

60607

F.A. RTE:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2009-009 TS		COOK	24	1

D-91-322-09



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

DISTRICT 1
HIGHWAY SAFETY IMPROVEMENT PROJECT
TRAFFIC SIGNAL MODERNIZATION

↙ 147TH
ILL RTE 83/(SIBLEY BLVD.) AT DIXIE HIGHWAY
BRAINARD AVENUE AT BURNHAM AVENUE
JOE ORR ROAD AT CHICAGO ROAD
PROJECT: HSIP-0005(663)
SECTION 2009-009 TS
COOK COUNTY
C-91-322-09

INDEX OF SHEETS

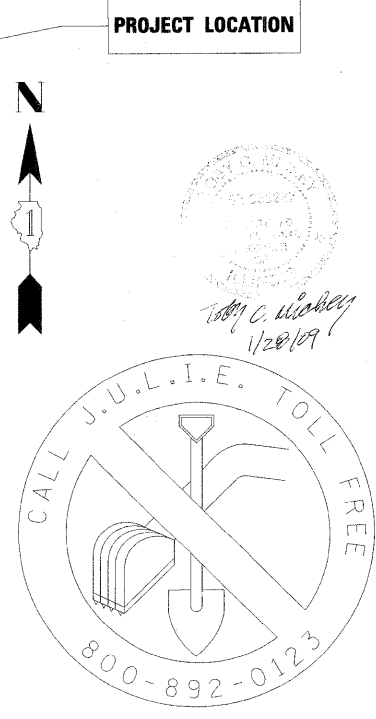
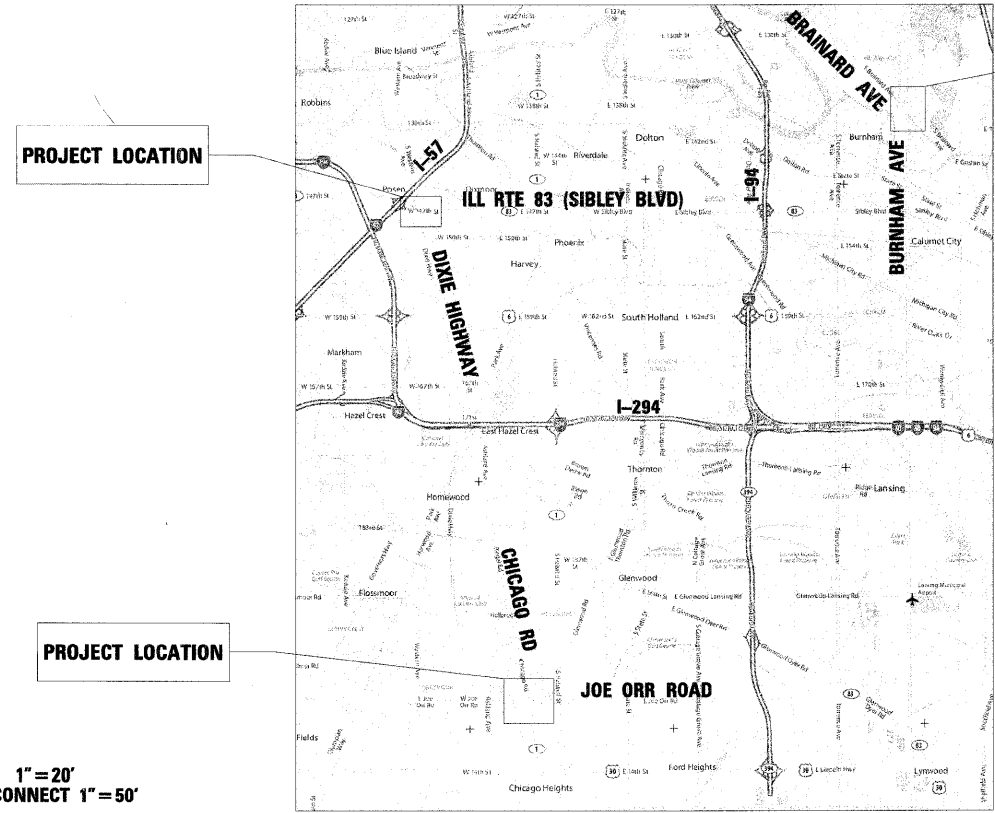
1. TITLE SHEET
2. SUMMARY OF QUANTITIES
3. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS - SHEET 1 OF 4
4. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS - SHEET 2 OF 4
5. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS - SHEET 3 OF 4
6. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS - SHEET 4 OF 4
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8. ILL RTE 83 AT DIXIE HIGHWAY - EXISTING CABLE PLAN
9. ILL RTE 83 AT DIXIE HIGHWAY - PROPOSED TRAFFIC SIGNAL PLAN
10. ILL RTE 83 AT DIXIE HIGHWAY - PROPOSED CABLE PLAN
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12. BRAINARD AVENUE AT BURNHAM AVENUE - EXISTING AND REMOVAL PLAN
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14. BRAINARD AVENUE AT BURNHAM AVENUE - PROPOSED TRAFFIC SIGNAL PLAN
15. BRAINARD AVENUE AT BURNHAM AVENUE - PROPOSED CABLE PLAN
16. BRAINARD AVENUE AT BURNHAM AVENUE - SEQUENCE OF OPERATION AND RAILROAD PREEMPTION SEQUENCE OF OPERATION
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19. JOE ORR ROAD AT CHICAGO ROAD - SEQUENCE OF OPERATION AND EMERGENCY VEHICLE SEQUENCE OF OPERATION
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22. JOE ORR ROAD AT CHICAGO ROAD - SEQUENCE OF OPERATION AND EMERGENCY VEHICLE SEQUENCE OF OPERATION
23. JOE ORR ROAD AT CHICAGO ROAD - INTERCONNECT PLAN (SHEET 1 OF 2)
24. JOE ORR ROAD AT CHICAGO ROAD - INTERCONNECT PLAN (SHEET 2 OF 2)

STANDARD DRAWINGS

424001-05	606001-03	805001-01	814001-02	814006-02
857001-01	857006	862001-01	873001-01	876001
877001-03	878001-06	880001	880006-01	886001
701501-05	701601-06	701606-05	701701-06	701801-04
720001	720016-01	780001-01		

NOTE: STANDARD DRAWINGS REQUIRED (CIRCLED)

THORNTON AND BLOOM TOWNSHIP



48 - HOURS BEFORE DIGGING

PREPARED BY Steve Travia TRAFFIC ENGINEER
DATE June 30, 2009

SCALES { PLAN 1"=20'
INTERCONNECT 1"=50'

CONTRACT NO. 60607

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED June 30 20 09
Denise M. O'Neil
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
March 27, 2009
Charles A. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT
March 27, 2009
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

DISTRICT 1 BUREAU OF TRAFFIC: STEPHEN TRAVIA/DARYLE DREW (847) 705-4420

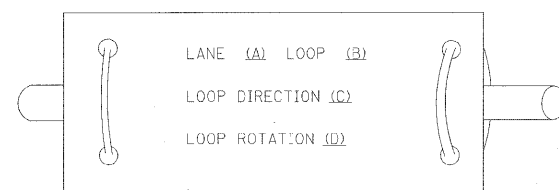
PERCENTAGES							
LOCATION OF WORK				ILL RTE 83 @ DIXIE HWY.	BRAINARD AVE. @ BURNHAM AVENUE	JOE ORR ROAD @ CHICAGO ROAD	
SUMMARY OF QUANTITIES				GRAND TOTAL	CONSTRUCTION CODE		
CODE NO.	ITEM	UNIT		Y031-1F	Y031-1F	Y031-1F	
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	120	40	40	40	
42400800	DETECTABLE WARNINGS	SQ FT	96	56	40		
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	0.33	0.33	0.33	
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.33	0.33	0.33	
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1	
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1			1	
85900100	TRANSCEIVER	EACH	1			1	
X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	3	1	1	1	
88030020	SIGNAL HEAD, L E D, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	9	2	4	3	
88030050	SIGNAL HEAD, L E D, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3		2	1	
88030100	SIGNAL HEAD, L E D, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	3			3	
88030110	SIGNAL HEAD, L E D, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	12	6	4	2	
X8808120	SIGNAL HEAD, L E D, 1-FACE, 3-SECTION, OPTICALLY PROGRAMMED MAST ARM MOUNTED	EACH	1			1	
X8808118	SIGNAL HEAD, L E D, 1-FACE, 3-SECTION, OPTICALLY PROGRAMMED BRACKET MOUNTED	EACH	1			1	
X8808180	SIGNAL HEAD, L E D, 1-FACE, 5-SECTION, OPTICALLY PROGRAMMED MAST ARM MOUNTED	EACH	2			2	
88030220	SIGNAL HEAD, L E D, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2	2			
88030240	SIGNAL HEAD, L E D, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	4	2	2		
X8808160	SIGNAL HEAD, L E D, 1-FACE, 5-SECTION, OPTICALLY PROGRAMMED BRACKET MOUNTED	EACH	2		2		
X8808185	SIGNAL HEAD, L E D, 2-FACE, 1-3 SECTION, 1-5 SECTION, OPTICALLY PROGRAMMED BRACKET MOUNTED	EACH	1			1	
88102710	PEDESTRIAN SIGNAL HEAD, L E D, 1-FACE, BRACKET MOUNTED	EACH	2		2		
88102717	PEDESTRIAN SIGNAL HEAD, L E D, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1	1			
88102740	PEDESTRIAN SIGNAL HEAD, L E D, 2-FACE, BRACKET MOUNTED	EACH	1		1		
88102747	PEDESTRIAN SIGNAL HEAD, L E D, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	3	3			
X0326269	PEDESTRIAN SIGNAL HEAD, L E D, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1	1			
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	24	8	8	8	
88500100	INDUCTIVE LOOP DETECTOR	EACH	14			14	
89100400	ILLUMINATED SIGN, L E D	EACH	4		4		
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	3	1	1	1	
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	154.2	51.4	51.4	51.4	
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	95		95		
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	95		95		
X8050015	SERVICE INSTALLATION-POLE MOUNTED	EACH	1		1		
67100100	MOBILIZATION	L SUM	1	.33	.33	.33	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	3			
44000600	SIDEWALK REMOVAL	SQ FT	96	56	40		
88000100	PEDESTRIAN PUSH-BUTTON	EACH	7	5	2		

Rev

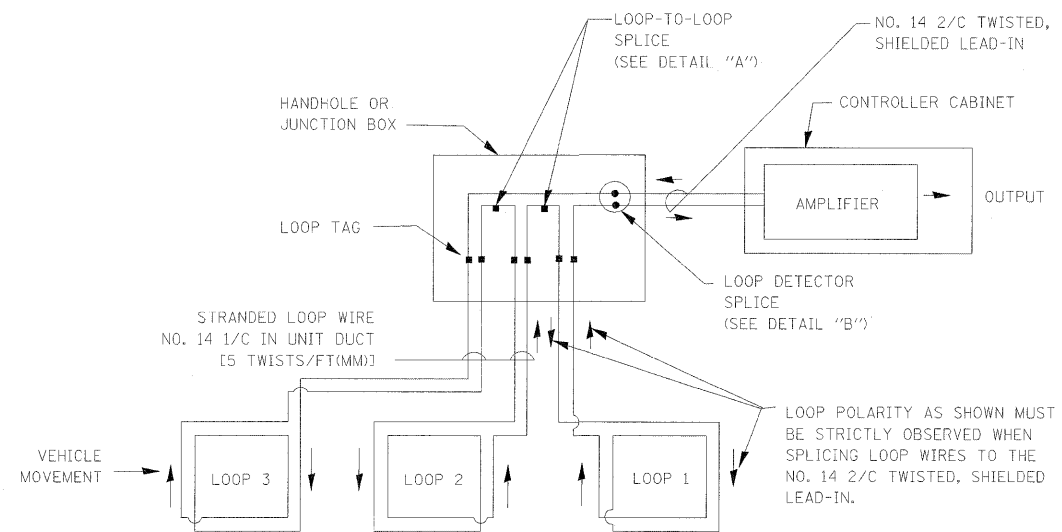
LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. 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.
3. 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.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. 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.
6. 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.
7. 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

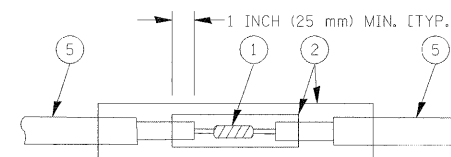


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

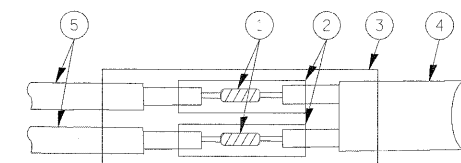


DETECTOR LOOP WIRING SCHEMATIC

- 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**

LOOP DETECTOR SPLICE

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION				
DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS				
SCALE: VERT. NONE HORIZ. 2009-009 TS DATE 09I-11-2007		DRAWN BY: BL CHECKED BY: ER/TC		
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 TS	COOK	24	3
CONTRACT NO. 60G07			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

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	PLOT DATE = 1/27/2009	DATE - 01/23/2009	REVISED -

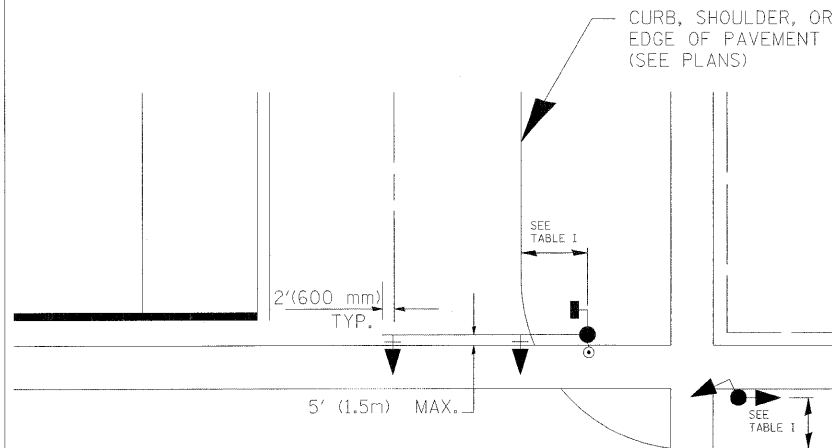
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

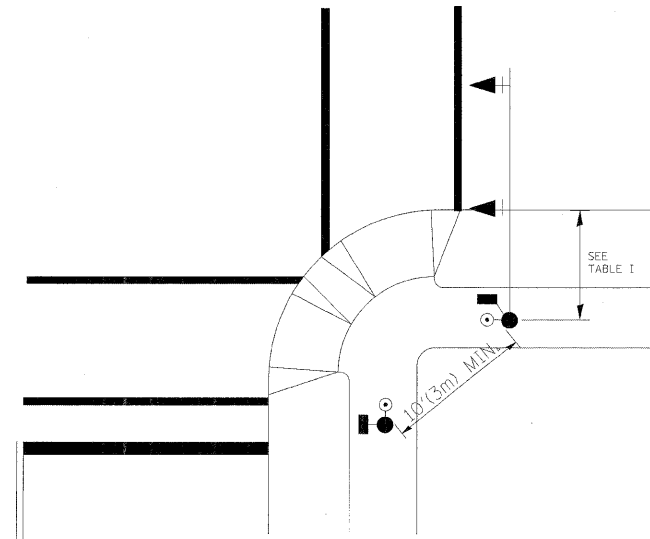
SCALE: NTS SHEET NO. 1 OF 4 SHEETS STA. TO STA.

TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

NOTES:

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:
 A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
 B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.
 C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
 D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).
 E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

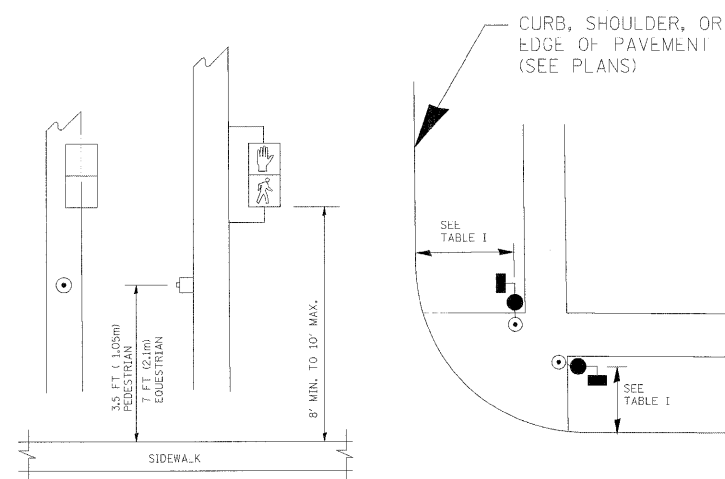


TABLE I

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE HORIZ. NONE
DATE 09-11-2007
DRAWN BY: BL
CHECKED BY: ER/TC

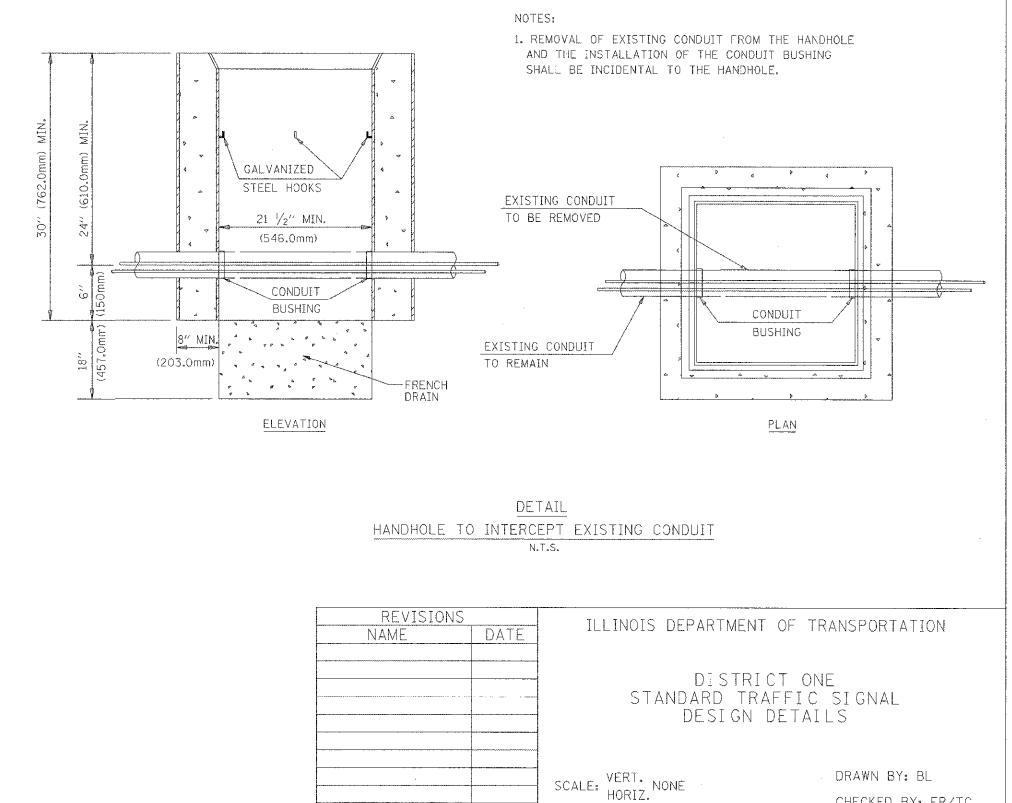
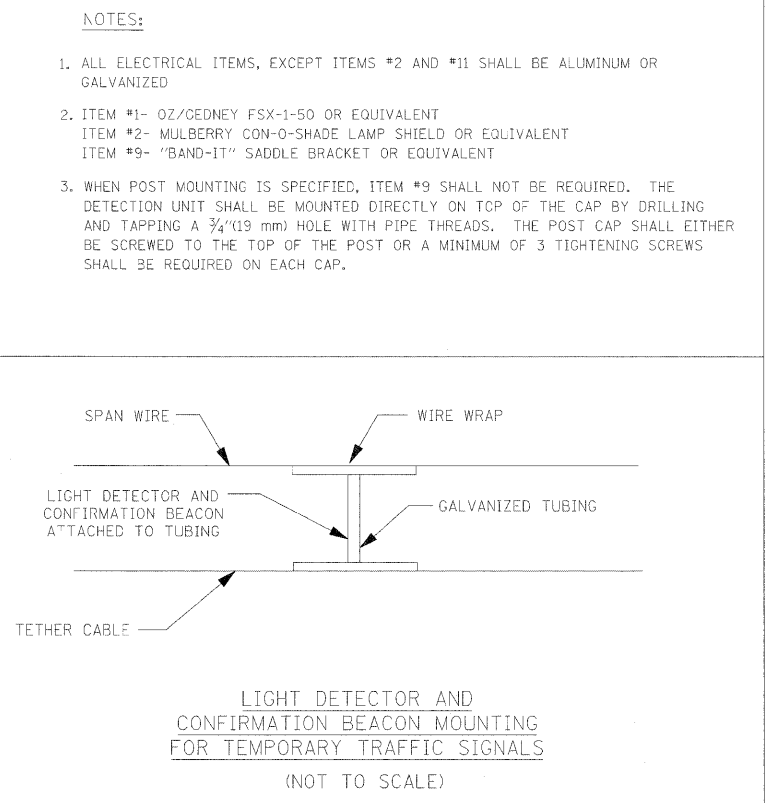
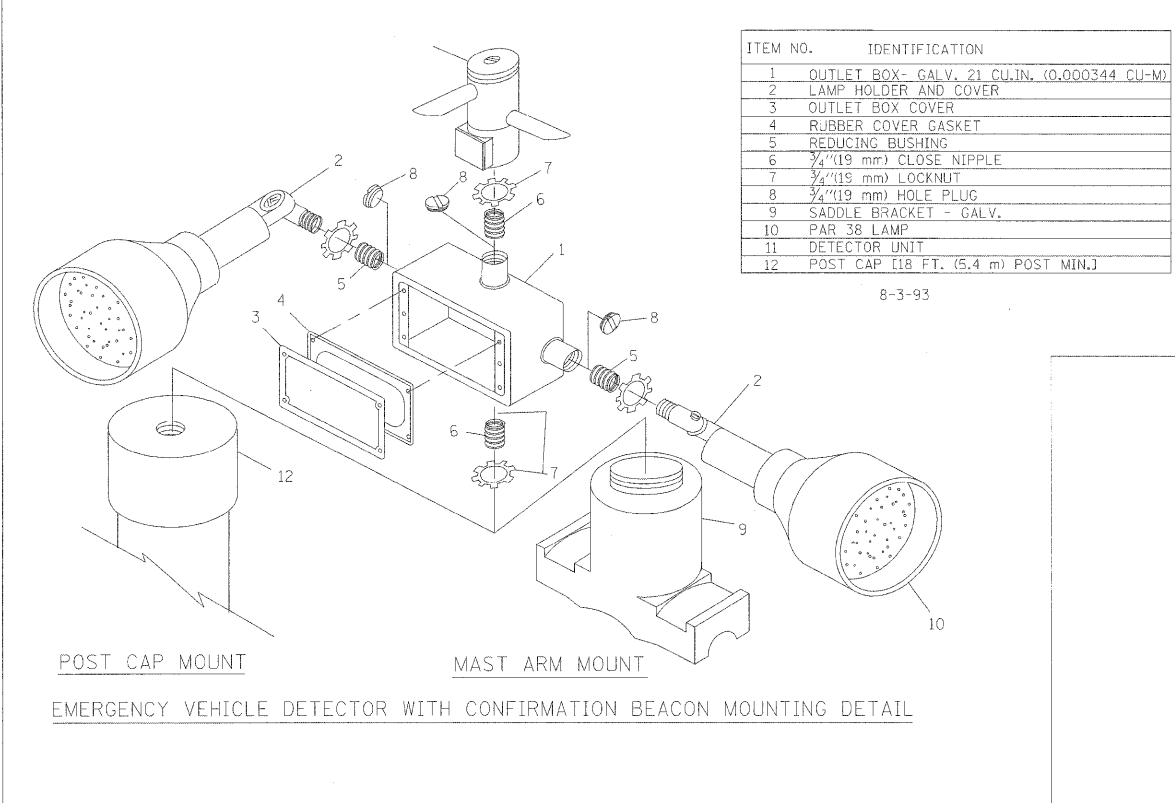
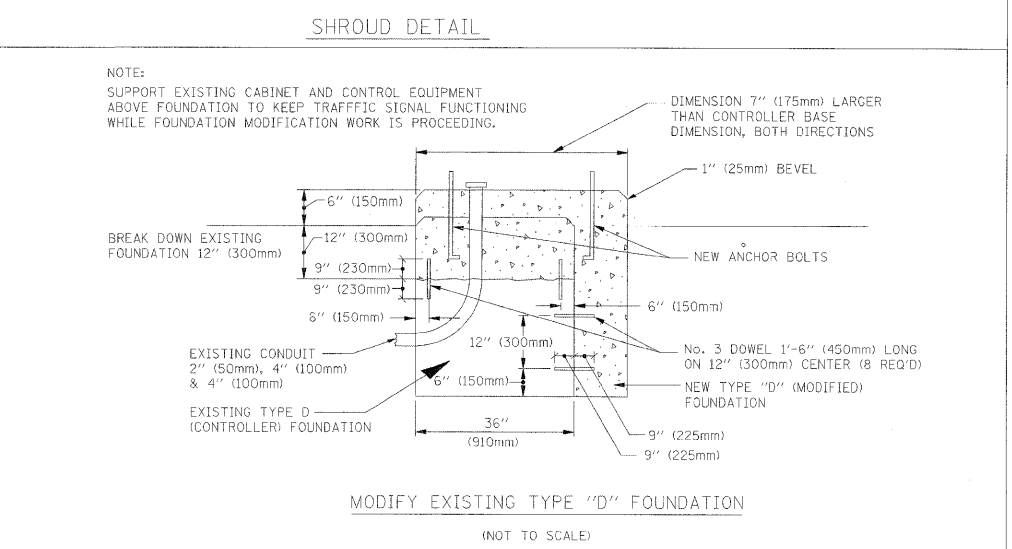
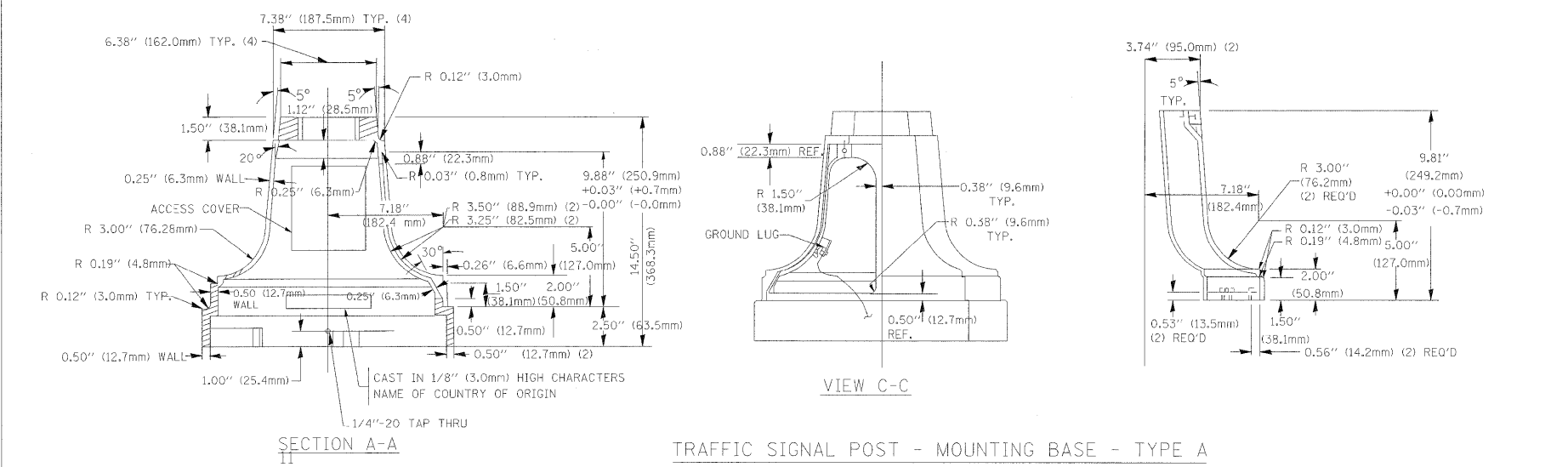
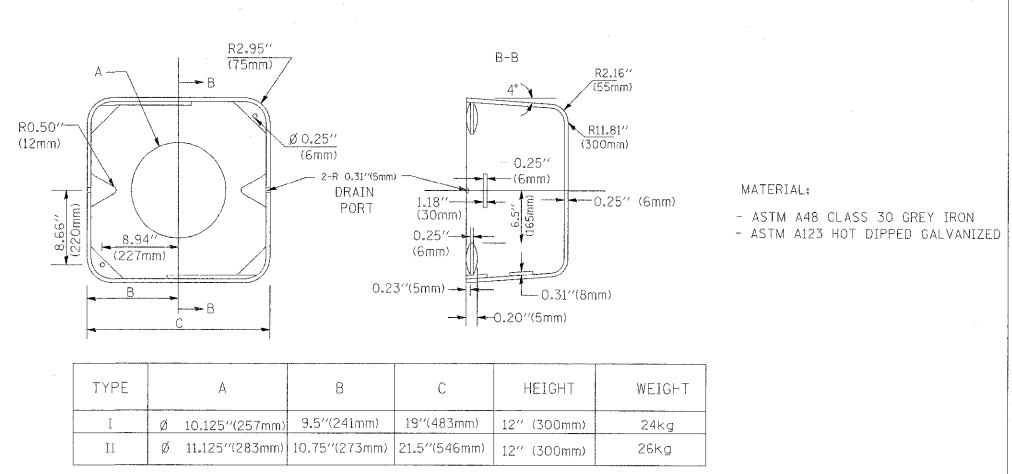
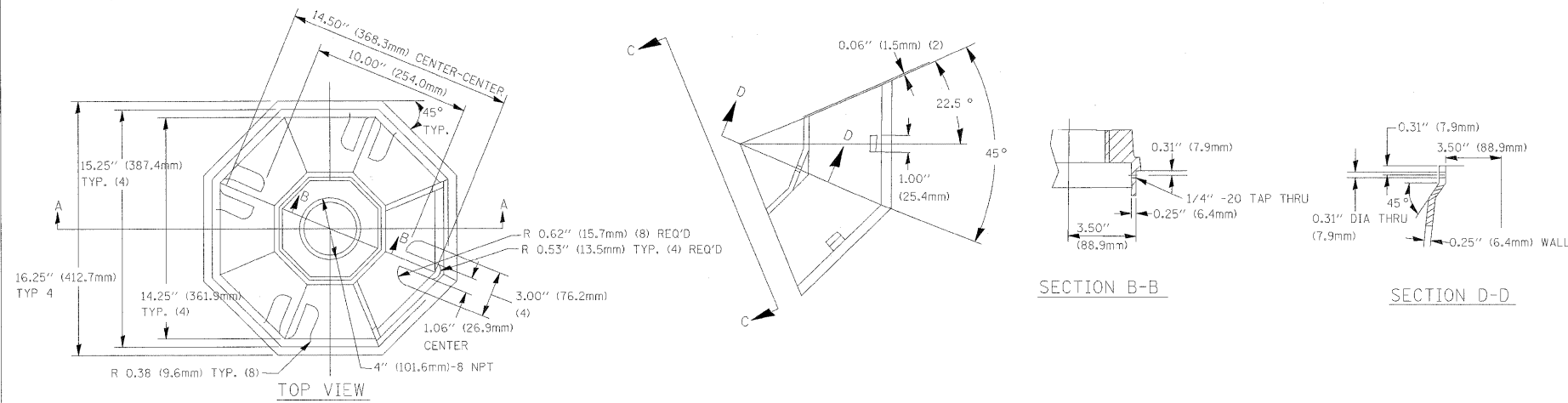
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		DATE - 01/23/2009	REVISED -

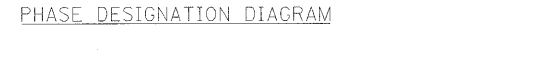
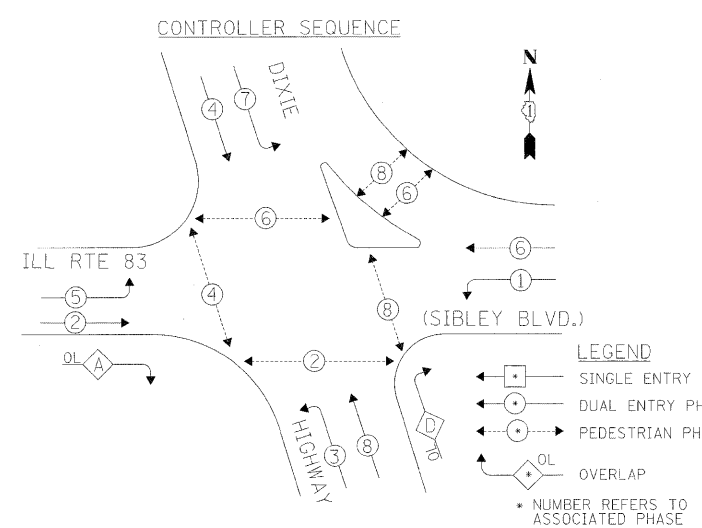
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NTS SHEET NO. 2 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 TS	COCK	24	4
CONTRACT NO. 60607			ILLINOIS FED. AID PROJECT	





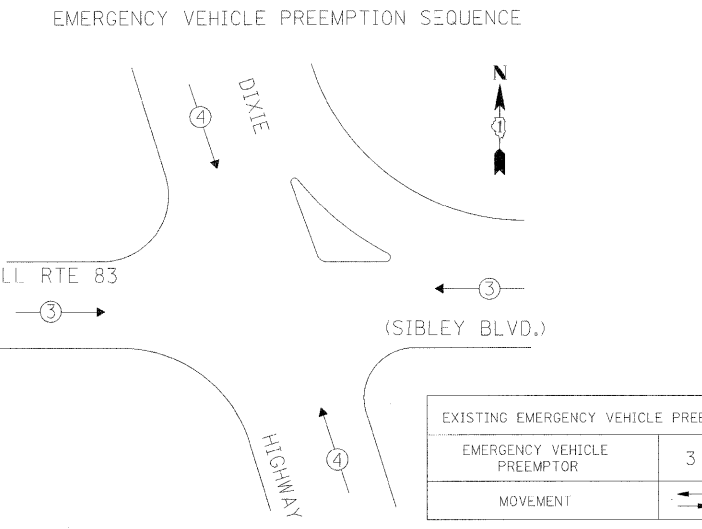
LEGEND

- SINGLE ENTRY PHASE
- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- OVERLAP

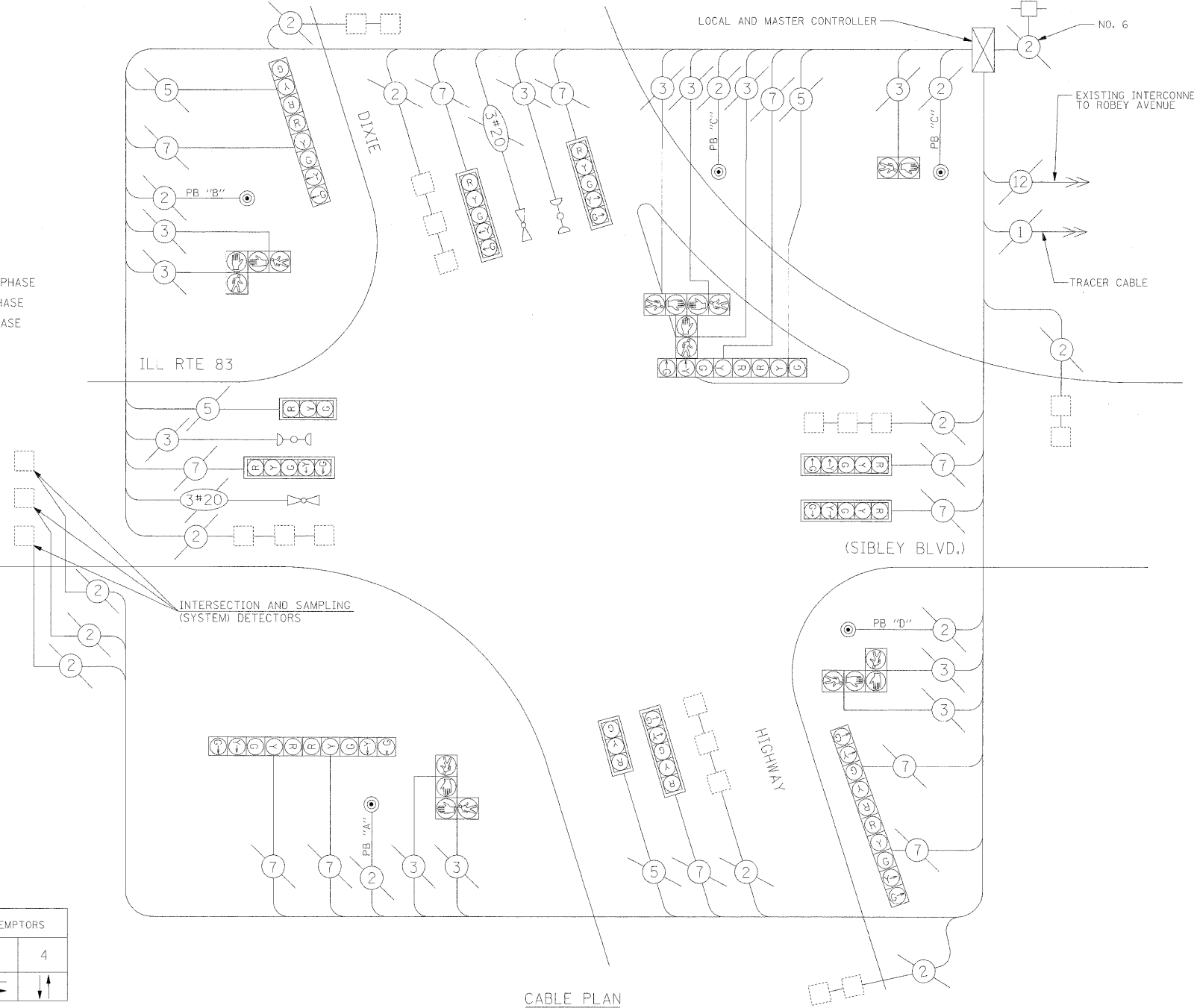
* NUMBER REFERS TO ASSOCIATED PHASE

RIGHT TURN OVERLAP PHASE DESIGNATION

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



EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	→	↑



CABLE PLAN LEGEND

PROPOSED	EXISTING	DESCRIPTION
G	G	8" (200mm) TRAFFIC SIGNAL SECTION
R	R	12" (300mm) TRAFFIC SIGNAL SECTION
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
☐	☐	CONTROLLER CABINET
☐	☐	SERVICE INSTALLATION
☐	☐	TELEPHONE CONNECTION
☐	☐	MAGNETIC DETECTOR
☐	☐	PUSHBUTTON DETECTOR
☐	☐	VEHICLE DETECTOR, INDUCTION LOOP
2	2	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
R Y G Y E	R Y G Y E	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
"P"	"P"	RAILROAD CONTROL CABINET
"E"	"E"	ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
"E"	"E"	ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
H/C	H/C	GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
P	P	GROUND ROD AT POST OR MAST ARM POLE
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
1	1	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
24	24	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MMI2F & SM12F
☐	☐	MICROWAVE VEHICLE SENSOR
V	V	VIDEO DETECTOR
C	C	CLOSED CIRCUIT TV
☐	☐	EMERGENCY VEHICLE LIGHT DETECTOR
☐	☐	CONFIRMATION BEACON
B	B	UNINTERRUPTIBLE POWER SUPPLY

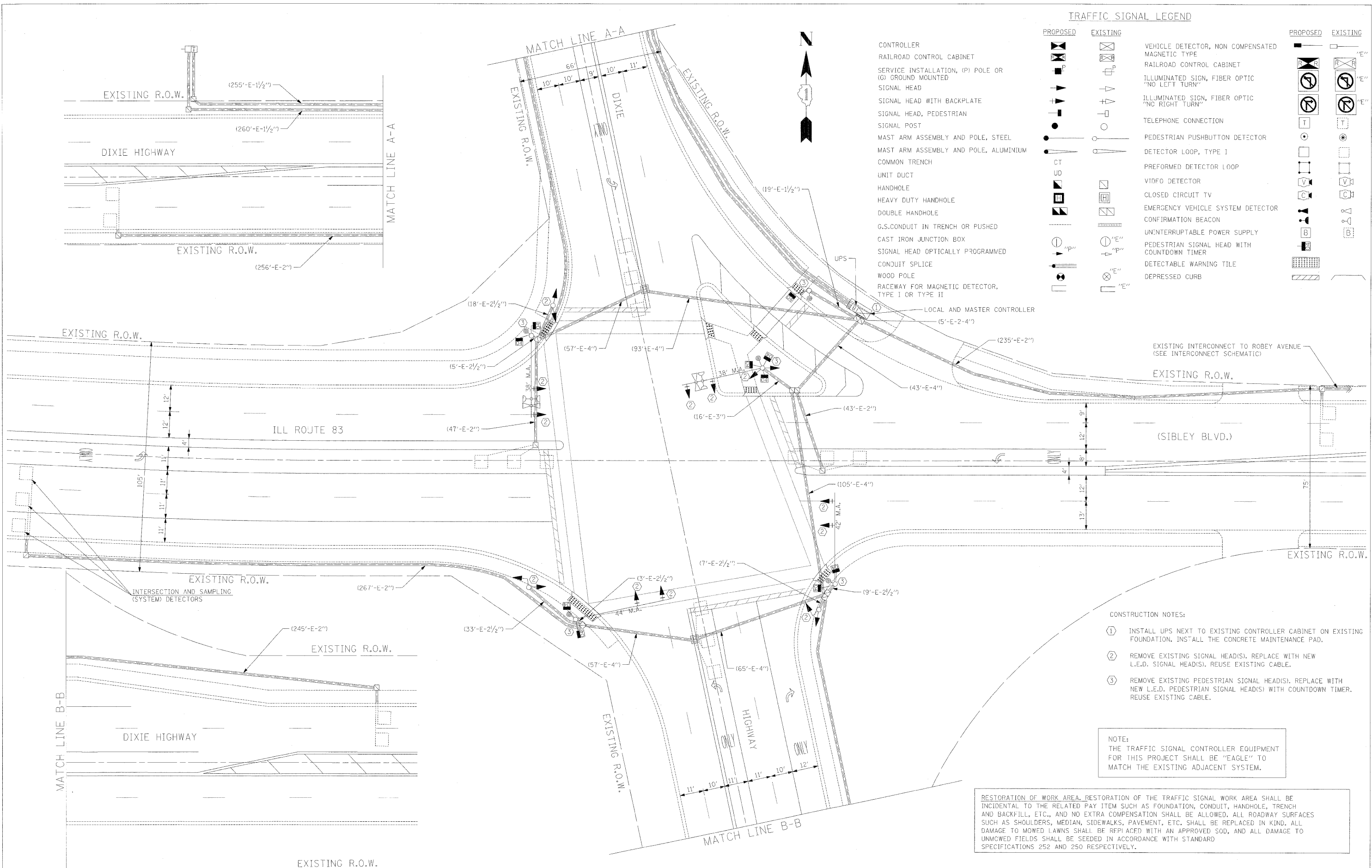
NOTE:
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

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

TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16	135		0.50	1080.00
(YELLOW)	16	135		0.25	540.00
(GREEN)	16	135		0.25	540.00
ARROW	24	135		0.10	324.00
PED. SIGNAL	10	90		1.00	900.00
CONTROLLER	1	100		1.00	100.00
ILLUM. SIGN		84			
FLASHER					
ENERGY COSTS TO:	CITY OF HARVEY 15320 BROADWAY AVENUE HARVEY, IL 60426			TOTAL =	3484.00
ENERGY SUPPLY CONTACT:	STEVE FITZGERALD PHONE: (708) 235-2327 COMPANY: COMMONWEALTH EDISON				

TRAFFIC SIGNAL LEGEND

PROPOSED	EXISTING	PROPOSED	EXISTING

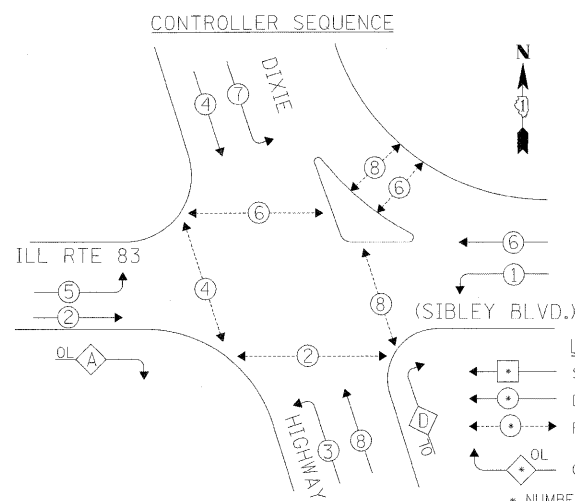


- CONSTRUCTION NOTES:
- INSTALL UPS NEXT TO EXISTING CONTROLLER CABINET ON EXISTING FOUNDATION. INSTALL THE CONCRETE MAINTENANCE PAD.
 - REMOVE EXISTING SIGNAL HEAD(S). REPLACE WITH NEW L.E.D. SIGNAL HEAD(S). REUSE EXISTING CABLE.
 - REMOVE EXISTING PEDESTRIAN SIGNAL HEAD(S). REPLACE WITH NEW L.E.D. PEDESTRIAN SIGNAL HEAD(S) WITH COUNTDOWN TIMER. REUSE EXISTING CABLE.

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

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPAIRED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

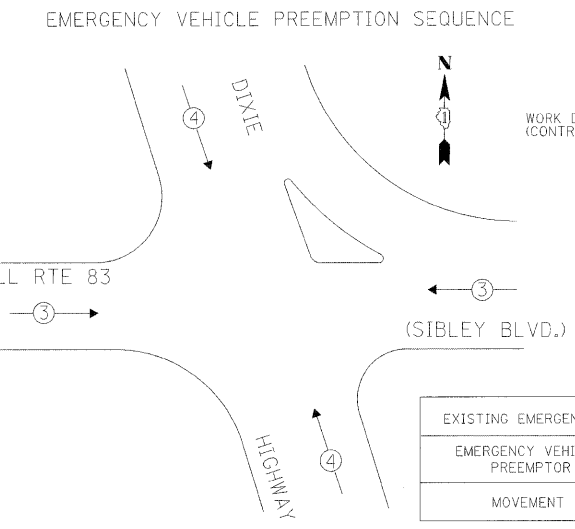
FILE NAME =	USER NAME = \$USER\$	DESIGNED - NB/TCM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED TRAFFIC SIGNAL PLAN ILL RTE 83 (SIBLEY BLVD.) AT DIXIE HIGHWAY				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
P:\NF-08-1600-4\Design\4.IDOT Partial Contract\4_IL_83 at Dixie Hwy\Sh\T09.DGN		DRAWN - NB/TCM	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	2009-009 TS	COOK	24	9
		CHECKED - NB/TCM	REVISED -		CONTRACT NO. 60G07								
		DATE - 01/23/2009	REVISED -		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT								



PHASE DESIGNATION DIAGRAM

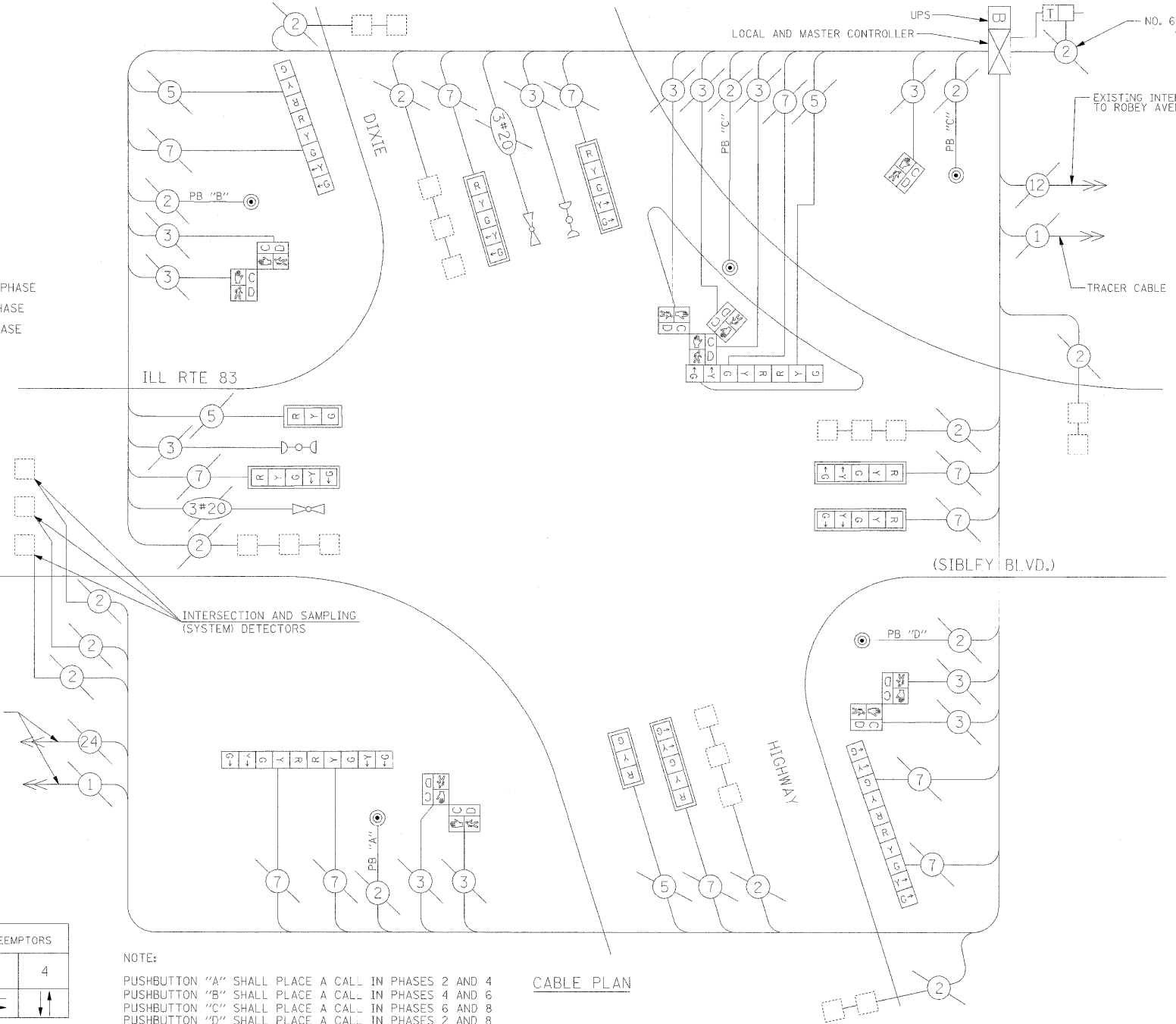
RIGHT TURN OVERLAP PHASE DESIGNATION

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



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

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



CABLE PLAN

NOTE:
 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

CABLE PLAN LEGEND

PROPOSED	EXISTING	DESCRIPTION
[Symbol]	[Symbol]	8" (200mm) TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" (300mm) TRAFFIC SIGNAL SECTION
[Symbol]	[Symbol]	12" (300mm) PEDESTRIAN SIGNAL SECTION
[Symbol]	[Symbol]	12" (300mm) PEDESTRIAN SIGNAL SECTION
[Symbol]	[Symbol]	CONTROLLER CABINET
[Symbol]	[Symbol]	SERVICE INSTALLATION
[Symbol]	[Symbol]	TELEPHONE CONNECTION
[Symbol]	[Symbol]	MAGNETIC DETECTOR
[Symbol]	[Symbol]	PUSHBUTTON DETECTOR
[Symbol]	[Symbol]	VEHICLE DETECTOR, INDUCTION LOOP
[Symbol]	[Symbol]	2 DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
[Symbol]	[Symbol]	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
[Symbol]	[Symbol]	RAILROAD CONTROL CABINET
[Symbol]	[Symbol]	ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
[Symbol]	[Symbol]	ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
[Symbol]	[Symbol]	GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
[Symbol]	[Symbol]	GROUND ROD AT POST OR MAST ARM POLE
[Symbol]	[Symbol]	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
[Symbol]	[Symbol]	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
[Symbol]	[Symbol]	FIBER OPTIC CABLE IN CONDUIT NO.62.5/125 2-MM12F & SM12F
[Symbol]	[Symbol]	MICROWAVE VEHICLE SENSOR
[Symbol]	[Symbol]	VIDEO DETECTOR
[Symbol]	[Symbol]	CLOSED CIRCUIT TV
[Symbol]	[Symbol]	EMERGENCY VEHICLE LIGHT DETECTOR
[Symbol]	[Symbol]	CONFIRMATION BEACON
[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY
[Symbol]	[Symbol]	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER

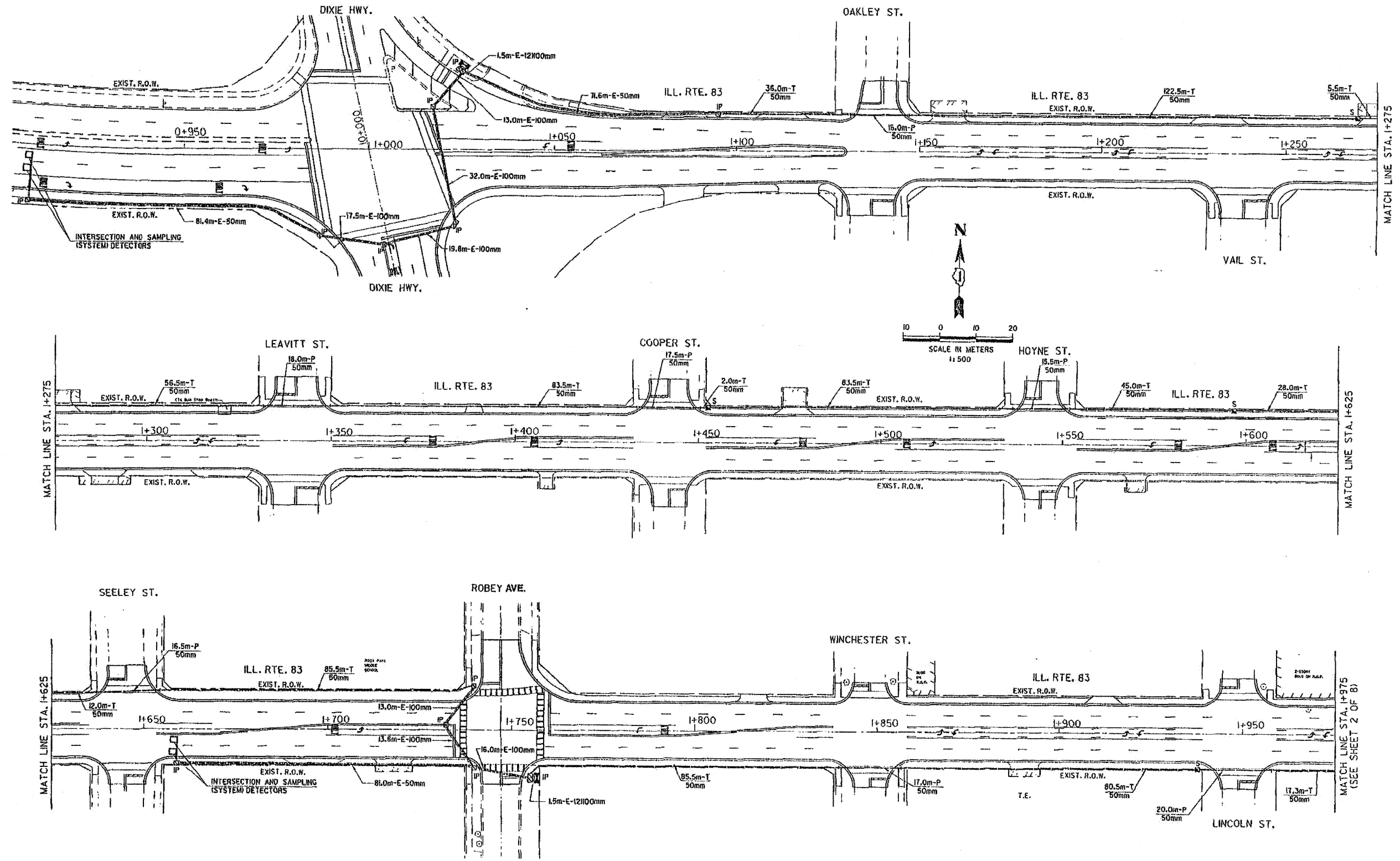
SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
40	SQ FT	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
56	SQ FT	DETECTABLE WARNINGS
0.33	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.33	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
2	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
6	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED
1	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
3	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
51.4	SO FT	TEMPORARY INFORMATION SIGNING

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

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	16		17	0.50	136.00
(YELLOW)	16		25	0.25	100.00
(GREEN)	16		15	0.25	60.00
ARROW	24		12	0.10	28.80
PED. SIGNAL	10		25	1.00	250.00
CONTROLLER	1		100	1.00	100.00
ILLUM. SIGN					
FLASHER					
ENERGY COSTS TO: CITY OF HARVEY, 15320 BROADWAY AVENUE, HARVEY, IL 60426					TOTAL= 674.80
ENERGY SUPPLY CONTACT: STEVE FITZGERALD, (708) 235-2327, COMMONWEALTH EDISON					

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



FOR INFORMATION ONLY				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 TS	COOK	24	11
CONTRACT NO. 60G07				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

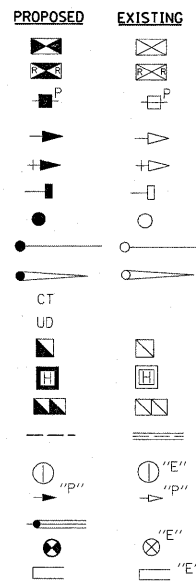
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PLOT SCALE = 1.00000 "/> <td></td> <td>CHECKED - NB/TCM</td> <td>REVISED -</td>		CHECKED - NB/TCM	REVISED -
PLOT DATE = 1/27/2009		DATE - 01/23/2009	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

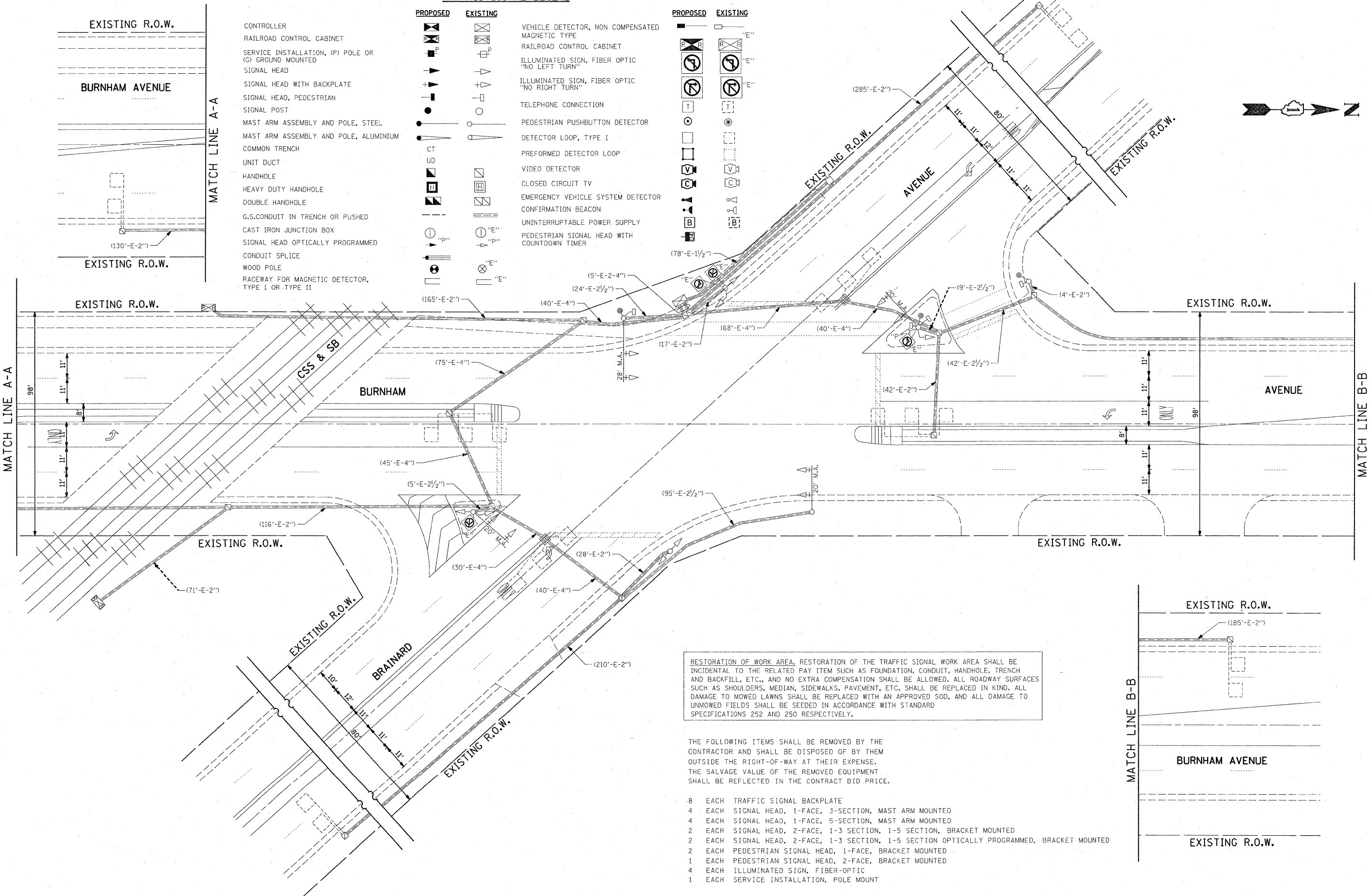
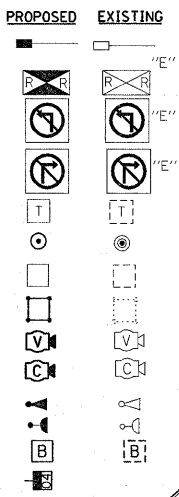
EXISTING INTERCONNECT PLAN				
ILL RTE 83 (SIBLEY BLVD.) FROM DIXIE HIGHWAY TO ROBEY AVENUE				
SCALE: NTS	SHEET NO.	OF SHEETS	STA.	TO STA.

TRAFFIC SIGNAL LEGEND

- CONTROLLER
RAILROAD CONTROL CABINET
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED
SIGNAL HEAD
SIGNAL HEAD WITH BACKPLATE
SIGNAL HEAD, PEDESTRIAN
SIGNAL POST
MAST ARM ASSEMBLY AND POLE, STEEL
MAST ARM ASSEMBLY AND POLE, ALUMINIUM
COMMON TRENCH
UNIT DUCT
HANDHOLE
HEAVY DUTY HANDHOLE
DOUBLE HANDHOLE
G.S.CONDUIT IN TRENCH OR PUSHED
CAST IRON JUNCTION BOX
SIGNAL HEAD OPTICALLY PROGRAMMED
CONDUIT SPLICE
WOOD POLE
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II



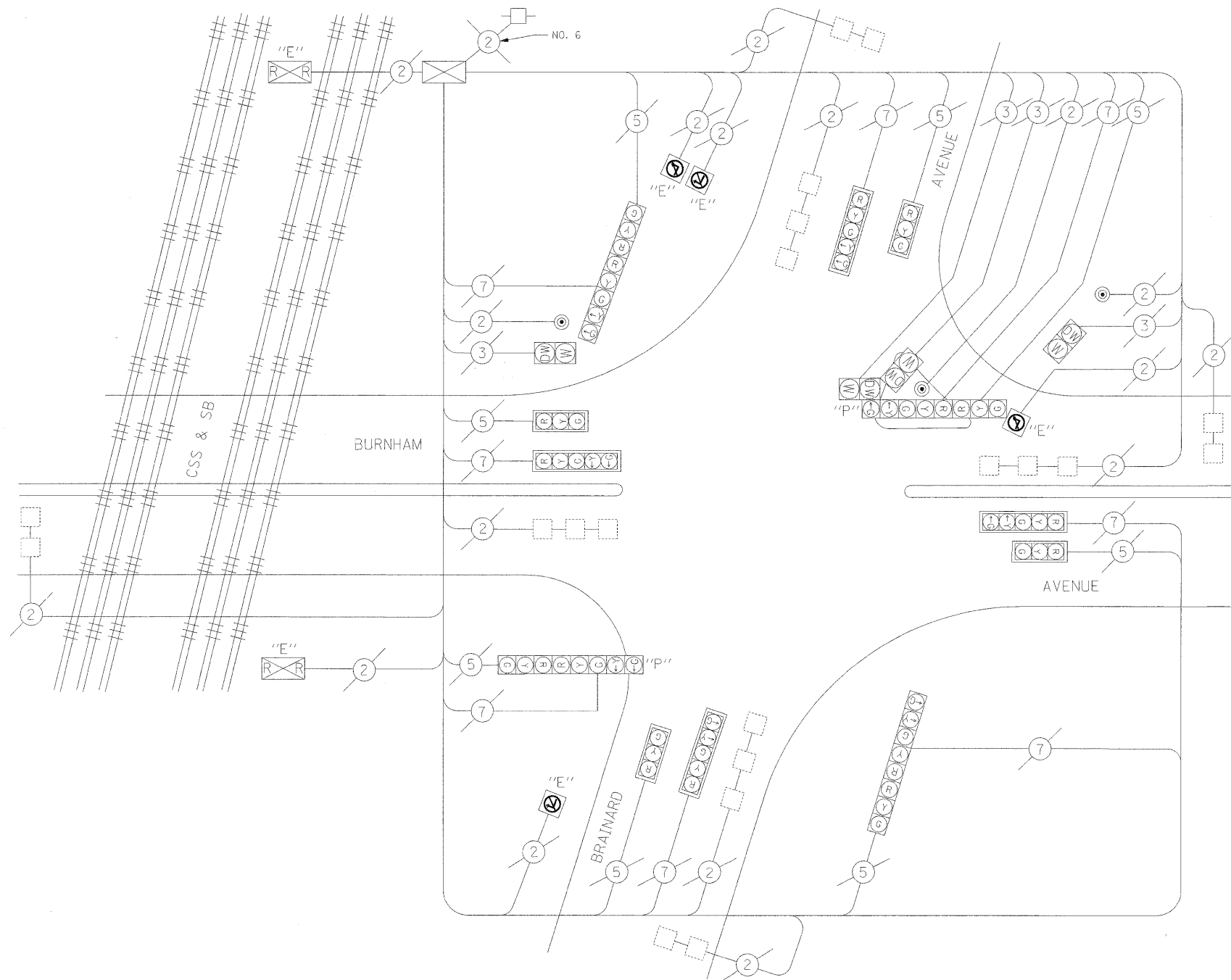
- VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE
RAILROAD CONTROL CABINET
ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
TELEPHONE CONNECTION
PEDESTRIAN PUSHBUTTON DETECTOR
DETECTOR LOOP, TYPE I
PREFORMED DETECTOR LOOP
VIDEO DETECTOR
CLOSED CIRCUIT TV
EMERGENCY VEHICLE SYSTEM DETECTOR
CONFIRMATION BEACON
UNINTERRUPTABLE POWER SUPPLY
PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER



RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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
- 4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION OPTICALLY PROGRAMMED, BRACKET MOUNTED
- 2 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED
- 1 EACH PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED
- 4 EACH ILLUMINATED SIGN, FIBER-OPTIC
- 1 EACH SERVICE INSTALLATION, POLE MOUNT



CABLE PLAN LEGEND

- | | | |
|-----------------|-----------------|---|
| PROPOSED | EXISTING | |
| [G] | [G] | 8" (200mm) TRAFFIC SIGNAL SECTION |
| [R] | [R] | 12" (300mm) TRAFFIC SIGNAL SECTION |
| [W] | [W] | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| [P] | [P] | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| [C] | [C] | CONTROLLER CABINET |
| [S] | [S] | SERVICE INSTALLATION |
| [T] | [T] | TELEPHONE CONNECTION |
| [M] | [M] | MAGNETIC DETECTOR |
| [D] | [D] | PUSHBUTTON DETECTOR |
| [V] | [V] | VEHICLE DETECTOR, INDUCTION LOOP |
| (2) | (2) | DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| [R Y G Y R] | [R Y G Y R] | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| [P] | [P] | RAILROAD CONTROL CABINET |
| [E] | [E] | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN" |
| [E] | [E] | ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN" |
| H/C | H/C | GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER |
| P | P | GROUND ROD AT POST OR MAST ARM POLE |
| S | S | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| (1) | (1) | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| (24) | (24) | FIBER OPTIC CABLE IN CONDUIT NO.62.5/125 2-MM12F & SM12F |
| [M] | [M] | MICROWAVE VEHICLE SENSOR |
| [V] | [V] | VIDEO DETECTOR |
| [C] | [C] | CLOSED CIRCUIT TV |
| [E] | [E] | EMERGENCY VEHICLE LIGHT DETECTOR |
| [B] | [B] | CONFIRMATION BEACON |
| [B] | [B] | UNINTERRUPTIBLE POWER SUPPLY |

CABLE PLAN

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	16	135	LED	0.50	1080.00
(YELLOW)	16	135		0.25	540.00
(GREEN)	16	135		0.25	540.00
ARROW	16	135		0.10	216.00
PED. SIGNAL	4	90		1.00	360.00
CONTROLLER	1	100		1.00	100.00
ILLUM. SIGN	4	84		0.05	16.80
FLASHER					
ENERGY COSTS TO:					TOTAL= 2852.80
VILLAGE OF BURNHAM 14450 S. MANISTEE AVENUE CHICAGO, IL 60633					
ENERGY SUPPLY CONTACT:	ANTHONY ESCALANTE				
PHONE:	(708) 235-2328				
COMPANY:	COMMONWEALTH EDISON				

FILE NAME =	USER NAME = \$USER\$	DESIGNED - NB/TCM	REVISED -
P:\P-08-1600-4\Design\4.IDOT Partial Contract\5.Brainard at Burnham\ShT\SH7013.dgn		DRAWN - NB/TCM	REVISED -
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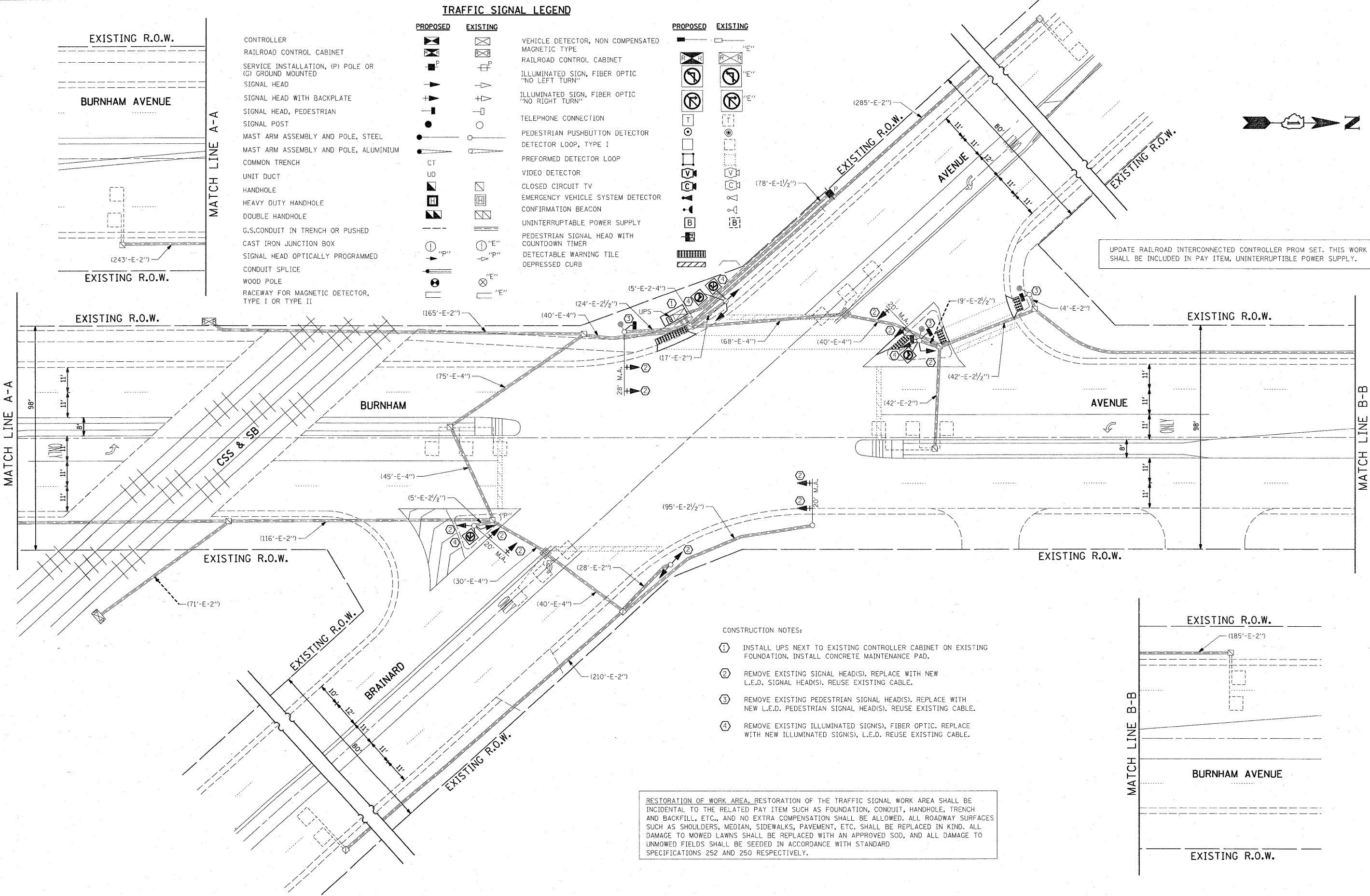
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING CABLE PLAN BRAINARD AVENUE AT BURHAM AVENUE			
SCALE: NTS	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 TS	COOK	24	13
CONTRACT NO. 60G07				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

TRAFFIC SIGNAL LEGEND

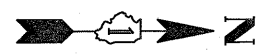
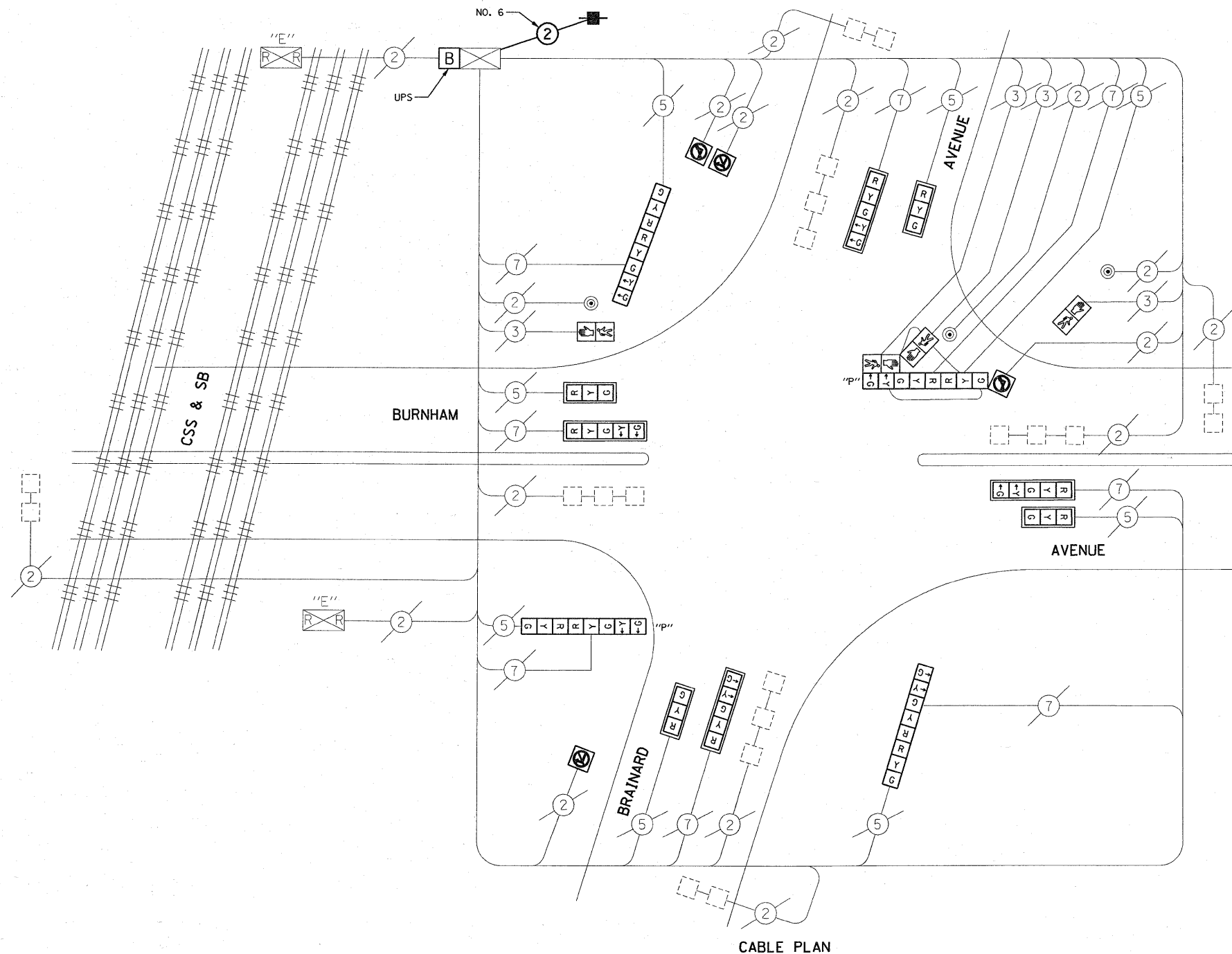
	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER	[Symbol]	[Symbol]	VEHICLE DETECTOR, NON COMPENSATED	[Symbol]	[Symbol]
RAILROAD CONTROL CABINET	[Symbol]	[Symbol]	MAGNETIC TYPE	[Symbol]	[Symbol]
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED	[Symbol]	[Symbol]	RAILROAD CONTROL CABINET	[Symbol]	[Symbol]
SIGNAL HEAD	[Symbol]	[Symbol]	ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"	[Symbol]	[Symbol]
SIGNAL HEAD WITH BACKPLATE	[Symbol]	[Symbol]	ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"	[Symbol]	[Symbol]
SIGNAL HEAD, PEDESTRIAN	[Symbol]	[Symbol]	TELEPHONE CONNECTION	[Symbol]	[Symbol]
SIGNAL POST	[Symbol]	[Symbol]	PEDESTRIAN PUSHBUTTON DETECTOR	[Symbol]	[Symbol]
MAST ARM ASSEMBLY AND POLE, STEEL	[Symbol]	[Symbol]	DETECTOR LOOP, TYPE I	[Symbol]	[Symbol]
MAST ARM ASSEMBLY AND POLE, ALUMINIUM	[Symbol]	[Symbol]	PERFORMED DETECTOR LOOP	[Symbol]	[Symbol]
COMMON TRENCH	[Symbol]	[Symbol]	VIDEO DETECTOR	[Symbol]	[Symbol]
UNIT DUCT	[Symbol]	[Symbol]	CLOSED CIRCUIT TV	[Symbol]	[Symbol]
HANDHOLE	[Symbol]	[Symbol]	EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
HEAVY DUTY HANDHOLE	[Symbol]	[Symbol]	CONFIRMATION BEACON	[Symbol]	[Symbol]
DOUBLE HANDHOLE	[Symbol]	[Symbol]	UNINTERRUPTIBLE POWER SUPPLY	[Symbol]	[Symbol]
G.S.CONDUIT IN TRENCH OR PUSHED	[Symbol]	[Symbol]	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER	[Symbol]	[Symbol]
CAST IRON JUNCTION BOX	[Symbol]	[Symbol]	DETECTABLE WARNING TILE	[Symbol]	[Symbol]
SIGNAL HEAD OPTICALLY PROGRAMMED	[Symbol]	[Symbol]	DEPRESSED CURB	[Symbol]	[Symbol]
CONDUIT SPLICE	[Symbol]	[Symbol]			
WOOD POLE	[Symbol]	[Symbol]			
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II	[Symbol]	[Symbol]			



UPDATE RAILROAD INTERCONNECTED CONTROLLER PROM SET. THIS WORK SHALL BE INCLUDED IN PAY ITEM, UNINTERRUPTIBLE POWER SUPPLY.

- CONSTRUCTION NOTES:
- INSTALL UPS NEXT TO EXISTING CONTROLLER CABINET ON EXISTING FOUNDATION. INSTALL CONCRETE MAINTENANCE PAD.
 - REMOVE EXISTING SIGNAL HEAD(S). REPLACE WITH NEW L.E.D. SIGNAL HEAD(S). REUSE EXISTING CABLE.
 - REMOVE EXISTING PEDESTRIAN SIGNAL HEAD(S). REPLACE WITH NEW L.E.D. PEDESTRIAN SIGNAL HEAD(S). REUSE EXISTING CABLE.
 - REMOVE EXISTING ILLUMINATED SIGN(S), FIBER OPTIC. REPLACE WITH NEW ILLUMINATED SIGN(S), L.E.D. REUSE EXISTING CABLE.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



CABLE PLAN LEGEND

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

CABLE PLAN

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
40	SO FT	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
40	SO FT	DETECTABLE WARNINGS
0.33	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.33	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
95	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
95	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
4	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
4	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION OPTICALLY PROGRAMMED, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
1	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
4	EACH	ILLUMINATED SIGN, L.E.D.
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
51.4	SO FT	TEMPORARY INFORMATION SIGNING
1	EACH	SERVICE INSTALLATION, POLE MOUNT

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	
SIGNAL (RED)	16		17	0.50	136.00
(YELLOW)	16		25	0.25	100.00
(GREEN)	16		15	0.25	60.00
ARROW	16		12	0.10	19.20
PED. SIGNAL	4		25	1.00	100.00
CONTROLLER	1		100	1.00	100.00
ILLUM. SIGN	4		35	0.05	7.00
FLASHER					
ENERGY COSTS TO: VILLAGE OF BURNHAM, 14450 S. MANISTEE AVENUE, CHICAGO, IL 60633					TOTAL = 522.20
ENERGY SUPPLY CONTACT: ANTHONY ESCALANTE, (708) 235-2328, COMMONWEALTH Edison					

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	(m)	VERT.	FT. (m)
TYPE A - POST					
D	6.5	HANDHOLE	13 (4.0)	ALL FOUND	(1.0)
E	2	HANDHOLE	2 (1.0)	MAST ARM (L) POLE	
24" (600mm)	10 (3.0)	TRUCK	13 (4.0)	BRACKET MOUNTED	
30" (750mm)	15 (4.5)	TRUCK	13 (4.0)	BRACKET MOUNTED	
		OPTIC	1 (0.3)	TRUCK	
		WIRELESS SERVICE	1 (0.3)	TRUCK	
		GROUND CABLE	1 (0.3)	TRUCK	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE PLAN
BRAINARD AVENUE AT BURNHAM AVENUE

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 TS	COOK	24	15
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	

FILE NAME = S:\95\STEVEN NGUYEN\CADD\Brainard Ave.
USER NAME = nguyenstm
DESIGNED - NB/TCM
DRAWN - NB/TCM
CHECKED - NB/TCM
DATE - 01/23/2009

REVISIONS
REVISED -
REVISED -
REVISED -

SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

CONTRACT NO. 60G07

EXISTING SEQUENCE OF OPERATION

MOVEMENT	1 + 5				1 + 6			2 + 5		2 + 6				3 + 7				3 + 8			4 + 7				4 + 8		F	L	A	S	H			
PHASE	1	2	3	4	5	6	7	8	9	10	11	12A	12B	13	14	15	16	17	18A	18B	19	20	21A	21B	22	23	24A	24B						
CHANGE TO		1+6	2+5	2+6	⊕	⊕	2+6	2+6				3+7 3+8 4+7 4+8		1+5 1+6 2+5 2+6 4+8	3+8	4+7		1+5 1+6 2+5 2+6	4+8		1+5 1+6 2+5 2+6	4+8		1+5 1+6 2+5 2+6										
BURNHAM AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	N/B	R	R	R	R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
BURNHAM AVENUE END MAST ARM AND FAR LEFT SIGNALS	N/B	R	R	R	R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
BURNHAM AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
BURNHAM AVENUE END MAST ARM AND FAR LEFT SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
BRAINARD AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	E/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
BRAINARD AVENUE END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
BRAINARD AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
BRAINARD AVENUE END MAST ARM AND LEFT SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
PEDESTRIAN SIGNALS CROSSING BRAINARD AVENUE ON WEST SIDE OF BURNHAM AVENUE		H	H	H	H	*P	**FH	H	H	H	*P	**FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H		

* TO APPEAR ONLY UPON PUSHBUTTON ACTUATION

** FLASHING "⊕" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE.

⊕ THIS "⊕" OR FLASHING "⊕" INTERVAL MAY FINISH TIMING IN THE BIDIRECTIONAL STRAIGHT THROUGH MOVEMENT IF THE LEFT ARROW TIME IS NOT SUFFICIENT TO COMPLETE "⊕" OR FLASHING "⊕" INTERVALS.


P = ILLUMINATED PERSON = WALK
 FH = ILLUMINATED FLASHING HAND = FLASHING DON'T WALK
 H = ILLUMINATED SOLID HAND = DON'T WALK


PHASE 2+6 SHALL BE PLACED ON RECALL.

EXISTING RAILROAD PREEMPTION SEQUENCE OF OPERATION

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	5	8	10	13	17	20	23	PREEMPTOR NUMBER 2										
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M	1N	2	3	4	5	CLEAR TO NORMAL SEQUENCE	
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	2	2	1F	2	2	1J	2	1L	2	1N	2	3	4	5			
BURNHAM AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	N/B	R	R	R	G	G	G	R	R	R	R	R	R	R	G	Y	R	R	△
BURNHAM AVENUE END FAR RIGHT AND FAR LEFT SIGNALS	N/B	R	R	R	G	G	G	R	R	R	R	R	R	R	G	Y	R	R	△
BURNHAM AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	S/B	R	Y	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	△
BURNHAM AVENUE END MAST ARM AND FAR LEFT SIGNALS	S/B	R	Y	R	R	Y	R	R	R	R	R	R	R	R	R	R	R	R	△
BRAINARD AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	E/B	R	R	R	R	R	R	R	R	Y	R	Y	R	R	R	R	R	G	△
BRAINARD AVENUE END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	R	R	R	R	R	R	Y	R	Y	R	R	R	R	R	G	△
BRAINARD AVENUE - NEAR RIGHT AND FAR RIGHT MAST ARM SIGNALS	W/B	R	R	R	R	R	R	R	Y	R	R	Y	R	R	R	R	R	G	△
BRAINARD AVENUE END MAST ARM AND LEFT SIGNALS	W/B	R	R	R	R	R	R	R	Y	R	R	Y	R	H	R	R	G	△	
PEDESTRIAN SIGNALS CROSSING BRAINARD AVENUE ON WEST SIDE OF BURNHAM AVENUE		H	FH	H	H	FH	H	H	H	H	H	H	H	H	H	H	H	△	
INTERNALLY ILLUMINATED NRT SIGNS		NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	△	
INTERNALLY ILLUMINATED NLT SIGNS		NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	△	

△ 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.

NRT = "NO RIGHT TURN" OR 

NLT = "NO LEFT TURN" OR 

HOLD

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

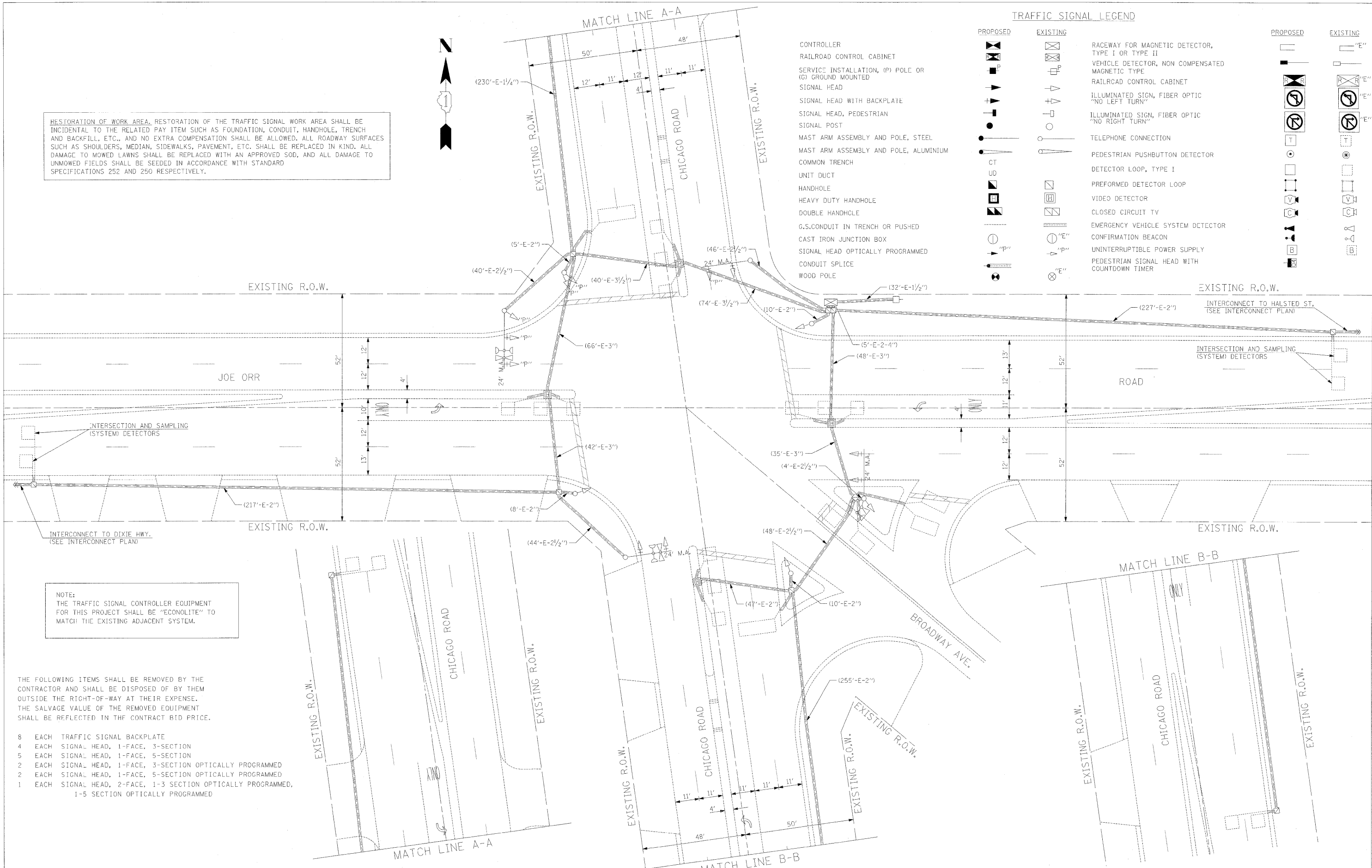
NOTE:
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

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
- 4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 5 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH SIGNAL HEAD, 1-FACE, 3-SECTION OPTICALLY PROGRAMMED
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION OPTICALLY PROGRAMMED
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-5 SECTION OPTICALLY PROGRAMMED

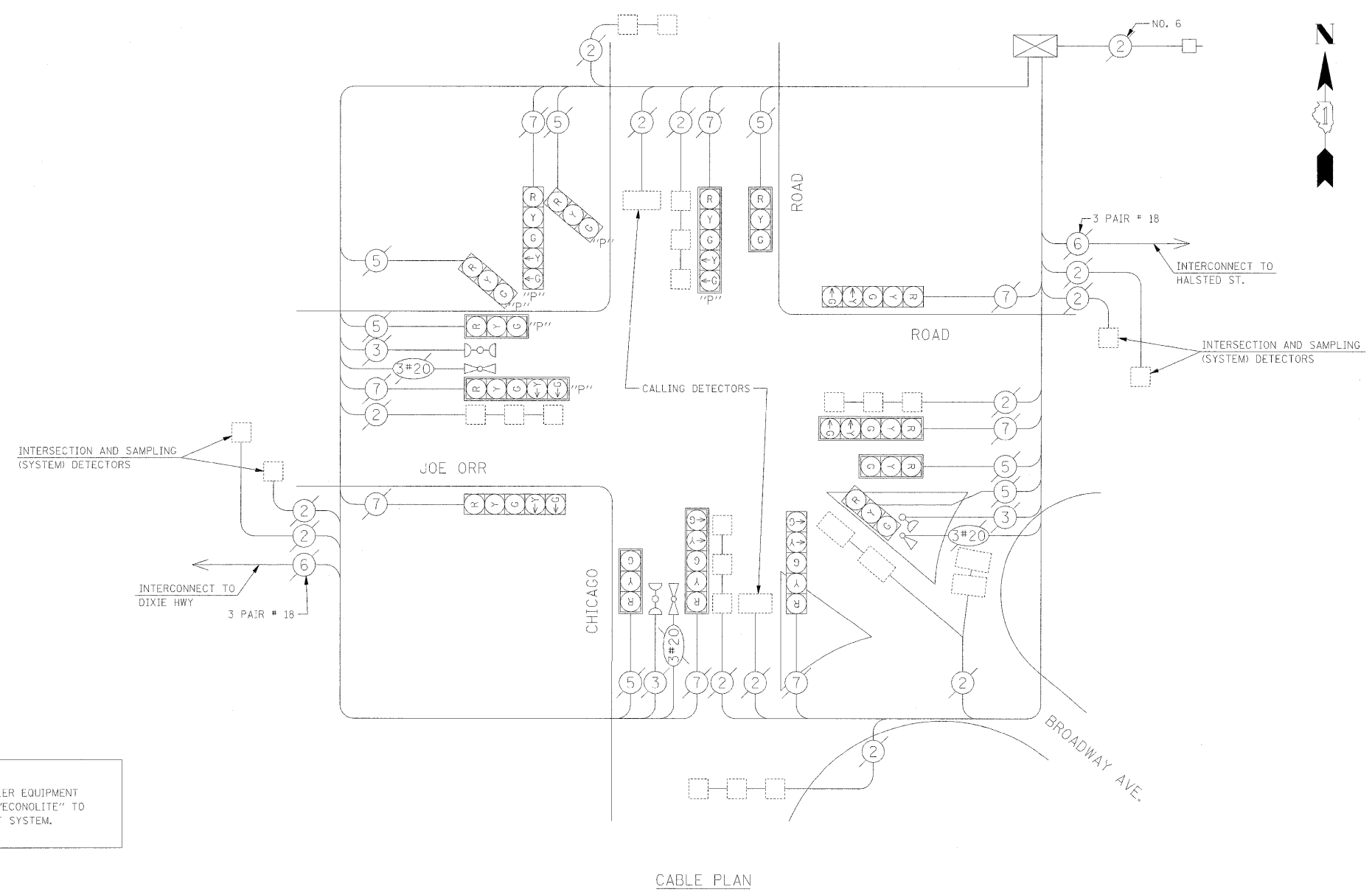
TRAFFIC SIGNAL LEGEND

<p>CONTROLLER</p> <p>RAILROAD CONTROL CABINET</p> <p>SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED</p> <p>SIGNAL HEAD</p> <p>SIGNAL HEAD WITH BACKPLATE</p> <p>SIGNAL HEAD, PEDESTRIAN</p> <p>SIGNAL POST</p> <p>MAST ARM ASSEMBLY AND POLE, STEEL</p> <p>MAST ARM ASSEMBLY AND POLE, ALUMINIUM</p> <p>COMMON TRENCH</p> <p>UNIT DUCT</p> <p>HANDHOLE</p> <p>HEAVY DUTY HANDHOLE</p> <p>DOUBLE HANDHOLE</p> <p>G.S.CONDUIT IN TRENCH OR PUSHED</p> <p>CAST IRON JUNCTION BOX</p> <p>SIGNAL HEAD OPTICALLY PROGRAMMED</p> <p>CONDUIT SPLICE</p> <p>WOOD POLE</p>	<p>PROPOSED</p>	<p>EXISTING</p>	<p>RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II</p> <p>VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE</p> <p>RAILROAD CONTROL CABINET</p> <p>ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"</p> <p>ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"</p> <p>TELEPHONE CONNECTION</p> <p>PEDESTRIAN PUSHBUTTON DETECTOR</p> <p>DETECTOR LOOP, TYPE I</p> <p>PREFORMED DETECTOR LOOP</p> <p>VIDEO DETECTOR</p> <p>CLOSED CIRCUIT TV</p> <p>EMERGENCY VEHICLE SYSTEM DETECTOR</p> <p>CONFIRMATION BEACON</p> <p>UNINTERRUPTIBLE POWER SUPPLY</p> <p>PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER</p>	<p>PROPOSED</p>	<p>EXISTING</p>
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CABLE PLAN LEGEND

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



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

CABLE PLAN

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	15	135		0.50	1012.50
(YELLOW)	15	135		0.25	506.25
(GREEN)	15	135		0.25	506.25
ARROW	16	135		0.10	216.00
PED. SIGNAL	-	90		1.00	-
CONTROLLER	1	100		1.00	100.00
ILLUM. SIGN				0.05	-
FLASHER				0.05	-
ENERGY COSTS TO:				TOTAL=	2341.00
CITY OF CHICAGO HEIGHTS 1601 CHICAGO ROAD CHICAGO HEIGHTS, IL 60411					
ENERGY SUPPLY CONTACT:	STEVE FITZGERALD				
PHONE:	(708) 235-2327				
COMPANY:	COMMONWEALTH EDISON				

SEQUENCE OF OPERATION

MOVEMENT	5 1				5 2				6 1				6 2		3		4 8		7		F L A S H									
PHASE	1 + 5				2 + 5				1 + 6				2 + 6		3		4 + 8		7											
INTERVAL	1	2	3	4	5	6A	6B	7A	7B	8	9	10A	10B	11A	11B	12	13	14A	14B	15		16	17	18A	18B	19	20A	20B		
CHANGE TO		2+5	1+6	2+6 3 4+8 7		1-6 3 4+8 7		1+5		2+6		2+5 3 4+8 7		1+5		2+6		3 7 4+8		1+5 2+6 3 4+8 7		1+5 2+6 3 4+8 7		1+5 2+6 3 4+8 7		1+5 2+6 3 4+8 7		1+5 2+6 3 4+8 7		
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	R	R	G	Y	R	Y	R	G	Y	R	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
JOE ORR ROAD FAR RIGHT SIGNAL	E/B	R	R	R	R	G	Y	R	Y	R	G	Y	R	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
JOE ORR ROAD FAR RIGHT SIGNAL	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD FAR RIGHT SIGNAL	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD FAR RIGHT SIGNAL	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
BROADWAY AVENUE ALL SIGNALS	NW/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1		5			9				13				15		17				19				PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	PREEMPTOR NUMBER 5	CLEAR TO NORMAL SEQUENCE
EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R	1S	1T	1U	3	4	5					
CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1B	3, 4 OR 5	3	1E	4 OR 5	3	1H	4 OR 5	3	1L	4 OR 5	1N	3, 4 OR 5	4	1R	3 OR 5	5	1U	3 OR 4								
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	G	R	R					
JOE ORR ROAD FAR RIGHT SIGNAL	E/B	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	R	R	R	G	R	R						
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	W/B	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	G	R	R						
JOE ORR ROAD FAR RIGHT SIGNAL	W/B	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	G	R	R						
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R						
CHICAGO ROAD FAR RIGHT SIGNAL	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R						
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R						
CHICAGO ROAD FAR RIGHT SIGNAL	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	R						
BROADWAY AVENUE ALL SIGNALS	NW/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G						

EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY INTERVAL AFTER EMERGENCY VEHICLE INTERVALS 3, 4 OR 5 IS TERMINATED.

NOTE:

1. ALL RED INTERVALS FOLLOW PREEMPTION OF OPPOSING PHASES.

TRAFFIC SIGNAL LEGEND

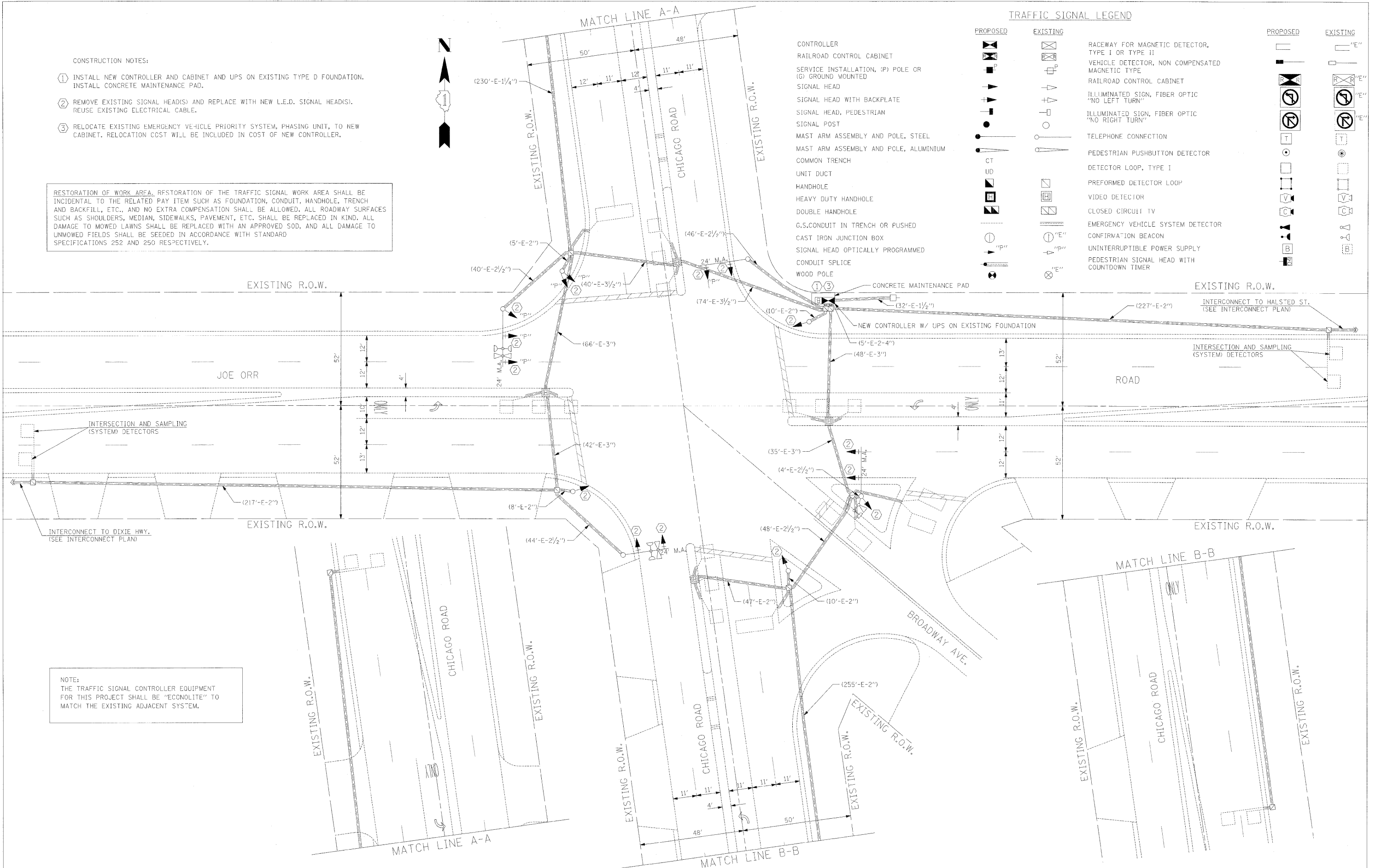
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CONSTRUCTION NOTES:

- INSTALL NEW CONTROLLER AND CABINET AND UPS ON EXISTING TYPE D FOUNDATION. INSTALL CONCRETE MAINTENANCE PAD.
- REMOVE EXISTING SIGNAL HEAD(S) AND REPLACE WITH NEW L.E.D. SIGNAL HEAD(S). REUSE EXISTING ELECTRICAL CABLE.
- RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT, TO NEW CABINET. RELOCATION COST WILL BE INCLUDED IN COST OF NEW CONTROLLER.

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

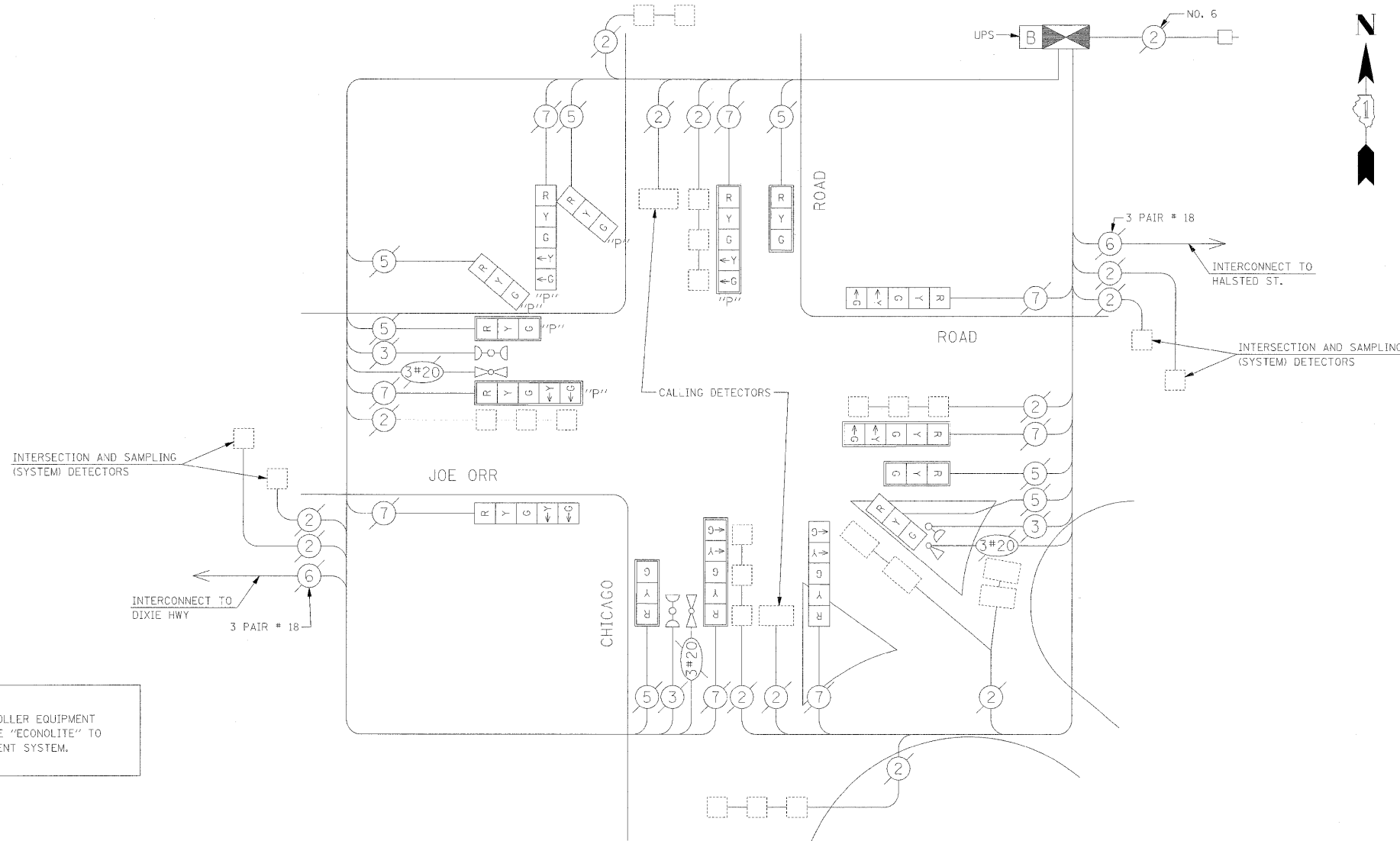
NOTE:
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.



FILE NAME = P:\P-28-1600-4\Design\4.IDOT Partial Cont...	USER NAME = \$USER\$	DESIGNED - NB/TCM	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED TRAFFIC SIGNAL PLAN JOE ORR ROAD AT CHICAGO ROAD AND AT BROADWAY AVENUE				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - NB/TCM	REVISOR -		SCALE: 1"=20'	SHEET NO.	OF SHEETS	STA.	TO STA.	2009-009 TS	COOK	24	20
		CHECKED - NB/TCM	REVISOR -										
		DATE - 01/23/2009	REVISOR -										
										CONTRACT NO. 60G07			
										FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

CABLE PLAN LEGEND

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



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

CABLE PLAN

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
40	SQ FT	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
0.33	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.33	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	TRANSCEIVER
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
3	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION OPTICALLY PROGRAMMED, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION OPTICALLY PROGRAMMED, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION OPTICALLY PROGRAMMED, MAST ARM MOUNTED
1	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-5 SECTION OPTICALLY PROGRAMMED, BRACKET MOUNTED
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
13	EACH	INDUCTIVE LOOP DETECTOR
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
51.4	SQ FT	TEMPORARY INFORMATION SIGNING

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	
SIGNAL (RED)	15		17	0.50	127.50
(YELLOW)	15		25	0.25	93.75
(GREEN)	15		15	0.25	56.25
ARROW	16		12	0.10	19.20
PED. SIGNAL	-		25	1.00	-
CONTROLLER	1		100	1.00	100.00
ILLUM. SIGN				0.05	-
FLASHER				0.05	-
ENERGY COSTS TO:					TOTAL= 396.70
CITY OF CHICAGO HEIGHTS					
1601 CHICAGO ROAD					
CHICAGO HEIGHTS, IL 60411					
ENERGY SUPPLY CONTACT: STEVE FITZGERALD					
PHONE: (708) 235-2327					
COMPANY: COMMONWEALTH EDISON					

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE PLAN
JOE ORR ROAD AT CHICAGO ROAD AND AT BROADWAY AVENUE

SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 T5	COOK	24	21
CONTRACT NO. 60G07				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

SEQUENCE OF OPERATION

MOVEMENT	5 1				2 5				6 1				2 6		3		4 8		7		F L A S H						
PHASE	1 + 5				2 + 5				1 + 6				2 + 6		3		4 + 8		7								
INTERVAL	1	2	3	4	5	6A	6B	7A	7B	8	9	10A	10B	11A	11B	12	13	14A	14B	15		16	17	18A	18B	19	20A
CHANGE TO		2+5	1+6	2+6 3 4+8 7		1+6 3 4+8 7		1+5		2+6		2+5 3 4+8 7		1+5		2+6		3 7 4+8		1+5 2+5 1+6 2+6 4+8 7		1+5 2+5 1+6 2+6 4+8 7		1+5 2+5 1+6 2+6 4+8 7		1+5 2+5 1+6 2+6 4+8 7	
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	F/B	R	R	R	R	G	Y	R	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
JOE ORR ROAD FAR RIGHT SIGNAL	E/B	R	R	R	R	G	Y	R	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
JOE ORR ROAD FAR RIGHT SIGNAL	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD FAR RIGHT SIGNAL	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
CHICAGO ROAD FAR RIGHT SIGNAL	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
BROADWAY AVENUE ALL SIGNALS	NW/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

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

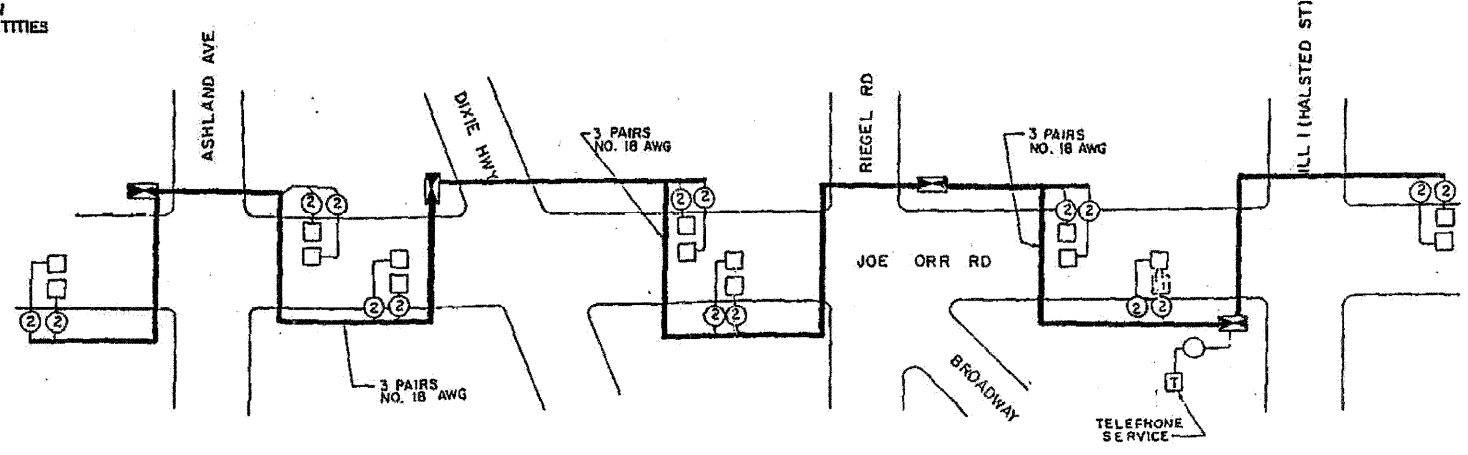
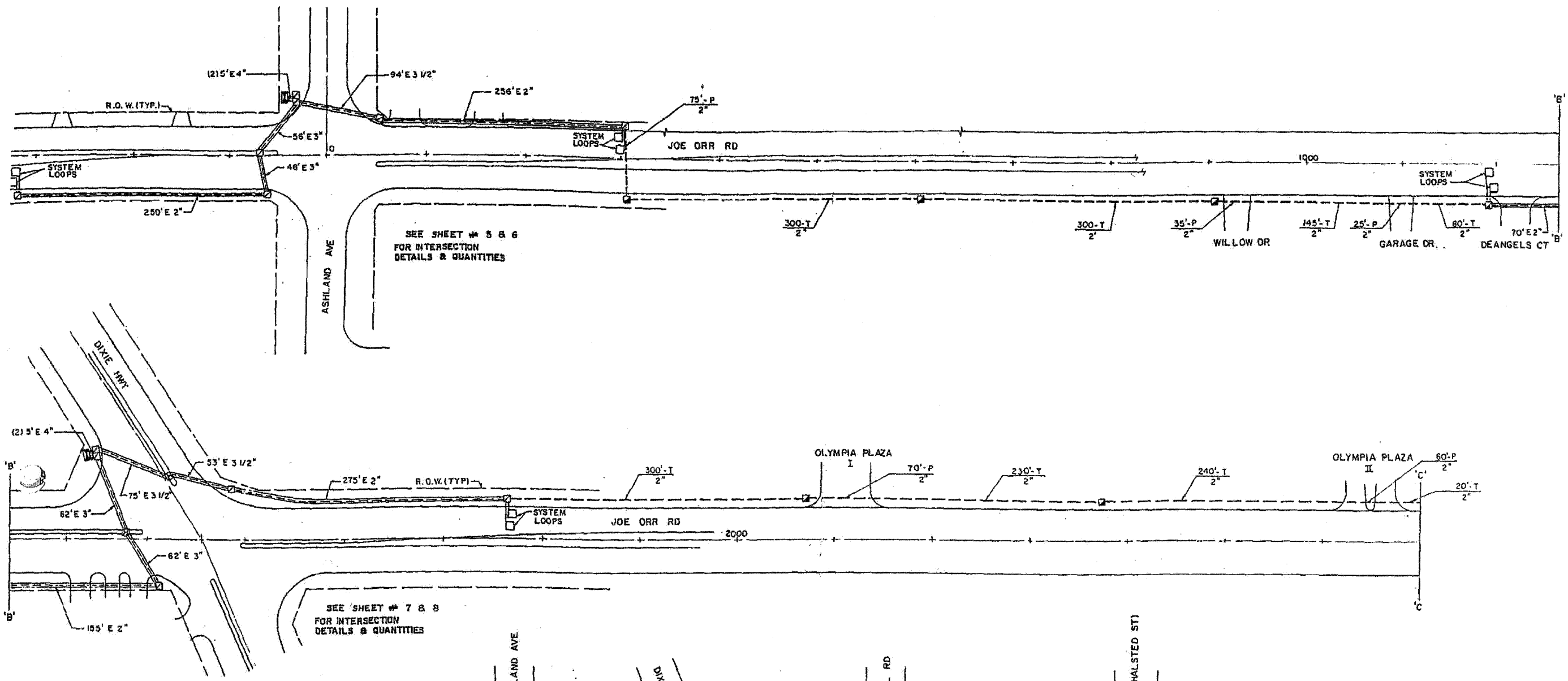
EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1			5			9			13			15			17			19			PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	PREEMPTOR NUMBER 5	CLEAR TO NORMAL SEQUENCE
EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	1K	1L	1M	1N	1O	1P	1Q	1R	1S	1T	1U	3	4	5	◇
CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1B	3, 4 OR 5	3	1E	4 OR 5	3	1H	4 OR 5	3	1L	4 OR 5	1N	3, 4 OR 5	4	1R	3 OR 5	5	1U	3 OR 4						◇
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
JOE ORR ROAD FAR RIGHT SIGNAL	E/B	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
JOE ORR ROAD END MAST ARM AND FAR LEFT SIGNALS	W/B	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
JOE ORR ROAD FAR RIGHT SIGNAL	W/B	R	R	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
CHICAGO ROAD FAR RIGHT SIGNAL	S/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
CHICAGO ROAD END MAST ARM AND FAR LEFT SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
CHICAGO ROAD FAR RIGHT SIGNAL	N/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	◇
BROADWAY AVENUE ALL SIGNALS	NW/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	◇

◇ EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY INTERVAL AFTER EMERGENCY VEHICLE INTERVALS 3, 4 OR 5 IS TERMINATED.

NOTE:

1. ALL RED INTERVALS FOLLOW PREEMPTION OF OPPOSING PHASES.



FOR INFORMATION ONLY

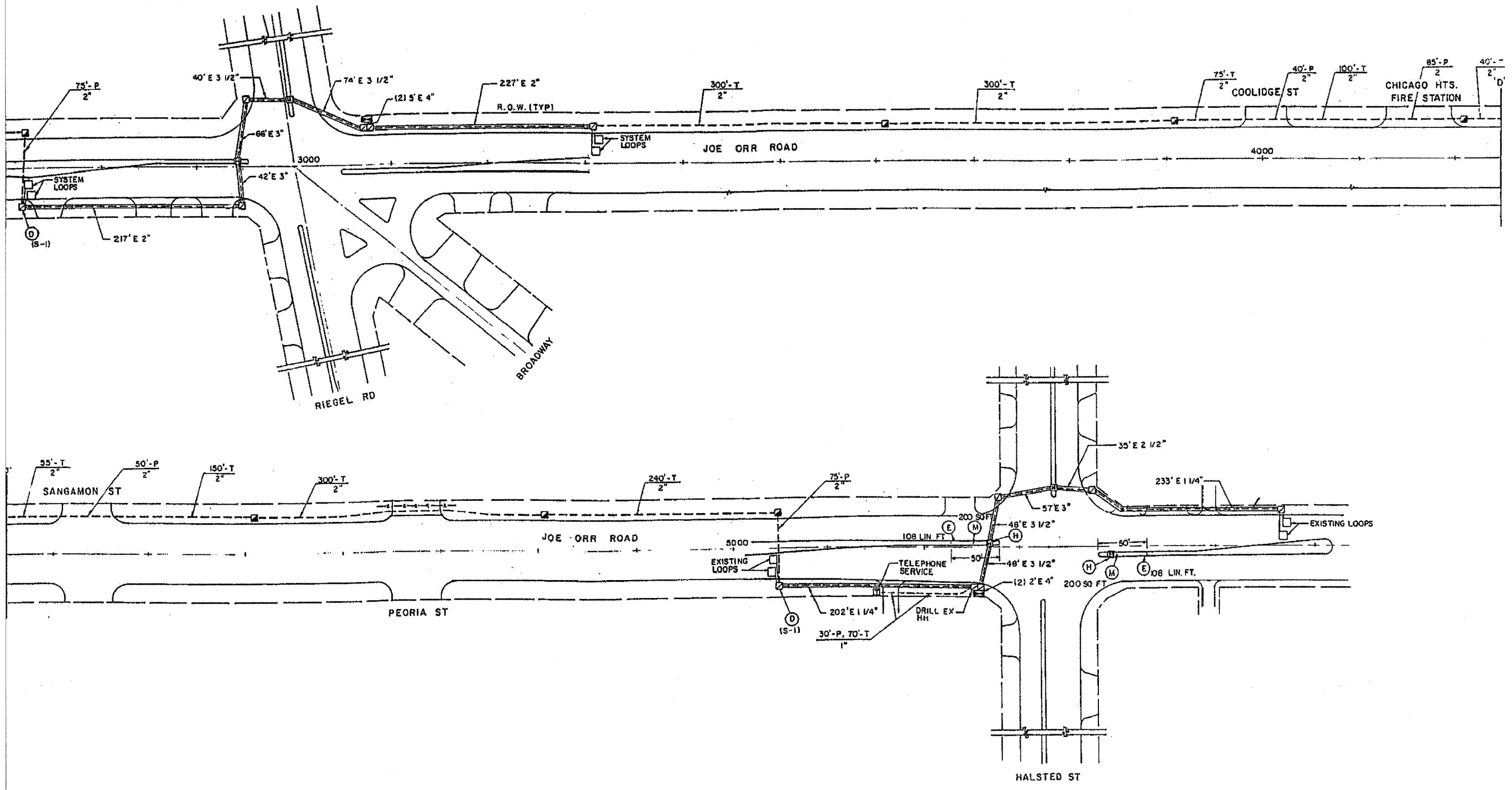
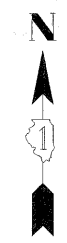
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		CHECKED - NB/TCM	REVISED -
		DATE - 01/23/2009	REVISED -
			REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

INTERCONNECT PLAN (SHEET 1 OF 2)
JOE ORR ROAD AT CHICAGO ROAD AND AT BROADWAY AVENUE

SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 TS	COOK	24	23
CONTRACT NO. 60G07				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



FOR INFORMATION ONLY

FILE NAME =	USER NAME = #USER#	DESIGNED - NB/TCM	REVISED -
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	PLOT DATE = 1/27/2009	DATE - 01/23/2009	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

INTERCONNECT PLAN (SHEET 2 OF 2)
JOE ORR ROAD AT CHICAGO ROAD AND AT BROADWAY AVENUE

SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2009-009 TS	COOK	24	24
CONTRACT NO. 60G07				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		