GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" AND THE 2014 EDITION OF THE "MATERIALS LAB SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT	
PLATE NO.	DESCRIPTION
8105B	EQUIPMENT PAD A (CAST–IN–PLACE OR PRECAST)
8111E	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
8112G	PEDESTAL FOUNDATION
8114A	P.V.C. HAND HOLE/PULL BOX
8118D	SERVICE EQUIPMENT AND POLE TRAFFIC CONTROL SIGNALS
8122F	PEDESTAL AND PEDESTAL BASE
8129A	SHIM AND WASHER
8130E	SAW CUT LOOP DETECTORS

DISCLAIMER NOTE:

ROAD SURFACE PAVEMENT CONDITIONS MUST MEET CURRENT ASTM E1318 REQUIREMENT TO ACHIEVE OPTIMAL SYSTEM PERFORMANCE.

GENERAL NOTES:

SEPARATE CONDUITS AND HANDHOLES MUST BE USED FOR AC POWER AND LOW VOLTAGE SIGNAL.

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

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

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

EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE.

DRAWING NOT TO SCALE.

ALL NEW HANDHOLES SHALL BE PVC HANDHOLES, IN ACCORDANCE WITH MnDOT STANDARD PLATE NO. 8114A, MnDOT 2565.3E AND THE MnDOT APPROVED/QUALIFIED PRODUCTS LIST FOR SIGNALS.

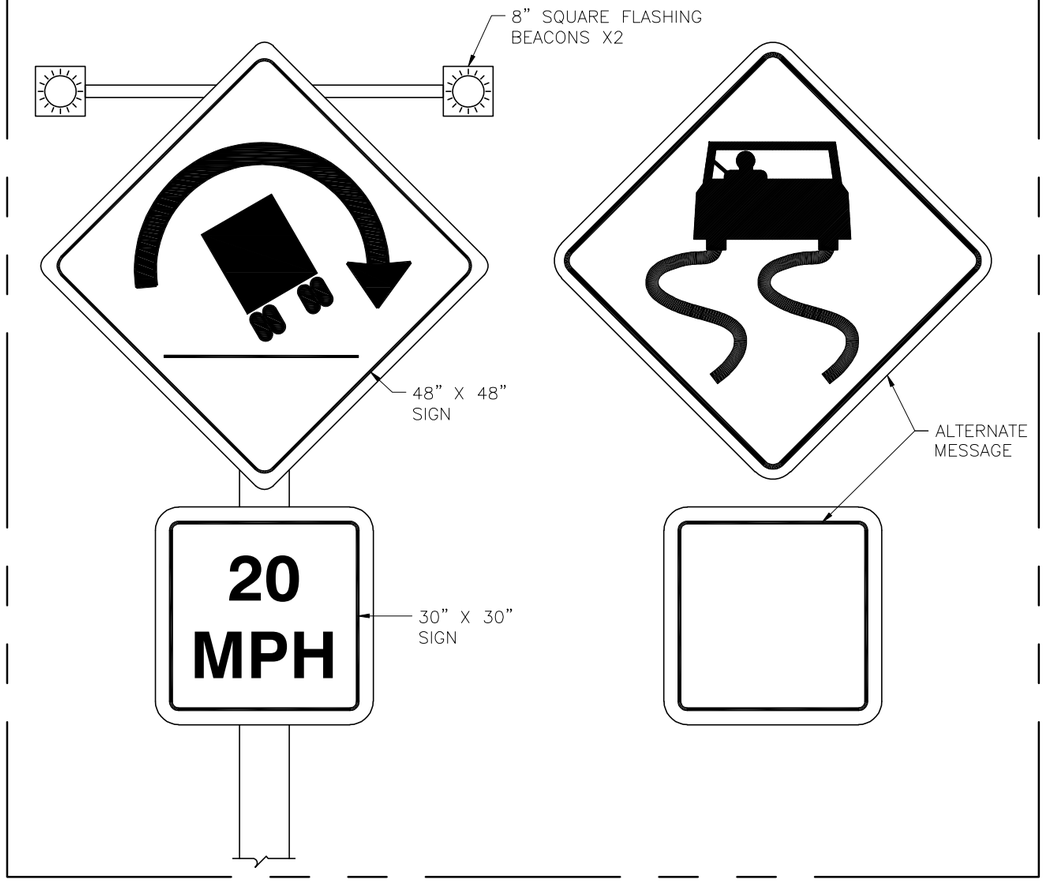
ALL NEW CONDUIT SHALL BE EITHER RIGID STEEL CONDUIT (RSC), NON–METALLIC RIGID CONDUIT (PVC), OR CONTINUOUS LENGTH CONDUIT (HDPE) (SIZE AS INDICATED IN THE PLANS).

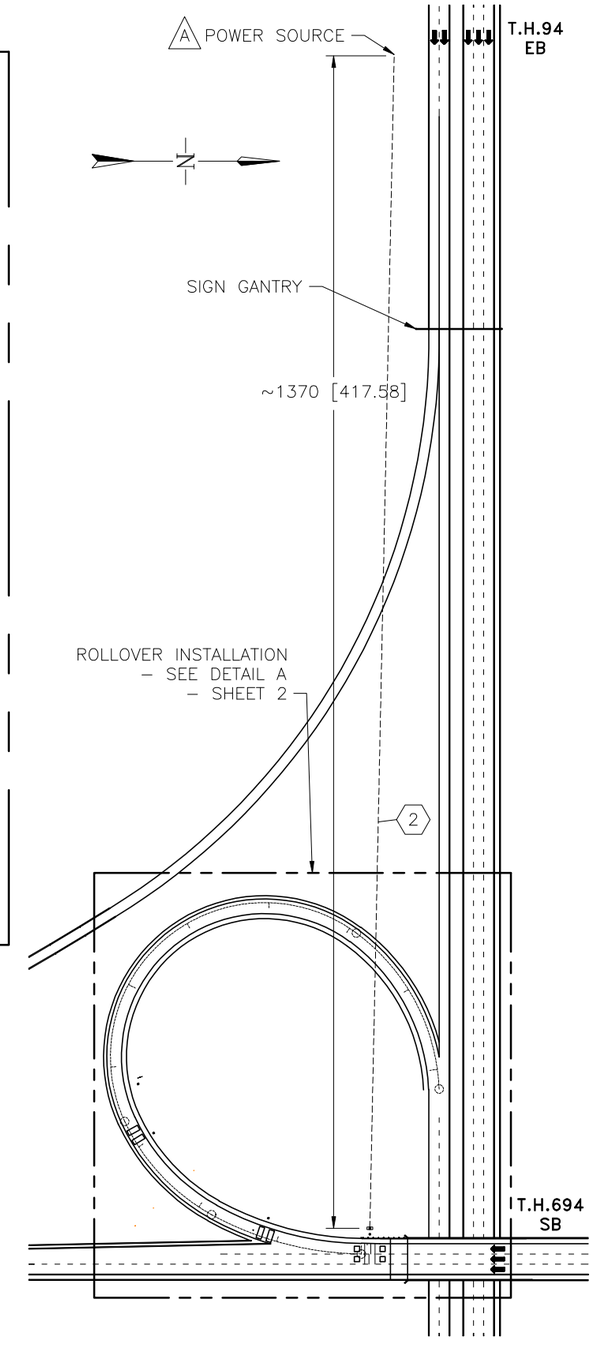
ALL NEW LOOP DETECTORS SHALL BE SAWCUT LOOP DETECTORS IN ACCORDANCE WITH MnDOT STANDARD PLATE NO. 8130E AND MnDOT 2565.3G.

ALL ELECTRICAL CABLES AND CONDUCTORS SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF MnDOT 3815.

CONTACT INTERNATIONAL ROAD DYNAMICS INC. TO OBTAIN CABINET, PIEZO AND TEMPERATURE SENSOR DETAILS.

S1 – FRONT VIEW





NOTES: (THIS SHEET ONLY)

A 120/240V POWER WILL BE PROVIDED FOR THE ROLLOVER SYSTEM VIA A NEW XCEL ENERGY TRANSFORMER AT THE APPROXIMATE POWER SOURCE LOCATION SHOWN ON THE PLAN. NEW, SEPARATE SERVICE EQUIPMENT (METER SOCKET AND PANEL & DISCONNECT) WILL BE INSTALLED ON A NEW 12' CLASS 2 WOOD POLE.

LEGEND:

L – INDUCTIVE LOOP
P – PIEZOELECTRIC SENSOR
T – TEMPERATURE SENSOR
E – ELECTRONICS ENCLOSURE
S – SIGN WITH BEACONS

[1] – SIGNAL CONDUIT
⟨1⟩ – POWER CONDUIT
A – NOTE

REV.	DESCRIPTION	DWN/DSN	APPR.	APPR.	DATE
A	PRIMARY RELEASE - REFER TO REDLINES - ECO-5443.	JGi/FKa	FKa	LEI	SEPT.10/13
B	CHANGE AS PER ECO-5507.	YMa/FKa	FKa	MGa	OCT. 8/13
C	CHANGE AS PER ECO-5623.	YMa/FKa	FKa	MGa	Nov 07/13

NOT TO SCALE

SIZE: B

DIMENSIONS IN: FEET [m]

INTERNATIONAL ROAD DYNAMICS INC.
SASKATOON SASKATCHEWAN CANADA

DWG. TITLE:
SITE LAYOUT
ROLLOVER/ROAD CONDITION DETECTOR
T.H. 694/ T.H. 94 INTERSECTION, MN

DWG. No. **C11507002**

REV.: C

CAD FILE: C11507002.DWG

SIGNAL CONDUITS:

[1] 2" [51mm] CONDUIT
1–2C 14AWG (LOOP WIRE)

[2] 2" [51mm] CONDUIT
2–2C 14AWG (LOOP WIRE)

[3] 2" [51mm] CONDUIT
2–RG58 COAXIAL CABLE (PIEZO LEADS)

[4] 1" [25mm] CONDUIT
4–RG58 COAXIAL CABLE (PIEZO LEADS)

[5] 1" [25mm] CONDUIT
1–TEMPERATURE SENSOR LEAD T1

[6] 1" [25mm] CONDUIT
1–RJ485 CABLE (IN–ROAD SURFACE CONDITION DETECTOR COMMUNICATION)
1–12VDC TO 24VDC (IN–ROAD SURFACE CONDITION DETECTOR POWER)

[7] N/A

[8] 2" [51mm] CONDUIT
2–2C 18AWG (LOOP LEAD)
1–RJ485 CABLE (IN–ROAD SURFACE CONDITION DETECTOR COMMUNICATION)
1–12VDC TO 24VDC (IN–ROAD SURFACE CONDITION DETECTOR POWER)

[9] 2" [51mm] CONDUIT
2–2C 18AWG (LOOP LEADS)

[10] 2" [51mm] CONDUIT
4–2C 18AWG (LOOP LEADS)
8–RG58 COAXIAL CABLE (PIEZO LEADS)
1–TEMPERATURE SENSOR LEAD T1

POWER CONDUITS:

⟨1⟩ 2" [51mm] CONDUIT
1–5C + GND 120VAC (FOR WARNING SIGN ACTIVATION)

⟨2⟩ 2" [51mm] CONDUIT
1–2C + GND 120VAC (CABINET POWER CABLE)

LOOP DETAILS:

LOOP #	SIZE	NUMBER OF TURNS
L1–L4	6' X 6'	4
L5,L6	6' X 14'	4
L7,L8	6' X 14'	6

ZONE DETAILS:

ZONE	ARC LENGTH	CURVATURE RADIUS	SUPER–ELEVATION	GRADIENT
1	183 ft	360 ft		
2	151 ft	240 ft		–2.1% TO –4.34%
3	475 ft	180 ft	0.06'/ft	–4.34%
4	213 ft	240 ft		–4.34% TO +1.55%

LEGEND:

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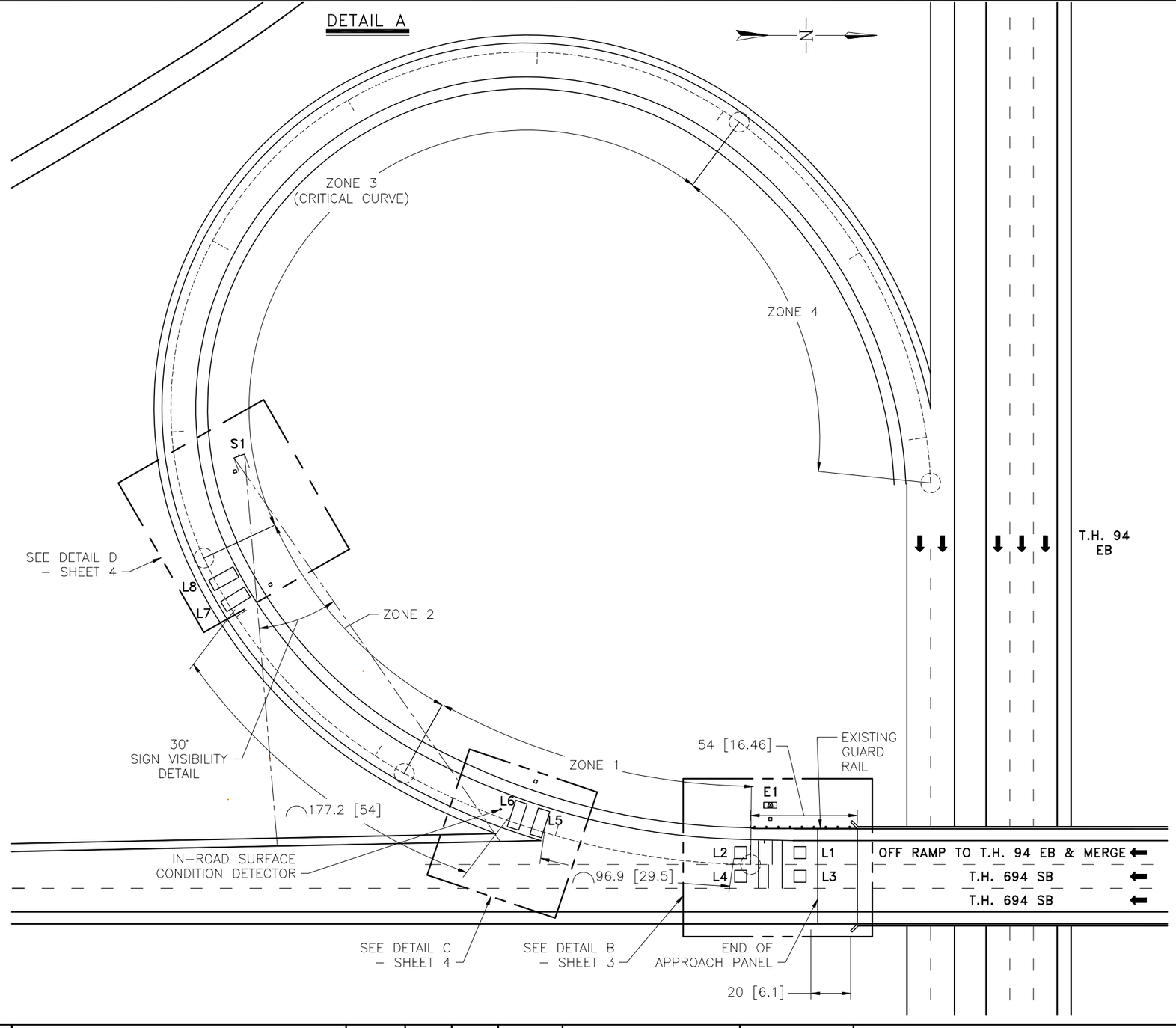
⟨1⟩ – POWER CONDUIT
⟨A⟩ – NOTE

DETAIL A



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SASKATOON SASKATCHEWAN CANADA

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NOT TO SCALE
SIZE: B
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A – NOTE

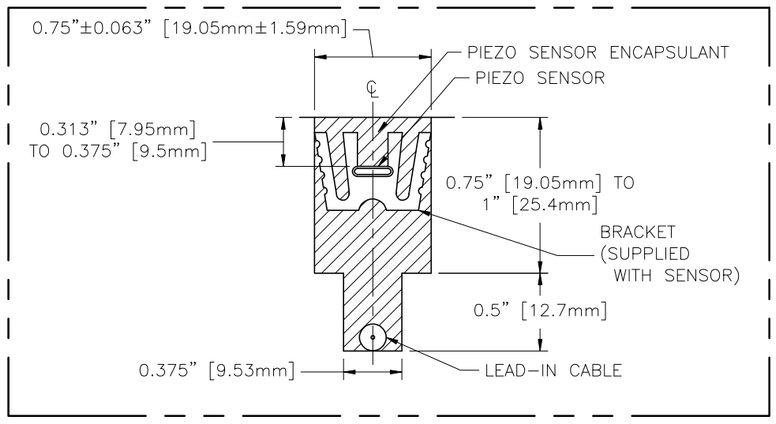
NOTES: (THIS SHEET ONLY)

A PULL BOX.

B DRILL THROUGH SHOULDER FOR CONDUIT.

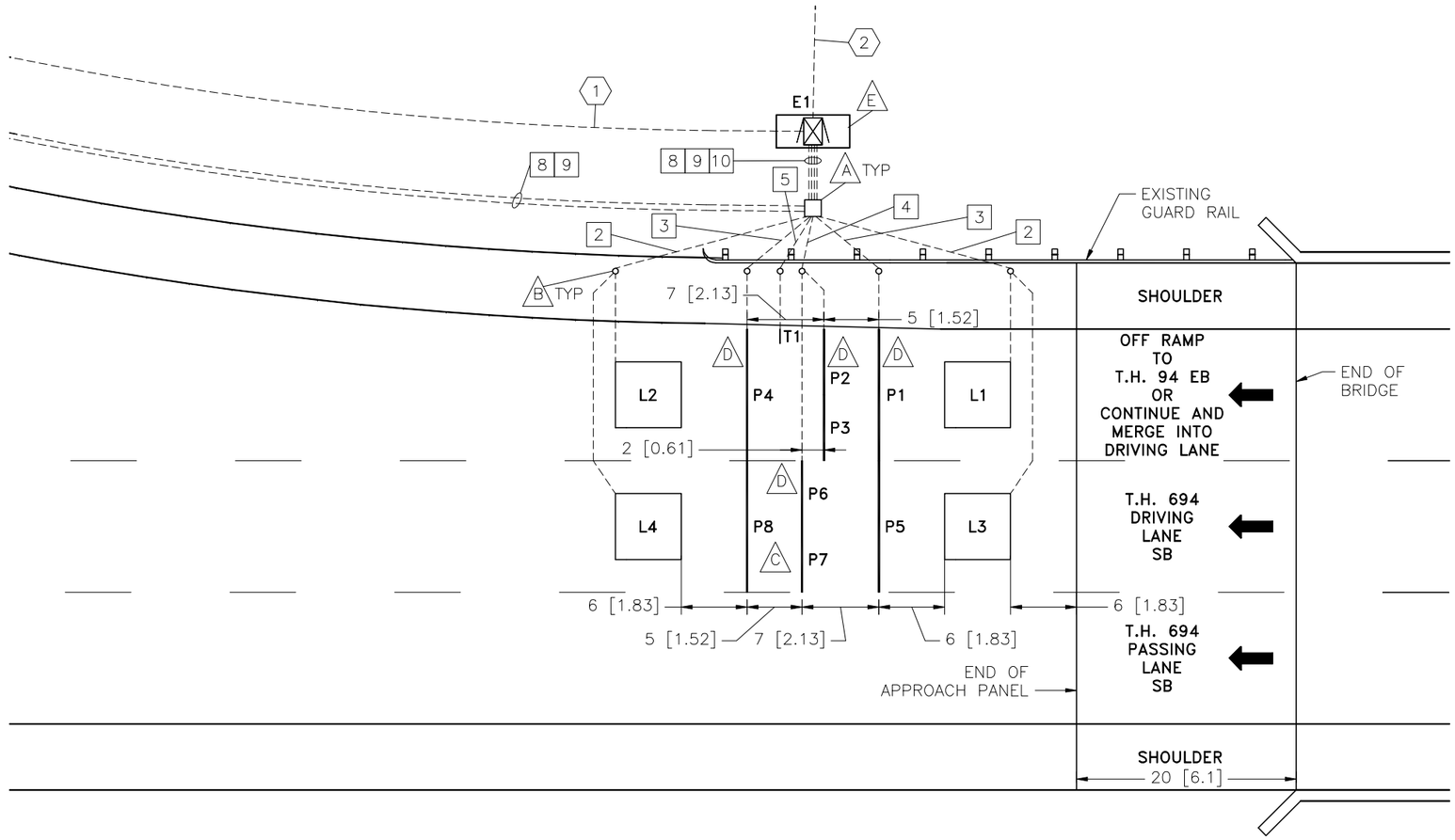
C PAVEMENT ON EITHER SIDE OF EACH SENSOR MUST BE FREE OF JOINTS AND CRACKS FOR 2' [0.61m].

D



E 4'X6' MNDOT EQUIPMENT PAD "A" WITH IRD CONTROLLER ON ONE SIDE AND SITE SERVICE EQUIPMENT ON THE OTHER. SITE SERVICE EQUIPMENT INCLUDES RIGID CONDUIT RUNNING TO/FROM A WEATHER TIGHT SERVICE (CIRCUIT) PANEL LOAD CENTER, INSTALLED ON UNISTRUT CHANNEL POSTS. CIRCUIT PANEL LOAD CENTER SHALL BE IN ACCORDANCE WITH MNDOT 3837.2A.3

DETAIL B



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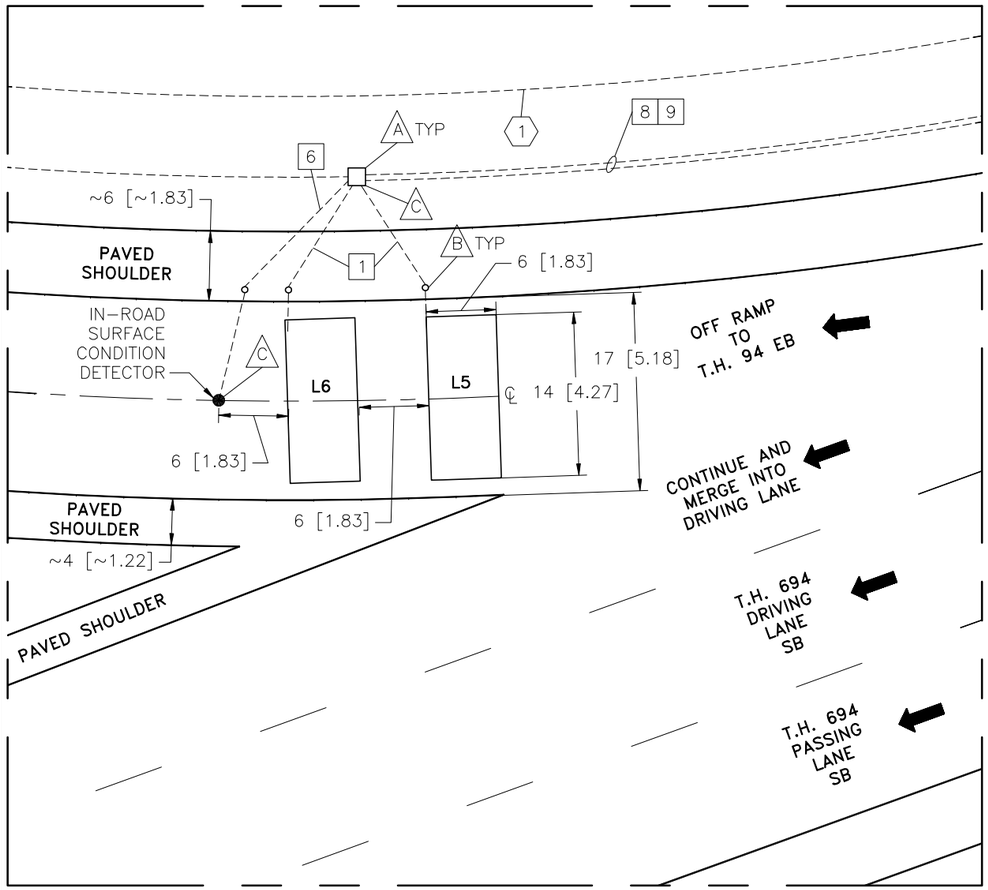
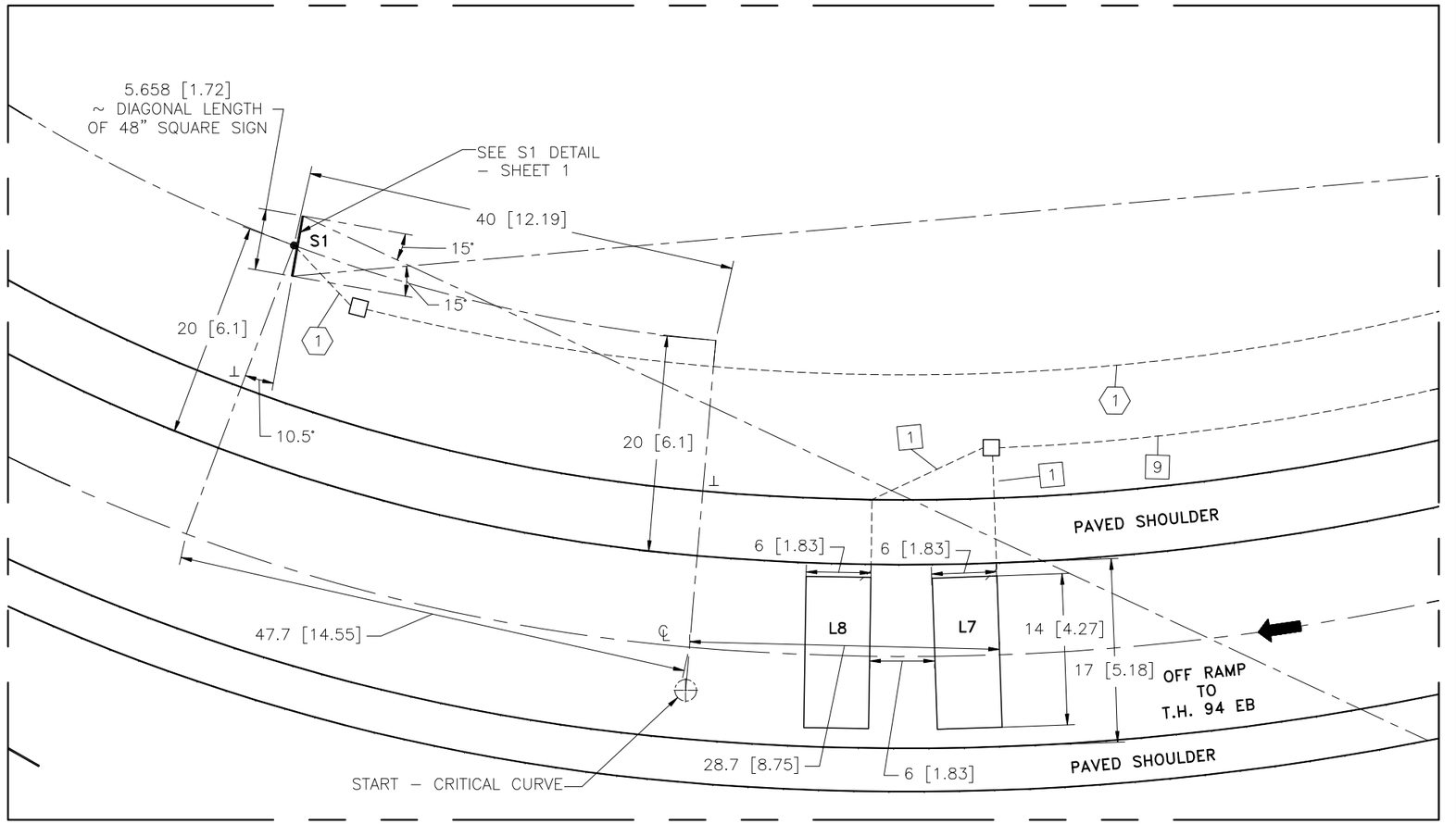
DETAIL C



DETAIL D



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△A – NOTE

NOTES: (THIS SHEET ONLY)

△A PULL BOX.
△B DRILL THROUGH SHOULDER FOR CONDUIT.
△C INSTALL GROUND ROD INSIDE PULL BOX AND GROUND THE INROAD SURFACE CONDITION DETECTOR'S CABLE SHIELDING.

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T.H. 694/ T.H. 94 INTERSECTION, MN

DWG. No. **C11507002**

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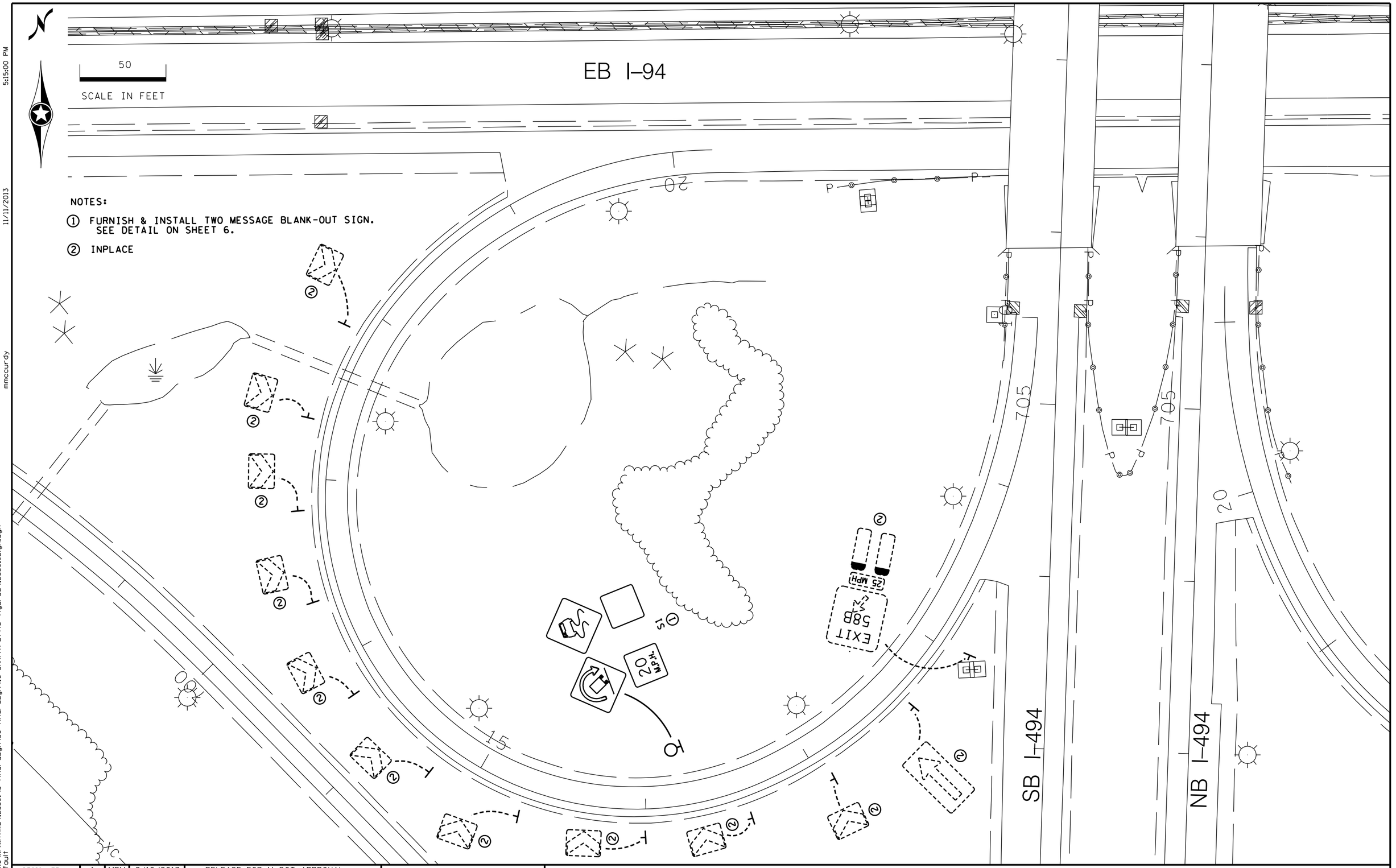
CAD FILE: C11507002.DWG



DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: CIF	1	MPM	9/10/2013	RELEASE FOR MnDOT APPROVAL
DESIGNER: MPM	2	MPM	11/7/2013	CHANGES PER MnDOT COMMENTS
CHECKED BY: TAS				

SEH
PHONE: (651)490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

SIGNING PLAN

MNDOT TRUCK ROLLOVER PROJECT (I-494/694 & I-94 SW LOOP)

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11/11/2013
mmccurdy
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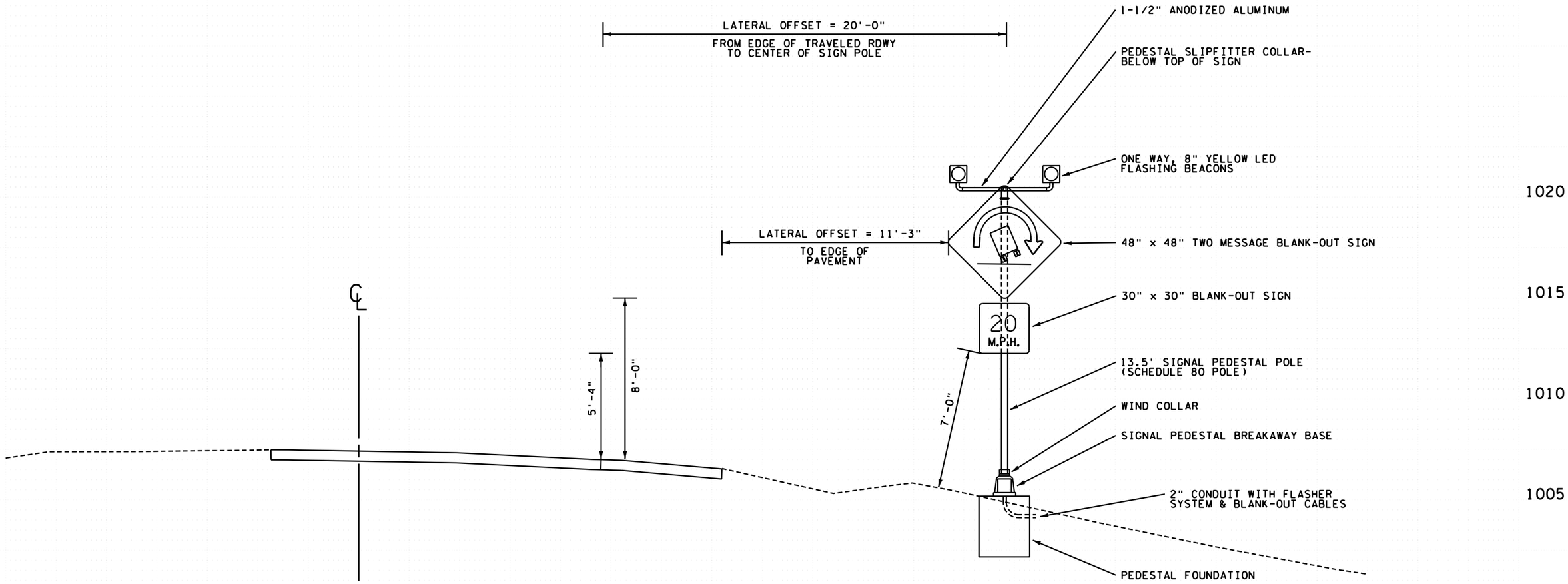

SIGN S1

WB 494/94 SW RAMP
STA. 13+81

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: CIF	1	MPM	9/10/2013	RELEASE FOR MnDOT APPROVAL
DESIGNER: MPM	2	MPM	11/7/2013	CHANGES PER MnDOT COMMENTS
CHECKED BY: TAS				

SEH
PHONE: (651)490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

SIGNING CROSS SECTION

MNDOT TRUCK ROLLOVER PROJECT (I-494/694 & I-94 SW LOOP)

5:15:35 PM
11/11/2013
mmccurdy
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