

**INDEX OF SHEETS**

1. TITLE SHEET
- 2-3. SUMMARY OF QUANTITIES
- 4-7. STANDARD TRAFFIC SIGNAL DESIGN DETAILS
8. U.S. 43 (WAUKEGAN RD.) AT DEERFIELD RD.  
- TRAFFIC SIGNAL MODIFICATION PLAN
9. U.S. 43 (WAUKEGAN RD.) AT DEERFIELD RD.  
- CABLE PLAN - PHASE DESIGNATION DIAGRAM - SCHEDULE OF QUANTITIES  
- EMERGENCY VEHICLE PREEMPTION SEQUENCE
10. U.S. 43 (WAUKEGAN RD.) AT HAZEL AVE/ELDER LN.  
- TRAFFIC SIGNAL MODIFICATION PLAN
11. U.S. 43 (WAUKEGAN RD.) AT HAZEL AVE/ELDER LN.  
- CABLE PLAN - PHASE DESIGNATION DIAGRAM - SCHEDULE OF QUANTITIES  
- EMERGENCY VEHICLE PREEMPTION SEQUENCE
12. U.S. 43 (WAUKEGAN RD.) AT GREENWOOD RD.  
- TRAFFIC SIGNAL MODIFICATION PLAN
13. U.S. 43 (WAUKEGAN RD.) AT GREENWOOD RD.  
- CABLE PLAN - PHASE DESIGNATION DIAGRAM - SCHEDULE OF QUANTITIES  
- EMERGENCY VEHICLE PREEMPTION SEQUENCE
14. U.S. 43 (WAUKEGAN RD.) AT NORTH AVENUE  
- TRAFFIC SIGNAL MODIFICATION PLAN
15. U.S. 43 (WAUKEGAN RD.) AT NORTH AVENUE  
- CABLE PLAN - PHASE DESIGNATION DIAGRAM - SCHEDULE OF QUANTITIES  
- EMERGENCY VEHICLE PREEMPTION SEQUENCE
16. U.S. 43 (WAUKEGAN) AT DEERFIELD HIGH SCHOOL DRIVEWAY (FOR INFORMATION ONLY)  
- TRAFFIC SIGNAL MODIFICATION PLAN
17. U.S. 43 (WAUKEGAN) AT DEERFIELD HIGH SCHOOL DRIVEWAY (FOR INFORMATION ONLY)  
- CABLE PLAN - PHASE DESIGNATION DIAGRAM - SCHEDULE OF QUANTITIES
18. U.S. 43 (WAUKEGAN) AT BANNOCKBURN OFFICE PLAZA ENT.  
- TRAFFIC SIGNAL MODIFICATION PLAN
19. U.S. 43 (WAUKEGAN) AT BANNOCKBURN OFFICE PLAZA ENT.  
- CABLE PLAN - PHASE DESIGNATION DIAGRAM - SCHEDULE OF QUANTITIES  
- EMERGENCY VEHICLE PREEMPTION SEQUENCE
20. U.S. 43 (WAUKEGAN RD.) AT ILL. 22 (HALF DAY RD.)  
- TRAFFIC SIGNAL MODIFICATION PLAN
- 21-23. U.S. 43 (WAUKEGAN RD.) AT ILL. 22 (HALF DAY RD.)  
- CABLE PLAN - SEQUENCE OF OPERATION - R/R SEQUENCE OF OPERATION  
- SCHEDULE OF QUANTITIES - EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION
- 24-28. INTERCONNECT PLAN
29. SCHEMATIC PLAN

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**

**DISTRICT 1  
CONGESTION MITIGATION AIR QUALITY  
FIBER OPTIC COMMUNICATIONS NETWORK**

**FAU 2706 - ILL. 43 (WAUKEGAN ROAD)  
FROM ILL. 22 (HALF DAY ROAD) TO**

**DEERFIELD ROAD  
PROJECT NO. CMM-2706(102)**

**F.A.U. ROUTE 2706**

**SECTION 2006-020 TS**

**C-91-351-06**

**LAKE COUNTY**



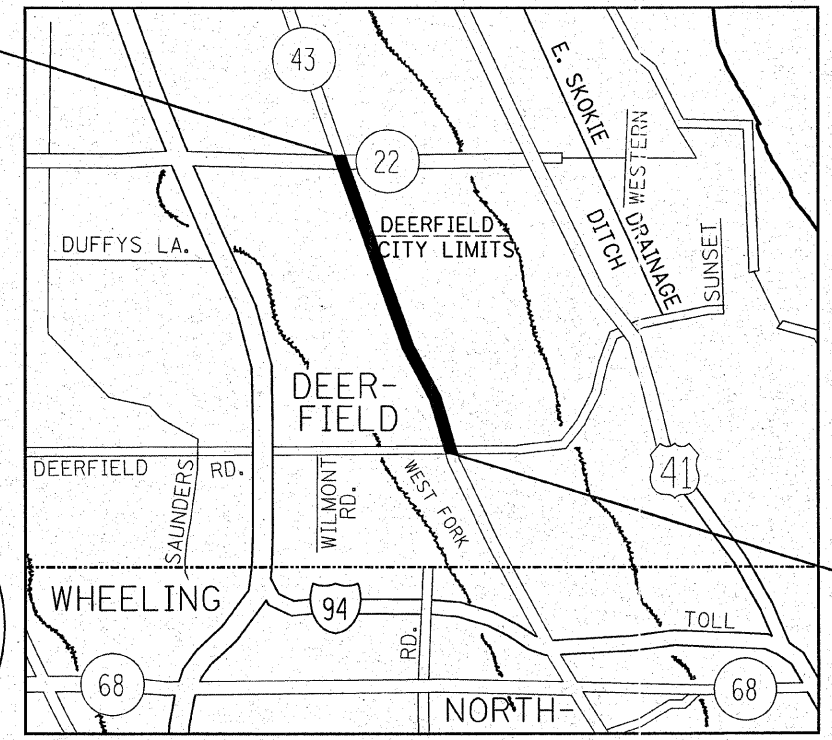
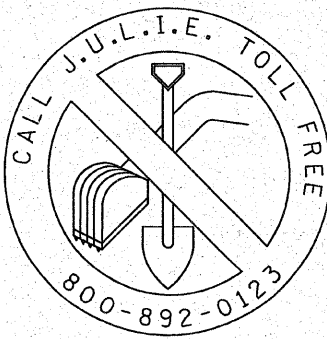
**STANDARD DRAWINGS**

701 006-02	701 011-01	701 101-01	701 301-02	701 901
424001-04	720001	813001-01	814001	814006
857001	877001-02	877006-02	877011-02	878001-04
880001	880006	886001		
701 201-02	701 316-03	701 321-08	701 406-04	701 501-03
701 502-01	701 606-04	701 601-04	701 701-05	701 801-03

NOTE: STANDARD DRAWINGS REQUIRED (CIRCLED).

**CONTRACT NO. 60B48**

PREPARED BY: Steve Mauri *all* Jun 21, 2008  
TRAFFIC ENGINEER DATE



BEGINNING OF PROJECT

END OF PROJECT

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

Jan 28 20 08  
James M. O'Keefe  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 21, 20 08  
Eric E. Harauko  
INTERIM ENGINEER OF DESIGN AND ENVIRONMENT

March 21 20 08  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

DISTRICT ONE - BUREAU OF TRAFFIC: STEVE TRAVIA/DARLYE DREW (847) 705-4420

10-45-35 01/28/2008

Rev.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	2
FED. ROAD DIST. NO. 1		ILLINOIS	CONTRACT NO. 60B48	
D-91-351-06				

SUMMARY OF QUANTITIES			URBAN 80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT		IL.43 @ DEERFIELD ROAD.	IL.43 @ ELDER LN./ HAZEL AVE.	IL.43 @ GREENWOOD	IL.43 @ NORTH AVE.	IL.43 @ OFFICE PLAZA ENT.	IL.43 @ IL.22	INTERCONNECT
				Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2	0.25	0.25	0.25	0.25	0.25	0.25	0.50
67100100	MOBILIZATION	L SUM	1	0.14	0.14	0.14	0.14	0.14	0.14	0.16
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	0.14	0.14	0.14	0.14	0.14	0.14	0.16
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.14	0.14	0.14	0.14	0.14	0.14	0.16
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	4471							4471
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	657							657
81400100	HANDHOLE	EACH	7							7
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	4471							4471
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	6	1	1	1	1	1	1	
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	4		1	1	1	1		
86400100	TRANSCEIVER - FIBER OPTIC	EACH	5		1	1	1	1	1	
88500100	INDUCTIVE LOOP DETECTOR	EACH	31		4	6	4	5	12	
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO.6 2C	FOOT	105		40	25		10	30	
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14FT.	EACH	6		3	1		2		
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16FT.	EACH	5		2	2		1		
87502520	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18FT.	EACH	7		2	1		1	3	
87900200	DRILL EXISTING HANDHOLE	EACH	5					2	3	
88024120	OPTICALLY PROGRAMMED SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1						1	
88024310	OPTICALLY PROGRAMMED SIGNAL HEAD, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1						1	
88024320	OPTICALLY PROGRAMMED SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	3		2				1	
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	10		2	1	3	3	1	
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	15	2	4		2	3	4	
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	5	1			1	1	2	
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	11	5		1	1	1	3	
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	5		2	1	1	1		
88030230	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED	EACH	4			4				
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	6	2	2	1			1	
X0322256	TEMPORARY INFORMATION SIGNING	SO FT	102.8	51.4					51.4	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUMMARY OF QUANTITIES  
IL. 43 (WAUKEGAN RD.) FROM  
IL. 22 (HALFDAY RD.) TO DEERFIELD RD.

PLOT DATE: 2/1/2008

2/1/2008  
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	3
FED. ROAD DIST. NO. 1	ILLINOIS	CONTRACT NO. 60B48		

D-91-351-06

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES 80% F.B.D. 20% STATE	CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT		IL.43 @ DEERFIELD ROAD.	IL.43 @ ELDER LN./HAZEL AVE.	IL.43 @ GREENWOOD	IL.43 @ NORTH AVE.	IL.43 @ OFFICE PLAZA ENT.	IL.43 @ IL.22	INTERCONNECT
			Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	
88030330	SIGNAL HEAD, LED, 3-FACE, 2-3 SECTION, 1-5 SECTION BRACKET MOUNTED	EACH	1						1	
88102710	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	20	8	6	4	2			
88102740	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	2			1	1			
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	24	5	4	2	4	4	5	
88700200	LIGHT DETECTOR	EACH	4					2	2	
88700300	LIGHT DETECTOR AMPLIFIER	EACH	2					1	1	
88800100	PEDESTRIAN PUSH-BUTTON	EACH	14		6	5	3			
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	6	1	1	1	1	1	1	
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	6197							6197
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	105		40	25		10	30	
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	650					230	420	
X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	650					230	420	
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	825						825	
X0325706	RAILROAD, FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)	EACH	1						1	
X8050010	SERVICE INSTALLATION - GROUND MOUNTED	EACH	1					1		
X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	4		1	1	1		1	
X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	1						1	
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	13157							13157
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1						1	
X0324007	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	2					1	1	
X0325705	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL 2	EACH	4	1	1	1	1			
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SO FT	36						36	
89100400	ILLUMINATED SIGN, L E D	EACH	4						4	

\* 100% COST WILL BE PAY BY DEERFIELD-BANNOCKBURN CENTRAL FIRE PROTECTION - Y031-3D

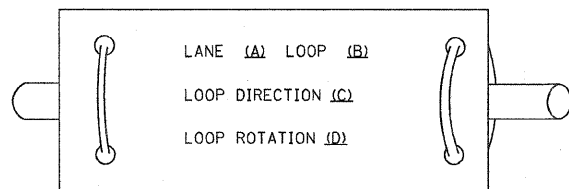
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION SUMMARY OF QUANTITIES IL. 43 (WAUKEGAN RD.) FROM IL. 22 (HALFDAY RD.) TO DEERFIELD RD.
NAME	DATE	
		PLOT DATE: 2/1/2008

2/1/2008  
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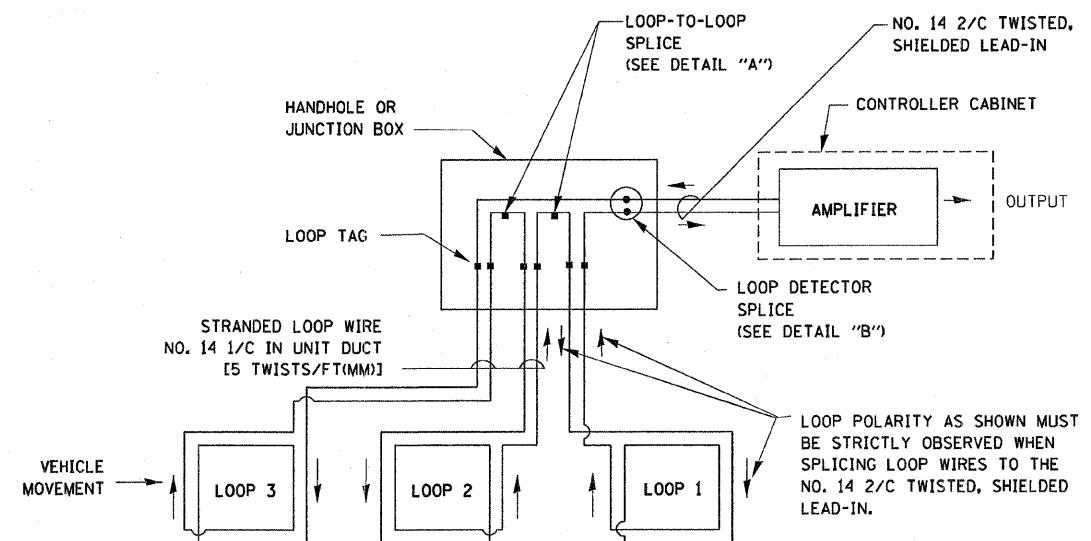
**LOOP DETECTOR NOTES**

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**

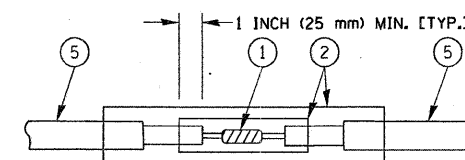


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

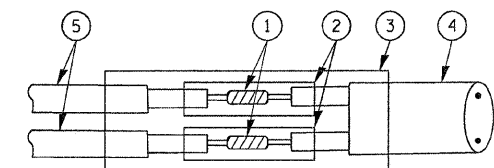


**DETECTOR LOOP WIRING SCHEMATIC**

- 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.

FILE NAME = W:\diststd\22x34\ts05.dgn	USER NAME = geglienobt	DESIGNED - D.A.D.	REVISED - 11-12-01
		DRAWN - R.W.P.	REVISED - BUR. TRAFFIC 01-01-02
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	PLOT DATE = 1/4/2008	DATE - 05-30-00	REVISED -

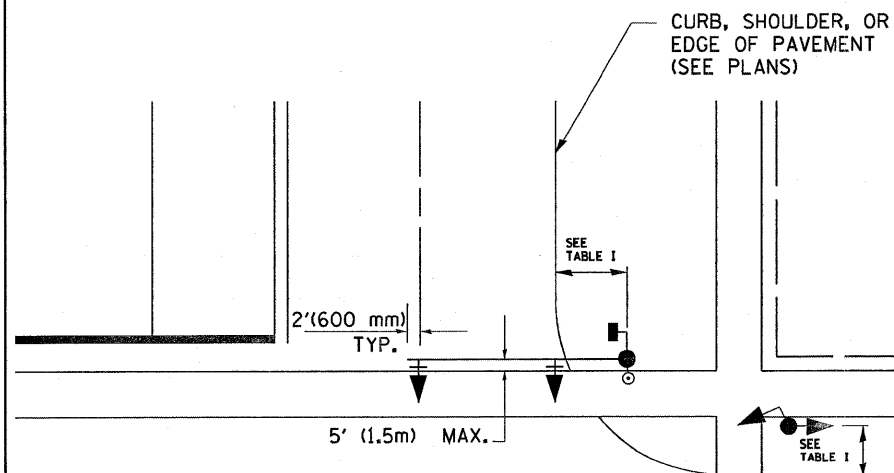
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>			
SCALE: NONE	SHEET NO. 1 OF 4 SHEETS	STA.	TO STA.

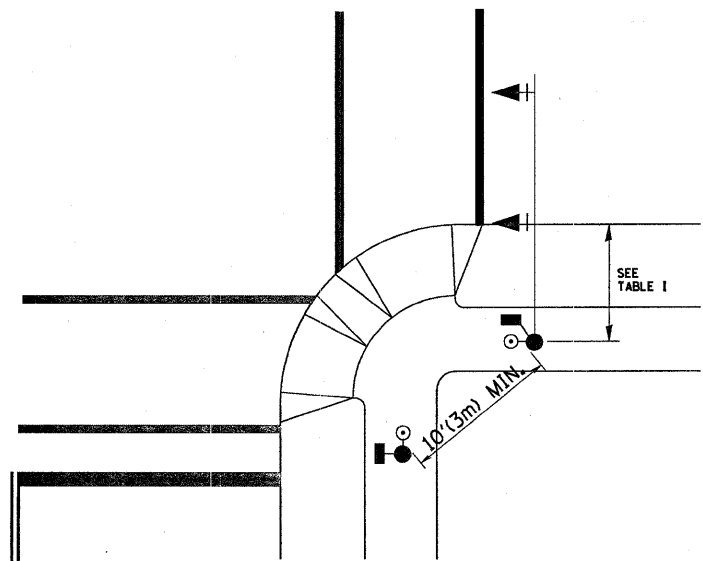
F.A.W. RTE. 2706	SECTION 2006-020TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 4
TS-05			CONTRACT NO. 60043	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

**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**



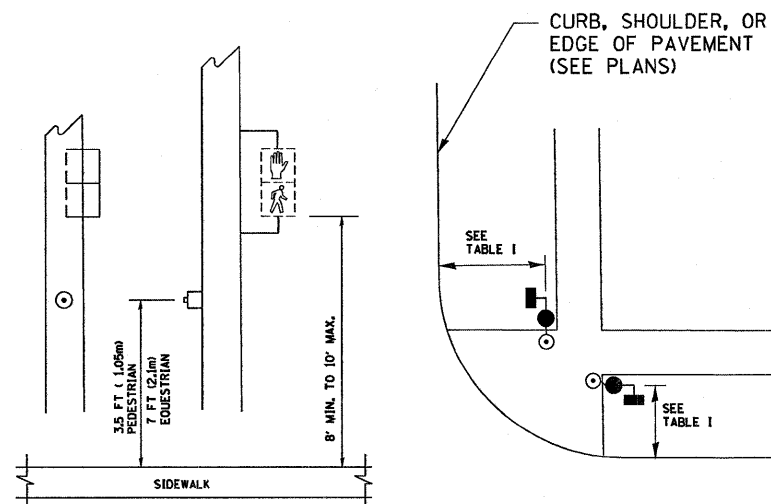
RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

**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**

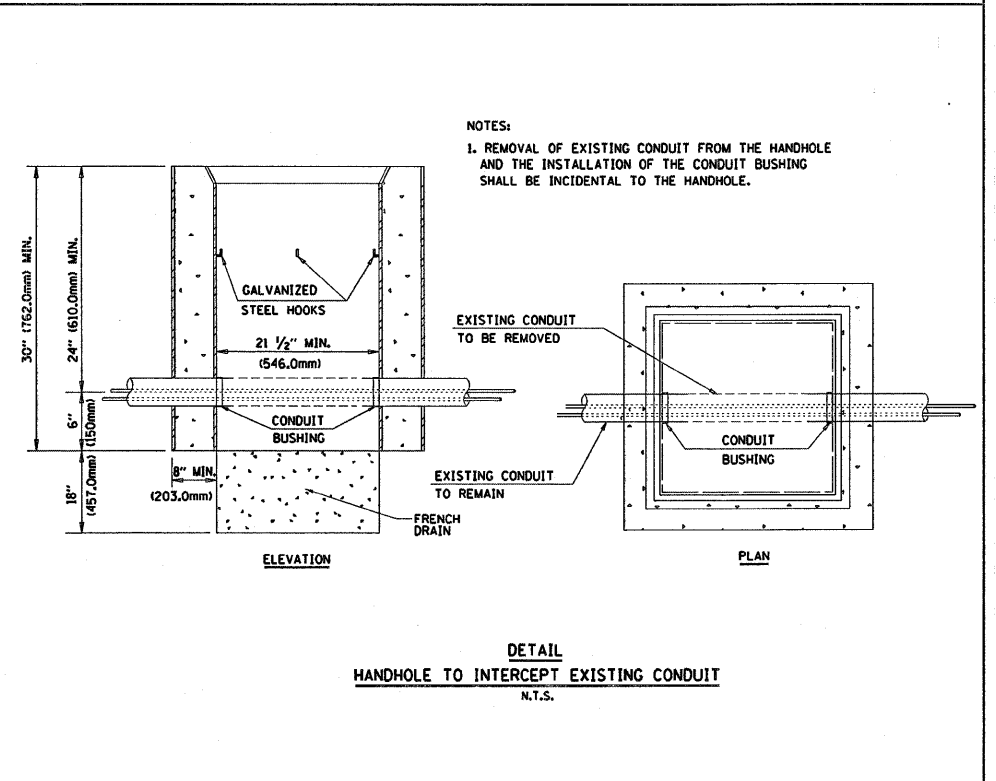
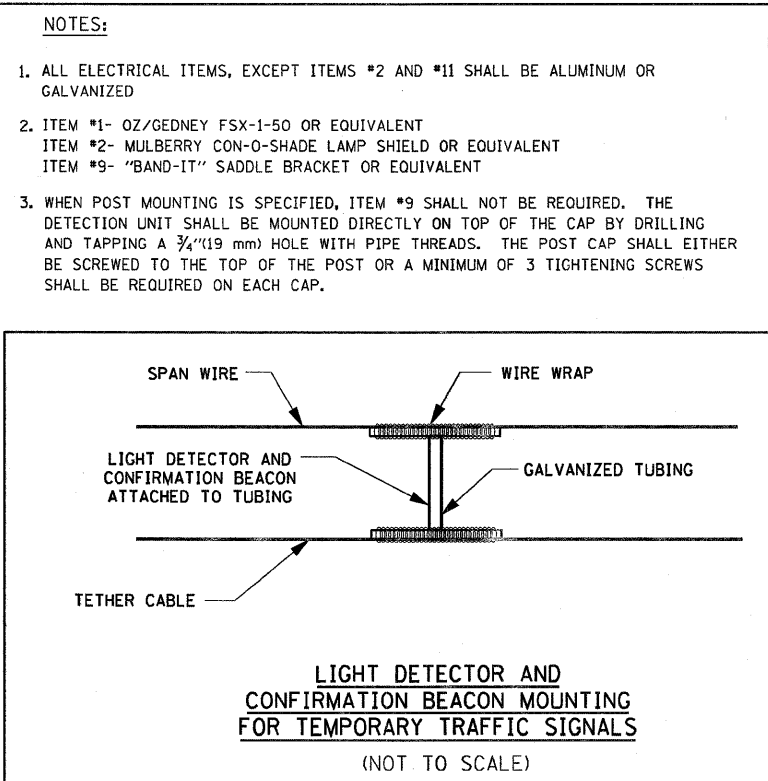
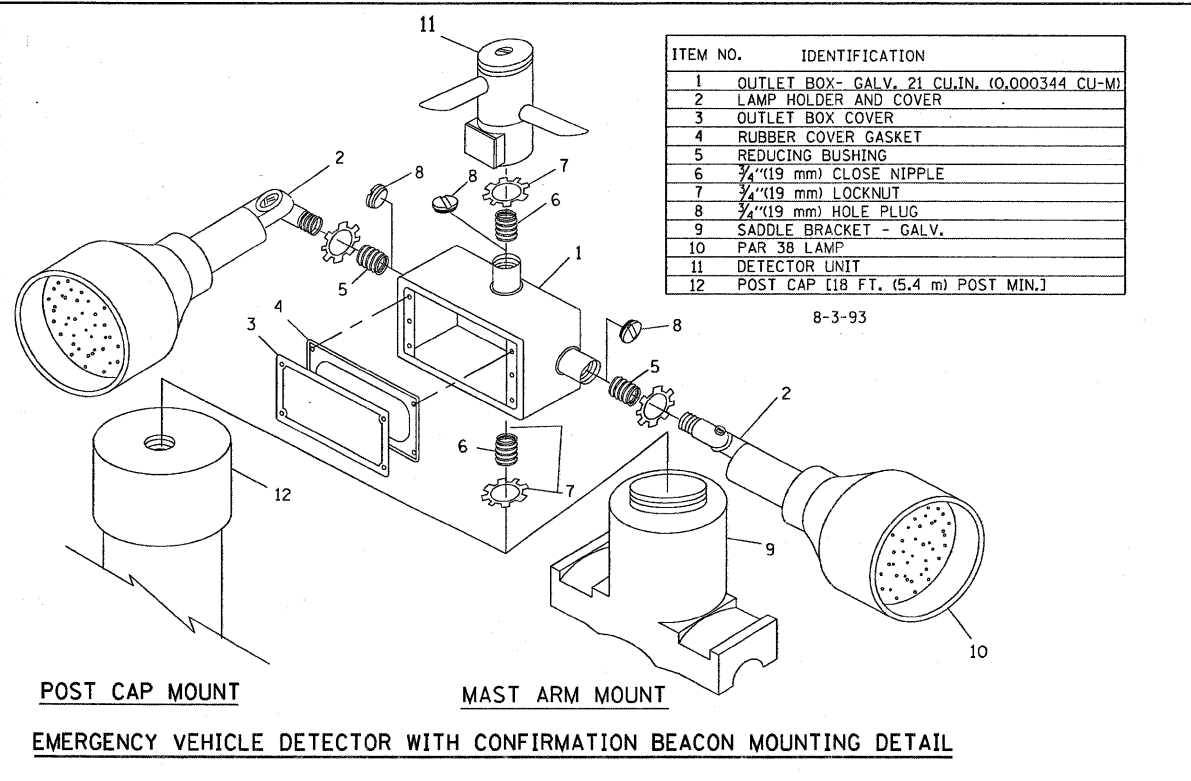
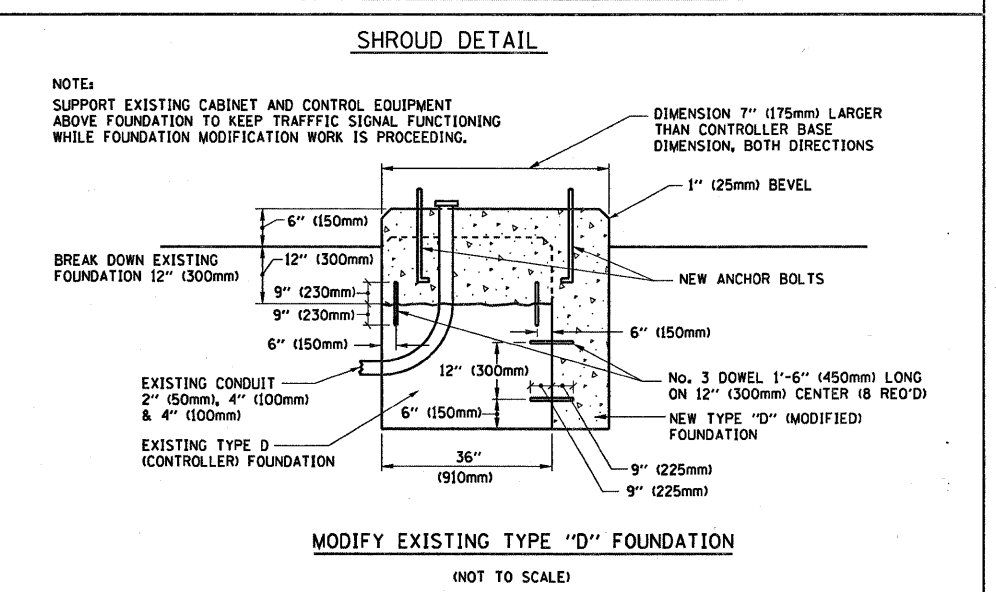
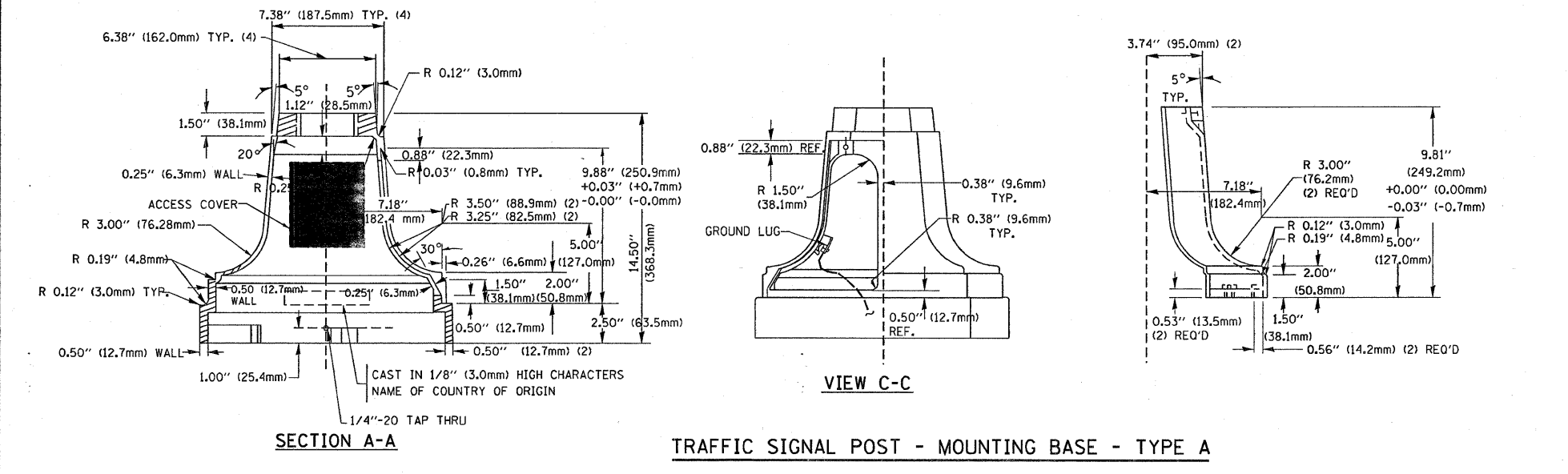
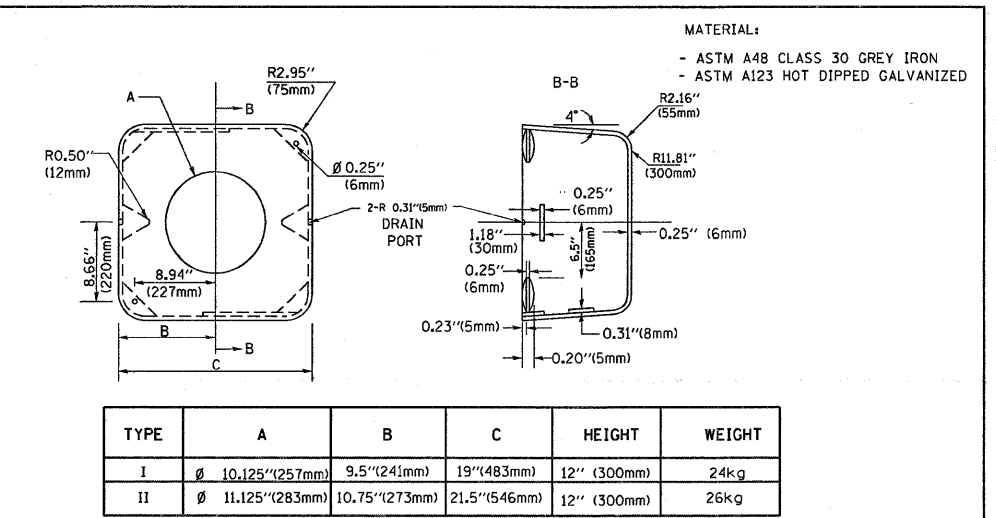
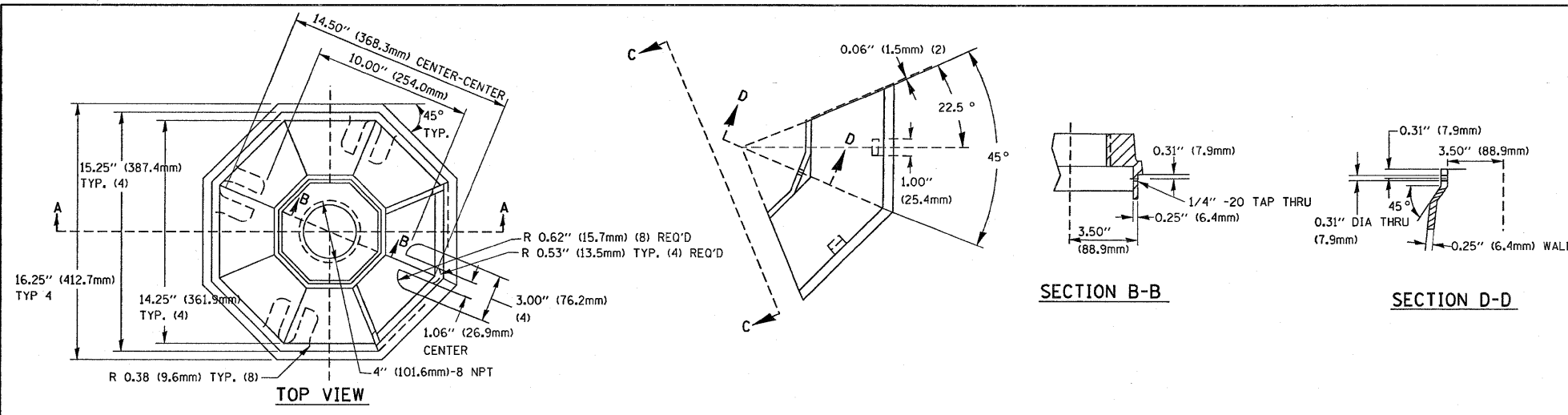
PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION



**TABLE I**

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM CURB 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





MATCH LINE A-A

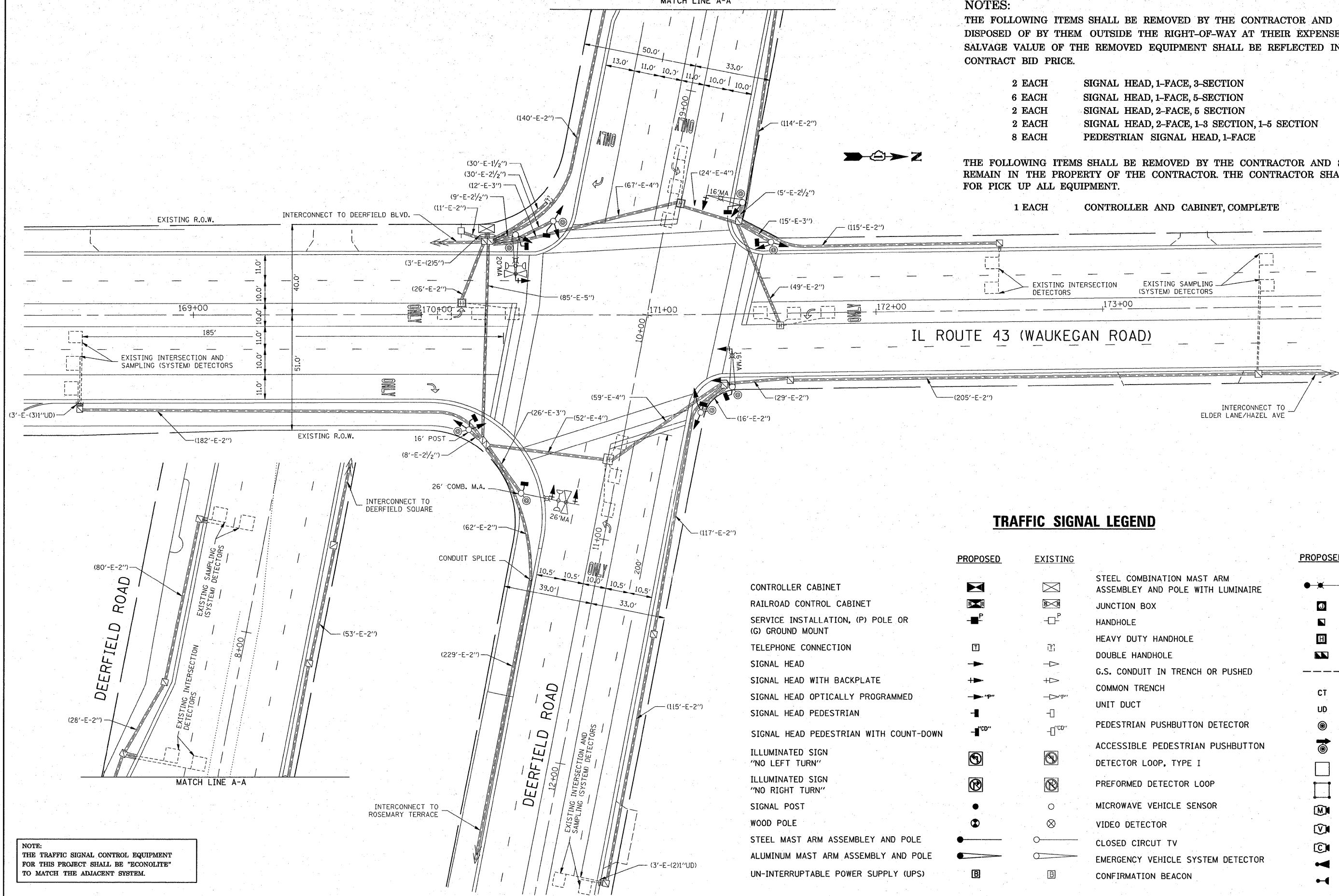
**NOTES:**

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 HEAD, 1-FACE, 3-SECTION
- 6 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 5 SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN IN THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR PICK UP ALL EQUIPMENT.

- 1 EACH CONTROLLER AND CABINET, COMPLETE



**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER CABINET			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
RAILROAD CONTROL CABINET			JUNCTION BOX		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT			HANDHOLE		
TELEPHONE CONNECTION			HEAVY DUTY HANDHOLE		
SIGNAL HEAD			DOUBLE HANDHOLE		
SIGNAL HEAD WITH BACKPLATE			G.S. CONDUIT IN TRENCH OR PUSHED		
SIGNAL HEAD OPTICALLY PROGRAMMED			COMMON TRENCH		
SIGNAL HEAD PEDESTRIAN			UNIT DUCT		
SIGNAL HEAD PEDESTRIAN WITH COUNT-DOWN			PEDESTRIAN PUSHBUTTON DETECTOR		
ILLUMINATED SIGN "NO LEFT TURN"			ACCESSIBLE PEDESTRIAN PUSHBUTTON		
ILLUMINATED SIGN "NO RIGHT TURN"			DETECTOR LOOP, TYPE I		
SIGNAL POST			PERFORMED DETECTOR LOOP		
WOOD POLE			MICROWAVE VEHICLE SENSOR		
STEEL MAST ARM ASSEMBLY AND POLE			VIDEO DETECTOR		
ALUMINUM MAST ARM ASSEMBLY AND POLE			CLOSED CIRCUIT TV		
UN-INTERRUPTABLE POWER SUPPLY (UPS)			EMERGENCY VEHICLE SYSTEM DETECTOR		
			CONFIRMATION BEACON		

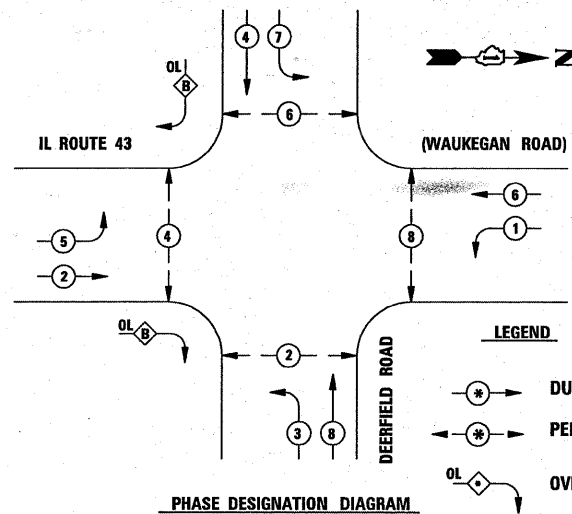
**NOTE:**  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

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PLOT SCALE = 20.0000' / IN.	CHECKED - DAD	REVISOR - DAD	REVISOR - DAD					SCALE:		SHEET NO. OF SHEETS STA. TO STA.		CONTRACT NO. 60B48			
PLOT DATE = 1/23/2008	DATE - 1/15/2008	DATE - 1/15/2008	DATE - 1/15/2008					FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT					
								DATE		DATE					

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**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

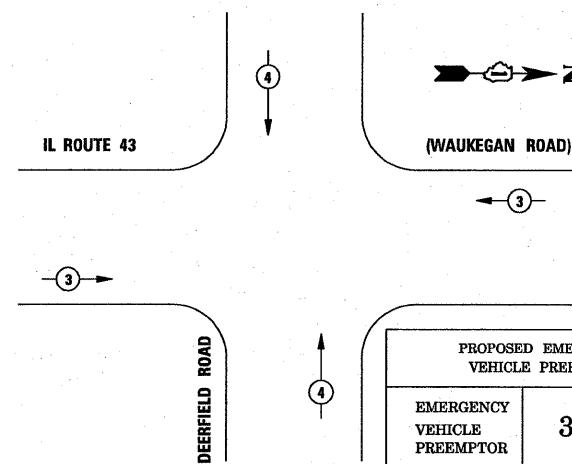
**LEGEND**

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

**RIGHT TURN OVERLAP PHASE DESIGNATION**

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

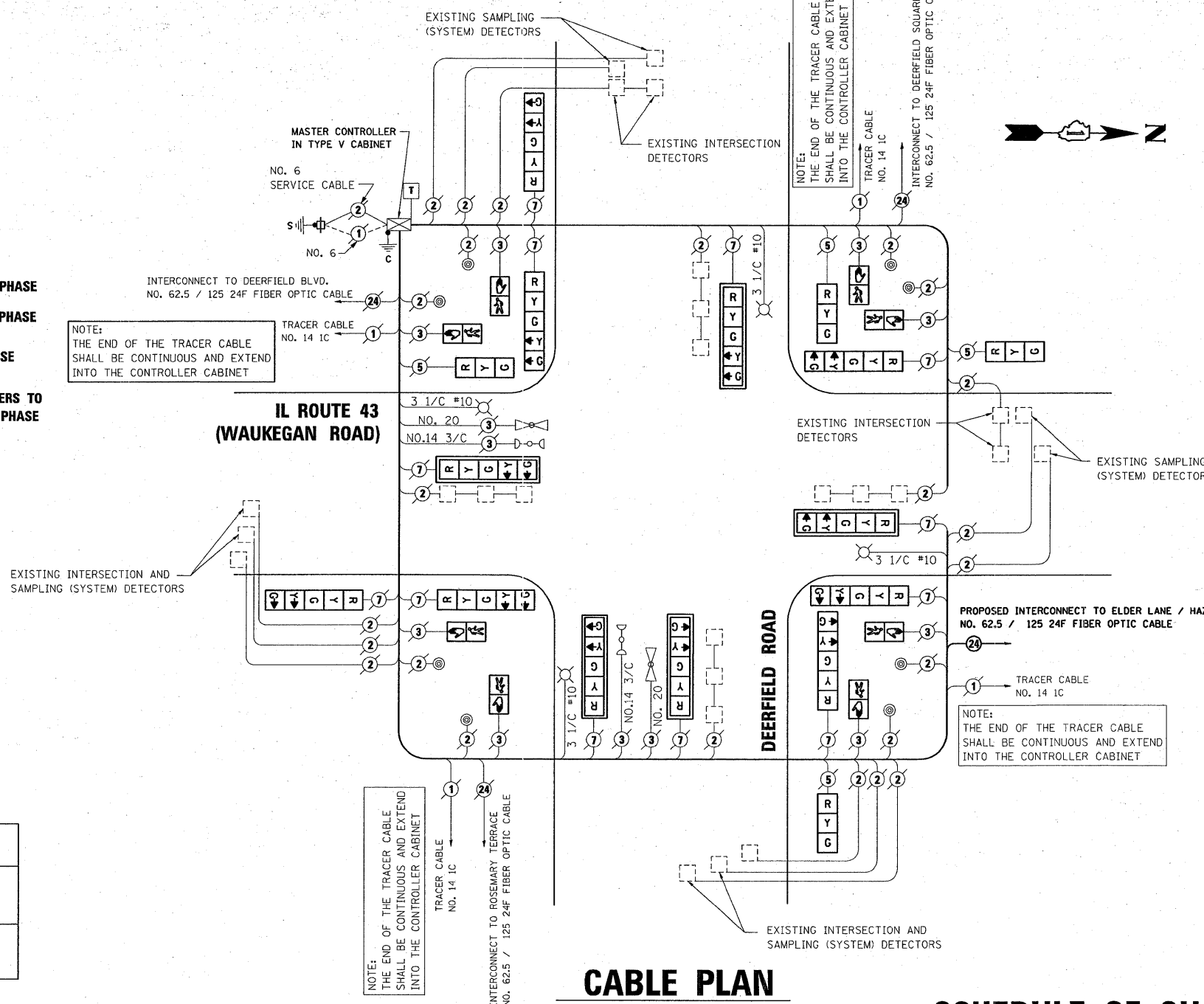
**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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

**CABLE PLAN LEGEND**

- |  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET   | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (C) GROUND MOUNT                                       | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION   | [Symbol] | [Symbol] |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       | [Symbol] | [Symbol] |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  | [Symbol] | [Symbol] |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED | [Symbol] | [Symbol] |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   | [Symbol] | [Symbol] |
| SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD                                | [Symbol] | [Symbol] |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     | [Symbol] | [Symbol] |
| 12" (300mm) TRAFFIC SIGNAL SECTION   | [Symbol] | [Symbol] |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION  | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN"  | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN"   | [Symbol] | [Symbol] |
| PUSHBUTTON DETECTOR  | [Symbol] | [Symbol] |
| DETECTOR LOOP  | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP  | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR   | [Symbol] | [Symbol] |
| VIDEO DETECTOR   | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV  | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | [Symbol] | [Symbol] |
| CONFIRMATION BEACON  | [Symbol] | [Symbol] |
| UN-INTERRUPTIBLE POWER SUPPLY (UPS)  | [Symbol] | [Symbol] |



**CABLE PLAN**

**SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	5
PERDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED	EACH	8
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL II	EACH	1
TEMPORARY INFORMATION SIGNING	SQ FT	51.4

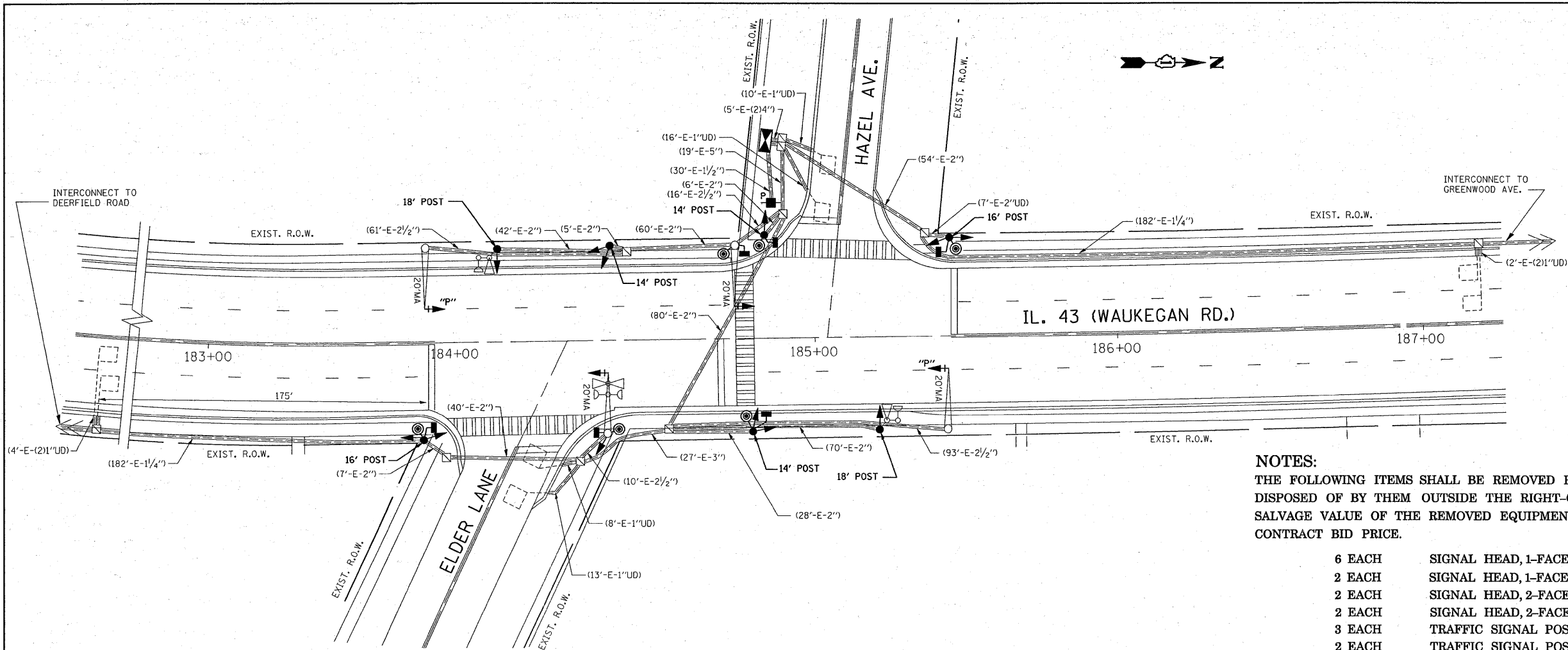
I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE (INCAND.)	LED	% OPERATION	
SIGNAL (RED)	16	135	17	0.50	136.00
(YELLOW)	16	135	25	0.25	100.00
(GREEN)	16	135	15	0.25	60.00
ARROW	24	135	12	0.10	28.80
PED. SIGNAL	8	90	25	1.00	200.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION, 201 WEST CENTER COURT, SCHAMBURG, ILLINOIS 60196-1096					TOTAL = 625.00
ENERGY SUPPLY CONTACT: PHONE: (847) 816-5248, COMPANY: COMED					

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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2' = (6m + L - 0.6m) =
C - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

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

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE SEQUENCE AND SCHEDULE OF QUANTITIES			
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS
2706	2006-020 TS	LAKE	29
C-91-351-06		CONTRACT NO. 60B48	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			



**NOTES:**  
 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, 1-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 3 SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 3 EACH TRAFFIC SIGNAL POST, 14 FT.
- 2 EACH TRAFFIC SIGNAL POST, 16 FT.
- 2 EACH TRAFFIC SIGNAL POST, 18 FT.
- 1 EACH SERVICE
- 6 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 6 EACH PEDESTRIAN PUSH-BUTTON

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE REMAIN IN THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR PICK UP ALL EQUIPMENT.

- 1 EACH CONTROLLER AND CABINET, COMPLETE

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL HEAD PEDESTRIAN		
SIGNAL HEAD PEDESTRIAN WITH COUNT-DOWN		
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
SIGNAL POST		
WOOD POLE		
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING
JUNCTION BOX		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
COMMON TRENCH		
UNIT DUCT		
PEDESTRIAN PUSHBUTTON DETECTOR		
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		
MICROWAVE VEHICLE SENSOR		
VIDEO DETECTOR		
CLOSED CIRCUIT TV		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
UN-INTERRUPTABLE POWER SUPPLY (UPS)		

FILE NAME =	USER NAME = nguyensm	DESIGNED - SN	REVISED -
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		CHECKED - DAD	REVISED -
		DATE - 1/15/2008	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

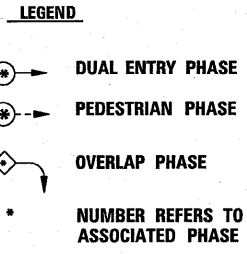
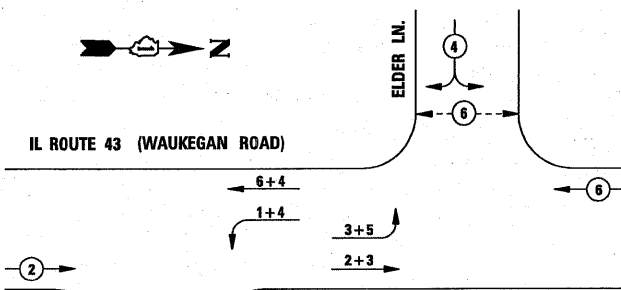
TRAFFIC SIGNAL MODIFICATION  
 IL 43 (WAUKEGAN RD.) @ HAZEL AVE. / ELDER LANE

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	10
C-91-351-06		CONTRACT NO. 60B48		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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

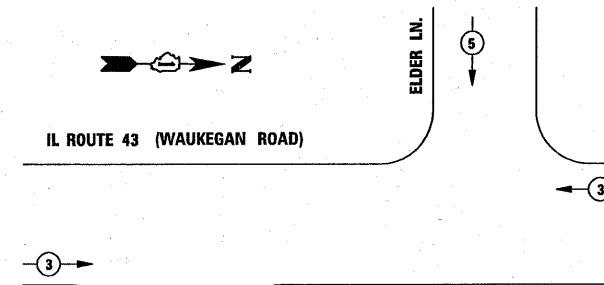
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**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



PROPOSED EMERGENCY VEHICLE PREEMPTOR			
EMERGENCY VEHICLE PREEMPTOR	3	5	6
MOVEMENT	←	↑	↓

**CONSTRUCTION NOTES:**

REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL, RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

**CABLE PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER CABINET	[Symbol]	[Symbol]
RAILROAD CONTROL CABINET	[Symbol]	[Symbol]
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	[Symbol]	[Symbol]
TELEPHONE CONNECTION	[Symbol]	[Symbol]
GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE	[Symbol]	[Symbol]
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED	[Symbol]	[Symbol]
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED	[Symbol]	[Symbol]
GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)	[Symbol]	[Symbol]
SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD	[Symbol]	[Symbol]
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE	[Symbol]	[Symbol]
12" (300mm) TRAFFIC SIGNAL SECTION	[Symbol]	[Symbol]
12" (300mm) PEDESTRIAN SIGNAL SECTION	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO LEFT TURN"	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO RIGHT TURN"	[Symbol]	[Symbol]
PUSHBUTTON DETECTOR	[Symbol]	[Symbol]
DETECTOR LOOP	[Symbol]	[Symbol]
PREFORMED DETECTOR LOOP	[Symbol]	[Symbol]
MICROWAVE VEHICLE SENSOR	[Symbol]	[Symbol]
VIDEO DETECTOR	[Symbol]	[Symbol]
CLOSED CIRCUIT TV	[Symbol]	[Symbol]
EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
CONFIRMATION BEACON	[Symbol]	[Symbol]
UN-INTERRUPTABLE POWER SUPPLY (UPS)	[Symbol]	[Symbol]

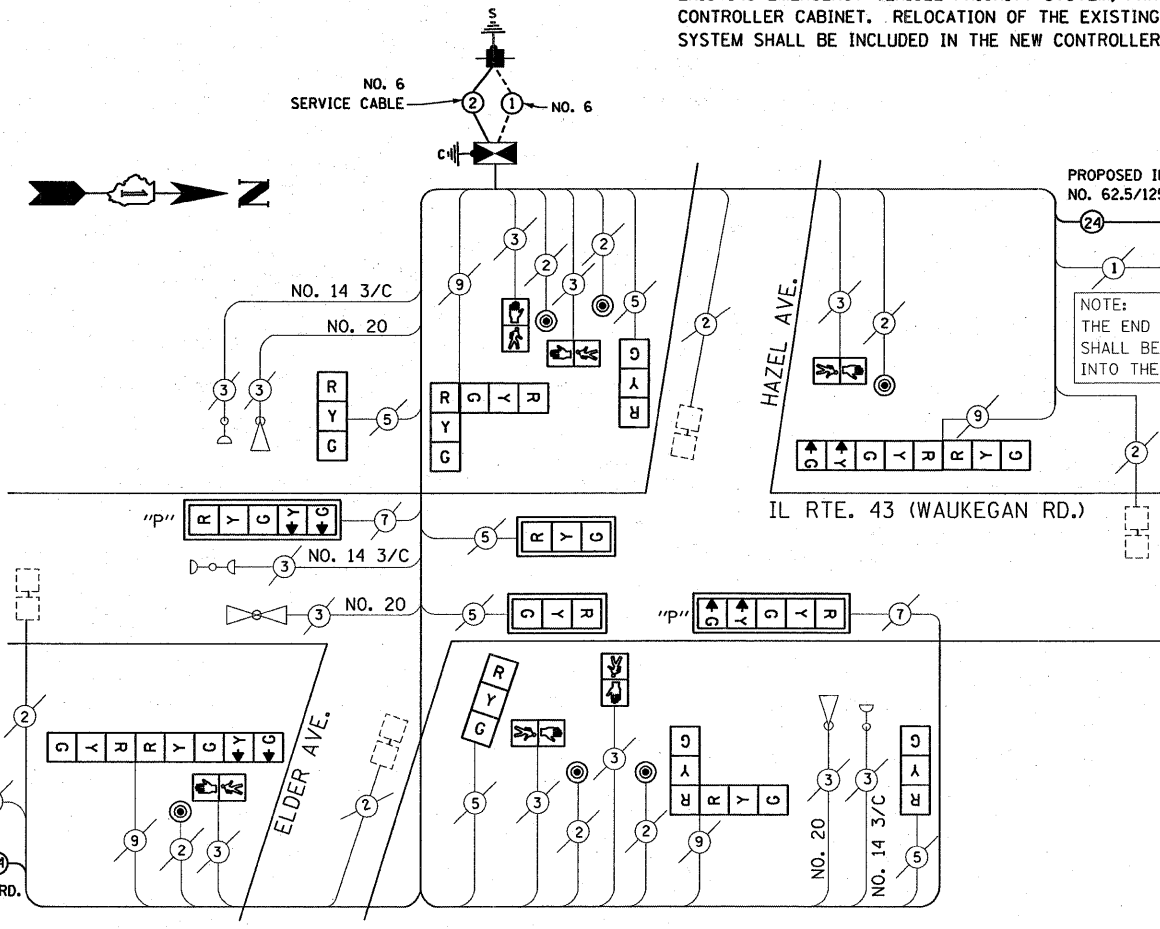
NOTE: THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

PROPOSED INTERCONNECT TO DEERFIELD RD. NO. 62.5/125 24F FIBER OPTIC CABLE

PROPOSED INTERCONNECT TO GREENWOOD AVE. NO. 62.5/125 24F FIBER OPTIC CABLE

NOTE: THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

**CABLE PLAN**



**SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCIEVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	40
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	40
OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4

**SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 2-FACE, 3 SECTION, BRACKET MOUNTED	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	3
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	6
PEDESTRIAN PUSH-BUTTON	EACH	6
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4
SERVICE INSTALLATION, POLE-MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL II	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	4

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE (INCAND.)	WATTAGE LED	% OPERATION	
SIGNAL (RED)	16	135	17	0.50	136.00
(YELLOW)	16	135	25	0.25	100.00
(GREEN)	16	135	15	0.25	60.00
ARROW	8	135	12	0.10	9.60
PED. SIGNAL	6	90	25	1.00	150.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	

ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION  
 201 WEST CENTER COURT  
 SCHLAUBURG, ILLINOIS 60196-1096  
 ENERGY SUPPLY CONTACT: PHONE: 847 816-5248  
 COMPANY: COMED

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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
C - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

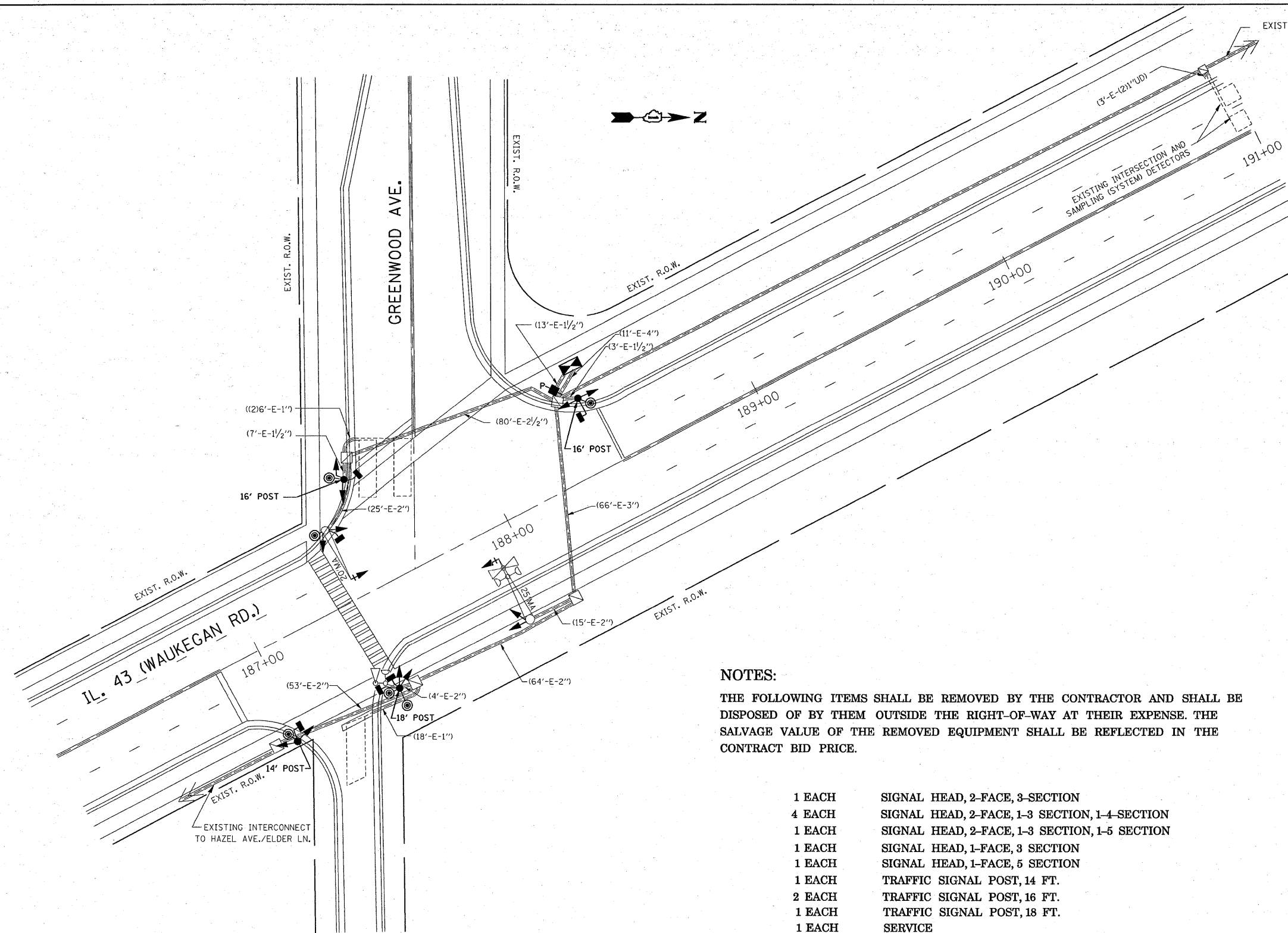
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PLOT DATE = 1/23/2008		DATE - 1/15/2008	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE SEQUENCE AND SCHEDULE OF QUANTITIES  
 IL 43 (WAUKEGAN RD.) @ HAZEL AVE. / ELDER LANE

F.A.U. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	11
C-91-351-06		CONTRACT NO. 60B48		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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



**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING
CONTROLLER CABINET	[Symbol]	[Symbol]
RAILROAD CONTROL CABINET	[Symbol]	[Symbol]
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	[Symbol]	[Symbol]
TELEPHONE CONNECTION	[Symbol]	[Symbol]
SIGNAL HEAD	[Symbol]	[Symbol]
SIGNAL HEAD WITH BACKPLATE	[Symbol]	[Symbol]
SIGNAL HEAD OPTICALLY PROGRAMMED	[Symbol]	[Symbol]
SIGNAL HEAD PEDESTRIAN	[Symbol]	[Symbol]
SIGNAL HEAD PEDESTRIAN WITH COUNT-DOWN	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO LEFT TURN"	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO RIGHT TURN"	[Symbol]	[Symbol]
SIGNAL POST	[Symbol]	[Symbol]
WOOD POLE	[Symbol]	[Symbol]
STEEL MAST ARM ASSEMBLY AND POLE	[Symbol]	[Symbol]
ALUMINUM MAST ARM ASSEMBLY AND POLE	[Symbol]	[Symbol]
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	[Symbol]	[Symbol]
JUNCTION BOX	[Symbol]	[Symbol]
HANDHOLE	[Symbol]	[Symbol]
HEAVY DUTY HANDHOLE	[Symbol]	[Symbol]
DOUBLE HANDHOLE	[Symbol]	[Symbol]
G.S. CONDUIT IN TRENCH OR PUSHED	[Symbol]	[Symbol]
COMMON TRENCH	[Symbol]	[Symbol]
UNIT DUCT	[Symbol]	[Symbol]
PEDESTRIAN PUSHBUTTON DETECTOR	[Symbol]	[Symbol]
ACCESSIBLE PEDESTRIAN PUSHBUTTON	[Symbol]	[Symbol]
DETECTOR LOOP, TYPE I	[Symbol]	[Symbol]
PERFORMED DETECTOR LOOP	[Symbol]	[Symbol]
MICROWAVE VEHICLE SENSOR	[Symbol]	[Symbol]
VIDEO DETECTOR	[Symbol]	[Symbol]
CLOSED CIRCUIT TV	[Symbol]	[Symbol]
EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
CONFIRMATION BEACON	[Symbol]	[Symbol]
UNINTERRUPTABLE POWER SUPPLY (UPS)	[Symbol]	[Symbol]

**NOTES:**

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, 2-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-4 SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 1 EACH SIGNAL HEAD, 1-FACE, 3 SECTION
- 1 EACH SIGNAL HEAD, 1-FACE, 5 SECTION
- 1 EACH TRAFFIC SIGNAL POST, 14 FT.
- 2 EACH TRAFFIC SIGNAL POST, 16 FT.
- 1 EACH TRAFFIC SIGNAL POST, 18 FT.
- 1 EACH SERVICE
- 4 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 1 EACH PEDESTRIAN SIGNAL HEAD, 2-FACE
- 4 EACH PEDESTRIAN PUSH-BUTTON

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE REMAIN IN THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR PICK UP ALL EQUIPMENT.

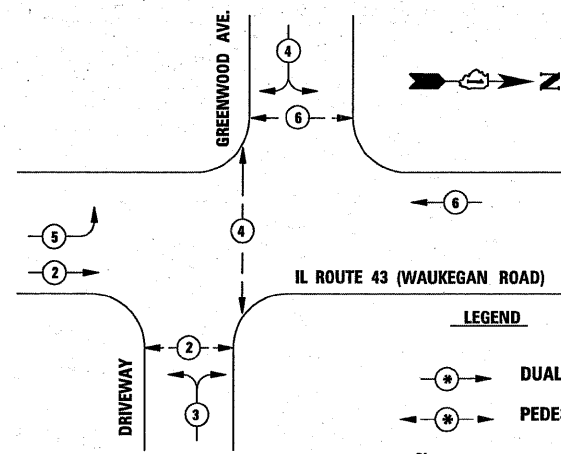
- 1 EACH CONTROLLER AND CABINET, COMPLETE

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

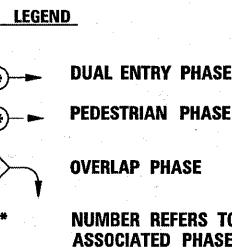
14:25:09 01/23/2008

FILE NAME = c:\projects\traffic\060010\1143deer\12.dgn	USER NAME = ngugensm	DESIGNED - SN	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	TRAFFIC SIGNAL MODIFICATION IL 43 (WAUKEGAN RD.) @ GREENWOOD RD.		F.A.U. RTE. 2706	SECTION 2006-020 TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 12	
	PLOT SCALE = 1/8" = 1'-0"	DRAWN - SN	REVISED -		SCALE:	SHEET NO. OF SHEETS STA. TO STA.	C-91-351-06		CONTRACT NO. 60B48			
	PLOT DATE = 1/23/2008	CHECKED - DAD	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
		DATE - 1/15/2008	REVISED -									

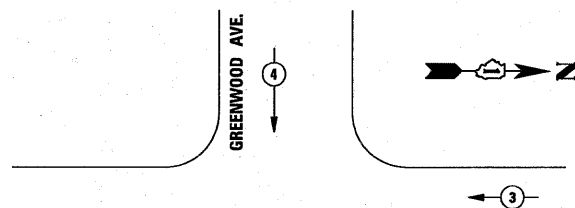
**CONTROLLER SEQUENCE**



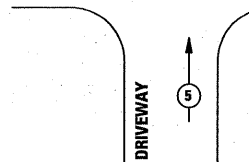
**PHASE DESIGNATION DIAGRAM**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



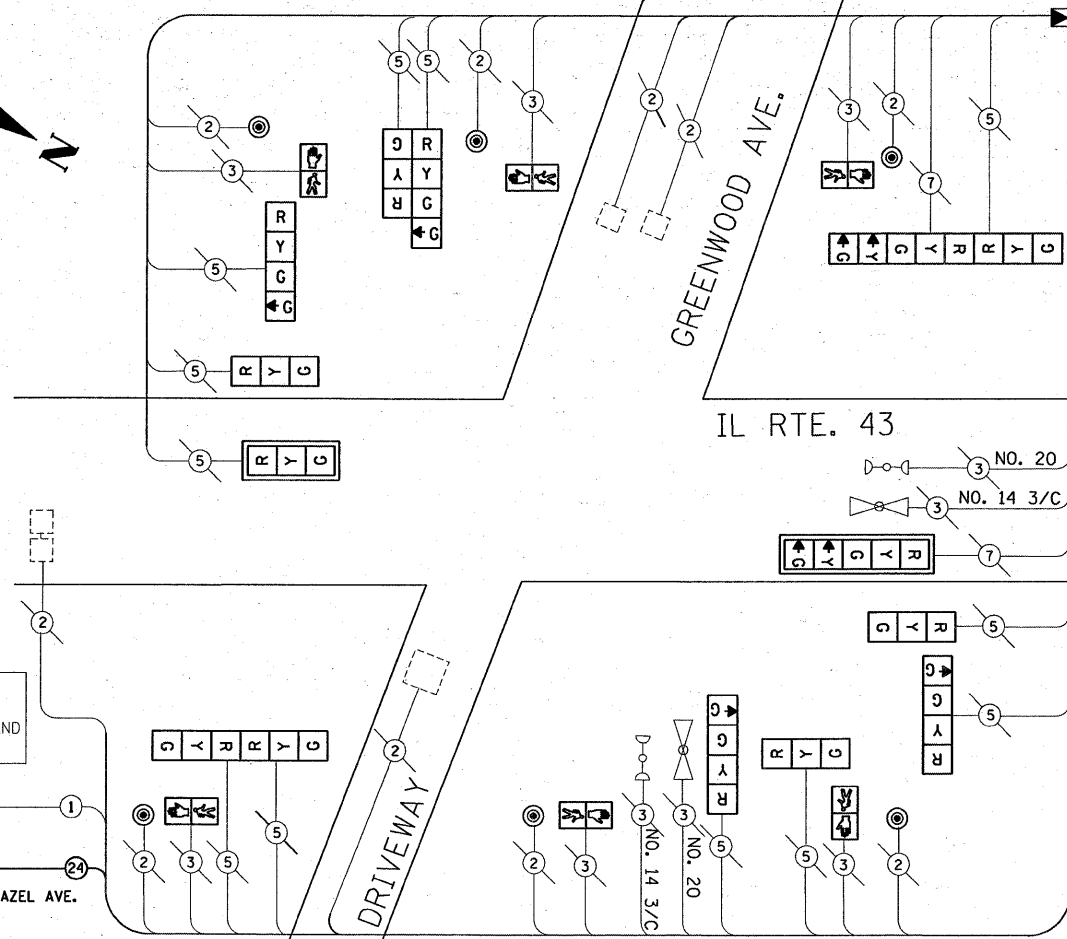
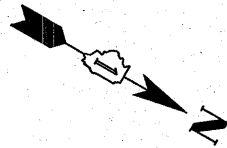
**IL ROUTE 43 (WAUKEGAN ROAD)**



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

NOTE:  
THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

PROPOSED INTERCONNECT TO ELDER LANE/HAZEL AVE.  
NO. 62.5/125 24F FIBER OPTIC CABLE

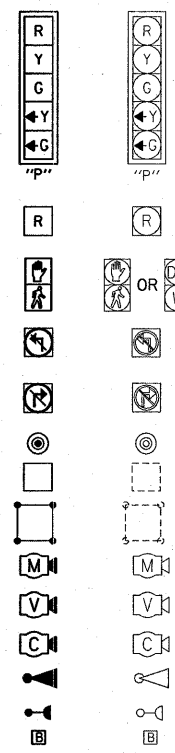


**CABLE PLAN**

**CABLE PLAN LEGEND**

- CONTROLLER CABINET
- RAILROAD CONTROL CABINET
- SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT
- TELEPHONE CONNECTION
- GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE
- FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED
- ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED
- GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)
- 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE

**PROPOSED EXISTING**



SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD

- 12" (300mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- ILLUMINATED SIGN "NO LEFT TURN"
- ILLUMINATED SIGN "NO RIGHT TURN"
- PUSHBUTTON DETECTOR
- DETECTOR LOOP
- PREFORMED DETECTOR LOOP
- MICROWAVE VEHICLE SENSOR
- VIDEO DETECTOR
- CLOSED CIRCUIT TV
- EMERGENCY VEHICLE SYSTEM DETECTOR
- CONFIRMATION BEACON
- UN-INTERRUPTIBLE POWER SUPPLY (UPS)

NOTE:  
THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

**SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	4
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	5
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	1
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	1
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	25
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	25
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	6
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL II	EACH	1

① CONSTRUCTION NOTES:  
REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL, RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

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

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE (INCAND.)	WATTAGE LED	% OPERATION	
SIGNAL (RED)	14	135	17	0.50	119.00
(YELLOW)	14	135	25	0.25	87.50
(GREEN)	14	135	15	0.25	52.50
ARROW	8	135	12	0.10	9.60
PED. SIGNAL	6	90	25	1.00	150.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	

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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m + L - 0.6m) =
C - M. ARM POLE	10 (3.0)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

ENERGY COSTS TO:  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
201 WEST CENTER COURT  
SCHALMBURG, ILLINOIS 60196-1096  
ENERGY SUPPLY CONTACT:  
PHONE: 847 816-5248  
COMPANY: COMED

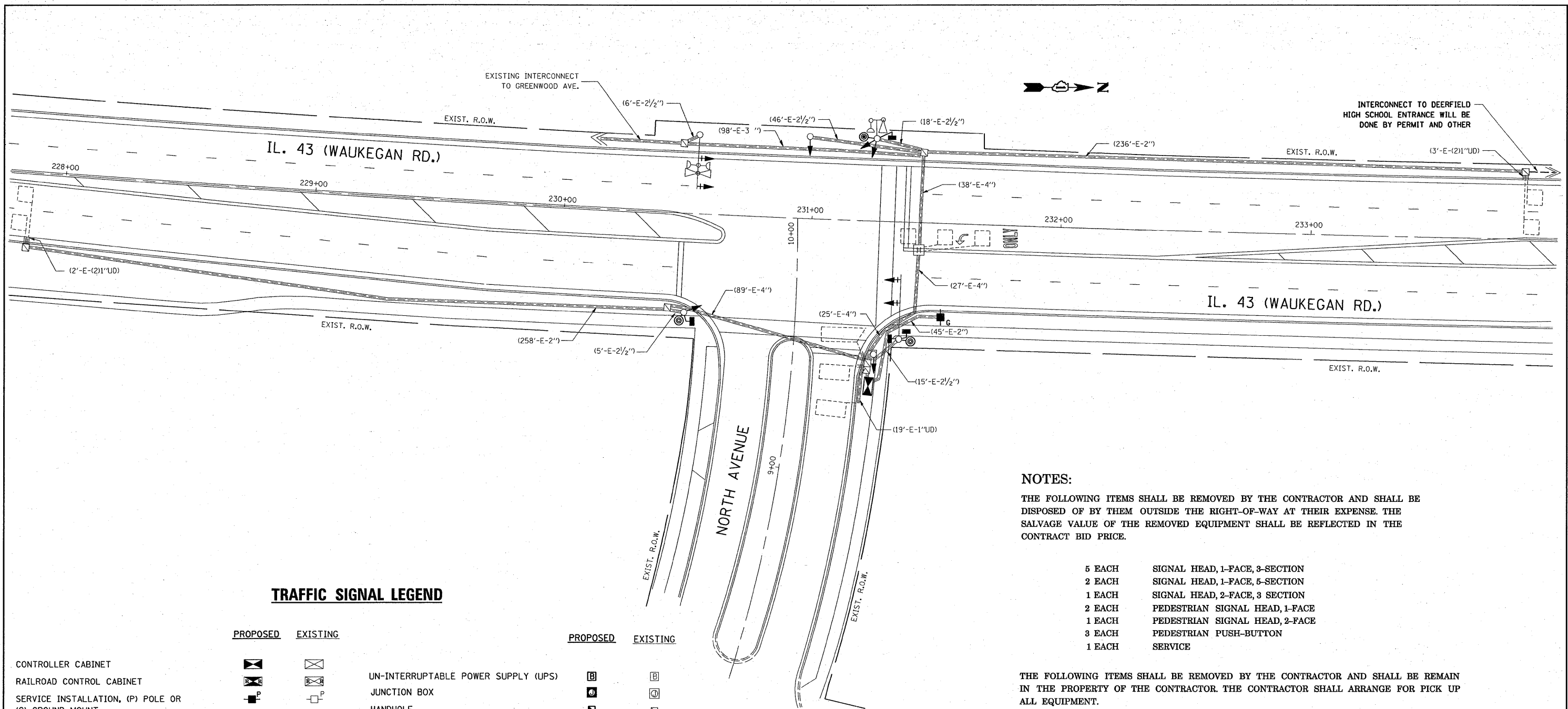
DESIGNED - SN  
DRAWN - SN  
CHECKED - DAD  
DATE - 1/15/2008

REVISOR -  
REVISOR -  
REVISOR -  
REVISOR -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE SEQUENCE AND SCHEDULE OF QUANTITIES  
IL 43 (WAUKEGAN RD.) @ GREENWOOD RD.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	13
C-91-351-06		CONTRACT NO. 60B48		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**NOTES:**

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, 1-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 3 SECTION
- 2 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 1 EACH PEDESTRIAN SIGNAL HEAD, 2-FACE
- 3 EACH PEDESTRIAN PUSH-BUTTON
- 1 EACH SERVICE

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE REMAIN IN THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR PICK UP ALL EQUIPMENT.

- 1 EACH CONTROLLER AND CABINET, COMPLETE

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER CABINET			UN-INTERRUPTABLE POWER SUPPLY (UPS)		
RAILROAD CONTROL CABINET			JUNCTION BOX		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT			HANDHOLE		
TELEPHONE CONNECTION			HEAVY DUTY HANDHOLE		
SIGNAL HEAD			DOUBLE HANDHOLE		
SIGNAL HEAD WITH BACKPLATE			G.S. CONDUIT IN TRENCH OR PUSHED		
SIGNAL HEAD OPTICALLY PROGRAMMED			COMMON TRENCH		
SIGNAL HEAD PEDESTRIAN			UNIT DUCT		
SIGNAL HEAD PEDESTRIAN WITH COUNT-DOWN			PEDESTRIAN PUSHBUTTON DETECTOR		
ILLUMINATED SIGN "NO LEFT TURN"			ACCESSIBLE PEDESTRIAN PUSHBUTTON		
ILLUMINATED SIGN "NO RIGHT TURN"			DETECTOR LOOP, TYPE I		
SIGNAL POST			PREFORMED DETECTOR LOOP		
WOOD POLE			MICROWAVE VEHICLE SENSOR		
STEEL MAST ARM ASSEMBLY AND POLE			VIDEO DETECTOR		
ALUMINUM MAST ARM ASSEMBLY AND POLE			CLOSED CIRCUIT TV		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE			EMERGENCY VEHICLE SYSTEM DETECTOR		
UNINTERRUPTABLE POWER SUPPLY (UPS)			CONFIRMATION BEACON		

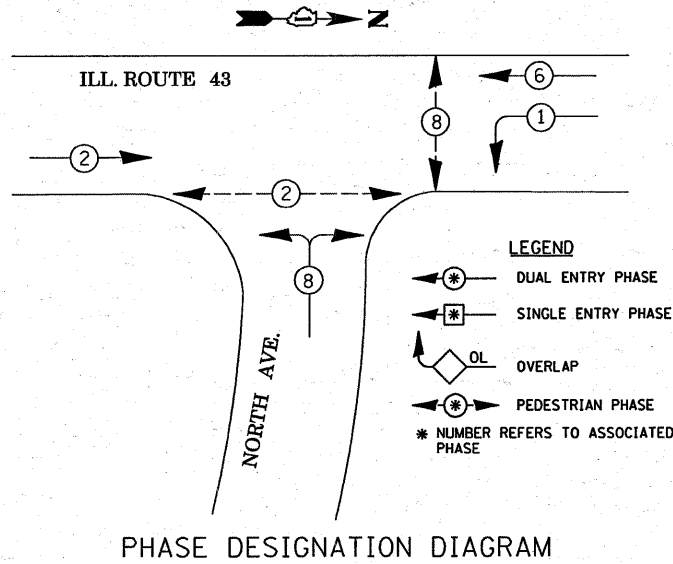
**CONSTRUCTION NOTES:**

- ① INTERCONNECT FROM NORTH AVE. TO DEERFIELD HIGH SCHOOL DRIVEWAY WILL BE DONE UNDER PERMIT NO. 049-38092 SEE INTERCONNECT PLAN FOR MORE INFORMATION.

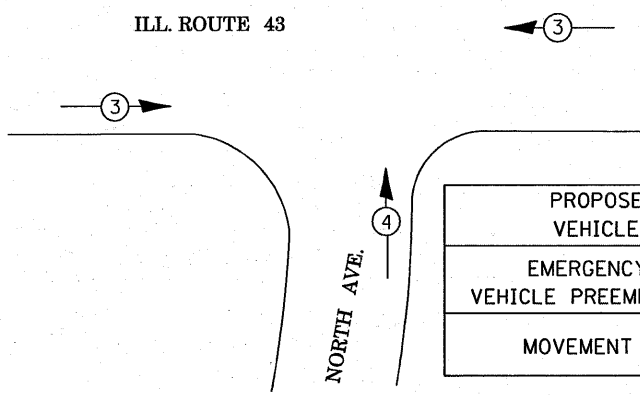
NOTE:  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

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 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = nguyenm

FILE NAME = c:\projects\traffic\1068010\1143deer\122.dgn	USER NAME = nguyenm	DESIGNED - SN	REVISOR -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL MODIFICATION IL 43 (WAUKEGAN RD.) @ NORTH AVENUE</b>				F.A.U. RTE. 2706	SECTION 2006-020 TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 14
	PLOT SCALE = 1/8" = 1'-0"	DRAWN - SN	REVISIONS -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	C-91-351-06 CONTRACT NO. 60B48		
	PLOT DATE = 1/23/2008	CHECKED - DAD	REVISIONS -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								
		DATE - 1/15/2008	REVISIONS -										



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE

NO SCALE

PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT	←	↑

**CABLE PLAN LEGEND**

	PROPOSED	EXISTING	
CONTROLLER CABINET			
RAILROAD CONTROL CABINET			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT			
TELEPHONE CONNECTION			
GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED			
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED			
GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)			
SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD			
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE			
12" (300mm) TRAFFIC SIGNAL SECTION			
12" (300mm) PEDESTRIAN SIGNAL SECTION			
ILLUMINATED SIGN "NO LEFT TURN"			
ILLUMINATED SIGN "NO RIGHT TURN"			
PUSHBUTTON DETECTOR			
DETECTOR LOOP			
PREFORMED DETECTOR LOOP			
MICROWAVE VEHICLE SENSOR			
VIDEO DETECTOR			
CLOSED CIRCUIT TV			
EMERGENCY VEHICLE SYSTEM DETECTOR			
CONFIRMATION BEACON			
UN-INTERRUPTABLE POWER SUPPLY (UPS)			

NOTE: PUSHBUTTON "D" SHALL PLACE A CALL IN PHASE 2 AND 8

**CABLE PLAN**

NO SCALE

NOTE: THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

NOTE: THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

NOTE: INTERCONNECT TO DEERFIELD HIGH SCHOOL ENTRANCE. THE WORK WILL BE DONE BY PERMIT AND OTHER NO. 62.5/125 24F FIBER OPTIC CABLE.

PROPOSED INTERCONNECT TO DEERFIELD H.S. ENT. THE WORK WILL BE DONE BY PERMIT & OTHER NO. 62.5/125 24F FIBER OPTIC CABLE.

**SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCIVER - FIBER OPTIC	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	3
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	4
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL II	EACH	1

CONSTRUCTION NOTES:  
REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL, RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

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

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE (INCAND.)	WATTAGE (LED)	% OPERATION	
SIGNAL (RED)	9	135	17	0.50	76.50
(YELLOW)	9	135	25	0.25	56.25
(GREEN)	9	135	15	0.25	33.75
ARROW	4	135	12	0.10	4.80
PED. SIGNAL	4	90	25	1.00	100.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	

FLASHER TOTAL = 0.50

ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION 201 WEST CENTER COURT SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: 847 816-5248

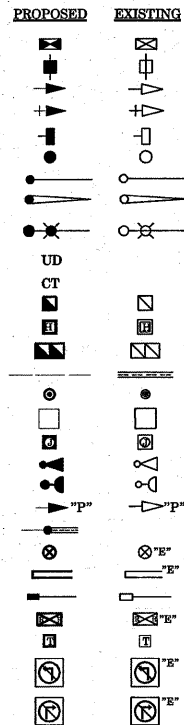
PHONE: 847 816-5248

COMPANY: COMED

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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m + L - 0.6m) =
C - M. ARM POLE		SIGNAL POST	2 (1.0)		
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)

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE
- UNIT DUCT
- COMMON TRENCH
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
- PEDESTRIAN PUSHBUTTON DETECTOR
- DETECTOR LOOP
- CAST IRON JUNCTION BOX
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- 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
- TELEPHONE CONNECTION
- ILLUMINATED SIGN "NO LEFT TURN"
- ILLUMINATED SIGN "NO RIGHT TURN"
- UNINTERRUPTIBLE POWER SUPPLY
- L.E.D. STREET NAME SIGN

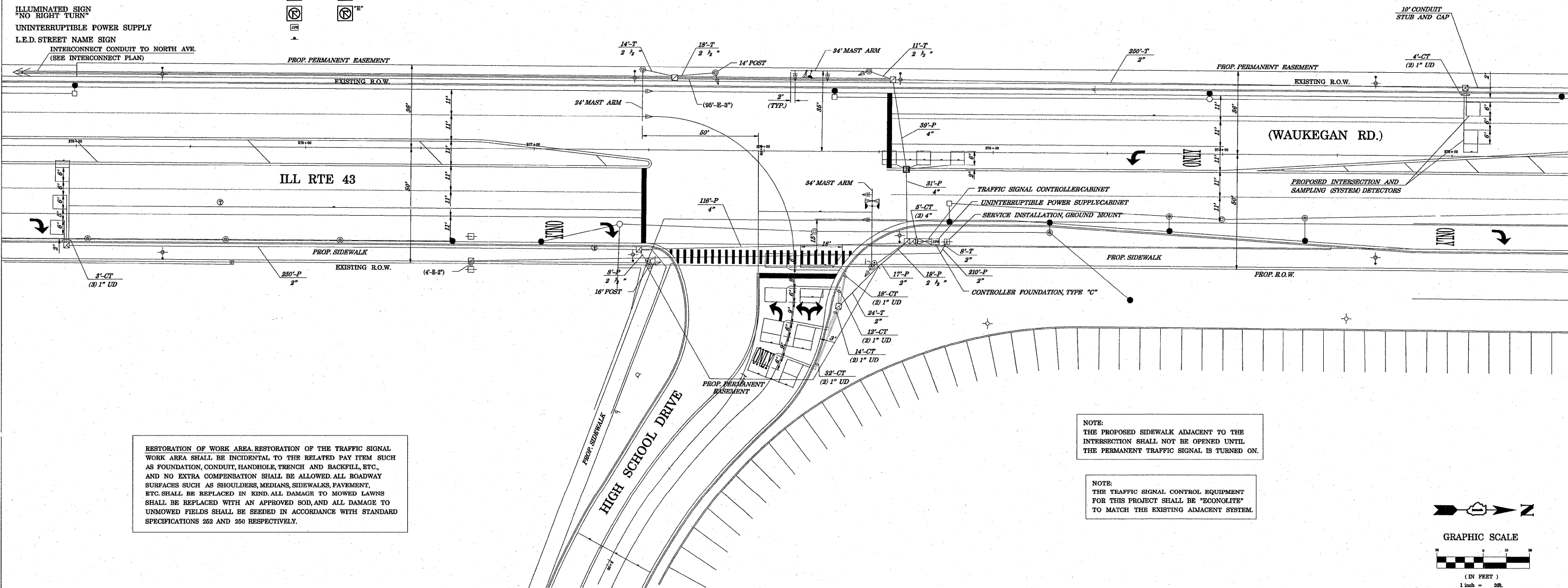


# FOR INFORMATION ONLY

## THIS LOCATION WILL BE DONE BY PERMIT AND OTHER.

CONSTRUCTION NOTES:

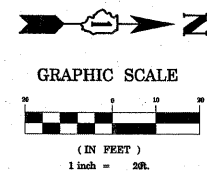
- 1 NEW TRAFFIC SIGNAL INSTALLATION AT DEERFIELD HIGH SCHOOL ENTRANCE WILL BE DONE UNDER PERMIT NO.049-38092.



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, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOG, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

NOTE: THE PROPOSED SIDEWALK ADJACENT TO THE INTERSECTION SHALL NOT BE OPENED UNTIL THE PERMANENT TRAFFIC SIGNAL IS TURNED ON.

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



**GEWALT HAMILTON**  
ASSOCIATES, INC.  
CONSULTING ENGINEERS & SURVEYORS  
860 Forest Edge Drive Vernon Hills, IL 60061 Tel. 847.478.9700 Fax 847.478.9701

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**TRAFFIC SIGNAL INSTALLATION PLAN**  
IL RTE 43 (WAUKEGAN RD.) AT HIGH SCHOOL DRIVE  
DEERFIELD, ILLINOIS

NO.	BY	DATE	REVISION
3	RIS	12-4-07	PER IDOT REVIEW COMMENTS
1	CAD	6-23-07	PER IDOT REVIEW COMMENTS

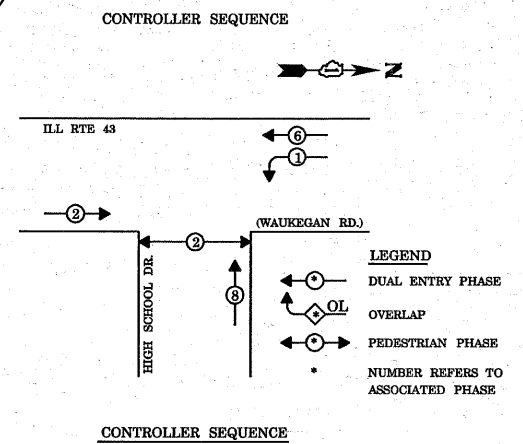
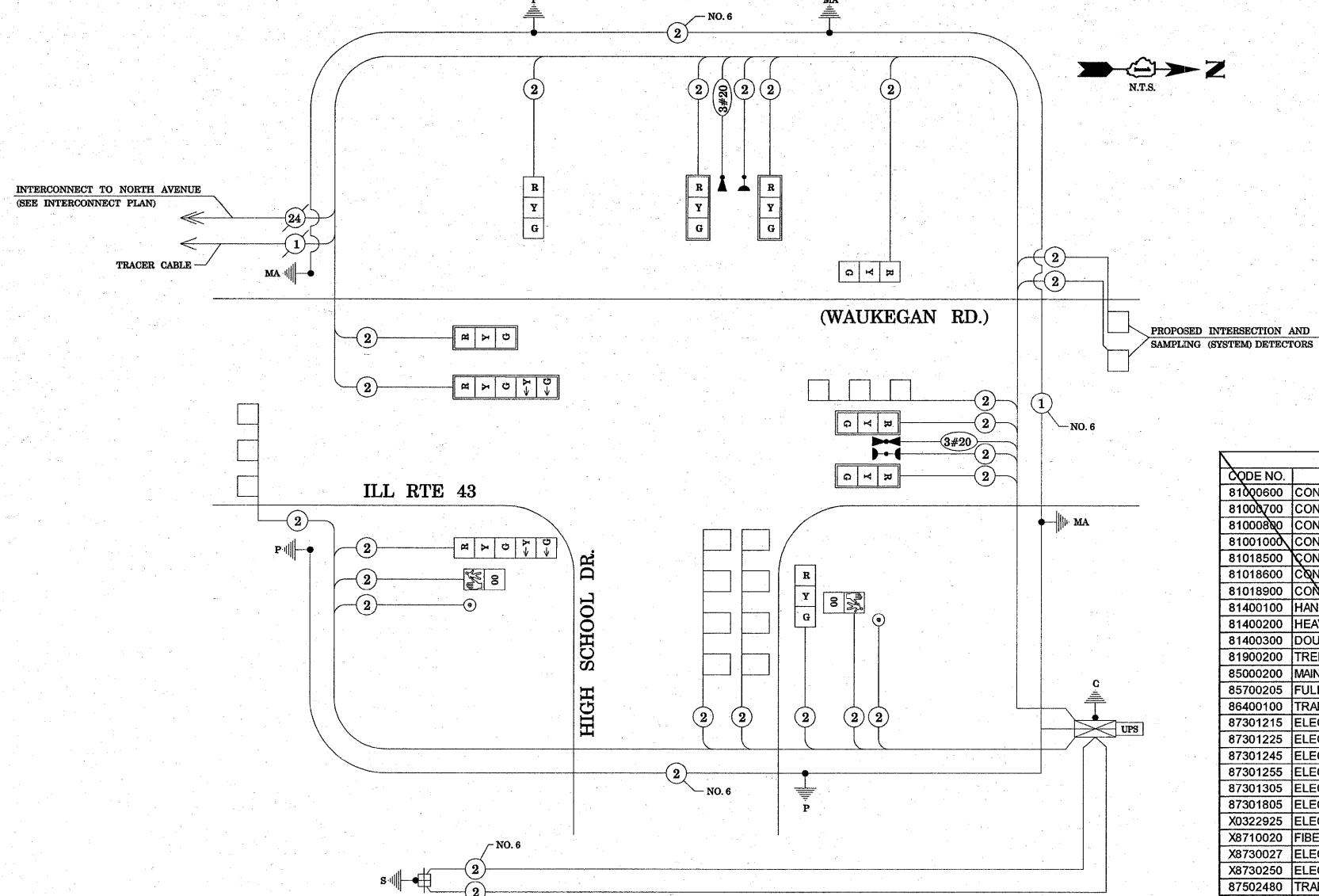
FILE: g:\gen\3818\3818.dwg	SHEET NUMBER:
DRAWN BY: TCM	16
DATE: 9/18/07	GHA PROJECT #
	3818.800
CHECKED BY: KLB	SCALE:
DATE: 9/18/07	1" = 20'
	OF 29 SHEETS



# FOR INFORMATION ONLY

### CABLE PLAN LEGEND

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



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, MEDIANS, 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.

### SUMMARY OF TRAFFIC SIGNAL QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL
81000800	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	1173
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	43
81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	95
81001000	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	10
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	477
81018600	CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	FOOT	27
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	186
81400100	HANDHOLE	EACH	8
81400200	HEAVY-DUTY HANDHOLE	EACH	1
81400300	DOUBLE HANDHOLE	EACH	1
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	1310
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
86400100	TRANSCIVER-FIBER OPTIC	EACH	1
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	208
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	485
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1191
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	432
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1320
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	259
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C	FOOT	1460
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	1460
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	381
X8730250	ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED	FOOT	259
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 14 FT.	EACH	1
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	1
87700160	STEEL MAST ARM AND ASSEMBLY AND POLE, 24 FT.	EACH	1
87700210	STEEL MAST ARM AND ASSEMBLY AND POLE, 34 FT.	EACH	2
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	8
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4
87800400	CONCRETE FOUNDATION, TYPE E-30 INCH DIAMETER	FOOT	10
87800415	CONCRETE FOUNDATION, TYPE E-36 INCH DIAMETER	FOOT	22
87900200	DRILL EXISTING HANDHOLE	EACH	1
88030020	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	5
88030050	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
88030100	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
88030110	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	6
88500100	INDUCTIVE LOOP DETECTOR	EACH	6
88600100	DETECTOR LOOP, TYPE I	FOOT	586
88700200	LIGHT DETECTOR	EACH	2
88700300	LIGHT DETECTOR AMPLIFIER	EACH	1
88800100	PEDESTRIAN PUSH-BUTTON	EACH	2
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	4076
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
89502380	REMOVE EXISTING HANDHOLE	EACH	9
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	6
	SERVICE INSTALLATION, GROUND MOUNT	EACH	1
	UNINTERRUPTIBLE POWER SUPPLY	EACH	1

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

TYPE	NO. OF LAMPS	WATTAGE INCAND.	LED	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	10		17	0.50	85.0
(YELLOW)	10		25	0.25	62.5
(GREEN)	10		15	0.25	37.5
ARROW	4		12	0.10	4.8
PED. SIGNAL	2		25	1.00	50.0
CONTROLLER	1		100	1.00	100.0

ENERGY COSTS TO: TOTAL = 339.8

ILLINOIS DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAY/DISTRICT 1  
201 WEST CENTER COURT, SCHALMBURG, ILLINOIS 60196-1096

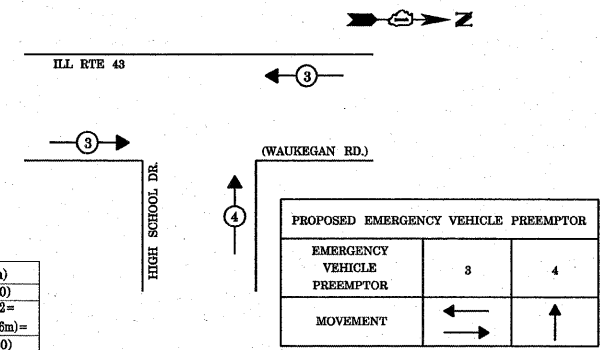
ENERGY SUPPLY CONTACT: CINDY BIAGGI  
PHONE: (847) 816-5322  
COMPANY: COMED

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

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=
C - M. ARM POLE		SIGNAL POST	2 (1.0)		(8m+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)
36" (900mm)	15 (4.6)	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)

CABLE PLAN

EMERGENCY VEHICLE PREEMPTION SEQUENCE



### SUMMARY OF QUANTITIES, CABLE PLAN AND PHASE DESIGNATION DIAGRAM

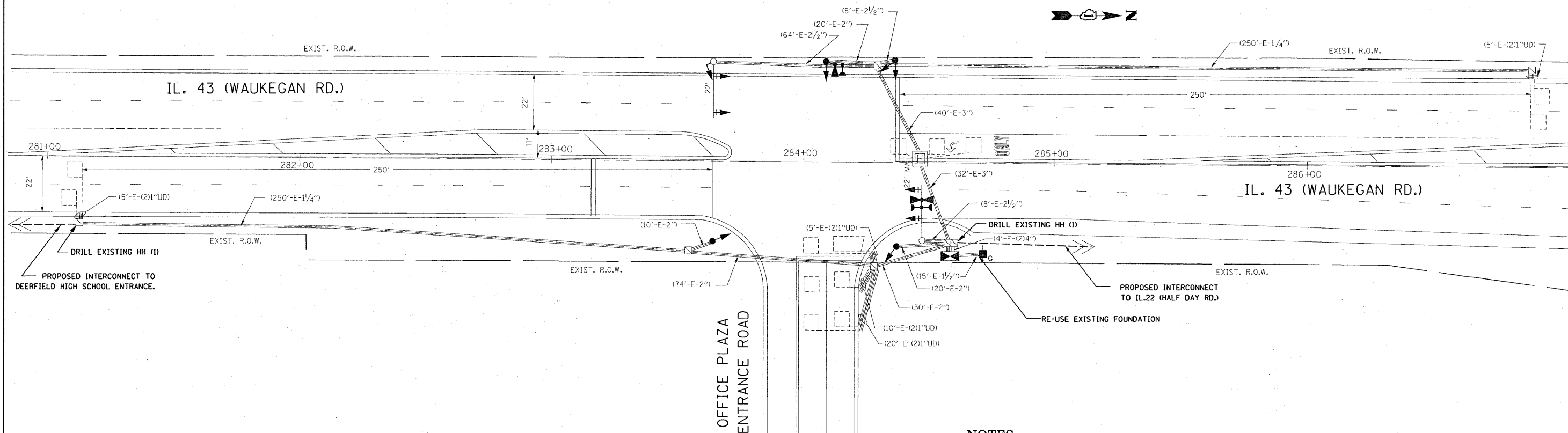
ILL RTE 43 (WAUKEGAN RD.) AT HIGH SCHOOL DRIVE  
DEERFIELD, ILLINOIS

NO.	BY	DATE	REVISION
3	PBS	12-4-07	PER IDOT REVIEW COMMENTS
1	CAD	6-22-07	PER IDOT REVIEW COMMENTS

FILE: g:\gms\3818\3818.dwg	SHEET NUMBER:
DRAWN BY: TCM	GHA PROJECT #
DATE: 9/18/07	3818.800
CHECKED BY: KLB	SCALE:
DATE: 9/18/07	N.T.S.
	OF 29 SHEETS

**GEWALT HAMILTON ASSOCIATES, INC.**  
CONSULTING ENGINEERS & SURVEYORS  
860 Forest Edge Drive Vernon Hills, IL 60061 Tel. 847.478.9700 Fax 847.478.9701

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**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER CABINET			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
RAILROAD CONTROL CABINET			JUNCTION BOX		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT			HANDHOLE		
TELEPHONE CONNECTION			HEAVY DUTY HANDHOLE		
SIGNAL HEAD			DOUBLE HANDHOLE		
SIGNAL HEAD WITH BACKPLATE			G.S. CONDUIT IN TRENCH OR PUSHED		
SIGNAL HEAD OPTICALLY PROGRAMMED			COMMON TRENCH		
SIGNAL HEAD PEDESTRIAN			UNIT DUCT		
SIGNAL HEAD PEDESTRIAN WITH COUNT-DOWN			PEDESTRIAN PUSHBUTTON DETECTOR		
ILLUMINATED SIGN "NO LEFT TURN"			ACCESSIBLE PEDESTRIAN PUSHBUTTON		
ILLUMINATED SIGN "NO RIGHT TURN"			DETECTOR LOOP, TYPE I		
SIGNAL POST			PREFORMED DETECTOR LOOP		
WOOD POLE			MICROWAVE VEHICLE SENSOR		
STEEL MAST ARM ASSEMBLY AND POLE			VIDEO DETECTOR		
ALUMINUM MAST ARM ASSEMBLY AND POLE			CLOSED CIRCUIT TV		
			EMERGENCY VEHICLE SYSTEM DETECTOR		
			CONFIRMATION BEACON		
			UNINTERRUPTABLE POWER SUPPLY (UPS)		

**NOTES:**

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.

- 3 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 3 SECTION
- 3 EACH TRAFFIC SIGNAL POST, 14 FT.
- 1 EACH TRAFFIC SIGNAL POST, 16 FT.
- 1 EACH SERVICE, GROUND MOUNT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE REMAIN IN THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR PICK UP ALL EQUIPMENT.

- 1 EACH CONTROLLER AND CABINET, COMPLETE

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE REMAIN IN THE PROPERTY OF THE DEERFIELD-BANNOCKBURN CENTRAL FIRE PROTECTION. THE CONTRACTOR SHALL ARRANGE FOR DROP OFF ALL THE EVP EQUIPMENT TO THE FIRE DEPARTMENT.

- 1 EACH LIGHT DETECTOR AMPLIFIER
- 2 EACH LIGHT DETECTOR

**CONSTRUCTION NOTES:**

(1) PROPOSED INTERCONNECT TO DEERFIELD HIGH SCHOOL ENTRANCE. THE WORK WILL BE DONE BY PERMIT AND OTHER. SEE INTERCONNECT PLAN FOR MORE INFORMATION.

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

FILE NAME =	USER NAME = nguyenism	DESIGNED - SN	REVISED - EVP REMOVAL ITEMS
ct:\projects\traff\1143dear\1143dear\1143dear.dgn		DRAWN - SN	REVISED -
PLOT SCALE = 20.0000 / IN.	CHECKED - DAD		REVISED -
PLOT DATE = 2/22/2008	DATE - 2/22/2008		REVISED -

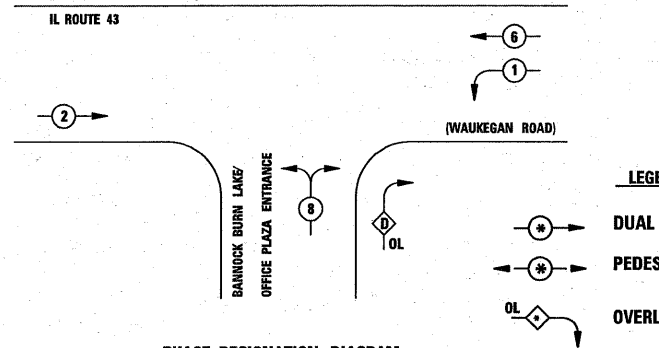
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION  
IL 43 (WAUKEGAN RD.) @  
BANNOCKBURN OFFICE PLAZA ENTRANCE RD.

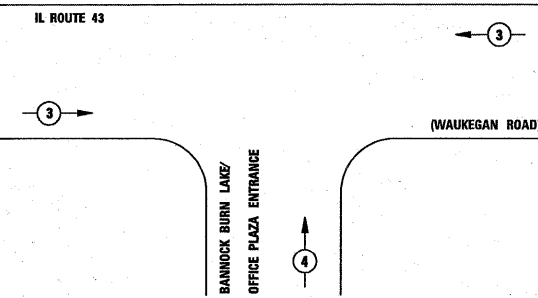
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	18
C-91-351-06			CONTRACT NO. 60B48	
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT				

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

**CONTROLLER SEQUENCE**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	*OPERATION	
SIGNAL (RED)	10	135	17	0.50	85.00
(YELLOW)	10	135	25	0.25	62.50
(GREEN)	10	135	15	0.25	37.50
ARROW	4	135	12	0.10	4.80
PED. SIGNAL	90	90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	

ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION  
 201 WEST CENTER COURT  
 SCHAUMBURG, ILLINOIS 60196-1096  
 ENERGY SUPPLY CONTACT: PHONE: 847-816-5248  
 COMPANY: COMED

FILE NAME =	USER NAME = nguyensm	DESIGNED - SN	REVISED -
ca\projects\traffic\0608010\143deer\12.dgn		DRAWN - SN	REVISED -
	PLOT SCALE = 20,0000' / IN.	CHECKED - DAD	REVISED -
	PLOT DATE = 1/23/2008	DATE - 1/15/2008	REVISED -

**SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL TRANSCEIVER - FIBER OPTIC	EACH	1
*ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	230
*ELECTRIC CABLE IN CONDUIT NO. 20 3C, TWISTED, SHIELDED	FOOT	230
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	10
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	10
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1
TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	5
DRILL EXISTING HANDHOLE	EACH	2

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

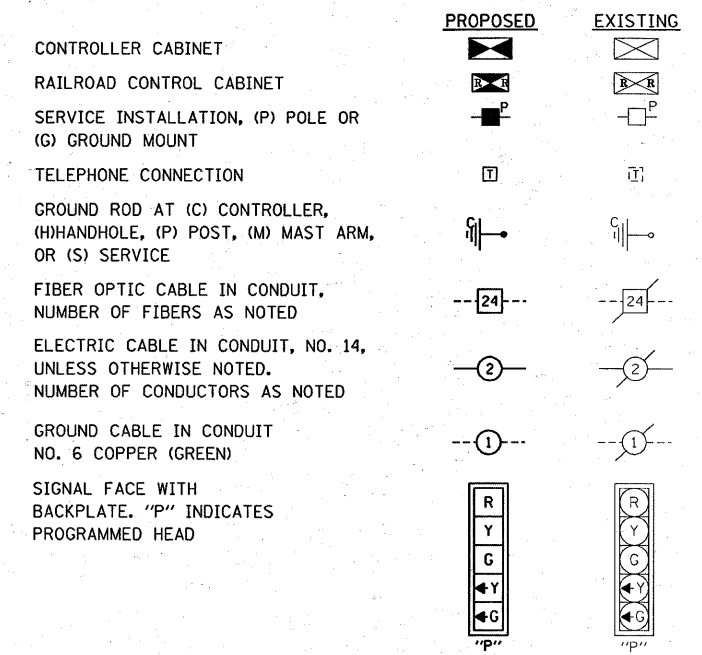
**CONSTRUCTION NOTES:**  
 REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET. SPECIAL, RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

**SCHEDULE OF QUANTITIES**

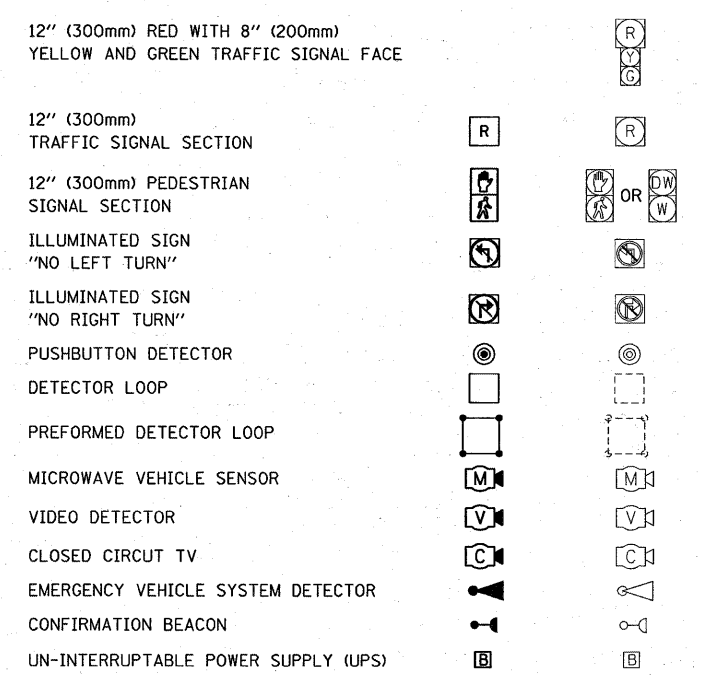
ITEM	UNIT	QUANTITY
SERVICE INSTALLATION, GROUND MOUNT	EACH	1
* LIGHT DETECTOR	EACH	2
* LIGHT DETECTOR AMPLIFIER	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1

\* 100% COST WILL BE PAY BY DEERFIELD-BANNOCKBURN CENTRAL FIRE PROTECTION

**CABLE PLAN LEGEND**



**CABLE PLAN LEGEND**



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

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE SEQUENCE AND SCHEDULE OF QUANTITIES  
 IL 43 (WAUKEGAN RD.) @ BANNOCKBURN OFFICE PLAZA ENTRANCE RD.  
 SCALE: SHEET NO. OF SHEETS STA. TO STA.

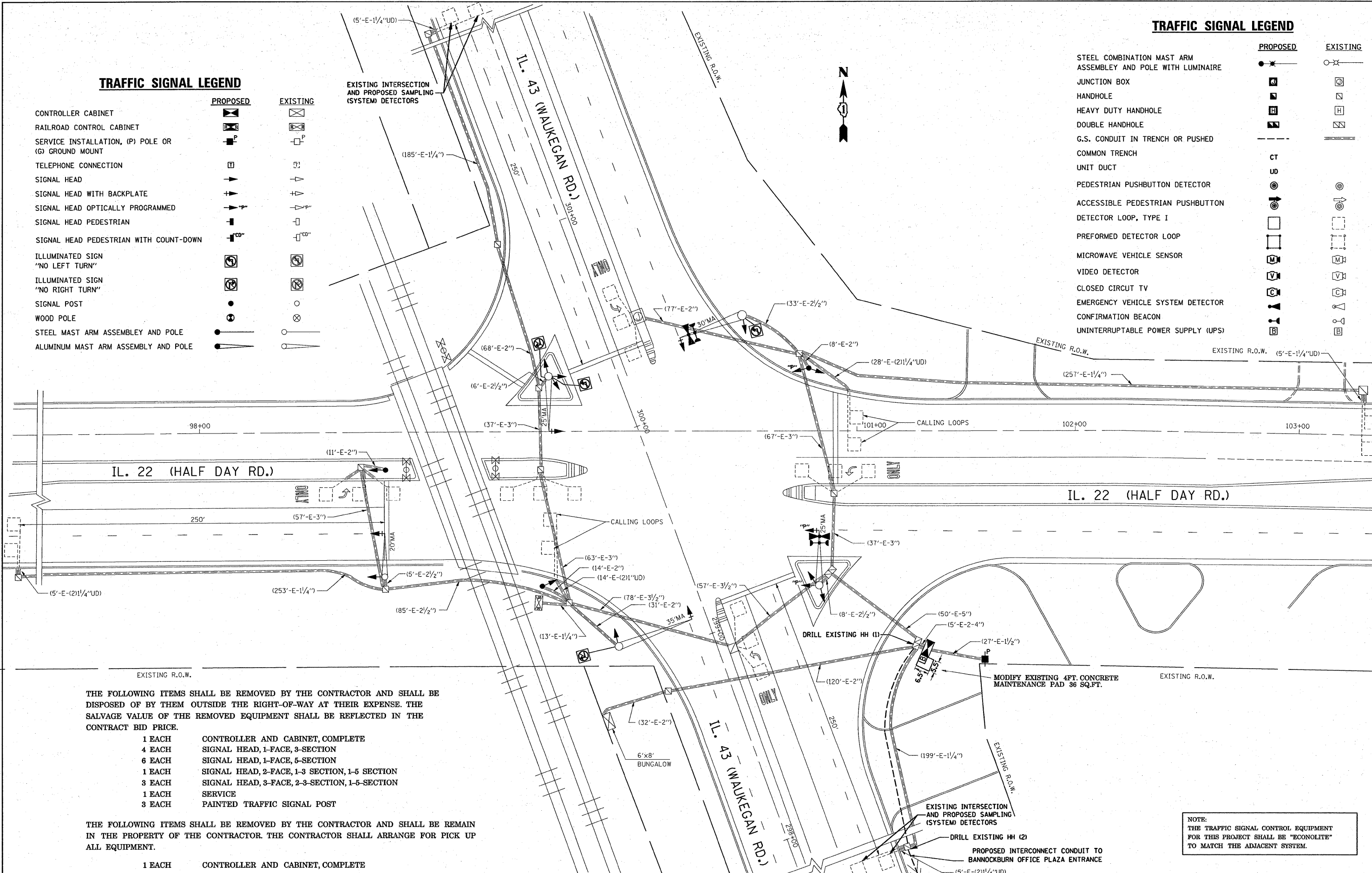
F.A.U. RTE. 2706	SECTION 2006-020 TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 19
C-91-351-06			CONTRACT NO. 60B48	
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL HEAD PEDESTRIAN		
SIGNAL HEAD PEDESTRIAN WITH COUNT-DOWN		
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
SIGNAL POST		
WOOD POLE		
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
JUNCTION BOX		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
COMMON TRENCH	CT	
UNIT DUCT	UD	
PEDESTRIAN PUSHBUTTON DETECTOR		
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		
MICROWAVE VEHICLE SENSOR		
VIDEO DETECTOR		
CLOSED CIRCUIT TV		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
UNINTERRUPTABLE POWER SUPPLY (UPS)		



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
- 4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 6 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 3 EACH SIGNAL HEAD, 3-FACE, 2-3-SECTION, 1-5-SECTION
- 1 EACH SERVICE
- 3 EACH PAINTED TRAFFIC SIGNAL POST

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE REMAIN IN THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL ARRANGE FOR PICK UP ALL EQUIPMENT.

- 1 EACH CONTROLLER AND CABINET, COMPLETE

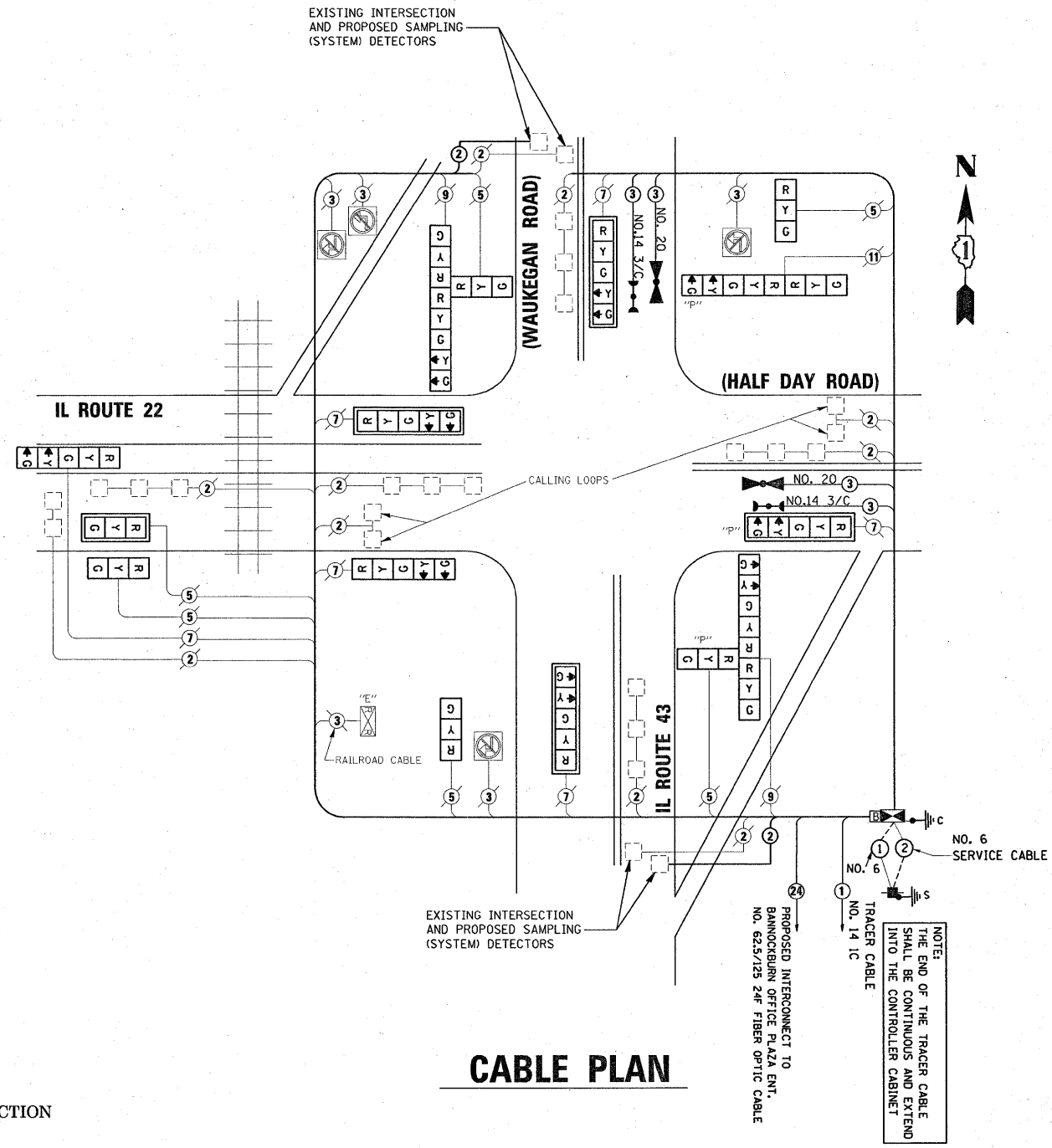
NOTE:  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

FILE NAME =	USER NAME = nguyenm	DESIGNED - SN	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL MODIFICATION</b>			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\projects\traffic\060210\1143deer\1122.dgn		DRAWN - SN	REVISED -		<b>IL. 43 (WAUKEGAN RD.) @ IL. 22 (HALF DAY RD.)</b>			2706	2006-020 TS	LAKE	29	20
		CHECKED - DAD	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	C-91-351-06 CONTRACT NO. 60B48				
		DATE - 1/15/2008	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

14:06:51 01/23/2008

# SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
*ELECTRIC CABLE IN CONDUIT, SIGNAL NO.14 3C	FOOT	420
*ELECTRIC CABLE IN CONDUIT NO. 20 3C, TWISTED, SHIELDED	FOOT	420
*LIGHT DETECTOR	EACH	2
*LIGHT DETECTOR AMPLIFIER	EACH	1
OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	1
OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 2-FACE, 1-3-SECTION, 1-5-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 3-FACE, 2-3-SECTION, 1-5-SECTION, BRACKET MOUNTED	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	30
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	30
ELECTRIC CABLE IN CONDUIT, SIGNAL NO.14 2C	FOOT	825
TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	3
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	5
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM- LEVEL II	EACH	1
CHANGEABLE MESSAGE SIGN	CAL MO	2
SERVICE INSTALLATION, GROUND MOUNT	EACH	1
RAILROAD, FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
UN-INTERRUPTABLE POWER SUPPLY (UPS)	EACH	1
RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1
SERVICE INSTALLATION, POLE MOUNT	EACH	1
RAILROAD, FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	12
OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1
RAILROAD PROTECTIVE LIABILITY INSURANCE	EACH	1
TEMPORARY INFORMATION SIGNING	SQ FT	51.4
ILLUMINATED SIGN, L.E.D.	EACH	4
DRILL EXISTING HANDHOLE	EACH	3
* 100% COST WILL BE PAY BY DEERFIELD-BANNOCKBURN CENTRAL FIRE PROTECTION		



## CABLE PLAN

EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY VEHICLE INTERVAL 2,3 OR 4 IS TERMINATED.

### CABLE PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE		
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED		
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED		
GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)		
SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD		
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE		
12" (300mm) TRAFFIC SIGNAL SECTION		
12" (300mm) PEDESTRIAN SIGNAL SECTION		
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
PUSHBUTTON DETECTOR		
DETECTOR LOOP		
PREFORMED DETECTOR LOOP		
MICROWAVE VEHICLE SENSOR		
VIDEO DETECTOR		
CLOSED CIRCUIT TV		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
UN-INTERRUPTABLE POWER SUPPLY (UPS)		

NOTE: THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	
SIGNAL (RED)	18	135	17	0.50	153.00
(YELLOW)	18	135	25	0.25	112.50
(GREEN)	18	135	15	0.25	67.50
ARROW	18	135	12	0.10	21.60
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	

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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
C - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

FILE NAME =	USER NAME = rnygusnm	DESIGNED - SN	REVISED - EVP
ca:\projects\traffic\06020\143deer\12.dgn		DRAWN - SN	REVISED -
		CHECKED - DAD	REVISED -
		DATE - 2/22/2008	REVISED -

ENERGY COSTS TO:	TOTAL =	455.00
ILLINOIS DEPARTMENT OF TRANSPORTATION 201 WEST CENTER COURT SCHAUMBURG, ILLINOIS 60196-1096		
ENERGY SUPPLY CONTACT:	PHONE:	847 816-5248
	COMPANY:	COMED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE SEQUENCE AND SCHEDULE OF QUANTITIES  
IL. 43 (WAUKEGAN RD.) @ IL. 22 (HALF DAY RD.)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	21
C-91-351-06		CONTRACT NO. 60B48		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

SEQUENCE OF OPERATION

MOVEMENT	1				6 1		5 2		6 2		7 3							8 3			7 4					8 4				FLASH							
PHASE	1 + 5				1 + 6		2 + 5		2 + 6		3 + 7							3 + 8			4 + 7					4 + 8											
INTERVAL	1	2	3	4	5	6	7	8	9	10A	10B	11	12A	12B	12C	13A	13B	13C	14	15	16A	16B	17	18	19A	19B	19C	19D	20A		20B	20C	21	22A	22B	22C	22D
CHANGE TO	/				1+6	2+5	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	/							
IL. RTE. 43 NEAR AND FAR RIGHT SIGNALS	N/B	R	R	R	R	R	R	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	R	R	R	R	R
IL. RTE. 43 FAR LEFT AND MAST ARM SIGNALS	N/B	R	R	R	R	R	R	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	R	R	R	R	R
IL. RTE. 43 NEAR AND FAR RIGHT SIGNALS	S/B	R	R	R	R	G	G	R	R	G	Y	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
IL. RTE. 43 FAR LEFT AND MAST ARM SIGNALS	S/B	R	R	R	R	G	G	R	R	G	Y	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
IL. RTE. 22 NEAR AND FAR RIGHT SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	R	R	R	R	R	R	R	R	G	G	G	Y	R
IL. RTE. 22 FAR LEFT AND MAST ARM SIGNALS	W/B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	G	R	R	R	R	R	R	R	R	G	G	G	Y	R
IL. RTE. 22 (BEFORE TRACKS) NEAR RIGHT AND 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	G	Y	R	R	R	R	R	R	G	G	G	Y	R
IL. RTE. 22 (BEFORE TRACKS) NEAR LEFT SIGNAL	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	G	Y	R	R	R	R	R	R	G	G	G	Y	R
IL. RTE. 22 (AFTER TRACKS) FAR RIGHT SIGNAL	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	G	G	G	Y	R	R	R	R	G	G	G	Y	R
IL. RTE. 22 (AFTER TRACKS) FAR LEFT AND 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	G	G	G	Y	R	R	R	R	G	G	G	Y	R

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS*	WATTAGE INCAND. LED	%OPERATION		
SIGNAL (RED)	18	135	17	0.50	153.00
(YELLOW)	18	135	25	0.25	112.50
(GREEN)	18	135	15	0.25	67.50
ARROW	18	135	12	0.10	21.60
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:					TOTAL = 455.00

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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
C - M. ARM POLE		SIGNAL POST	2 (1.0)		
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)

ILLINOIS DEPARTMENT OF TRANSPORTATION  
201 WEST CENTER COURT  
SCHAUMBURG, ILLINOIS 60196-1096  
CONTACT: 847 816-5248  
PHONE: 847 816-5248  
COMPANY: COMED

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

14:05:36 01/23/2008

EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

	1	5	5	7	7	9	9	11	15	15	18	18	21	21	PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	CLEAR TO NORMAL SEQUENCE																		
CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER																																			
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	1V	1W	1X	1Y	1Z	1AA	1BB	1CC	1DD	1EE	2	3		
CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2 OR 3	2	1D	3	2	1G	3	2	1K	3	1M	1N	2 OR 3	1Q	2	3	1U	1V	1W	2	1Y	1Z	3	1BB	1CC	1DD	2	3							
IL. RTE. 43 NEAR AND FAR RIGHT SIGNALS	N/B	R	R	R	G	Y	R	G	Y	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	
IL. RTE. 43 FAR LEFT AND MAST ARM SIGNALS	N/B	R	R	R	G	Y	R	G	Y	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	
IL. RTE. 43 NEAR AND FAR RIGHT SIGNALS	S/B	R	G	Y	R	R	R	G	Y	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	
IL. RTE. 43 FAR LEFT AND MAST ARM SIGNALS	S/B	R	G	Y	R	R	R	G	Y	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	
IL. RTE. 22 NEAR AND FAR RIGHT 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	R	R	R
IL. RTE. 22 FAR LEFT AND 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	R	R	R
IL. RTE. 22 (BEFORE TRACKS) NEAR RIGHT AND 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	R	R	R
IL. RTE. 22 (BEFORE TRACKS) NEAR LEFT SIGNAL	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	R	R	R
IL. RTE. 22 (AFTER TRACKS) FAR RIGHT SIGNAL	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	R	R	R
IL. RTE. 22 (AFTER TRACKS) FAR LEFT AND 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	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 DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY VEHICLE INTERVAL 2,3 OR 4 IS TERMINATED.

RAILROAD PREEMPTION SEQUENCE OF OPERATION

	1	5	7	9	11	15	18	21	PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	PREEMPTOR NUMBER 2	CLEAR TO NORMAL SEQUENCE																							
CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER																																			
CHANGE FROM EVP SEQUENCE OF OPERATION INTERVAL NUMBER									2	3																									
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	1K	1L	1M	1N	1P	1Q	1R	1S	1T	1U	1V	3	3	4	5										
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	2	1E	2	1G	2	1J	2	1L	2	1N	2	1Q	2	1T	2	1V	2	R	4	5													
IL. RTE. 43 NEAR AND FAR RIGHT SIGNALS	N/B	R	R	R	Y	R	Y	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	
IL. RTE. 43 FAR LEFT AND MAST ARM SIGNALS	N/B	R	R	R	Y	R	Y	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	
IL. RTE. 43 NEAR AND FAR RIGHT SIGNALS	S/B	R	Y	R	R	R	Y	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	
IL. RTE. 43 FAR LEFT AND MAST ARM SIGNALS	S/B	R	Y	R	R	R	Y	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	
IL. RTE. 22 NEAR AND FAR RIGHT 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	R	R	R
IL. RTE. 22 FAR LEFT AND 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	R	R	R
IL. RTE. 22 (BEFORE TRACKS) NEAR RIGHT AND 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	R	R	R
IL. RTE. 22 (BEFORE TRACKS) NEAR LEFT SIGNAL	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	R	R	R
IL. RTE. 22 (AFTER TRACKS) FAR RIGHT SIGNAL	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	R	R	R
IL. RTE. 22 (AFTER TRACKS) FAR LEFT AND 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	R	R	R
INTERNALLY ILLUMINATED NRT SIGNS	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	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	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE (INCAND.)	WATTAGE LED	%OPERATION	
SIGNAL (RED)	18	135	17	0.50	153.00
(YELLOW)	18	135	25	0.25	112.50
(GREEN)	18	135	15	0.25	67.50
ARROW	18	135	12	0.10	21.60
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO: TOTAL =					455.00

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 - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
C - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

NRT = "NO RIGHT TURN" OR

NLT = "NO LEFT TURN" OR

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.

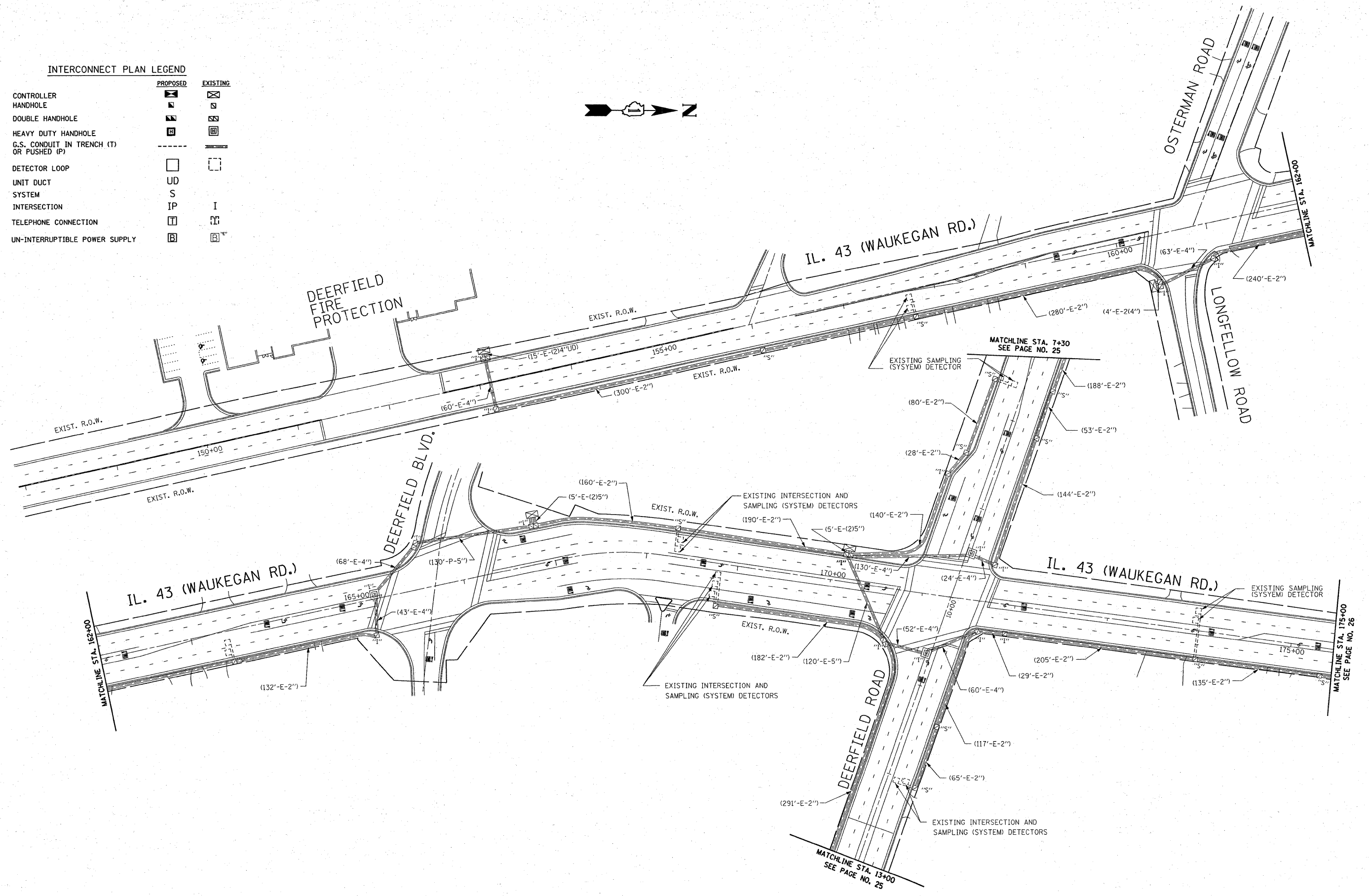
NOTE: THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

FILE NAME =	USER NAME = nguyensm	DESIGNED - SN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE SEQUENCE AND SCHEDULE OF QUANTITIES IL. 43 (WAUKEGAN RD.) @ IL. 22 (HALF DAY RD.)	F.A.U. RTE. 2706	SECTION 2006-020 TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 23		
PROJECT: c:\projects\traffic\1060010\1143deertail2.dgn	PLOT SCALE = 28.0000' / IN.	CHECKED - DAD	REVISED - /			SCALE:	SHEET NO. OF SHEETS STA.	TO STA.	CONTRACT NO. 60B48			
	PLOT DATE = 1/23/2008	DATE - 1/15/2008	REVISED -			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT						
<p>ENERGY SUPPLY CONTACT: PHONE: 847-816-5248 COMPANY: COMED</p>												

14:05:02 01/23/2008

**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT SYSTEM		
INTERSECTION		
TELEPHONE CONNECTION		
UN-INTERRUPTIBLE POWER SUPPLY		



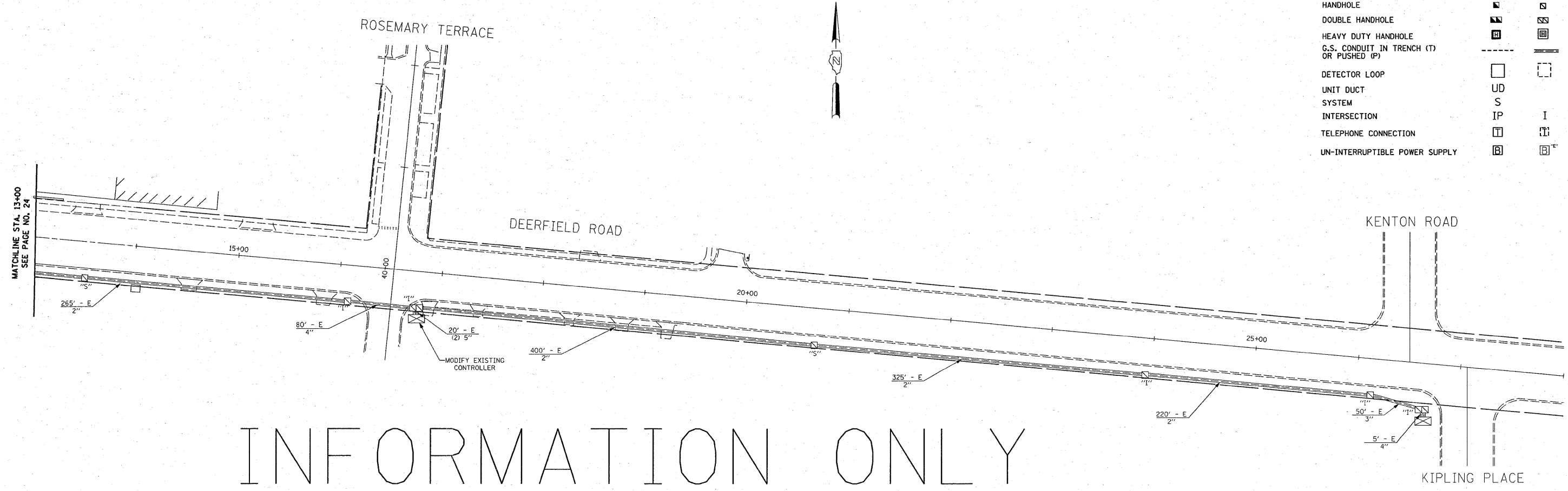
FILE NAME = c:\projects\traffic\060010\143deer\12.dgn	USER NAME = nguyenam	DESIGNED - DRAWN -	REVISED - REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INTERCONNECT PLAN IL 43 (WAUKEGAN RD.) FROM IL. 22 TO DEERFIELD-BANNOCKBURN CENTRAL FIRE STATION</b>			F.A.U. RTE. 2706	SECTION 2006-020 TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 24
PLOT SCALE = 50.0068' / IN.	CHECKED -	REVISED -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	C-91-351-06 CONTRACT NO. 60B48				
PLOT DATE = 1/23/2008	DATE -	REVISED -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

14:04:22 01/23/2008

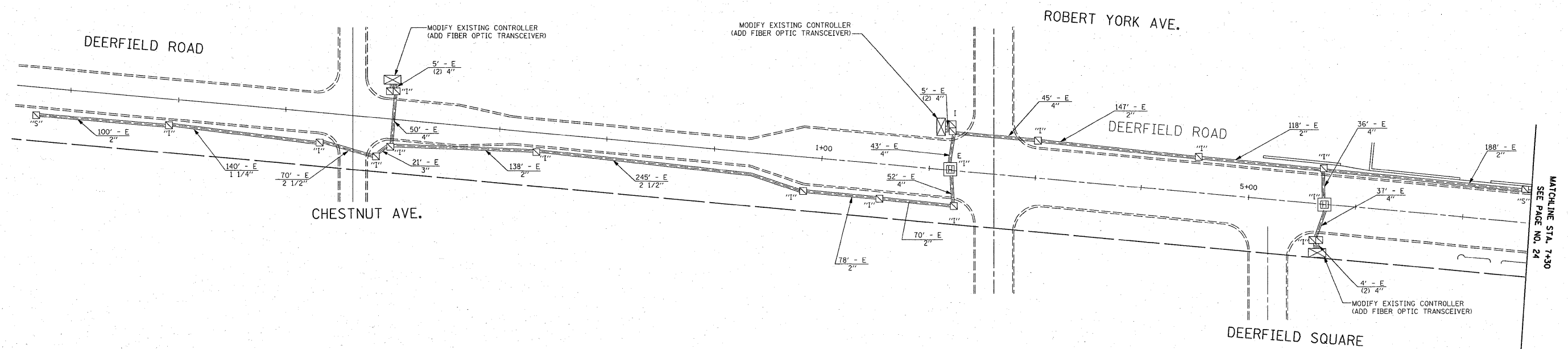


INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	S
SYSTEM INTERSECTION	IP	I
TELEPHONE CONNECTION		
UN-INTERRUPTIBLE POWER SUPPLY		

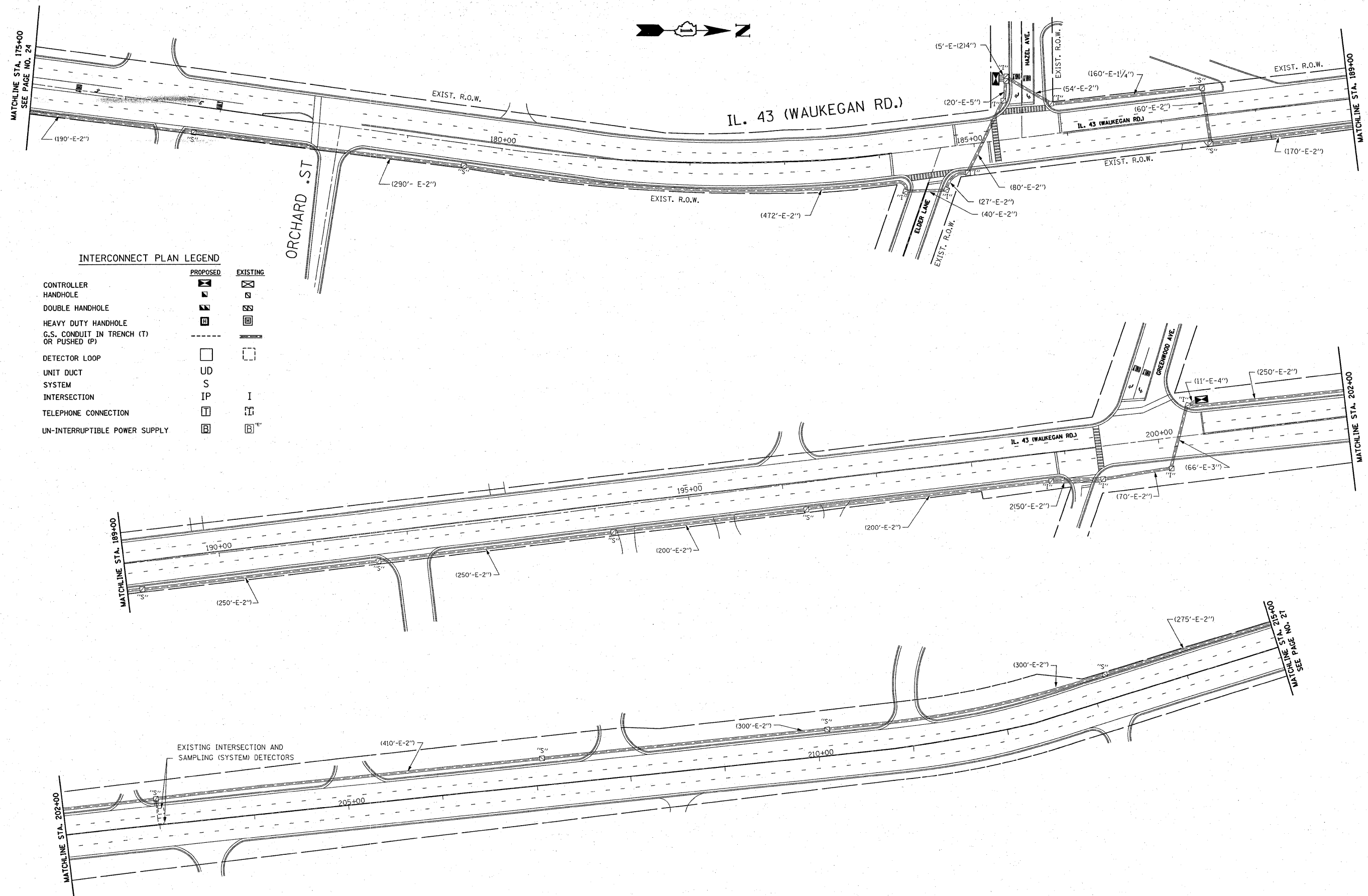
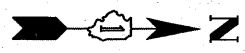


INFORMATION ONLY



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PLOT SCALE = 50.0046' / IN.	CHECKED -	REVISED -	SCALE:			SHEET NO. OF SHEETS	STA. TO STA.	C-91-351-06		CONTRACT NO. 60B48	
PLOT DATE = 1/23/2008	DATE -	REVISED -	FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT								

14:03:45 01/23/2008



**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT SYSTEM	UD S	
INTERSECTION	IP	I
TELEPHONE CONNECTION		
UN-INTERRUPTIBLE POWER SUPPLY		

FILE NAME = c:\projects\traffic\060010\1143deertol12.dgn  
 USER NAME = nguyensm  
 PLOT SCALE = 50,00000 / IN.  
 PLOT DATE = 1/23/2008

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

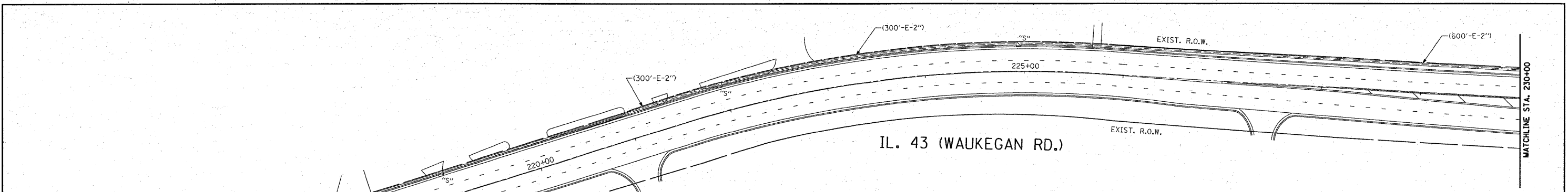
REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN  
 IL 43 (WAUKEGAN RD.) FROM  
 IL. 22 TO DEERFIELD-BANNOCKBURN CENTRAL FIRE STATION**

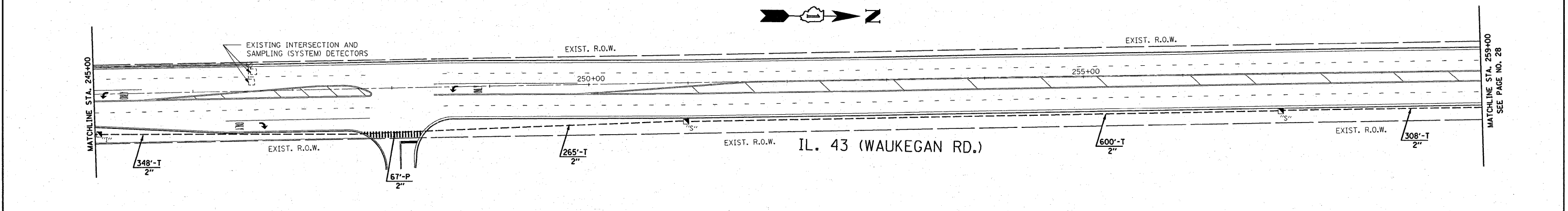
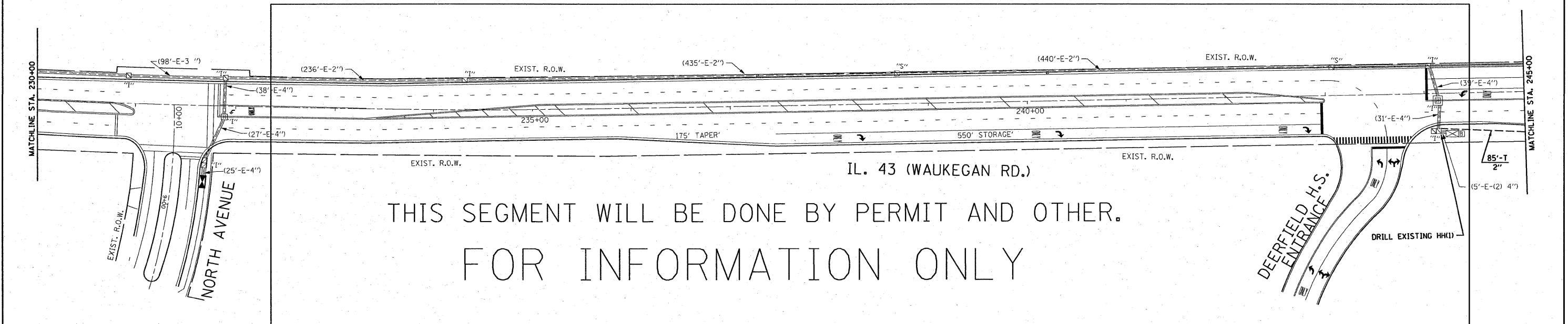
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2706	2006-020 TS	LAKE	29	26
C-91-351-06		CONTRACT NO. 60B48		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION		
UN-INTERRUPTIBLE POWER SUPPLY		

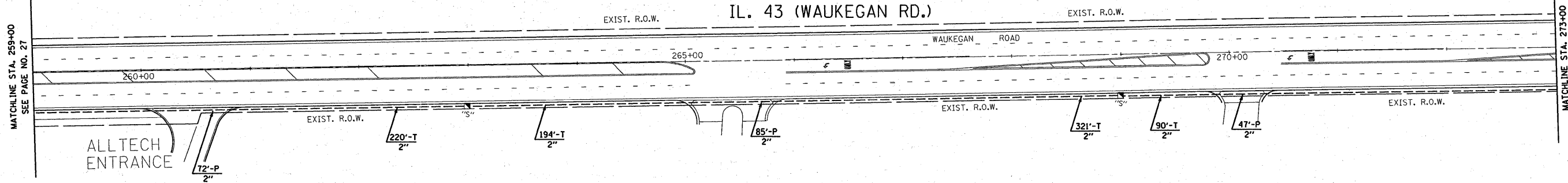


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PLOT SCALE = 50.0046' / IN.	CHECKED -	REVISED -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	C-91-351-06 CONTRACT NO. 60B48				
PLOT DATE = 1/23/2008	DATE -	REVISED -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

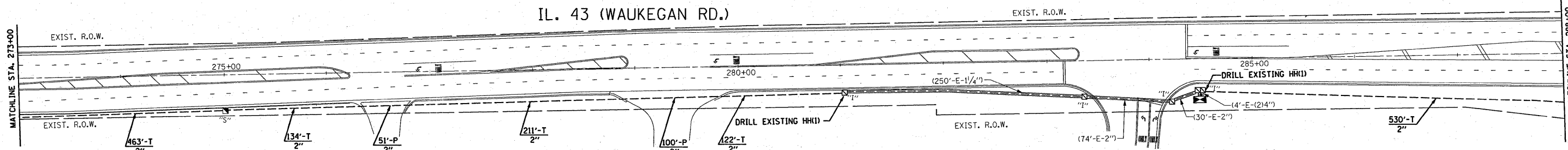
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IL. 43 (WAUKEGAN RD.)



IL. 43 (WAUKEGAN RD.)

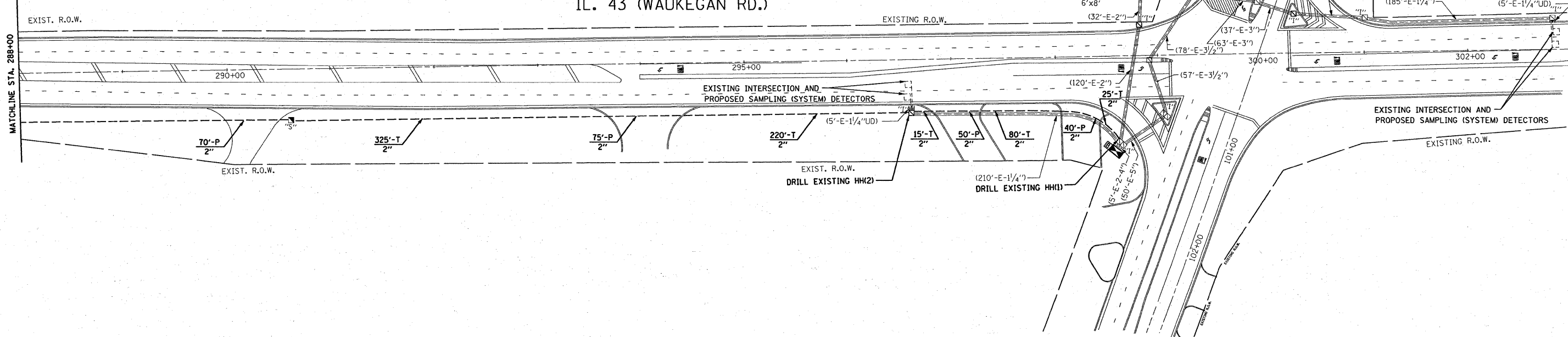


INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION		
UN-INTERRUPTIBLE POWER SUPPLY		



IL. 43 (WAUKEGAN RD.)



ENTRANCE ROAD  
OFFICE PLAZA

IL. 22 (HALF DAY RD.)

BUNGALOW  
6'x8'

EXISTING INTERSECTION AND  
PROPOSED SAMPLING (SYSTEM) DETECTORS

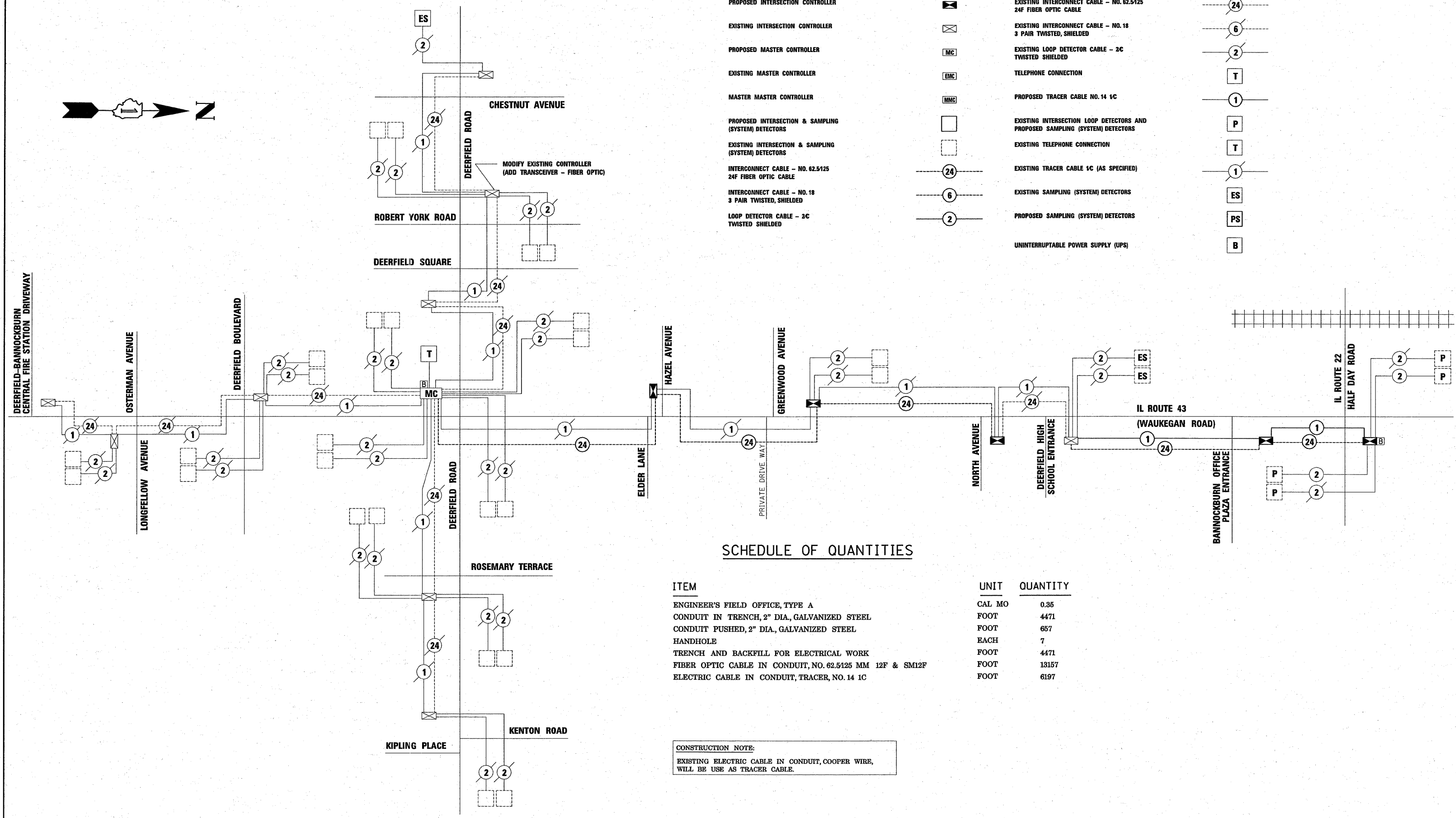
FILE NAME = c:\projects\traffic\060010\143deer\12.dgn	USER NAME = nguyensm	DESIGNED - DRAWN -	REVISED - REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INTERCONNECT PLAN IL. 22 TO DEERFIELD-BANNOCKBURN CENTRAL FIRE STATION</b>			F.A.U. RTE. 2706	SECTION 2006-020 TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 28
PLOT SCALE = 50,0046' / IN.	CHECKED -	REVISED -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 60B48	
PLOT DATE = 1/23/2008	DATE -	REVISED -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

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**INTERCONNECT SCHEMATIC LEGEND**

PROPOSED INTERSECTION CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 62.5/125 24F FIBER OPTIC CABLE	
EXISTING INTERSECTION CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
PROPOSED MASTER CONTROLLER		EXISTING LOOP DETECTOR CABLE - 2C TWISTED SHIELDED	
EXISTING MASTER CONTROLLER		TELEPHONE CONNECTION	
MASTER MASTER CONTROLLER		PROPOSED TRACER CABLE NO. 14 1C	
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING INTERSECTION LOOP DETECTORS AND PROPOSED SAMPLING (SYSTEM) DETECTORS	
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING TELEPHONE CONNECTION	
INTERCONNECT CABLE - NO. 62.5/125 24F FIBER OPTIC CABLE		EXISTING TRACER CABLE 1C (AS SPECIFIED)	
INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED		EXISTING SAMPLING (SYSTEM) DETECTORS	
LOOP DETECTOR CABLE - 2C TWISTED SHIELDED		PROPOSED SAMPLING (SYSTEM) DETECTORS	
		UNINTERRUPTIBLE POWER SUPPLY (UPS)	



**SCHEDULE OF QUANTITIES**

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.35
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	4471
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	657
HANDHOLE	EACH	7
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	4471
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM 12F & SM12F	FOOT	13157
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	6197

**CONSTRUCTION NOTE:**  
 EXISTING ELECTRIC CABLE IN CONDUIT, COOPER WIRE, WILL BE USE AS TRACER CABLE.

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

FILE NAME = c:\projects\traffic\1060010\1143deertol2.dgn	USER NAME = nguyensm	DESIGNED - SN	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INTERCONNECT SCHEMATIC IL ROUTE 43 (WAUKEGAN ROAD) FROM IL ROUTE 22 (HALF DAY ROAD) TO DEERFIELD FIRE PROTECTION</b>				F.A.U. RTE. 2706	SECTION 2006-020 TS	COUNTY LAKE	TOTAL SHEETS 29	SHEET NO. 29
	PLOT SCALE = 50,0000' / IN.	DRAWN - SN	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.	C-91-351-06		CONTRACT NO. 60B48		
	PLOT DATE = 1/23/2008	CHECKED - DAD	REVISED -										
		DATE - 1/15/2008	REVISED -										
												FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT	

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