

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 TS	DuPAGE	19	1

CONTRACT NO. 60A92

FOR INDEX OF SHEETS, SEE SHEET NO.

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  - CABLE PLAN
  - PHASE DESIGNATION DIAGRAM
  - SCHEDULE OF QUANTITIES
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  - CABLE PLAN
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  - SCHEDULE OF QUANTITIES
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16. INTERCONNECT SCHEMATIC PLAN

IMPROVEMENT LOCATED IN THE VILLAGE OF BURR RIDGE AND WILLOWBROOK

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

# PLANS FOR PROPOSED FEDERAL AID HIGHWAY

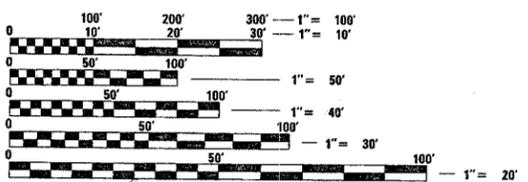
DISTRICT 1  
CONGESTION MITIGATION AIR QUALITY  
FIBER OPTIC COMMUNICATION NETWORKS  
FAP ROUTE 344 ILL. RTE 83 FROM  
BLUFF RD. TO CENTRAL AVE.  
SECTION 2005-079 TS  
DuPAGE COUNTY  
C-91-130-06  
PROJECT: CMF-0344(044)

LOCATION MAP (NOT TO SCALE)



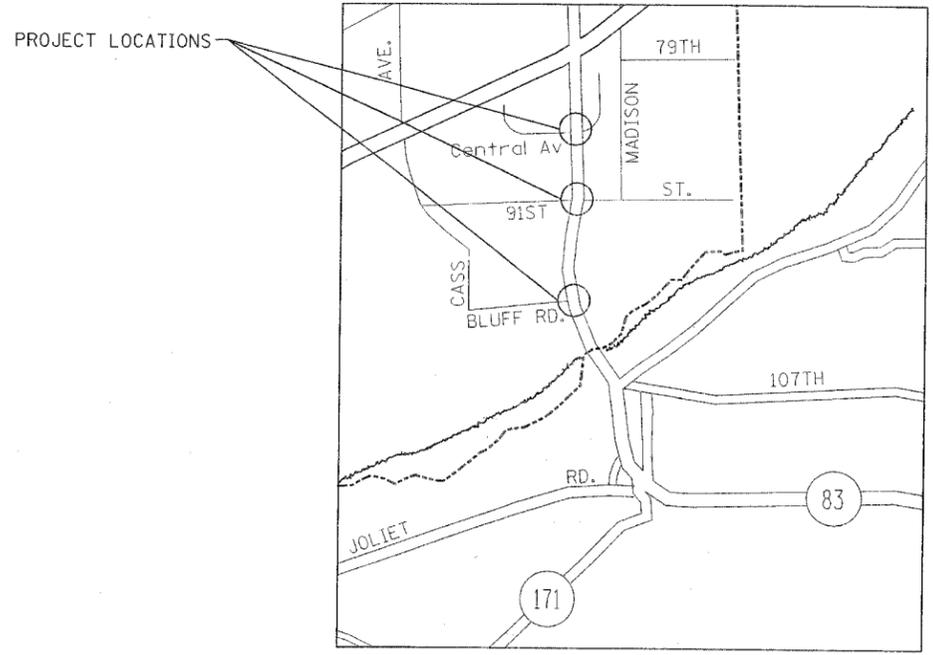
STANDARDS

701006-02	701011-01	701101-01	701301-02	814001-01
702001-06	857001	880006	701801-03	



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

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



BURR RIDGE AND WILLOWBROOK TOWNSHIP LOCATION MAP



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED: March 17, 2007  
 [Signature] Deputy Director of Highways, Region Engineer  
 May 11, 2007  
 [Signature] Engineer of Design and Environment  
 May 11, 2007  
 [Signature] Director of Highways, Chief Engineer

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

CONTRACT: 60A92

SUMMARY OF QUANTITIES			URBAN 80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE			
CODE NO	ITEM	UNIT		IL. RTE 83 AT BLUFF RD. Y031-1F	IL. RTE. 83 AT 91 ST. Y031-1F	IL. RTE. 83 AT CENTRAL AVE. Y031-1F	INTERCONNECT IL. 83 FROM BLUFF RD. TO CENTRAL AVE. Y031-1F
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	1	1	1	1
67100100	MOBILIZATION	L SUM	1	0.25	0.25	0.25	0.25
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	0.25	0.25	0.25	0.25
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.25	0.25	0.25	0.25
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	0.25	0.25	0.25	0.25
** 72000100	SIGN PANEL - TYPE 1	SQ FT	28.5		28.5		
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	7860		516		7344
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	71		71		
81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	71		71		
81001100	CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL	FOOT	15		15		
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	922		90		832
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	354		354		
81019000	CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL	FOOT	190		190		
81400100	HANDHOLE	EACH	18		5		13
81400200	HEAVY-DUTY HANDHOLE	EACH	1		1		
81400300	DOUBLE HANDHOLE	EACH	2		2		
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	7998		654		7344
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1	
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	2	1	1		
85700300	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1			1	
86000100	MASTER CONTROLLER	EACH	1			1	
86400100	TRANSCEIVER - FIBER OPTIC	EACH	3	1	1	1	
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1155		1155		
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	595	10	35	550	
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C	FOOT	9223				9223
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2249		2249		
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	3552.5	369.5	3183		
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	901		901		

SUMMARY OF QUANTITIES			URBAN 80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE			
CODE NO	ITEM	UNIT		IL. RTE 83 AT BLUFF RD. Y031-1F	IL. RTE. 83 AT 91 ST. Y031-1F	IL. RTE. 83 AT CENTRAL AVE. Y031-1F	INTERCONNECT IL. 83 FROM BLUFF RD. TO CENTRAL AVE. Y031-1F
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	4859	825	3234	800	
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1C	FOOT	1261	10	701	550	
* 8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	610		610		
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14FT.	EACH	2		2		
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16FT.	EACH	2		2		
87700200	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	1		1		
87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1		1		
87700300	STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	1		1		
87700320	STEEL MAST ARM ASSEMBLY AND POLE, 55 FT.	EACH	1		1		
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16		16		
87800415	CONCRETE FOUNDATION TYPE E 36-INCH DIAMETER	FOOT	60		60		
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4		4		
87900200	DRILL EXISTING HANDHOLE	EACH	4		2		2
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	9360				9360
88500100	INDUCTIVE LOOP DETECTOR	EACH	33	10	11	12	
88600100	DETECTOR LOOP, TYPE 1	FOOT	293		293		
* 88700200	LIGHT DETECTOR	EACH	3		3		
* 88700300	LIGHT DETECTOR AMPLIFIER	EACH	1		1		
88800100	PEDESTRIAN PUSH-BUTTON	EACH	5		5		
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2	1		1	
X8900030	REMOVE EXISTING TEMPORARY TRAFFIC SIGNAL EQUIPMENT	EACH	1		1		
88030020	SIGNAL HEAD ,LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	21	2	8	11	
88030050	SIGNAL HEAD ,LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	8	3		5	
88030110	SIGNAL HEAD ,LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	5	2	2	1	
88030210	SIGNAL HEAD ,LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	5	2	2	1	
88030240	SIGNAL HEAD ,LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	5	2	2	1	
88102710	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	2		2		
88102740	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	3		3		
X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	3	1	1	1	
X8620020	UNINTERRUPTABLE POWER SUPPLY	EACH	3	1	1	1	
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	26	4	10	12	
X0324007	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	3	1	1	1	
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	582	10	22	550	

\*\* SPECIALTY ITEMS

\*100% COST TO THE TRI-STATE FIRE PROTECTION DISTRICT Y031-3D

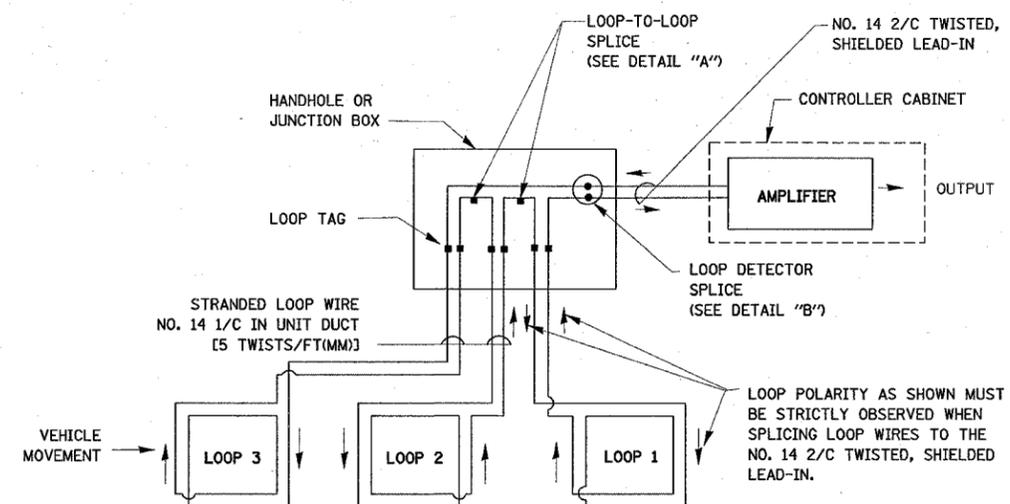
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUMMARY OF QUANTITIES  
IL. RTE. 83 FROM  
BLUFF RD. TO CENTRAL AV.

PLOT DATE: 3/20/2007

### LOOP DETECTOR NOTES

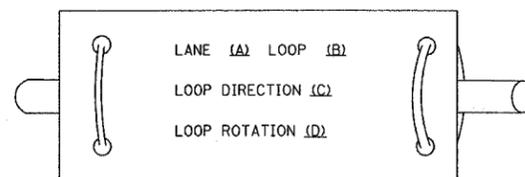
- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED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



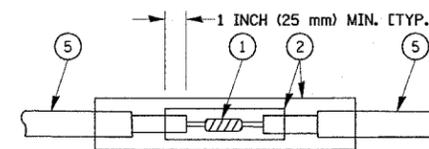
DETECTOR LOOP WIRING SCHEMATIC

- 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.

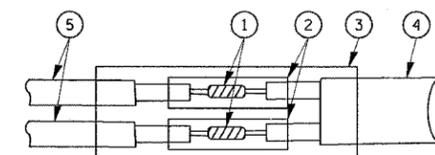
LOOP LEAD-IN CABLE TAG



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



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

#### LOOP DETECTOR SPLICE

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
DISTRICT ONE  
STANDARD TRAFFIC SIGNAL  
DESIGN DETAILS

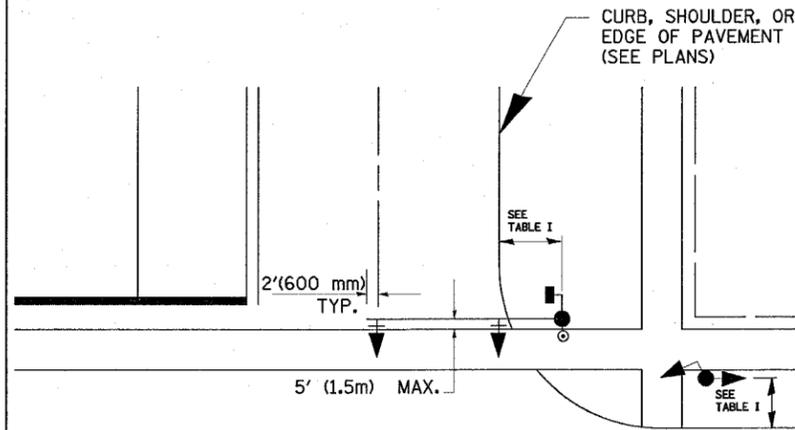
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HORIZ.  
DATE 1-01-02

DRAWN BY: RWP  
DESIGNED BY: DAD  
CHECKED BY: DAZ  
SHEET 1 OF 4

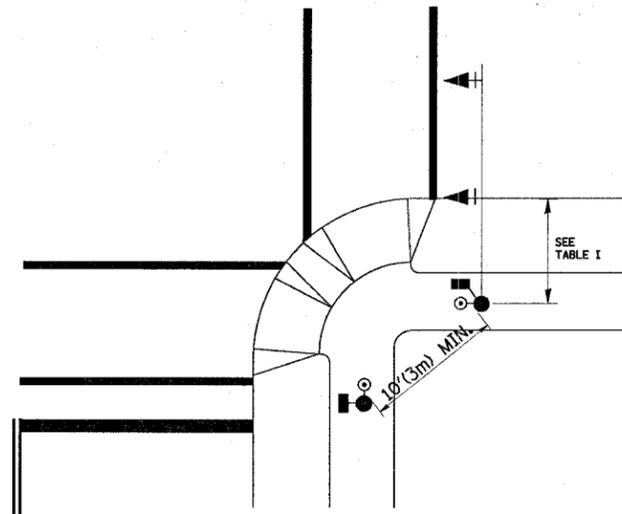
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 TS	DUPAGE	19	4
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 60A92				

**TRAFFIC SIGNAL MAST ARM AND POST**

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



**PEDESTRIAN SIGNAL PUSHBUTTON**



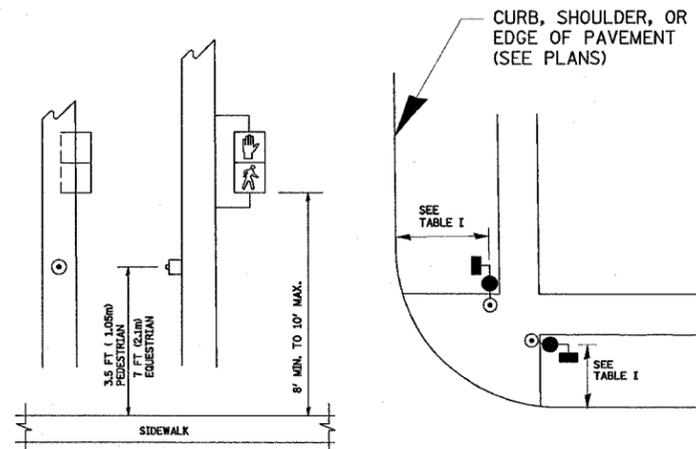
RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

**NOTES:**

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.  
  
AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.  
  
PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:  
  - A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
  - B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.
  - C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
  - D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).
  - E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

**PEDESTRIAN SIGNAL POST**

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION



**TABLE I**

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

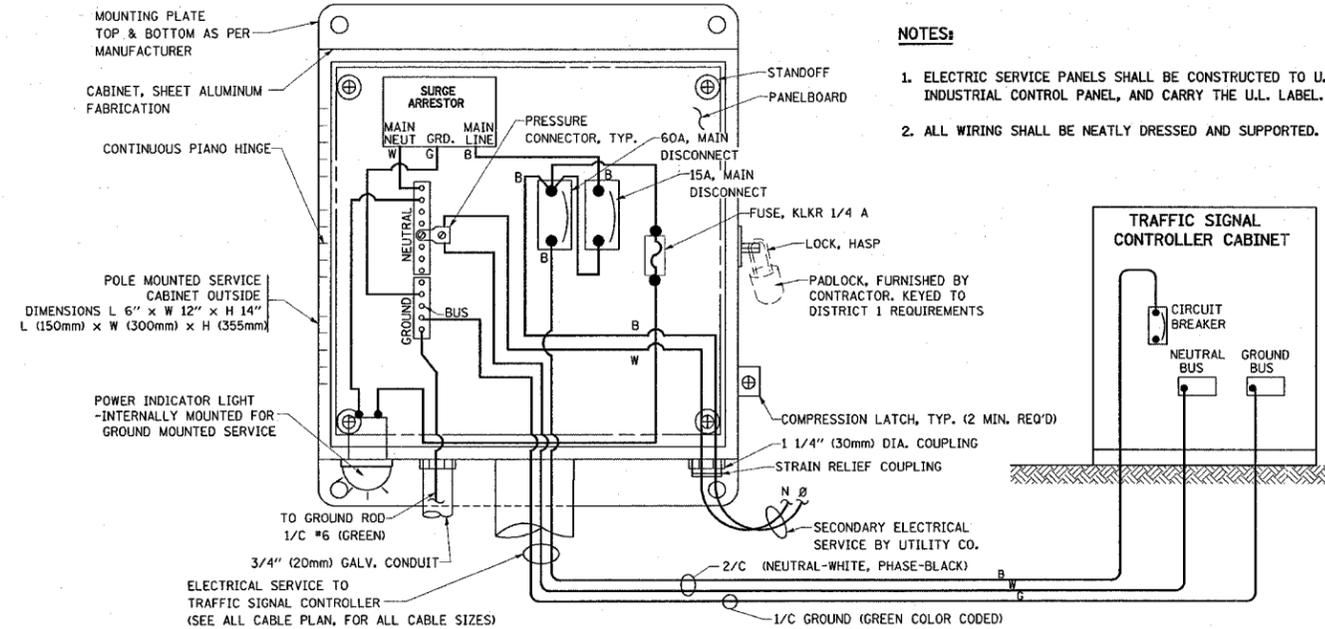
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
  
DISTRICT 1  
STANDARD TRAFFIC SIGNAL  
DESIGN DETAILS

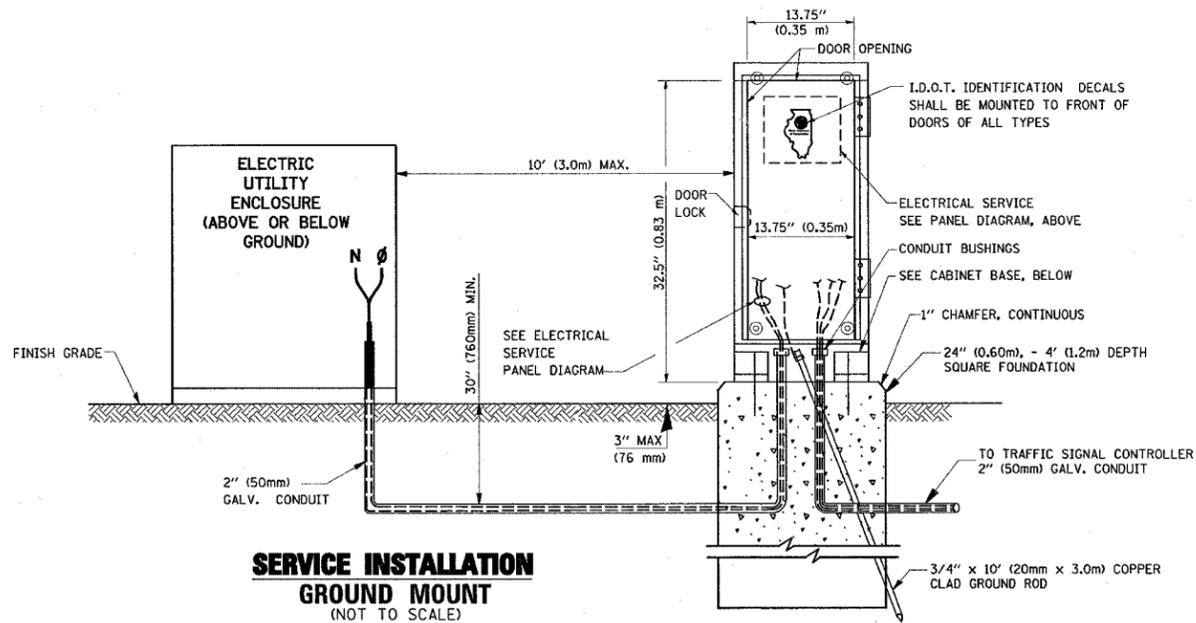
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HORIZ. NONE  
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DESIGNED BY: DAD  
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SHEET 2 OF 4

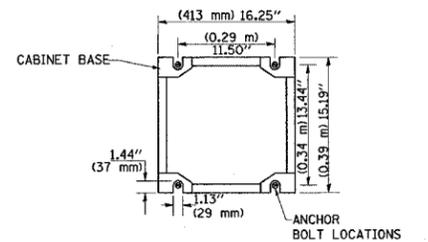
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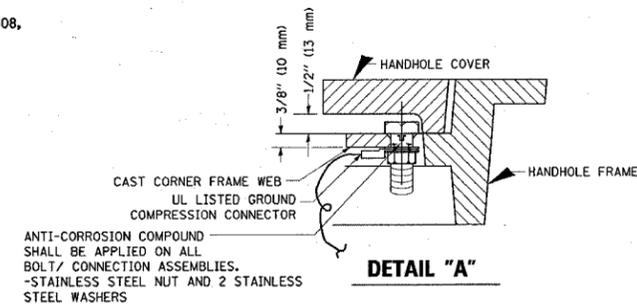
**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



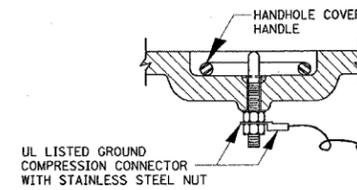
**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)



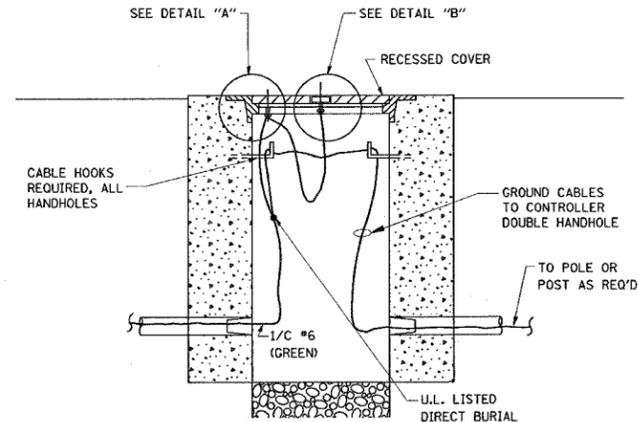
**CABINET - BASE BOLT PATTERN**  
 (NOT TO SCALE)



**DETAIL "A"**



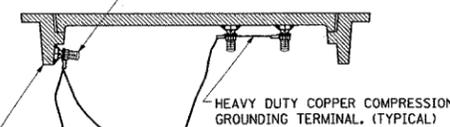
**DETAIL "B"**



**HANDHOLE COVER & FRAME - GROUNDING DETAIL**

(NOT TO SCALE)

(2) 1/2" x 1 1/4" STAINLESS STEEL BOLT WITH SPLIT LOCK WASHER AND NYLON INSERT LOCKOUT WELDED TO FRAME AND TO COVER. (TYPICAL)



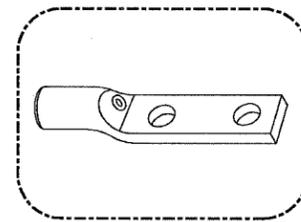
**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL**

(NOT TO SCALE)

**NOTES:**

**GROUNDING SYSTEM**

- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
- THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
- ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



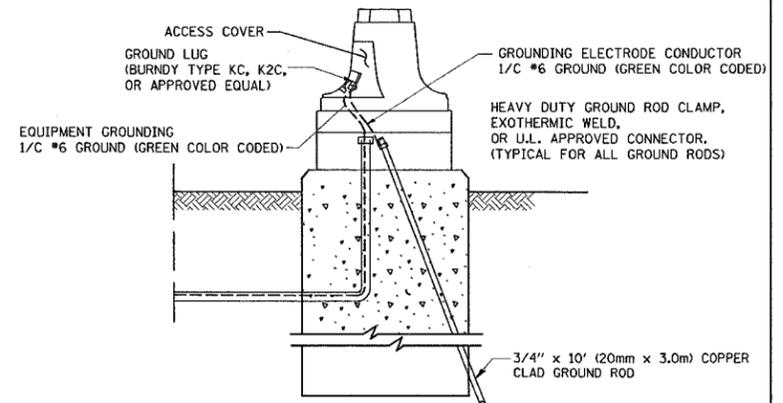
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EQUAL)

**NOTES:**

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



**MAST ARM POLE / POST-GROUNDING DETAIL**

(NOT TO SCALE)

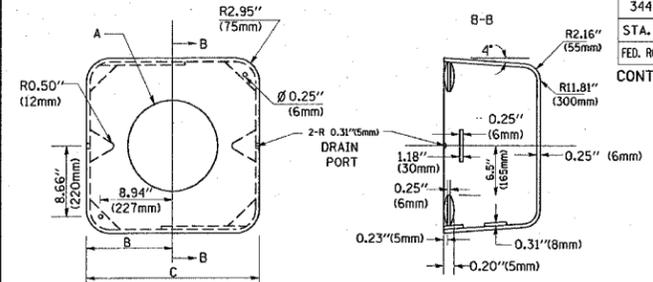
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 DISTRICT 1  
 STANDARD TRAFFIC SIGNAL  
 DESIGN DETAILS

SCALE: VERT. NONE  
 HORIZ.  
 DATE 1-01-02

DRAWN BY: RWP  
 DESIGNED BY: DAD  
 CHECKED BY: DAZ  
 SHEET 3 OF 4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 TS	DuPAGE	19	6
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 60A92				

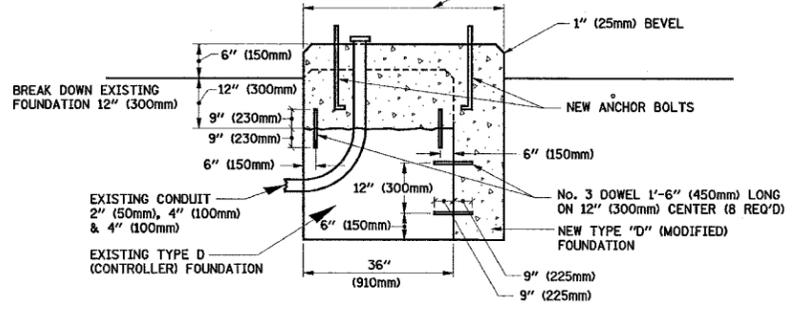


TYPE	A	B	C	HEIGHT	WEIGHT
I	∅ 10.125 (257mm)	9.5 (241mm)	19 (483mm)	12 (300mm)	24kg
II	∅ 11.125 (283mm)	10.75 (273mm)	21.5 (546mm)	12 (300mm)	26kg

SHROUD DETAIL

MATERIAL:  
 - ASTM A48 CLASS 30 GREY IRON  
 - ASTM A123 HOT DIPPED GALVANIZED

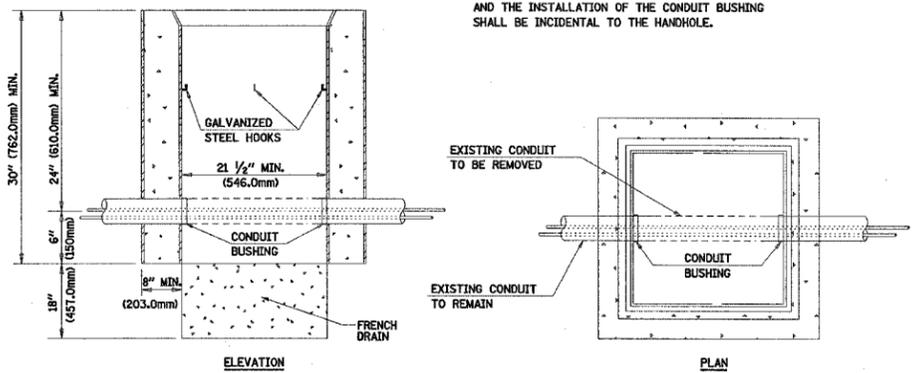
NOTE:  
 SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)

NOTES:  
 1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.

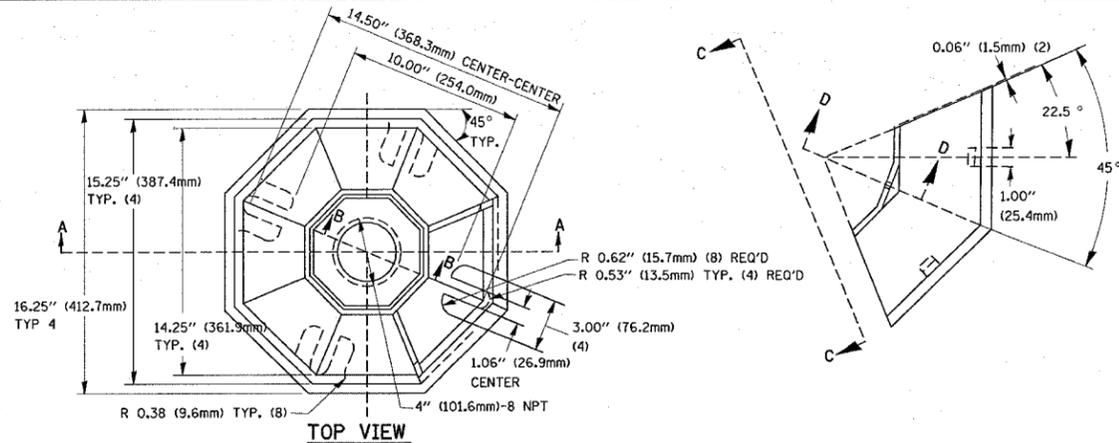


DETAIL HANDHOLE TO INTERCEPT EXISTING CONDUIT N.T.S.

REVISIONS	NAME	DATE

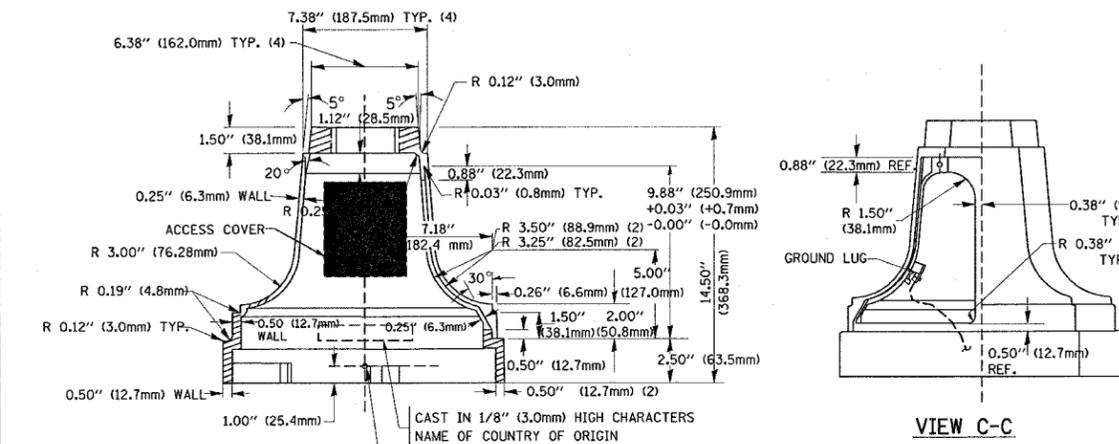
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 DISTRICT 1  
 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE  
 HORIZ. NONE  
 DATE 1-01-02  
 DRAWN BY: RWP  
 DESIGNED BY: DAD  
 CHECKED BY: DAZ  
 SHEET 4 OF 4



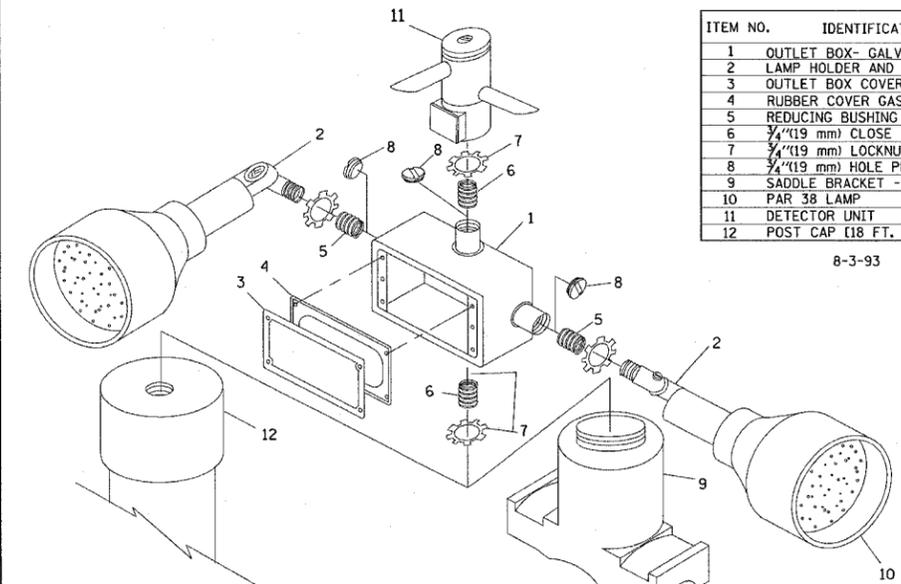
SECTION B-B

SECTION D-D



VIEW C-C

TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

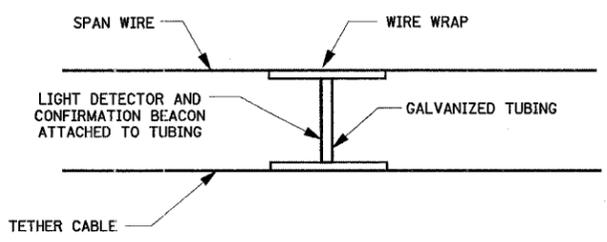


ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4 (19 mm) CLOSE NIPPLE
7	3/4 (19 mm) LOCKNUT
8	3/4 (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

8-3-93

NOTES:

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



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS (NOT TO SCALE)

3/16/2007  
 c:\projects\traffic\050008\83.dgn

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 TS	DuPAGE	16	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60A92				

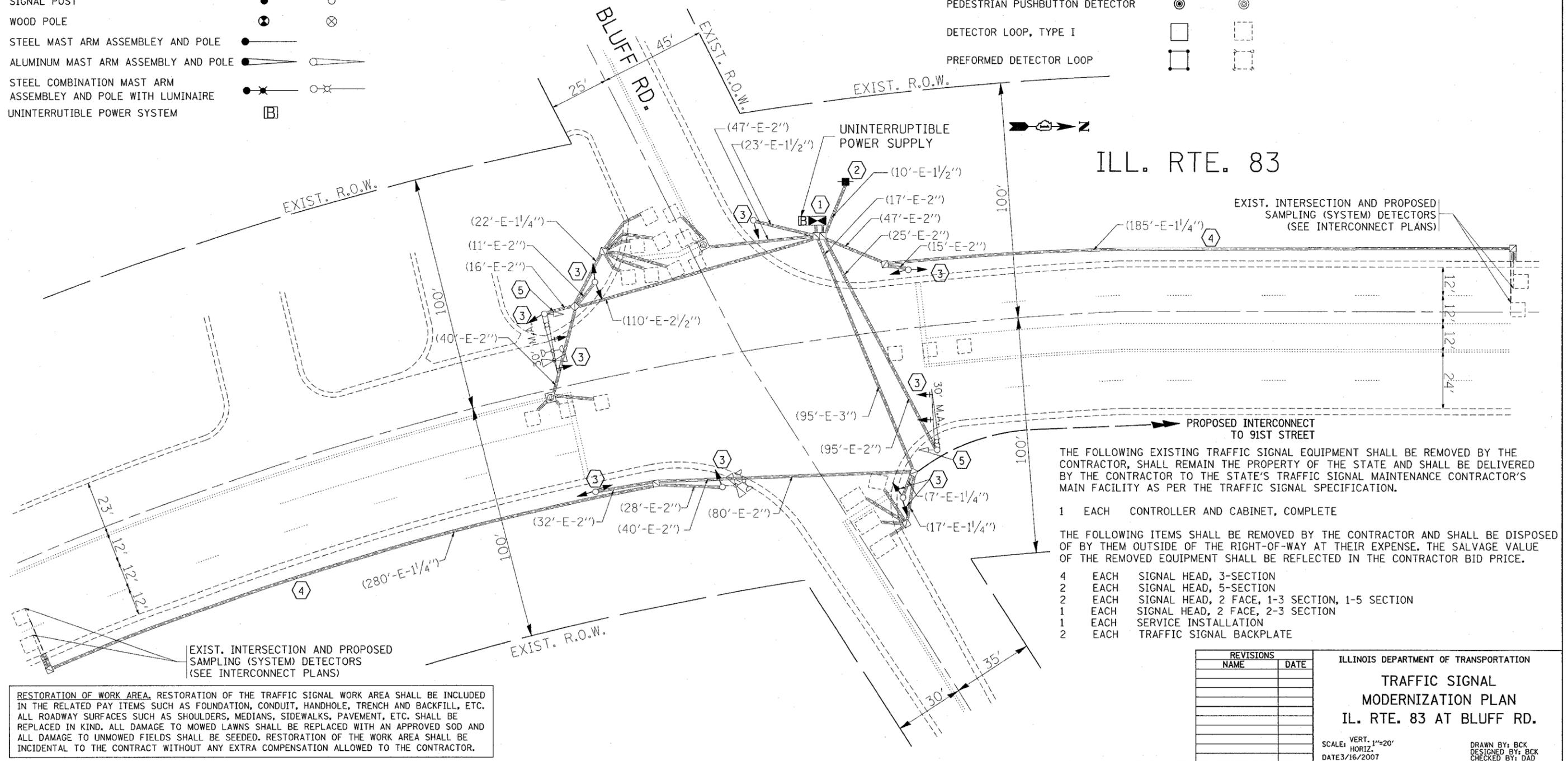
### TRAFFIC SIGNAL LEGEND

	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 POST		
WOOD POLE		
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
UNINTERRUPTIBLE POWER SYSTEM		

### CONSTRUCTION NOTES:

- 1 REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET. RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER CABINET INCLUDED IN COST OF THE NEW CONTROLLER AND CABINET.
- 2 REMOVE EXISTING SERVICE CABLE AND SERVICE. INSTALL NEW SERVICE, SERVICE CABLE AND GROUND CABLE.
- 3 REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE THEM WITH NEW L.E.D. SIGNAL.
- 4 INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR.
- 5 REMOVE EXISTING SIGNAL HEAD

	PROPOSED	EXISTING
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
JUNCTION BOX		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
COMMON TRENCH	CT	
UNIT DUCT	UD	
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		



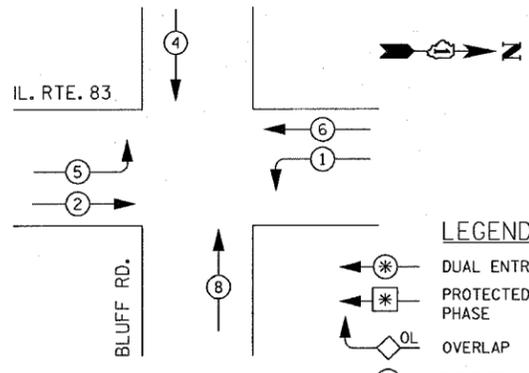
THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATION.

- 1 EACH CONTROLLER AND CABINET, COMPLETE
- THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE OF THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACTOR BID PRICE.
- 4 EACH SIGNAL HEAD, 3-SECTION
- 2 EACH SIGNAL HEAD, 5-SECTION
- 2 EACH SIGNAL HEAD, 2 FACE, 1-3 SECTION, 1-5 SECTION
- 1 EACH SIGNAL HEAD, 2 FACE, 2-3 SECTION
- 1 EACH SERVICE INSTALLATION
- 2 EACH TRAFFIC SIGNAL BACKPLATE

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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 SEEDED. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		<p align="center"><b>TRAFFIC SIGNAL MODERNIZATION PLAN</b></p> <p align="center"><b>IL. RTE. 83 AT BLUFF RD.</b></p> <p>SCALE: VERT. 1"=20' HORIZ. DATE 3/16/2007</p> <p>DRAWN BY: BCK DESIGNED BY: BCK CHECKED BY: DAD</p>

### CONTROLLER SEQUENCE



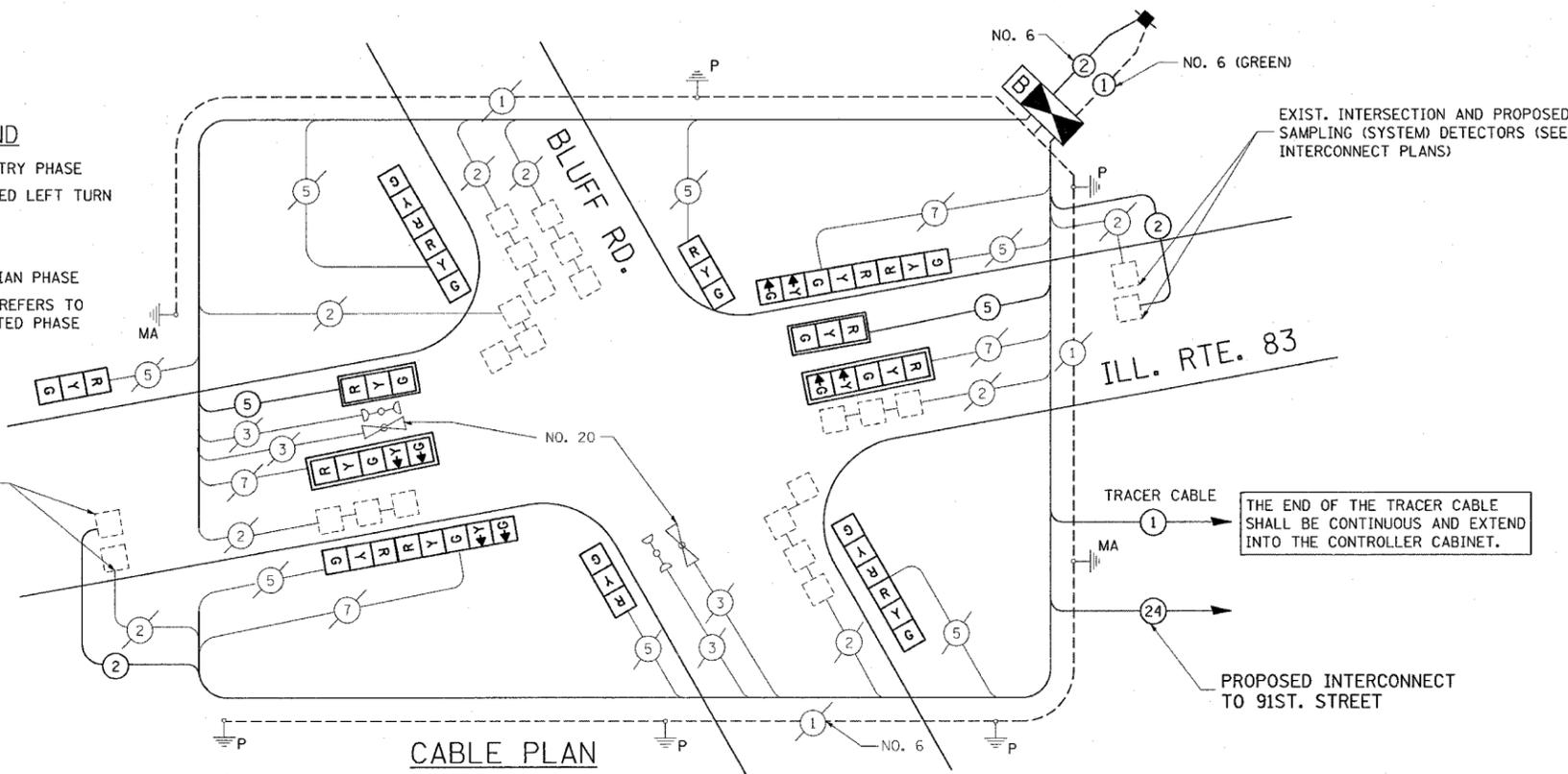
### LEGEND

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

### PHASE DESIGNATION

### CABLE PLAN LEGEND

- |  |                 |                 |
|--|-----------------|-----------------|
|  | <b>PROPOSED</b> | <b>EXISTING</b> |
| 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  |                 |                 |
| PERFORMED DETECTOR LOOP  |                 |                 |
| MICROWAVE VEHICLE SENSOR   |                 |                 |
| VIDEO DETECTOR   |                 |                 |
| CLOSED CIRCUIT TV  |                 |                 |
| EMERGENCY VEHICLE SYSTEM DETECTOR  |                 |                 |
| CONFIRMATION BEACON  |                 |                 |
| UNINTERRUPTIBLE POWER SUPPLY   |                 |                 |



### SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	.25
TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	.25
TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	LSUM	.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1 C	FOOT	10
ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR	FOOT	825
ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 2 C	FOOT	10
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5 C	FOOT	369.5
INDUCTIVE LOOP DETECTOR	EACH	10
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	10
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
SERVICE INSTALLATION, POLE MOUNT	EACH	1
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, L.E.D., 1-FACE, 3 SECTION, MAST ARM MOUNTED	EACH	2
SIGNAL HEAD, L.E.D., 2-FACE, 3 SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4
UNINTERRUPTIBLE POWER SYSTEM	EACH	1

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	15	135	17	0.50	127.50
(YELLOW)	19	135	25	0.25	118.75
(GREEN)	19	135	15	0.25	71.75
ARROW	8	135	12	0.10	9.60
PED. SIGNAL	90	90	25	1.00	
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
TOTAL =					427.60

ENERGY COSTS TO:  
**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
 201 WEST CENTER COURT  
 SCHAUMBURG, ILLINOIS 60196-1096  
 ENERGY SUPPLY CONTACT: KEVIN LABAWSKI  
 PHONE: 847-816-5497  
 COMPANY: COMMONWEALTH EDISON

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

REVISIONS	
NAME	DATE

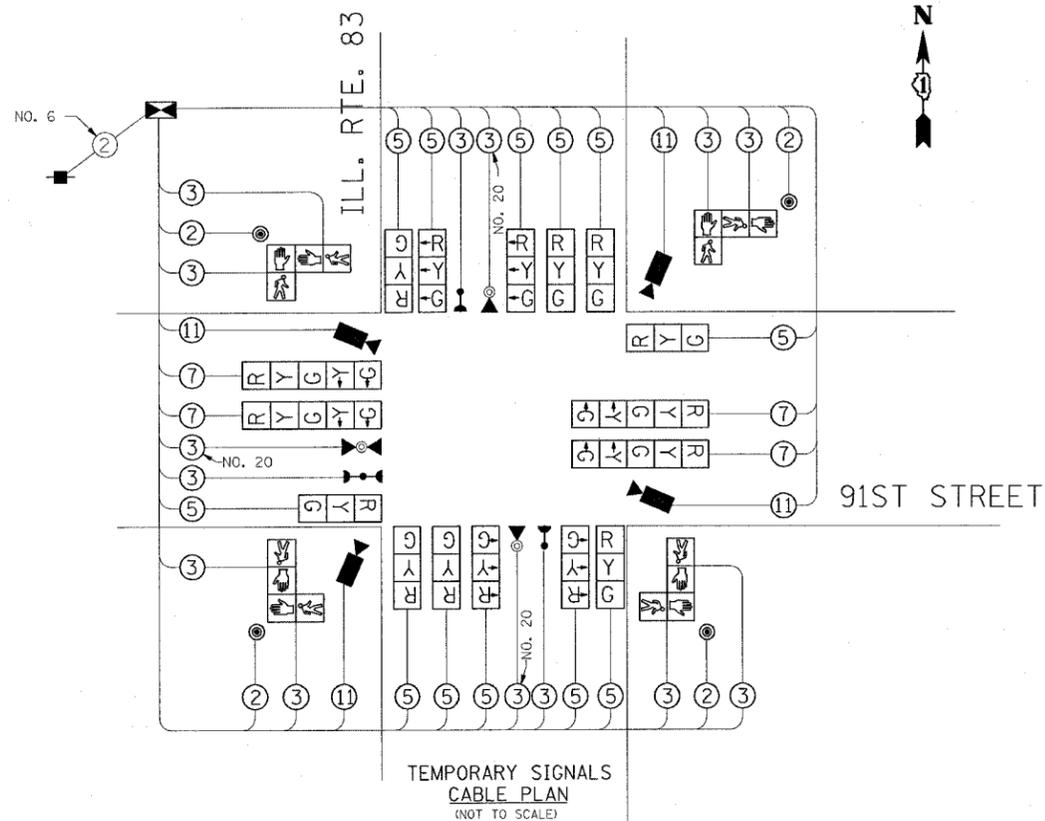
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PROPOSED CABLE PLAN**  
 FOR  
**IL. RTE. 83 AT BLUFF RD.**  
 SCALE: NONE  
 DATE 3/16/2007  
 DRAWN BY: BCK  
 DESIGNED BY: BCK  
 CHECKED BY: DAD

PLOT DATE = 3/16/2007  
 FILE NAME = c:\p05\mca\trf\104800008\1183.dgn  
 PLOT SCALE = 20.0000 / IN.  
 USER NAME = kenhshueglo

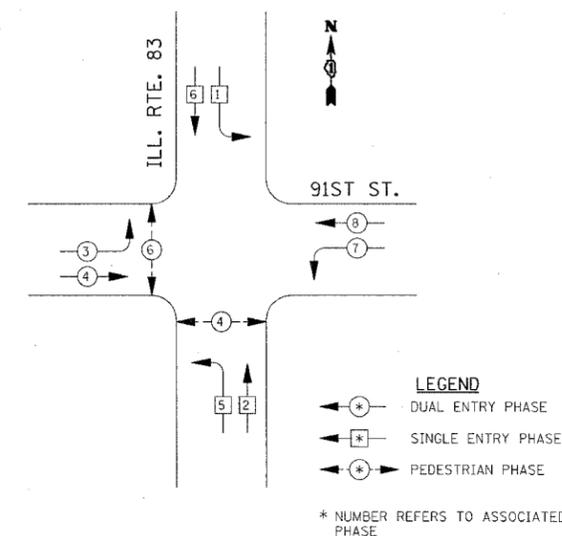
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EXISTING.  
FOR INFORMATION ONLY  
INSTALL BY OTHER



TEMPORARY SIGNAL INSTALLATION  
CONTROLLER SEQUENCE



**TEMPORARY CABLE DIAGRAM LEGEND**

	PROPOSED	EXISTING
TEMPORARY CONTROLLER CABINET		
TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)		
12" (300 MM) PEDESTRIAN SIGNAL SECTION		
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED		
PEDESTRIAN PUSHBUTTON DETECTOR		
VEHICLE DETECTOR, INDUCTION LOOP		
MICROWAVE VEHICLE SENSOR		
VIDEO DETECTOR		
CLOSED CIRCUIT TV		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		

INSTALLATION OF THE TEMPORARY TRAFFIC SIGNALS AND ROADWAY IMPROVEMENTS AT IL. RTE. 83 AND 91ST STREET WILL BE DONE BY DuPAGE COUNTY, SECTION #05-00002-10-BT. THEIR SCHEDULED COMPLETION DATE, AT THIS PRINTING IS **SEPTEMBER 30, 2007**. REMOVAL OF THE TEMPORARY TRAFFIC SIGNALS WILL BE DONE BY THE IDOT CONTRACTOR AND TRANSPORTED TO A LOCATION WITHIN DuPAGE COUNTY. THE DuPAGE COUNTY CONTACT PERSON IS PAUL KRUEGER (630) 407-6914.

**TEMPORARY SIGNAL INSTALLATION  
SCHEDULE OF QUANTITIES**

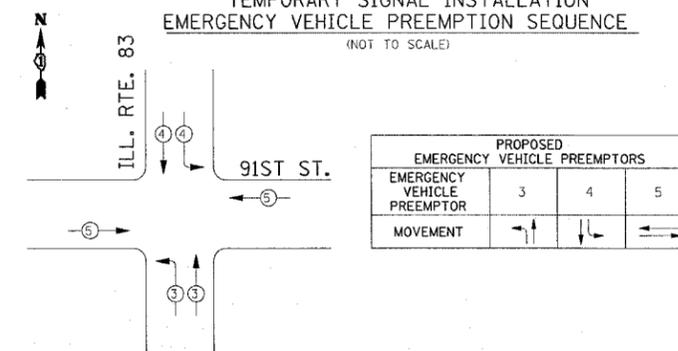
57	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
2	EACH	HANDHOLE
2	EACH	HEAVY-DUTY HANDHOLE
443	FOOT	DETECTOR LOOP, TYPE 1
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
9	EACH	REMOVE EXISTING HANDHOLE
9	EACH	REMOVE EXISTING CONCRETE FOUNDATION

IDOT TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED) (YELLOW) (GREEN)	18	135	17	0.50	156.00
	20	135	25	0.25	125.00
	20	135	15	0.25	75.00
ARROW	20	135	12	0.10	24.00
PED. SIGNAL	4	90	25	1.00	100.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN	-	-	84	0.05	-
FLASHER LED	-	-	-	0.50	-
TOTAL =					560.00

ENERGY COSTS - BILLED TO: ILLINOIS DEPARTMENT OF TRANSPORTATION  
(ADDRESS) DIVISION OF HIGHWAYS / DISTRICT 1  
201 W. CENTER COURTESCHAUMBURG, ILL. 60146-1028

ENERGY SUPPLY - CONTACT: 847-816-6497  
PHONE: 847-816-6497  
COMPANY: COM ED

TEMPORARY SIGNAL INSTALLATION  
EMERGENCY VEHICLE PREEMPTION SEQUENCE  
(NOT TO SCALE)



**MORRIS ENGINEERING, INC.**  
5100 S. LINCOLN SUITE 100 LISLE, ILLINOIS 60532  
PHONE: (630) 271-0770 EMAIL: ECIVIL.COM  
ILLINOIS BUSINESS REGISTRATION #184-001245

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
ILL. RTE. 83 AT 91ST STREET  
TEMPORARY TRAFFIC SIGNAL INSTALLATION  
CABLE PLAN  
PHASE DESIGNATION DIAGRAM  
EMERGENCY VEHICLE PREEMPTION SEQUENCE  
SCHEDULE OF QUANTITIES

SCALE: VERT. 1" = 20'  
HORIZ. 1" = 20'

DATE 3/20/2007

DRAWN BY CJS  
DESIGNED BY RF  
CHECKED BY RAC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-019 TS	DuPAGE	19	11
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60A92

**TRAFFIC SIGNAL LEGEND**

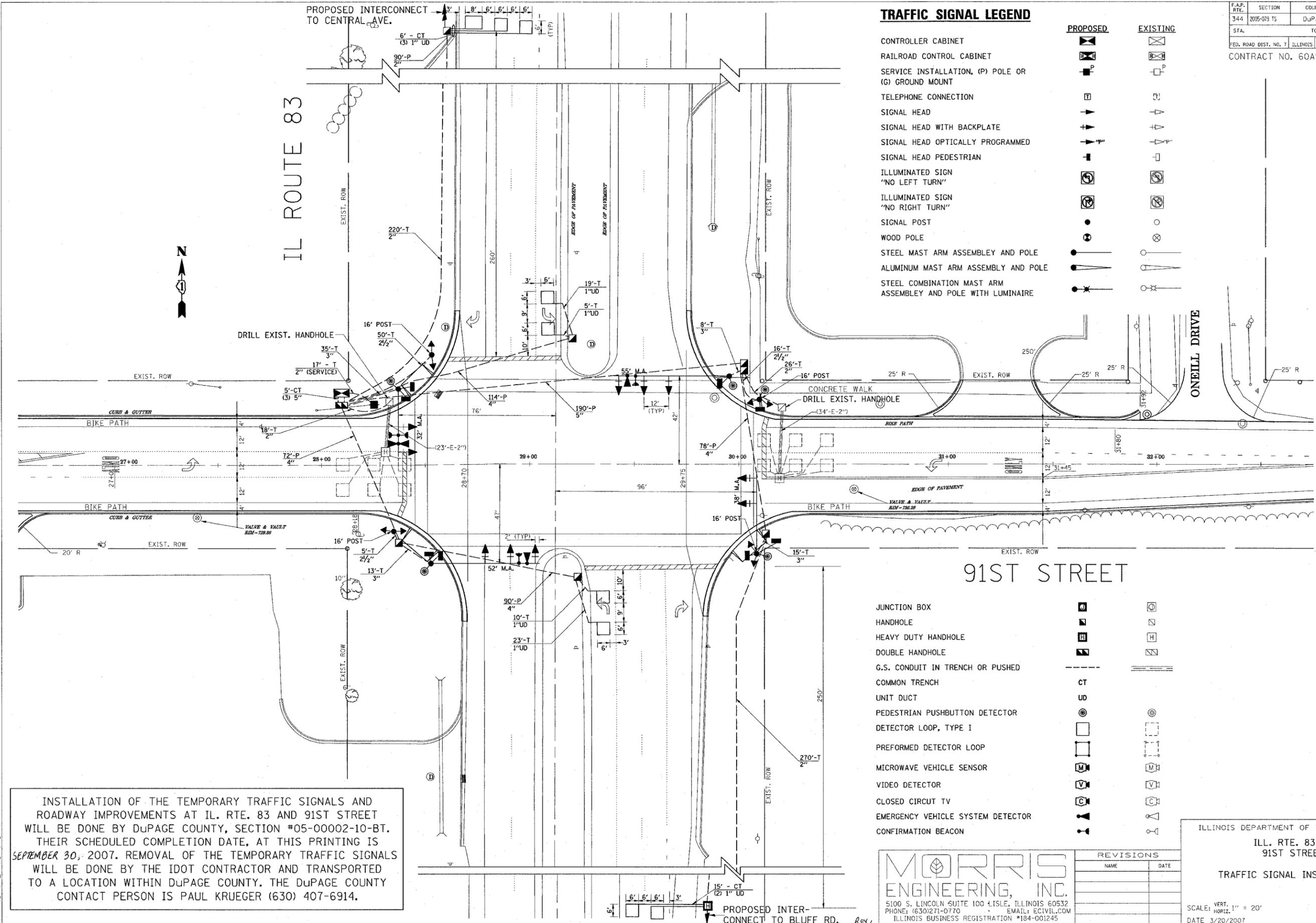
- |   |                 |                 |
|---|-----------------|-----------------|
|   | <b>PROPOSED</b> | <b>EXISTING</b> |
| CONTROLLER CABINET  |                 |                 |
| RAILROAD CONTROL CABINET                                    |                 |                 |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |                 |                 |
| TELEPHONE CONNECTION  |                 |                 |
| SIGNAL HEAD   |                 |                 |
| SIGNAL HEAD WITH BACKPLATE                                  |                 |                 |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |                 |                 |
| SIGNAL HEAD PEDESTRIAN                                      |                 |                 |
| 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 |                 |                 |

- |                                   |  |  |
|-----------------------------------|--|--|
| JUNCTION BOX                      |  |  |
| HANDHOLE                          |  |  |
| HEAVY DUTY HANDHOLE               |  |  |
| DOUBLE HANDHOLE                   |  |  |
| G.S. CONDUIT IN TRENCH OR PUSHED  |  |  |
| COMMON TRENCH                     |  |  |
| UNIT DUCT                         |  |  |
| PEDESTRIAN PUSHBUTTON DETECTOR    |  |  |
| DETECTOR LOOP, TYPE I             |  |  |
| PREFORMED DETECTOR LOOP           |  |  |
| MICROWAVE VEHICLE SENSOR          |  |  |
| VIDEO DETECTOR                    |  |  |
| CLOSED CIRCUIT TV                 |  |  |
| EMERGENCY VEHICLE SYSTEM DETECTOR |  |  |
| CONFIRMATION BEACON               |  |  |

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 ILL. RTE. 83 AT  
 91ST STREET  
 TRAFFIC SIGNAL INSTALLATION

SCALE: VERT. 1" = 20'  
 HORIZ. 1" = 20'  
 DATE 3/20/2007  
 DRAWN BY CJS  
 DESIGNED BY RF  
 CHECKED BY RAC



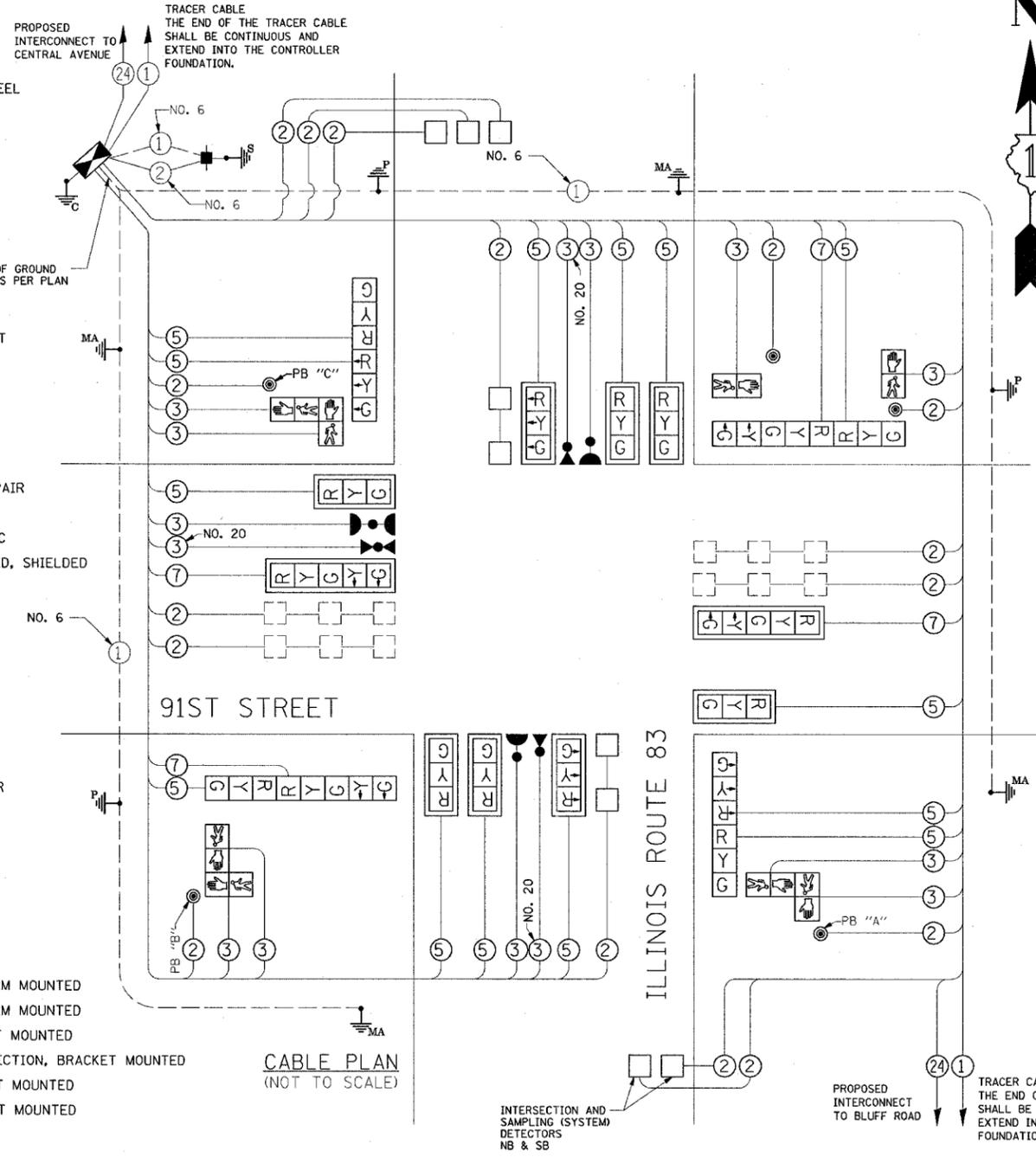
INSTALLATION OF THE TEMPORARY TRAFFIC SIGNALS AND ROADWAY IMPROVEMENTS AT IL. RTE. 83 AND 91ST STREET WILL BE DONE BY DuPAGE COUNTY, SECTION #05-00002-10-BT. THEIR SCHEDULED COMPLETION DATE, AT THIS PRINTING IS SEPTEMBER 30, 2007. REMOVAL OF THE TEMPORARY TRAFFIC SIGNALS WILL BE DONE BY THE IDOT CONTRACTOR AND TRANSPORTED TO A LOCATION WITHIN DuPAGE COUNTY. THE DuPAGE COUNTY CONTACT PERSON IS PAUL KRUEGER (630) 407-6914.

**MORRIS ENGINEERING, INC.**  
 5100 S. LINCOLN SUITE 100 LISLE, ILLINOIS 60532  
 PHONE: (630)271-0770 EMAIL: ECIVIL.COM  
 ILLINOIS BUSINESS REGISTRATION #184-001245

3:10:35 03/20/2007

**SCHEDULE OF QUANTITIES**

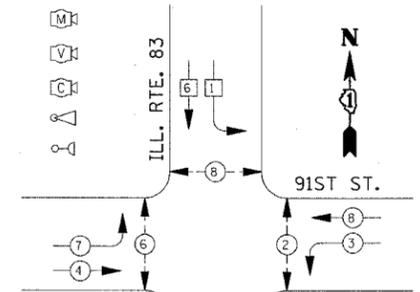
28.5	SQ FT	SIGN PANEL - TYPE 1
516	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
71	FOOT	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL
71	FOOT	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL
15	FOOT	CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL
90	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
354	FOOT	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
190	FOOT	CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL
5	EACH	HANDHOLE
1	EACH	HEAVY-DUTY HANDHOLE
2	EACH	DOUBLE HANDHOLE
654	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET
1	EACH	TRANSCEIVER - FIBER OPTIC
1155	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
2249	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
3183	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
901	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
3234	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
35	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
701	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
610	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20, 3/C, TWISTED, SHIELDED
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 55 FT.
16	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
60	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
2	EACH	DRILL EXISTING HANDHOLE
10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
11	EACH	INDUCTIVE LOOP DETECTOR
310	FOOT	DETECTOR LOOP, TYPE 1
3	EACH	LIGHT DETECTOR
1	EACH	LIGHT DETECTOR AMPLIFIER
5	EACH	PEDESTRIAN PUSH-BUTTON
8	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 3 SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED
3	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED
1	EACH	SERVICE INSTALLATION, POLE MOUNT
1	EACH	UNINTERRUPTABLE POWER SUPPLY



**CABLE PLAN LEGEND**

	CONTROLLER CABINET
	RAILROAD CONTROL CABINET
	SERVICE INSTALLATION, (P) POLE OR (C) 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) 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

**CONTROLLER SEQUENCE**



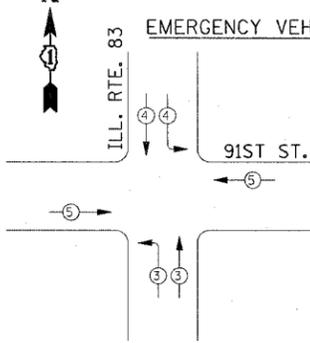
**LEGEND**

	DUAL ENTRY PHASE
	SINGLE ENTRY PHASE
	PEDESTRIAN PHASE

\* NUMBER REFERS TO ASSOCIATED PHASE

PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 & 4  
 PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 & 6  
 PUSH BUTTON "C" SHALL PLACE A CALL IN PHASES 6 & 8

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**  
(NOT TO SCALE)



PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT			

**PHASE DESIGNATION DIAGRAM**  
(NOT TO SCALE)

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 ILL. RTE. 83 AT  
 91ST STREET  
 CABLE PLAN  
 PHASE DESIGNATION DIAGRAM  
 EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 SCHEDULE OF QUANTITIES

SCALE: VERT. 1" = 20'  
 HORIZ. 1" = 20'  
 DATE 3/20/2007

DRAWN BY CJS  
 DESIGNED BY RF  
 CHECKED BY RAC

INSTALLATION OF THE TEMPORARY TRAFFIC SIGNALS AND ROADWAY IMPROVEMENTS AT IL. RTE. 83 AND 91ST STREET WILL BE DONE BY DuPAGE COUNTY, SECTION #05-0002-10-BT. THEIR SCHEDULED COMPLETION DATE, AT THIS PRINTING IS SEPTEMBER 30, 2007. REMOVAL OF THE TEMPORARY TRAFFIC SIGNALS WILL BE DONE BY THE IDOT CONTRACTOR AND TRANSPORTED TO A LOCATION WITHIN DuPAGE COUNTY. THE DuPAGE COUNTY CONTACT PERSON IS PAUL KRUEGER (630) 407-6914.

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	15 (4.0)	MAST ARM (L) POLE	20 + L-2 =
E - M. ARM POLE	2 (0.6)	SIGNAL POST	2 (0.6)		(6m + L-0.6m) =
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.3)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.3)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.3)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

IDOT TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
		INCAND.	LED		
SIGNAL (RED)	18	135	17	0.50	153.00
(YELLOW)	22	135	25	0.25	137.50
(GREEN)	22	135	15	0.25	82.50
ARROW	20	135	12	0.10	24.00
PED. SIGNAL	5	90	25	1.00	125.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN	-	84	-	0.05	-
FLASHER LED	-	-	-	0.50	-
TOTAL =					622.00

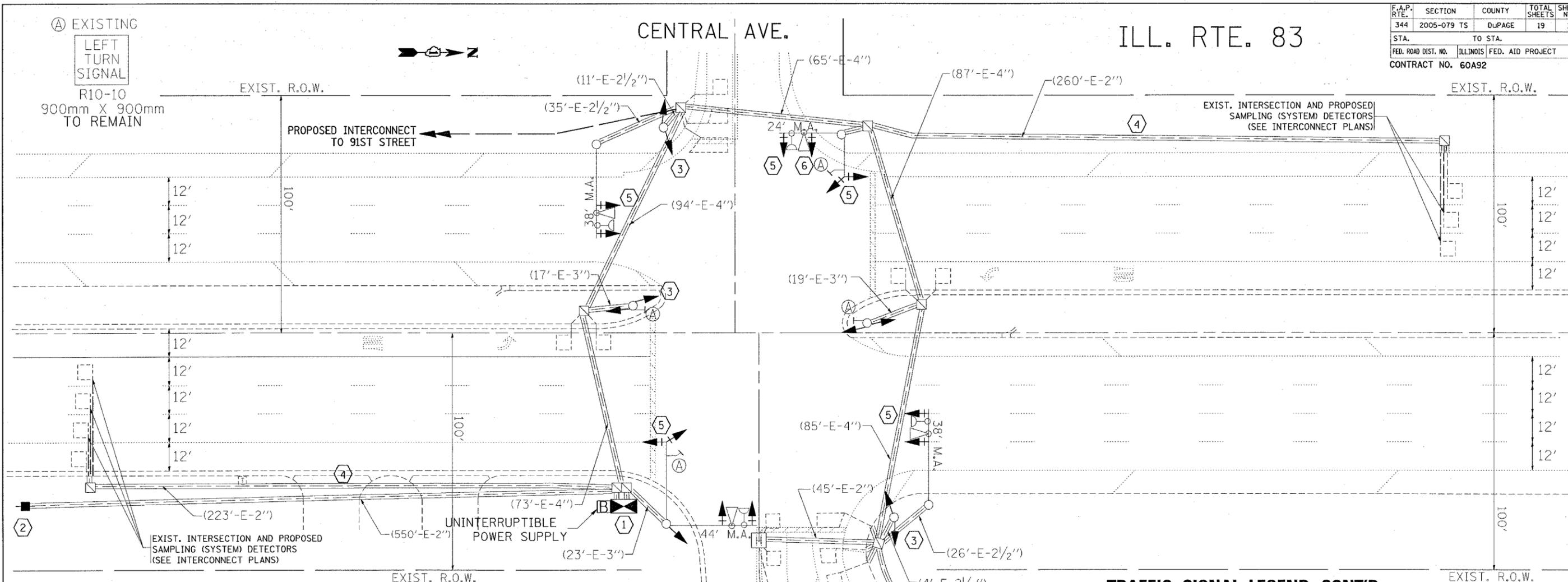
ENERGY COSTS - BILLED TO: ILLINOIS DEPARTMENT OF TRANSPORTATION  
 (ADDRESS) DIVISION OF HIGHWAYS / DISTRICT 1  
 201 W. CENTER COURTESCHAUMBURG, ILL. 60196-1096

ENERGY SUPPLY - CONTACT: 847-516-5497  
 PHONE: COM ED  
 COMPANY:

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 15	DuPAGE	19	12
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60A92

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 TS	DuPAGE	19	13
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 60A92				



**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 POST		
WOOD POLE		
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
UNINTERRUPTIBLE POWER SYSTEM		

- CONSTRUCTION NOTES:**
- REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE V CABINET. RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER CABINET INCLUDED IN COST OF THE NEW CONTROLLER AND CABINET.
  - REMOVE EXISTING SERVICE CABLE AND SERVICE. INSTALL NEW SERVICE, SERVICE CABLE AND GROUND CABLE.
  - REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE THEM WITH NEW L.E.D. SIGNAL.
  - INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR.
  - REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE THEM WITH NEW L.E.D. 1-FACE, 3-SECTION MAST ARM MOUNTED SIGNAL AND BACKPLATE.
  - REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE THEM WITH NEW L.E.D. 1-FACE, 5-SECTION MAST ARM MOUNTED SIGNAL AND BACKPLATE.

**TRAFFIC SIGNAL LEGEND CONT'D.**

	PROPOSED	EXISTING
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
JUNCTION BOX		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
COMMON TRENCH	CT	
UNIT DUCT	UD	
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP, TYPE I		
PERFORMED DETECTOR LOOP		

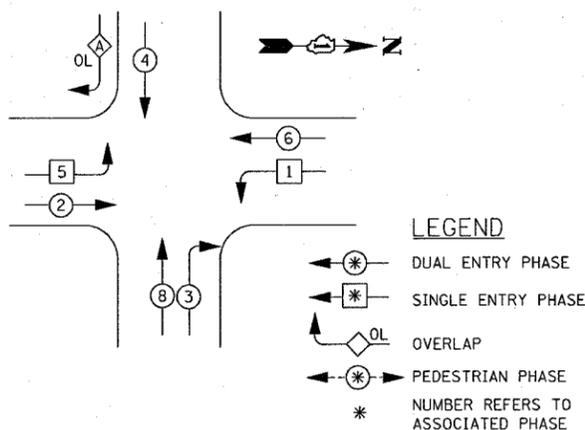
RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TRAFFIC SIGNAL MODERNIZATION PLAN**  
 IL. RTE. 83 AT CENTRAL AVE.  
 SCALE: VERT. 1"=20'  
 HORIZ. DATE 3/16/2007  
 DRAWN BY: BCK  
 DESIGNED BY: BCK  
 CHECKED BY: DAD

PLOT DATE = 3/16/2007  
 PLOT SCALE = 20/8000 / IN.  
 USER NAME = kamrapph\jeff

### CONTROLLER SEQUENCE



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

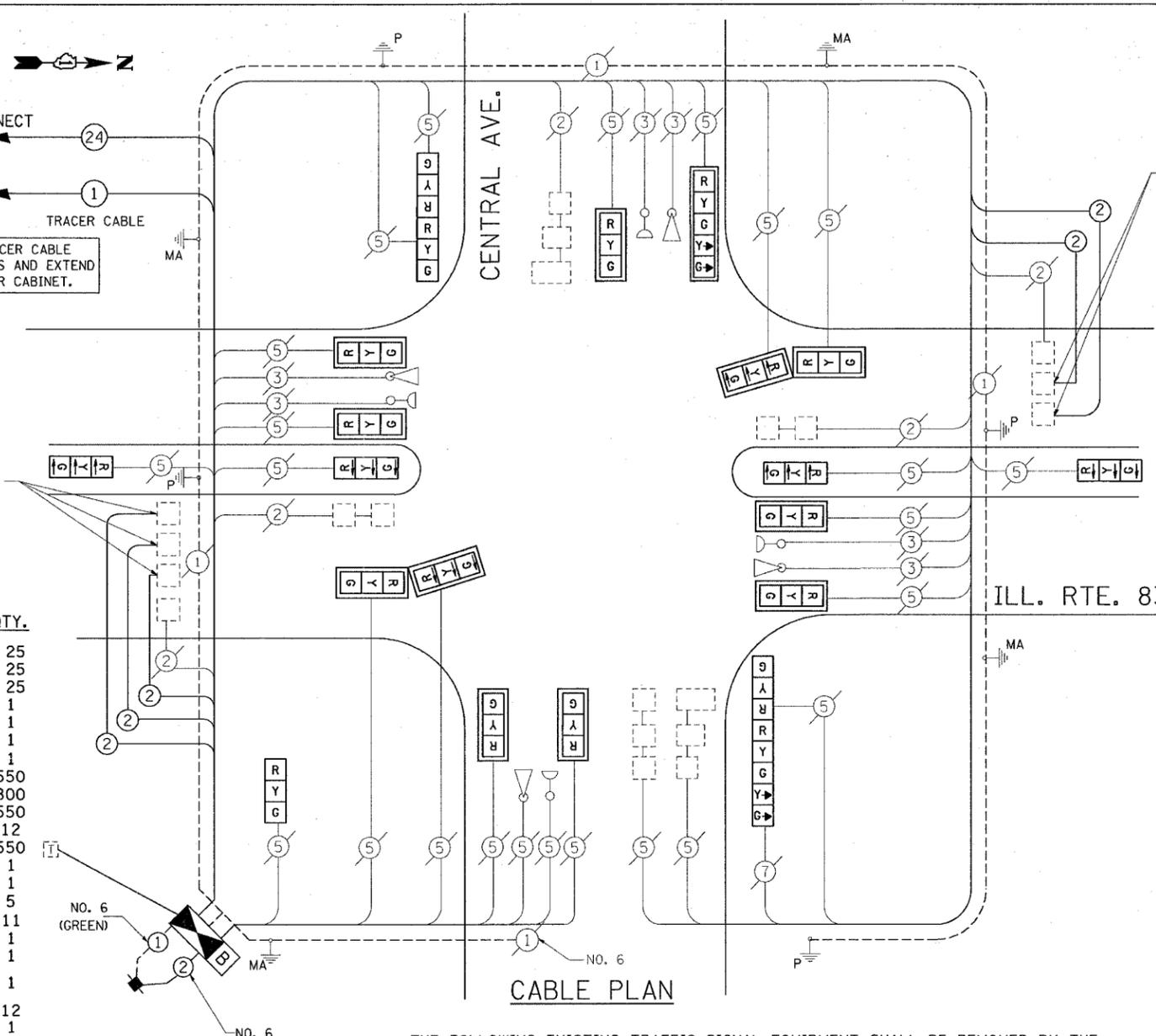
### SCHEDULE OF QUANTITIES

ITEM	UNIT	QTY.
TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	.25
TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	.25
TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	LSUM	.25
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1
MASTER CONTROLLER	EACH	1
TRANSCIEVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1 C	FOOT	550
ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR	FOOT	800
ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 2 C	FOOT	550
INDUCTIVE LOOP DETECTOR	EACH	12
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	550
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
SERVICE INSTALLATION, POLE MOUNT	EACH	1
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MNTD.	EACH	5
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MNTD.	EACH	11
SIGNAL HEAD, L.E.D., 2-FACE, 3-SECTION, BRACKET MNTD.	EACH	1
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MNTD.	EACH	1
SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MNTD.	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	12
UNINTERRUPTIBLE POWER SYSTEM	EACH	1

PROPOSED INTERCONNECT TO 91ST STREET

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

EXIST. INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS (SEE INTERCONNECT PLANS)



### CABLE PLAN

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATION.

1 EACH CONTROLLER AND CABINET, COMPLETE

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

- 12 EACH SIGNAL HEAD, 3-SECTION
- 1 EACH SIGNAL HEAD, 5 SECTION
- 3 EACH SIGNAL HEAD, 2 FACE, 2-3 SECTION
- 1 EACH SIGNAL HEAD, 2 FACE, 1-3 SECTION, 1-5 SECTION
- 1 EACH SERVICE INSTALLATION
- 12 EACH TRAFFIC SIGNAL BACKPLATE

### 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]
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]
UNINTERRUPTIBLE POWER SUPPLY	[Symbol]	[Symbol]

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	%OPERATION	
SIGNAL (RED)	21	135	17	0.50	178.50
(YELLOW)	23	135	25	0.25	143.75
(GREEN)	23	135	15	0.25	86.25
ARROW	22	135	12	0.10	26.40
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:					TOTAL = 534.90

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

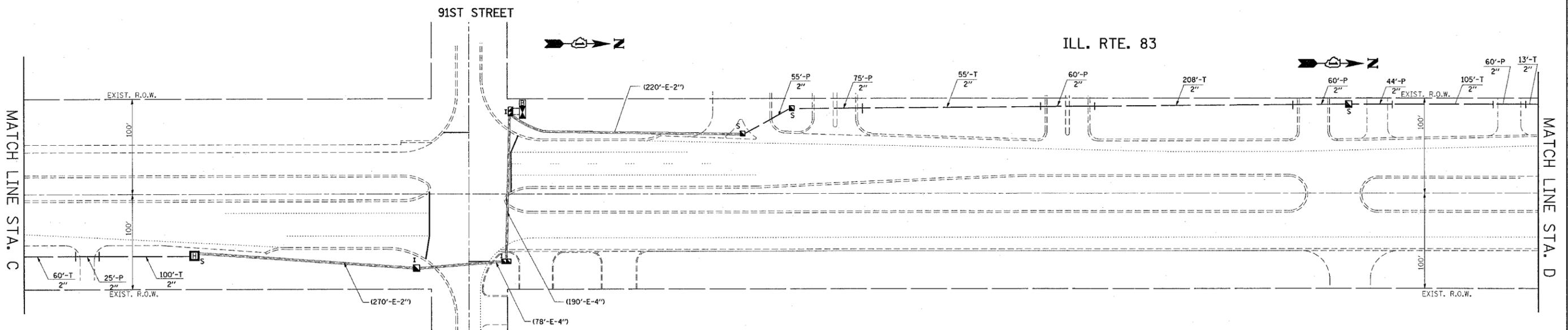
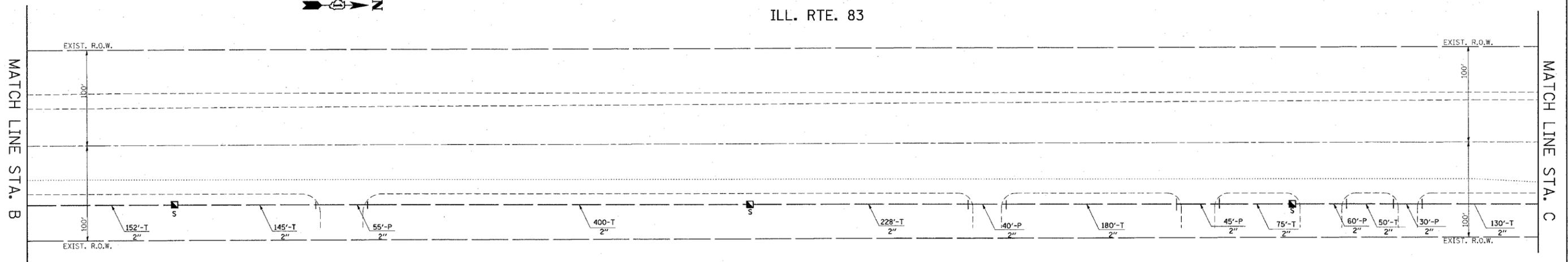
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PROPOSED CABLE PLAN FOR ILL. RTE. 83 AT CENTRAL AVE.**  
 SCALE: VERT. NONE  
 HORIZ. DATE 3/16/2007  
 DRAWN BY: BCK  
 DESIGNED BY: BCK  
 CHECKED BY: BCK



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 TS	DuPAGE	19	16
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT. 60A92				

ILL. RTE. 83



**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	
DETECTOR LOOP, TYPE I		
PREFORMED DETECTOR LOOP		
UNINTERRUPTABLE POWER SUPPLY		

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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 SEEDED. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.

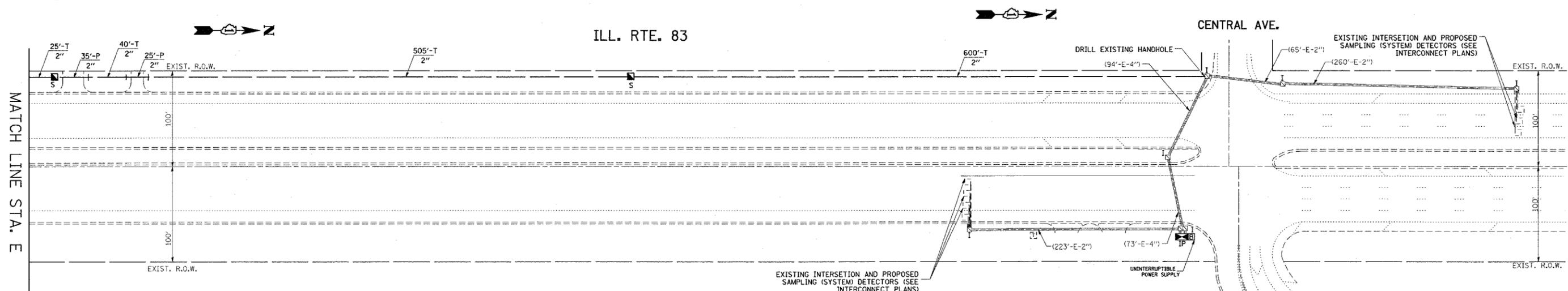
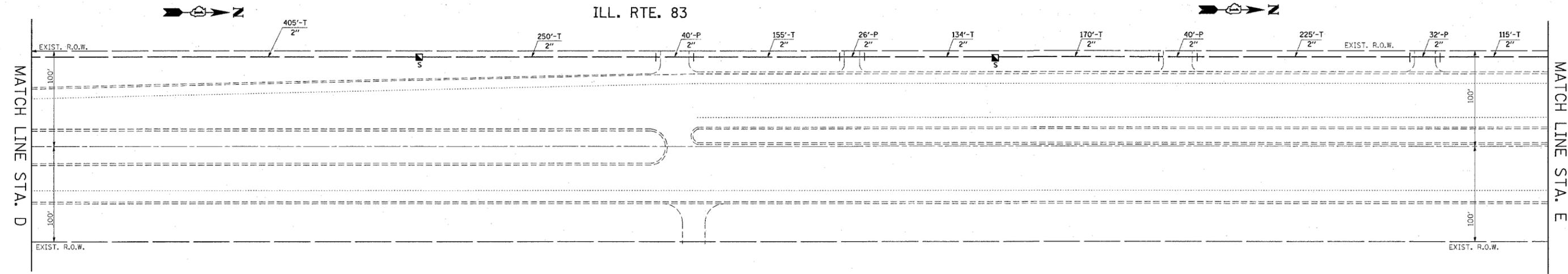
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**INTERCONNECT PLAN**  
**ILL. RTE. 83**  
**FROM BLUFF RD. TO CENTRAL AVE.**  
 SCALE: VERT. 1" = 50'  
 HORIZ. 1" = 50'  
 DATE 3/16/2007  
 DRAWN BY BCK  
 DESIGNED BY BCK  
 CHECKED BY DAD

PLOT DATE = 3/16/2007  
 FILE NAME = c:\projects\interconnect\eff\1183.dgn  
 PLOT SCALE = 1/8" = 1' / IN.  
 USER NAME = kenthphuegbo

08:23:35 03/16/2007

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
344	2005-079 TS	DuPAGE	19	17
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT. 60A92				



**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
SYSTEM	S	I
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	
DETECTOR LOOP, TYPE I		
PERFORMED DETECTOR LOOP		
UNINTERRUPTIBLE POWER SUPPLY		

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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 SEED. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.

REVISIONS	
NAME	DATE

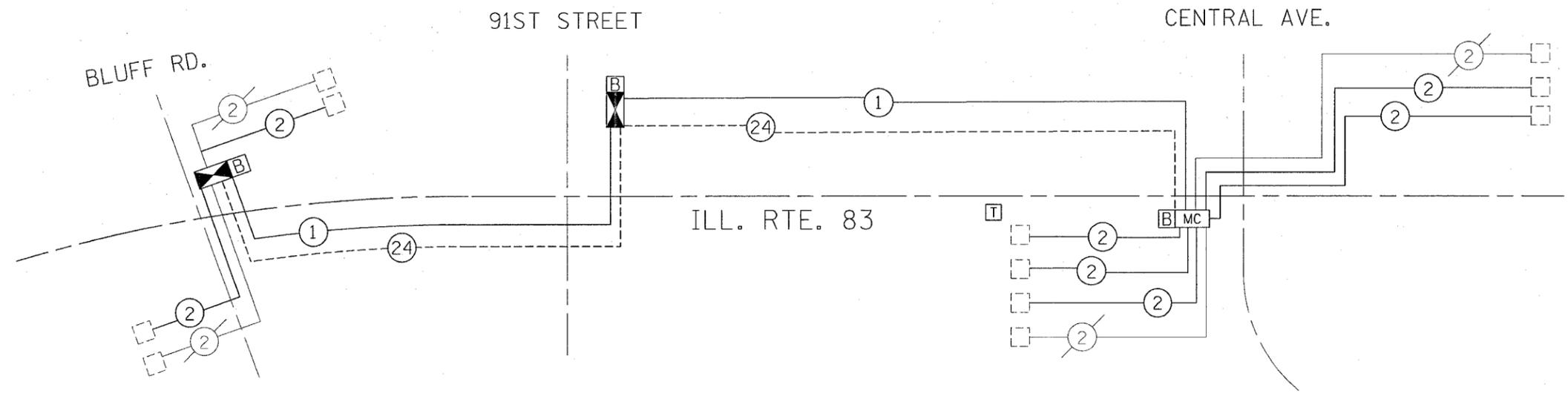
ILLINOIS DEPARTMENT OF TRANSPORTATION

**INTERCONNECT PLAN**  
ILL. RTE. 83  
FROM BLUFF RD. TO CENTRAL AVE.

SCALE: VERT. 1" = 50'  
HORIZ. 1" = 50'  
DATE 3/16/2007

DRAWN BY BCK  
DESIGNED BY BCK  
CHECKED BY DAD

PLOT DATE = 3/16/2007  
FILE NAME = c:\p\projects\traff\ill83\ill83.dgn  
PLOT SCALE = 1/8" = 1' / IN.  
USER NAME = kmhphixajb



**INTERCONNECT SCHEMATIC LEGEND**

	PROPOSED	EXISTING
INTERSECTION CONTROLLER		
MASTER CONTROLLER		
MASTER MASTER CONTROLLER		
TELEPHONE CONNECTION		
INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
EXISTING INTERSECTION LOOP DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) PREFORMED DETECTORS		
EXISTING SAMPLING (SYSTEM) DETECTORS; PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.		
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED		
INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED		
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR		
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE		
UNINTERRUPTIBLE POWER SUPPLY		

**SCHEDULE OF QUANTITIES**

QUANTITY	UNIT	ITEM
.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
7344	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
1067	FOOT	CONDUIT PUSH, 2" DIA., GALVANIZED STEEL
13	EACH	HANDHOLE
9223	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C
9360	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM12F & SM12F
1	EACH	MASTER CONTROLLER
4	EACH	DRILL EXISTING HANDHOLE
7344	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**INTERCONNECT SCHEMATIC**  
 IL. RTE. 83 FROM  
 BLUFF RD. TO CENTRAL AVE.  
 SCALE: VERT. 1"=20'  
 HORIZ.  
 DATE 3/16/2007  
 DRAWN BY: BCK  
 DESIGNED BY: BCK  
 CHECKED BY: DAD

EXAMPLE, 2<sup>3</sup> DENOTES 3"<sup>8</sup>

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS		8 INCH UPPER CASE LETTERS		LETTERS	6 INCH LOWER CASE LETTERS	
	C	D	C	D		C	D
A	3 <sup>6</sup>	5 <sup>0</sup>	5 <sup>0</sup>	6 <sup>5</sup>	a	3 <sup>5</sup>	4 <sup>2</sup>
B	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	b	3 <sup>5</sup>	4 <sup>2</sup>
C	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	c	3 <sup>5</sup>	4 <sup>1</sup>
D	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	d	3 <sup>5</sup>	4 <sup>2</sup>
E	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	e	3 <sup>5</sup>	4 <sup>2</sup>
F	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	f	2 <sup>3</sup>	2 <sup>6</sup>
G	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	g	3 <sup>5</sup>	4 <sup>2</sup>
H	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	h	3 <sup>5</sup>	4 <sup>2</sup>
I	0 <sup>7</sup>	0 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	i	1 <sup>1</sup>	1 <sup>1</sup>
J	3 <sup>0</sup>	3 <sup>6</sup>	4 <sup>0</sup>	5 <sup>0</sup>	j	2 <sup>0</sup>	2 <sup>2</sup>
K	3 <sup>2</sup>	4 <sup>1</sup>	4 <sup>3</sup>	5 <sup>4</sup>	k	3 <sup>5</sup>	4 <sup>2</sup>
L	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	l	1 <sup>1</sup>	1 <sup>1</sup>
M	3 <sup>7</sup>	4 <sup>5</sup>	5 <sup>1</sup>	6 <sup>1</sup>	m	6 <sup>0</sup>	7 <sup>0</sup>
N	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	n	3 <sup>5</sup>	4 <sup>2</sup>
O	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>	o	3 <sup>6</sup>	4 <sup>3</sup>
P	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	p	3 <sup>5</sup>	4 <sup>2</sup>
Q	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>	q	3 <sup>5</sup>	4 <sup>2</sup>
R	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	r	2 <sup>6</sup>	3 <sup>2</sup>
S	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	s	3 <sup>6</sup>	4 <sup>2</sup>
T	3 <sup>0</sup>	3 <sup>5</sup>	4 <sup>0</sup>	4 <sup>7</sup>	t	2 <sup>7</sup>	3 <sup>2</sup>
U	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	u	3 <sup>5</sup>	4 <sup>2</sup>
V	3 <sup>5</sup>	4 <sup>4</sup>	4 <sup>7</sup>	6 <sup>0</sup>	v	4 <sup>2</sup>	4 <sup>7</sup>
W	4 <sup>4</sup>	5 <sup>2</sup>	6 <sup>0</sup>	7 <sup>0</sup>	w	5 <sup>5</sup>	6 <sup>4</sup>
X	3 <sup>4</sup>	4 <sup>0</sup>	4 <sup>5</sup>	5 <sup>3</sup>	x	4 <sup>4</sup>	5 <sup>1</sup>
Y	3 <sup>6</sup>	5 <sup>0</sup>	5 <sup>0</sup>	6 <sup>6</sup>	y	4 <sup>6</sup>	5 <sup>3</sup>
Z	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>	z	3 <sup>6</sup>	4 <sup>3</sup>

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>
2	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
3	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
4	3 <sup>5</sup>	4 <sup>3</sup>	4 <sup>7</sup>	5 <sup>7</sup>
5	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
6	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
7	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
8	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
9	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
0	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>

REVISIONS	
NAME	DATE
D.A.Z./D.A.C.	11/90
	6/98
CADD	10/00

Illinois Department of Transportation  
DISTRICT 1  
**MAST ARM MOUNTED STREET NAME SIGNS**  
SCALE: NONE  
DATE: 3/16/2007  
DRAWN BY: ROB  
DESIGNED BY: JHE  
CHECKED BY: DAD

Upper Case To Lower Case  
Spacing Chart 8-6 Inch Series "C & D"

SERIES	SECOND LETTER															
	a c d e		b h k l		f w		J		s t		v y		x		z	
	g	o	q	m	n	p	r	u								
A W X	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
B	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>
C E G	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
D O Q R	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
F	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>4</sup>	1 <sup>5</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>
H I M N	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>4</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>
J U	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>0</sup>	2 <sup>1</sup>
K L	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
P	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
S	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>						
T	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>6</sup>	1 <sup>7</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
V	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>						
Y	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>4</sup>	1 <sup>5</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>5</sup>	0 <sup>7</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>
Z	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>0</sup>	2 <sup>1</sup>

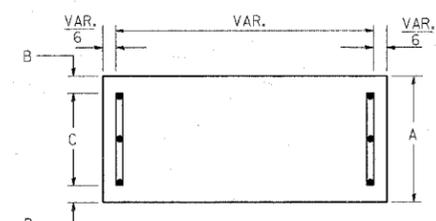
Lower Case To Lower Case  
Spacing Chart 6 Inch Series "C & D"

SERIES	SECOND LETTER															
	a d h g l j		b f k o p s		c e		r		t z		v y		w		x	
	i	m	n	q												
ad h g l j	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
bf k o p s	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
c e	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>						
r	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>3</sup>	0 <sup>3</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>
t z	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>
v y	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	0 <sup>6</sup>	1 <sup>0</sup>	0 <sup>6</sup>	1 <sup>0</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>
w	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>
x	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>1</sup>	1 <sup>2</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>2</sup>	1 <sup>4</sup>

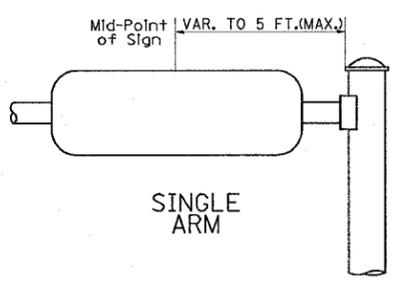
Number To Number  
Spacing Chart 8 Inch Series "C & D"

SERIES	SECOND NUMBER																			
	0		1		2		3		4		5		6		7		8		9	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
1	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>
2 3 4	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>
5	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
6	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
7	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>
8	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>

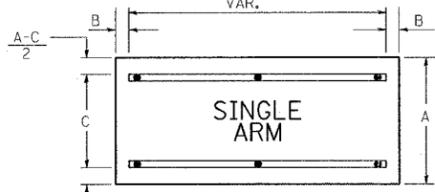
SUPPORTING CHANNELS



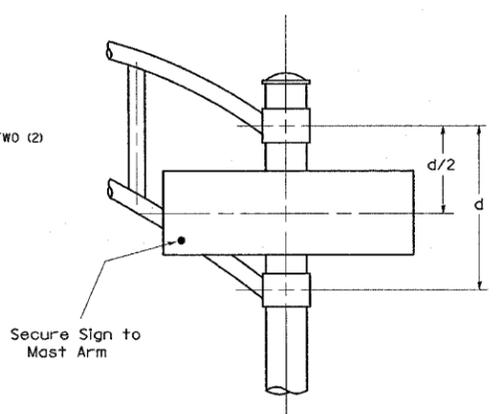
A	B	C
18"	2"	14"



SUPPORTING CHANNELS



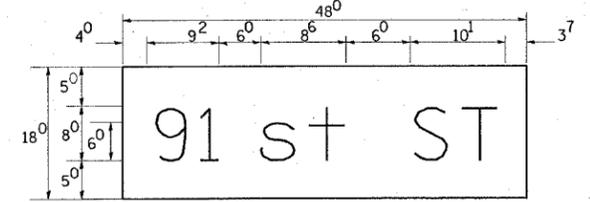
A	B	C
18"	2"	12"
30"	2"	22"



DUAL ARM

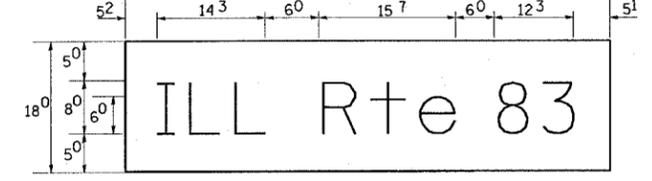
SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM  
Shall be used. See Note #5.

PANEL SIGN DESIGN TYPE 1



\_\_\_ Sq. M. each  
\_\_\_ 6 Sq. Ft. each  
\_\_\_ 2 Required  
Design Series D

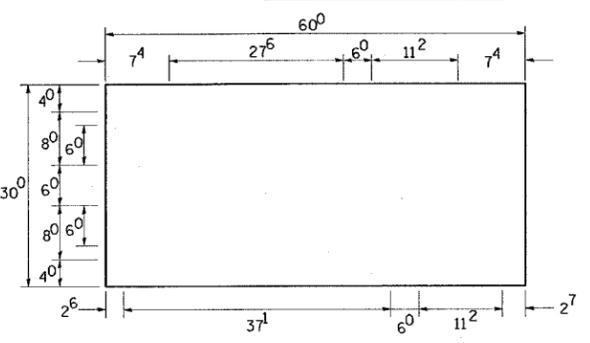
PANEL SIGN DESIGN TYPE 2



\_\_\_ Sq. M. each  
\_\_\_ 8.25 Sq. Ft. each  
\_\_\_ 2 Required  
Design Series D

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

PANEL SIGN DESIGN TYPE 2



\_\_\_ Sq. M. each  
\_\_\_ Sq. Ft. each  
\_\_\_ Required  
Design Series \_\_\_

