

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

**PROPOSED
 HIGHWAY PLANS**

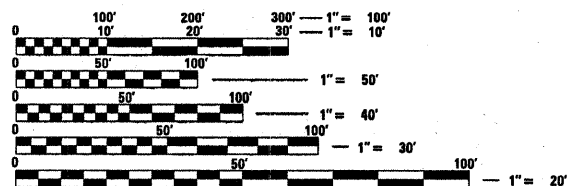
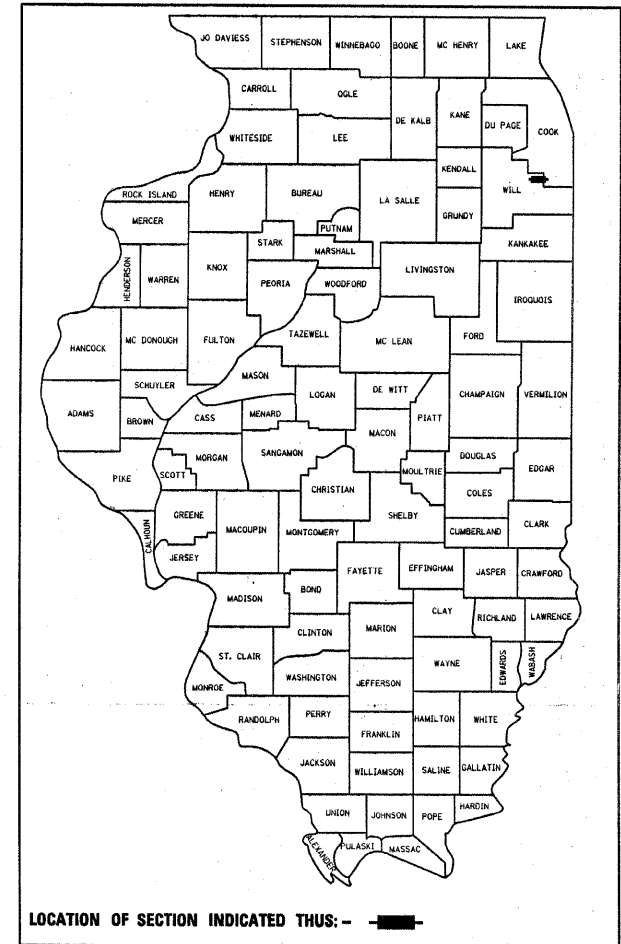
FAI ROUTE 80 (INTERSTATE 80)
 EASTBOUND FRANKFORT WEIGH STATION
 SECTION: 99-5-1-TWS-1
 WEIGH STATION SCALE REPLACEMENT
 WILL COUNTY
 C-91-491-10

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-5-1-TWS-1	WILL	16	1
		ILLINOIS	CONTRACT NO. 60K45	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

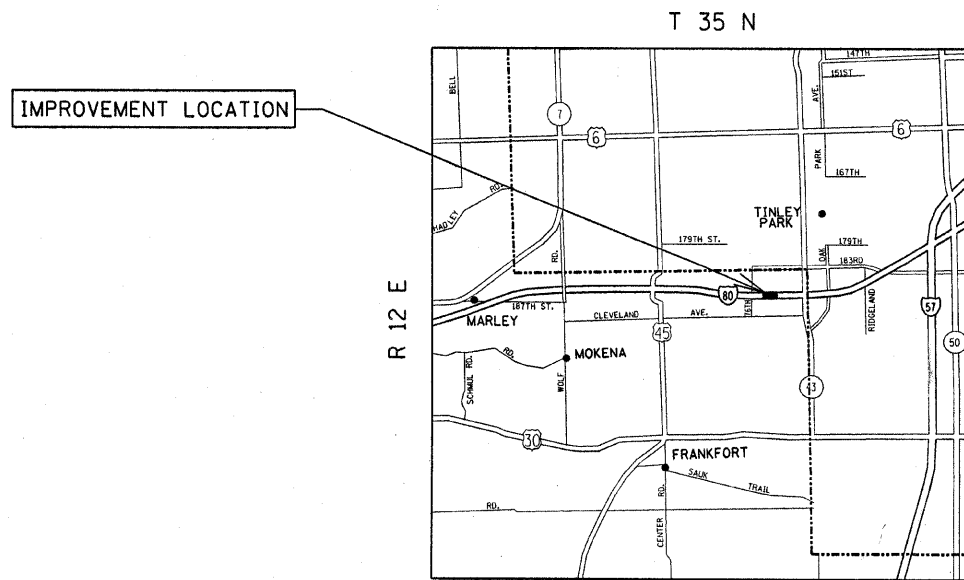
THE IMPROVEMENT IS LOCATED IN
 FRANKFORT TOWNSHIP IN WILL COUNTY.

D-91-491-10



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

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



FRANKFORT TOWNSHIP



TRAFFIC DATA

2009 ADT = 117,800
 POSTED SPEED LIMIT = 55 MPH

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED APRIL 14, 2010
Diane M. O'Keefe
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

MAY 7 2010
Scott E. Stitt, P.E.
 acting ENGINEER OF DESIGN AND ENVIRONMENT

MAY 7 2010
Christine M. Road
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

PROJECT ENGINEER: KARI SMITH (847) 705-4437
 PROJECT MANAGER: KEN ENG

CONTRACT NO. 60K45

INDEX OF SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	INDEX OF SHEETS, STATE STANDARDS & GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-9	EXISTING AND PROPOSED IMPROVEMENT PLANS
10	FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS
11-16	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS FACILITIES. (48 HOUR NOTIFICATION REQUIRED)

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.

WHEN ARTIFICIAL LIGHTING IS USED IN NIGHT OPERATIONS THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.

ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OUTSIDE THE PAVEMENT MARKING LIMITS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE

THE RESIDENT ENGINEER SHALL CONTACT MS. CORA MATHIS, AREA TRAFFIC FIELD ENGINEER, AT (815) 485-6475 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.

IF THE CONTRACTOR REMOVES, DAMAGES OR UNDERMINES THE PAVEMENT OUTSIDE OF THE LIMITS DESIGNATED BY THE ENGINEER FOR REMOVAL, HE WILL BE REQUIRED TO REPAIR THAT PORTION AT HIS OWN EXPENSE TO THE SATISFACTION OF THE ENGINEER.

THE LOCATION FOR THE RIP RAP DRAINAGE PIT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

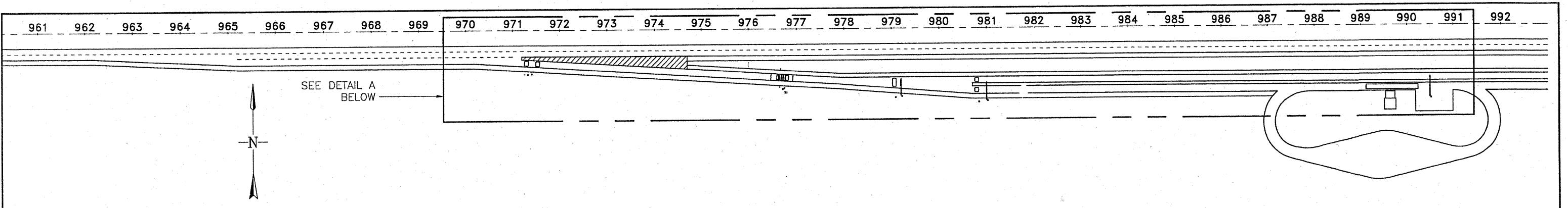
STATE STANDARDS

<u>STANDARD NO.</u>	<u>DESCRIPTION</u>
000001-05	TYPICAL SYMBOLS, ABBREVIATIONS AND PATTERNS
601001-03	SUB-SURFACE DRAINS
701901-01	TRAFFIC CONTROL DEVICES

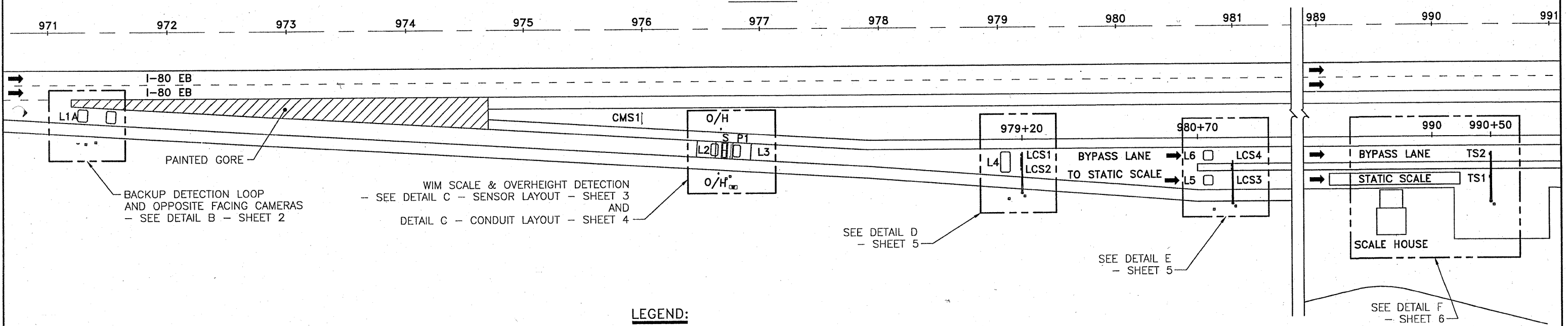
FILE NAME =	USER NAME = rosierjrn	DESIGNED J M ROSIERE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERSTATE 80 (EB WEIGH STATION SCALE REPLACEMENT) INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ci:\pe_work\pwidot\rosierjrn\d0283291\014	1118-shht-plan.dgn	DRAWN J M ROSIERE	REVISED -			80	99-5-1-TWS-I	WILL	16	2	
	PLOT SCALE = 50,0000 ' / IN.	CHECKED -	REVISED -			SCALE: NOT TO SCALE		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.	
	PLOT DATE = 4/14/2010	DATE -	REVISED -			FED. ROAD DIST. NO. 1 ILLINOIS CONTRACT NO. 60K45					

SUMMARY OF QUANTITIES			URBAN 100% STATE		CONSTRUCTION TYPE CODE					SUMMARY OF QUANTITIES			TOTAL		CONSTRUCTION TYPE CODE				
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	TRUCK SCALES (FIXED) Y222						CODE NO	ITEM	UNIT	TOTAL QUANTITIES						
67100100	MOBILIZATION	L SUM	1	1															
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6															
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1															
Z0026290	FURNISHING AND INSTALLING WEIGH-IN-MOTION COMPONENTS	L SUM	1	1															

Rev.



DETAIL A



LEGEND:

- L - INDUCTIVE LOOP
- P - PIEZOELECTRIC SENSOR
- S - SINGLE LOAD CELL SCALE
- C - CAMERA
- O/H - OVERHEIGHT DETECTOR/EMITTER
- CMS - CHANGEABLE MESSAGE SIGN
- LCS - LANE CONTROL SIGNAL
- TS - TRAFFIC SIGNAL
- J - JOINT
- 1 - SIGNAL CONDUIT
- 1 - POWER CONDUIT
- A - NOTE

GENERAL NOTES:

ALL CONNECTIONS BETWEEN SENSORS AND LEAD CABLES ARE DONE IN PULL BOX AND ARE SOLDERED THEN SEALED FOR WATERPROOFING. NUMBER AND PLACEMENT OF PULL BOXES NOT SHOWN.

POWER CABLES MUST BE RUN IN SEPARATE CONDUITS/PULLBOXES FROM SIGNAL CABLES.

SENSOR SPACING SHOWN IS TYPICAL SPACING REQUIREMENT, ACTUAL SENSOR SPACING MAY BE ALTERED TO SUIT SITE CONDITIONS BY THE IRD FIELD REPRESENTATIVE.

ROAD SURFACE MUST MEET IRD SPECIFICATIONS FOR PAVEMENT CONDITIONS TO ACHIEVE OPTIMAL SYSTEM PERFORMANCE.

CABLES MUST BE PROTECTED BY PVC SLEEVES WHERE THEY CROSS PAVEMENT JOINTS/CRACKS.

PIEZO SENSORS MUST BE A MINIMUM OF 6' [1.83m] AWAY FROM CRACKS, JOINTS OR SAWCUTS WHEN POSSIBLE.

ADDITIONAL DRAINAGE MAY BE REQUIRED DEPENDING ON SLOPE OF ROADWAY. DRAINAGE CONSISTS OF 1-1/2" ABS PIPE SLOPED TO RIP RAP DRAINAGE PIT IN DITCH.

TEMPERATURE SENSOR MUST BE INSTALLED AS SHOWN IN DRAWING.

IRD RECOMMENDS THAT PULL BOXES BE NO FURTHER THAN 200' [61m] APART. IRD RECOMMENDS THE MINIMUM SIZE FOR PULL BOXES IS 18" [45.7cm] X 18" [45.7cm] X 12" [30.5cm].

EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE. CONDUITS ARE LABELED LEFT TO RIGHT, TOP TO BOTTOM.

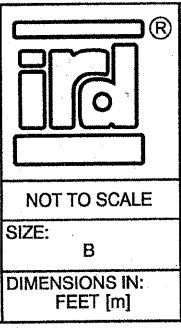
DRAWING NOT TO SCALE.

FBI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-5-1-TWS-I	WILL	16	4
STA.	STA.	ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 60K45				

REV.	DESCRIPTION	DWN/DSN	APPR.	APPR.	DATE
1	PRELIMINARY RELEASE	JGI/Sab	Sab	RCz	Aug 5/09

CONFIDENTIAL

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INTERNATIONAL ROAD DYNAMICS INC. SASKATOON SASKATCHEWAN CANADA

DWG. TITLE: **SITE LAYOUT RAMP WEIGH-IN-MOTION MOKENA, ILLINOIS I-80 EB**

DWG. No. **MILRWM01** REV.: **1**

CAD FILE: **MILRWM01.DWG** SHEET **1** OF **6**

DETAIL B

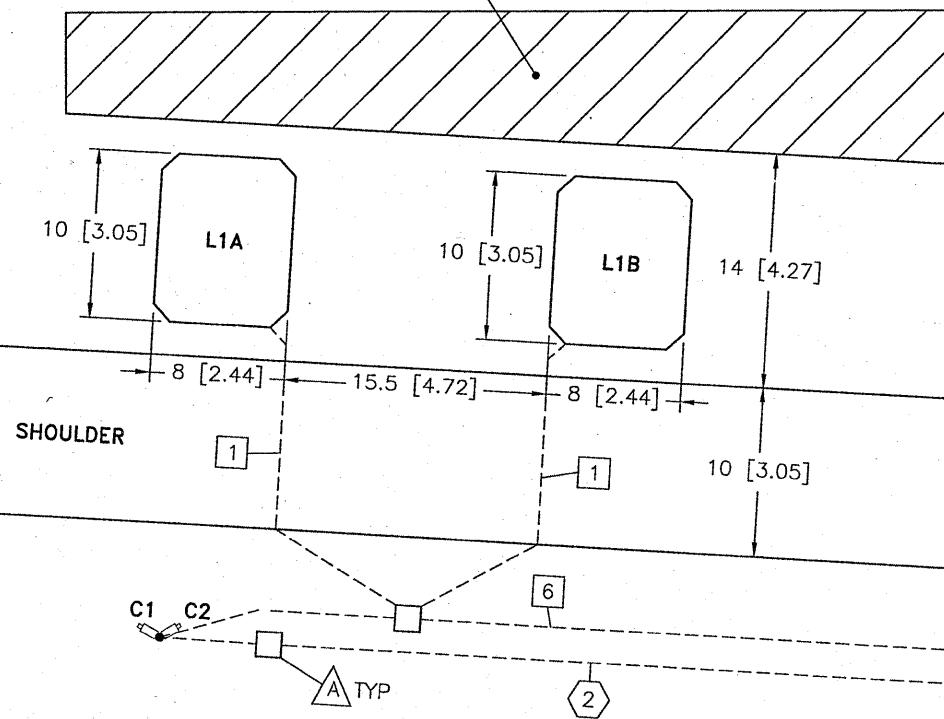
970+20

I-80 EB →

I-80 EB →

RAMP TO
STATIC SCALE →

PAINTED GORE



SIGNAL CONDUITS:

- 1 1" CONDUIT
1-2C 14AWG (LOOP WIRE)
- 2 2" CONDUIT
1-3PR 20AWG (SLC LEAD)
2-2C 18AWG (OFF-SCALE LEAD)
- 3 1" CONDUIT
1-RG58 COAXIAL CABLE (PIEZO LEAD)
- 4 2" CONDUIT
2-2C 18AWG (LOOP LEADS)
1-RG58 COAXIAL CABLE (PIEZO LEAD)
1-3PR 20AWG (SLC LEAD)
2-2C 18AWG (OFF-SCALE LEAD)
1-TEMPERATURE SENSOR LEAD T1
- 5 1" CONDUIT
1-TEMPERATURE SENSOR LEAD T1
- 6 2" CONDUIT
1-12 STRAND MULTIMODE FIBER OPTIC CABLE
1-2C 14AWG (LOOP WIRE)
- 7 2" CONDUIT
1-12 STRAND MULTIMODE FIBER OPTIC CABLE
- 8 2" CONDUIT
1-12 STRAND MULTIMODE FIBER OPTIC CABLE
3-2C 14AWG (LOOP WIRE)
- 9 2" CONDUIT
1-12 STRAND MULTIMODE FIBER OPTIC CABLE
2-2C 14AWG (LOOP WIRE)
- 10 2" CONDUIT
1-2C 18AWG (OVERHEIGHT LEAD)

POWER CONDUITS:

- 1 E1 ENCLOSURE
- 2 2" CONDUIT
1-2C + GND 6AWG (POLE MOUNT CAMERA BOX POWER)
- 3 2" CONDUIT
1-3C + GND 14AWG (LCS POWER)
- 4 2" CONDUIT
2-3C + GND 14AWG (LCS POWER)
- 5 2" CONDUIT
2-2C + GND (OVERHEIGHT POWER)
- 6 2" CONDUIT
1-2C + GND (OVERHEIGHT POWER)

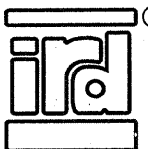
FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-5-1-TWS-I	WILL	16	5
STA.	STA.	ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 60K45				

NOTES:

△ PULL BOX.

REV.	DESCRIPTION	DWN/DSN	APPR.	APPR.	DATE
1	PRELIMINARY RELEASE	JGI/Sab	Sab	RCz	Aug 5/09

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DIMENSIONS IN: FEET [m]

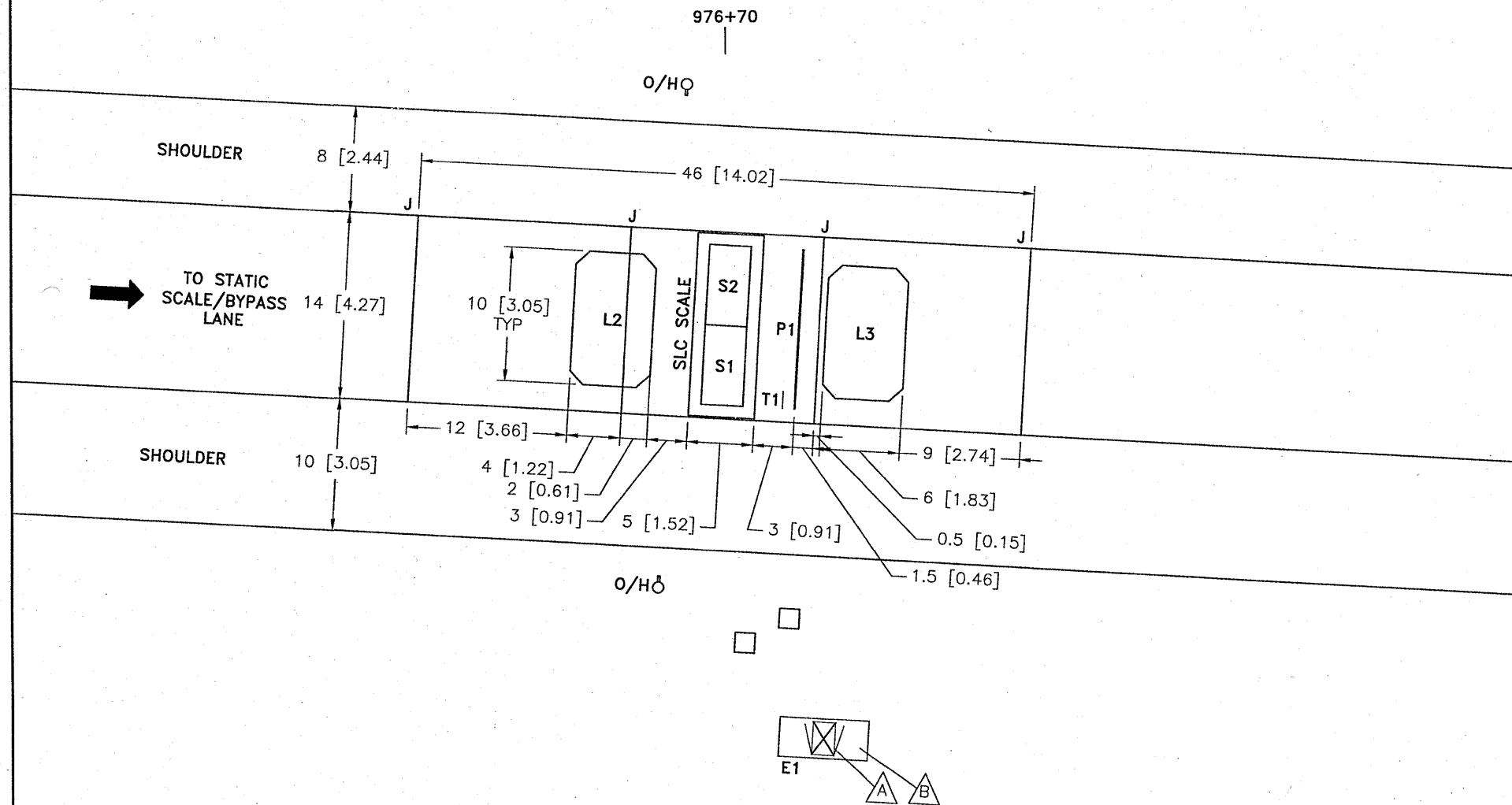
INTERNATIONAL ROAD DYNAMICS INC.
SASKATOON SASKATCHEWAN CANADA

DWG. TITLE: **SITE LAYOUT RAMP WEIGH-IN-MOTION MOKENA, ILLINOIS I-80 EB**

DWG. No. **MILRWM01** REV.: 1

CAD FILE: MILRWM01.DWG SHEET 2 OF 6

DETAIL C - SENSOR LAYOUT



NOTES:

- A CABINET WITH WIM ELECTRONICS.
- B CABINET BASE.

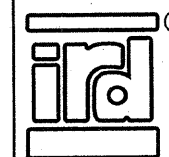
FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-5-1-TWS-I	WILL	16	6
STA.	STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 60K45

REV.	DESCRIPTION	DWN/DSN	APPR.	APPR.	DATE
1	PRELIMINARY RELEASE	JG/Sab	SAb	RCz	Aug 5/09

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DIMENSIONS IN: FEET [m]

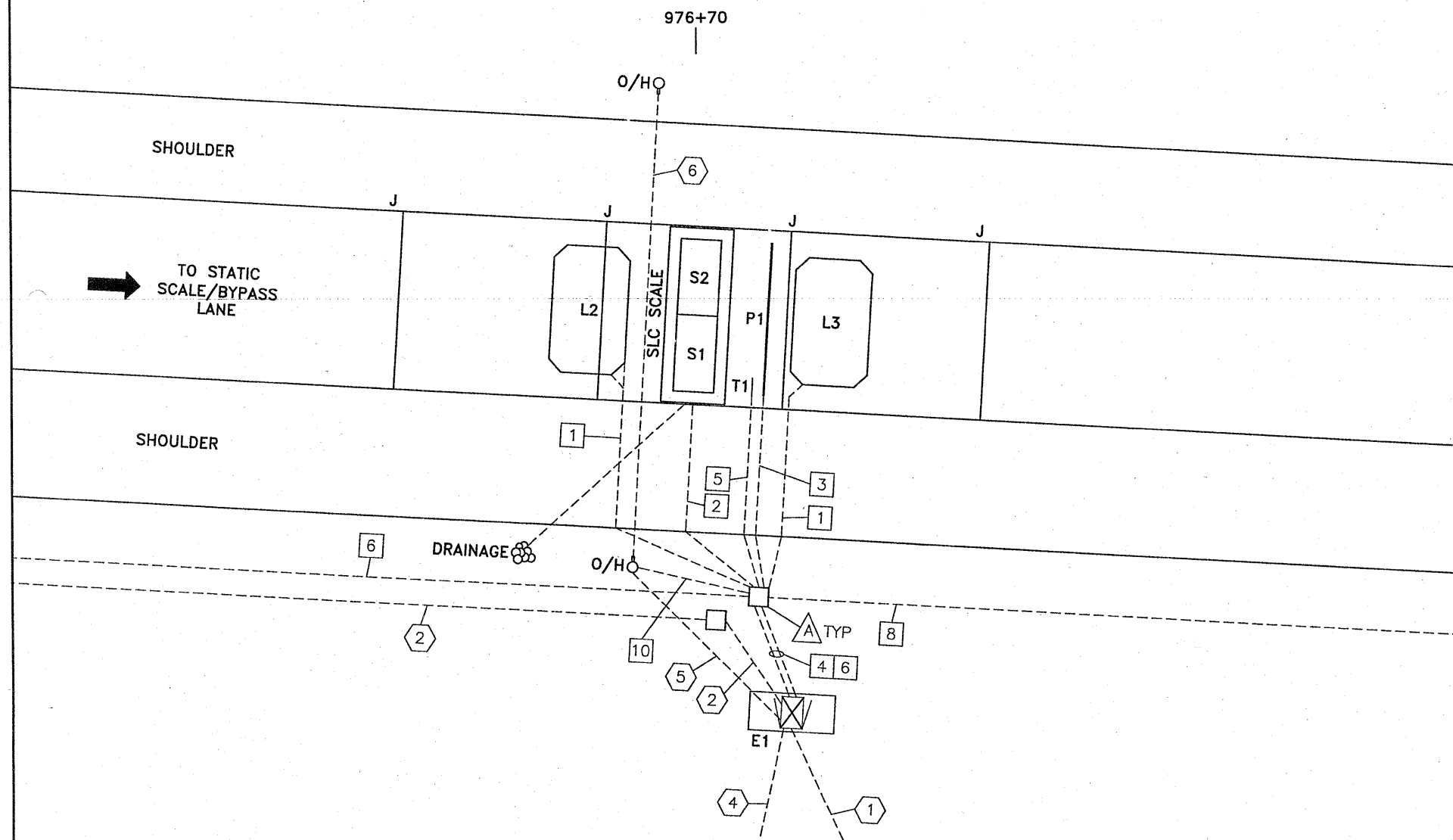
**INTERNATIONAL ROAD DYNAMICS INC.
SASKATOON SASKATCHEWAN CANADA**

DWG. TITLE:
**SITE LAYOUT
RAMP WEIGH-IN-MOTION
MOKENA, ILLINOIS I-80 EB**

DWG. No. **MILRWM01** REV.: 1

CAD FILE: MILRWM01.DWG SHEET 3 OF 6

DETAIL C - CONDUIT LAYOUT



NOTES:

PULL BOX.

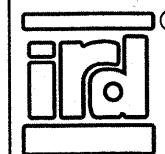
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80	99-5-1-TWS-I	WILL	16	7
STA.		STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 60K45

REV.	DESCRIPTION	DWN/DSN	APPR.	APPR.	DATE
1	PRELIMINARY RELEASE	JGi/SAb	SAb	RCz	Aug 5/09

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DIMENSIONS IN: FEET [m]

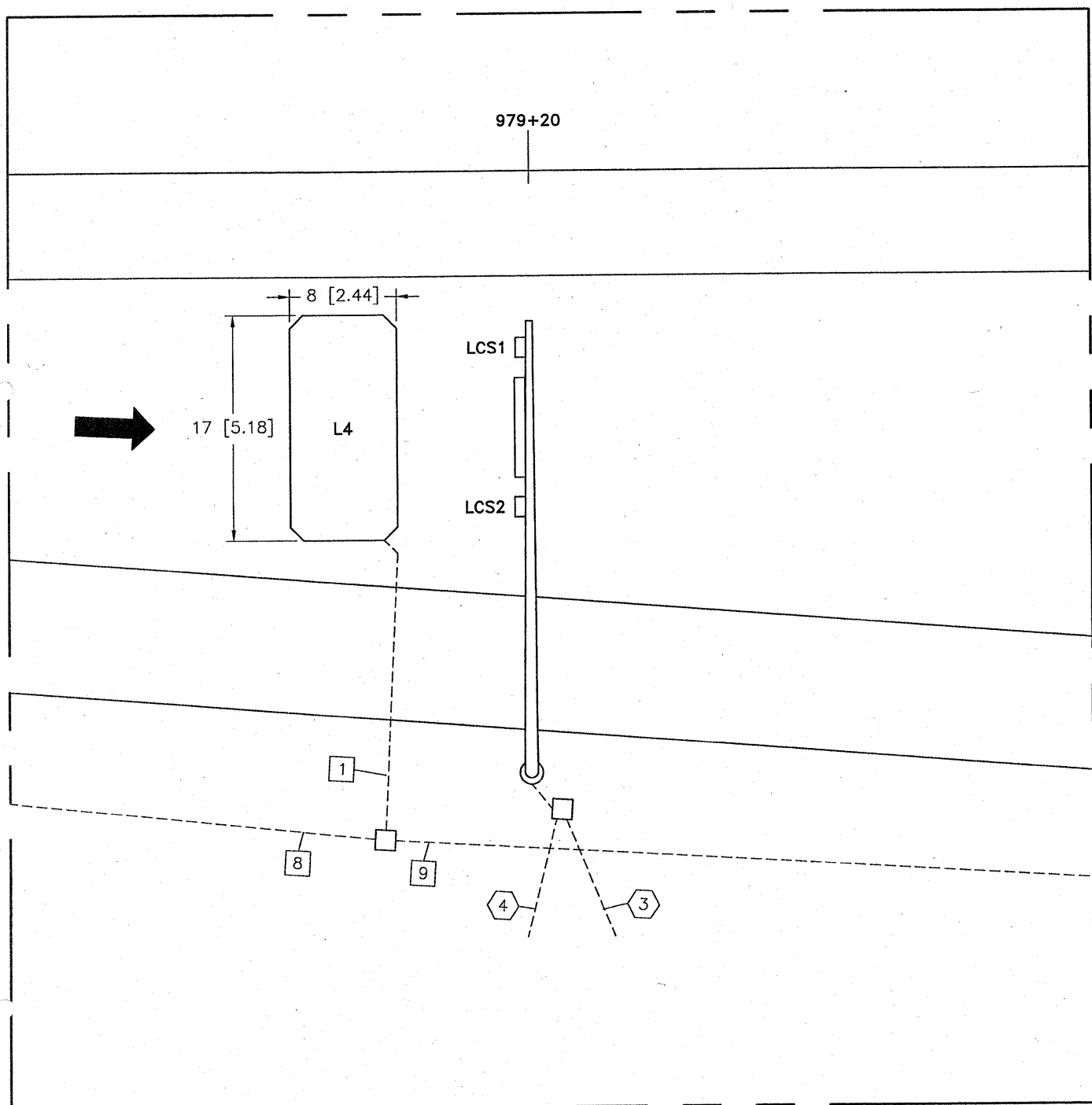
**INTERNATIONAL ROAD DYNAMICS INC.
SASKATOON SASKATCHEWAN CANADA**

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**SITE LAYOUT
RAMP WEIGH-IN-MOTION
MOKENA, ILLINOIS I-80 EB**

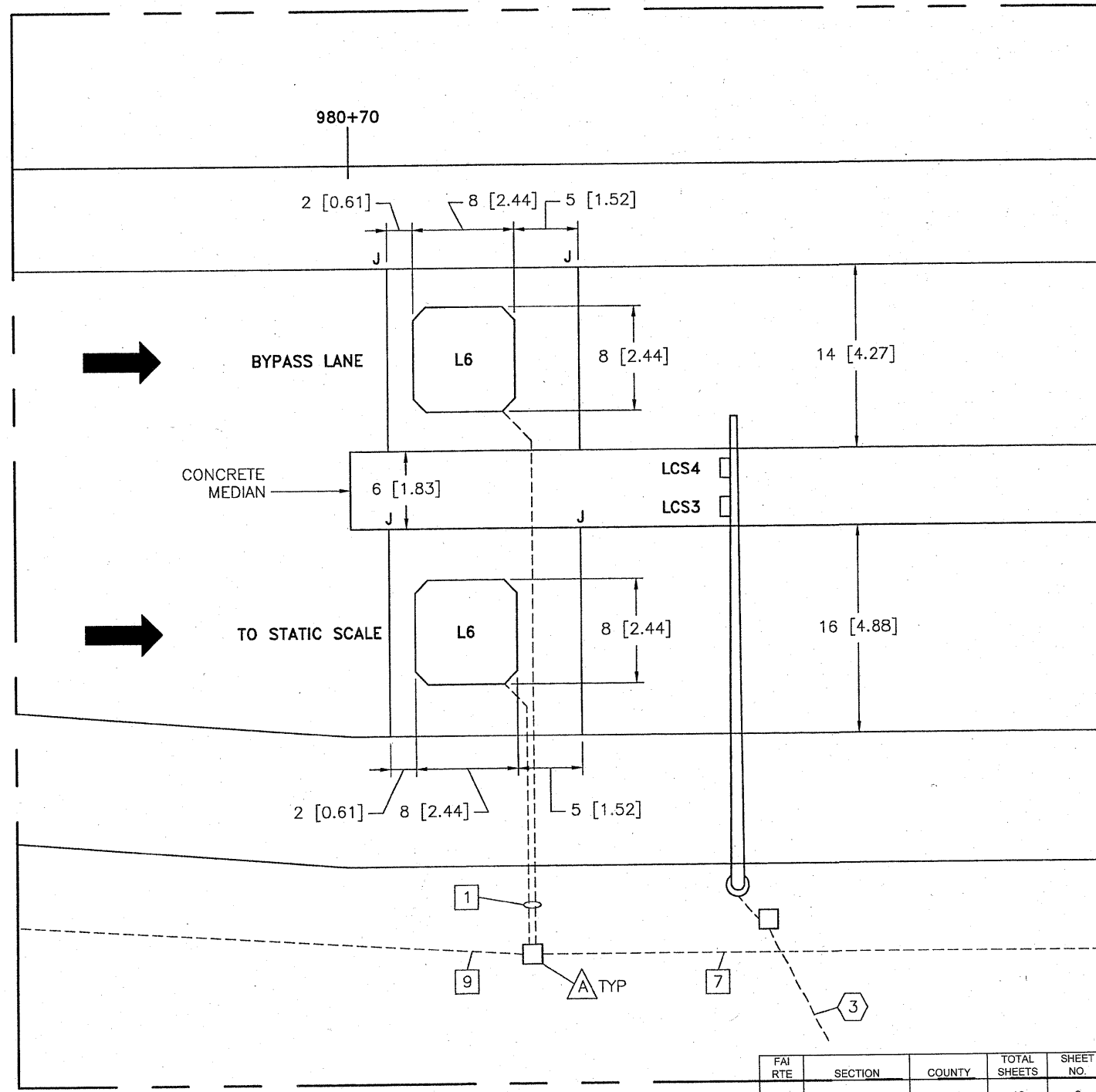
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CAD FILE: MILRWM01.DWG SHEET 4 OF 6

DETAIL D



DETAIL E



FAI	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	STA.	ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 60K45				

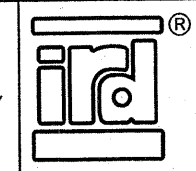
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PULL BOX.

REV.	DESCRIPTION	DWN/DSN	APPR.	APPR.	DATE
1	PRELIMINARY RELEASE	JGi/Sab	SAb	RCz	Aug 5/09

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INTERNATIONAL ROAD DYNAMICS INC. SASKATOON SASKATCHEWAN CANADA

DWG. TITLE: **SITE LAYOUT RAMP WEIGH-IN-MOTION MOKENA, ILLINOIS I-80 EB**

NOT TO SCALE

SIZE: B

DIMENSIONS IN: FEET [m]

DWG. No. **MILRWM01**

CAD FILE: MILRWM01.DWG

REV.: 1

SHEET 5 OF 6

DETAIL F

990

990+50



BYPASS LANE



STATIC SCALE

SCALE HOUSE

TS2

TS1

3

1

A

NOTES:

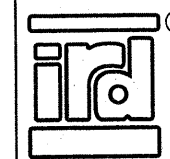
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FAI	SECTION	COUNTY	TOTAL	SHEET
RTE	99-5-1-TWS-1	WILL	SHEETS	NO.
80			16	9
STA.		STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 60K45				

REV.	DESCRIPTION	DWN/DSN	APPR.	APPR.	DATE
1	PRELIMINARY RELEASE	JGi/Sab	SAb	RCz	Aug 5/09

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SIZE: B

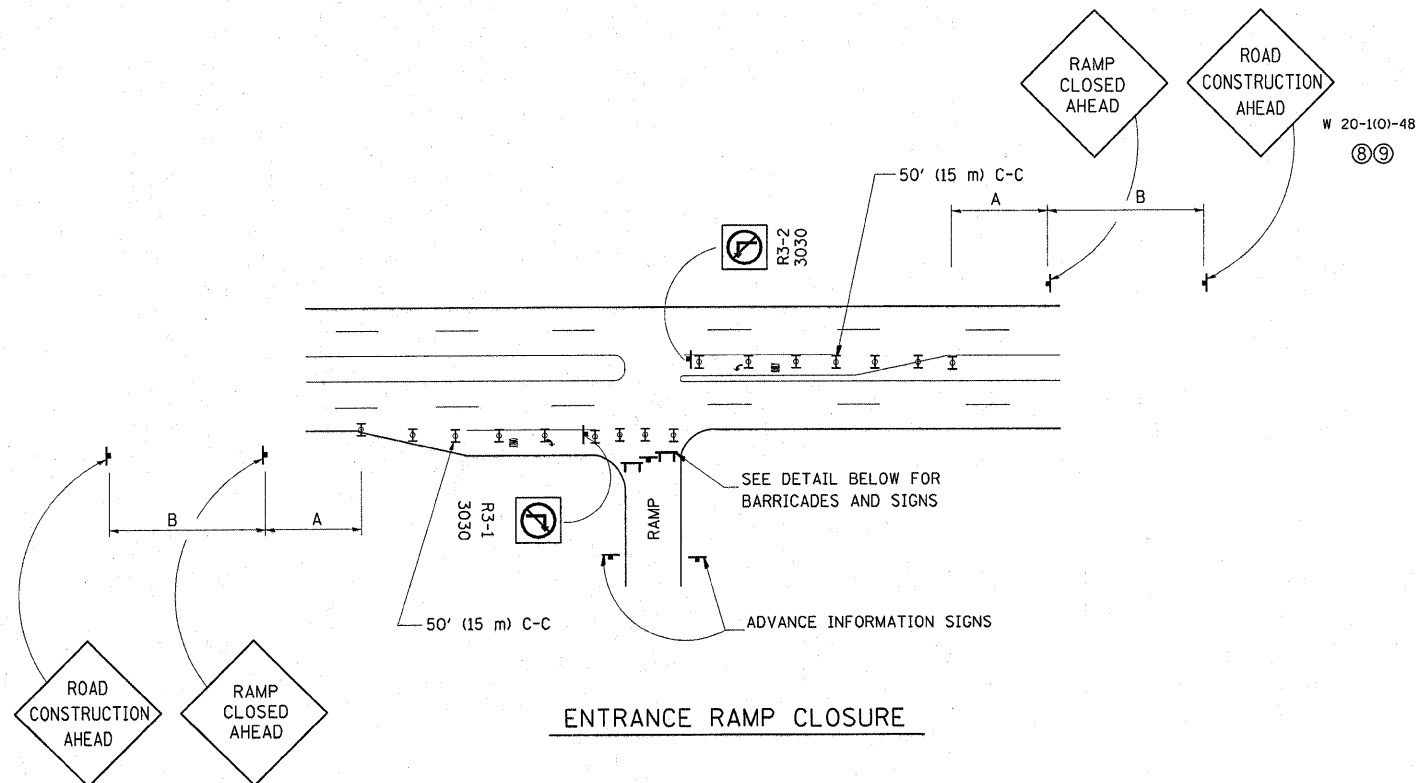
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**INTERNATIONAL ROAD DYNAMICS INC.
SASKATOON SASKATCHEWAN CANADA**

DWG. TITLE:
**SITE LAYOUT
RAMP WEIGH-IN-MOTION
MOKENA, ILLINOIS I-80 EB**

DWG. No. **MILRWM01** REV.: 1

CAD FILE: **MILRWM01.DWG** SHEET 6 OF 6

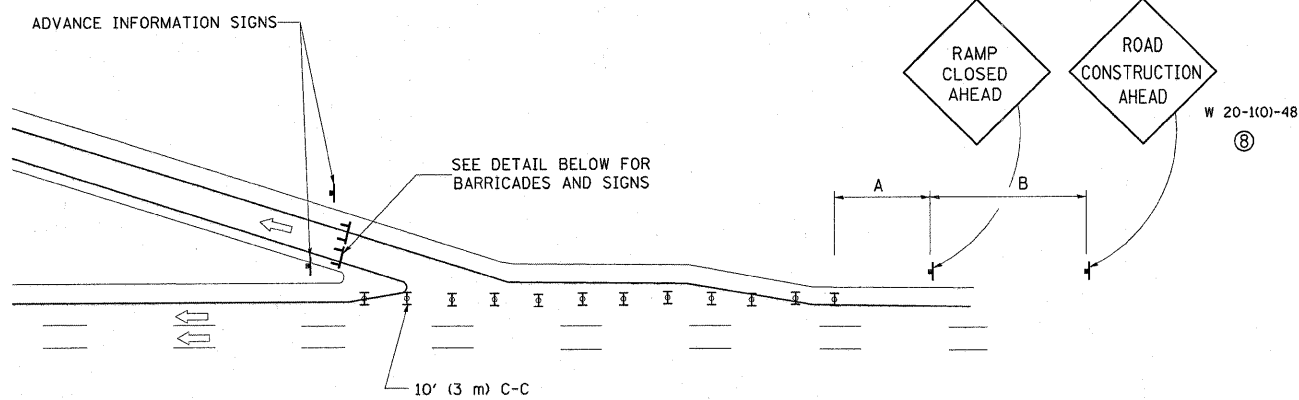


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL ≥45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	150' (45 m)	150' (45 m)

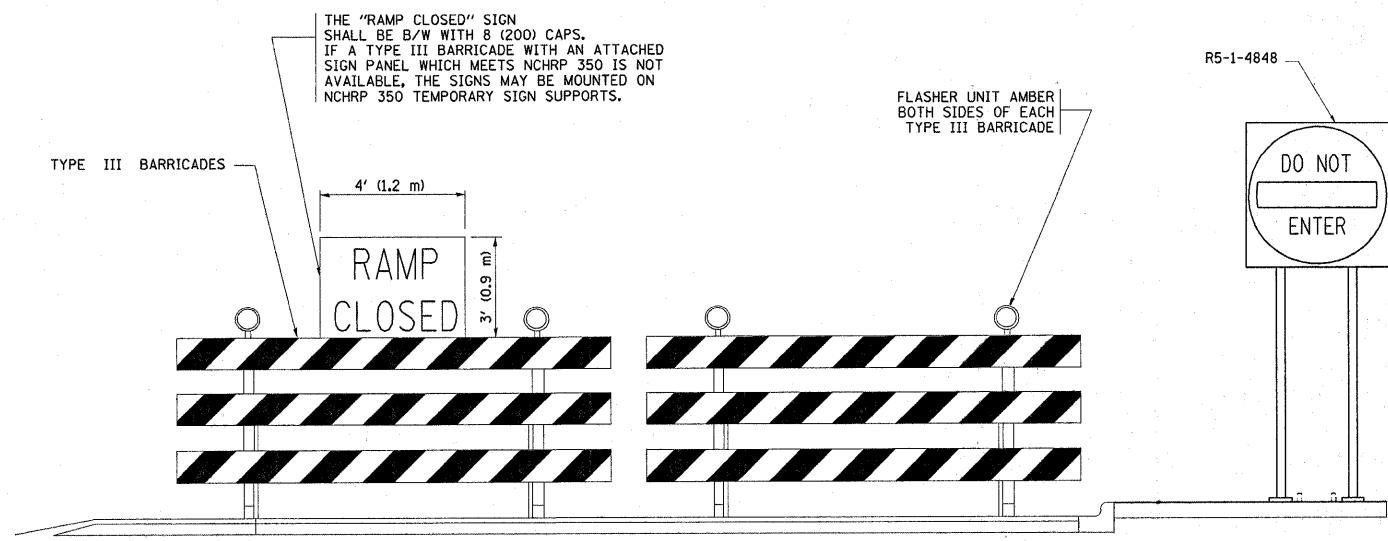
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



EXIT RAMP CLOSURE

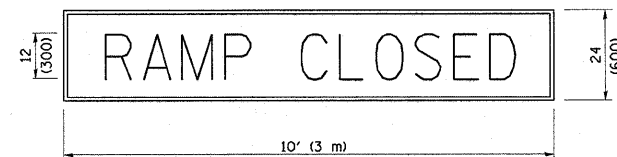
SYMBOLS

- ⊥ TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- ⊥ TYPE III BARRICADE WITH FLASHING LIGHT



DETAIL FOR REQUIRED BARRICADES & SIGNS

RAMP CLOSURE ADVANCE WARNING SIGN

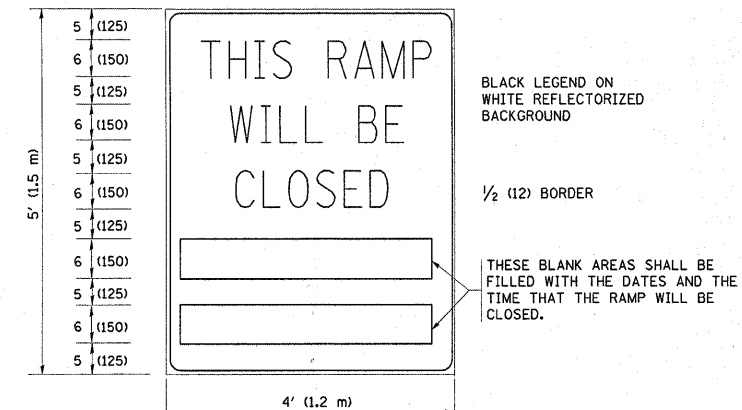


BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND

1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMPS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND

1/2 (12) BORDER

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

GENERAL NOTES:

- ① CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- ② STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
- ③ A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.
- ④ ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
- ⑤ THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- ⑥ AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- ⑦ THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED TWENTY-FOUR (24) HOURS IN LENGTH.
- ⑧ ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- ⑨ ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED ON CLOSURES LESS THAN 24 HOURS IN DURATION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = rosierj	DESIGNED - DWS	REVISED - DWS/JAF 12-02
ct:\pwork\PW100T\ROSIERJ\J0203291\Draw\std.dgn		DRAWN -	REVISED - JAF 02-06
	PLOT SCALE = 50.0000 / / IN.	CHECKED -	REVISED - SPB 01-07
	PLOT DATE = 4/14/2010	DATE - 02-83	REVISED - SPB 12-09

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FREWAY ENTRANCE AND EXIST RAMP
CLOSURE DETAILS**

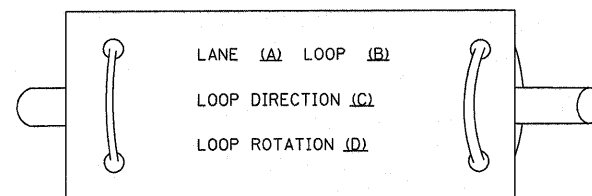
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-5-1-TWS-1	WILL	16	10
TC-08		CONTRACT NO. 60K45		
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				

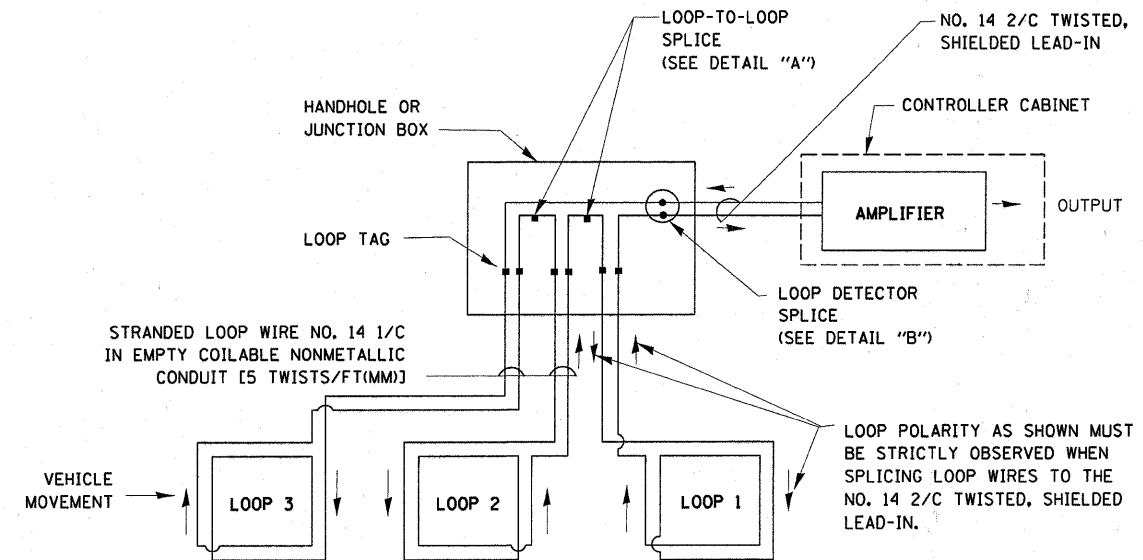
LOOP DETECTOR NOTES

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

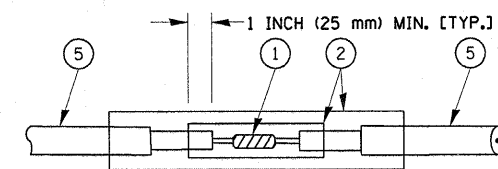


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

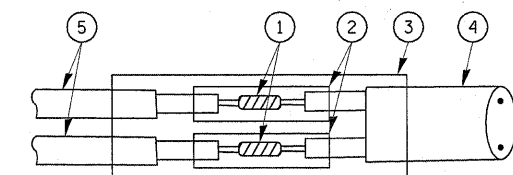


DETECTOR LOOP WIRING SCHEMATIC

- 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.

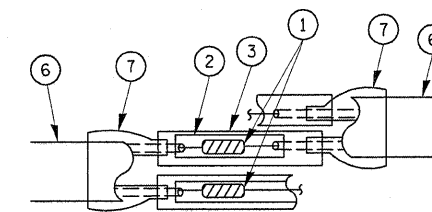


DETAIL "A"
LOOP-TO-LOOP SPLICE

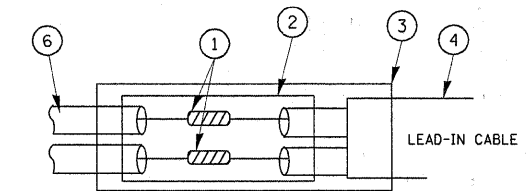


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

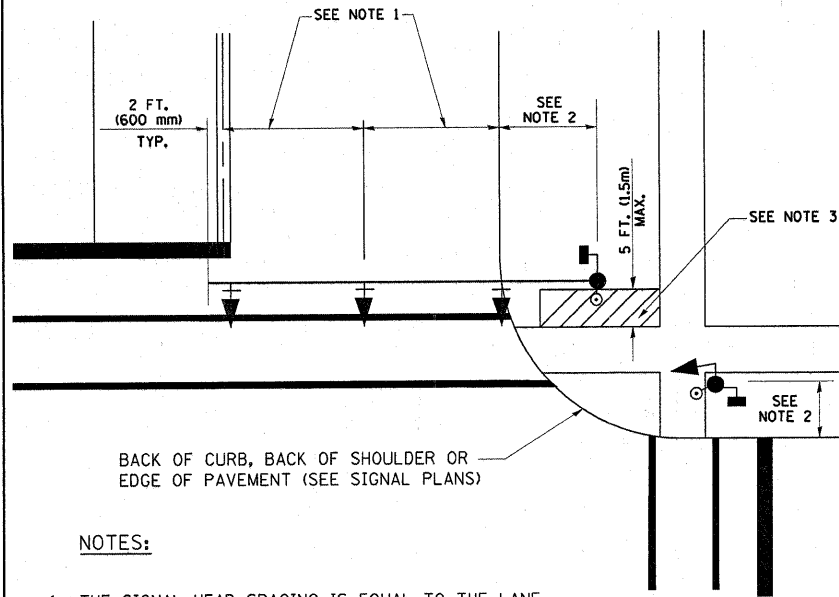
LOOP DETECTOR SPLICE

- 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 = rosierejm	DESIGNED - DAD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS			F.A.I. RTE. 80	SECTION 99-5-1-TWS-I	COUNTY WILL	TOTAL SHEETS 16	SHEET NO. 11
at:\pwork\FWIDOT\ROSIEREJM\d203291\DistStd.dgn		DRAWN - BCK	REVISED -		SCALE: NONE	SHEET NO. 1 OF 6 SHEETS	STA. TO STA.	TS-05		CONTRACT NO. 60K45		
PLOT SCALE = 50.0000' / IN.		CHECKED - DAD	REVISED -		FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT							
PLOT DATE = 4/14/2010		DATE - 10-28-09	REVISED -									

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

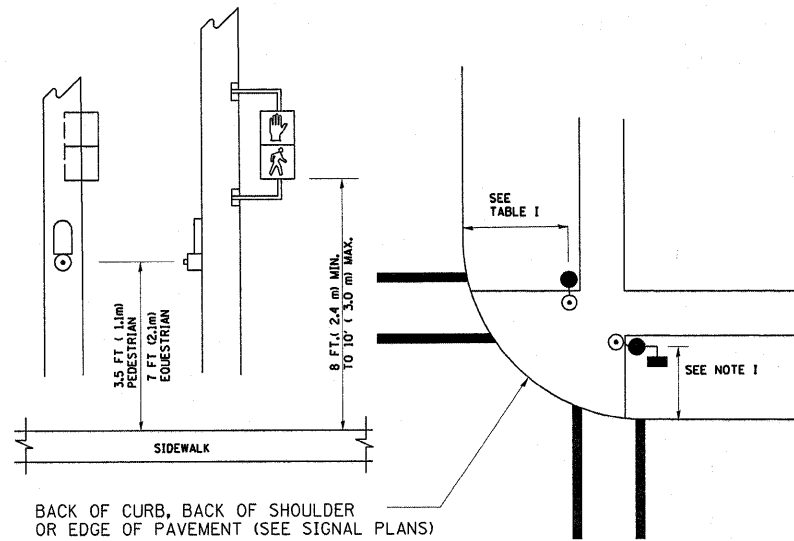
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



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."

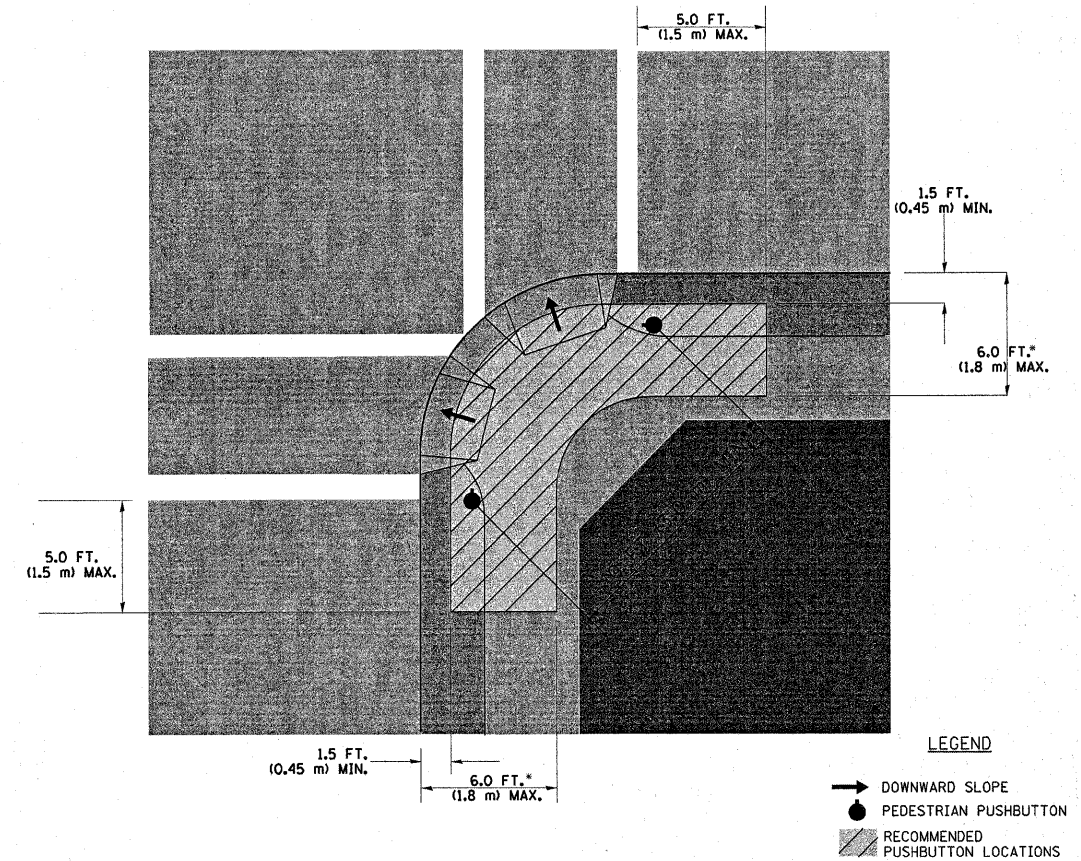
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



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



- * 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:

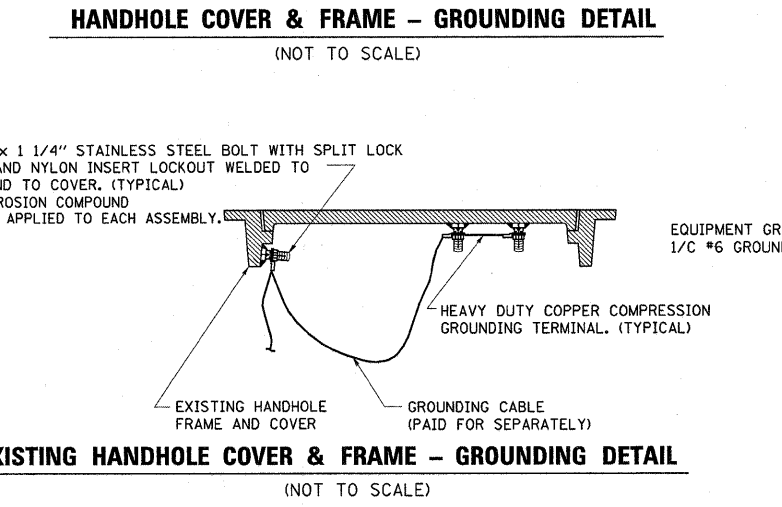
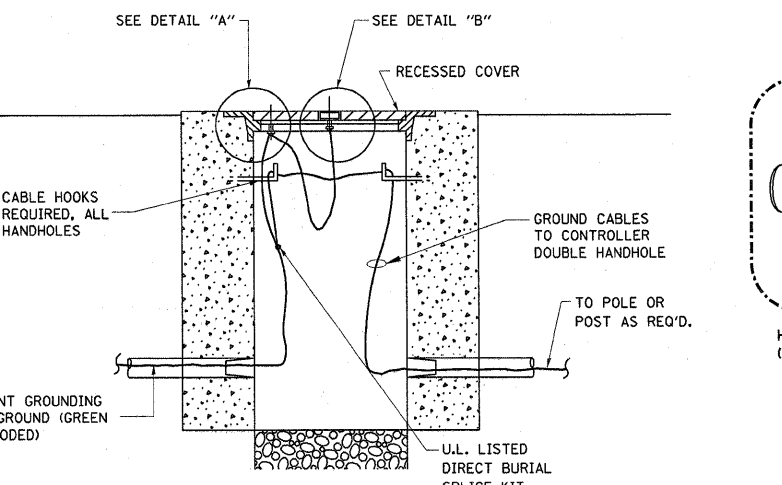
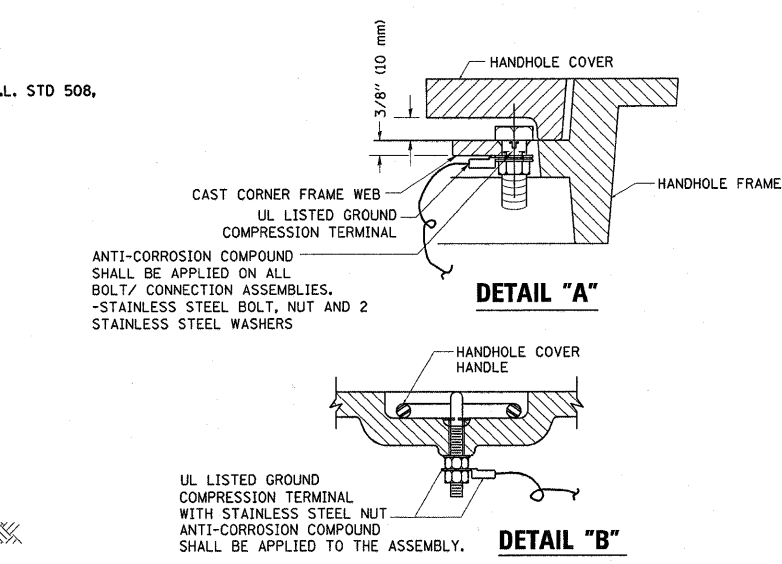
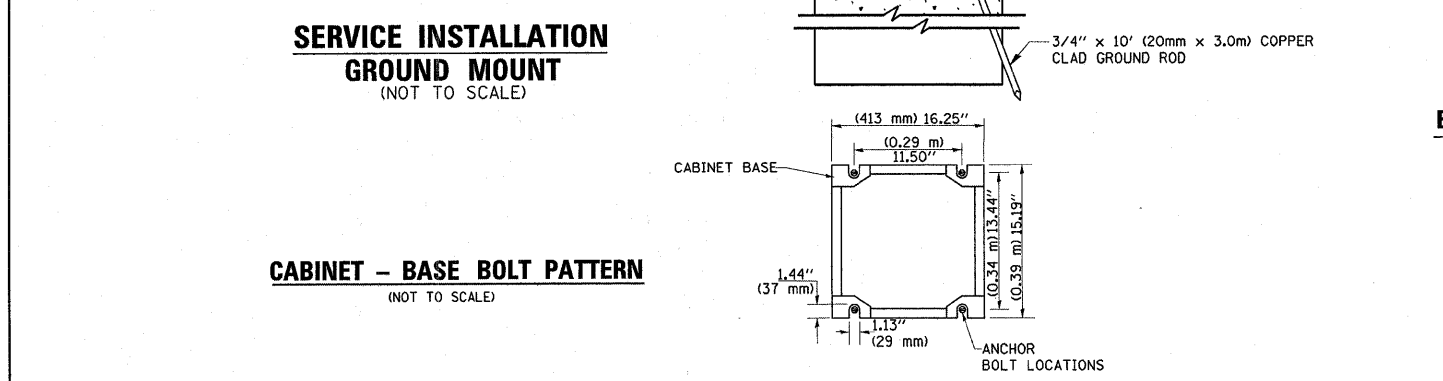
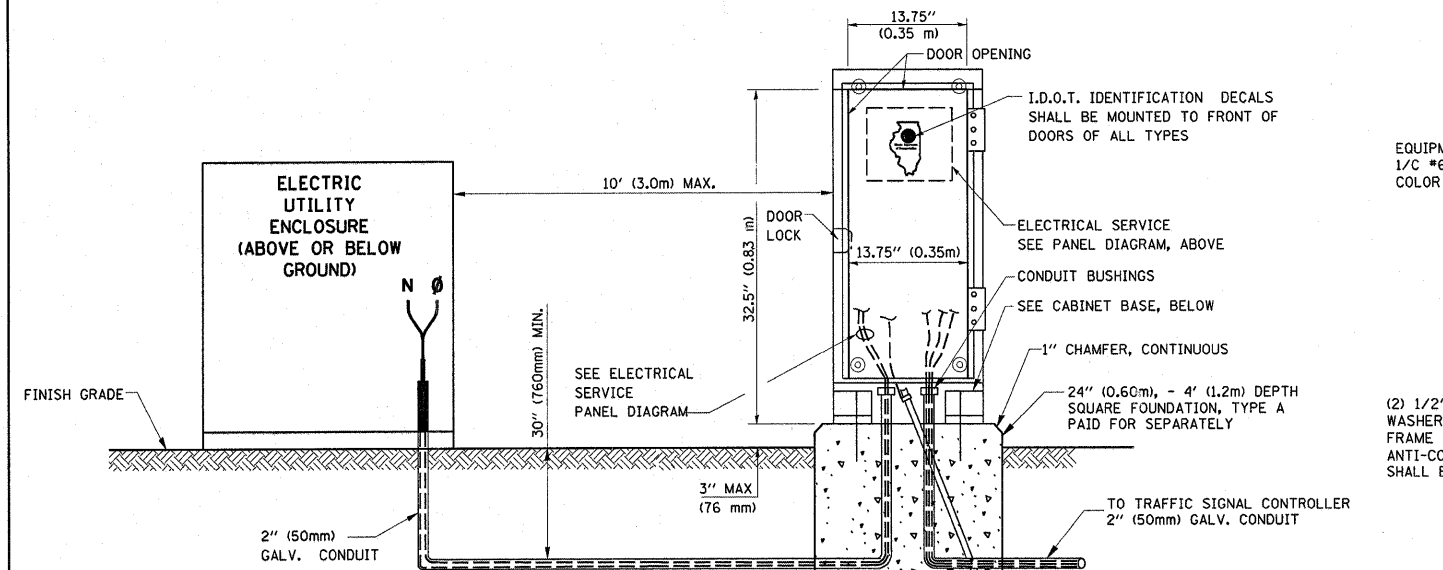
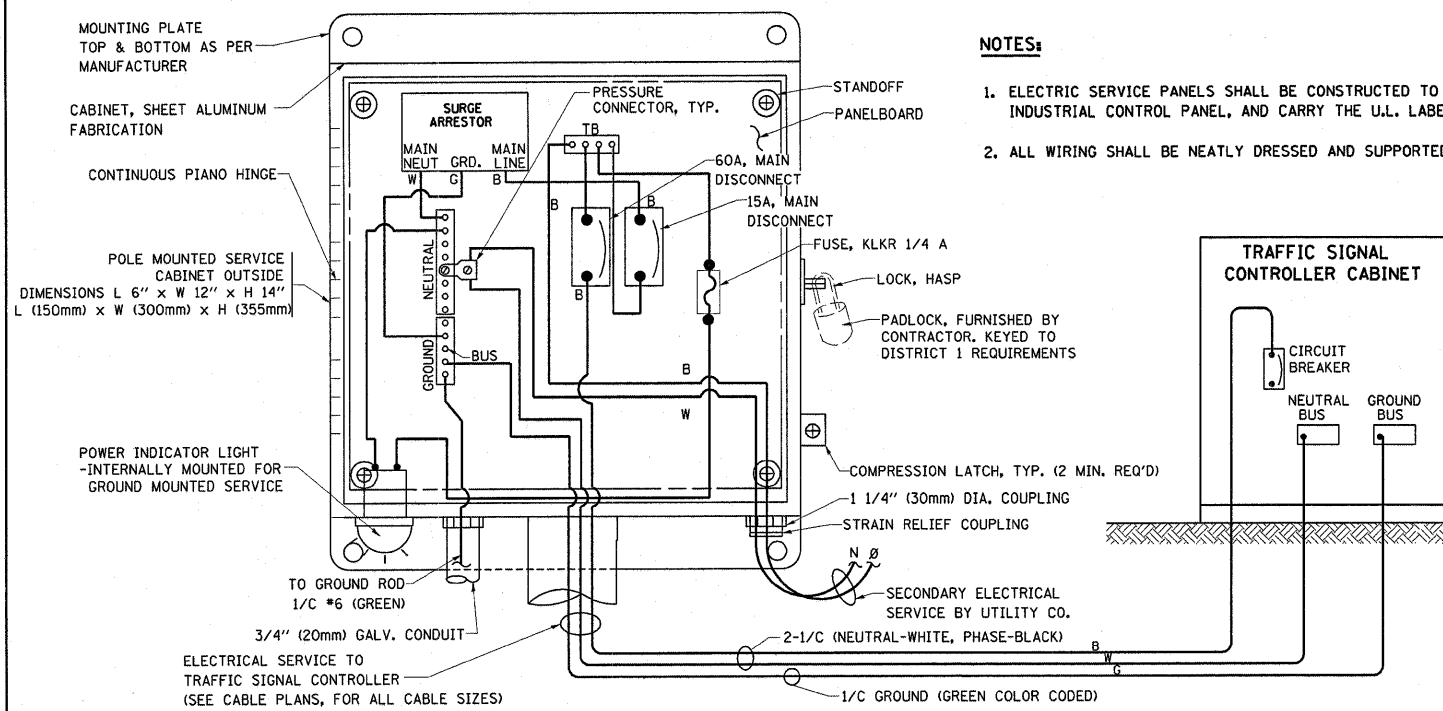
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM 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:

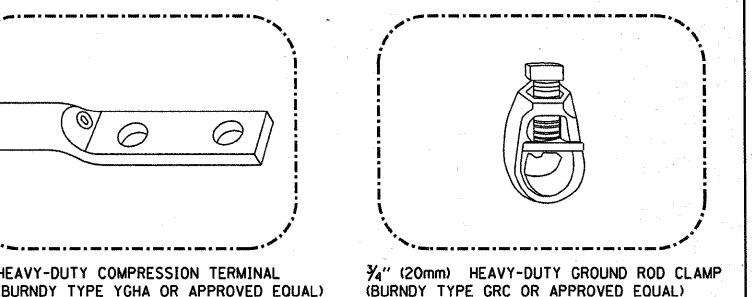
1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM 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.



NOTES:

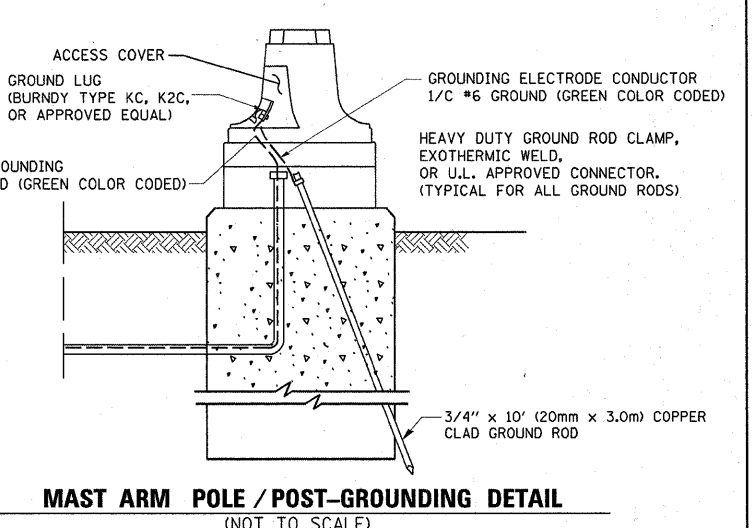
GROUNDING SYSTEM

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.

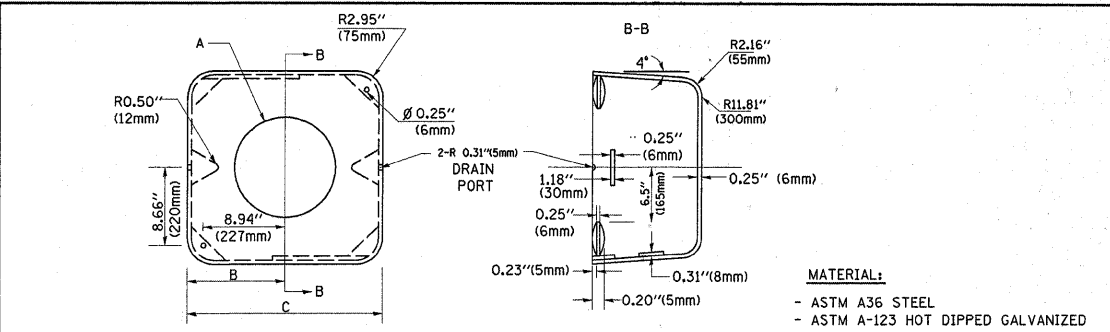
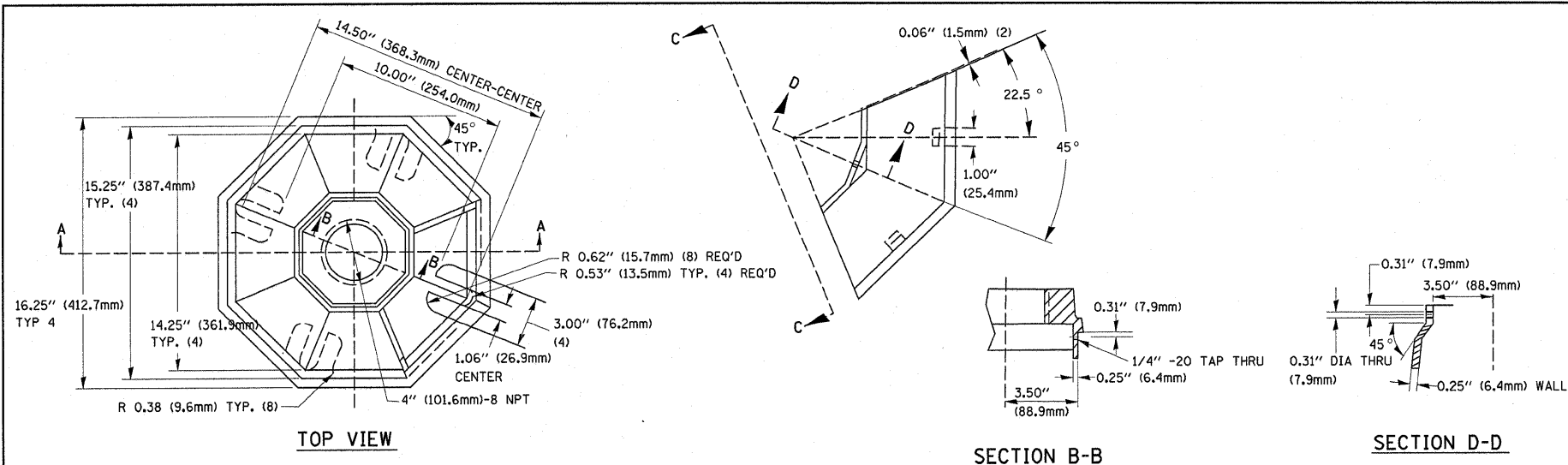


NOTES:

- 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.



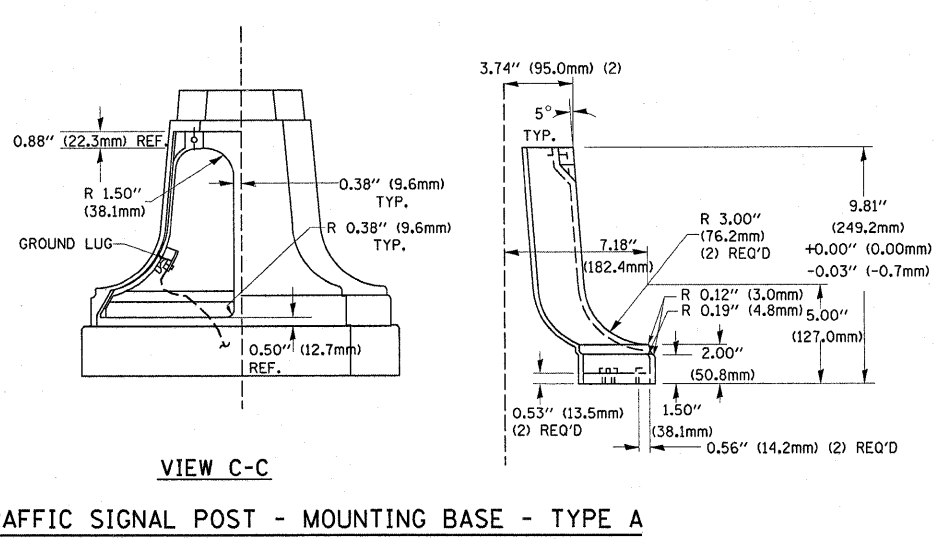
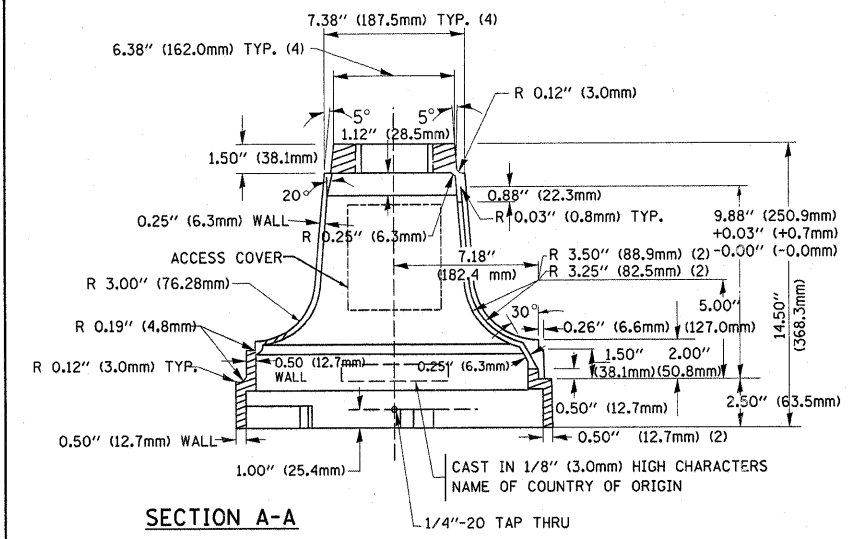
FILE NAME =	USER NAME = rosierejm	DESIGNED - DAD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS			F.A.I. RTE. 80	SECTION 99-5-1-TWS-1	COUNTY WILL	TOTAL SHEETS 16	SHEET NO. 13
PLT SCALE = 50.0000 / IN.	PLT DATE = 4/14/2010	DRAWN - BCK	REVISED -		SCALE: NONE	SHEET NO. 3 OF 6 SHEETS	STA. TO STA.	TS-05		CONTRACT NO. 60K45		
		CHECKED - DAD	REVISED -		FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT							
		DATE - 10-28-09	REVISED -									



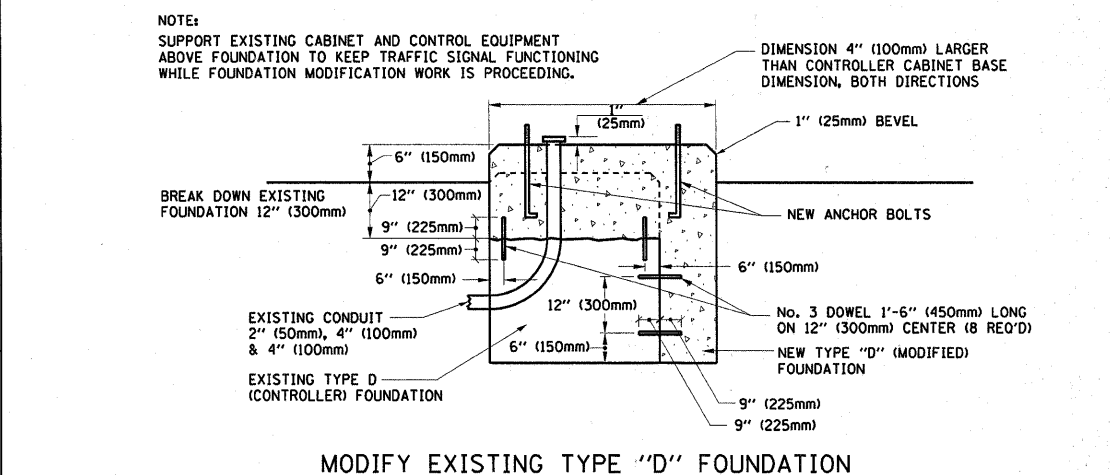
A	B	C	HEIGHT	WEIGHT
VARIES	9.5\"(241mm)	19\"(483mm)	7\" (178mm) - 12\" (300mm)	53 lbs (24kg)
VARIES	10.75\"(273mm)	21.5\"(546mm)	7\" (178mm) - 12\" (300mm)	68 lbs (31 kg)
VARIES	13.0\"(330mm)	26\"(660mm)	7\" (178mm) - 12\" (300mm)	81 lbs (37 kg)
VARIES	18.5\"(470mm)	37\"(940mm)	7\" (178mm) - 12\" (300mm)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

SHROUD

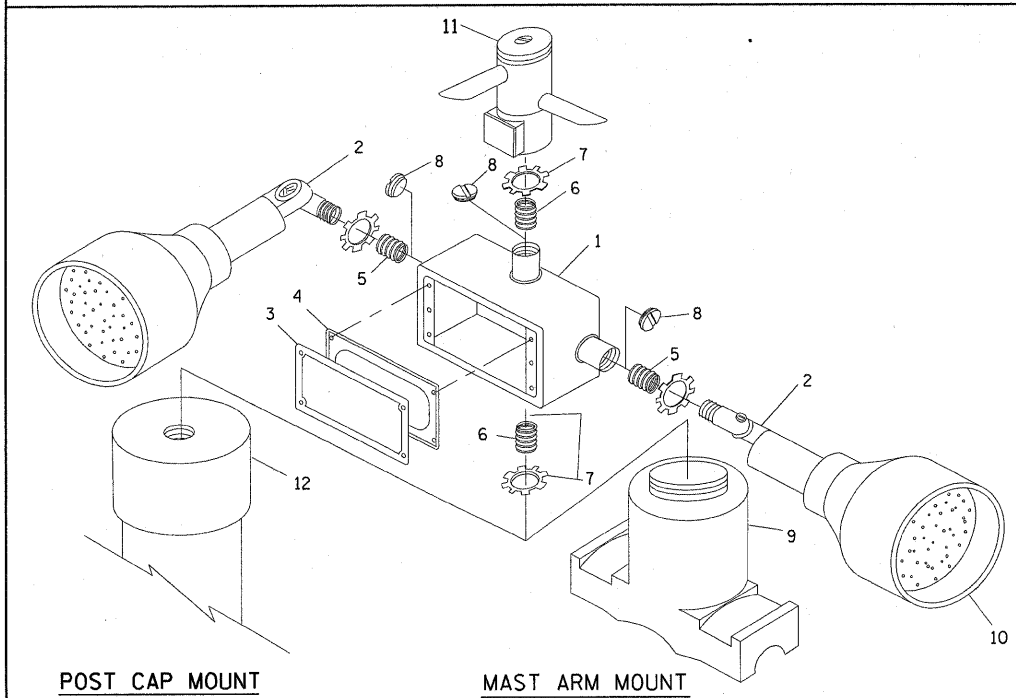
- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
 - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
 - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST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



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

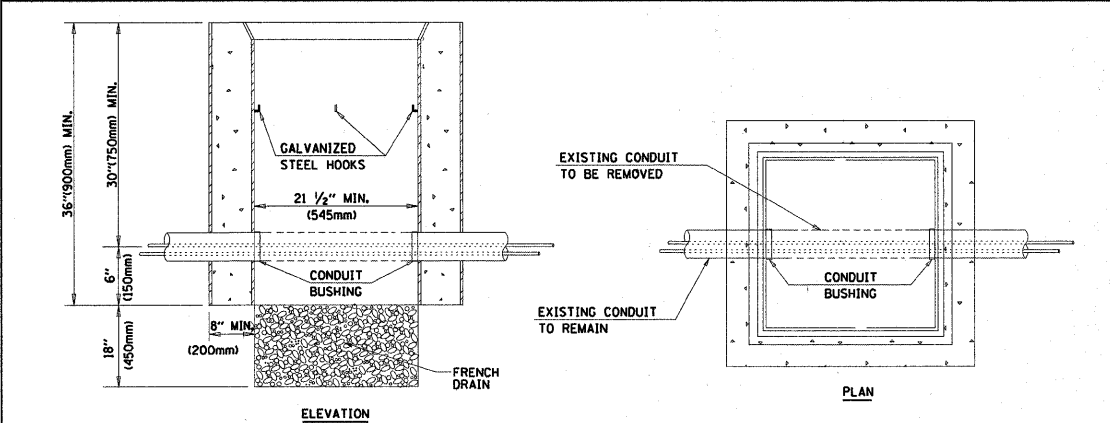


MODIFY EXISTING TYPE "D" FOUNDATION



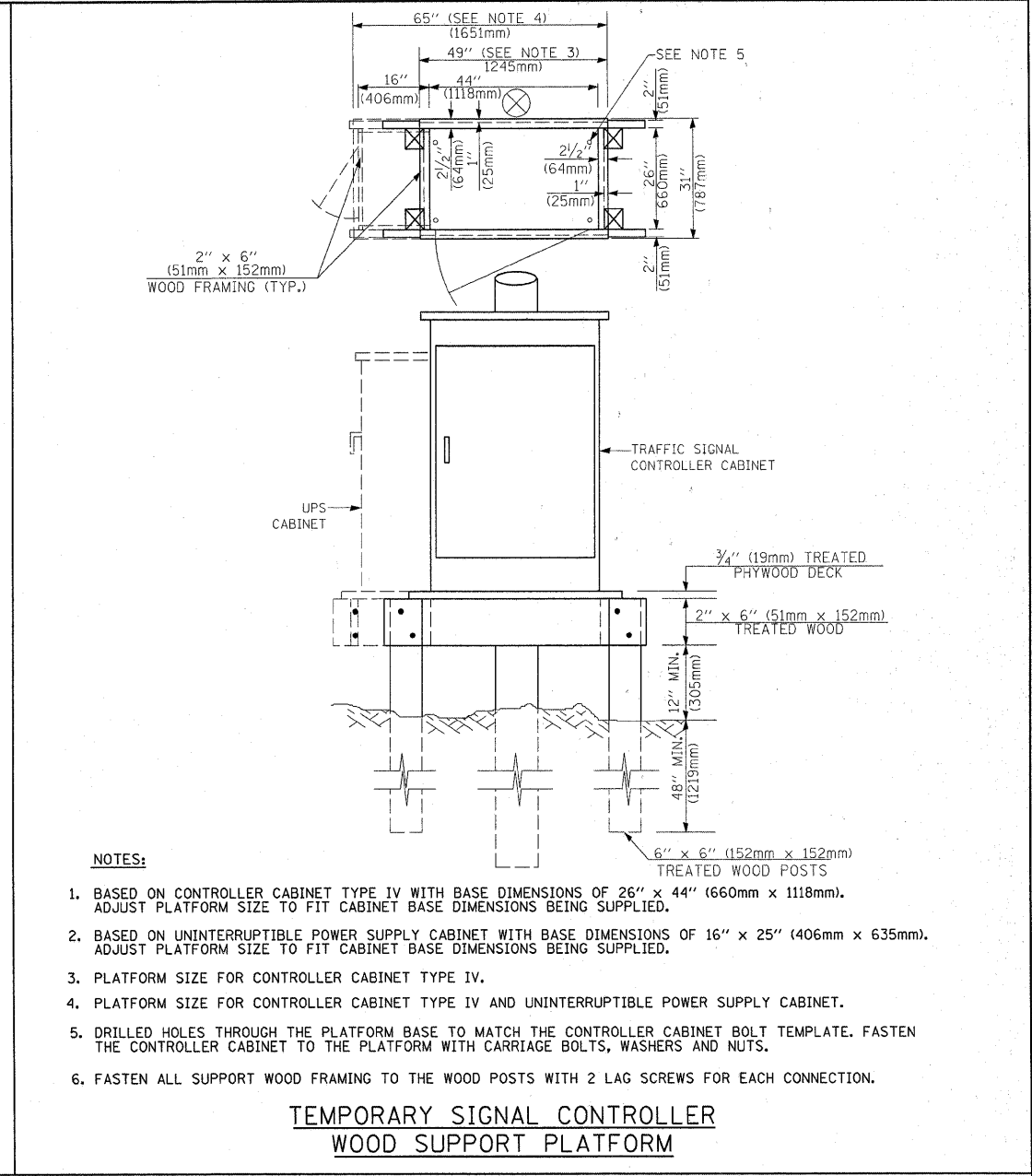
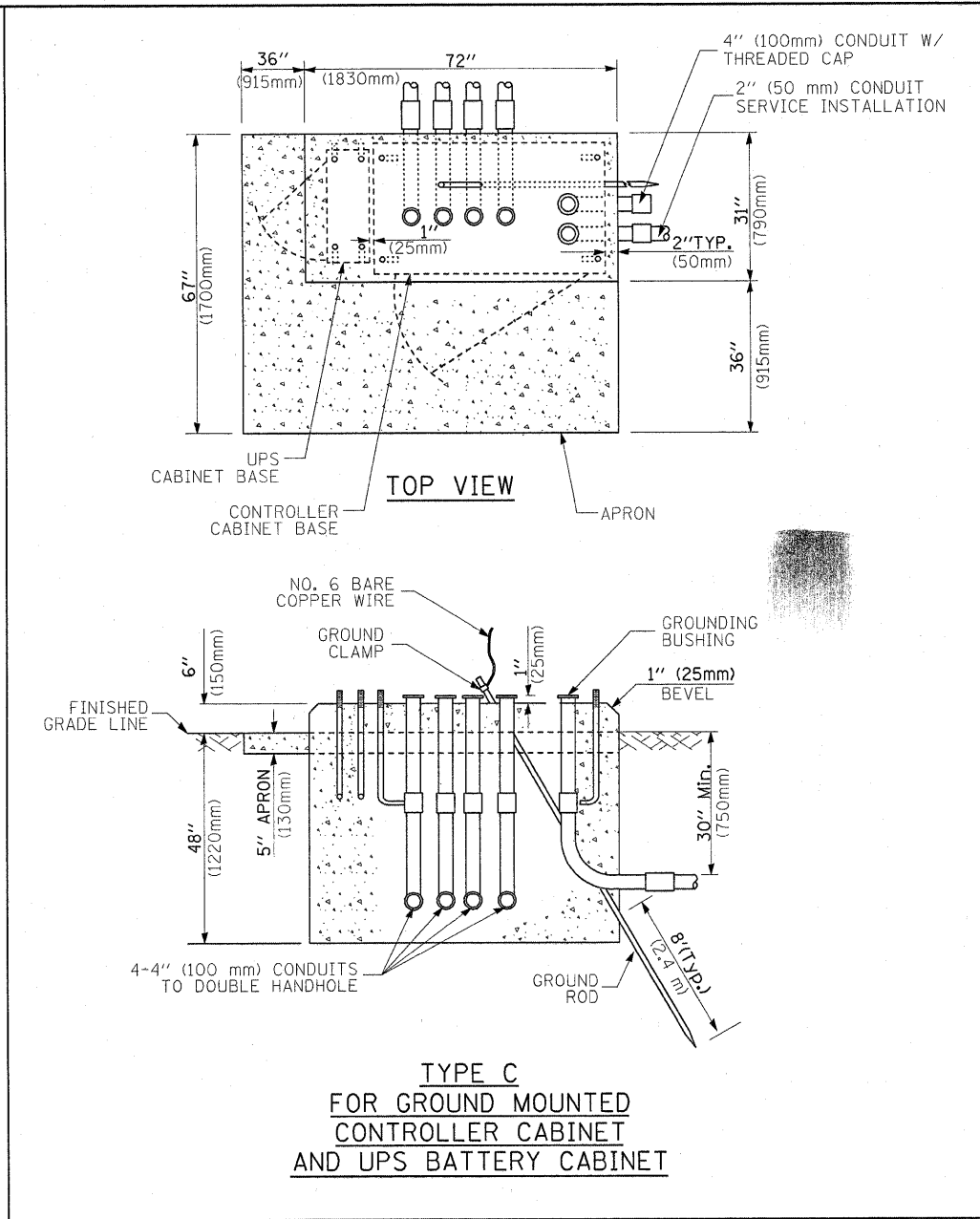
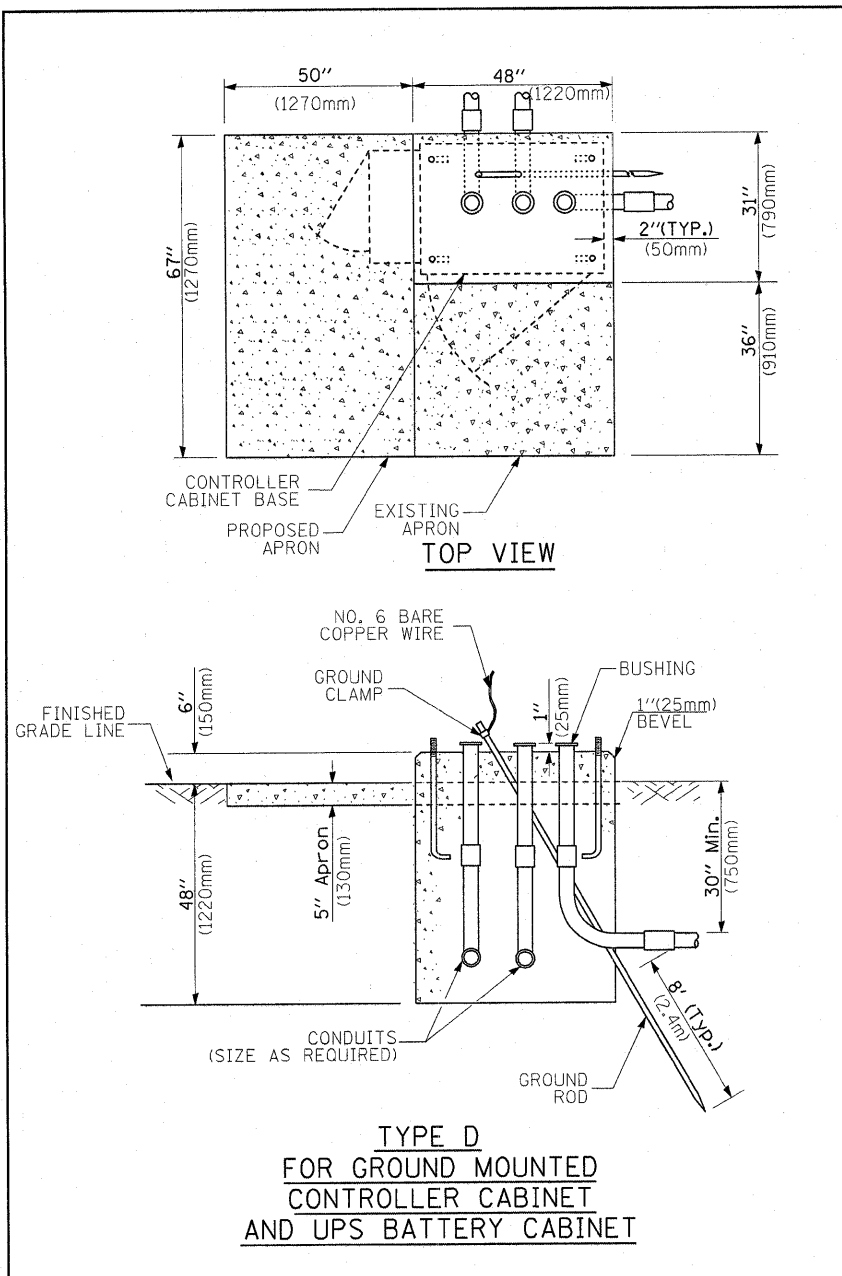
ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT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

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



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

HANDHOLE TO INTERCEPT EXISTING CONDUIT



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 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and up to 56' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

- 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.
- Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
- Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
- 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			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			SIGNAL POST AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM	A			INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD				EXISTING PREFORMED INTERSECTION LOOP DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				PREFORMED SAMPLING (SYSTEM) DETECTOR			
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				RAILROAD SYMBOLS			
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT				EXISTING		PROPOSED	
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER				RAILROAD CONTROL CABINET			
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED				RAILROAD CANTILEVER MAST ARM			
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)				FLASHING SIGNAL			
MICROWAVE VEHICLE SENSOR								CROSSING GATE			
VIDEO DETECTION CAMERA								CROSSBUCK			
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											