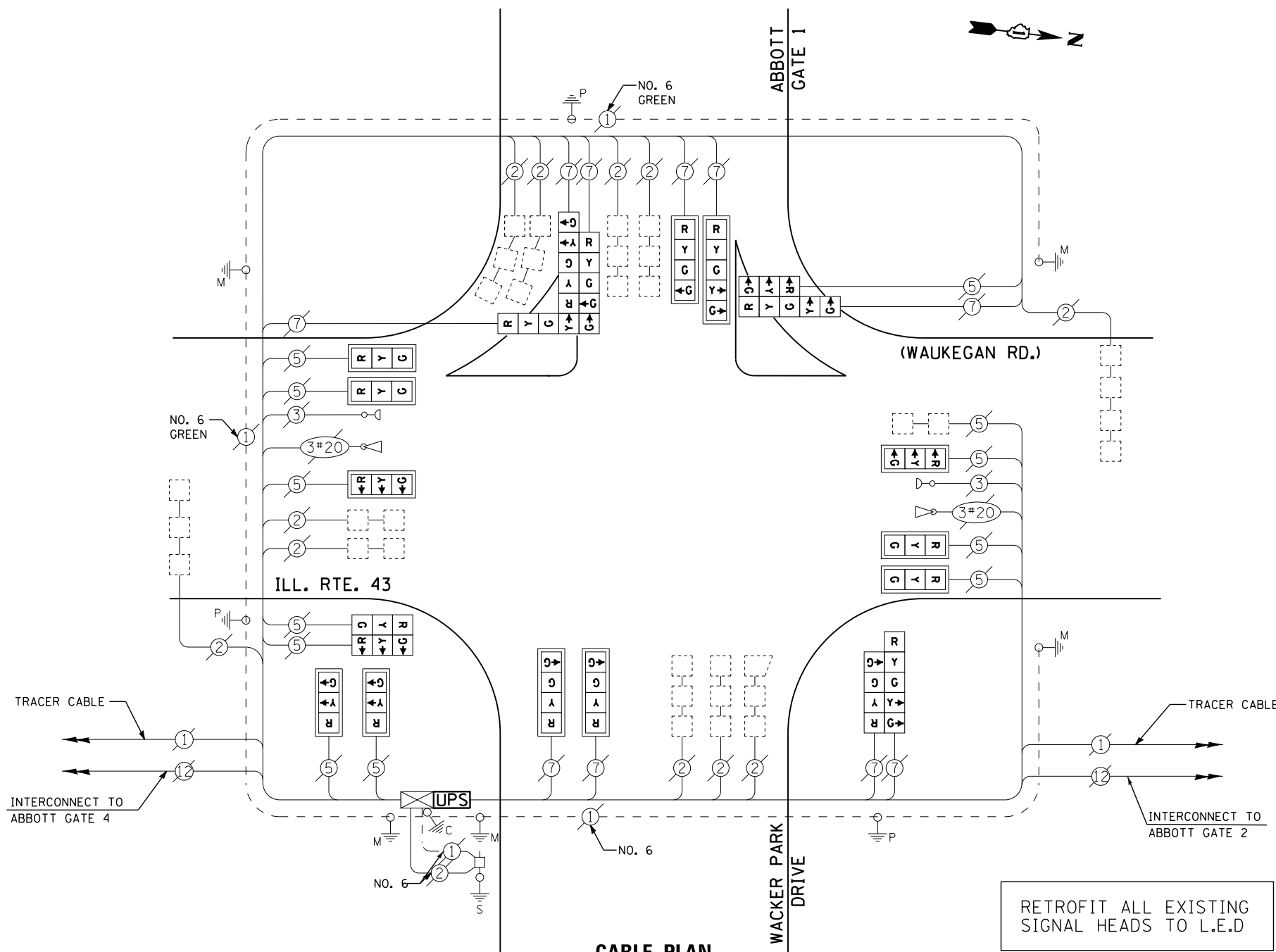
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	21	135	17	0.50	179
(YELLOW)	21	135	25	0.25	131
(GREEN)	26	135	15	0.25	98
ARROW	10	135	12	0.10	12
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					520

ENERGY COSTS- BILLED TO: CITY OF NORTH CHICAGO  
 1850 LEWIS AVE  
 NORTH CHICAGO, IL 60064  
 ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
12	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
8	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-4 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 2-5 SECTION, 1-4 SECTION, BRACKET MOUNTED, RETROFIT

**CABLE PLAN**



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

12 EACH TRAFFIC SIGNAL BACKPLATE

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\06815-CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

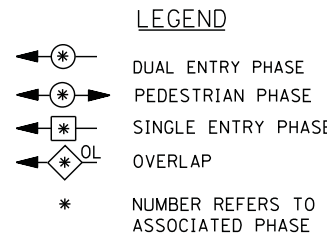
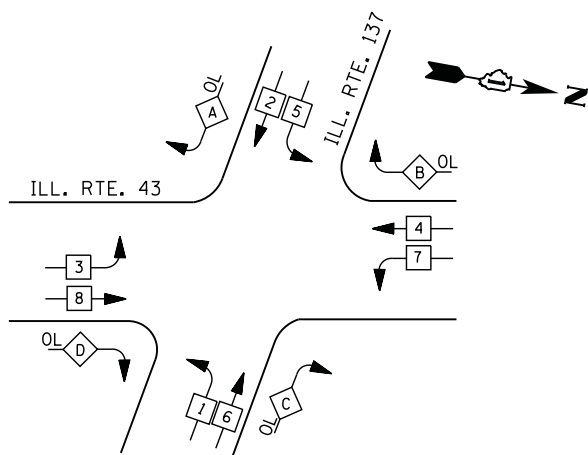
IL ROUTE 43 (WAUKEGAN RD.) AT ABBOTT LABS GATE 1/WACKER PARK DR.  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	58
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 6815  
 NORTH CHICAGO

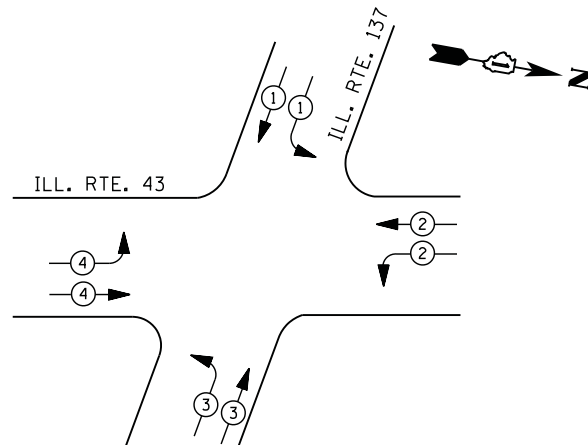
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A =	2 +	3 -	2
B =	4 +	5 -	4
C =	6 +	7 -	6
D =	8 +	1 -	8

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	1	2	3	4
MOVEMENT				

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	26	135	17	0.50	221
(YELLOW)	26	135	25	0.25	163
(GREEN)	26	135	15	0.25	98
ARROW	14	135	12	0.10	17
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					599

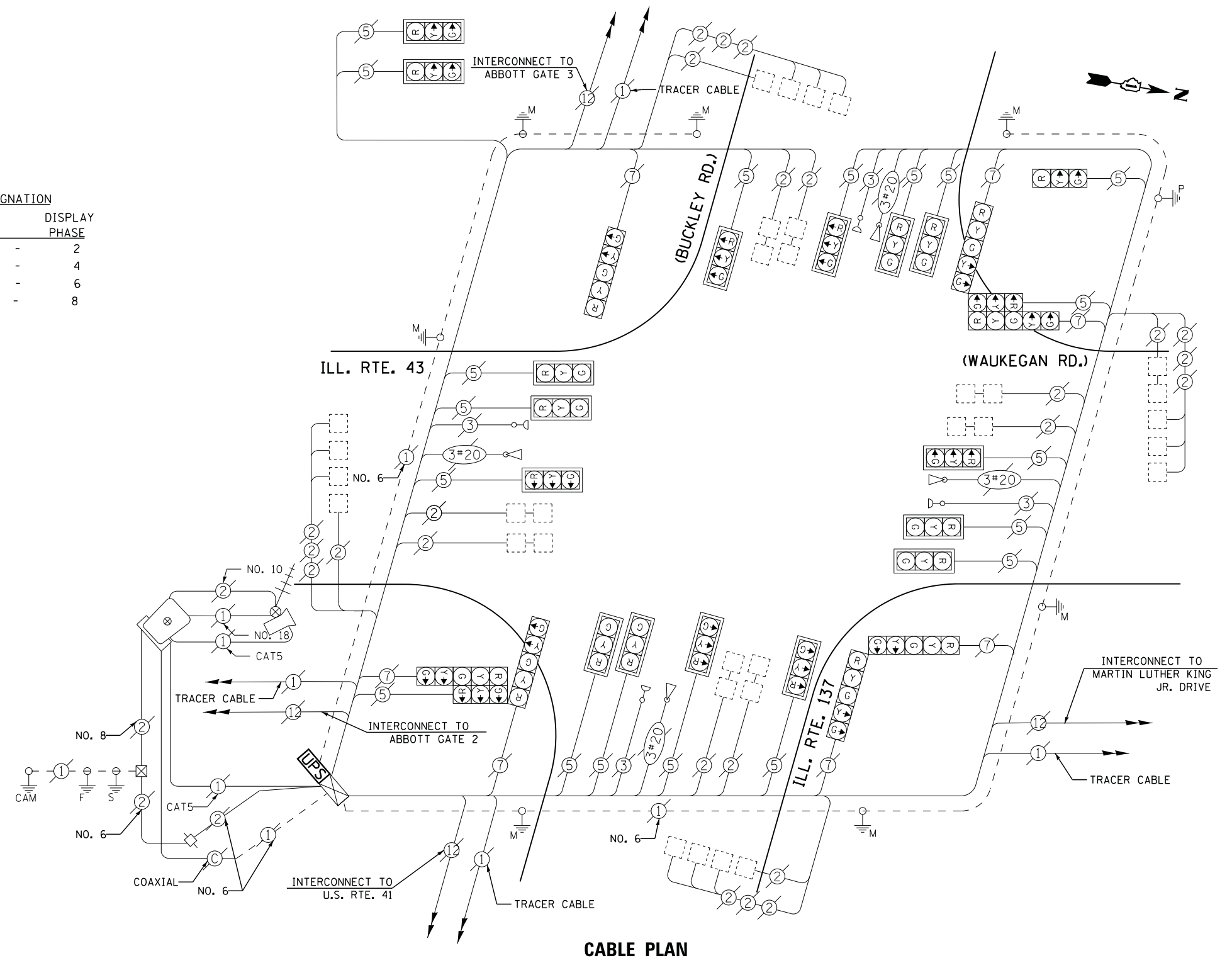
ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE **847-816-5239**  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = *USERS*	DESIGNED - DW	REVISED -
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	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

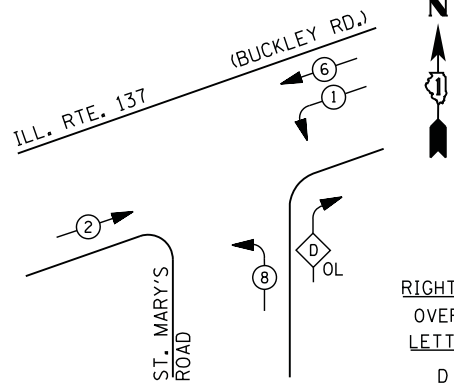
**IL RTE 43 (WAUKEGAN RD) AT IL RTE 137 (BUCKLEY RD)**  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	59
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 6800  
 NORTH CHICAGO

**CONTROLLER SEQUENCE**

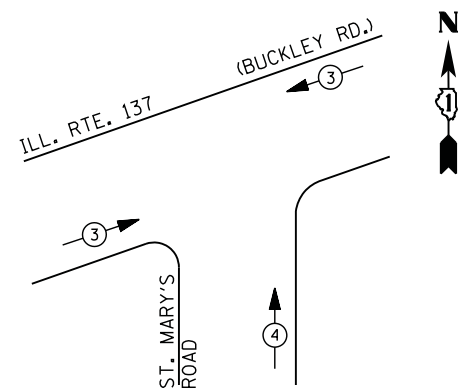


**RIGHT TURN OVERLAP PHASE DESIGNATION**  
 OVERLAP PERMISSIVE PROTECTED  
 LETTER PHASE PHASE  
 D = 8 + 1

**LEGEND**

- ⊙ (with arrow) DUAL ENTRY PHASE
- ⊙ (with pedestrian symbol) PEDESTRIAN PHASE
- ⊙ (with arrow) SINGLE ENTRY PHASE
- ⊙ (with arrow and OL) OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



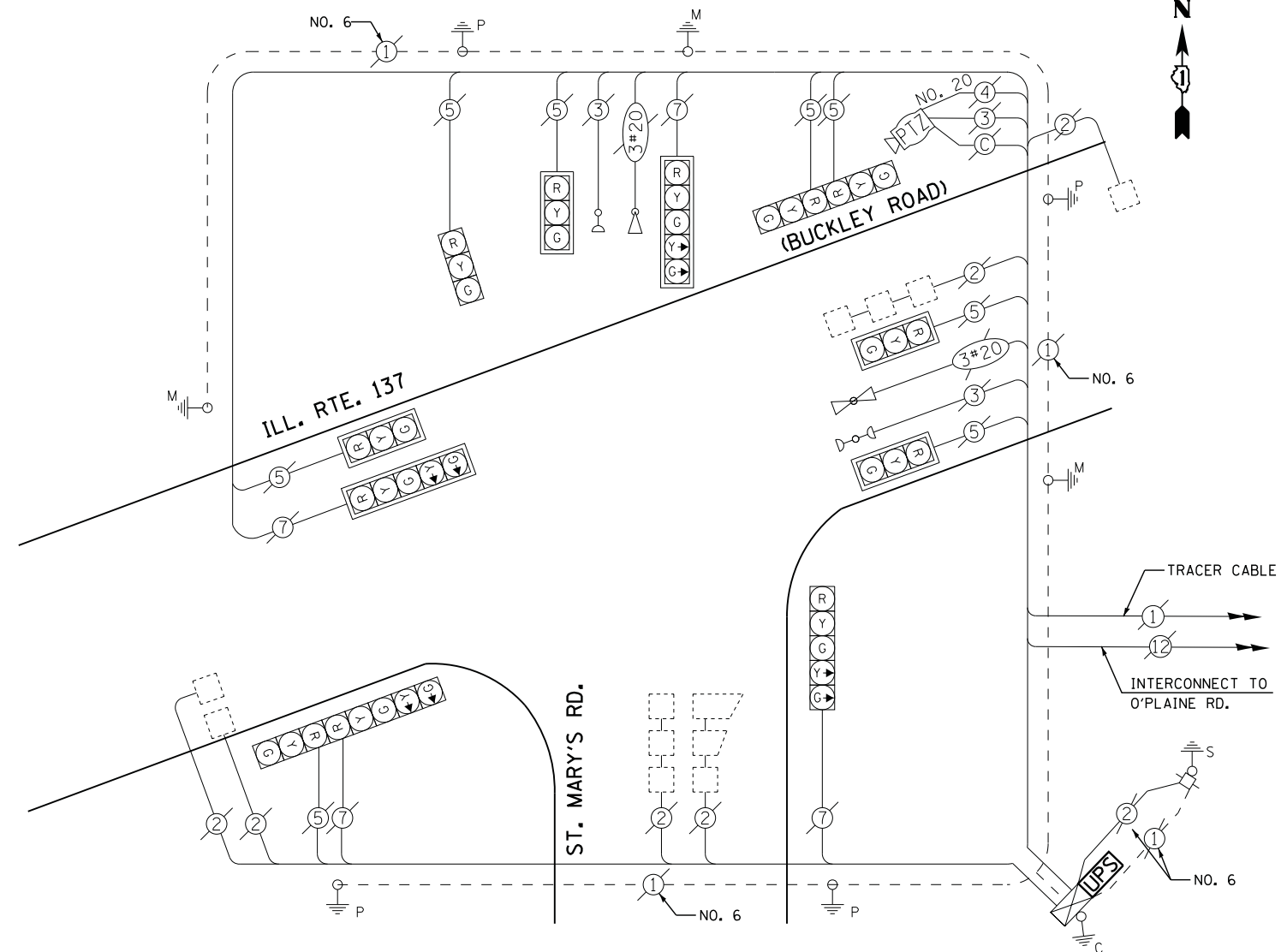
**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←→	↔

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
TOTAL =					482

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096  
 ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\07110_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
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	PLOT DATE = 5/16/2012	DATE -	REVISED -

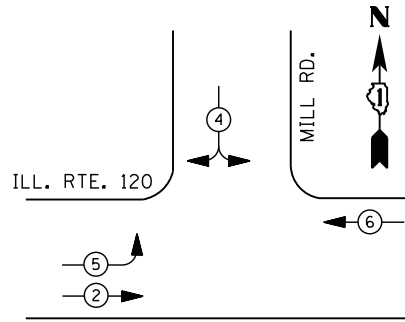
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL RTE 137 (BUCKLEY RD) AT ST MARY'S RD  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	60
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

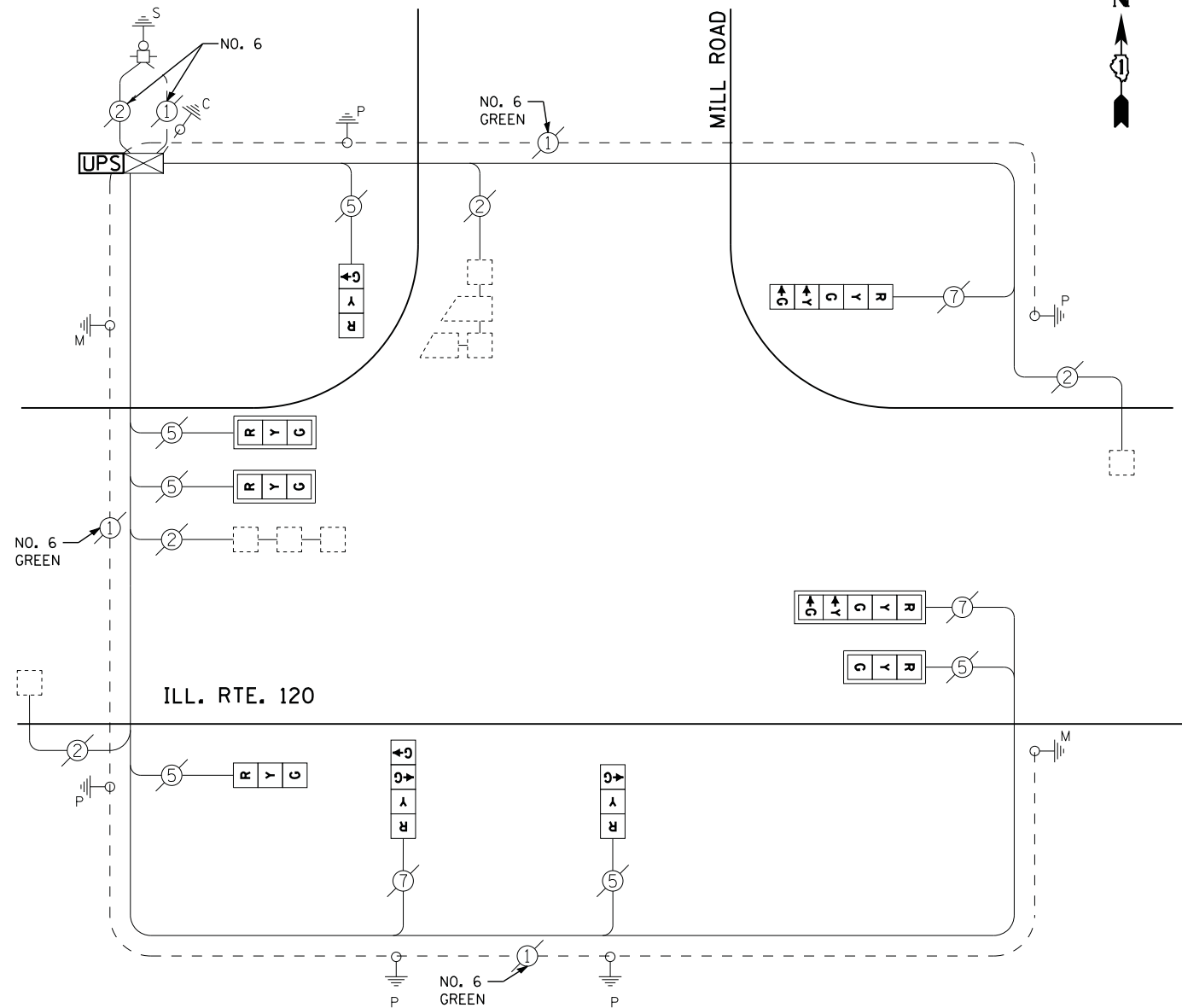
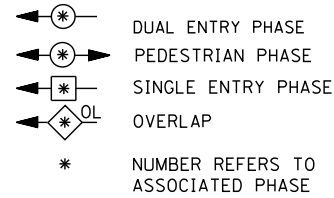
TS# 7110  
 UNINCORPORATED

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

**LEGEND**



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	9	135	17	0.50	77
( YELLOW )	9	135	25	0.25	56
( GREEN )	10	135	15	0.25	38
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					276

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
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	PLOT DATE = 5/16/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

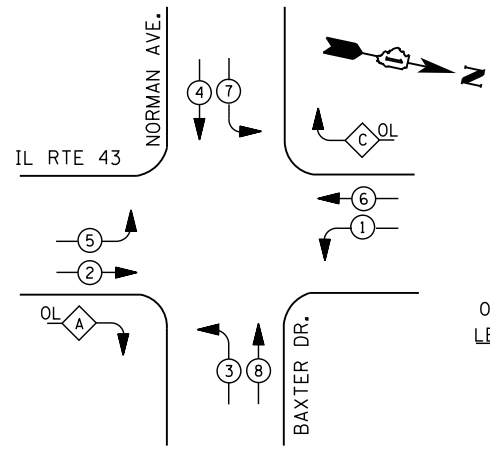
IL RTE 120 AT MILL ROAD  
 SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

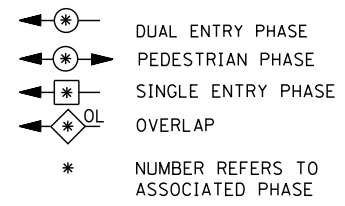
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	61
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 21969  
 WARREN ROAD DISTRICT

**CONTROLLER SEQUENCE**



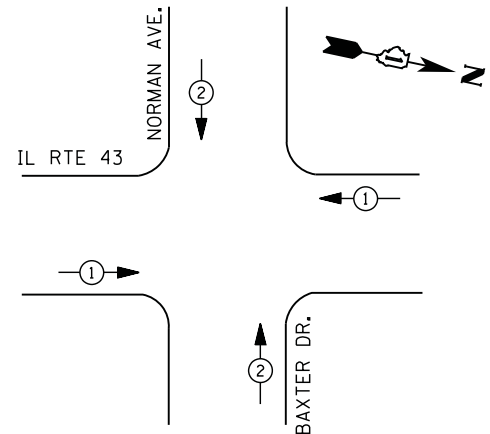
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A =	2 +	3 -	2
C =	6 +	7 -	6

**PHASE DESIGNATION DIAGRAM**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	1	2
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	24	135	12	0.10	29
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					389

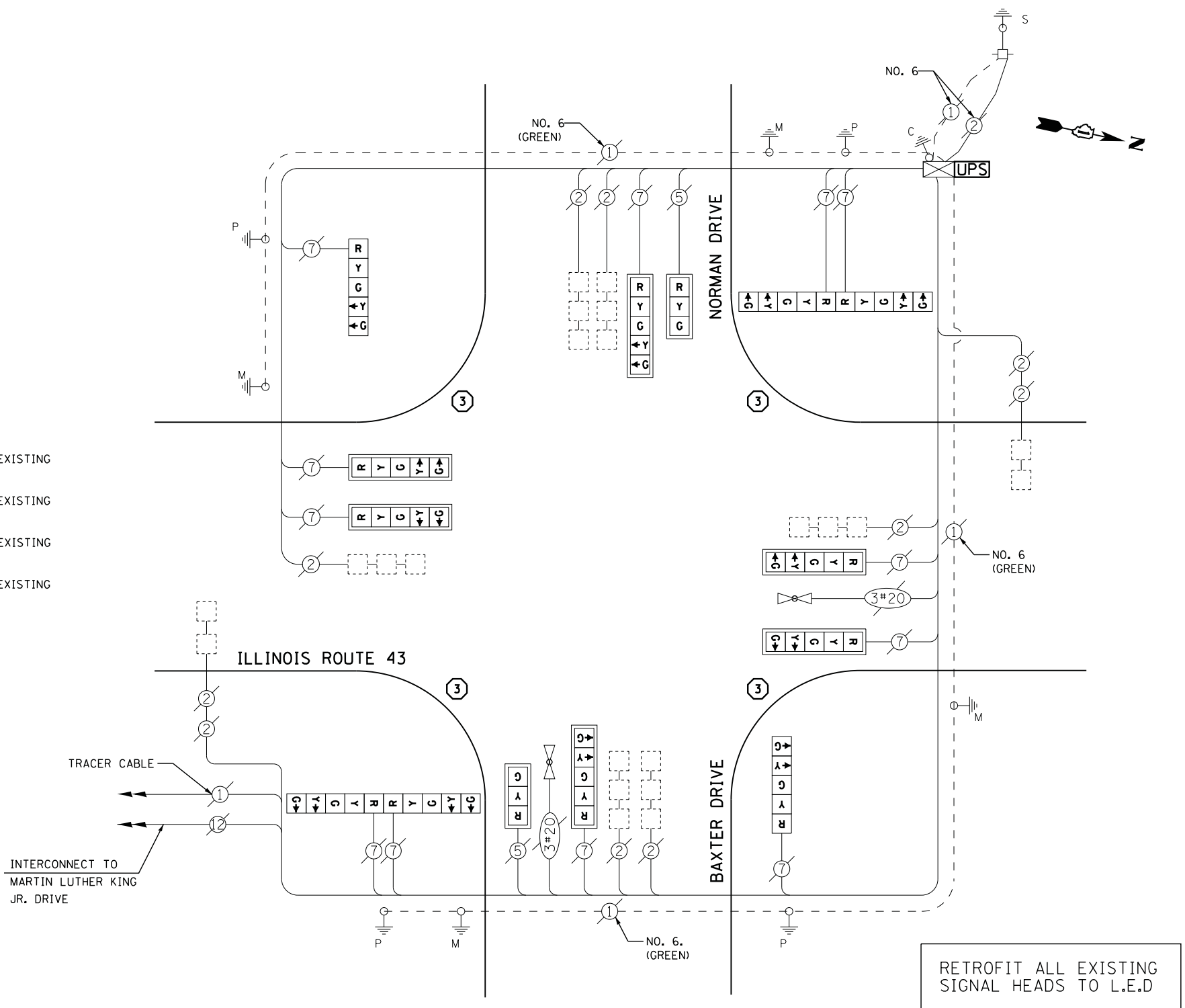
ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
6	EACH	RELOCATE EXISTING SIGNAL HEAD
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

**CABLE PLAN**



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

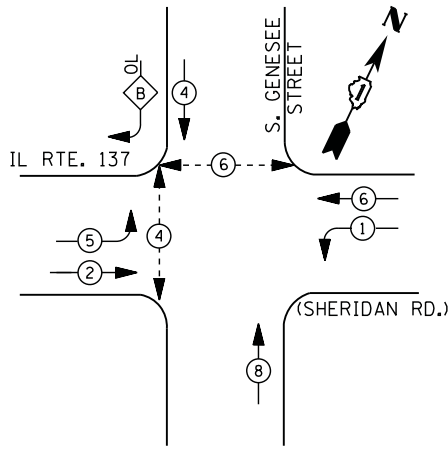
UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4 EACH SIGNAL POST

**CONTROLLER SEQUENCE**

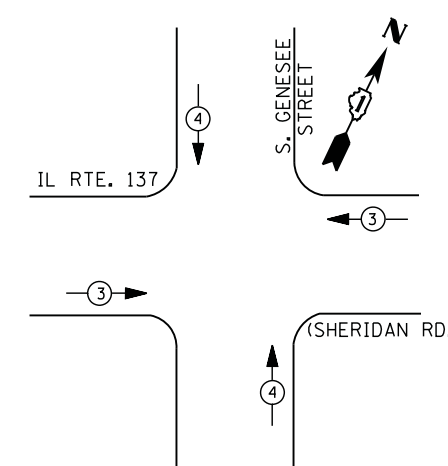


- LEGEND**
- ⊙ DUAL ENTRY PHASE
  - ⊙ PEDESTRIAN PHASE
  - ⊙ SINGLE ENTRY PHASE
  - ⊙ OVERLAP
  - \* NUMBER REFERS TO ASSOCIATED PHASE
- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	12	135	12	0.10	14
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	
VIDEO SYSTEM		150	-	1.00	
TOTAL =					455

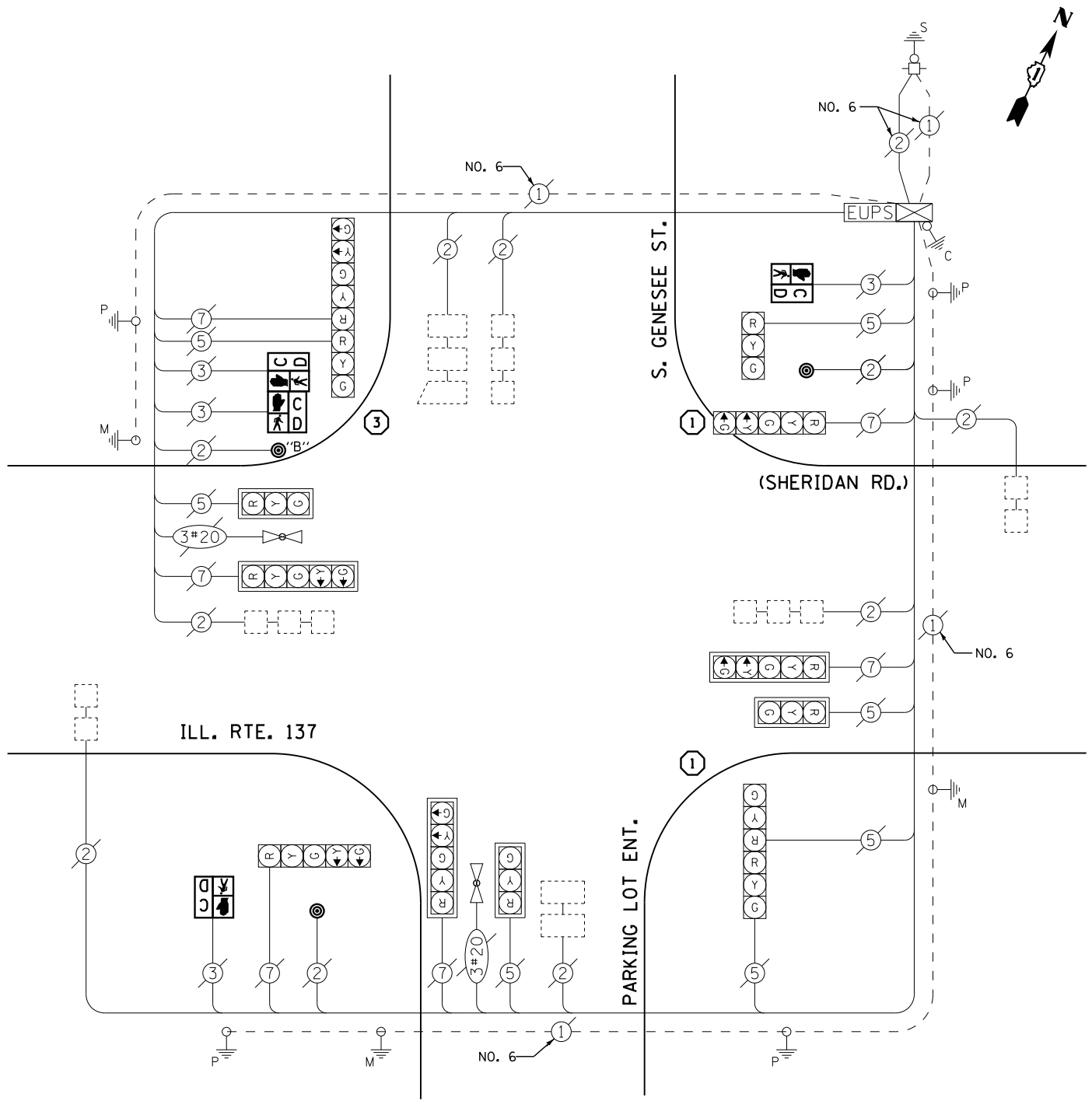
ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
5	EACH	RELOCATE EXISTING SIGNAL HEAD
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**CABLE PLAN**

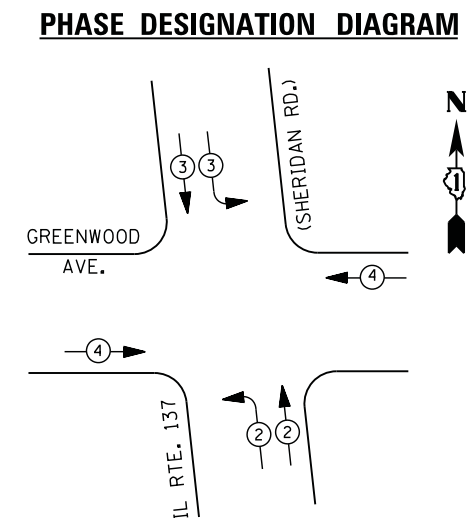
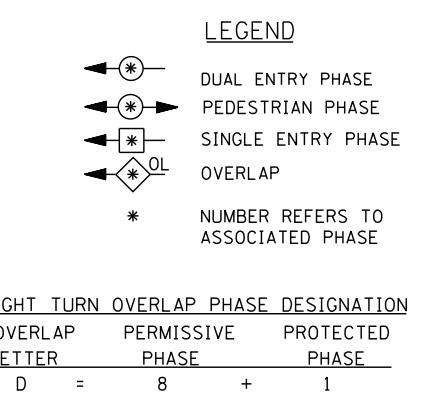
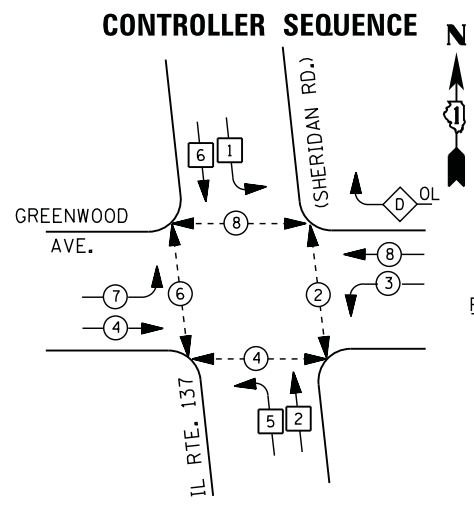


NOTES:  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
3	EACH	PEDESTRIAN PUSH-BUTTON
3	EACH	SIGNAL POST



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	2	3	4
MOVEMENT			

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	18	135	17	0.50	153
( YELLOW )	18	135	25	0.25	113
( GREEN )	18	135	15	0.25	68
ARROW	12	135	12	0.10	14
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					648

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT FERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

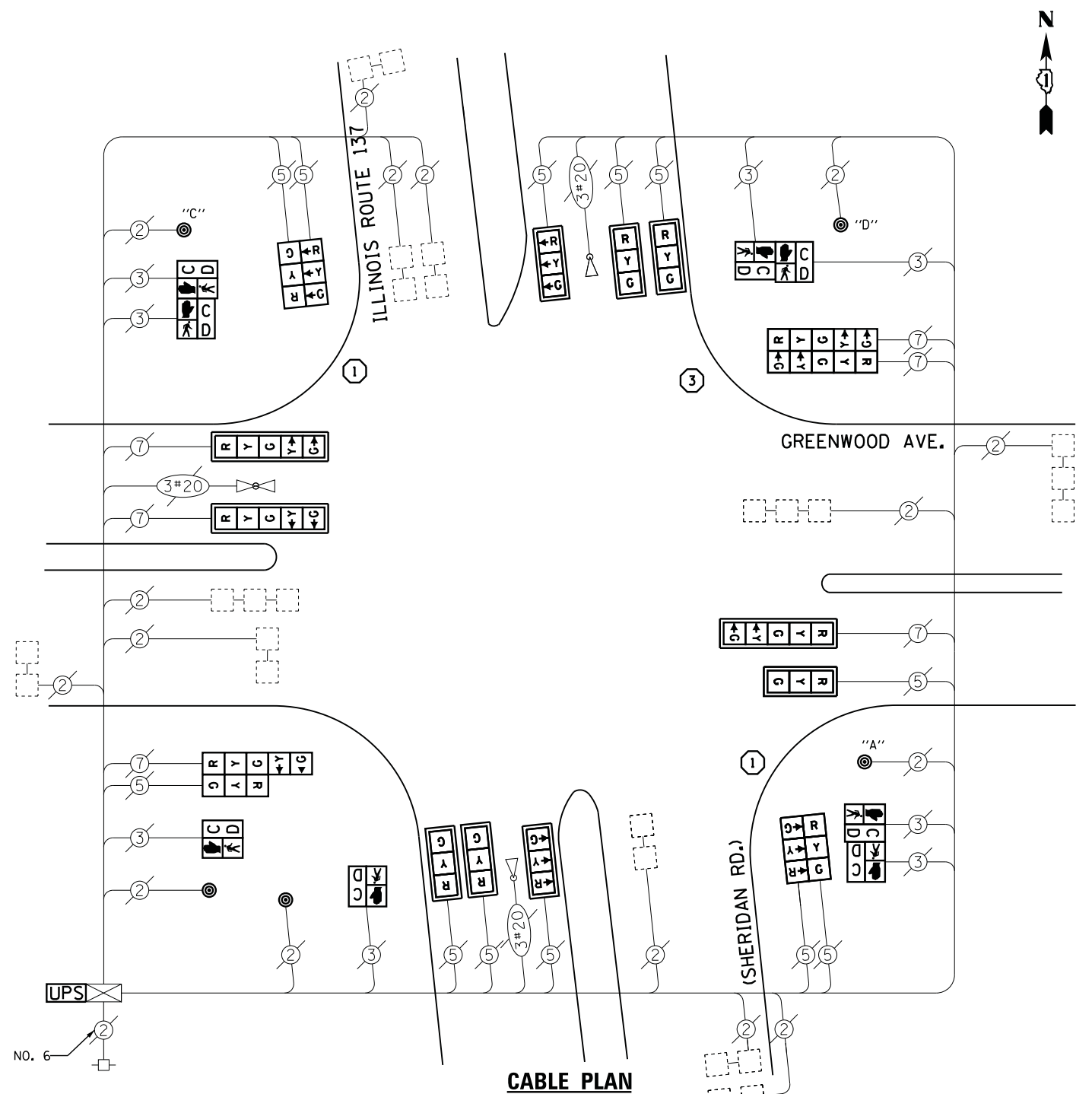
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 12 EACH SIGNAL HEAD, 3 - SECTION
- 6 EACH SIGNAL HEAD, 5 - SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 5 EACH PEDESTRIAN PUSH-BUTTON
- 10 EACH TRAFFIC SIGNAL BACKPLATE
- 3 EACH SIGNAL POST

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
7	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\15060.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

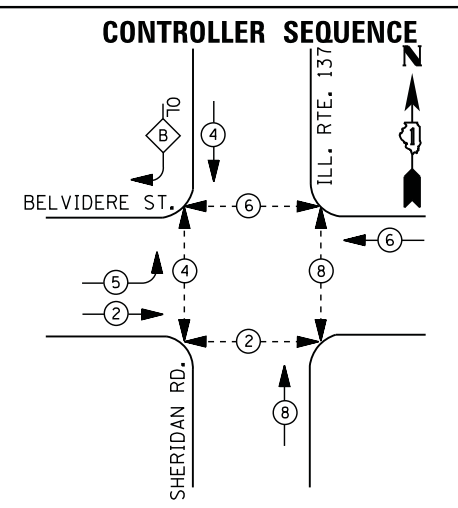
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

IL RTE. 137 (SHERIDAN RD.) AT GREENWOOD AVENUE SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	64
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 15060  
 WAUKEGAN



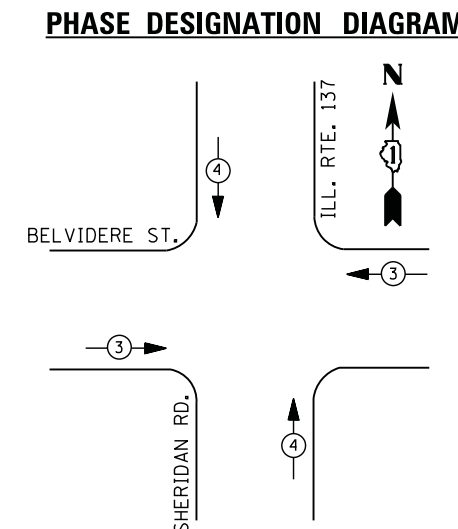


**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

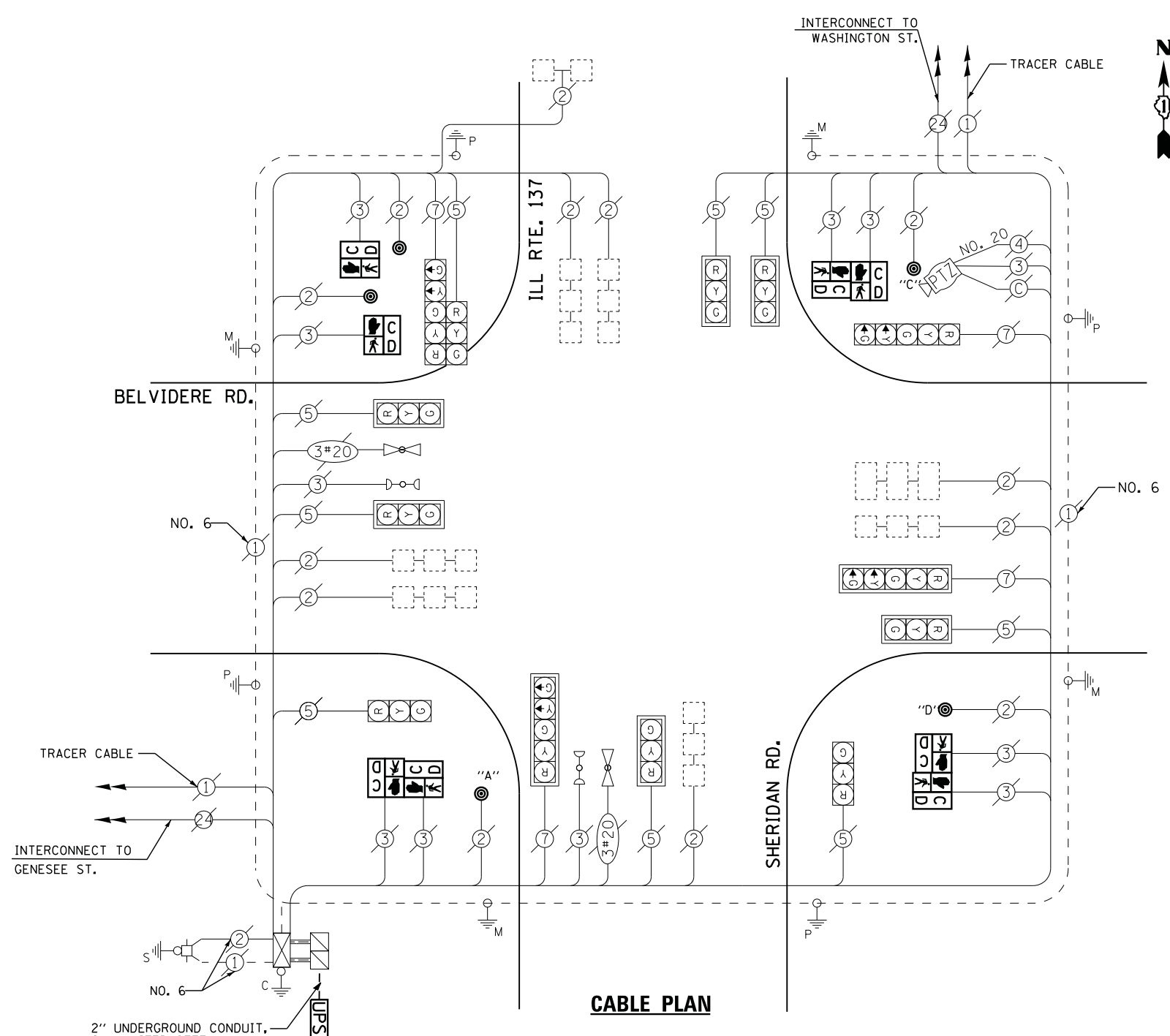
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	13	135	17	0.50	111
(YELLOW)	13	135	25	0.25	81
(GREEN)	13	135	15	0.25	49
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					701

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	DRILL EXISTING HANDHOLE
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, GROUND MOUNTED
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

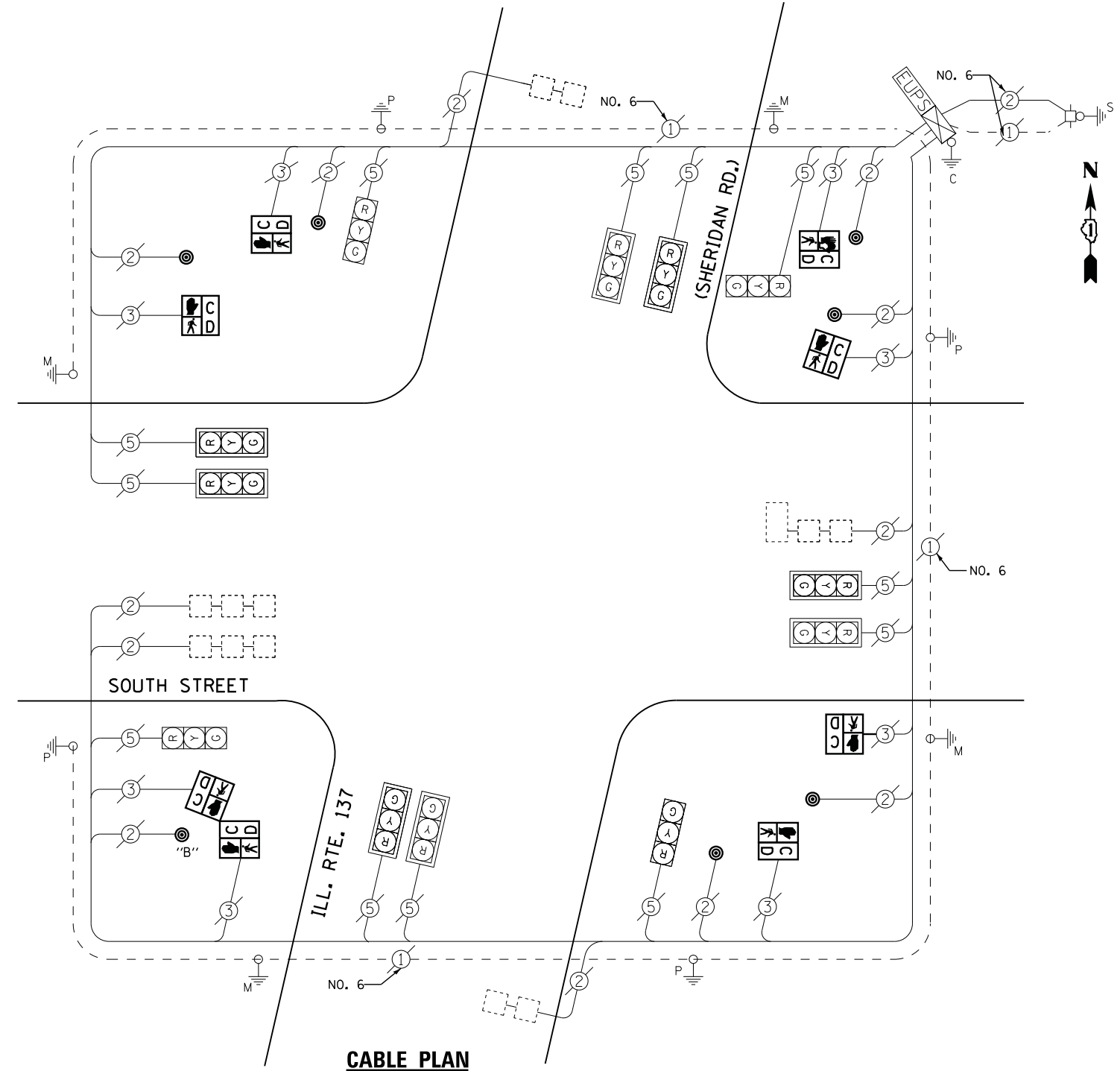
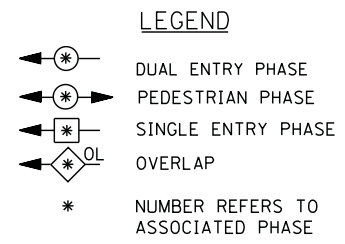
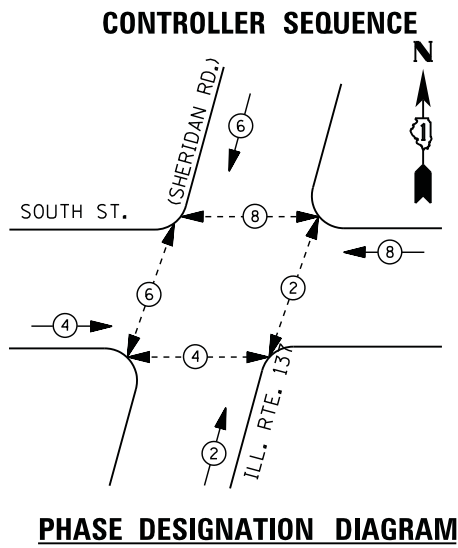


NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASE 2 AND 4  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASE 6 AND 8  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASE 2 AND 8.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
5	EACH	PEDESTRIAN PUSH-BUTTON



NOTES:  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	0	135	12	0.10	--
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	--	252	25	0.05	--
VIDEO SYSTEM	--	150	-	1.00	--
FLASHER LED					
TOTAL =					522

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 7 EACH PEDESTRIAN PUSH-BUTTON

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\15030.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

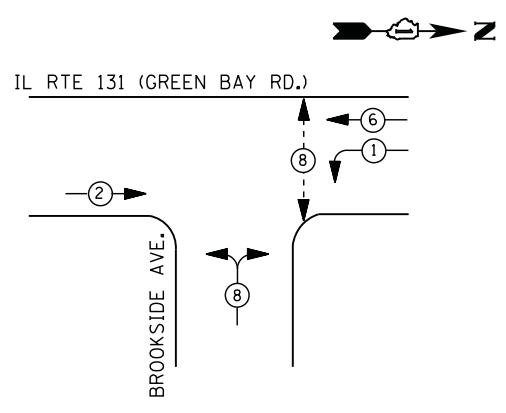
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>IL ROUTE 137 (SHERIDAN RD.) AT SOUTH STREET          SCHEDULE OF QUANTITIES, CABLE PLAN          AND PHASE DESIGNATION DIAGRAM</b>			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

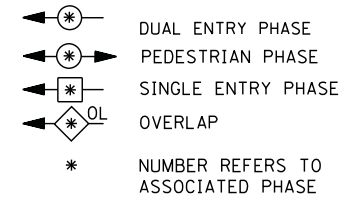
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	66
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 15030  
 WAUKEGAN

**CONTROLLER SEQUENCE**

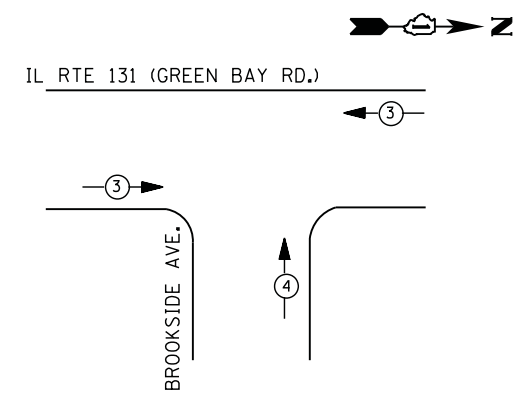


**LEGEND**



- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

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

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

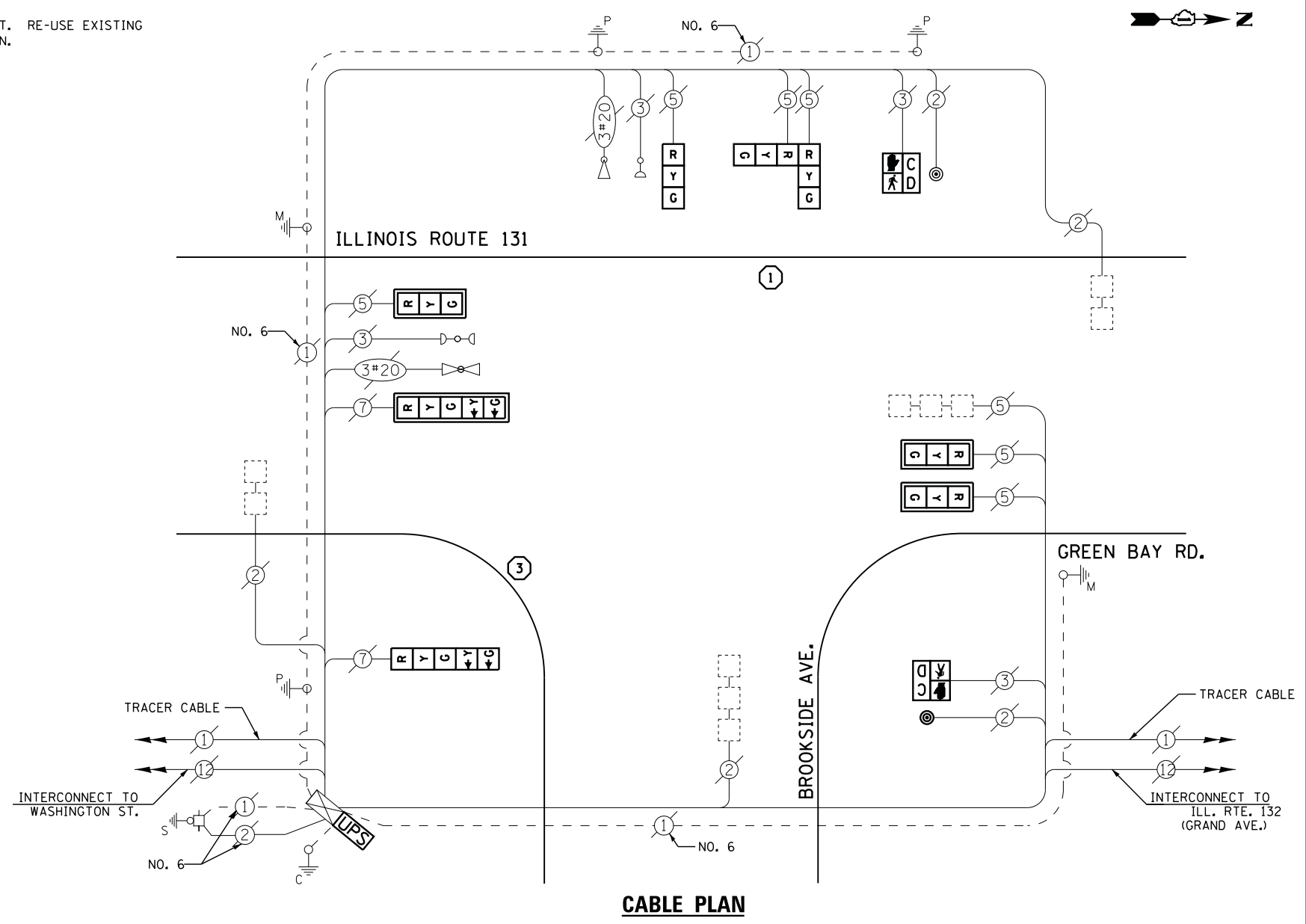
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	8	135	17	0.50	68
(YELLOW)	8	135	25	0.25	50
(GREEN)	8	135	15	0.25	30
ARROW	4	135	12	0.10	5
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					303

ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	SIGNAL HEAD, 3 - SECTION
2	EACH	SIGNAL HEAD, 5 - SECTION
2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
4	EACH	TRAFFIC SIGNAL BACKPLATE
2	EACH	SIGNAL POST

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\15022.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

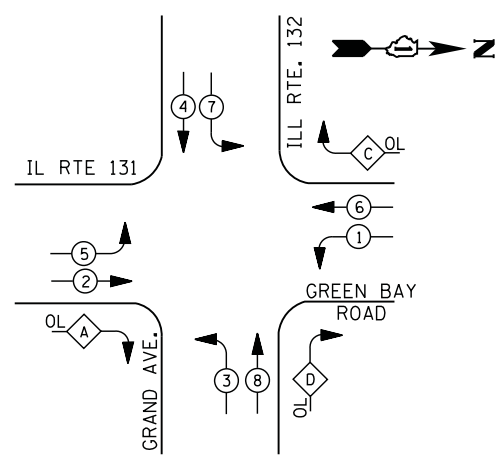
**IL ROUTE 131 (GREEN BAY RD) AT BROOKSIDE AVE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

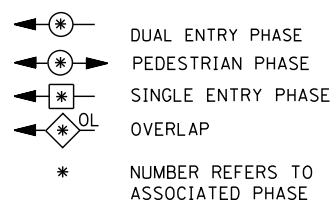
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	67
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 15022  
 WAUKEGAN

**CONTROLLER SEQUENCE**



**LEGEND**

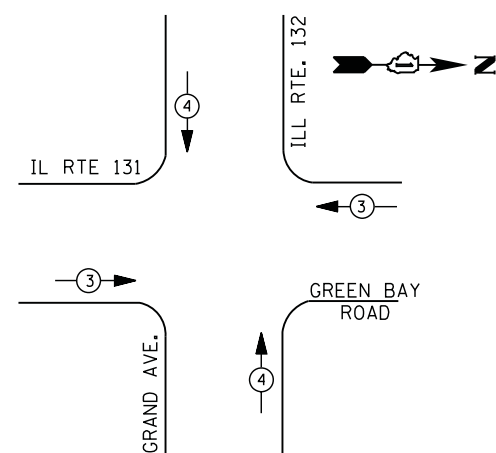


- ① REPLACE 14 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ② REPLACE 15 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ③ REPLACE 16 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- ④ REPLACE 18 FT. PAINTED POST. RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A	= 2	+ 3	- 2
C	= 6	+ 7	- 6
D	= 8	+ 1	- 8

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	16	135	17	0.50	136
( YELLOW )	16	135	25	0.25	100
( GREEN )	16	135	15	0.25	60
ARROW	28	135	12	0.10	34
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	150	1.00	150
FLASHER LED					
TOTAL =					580

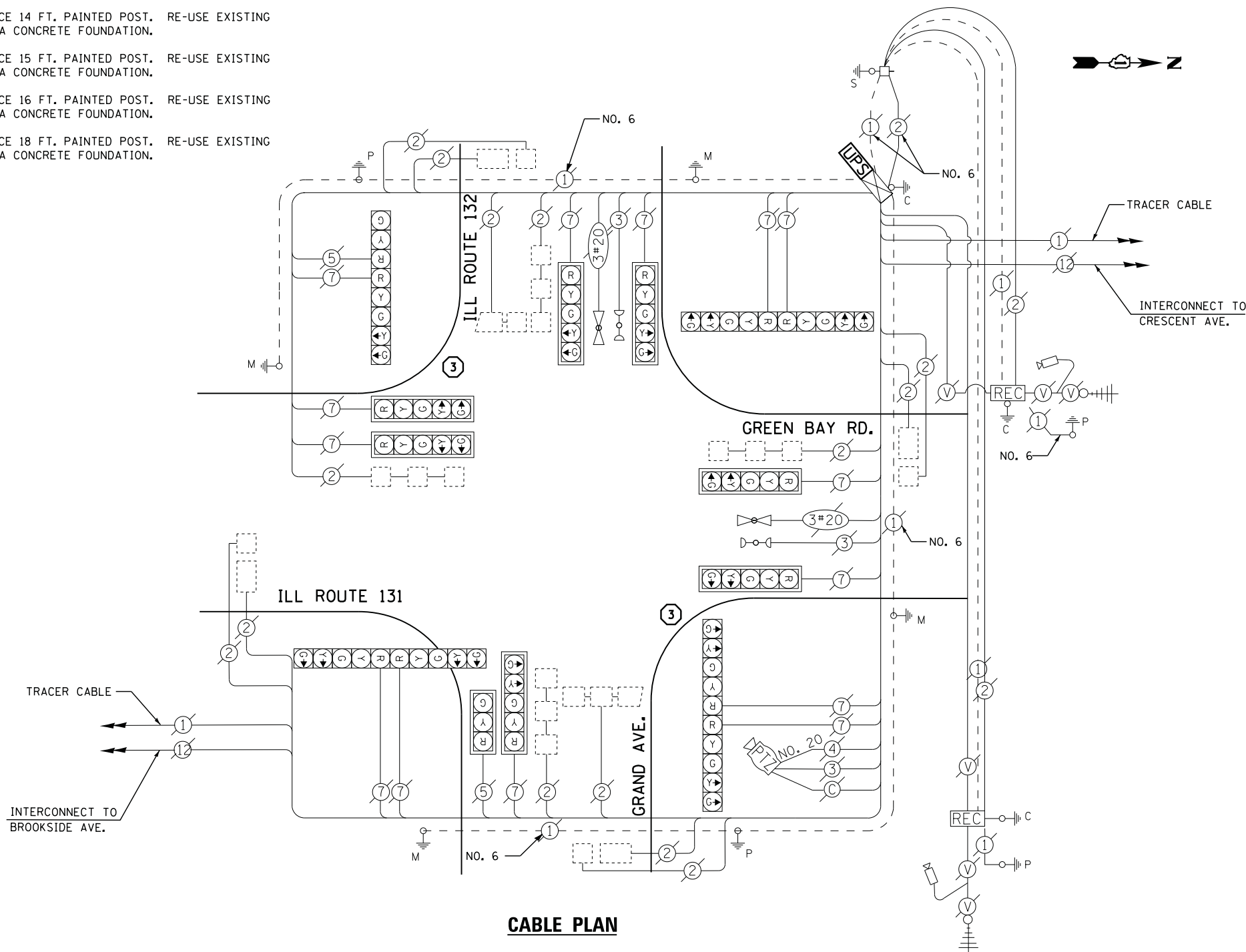
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT: TERRI BLECK  
 PHONE: 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
4	EACH	RELOCATE EXISTING SIGNAL HEAD
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**CABLE PLAN**



**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2 EACH SIGNAL POST

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\15020.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

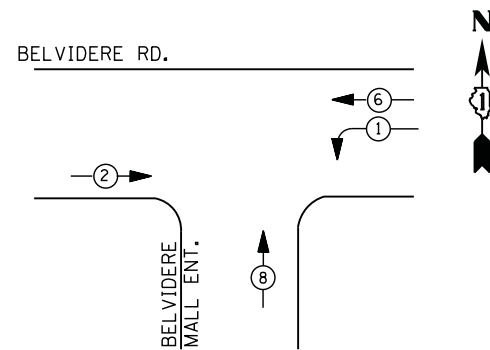
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>IL ROUTE 131 (GREEN BAY RD) AT ILL ROUTE 132 (GRAND AVE)        SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM        AND EMERGENCY VEHICLE PREEMPTION SEQUENCE</b>			
SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA. TO STA.

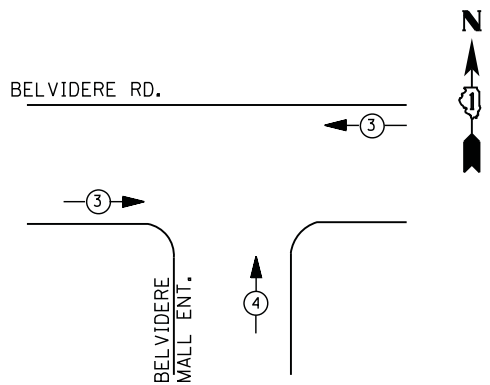
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	68
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 15020  
 WAUKEGAN

**PROPOSED CONTROLLER SEQUENCE**

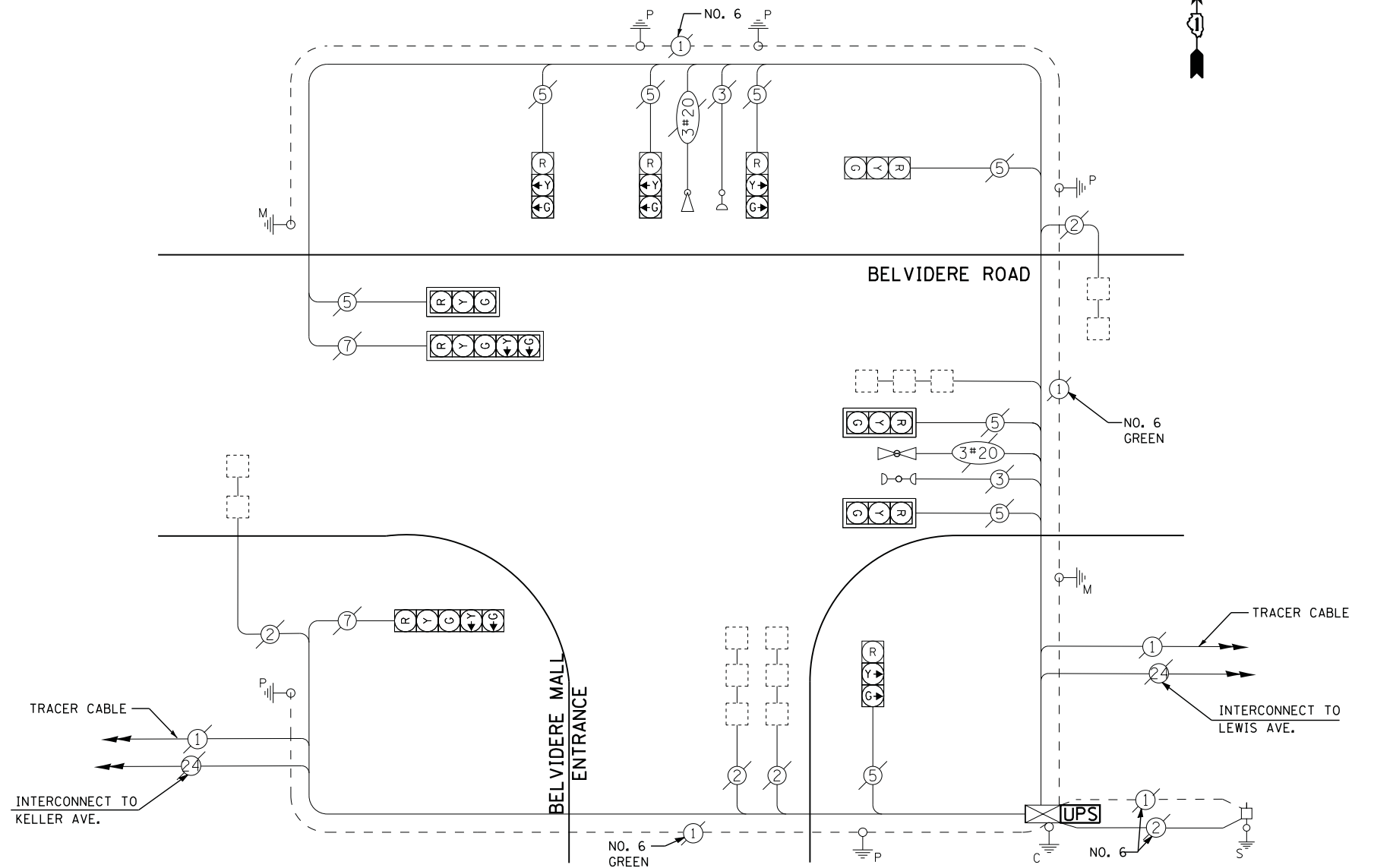
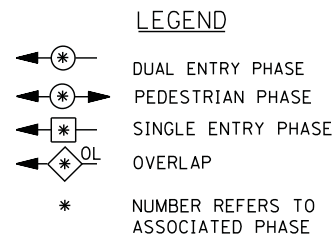


**PHASE DESIGNATION DIAGRAMS**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

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



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	4	135	12	0.10	5
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					290
ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN					
100 N. MARTIN LUTHER KING JR. AVE					
WAUKEGAN, IL 60085					
CONTACT TERRI BLECK					
PHONE 847-816-5239					
COMMONWEALTH EDISON					
FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -		
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\14974.CAB.LAKE.dgn		DRAWN - JDH	REVISED -		
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -		
	PLOT DATE = 5/16/2012	DATE -	REVISED -		

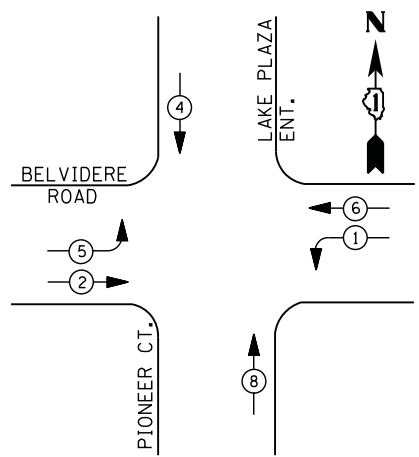
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BELVIDERE ROAD AT BELVIDERE MALL EAST ENTRANCE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	69
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 14974  
 WAUKEGAN

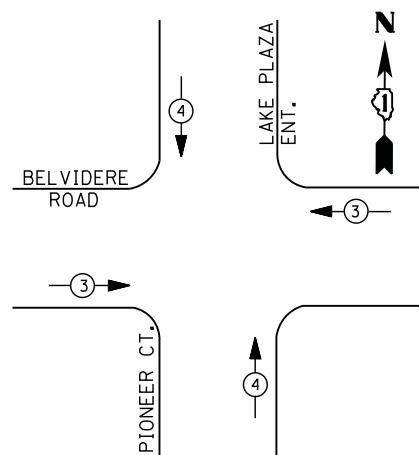
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	6	135	12	0.10	7
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	--	252	25	0.05	--
VIDEO SYSTEM	--	150	-	1.00	--
FLASHER LED					

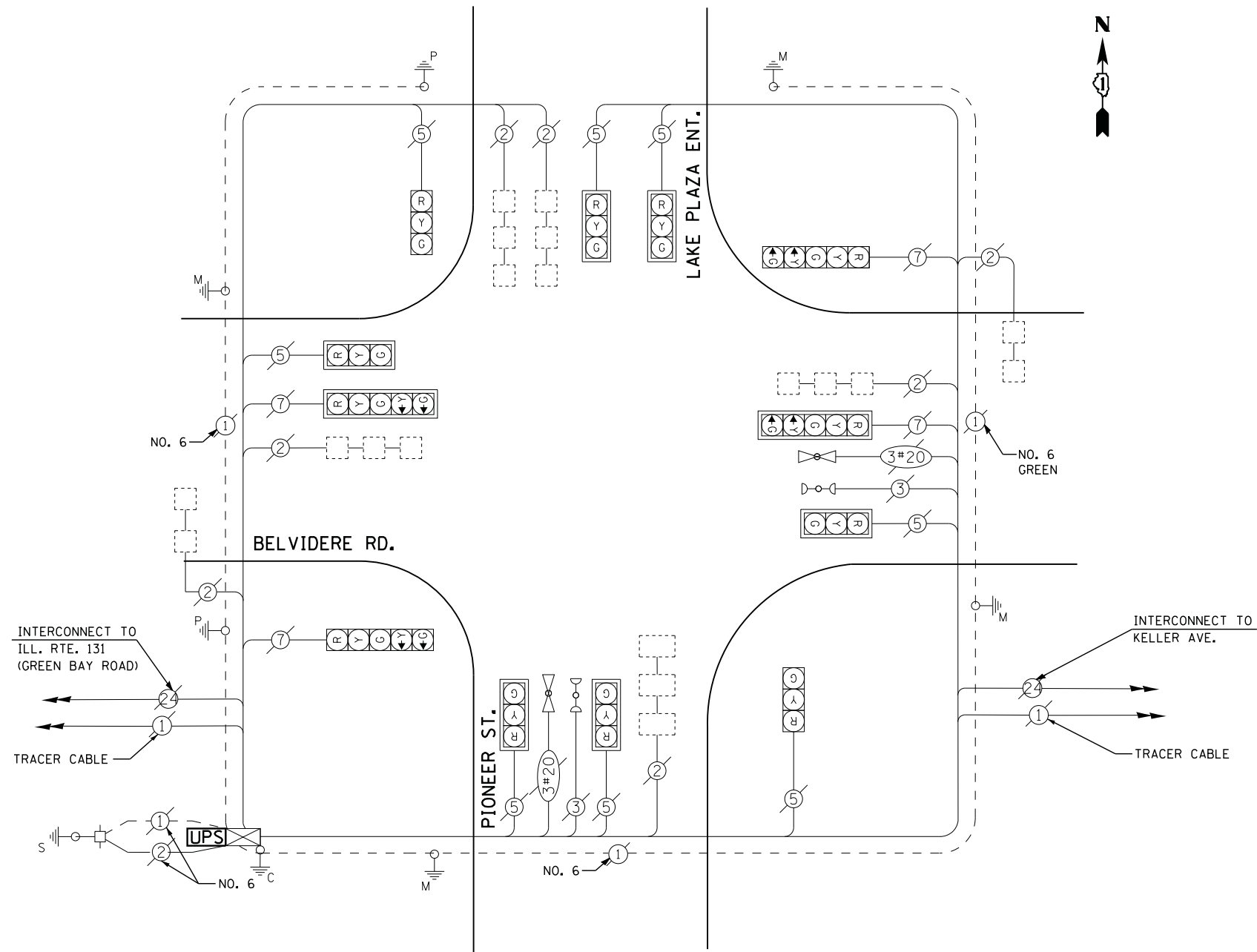
TOTAL = 329

ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE **847-816-5239**  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

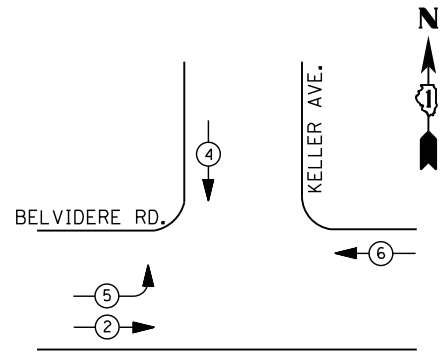
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



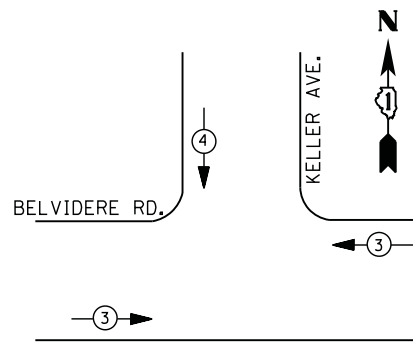
**CABLE PLAN**

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓

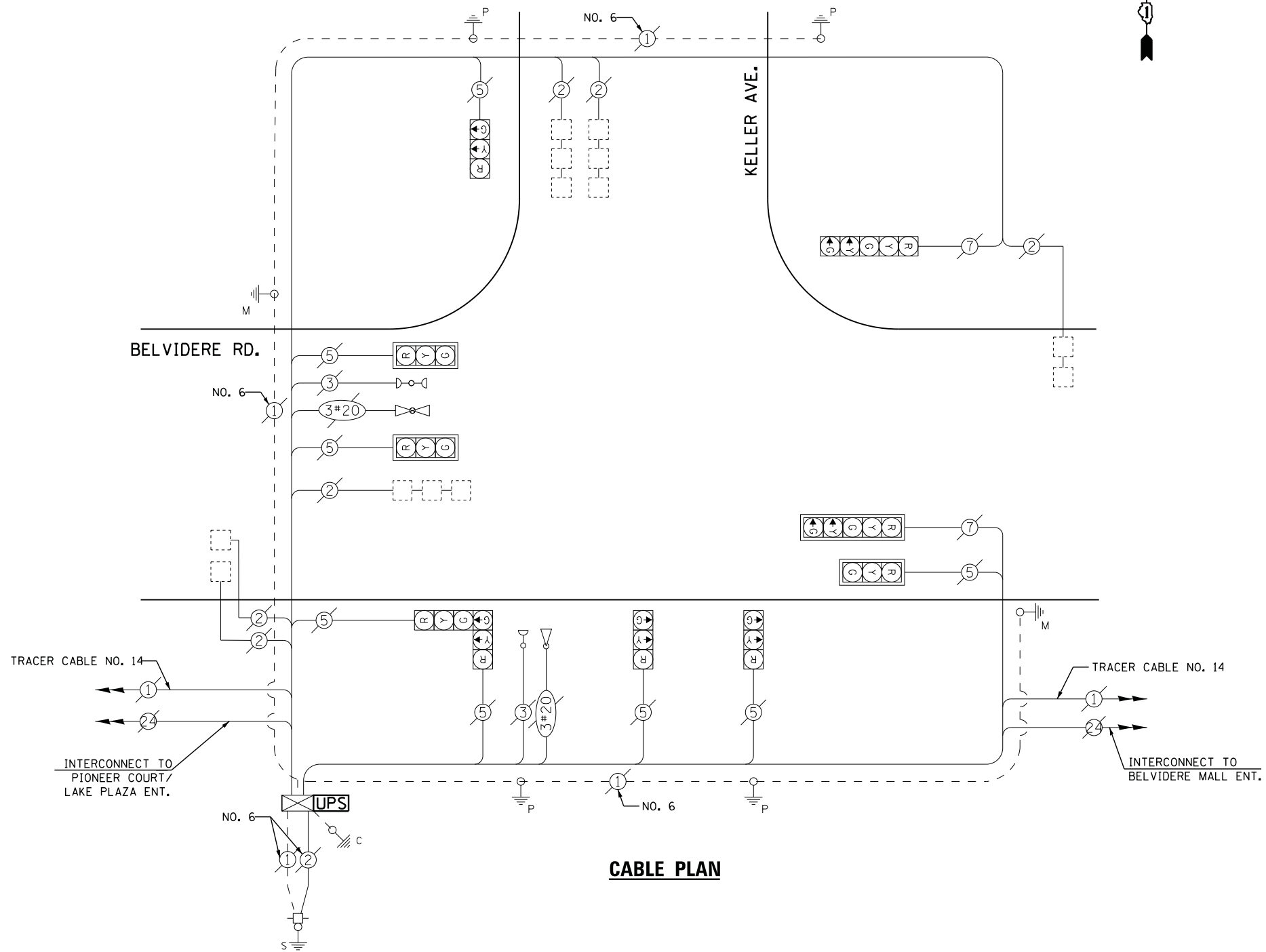
I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	4	135	12	0.10	5
PED. SIGNAL	0	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					290

ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE **847-816-5239**  
 COMMONWEALTH EDISON

- LEGEND**
- ⊙\* DUAL ENTRY PHASE
  - ⊙\* PEDESTRIAN PHASE
  - ⊙\* SINGLE ENTRY PHASE
  - ⊙\* OL OVERLAP
  - \* NUMBER REFERS TO ASSOCIATED PHASE



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\14970.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

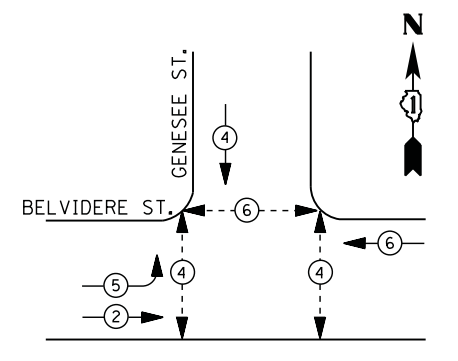
**BELVIDERE ROAD AT KELLER AVENUE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	71
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 14970  
 WAUKEGAN

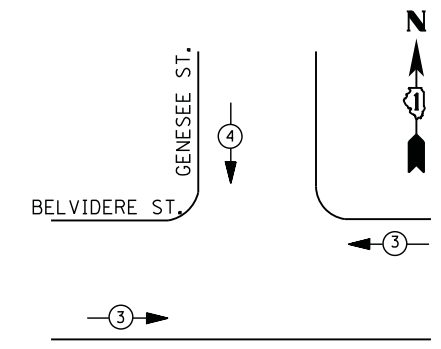
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	4	135	12	0.10	5
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					477

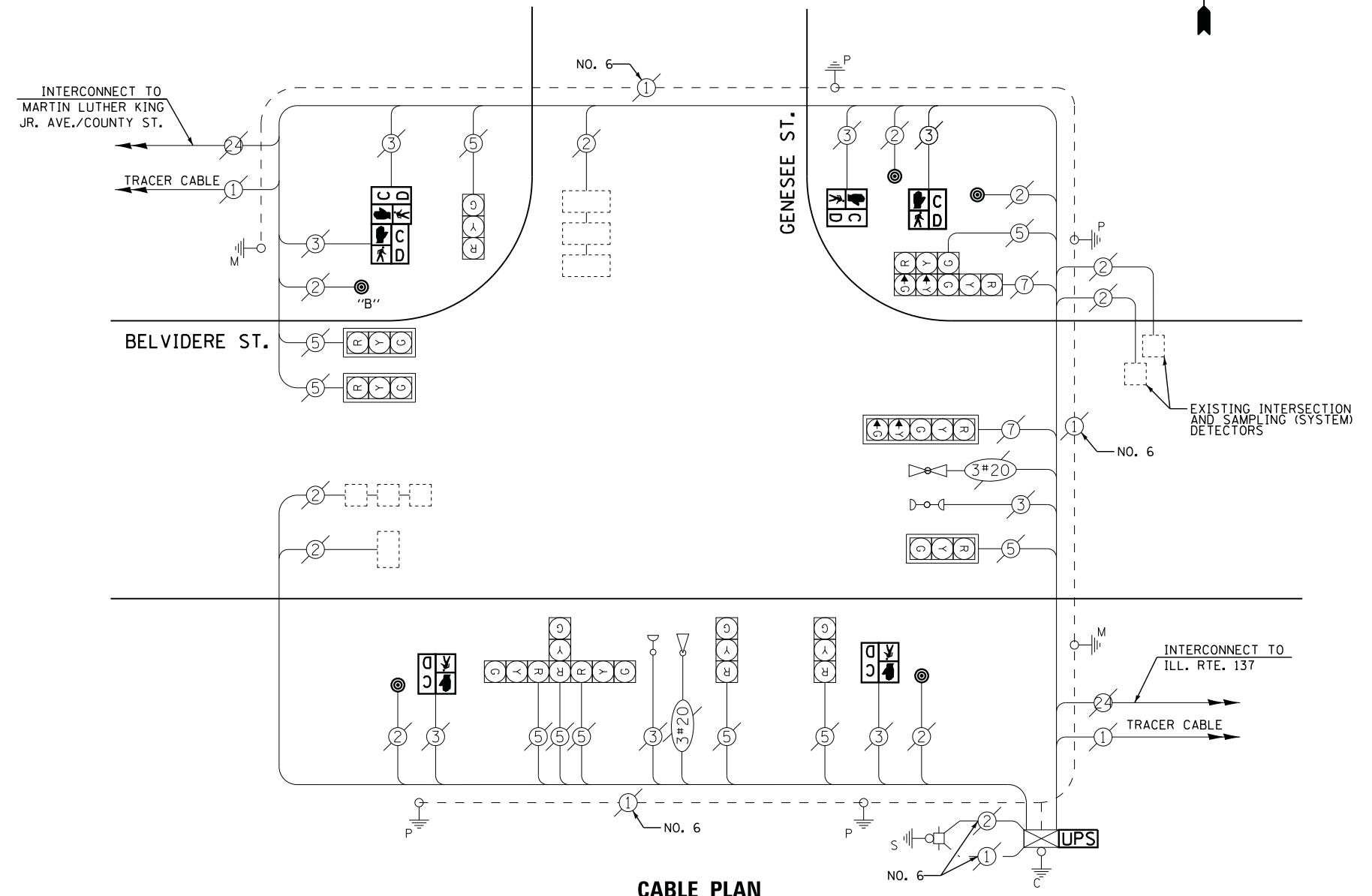
ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**CABLE PLAN**



NOTES:  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

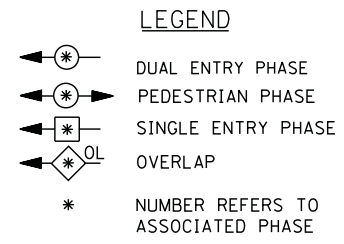
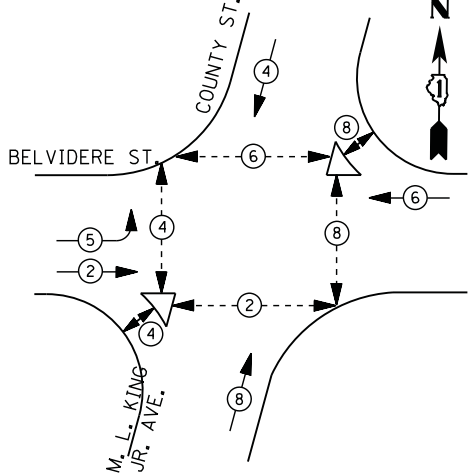
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

6	EACH	PEDESTRIAN SIGNAL HEAD
5	EACH	PEDESTRIAN PUSH-BUTTON

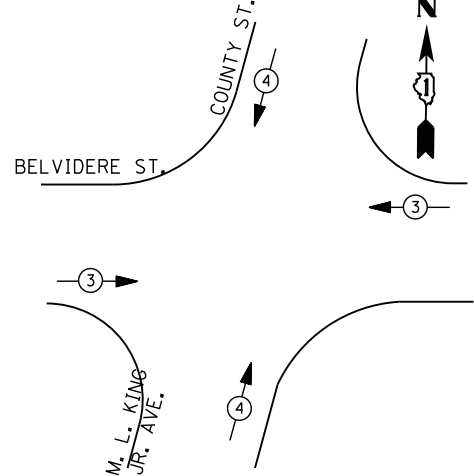
TS# 14965  
 WAUKEGAN



**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	4	135	12	0.10	5
PED. SIGNAL	12	90	25	1.00	300
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					665

ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

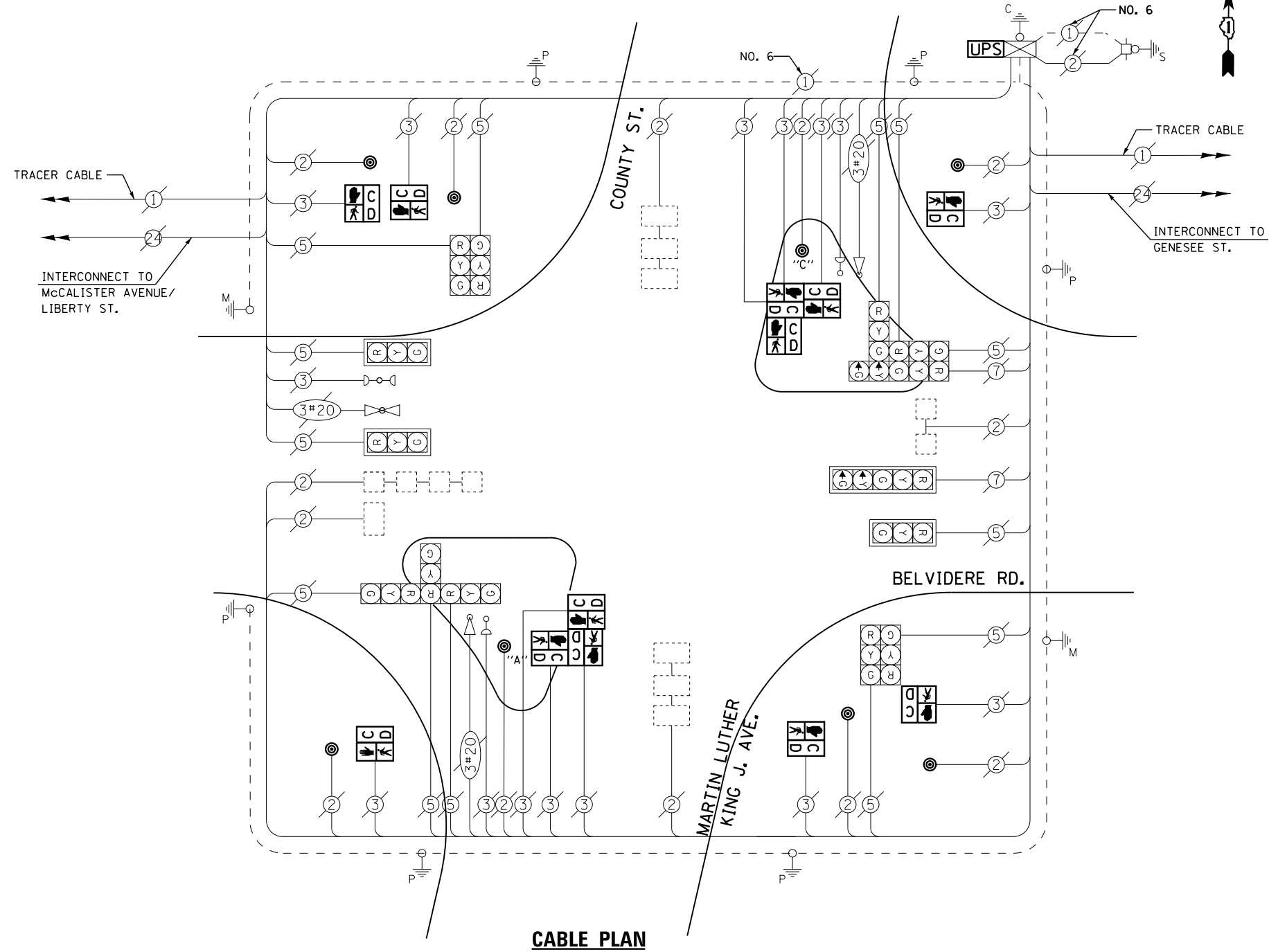
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
8	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

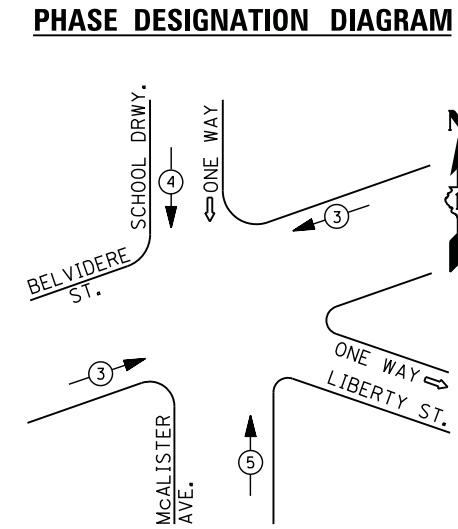
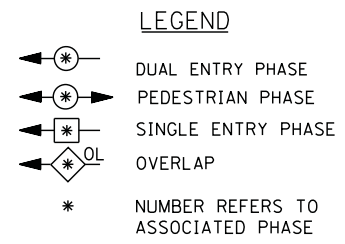
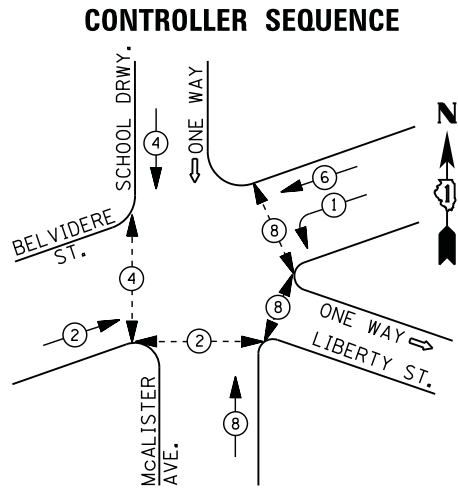
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

12	EACH	PEDESTRIAN SIGNAL HEAD
8	EACH	PEDESTRIAN PUSH-BUTTON



**NOTES:**  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

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

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

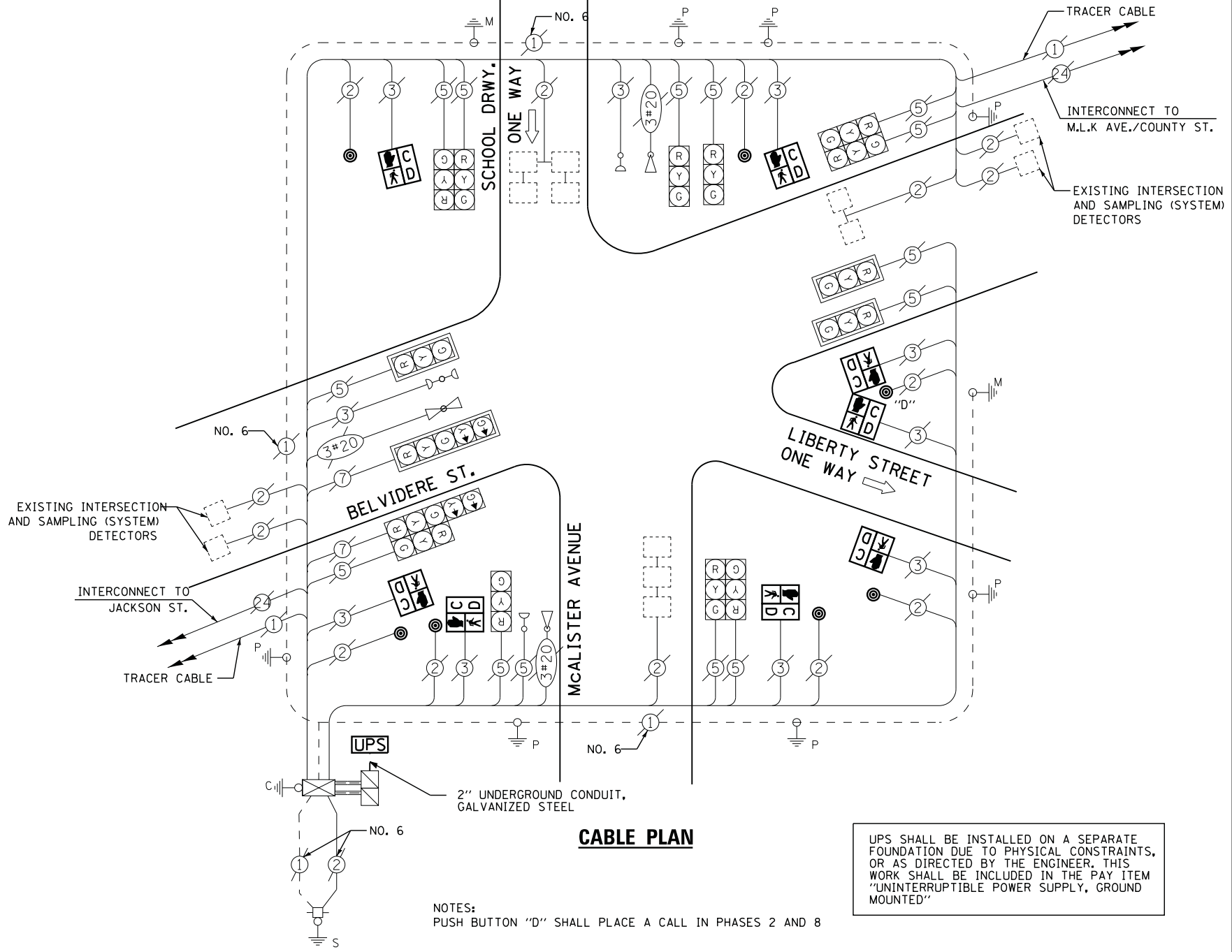
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	15	135	17	0.50	128
(YELLOW)	15	135	25	0.25	94
(GREEN)	15	135	15	0.25	56
ARROW	4	135	12	0.10	5
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					583

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	DRILL EXISTING HANDHOLE
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



**CABLE PLAN**

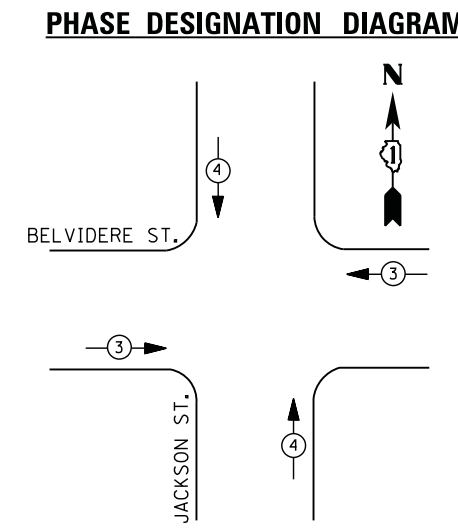
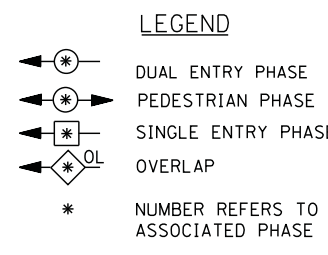
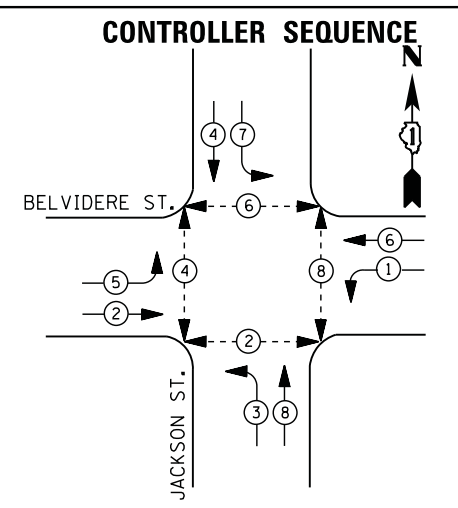
NOTES:  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

UPS SHALL BE INSTALLED ON A SEPARATE FOUNDATION DUE TO PHYSICAL CONSTRAINTS, OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED"

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
7	EACH	PEDESTRIAN PUSH-BUTTON



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					615

ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

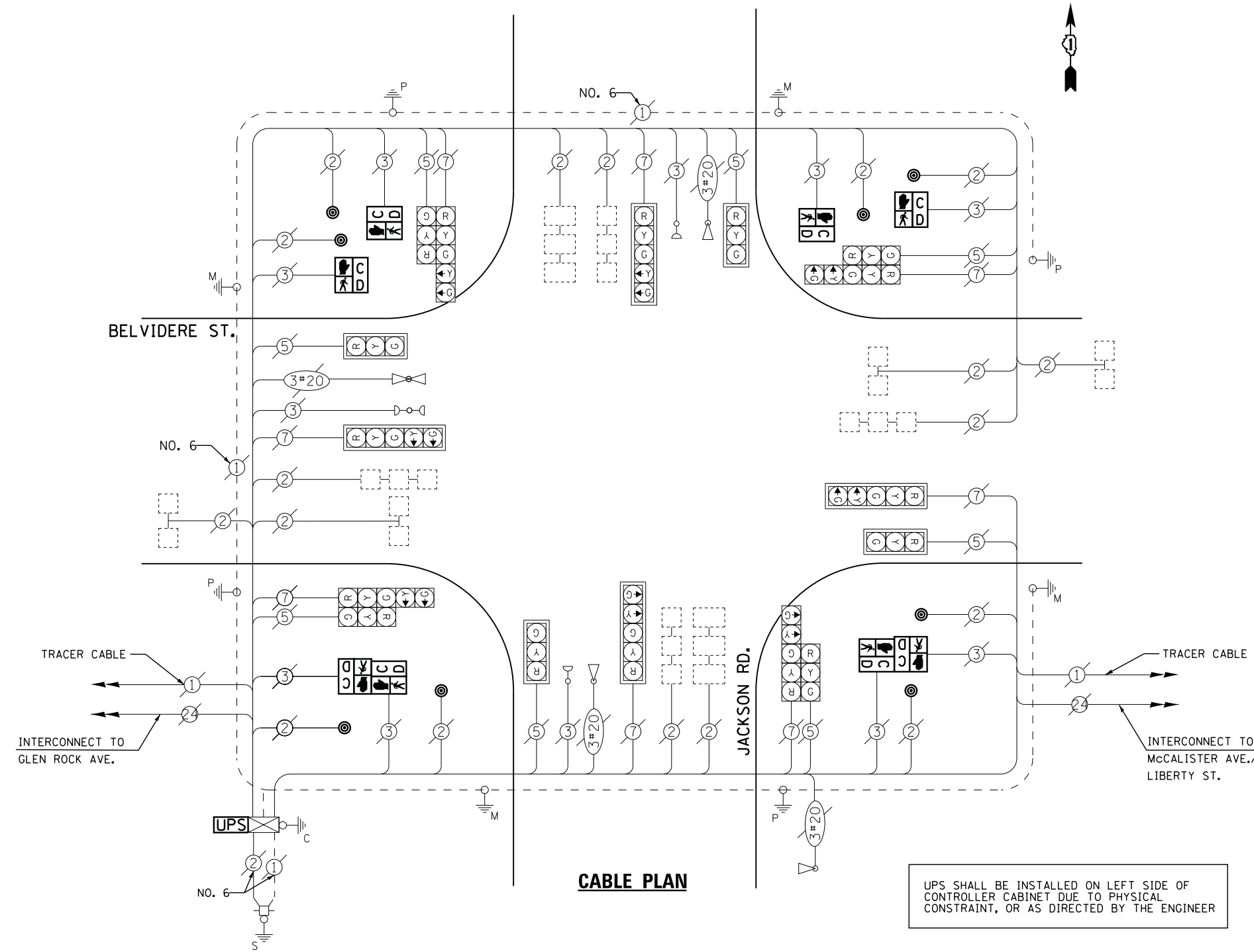
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

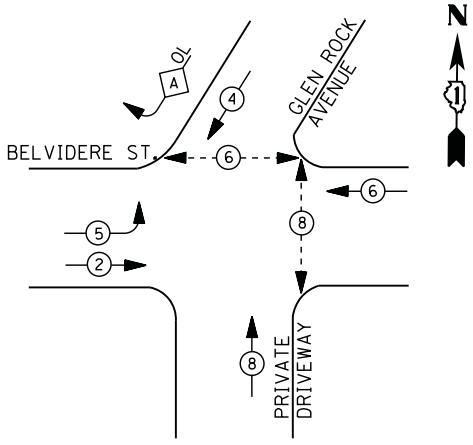
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
8	EACH	PEDESTRIAN PUSH-BUTTON

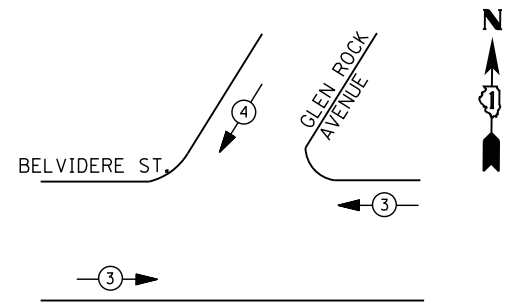


UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

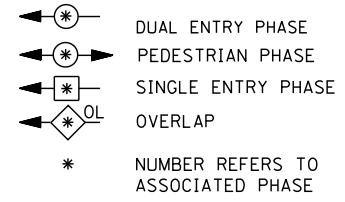
**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 4	+ 5

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓

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

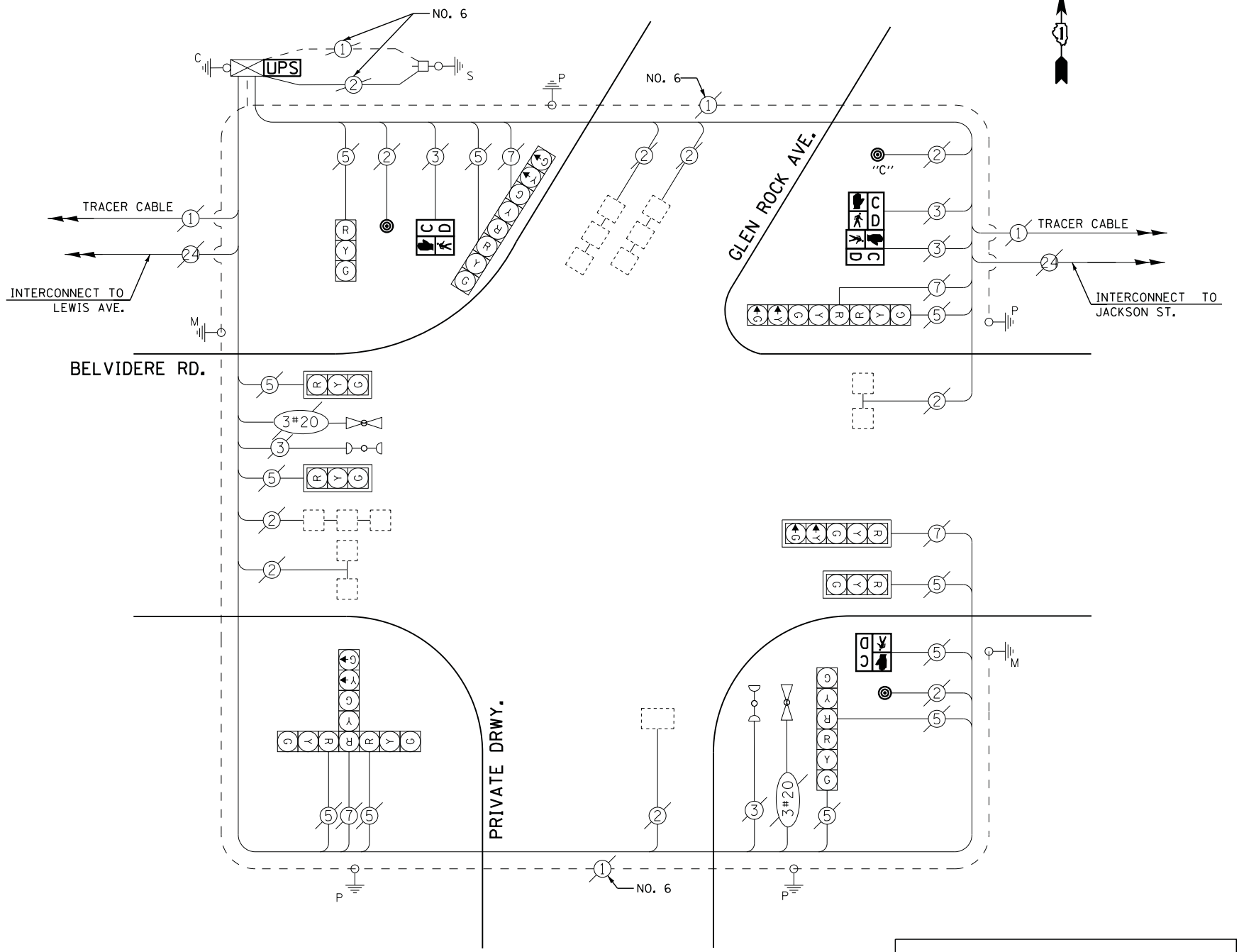
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	14	135	15	0.25	53
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					470

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



**CABLE PLAN**

NOTES:  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
3	EACH	PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\14945.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = \$SCALE\$	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

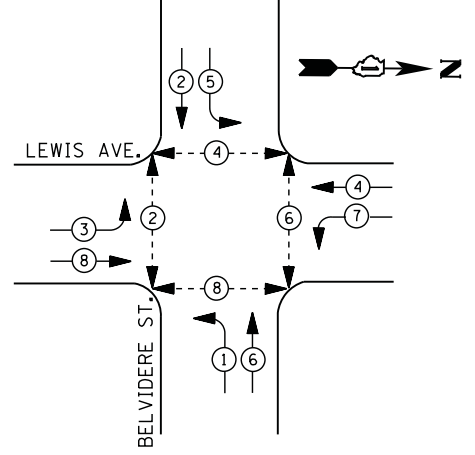
**BELVIDERE ROAD AT GLEN ROCK AVENUE  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	76
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 14945  
 WAUKEGAN

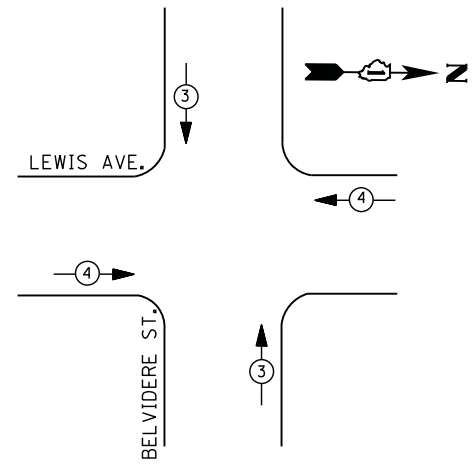
**CONTROLLER SEQUENCE**



**LEGEND**

- ⊙ \* DUAL ENTRY PHASE
- ⊙ \* PEDESTRIAN PHASE
- ⊙ \* SINGLE ENTRY PHASE
- ⊙ OL OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↑	←

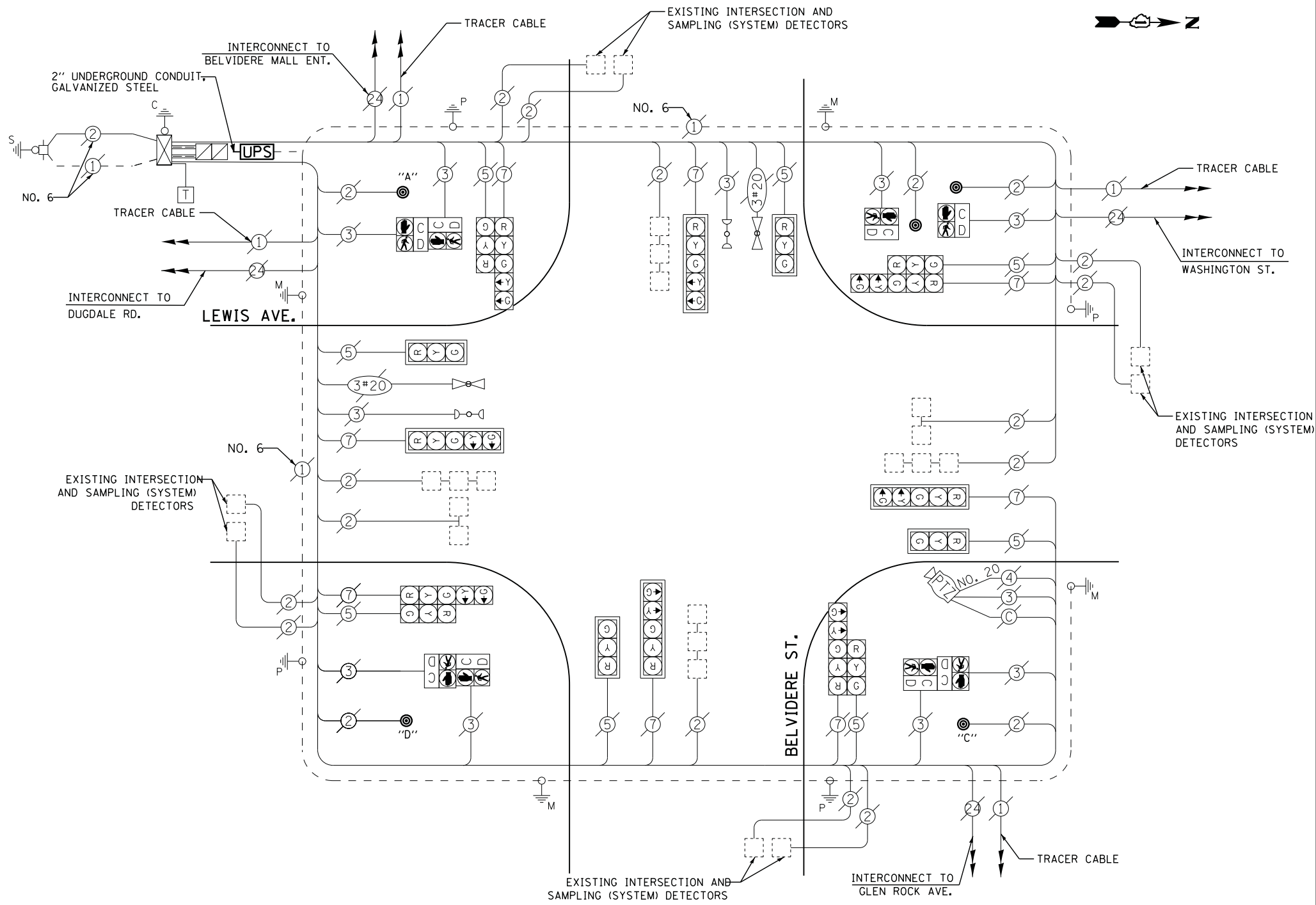
I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	-	1.00	150
TOTAL =					765

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	DRILL EXISTING HANDHOLE
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, GROUND MOUNTED
5	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



**CABLE PLAN**

NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 8 AND 2

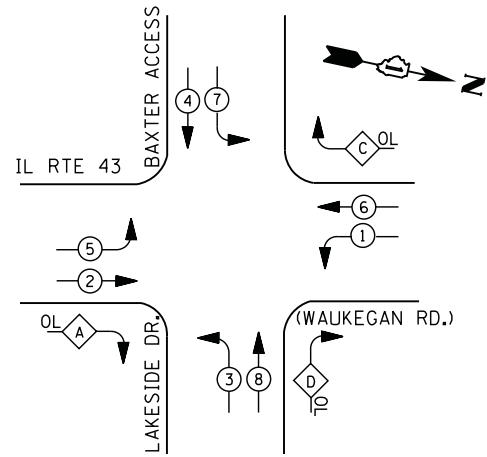
UPS SHALL BE INSTALLED ON A SEPARATE FOUNDATION DUE TO PHYSICAL CONSTRAINTS, OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED"

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

5 EACH PEDESTRIAN PUSH-BUTTON

**CONTROLLER SEQUENCE**



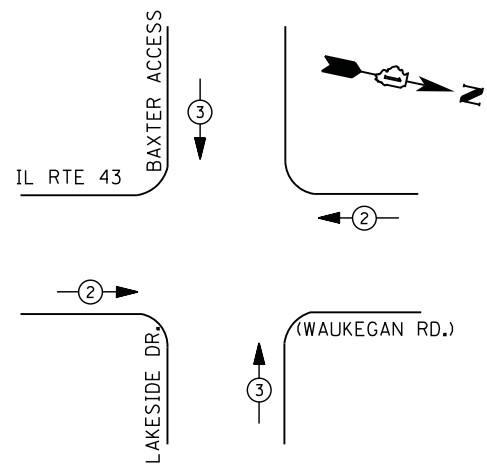
**LEGEND**

- ⊙ (with arrow) DUAL ENTRY PHASE
- ⊙ (with arrow) PEDESTRIAN PHASE
- ⊙ (with arrow) SINGLE ENTRY PHASE
- ⊙ (with arrow) OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
C =	6 +	7
D =	8 +	1

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	2	3
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	28	135	12	0.10	34
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					430

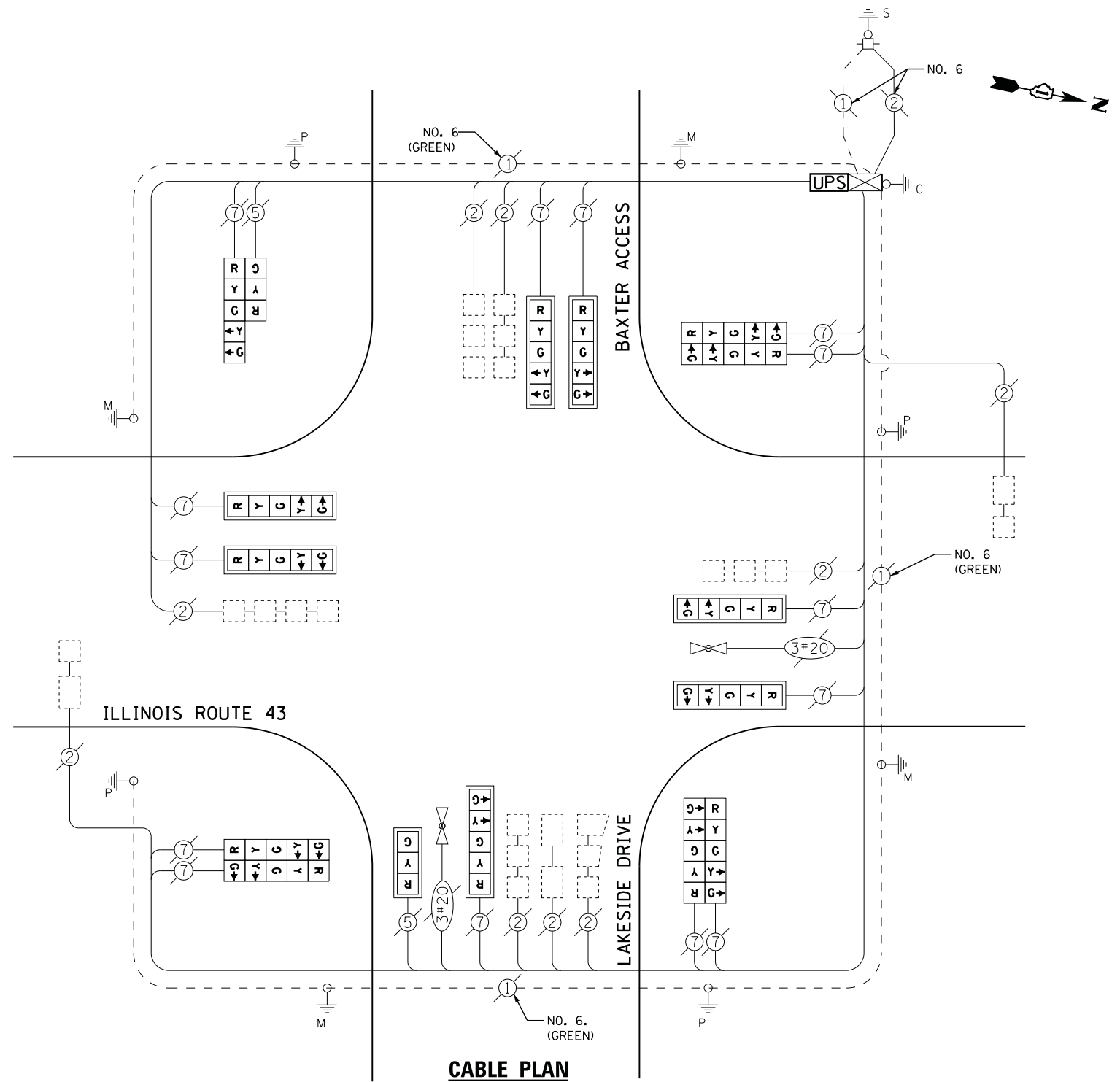
ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE **847-816-5239**  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

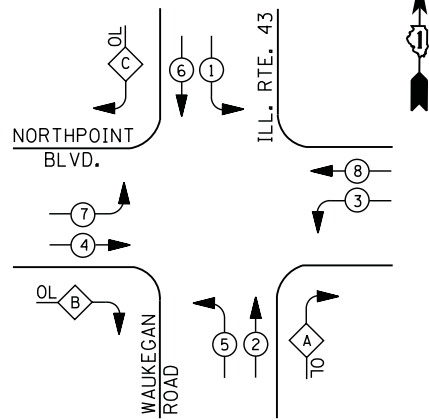
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
7	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D



**CABLE PLAN**

**EXISTING & PROPOSED CONTROLLER SEQUENCE**



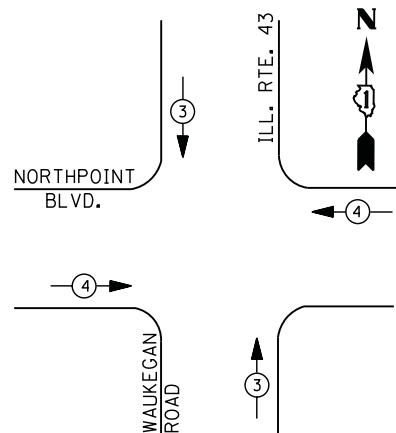
**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	= 2	+ 3
B	= 4	+ 5
C	= 6	+ 7

**PHASE DESIGNATION DIAGRAM**



**EXISTING & PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↑	←

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	15	135	17	0.50	128
(YELLOW)	15	135	25	0.25	94
(GREEN)	15	135	15	0.25	56
ARROW	28	135	12	0.10	34
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					

TOTAL = 411

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085  
 ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

CONTRACTOR SHALL RELOCATE EXISTING FIBER OPTIC SPLICE BOX TO A NEW CONTROLLER CABINET. CARE SHOULD BE TAKEN TO NOT DAMAGE EXISTING FIBER OPTIC CABLE, SPLICES OR TERMINATIONS. REPAIR OF ANY DAMAGED EQUIPMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF THIS WORK SHALL BE INCLUDED IN THE FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL PAY ITEM.

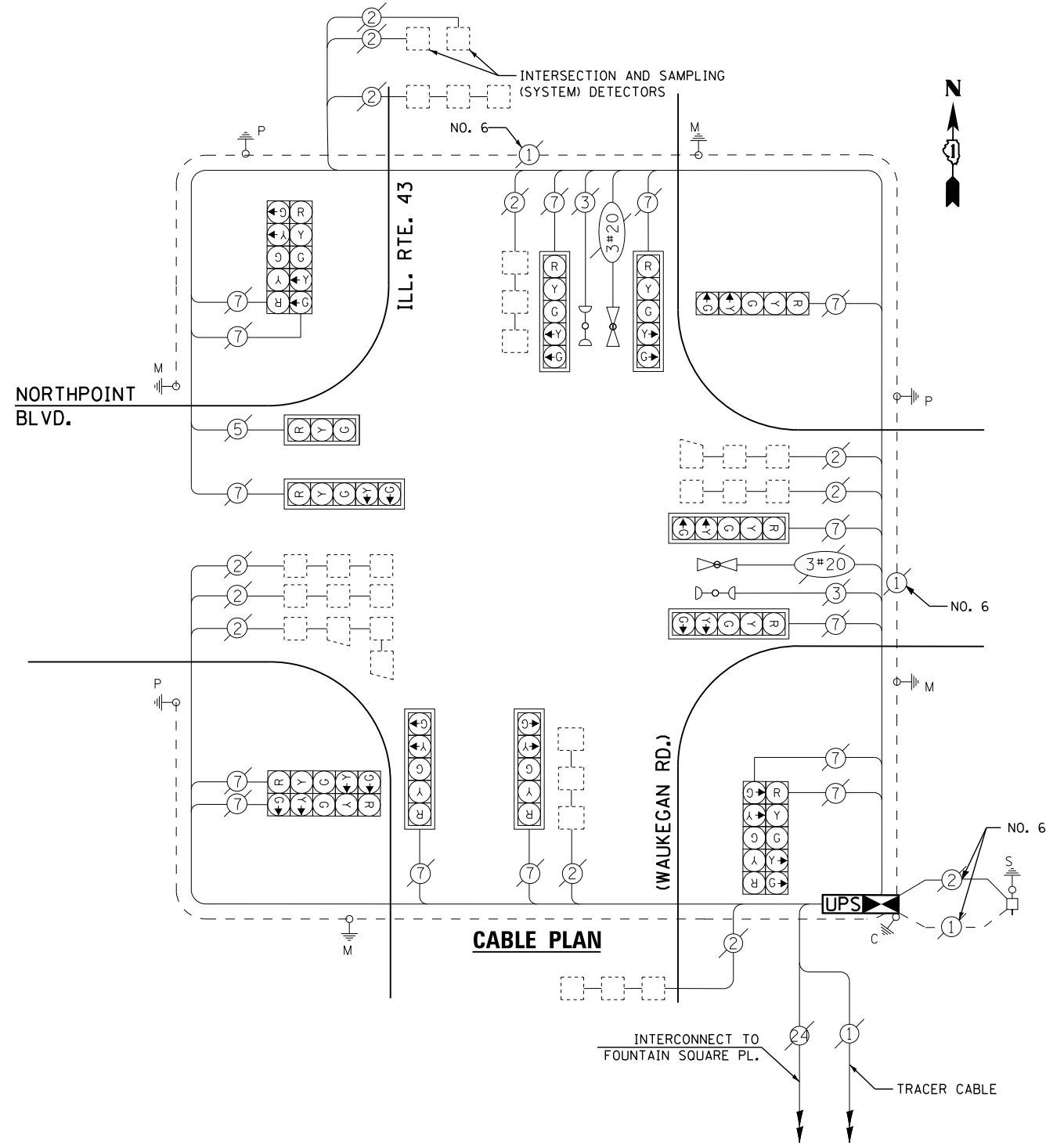
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)

**SCHEDULE OF QUANTITIES**

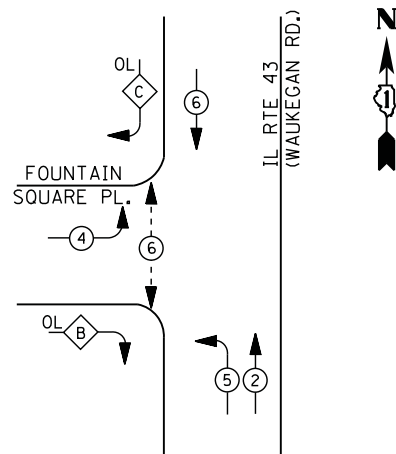
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC
11	EACH	INDUCTIVE LOOP DETECTOR
1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



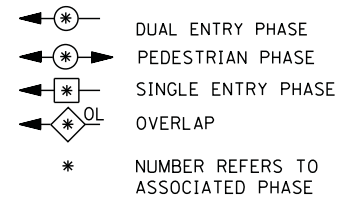
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**CONTROLLER SEQUENCE**



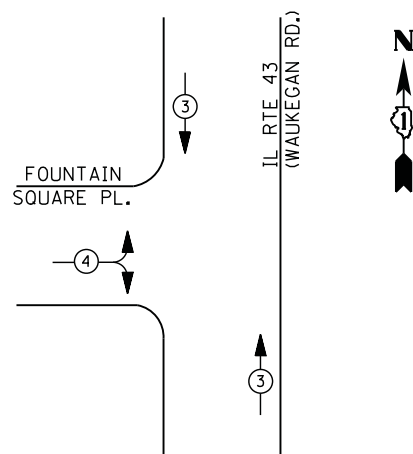
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	4 +	5
C =	6 +	4

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↓ ↑	↔

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	11	135	17	0.50	94
(YELLOW)	11	135	25	0.25	69
(GREEN)	11	135	15	0.25	41
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					364

ENERGY COSTS- **BILLED TO: CITY OF WAUKEGAN**  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

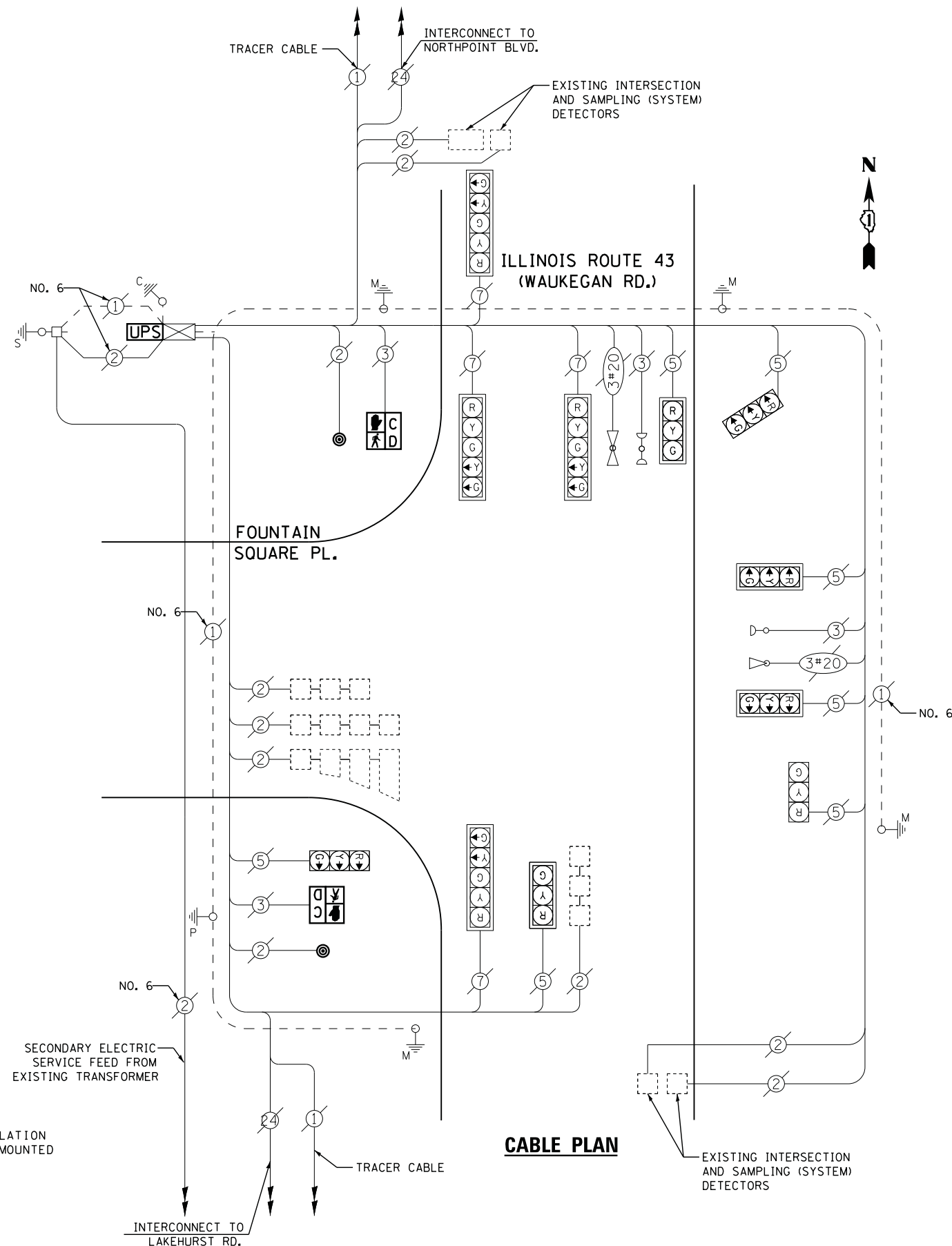
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\312004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\14910_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 43 (WAUKEGAN RD) AT FOUNTAIN SQUARE PL  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

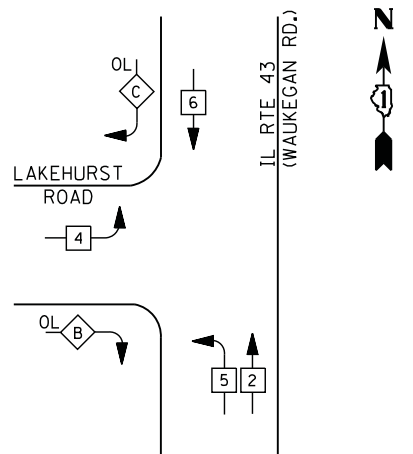
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	80
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

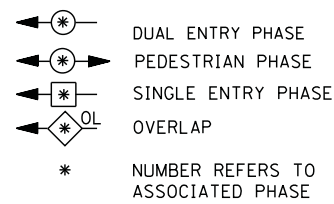
TS# 14910  
 WAUKEGAN



**CONTROLLER SEQUENCE**



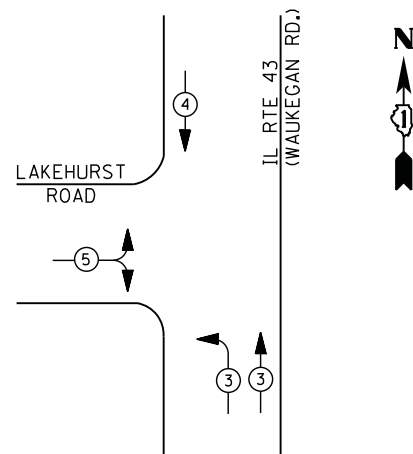
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B =	4 +	5
C =	6 +	4

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	↖ ↗	↕	↔

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	4	135	12	0.10	5
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					

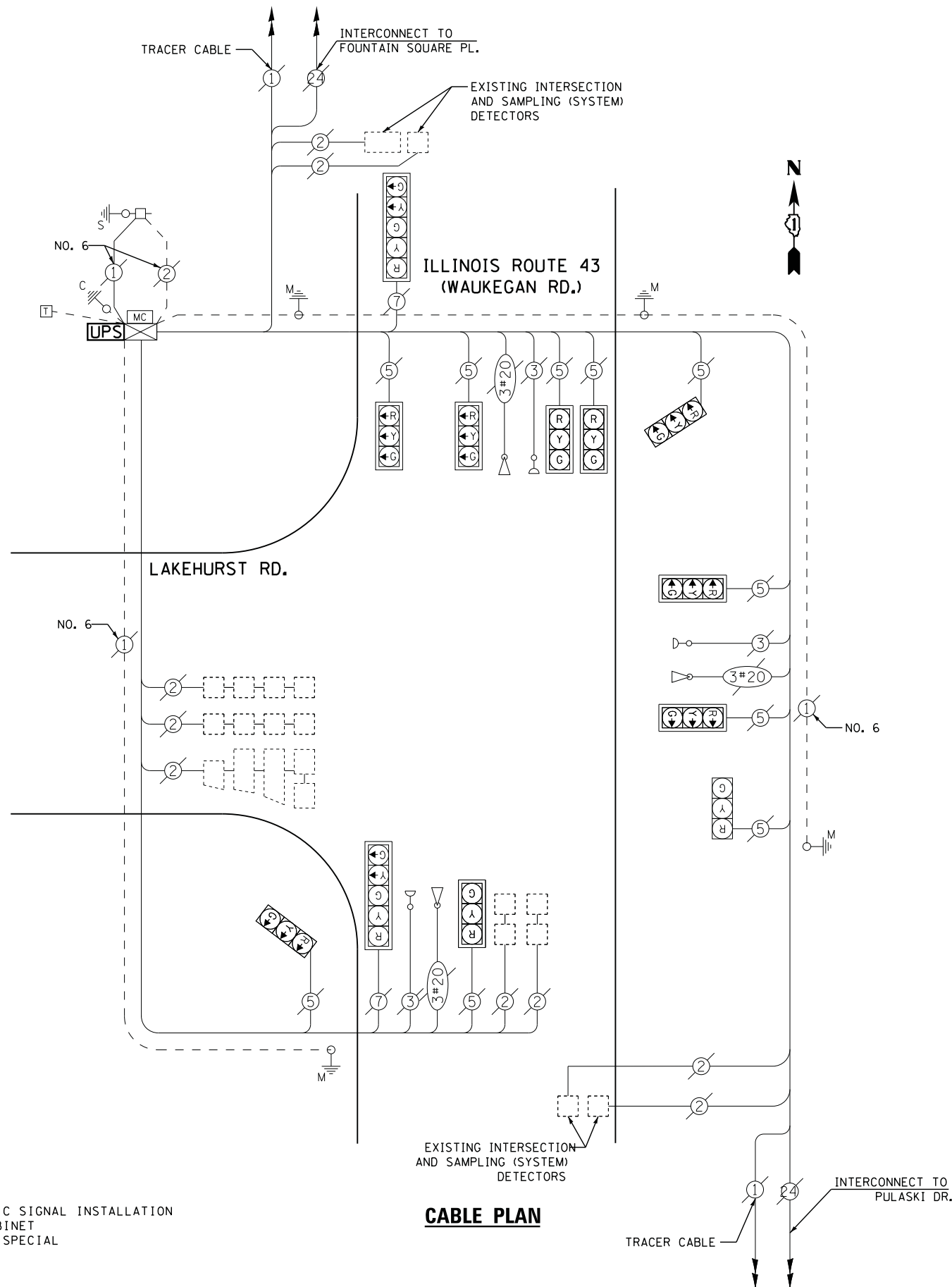
TOTAL = 327

ENERGY COSTS- BILLED TO: CITY OF WAUKEGAN  
 100 N. MARTIN LUTHER KING JR. AVE  
 WAUKEGAN, IL 60085

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\14905.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

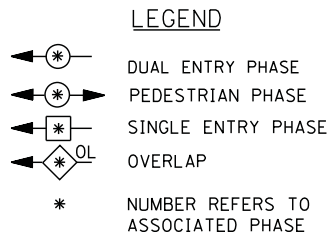
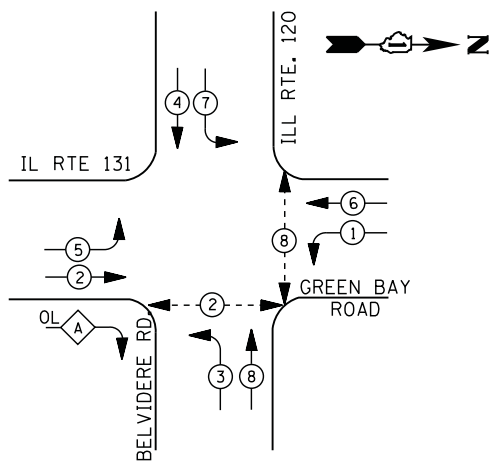
**IL ROUTE 43 (WAUKEGAN RD) AT LAKEHURST RD (SOUTH DR)  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	81
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 14905  
 WAUKEGAN

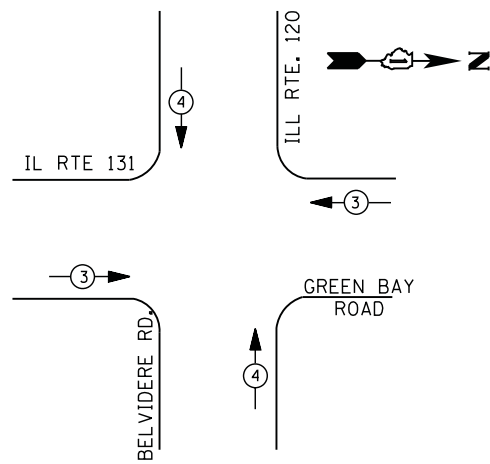
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A	=	2	+ 3 - 2

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14	135	17	0.50	119
(YELLOW)	14	135	25	0.25	88
(GREEN)	14	135	15	0.25	53
ARROW	20	135	12	0.10	24
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM	1	150	150	1.00	150
FLASHER LED					

TOTAL = 634

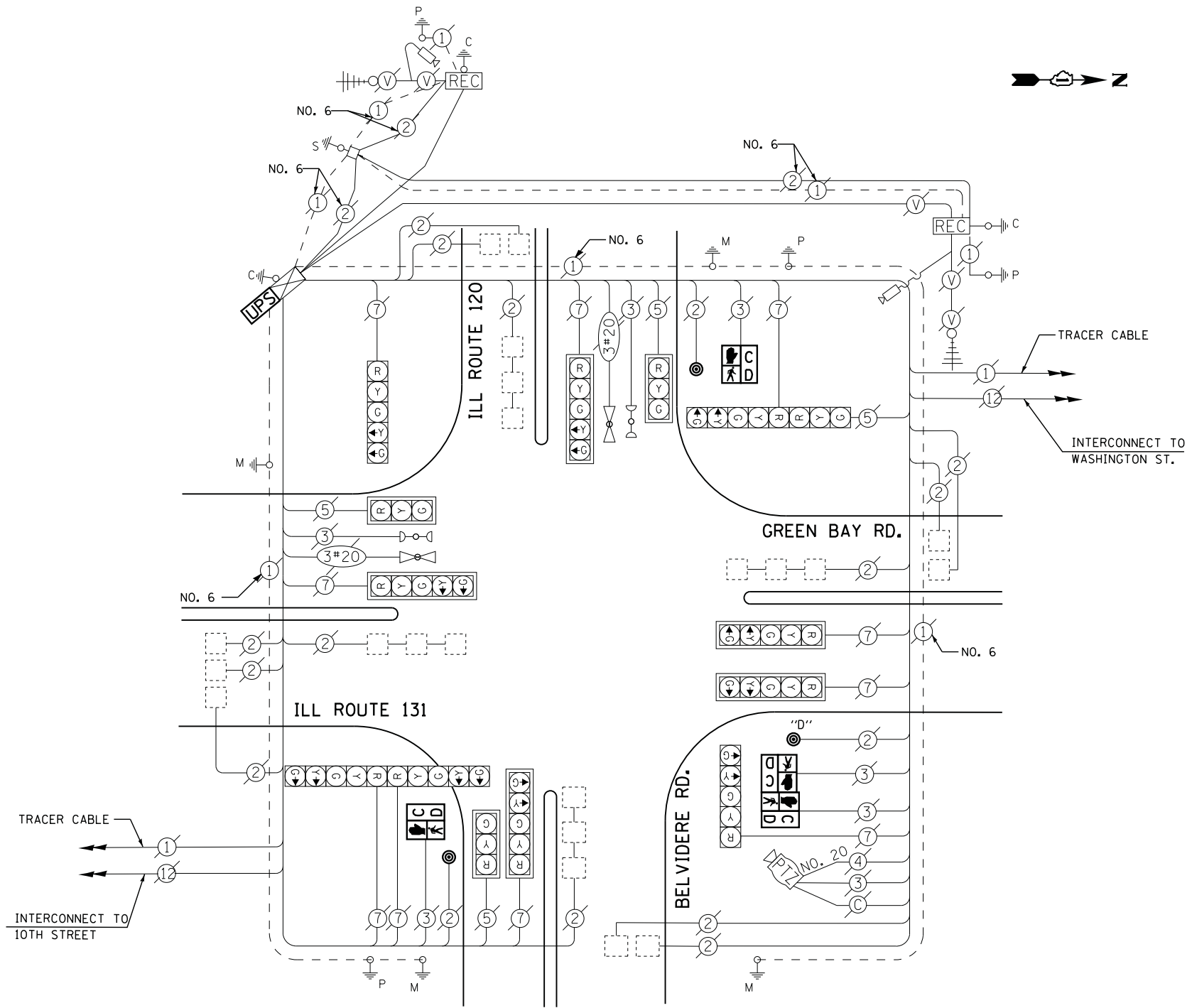
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**CABLE PLAN**



NOTES:  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

4	EACH	PEDESTRIAN SIGNAL HEAD
3	EACH	PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\07820\CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

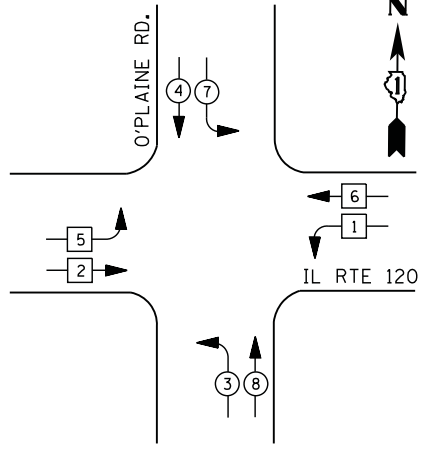
**ILL ROUTE 131 (GREEN BAY RD) AT ILL ROUTE 120 (BELVIDERE RD)  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

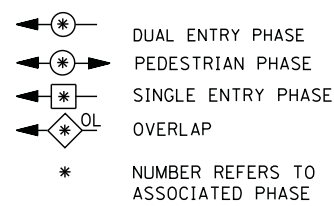
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	82
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 7820  
 WAUKEGAN

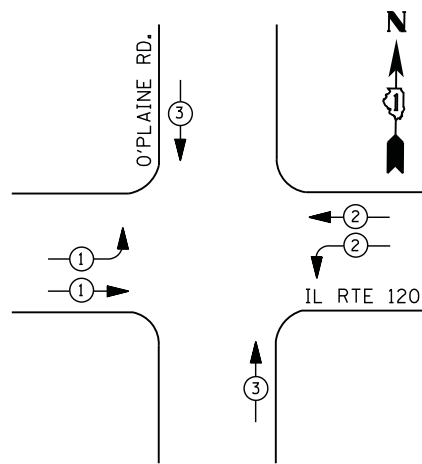
**CONTROLLER SEQUENCE**



**LEGEND**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	1	2	3
MOVEMENT			

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	16	135	17	0.50	136
( YELLOW )	16	135	25	0.25	100
( GREEN )	16	135	15	0.25	60
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					406

ENERGY COSTS- **BILLED TO: IDOT DISTRICT 1**  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT **TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
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	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

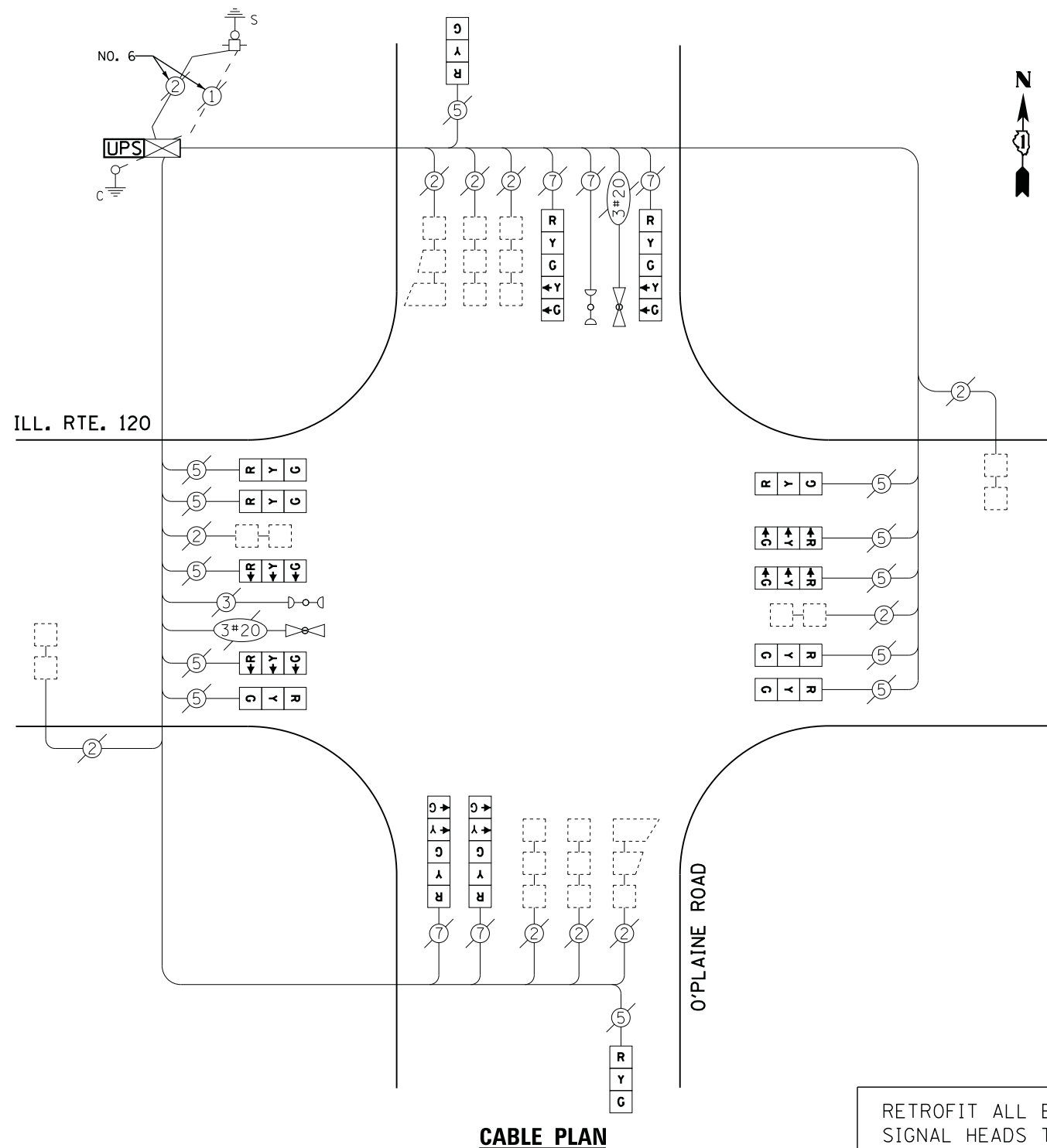
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 120 AT O'PLAINE ROAD  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	83
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 7010  
 WAUKEGAN



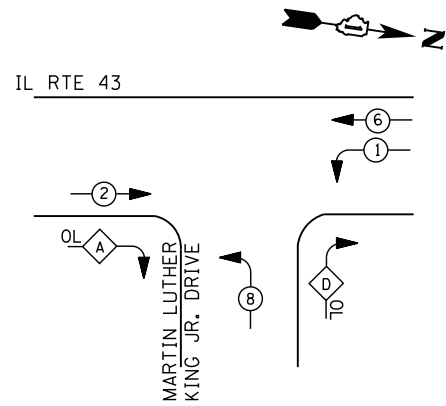
**CABLE PLAN**

RETROFIT ALL EXISTING  
 SIGNAL HEADS TO L.E.D.

**SCHEDULE OF QUANTITIES**

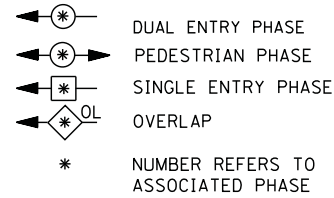
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
12	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, SPAN WIRE MOUNTED, RETROFIT

**CONTROLLER SEQUENCE**



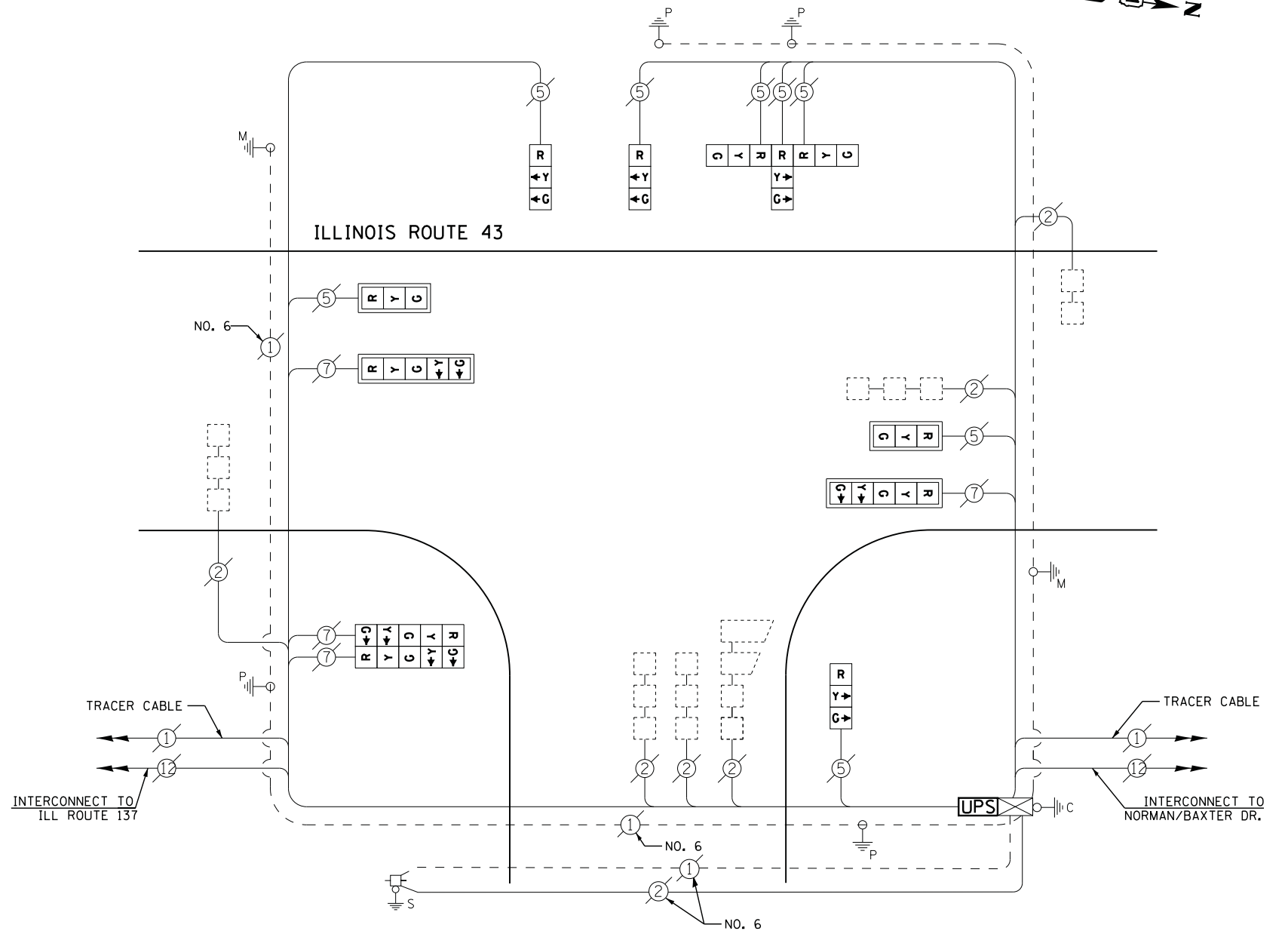
**PHASE DESIGNATION DIAGRAM**

**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY PHASE
A	= 2	+ 8	- 2
D	= 8	+ 1	



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

UPS SHALL BE INSTALLED ON LEFT SIDE OF CONTROLLER CABINET DUE TO PHYSICAL CONSTRAINT, OR AS DIRECTED BY THE ENGINEER

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT
1	EACH	SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED RETROFIT

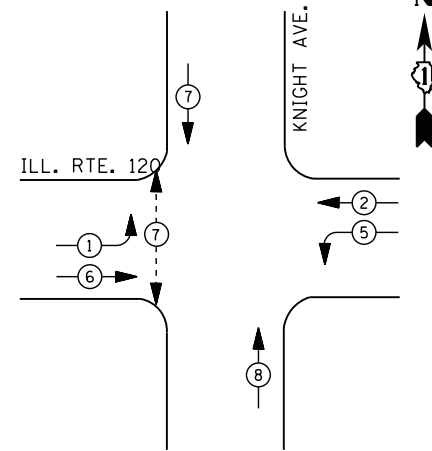
I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					332

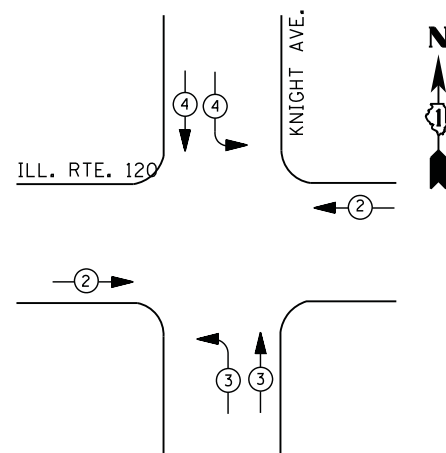
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

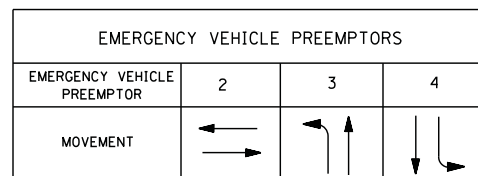
**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	14	135	17	0.50	119
( YELLOW )	14	135	25	0.25	88
( GREEN )	18	135	15	0.25	68
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					434

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- NUMBER REFERS TO ASSOCIATED PHASE
- 1 REPLACE 14 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- 2 REPLACE 15 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- 3 REPLACE 16 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.
- 4 REPLACE 18 FT. PAINTED POST, RE-USE EXISTING TYPE A CONCRETE FOUNDATION.

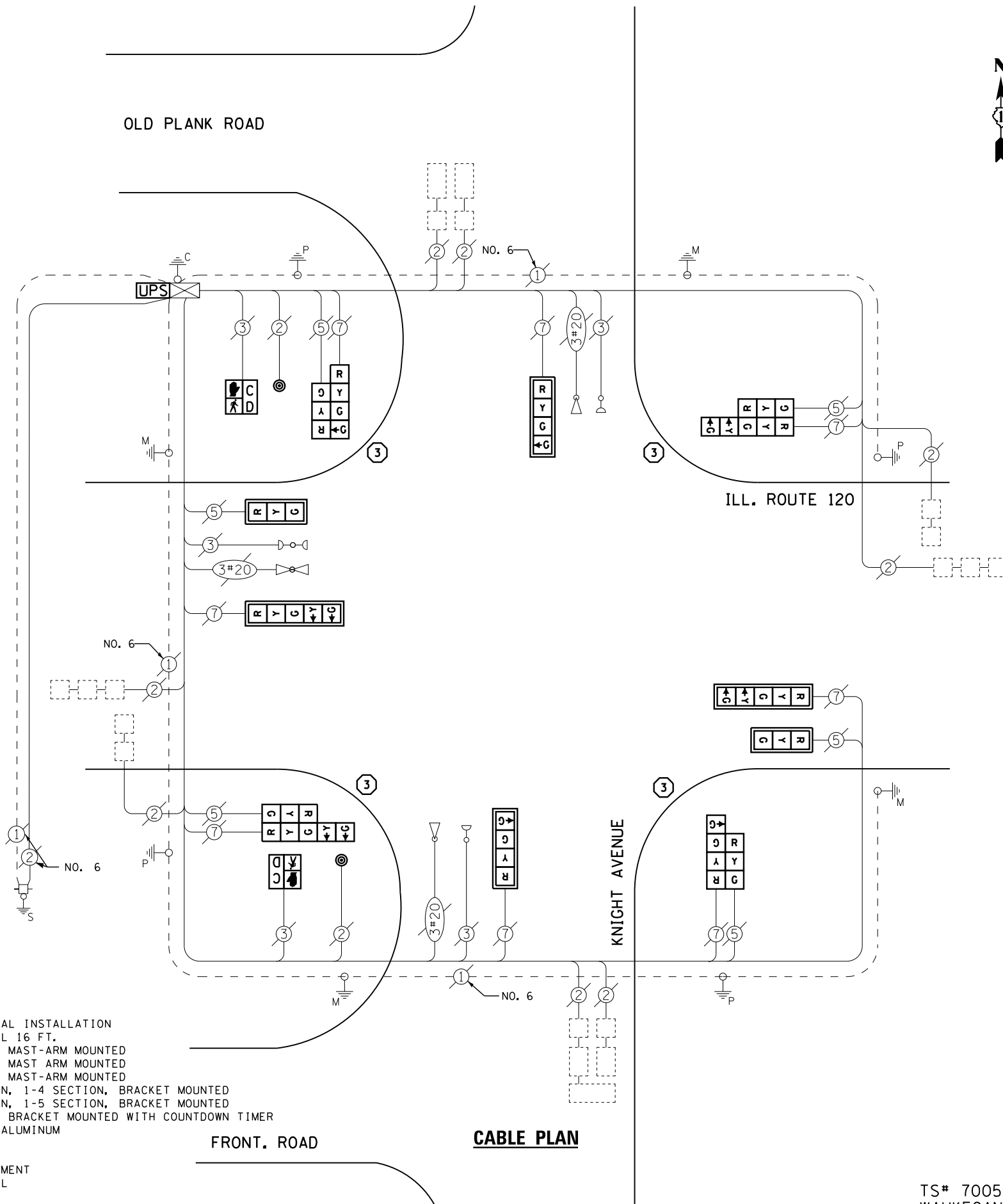
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 6 EACH SIGNAL HEAD, 3 - SECTION
- 4 EACH SIGNAL HEAD, 4 - SECTION
- 4 EACH SIGNAL HEAD, 5 - SECTION
- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 6 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH SIGNAL POST

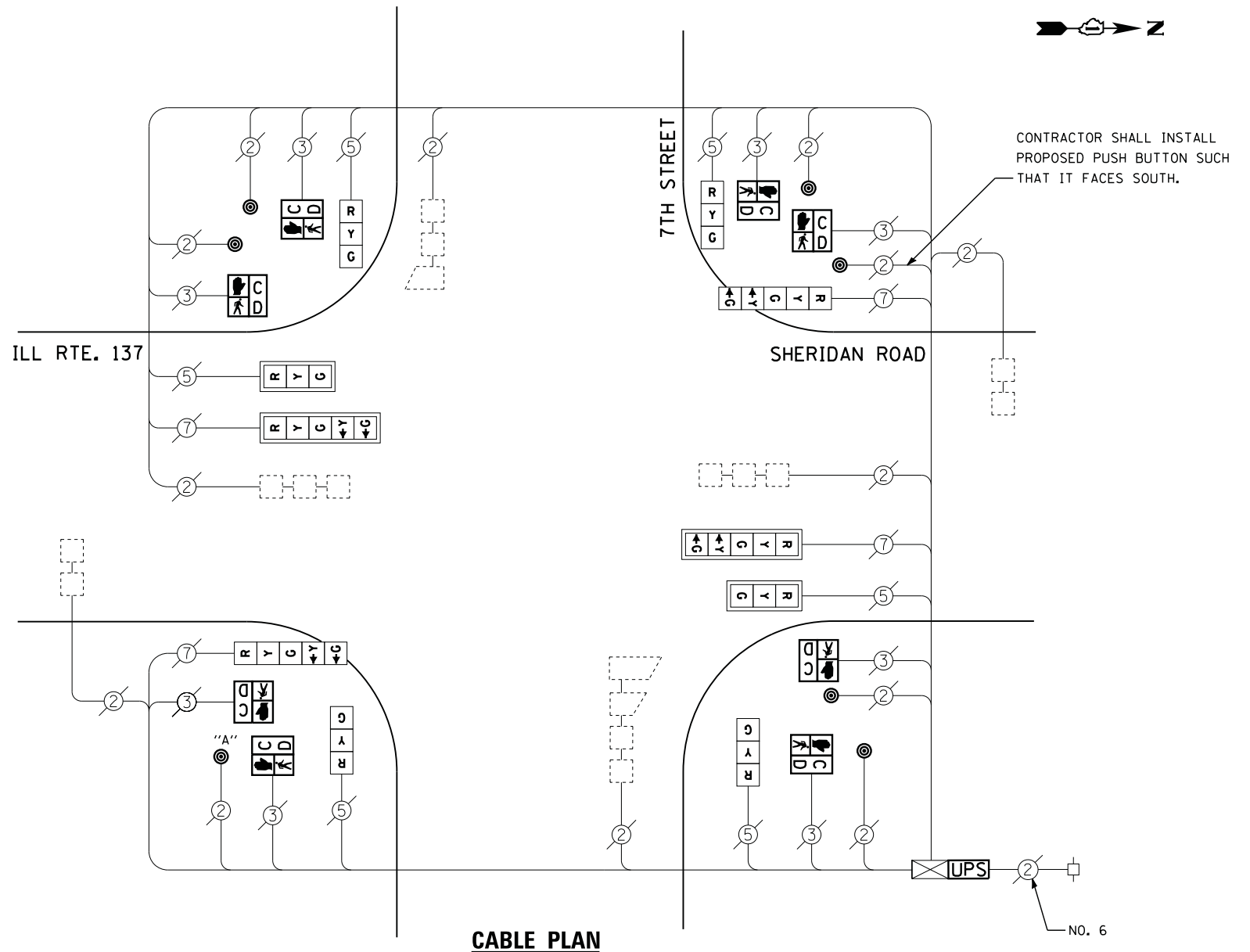
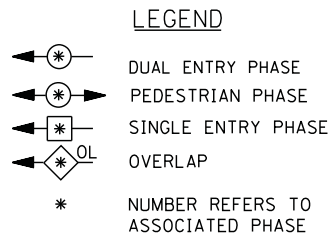
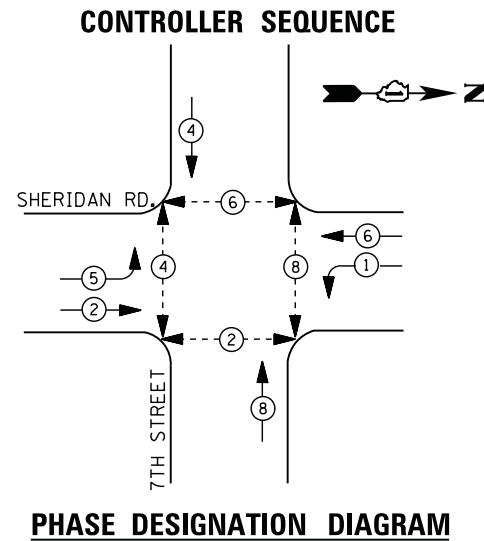
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
6	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL



**CABLE PLAN**

TS# 7005  
 WAUKEGAN



NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4.

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	10	135	17	0.50	85
( YELLOW )	10	135	25	0.25	63
( GREEN )	10	135	15	0.25	38
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					496
ENERGY COSTS- BILLED TO: VILLAGE OF WINTHROP HARBOR					
830 SHERIDAN RD					
WINTHROP HARBOR, IL 60096					
ENERGY SUPPLY - CONTACT TERRI BLECK					
PHONE 847-816-5239					
COMMONWEALTH EDISON					

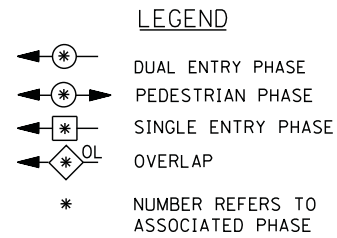
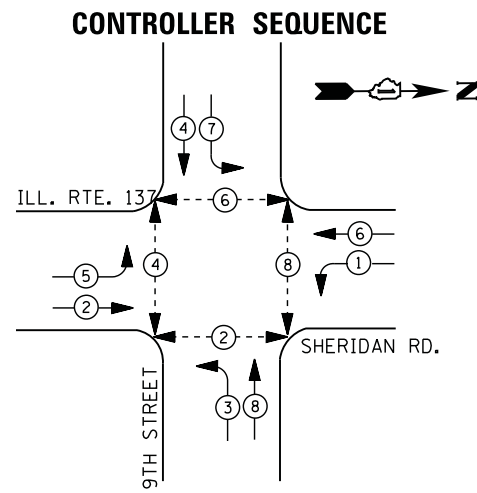
**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

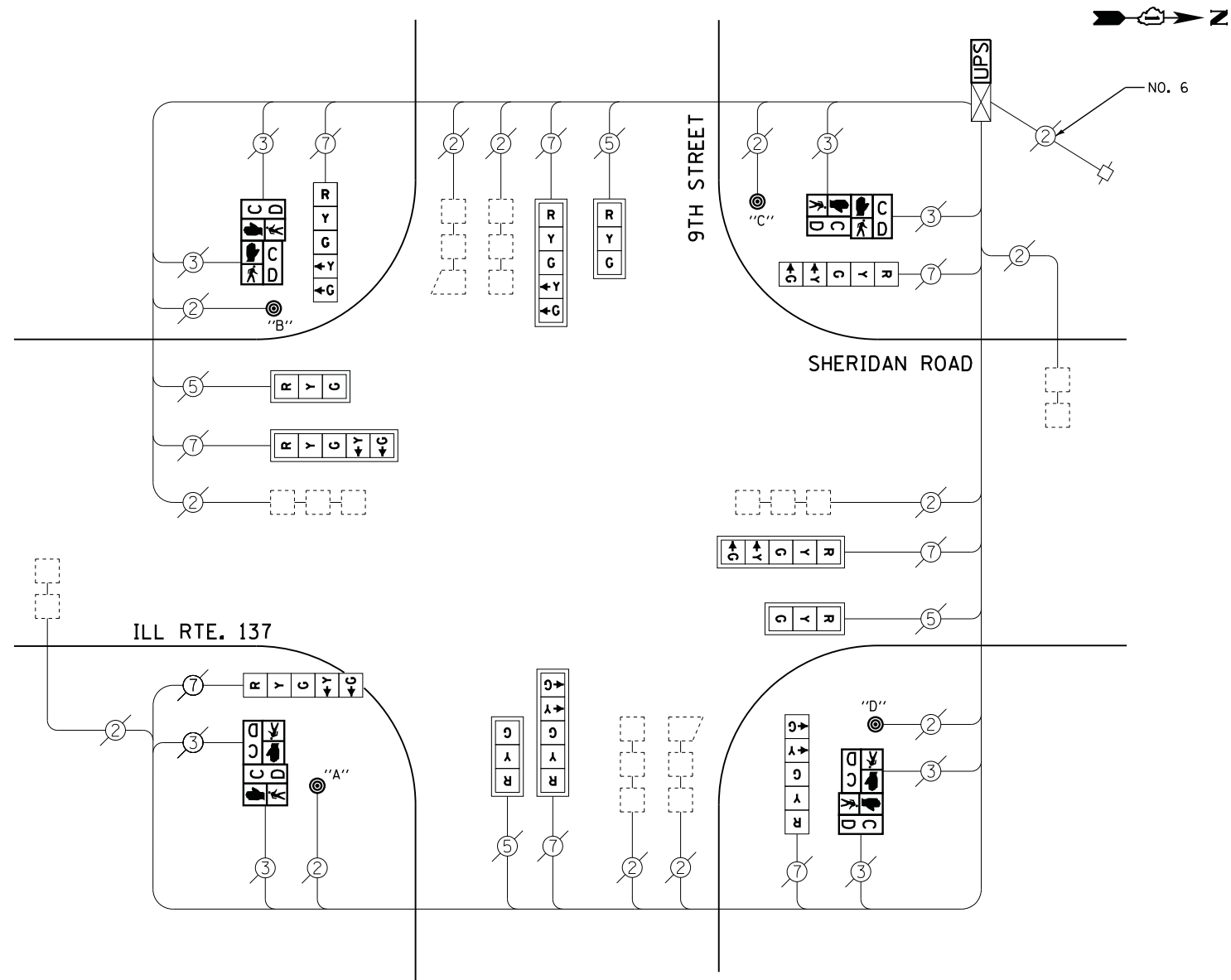
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 7 EACH PEDESTRIAN PUSH-BUTTON



**PHASE DESIGNATION DIAGRAM**



**CABLE PLAN**

NOTES:  
 PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 8 AND 2.

RETROFIT ALL EXISTING  
 SIGNAL HEADS TO L.E.D.

I. D. O. T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					541
ENERGY COSTS- BILLED TO: VILLAGE OF WINTHROP HARBOR					
830 SHERIDAN RD					
WINTHROP HARBOR, IL 60096					
ENERGY SUPPLY - CONTACT TERRI BLECK					
PHONE 847-816-5239					
COMMONWEALTH EDISON					

**SCHEDULE OF QUANTITIES**

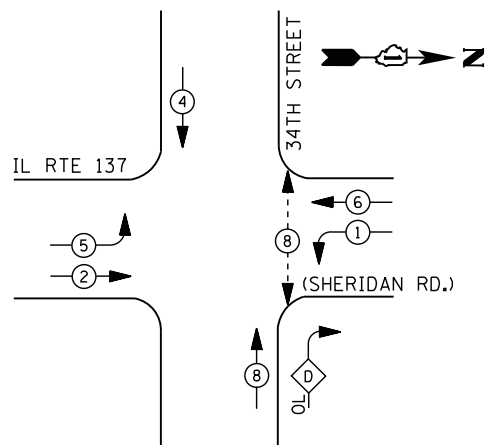
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
4	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

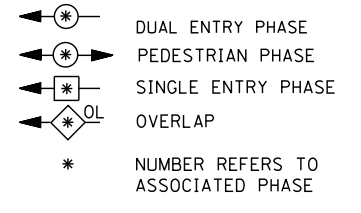
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8	EACH	PEDESTRIAN SIGNAL HEAD
4	EACH	PEDESTRIAN PUSH-BUTTON

**CONTROLLER SEQUENCE**



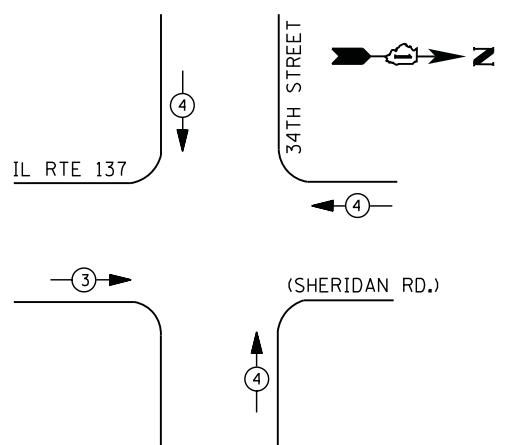
**LEGEND**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
D	= 8	+ 1

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	12	135	12	0.10	14
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					386

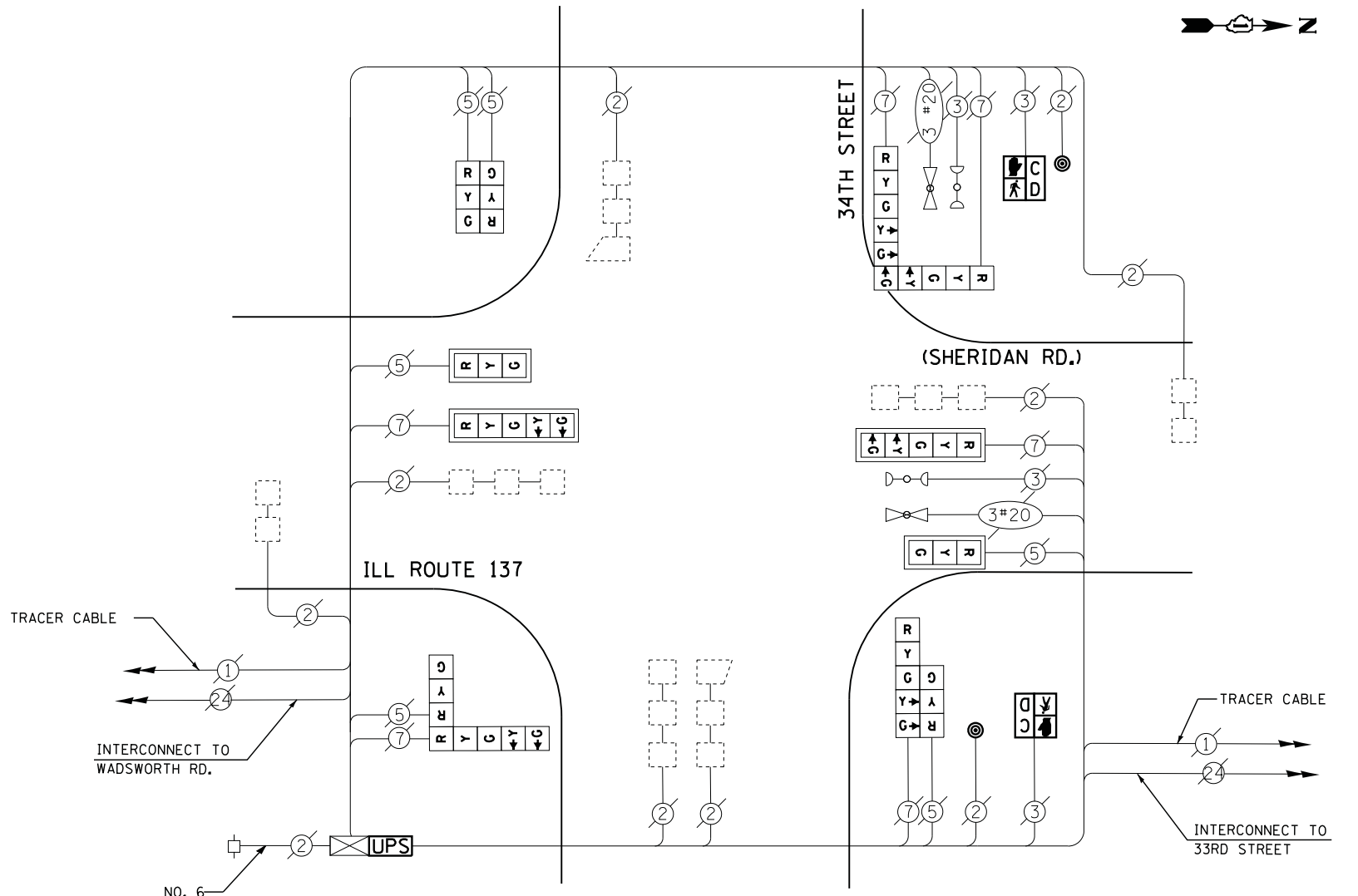
ENERGY COSTS- BILLED TO: CITY OF ZION  
 2828 SHERIDAN RD  
 ZION, IL 60099

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

**CABLE PLAN**



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED - DW	REVISED -
N:\Projects\3\12004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\20908_CAB_LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

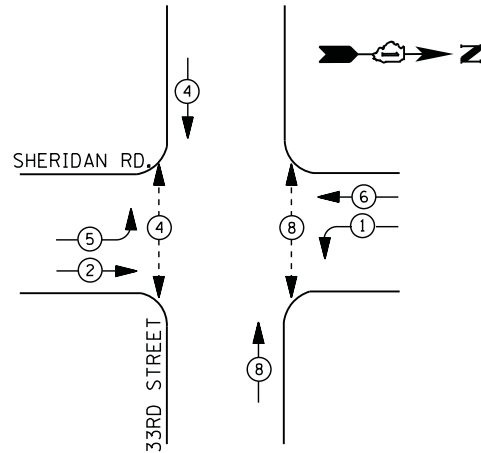
IL ROUTE 137 (SHERIDAN RD) AT 34TH STREET  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	88
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 20908  
 ZION



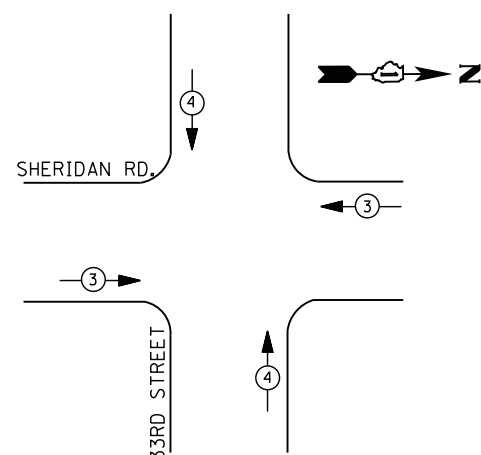
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

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

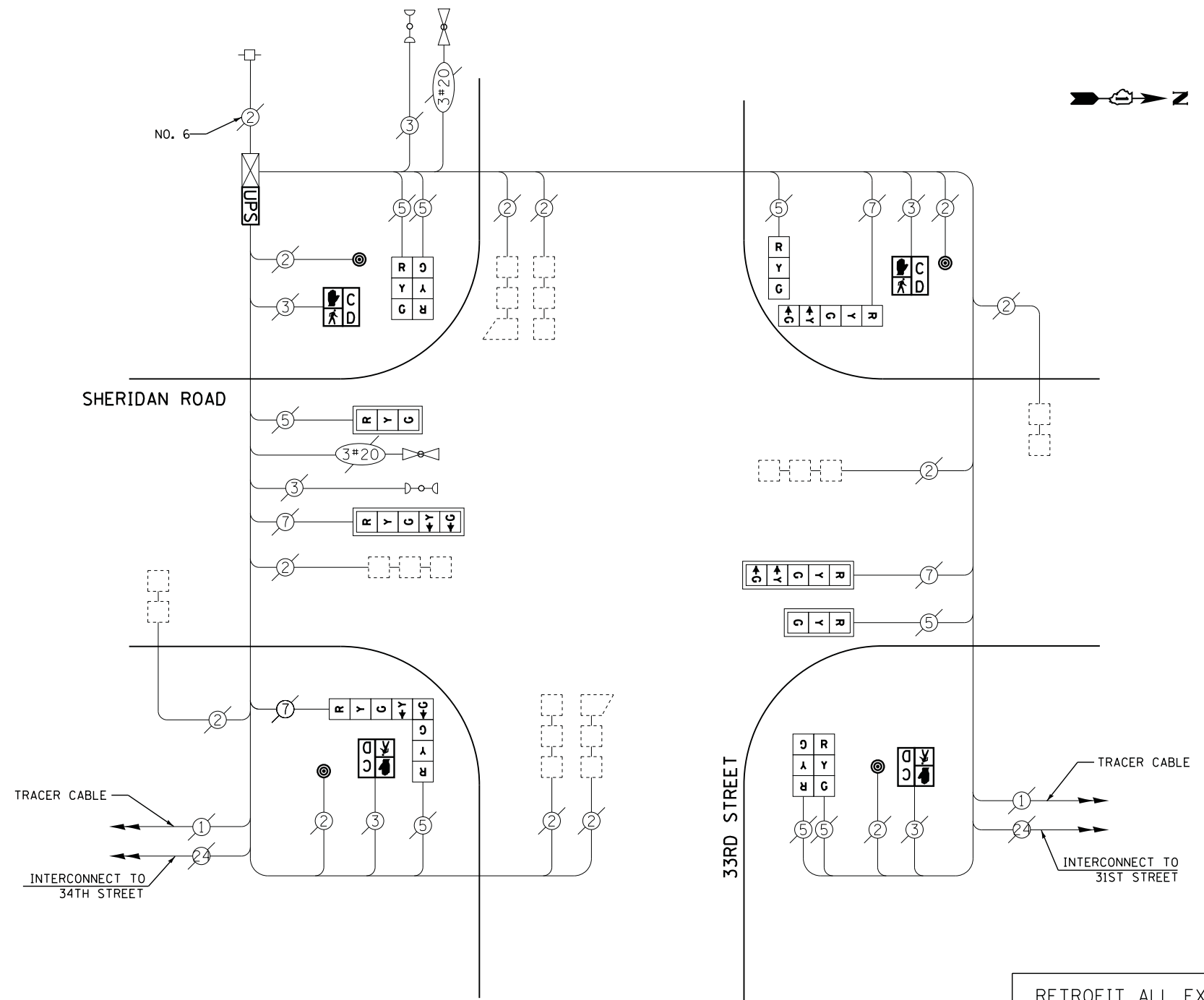
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					432

ENERGY COSTS- **BILLED TO: CITY OF ZION**  
 2828 SHERIDAN RD  
 ZION, IL 60099

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = \$USER\$	DESIGNED - DW	REVISED -
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\20907.CAB.LAKE.dgn		DRAWN - JDH	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - KMM	REVISED -
	PLOT DATE = 5/16/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

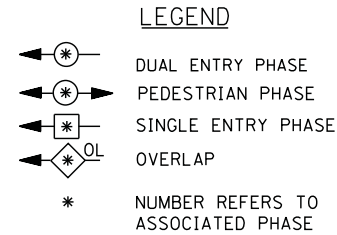
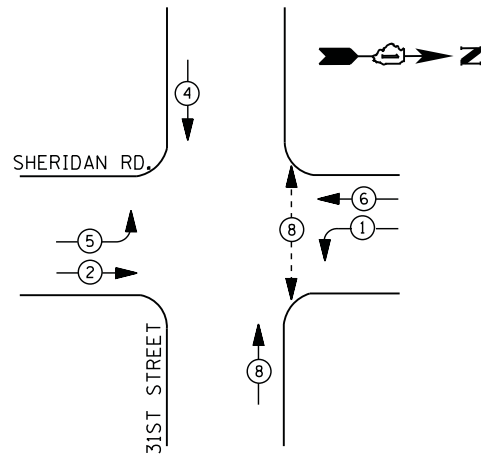
**IL ROUTE 137 (SHERIDAN RD) AT 33RD STREET  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

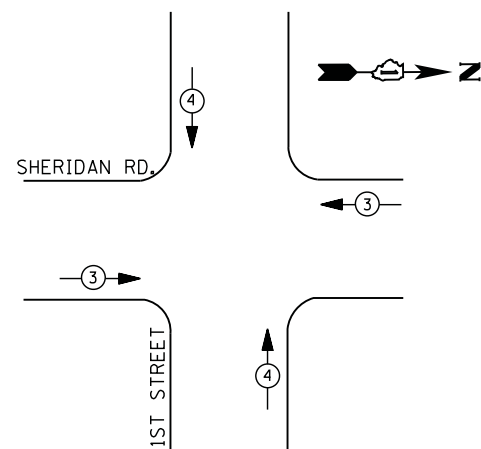
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	89
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 20907  
 ZION

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

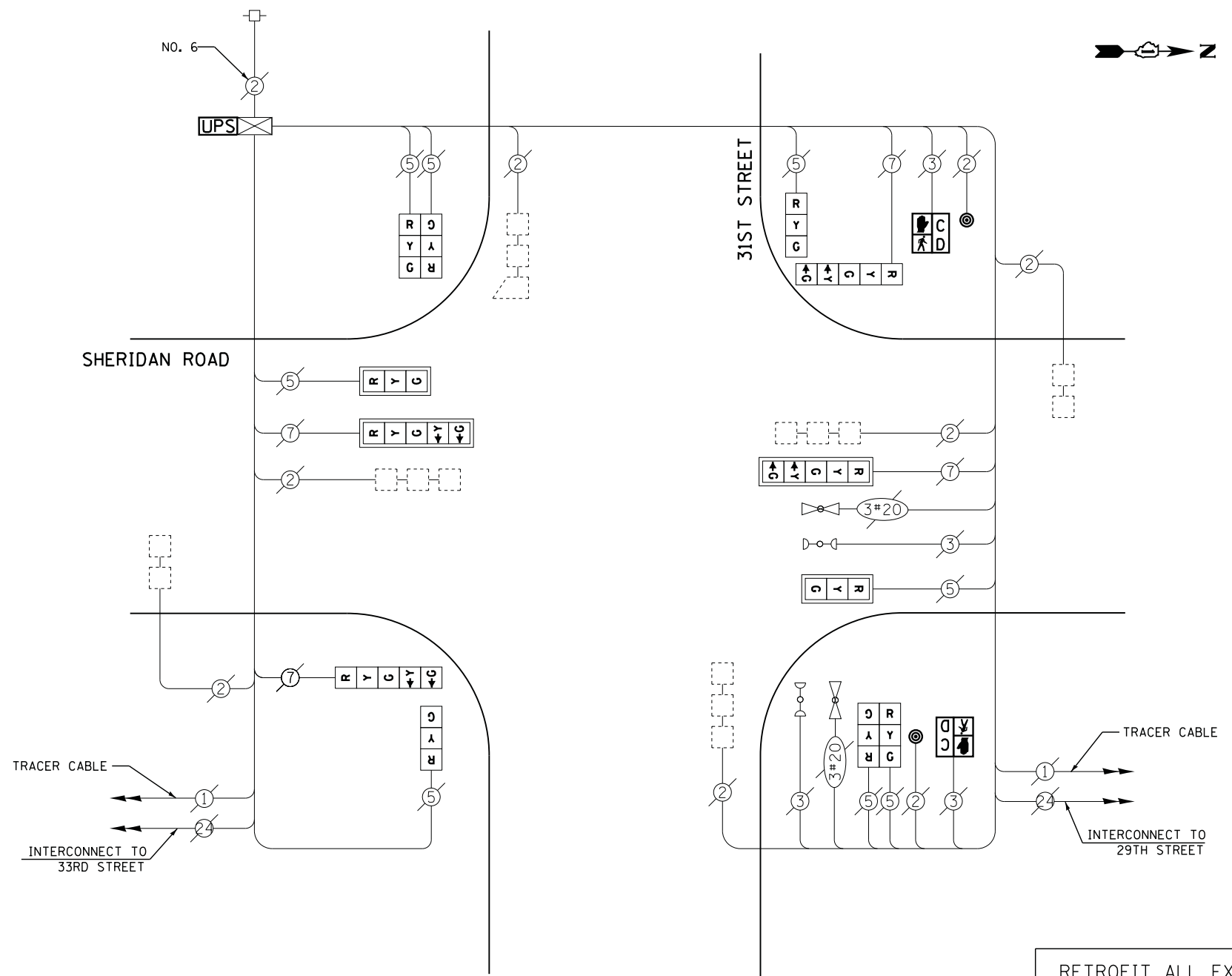
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	2	90	25	1.00	50
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					382

ENERGY COSTS- **BILLED TO: CITY OF ZION**  
 2828 SHERIDAN RD  
 ZION, IL 60099

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2	EACH	PEDESTRIAN SIGNAL HEAD
2	EACH	PEDESTRIAN PUSH-BUTTON
4	EACH	TRAFFIC SIGNAL BACKPLATE

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\312004\Design\CAD\Sheet Files\12-002 Sheets NE Lake Co\20906.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

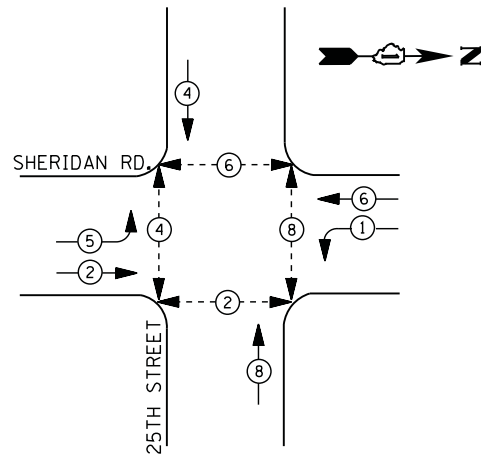
**IL ROUTE 137 (SHERIDAN RD) AT 31ST STREET  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	90
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 20906  
 ZION

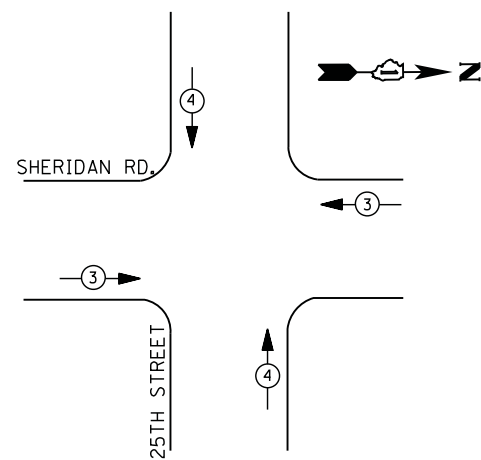
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

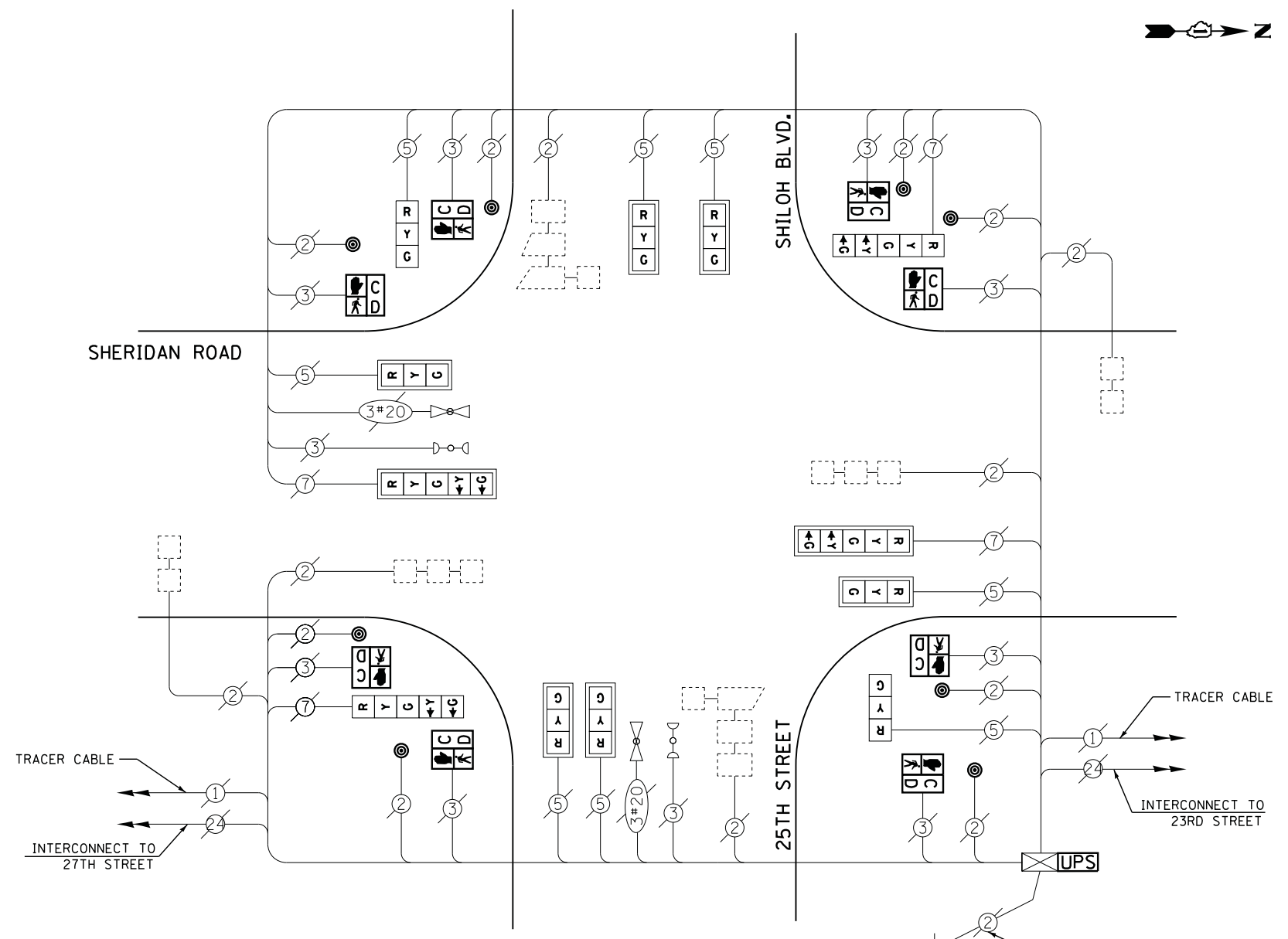
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					532

ENERGY COSTS- **BILLED TO: CITY OF ZION**  
 2828 SHERIDAN RD  
 ZION, IL 60099

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**SCHEDULE OF QUANTITIES**

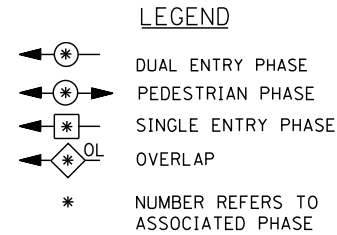
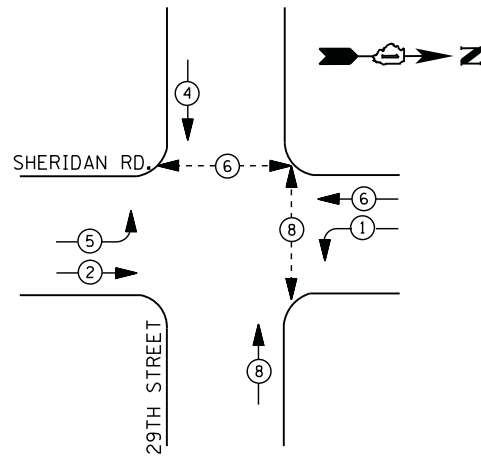
QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

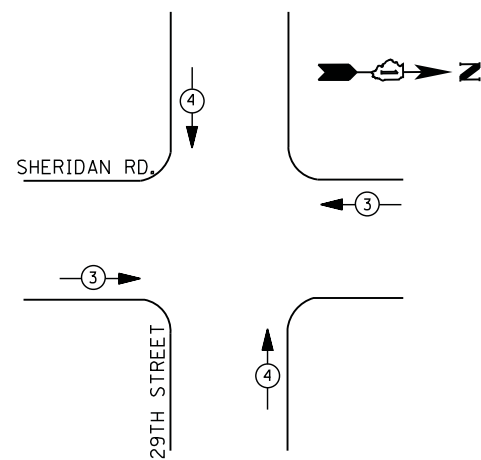
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN SIGNAL HEAD  
 8 EACH PEDESTRIAN PUSH-BUTTON

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

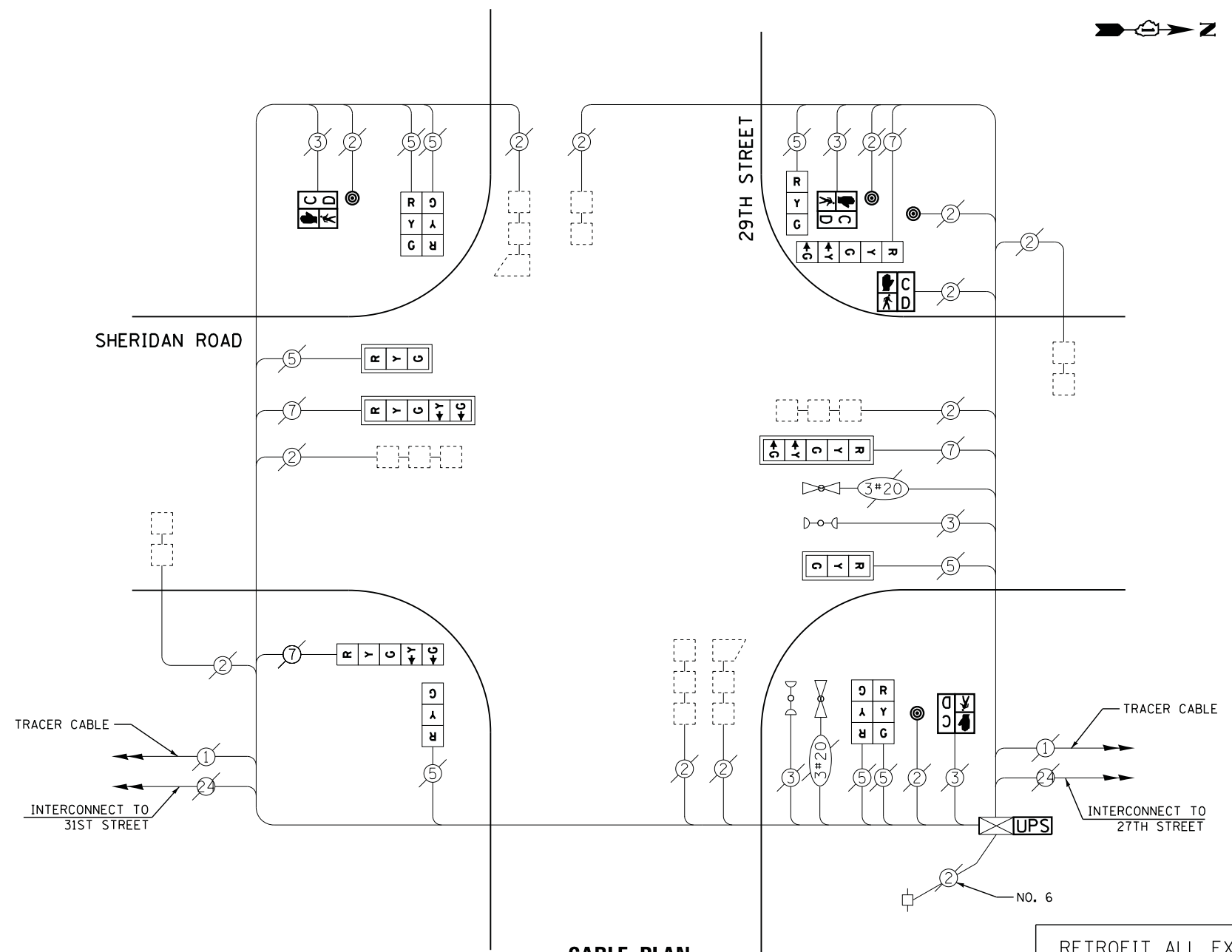
**I. D. O. T.  
 TRAFFIC SIGNAL INSTALLATION  
 ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					432

ENERGY COSTS- **BILLED TO: CITY OF ZION**  
 2828 SHERIDAN RD  
 ZION, IL 60099

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SHERIDAN ROAD**



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSH-BUTTON

FILE NAME =	USER NAME = *USER*	DESIGNED -	DW	REVISED -	
N:\Projects\3\12004\DesignCAD\Sheet Files\12-002 Sheets NE Lake Co\20904.CAB.LAKE.dgn		DRAWN -	JDH	REVISED -	
	PLOT SCALE = *SCALE*	CHECKED -	KMM	REVISED -	
	PLOT DATE = 5/16/2012	DATE -		REVISED -	

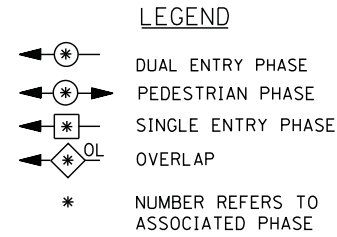
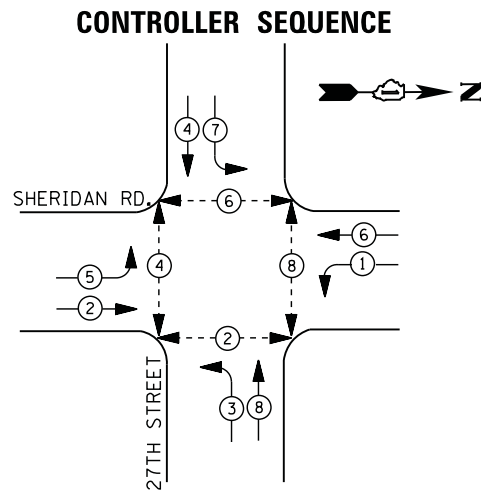
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL ROUTE 137 (SHERIDAN RD) AT 29TH STREET  
 SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM  
 AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**

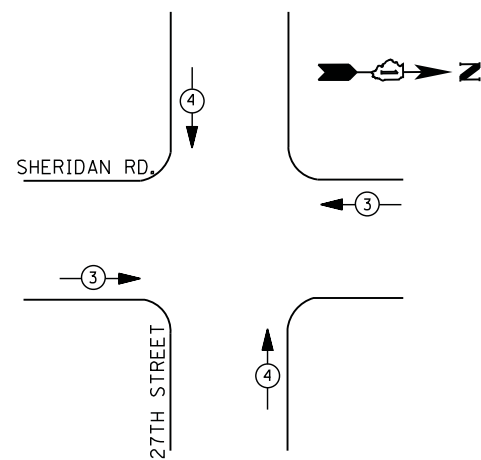
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2012-004 I	LAKE	97	92
CONTRACT NO. 60T42				
ILLINOIS FED. AID PROJECT				

TS# 20904  
 ZION



**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

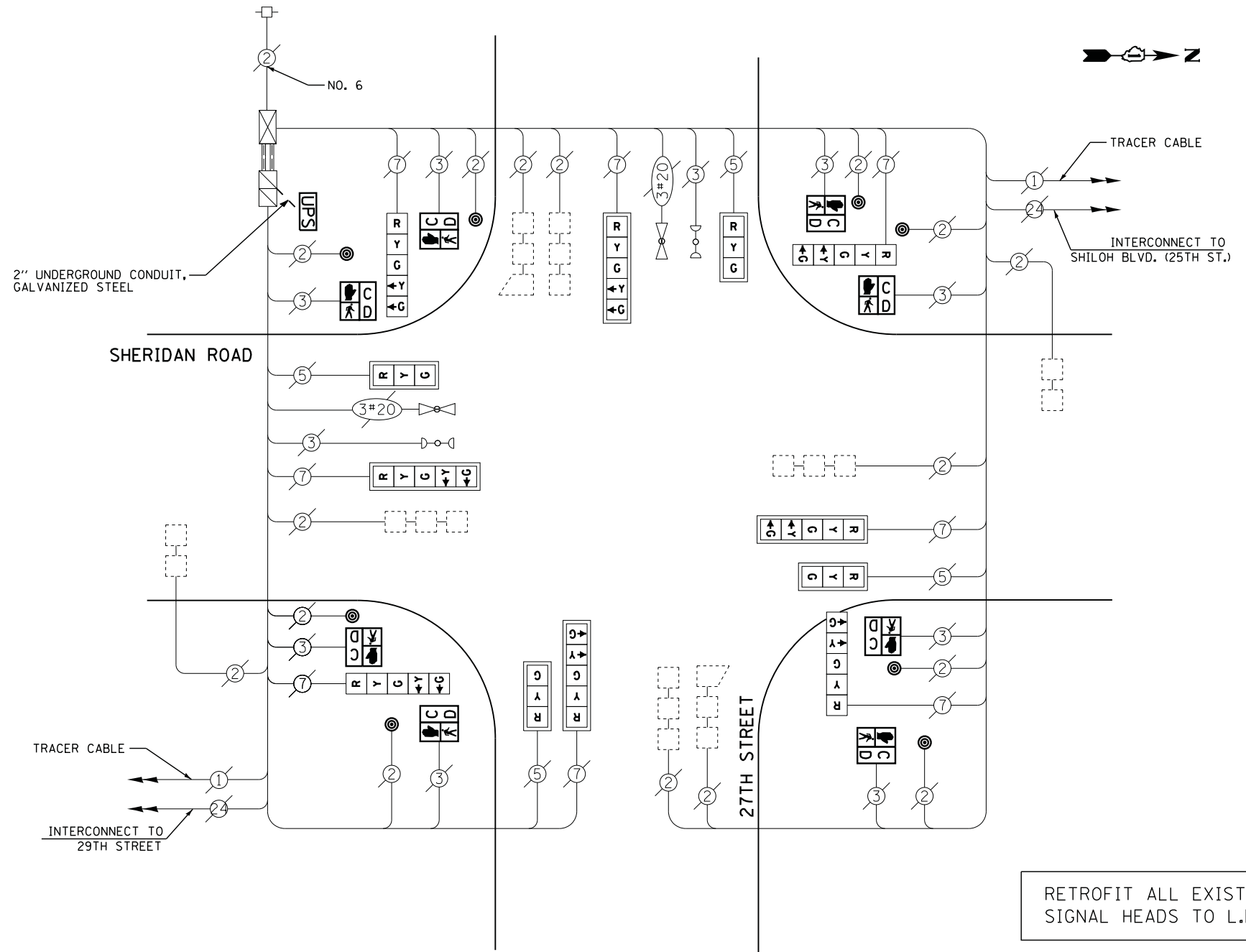
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	12	135	17	0.50	102
( YELLOW )	12	135	25	0.25	75
( GREEN )	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					541

ENERGY COSTS- BILLED TO: CITY OF ZION  
 2828 SHERIDAN RD  
 ZION, IL 60099

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

UPS SHALL BE INSTALLED ON A SEPARATE FOUNDATION DUE TO PHYSICAL CONSTRAINTS, OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED"

**SCHEDULE OF QUANTITIES**

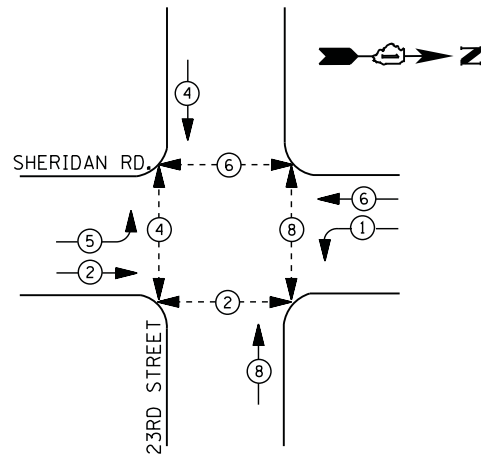
QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	DRILL EXISTING HANDHOLE
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON

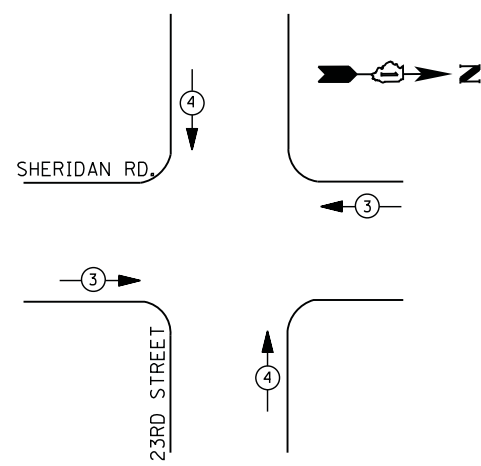
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←→	↑↓

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

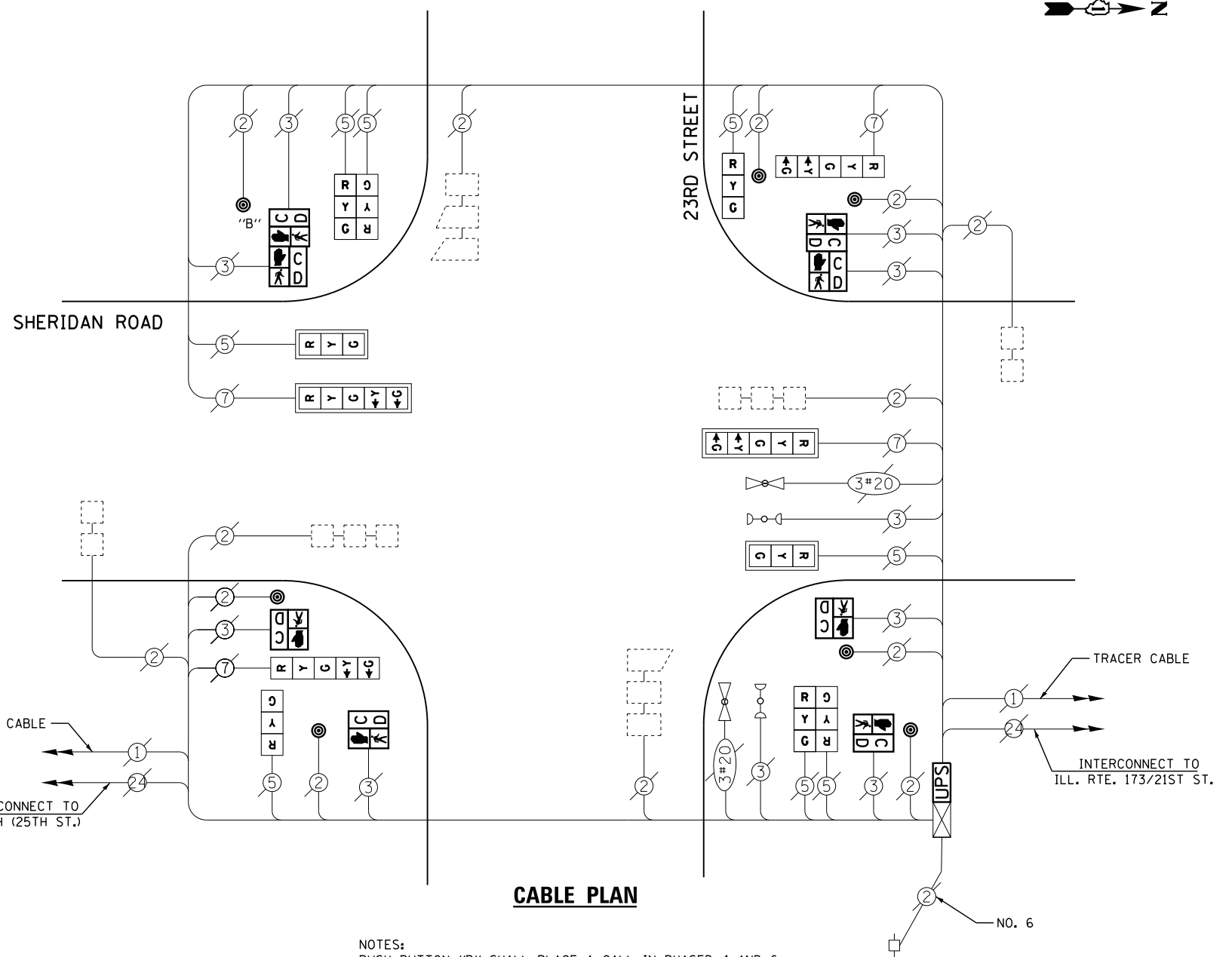
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	8	135	12	0.10	10
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					532

ENERGY COSTS- **BILLED TO: CITY OF ZION**  
 2828 SHERIDAN RD  
 ZION, IL 60099

ENERGY SUPPLY - **CONTACT TERRI BLECK**  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
4	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED, RETROFIT
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
7	EACH	PEDESTRIAN PUSH-BUTTON, NON-LATCHING



**CABLE PLAN**

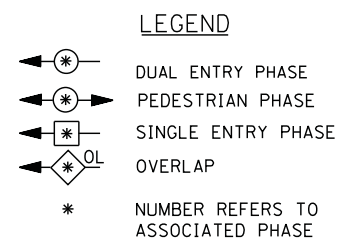
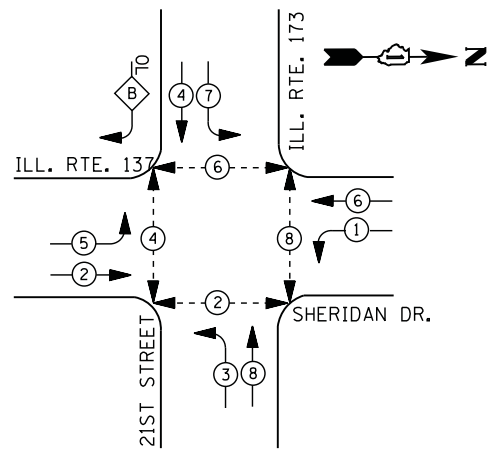
RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH PEDESTRIAN SIGNAL HEAD  
 7 EACH PEDESTRIAN PUSH-BUTTON

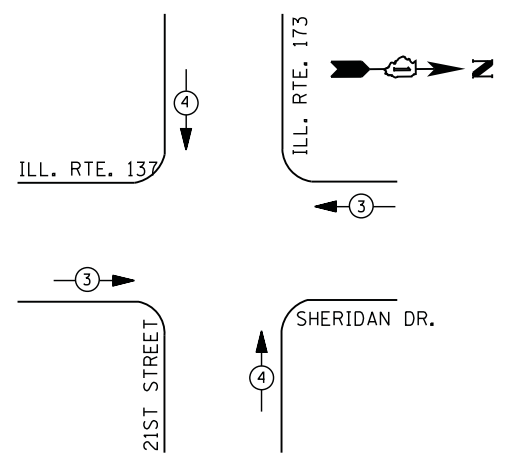
**CONTROLLER SEQUENCE**



**RIGHT TURN OVERLAP PHASE DESIGNATION**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	= 4	+ 5

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←→	↑↓

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

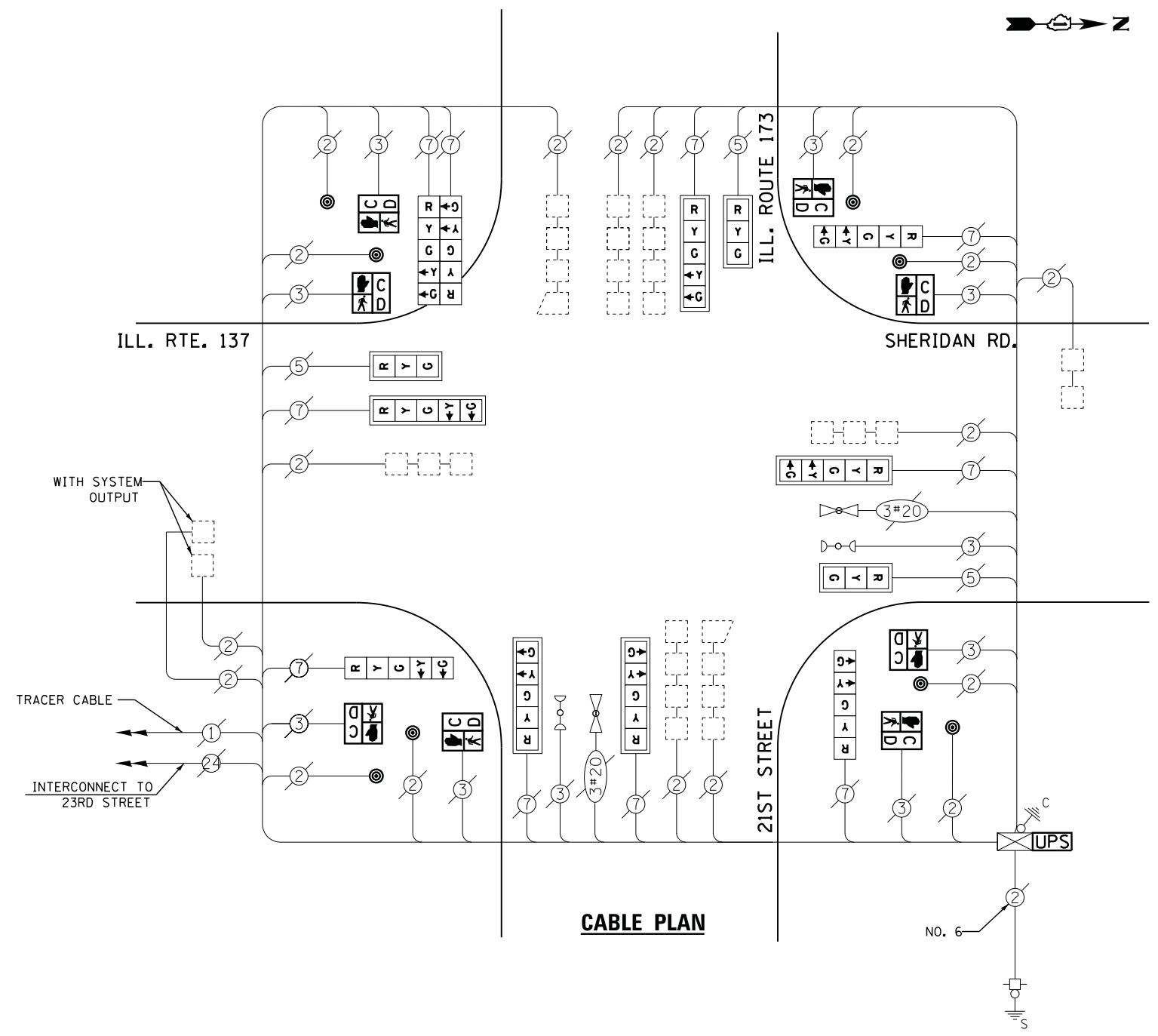
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	20	135	12	0.10	24
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					565

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT



**CABLE PLAN**

RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D.

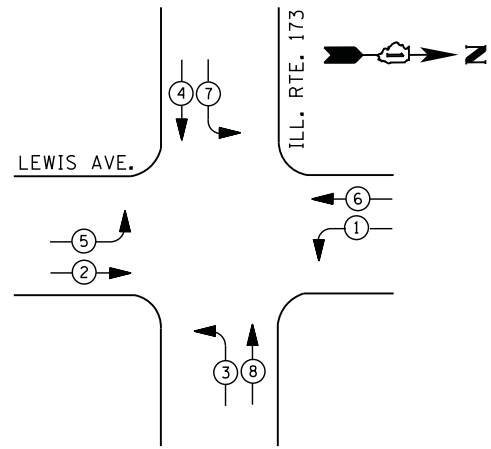
**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSH-BUTTON

TS# 20901  
ZION

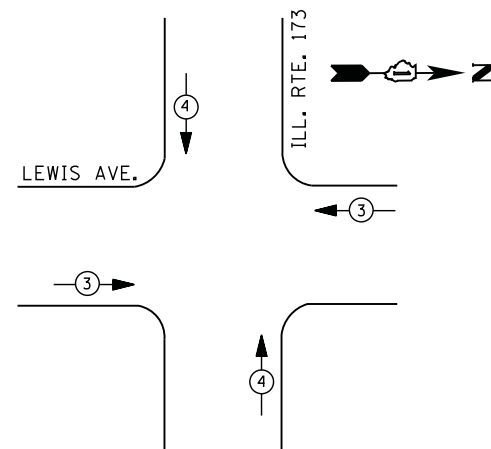
**CONTROLLER SEQUENCE**



**LEGEND**

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

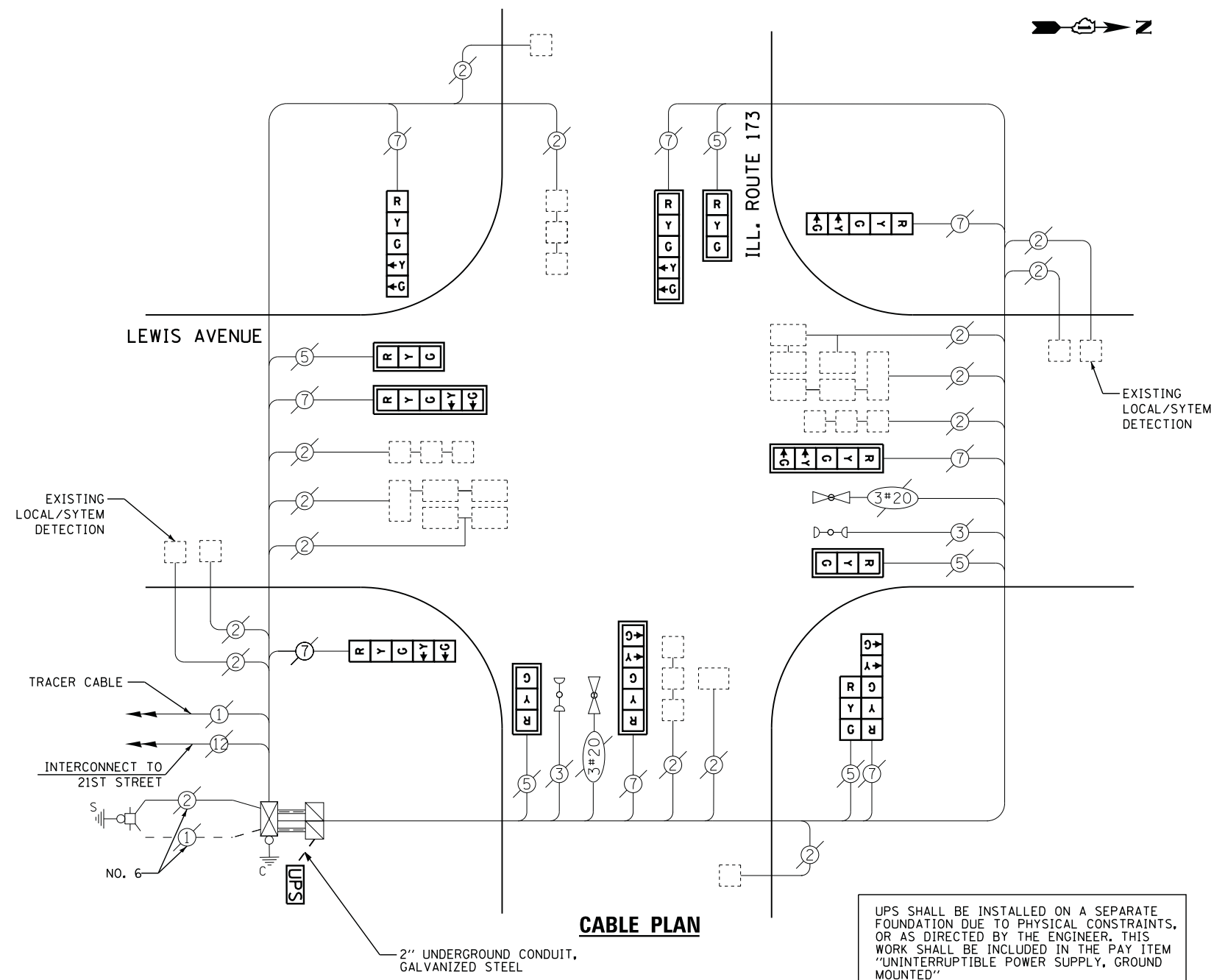
EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL ( RED )	13	135	17	0.50	111
( YELLOW )	13	135	25	0.25	81
( GREEN )	13	135	15	0.25	49
ARROW	16	135	12	0.10	19
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
FLASHER LED					
TOTAL =					360

ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON



**CABLE PLAN**

UPS SHALL BE INSTALLED ON A SEPARATE FOUNDATION DUE TO PHYSICAL CONSTRAINTS, OR AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED"

**SCHEDULE OF QUANTITIES**

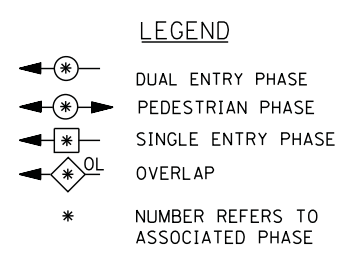
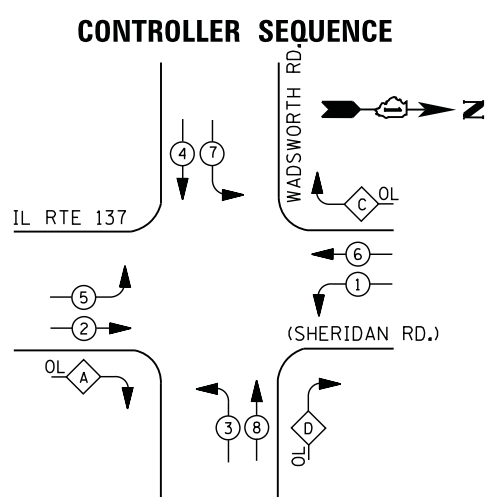
QUANTITY	UNIT	ITEM
10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	DRILL EXISTING HANDHOLE
4	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, GROUND MOUNTED

**REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

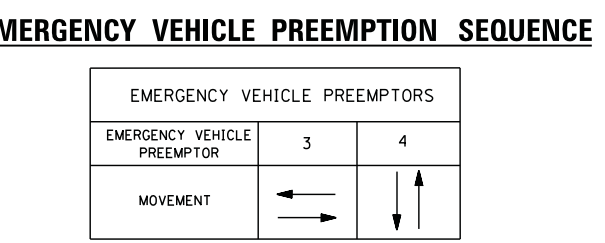
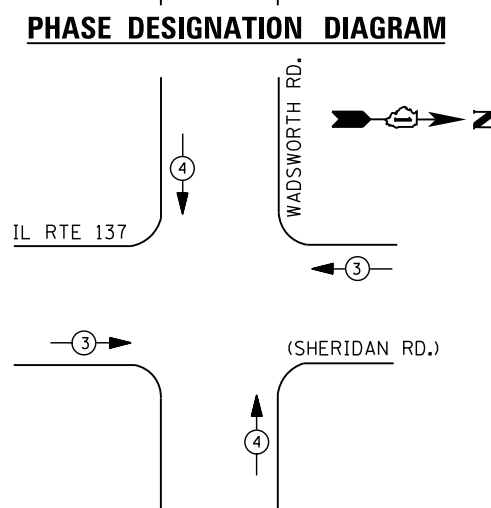
5 EACH SIGNAL HEAD, 3 - SECTION  
 8 EACH SIGNAL HEAD, 5 - SECTION  
 8 EACH TRAFFIC SIGNAL BACKPLATE





### RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2 +	3
C =	6 +	7
D =	8 +	1



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

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	28	135	12	0.10	34
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	25	0.05	--
VIDEO SYSTEM		150	-	1.00	--
TOTAL =					430

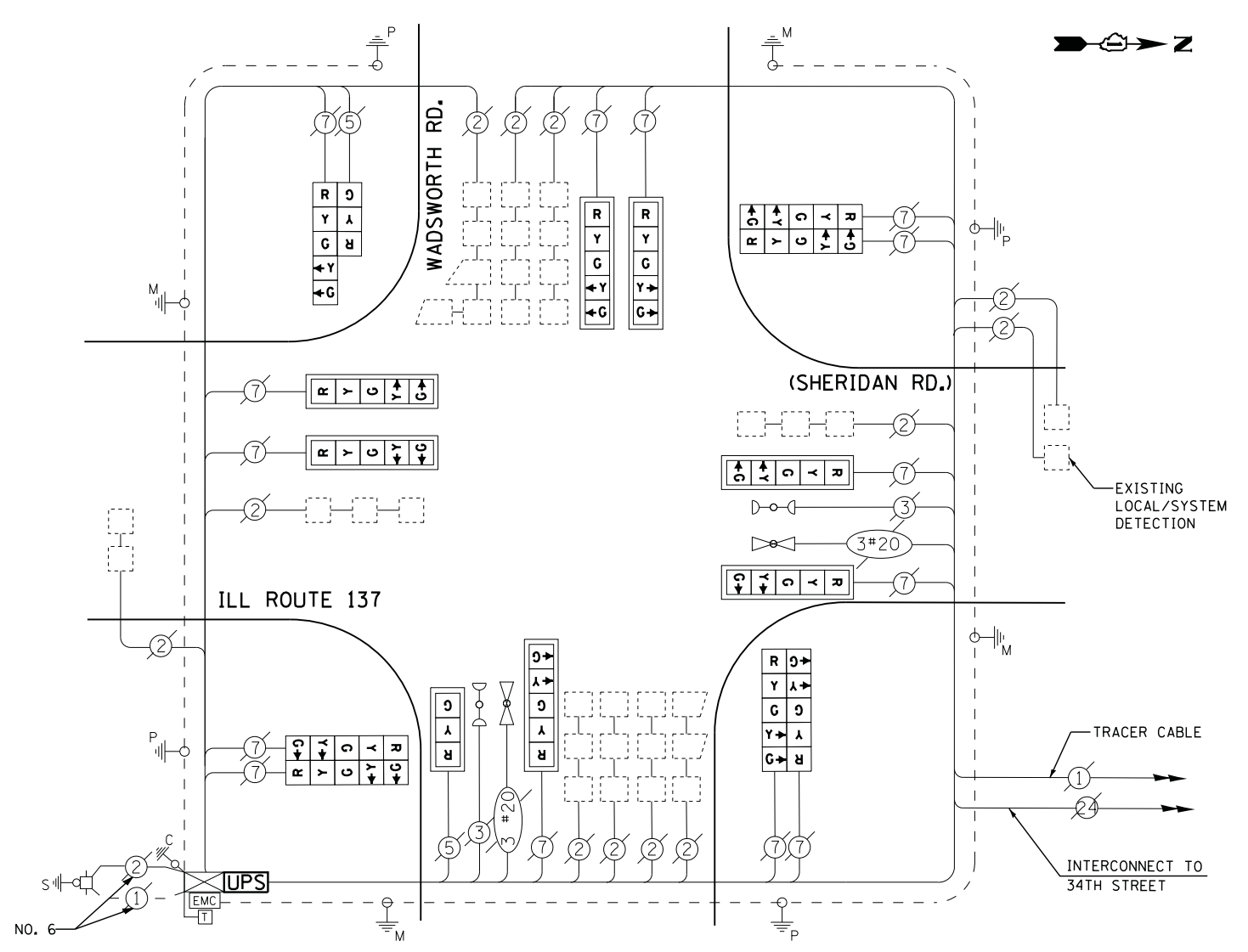
ENERGY COSTS- BILLED TO: IDOT DISTRICT 1  
 201 WEST CENTER COURT  
 SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT TERRI BLECK  
 PHONE 847-816-5239  
 COMMONWEALTH EDISON

### SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	MODIFY EXISTING CONTROLLER CABINET
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED, RETROFIT
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED, RETROFIT
7	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED, RETROFIT
3	EACH	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED RETROFIT

### CABLE PLAN



RETROFIT ALL EXISTING SIGNAL HEADS TO L.E.D

### REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

8 EACH TRAFFIC SIGNAL BACKPLATE