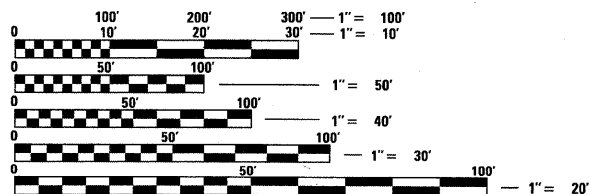


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**IDOT STANDARDS:**

- 701101-02 OFF-ROAD OPERATIONS, MULTILANE, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
- 701106-02 OFF-ROAD OPERATIONS, 2L 2W, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
- 701421-03 LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS > 45 MPH TO 55 MPH
- 701501-06 URBAN LANE CLOSURE, 2L 2W, UNDIVIDED
- 701701-07 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701901-01 TRAFFIC CONTROL DEVICES
- 720001-01 SIGN PANEL MOUNTING DETAILS
- 814001-02 HANDHOLES
- 814006-02 DOUBLE HANDHOLES
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 877001-04 STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
- 877011-04 STEEL COMB. MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
- 878001-08 CONCRETE FOUNDATION DETAILS
- 880001-01 SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS
- 886001-01 DETECTOR LOOP INSTALLATION



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 LOCATING INFORMATION FOR EXCAVATORS  
1-800-892-0123  
OR 811

**CONTRACT NO. 60L80**

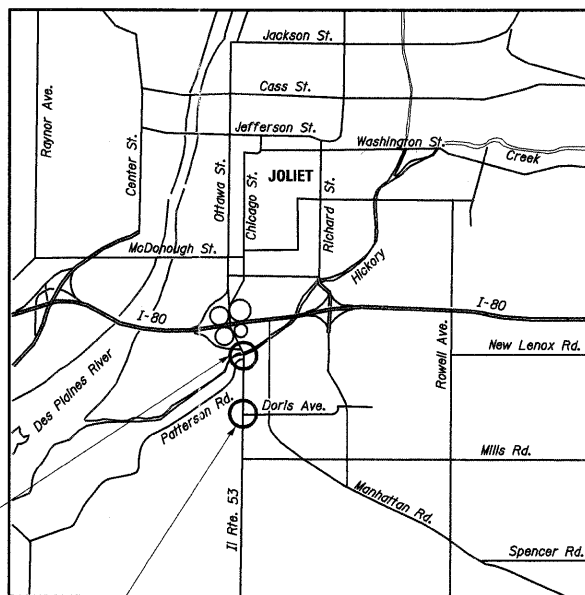
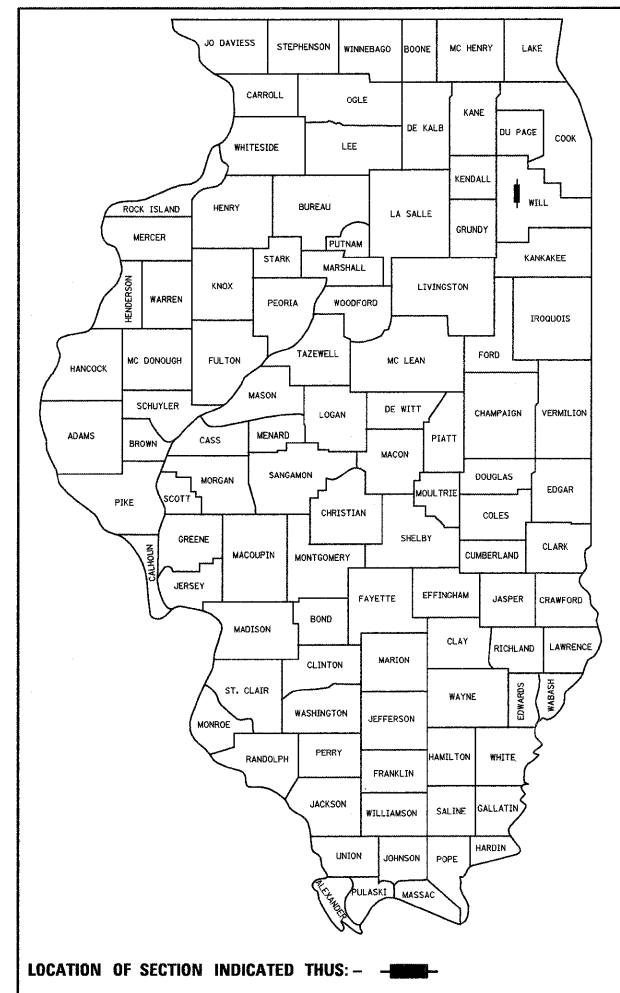
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**

**FAP 846 (US 52/IL 53) DISTRICT 1  
HIGHWAY SAFETY IMPROVEMENT PROJECT  
IL ROUTE 53 (CHICAGO STREET) / U.S. 52  
DORIS AVENUE TO PATTERSON ROAD  
WILL COUNTY**

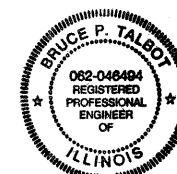
*PROJECT: HSIP-0846(023)*

**SECTION 2010-085-TS  
C-91-024-11**



**IL ROUTE 53 @  
PATTERSON ROAD**

**IL ROUTE 53 @  
DORIS AVENUE**      **LOCATION MAP**



*Bruce P. Talbot 8/24/11*  
LICENSE EXPIRES NOVEMBER 30, 2011  
(ALL SHEETS EXCEPT 18-20)

LICENSE EXPIRES NOVEMBER 30, 2011  
(SHEETS 18-20)

PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9675  
Ph: 630.862.2100 Fax: 630.862.2199  
E-Mail: cadd@cemcon.com Website: www.cemcon.com

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED Aug 25 20 11

Deane M. O'Keefe  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 14 20 11  
Scott E. Stitt, P.E.  
acting ENGINEER OF DESIGN AND ENVIRONMENT

October 14 20 11  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

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

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2007 (HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS"); THE LATEST "SUPPLEMENTAL SPECIFICATIONS" AND "RECURRING SPECIAL PROVISIONS"; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
2. ANY REFERENCE TO THE STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED AS THE LATEST STANDARD OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.
3. THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. (1-800-892-0123) AT LEAST 10 DAYS PRIOR TO CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. ALL UTILITIES MUST BE NOTIFIED AND STAKED PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PLANS AND SHALL NOTIFY THE ENGINEER AT ONCE OF ANY DISCREPANCIES.
5. THE CONTRACTOR IS REQUIRED TO ATTEND AN ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT) PRECONSTRUCTION MEETING AND SHALL INFORM THE IDOT TRAFFIC ENGINEER BEFORE WORK COMMENCES.
6. THE CONTRACTOR SHALL KEEP PUBLIC STREET PAVEMENTS CLEAN OF DIRT AND DEBRIS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE IN PROVIDING SAFE AND HEALTHFUL CONDITIONS THROUGHOUT THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND AND SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE DAMAGE INCURRED. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE.
9. THE TRAFFIC CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
10. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS AND SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS 252 AND 250, RESPECTIVELY.
11. CONTROLLER CABINETS SHALL BE PLACED SO THAT a) THE DOORS OPEN AWAY FROM THE CURB OR TRAVEL WAY., b) AND THE TRAFFIC MOVEMENTS AT THE INTERSECTION ARE VISIBLE FROM THE CONTROLLER.
12. ANY CONTROLLER CABINET WHETHER NEW OR EXISTING TO RECEIVE UPS, WILL HAVE A "L" SHAPED 4 FOOT CONCRETE MAINTENANCE PAD INSTALLED. SEE PLANS FOR DETAIL. THE COST OF INSTALLATION OF CONCRETE PAD IS INCIDENTAL TO NEW CONTROLLER AND OR UPS INSTALLATIONS.
13. THE GENERAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENTAL ENGINEERING FIRM TO CONTINUOUSLY MONITOR FOR WORKER SAFETY AND SOIL CONTAMINATION AT SEVERAL AREAS. SEE SPECIAL PROVISION AND SUPPLEMENTAL SPECIFICATIONS FOR DETAILS.

PREPARED BY:

**CEMCON, Ltd.**  
*Consulting Engineers, Land Surveyors & Planners*  
 2280 White Oak Circle, Suite 100  
 Aurora, Illinois 60504-9675  
 Ph: 630.862.2100 Fax: 630.862.2199  
 E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	2010-085-TS	WILL	28	2
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	

FILE NAME = MICROST\352090\ 02-GENNOTES.DGN	USER NAME = JGC	DESIGNED - KK	REVISED -
		DRAWN - JGC	REVISED -
		CHECKED - BPT	REVISED -
		DATE - 6-20-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES**  
**IL 53 (CHICAGO STREET) / U.S. 52 (DORIS AVE. TO PATTERSON RD.)**

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

CONTRACT NO. 60F98	
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SUMMARY OF QUANTITIES			90% FED / 10% STATE	CONSTRUCTION TYPE CODE 0020	CONSTRUCTION TYPE CODE 0021			
PAY CODE NUMBER	ITEM	UNIT	URBAN TOTAL QUANTITY	QUANTITY	SIGNING	IL ROUTE 53 AT DORIS SIGNALS	IL ROUTE 53 AT PATTERSON SIGNALS	ROADWAY LIGHTING
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	10	10				
* 66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1				
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	8	8				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4			2	2	
67100100	MOBILIZATION	L SUM	1			0.5	0.5	
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1			0.5	0.5	
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1			0.5	0.5	
* 72000100	SIGN PANEL, TYPE 1	SQ FT	211.5		180	13.5	18	
* 72400310	REMOVE SIGN PANEL- TYPE 1	SQ FT	211.5		180	13.5	18	
* 78000650	THERMOPLASTIC PAVEMENT MARKING- LINE 24"	FOOT	163			82	81	
<b>78300100</b>	<b>PAVEMENT MARKING REMOVAL</b>	<b>SQ FT</b>	<b>264</b>			<b>164</b>	<b>100</b>	
80400100	ELECTRIC SERVICE INSTALLATION	EACH	1					1
80400200	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1					1
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	62				62	
81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	98			8	90	
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	250					250
81100320	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., PVC COATED GALVANIZED STEEL	FOOT	800					800
81100805	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., PVC COATED GALVANIZED STEEL	FOOT	75					75
81300220	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" X 6" X 4"	EACH	12					12
81300530	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"	EACH	4					4
81300730	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 14" X 6"	EACH	5					5
<b>81603081</b>	<b>UNIT DUCT, 600V, 3-1C NO.2, 1/C NO.4 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE</b>	<b>FOOT</b>	<b>2000</b>					<b>2000</b>
81702110	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	1000					1000
81702400	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3 -1/C NO. 2	FOOT	125					125
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	2160			8	152	2000
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	12					12
82107100	UNDERPASS LUMINAIRE, 70 WATT, HIGH PRESSURE SODIUM VAPOR	EACH	4					4
82107200	UNDERPASS LUMINAIRE, 100 WATT, HIGH PRESSURE SODIUM VAPOR	EACH	8					8
83050800	LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 12 FT. MAST ARM	EACH	10					10
<b>X8360360</b>	<b>LIGHT POLE FOUNDATION METAL, 15" BOLT CIRCLE, 10" X 8"</b>	<b>EACH</b>	<b>10</b>					<b>10</b>
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	10					10
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2			1	1	
<b>X8570225</b>	<b>FULL-ACTUATED CONTROLLER AND CABINET, TYPE IV, SPECIAL</b>	<b>EACH</b>	<b>1</b>				1	
<b>X8570230</b>	<b>FULL-ACTUATED CONTROLLER AND CABINET, TYPE V, SPECIAL</b>	<b>EACH</b>	<b>1</b>			1		
86000100	MASTER CONTROLLER	EACH	1			1		
86200120	UNINTERRUPTIBLE POWER SUPPLY	EACH	2			1	1	
86400100	TRANSCEIVER- FIBER OPTIC	EACH	2			1	1	
87300010	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	5			5		
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	86				86	
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	200			200		
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2156			514	1642	
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	55				55	
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	54				54	
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	799			409	390	
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	3				3	
87700150	STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	1				1	
87702860	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 26 FT.	EACH	1				1	
87702910	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 36 FT.	EACH	1			1		
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	13.5				13.5	
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	27			13.5	13.5	
87900200	DRILL EXISTING HANDHOLE	EACH	9			1	8	
88030010	SIGNAL HEAD, LED, 1-FACE, 1-SECTION, MAST-ARM MOUNTED	EACH	2				2	
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	9			5	4	
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION BRACKET MOUNTED	EACH	6			3	3	
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	1			1		
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION BRACKET MOUNTED	EACH	2				2	
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MOUNTED	EACH	1			1		
88040030	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, POST MOUNTED	EACH	2				2	
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	12			6	6	
88500100	INDUCTIVE LOOP DETECTOR	EACH	7			3	4	
88600100	DETECTOR LOOP, TYPE 1	FOOT	124				124	
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	3551			248	3303	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2			1	1	
89502380	REMOVE EXISTING HANDHOLE	EACH	1			1		
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	4			1	3	
<b>Z0033020</b>	<b>LUMINAIRE SAFETY CABLE ASSEMBLY</b>	<b>EACH</b>	<b>1</b>					<b>1</b>
X0326885	VIDEO DETECTION SYSTEM	EACH	1			1		
X8360215	LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	10					10
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	102.8			51.4	51.4	
Z0033044	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL I	EACH	5			2	3	
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1					1
<b>82500610</b>	<b>LIGHTING CONTROLLER, SINGLE DOOR, CONSOLE TYPE</b>	<b>EACH</b>	<b>1</b>					<b>1</b>
<b>X8730104</b>	<b>ELECTRIC CABLE IN CONDUIT NO. 10 2/C</b>	<b>FOOT</b>	<b>1597</b>				1597	

\* Specialty Items

FILE NAME = \MICROST\3528090\03-SUMMARY.DGN  
 USER NAME = JGC  
 PLOT SCALE = NONE  
 PLOT DATE = 7-14-11

DESIGNED - KK	REVISD -
DRAWN - JGC	REVISD -
CHECKED - BPT	REVISD -
DATE - 7-14-11	REVISD -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES  
 IL 53 (CHICAGO STREET) / U.S. 52 (DORIS AVE. TO PATTERSON RD.)  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY:  
**CEMCON, Ltd.**  
 Consulting Engineers, Land Surveyors & Planners  
 2280 White Oak Circle, Suite 100  
 Aurora, Illinois 60504-9675  
 Ph: 630.862.2100 Fax: 630.862.2199  
 E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE. 846	SECTION 2010-085-TS	COUNTY WILL	TOTAL SHEETS 28	SHEET NO. 3
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60L80	

STATION		SIGN PANEL TYPE 1 REMOVAL (SQ. FT)	SIGN ID #	SIZE (INCHES)	SIGN PANEL TYPE 1 (SQ.FT)	COMMENTS
96+52.00	RT	2.2	M6-3	21 x 15	2.2	
96+52.00	RT	5.0	I1-I106	24 x 30	5.0	
96+52.00	RT	2.2	M6-6R	21 x 15	2.2	
96+52.00	RT	2.2	M6-3	21 x 15	2.2	
96+52.00	RT	4.0	M1-4	24 x 24	4.0	
96+52.00	RT	4.0	M1-I100	24 x 24	4.0	
96+52.00	RT	4.0	M1-4	24 x 24	4.0	
96+52.00	RT	2.2	M6-1	21 x 15	2.2	
96+85.00	LT	13.5	D1-1	VAR x 18	6.8	8" CAPS,6" LOWER CASE, MA MOUNTED SIGN
96+85.00	LT	2.0	M3-3	24 x 12	2.0	MOUNT ON MA POLE
96+85.00	LT	4.0	M1-I100	24 x 24	4.0	MOUNT ON MA POLE
97+15.00	RT	4.0	M1-4	24 x 24	4.0	MOUNT ON MA POLE
97+15.00	RT	4.0	M1-I100	24 x 24	4.0	MOUNT ON MA POLE
97+15.00	RT	2.0	M3-1	24 x 12	2.0	MOUNT ON MA POLE
97+15.00	RT	2.0	M3-4	24 x 12	2.0	MOUNT ON MA POLE
97+15.00	RT	13.5	D1-1	VAR x 18	6.8	8" CAPS,6" LOWER CASE, MA MOUNTED SIGN
97+05.00	LT	9.0	D1-3	VAR X 30	9.0	4" CAPS
98+55.00	RT	7.5	R2-1	30 x 36	7.5	
98+55.00	LT	4.0	M1-4	24 x 24	4.0	
98+55.00	LT	4.0	M1-I100	24 x 24	4.0	
98+55.00	LT	2.2	M6-1	21 x 15	2.2	
98+55.00	LT	2.2	M6-3	21 x 15	2.2	
98+55.00	LT	5.0	I1-I106	24 x 30	5.0	
98+55.00	LT	2.2	M6-3	21 x 15	2.2	
99+16.00	LT	9.0	D1-2	VAR x 24	9.0	4" CAPS
100+75.00	RT	2.0	M3-2	24 x 12	2.0	
100+75.00	RT	2.0	M3-4	24 x 12	2.0	
100+75.00	RT	4.0	M1-1	24 x 24	4.0	
100+75.00	RT	4.0	M1-1	24 x 24	4.0	
100+75.00	RT	2.2	M5-4	21 x 15	2.2	
100+75.00	RT	2.2	M5-6	21 x 15	2.2	
104+50.00	LT	9.0	W11-10	36 x 36	9.0	
105+50.00	LT	4.0	M1-4	24 x 24	4.0	
105+50.00	LT	4.0	M1-I100	24 x 24	4.0	
105+50.00	LT	2.2	M6-3	21 x 15	2.2	
105+50.00	LT	2.2	M5-1L	22 x 15	2.2	
107+61.00	RT	9.0	W6-1	36 x 36	9.0	
109+19.00	LT	9.0	D7-1	VAR x 30	8.0	6" CAPS, 8" NUMBER
110+00.00	LT	9.0	D1-1	VAR x 18	9.0	8" CAPS,6" LOWER CASE, MA MOUNTED SIGN
110+25.00	RT	8.0	W1-7	48 x 24	8.0	
110+35.00	RT	9.0	D1-1	VAR x 18	9.0	8" CAPS,6" LOWER CASE, MA MOUNTED SIGN
110+77.80	RT	2.0	M3-2	24 x 12	2.0	MOUNT ON EX. LIGHT POLE
110+77.80	RT	2.0	M3-4	24 x 12	2.0	MOUNT ON EX. LIGHT POLE
110+77.80	RT	4.0	M1-1	24 x 24	4.0	MOUNT ON EX. LIGHT POLE
110+77.80	RT	4.0	M1-1	24 x 24	4.0	MOUNT ON EX. LIGHT POLE
110+77.80	RT	2.2	M5-1L	21 x 15	2.2	MOUNT ON EX. LIGHT POLE
110+77.80	RT	2.2	M6-3	21 x 15	2.2	MOUNT ON EX. LIGHT POLE
113+94.00	LT	2.0	M3-2	24 x 12	2.0	
113+94.00	LT	2.0	M3-3	24 x 12	2.0	
113+94.00	LT	4.0	M1-4	24 x 24	4.0	
113+94.00	LT	4.0	M1-I100	24 x 24	4.0	

FILE NAME = \\MICROST\3520090\04-SIGN SCHEDULE.DGN	USER NAME = JGC	DESIGNED - KK	REVISED -
		DRAWN - JGC	REVISED -
		CHECKED - BPT	REVISED -
		DATE - 6-20-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>SIGN SCHEDULE</b>			
<b>IL. 53 (CHICAGO STREET) / U.S. 52 (DORIS AVE. TO PATTERSON RD.)</b>			
SCALE: N.T.S.	SHEET NO.	OF	SHEETS
		STA.	TO STA.

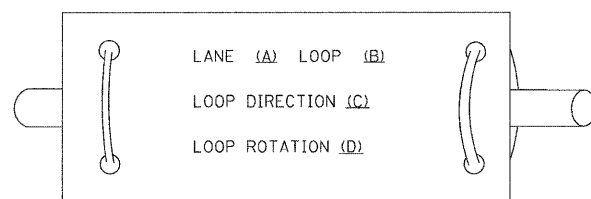
PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9675  
Ph: 630.862.2100 Fax: 630.862.2199  
E-Mail: ccd@cemcon.com Website: www.cemcon.com

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	2010-085-TS	WILL	28	4
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 60L80	

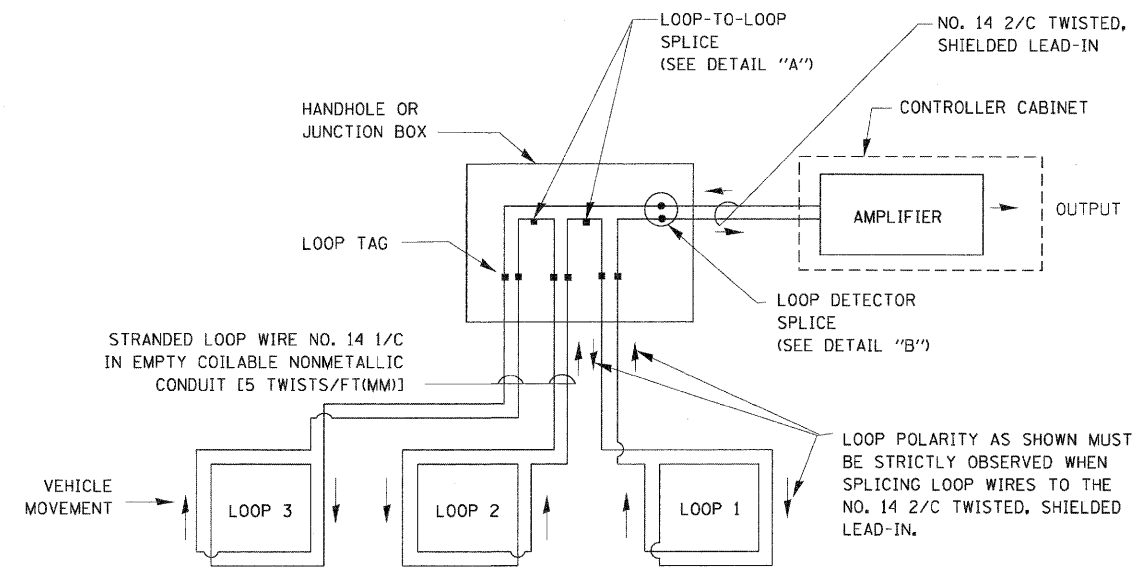
**LOOP DETECTOR NOTES**

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
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 DIVESHOLES 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**

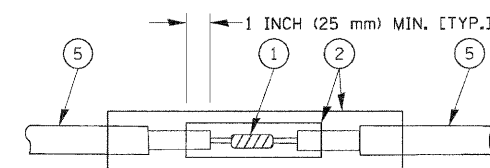


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

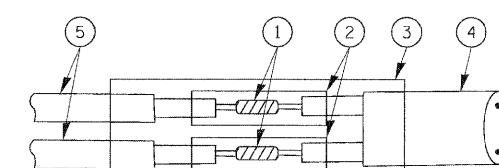


**DETECTOR LOOP WIRING SCHEMATIC**

- 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.

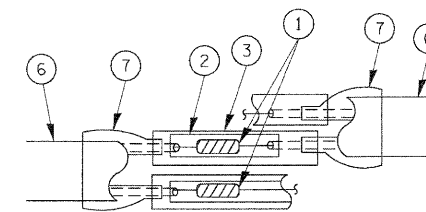


**DETAIL "A" LOOP-TO-LOOP SPLICE**

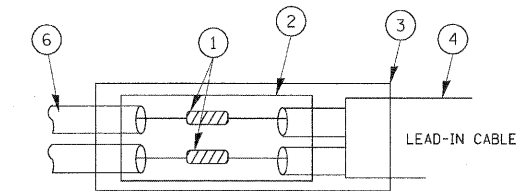


**DETAIL "B" LOOP-TO-CONTROLLER SPLICE**

**TYPE I LOOP**



**DETAIL "A" LOOP-TO-LOOP SPLICE**



**DETAIL "B" LOOP-TO-CONTROLLER SPLICE**

**LOOP DETECTOR SPLICE**

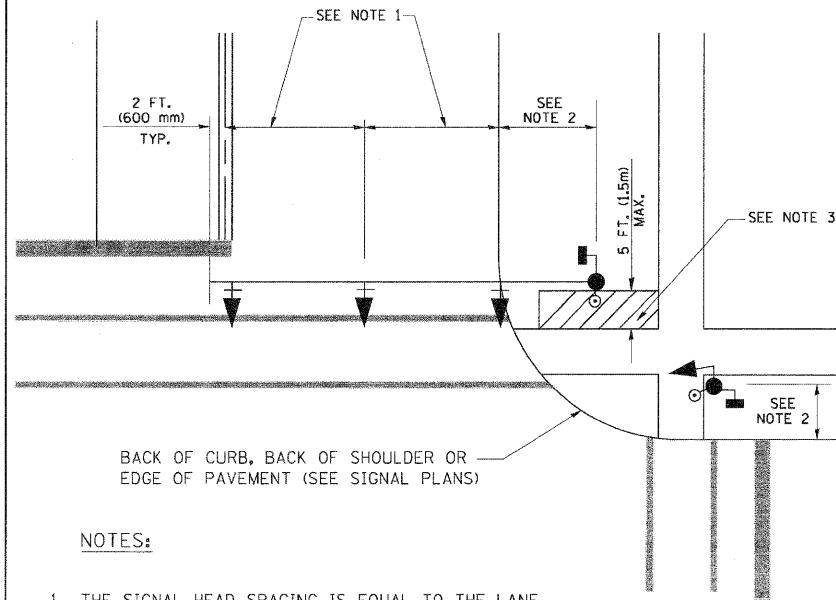
- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED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

FILE NAME =	USER NAME = kanthaphixaybc	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE. 846	SECTION 2010-085- TS	COUNTY WILL	TOTAL SHEETS 28	SHEET NO. 5	
c:\pwork\p\1007\KANTHAPHIXAYBC\201126	4\traffic\legend.v7.dgn	DRAWN - BCK	REVISED -			SCALE:	SHEET NO. 1 OF 6 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
	PLOT SCALE = 20,0000 ' / ' IN.	CHECKED - DAD	REVISED -							CONTRACT NO. 60L80	
	PLOT DATE = 10/6/2009	DATE - 10/28/09	REVISED -								



**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**

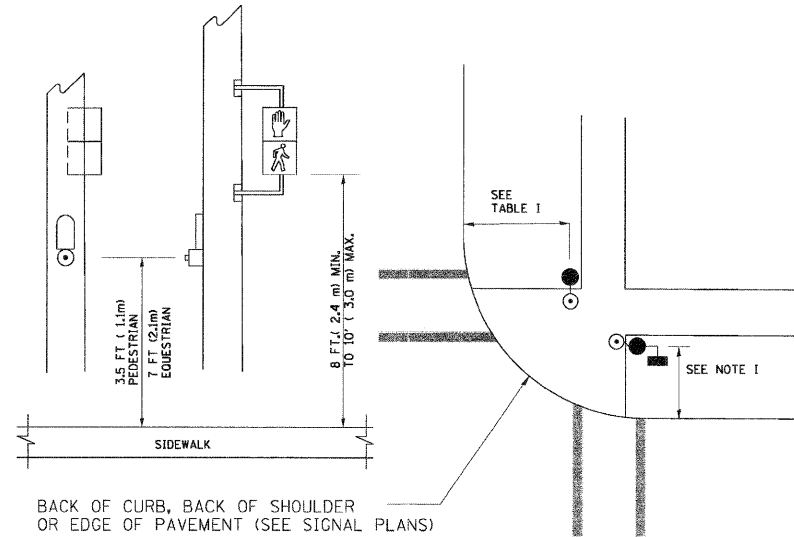
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



**NOTES:**

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

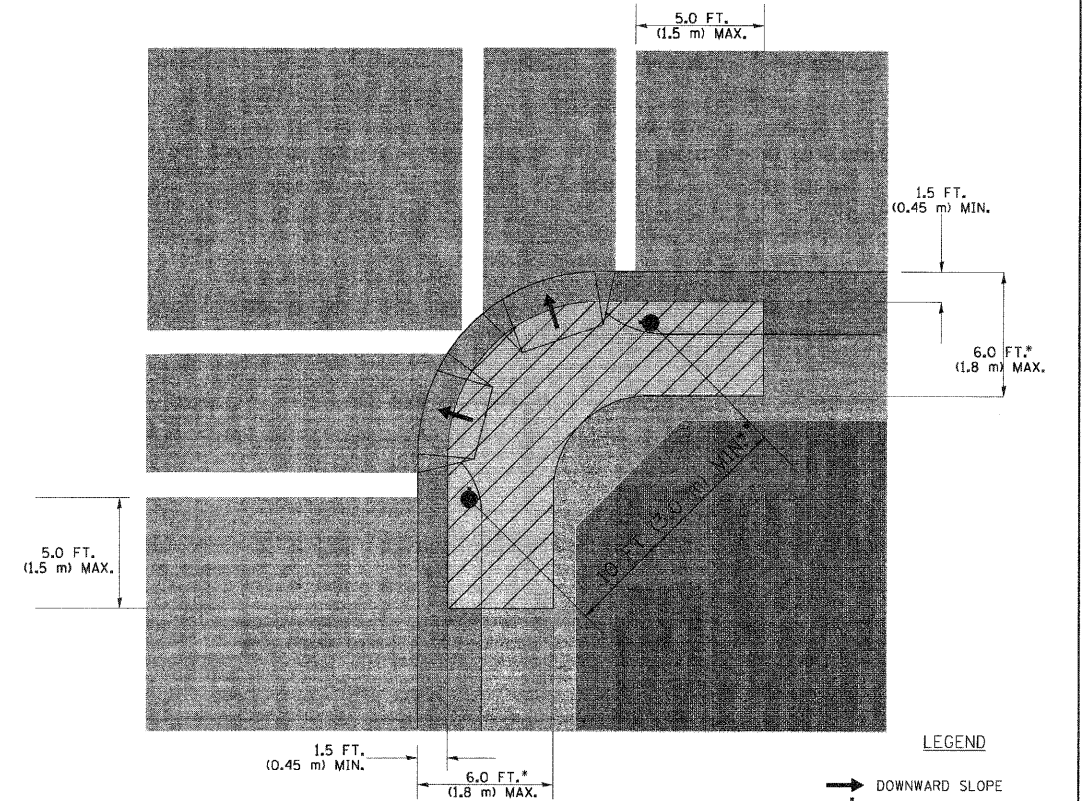
**PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

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

**RECOMMENDED PUSHBUTTON LOCATIONS**



**LEGEND**

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- ▨ RECOMMENDED PUSHBUTTON LOCATIONS

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

**NOTES:**

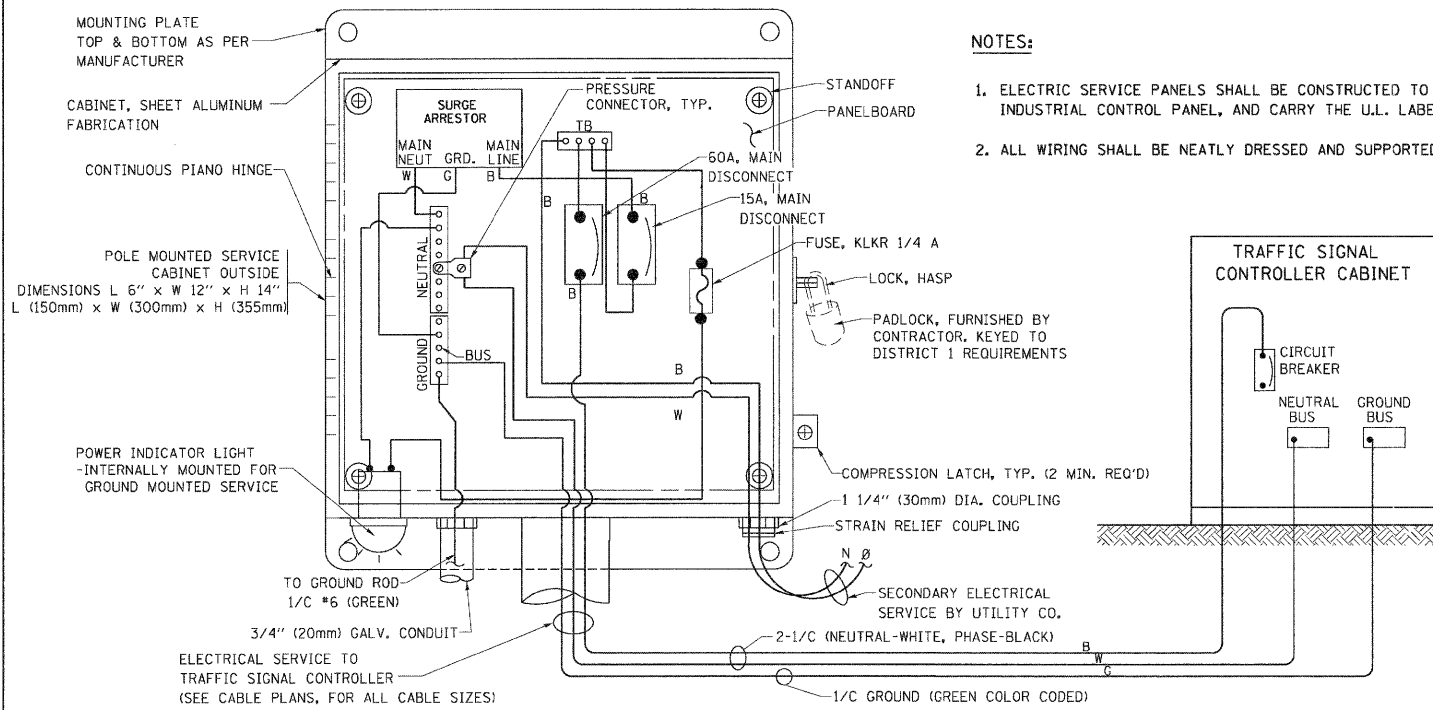
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM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

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

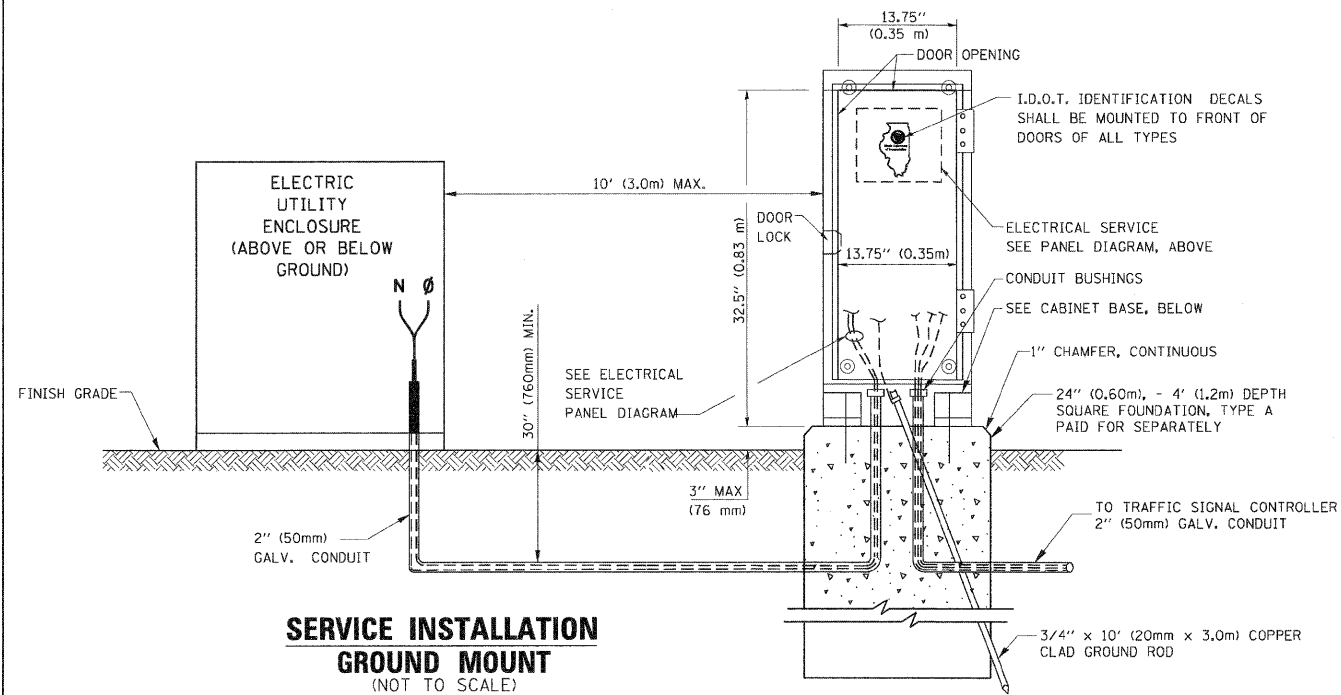
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10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

**NOTES:**

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

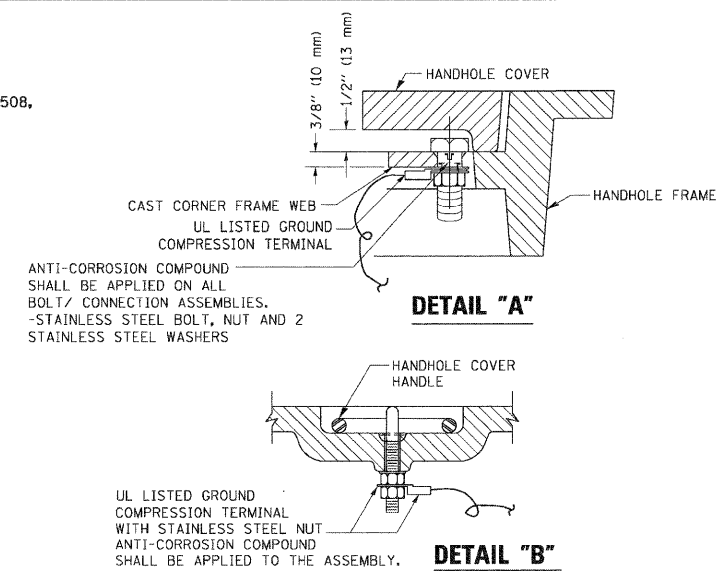
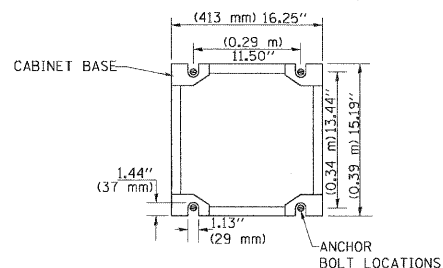


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



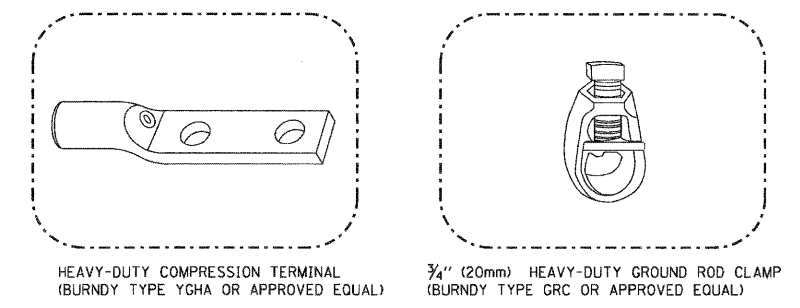
**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)

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

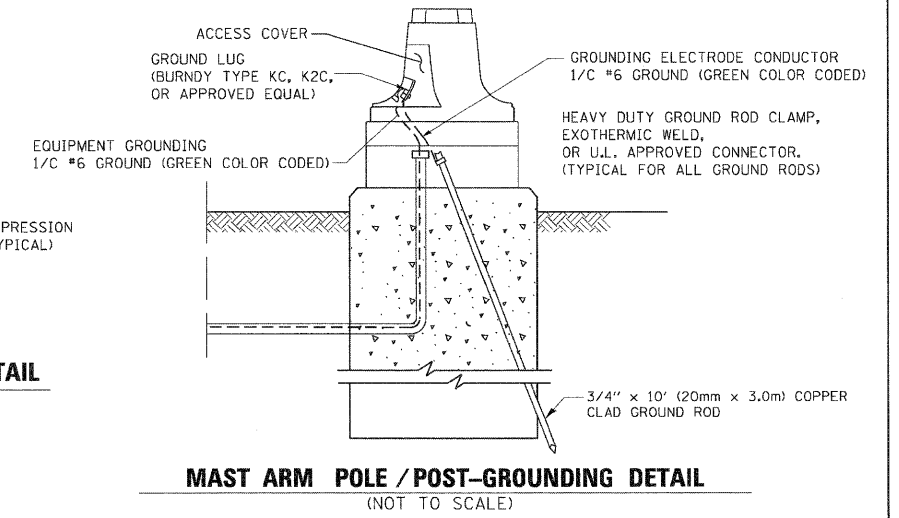
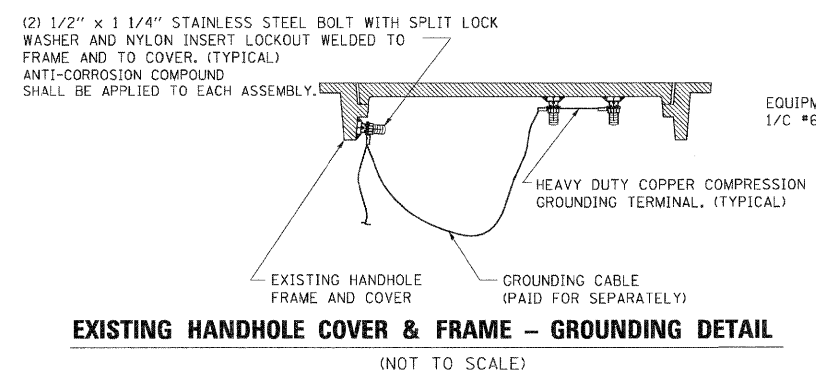
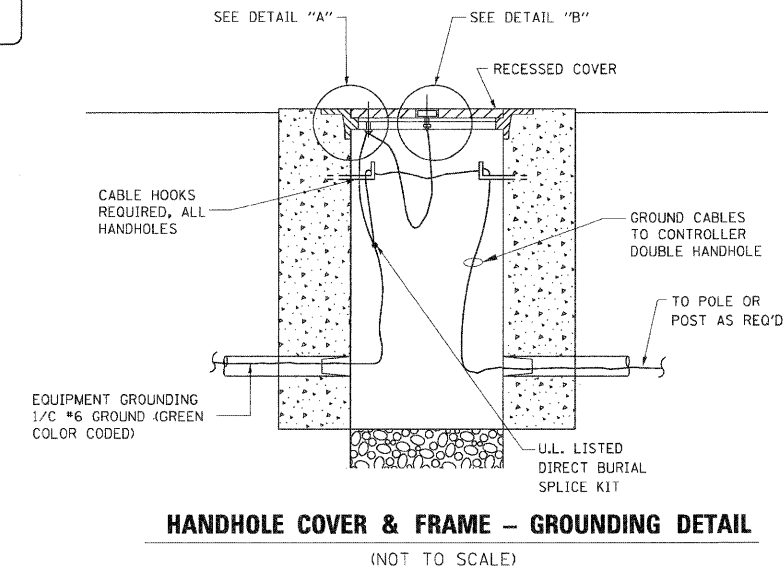


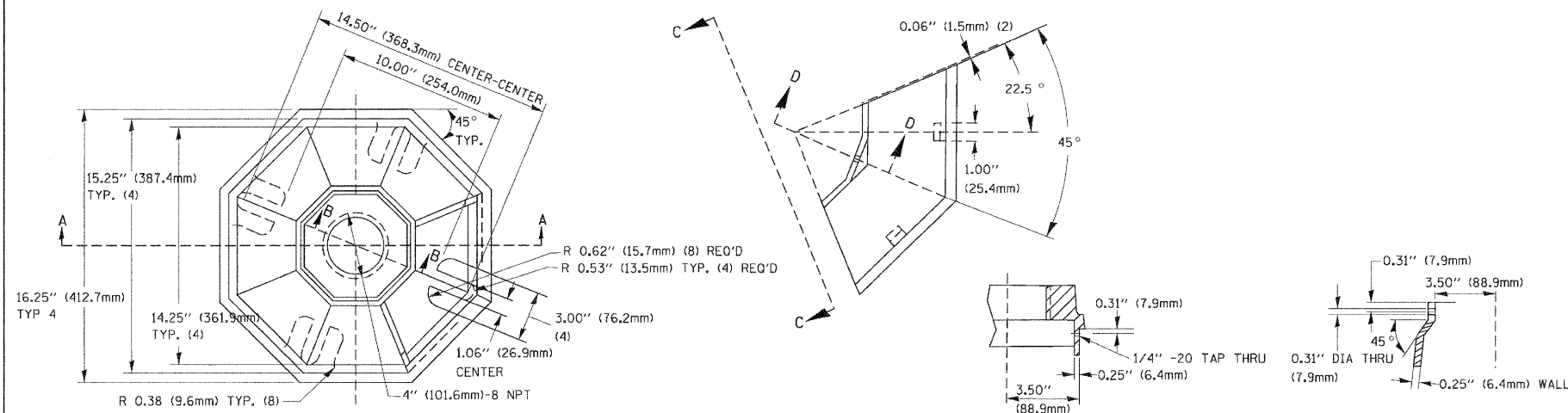
**NOTES:**  
**GROUNDING SYSTEM**

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



- 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.

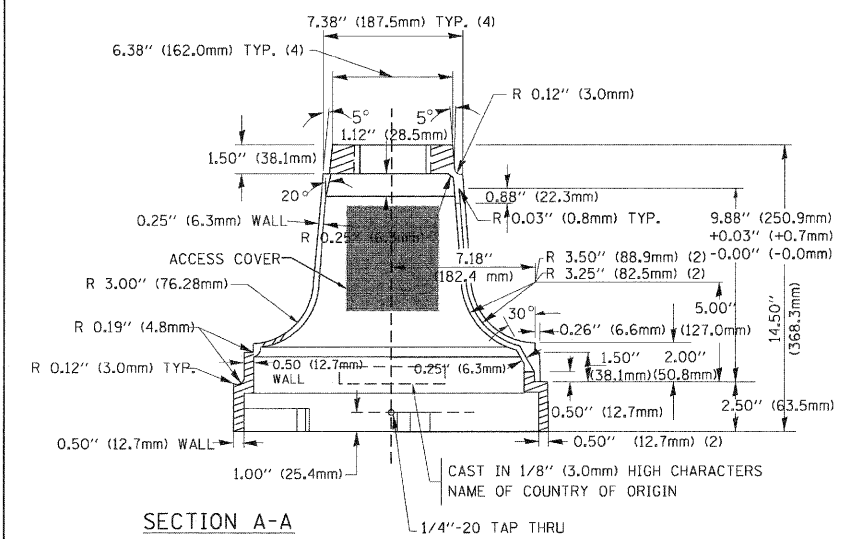




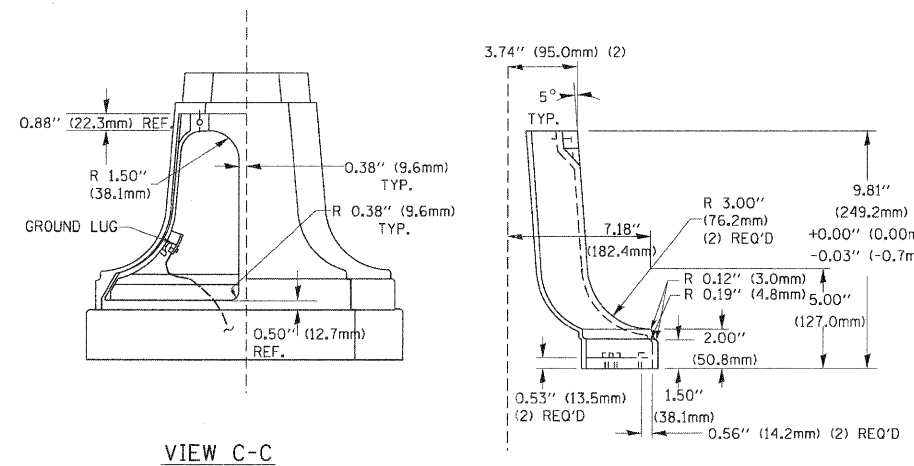
TOP VIEW

SECTION B-B

SECTION D-D

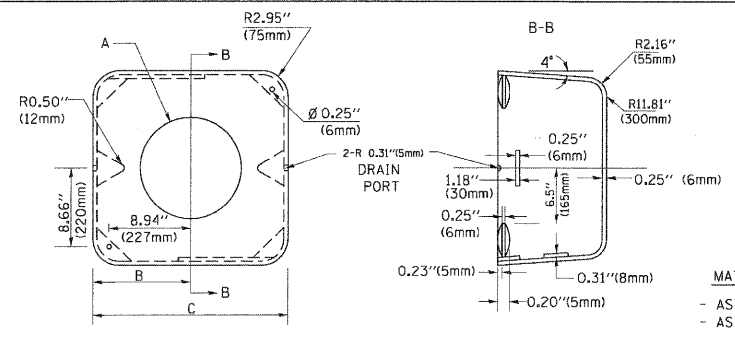


SECTION A-A



VIEW C-C

TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

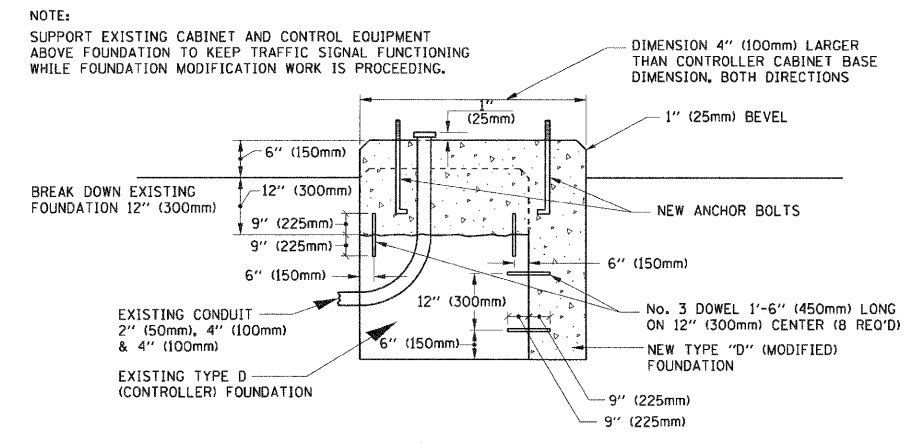


SHROUD

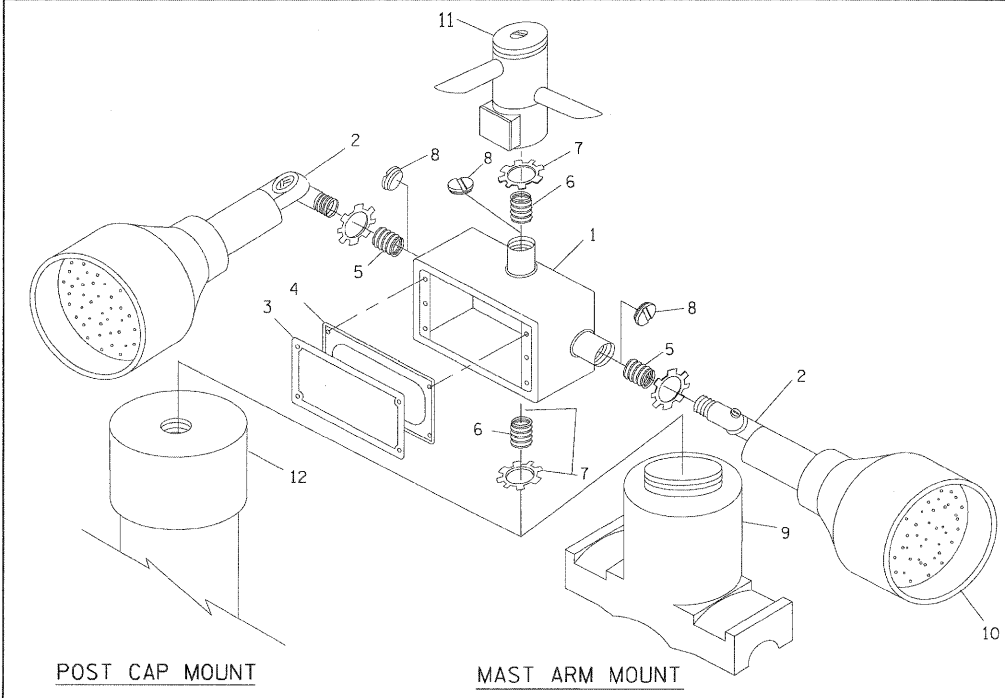
A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\"(241mm)	19\"(483mm)	7\"(178mm) - 12\"(300mm)	53 lbs (24kg)
VARIABLES	10.75\"(273mm)	21.5\"(546mm)	7\"(178mm) - 12\"(300mm)	68 lbs (31 kg)
VARIABLES	13.0\"(330mm)	26\"(660mm)	7\"(178mm) - 12\"(300mm)	81 lbs (37 kg)
VARIABLES	18.5\"(470mm)	37\"(940mm)	7\"(178mm) - 12\"(300mm)	126 lbs (57 kg)

NOTES:

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



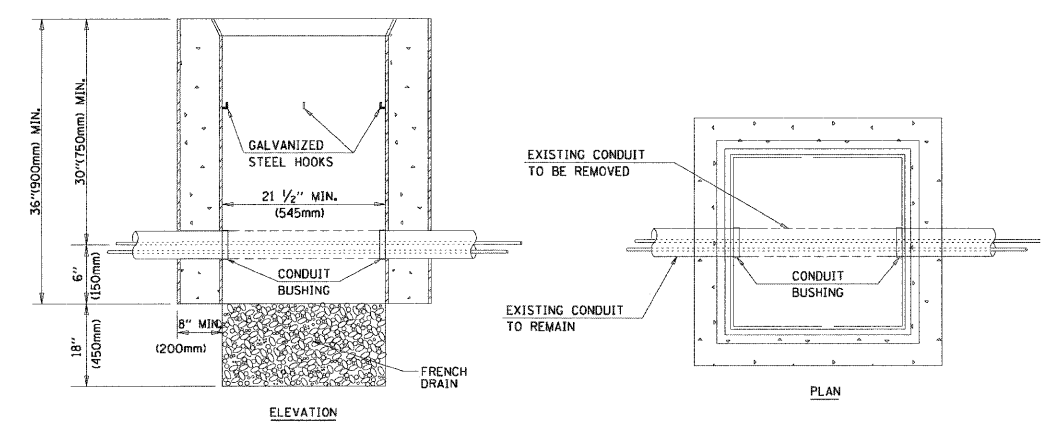
MODIFY EXISTING TYPE "D" FOUNDATION



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

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. 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
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.

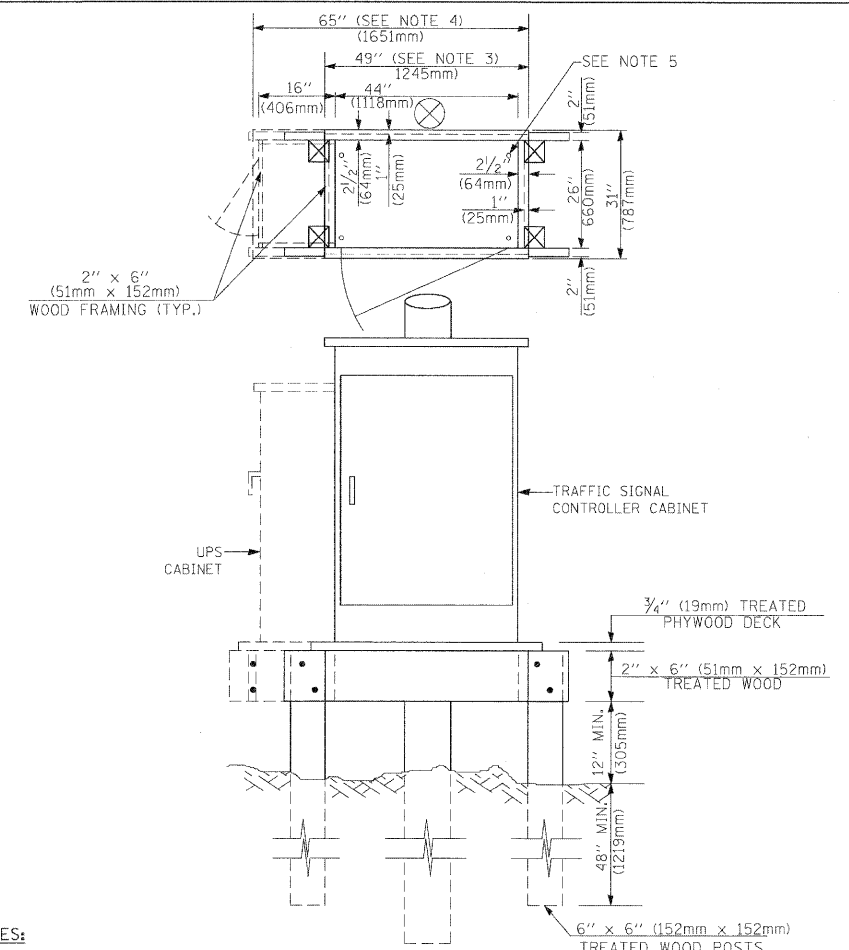
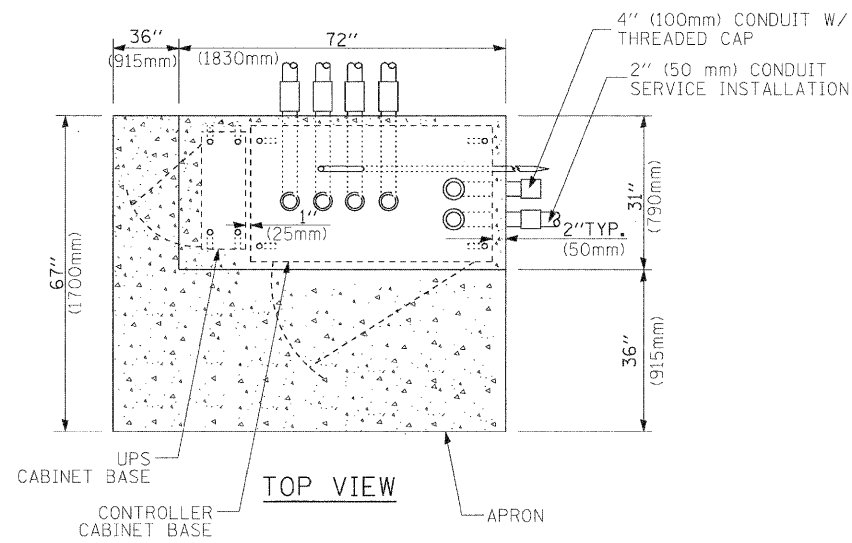
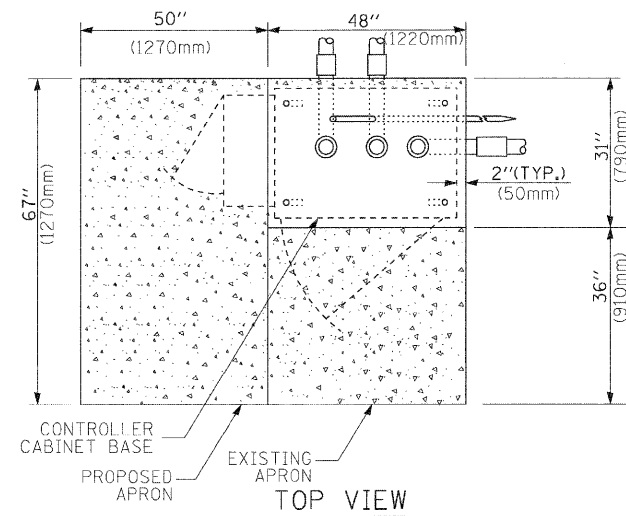


NOTES:

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

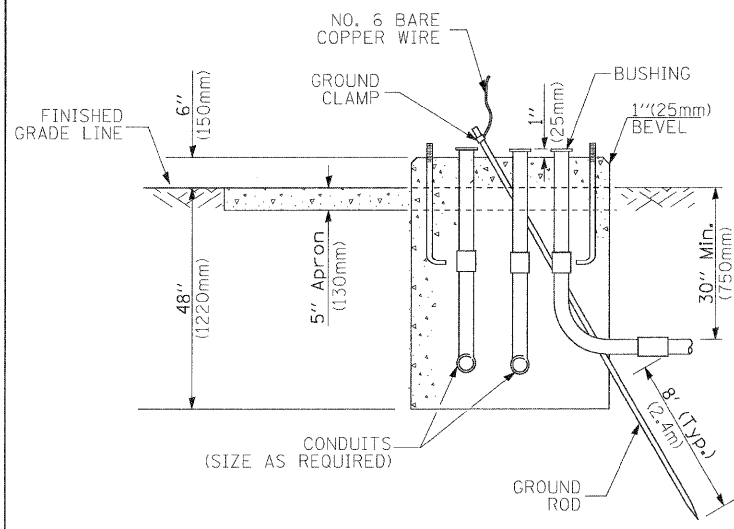
HANDHOLE TO INTERCEPT EXISTING CONDUIT



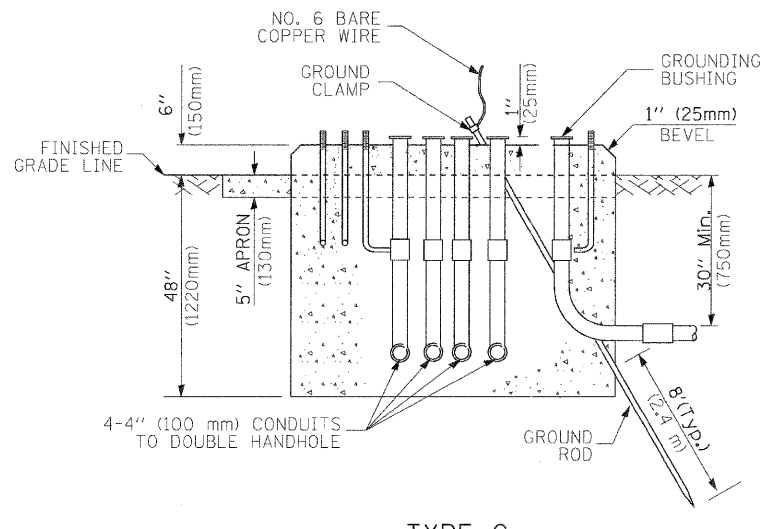


- NOTES:**
1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET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

**TEMPORARY SIGNAL CONTROLLER WOOD SUPPORT PLATFORM**



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



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

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

**CABLE SLACK**

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

**VERTICAL CABLE LENGTH**

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

**DEPTH OF FOUNDATION**

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

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

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

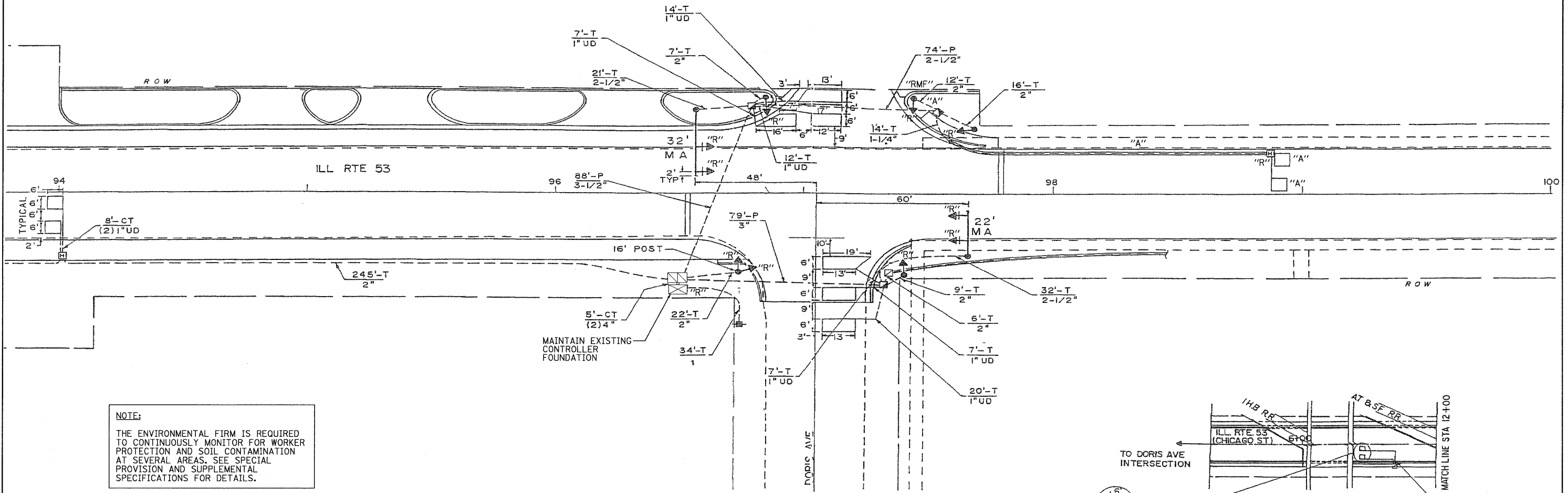
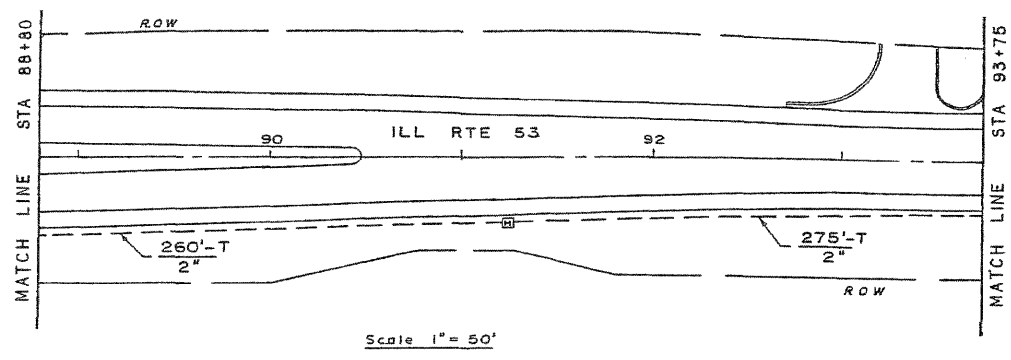
# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED																	
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE																				
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE																				
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA																				
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED																				
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F																				
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F																				
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)																				
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE																				
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED																				
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED																				
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED																				
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED																				
SIGNAL POST				REMOVE ITEM				SIGNAL POST AND FOUNDATION TO BE REMOVED																				
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM				INTERSECTION & SAMPLING (SYSTEM) DETECTOR																				
GUY WIRE				ABANDON ITEM				SAMPLING (SYSTEM) DETECTOR																				
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				EXISTING INTERSECTION LOOP DETECTOR																				
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																				
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR																				
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																				
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																				
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				PREFORMED SAMPLING (SYSTEM) DETECTOR																				
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				<h2 style="margin: 0;">RAILROAD SYMBOLS</h2> <table style="width: 100%; border: none;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%; text-align: center;">EXISTING</th> <th style="width: 25%; text-align: center;">PROPOSED</th> </tr> </thead> <tbody> <tr> <td>RAILROAD CONTROL CABINET</td> <td></td> <td></td> </tr> <tr> <td>RAILROAD CANTILEVER MAST ARM</td> <td></td> <td></td> </tr> <tr> <td>FLASHING SIGNAL</td> <td></td> <td></td> </tr> <tr> <td>CROSSING GATE</td> <td></td> <td></td> </tr> <tr> <td>CROSSBUCK</td> <td></td> <td></td> </tr> </tbody> </table>				EXISTING	PROPOSED	RAILROAD CONTROL CABINET			RAILROAD CANTILEVER MAST ARM			FLASHING SIGNAL			CROSSING GATE			CROSSBUCK		
	EXISTING	PROPOSED																										
RAILROAD CONTROL CABINET																												
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FLASHING SIGNAL																												
CROSSING GATE																												
CROSSBUCK																												
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER																								
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT																								
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER																								
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED																								
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)																								
MICROWAVE VEHICLE SENSOR																												
VIDEO DETECTION CAMERA																												
VIDEO DETECTION ZONE																												
PAN, TILT, ZOOM CAMERA																												
WIRELESS DETECTOR SENSOR																												
WIRELESS ACCESS POINT																												



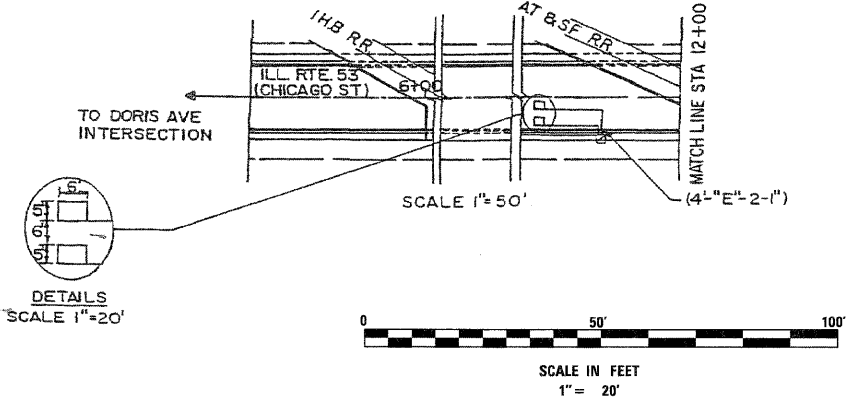
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH MASTER CONTROLLER
- 5 EACH SIGNAL HEAD, 1-FACE, 3-SECTION BRACKET MOUNTED
- 3 EACH SIGNAL HEAD, 1-FACE, 3-SECTION MAST ARM MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, 5-SECTION BRACKET MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, 5-SECTION MAST ARM MOUNTED
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH TRAFFIC SIGNAL POST



**NOTE:**  
THE ENVIRONMENTAL FIRM IS REQUIRED TO CONTINUOUSLY MONITOR FOR WORKER PROTECTION AND SOIL CONTAMINATION AT SEVERAL AREAS. SEE SPECIAL PROVISION AND SUPPLEMENTAL SPECIFICATIONS FOR DETAILS.

**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 SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



FILE NAME =  
MICROST\352090\ RT53&DORIS REM.DGN

USER NAME = JGC  
PLOT SCALE = 1"=20'  
PLOT DATE = 6-20-11

DESIGNED - KK	REVISED -
DRAWN - JGC	REVISED -
CHECKED - BPT	REVISED -
DATE - 6-20-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

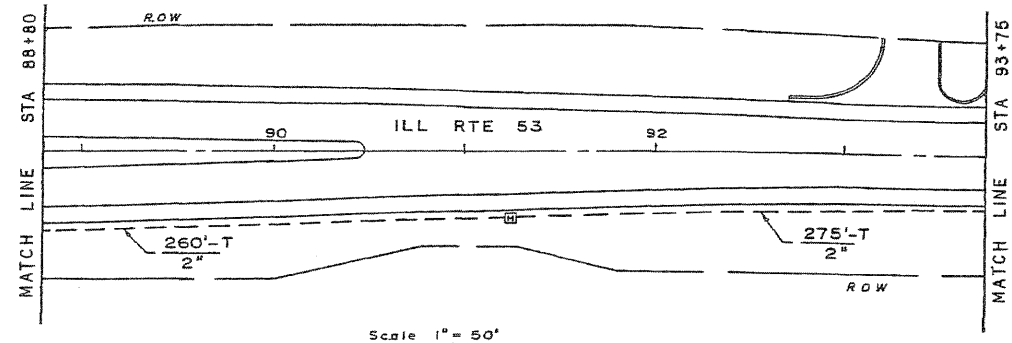
**TRAFFIC SIGNAL REMOVAL PLAN  
IL 53 (CHICAGO STREET) / U.S. 52 AT DORIS AVENUE**

SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9675  
Ph: 630.862.2100 Fax: 630.862.2199  
E-Mail: codd@cemcon.com Website: www.cemcon.com

F.A.P. RTE. 846	SECTION 2010-085-TS	COUNTY WILL	TOTAL SHEETS 28	SHEET NO. 11
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

CONTRACT NO. 60L80



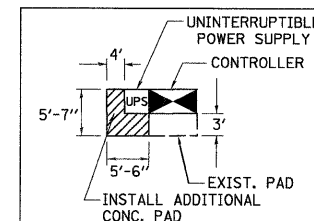
Scale 1" = 50'

**NOTE:**  
THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

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

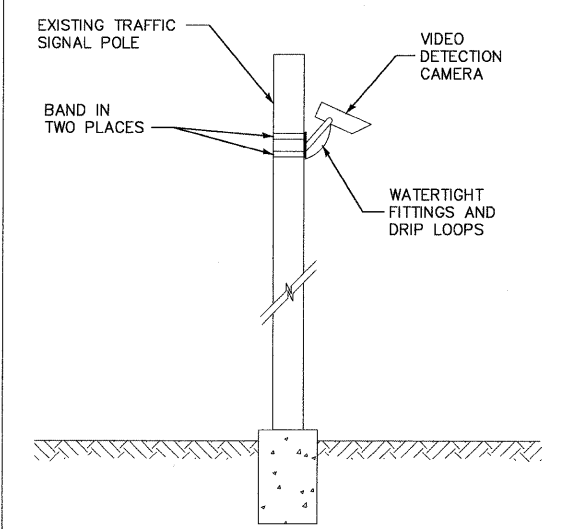
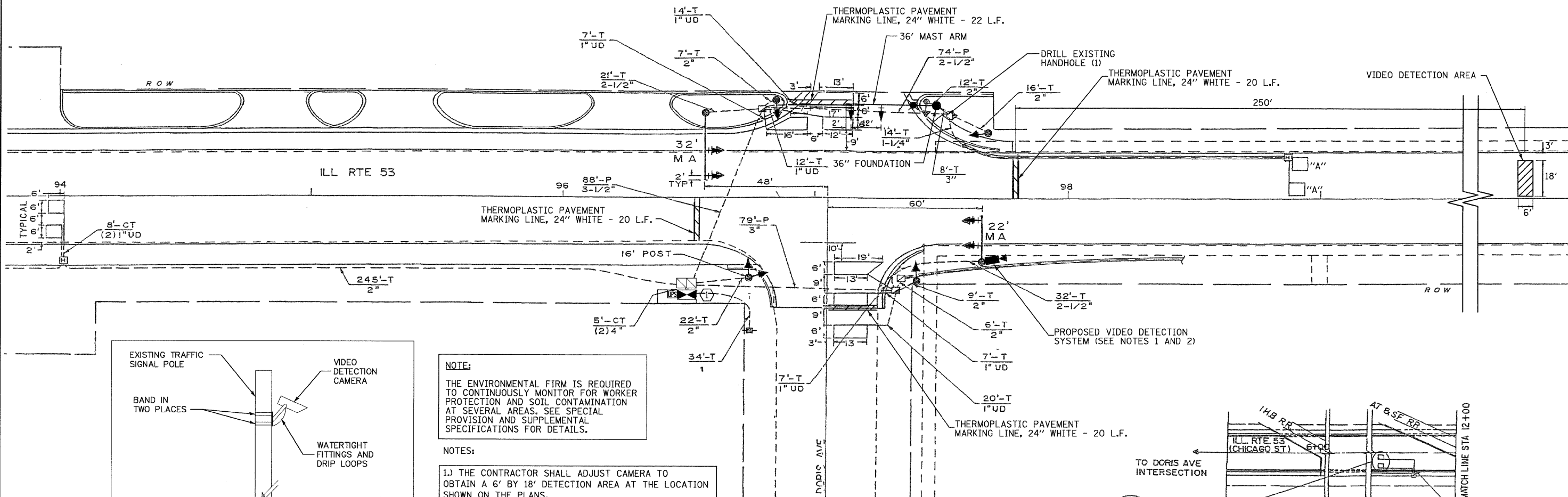
ALL EXISTING SIGNAL HEADS TO BE REPLACED WITH LED SIGNAL HEADS

**DETAIL "A"**  
N.T.S.



- 1) 5" THICK CONCRETE PAD SHALL BE POURED NEXT TO NEW CONTROLLER AND /OR UPS TO PROVIDE EASY MAINTENANCE ACCESS.
- 2) MAINTENANCE PAD SHALL EXTEND TO THE EDGE OF EXISTING CONTROLLER FOUNDATION.
- 3) COST OF PAD SHALL BE INCLUDED IN THE PRICE OF THE UNINTERRUPTIBLE POWER SUPPLY PAY ITEM.

**NOTE:**  
THE WORK SHOWN IN DETAIL "A" SHALL BE INCLUDED IN THE COST FOR THE U.P.S. EQUIPMENT.



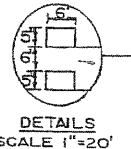
**VIDEO DETECTION MOUNTING DETAIL**  
(NOT TO SCALE)

**NOTE:**  
THE ENVIRONMENTAL FIRM IS REQUIRED TO CONTINUOUSLY MONITOR FOR WORKER PROTECTION AND SOIL CONTAMINATION AT SEVERAL AREAS. SEE SPECIAL PROVISION AND SUPPLEMENTAL SPECIFICATIONS FOR DETAILS.

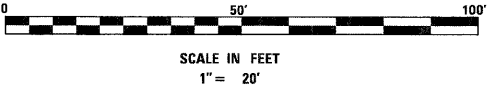
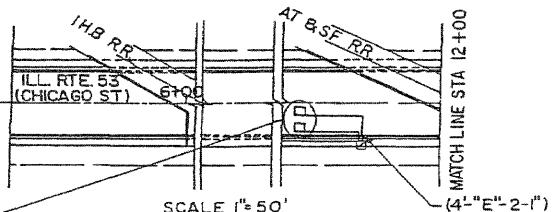
- NOTES:**
- 1.) THE CONTRACTOR SHALL ADJUST CAMERA TO OBTAIN A 6' BY 18' DETECTION AREA AT THE LOCATION SHOWN ON THE PLANS.
  - 2.) SEE CAMERA MOUNTING ASSEMBLY DETAIL ON EXISTING TRAFFIC SIGNAL POLE DETAIL ON THIS SHEET. THIS ASSEMBLY IS INCLUDED IN THE COST OF VIDEO DETECTION SYSTEM.

**RESTORATION OF WORK AREA**  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, 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 IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**REMOVAL & INSTALLATION NOTES:**  
① INSTALL NEW FULL-ACTUATED CONTROLLER AND CABINET AND MASTER CONTROLLER ON EXISTING FOUNDATION. INSTALL MAINTENANCE PAD (SEE DETAIL "A", THIS SHEET). INSTALL UPS.



DETAILS  
SCALE 1" = 20'



FILE NAME =	USER NAME = JGC
\\MICROST\352090\RT53RDORIS SIG.DGN	

DESIGNED - KK	REVISED -
DRAWN - JGC	REVISED -
CHECKED - BPT	REVISED -
DATE - 6-20-11	REVISED -

DESIGNED - KK	REVISED -
DRAWN - JGC	REVISED -
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DATE - 6-20-11	REVISED -

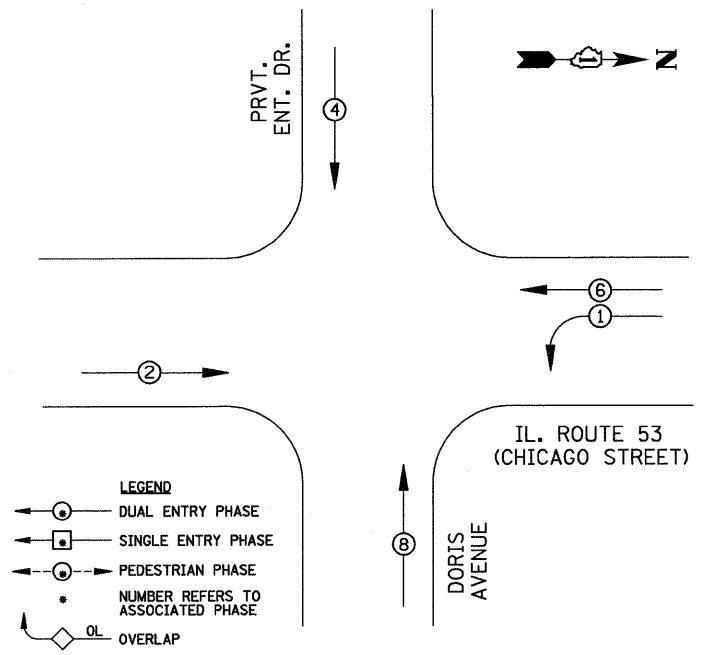
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODIFICATION PLAN  
IL 53 (CHICAGO STREET) / U.S. 52 AT DORIS AVENUE**

SCALE: 1" = 20' SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY: <b>CEMCON, Ltd.</b> Consulting Engineers, Land Surveyors & Planners 2280 White Oak Circle, Suite 100 Aurora, Illinois 60504-9675 Ph: 630.862.2100 Fax: 630.862.2199 E-Mail: cadd@cemcon.com WebSite: www.cemcon.com				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	2009-036 TS	WILL	28	12
CONTRACT NO. 60L80			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
SIGN PANEL, TYPE 1	SQ FT	13.5
REMOVE SIGN PANEL- TYPE 1	SQ FT	13.5
THERMOPLASTIC PAVEMENT MARKING- LINE 24"	FOOT	82
THERMOPLASTIC PAVEMENT MARKING REMOVAL	FOOT	82
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	8
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	8
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1
MASTER CONTROLLER	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
TRANSCEIVER- FIBER OPTIC	EACH	1
GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	5
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	200
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	514
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	409
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 36 FT.	EACH	1
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13.5
DRILL EXISTING HANDHOLE	EACH	1
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	1
SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	6
INDUCTIVE LOOP DETECTOR	EACH	3
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	248
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	1
VIDEO DETECTION SYSTEM	EACH	1
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL I	EACH	2

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	%OPERATION	
SIGNAL (RED)	11	135	17	0.50	93.5
(YELLOW)	11	135	25	0.25	68.75
(GREEN)	11	135	15	0.25	41.25
ARROW	4	135	12	0.10	4.8
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100
VIDEO DETECTION	1	50	50	1.00	50
TOTAL =					358.3

ENERGY COSTS TO: \_\_\_\_\_ TOTAL = 358.3

ENERGY SUPPLY CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 COMPANY: COMED

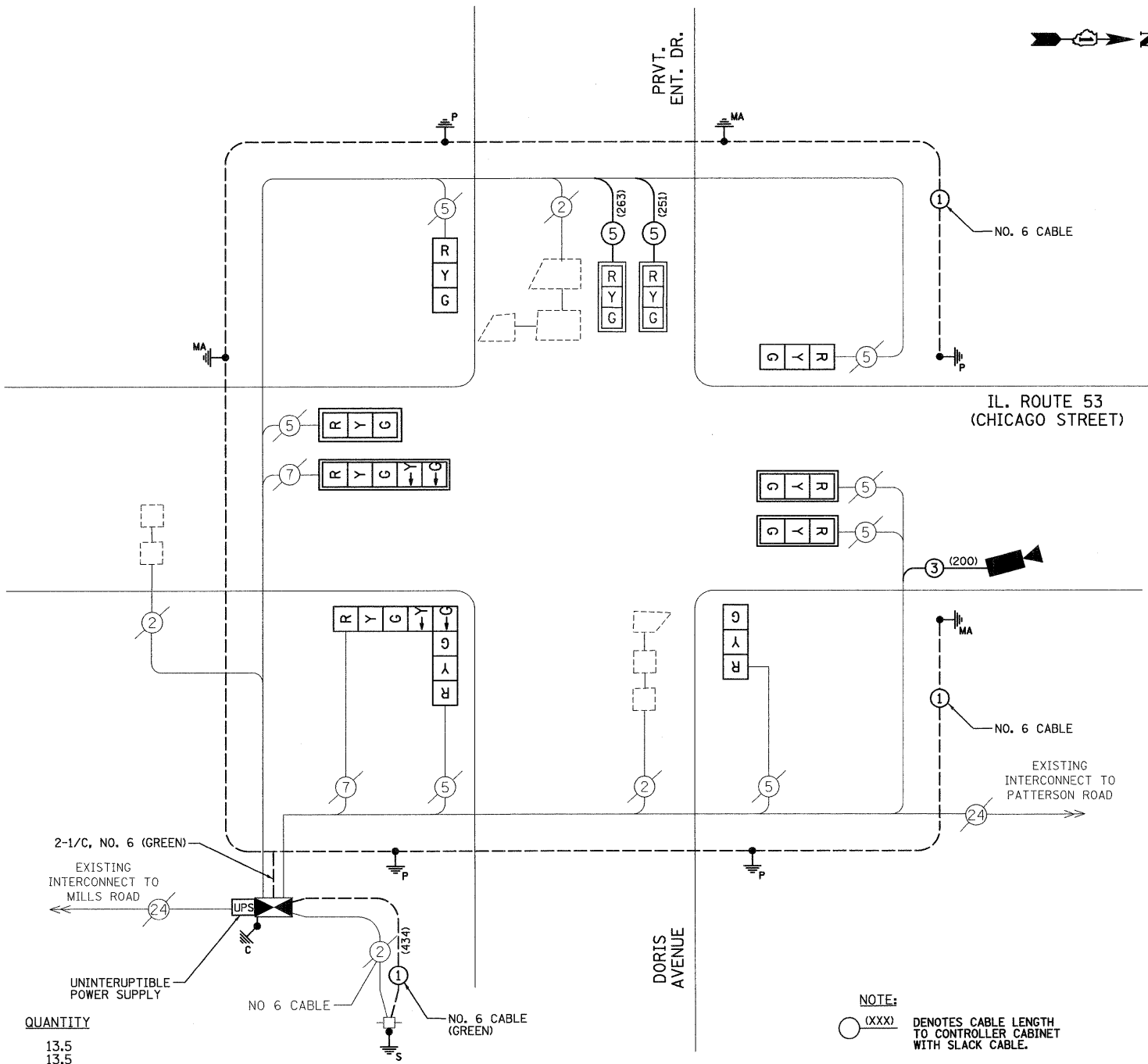
FILE NAME = \MICROST\352090\ RT53RDORIS CAB.DGN  
 USER NAME = JGC  
 DESIGNED - KK  
 DRAWN - JGC  
 CHECKED - BPT  
 DATE - 6-20-11  
 PLOT SCALE = 1"=20'  
 PLOT DATE = 6-28-11

REVISIONS:  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM  
 IL. 53 (CHICAGO STREET) / U.S. 52 AT DORIS AVENUE

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



CABLE PLAN

NOTE:  
 (XXX) DENOTES CABLE LENGTH TO CONTROLLER CABINET WITH SLACK CABLE.

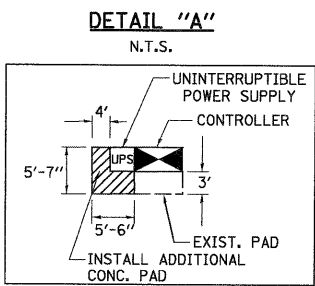
PREPARED BY:  
**CEMCON, Ltd.**  
 Consulting Engineers, Land Surveyors & Planners  
 2280 White Oak Circle, Suite 100  
 Aurora, Illinois 60504-5675  
 Ph: 630.862.2100 Fax: 630.862.2199  
 E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	2010-085-TS	WILL	28	13
CONTRACT NO. 60L80			ILLINOIS FED. AID PROJECT	



**NOTE:**  
THE ENVIRONMENTAL FIRM IS REQUIRED TO CONTINUOUSLY MONITOR FOR WORKER PROTECTION AND SOIL CONTAMINATION AT SEVERAL AREAS. SEE SPECIAL PROVISION AND SUPPLEMENTAL SPECIFICATIONS FOR DETAILS.

**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.

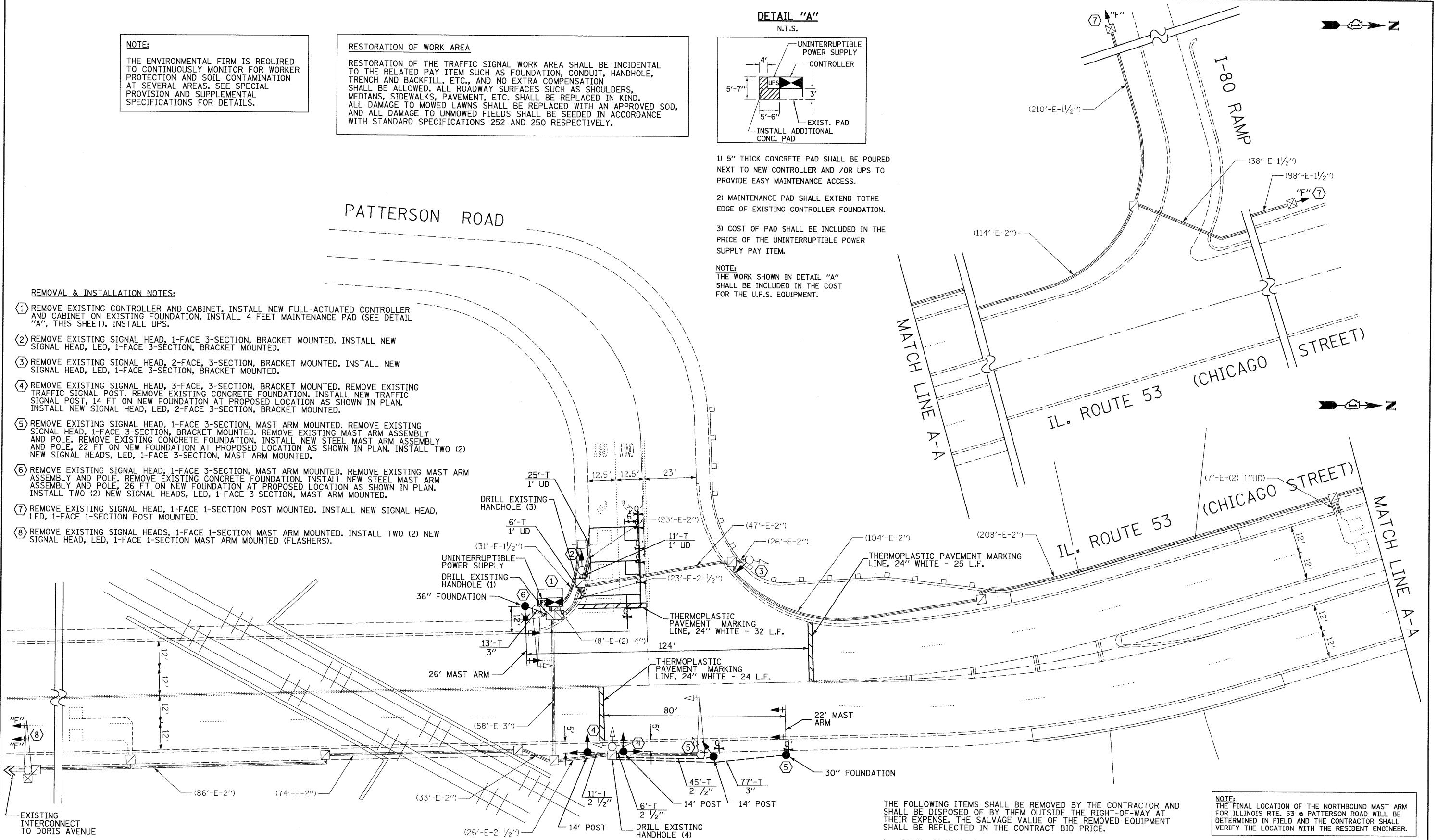


- 1) 5" THICK CONCRETE PAD SHALL BE POURED NEXT TO NEW CONTROLLER AND /OR UPS TO PROVIDE EASY MAINTENANCE ACCESS.
- 2) MAINTENANCE PAD SHALL EXTEND TO THE EDGE OF EXISTING CONTROLLER FOUNDATION.
- 3) COST OF PAD SHALL BE INCLUDED IN THE PRICE OF THE UNINTERRUPTIBLE POWER SUPPLY PAY ITEM.

**NOTE:**  
THE WORK SHOWN IN DETAIL "A" SHALL BE INCLUDED IN THE COST FOR THE U.P.S. EQUIPMENT.

**REMOVAL & INSTALLATION NOTES:**

- 1) REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW FULL-ACTUATED CONTROLLER AND CABINET ON EXISTING FOUNDATION. INSTALL 4 FEET MAINTENANCE PAD (SEE DETAIL "A", THIS SHEET). INSTALL UPS.
- 2) REMOVE EXISTING SIGNAL HEAD, 1-FACE 3-SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, LED, 1-FACE 3-SECTION, BRACKET MOUNTED.
- 3) REMOVE EXISTING SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, LED, 1-FACE 3-SECTION, BRACKET MOUNTED.
- 4) REMOVE EXISTING SIGNAL HEAD, 3-FACE, 3-SECTION, BRACKET MOUNTED. REMOVE EXISTING TRAFFIC SIGNAL POST. REMOVE EXISTING CONCRETE FOUNDATION. INSTALL NEW TRAFFIC SIGNAL POST, 14 FT ON NEW FOUNDATION AT PROPOSED LOCATION AS SHOWN IN PLAN. INSTALL NEW SIGNAL HEAD, LED, 2-FACE 3-SECTION, BRACKET MOUNTED.
- 5) REMOVE EXISTING SIGNAL HEAD, 1-FACE 3-SECTION, MAST ARM MOUNTED. REMOVE EXISTING SIGNAL HEAD, 1-FACE 3-SECTION, BRACKET MOUNTED. REMOVE EXISTING MAST ARM ASSEMBLY AND POLE. REMOVE EXISTING CONCRETE FOUNDATION. INSTALL NEW STEEL MAST ARM ASSEMBLY AND POLE, 22 FT ON NEW FOUNDATION AT PROPOSED LOCATION AS SHOWN IN PLAN. INSTALL TWO (2) NEW SIGNAL HEADS, LED, 1-FACE 3-SECTION, MAST ARM MOUNTED.
- 6) REMOVE EXISTING SIGNAL HEAD, 1-FACE 3-SECTION, MAST ARM MOUNTED. REMOVE EXISTING MAST ARM ASSEMBLY AND POLE. REMOVE EXISTING CONCRETE FOUNDATION. INSTALL NEW STEEL MAST ARM ASSEMBLY AND POLE, 26 FT ON NEW FOUNDATION AT PROPOSED LOCATION AS SHOWN IN PLAN. INSTALL TWO (2) NEW SIGNAL HEADS, LED, 1-FACE 3-SECTION, MAST ARM MOUNTED.
- 7) REMOVE EXISTING SIGNAL HEAD, 1-FACE 1-SECTION POST MOUNTED. INSTALL NEW SIGNAL HEAD, LED, 1-FACE 1-SECTION POST MOUNTED.
- 8) REMOVE EXISTING SIGNAL HEADS, 1-FACE 1-SECTION MAST ARM MOUNTED. INSTALL TWO (2) NEW SIGNAL HEAD, LED, 1-FACE 1-SECTION MAST ARM MOUNTED (FLASHERS).



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

**NOTE:**  
THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

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
- 1 EACH SIGNAL HEAD, 2-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD, 3-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD, 1-FACE, 1-SECTION
- 1 EACH TRAFFIC SIGNAL POST
- 2 EACH MAST ARM ASSEMBLY AND POLE

**NOTE:**  
THE FINAL LOCATION OF THE NORTHBOUND MAST ARM FOR ILLINOIS RTE. 53 @ PATTERSON ROAD WILL BE DETERMINED IN FIELD AND THE CONTRACTOR SHALL VERIFY THE LOCATION WITH THE RESIDENT ENGINEER.

FILE NAME =	USER NAME = JGC	DESIGNED - KK	REVISED -
\\MICROST\352290\RT53ePATTRN SIG.DGN		DRAWN - JGC	REVISED -
	PLOT SCALE = 1"=20'	CHECKED - BPT	REVISED -
	PLOT DATE = 6-28-11	DATE - 6-20-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

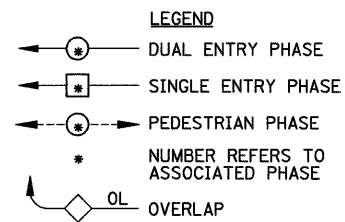
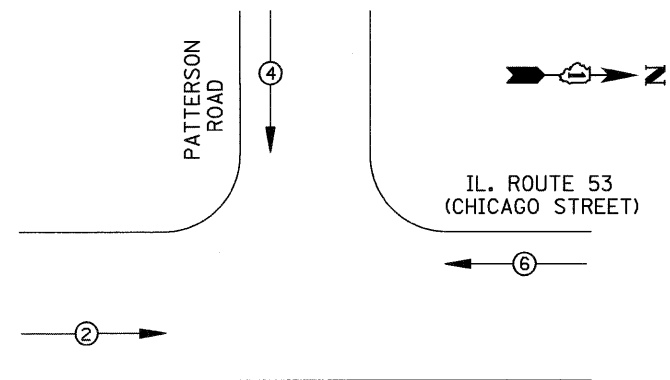
**TRAFFIC SIGNAL MODIFICATION PLAN  
IL. 53 (CHICAGO STREET)/U.S. 52 AT PATTERSON ROAD**

SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

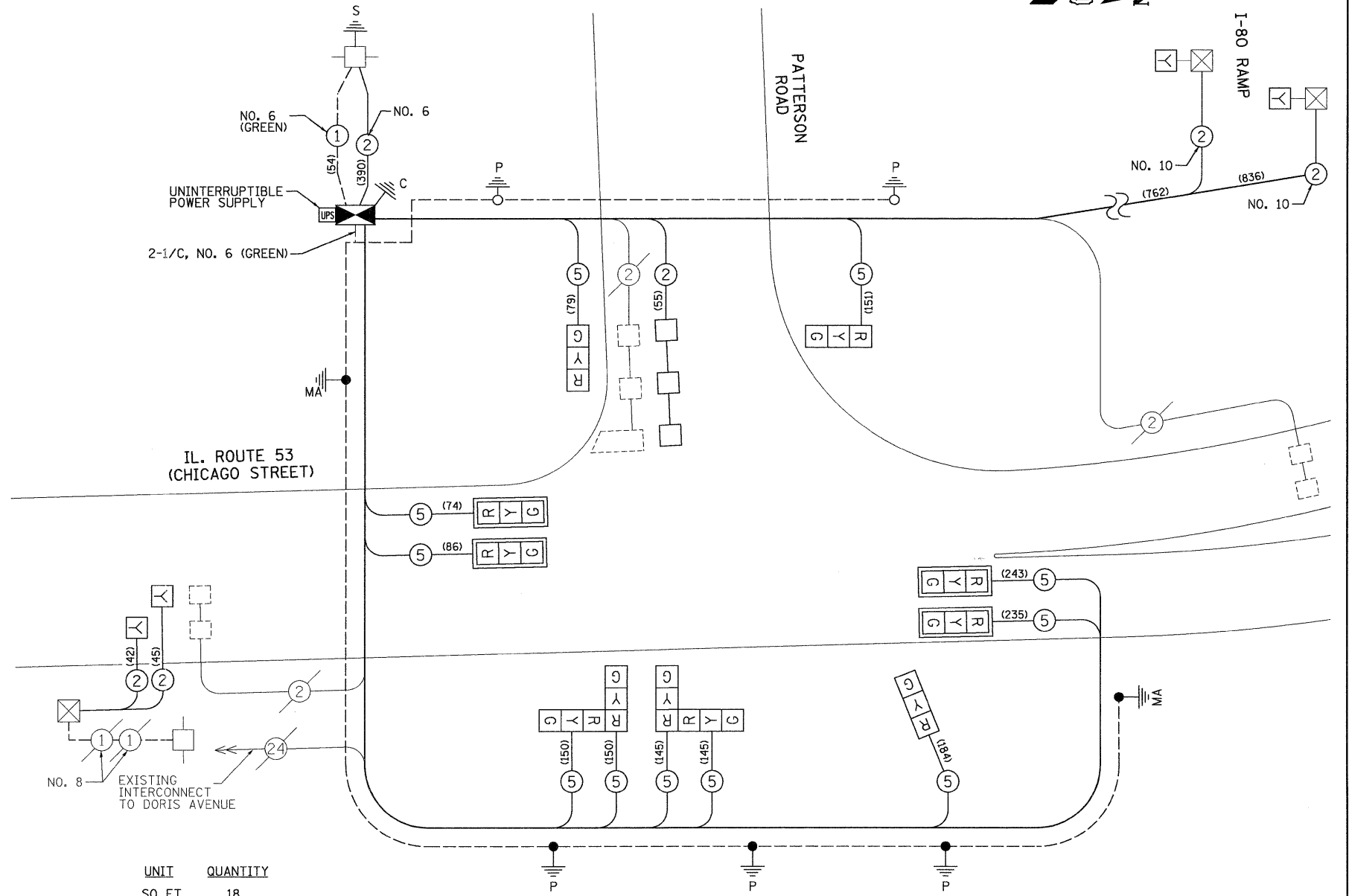
PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9875  
Ph: 630.862.2100 Fax: 630.862.2199  
E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE. 846	SECTION 2010-085-TS	COUNTY WILL	TOTAL SHEETS 28	SHEET NO. 14
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60L80	

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM



CABLE PLAN

**NOTE:**  
 (XXX) DENOTES CABLE LENGTH TO CONTROLLER CABINET WITH SLACK CABLE.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
SIGN PANEL, TYPE 1	SQ FT	18
REMOVE SIGN PANEL- TYPE 1	SQ FT	18
THERMOPLASTIC PAVEMENT MARKING- LINE 24"	FOOT	81
THERMOPLASTIC PAVEMENT MARKING REMOVAL	FOOT	50
CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	62
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	90
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	152
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
TRANSCIEVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	86
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1642
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	55
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	54
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	390
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	3
STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 26 FT.	EACH	1
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	13.5
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13.5
DRILL EXISTING HANDHOLE	EACH	8
SIGNAL HEAD, LED, 1-FACE, 1-SECTION, MAST-ARM MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 1-SECTION, POST MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	6
INDUCTIVE LOOP DETECTOR	EACH	4
DETECTOR LOOP, TYPE 1	FOOT	124
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	3303
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	3
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM - LEVEL I	EACH	3
ELECTRIC CABLE IN CONDUIT NO. 10 2/C	FOOT	1597

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	11	135	17	0.50	93.5
(YELLOW)	11	135	25	0.25	68.75
(GREEN)	11	135	15	0.25	41.25
ARROW		135	12	0.10	
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		84		0.05	
FLASHER	2	135	25	0.50	25.0
ENERGY COSTS TO:				TOTAL =	328.5

ENERGY SUPPLY CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 COMPANY: COMED

FILE NAME = \MICROST\352090\ RT53PATRSN CAB.DGN	USER NAME = JGC	DESIGNED - KK	REVISED -
	PLOT SCALE = 1"=20'	DRAWN - JGC	REVISED -
	PLOT DATE = 6-20-11	CHECKED - BPT	REVISED -
		DATE - 6-20-11	REVISED -

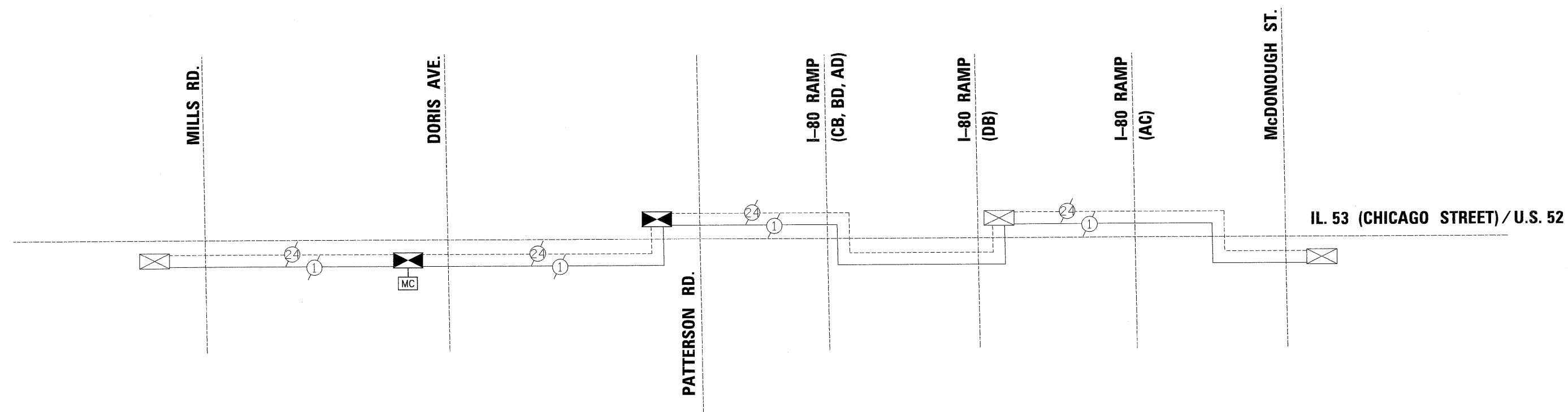
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, CABLE PLAN  
 AND PHASE DESIGNATION DIAGRAM  
 IL 53 (CHICAGO STREET)/U.S. 52 AT PATTERSON ROAD

PREPARED BY:  
**CEMCON, Ltd.**  
 Consulting Engineers, Land Surveyors & Planners  
 2280 White Oak Circle, Suite 100  
 Aurora, Illinois 60504-9675  
 Ph: 630.862.2100 Fax: 630.862.2199  
 E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE. 846	SECTION 2010-085-TS	COUNTY WILL	TOTAL SHEETS 28	SHEET NO. 15
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60L80	

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



FILE NAME = \MICROST\352890\ INTERCONNECT SCH

USER NAME = JGC  
 PLOT SCALE = 1"=20'  
 PLOT DATE = 6-20-11

DESIGNED - KK  
 DRAWN - JGC  
 CHECKED - BPT  
 DATE - 6-20-11

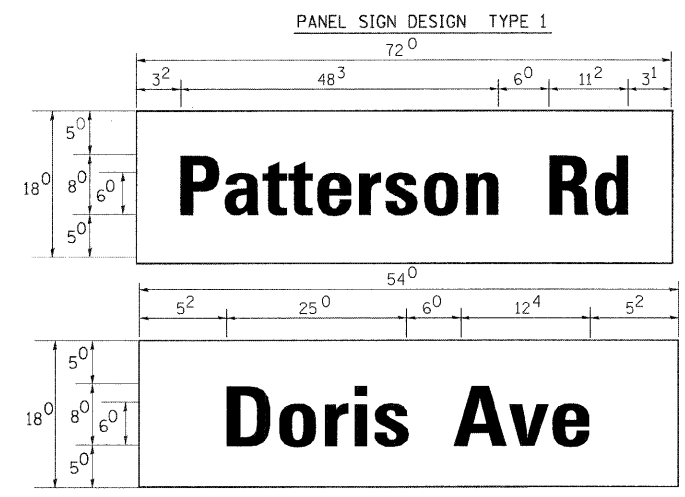
REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

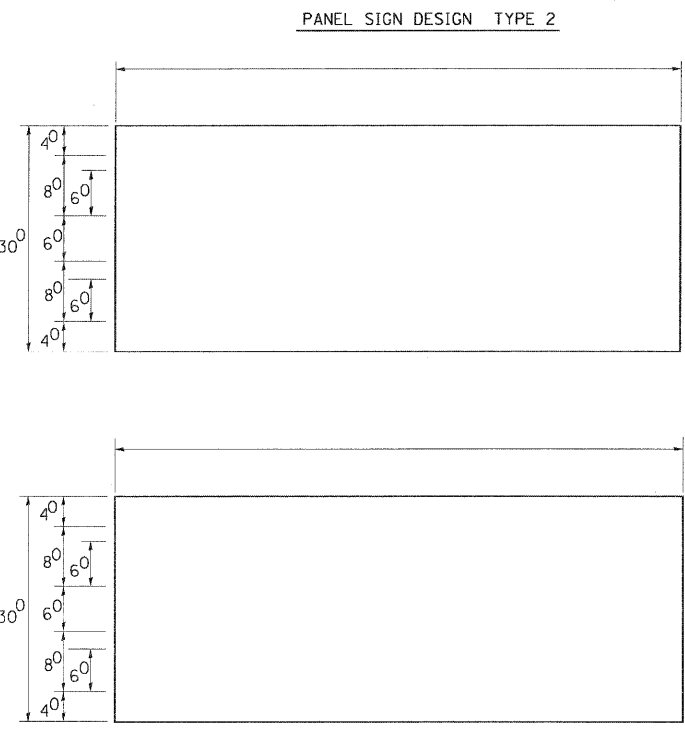
**INTERCONNECT SCHEMATIC  
 IL 53 / U.S. 52 (MILLS ROAD TO McDONOUGH STREET)**  
 SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY: <b>CEMCON, Ltd.</b> Consulting Engineers, Land Surveyors & Planners 2280 White Oak Circle, Suite 100 Aurora, Illinois 60504-9675 Ph: 630.862.2100 Fax: 630.862.2199 E-Mail: cadd@cemcon.com Website: www.cemcon.com				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
846	2010-085-TS	WILL	28	16
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 60L80		

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



NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS



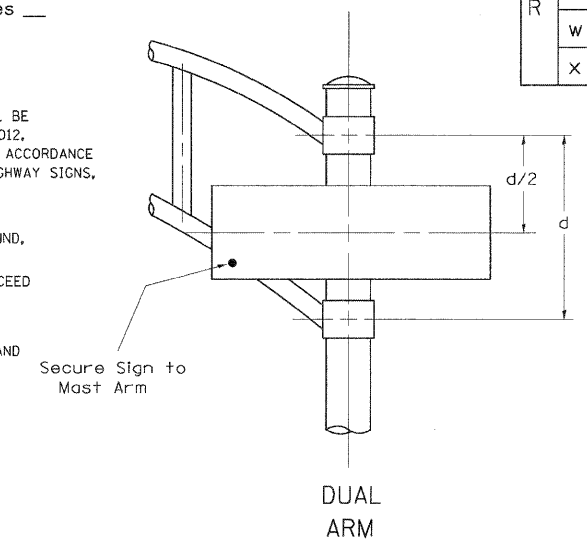
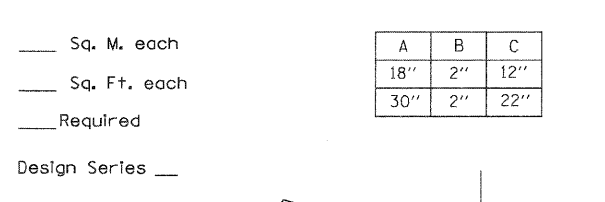
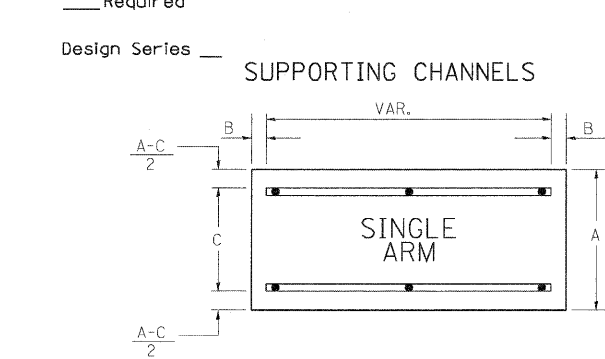
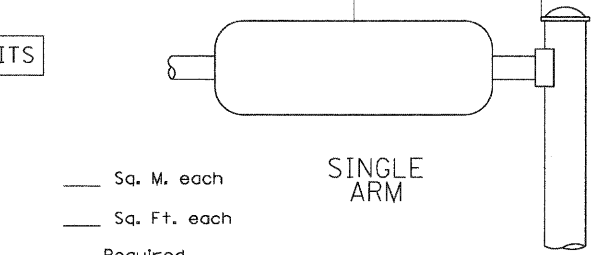
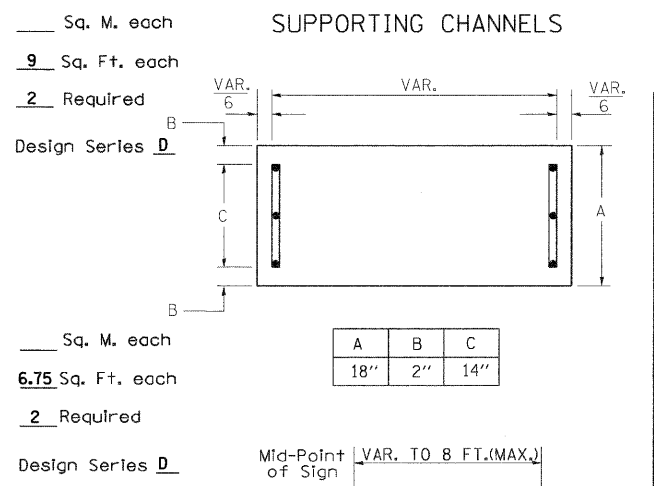
GENERAL NOTES

- 1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8'-0".
4. ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

\* J.O. HERBERT CO. MIDLOTHIAN, VA.
\* WESTERN REMAC INC. WOODRIDGE, IL.

PARTS LISTING:
SIGN CHANNEL PART #HPN053 (MED. CHANNEL) 1/4" x 14 x 1" H.W.H. #3
SIGN SCREWS SELF TAPPING WITH NEOPRENE WASHER
BRACKETS PART #HPN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.



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

SUPPORTING CHANNELS

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

Table with 2 columns: LETTER, SECOND LETTER. Rows include A, B, C, D, E, F, G, H, I, J, K, L, P, S, T, V, Y, Z with various spacing codes.

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

Table with 2 columns: LETTER, SECOND LETTER. Rows include a, b, c, e, r, t, v, w, x with various spacing codes.

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

Table with 2 columns: FIRST NUMBER, SECOND NUMBER. Rows include 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 with spacing codes.

UPPER AND LOWER CASE LETTER WIDTHS

Large table showing letter widths for 6 inch upper and lower case letters, 8 inch upper case letters, and 6 inch lower case letters across different series (C, D).

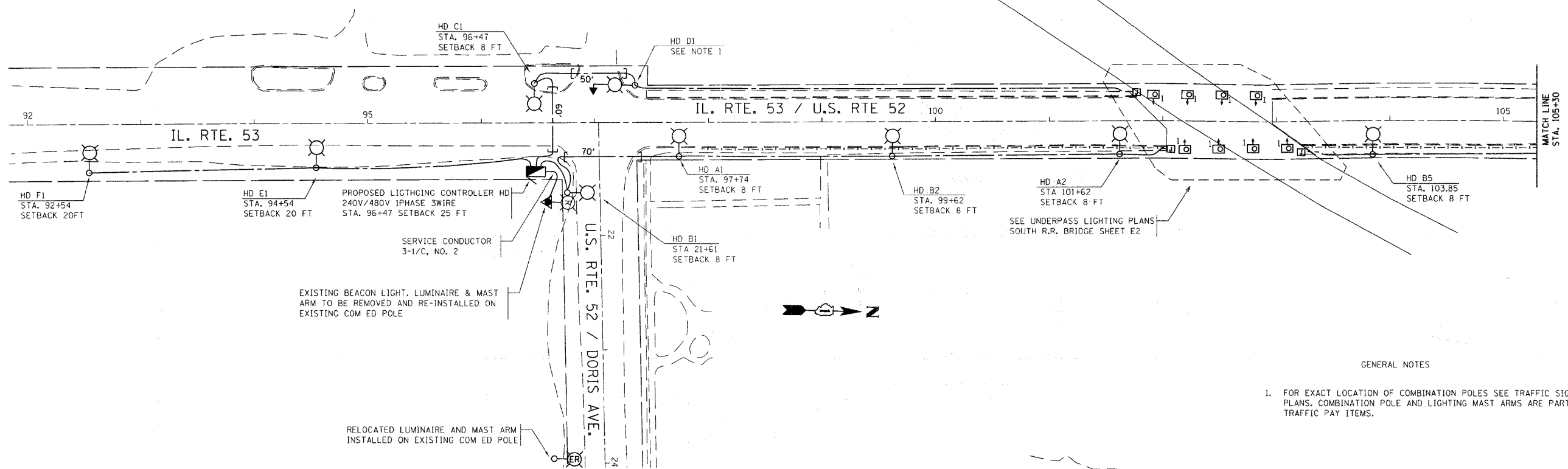
Table showing Number to Number spacing for 6 inch and 8 inch series (C, D).

Form with fields for FILE NAME, USER NAME, DESIGNED, DRAWN, CHECKED, DATE, REVISED, PLOT SCALE, PLOT DATE.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
MAST ARM MOUNTED STREET NAME SIGNS

Form with fields for F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO., FEED. ROAD DIST. NO., ILLINOIS FED. AID PROJECT.

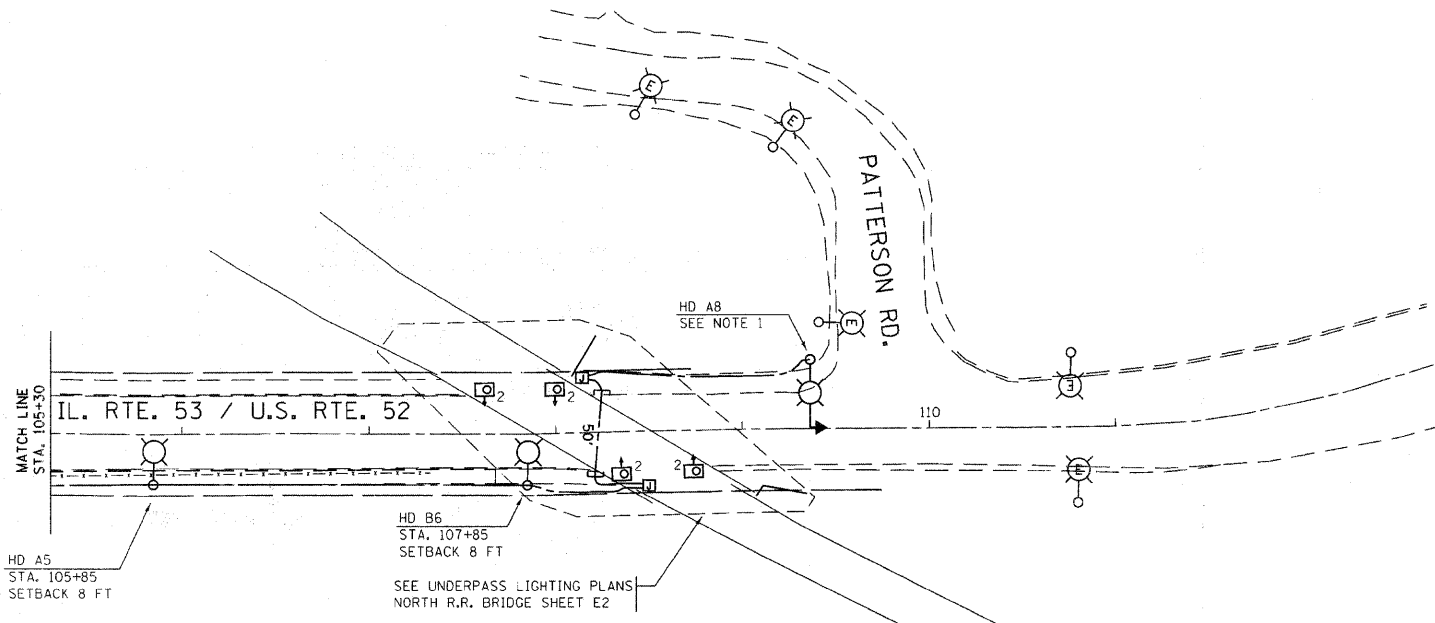


GENERAL NOTES

1. FOR EXACT LOCATION OF COMBINATION POLES SEE TRAFFIC SIGNAL PLANS. COMBINATION POLE AND LIGHTING MAST ARMS ARE PART OF TRAFFIC PAY ITEMS.

LEGEND

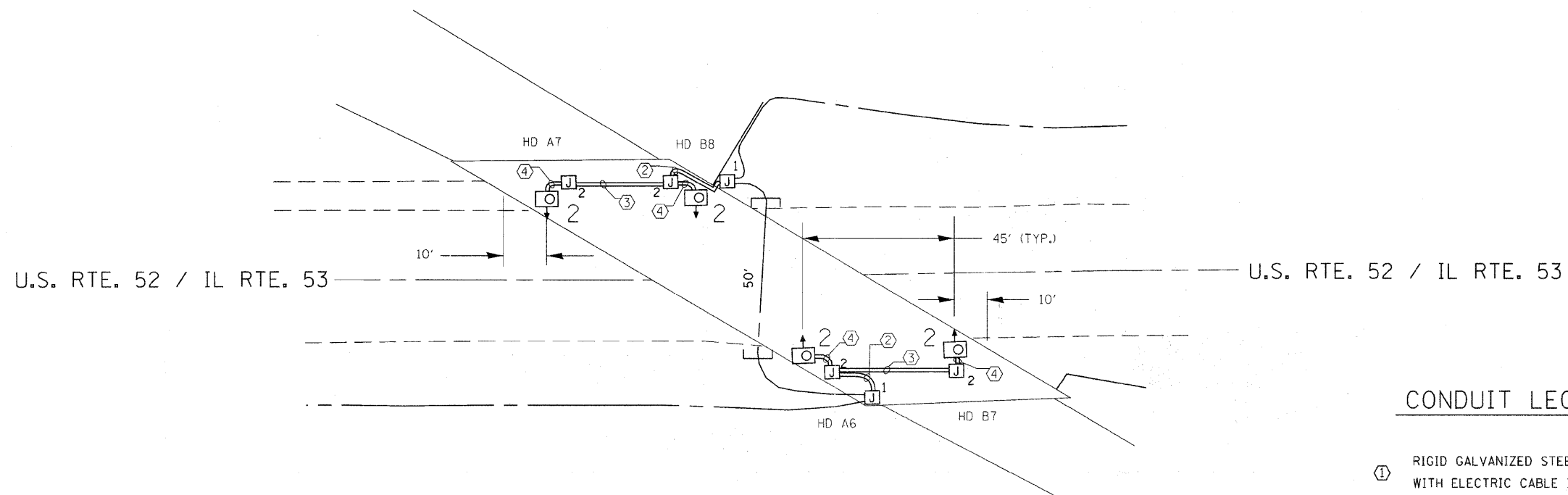
- EXISTING BEACON LIGHT, MAST ARM AND LUMINAIRE TO BE REMOVED
- LOCATION OF RELOCATED BEACON LIGHT MAST ARM AND LUMINAIRE
- PROPOSED LIGHTING SERVICE LOCATION
- PROPOSED LIGHTING UNIT, 47 1/2" MH, 12' MA, HPS, 400 WATT
- PROPOSED UNDERPASS LUMINAIRE, HPS, 100 WATT
- PROPOSED UNDERPASS LUMINAIRE, HPS, 70 WATT
- PROPOSED UNIT DUCT, 600V, 3-1C NO. 4, 1/C NO. 6 GROUND, (XLP-TYPE RHW), 1 1/2" DIA., POLYETHYLENE
- PROPOSED CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL, LENGTH AS NOTED
- PROPOSED JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 14" X 6"
- PROPOSED LIGHTING CONTROLLER "HD" SINGLE DOOR, 240/480V, 1 PHASE, 3 WIRE



E1

FILE NAME =	USER NAME = paulterma	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 53: U.S. 52 TO PATTERSON RD ROADWAY LIGHTING PLANS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pw_work\p\pdat\paulterma\0212984\IL53.dgn		DRAWN -	REVISED -			846	2010-085-15	WILL	28	18
PLOT SCALE = 50.0000' / in.		CHECKED -	REVISED -			CONTRACT NO. 60L80				
PLOT DATE = 9/27/2011		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
				SCALE: 1" = 50'		SHEET NO. OF SHEETS		STA. 92+00 TO STA. 111+00		





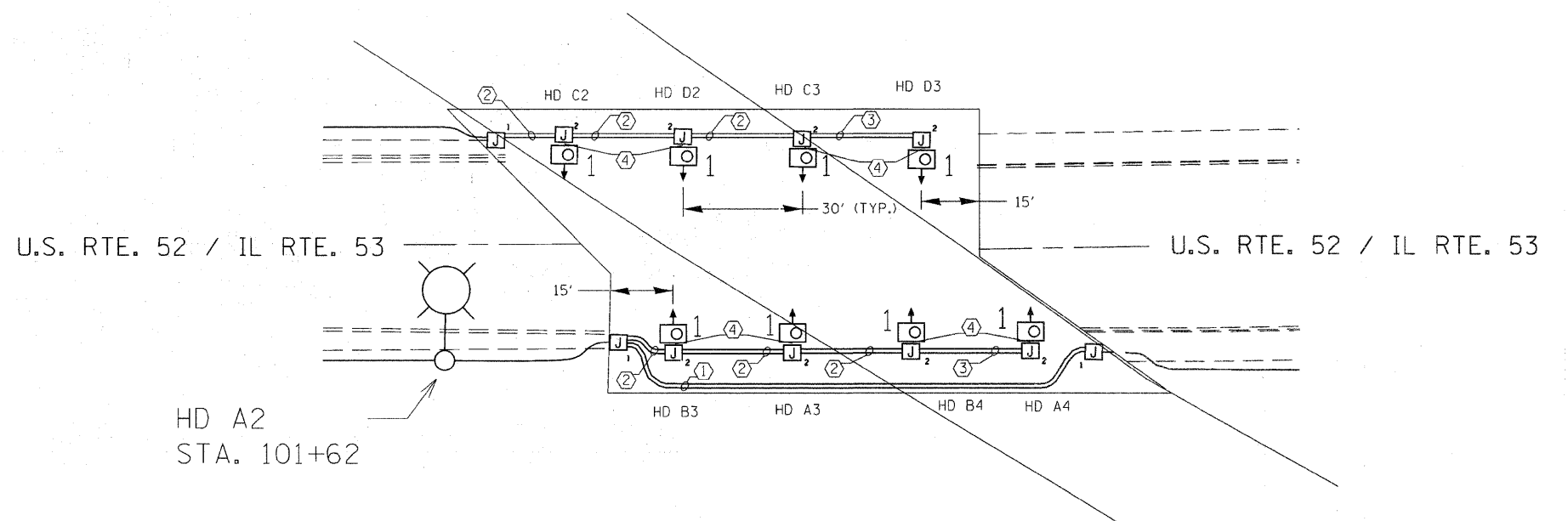
UNDERPASS LIGHTING NORTH R.R. BRIDGE

CONDUIT LEGEND

- ① RIGID GALVANIZED STEEL, PVC COATED ATTACHED TO STRUCTURE 2" WITH ELECTRIC CABLE IN CONDUIT 3-1/C NO. 4, 1/C, WITH NO. 6 GND
- ② RIGID GALVANIZED STEEL, PVC COATED ATTACHED TO STRUCTURE 1" WITH ELECTRIC CABLE IN CONDUIT 3-1/C NO. 10, WITH 1/C NO. 10 GND
- ③ RIGID GALVANIZED STEEL, PVC COATED ATTACHED TO STRUCTURE 1" WITH ELECTRIC CABLE IN CONDUIT 2-1/C NO. 10, WITH 1/C NO. 10 GND
- ④ FLEXIBLE LIQUID TIGHT STAINLESS STEEL CONDUIT 1" WITH ELECTRIC CABLE IN CONDUIT 2-1/C NO. 10, WITH 1/C NO. 10 GND

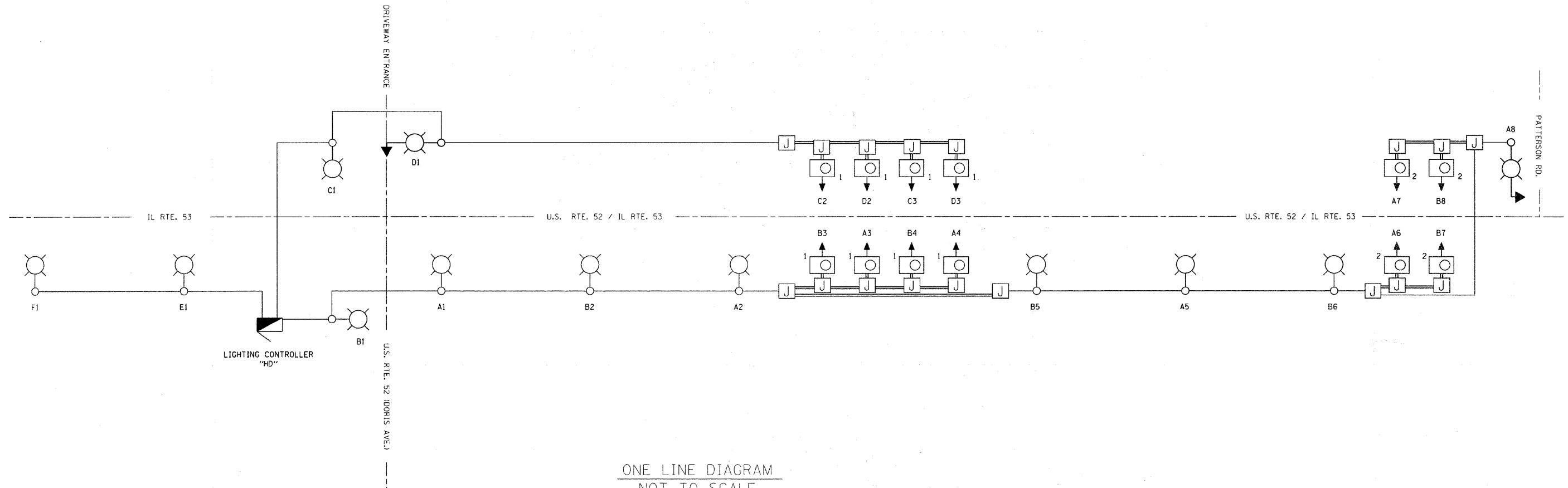
LEGEND

- PROPOSED LIGHTING UNIT 47 1/2' MH, 12' MA
- PROPOSED UNDERPASS LUMINAIRE, HPS, 100 WATT
- PROPOSED UNDERPASS LUMINAIRE, HPS, 70 WATT
- PROPOSED UNIT DUCT, 600V, 3-1/C NO. 4, 1/C NO. 6 GND, (XLP-TYPE RHW), 1 1/2" DIA., POLYETHYLENE
- PROPOSED ELECTRIC CABLE IN CONDUIT. REFER TO CONDUIT LEGEND FOR CONDUIT AND CONDUCTOR SIZES.
- PROPOSED CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL, LENGTH AS NOTED
- PROPOSED JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 14" X 6"
- PROPOSED JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"










UNDERPASS LIGHTING SOUTH R.R. BRIDGE

FILE NAME =	USER NAME = poulterma	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 53: U.S. 52 TO PATTERSON RD UNDERPASS LIGHTING PLANS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwidat\poulterma\0212984\ILE3.dgn	DRAWN -	REVISED -	846					2010-085-TS	WILL	28	19	
PLOT SCALE = 20.0000' / in.	CHECKED -	REVISED -	CONTRACT NO. 60L80									
PLOT DATE = 9/27/2011	DATE -	REVISED -	ILLINOIS FED. AID PROJECT									
				SCALE: 1" = 20'	SHEET NO. OF SHEETS	STA. N/A	TO STA. N/A					



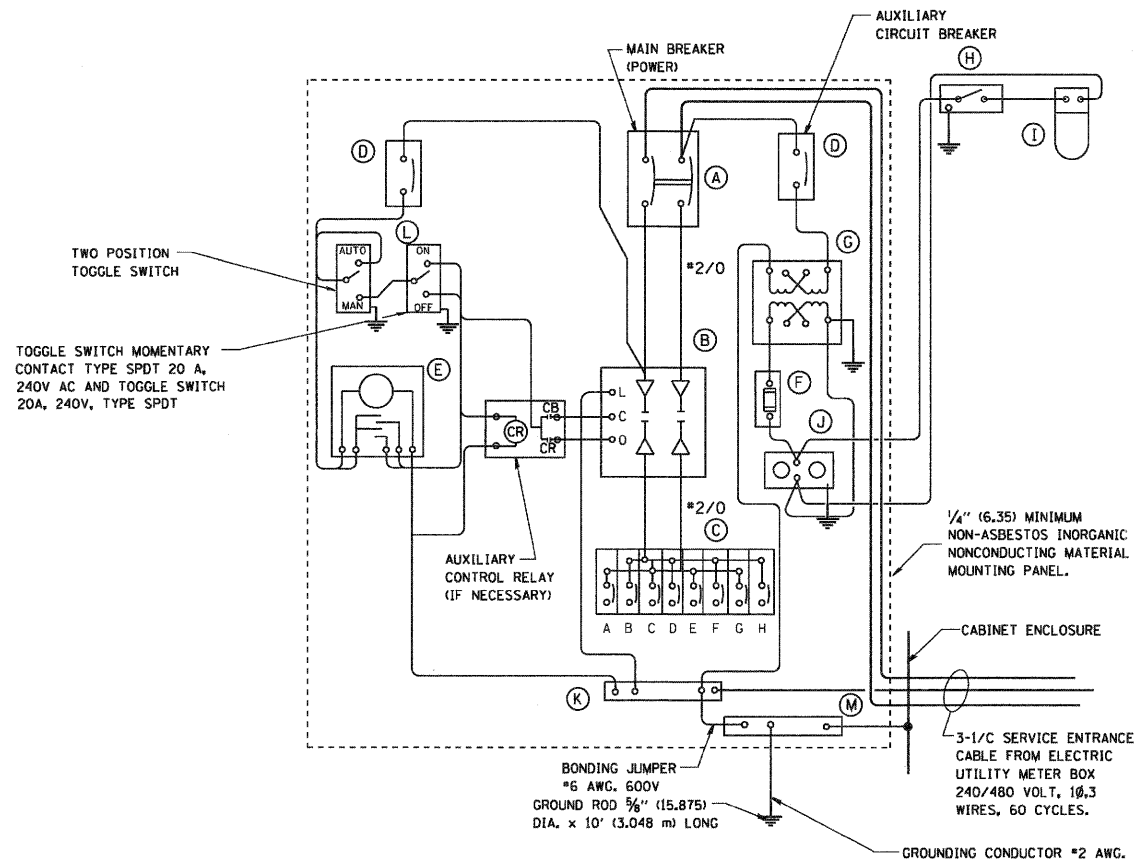
ONE LINE DIAGRAM  
NOT TO SCALE

**LEGEND**

-  PROPOSED LIGHTING UNIT, 47 1/2' MH, 12' MA, HPS, 400 WATT
-  PROPOSED UNDERPASS LUMINAIRE, HPS, 100 WATT
-  PROPOSED UNDERPASS LUMINAIRE, HPS, 70 WATT
-  PROPOSED UNIT DUCT, 600V, 3-1C NO. 4, 1/C NO. 6 GROUND, (XLP-TYPE RHW), 1 1/2" DIA., POLYETHYLENE
-  PROPOSED CABLE IN CONDUIT ATTACHED TO STRUCTURE
-  PROPOSED JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 14" X 6"
-  PROPOSED LIGHTING CONTROLLER "HD"  
SINGLE DOOR, 240/480V, 1 PHASE, 3 WIRE

**LOAD TABLE**

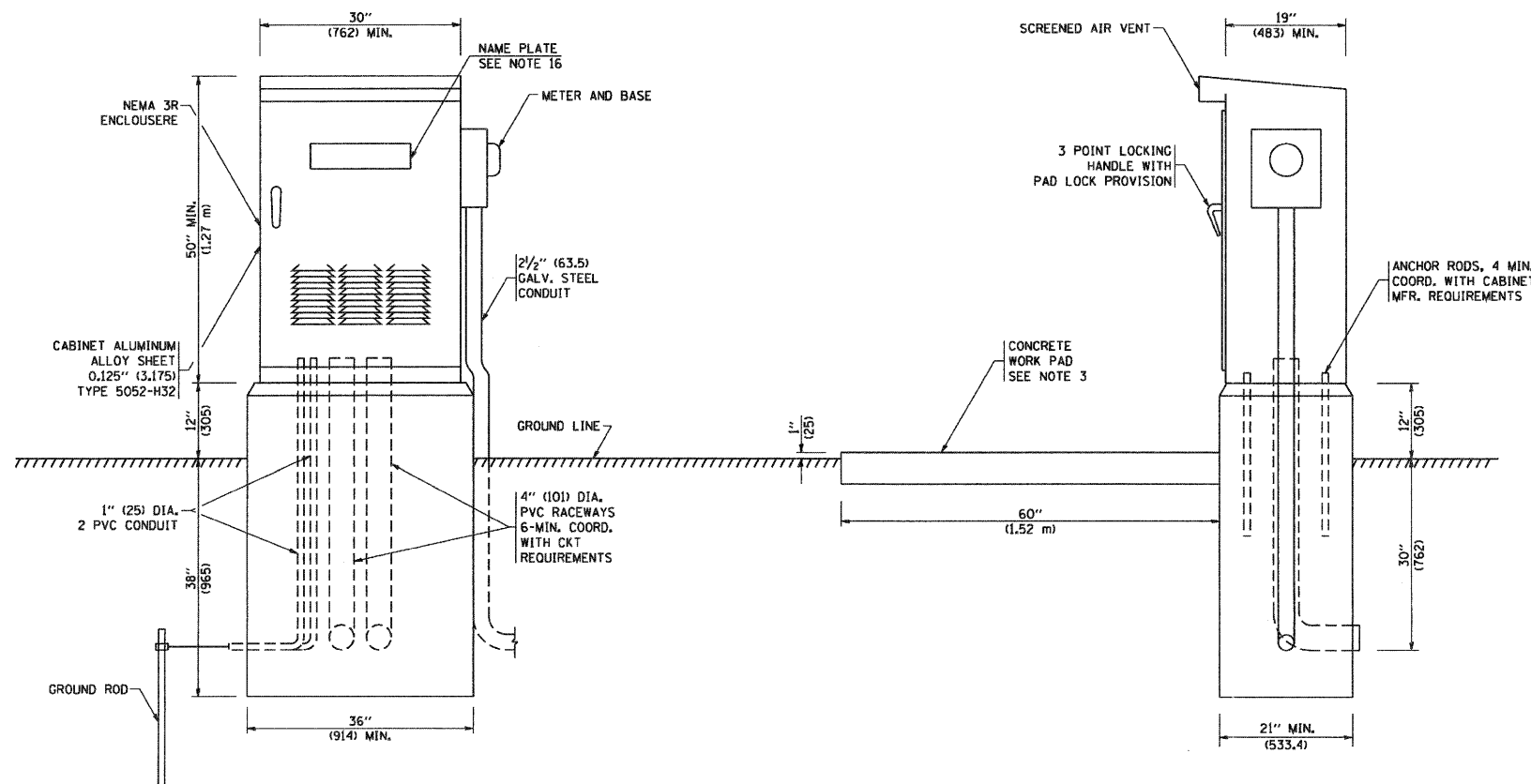
CIRCUIT	RED PHASE	CIRCUIT	BLACK PHASE
A	9.6 A	B	9.6 A
C	3.0 A	D	3.0 A
E	2.0 A	F	2.0 A



**PANEL WIRING DIAGRAM**

**PANEL EQUIPMENT**

BILL OF MATERIAL		
ITEM	QUANTITY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 100 AMP. FRAME, 100 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 480 VOLT.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 100 AMP., 600 VOLTS CONTROL CIRCUIT 240 VOLT.
C	8	CIRCUIT BREAKERS, 1 POLE, 100AMP. FRAME, 50 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 240 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240 V., 100 AMP. FRAME, 15 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-5000 AMP. AT 240 V.
E	1	ASTRONOMIC MICROPROCESSOR-BASED 2-CHANNEL CONTROLLER [TIME SWITCH].
F	1	20 A., 120 V. FUSE.
G	1	1.5 KVA, SINGLE PHASE, ENCAPSULATED TRANSFORMER 240 X 480 / 120 X 240 VOLT, 60 HZ.
H	1	SPST 20A SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN.
I	1	INCANDESCENT LIGHTING FIXTURE ENCLOSED AND GASKETED WITH 60 WATT, 120 V. LAMP.
J	1	20 A., 120 V., DUPLEX RECEPTACLE, GFCI.
K	1	COPPER GROUND BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS
L	1	TOGGLE SWITCHES MOUNTED IN 4" (101.6) X 4" (101.6 mm) BOX.
M	1	COPPER GROUND BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS



**NOTES:**

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
- IN FRONT OF CONTROL CABINET DOOR, REMOVE VEGETATION AND 2" (50.8 mm) TOP SOIL, LEVEL THE AREA AND ON TOP, PLACE LENGTH WISE PARALLEL TO CONTROL CABINET, A CONCRETE PAD 36" (914.4 mm) x 60" (1828.8 mm) x 4" (101 mm) MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
- DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
- DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
- DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
- ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
- METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
- CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.  
R = RED      BL = BLUE      W = WHITE  
B = BLACK      Y = YELLOW      G = GREEN
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
- THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
- 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.





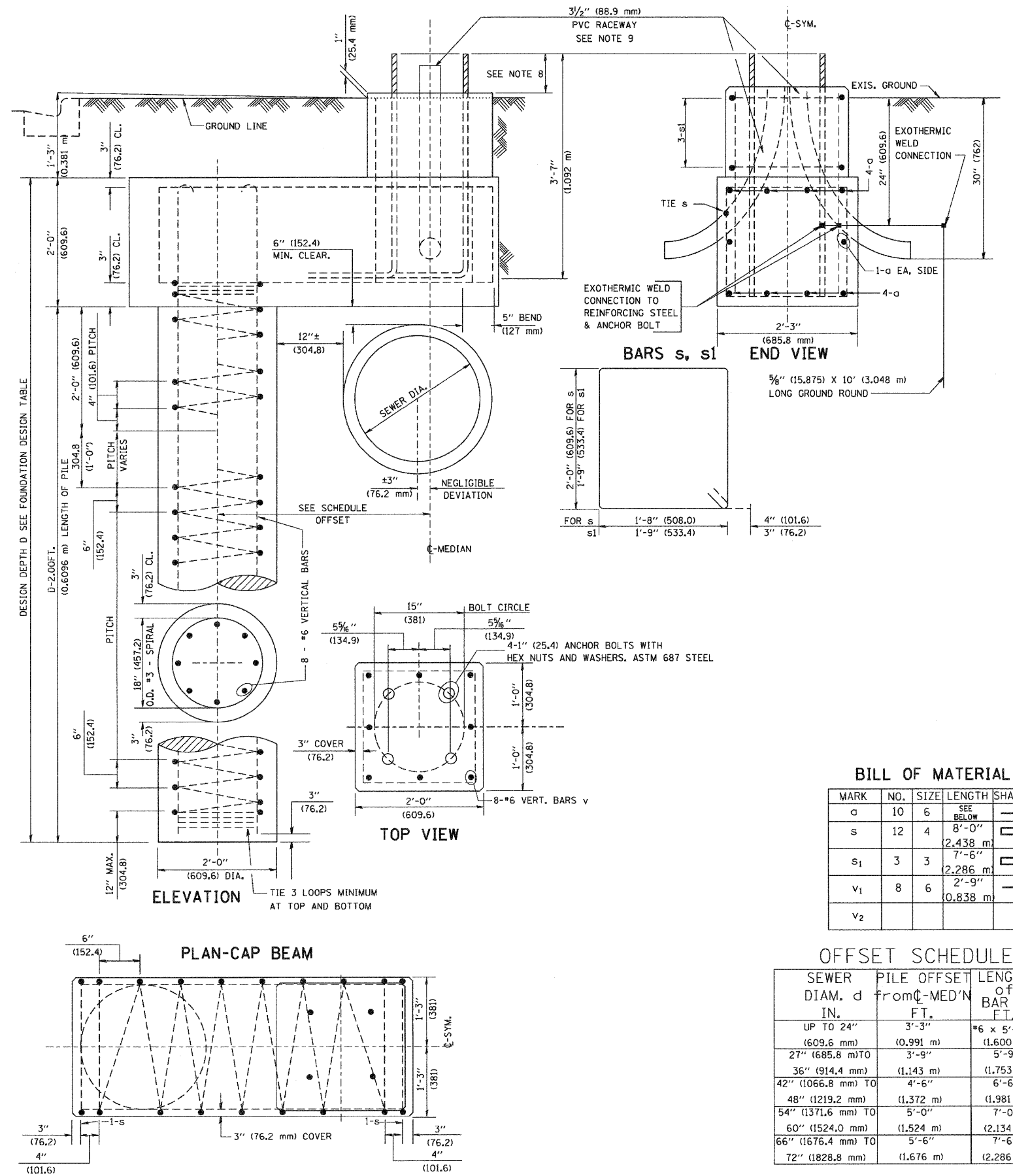


FOUNDATION DESIGN TABLE

TYPE OF SOIL	DESIGN DEPTH OF FOUNDATION		REINFORCEMENT IN FOUNDATION			
	SINGLE ARM D	TWIN ARM D	SINGLE ARM		TWIN ARM	
			VERT BARS	SPIRAL	VERT BARS	SPIRAL
SOFT CLAY	13'-0" (3.962 m)	15'-0" (4.572 m)	8-#6X12'-6" (3.810 m)	#3X122' (37.186 m)	8-#6X14'-3" (4.343 m)	#3X141' (42.977 m)
MEDIUM CLAY	9'-6" (2.896 m)	10'-9" (3.277 m)	8-#6X9'-0" (2.743 m)	#3X90' (27.432 m)	8-#6X10'-0" (3.048 m)	#3X100' (30.480 m)
STIFF CLAY	7'-0" (2.134 m)	8'-0" (2.438 m)	8-#6X6'-6" (1.981 m)	#3X66' (20.112 m)	8-#6X7'-6" (2.286 m)	#3X76' (23.165 m)
LOOSE SAND	9'-0" (2.743 m)	10'-0" (3.048 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)	8-#6X9'-6" (2.896 m)	#3X94' (28.651 m)
MEDIUM SAND	8'-3" (2.515 m)	9'-0" (2.743 m)	8-#6X8'-0" (2.438 m)	#3X78' (23.774 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
DENSE SAND	7'-9" (2.362 m)	9'-0" (2.743 m)	8-#6X7'-6" (2.286 m)	#3X73' (22.250 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
ROCK OR SOLIDIFIED SLAG	5'-0" (1.524 m)	5'-0" (1.524 m)	NONE	NONE	NONE	NONE

NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ENGINEER SHALL DETERMINE THE CLASS OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE.
- EXCAVATION OF THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24" (609.6 mm) OR 30" (762.0 mm) IN DIAMETER.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORM.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLE IS MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENTION WITH ENGINEER.
- RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE LIGHT IS ERRECTED.



BILL OF MATERIAL

MARK	NO.	SIZE	LENGTH	SHAPE
a	10	6	SEE BELOW	—
s	12	4	8'-0" (2,438 m)	□
s <sub>1</sub>	3	3	7'-6" (2,286 m)	□
v <sub>1</sub>	8	6	2'-9" (0,838 m)	—
v <sub>2</sub>				

OFFSET SCHEDULE

SEWER DIAM. d IN.	PILE OFFSET from C-MED'N FT.	LENGTH of BAR a FT.
UP TO 24" (609.6 mm)	3'-3" (0,991 m)	#6 x 5'-3" (1,600 m)
27" (685.8 mm) TO	3'-9"	5'-9"
36" (914.4 mm)	(1,143 m)	(1,753 m)
42" (1066.8 mm) TO	4'-6"	6'-6"
48" (1219.2 mm)	(1,372 m)	(1,981 m)
54" (1371.6 mm) TO	5'-0"	7'-0"
60" (1524.0 mm)	(1,524 m)	(2,134 m)
66" (1676.4 mm) TO	5'-6"	7'-6"
72" (1828.8 mm)	(1,676 m)	(2,286 m)

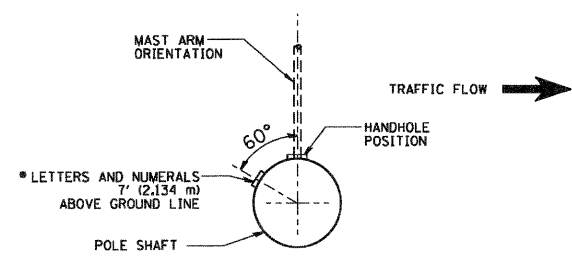
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		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

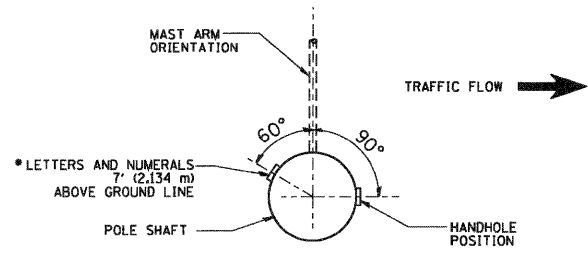
LIGHT POLE FOUNDATION OFFSET  
40" (12,192 mm) TO 47 1/2" (14,478 mm) M.H.  
15" (381 mm) BOLT CIRCLE

F.A.P. RTE. 846	SECTION 2010-085-TS	COUNTY WILL	TOTAL SHEETS 28	SHEET NO. 24
BE-310			CONTRACT NO. 60L80	
ILLINOIS FED. AID PROJECT				

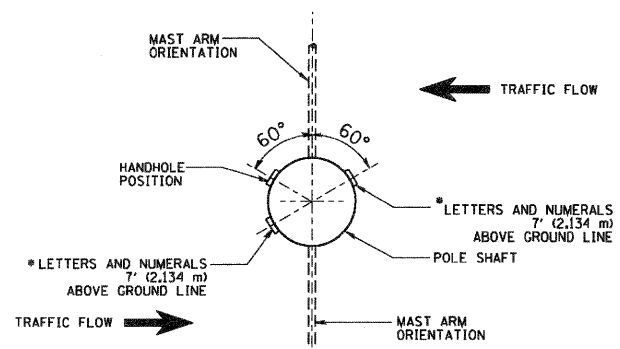
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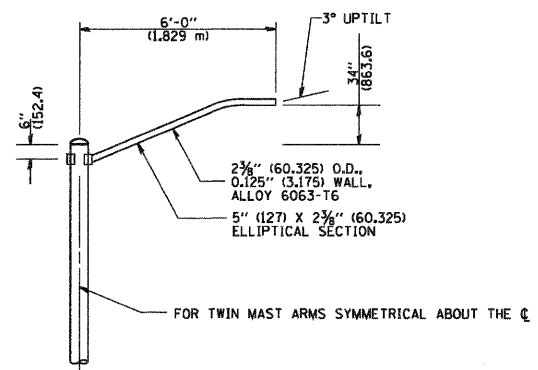
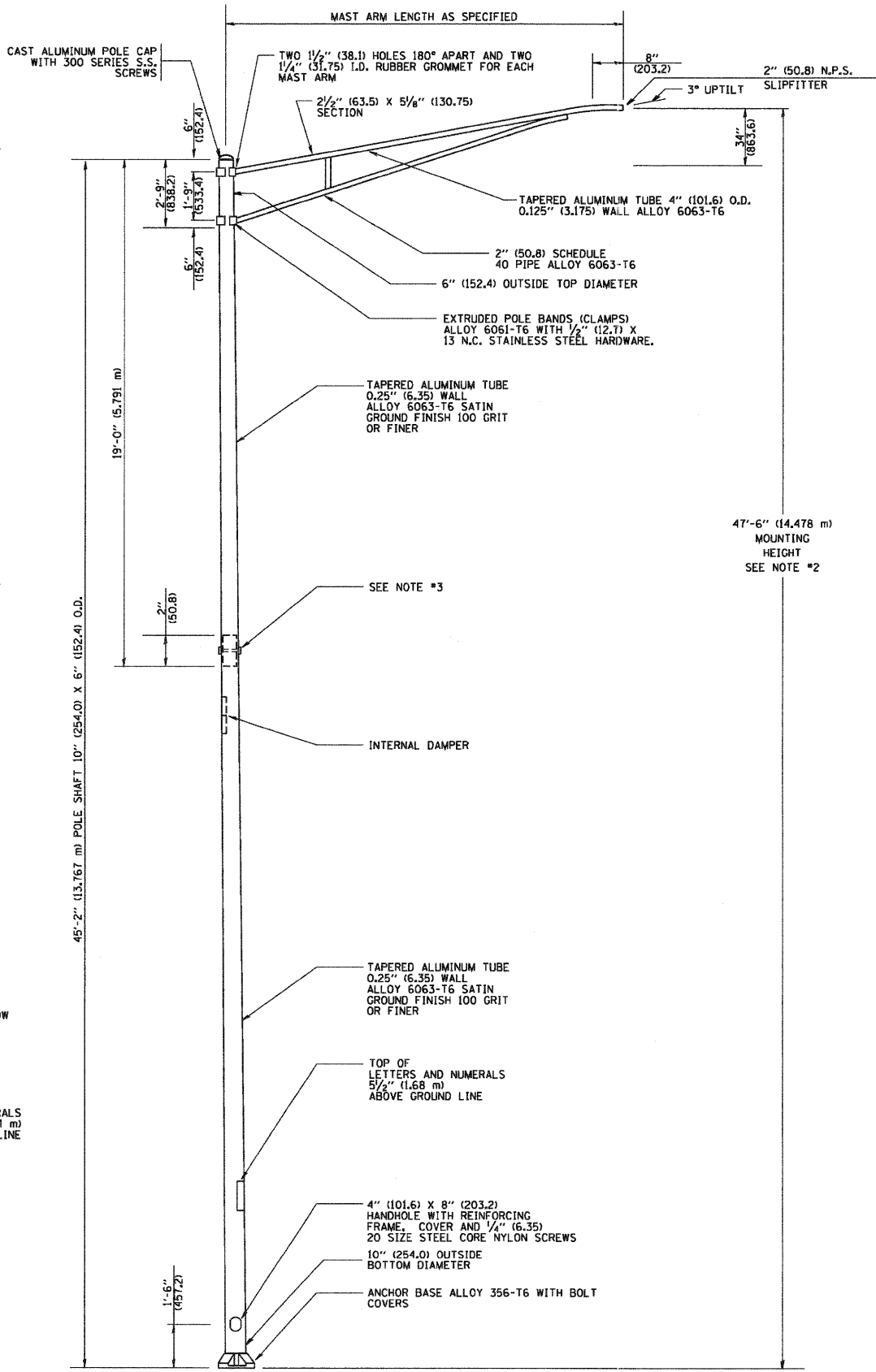
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES

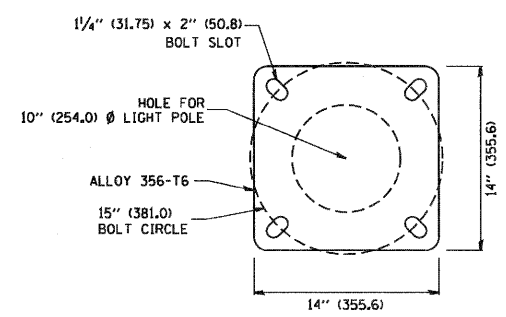


POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES

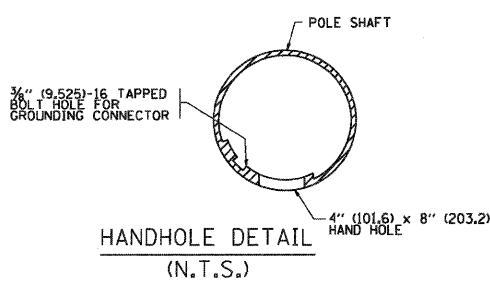


6' (1.8 m) SINGLE MEMBER MAST ARM (N.T.S.)

- NOTES:
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
  2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
  3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
  4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
  5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR, BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
  6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
  7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
  8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.

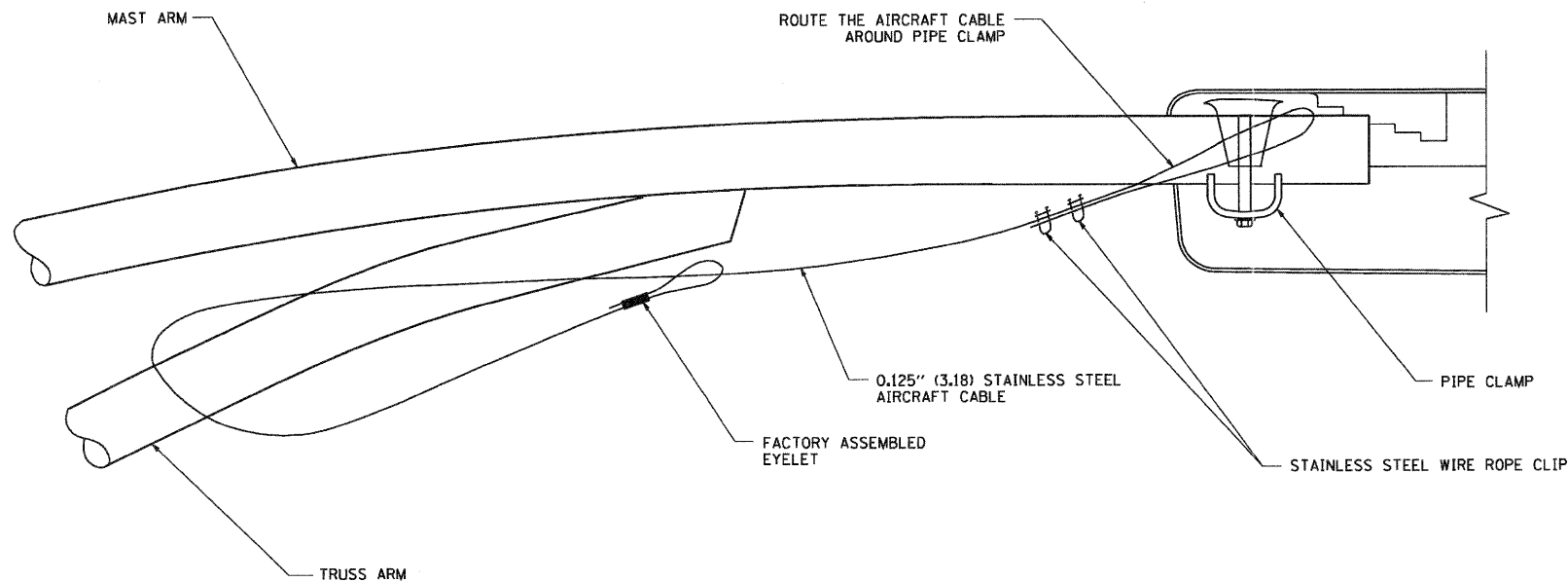


LIGHT POLE BASE PLATE DETAIL  
15 INCH (381.0) BOLT CIRCLE

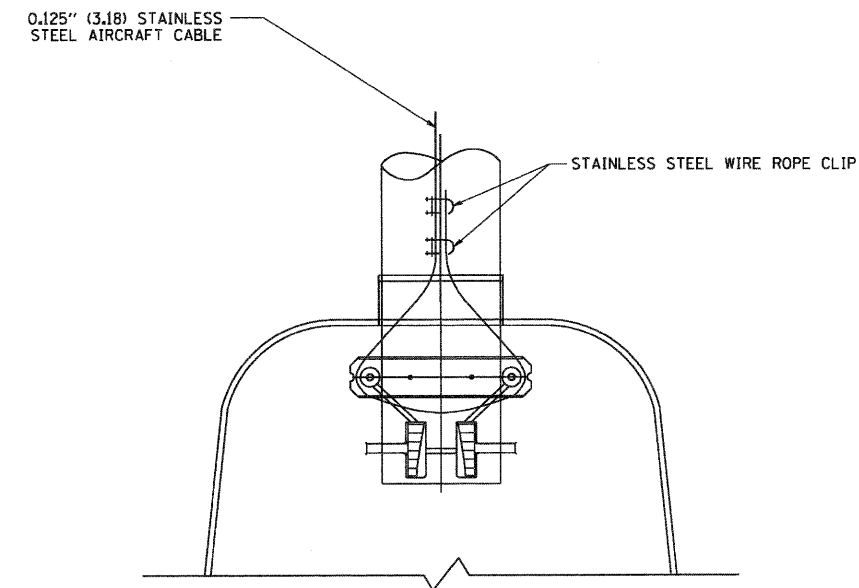


HANDHOLE DETAIL (N.T.S.)

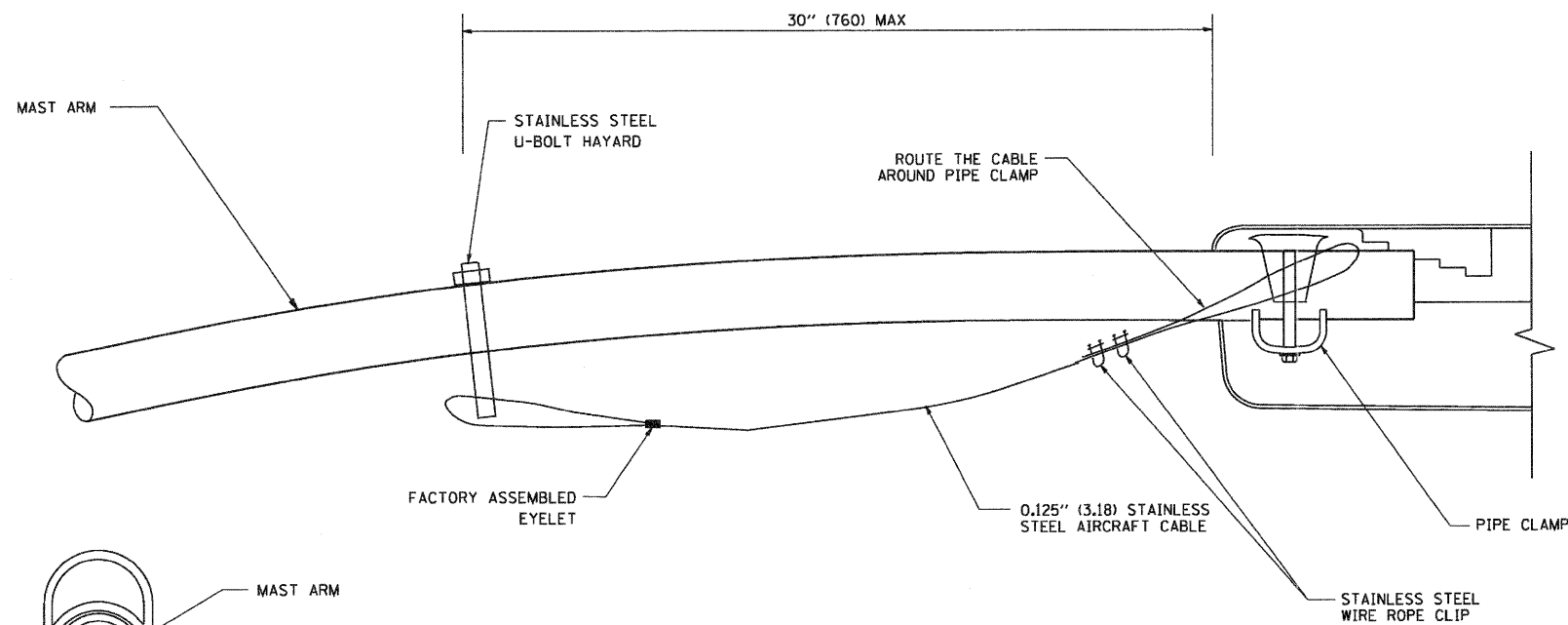
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		DRAWN -	REVISED - R. TOMSONS 09-03-03		<b>47'-6" (14.478 m) MOUNTING HEIGHT</b>		846	2010-085-TS	WILL	28	25	
		PLOT SCALE = 50.000 / IN.	CHECKED -			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT	CONTRACT NO. 60L80
		PLOT DATE = 1/4/2008	DATE -									



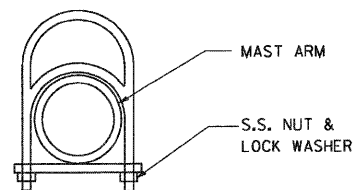
**SIDE VIEW (TRUSS ARM)**  
N.T.S.



**BOTTOM VIEW**  
N.T.S.



**SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)**  
N.T.S.

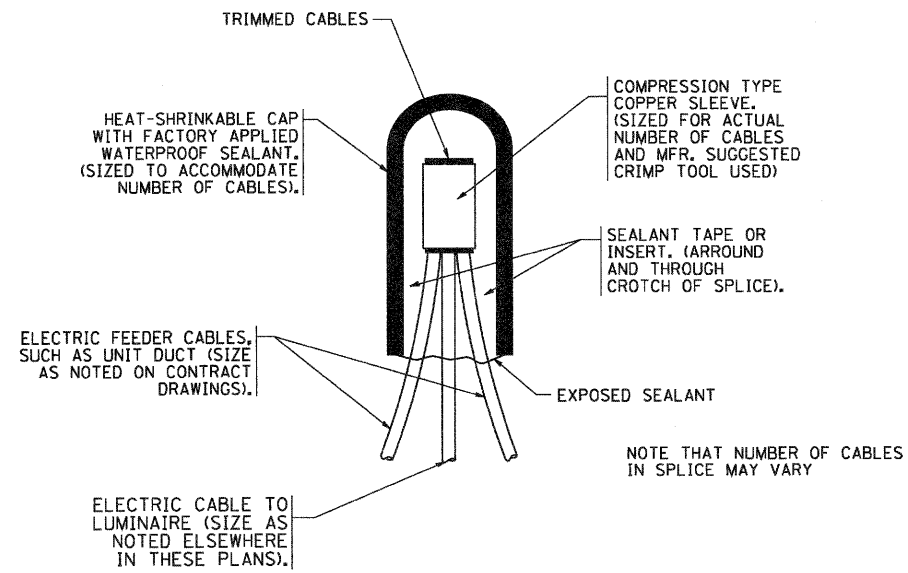


STAINLESS STEEL  
U-BOLT HAYARD

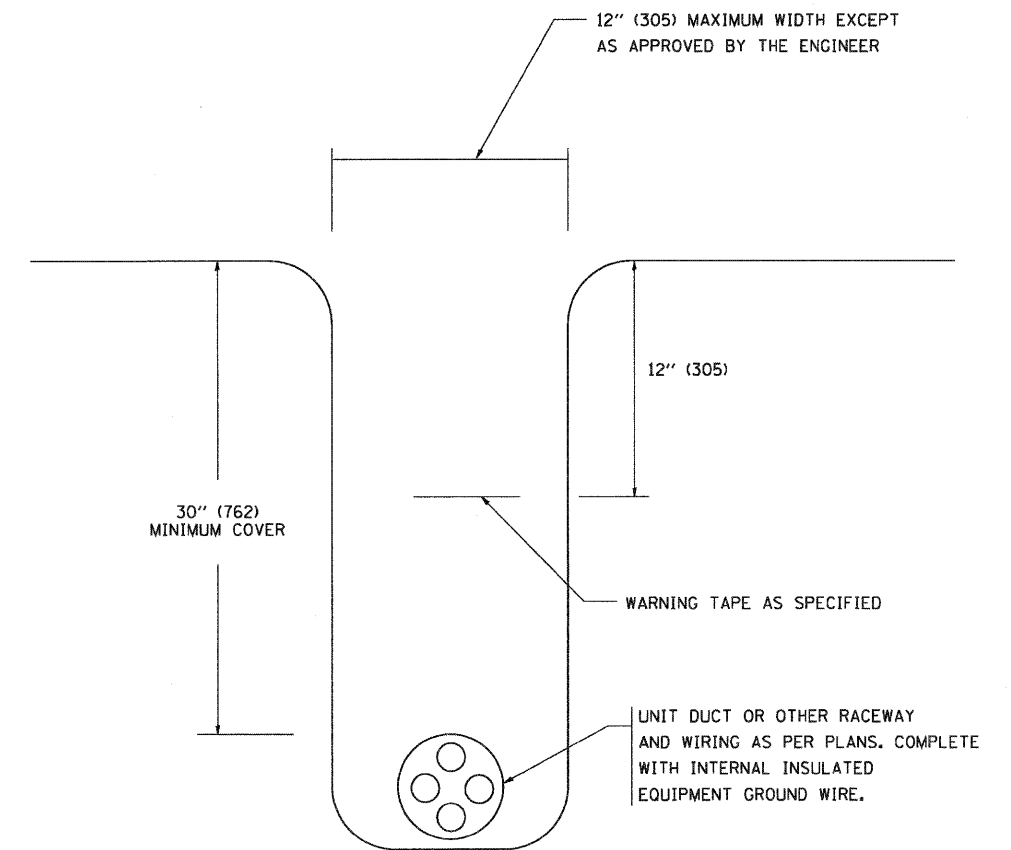
**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

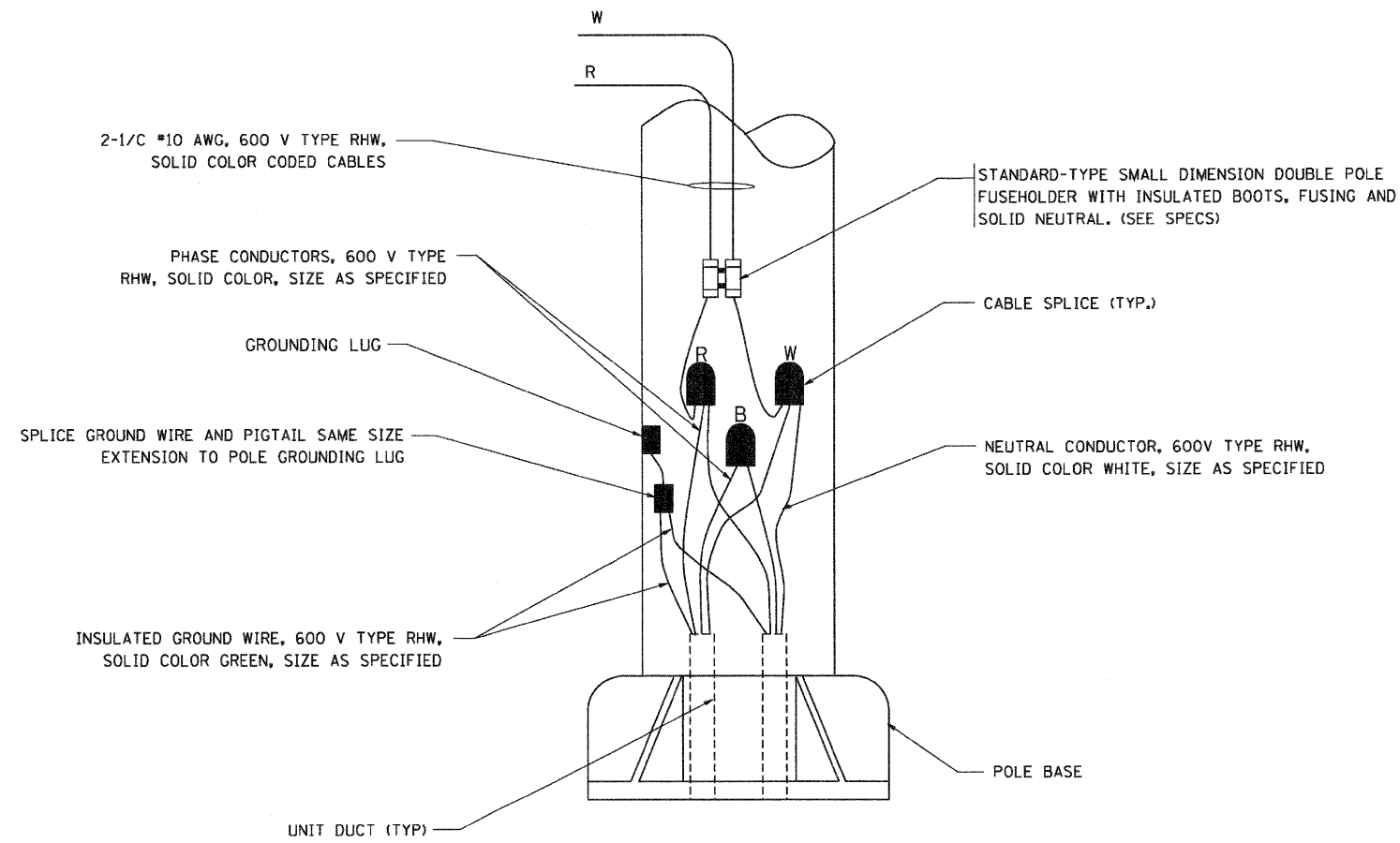
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PLOT DATE = 1/4/2008	DATE -	REVISED -						<b>BE-701</b>		CONTRACT NO. 60L80		



**TYPICAL SPLICE DETAIL**  
N.T.S.

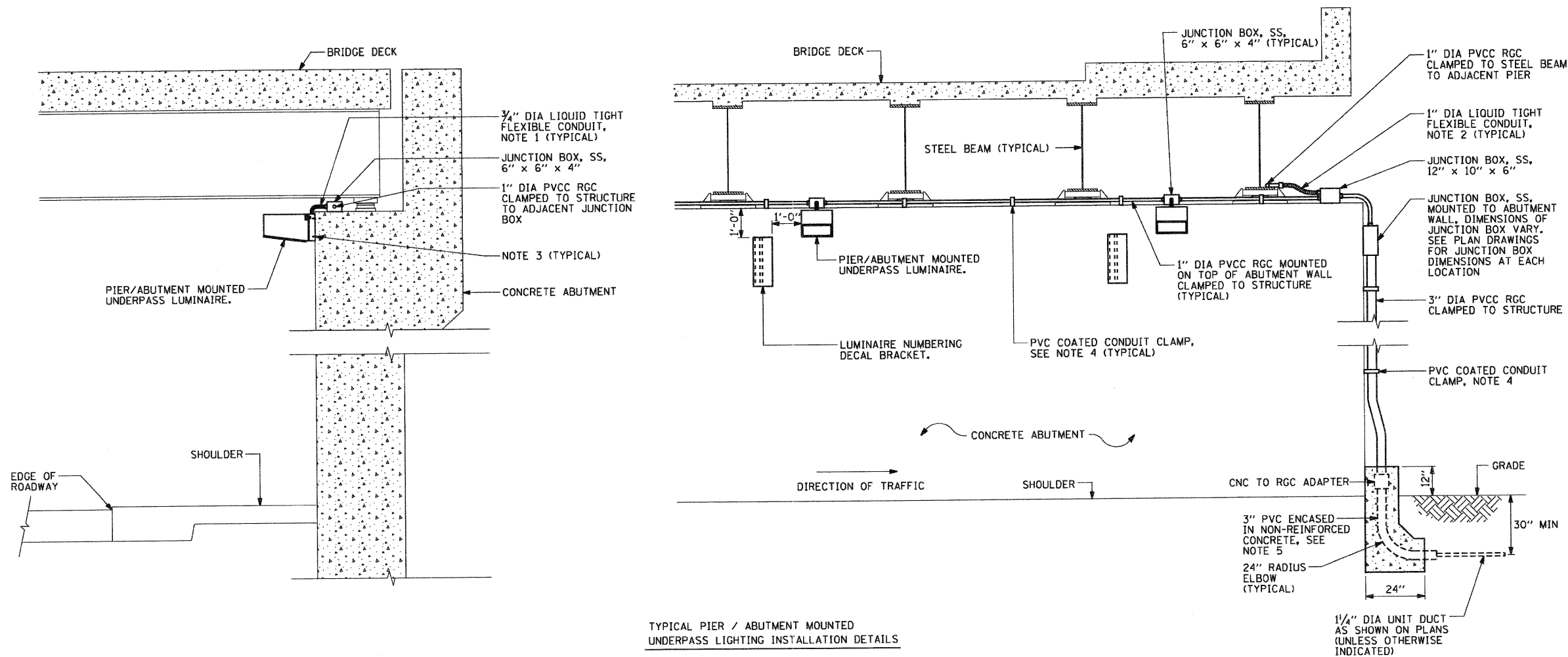


**TYPICAL WIRING IN TRENCH DETAIL**  
N.T.S.



**POLE WIRING DETAIL**  
N.T.S.

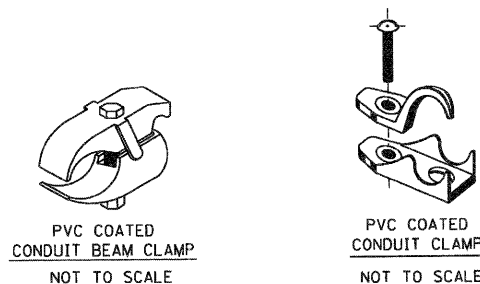
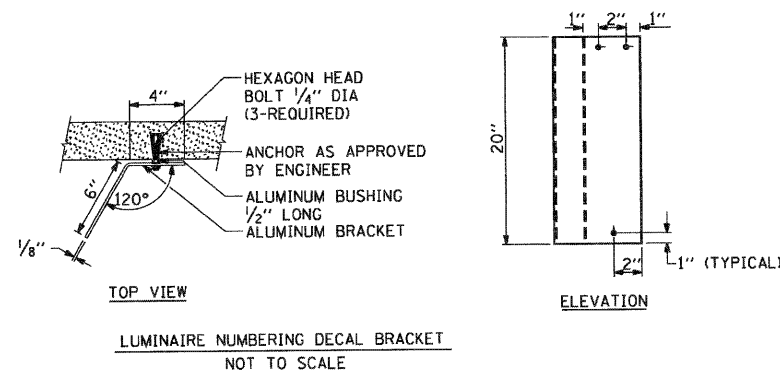
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	PLOT DATE = 1/4/2008	DATE -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	CONTRACT NO. 60L80			
								FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



TYPICAL PIER / ABUTMENT MOUNTED UNDERPASS LIGHTING INSTALLATION DETAILS

NOTES:

1. LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0". TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT THE COST OF THE 3/4" DIA. RIGID STEEL CONDUIT AND 3/4" DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE LUMINAIRE INSTALLATION.
2. UNDERPASS LUMINAIRE MOUNTED TO FACE OF PIER OR ABUTMENT WALL. MOUNTING HEIGHT OF 1" BELOW THE TOP OF PIER OR ABUTMENT WALL TYPICAL FOR ALL PIER/ABUTMENT MOUNTED UNDERPASS LUMINAIRES UNLESS OTHERWISE NOTED.
3. EXPANSION ANCHOR, POWDER ACTUATED FASTENERS WILL NOT BE ALLOWED. EXPANSION ANCHOR MUST BE SIZED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.
4. SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
5. THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
6. ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.



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	PLOT DATE = 1/4/2008	CHECKED -	REVISED -		FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT							
		DATE -	REVISED -									